WIS

PROJECT ID: 1053-07-61

WITH:

15

COUNTY: MARATHON

AUGUST 2025

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimated Quantites
Section No.	3	Miscellaneous Quantities
~~Section No.~~	~~4~~	~~Right of Way Plat~~
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawing
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS: 274

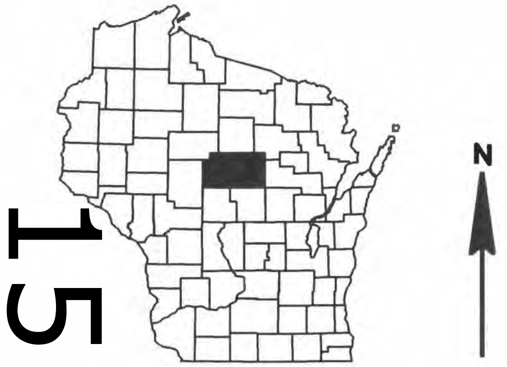
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

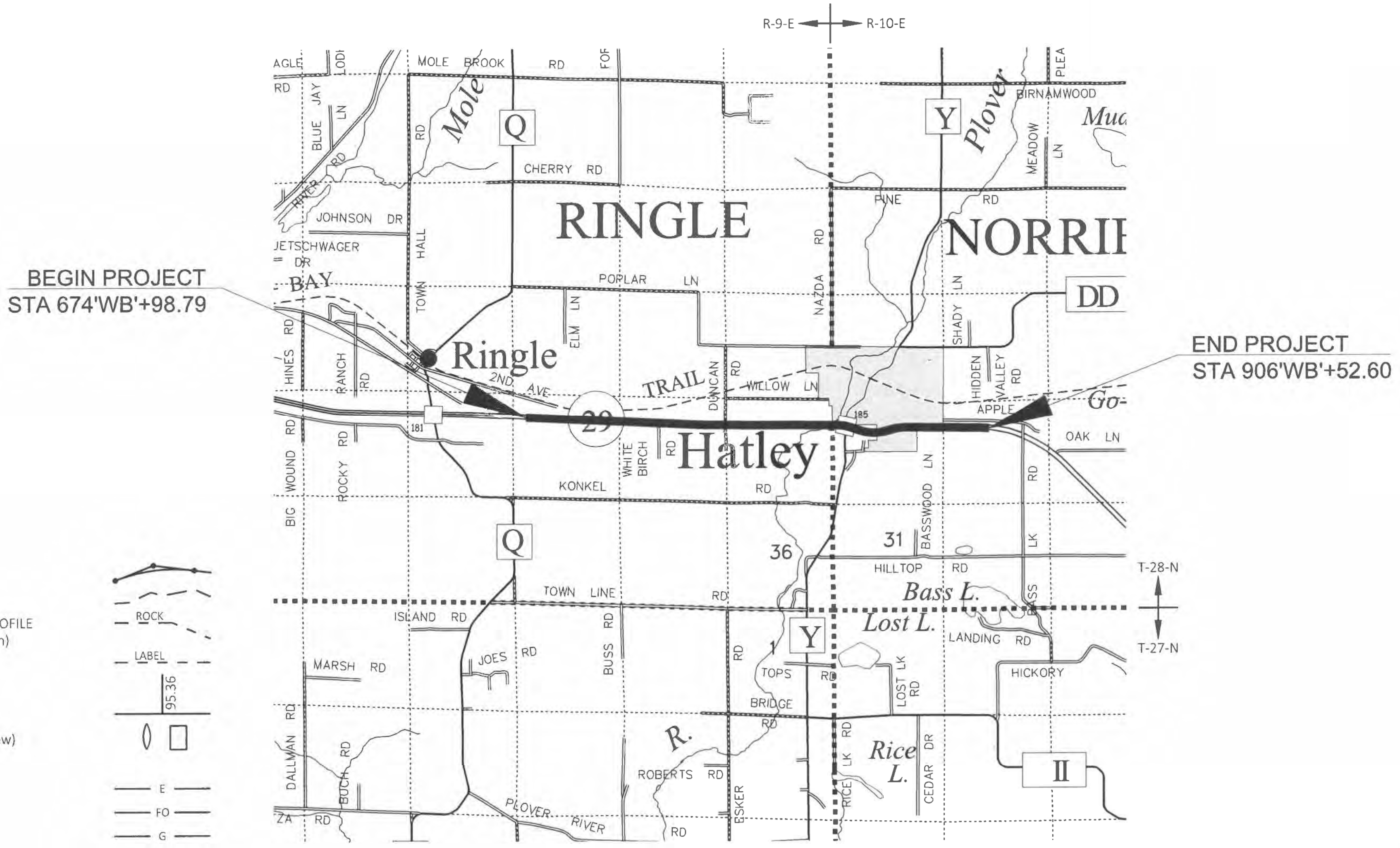
PLAN OF PROPOSED IMPROVEMENT

WAUSAU - WITTENBERG
CTH Q TO BASS LAKE ROAD, WB
STH 29
MARATHON COUNTY

STATE PROJECT NUMBER
1053-07-61

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1053-07-61		





LAYOUT

SCALE 0 1.5 MI

TOTAL NET LENGTH OF CENTERLINE = 4.384 MI

DESIGN DESIGNATION

A.A.D.T.	2026	=	12,650
A.A.D.T.	2046	=	12,850
D.H.V.	2046	=	1,285
D.D.		=	60/40
T.		=	21.1%
DESIGN SPEED		=	70 MPH
ESALS		=	4,090,000

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300'EB'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	⌧
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	Ø

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MARATHON COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18

ORIGINAL PLANS PREPARED BY

ISG

WISCONSIN
WILLIAM A. KRATT
E-40457
LA CROSSE, WISC.
PROFESSIONAL ENGINEER

DATE: 4/21/25 William A. Kratt
(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	I&S GROUP, INC
Designer	I&S GROUP, INC
Project Manager	PRESTON BOHN, PE
Regional Examiner	FRED SCHUNKE, PE
Regional Supervisor	KEVIN KUJAWA, PE

APPROVED FOR THE DEPARTMENT

DATE: 4/28/2025 Preston Bohn Digitally signed by Preston Bohn Date: 2025.04.28 17:33:46-05'00'
(Signature)

E

FILE NAME : W:\10530731\SHEETS\010101-TI.DWG PLOT DATE : 4/21/2025 12:37 PM PLOT BY : KYLE MAROSZEK PLOT NAME :

GENERAL NOTES

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

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LBS/SY/IN.

RIGHT OF WAY INFORMATION SHOWN ON THE PLANS IS APPROXIMATE.

ORDER OF SECTION 2 DETAIL SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
STORM SEWER
ADVANCE WARNING SIGNING
TRAFFIC CONTROL/STAGE CONSTRUCTION

REFERENCE LINE CALLOUTS

EB - STH 29 EB
WB - STH 29 WB
NE - STH 29 WB EXIT RAMP TO CTH Y
NW - STH 29 WB ENTRANCE RAMP FROM CTH Y

DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

UTILITIES CONTACTS

ANR PIPELINE CO
GAS/PETROLEUM
DEVON SHUMAKER
N4956 OAKCREST DRIVE
BOUNDUEL, WI 54107
PHONE: (269) - 286-3502
EMAIL: DEVON_SHUMAKER@TCENERGY.COM

ATC MANAGEMENT, INC.
ELECTRICITY-TRANSMISSION
DOUG VOSBERG
2489 RINDEN ROAD
COTTAGE GROVE, WI 53527
PHONE: (608) - 877-7650
EMAIL: DVOSBERG@ATCLLC.COM

ALLIANT ENERGY
ELECTRICITY
STEVE CYCHOSZ
708 NE 7TH STREET
MARION, WI 54950
PHONE: (715) - 754-4323
EMAIL: STEVENCYCHOSZ@ALLIANTENERGY.COM

BUG TUSSEL WIRELESS, LLC
COMMUNICATION
DUSTIN TEAFF
1262 CAMBER COURT
DE PERE, WI 54115
PHONE: (920) - 254-3539
EMAIL: DUSTIN.TEAFF@_BTUSSEL.COM

CENTURYLINK COMMUNICATIONS, LLC
COMMUNICATIONS
EMAIL: RELOCATIONS@LUMEN.COM

FRONTIER COMMUNICATIONS OF WI LLC
COMMUNICATION
CHRISTOPHER POLLACK
521 N 4TH STREET
WAUSAU, WI 54403
PHONE: (715) - 847-1240
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

SPECTRUM
COMMUNICATION
BILL PARMENTER
853 MCINTOSCH STREET
WAUSAU, WI 54401
PHONE: (608)-301-6189
EMAIL: BILL.PARMENTER@CHARTER.COM

WITTENBERG TELEPHONE COMPANY
COMMUNICATION
MARCUS DAVIDSON
104 W. WALKER STREET
WITTENBERG, WI 54499
PHONE: (715)-881-1360
EMAIL: MARCUS@CIRRINITY.NET

WISCONSIN PUBLIC SERVICE CORPORATION
GAS/PETROLEUM
TYLER DAHLSTROM
1700 SHERMAN STREET
WAUSAU, WI 54402
PHONE: (715)-432-9212
EMAIL: TYLER.DAHLSTROM@WISCONSINPUBLICSERVICES.COM

WISCONSIN PUBLIC SERVICE CORPORATION
ELECTRICITY
JARROD WURZ
1700 SHERMAN STREET
WAUSAU WI 54402
PHONE: (715)-370-1825
EMAIL: JARROD.WURZ@WISCONSINPUBLIC SERVICE.COM

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (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 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIPTURF:	.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 SLOPETURF:			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 84.1 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 4.8 ACRES

WISCONSIN DNR LIAISON

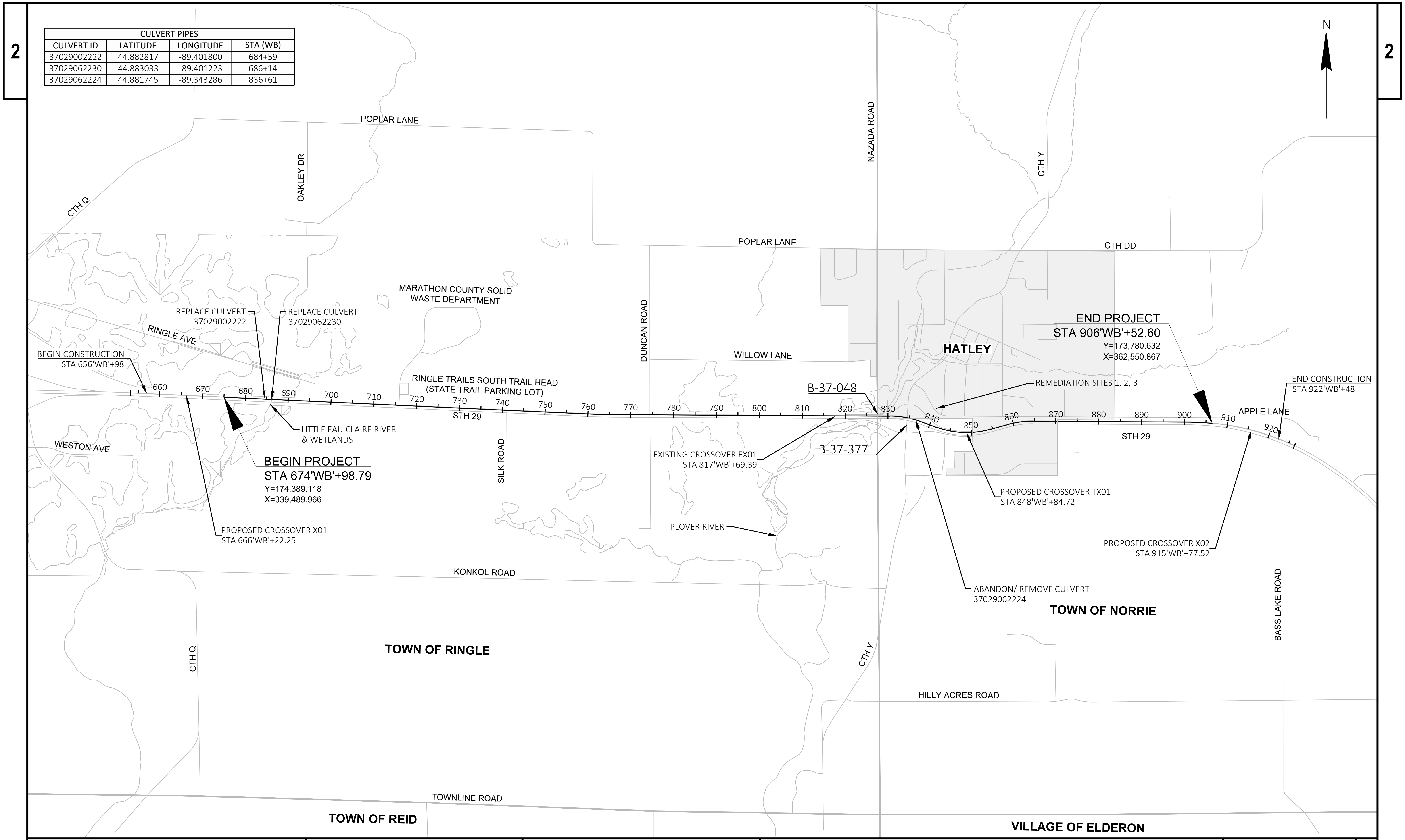
JEREMIAH SCHIEFELBEIN
WISCONSIN DNR - DNR TL
2984 SHAWANO AVE.
GREEN BAY, WI 54313
PHONE: 920-412-0165
EMAIL: JEREMIAH.SCHIEFELBEIN@
WISCONSIN.GOV

STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AH	AHEAD
∠	ANGLE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
AEW	APRON ENDWALL
ASPH	ASPHALTIC
BK	BACK
BC	BACK OF CURB
BAD	BASE AGGREGATE DENSE
BL OR B/L	BASE LINE
BM	BENCH MARK
CB	CATCH BASIN
CL OR C/L	CENTER LINE
Δ	CENTRAL ANGLE OR DELTA
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CSW	CONCRETE SIDEWALK
CONST	CONSTRUCTION
CP	CONTROL POINT
CO	COUNTY
CTH	COUNTY TRUCK HIGHWAY
CY	CUBIC YARD
CP	CULVERT PIPE
CPCA	CULVERT PIPE CORRUGATED ALUMINUM
CPCPE	CULVERT PIPE CORRUGATED POLYETHYLENE
CPCPP	CULVERT PIPE CORRUGATED POLYPROPYLENE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPCSAC	CULVERT PIPE CORRUGATED STEEL ALUMINUM COATED
CPCSPC	CULVERT PIPE CORRUGATED STEEL POLYMER COATED
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
CPS	CULVERT PIPE SALVAGED
CPT	CULVERT PIPE TEMPORARY
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DE	DRAINAGE EASEMENT
DWY	DRIVEWAY
EA	EACH
EB	EASTBOUND
EL OR ELEV	ELEVATION
EMB	EMBANKMENT
EW	ENDWALL
EAT	ENERGY ABSORBING TERMINAL
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FERT	FERTILIZER
FE	FIELD ENTRANCE
FL OR F/L	FLOW LINE
FT	FOOT
FTMS	FREE TRAFFIC MANAGEMENT SYSTEM
HES	HIGH EARLY STRENGTH
HE	HIGHWAY EASEMENT
CWT	HUNDRED WEIGHT
IN DIA	INCH DIAMETER
INL	INLET
ID	INSIDE DIAMETER
INTERS	INTERSECTION
IH	INTERSTATE HIGHWAY
INV	INVERT
JT	JOINT
LT	LEFT
LHF	LEFT HAND FORWARD
L	LENGTH OF CURVE
LF	LINEAR FOOT
LC	LONG CHORD OF CURVE
LS	LUMP SUM
MGAL	ONE THOUSAND GALLONS
MH	MANHOLE
ML OR M/L	MATCH LINE
NOM	NOMINAL
NC	NORMAL CROWN
NB	NORTHBOUND
NO	NUMBER
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PROJ	PROJECT
PL	PROPERTY LINE
PRW	PROPOSED RIGHT OF WAY
R	RADIUS
RL OR R/L	REFERENCE LINE
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT HAND FORWARD
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
SHLDR	SHOULDER
SW	SIDEWALK
SB	SOUTHBOUND
SPECS	SPECIFICATIONS
SF	SQUARE FEET
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAY
STA	STATION
SSPC	STORM SEWER PIPE COMPOSITE
SSCPE	STORM SEWER PIPE CORRUGATED POLYETHYLENE
SSCPP	STORM SEWER PIPE CORRUGATED POLYPROPYLENE
SSPNRC	STORM SEWER PIPE NON-REINFORCED CONCRETE
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SE	SUPERELEVATION
SL OR S/L	SURVEY LINE
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
TC	TOP OF CURB
TL OR T/L	TRANSIT LINE
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
VC	VERTICAL CURVE
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WEST
WB	WESTBOUND

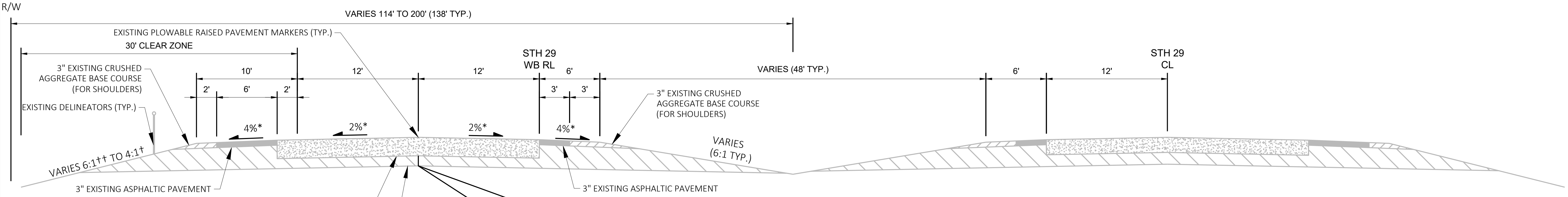
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | GENERAL NOTES | SHEET 2 | E

CULVERT PIPES			
CULVERT ID	LATITUDE	LONGITUDE	STA (WB)
37029002222	44.882817	-89.401800	684+59
37029062230	44.883033	-89.401223	686+14
37029062224	44.881745	-89.343286	836+61



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PROJECT OVERVIEW	SHEET 3	E

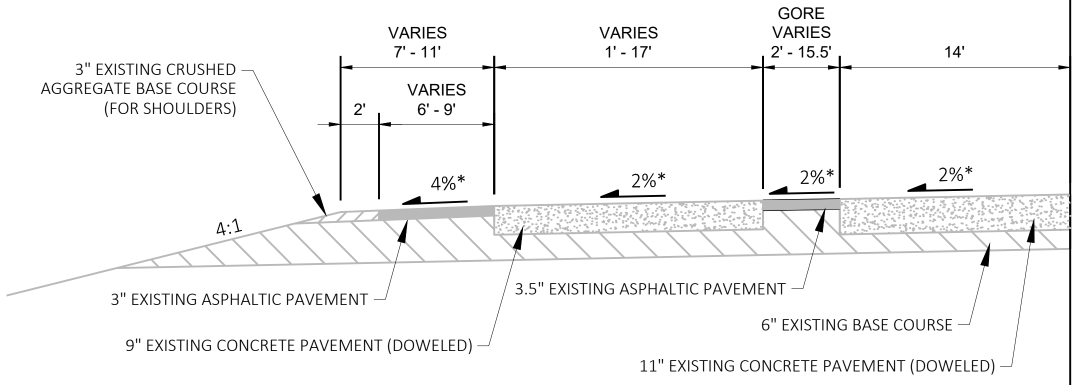
FILE NAME : W:\10530731\SHEETS\020201-PO.DWG
LAYOUT NAME - 03
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:2000 FT



EXISTING TYPICAL SECTION

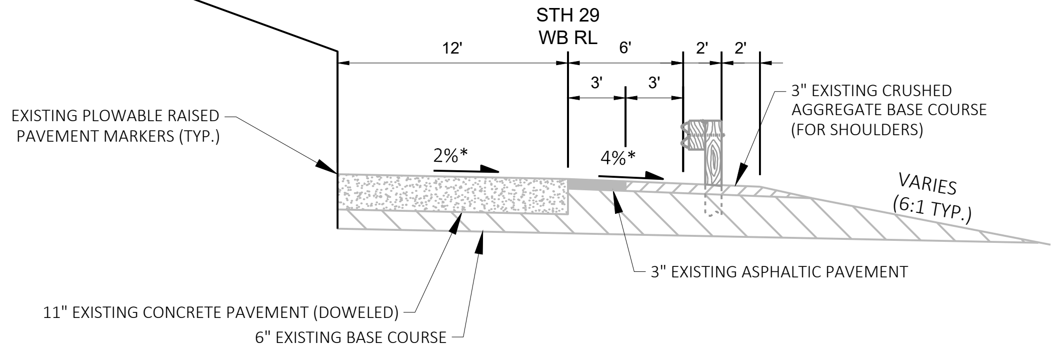
STA 674'WB'+99 - STA 838'WB'+38†
STA 838'WB'+38 - STA 906'WB'+53††

*CROSS SLOPE VARIES DUE TO SUPER ELEVATION



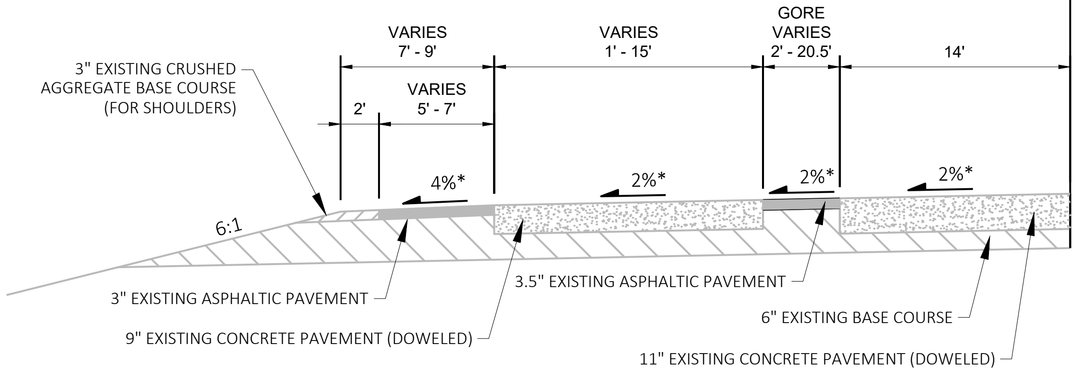
EXISTING TYPICAL SECTION

STA 816'WB'+15 - STA 829'WB'+31



EXISTING TYPICAL SECTION

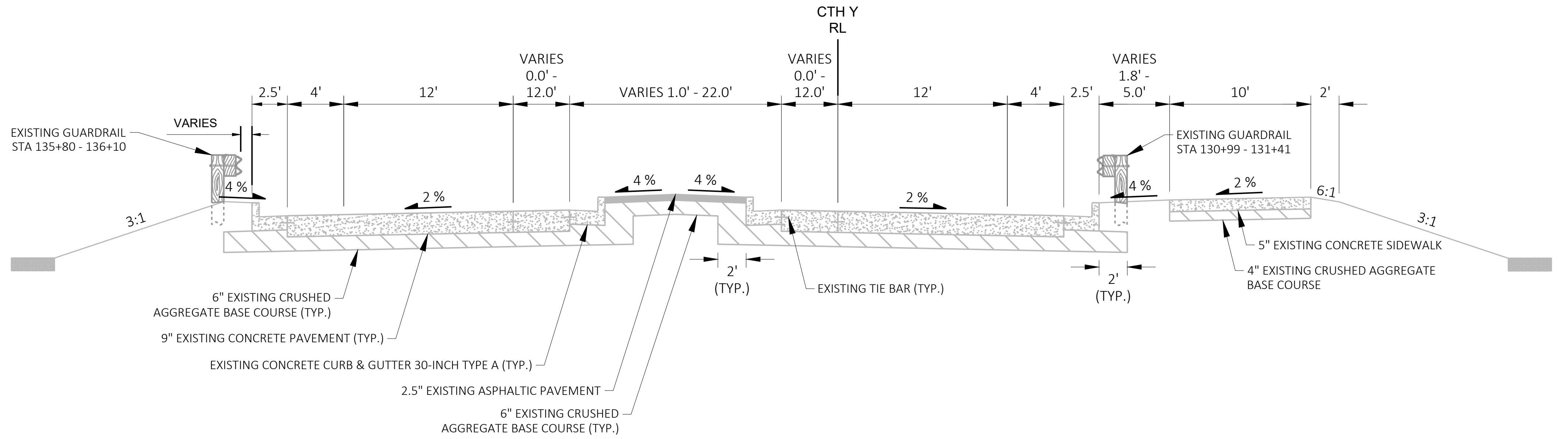
STA 828'WB'+15 - STA 832'WB'+00



EXISTING TYPICAL SECTION

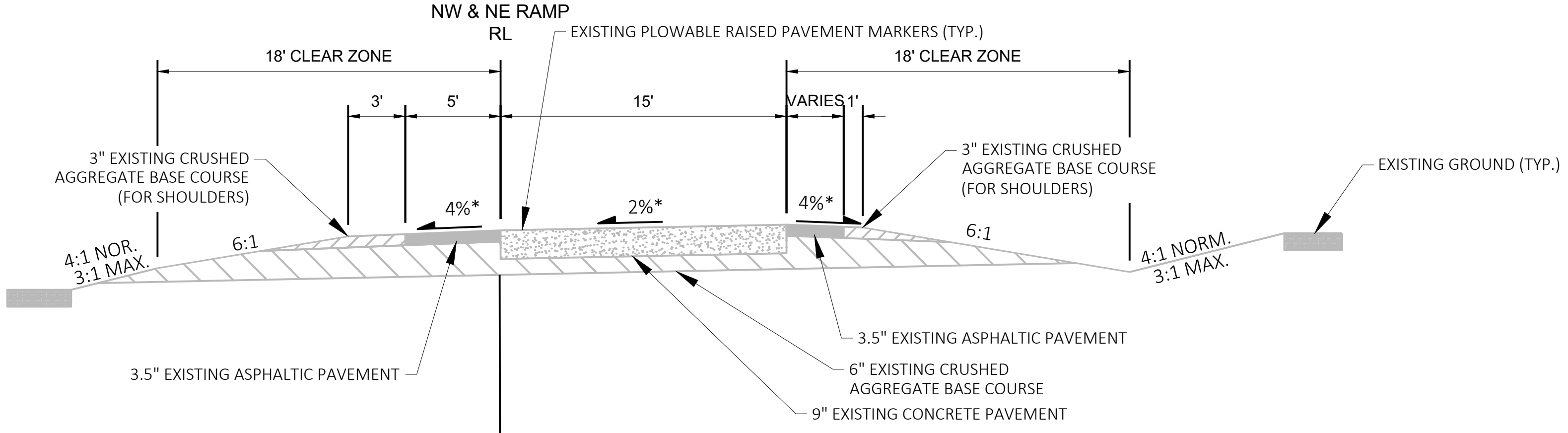
STA 841'WB'+56 - STA 851'WB'+77

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 4	E



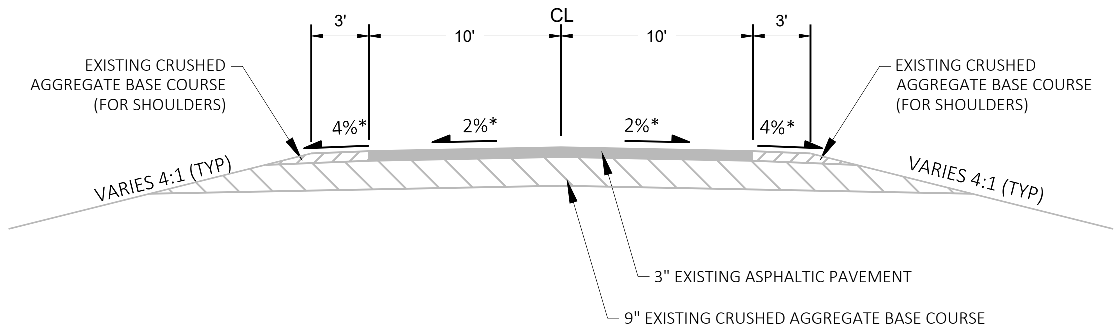
EXISTING TYPICAL SECTION - CTH Y

STA 129'Y'+55 - STA 137'Y'+60



EXISTING TYPICAL SECTION - RAMPS

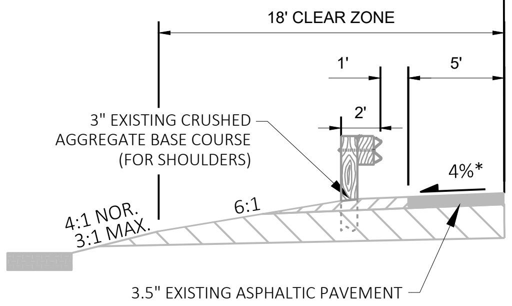
STA 15'NW'+86 - STA 20'NW'+00 (STH 29 WB ON RAMP FROM CTH Y)
STA 20'NE'+00 STA 28'NE'+38 (STH 29 WB OFF RAMP TO CTH Y)



* CROSS SLOPE VARIES DUE TO SUPERELEVATION

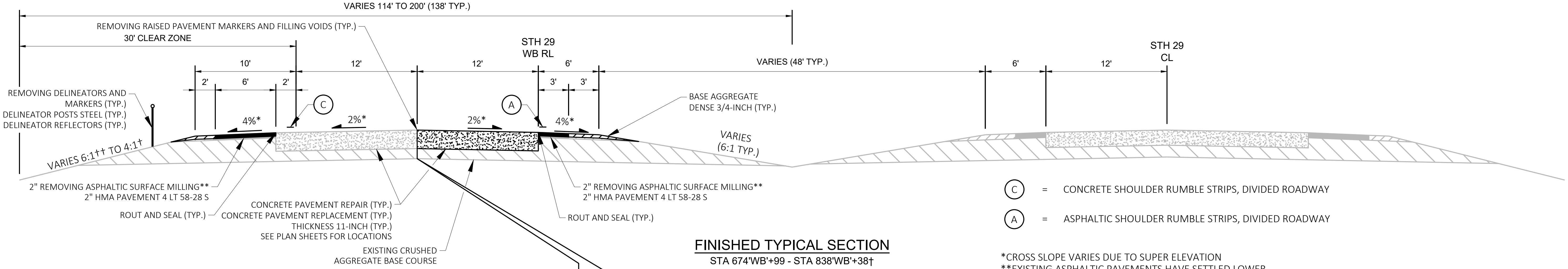
EXISTING SIDEROAD TYPICAL SECTION

MARATHON COUNTY LANDFILL ACCESS RD
DUNCAN RD



EXISTING TYPICAL SECTION - RAMPS

STA 14'NW'+93 - STA 15'NW'+86 (STH 29 WB ON RAMP FROM CTH Y)



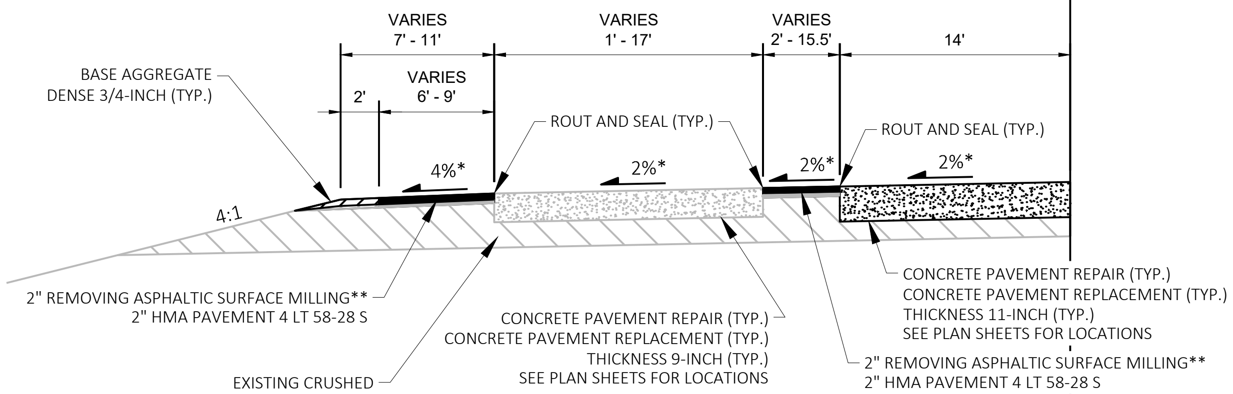
Ⓒ = CONCRETE SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

Ⓐ = ASPHALTIC SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

FINISHED TYPICAL SECTION

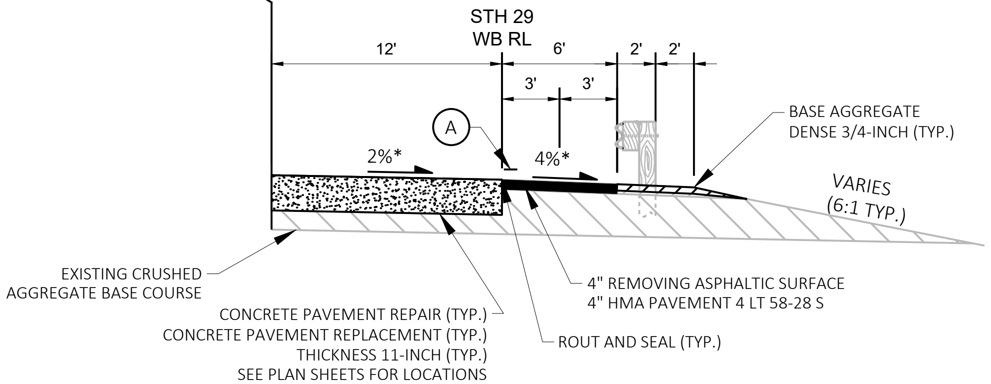
STA 674'WB'+99 - STA 838'WB'+38†
STA 838'WB'+38 - STA 906'WB'+53††

*CROSS SLOPE VARIES DUE TO SUPER ELEVATION
**EXISTING ASPHALTIC PAVEMENTS HAVE SETTLED LOWER THAN EXISTING CONCRETE PAVEMENT IN VARIOUS LOCATIONS. MILLING DEPTH TO BE SET OFF OF THE EXISTING CONCRETE PAVEMENT EDGE.



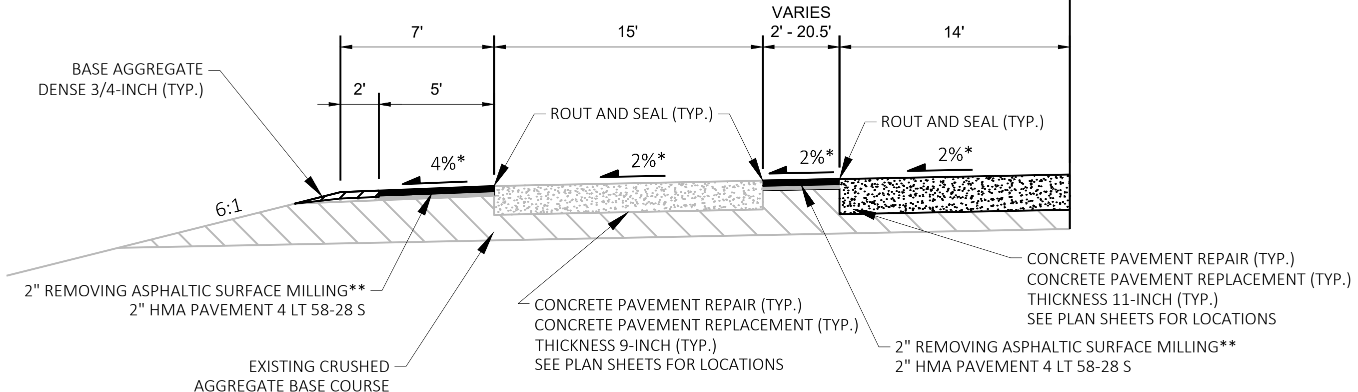
FINISHED TYPICAL SECTION

STA 816'WB'+15 - STA 829'WB'+31



FINISHED TYPICAL SECTION

STA 828'WB'+15 - STA 831WB'+32



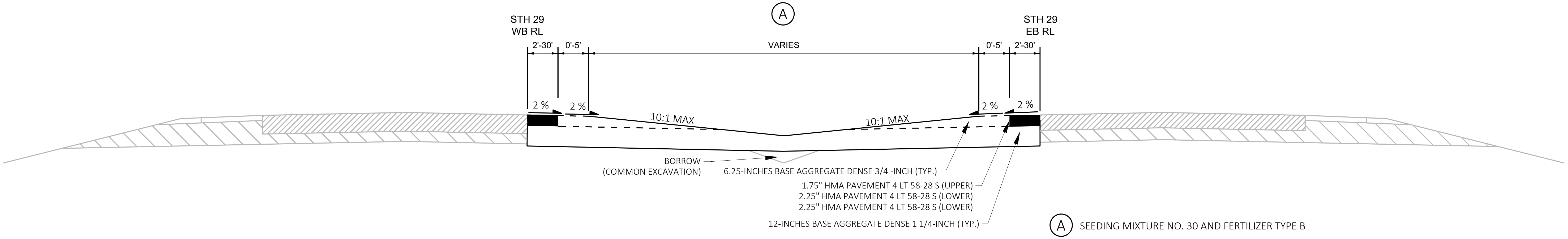
FINISHED TYPICAL SECTION

STA 841'WB'+56 - STA 842'WB'+75

NOTE:
DIAMOND GRIND CONCRETE PAVEMENT REPAIR AND REPLACEMENT PATCHES EXTENDING 5-FT FROM OUTER PATCH LIMITS (SEE DETAIL).

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 6	E

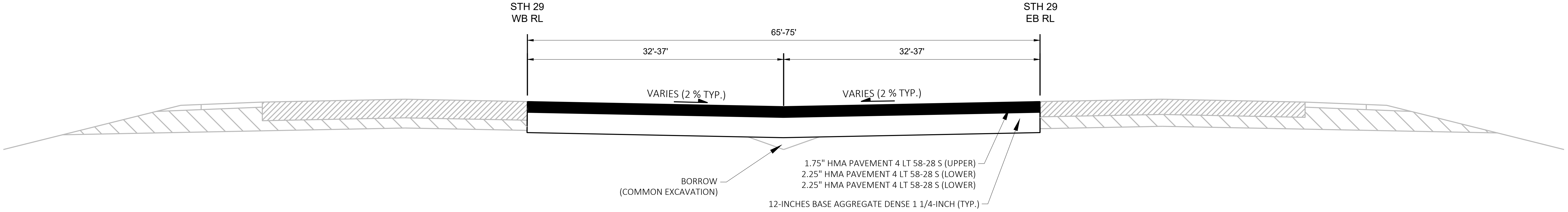
FILE NAME : W:\10530731\SHEETS\020301-TS.DWG
LAYOUT NAME - 020303-ts
PLOT DATE : 6/17/2025 4:14 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



Ⓐ SEEDING MIXTURE NO. 30 AND FERTILIZER TYPE B

STAGE 1 CROSSOVER FINISHED TYPICAL SECTION

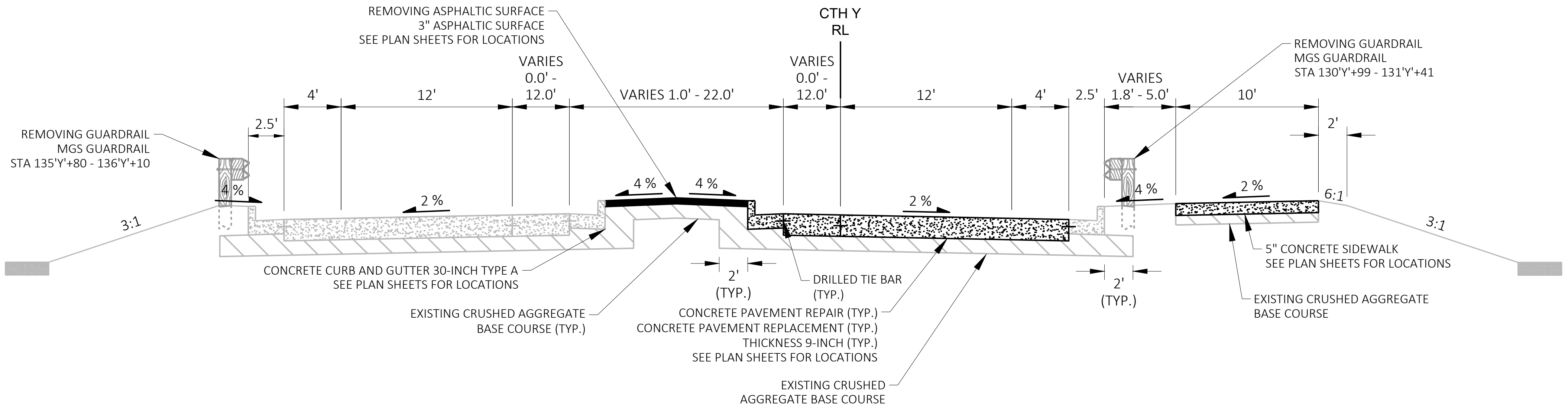
STA 656'WB'+98 - STA 664'WB'+92
STA 667'WB'+53 - STA 675'WB'+49
STA 844'WB'+71 - STA 847'WB'+99
STA 849'WB'+40 - STA 853'WB'+56
STA 907'WB'+83 - STA 914'WB'+46
STA 917'WB'+08 - STA 922'WB'+46



STAGE 1 CROSSOVER FINISHED TYPICAL SECTION

STA 664'WB'+92 - STA 667'WB'+53
STA 847'WB'+99 - STA 849'WB'+40
STA 914'WB'+46 - STA 917'WB'+08

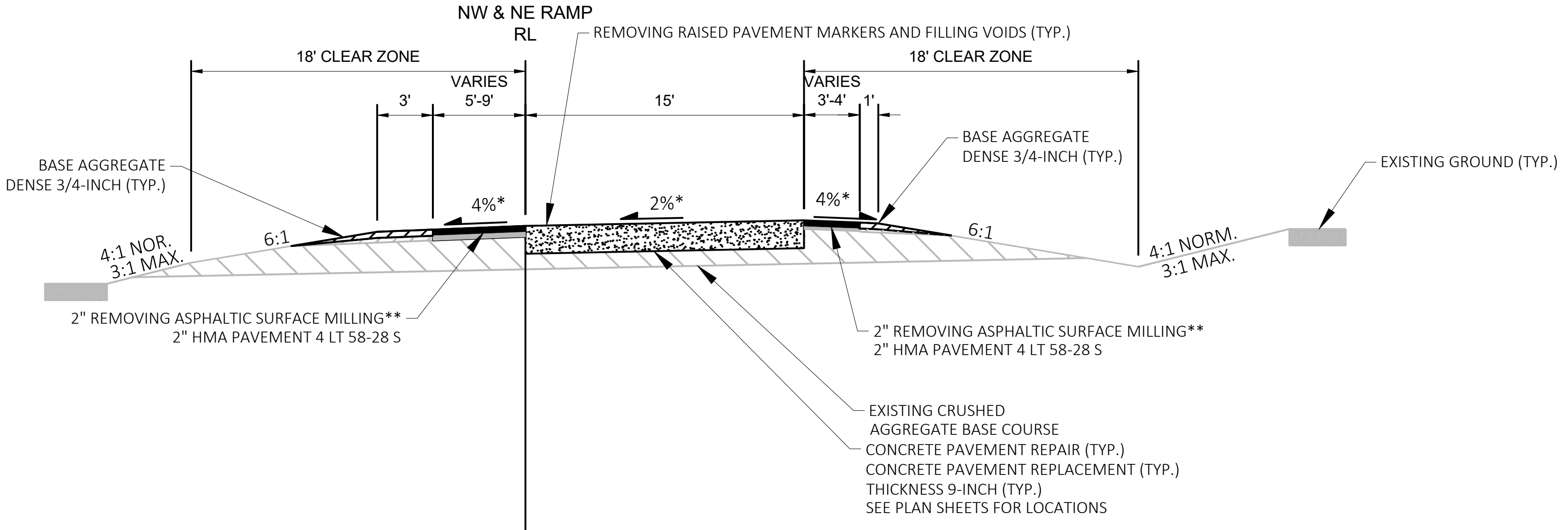
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | TYPICAL SECTION | SHEET 7 | E



FINISHED TYPICAL SECTION - CTH Y

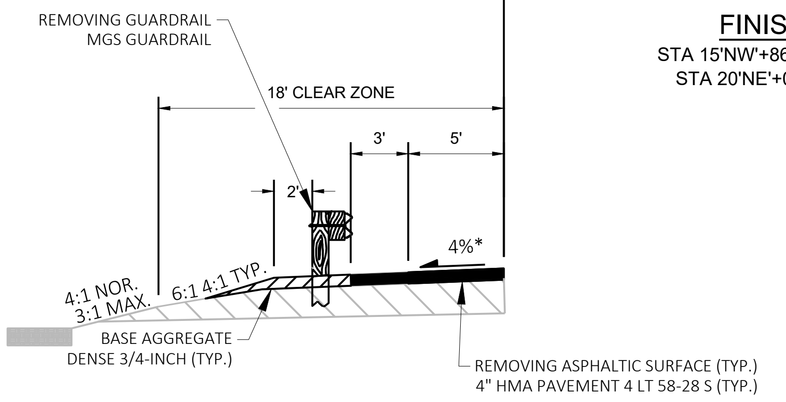
STA 129'Y'+55 - STA 137'Y'+60

NOTE:
DIAMOND GRIND CONCRETE PAVEMENT REPAIR AND REPLACEMENT PATCHES EXTENDING 5-FT FROM OUTER PATCH LIMITS (SEE DETAIL).



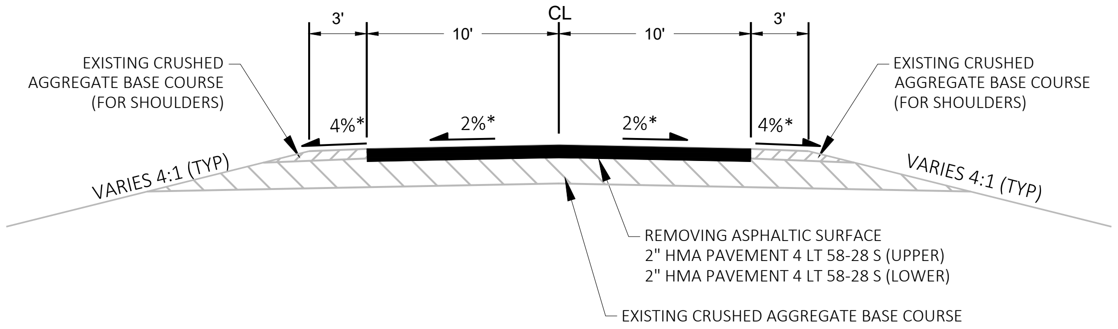
FINISHED TYPICAL SECTION - RAMPS

STA 15'NW'+86 - STA 20'NW'+00 (STH 29 WB ON RAMP FROM CTH Y)
STA 20'NE'+00 STA 28'NE'+38 (STH 29 WB OFF RAMP TO CTH Y)



FINISHED TYPICAL SECTION - RAMPS

STA 14'NW'+93 - STA 15'NW'+86 (STH 29 WB ON RAMP FROM CTH Y)



* CROSS SLOPE VARIES DUE TO SUPERELEVATION

FINISHED SIDEROAD TYPICAL SECTION

MARATHON COUNTY LANDFILL ACCESS RD
DUNCAN RD

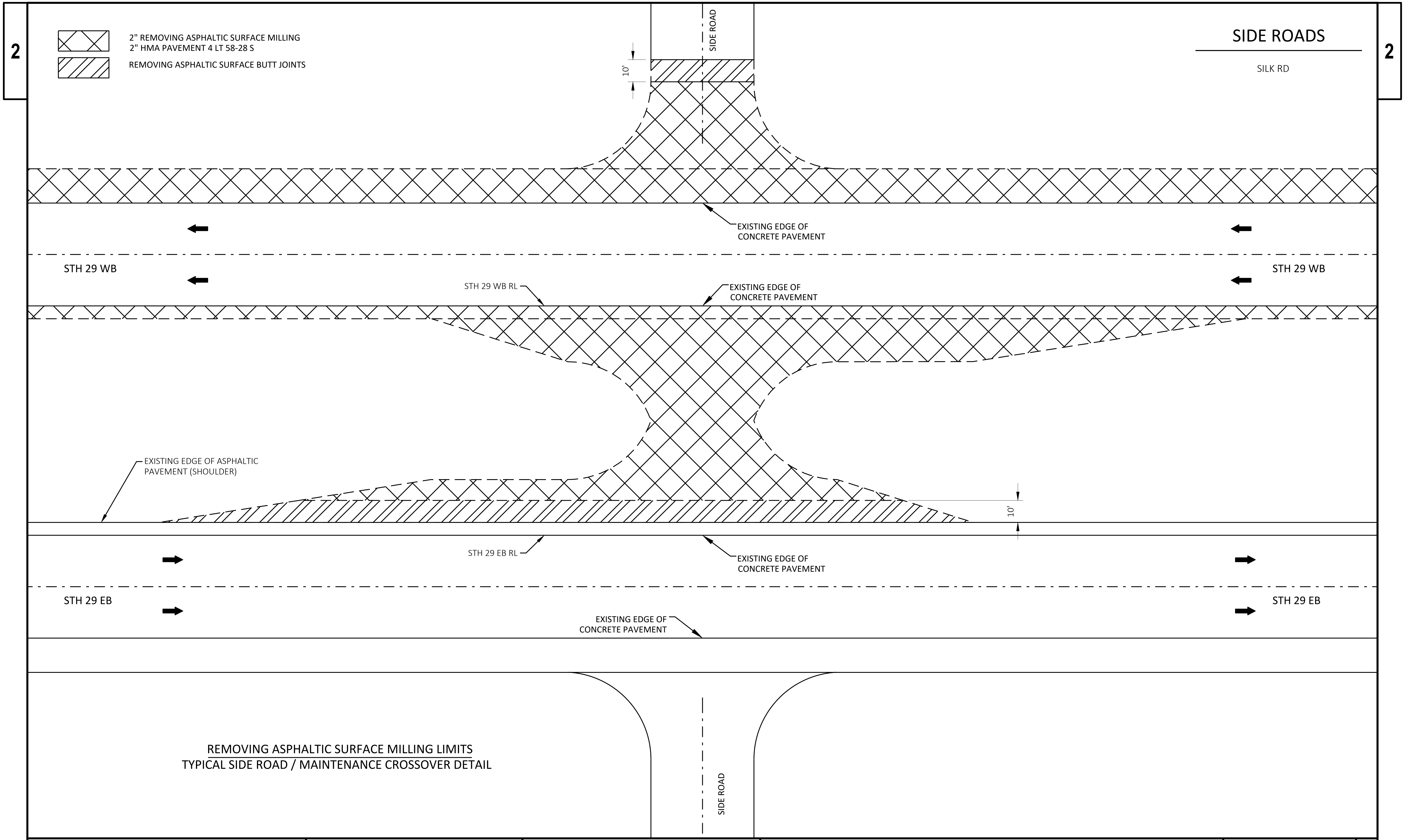
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTION	SHEET 8	E

▩ 2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA PAVEMENT 4 LT 58-28 S

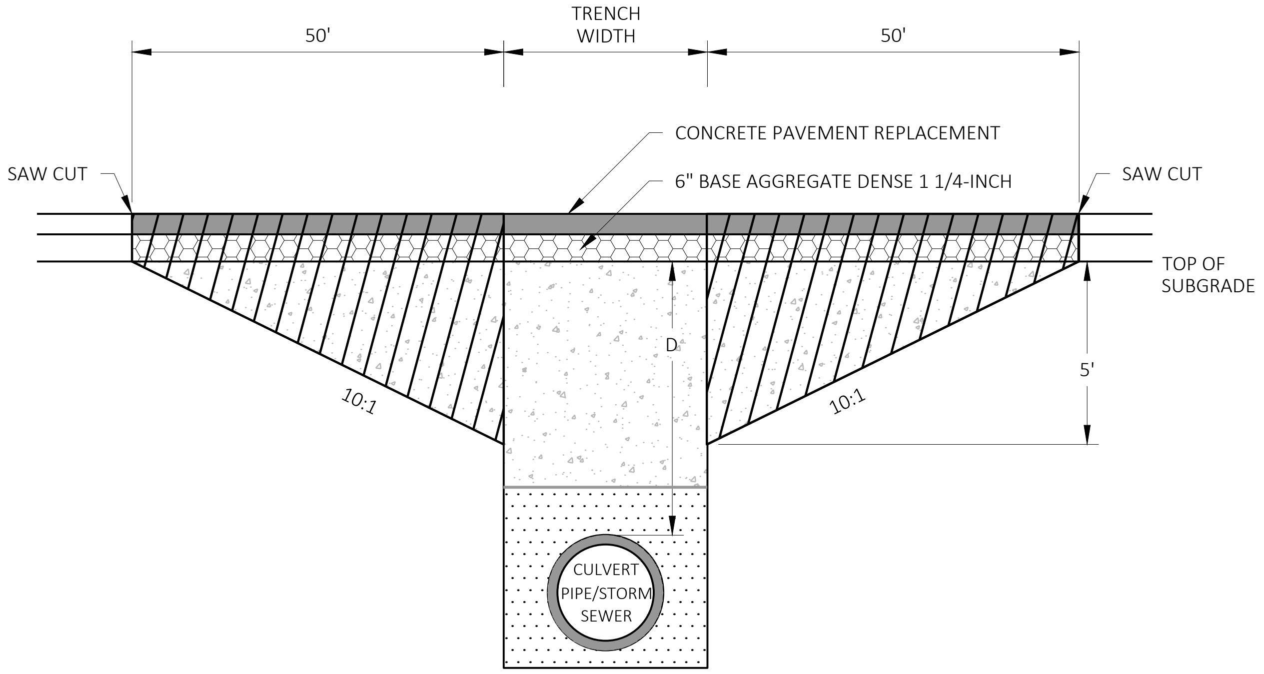
▨ REMOVING ASPHALTIC SURFACE BUTT JOINTS

SIDE ROADS

SILK RD



REMOVING ASPHALTIC SURFACE MILLING LIMITS
TYPICAL SIDE ROAD / MAINTENANCE CROSSOVER DETAIL



DEPTH D ≥ 6 FT

KEY	
▇	PROPOSED SURFACE
⬡	PROPOSED BASE
░	TRENCH BACKFILL
⁘	FOUNDATION BACKFILL
▨	TRANSITION CUT

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.

CULVERT PIPE TRANSITION

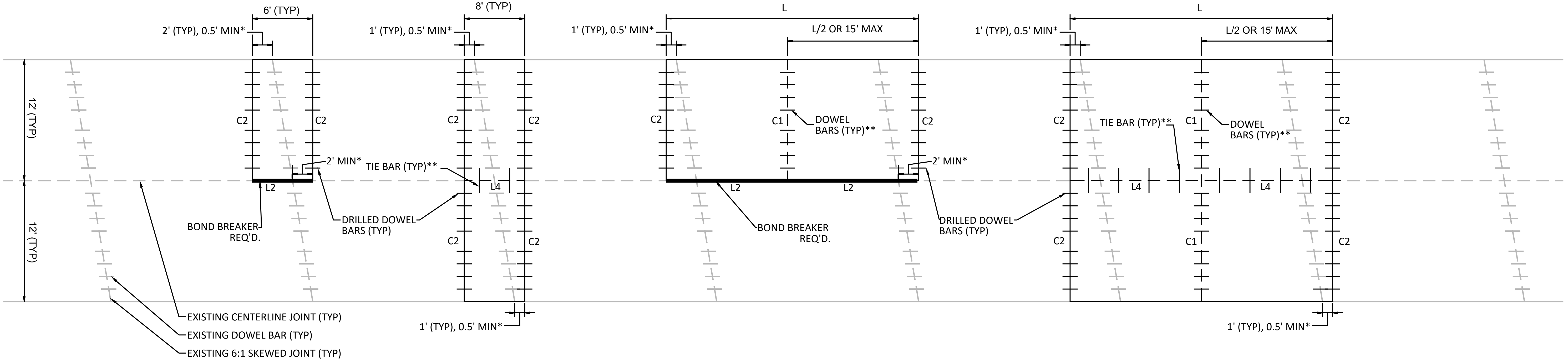
ROUTE	STA (CL)	DEPTH D (FT)	PIPE DIA (IN)	REMARKS
STH 29	684+59	≈ 8'	36	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH
STH 29	686+14	≈ 8'	36	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH

SINGLE LANE CONCRETE PAVEMENT REPAIR

DOUBLE LANE CONCRETE PAVEMENT REPAIR

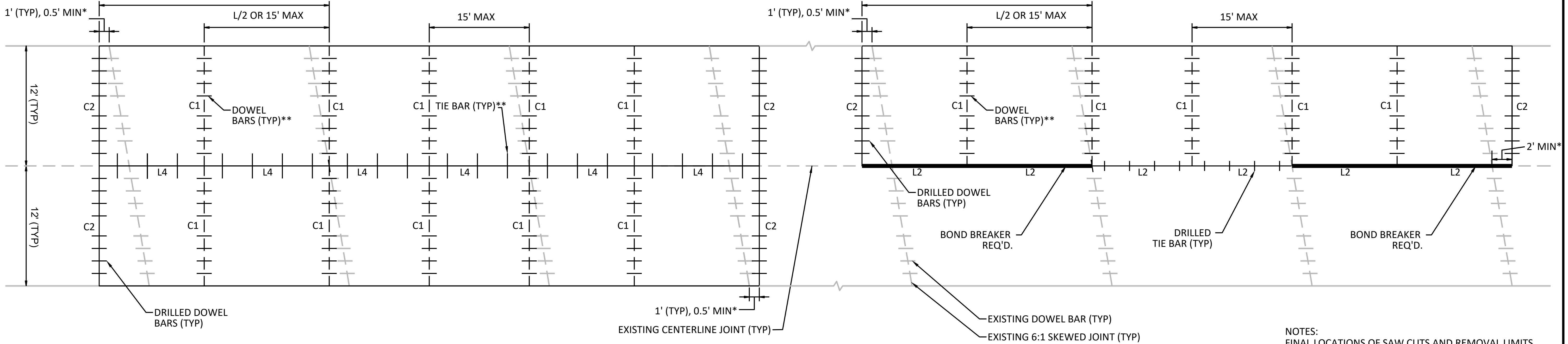
SINGLE LANE CONCRETE PAVEMENT REPLACEMENT SINGLE PANEL

DOUBLE LANE CONCRETE PAVEMENT REPLACEMENT SINGLE PANEL PER LANE



DOUBLE LANE CONCRETE PAVEMENT REPLACEMENT MULTIPLE PANEL

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT MULTIPLE PANEL

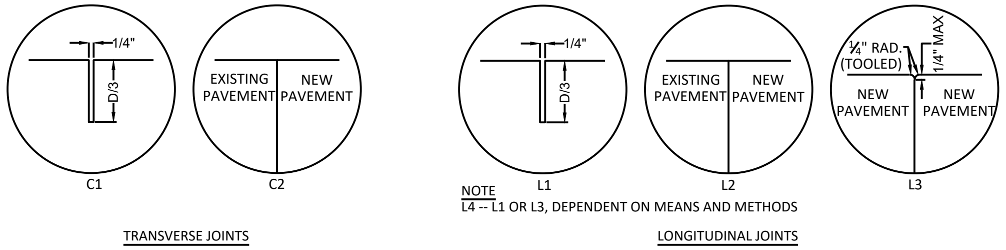


NOTES:
FINAL LOCATIONS OF SAW CUTS AND REMOVAL LIMITS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REFER TO SDD CONCRETE PAVEMENT REPAIR AND REPLACEMENT FOR ADDITIONAL DETAILS.

* ENSURE FULL REMOVAL OF EXISTING DOWEL BAR AT CONCRETE REPAIR/REPLACEMENT LOCATIONS.

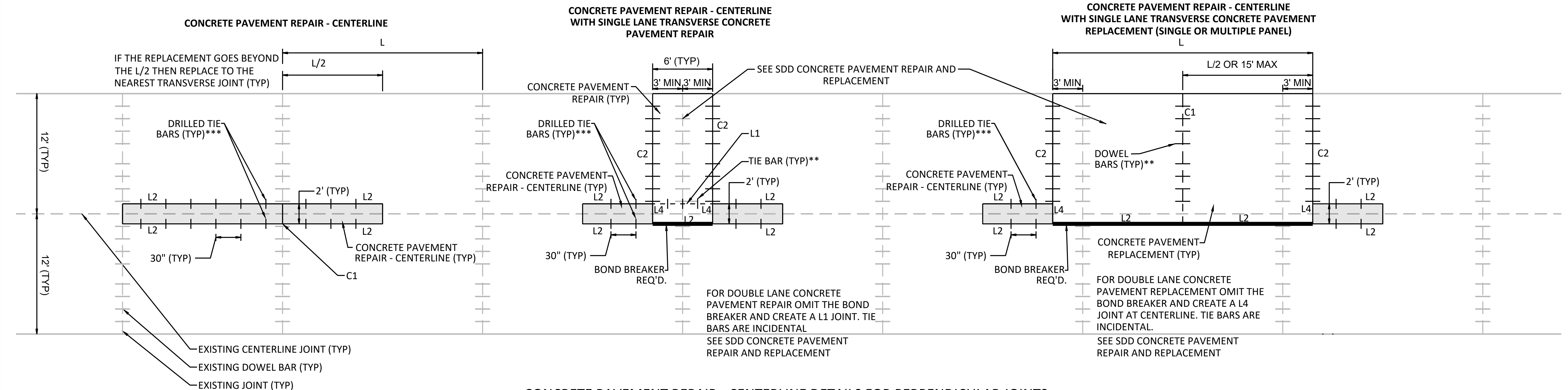
**INCIDENTAL WHEN NOT ABUTTING EXISTING PAVEMENT.



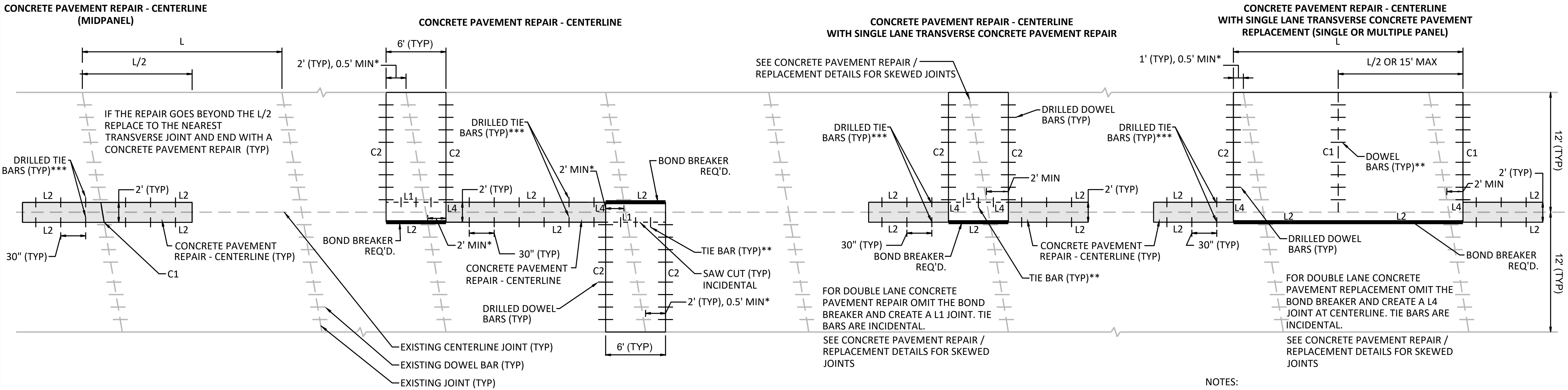
NOTE
L4 -- L1 OR L3, DEPENDENT ON MEANS AND METHODS

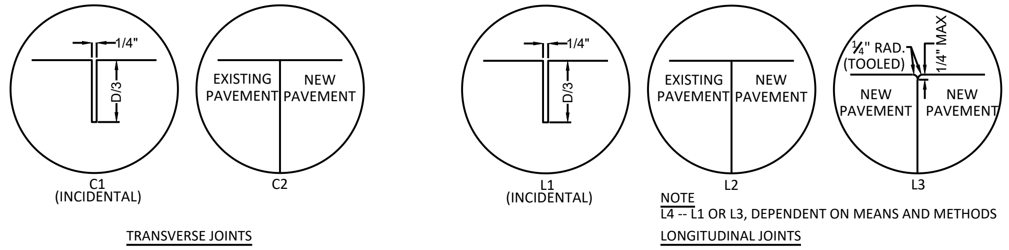
CONCRETE PAVEMENT REPAIR / REPLACEMENT DETAILS FOR SKEWED JOINTS

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS	SHEET 11	E



CONCRETE PAVEMENT REPAIR - CENTERLINE DETAILS FOR PERPENDICULAR JOINTS





CONCRETE PAVEMENT REPAIR - CENTERLINE DETAILS FOR SKEWED JOINTS

NOTES:

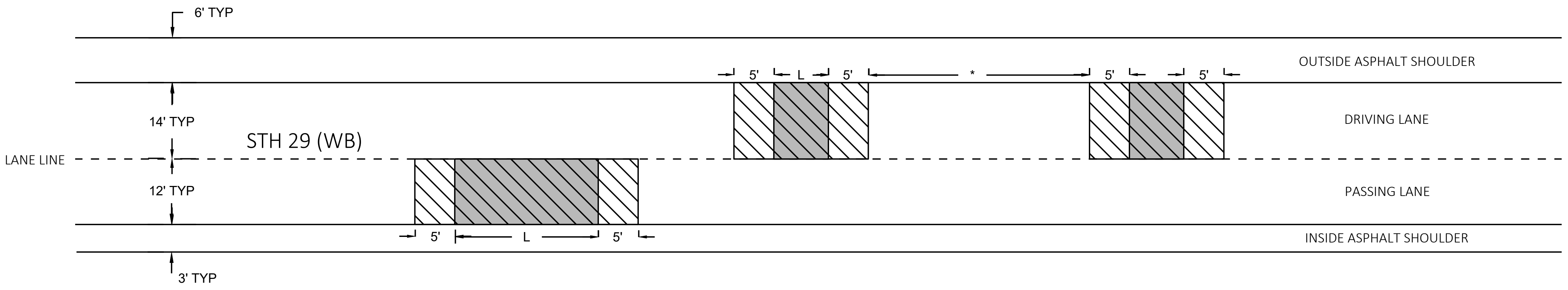
FINAL LOCATIONS OF SAW CUTS AND REMOVAL LIMITS ARE TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REFER TO S.D.D. CONCRETE PAVEMENT REPAIR AND REPLACEMENT FOR ADDITIONAL DETAILS.

* ENSURE FULL REMOVAL OF EXISTING DOWEL BAR AT CONCRETE REPAIR/REPLACEMENT LOCATIONS.

**INCIDENTAL WHEN NOT ABUTTING EXISTING PAVEMENT.

***TIE BAR MAY BE DRILLED AT AN ANGLE, THEN BENT PERPENDICULAR TO JOINT AFTER INSTALLATION.



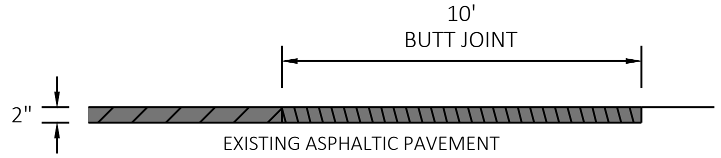
▨ CONCRETE PAVEMENT REPAIR OR REPLACEMENT AREA

▧ CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT AREA

* NOTE: CONNECT DIAMOND GRINDING OPERATIONS AT LOCATIONS WHERE CONSECUTIVE JOINTS ARE BEING REPAIRED AND THE GAP DISTANCE IS LESS THAN OR EQUAL TO 10 FEET

L = LENGTH OF REPAIR OR REPLACEMENT SHOWN ELSEWHERE IN PLANS OR DETERMINED BY THE ENGINEER IN THE FIELD

DETAIL FOR LIMITS OF DIAMOND GRINDING



■ HMA PAVEMENT

▨ REMOVING ASPHALTIC SURFACE MILLING

▥ REMOVING ASPHALTIC SURFACE BUTT JOINTS

BUTT JOINT

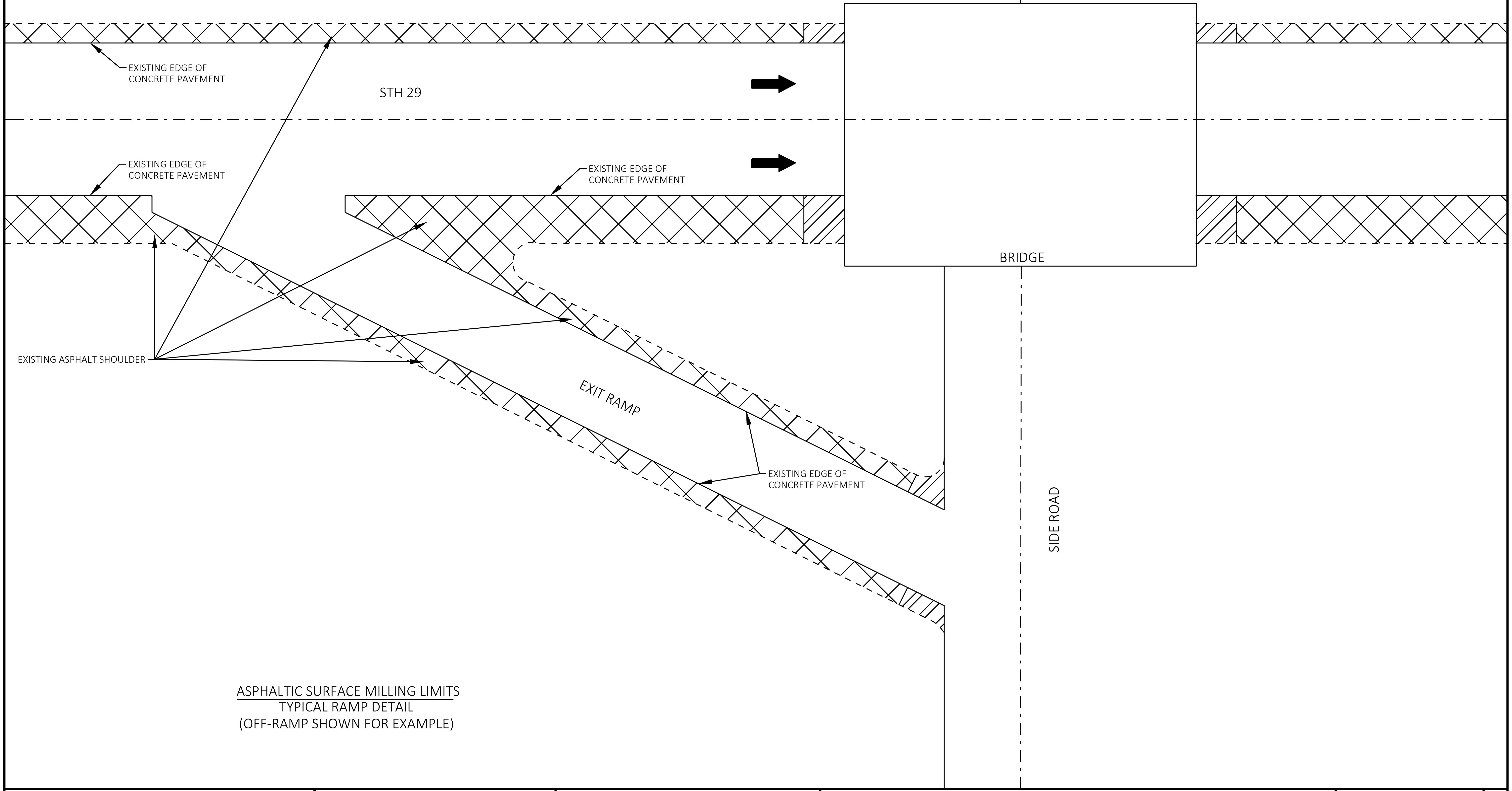
MAINLINE AND SIDE ROADS

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS	SHEET 13	E

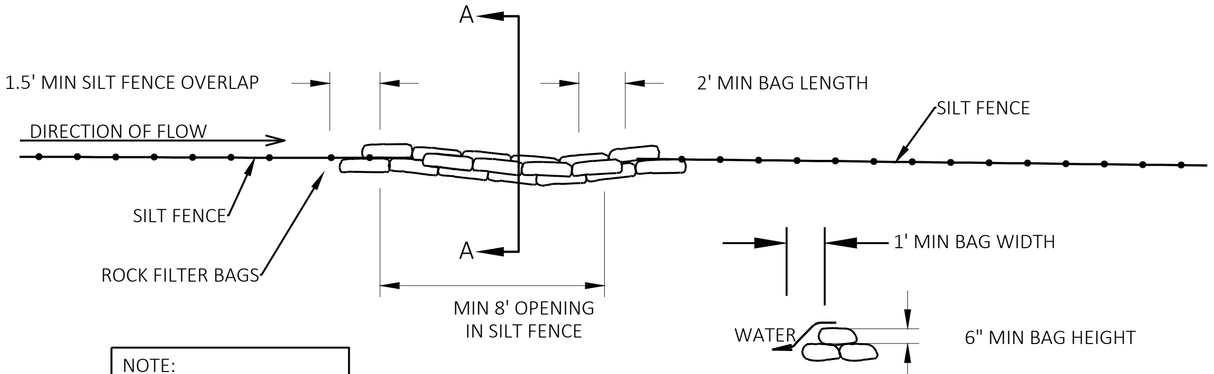
FILE NAME : W:\10530731\SHEETS\021001-CD.DWG
LAYOUT NAME - 021005-cd
PLOT DATE : 6/17/2025 4:15 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1:10

▩ 2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA PAVEMENT 4 LT 58-28 S

▨ REMOVING ASPHALTIC SURFACE BUTT JOINTS
10' TYP.



ASPHALTIC SURFACE MILLING LIMITS
TYPICAL RAMP DETAIL
(OFF-RAMP SHOWN FOR EXAMPLE)

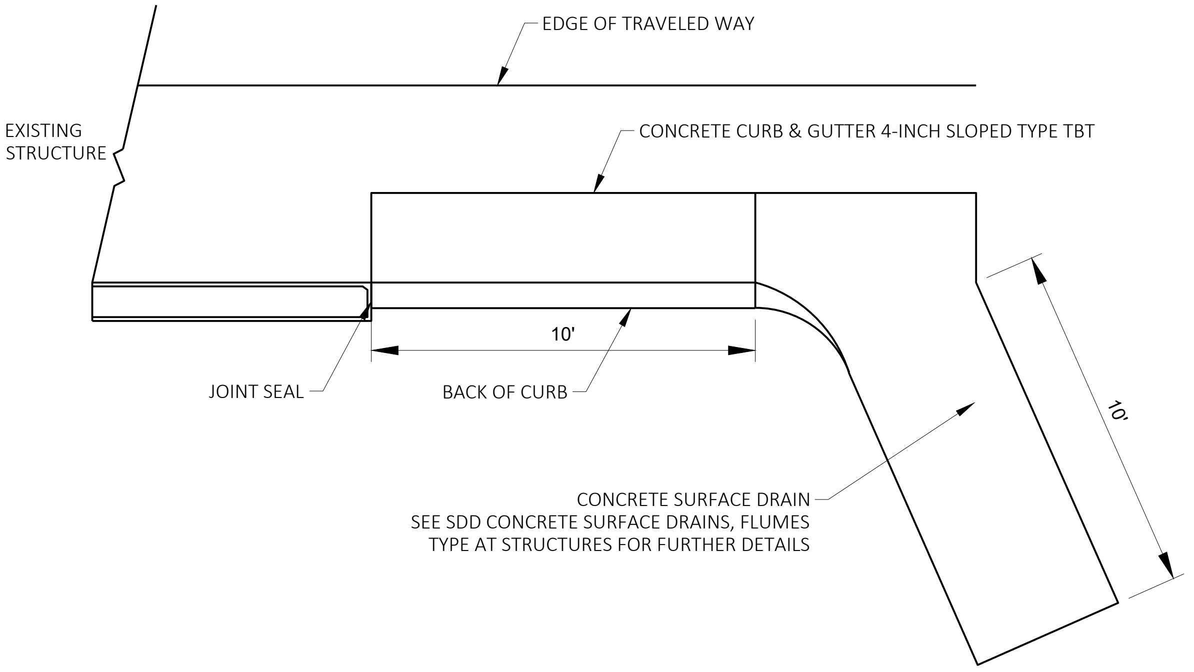


NOTE:
17 ROCK BAGS MINIMUM
PER 8' OPENING.

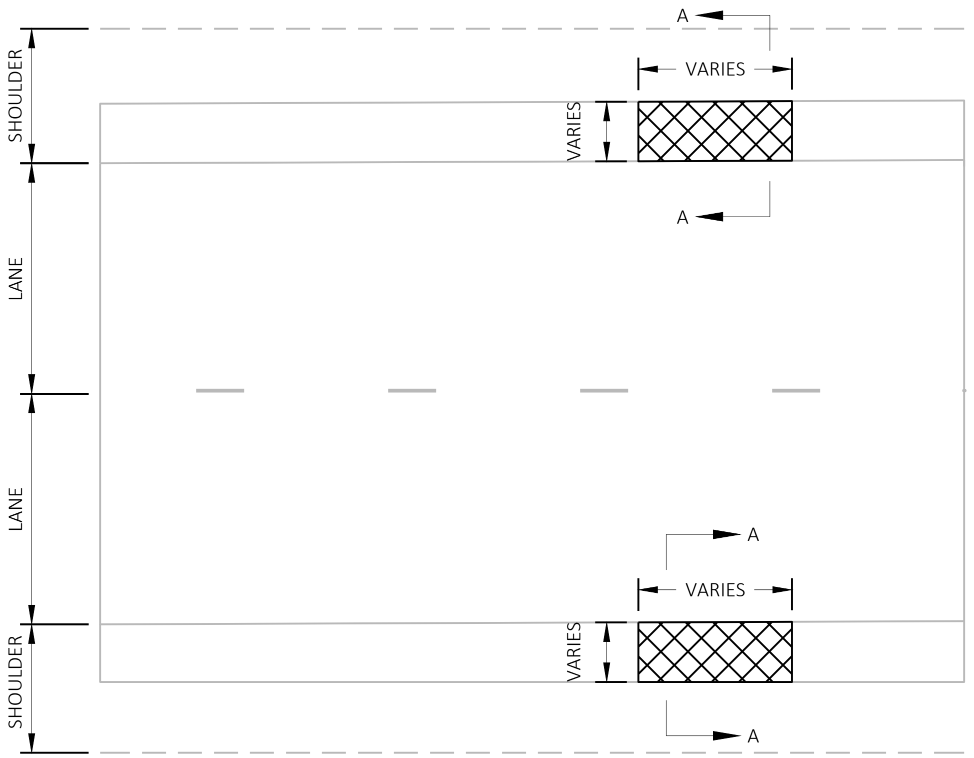
TOP VIEW

SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF



CONCRETE SURFACE DRAIN AT STRUCTURES WITHOUT BEAMGUARD

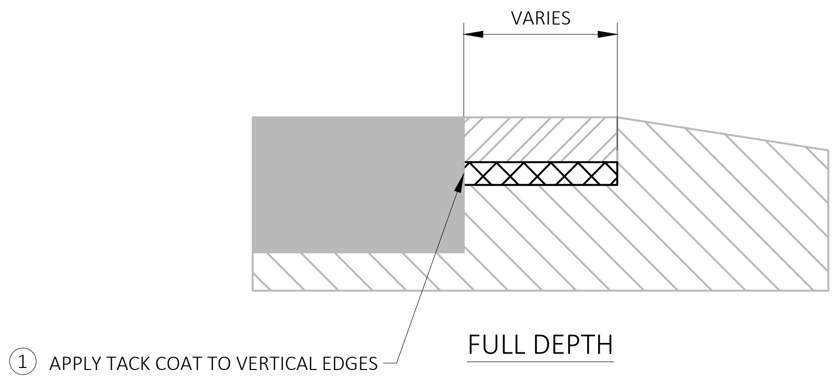


PLAN VIEW

NOTES:

PERFORM REMOVING ASPHALTIC SURFACE MILLING PRIOR TO REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

① MILLED VERTICAL EDGES ARE ACCEPTABLE, SAW CUTS ARE NOT REQUIRED.



FULL DEPTH

SECTION A-A

▨ REMOVING ASPHALTIC SURFACE MILLING

☒ REMOVING DISTRESSED ASPHALTIC SURFACE MILLING
ASPHALTIC SURFACE PATCHING

■ EXISTING CONCRETE PAVEMENT

▧ EXISTING BASE COURSE

REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

LOCATIONS AND LIMITS DETERMINED BY THE ENGINEER IN THE FIELD

PROJECT NO: 1053-07-61
HWY: STH 29
COUNTY: MARATHON
CONSTRUCTION DETAILS
SHEET 15
E

NOTES:

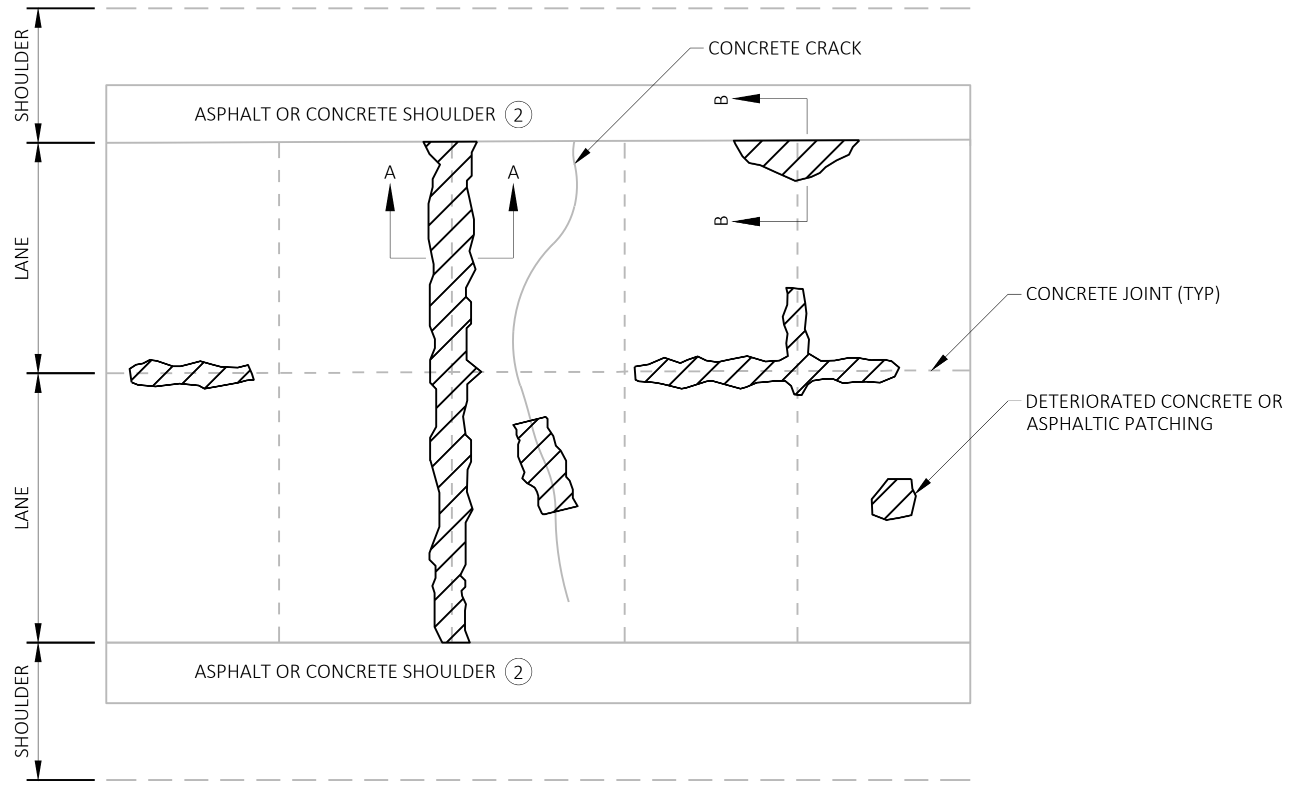
① REMOVE LOOSE OR SPALLED CONCRETE AND ASPHALT PATCHING

② EXISTING CONCRETE SHOULDER 6-FOOT OR LESS INCLUDED IN REPAIR AREA OF ADJACENT LANE

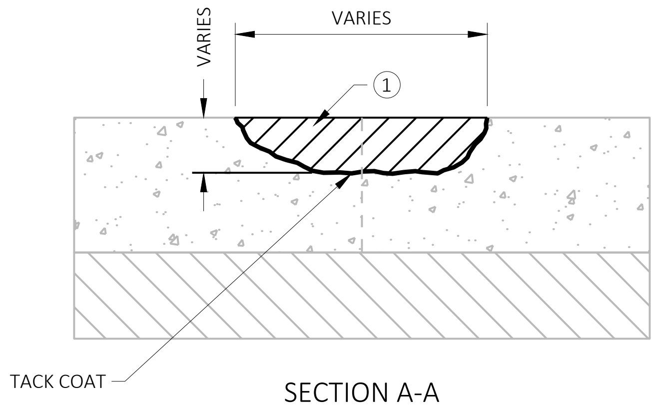
▨ ASPHALTIC SURFACE

☐ EXISTING CONCRETE PAVEMENT

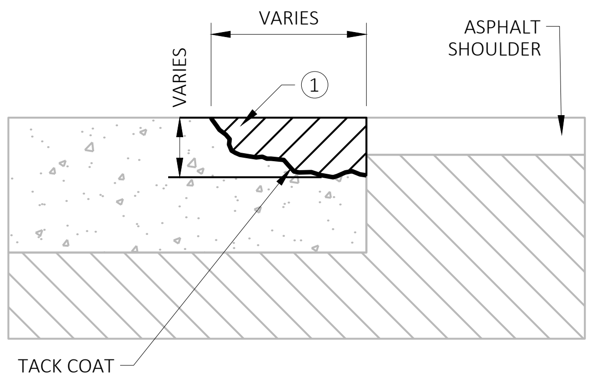
▨ EXISTING BASE COURSE



PLAN VIEW



SECTION A-A



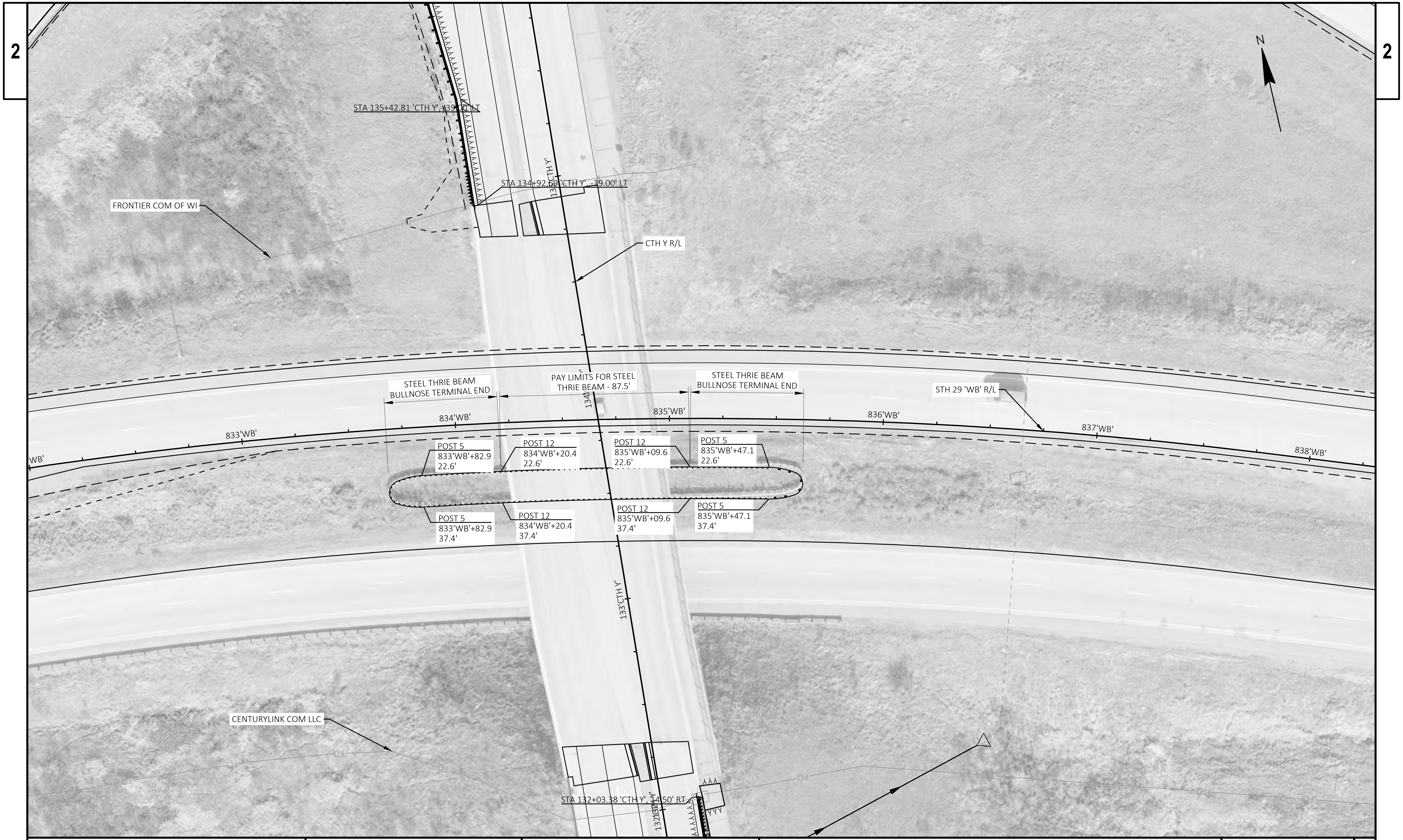
SECTION B-B

CONCRETE JOINT AND CRACK CLEANING AND REPAIR

SEE MISCELLANEOUS QUANTITIES FOR LOCATION

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 17	E

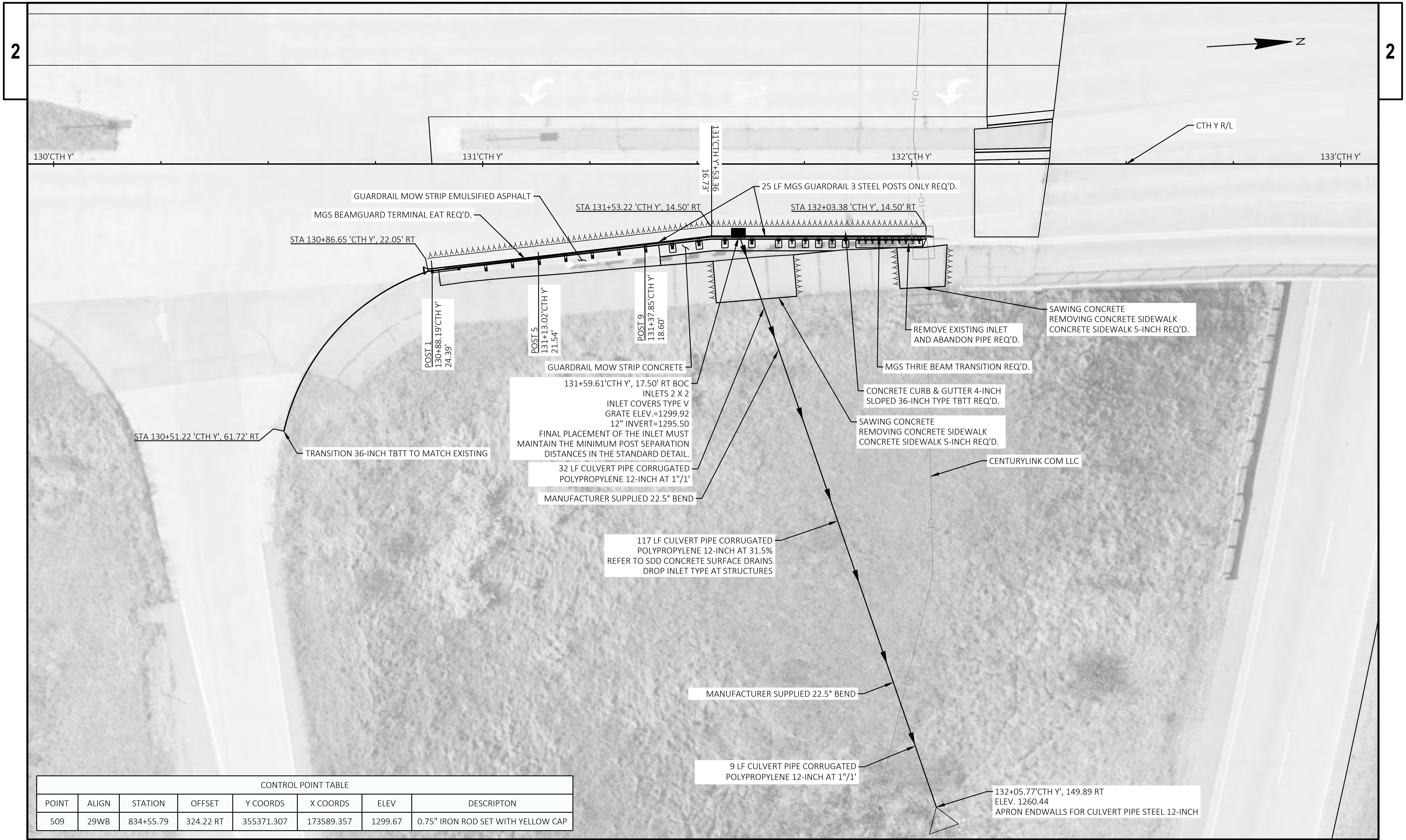
FILE NAME : W:\10530731\SHEETS\021201-PD.DWG
LAYOUT NAME - 021201-pd
PLOT DATE : 6/17/2025 4:16 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:40 FT



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 18	E

FILE NAME : W:\10530731\SHEETS\021201-PD.DWG
LAYOUT NAME - 021202-pd

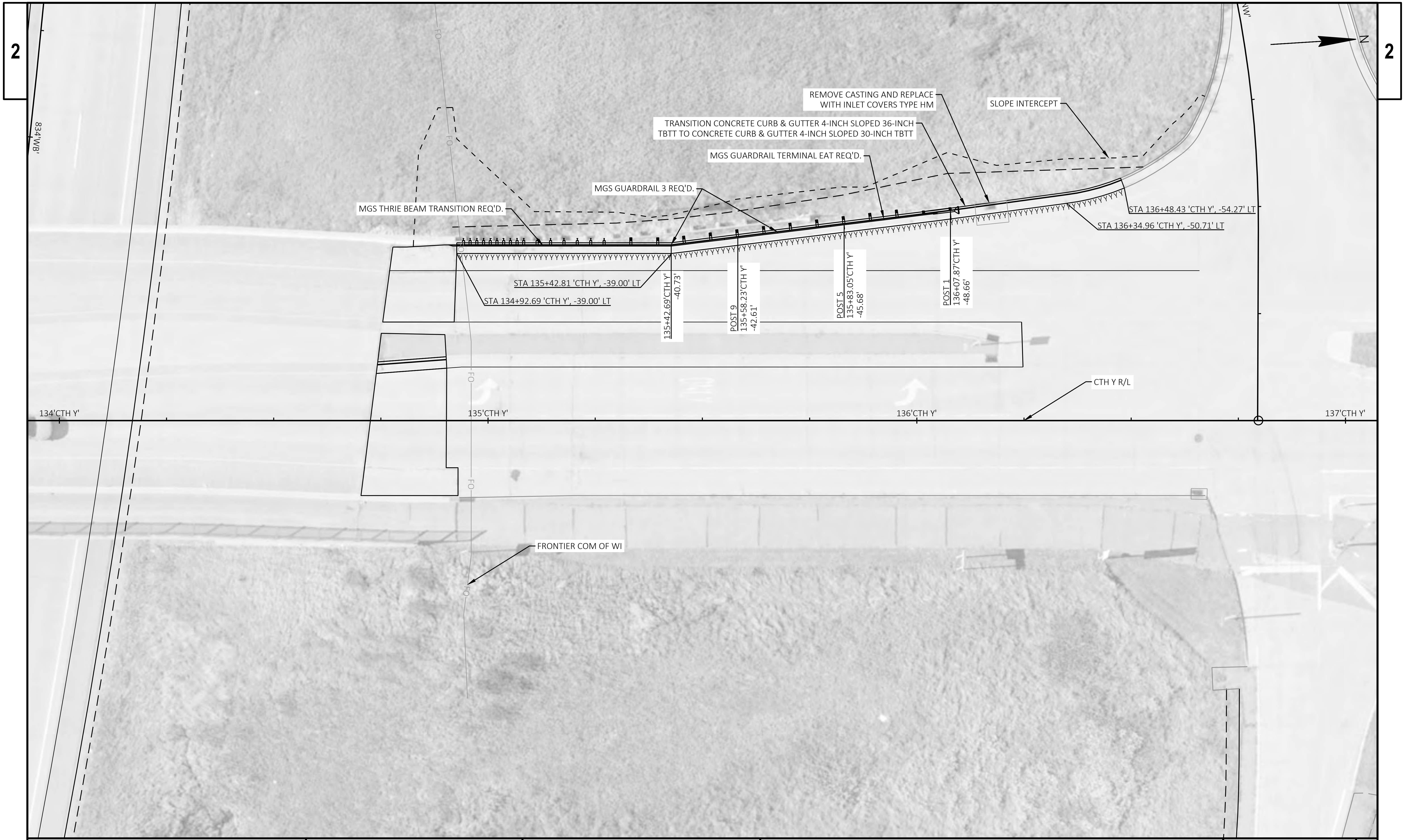
PLOT DATE : 6/17/2025 4:16 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:40 FT



CONTROL POINT TABLE

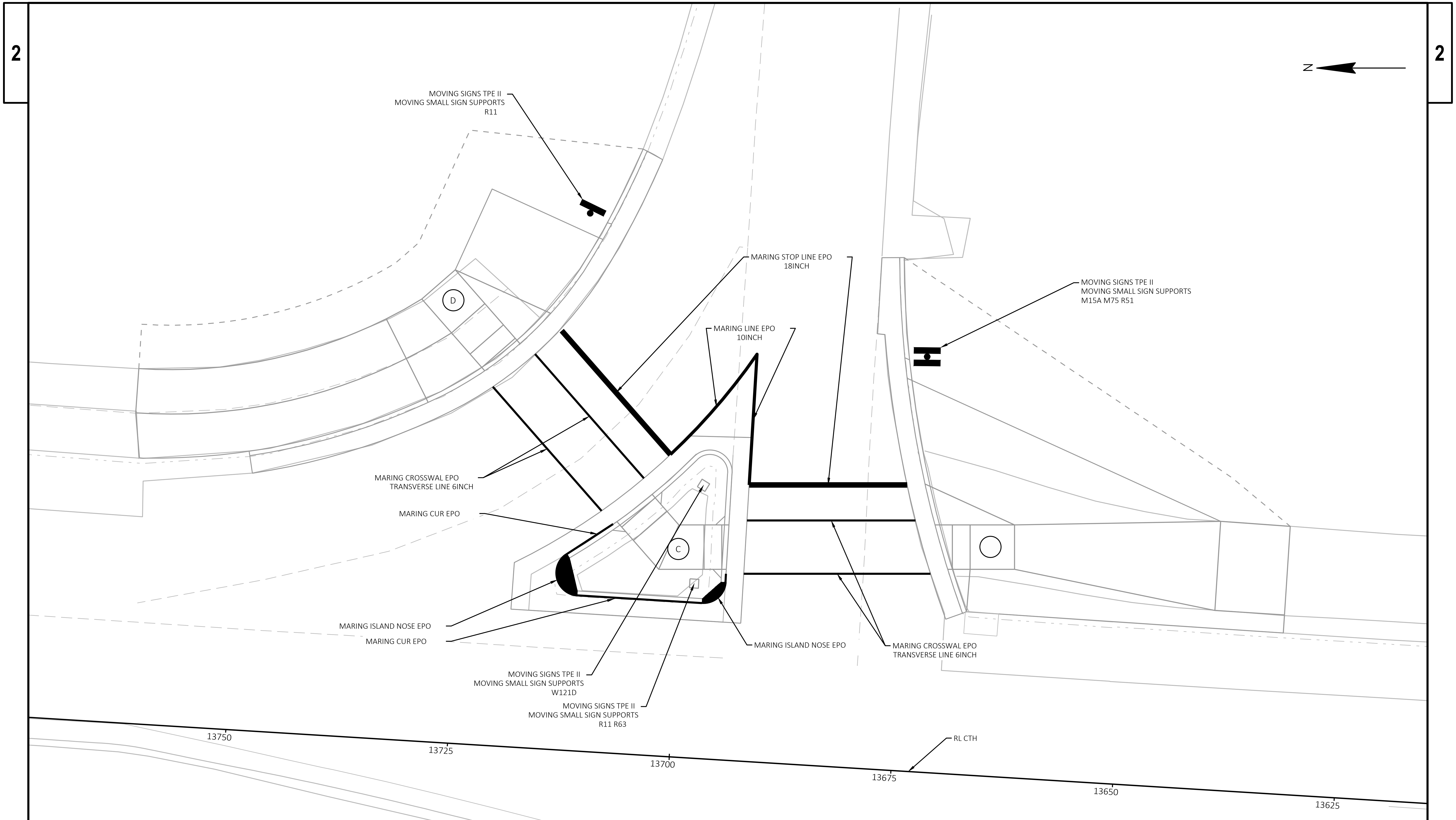
POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
509	29WB	834+55.79	324.22 RT	355371.307	173589.357	1299.67	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | PLAN DETAILS | SHEET 19 | E



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 20	E

FILE NAME : W:\10530731\SHEETS\021201-PD.DWG
LAYOUT NAME - 021204-pd
PLOT DATE : 6/17/2025 4:17 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:20 FT



NOTE
SIGN O OUTS WITHIN CONCRETE SIDEWAL IS TO E
1T 1T AND ILLED LUSH WITH ASPHALTIC
SURACE TO ADJACENT CONCRETE SIDEWAL

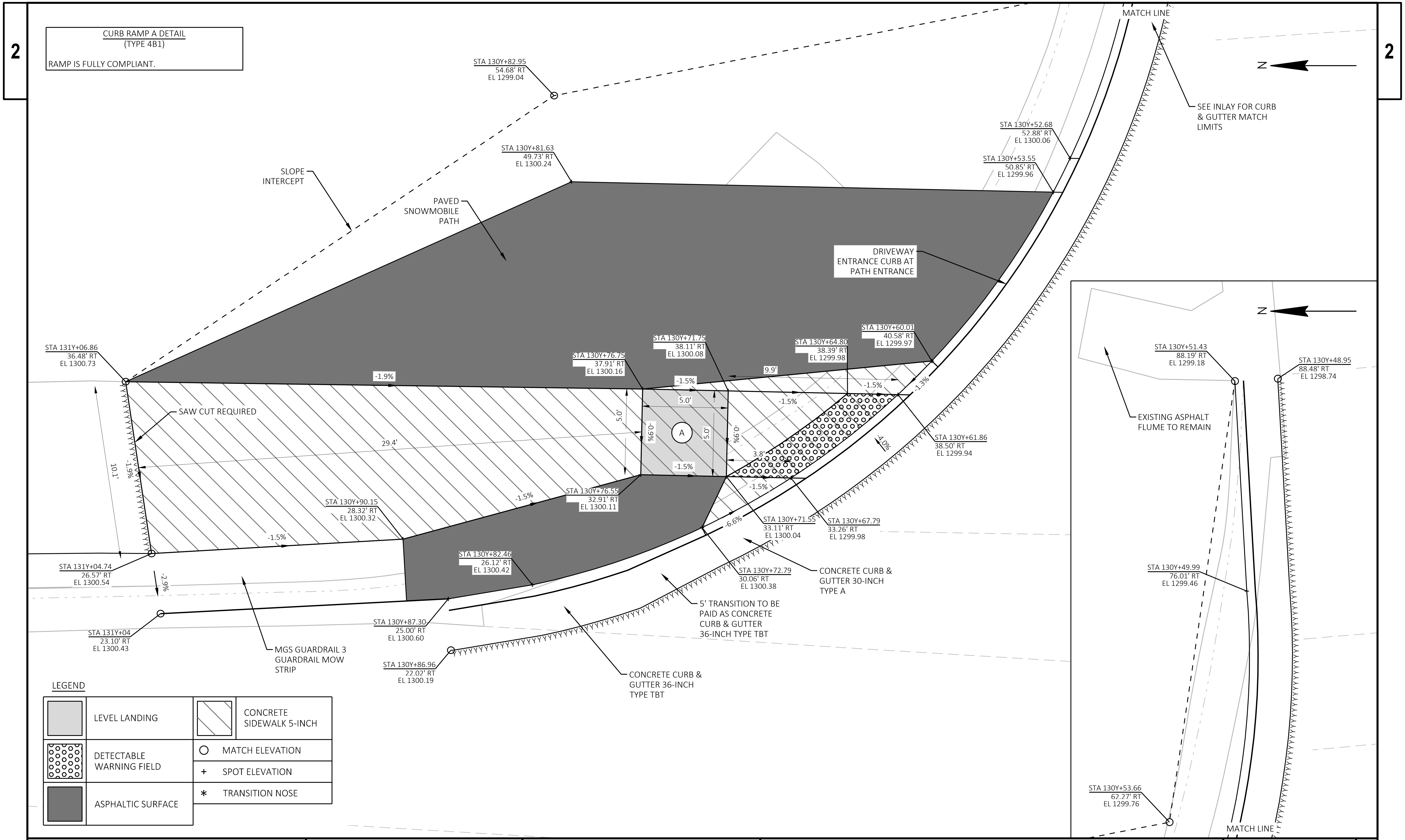
PROJECT NO 10530761	HW STH 29	COUNT MARATHON	CUR RAMP OVERVIEW AND PAVEMENT MARING SIGNING DETAIL	SHEET 21	E

ILE NAME W10530731SHEETS021301CRDWG
LAOUT NAME 021301

PLOT DATE 6172025 418 PM
PLOT LE MAROSE
PLOT NAME
PLOT SCALE 1 IN10 T

CURB RAMP A DETAIL
(TYPE 4B1)

RAMP IS FULLY COMPLIANT.



LEGEND

░	LEVEL LANDING	▨	CONCRETE SIDEWALK 5-INCH
⠿	DETECTABLE WARNING FIELD	○	MATCH ELEVATION
		+	SPOT ELEVATION
■	ASPHALTIC SURFACE	*	TRANSITION NOSE

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 22 E

FILE NAME : W:\10530731\SHEETS\021301-CR.DWG
LAYOUT NAME - 021302
PLOT DATE : 6/17/2025 4:18 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:5 FT

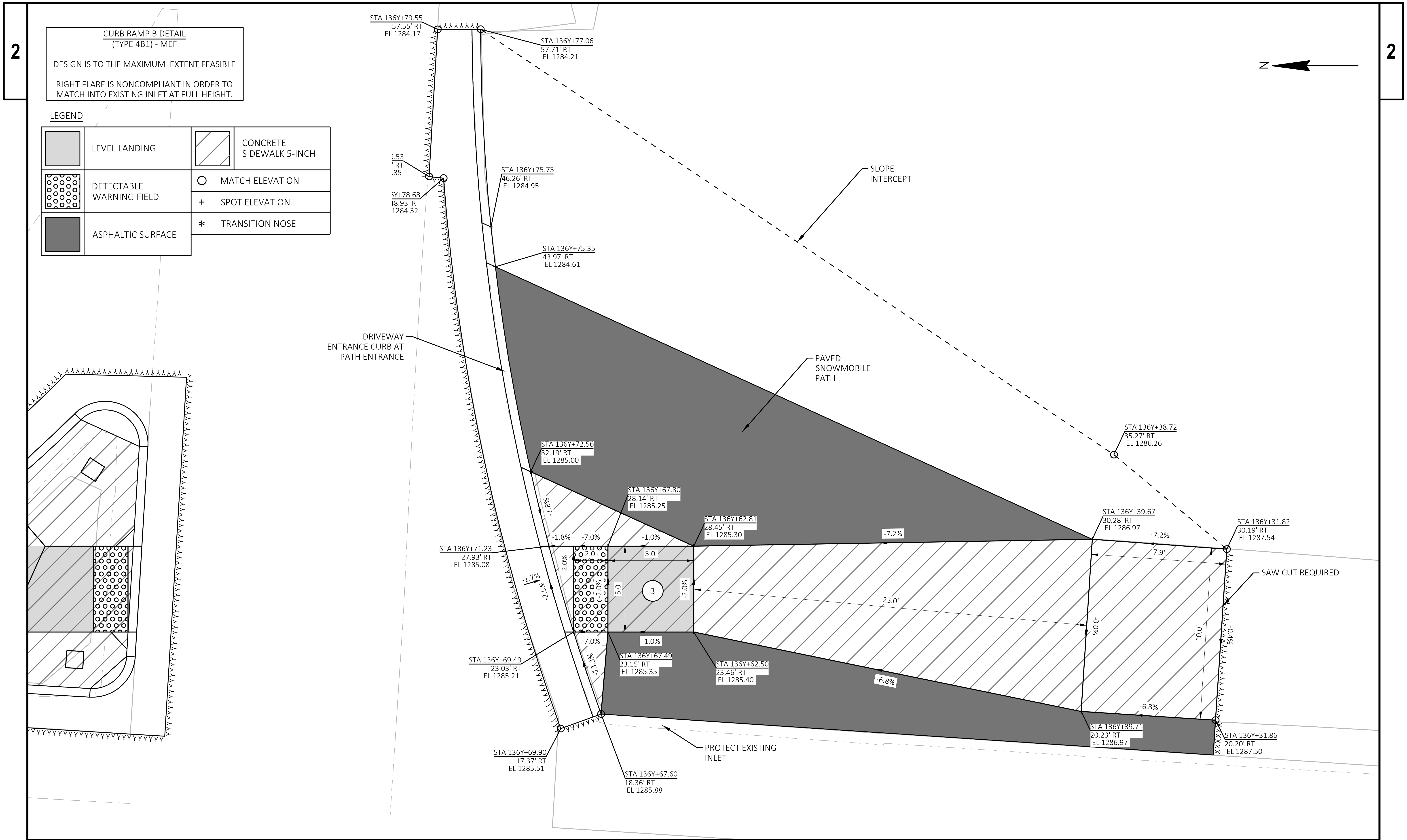
CURB RAMP B DETAIL
(TYPE 4B1) - MEF

DESIGN IS TO THE MAXIMUM EXTENT FEASIBLE

RIGHT FLARE IS NONCOMPLIANT IN ORDER TO MATCH INTO EXISTING INLET AT FULL HEIGHT.

LEGEND

░	LEVEL LANDING	▨	CONCRETE SIDEWALK 5-INCH
⠿	DETECTABLE WARNING FIELD	○	MATCH ELEVATION
		+	SPOT ELEVATION
■	ASPHALTIC SURFACE	*	TRANSITION NOSE



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | PLAN DETAILS | SHEET 23 E

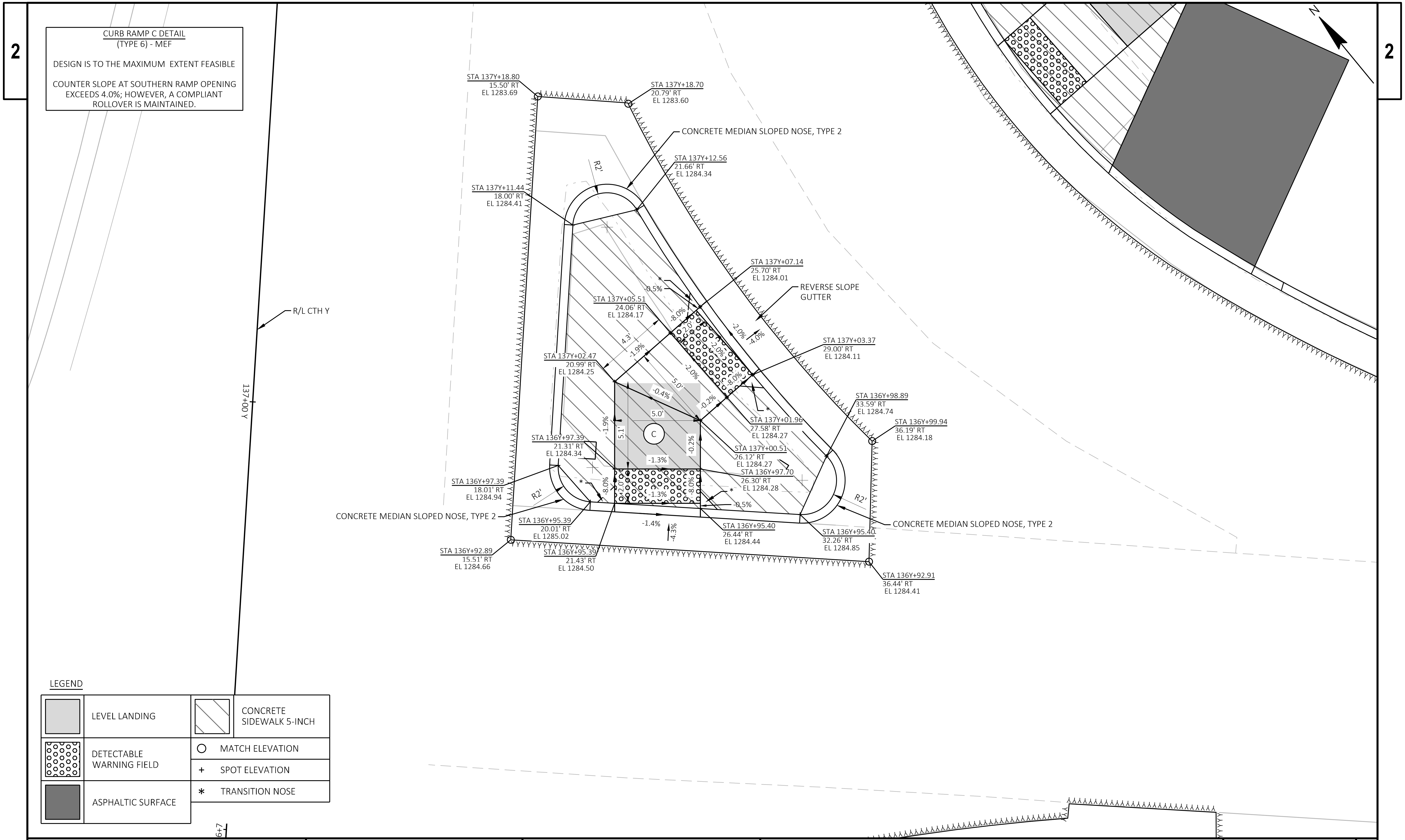
FILE NAME : W:\10530731\SHEETS\021301-CR.DWG
LAYOUT NAME - 021303
PLOT DATE : 6/17/2025 4:18 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:5 FT
WISDOT/CADDS SHEET 42

2

CURB RAMP C DETAIL
(TYPE 6) - MEF

DESIGN IS TO THE MAXIMUM EXTENT FEASIBLE

COUNTER SLOPE AT SOUTHERN RAMP OPENING EXCEEDS 4.0%; HOWEVER, A COMPLIANT ROLLOVER IS MAINTAINED.



LEGEND

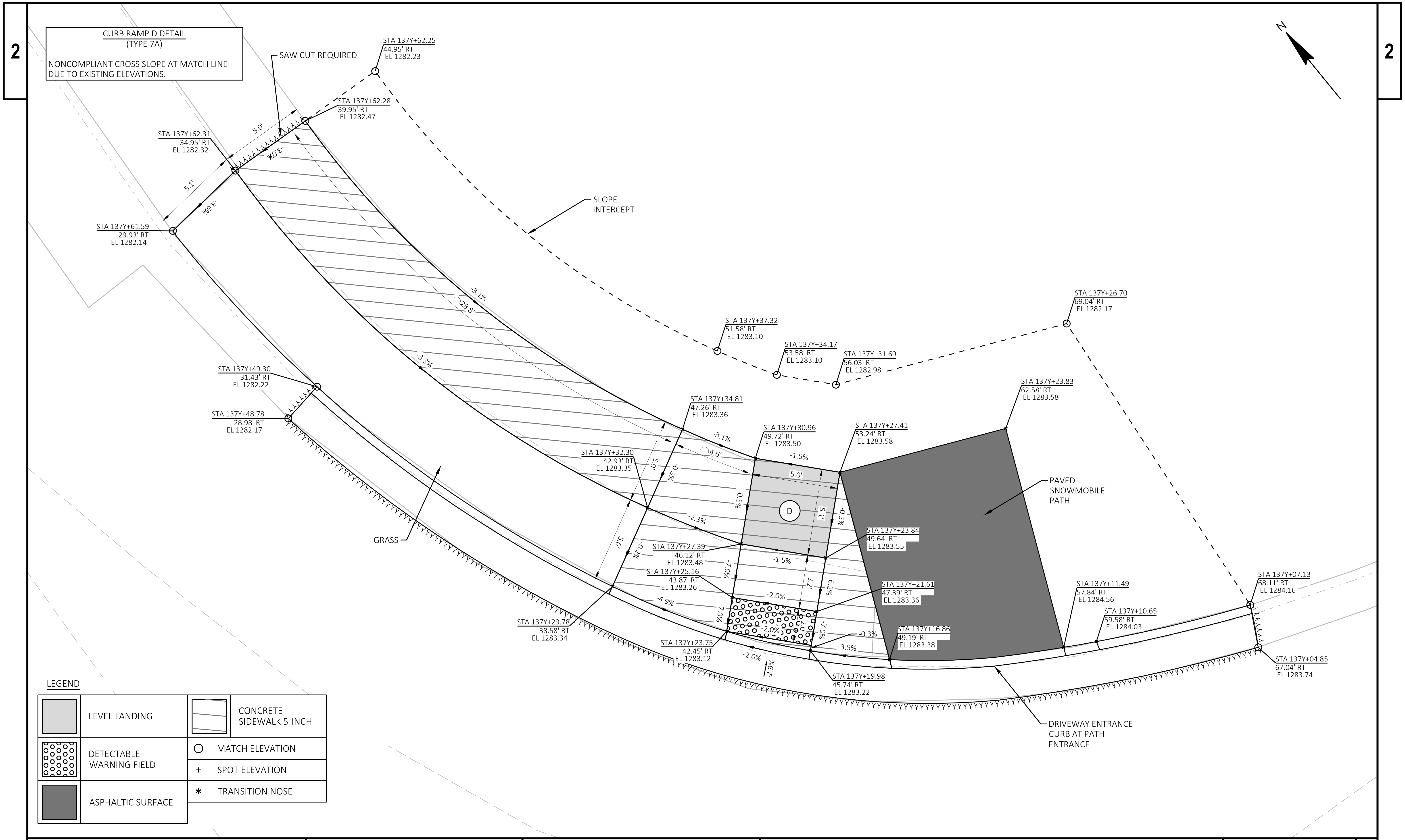
▨	LEVEL LANDING	▧	CONCRETE SIDEWALK 5-INCH
⠿	DETECTABLE WARNING FIELD	○	MATCH ELEVATION
		+	SPOT ELEVATION
■	ASPHALTIC SURFACE	*	TRANSITION NOSE

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 24 E

FILE NAME : W:\10530731\SHEETS\021301-CR.DWG
LAYOUT NAME - 021304
PLOT DATE : 6/17/2025 4:18 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:5 FT

CURB RAMP D DETAIL
(TYPE 7A)

NONCOMPLIANT CROSS SLOPE AT MATCH LINE
DUE TO EXISTING ELEVATIONS.

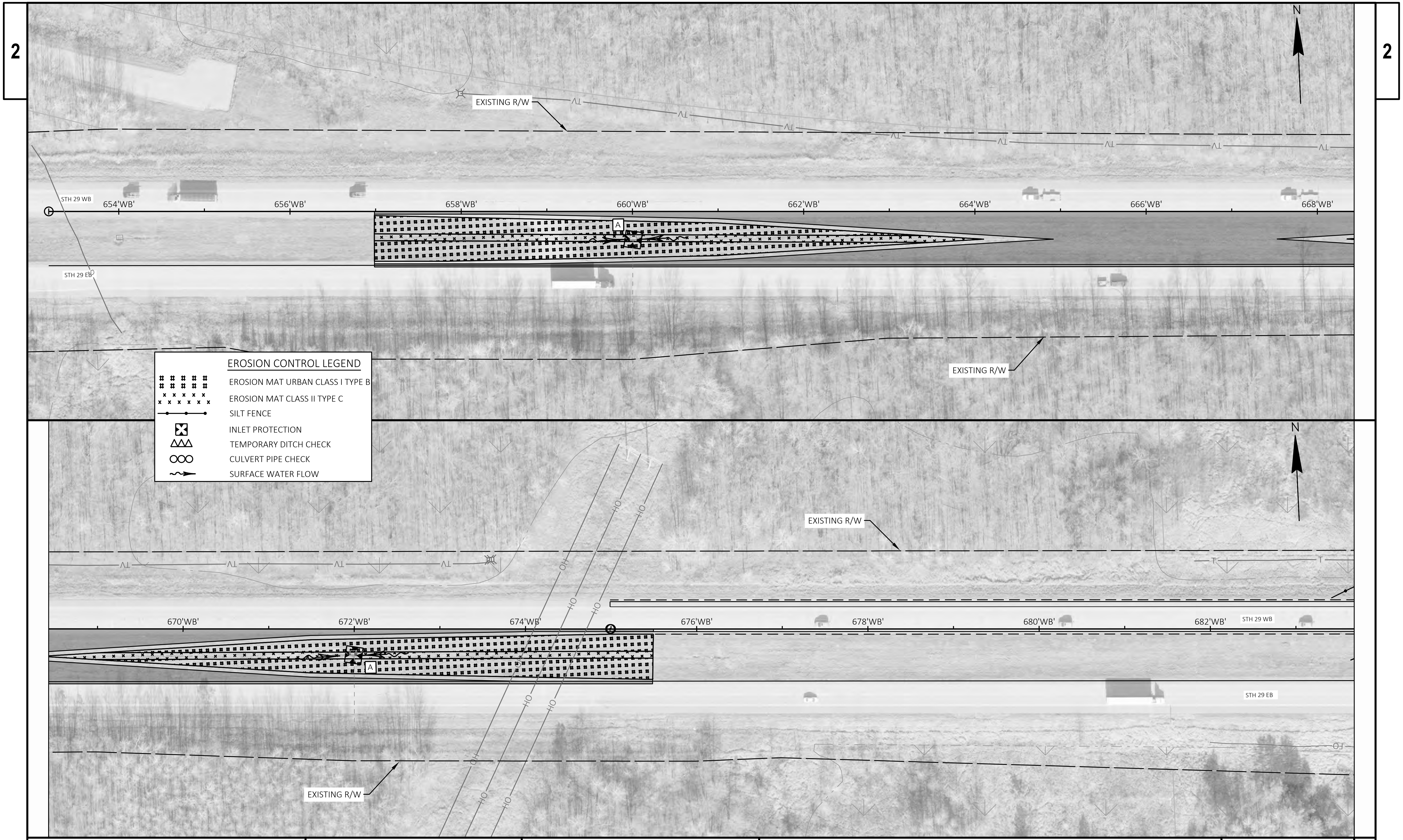


LEGEND

░	LEVEL LANDING	▨	CONCRETE SIDEWALK 5-INCH
⁙	DETECTABLE WARNING FIELD	○	MATCH ELEVATION
		+	SPOT ELEVATION
■	ASPHALTIC SURFACE	*	TRANSITION NOSE

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN DETAILS	SHEET 25 E

FILE NAME : W:\10530731\SHEETS\021301-CR.DWG
LAYOUT NAME - 021305
PLOT DATE : 6/17/2025 4:18 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:5 FT



EROSION CONTROL LEGEND

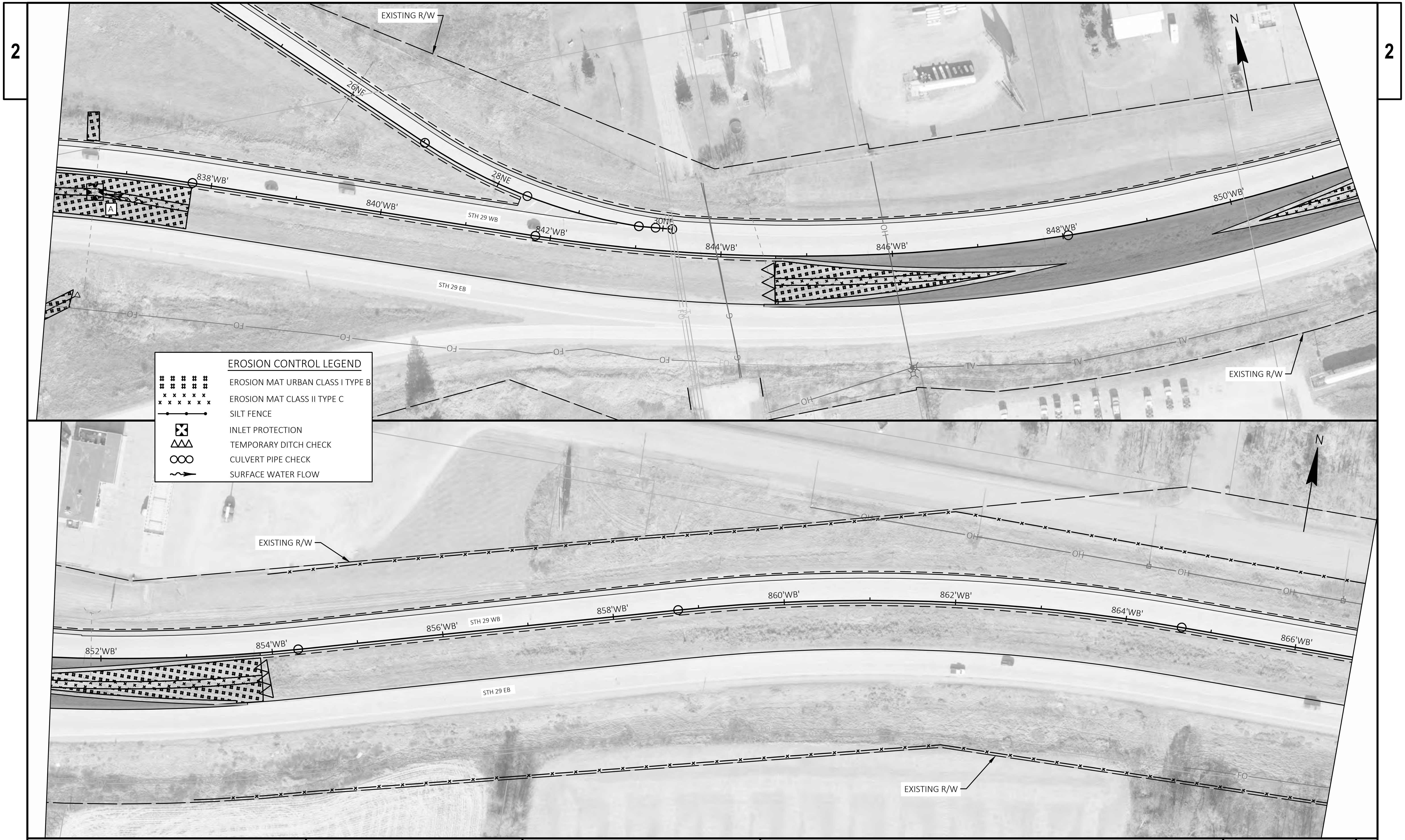
⌗ ⌗ ⌗ ⌗	EROSION MAT URBAN CLASS I TYPE B
× × × ×	EROSION MAT CLASS II TYPE C
●—●—●	SILT FENCE
☒	INLET PROTECTION
ΔΔΔ	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~→	SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 26	E

EROSION CONTROL LEGEND

⌗⌗⌗	EROSION MAT URBAN CLASS I TYPE B
×××	EROSION MAT CLASS II TYPE C
—•—•—	SILT FENCE
⊠	INLET PROTECTION
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~~→	SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 27	E



EROSION CONTROL LEGEND

⌗ ⌗ ⌗ ⌗	EROSION MAT URBAN CLASS I TYPE B
× × × ×	EROSION MAT CLASS II TYPE C
•—•—•	SILT FENCE
⊠	INLET PROTECTION
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~→	SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 28 E

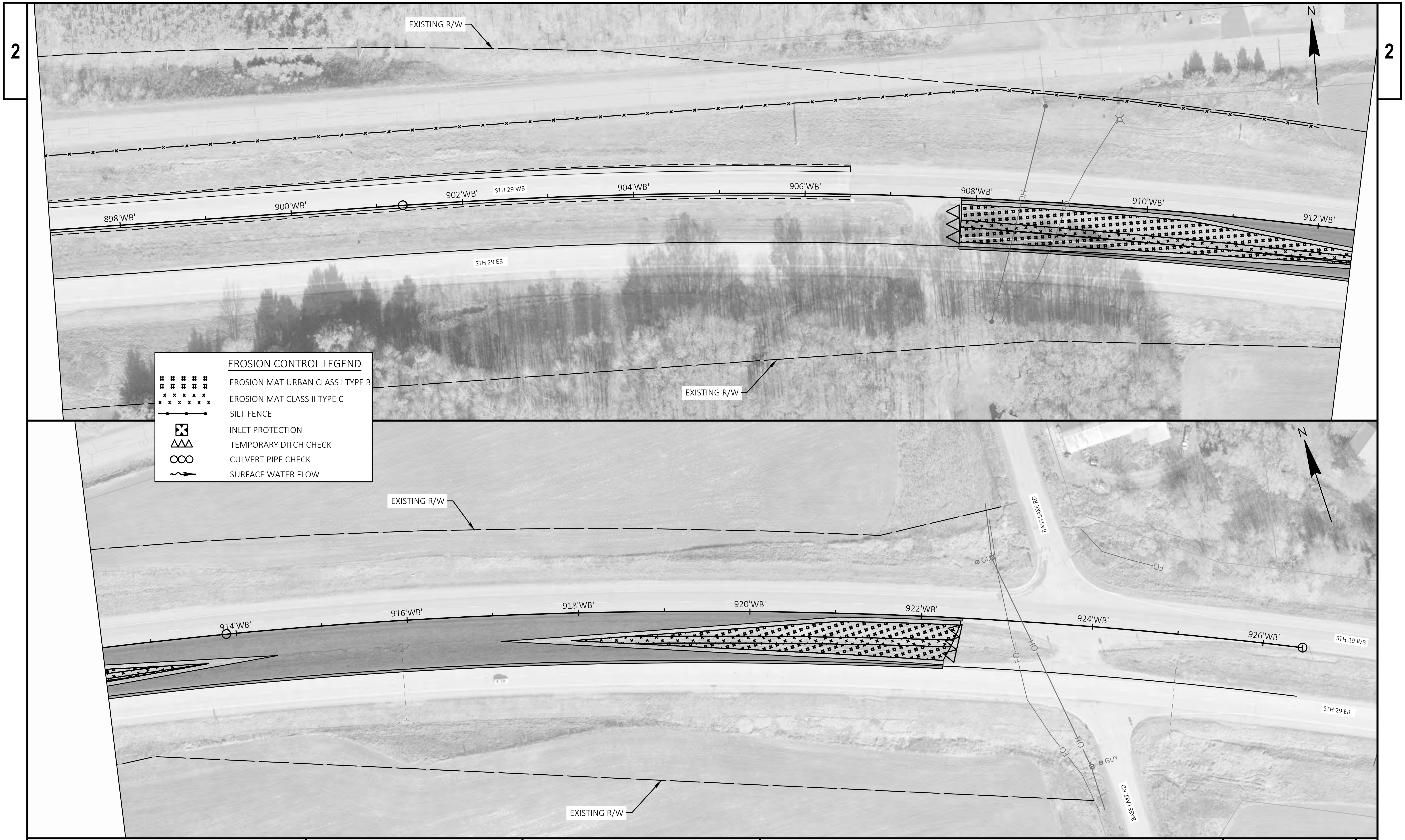
FILE NAME : W:\10530731\SHEETS\022001-EC.DWG
LAYOUT NAME - 022007-ec
PLOT DATE : 6/17/2025 4:20 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

EROSION CONTROL LEGEND

- ⌗ EROSION MAT URBAN CLASS I TYPE B
- × EROSION MAT CLASS II TYPE C
- ●—● SILT FENCE
- ⊠ INLET PROTECTION
- △△△ TEMPORARY DITCH CHECK
- ○○○ CULVERT PIPE CHECK
- ～→ SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 29	E

2



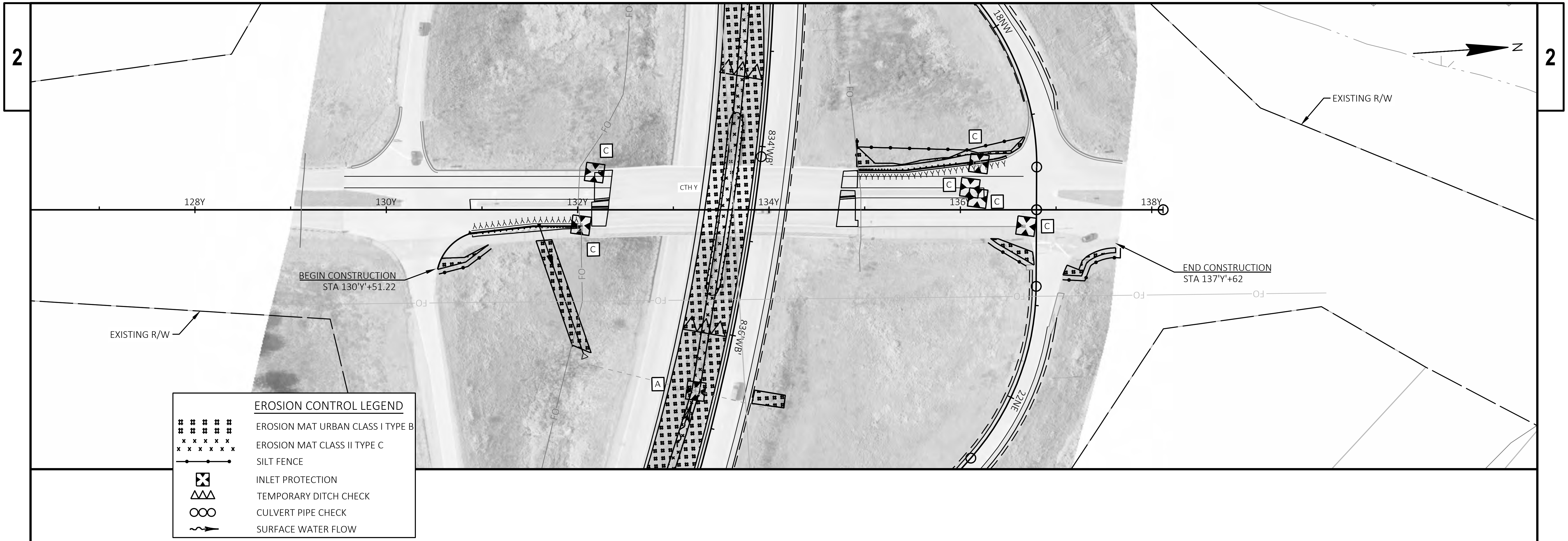
2

EROSION CONTROL LEGEND

# # # #	EROSION MAT URBAN CLASS I TYPE B
× × × ×	EROSION MAT CLASS II TYPE C
—•—•—	SILT FENCE
⊠	INLET PROTECTION
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~→	SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL	SHEET 30	E

FILE NAME : W:\10530731\SHEETS\022001-EC.DWG
LAYOUT NAME - 022009-ec
PLOT DATE : 6/17/2025 4:20 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



EROSION CONTROL LEGEND

⌗ ⌗ ⌗ ⌗	EROSION MAT URBAN CLASS I TYPE B
× × × ×	EROSION MAT CLASS II TYPE C
—•—•—	SILT FENCE
☒	INLET PROTECTION
△△△	TEMPORARY DITCH CHECK
○○○	CULVERT PIPE CHECK
~➤	SURFACE WATER FLOW

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EROSION CONTROL - CTH Y	SHEET 31	E

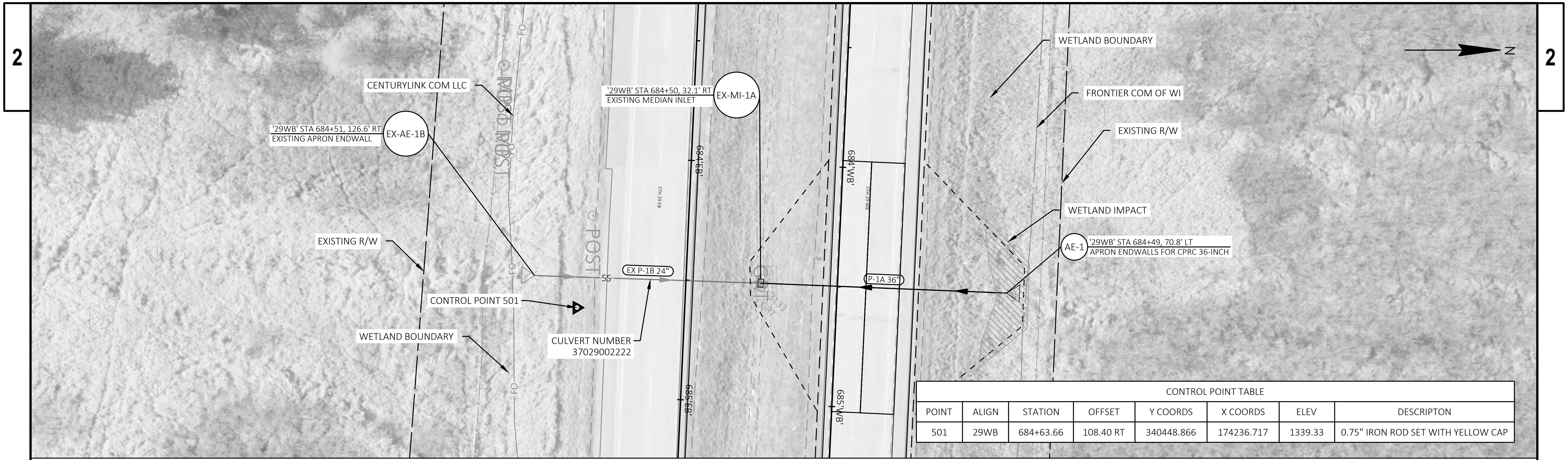
FILE NAME : W:\10530731\SHEETS\022001-EC.DWG
LAYOUT NAME - 022010-ec

PLOT DATE : 6/17/2025 4:20 PM

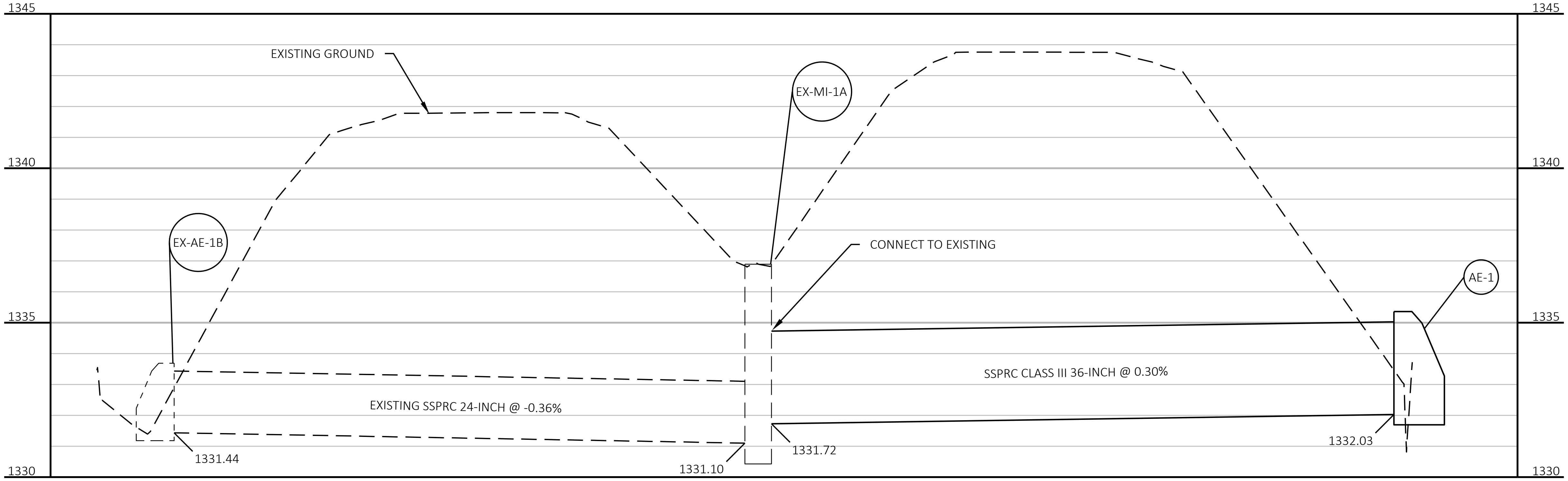
PLOT BY : KYLE MAROSZEK

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

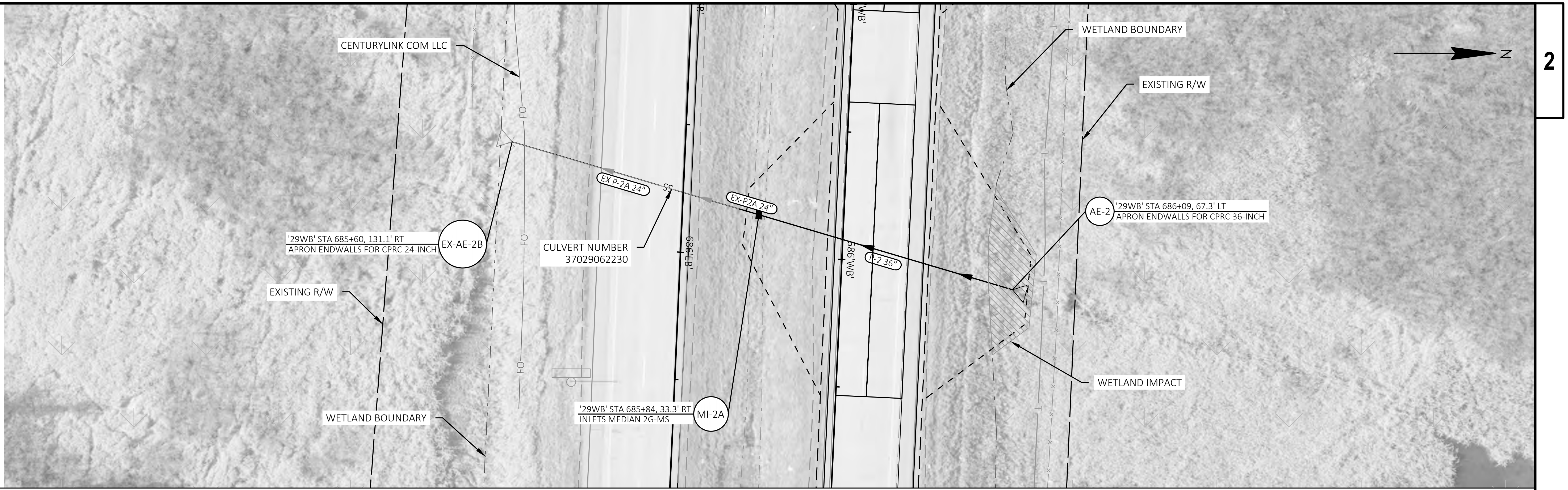


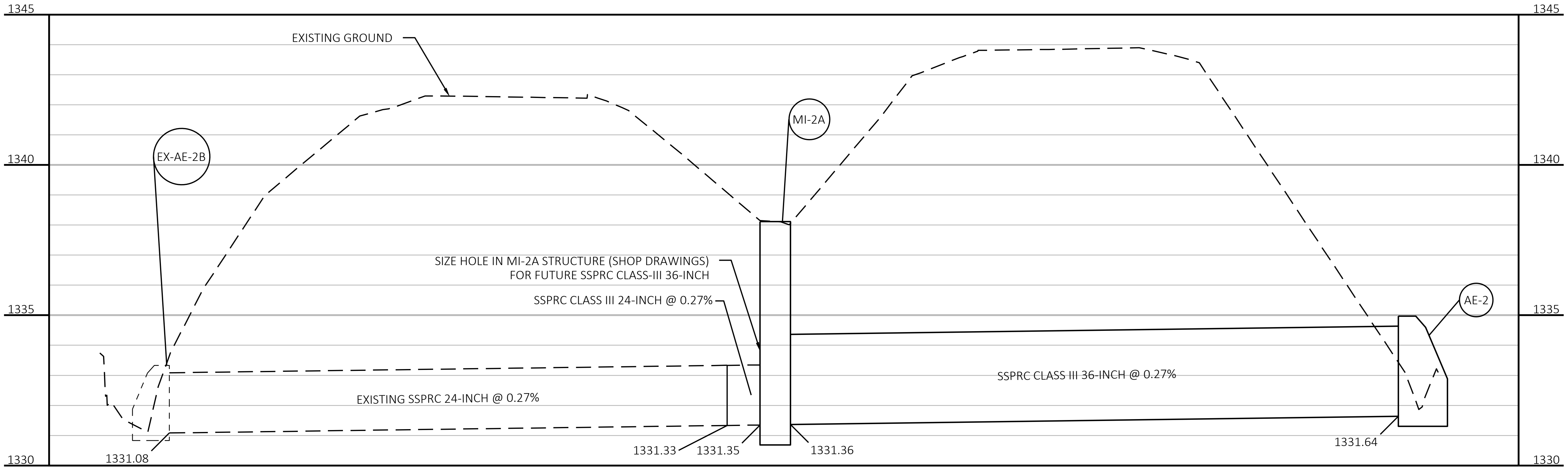
CONTROL POINT TABLE							
POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
501	29WB	684+63.66	108.40 RT	340448.866	174236.717	1339.33	0.75" IRON ROD SET WITH YELLOW CAP



PIPE AT STA 684+50

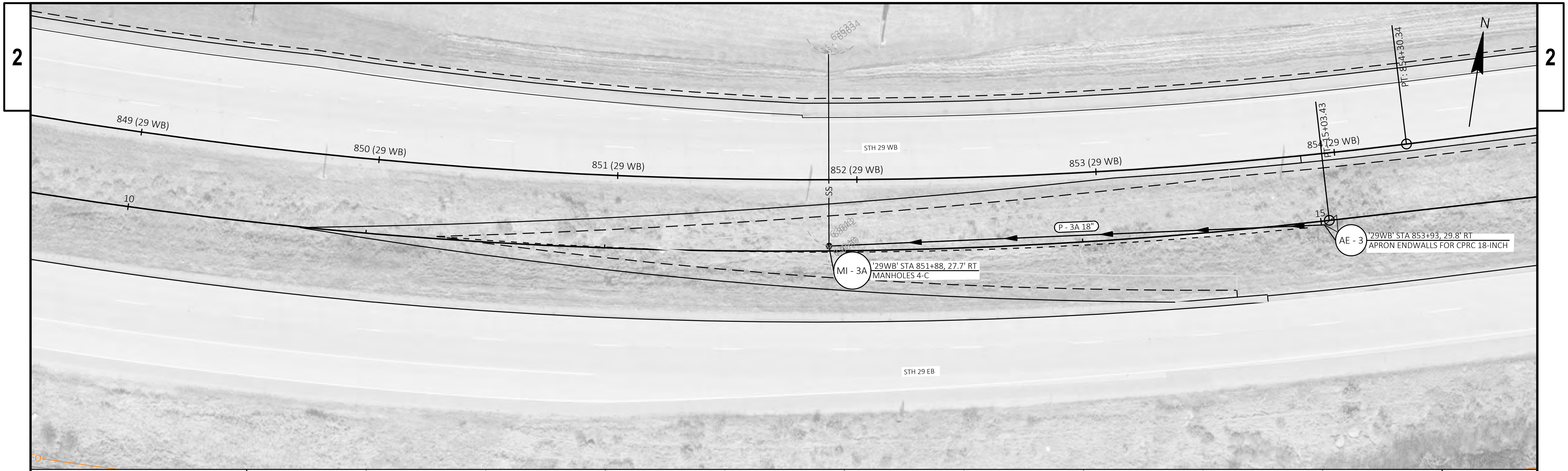
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STORM SEWER PLAN	SHEET 32	E

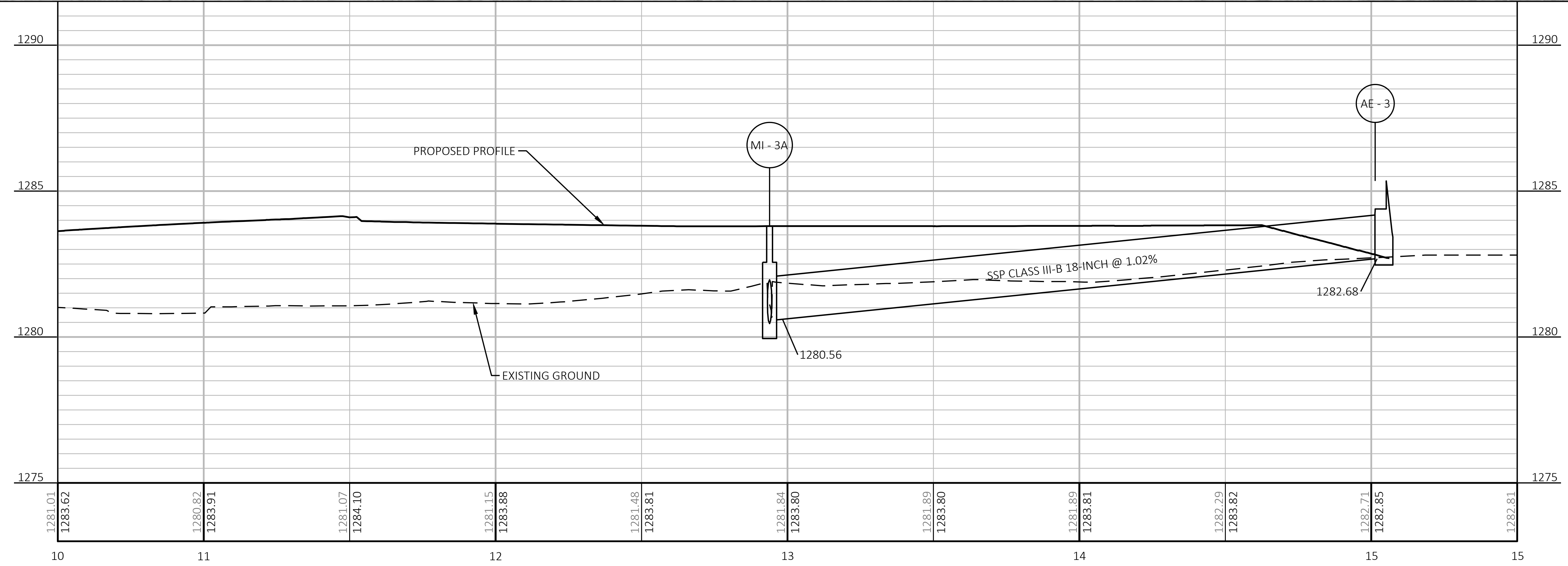




PIPE AT STA 685+84

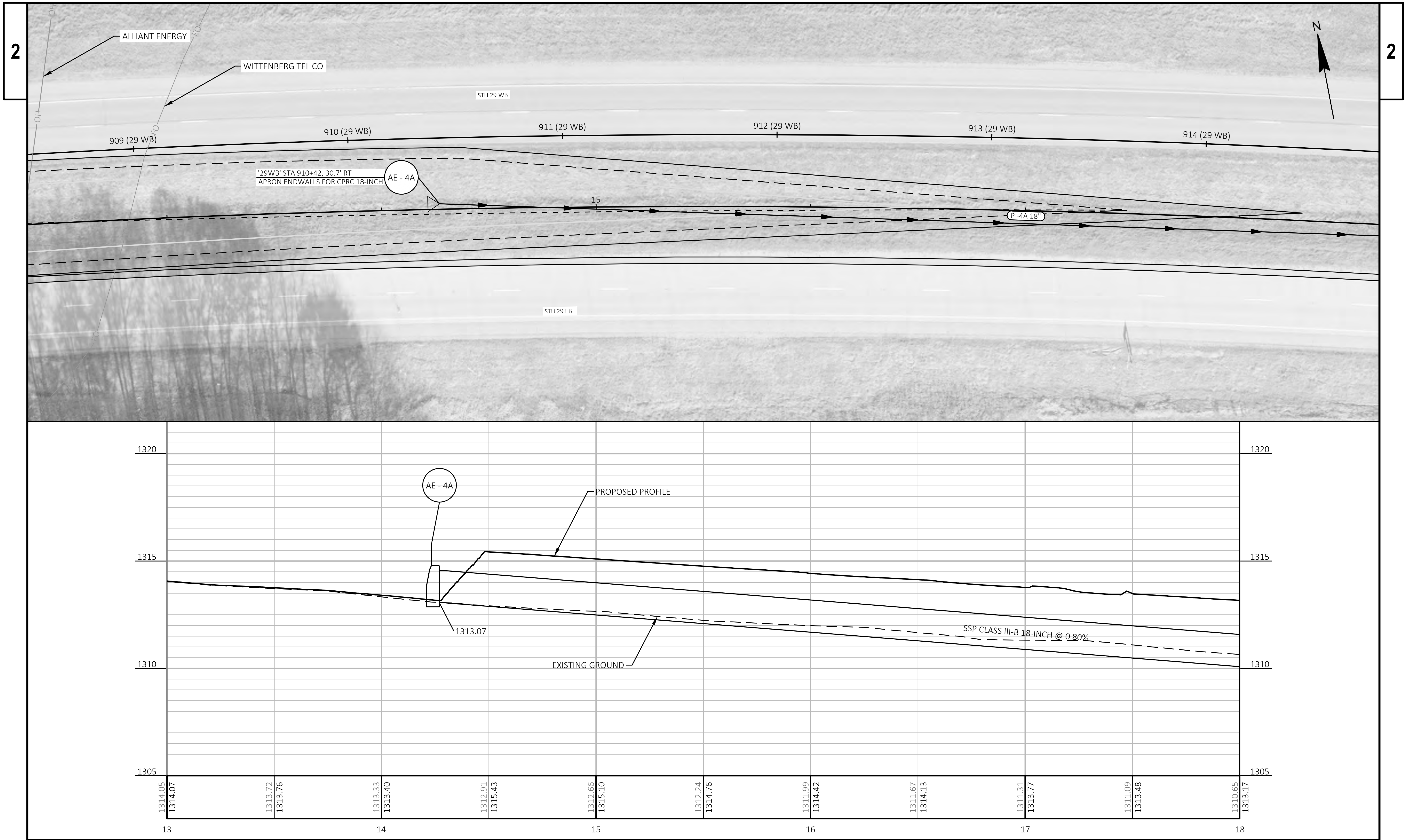
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STORM SEWER PLAN	SHEET E





PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | STORM SEWER PLAN | SHEET 34 | E

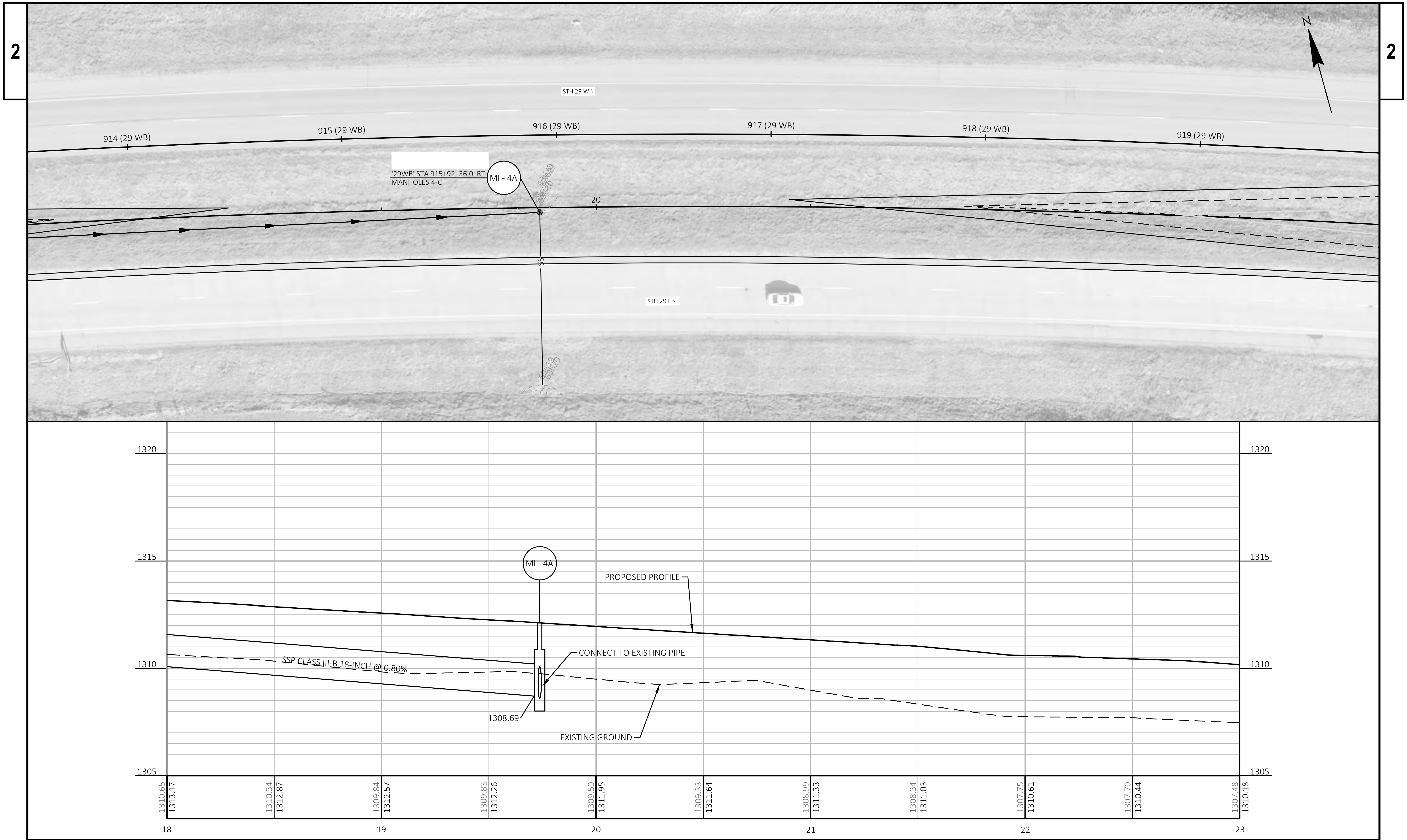
FILE NAME : W:\10530731\SHEETS\022502-SS.DWG
LAYOUT NAME - 022503
PLOT DATE : 6/17/2025 4:22 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STORM SEWER PLAN	SHEET 35	E

FILE NAME : W:\10530731\SHEETS\022502-SS.DWG
LAYOUT NAME - 022504
PLOT DATE : 6/17/2025 4:23 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 41

2



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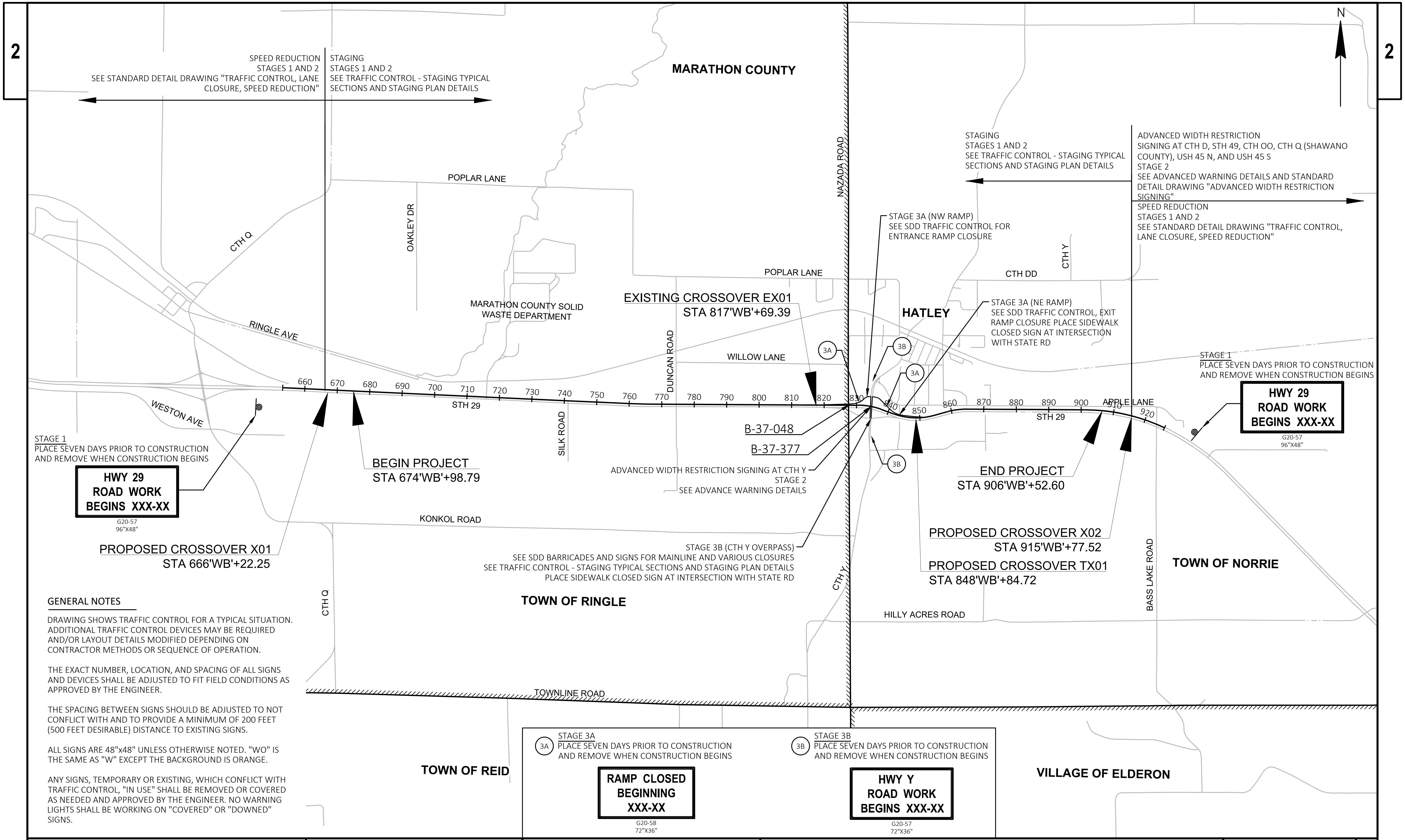
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STORM SEWER PLAN	SHEET 36	E

FILE NAME : W:\10530731\SHEETS\022502-SS.DWG
LAYOUT NAME - 022505
PLOT DATE : 6/17/2025 4:23 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:40 FT



SPEED REDUCTION
STAGES 1 AND 2
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"

STAGING
STAGES 1 AND 2
SEE TRAFFIC CONTROL - STAGING TYPICAL SECTIONS AND STAGING PLAN DETAILS

STAGING
STAGES 1 AND 2
SEE TRAFFIC CONTROL - STAGING TYPICAL SECTIONS AND STAGING PLAN DETAILS

ADVANCED WIDTH RESTRICTION
SIGNING AT CTH D, STH 49, CTH OO, CTH Q (SHAWANO COUNTY), USH 45 N, AND USH 45 S
STAGE 2
SEE ADVANCED WARNING DETAILS AND STANDARD DETAIL DRAWING "ADVANCED WIDTH RESTRICTION SIGNING"
SPEED REDUCTION
STAGES 1 AND 2
SEE STANDARD DETAIL DRAWING "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION"

STAGE 3A (NW RAMP)
SEE SDD TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

STAGE 3A (NE RAMP)
SEE SDD TRAFFIC CONTROL, EXIT RAMP CLOSURE PLACE SIDEWALK CLOSED SIGN AT INTERSECTION WITH STATE RD

EXISTING CROSSOVER EX01
STA 817'WB'+69.39

STAGE 1
PLACE SEVEN DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

HWY 29
ROAD WORK
BEGINS XXX-XX

G20-57
96"X48"

STAGE 1
PLACE SEVEN DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

HWY 29
ROAD WORK
BEGINS XXX-XX

G20-57
96"X48"

BEGIN PROJECT
STA 674'WB'+98.79

B-37-048

B-37-377

ADVANCED WIDTH RESTRICTION SIGNING AT CTH Y
STAGE 2
SEE ADVANCE WARNING DETAILS

END PROJECT
STA 906'WB'+52.60

PROPOSED CROSSOVER X01
STA 666'WB'+22.25

STAGE 3B (CTH Y OVERPASS)
SEE SDD BARRICADES AND SIGNS FOR MAINLINE AND VARIOUS CLOSURES
SEE TRAFFIC CONTROL - STAGING TYPICAL SECTIONS AND STAGING PLAN DETAILS
PLACE SIDEWALK CLOSED SIGN AT INTERSECTION WITH STATE RD

PROPOSED CROSSOVER X02
STA 915'WB'+77.52

PROPOSED CROSSOVER TX01
STA 848'WB'+84.72

GENERAL NOTES

DRAWING SHOWS TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATION.

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 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

3A STAGE 3A
PLACE SEVEN DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

RAMP CLOSED
BEGINNING
XXX-XX

G20-58
72"X36"

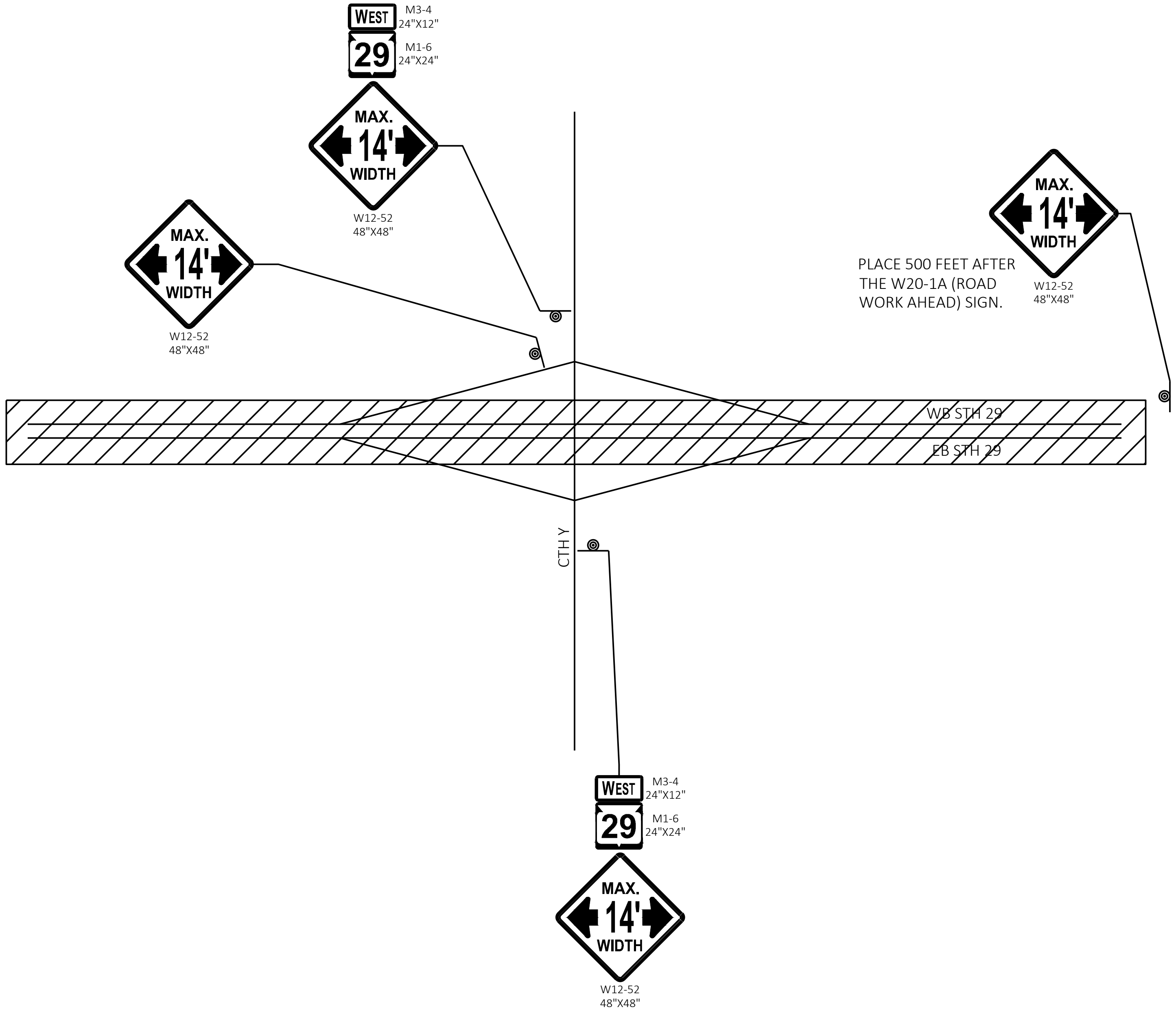
3B STAGE 3B
PLACE SEVEN DAYS PRIOR TO CONSTRUCTION AND REMOVE WHEN CONSTRUCTION BEGINS

HWY Y
ROAD WORK
BEGINS XXX-XX

G20-57
72"X36"

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	ADVANCED WARNING SIGNING	SHEET 37	E

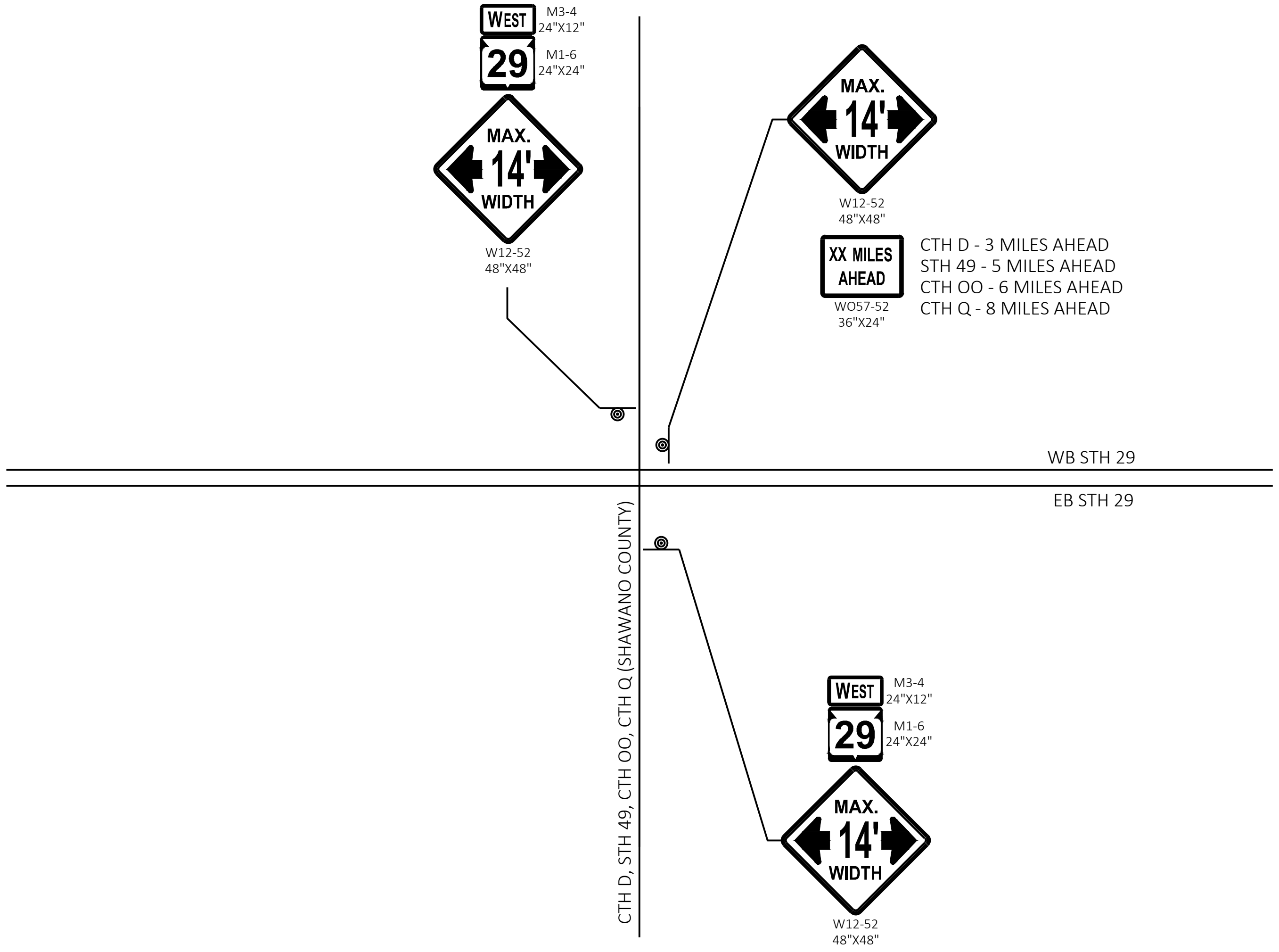
FILE NAME : W:\10530731\SHEETS\025000-AW.DWG
LAYOUT NAME - 025001-aw
PLOT DATE : 6/17/2025 4:23 PM
PLOT BY : KYLE MAROSZEK
PLOT NAME :
PLOT SCALE : 1 IN:0.5 MI
WISDOT/CADDS SHEET 42



PLACE 500 FEET AFTER THE W20-1A (ROAD WORK AHEAD) SIGN.

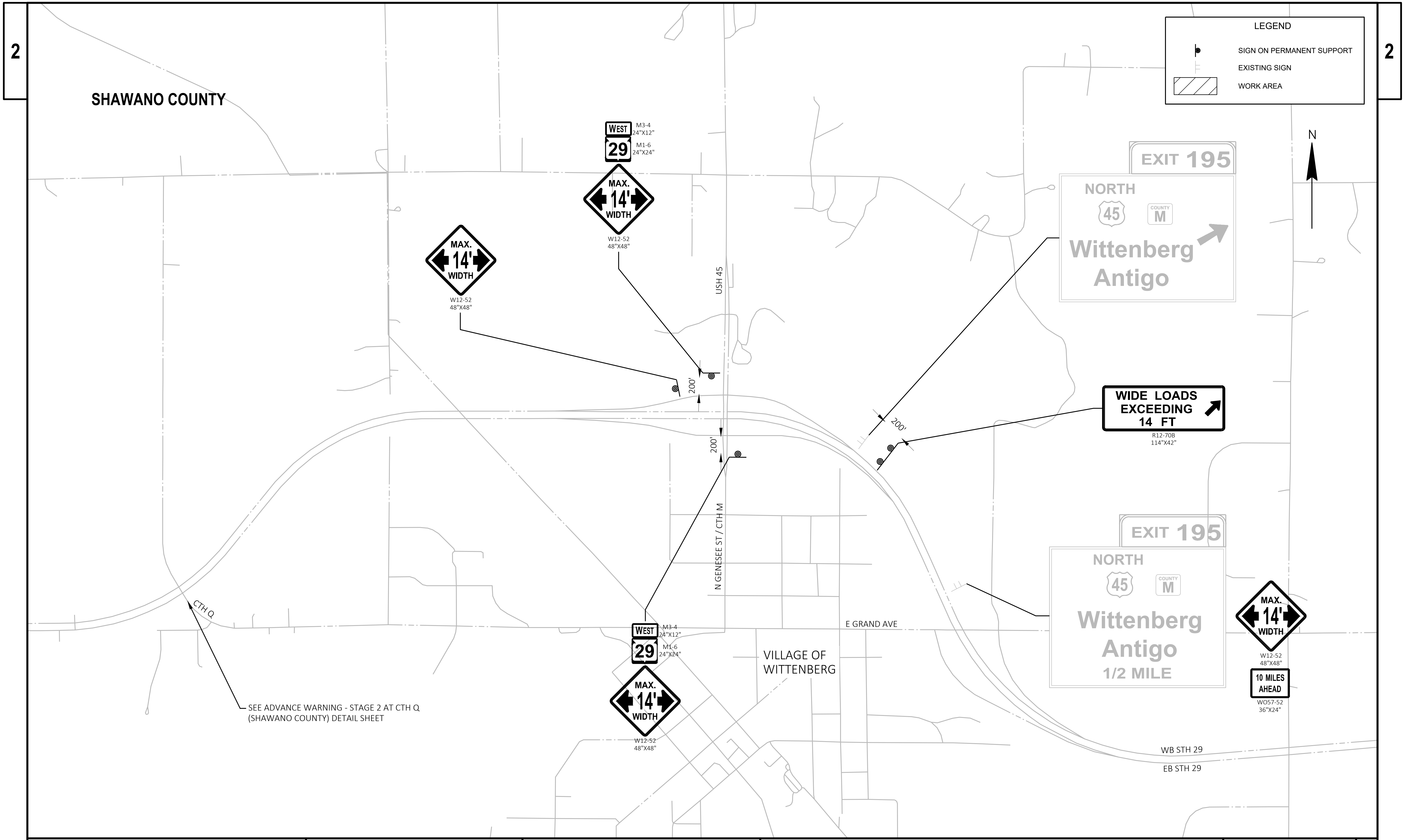
LEGEND

●	SIGN ON PERMANENT SUPPORT
⊢	EXISTING SIGN
▨	WORK AREA



CTH D - 3 MILES AHEAD
STH 49 - 5 MILES AHEAD
CTH OO - 6 MILES AHEAD
CTH Q - 8 MILES AHEAD

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | ADVANCED WARNING - STAGE 2 AT CTH Y, CTH D, STH 49, AND CTH Q (SHAWANO COUNTY) | SHEET 38 | E



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	ADVANCED WARNING - STAGE 2 AT USH 45 S	SHEET 39	E

GENERAL NOTES

DRAWING SHOWS TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATION.

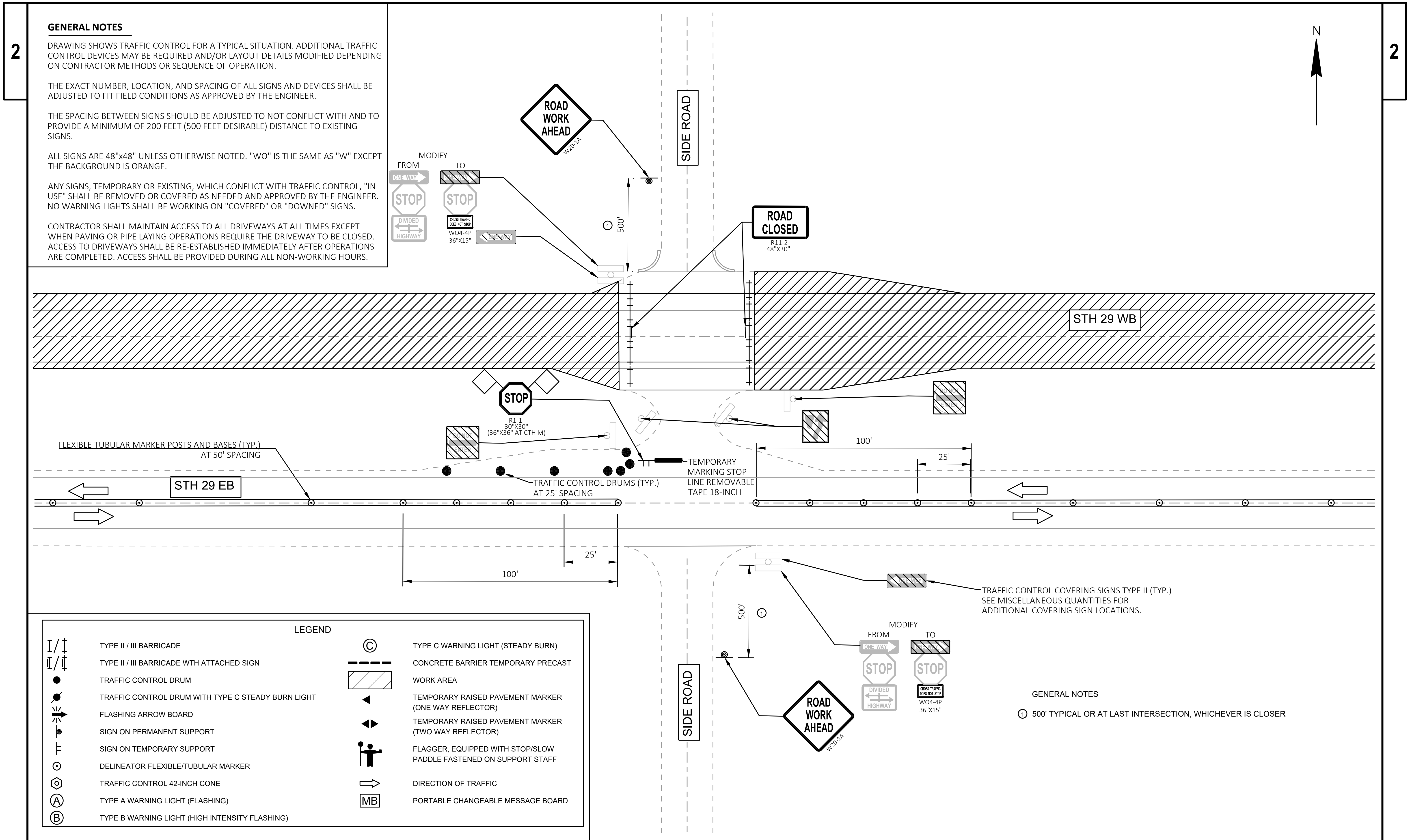
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OR PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.



GENERAL NOTES

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER

LEGEND

I/‡	TYPE II / III BARRICADE	Ⓒ	TYPE C WARNING LIGHT (STEADY BURN)
I/‡	TYPE II / III BARRICADE WTH ATTACHED SIGN	▬ ▬ ▬	CONCRETE BARRIER TEMPORARY PRECAST
●	TRAFFIC CONTROL DRUM	▨	WORK AREA
●	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	◀	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
➔	FLASHING ARROW BOARD	◀▶	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
╞	SIGN ON PERMANENT SUPPORT		FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
╞	SIGN ON TEMPORARY SUPPORT	⇨	DIRECTION OF TRAFFIC
⊙	DELINEATOR FLEXIBLE/TUBULAR MARKER	MB	PORTABLE CHANGEABLE MESSAGE BOARD
⬡	TRAFFIC CONTROL 42-INCH CONE		
Ⓐ	TYPE A WARNING LIGHT (FLASHING)		
Ⓑ	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)		

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | TRAFFIC CONTROL - INTERSECTION WITHIN BIDIRECTIONAL TRAFFIC - DETAIL A | SHEET 40 | E

GENERAL NOTES

DRAWING SHOWS TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR METHODS OR SEQUENCE OF OPERATION.

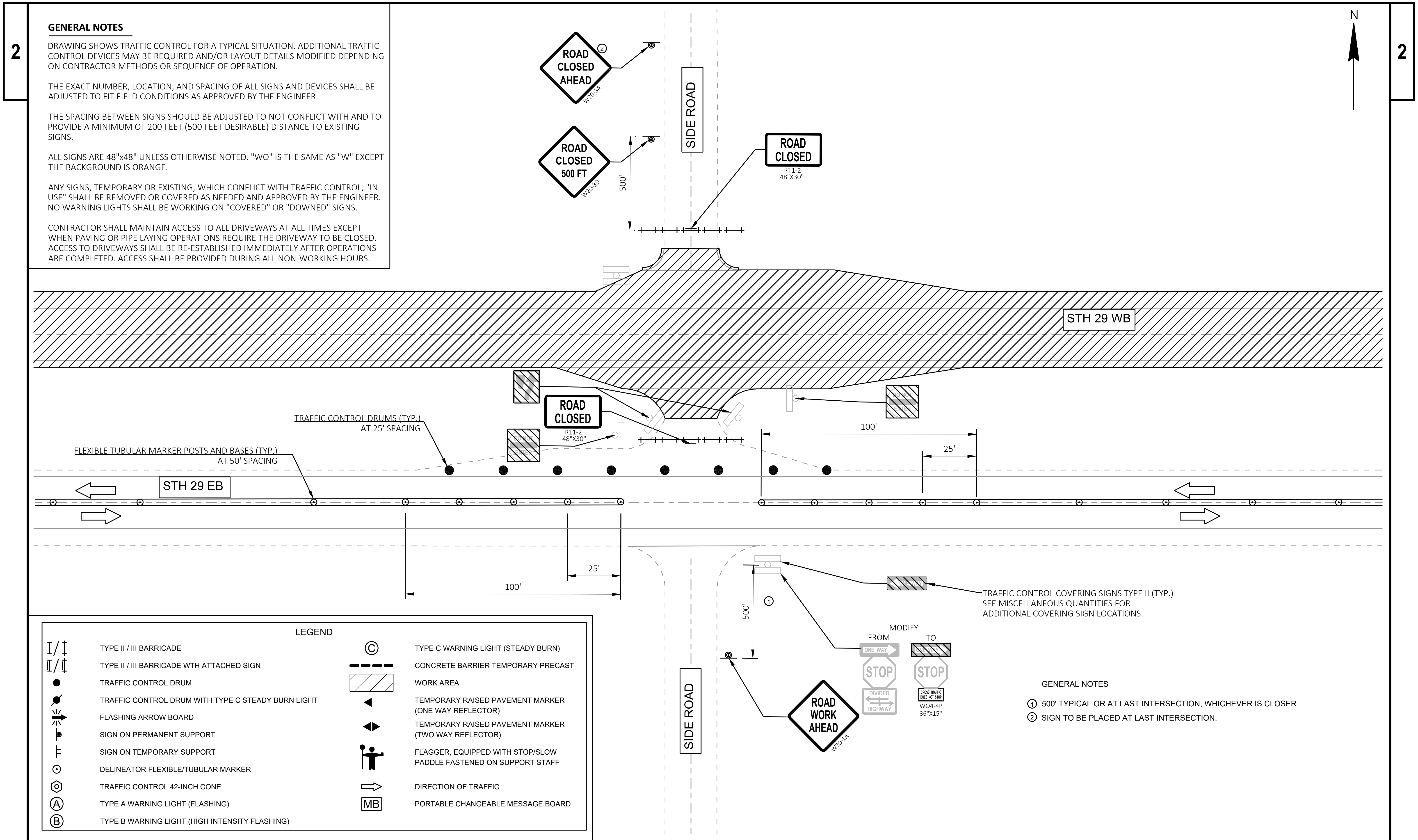
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PAVING OR PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAYS SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER OPERATIONS ARE COMPLETED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.



GENERAL NOTES

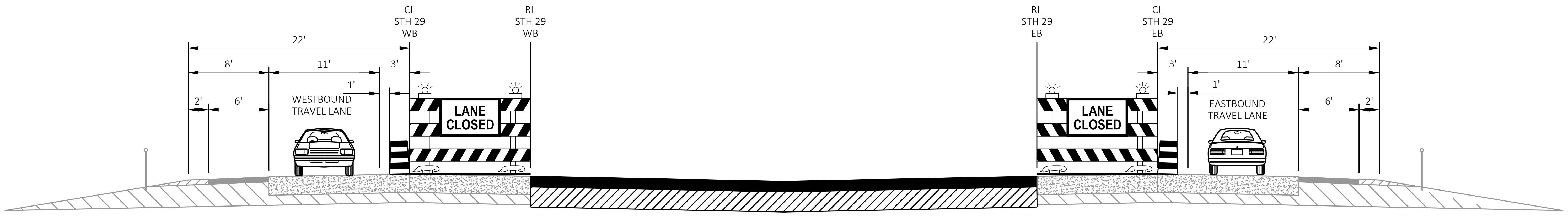
① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER

② SIGN TO BE PLACED AT LAST INTERSECTION.

LEGEND

I / ‡	TYPE II / III BARRICADE	©	TYPE C WARNING LIGHT (STEADY BURN)
I / ‡	TYPE II / III BARRICADE WTH ATTACHED SIGN	▬ ▬ ▬	CONCRETE BARRIER TEMPORARY PRECAST
●	TRAFFIC CONTROL DRUM	▨	WORK AREA
●	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT	◀	TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
➔	FLASHING ARROW BOARD	◀▶	TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
⊢	SIGN ON PERMANENT SUPPORT		FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
⊢	SIGN ON TEMPORARY SUPPORT	⇨	DIRECTION OF TRAFFIC
⊙	DELINEATOR FLEXIBLE/TUBULAR MARKER	MB	PORTABLE CHANGEABLE MESSAGE BOARD
⬡	TRAFFIC CONTROL 42-INCH CONE		
Ⓐ	TYPE A WARNING LIGHT (FLASHING)		
Ⓑ	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)		

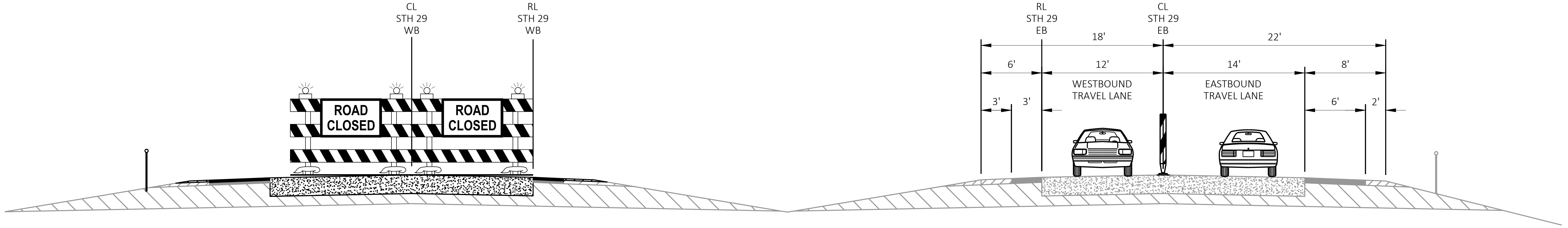
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - INTERSECTION WITHIN BIDIRECTIONAL TRAFFIC - DETAIL B	SHEET 41	E



WESTBOUND STH 29

EASTBOUND STH 29

SINGLE LANE CLOSURE (INSIDE LANE)
STAGE 1



WESTBOUND STH 29

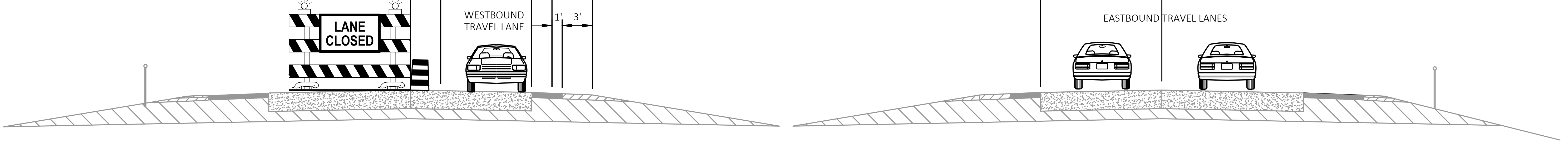
BI-DIRECTIONAL (WESTBOUND CLOSURE)
STAGE 2

EASTBOUND STH 29

STAGE 3

STAGE 3A - RAMP CLOSURES ONLY, TRAFFIC CONTROL TYPICAL SECTION NOT SHOWN. REFER TO SDD TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE AND SDD TRAFFIC CONTROL, SYSTEM RAMP CLOSURE.

STAGE 3B - CTH Y OVERPASS CLOSURE AND STH 29 WB OUTSIDE SINGLE LANE CLOSURE. STH 29 WB OUTSIDE SINGLE LANE CLOSURE TO OCCUR BETWEEN NW RAMP AND NE RAMP. SEE BELOW FOR STAGE 3B STH 29 TRAFFIC CONTROL TYPICAL SECTION AND REFER TO SDD BARRICADES AND SIGNS FOR MAINLINE AND VARIOUS CLOSURES.

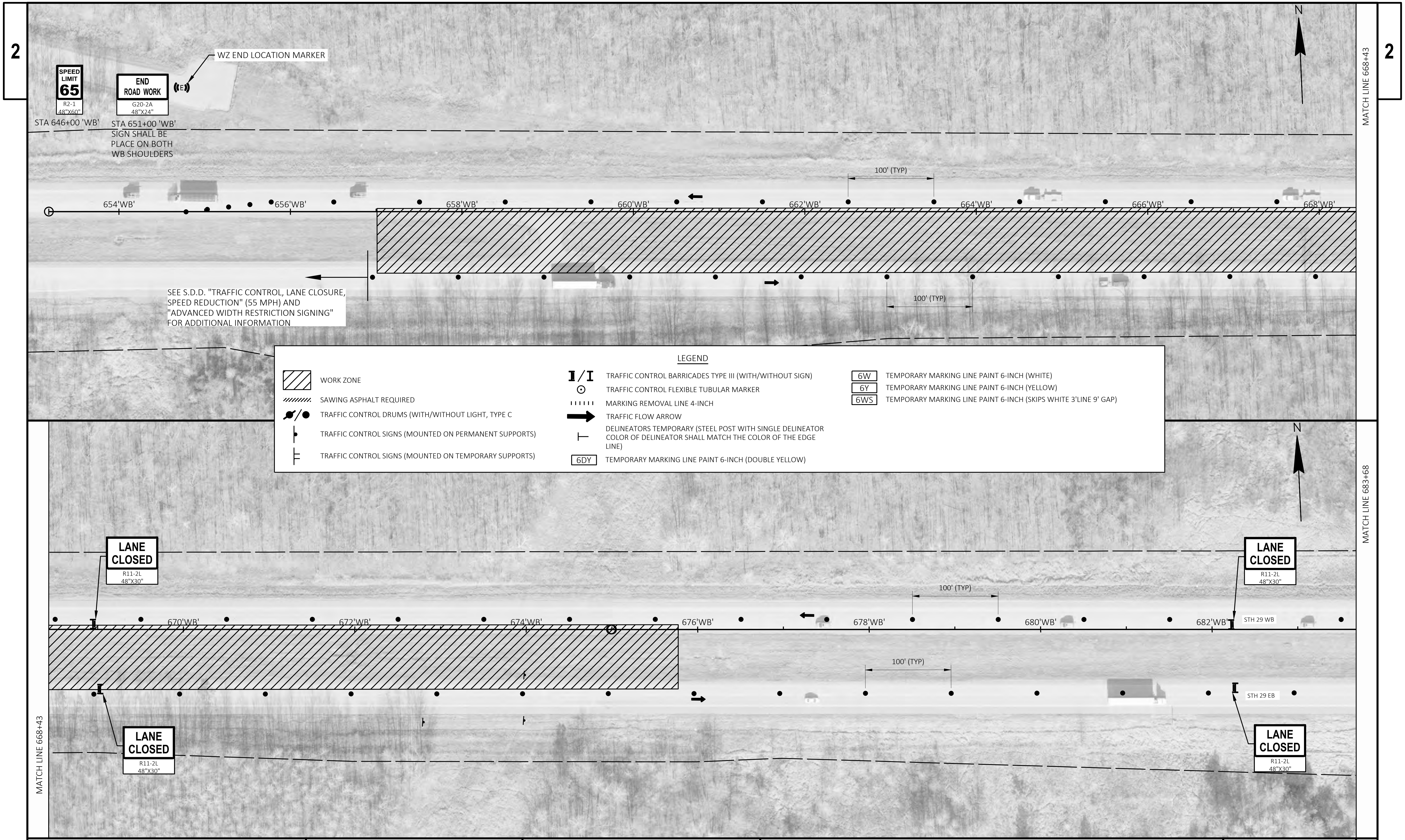


WESTBOUND STH 29

EASTBOUND STH 29

SINGLE LANE CLOSURE (WB OUTSIDE LANE)
STAGE 3B

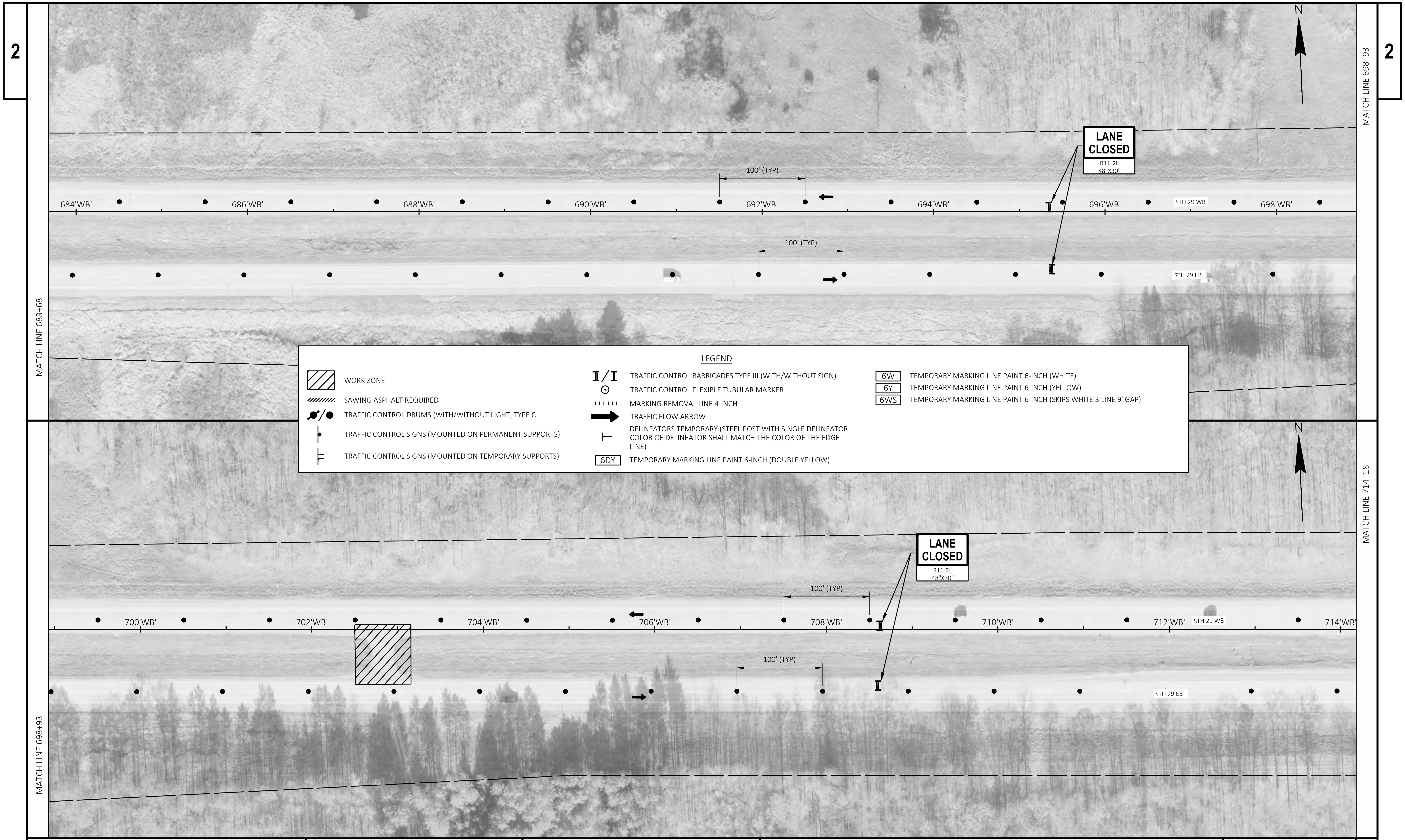
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL	SHEET 42	E



LEGEND

▨	WORK ZONE	I / I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)	6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
//////////	SAWING ASPHALT REQUIRED	⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER	6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
⊘/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C	⁞⁞⁞⁞⁞⁞	MARKING REMOVAL LINE 4-INCH	6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)
┿	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)	➡	TRAFFIC FLOW ARROW		
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)	⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)		
		6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)		

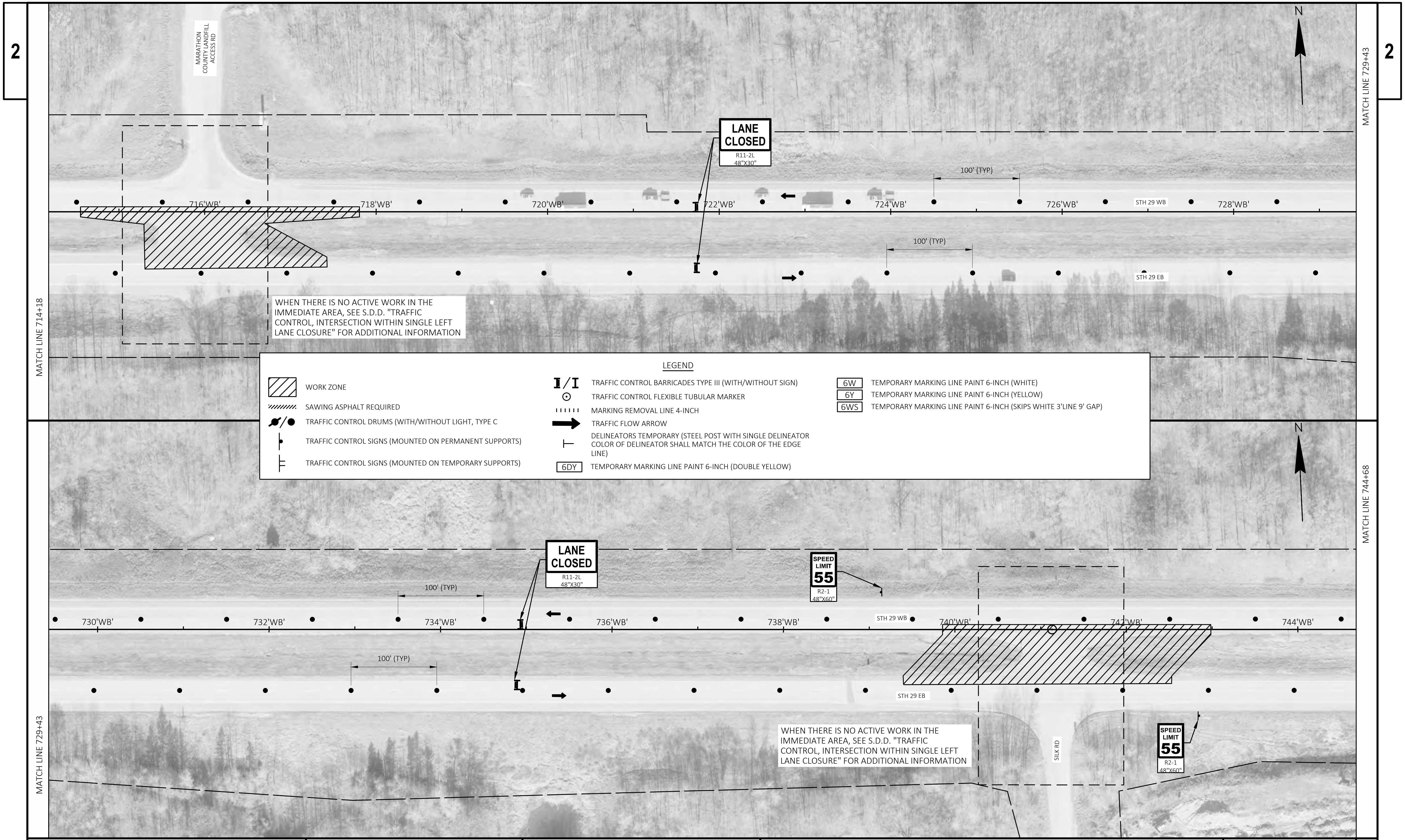
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 43 E



LEGEND

▨	WORK ZONE
//////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┼	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
╷╷╷╷╷╷	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

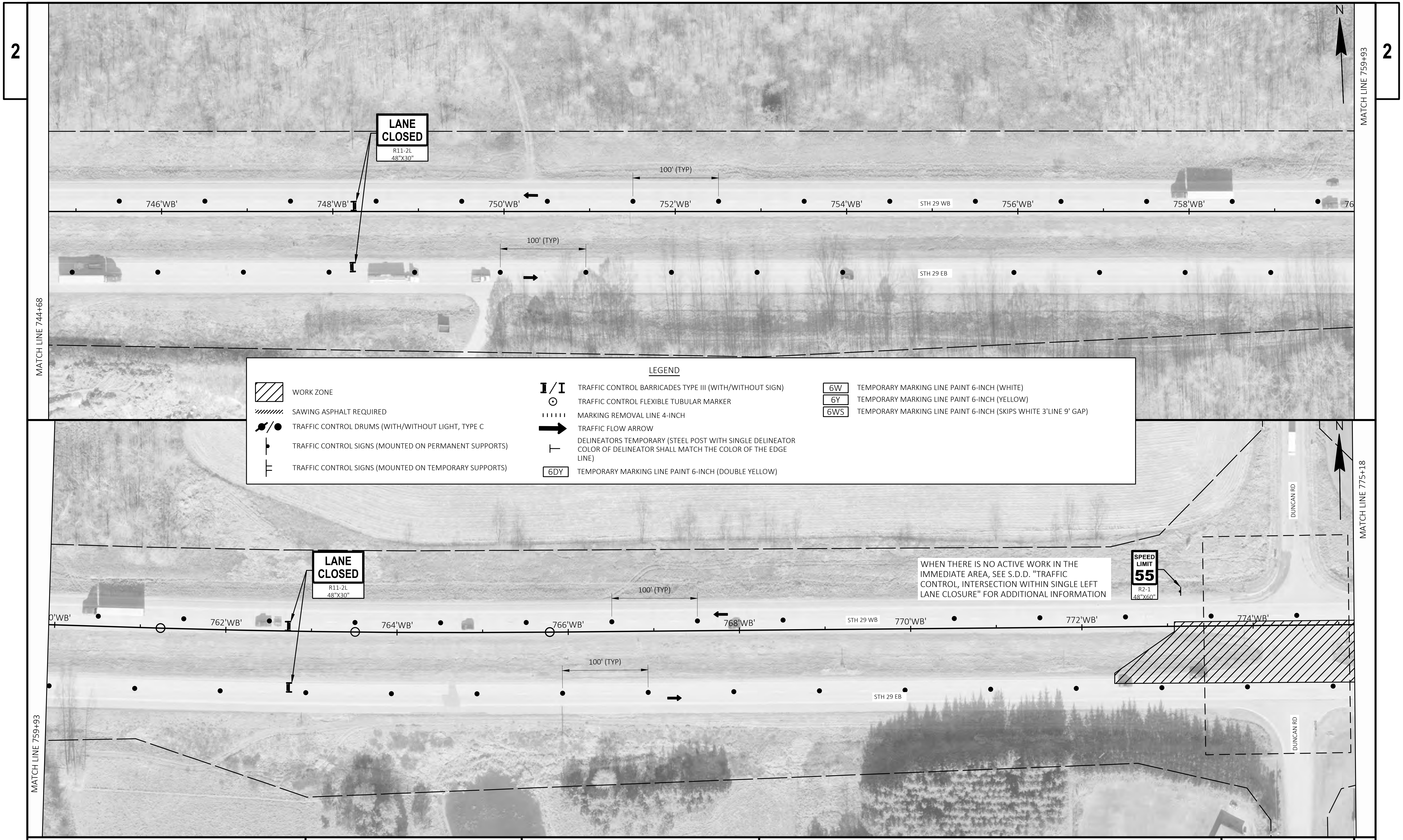
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 44	E



LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
╷╷╷╷╷╷	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 45	E

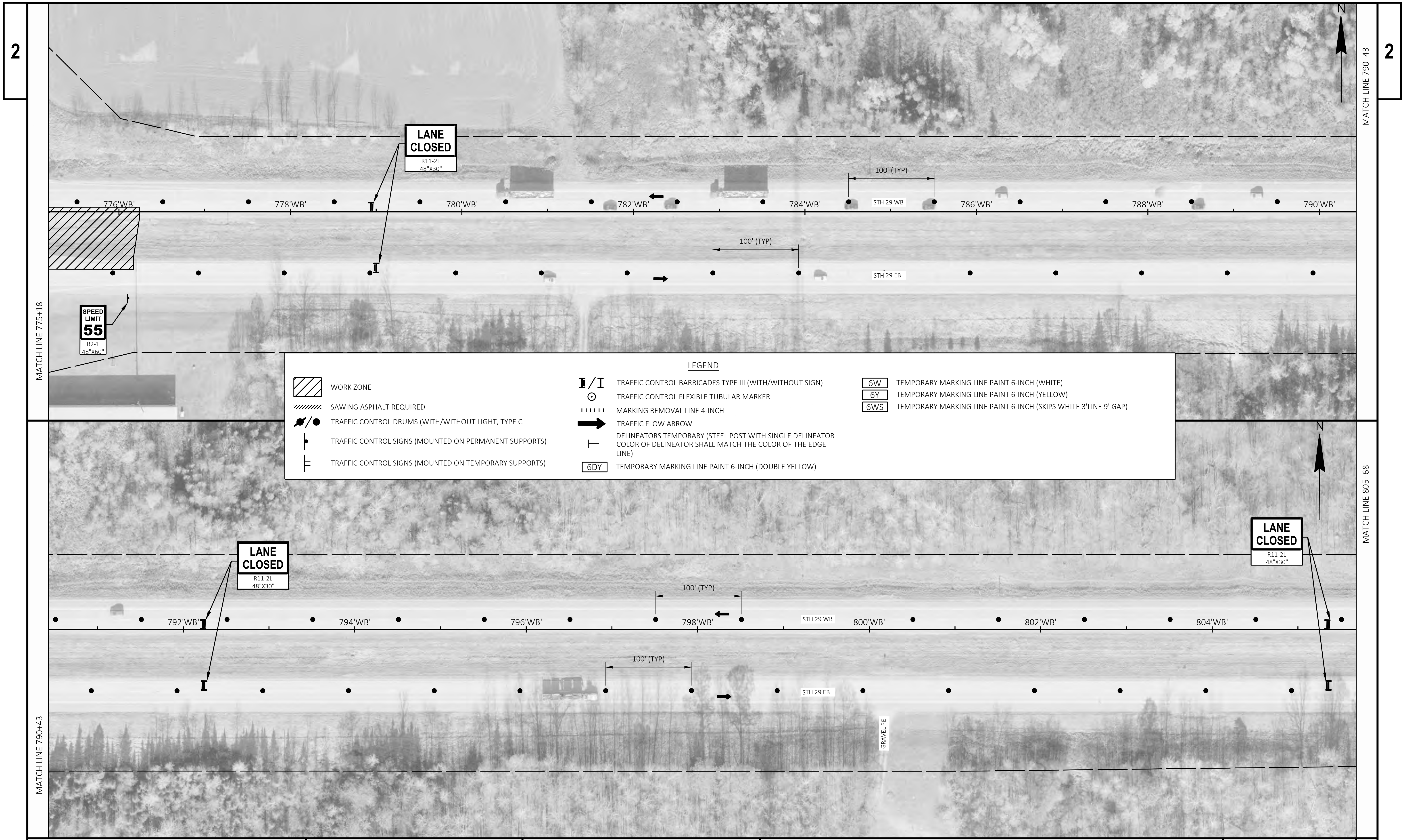


LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
╿	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
¦¦¦¦¦¦	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | STAGING PLANS - STAGE 1 | SHEET 46 | E

2



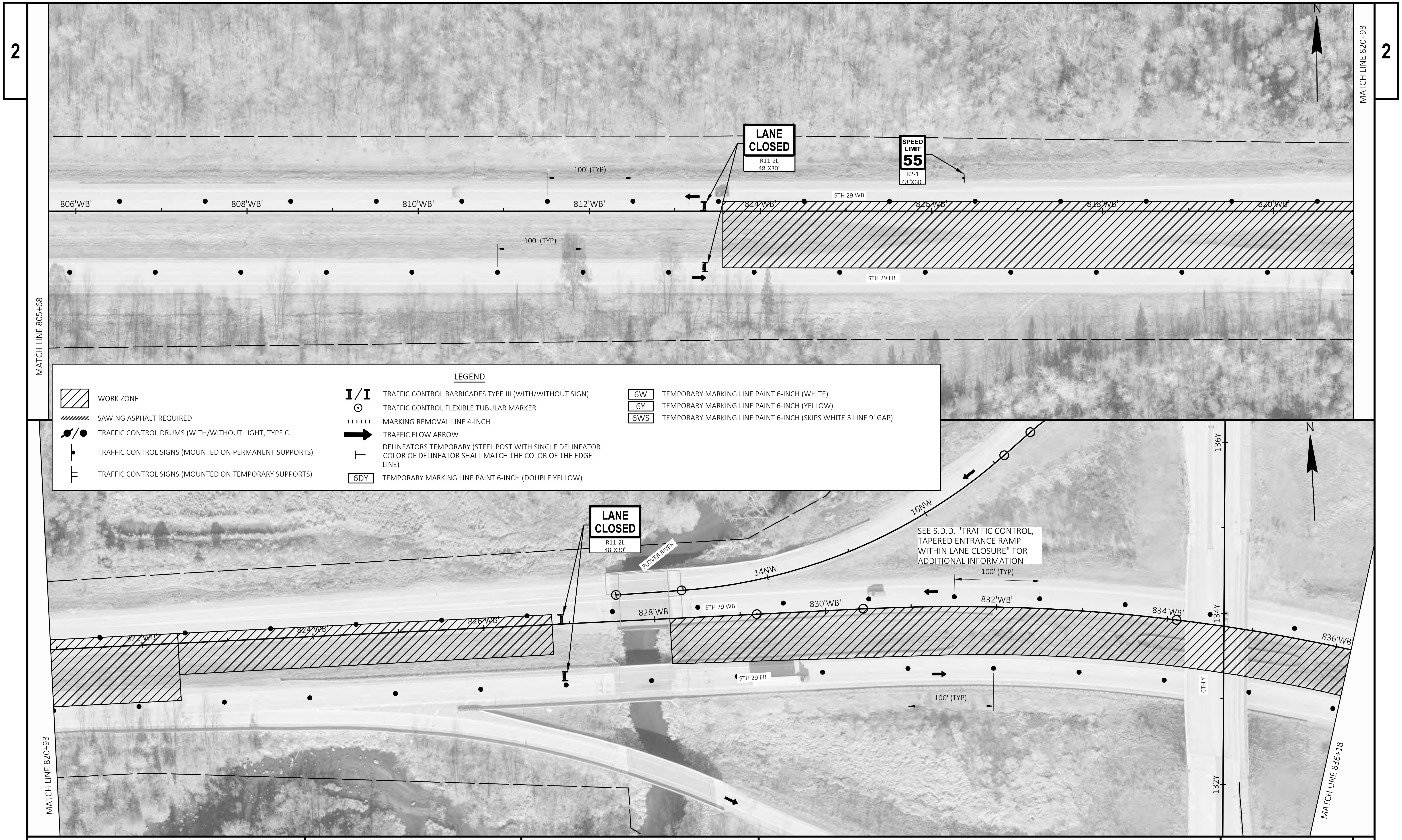
2

LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┝	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
┝	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
¦¦¦¦¦¦	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 47	E

FILE NAME : W:\10530731\SHEETS\026001-S1.DWG
LAYOUT NAME - 026005-s1
PLOT DATE : 6/17/2025 4:11 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



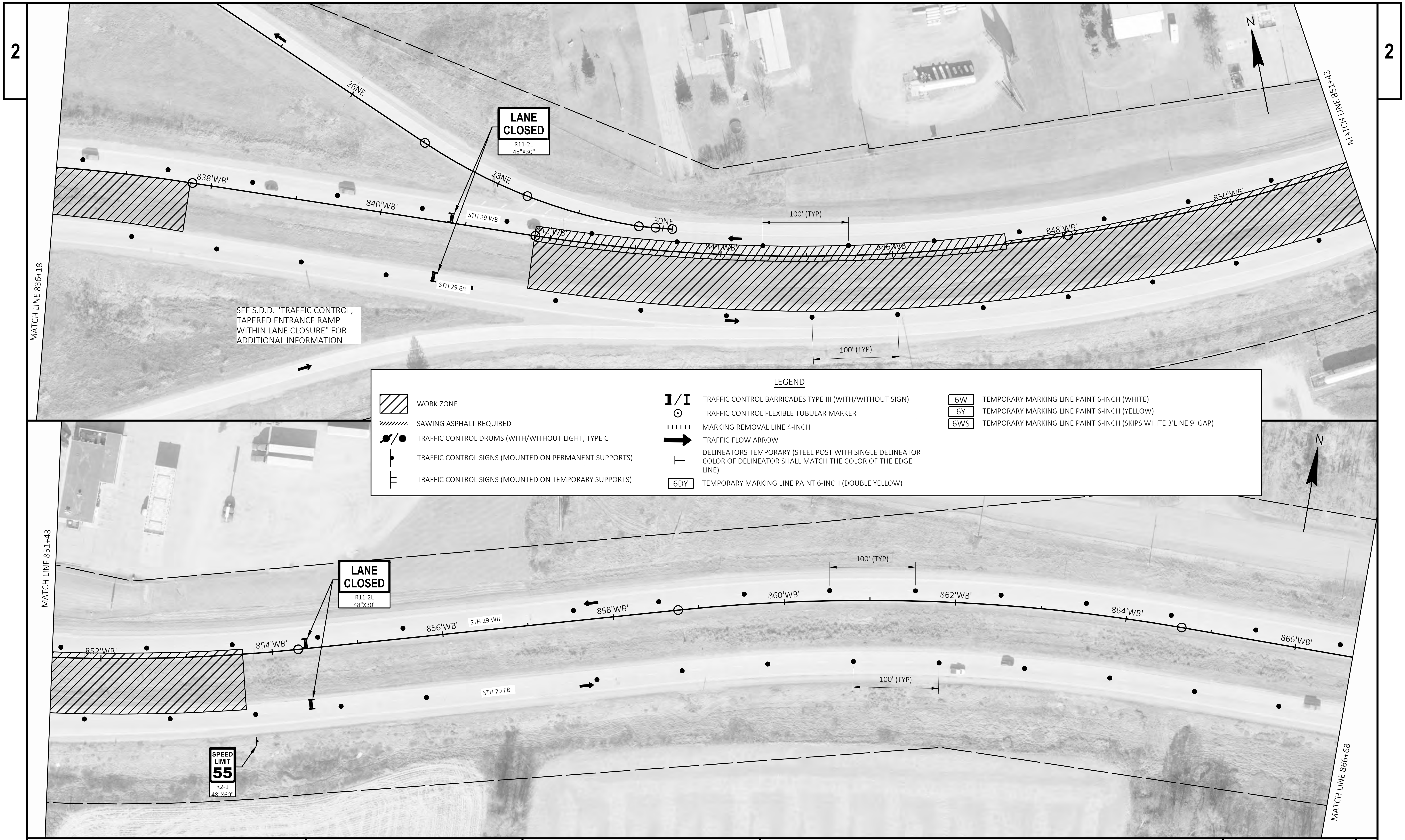
SEE S.D.D. "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION

LEGEND

▨	WORK ZONE
//////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
╹	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
╷╷╷╷╷╷	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 48	E

FILE NAME : W:\10530731\SHEETS\026001-S1.DWG
LAYOUT NAME - 026006-s1
PLOT DATE : 6/17/2025 4:12 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



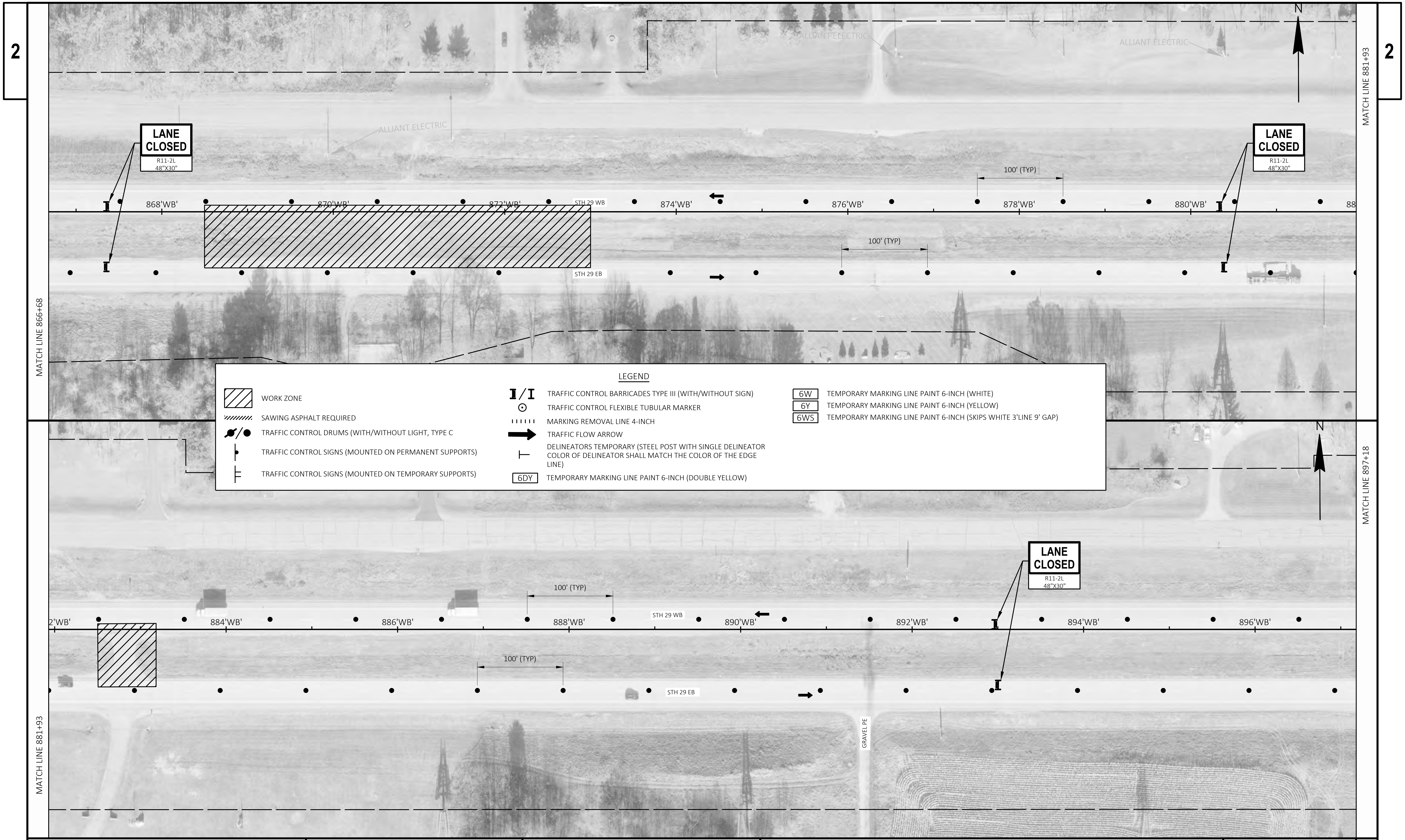
SEE S.D.D. "TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE" FOR ADDITIONAL INFORMATION

LEGEND

▨	WORK ZONE
▨	SAWING ASPHALT REQUIRED
● / ●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
↑	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
↑	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I / I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
╎╎╎╎╎╎	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 49 E

FILE NAME : W:\10530731\SHEETS\026001-S1.DWG
LAYOUT NAME - 026007-s1
PLOT DATE : 6/17/2025 4:12 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

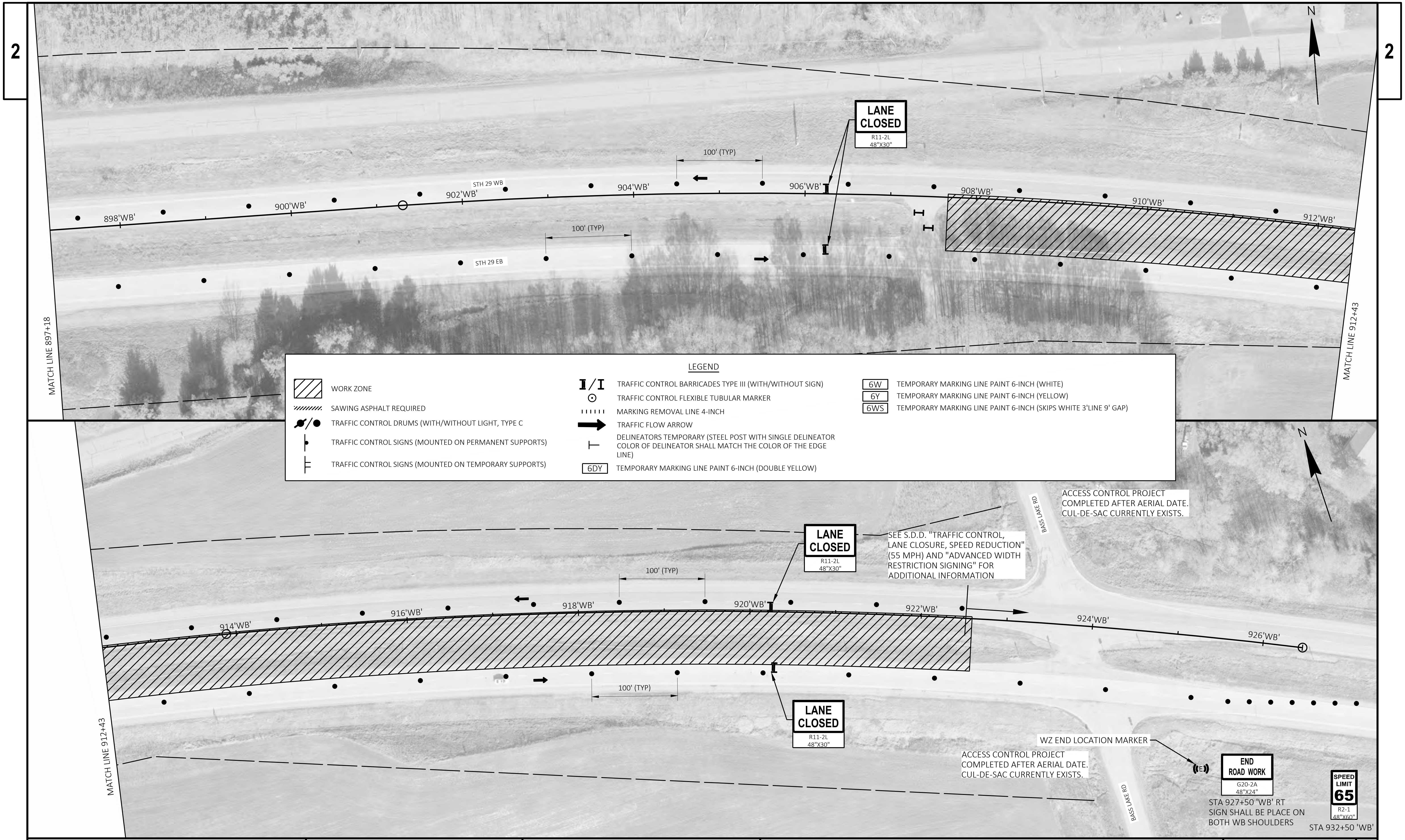


LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
● / ●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┃	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I / I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
¦¦¦¦¦¦	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 50	E

FILE NAME : W:\10530731\SHEETS\026001-S1.DWG
LAYOUT NAME - 026008-s1
PLOT DATE : 6/17/2025 4:12 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



ACCESS CONTROL PROJECT COMPLETED AFTER AERIAL DATE. CUL-DE-SAC CURRENTLY EXISTS.

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION" (55 MPH) AND "ADVANCED WIDTH RESTRICTION SIGNING" FOR ADDITIONAL INFORMATION

ACCESS CONTROL PROJECT COMPLETED AFTER AERIAL DATE. CUL-DE-SAC CURRENTLY EXISTS.

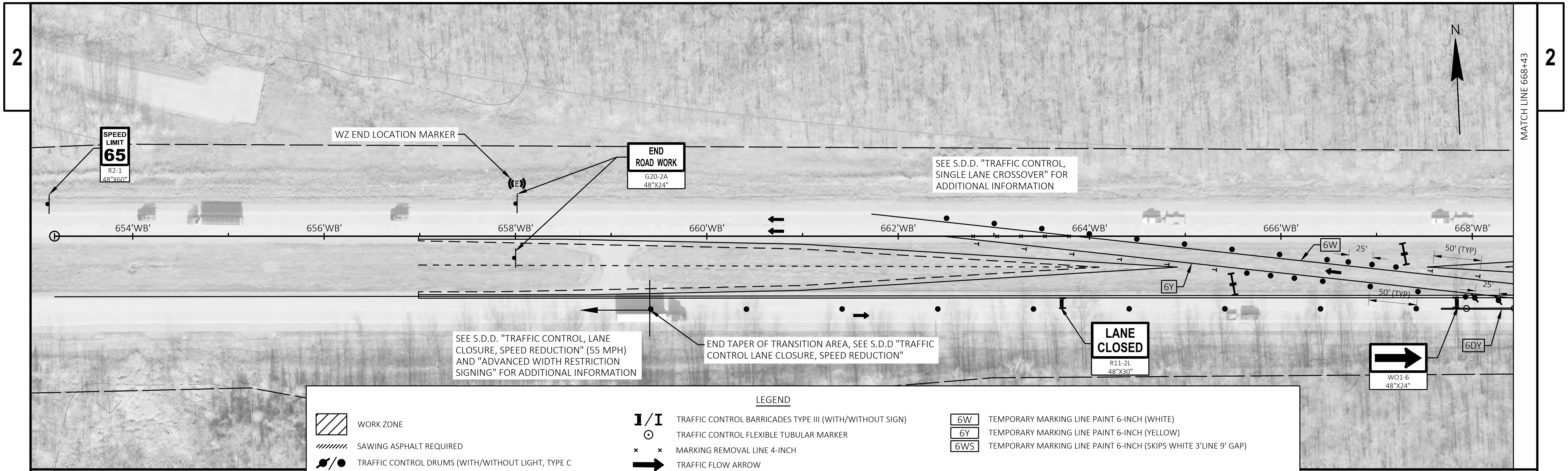
STA 927+50 'WB' RT SIGN SHALL BE PLACE ON BOTH WB SHOULDERS

STA 932+50 'WB'

LEGEND

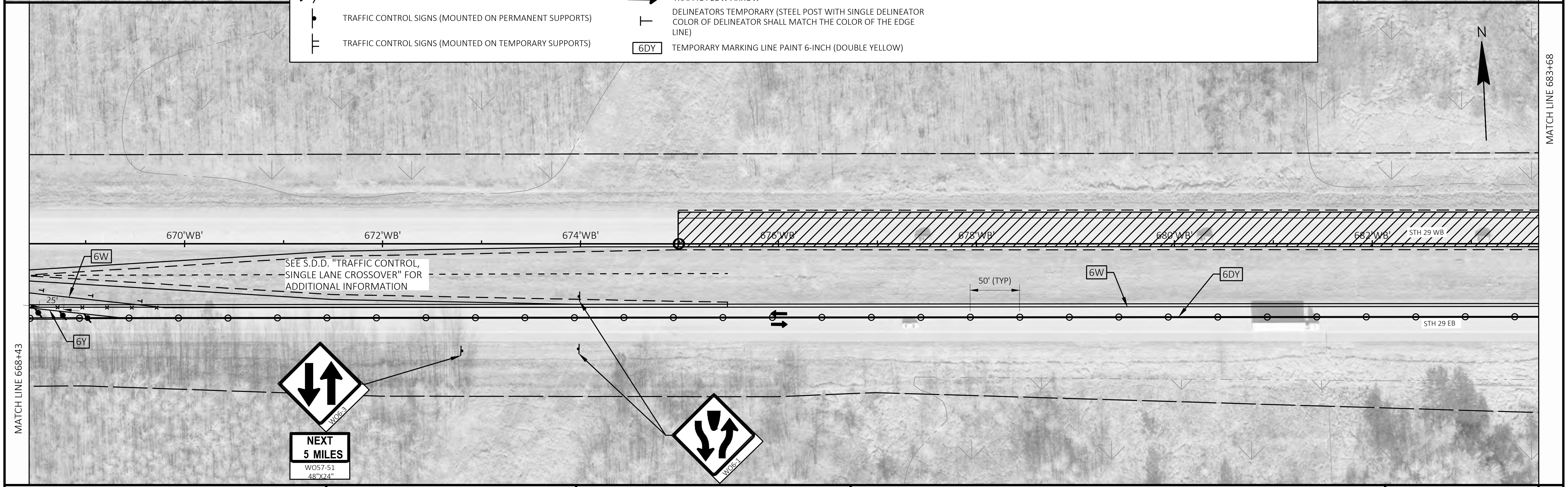
▨	WORK ZONE
//////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┃	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
┣	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
╵╵╵╵╵╵	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 1	SHEET 51	E



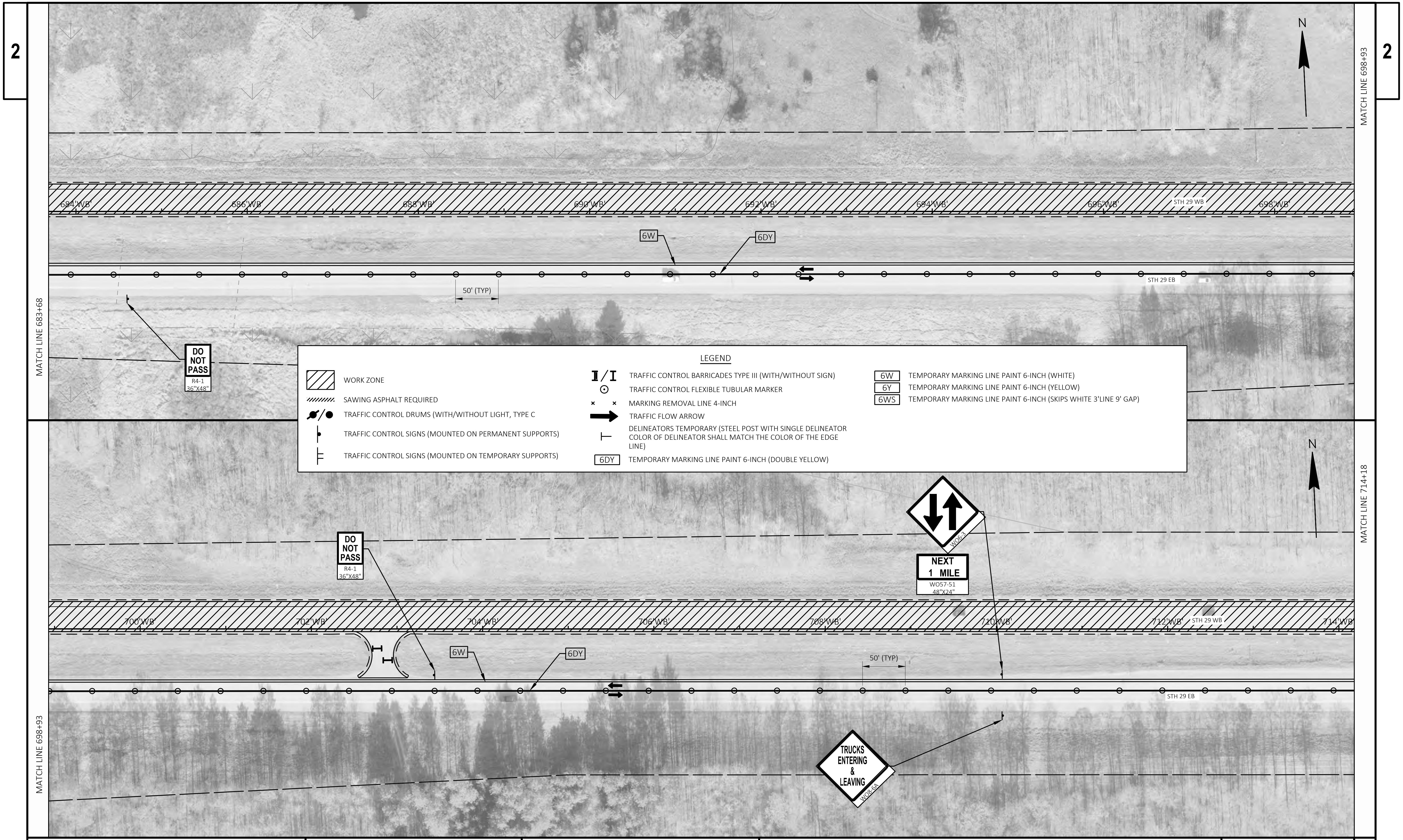
LEGEND

▨ WORK ZONE
SAWING ASPHALT REQUIRED
TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙ TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× × MARKING REMOVAL LINE 4-INCH
➡ TRAFFIC FLOW ARROW
⊢ DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 52	E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026001-s2
PLOT DATE : 6/17/2025 4:12 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

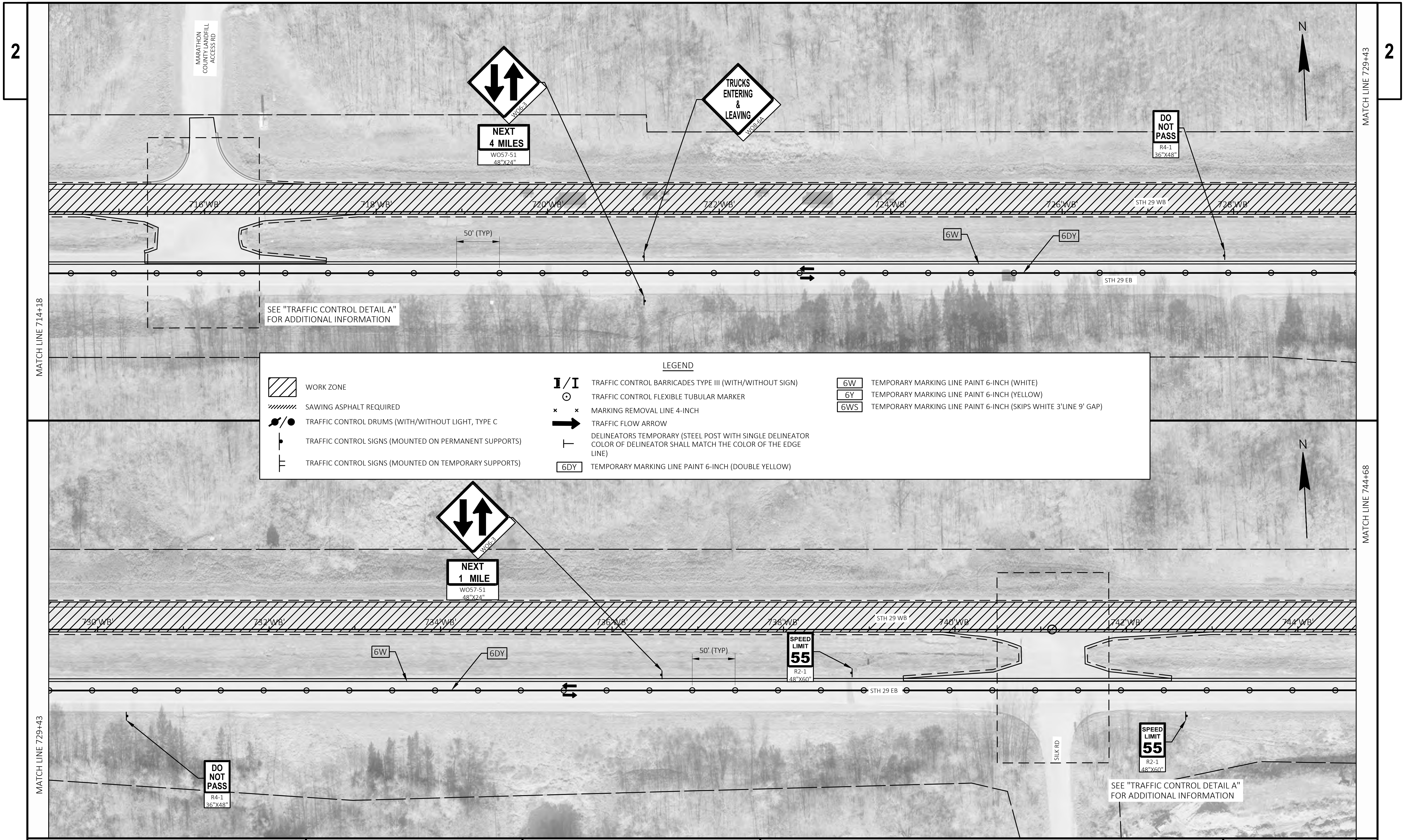


LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
⊘/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
⫯	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
⊧	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | STAGING PLANS - STAGE 2 | SHEET 53 | E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026002-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



SEE "TRAFFIC CONTROL DETAIL A" FOR ADDITIONAL INFORMATION

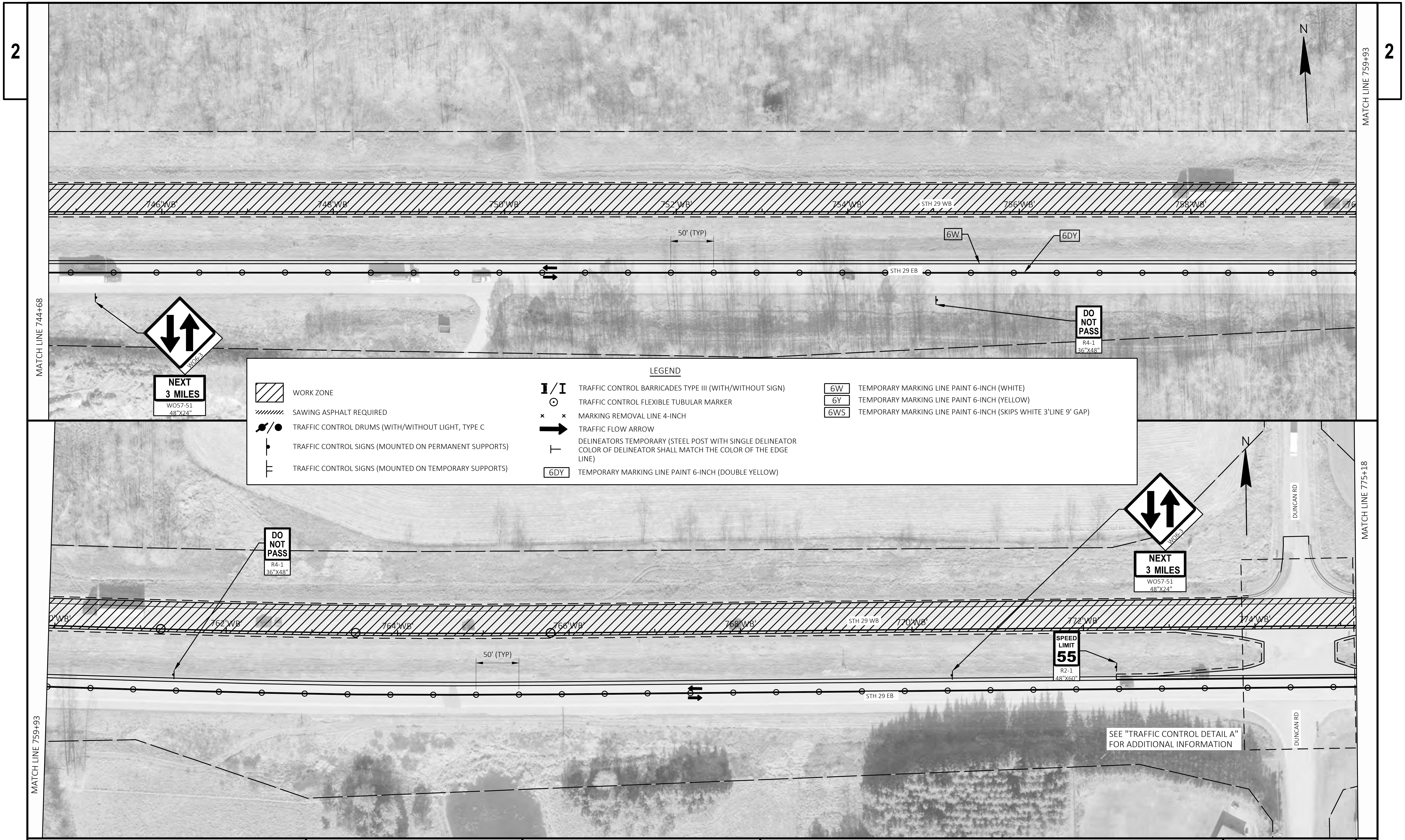
SEE "TRAFFIC CONTROL DETAIL A" FOR ADDITIONAL INFORMATION

LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
⌀/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
⍿	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 54 E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026003-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



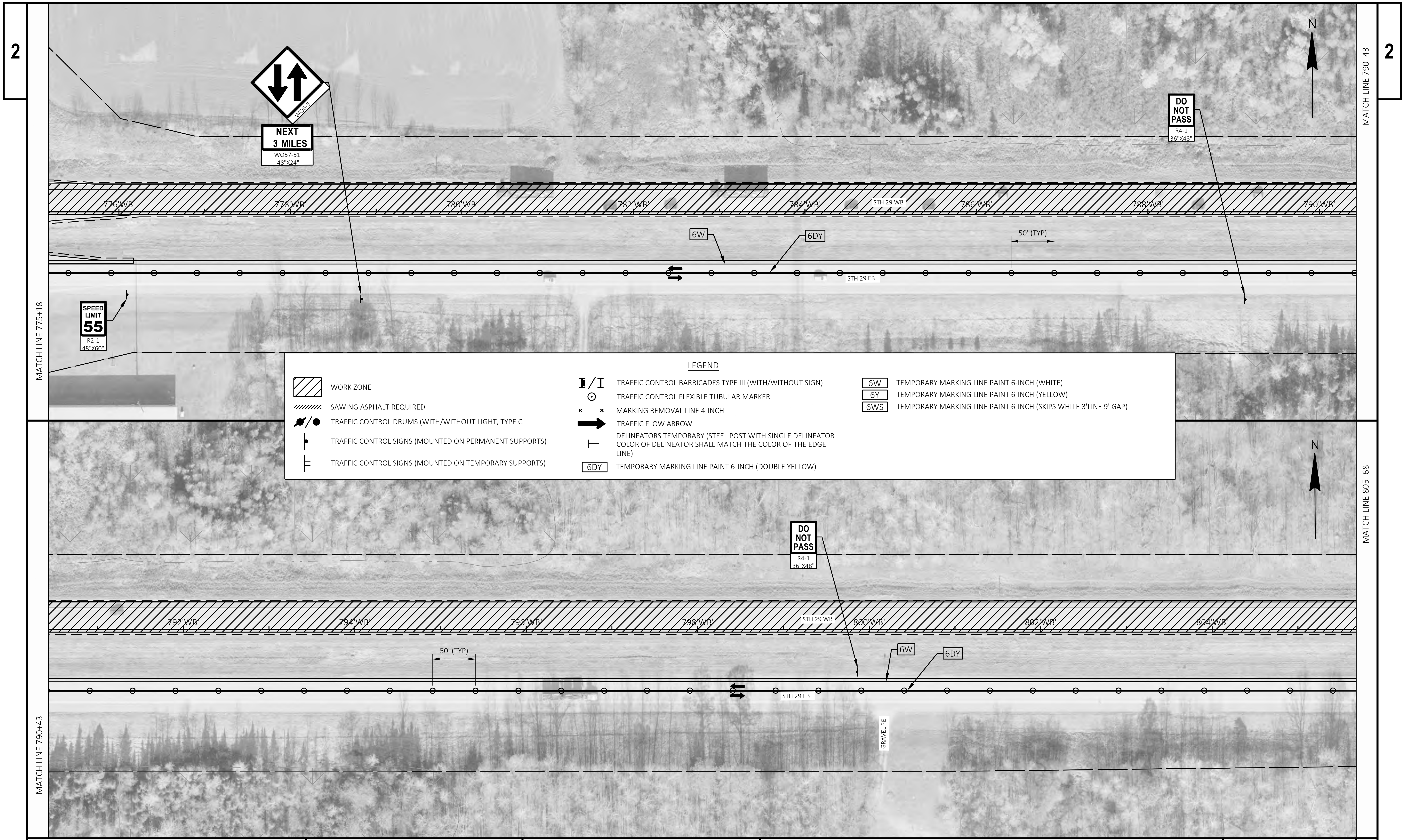
SEE "TRAFFIC CONTROL DETAIL A"
FOR ADDITIONAL INFORMATION

LEGEND

▨	WORK ZONE	I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)	6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
//////////	SAWING ASPHALT REQUIRED	⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER	6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C	× ×	MARKING REMOVAL LINE 4-INCH	6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)
⊢	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)	➡	TRAFFIC FLOW ARROW		
⊢	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)	⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)		
		6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)		

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 55 E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026004-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

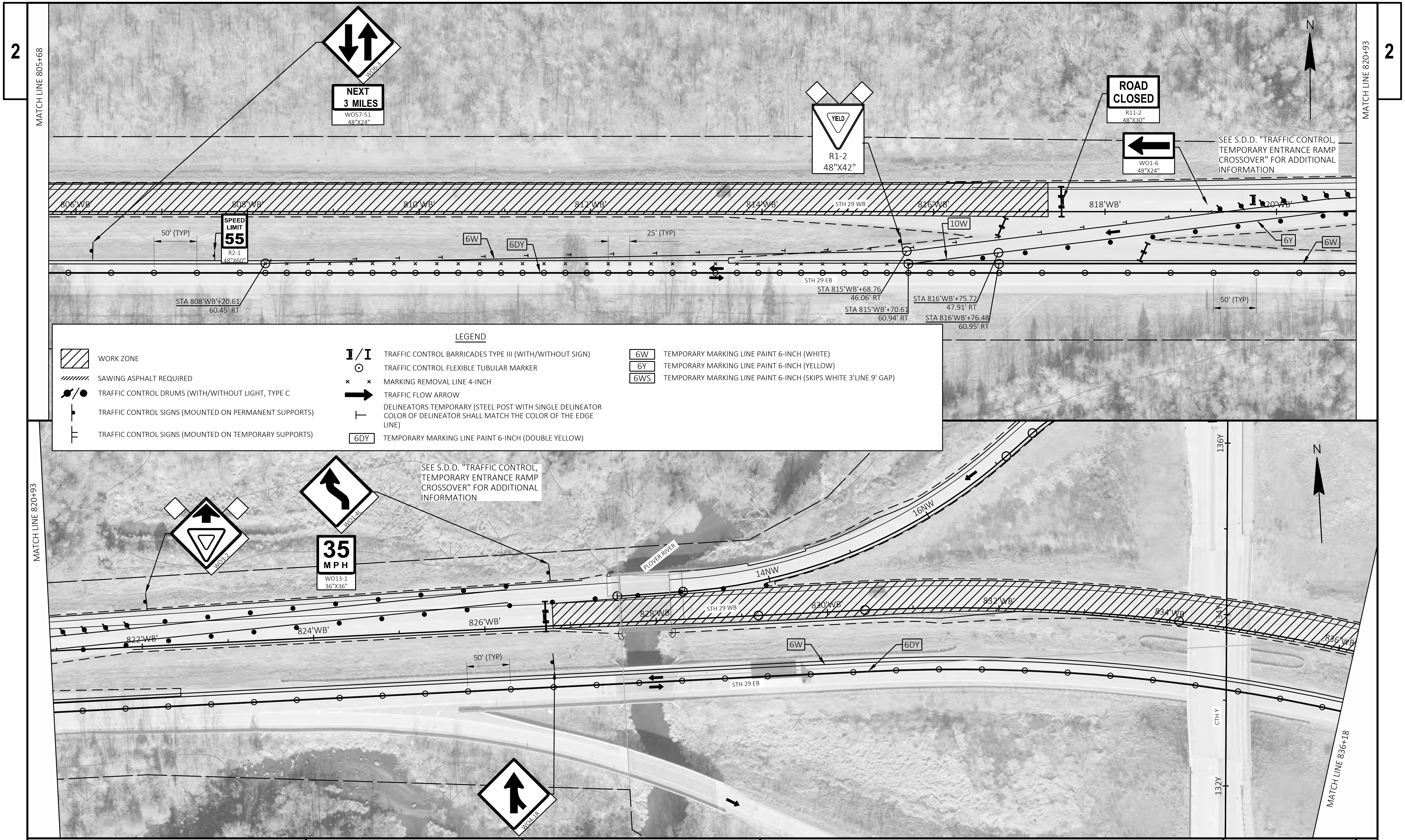


LEGEND

- ▨ WORK ZONE
- ////// SAWING ASPHALT REQUIRED
- ●/● TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
- ┆ TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
- ┝ TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
- I/I TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
- ⊙ TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
- × × MARKING REMOVAL LINE 4-INCH
- ➡ TRAFFIC FLOW ARROW
- ⊢ DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
- 6DY TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
- 6W TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
- 6Y TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
- 6WS TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 56	E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026005-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



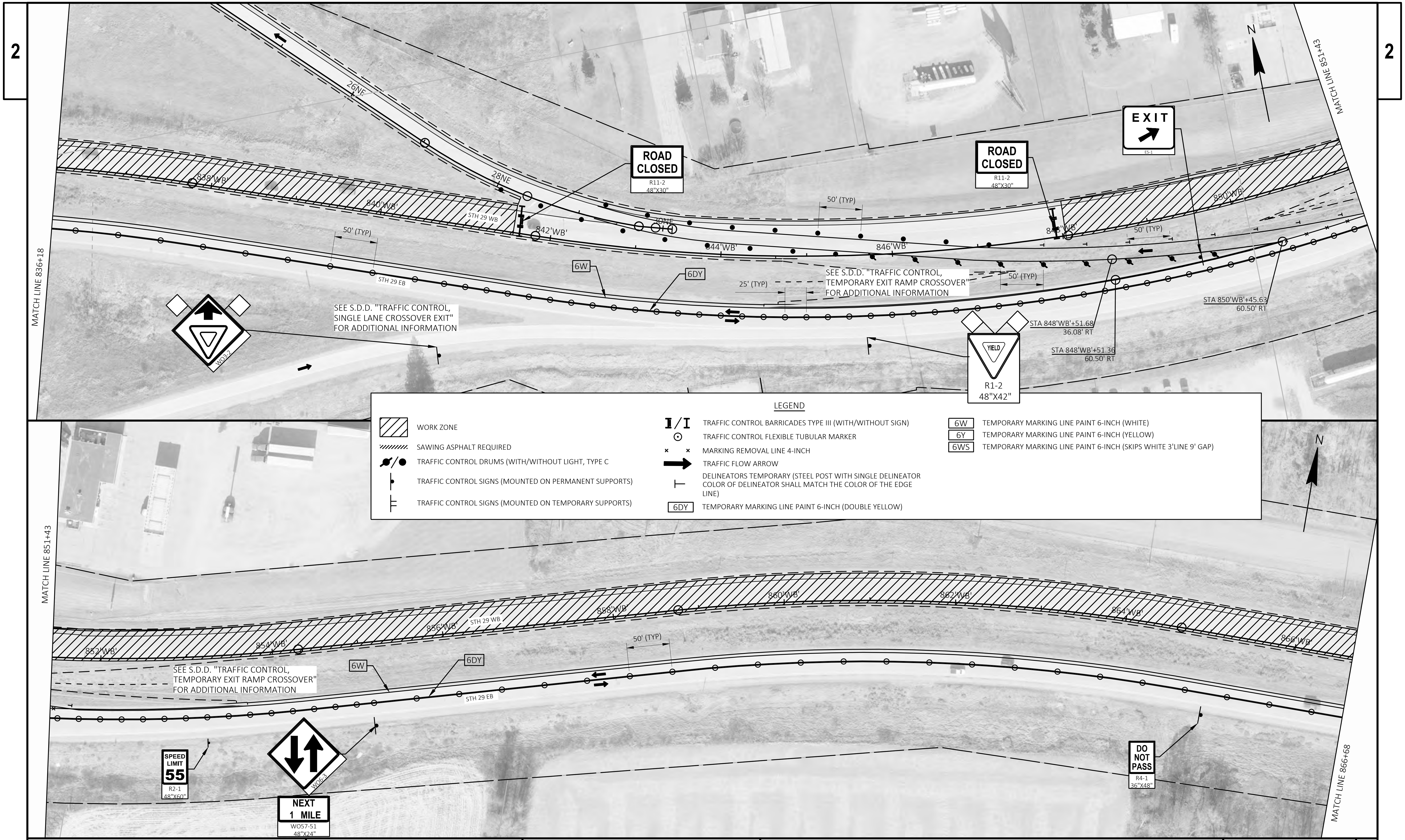
LEGEND

▨	WORK ZONE
//////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
╽	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 57 E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026006-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

2



SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT" FOR ADDITIONAL INFORMATION

SEE S.D.D. "TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER" FOR ADDITIONAL INFORMATION

SEE S.D.D. "TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER" FOR ADDITIONAL INFORMATION

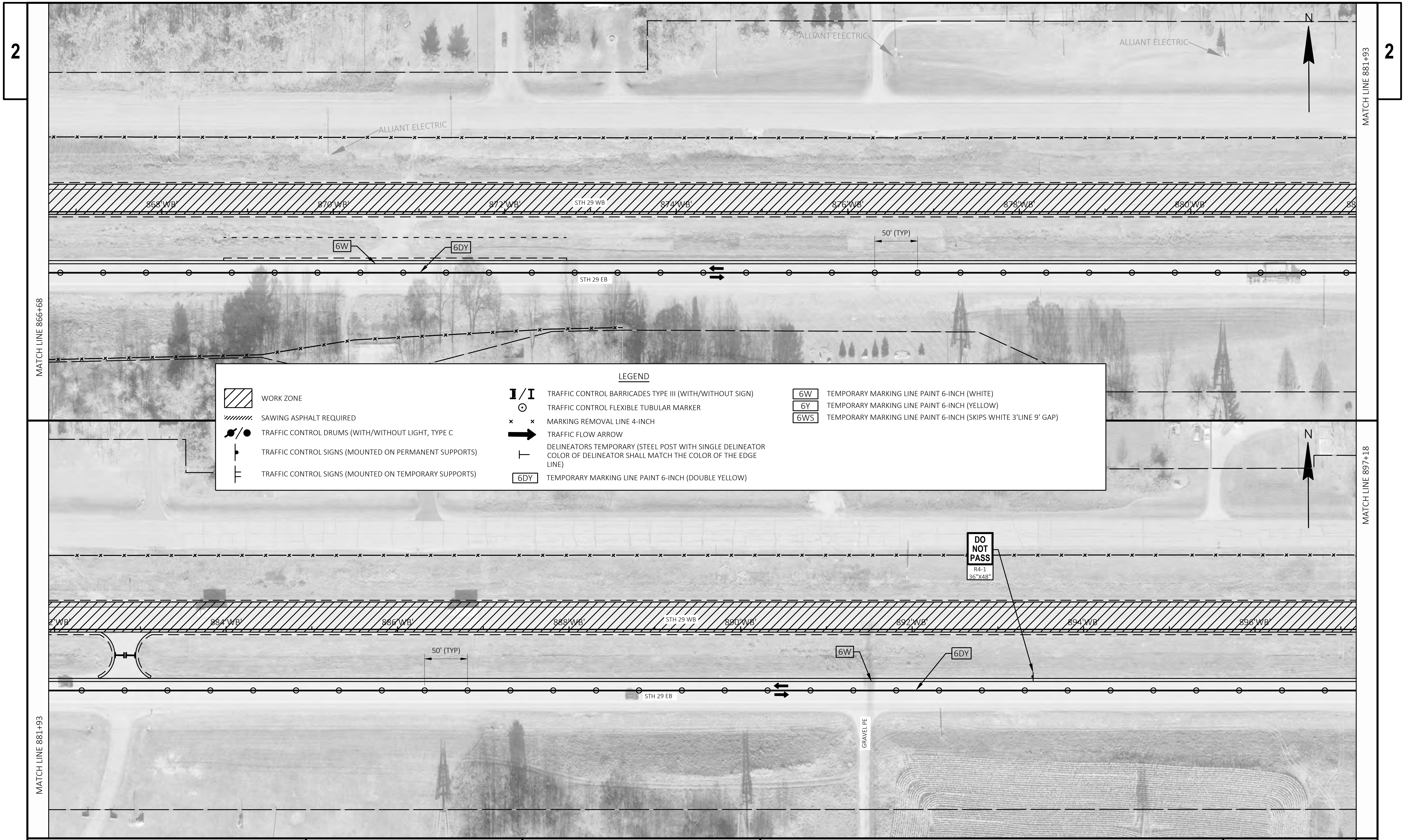
LEGEND

▨	WORK ZONE
//////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┣	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

2

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 58 E

2



LEGEND

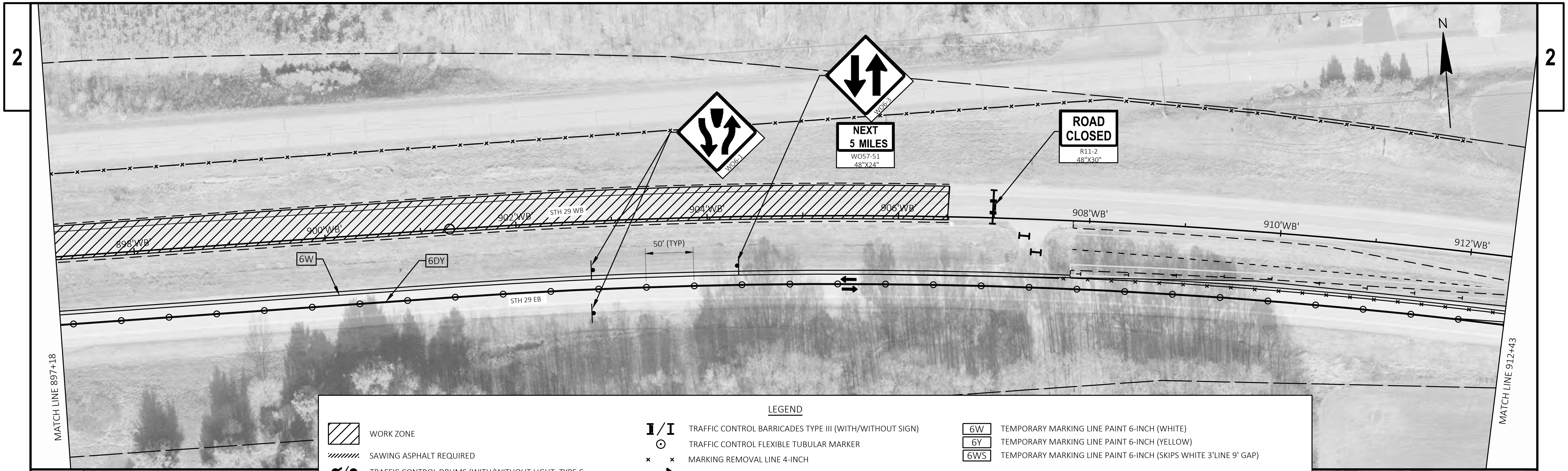
▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┆	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)

2

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 59	E

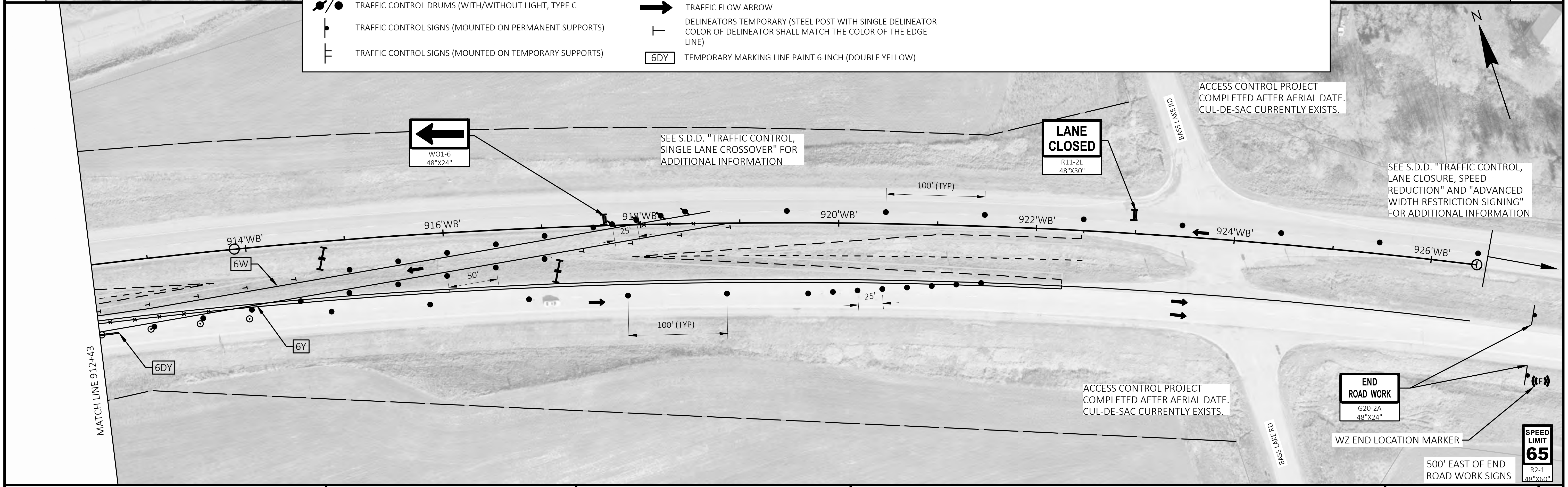
FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026008-s2

PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



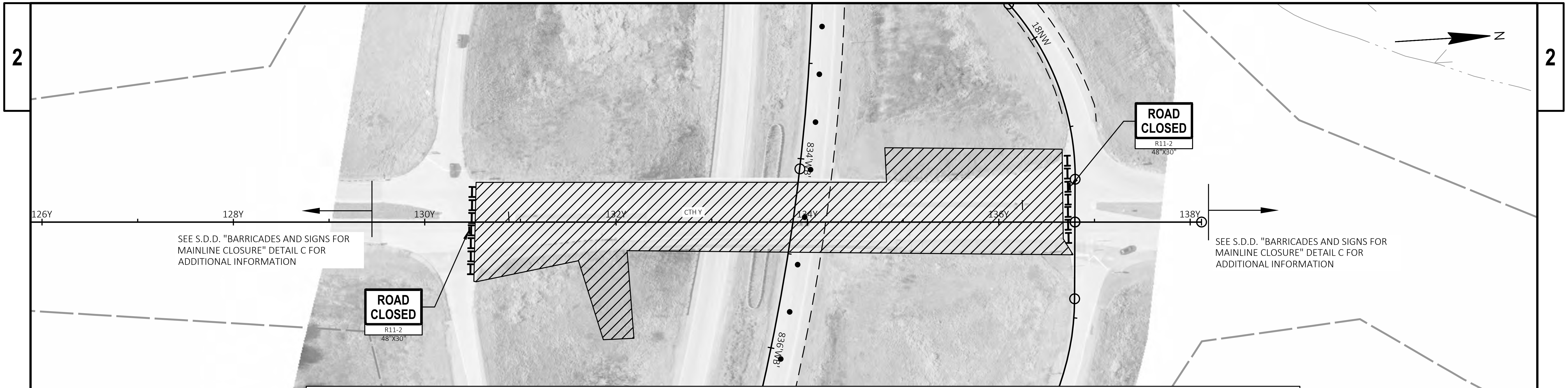
LEGEND

▨	WORK ZONE
//////////	SAWING ASPHALT REQUIRED
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C
┆	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)
I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)
⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER
× ×	MARKING REMOVAL LINE 4-INCH
➡	TRAFFIC FLOW ARROW
⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)
6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)
6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 2	SHEET 60	E

FILE NAME : W:\10530731\SHEETS\026002-S2.DWG
LAYOUT NAME - 026009-s2
PLOT DATE : 6/17/2025 4:13 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



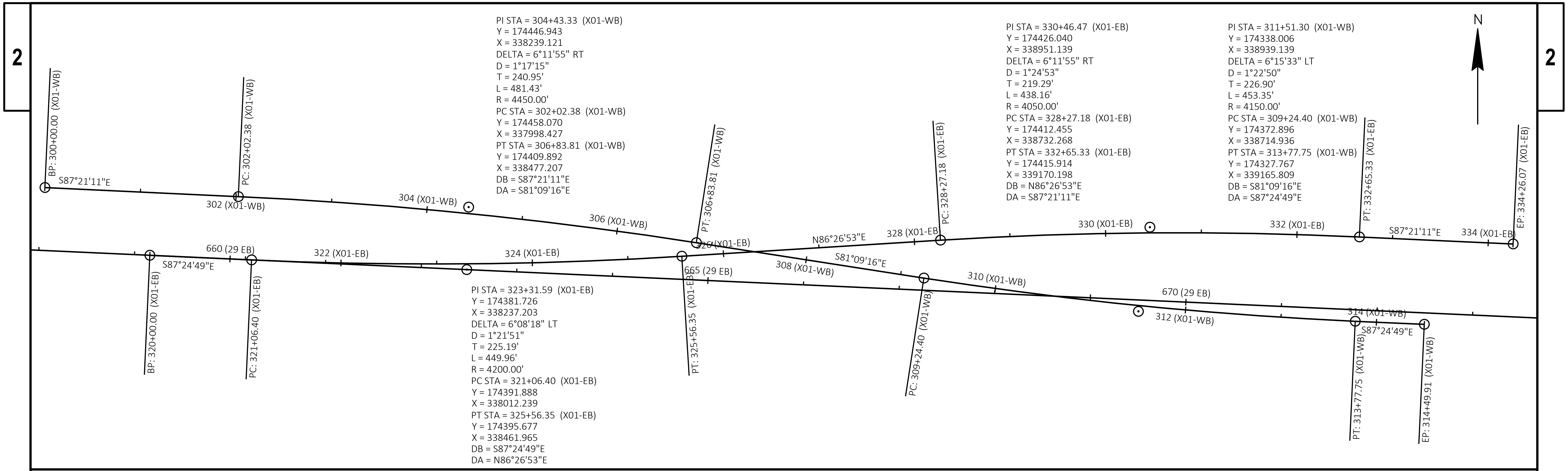
SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURE" DETAIL C FOR ADDITIONAL INFORMATION

SEE S.D.D. "BARRICADES AND SIGNS FOR MAINLINE CLOSURE" DETAIL C FOR ADDITIONAL INFORMATION

LEGEND

▨	WORK ZONE	I/I	TRAFFIC CONTROL BARRICADES TYPE III (WITH/WITHOUT SIGN)	6W	TEMPORARY MARKING LINE PAINT 6-INCH (WHITE)
//////////	SAWING ASPHALT REQUIRED	⊙	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER	6Y	TEMPORARY MARKING LINE PAINT 6-INCH (YELLOW)
●/●	TRAFFIC CONTROL DRUMS (WITH/WITHOUT LIGHT, TYPE C	× ×	MARKING REMOVAL LINE 4-INCH	6WS	TEMPORARY MARKING LINE PAINT 6-INCH (SKIPS WHITE 3'LINE 9' GAP)
┤	TRAFFIC CONTROL SIGNS (MOUNTED ON PERMANENT SUPPORTS)	➡	TRAFFIC FLOW ARROW		
╞	TRAFFIC CONTROL SIGNS (MOUNTED ON TEMPORARY SUPPORTS)	⊢	DELINEATORS TEMPORARY (STEEL POST WITH SINGLE DELINEATOR COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE EDGE LINE)		
		6DY	TEMPORARY MARKING LINE PAINT 6-INCH (DOUBLE YELLOW)		

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	STAGING PLANS - STAGE 3B	SHEET 61 E

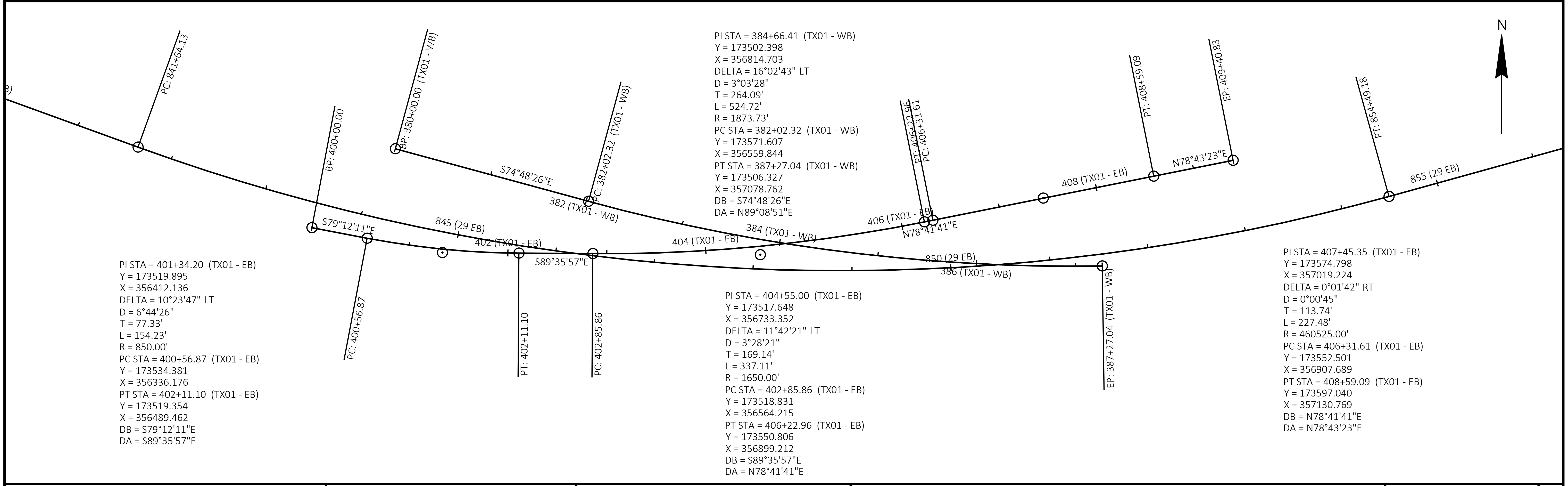


PI STA = 304+43.33 (X01-WB)
Y = 174446.943
X = 338239.121
DELTA = 6°11'55" RT
D = 1°17'15"
T = 240.95'
L = 481.43'
R = 4450.00'
PC STA = 302+02.38 (X01-WB)
Y = 174458.070
X = 337998.427
PT STA = 306+83.81 (X01-WB)
Y = 174409.892
X = 338477.207
DB = S87°21'11"E
DA = S81°09'16"E

PI STA = 330+46.47 (X01-EB)
Y = 174426.040
X = 338951.139
DELTA = 6°11'55" RT
D = 1°24'53"
T = 219.29'
L = 438.16'
R = 4050.00'
PC STA = 328+27.18 (X01-EB)
Y = 174412.455
X = 338732.268
PT STA = 332+65.33 (X01-EB)
Y = 174415.914
X = 339170.198
DB = N86°26'53"E
DA = S87°21'11"E

PI STA = 311+51.30 (X01-WB)
Y = 174338.006
X = 338939.139
DELTA = 6°15'33" LT
D = 1°22'50"
T = 226.90'
L = 453.35'
R = 4150.00'
PC STA = 309+24.40 (X01-WB)
Y = 174372.896
X = 338714.936
PT STA = 313+77.75 (X01-WB)
Y = 174327.767
X = 339165.809
DB = S81°09'16"E
DA = S87°24'49"E

PI STA = 323+31.59 (X01-EB)
Y = 174381.726
X = 338237.203
DELTA = 6°08'18" LT
D = 1°21'51"
T = 225.19'
L = 449.96'
R = 4200.00'
PC STA = 321+06.40 (X01-EB)
Y = 174391.888
X = 338012.239
PT STA = 325+56.35 (X01-EB)
Y = 174395.677
X = 338461.965
DB = S87°24'49"E
DA = N86°26'53"E



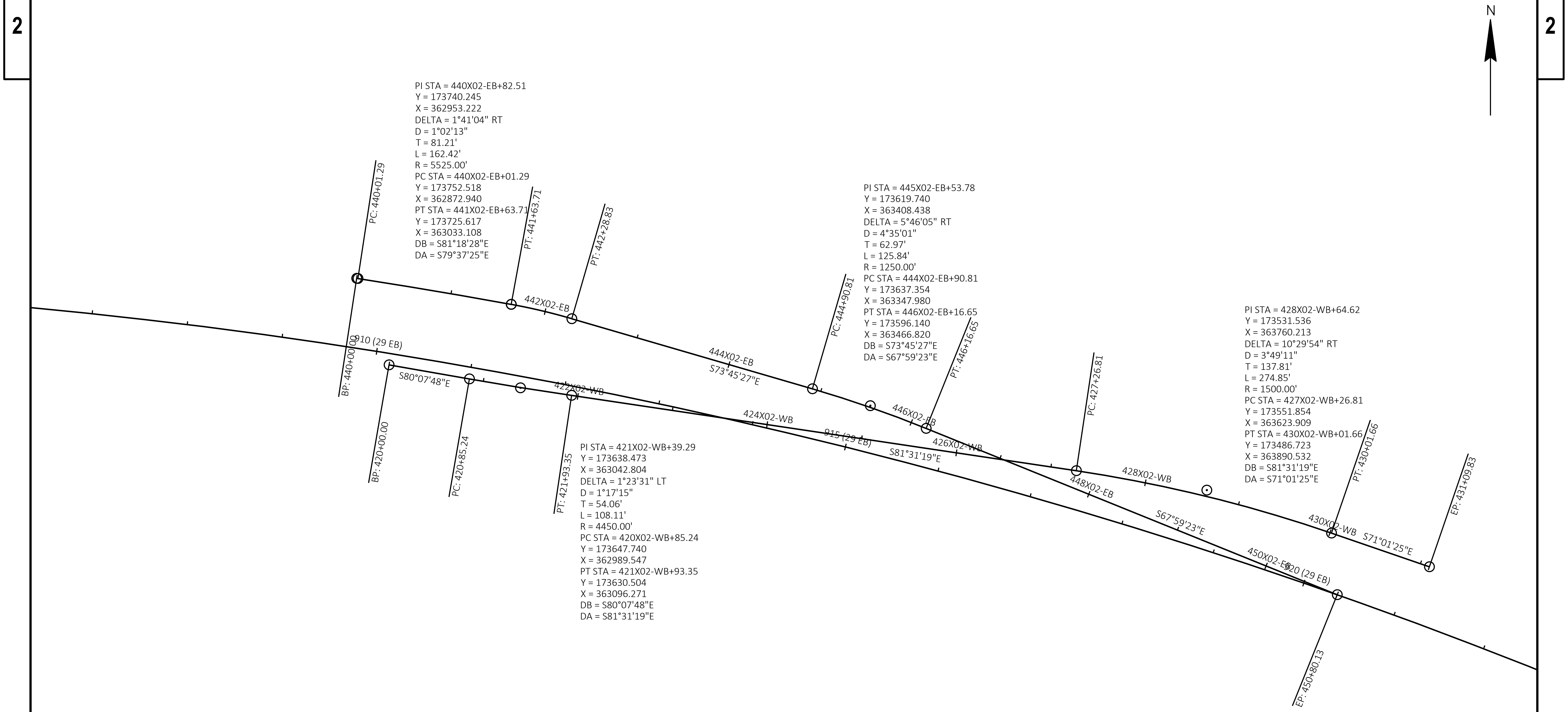
PI STA = 384+66.41 (TX01 - WB)
Y = 173502.398
X = 356814.703
DELTA = 16°02'43" LT
D = 3°03'28"
T = 264.09'
L = 524.72'
R = 1873.73'
PC STA = 382+02.32 (TX01 - WB)
Y = 173571.607
X = 356559.844
PT STA = 387+27.04 (TX01 - WB)
Y = 173506.327
X = 357078.762
DB = S74°48'26"E
DA = N89°08'51"E

PI STA = 401+34.20 (TX01 - EB)
Y = 173519.895
X = 356412.136
DELTA = 10°23'47" LT
D = 6°44'26"
T = 77.33'
L = 154.23'
R = 850.00'
PC STA = 400+56.87 (TX01 - EB)
Y = 173534.381
X = 356336.176
PT STA = 402+11.10 (TX01 - EB)
Y = 173519.354
X = 356489.462
DB = S79°12'11"E
DA = S89°35'57"E

PI STA = 404+55.00 (TX01 - EB)
Y = 173517.648
X = 356733.352
DELTA = 11°42'21" LT
D = 3°28'21"
T = 169.14'
L = 337.11'
R = 1650.00'
PC STA = 402+85.86 (TX01 - EB)
Y = 173518.831
X = 356564.215
PT STA = 406+22.96 (TX01 - EB)
Y = 173550.806
X = 356899.212
DB = S89°35'57"E
DA = N78°41'41"E

PI STA = 407+45.35 (TX01 - EB)
Y = 173574.798
X = 357019.224
DELTA = 0°01'42" RT
D = 0°00'45"
T = 113.74'
L = 227.48'
R = 460525.00'
PC STA = 406+31.61 (TX01 - EB)
Y = 173552.501
X = 356907.689
PT STA = 408+59.09 (TX01 - EB)
Y = 173597.040
X = 357130.769
DB = N78°41'41"E
DA = N78°43'23"E

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	ALIGNMENT DETAILS - CROSSOVERS	SHEET 62	E



PI STA = 440X02-EB+82.51
Y = 173740.245
X = 362953.222
DELTA = 1°41'04" RT
D = 1°02'13"
T = 81.21'
L = 162.42'
R = 5525.00'
PC STA = 440X02-EB+01.29
Y = 173752.518
X = 362872.940
PT STA = 441X02-EB+63.71
Y = 173725.617
X = 363033.108
DB = S81°18'28"E
DA = S79°37'25"E

PI STA = 445X02-EB+53.78
Y = 173619.740
X = 363408.438
DELTA = 5°46'05" RT
D = 4°35'01"
T = 62.97'
L = 125.84'
R = 1250.00'
PC STA = 444X02-EB+90.81
Y = 173637.354
X = 363347.980
PT STA = 446X02-EB+16.65
Y = 173596.140
X = 363466.820
DB = S73°45'27"E
DA = S67°59'23"E

PI STA = 428X02-WB+64.62
Y = 173531.536
X = 363760.213
DELTA = 10°29'54" RT
D = 3°49'11"
T = 137.81'
L = 274.85'
R = 1500.00'
PC STA = 427X02-WB+26.81
Y = 173551.854
X = 363623.909
PT STA = 430X02-WB+01.66
Y = 173486.723
X = 363890.532
DB = S81°31'19"E
DA = S71°01'25"E

PI STA = 421X02-WB+39.29
Y = 173638.473
X = 363042.804
DELTA = 1°23'31" LT
D = 1°17'15"
T = 54.06'
L = 108.11'
R = 4450.00'
PC STA = 420X02-WB+85.24
Y = 173647.740
X = 362989.547
PT STA = 421X02-WB+93.35
Y = 173630.504
X = 363096.271
DB = S80°07'48"E
DA = S81°31'19"E

PROJECT NO: 1053-07-61
HWY: STH 29
COUNTY: MARATHON
ALIGNMENT DETAILS - CROSSOVERS
SHEET 63
E

Estimate Of Quantities

1053-07-61

Line	Item	Item Description	Unit	Total	Qty
0002	204.0100	Removing Concrete Pavement	SY	340.000	340.000
0004	204.0110	Removing Asphaltic Surface	SY	3,660.000	3,660.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	200.000	200.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	27,700.000	27,700.000
0010	204.0150	Removing Curb & Gutter	LF	650.000	650.000
0012	204.0155	Removing Concrete Sidewalk	SY	210.000	210.000
0014	204.0165	Removing Guardrail	LF	1,060.000	1,060.000
0016	204.0175	Removing Concrete Slope Paving	SY	280.000	280.000
0018	204.0180	Removing Delineators and Markers	EACH	147.000	147.000
0020	204.0220	Removing Inlets	EACH	2.000	2.000
0022	204.0245	Removing Storm Sewer (size) 01. 24-Inch	LF	207.000	207.000
0024	204.0291.S	Abandoning Sewer	CY	26.000	26.000
0026	205.0100	Excavation Common	CY	9,050.000	9,050.000
0028	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1053-07-61	EACH	1.000	1.000
0030	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	6.000	6.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,370.000	4,370.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	13,300.000	13,300.000
0036	415.0410	Concrete Pavement Approach Slab	SY	221.000	221.000
0038	415.6000.S	Rout and Seal	LF	46,300.000	46,300.000
0040	416.0610	Drilled Tie Bars	EACH	1,110.000	1,110.000
0042	416.0620	Drilled Dowel Bars	EACH	2,210.000	2,210.000
0044	416.1710	Concrete Pavement Repair	SY	1,030.000	1,030.000
0046	416.1720	Concrete Pavement Replacement	SY	3,470.000	3,470.000
0048	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	6,540.000	6,540.000
0050	450.4000	HMA Cold Weather Paving	TON	975.000	975.000
0052	455.0605	Tack Coat	GAL	4,010.000	4,010.000
0054	460.2000	Incentive Density HMA Pavement	DOL	2,496.000	2,496.000
0056	460.5224	HMA Pavement 4 LT 58-28 S	TON	9,170.000	9,170.000
0058	465.0105	Asphaltic Surface	TON	23.000	23.000
0060	465.0110	Asphaltic Surface Patching	TON	200.000	200.000
0062	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	20,300.000	20,300.000
0064	502.3205	Pigmented Surface Sealer Reseal	SY	402.000	402.000
0066	509.5100.S	Polymer Overlay	SY	1,563.000	1,563.000
0068	509.9015.S	Removing Polymer Overlay (structure) 01. B-37-0377	SY	1,563.000	1,563.000
0070	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0072	520.3518	Culvert Pipe Class III-B 18-Inch	LF	756.000	756.000
0074	520.8000	Concrete Collars for Pipe	EACH	4.000	4.000
0076	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	1.000	1.000
0078	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	2.000	2.000
0080	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	158.000	158.000
0082	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	280.000	280.000
0084	601.0584	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBT	LF	160.000	160.000
0086	601.0586	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type TBTT	LF	265.000	265.000
0088	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	190.000	190.000
0090	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	10.000	10.000
0092	602.0410	Concrete Sidewalk 5-Inch	SF	1,170.000	1,170.000
0094	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	40.000	40.000
0096	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	17.000	17.000
0098	602.3010	Concrete Surface Drains	CY	6.000	6.000

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	1053-07-61 Qty
0100	602.3210	Concrete Rumble Strips, Shoulder Divided Roadway	LF	19,900.000	19,900.000
0102	604.0500	Slope Paving Crushed Aggregate	SY	295.000	295.000
0104	606.0200	Riprap Medium	CY	42.000	42.000
0106	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	8.000	8.000
0108	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	207.000	207.000
0110	611.0430	Reconstructing Inlets	EACH	2.000	2.000
0112	611.0530	Manhole Covers Type J	EACH	1.000	1.000
0114	611.0612	Inlet Covers Type C	EACH	1.000	1.000
0116	611.0627	Inlet Covers Type HM	EACH	1.000	1.000
0118	611.0642	Inlet Covers Type MS	EACH	2.000	2.000
0120	611.0654	Inlet Covers Type V	EACH	1.000	1.000
0122	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0124	611.3220	Inlets 2x2-FT	EACH	1.000	1.000
0126	611.3902	Inlets Median 2 Grate	EACH	1.000	1.000
0128	614.0010	Barrier System Grading Shaping Finishing	EACH	5.000	5.000
0130	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	2.000	2.000
0132	614.0230	Steel Thrie Beam	LF	175.000	175.000
0134	614.0395	Guardrail Mow Strip Concrete	SY	18.000	18.000
0136	614.0397	Guardrail Mow Strip Emulsified Asphalt	SY	23.000	23.000
0138	614.2300	MGS Guardrail 3	LF	275.000	275.000
0140	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0142	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0144	616.0100	Fence Woven Wire (height) 01. 4-FT	LF	7,900.000	7,900.000
0146	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1053-07-61	EACH	1.000	1.000
0148	619.1000	Mobilization	EACH	1.000	1.000
0150	620.0300	Concrete Median Sloped Nose	SF	15.000	15.000
0152	624.0100	Water	MGAL	267.000	267.000
0154	625.0100	Topsoil	SY	19,000.000	19,000.000
0156	627.0200	Mulching	SY	950.000	950.000
0158	628.1504	Silt Fence	LF	1,300.000	1,300.000
0160	628.1520	Silt Fence Maintenance	LF	1,300.000	1,300.000
0162	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0164	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0166	628.2008	Erosion Mat Urban Class I Type B	SY	15,000.000	15,000.000
0168	628.2027	Erosion Mat Class II Type C	SY	4,000.000	4,000.000
0170	628.7005	Inlet Protection Type A	EACH	6.000	6.000
0172	628.7015	Inlet Protection Type C	EACH	6.000	6.000
0174	628.7504	Temporary Ditch Checks	LF	120.000	120.000
0176	628.7555	Culvert Pipe Checks	EACH	14.000	14.000
0178	628.7570	Rock Bags	EACH	55.000	55.000
0180	629.0210	Fertilizer Type B	CWT	21.000	21.000
0182	630.0130	Seeding Mixture No. 30	LB	867.000	867.000
0184	630.0200	Seeding Temporary	LB	200.000	200.000
0186	630.0500	Seed Water	MGAL	440.000	440.000
0188	633.0100	Delineator Posts Steel	EACH	102.000	102.000
0190	633.0500	Delineator Reflectors	EACH	140.000	140.000
0192	633.1100	Delineators Temporary	EACH	62.000	62.000
0194	633.5200	Markers Culvert End	EACH	2.000	2.000
0196	633.5350	Markers Permanent Flexible	EACH	180.000	180.000

Estimate Of Quantities

Line	Item	Item Description	Unit	Total	1053-07-61 Qty
0198	638.2102	Moving Signs Type II	EACH	7.000	7.000
0200	638.4000	Moving Small Sign Supports	EACH	4.000	4.000
0202	642.5001	Field Office Type B	EACH	1.000	1.000
0204	643.0300	Traffic Control Drums	DAY	39,876.000	39,876.000
0206	643.0420	Traffic Control Barricades Type III	DAY	7,938.000	7,938.000
0208	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	541.000	541.000
0210	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	541.000	541.000
0212	643.0705	Traffic Control Warning Lights Type A	DAY	16,074.000	16,074.000
0214	643.0715	Traffic Control Warning Lights Type C	DAY	3,496.000	3,496.000
0216	643.0810.S	Connected Arrow Board	DAY	222.000	222.000
0218	643.0900	Traffic Control Signs	DAY	17,446.000	17,446.000
0220	643.0910	Traffic Control Covering Signs Type I	EACH	7.000	7.000
0222	643.0920	Traffic Control Covering Signs Type II	EACH	31.000	31.000
0224	643.1000	Traffic Control Signs Fixed Message	SF	136.000	136.000
0226	643.1220.S	Connected Work Zone Start and End Location Markers	DAY	222.000	222.000
0228	643.3165	Temporary Marking Line Paint 6-Inch	LF	79,400.000	79,400.000
0230	643.5000	Traffic Control	EACH	1.000	1.000
0232	645.0120	Geotextile Type HR	SY	48.000	48.000
0234	646.2020	Marking Line Epoxy 6-Inch	LF	1,220.000	1,220.000
0236	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	11,900.000	11,900.000
0238	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	77,300.000	77,300.000
0240	646.2050	Marking Line Grooved Permanent Tape 6-Inch	LF	11,900.000	11,900.000
0242	646.4020	Marking Line Epoxy 10-Inch	LF	400.000	400.000
0244	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	3,000.000	3,000.000
0246	646.5020	Marking Arrow Epoxy	EACH	4.000	4.000
0248	646.5120	Marking Word Epoxy	EACH	2.000	2.000
0250	646.6120	Marking Stop Line Epoxy 18-Inch	LF	40.000	40.000
0252	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	90,420.000	90,420.000
0254	646.6470	Cold Weather Marking Epoxy 10-Inch	LF	3,400.000	3,400.000
0256	646.7220	Marking Chevron Epoxy 24-Inch	LF	90.000	90.000
0258	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	80.000	80.000
0260	646.8120	Marking Curb Epoxy	LF	30.000	30.000
0262	646.8220	Marking Island Nose Epoxy	EACH	4.000	4.000
0264	646.9000	Marking Removal Line 4-Inch	LF	30,100.000	30,100.000
0266	646.9002	Marking Removal Line 6-Inch	LF	380.000	380.000
0268	650.4000	Construction Staking Storm Sewer	EACH	3.000	3.000
0270	650.4500	Construction Staking Subgrade	LF	4,240.000	4,240.000
0272	650.5000	Construction Staking Base	LF	4,240.000	4,240.000
0274	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	900.000	900.000
0276	650.8000	Construction Staking Resurfacing Reference	LF	28,710.000	28,710.000
0278	650.9000	Construction Staking Curb Ramps	EACH	5.000	5.000
0280	650.9911	Construction Staking Supplemental Control (project) 01. 1053-07-61	EACH	1.000	1.000
0282	690.0150	Sawing Asphalt	LF	40.000	40.000
0284	690.0250	Sawing Concrete	LF	7,500.000	7,500.000
0286	SPV.0060	Special 01. Connect to Existing	EACH	3.000	3.000
0288	SPV.0060	Special 02. Removing Raised Pavement Markers and Filling Voids	EACH	240.000	240.000
0290	SPV.0170	Special 01. Concrete Joint and Crack Cleaning and Repair	STA	11.000	11.000
0292	SPV.0180	Special 01. Removing Distressed Asphaltic Surface Milling	SY	1,400.000	1,400.000
0294	SPV.0180	Special 02. Concrete Pavement Repair - Centerline	SY	120.000	120.000

204 REMOVALS SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	* 204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0180 REMOVING DELINEATORS AND MARKERS EACH	SPV.0060.02 SPECIAL (02. REMOVING RAISED PAVEMENT MARKERS AND FILLING VOIDS) EACH	SPV.0180.01 SPECIAL (01. REMOVING DISTRESSED ASPHALTIC SURFACE MILLING) SY	REMARKS
0010	14+51	-	15+90	CTH Y NW LT	110	-	-	-	-	-	
0010	15+90	-	19+00	CTH Y RAMP NW LT	-	4	181	-	-	-	
0010	13+96	-	18+85	CTH Y RAMP NW RT	-	4	214	-	-	-	
0010	20+58	-	28+30	CTH Y RAMP NE RT	-	4	339	-	-	-	
0010	20+87	-	29+39	CTH Y RAMP NE LT	-	7	475	-	-	-	
0010	674+99	-	675+09	STH 29WB	-	10	-	-	-	-	
0010	675+09	-	773+55	STH 29 WB LT	-	-	6422	-	-	-	
0010	775+73	-	827+35	STH 29 WB LT	-	-	3400	-	-	-	
0010	675+49	-	714+59	STH 29 WB RT	-	-	1477	-	-	-	
0010	717+80	-	773+08	STH 29 WB RT	-	-	2692	-	-	-	
0010	776+24	-	827+50	STH 29 WB RT	-	-	4920	-	-	-	
0010	674+99	-	906+53	STH 29 WB LT	-	-	-	60	240	-	
0010	816+52 WB	-	19+00 NW	CTH Y NW	-	-	-	2	-	-	WB ENTRANCE RAMP AT CTH Y
0010	20+57 NE	-	849+69	CTH Y NE	-	-	-	5	-	-	WB EXIT RAMP AT CTH Y
0010	702+55	-	703+12	STH 29 WB RT	-	50	-	-	-	-	
0010	714+59	-	717+80	STH 29 WB RT	965	-	-	-	-	-	IN FRONT OF GUARDRAIL
0010	715+13	-	716+99	STH 29 WB LT	539	-	-	-	-	-	IN FRONT OF GUARDRAIL
0010	739+40	-	742+53	STH 29 WB RT	-	8	-	-	-	-	
0010	773+08	-	776+24	STH 29 WB RT	998	-	-	-	-	-	IN FRONT OF GUARDRAIL
0010	773+55	-	775+73	STH 29 WB LT	556	-	-	-	-	-	IN FRONT OF GUARDRAIL
0010	813+61	-	822+42	STH 29 WB RT	-	17	-	-	-	-	
0010	826+28	-	827+50	STH 29 WB LT	-	-	58	-	-	-	
0010	827+35	-	828+28	STH 29WB	-	31	-	-	-	-	
0010	828+18	-	832+25	STH 29 WB RT	428	-	-	-	-	-	
0010	828+28	-	842+65	STH 29 WB LT	-	-	1058	-	-	-	
0010	832+25	-	844+64	STH 29 WB RT	-	-	413	-	-	-	
0010	853+86	-	906+43	STH 29 WB RT	-	-	1907	-	-	-	
0010	836+61	-		STH 29	-	-	-	-	-	-	
0010	842+65	-	842+75	STH 29 WB LT	-	3	-	-	-	-	
0010	842+70	-	906+43	STH 29 WB LT	-	-	4144	-	-	-	
0010	882+52	-	883+11	STH 29 WB RT	-	52	-	-	-	-	
0010	906+43	-	906+53	STH 29	-	10	-	-	-	-	
0010	813+56	-	821+88	STH 29 MEDIAN CROSSOVER	-	-	-	80	-	-	
0010	130+87	-	132+03	CTH Y RT	32	-	-	-	-	-	
0010	827+47	-	-	STH 29 WB LT	4	-	-	-	-	-	FLUME
0010	827+58	-	-	STH 29 WB RT	8	-	-	-	-	-	FLUME
0010	828+19	-	-	STH 29 WB RT	5	-	-	-	-	-	FLUME
				PROJECT	-	-	-	-	-	1,400	UNDISTRIBUTED
				TOTAL 0010	3645	200	27700	147	240	1,400	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CROSSOVERS

CATEGORY	STATION	TO	STATION	LOCATION	* 205.0100 EXCAVATION COMMON CY	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	* 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 455.0605 TACK COAT GAL	* 460.5224 HMA PAVEMENT 4 LT 58-28 S TON	520.1018 APRON ENDWALLS FOR CULVERT PIPE 18-INCH EACH	520.3518 CULVERT PIPE CLASS III-B 18-INCH LF	* 520.8000 CONCRETE COLLARS FOR PIPE EACH	611.0430 RECONSTRUCTING INLETS EACH	611.0530 MANHOLE COVERS TYPE J EACH	611.0612 INLET COVERS TYPE C EACH	611.2004 MANHOLES 4-FT DIAMETER EACH	* 624.0100 WATER MGAL	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	* 690.0150 SAWING ASPHALT LF	* SPV.0060.01 SPECIAL (01. CONNECT TO EXISTING STORM SEWER STRUCTURE) EACH	REMARKS
0010	656+99	-	675+49	STH 29 MEDIAN CROSSOVER	3,530	841	5,471	872	2,175	-	-	-	2	-	-	-	95	1,850	1,850	12	-	
0010	844+64	-	853+86	STH 29 MEDIAN CROSSOVER	1,970	378	2,993	501	1,253	1	208	1	-	1	-	1	51	925	925	12	1	
0010	907+83	-	922+48	STH 29 MEDIAN CROSSOVER	2,620	641	4,536	737	1,842	1	548	1	-	-	1	1	78	1,465	1,465	14	1	
				TOTAL 0010	8,120	1,860	13,000	2,110	5,270	2	756	2	2	1	1	2	224	4,240	4,240	38	2	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CATEGORY	STATION	TO	STATION	LOCATION	* 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	* 624.0100 WATER MGAL	REMARKS
0010	674+99	-	906+53	STH 29 RT/LT	2,010	31	SHOULDER
0010	14+50	-	19+00	NW RAMP RT/LT	30	1	SHOULDER
0010	20+80	-	30+11	NE RAMP RT/LT	70	2	SHOULDER
0010	828+18	-	833+15	STH 29 RT	70	2	BEAMGUARD
0010	14+50	-	15+90	NW RAMP	20	1	BEAMGUARD
0010	134+92	-	136+53	CTH Y	30	1	BEAMGUARD
				UNDISTRIBUTED	280	5	
				TOTAL 0010	2,510	43	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

420 CONCRETE PAVEMENT SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	* 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	415.6000.S ROUT AND SEAL LF	* 416.0610 DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	420.1000 CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT SY	* 690.0250 SAWING CONCRETE LF	SPV.0170.01 SPECIAL (01. CONCRETE JOINT AND CRACK CLEANING AND REPAIR) STA	SPV.0180.02 SPECIAL (02. CONCRETE PAVEMENT REPAIR - CENTERLINE) SY	REMARKS
0010	674+99	-	906+53	STH 29	-	46,300	-	-	-	-	-	-	-	-	PROJECT WIDE
0010	674+99	-	740+00	STH 29 WB	-	-	418	512	232	705	1412	1950	-	110	STAGE 2
0010	740+00	-	817+50	STH 29 WB	-	-	263	656	244	1,403	2297	1910	-	-	STAGE 2
0010	817+50	-	826+75	OUTSIDE LANE/RAMP	-	-	47	32	15	226	259	169	-	-	STAGE 3A
0010	821+00	-	822+00	INSIDE LANE PATCH	-	-	-	16	8	-	22	30	-	-	STAGE 1
0010	826+75	-	906+50	STH 29 WB	-	-	171	464	273	662	1369	1282	-	-	STAGE 2
0010	13+10	-	29+06	CTH Y RAMPS	-	-	-	64	27	150	233	165	-	-	STAGE 3A
0010	131+80	-	135+30	CTH Y	-	-	3	112	64	-	158	251	-	-	STAGE 3B
0010	674+99	-	906+53	STH 29 EB INSIDE LANE	-	-	20	160	80	-	213	300	10		STAGE 1
				UNDISTRIBUTED	90	-	93	194	87	324	577	583	1	10	PROJECT WIDE, 10%
				TOTAL 0010	90	46,300	1,015	2,210	1,030	3,470	6,540	6640	11	120	

NOTE: STATION 816+75 WB TO STATION 836+25WB HAVE PERPENDICULAR JOINTS. ALL OTHER JOINTS ARE SKEWED JOINTS.
*ADDITIONAL QUANTITIES LISTED ELSEWHERE

460 HMA SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	450.4000 HMA COLD WEATHER PAVING TON	* 455.0605 TACK COAT GAL	* 460.5224 HMA PAVEMENT 4 LT 58-28 S TON	* 465.0105 ASPHALTIC SURFACE TON	465.0110 ASPHALTIC SURFACE PATCHING TON	REMARKS
0010	132+15	-	134+90	CTH Y N & S	---	---	---	---	3	---	
0010	675+49	-	714+59	STH 29 WB RT	---	---	92	171	---	---	INCLUDES MEDIAN 702+51 - 703+15
0010	674+99	-	715+13	STH 29 WB LT	---	---	159	296	---	---	
0010	714+59	-	716+99	LANDFILL ACCESS RD	---	---	33	121	---	---	
0010	714+59		717+80	STH 29 WB RT	---	---	58	216	---	---	
0010	716+99	-	773+55	STH 29 WB LT	---	---	227	422	---	---	
0010	717+80	-	773+08	STH 29 WB RT	---	---	162	302	---	---	INCLUDES MEDIAN 739+40 - 742+98
0010	773+55	-	775+73	DUNCAN RD	---	---	34	125	---	---	
0010	773+08		776+24	STH 29 WB RT	---	---	60	223	---	---	
0010	775+73	-	827+45	STH 29 WB LT	---	---	205	382	---	---	
0010	776+24	-	827+60	STH 29 WB RT	---	---	299	553	---	---	INCLUDES MEDIAN 813+55 - 822+42
0010	826+28	-	827+60	STH 29 WB LT	---	---	4	7	---	---	
0010	828+18	-	842+75	STH 29 WB LT	---	---	65	120	---	---	
0010	828+18	-	832+25	STH 29 WB RT BEAMGUARD	4	---	26	72	---	---	
0010	14+51	-	15+90	CTH Y ON RAMP BEAMGUARD	2	---	7	22	---	---	
0010	15+90	-	19+00	CTH Y ON RAMP LT	---	---	12	21	---	---	
0010	13+96	-	18+85	CTH Y ON RAMP RT	---	---	14	24	---	---	
0010	20+86	-	29+39	CTH Y OFF RAMP LT	---	---	29	54	---	---	
0010	20+57	-	28+30	CTH Y OFF RAMP RT	---	---	21	38	---	---	
0010	832+25	-	844+64	STH 29 WB RT	---	---	25	46	---	---	
0010	842+69	-	906+53	STH 29 WB LT	---	---	250	465	---	---	
0010	853+86	-	906+53	STH 29 WB RT	---	---	118	220	---	---	INCLUDES MEDIAN 882+53 - 883+13
0010	674+99	-	906+53	PROJECT LIMITS		975	---	--	---	200	UNDISTRIBUTED
				TOTAL 0010	6	975	1900	3900	3	200	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

APPROACH AND CG SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	* 204.0100 REMOVING CONCRETE PAVEMENT SY	* 204.0150 REMOVING CURB & GUTTER LF	* 205.0100 EXCAVATION COMMON CY	* 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	* 416.0610 DRILLED TIE BARS EACH	* 601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0584 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBT LF	601.0586 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBTT LF	* 601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	602.3010 CONCRETE SURFACE DRAINS CY	* 606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	* 650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	* 690.0250 SAWING CONCRETE LF	REMARKS
0010	130+87	-	132+03	CTH Y RT	66	-	-	-	-	40	-	-	-	120	-	-	-	-	117	117	
0010	132+18	-	132+35	CTH Y LT	56	-	-	-	55	-	-	-	-	-	-	-	-	-	-	51	
0010	132+15	-	132+32	CTH Y RT	32	120	-	-	32	-	-	-	120	-	-	-	-	-	120	36	
0010	132+15	-	132+33	CTH Y MEDIAN SOUTH	-	34	-	-	-	-	34	-	-	-	-	-	-	-	34	5	
0010	134+74	-	134+90	CTH Y MEDIAN NORTH	-	16	-	-	-	-	16	-	-	-	-	-	-	-	16	5	
0010	134+75	-	134+93	CTH Y LT	31	150	-	-	31	-	-	-	145	-	-	-	-	-	145	50	
0010	134+70	-	134+93	CTH Y RT	62	-	-	-	60	-	-	-	-	-	-	-	-	-	-	58	
0010	134+93	-	136+48	CTH Y LT	-	160	-	-	-	55	-	160	-	-	-	-	-	-	159	162	
0010	827+45	-	827+60	STH 29 WB LT	43	-	-	-	43	-	-	-	-	-	-	-	-	-	-	26	
0010	827+33	-	827+49	STH 29 WB LT	-	-	2	2	-	-	-	-	-	-	10	2	13	16	10	-	
0010	827+44	-	827+49	STH 29 WB RT	-	-	2	2	-	-	-	-	-	10	-	2	13	16	10	-	
0010	828+18	-	828+62	STH 29 WB RT	-	-	6	6	-	-	-	-	-	40	-	2	13	16	39	-	
				TOTAL 0010	290	480	10	10	221	95	50	160	265	170	10	6	39	48	650	510	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

RUMBLE STRIP SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	465.0510 ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY LF	602.3210 CONCRETE RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY LF	REMARKS
0010	674+99	-	714+44	STH 29 LT	-	3950	
0010	719+29	-	773+10	STH 29 LT	-	5400	
0010	777+82	-	816+49	STH 29 LT	-	3870	
0010	829+31	-	841+07	STH 29 LT	-	1180	
0010	851+65	-	906+53	STH 29 LT	-	5500	
0010	674+99	-	714+40	STH 29 RT	3970	-	
0010	717+80	-	739+54	STH 29 RT	2175	-	
0010	742+91	-	772+74	STH 29 RT	2985	-	
0010	776+73	-	813+55	STH 29 RT	3710	-	
0010	821+90	-	827+45	STH 29 RT	555	-	
0010	828+33	-	844+64	STH 29 RT	1635	-	
0010	853+86		906+52	STH 29 RT	5270	-	
				TOTAL 0010	20,300	19,900	

522 STORM SEWER SUMMARY

CATEGORY	STATION	LOCATION	204.0220 REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER (SIZE) (01. 24-INCH) LF	204.0291.S ABANDONING SEWER CY	* 205.0100 EXCAVATION COMMON CY	* 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	* 520.8000 CONCRETE COLLARS FOR PIPE EACH	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF	* 606.0200 RIPRAP MEDIUM CY	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	611.0627 INLET COVERS TYPE HM EACH	611.0642 INLET COVERS TYPE MS EACH	611.0654 INLET COVERS TYPE V EACH	611.3220 INLETS 2X2-FT EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	* SPV.0060.01 SPECIAL (01. CONNECT TO EXISTING STORM SEWER STRUCTURE) EACH	REMARKS
0010	684+59	STH 29 WB LT	-	103	-	460	95	1	-	1	-	-	-	103	-	-	-	-	-	1	1	
0010	686+00	STH 29 WB LT	1	104	-	460	105	1	-	1	-	-	8	104	-	2	-	-	1	1	-	DUAL SLOPE INLET
0010	836+61	STH 29 WB	-	-	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
0010	131+60	CTH Y RT	1	-	4	-	-	-	1	-	158	3	-	-	-	-	1	1	-	1	-	
0010	136+18	CTH Y LT	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	
		TOTAL 0010	2	207	26	920	200	2	1	2	158	3	8	207	1	2	1	1	1	3	1	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	MISCELLANEOUS QUANTITIES	SHEET 70	E

602 CURB RAMP SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	* 204.0100 REMOVING CONCRETE PAVEMENT SY	* 204.0110 REMOVING ASPHALTIC SURFACE SY	* 204.0150 REMOVING CURB & GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	* 465.0105 ASPHALTIC SURFACE TON	* 601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	* 601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0605 CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW SF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	* 650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	* 690.0150 SAWING ASPHALT LF	* 690.0250 SAWING CONCRETE LF	REMARKS
0010	130+51	-	131+04	CTH Y	50	3	-	65	10	68	20	348	-	17	-	88	1	-	98	CURB RAMP A
0010	131+41	-	132+08	CTH Y	-	-	-	34	-	-	-	39	-	-	-	-	-	-	40	BEHIND BEAMGUARD RT
0010	136+32	-	136+70	CTH Y	-	12	42	50	7	41	-	314	10	-	-	41	1	2	57	CURB RAMP B
0010	136+93	-	137+11	CTH Y	-	-	63	11	-	61	-	182	20	-	15	61	2	-	84	CURB RAMP C (RT TURN ISLAND)
0010	137+62	-	137+17	CTH Y	-	-	65	50	3	60	-	287	10	-	-	60	1	-	71	CURB RAMP D
				TOTAL 0010	50	15	170	210	20	230	20	1,170	40	17	15	250	5	2	350	

*ADDITIONAL QUANTITIES LISTED ELSEWHERE

CATEGORY	STATION	TO	STATION	LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	EXCAVATION COMMON** CY	BORROW** CY	TOPSOIL** SY	EROSION MAT URBAN CLASS I TYPE B ** SY	EROSION MAT CLASS II TYPE C** SY	FERTILIZER TYPE B** CWT	SEEDING MIXTURE NO. 30** LB	SEED WATER** MGAL	REMARKS
0010	14+50	-	16+03	CTH Y NW RAMP LT	1	27	3	77	77	-	1	3	2	
0010	828+15	-	833+15	STH 29 WB RT	1	138	37	580	580	-	1	26	14	
0010	831+50	-	837+78	STH 29 WB RT	1	413	109	2,782	2,231	551	2	125	63	
0010	130+87	-	132+05	CTH Y RT	1	0	0	-	-	-	-	-	-	
0010	134+91	-	136+67	CTH Y LT	1	-	-	71	71	-	1	3	2	
				TOTAL 0010	5	578	149	3,510	2,959	551	5	158	81	

** QUANTITIES SHOWN ABOVE ARE FOR INFORMATION ONLY AND ARE INCIDENTAL TO ITEM 614.0010

614 BEAMGUARD SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH	614.0230 STEEL THRIE BEAM LF	614.0395 GUARDRAIL MOW STRIP CONCRETE SY	614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	REMARKS
0010	14+49	-	14+90	CTH Y NW LT	35	-	-	-	-	-	40	-	
0010	14+90	-	15+43	CTH Y NW LT	50	-	-	-	-	-	-	1	
0010	130+88	-	131+41	CTH Y RT	50	-	-	-	23	-	-	1	
0010	131+41	-	131+66	CTH Y RT	-	-	-	8	-	25	-	-	
0010	131+66	-	132+03	CTH Y RT	35	-	-	10	-	-	40	-	
0010	134+93	-	135+30	CTH Y LT	35	-	-	-	-	-	40	-	
0010	135+30	-	135+80	CTH Y LT	-	-	-	-	-	25	-	-	
0010	135+80	-	136+10	CTH Y LT	50	-	-	-	-	-	-	1	
0010	828+15	-	828+67	STH 29 RT	40	-	-	-	-	-	40	-	
0010	828+67	-	830+80	STH 29 RT	225	-	-	-	-	225	-	-	
0010	830+80	-	831+34	STH 29 RT	125	-	-	-	-	-	-	1	
0010	833+67	-	834+22	STH 29 RT	120	1	-	-	-	-	-	-	
0010	834+22	-	835+12	STH 29 RT	175	-	175	-	-	-	-	-	
0010	835+12	-	835+63	STH 29 RT	120	1	-	-	-	-	-	-	
				TOTAL 0010	1,060	2	175	18	23	275	160	4	

628 EC AND RESTORATION SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2027 EROSION MAT CLASS II TYPE C SY	628.7005 INLET PROTECTION TYPE A EACH	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7570 ROCK BAGS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL	REMARKS
0010	656+98	-	664+10	RT, STH 29WB	2,724	-	-	-	-	-	2,121	603	-	-	-	-	-	2	123	-	62	
0010	668+35	-	675+49	RT, STH 29WB	2,726	-	-	-	-	-	2,120	606	-	-	-	-	-	2	123	-	62	
0010	683+95	-	686+51	LT & RT, STH 29WB	2,114	-	467	467	-	-	1,891	223	-	-	-	-	-	2	96	-	48	
0010	829+74	-	834+84	LT, STH 29WB	-	-	506	506	-	-	-	-	-	-	-	-	-	-	-	-	-	NW RAMP AND CTH Y
0010	835+57	-	835+99	RT, STH 29WB	328	-	62	62	-	-	328	-	-	-	-	-	-	1	15	-	8	
0010	836+49	-	836+65	LT, STH 29WB	50	-	-	-	-	-	50	-	-	-	-	-	-	1	3	-	2	
0010	844+64	-	847+40	RT, STH 29WB	753	-	-	-	-	-	530	223	-	-	-	-	-	1	34	-	17	
0010	850+27	-	853+86	RT, STH 29WB	1,111	-	-	-	-	-	801	310	-	-	-	-	-	1	50	-	25	
0010	868+72	-	872+72	RT, STH 29WB	2,134	-	-	-	-	-	1,778	356	-	-	-	-	-	2	97	-	48	
0010	907+82	-	913+64	RT, STH 29WB	1,930	-	-	-	-	-	1,450	480	-	-	-	-	-	2	87	-	44	
0010	917+09	-	922+48	RT, STH 29WB	1,257	-	-	-	-	-	891	366	-	-	-	-	-	1	57	-	29	
0010	827+33	-	827+49	STH 29 WB LT	12	-	-	-	-	-	12	-	-	-	-	-	-	1	1	-	1	
0010	827+44	-	827+49	STH 29 WB RT	14	-	-	-	-	-	14	-	-	-	-	-	-	1	1	-	1	
0010				UNDISTRIBUTED	3,847	950	265	265	-	-	3,014	833	-	-	-	-	-	4	180	200	93	25% OF MEASURED PLAN QUANTITIES
0010				PROJECT	-	-	-	-	4	2	-	-	6	6	120	14	55	-	-	-	-	
				TOTAL 0010	19,000	950	1,300	1,300	4	2	15,000	4,000	6	6	120	14	55	21	867	200	440	

CATEGORY	STATION	TO	STATION	LOCATION	616.0100.01 FENCE WOVEN WIRE (HEIGHT) (01. 4-FT) LF	REMARKS
0010	843+71	-	843+76	RT, 29WB-ETW	26	
0010	844+49	-	844+52	RT, 29WB-ETW	22	
0010	853+02	-	873+37	RT, 29WB-ETW	2013	
0010	854+02	-	911+87	LT, 29WB-ETW	5839	
				TOTAL 0010	7,900	

638 SIGNING

CATEGORY	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	136+74	CTH Y RT	3	1	M1-5A, M6-4, R5-1
0010	136+98	CTH Y RT	1	1	W12-1D
0010	136+98	CTH Y RT	2	1	R1-1, R6-3
0010	137+12	CTH Y RT	1	1	R1-1
		TOTAL 0010	7	4	

633 DELINEATORS SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH	633.5200 MARKERS CULVERT END EACH	633.5350 MARKERS PERMANENT FLEXIBLE EACH	REMARKS
0010	674+99	-	906+53	STH 29	58	60	-	-	
0011	674+99	-	906+53		32	68	-	180	CROSSOVERS
0010	15+46 NW	-	19+00 NW	CTH Y NW	3	3	-	-	WB ENTRANCE RAMP AT CTH Y
0010	20+66 NE	-	30+10 NE	CTH Y NE	9	9	-	-	WB EXIT RAMP AT CTH Y
0010	684+59			STH 29 WB LT	-	-	1	-	
0010	686+00			STH 29 WB LT	-	-	1	-	
				TOTAL 0010	102	140	2	180	

643 TRAFFIC CONTROL SUMMARY

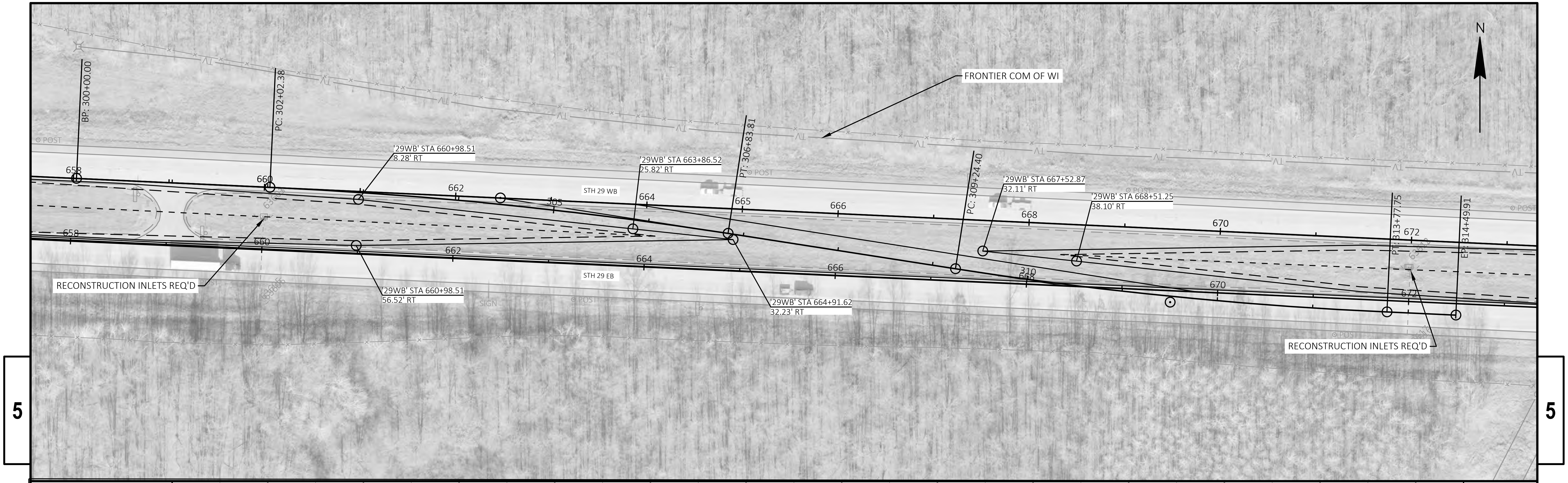
CATEGORY	STATION	TO	STATION	LOCATION	DAYS OF WORK	633.1100 DELINEATORS TEMPORARY EACH	EACH	643.0300 TRAFFIC CONTROL DRUMS DAY	EACH	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	EACH	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	EACH	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.3165 TEMPORARY MARKING LINE PAINT 6-INCH LF	EACH	643.0810.S CONNECTED ARROW BOARD DAY	EACH	643.1220.S CONNECTED WORK ZONE START AND END LOCATION MARKERS DAY	REMARKS
0010				START OF PROJECT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	STAGE 1 PRE-WARNING, W20-57 96"x48"
0010				END OF PROJECT		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	STAGE 1 PRE-WARNING, W20-57 96"x48"
0010	674+99	-	906+53	STH 29	38	-	617	23,446	72	2,736	-	-	144	5,472	12	456	141	5,358	-	-	-	-	2	76	2	76	STAGE 1, EB + WB, STH 29
0010	674+99	-	906+53	STH 29	73	62	209	15,257	68	4,964	541	541	136	9,928	30	2,190	153	11,169		24	-	79,400	2	146	2	146	STAGE 2, EB + WB, STH 29
0010				STH 29	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	STAGE 3A PRE-WARNING, G20-58 72"x36"
0010				NE RAMP	17	-	45	765	8	136	-	-	10	170	45	765	6	102	3	-	-	-	-	-	-	-	STAGE 3A, SEE SDD TRAFFIC CONTROL, EXIT RAMP CLOSURE (CLOSE NE RAMP)
0010				NW RAMP	17	-	24	408	6	102	-	-	-	-	5	85	25	425	-	4	-	-	-	-	-	-	STAGE 3A, SEE SDD BARRICADES AND SIGNS FOR MAINLINE AND VARIOUS CLOSURES (CLOSE NW RAMP)
0010				CTH Y	7	-	-	-		-	-	-	-	-	-	-	-	-	-	-	36	-	-	-	-	-	STAGE 3B PRE-WARNING, W20-57 72"x36"
0010	130'Y'+49	-	137'y'+62	CTH Y	28	-	-	-	22	-	-	-	18	504	-	-	14	392	4	3	-	-	-	-	-	-	STAGE 3B, SEE SDD TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE (CLOSE CTH Y OVERPASS)
				TOTAL 0010		62		39,876		7,938	541	541		16,074		3,496		17,446	7	31	136	79,400		222		222	

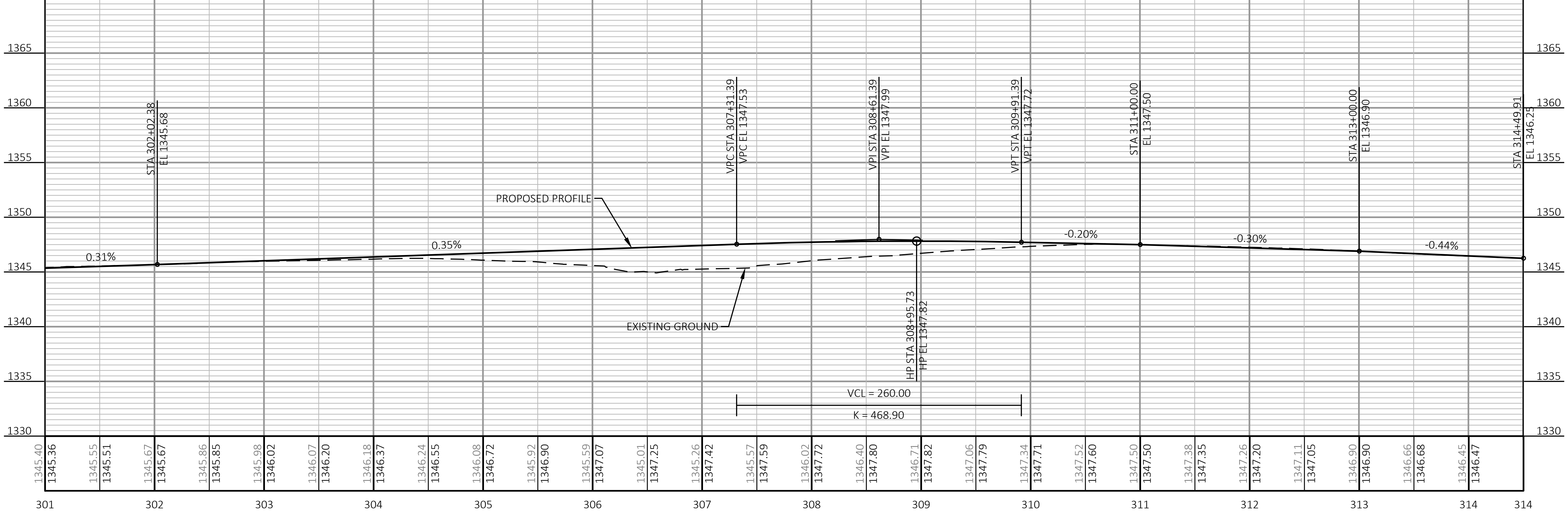
646 MARKING LINE SUMMARY

CATEGORY	STATION	TO	STATION	LOCATION	646.2020		646.2025	646.2040		646.2050	646.4020	646.4040	646.6120	646.6466	646.6470	646.7220	646.7420	646.8120	646.8220	646.9000	646.9002	REMARKS
					MARKING LINE EPOXY 6-INCH		MARKING LINE GROOVED BLACK EPOXY 6-INCH	MARKING LINE GROOVED WET REF EPOXY 6-INCH		MARKING LINE GROOVED PERMANENT TAPE 6-INCH	MARKING LINE EPOXY 10-INCH	MARKING LINE GROOVED WET REF EPOXY 10-INCH	MARKING STOP LINE EPOXY 18-INCH	COLD WEATHER MARKING EPOXY 6-INCH	COLD WEATHER MARKING EPOXY 10-INCH	MARKING CHEVRON EPOXY 24-INCH	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH	MARKING CURB EPOXY	MARKING ISLAND NOSE EPOXY	MARKING REMOVAL LINE 4-INCH	MARKING REMOVAL LINE 6-INCH	
					YELLOW	WHITE		YELLOW	WHITE	WHITE	WHITE	WHITE	WHITE			WHITE	WHITE	YELLOW	WHITE	WHITE	WHITE	
					LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	EACH	LF	LF	
0010	674+99	-	714+50	WB CL, STH 29	-	-	-	3,951	-	-	-	-	-	3,951	-	-	-	-	-	-	-	PROJECT START TO MARATHON COUNTY LANDFILL
0010	714+50		717+79	WB CL, STH 29	-	-	-	467	-	-	-	-	-	467	-	-	-	-	-	-	-	MARATHON COUNTY LANDFILL INTERSECTION
0010	717+79	-	739+61	WB CL, STH 29	-	-	-	2,182	-	-	-	-	-	2,182	-	-	-	-	-	-	-	MARATHON COUNTY LANDFILL TO SILK RD
0010	739+61	-	742+95	WB CL, STH 29	-	-	-	607	-	-	-	-	-	607	-	-	-	-	-	-	-	SILK RD INTERSECTION
0010	742+95	-	773+01	WB CL, STH 29	-	-	-	3,006	-	-	-	-	-	3,006	-	-	-	-	-	-	-	SILK RD TO DUNCAN RD
0010	773+01	-	776+58	WB CL, STH 29	-	-	-	658	-	-	-	-	-	658	-	-	-	-	-	-	-	DUNCAN RD INTERSECTION
0010	776+58	-	827+60	WB CL, STH 29	-	-	-	5,102	-	-	-	-	-	5,102	-	-	-	-	-	-	-	DUNCAN RD TO B-37-48
0010	827+60	-	828+33	WB STH 29	75	-	-	-	-	-	-	-	-	75	-	-	-	-	-	-	-	REFRESH WB STH 29 PM ON B-37-48
0010	828+33	-	906+52	WB CL, STH 29	-	-	-	7,819	-	-	-	-	-	7,819	-	-	-	-	-	-	-	B-37-48 TO PROJECT END
0010	907+83	-	922+28	EB CL, STH 29	-	-	-	1,445	-	-	-	-	-	1,445	-	-	-	-	-	-	-	REPLACE REMOVAL FROM CROSSOVER
0010	906+52	-	922+57	WB CL, STH 29	-	-	-	1,605	-	-	-	-	-	1,605	-	-	-	-	-	-	-	REPLACE REMOVAL FROM CROSSOVER
0010	674+99	-	715+37	WB LT, STH 29	-	-	-	-	4,038	-	-	-	-	4,038	-	-	-	-	-	-	-	EDGELINE, PROJECT START TO MARATHON CNTY LANDFILL
0010	716+72	-	773+92	WB LT, STH 29	-	-	-	-	5,720	-	-	-	-	5,720	-	-	-	-	-	-	-	EDGELINE, MARATHON CNTY LANDFILL TO DUNCAN RD
0010	775+24	-	816+52	WB LT, STH 29	-	-	-	-	4,128	-	-	-	-	4,128	-	-	-	-	-	-	-	EDGELINE, DUNCAN RD TO CTH Y WB ENTRANCE RAMP
0010	821+49	-	829+80	WB LT, STH 29	-	-	-	-	-	-	140	1,565	-	-	1,705	-	-	-	-	-	-	CTH Y WB ENTRANCE RAMP GORE
0010	829+81	-	841+07	WB LT, STH 29	-	-	-	-	1,126	-	-	-	-	1,126	-	-	-	-	-	-	-	EDGELINE, CTH Y WB ENTRANCE RAMP TO CTH Y WB EXIT RAMP
0010	841+06	-	849+40	WB LT, STH 29	-	-	-	-	-	-	-	1,055	-	-	1,055	-	-	-	-	-	-	CTH Y WB EXIT RAMP GORE AND DECELERATION LANE
0010	849+40	-	851+64	WB LT, STH 30	-	-	-	56	-	-	-	-	-	56	-	-	-	-	-	-	-	3' LANE, 9' GAP
0010	851+64	-	906+52	WB LT, STH 29	-	-	-	-	5,488	-	-	-	-	5,488	-	-	-	-	-	-	-	EDGELINE, CTH Y WB EXIT RAMP TO PROJECT END
0010	674+99	-	827+60	WB LT, STH 29	-	-	3,820	-	-	3820	-	-	-	3,820	-	-	-	-	-	-	-	LANE LINE, PROJECT START B-37-48
0010	827+60	-	828+33	WB LT, STH 29	-	18	-	-	-	-	-	-	-	18	-	-	-	-	-	-	-	LANE LINE, B-37-49
0010	828+33	-	906+52	WB LT, STH 29	-	-	1,955	-	-	1955	-	-	-	1,955	-	-	-	-	-	-	-	LANE LINE, B-37-48 TO PROJECT END
0010	816+52 WB	-	19+00 NW	CTH Y NW	-	77	-	-	1,710	-	-	-	-	1,787	-	-	-	-	-	-	-	WB ENTRANCE RAMP AT CTH Y
0010	14+48 NW	-	18+85 NW	CTH Y NW	-	-	-	441	-	-	-	-	-	441	-	-	-	-	-	-	-	WB ENTRANCE RAMP AT CTH Y
0010	20+57 NE	-	849+69	CTH Y NE	485	500	-	574	766	-	260	-	40	2,325	260	-	80	30	2	-	-	CTH Y
0010	20+57 NE	-	849+69	CTH Y NE	-	-	-	1,762	723	-	-	-	-	2,485	-	90	-	-	2	-	-	WB EXIT RAMP AT CTH Y
0010	662+46	-	663+88	WB CL, STH 29	-	-	-	145	-	-	-	-	-	145	-	-	-	-	-	145	-	REPLACE REMOVAL FROM CROSSOVER
0010	668+38	-	669+79	EB CL, STH 29	-	-	-	145	-	-	-	-	-	145	-	-	-	-	-	145	-	REPLACE REMOVAL FROM CROSSOVER
0010	667+67	-	912+63	EB RT, STH 29	-	-	6,125	-	-	6125	-	-	-	6,125	-	-	-	-	-	6,125	-	REPLACE LANE LINE FOR BIDIRECTIONAL TRAFFIC ON EB
0010	669+79	-	715+33	EB RL, STH 29	-	-	-	4,555	-	-	-	-	-	4,555	-	-	-	-	-	4,555	-	PROJECT START TO MARATHON COUNTY LANDFILL
0010	711+84	-	715+61	EB RL, STH 29	-	-	-	-	-	-	-	380	-	-	380	-	-	-	-	-	380	MARATHON COUNTY LANDFILL ACCESS TURN BAY
0010	717+41	-	739+39	EB RL, STH 29	-	-	-	2,200	-	-	-	-	-	2,200	-	-	-	-	-	2,200	-	MARATHON COUNTY LANDFILL TO SILK RD
0010	742+52	-	772+80	EB RL, STH 29	-	-	-	3,030	-	-	-	-	-	3,030	-	-	-	-	-	3,030	-	SILK RD TO DUNCAN RD
0010	774+93	-	827+54	EB RL, STH 29	-	-	-	5,265	-	-	-	-	-	5,265	-	-	-	-	-	5,265	-	DUNCAN RD TO STRUCTURE
0010	827+54	-	828+15	EB RL, STH 29	65	-	-	-	-	-	-	-	-	65	-	-	-	-	-	65	-	STRUCTURE
0010	828+15	-	913+83	EB RL, STH 29	-	-	-	8,586	-	-	-	-	-	8,586	-	-	-	-	-	8,570	-	STRUCTURE TO PROJECT END
				TOTAL 0010	1,220		11,900	77,300		11,900	400	3,000	40	90,420	3,400	90	80	30	4	30,100	380	

CATEGORY	STATION	TO	STATION	LOCATION	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	REMARKS
0010	131+00	-	136+00	CTH Y	4	2	
				TOTAL 0010	4	2	

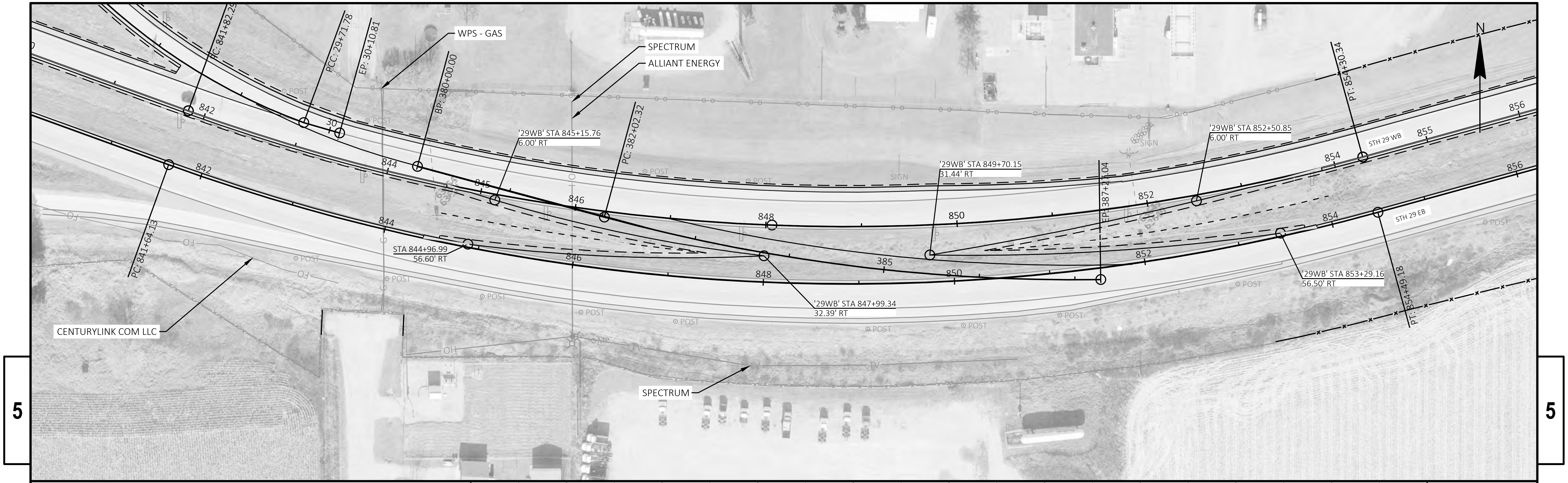
CATEGORY	STATION	TO	STATION	LOCATION	650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF	REMARKS
0010	660+00	-	922+48	WB	26,253	
0010	12+21	-	19+55	NW RAMP	734	
0010	20+00	-	30+11	NE RAMP	1,012	
0010	130+51	-	137+62	CTH Y	711	
				TOTAL 0010	28,710	

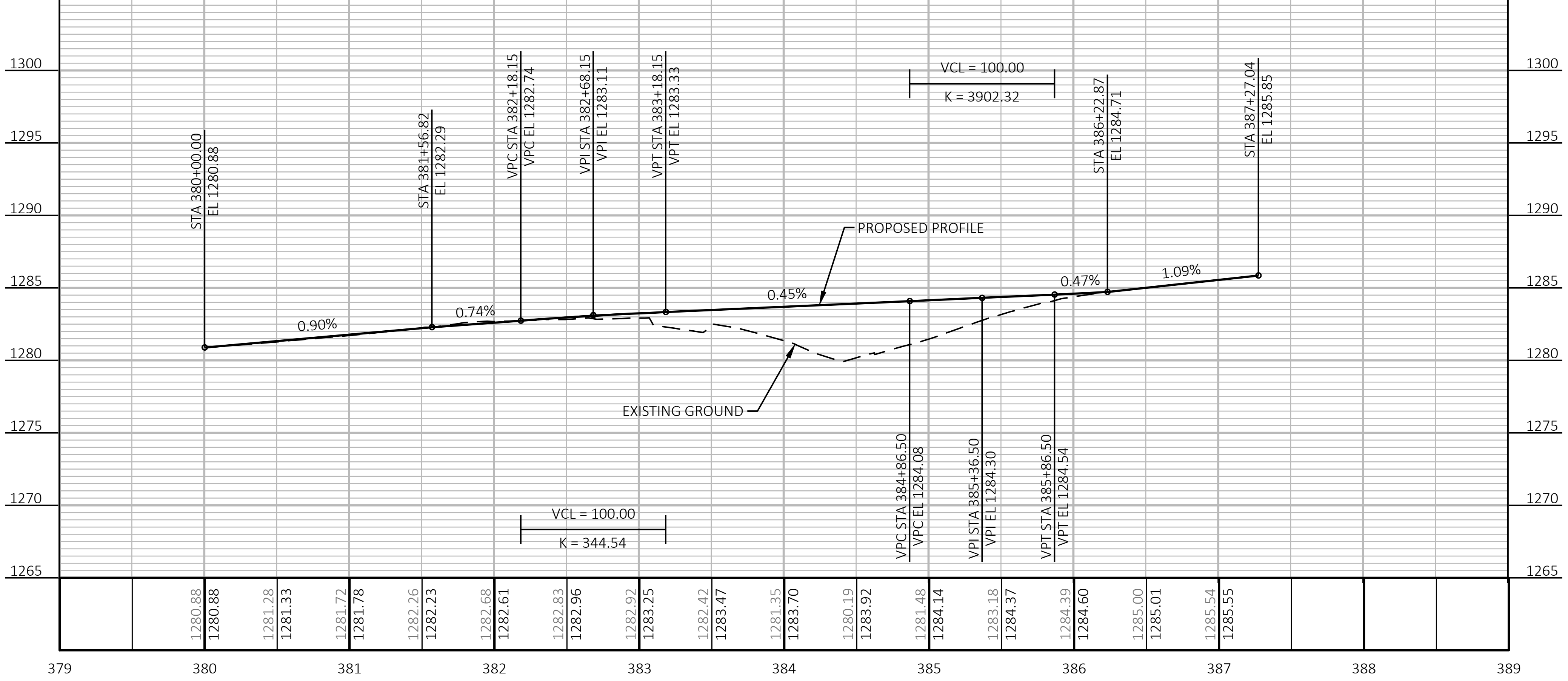




PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN AND PROFILE: CROSSOVER WB X01	SHEET 75 E

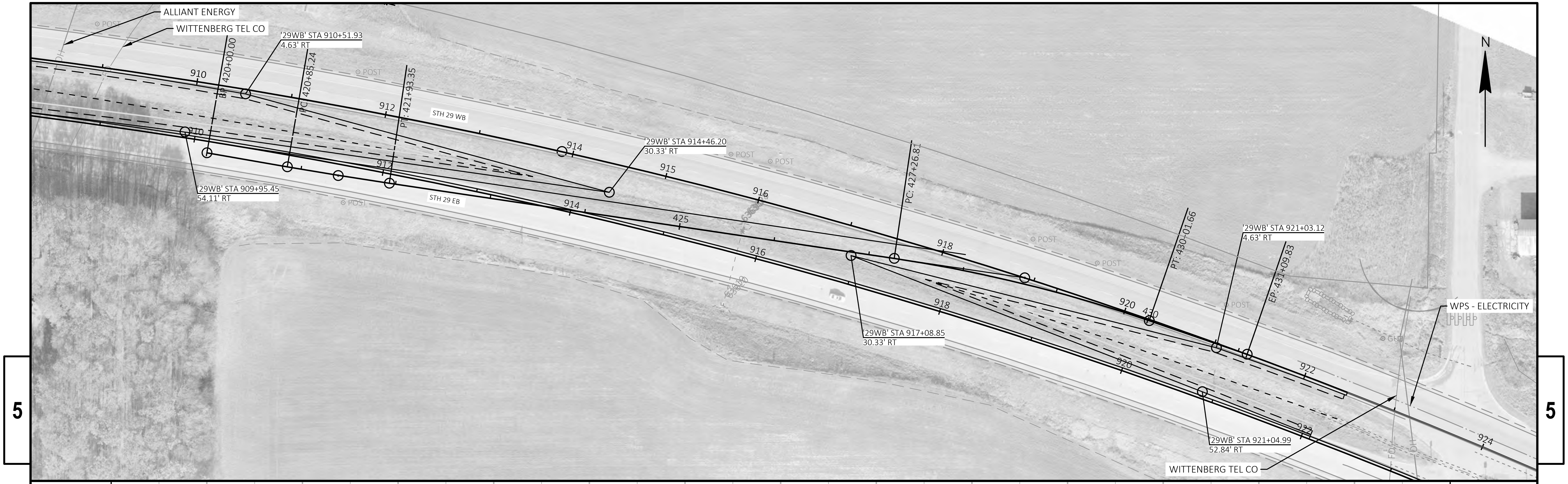
FILE NAME : W:\10530731\SHEETS\050101-PP.DWG
LAYOUT NAME - 050101-pp
PLOT DATE : 6/17/2025 4:15 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

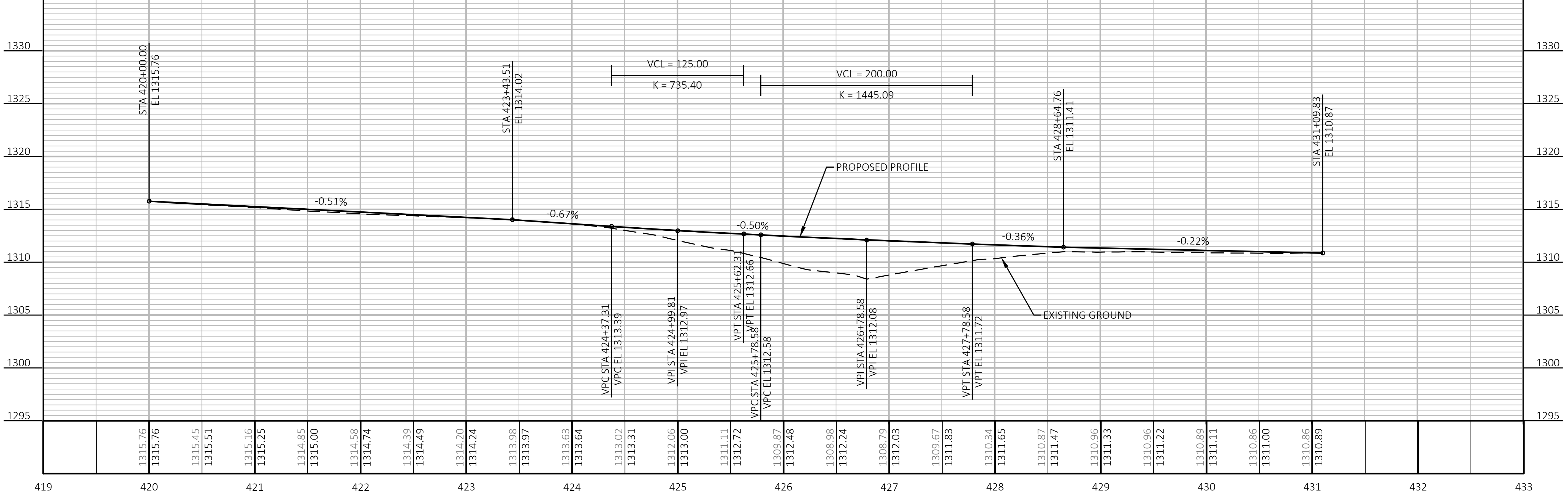




PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN AND PROFILE: CROSSOVER WB TX01	SHEET 76	E

FILE NAME : W:\10530731\SHEETS\050101-PP.DWG
LAYOUT NAME - 050102-pp
PLOT DATE : 6/17/2025 4:15 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT





PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | PLAN AND PROFILE: CROSSOVER WB X02 | SHEET 77 | E

FILE NAME : W:\10530731\SHEETS\050101-PP.DWG
LAYOUT NAME - 050103-pp

PLOT DATE : 6/17/2025 4:15 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44

LEGEND

- ▩ 2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
- ▦ CONCRETE PAVEMENT REPAIR
- ▨ CONCRETE PAVEMENT REPLACEMENT
- ■ CONCRETE PAVEMENT REPAIR - CENTERLINE

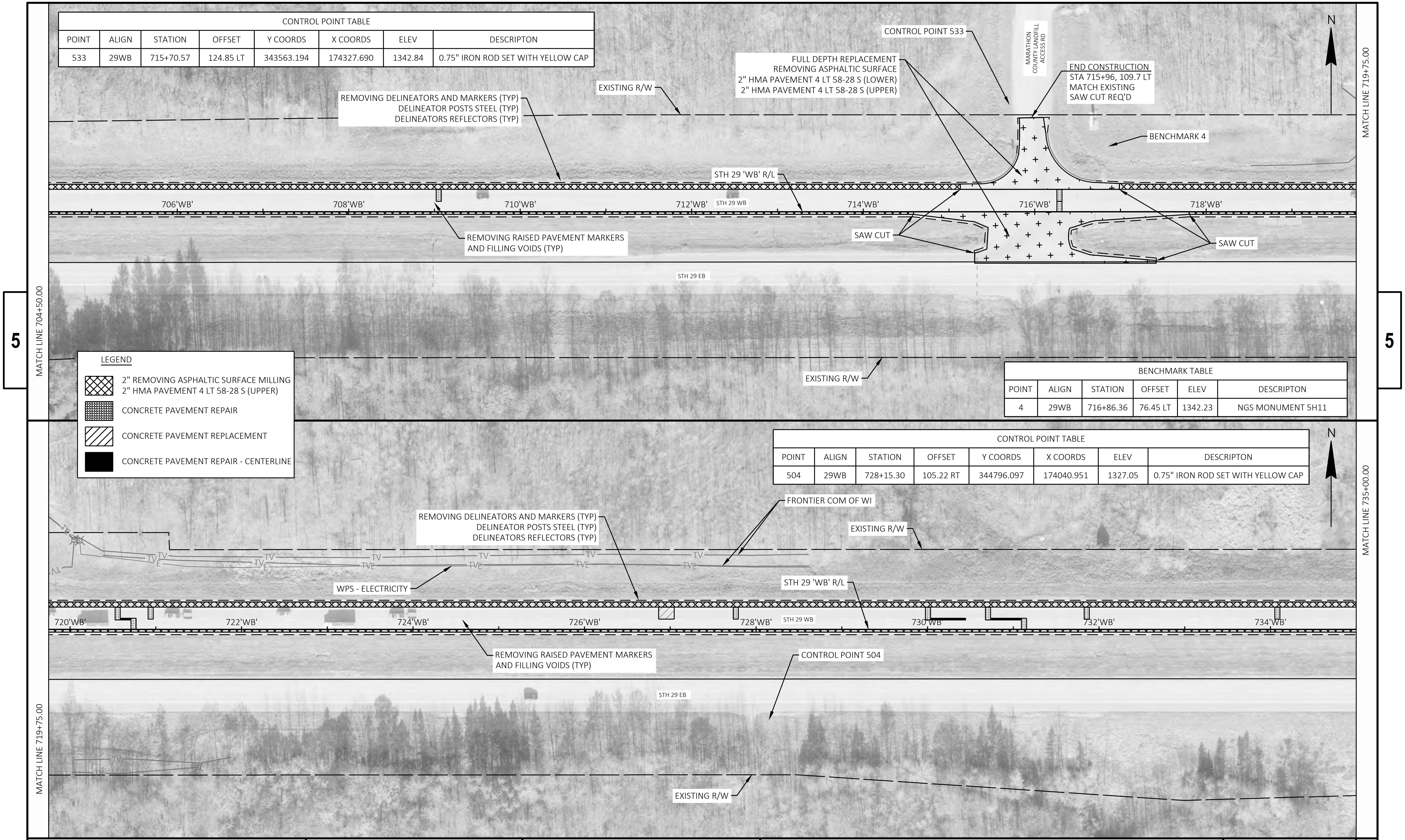
CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
501	29WB	684+63.66	108.40 RT	340448.866	174236.717	1339.33	0.75" IRON ROD SET WITH YELLOW CAP

CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
502	29WB	691+32.15	109.62 RT	341116.598	174204.945	1343.45	0.75" IRON ROD SET WITH YELLOW CAP
503	29WB	703+33.95	142.85 RT	342315.628	174116.799	1350.34	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 78	E



CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
533	29WB	715+70.57	124.85 LT	343563.194	174327.690	1342.84	0.75" IRON ROD SET WITH YELLOW CAP

BENCHMARK TABLE

POINT	ALIGN	STATION	OFFSET	ELEV	DESCRIPTON
4	29WB	716+86.36	76.45 LT	1342.23	NGS MONUMENT 5H11

LEGEND

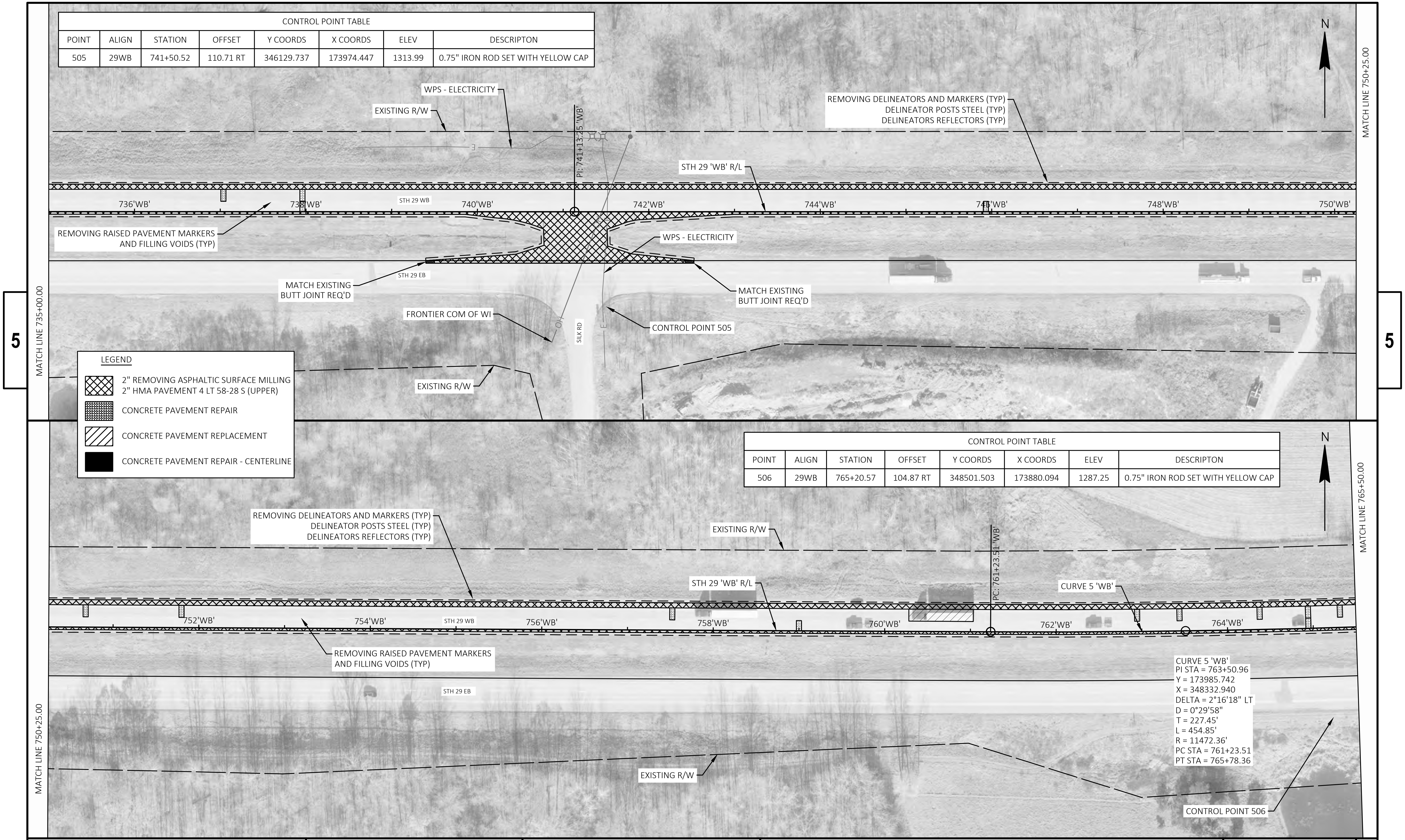
▩	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▨	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE

CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
504	29WB	728+15.30	105.22 RT	344796.097	174040.951	1327.05	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 79	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050202-pn
PLOT DATE : 6/17/2025 4:16 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
505	29WB	741+50.52	110.71 RT	346129.737	173974.447	1313.99	0.75" IRON ROD SET WITH YELLOW CAP

CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
506	29WB	765+20.57	104.87 RT	348501.503	173880.094	1287.25	0.75" IRON ROD SET WITH YELLOW CAP

LEGEND

▩	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▧	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE

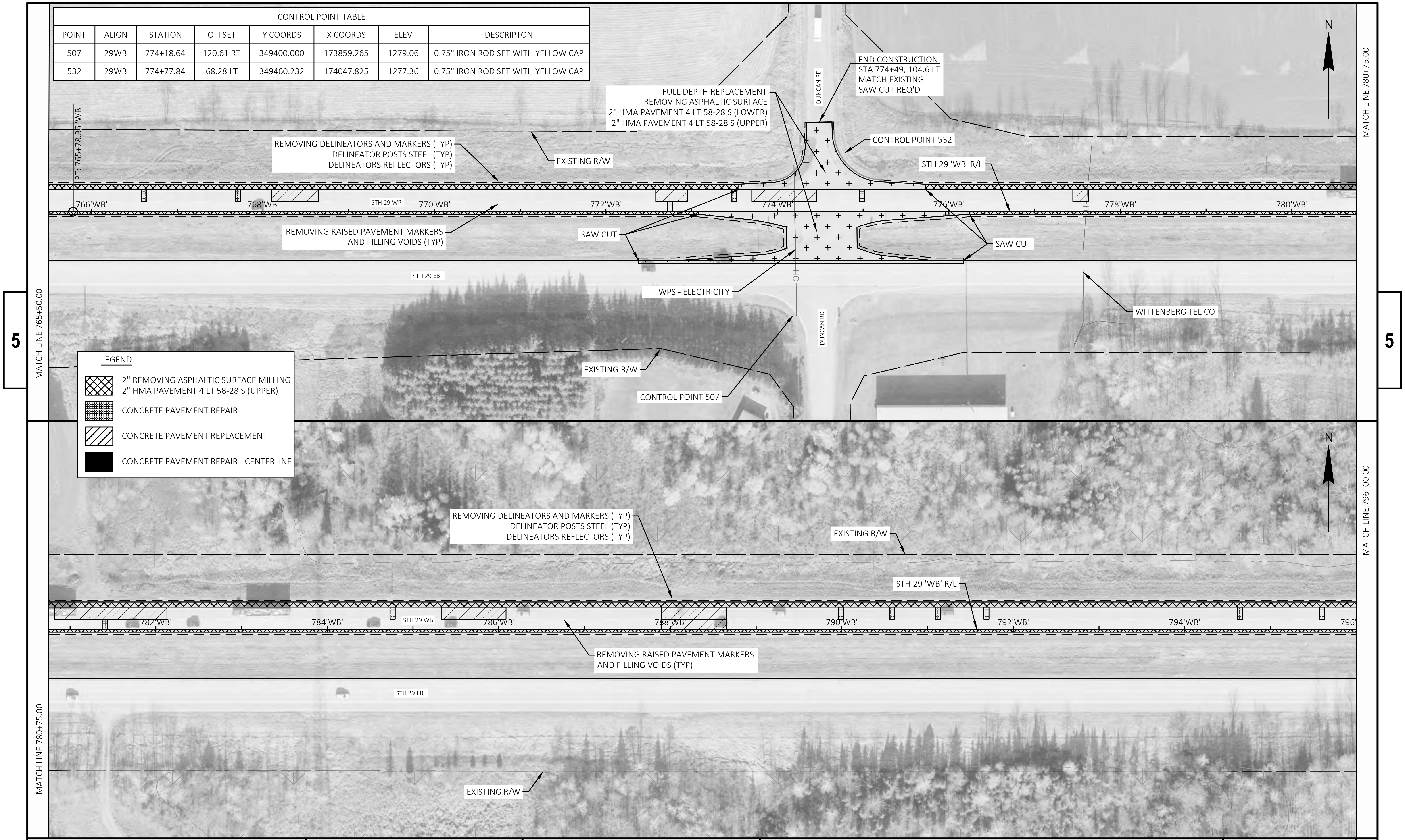
CURVE 5 'WB'
PI STA = 763+50.96
Y = 173985.742
X = 348332.940
DELTA = 2°16'18" LT
D = 0°29'58"
T = 227.45'
L = 454.85'
R = 11472.36'
PC STA = 761+23.51
PT STA = 765+78.36

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 80	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050203-pn
PLOT DATE : 6/17/2025 4:16 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

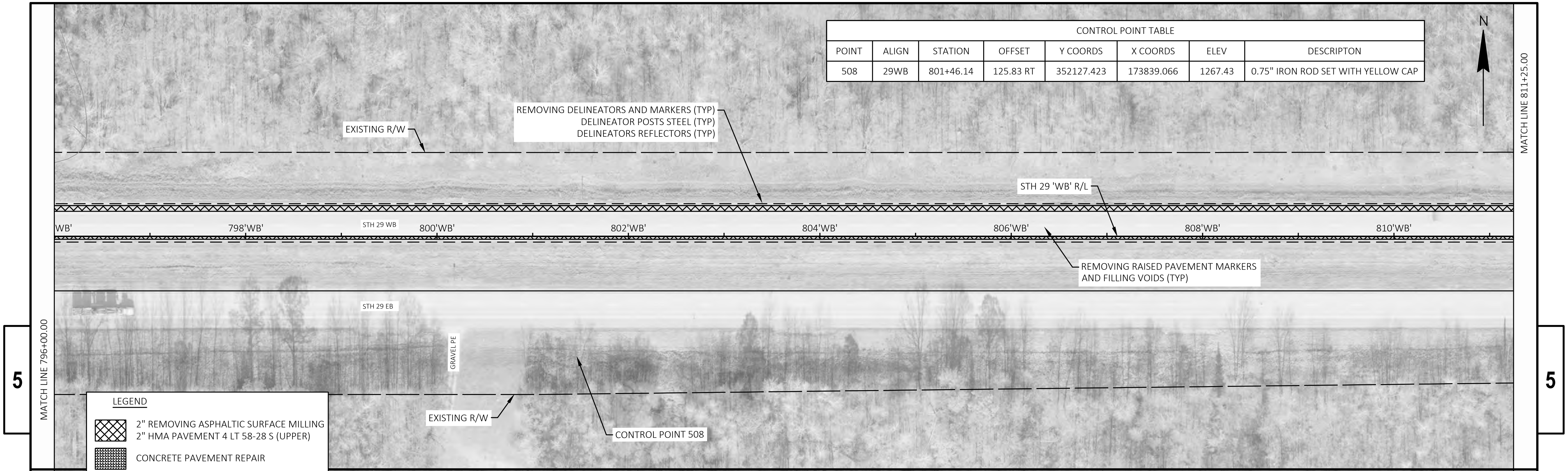
CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
507	29WB	774+18.64	120.61 RT	349400.000	173859.265	1279.06	0.75" IRON ROD SET WITH YELLOW CAP
532	29WB	774+77.84	68.28 LT	349460.232	174047.825	1277.36	0.75" IRON ROD SET WITH YELLOW CAP



LEGEND

- ▩ 2" REMOVING ASPHALTIC SURFACE MILLING
2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
- ▦ CONCRETE PAVEMENT REPAIR
- ▨ CONCRETE PAVEMENT REPLACEMENT
- ■ CONCRETE PAVEMENT REPAIR - CENTERLINE

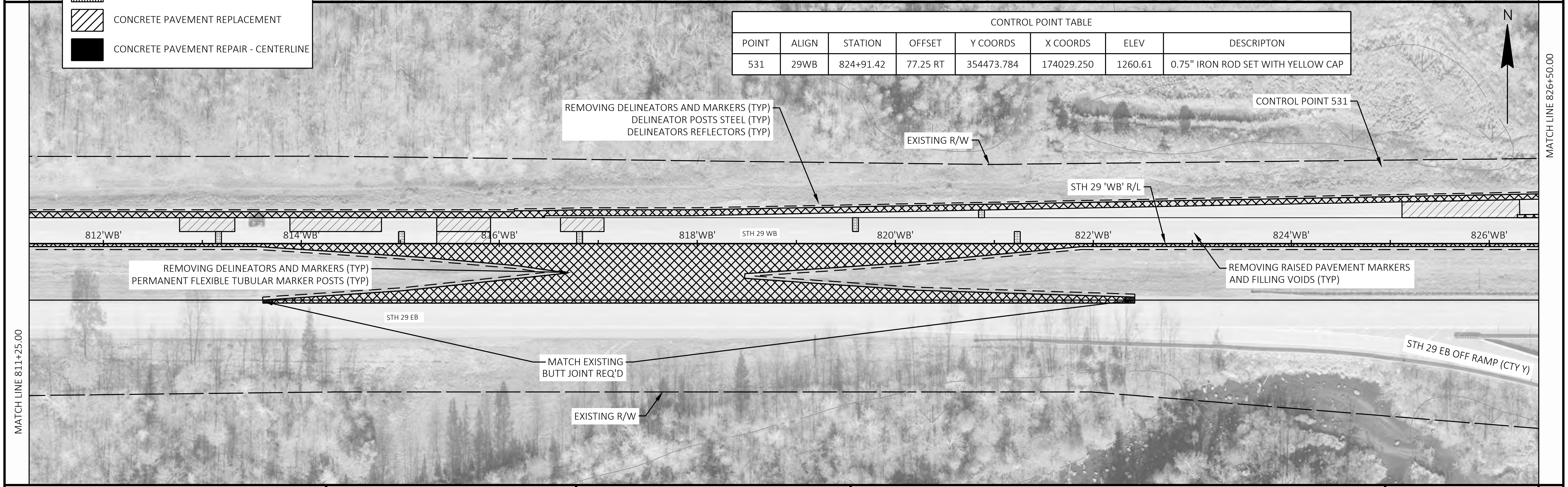


CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
508	29WB	801+46.14	125.83 RT	352127.423	173839.066	1267.43	0.75" IRON ROD SET WITH YELLOW CAP

LEGEND

- ▨ 2" REMOVING ASPHALTIC SURFACE MILLING
  2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
- ▦ CONCRETE PAVEMENT REPAIR
- ▧ CONCRETE PAVEMENT REPLACEMENT
- ■ CONCRETE PAVEMENT REPAIR - CENTERLINE



CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
531	29WB	824+91.42	77.25 RT	354473.784	174029.250	1260.61	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 82	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050205-pn
PLOT DATE : 6/17/2025 4:17 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

CURVE 1 'NW'
PI STA = 15+13.98
Y = 173985.270
X = 355030.821
DELTA = 37°28'27" LT
D = 9°00'00"
T = 215.94'
L = 416.38'
R = 636.62'
PC STA = 12+98.04
PT STA = 17+14.42

CURVE 4 'WB'
PI STA = 834+14.35
Y = 173946.933
X = 355396.281
DELTA = 19°36'35" RT
D = 2°40'22"
T = 370.47'
L = 733.70'
R = 2143.71'
PC STA = 830+43.88
PT STA = 837+77.58

CURVE 3 'WB'
PI STA = 848+26.87
Y = 173463.097
X = 356731.061
DELTA = 35°20'06" LT
D = 2°49'52"
T = 644.59'
L = 1248.05'
R = 2023.71'
PC STA = 841+82.29
PT STA = 854+30.34

LEGEND

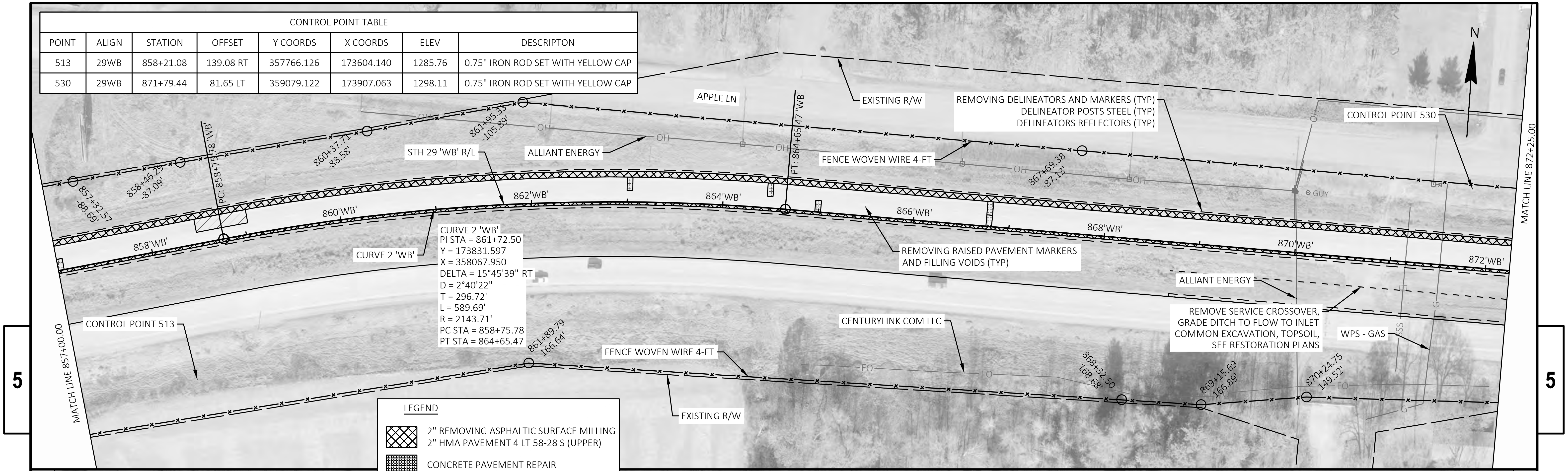
▩	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▨	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE

BENCHMARK TABLE

POINT	ALIGN	STATION	OFFSET	ELEV	DESCRIPTON
5	29WB	827+55.39	51.66 RT	1261.79	NGS MONUMENT 5H12

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 83	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050206-pn
PLOT DATE : 6/17/2025 4:17 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44

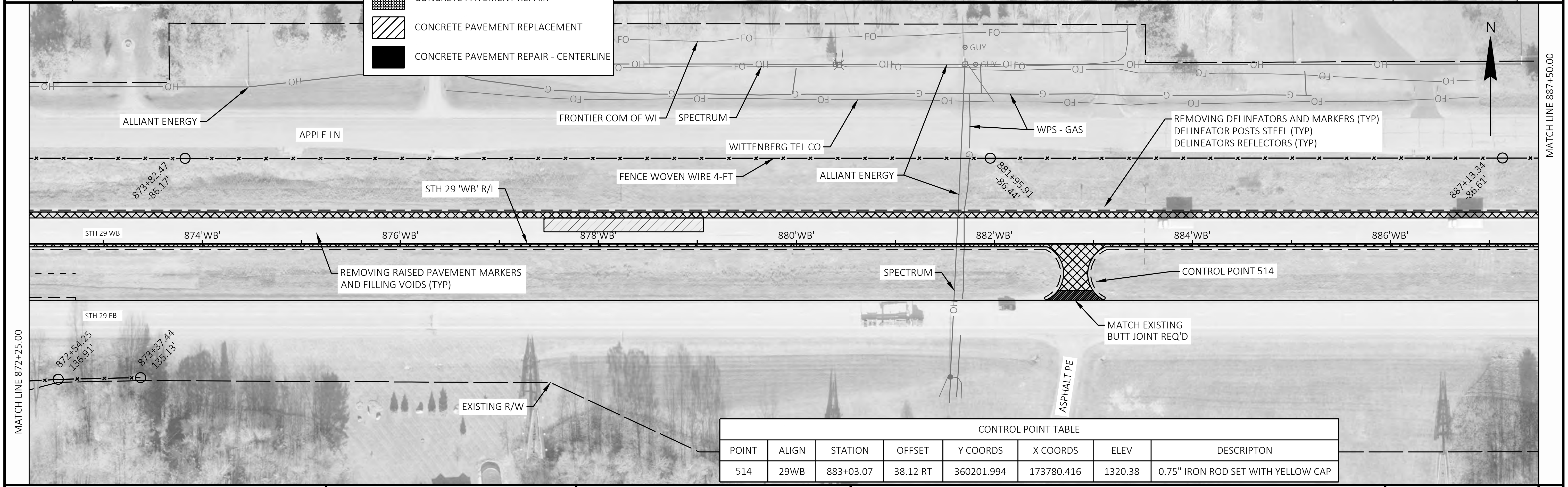


CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
513	29WB	858+21.08	139.08 RT	357766.126	173604.140	1285.76	0.75" IRON ROD SET WITH YELLOW CAP
530	29WB	871+79.44	81.65 LT	359079.122	173907.063	1298.11	0.75" IRON ROD SET WITH YELLOW CAP

LEGEND

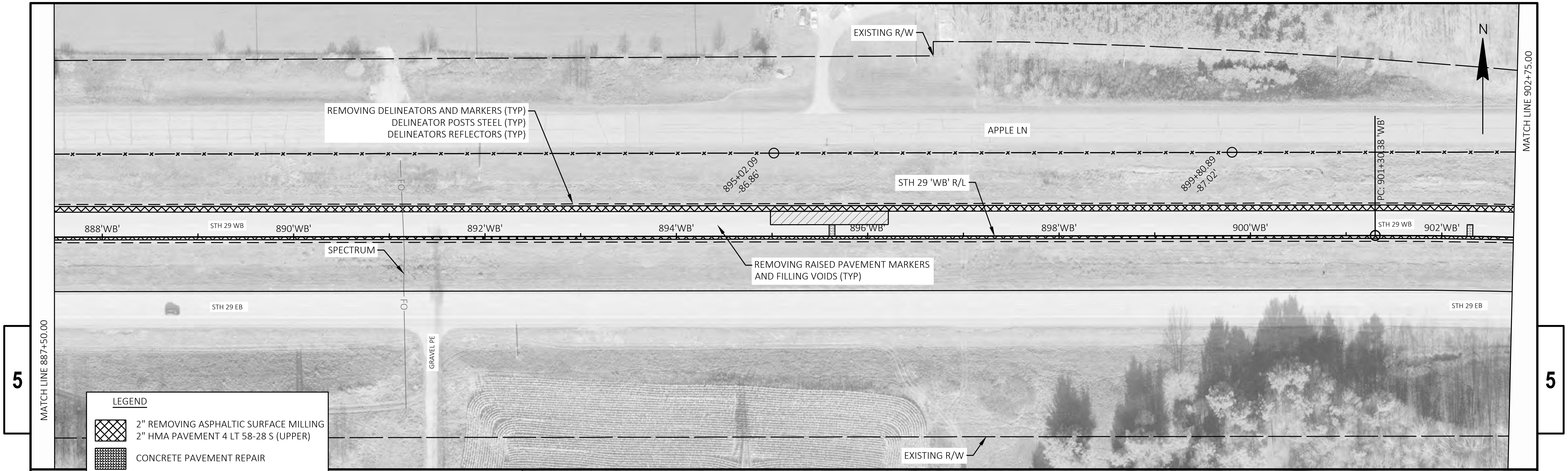
▩	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▨	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE



CONTROL POINT TABLE

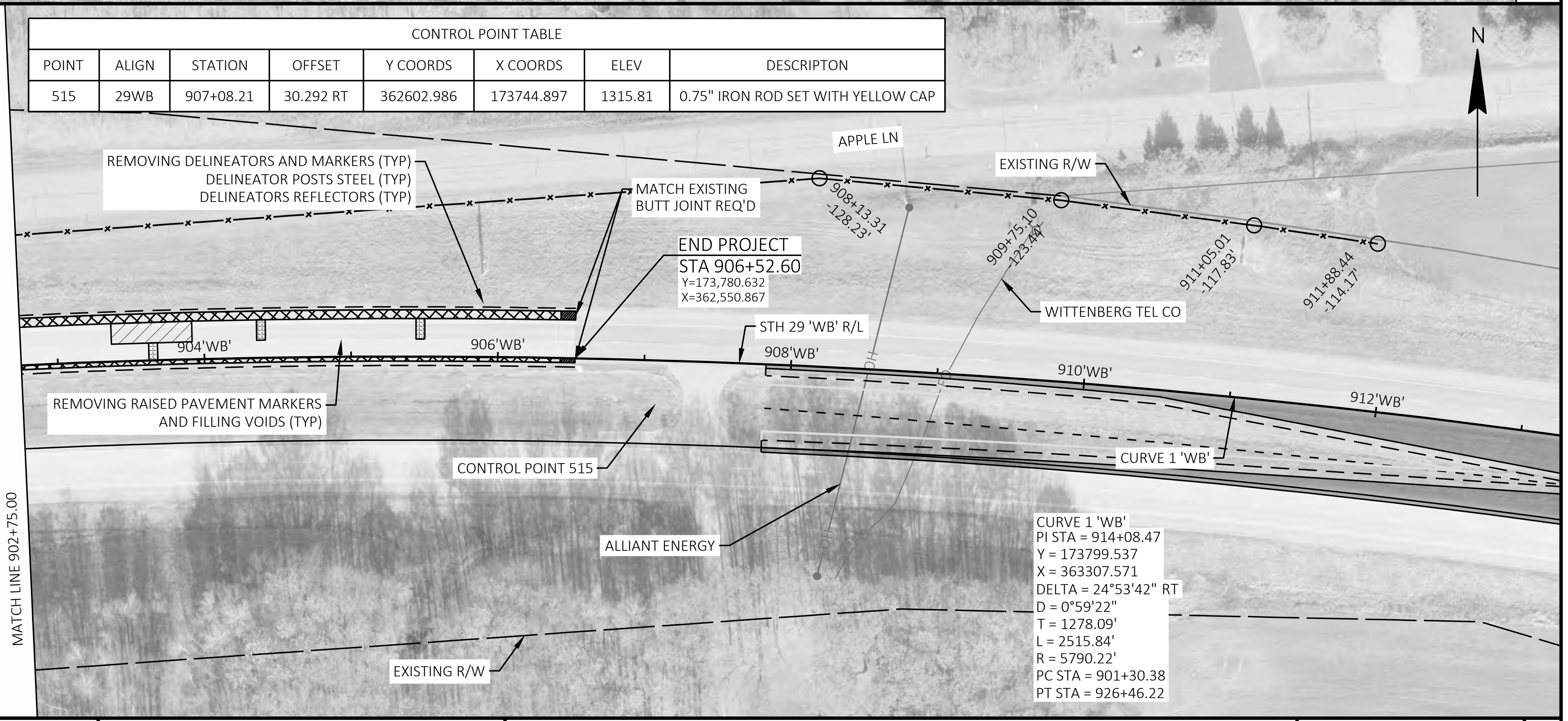
POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
514	29WB	883+03.07	38.12 RT	360201.994	173780.416	1320.38	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 84	E



LEGEND

▨	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▧	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE



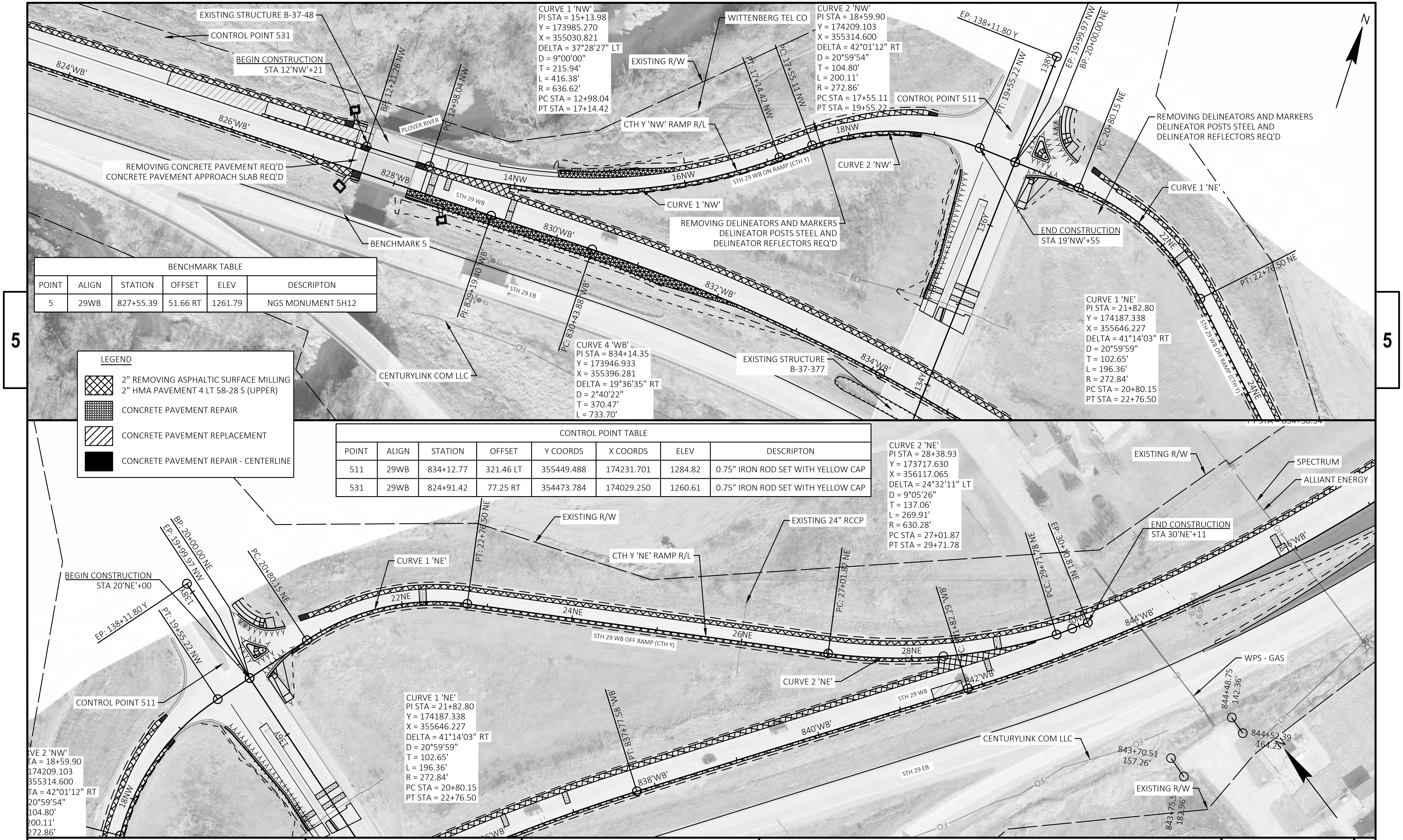
CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
515	29WB	907+08.21	30.292 RT	362602.986	173744.897	1315.81	0.75" IRON ROD SET WITH YELLOW CAP

CURVE 1 'WB'
PI STA = 914+08.47
Y = 173799.537
X = 363307.571
DELTA = 24°53'42" RT
D = 0°59'22"
T = 1278.09'
L = 2515.84'
R = 5790.22'
PC STA = 901+30.38
PT STA = 926+46.22

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 85	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050208-pn
PLOT DATE : 6/17/2025 4:17 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT



CURVE 1 'NW'
PI STA = 15+13.98
Y = 173985.270
X = 355030.821
DELTA = 37°28'27" LT
D = 9°00'00"
T = 215.94'
L = 416.38'
R = 636.62'
PC STA = 12+98.04
PT STA = 17+14.42

CURVE 2 'NW'
PI STA = 18+59.90
Y = 174209.103
X = 355314.600
DELTA = 42°01'12" RT
D = 20°59'54"
T = 104.80'
L = 200.11'
R = 272.86'
PC STA = 17+55.11
PT STA = 19+55.22

CURVE 4 'WB'
PI STA = 834+14.35
Y = 173946.933
X = 355396.281
DELTA = 19°36'35" RT
D = 2°40'22"
T = 370.47'
L = 733.70'

CURVE 1 'NE'
PI STA = 21+82.80
Y = 174187.338
X = 355646.227
DELTA = 41°14'03" RT
D = 20°59'59"
T = 102.65'
L = 196.36'
R = 272.84'
PC STA = 20+80.15
PT STA = 22+76.50

BENCHMARK TABLE					
POINT	ALIGN	STATION	OFFSET	ELEV	DESCRIPTON
5	29WB	827+55.39	51.66 RT	1261.79	NGS MONUMENT 5H12

LEGEND

▩	2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
▦	CONCRETE PAVEMENT REPAIR
▨	CONCRETE PAVEMENT REPLACEMENT
■	CONCRETE PAVEMENT REPAIR - CENTERLINE

CONTROL POINT TABLE							
POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
511	29WB	834+12.77	321.46 LT	355449.488	174231.701	1284.82	0.75" IRON ROD SET WITH YELLOW CAP
531	29WB	824+91.42	77.25 RT	354473.784	174029.250	1260.61	0.75" IRON ROD SET WITH YELLOW CAP

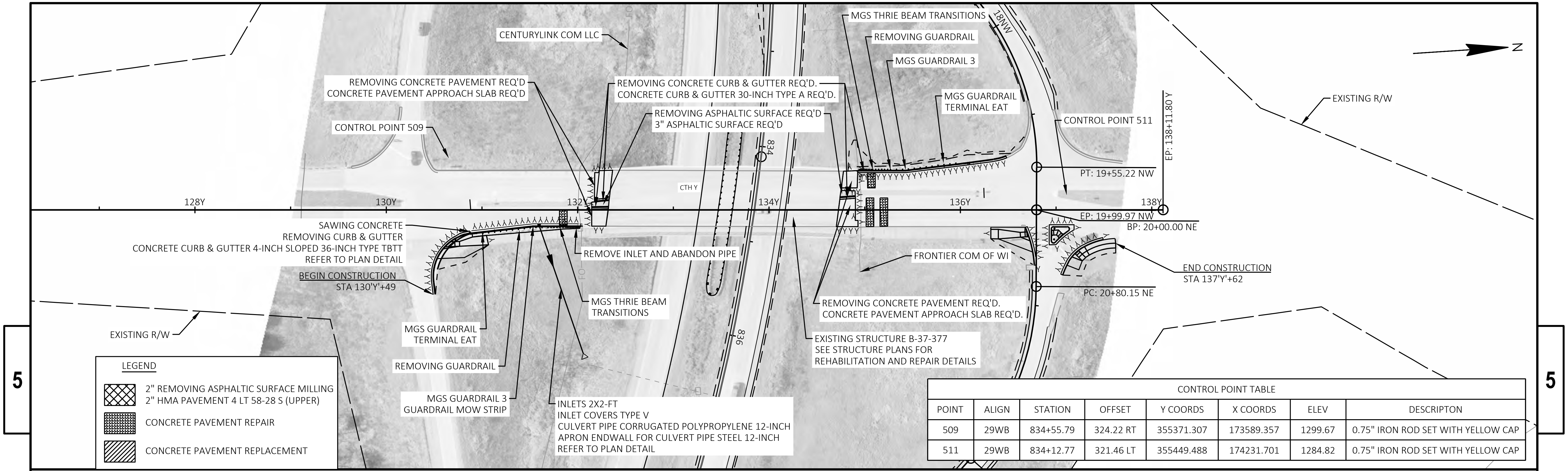
CURVE 2 'NE'
PI STA = 28+38.93
Y = 173717.630
X = 356117.065
DELTA = 24°32'11" LT
D = 9°05'26"
T = 137.06'
L = 269.91'
R = 630.28'
PC STA = 27+01.87
PT STA = 29+71.78

RVE 2 'NW'
TA = 18+59.90
174209.103
355314.600
TA = 42°01'12" RT
20°59'54"
104.80'
200.11'
272.86'

CURVE 1 'NE'
PI STA = 21+82.80
Y = 174187.338
X = 355646.227
DELTA = 41°14'03" RT
D = 20°59'59"
T = 102.65'
L = 196.36'
R = 272.84'
PC STA = 20+80.15
PT STA = 22+76.50

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	PLAN SHEET	SHEET 86	E

FILE NAME : W:\10530731\SHEETS\050201-PN.DWG
LAYOUT NAME - 050209-pn
PLOT DATE : 6/17/2025 4:17 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 44



LEGEND

- ▩ 2" REMOVING ASPHALTIC SURFACE MILLING 2" HMA PAVEMENT 4 LT 58-28 S (UPPER)
- ▦ CONCRETE PAVEMENT REPAIR
- ▨ CONCRETE PAVEMENT REPLACEMENT

CONTROL POINT TABLE

POINT	ALIGN	STATION	OFFSET	Y COORDS	X COORDS	ELEV	DESCRIPTON
509	29WB	834+55.79	324.22 RT	355371.307	173589.357	1299.67	0.75" IRON ROD SET WITH YELLOW CAP
511	29WB	834+12.77	321.46 LT	355449.488	174231.701	1284.82	0.75" IRON ROD SET WITH YELLOW CAP

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | PLAN SHEET - CTH Y | SHEET E

FILE NAME : W:\10530731\SHEETS\050202-PN.DWG
LAYOUT NAME - 050210-pn
PLOT DATE : 6/17/2025 4:18 PM
PLOT BY : CORONA WOYCHIK
PLOT NAME :
PLOT SCALE : 1 IN:100 FT

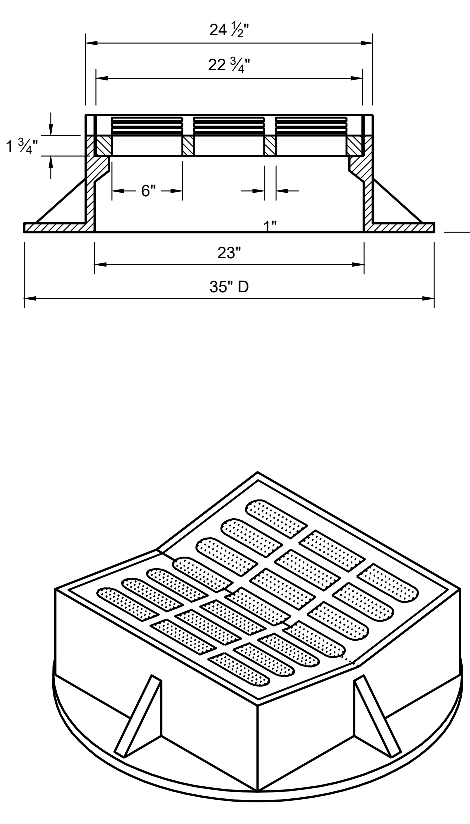
Standard Detail Drawing ListStandard Detail Drawing List

08A05-21B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-21C	INLET COVERS TYPE F, HM, HM-S, S, T, HM-GJ & HM-GJ-S
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D03-09A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-09B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
11A01-06	MAINTENANCE CROSSOVER FOR FREEWAYS
11B02-02	CONCRETE MEDIAN NOSE
13A05-06A	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A05-06B	SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY
13A10-03G	SHOULDER AND EDGE LINE RUMBLE STRIPS - CROSSINGS, INTERSECTIONS, BRIDGES, DRIVEWAYS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-17A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-17C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-14A	RURAL DOWELED CONCRETE PAVEMENT
13C11-14B	RURAL DOWELED CONCRETE PAVEMENT
13C13-11	URBAN DOWELED CONCRETE PAVEMENT
13C19-03	HMA LONGITUDINAL JOINTS
14B26-05A	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05B	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05C	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05D	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05E	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05F	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05G	STEEL THRIE BEAM BULLNOSE TERMINAL
14B26-05H	STEEL THRIE BEAM BULLNOSE TERMINAL
14B28-04A	GUARDRAIL MOW STRIP
14B28-04B	GUARDRAIL MOW STRIP
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	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	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	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)

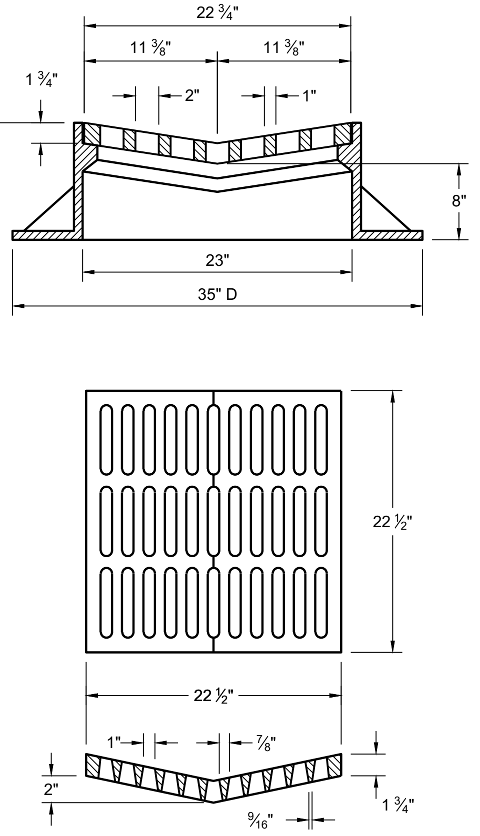
Standard Detail Drawing List

Standard Detail Drawing List

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	FLEXIBLE MARKER POST FOR CULVERT END
15A04-08A	FLEXIBLE DELINEATOR POST
15A04-08C	DELINEATOR POST WITH REFLECTIVE SHEETING
15A04-08D	CHANNELIZING DEVICES, PERMANENT FLEXIBLE TUBULAR MARKER POST
15A04-08E	DELINEATOR POST WITH REFLECTIVE SHEETING
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09F	ADVANCED WIDTH RESTRICTION SIGNING
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C07-16B	PAVEMENT MARKING WORDS
15C07-16C	PAVEMENT MARKING ARROWS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23B	TEMPORARY LONGITUDINAL PAVEMENT MARKING
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-09B	PAVEMENT MARKINGS, MEDIAN ISLAND NOSE
15C18-09C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C19-09C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-08A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-08C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D05-06	TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER
15D06-06	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D07-06	TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER
15D08-09	TRAFFIC CONTROL, TEMPORARY ENTRANCE RAMP CROSSOVER
15D09-07	TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT
15D11-09	TRAFFIC CONTROL, SINGLE LANE CROSSOVER
15D12-14B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D15-07C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D21-07B	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D43-02	TRAFFIC CONTROL, SHORT DURATION MOBILE OPERATIONS



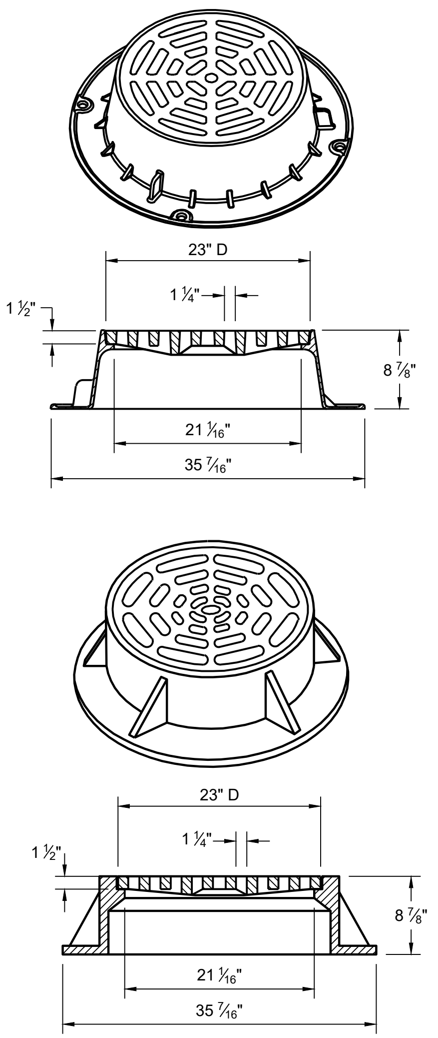
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS POSSIBLE

NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

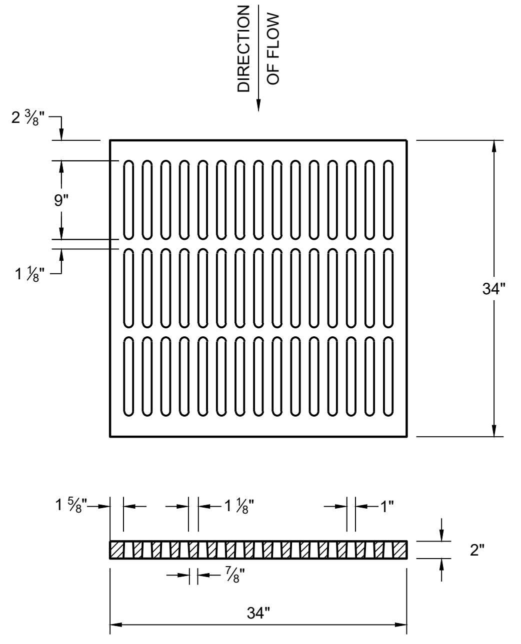
NOTE: EITHER CASTING IS ACCEPTABLE

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

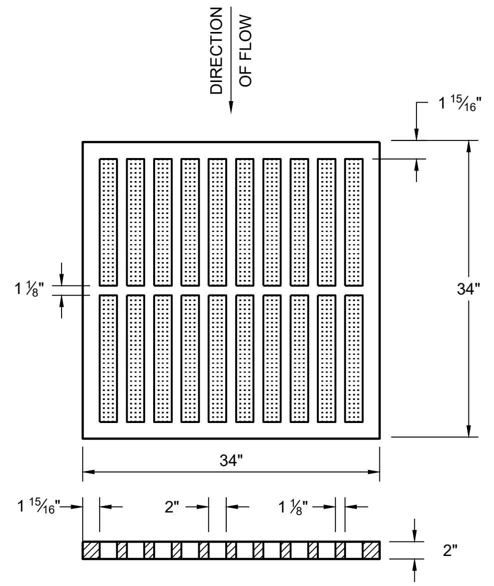
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS PERMITTED

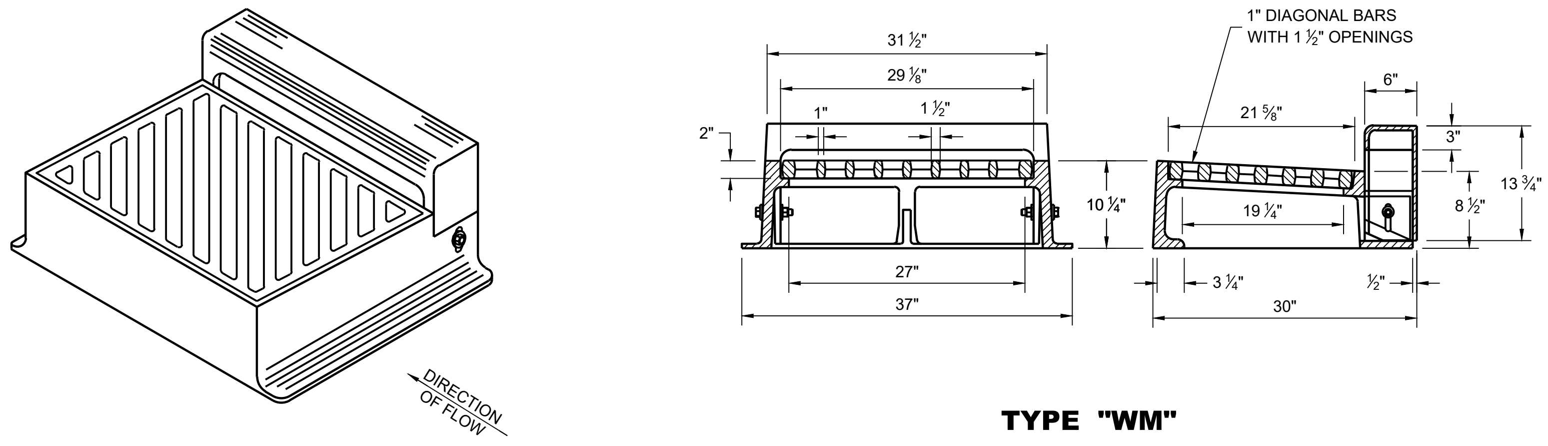
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON THE DRAINAGE TABLE



TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

DIAGONAL SLOTS SHALL BE ORIENTEDTO THE
DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.

6

6

INLET COVERS
TYPES B, B-A, C,
MS, MS-A AND WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

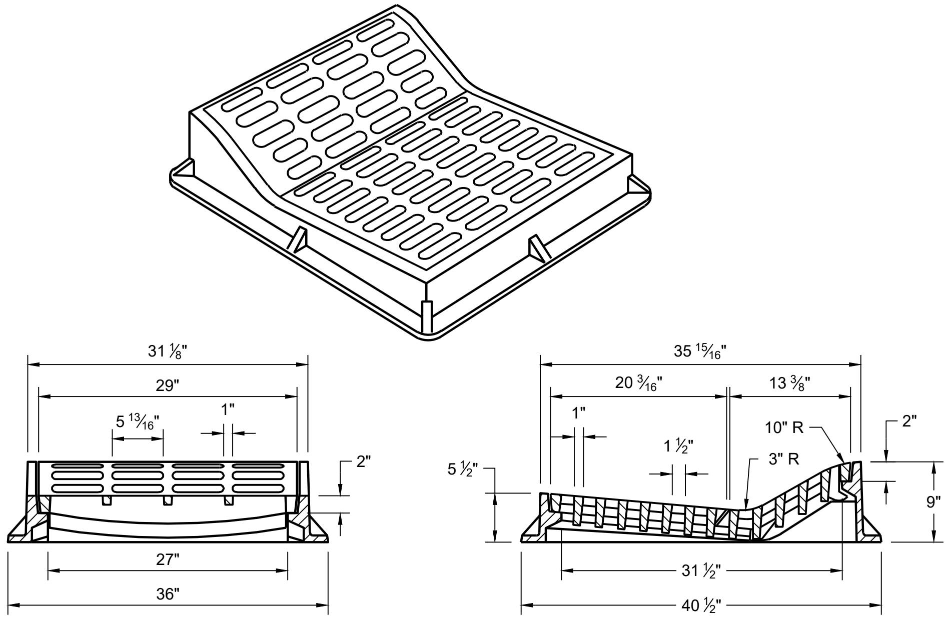
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

SDD 08A05-21b

GENERAL NOTES

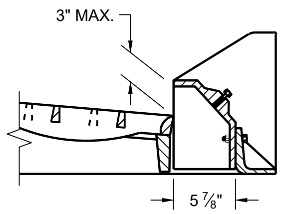
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "F"

USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

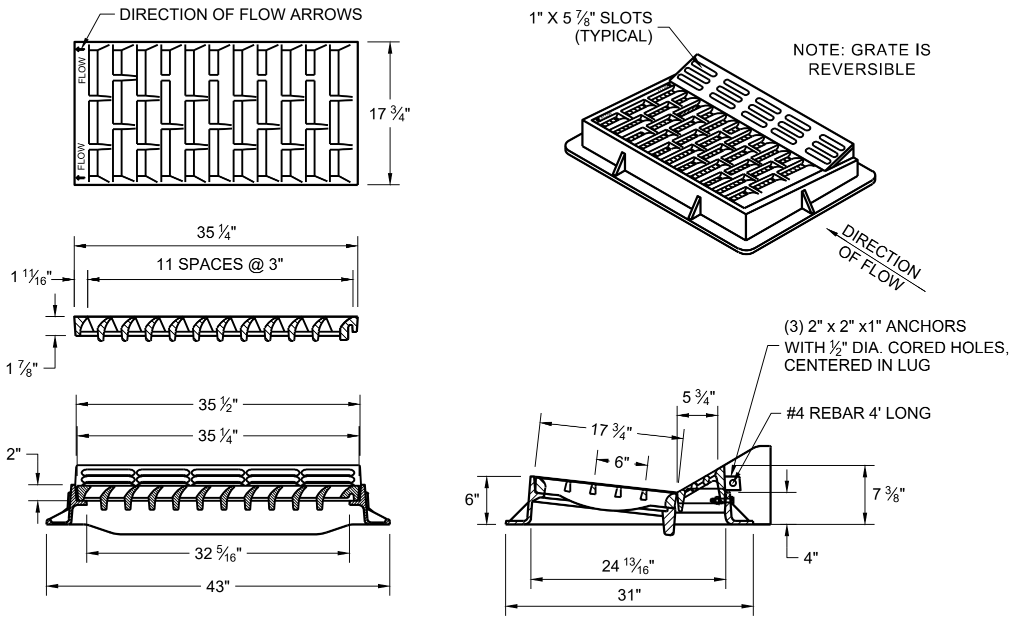


ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

USE WITH TYPES "G" AND "J" CONCRETE CURB AND GUTTER, 30 INCH
NOTED AS TYP "HM-GJ" ON DRAINAGE TABLE

NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.

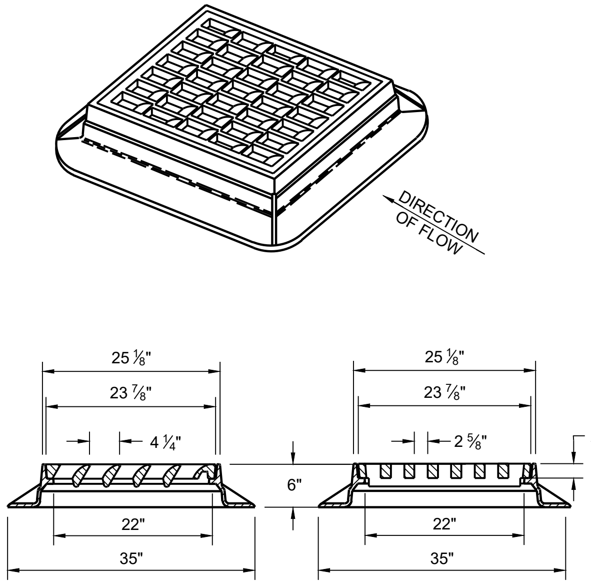


TYPE "HM"

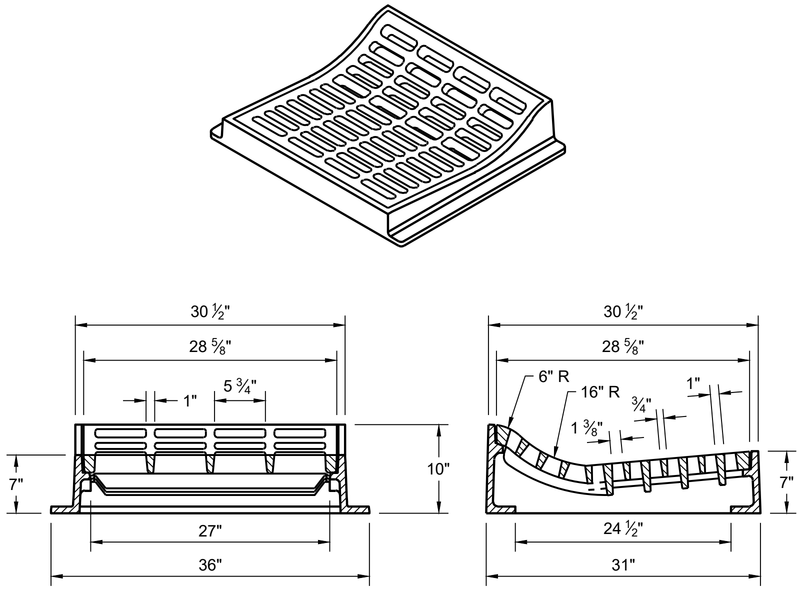
USE WITH TYPES "A" AND "D" CONCRETE CURB AND GUTTER, 36"

NOTE:
SPECIAL GRATE FOR THE TYPE "H" COVER MAY ALSO BE USED FOR THE TYPE "HM-GJ" COVER.

NOTED AS TYPE HM-GJ-S ON THE DRAINAGE TABLE.



TYPE "S"



TYPE "T"

USE WITH TYPES "R" AND "T" CONCRETE CURB AND GUTTER, 36"

INLET COVERS
TYPES F, HM, HM-S, S, T, HM-GJ AND HM-GJ-S

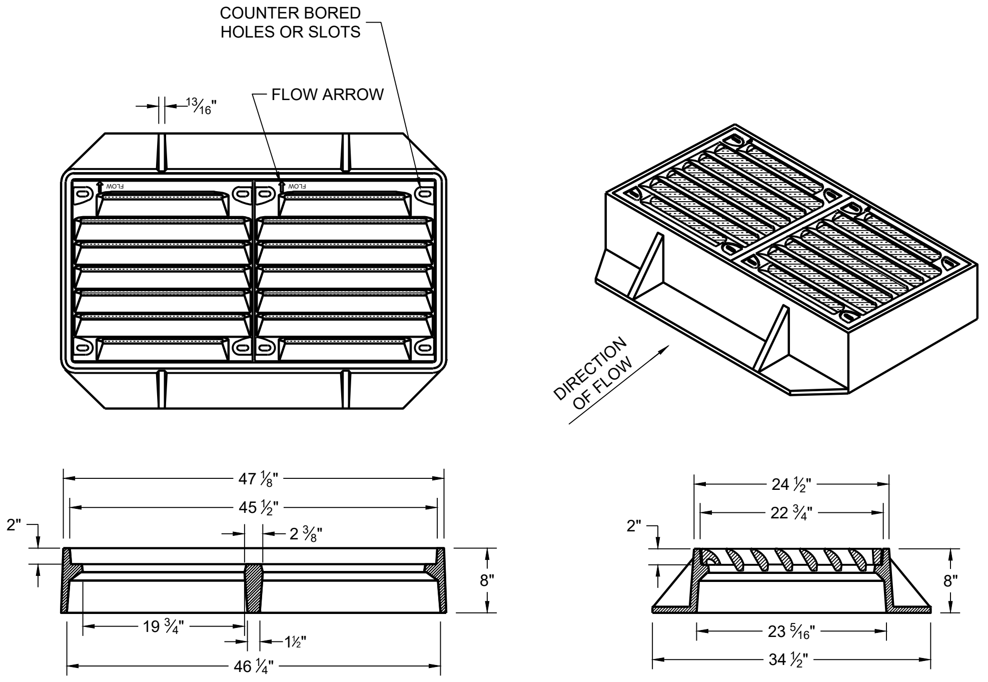
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 | /S/ Rodney Taylor
DATE | ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

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.

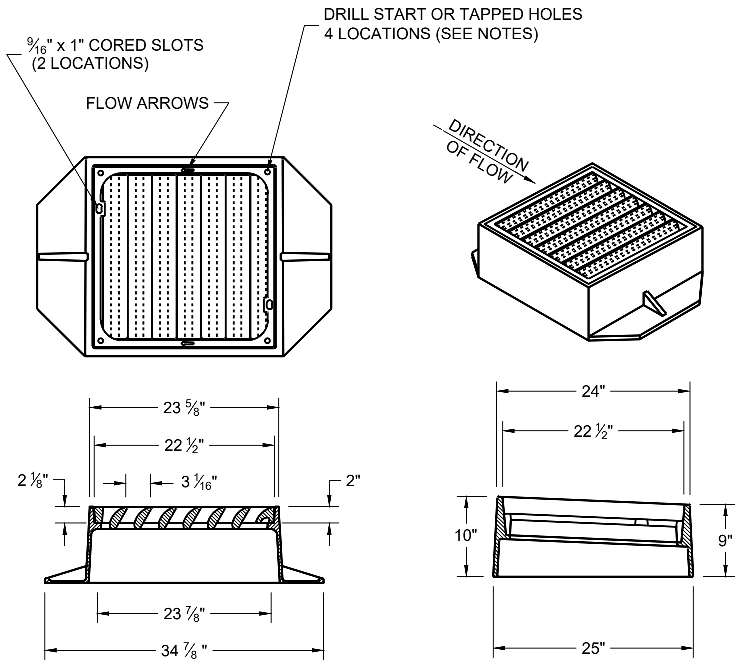
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY
CASTING MANUFACTURER

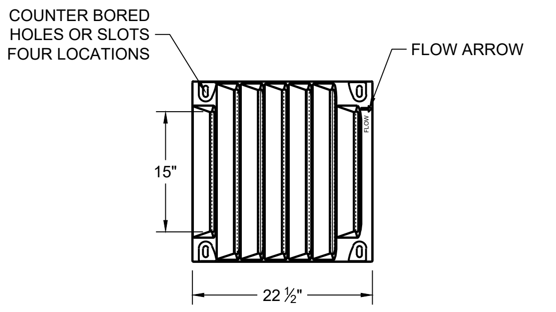
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1⁄16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1⁄16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

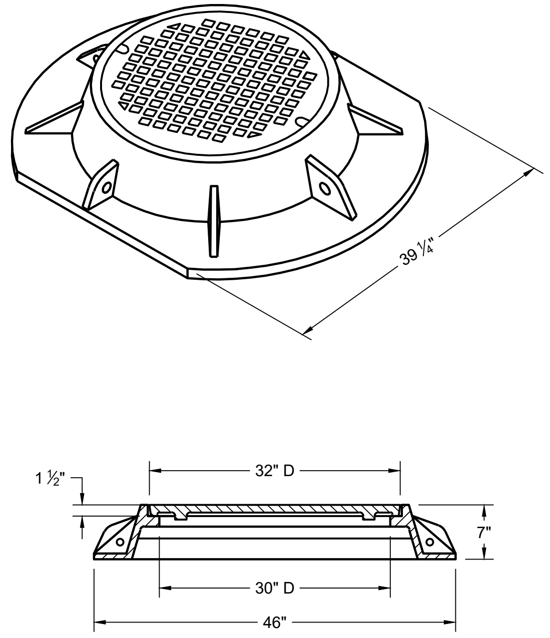
APPROVED
December 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

GENERAL NOTES

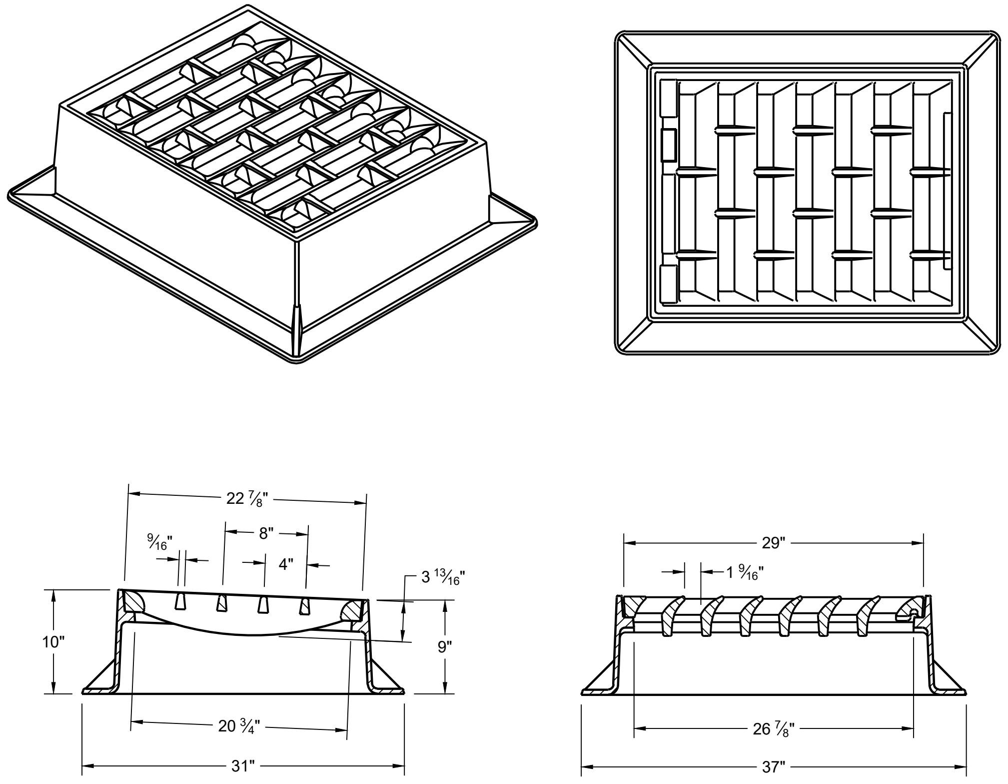
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

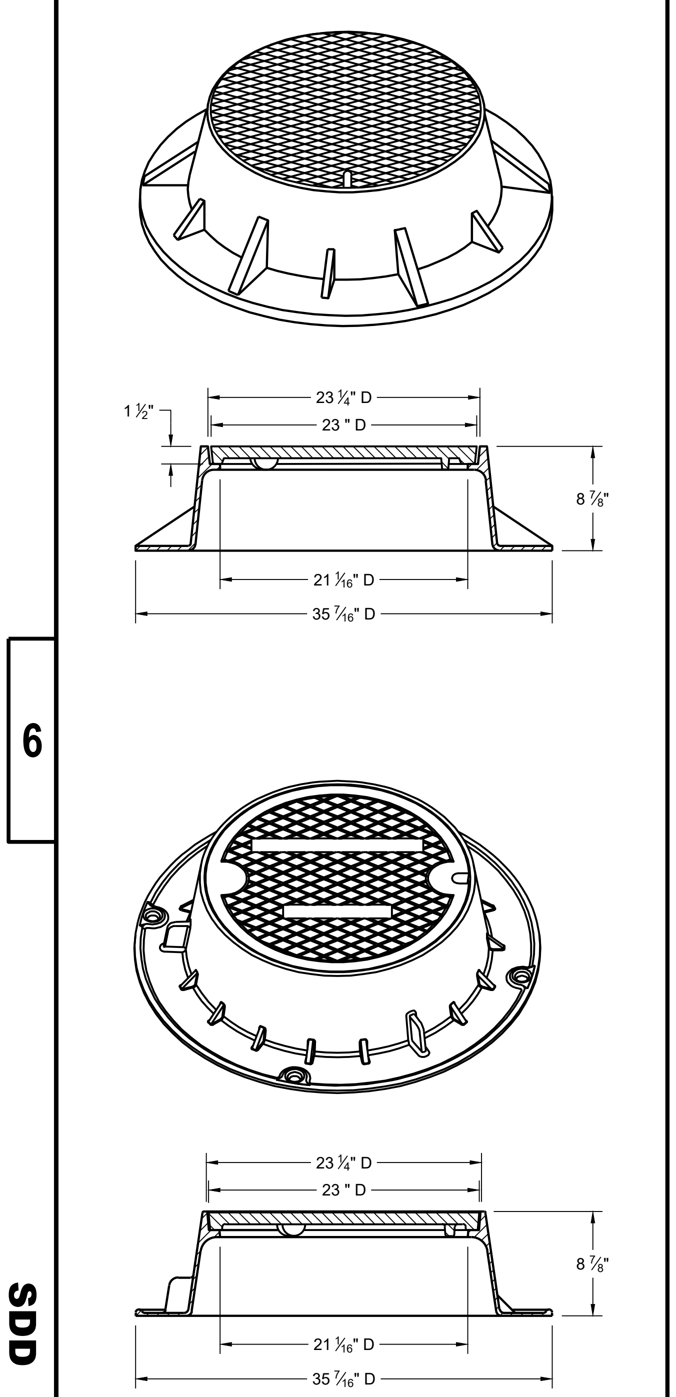
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



TYPE "K"

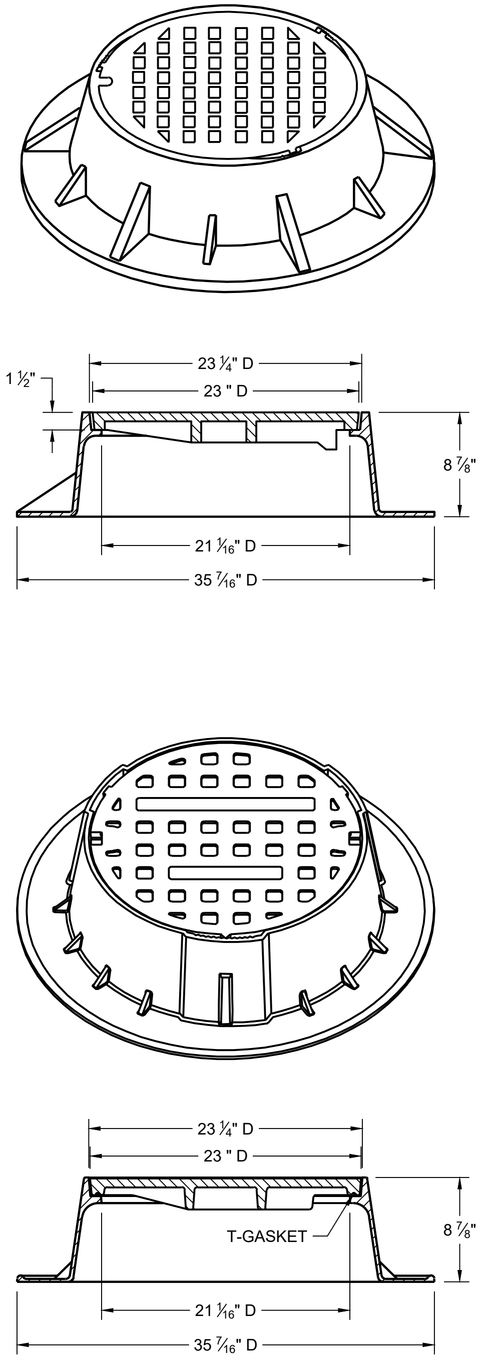


INLET COVER TYPE "BW"



TYPE "J"

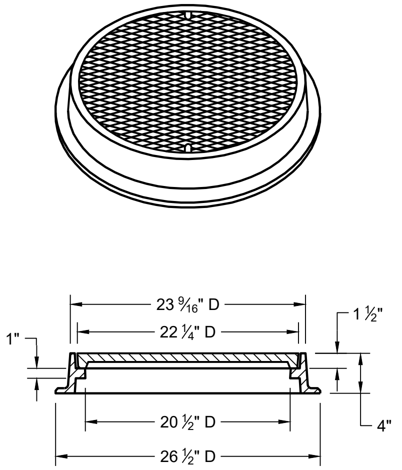
NOTE: EITHER CASTING IS ACCEPTABLE



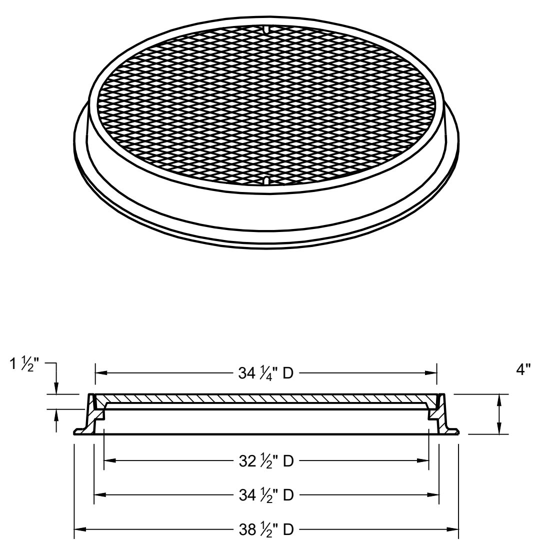
TYPE "J" SPECIAL

TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"

INLET COVERS TYPES BW
MANHOLE COVERS TYPES K,
J, J-S, L, AND M

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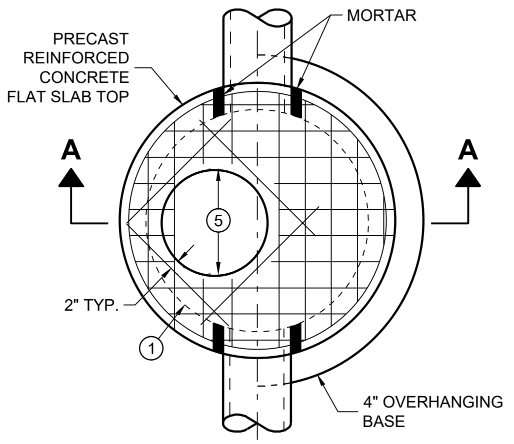
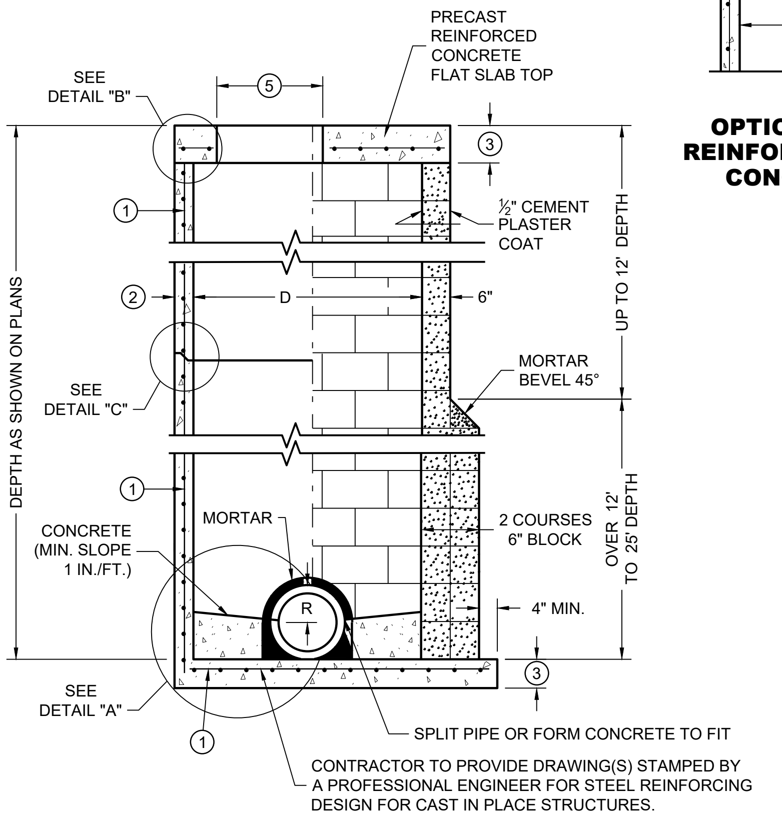
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



PLAN VIEW
CIRCULAR OPENING

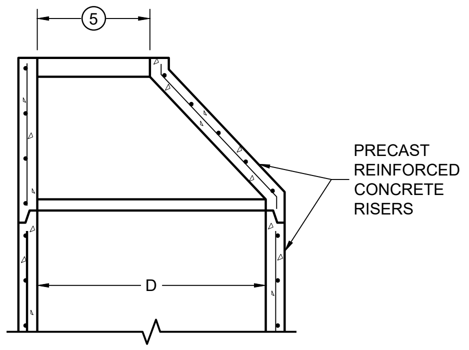


CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST IN PLACE STRUCTURES.

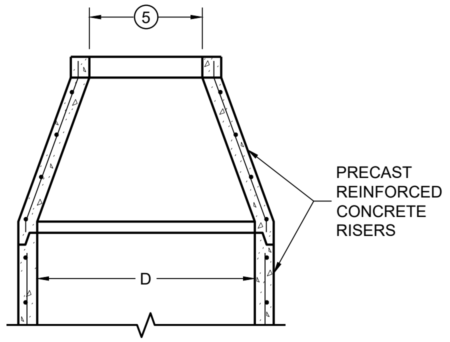
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

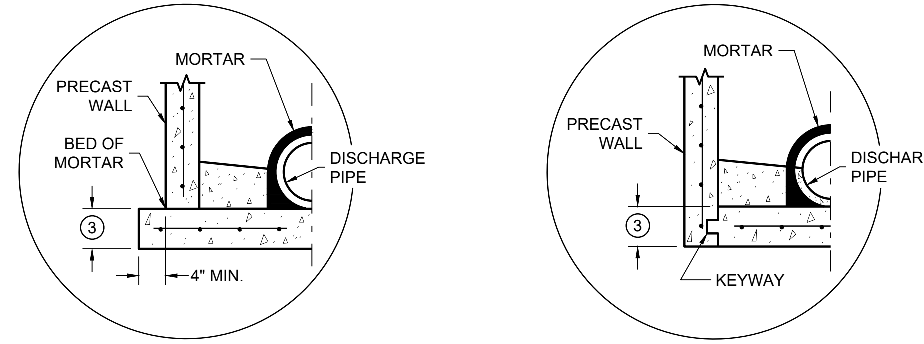
MANHOLE COVER OPENING MATRIX

MANHOLE COVER TYPE / OPENING SIZE (FT.) ⑤	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

MANHOLE SIZE (DIA.)	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES		MINIMUM WALL THICKNESS (IN)	MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS
	180° SEPARATION (IN)	90° SEPARATION (IN)		
3-FT	15	12	4	6
4-FT	24	18	4	6
5-FT	36	24	5	8
6-FT	42	36	6	8
7-FT	48	36/42 *	7	8
8-FT	60	42	8	8
9-FT	66	54	9	10
10-FT	72	60	10	10

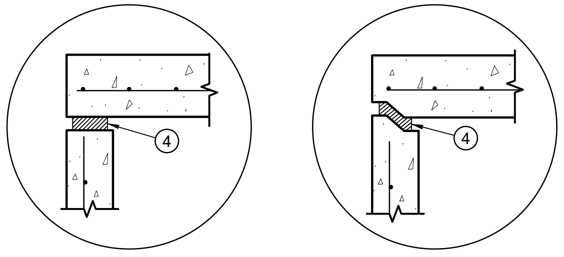
*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

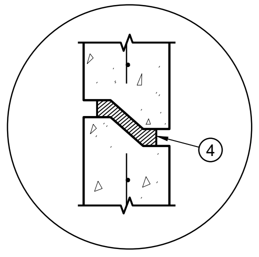
DETAIL "A"



TOP WITH PLAIN END JOINT

TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

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 MANHOLE 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. 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 IMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ 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 MANHOLE 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 PERMITTED 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 "D".

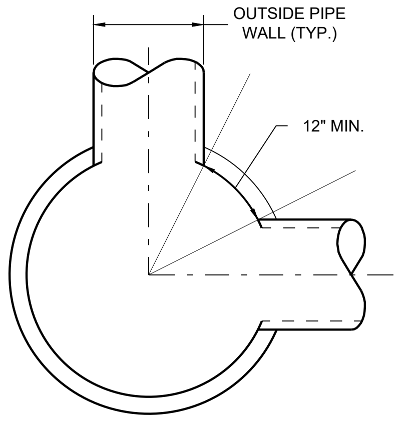
① FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

⑤ SEE MANHOLE COVER OPENING MATRIX.



MINIMUM HORIZONTAL PIPE SEPARATION
DETAIL "D"

MANHOLES, 3-FT, 4-FT
5-FT, 6-FT, 7-FT, 8-FT, 9-FT
AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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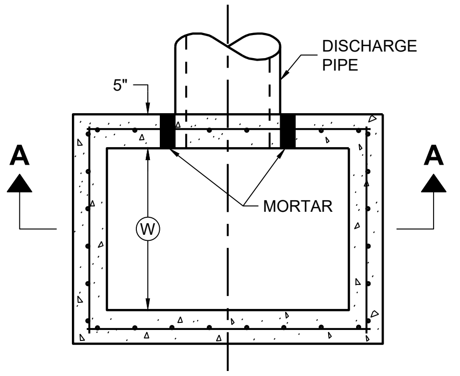
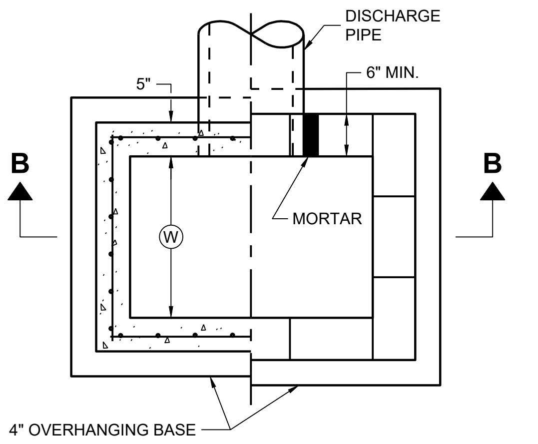
FHWA

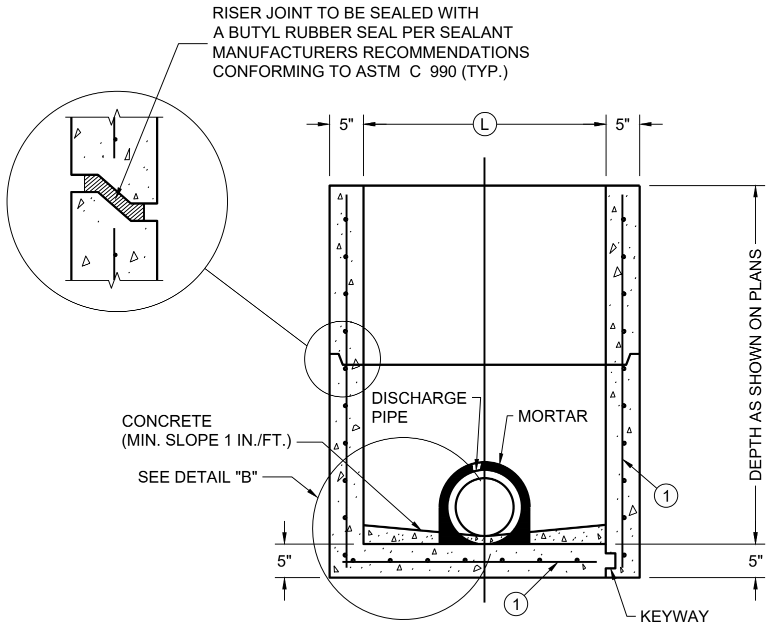
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER



PLAN VIEW



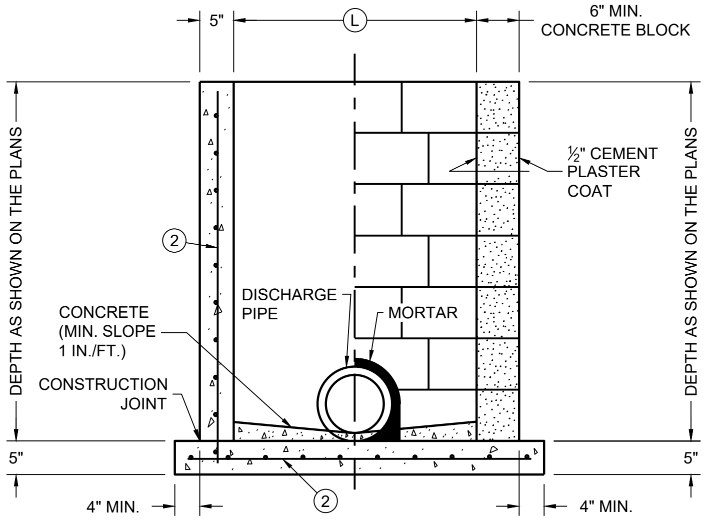
PLAN VIEW



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

SECTION A - A



CAST IN PLACE REINFORCED CONCRETE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①

SECTION B - B

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T 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 INLET 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 PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES 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.

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND 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.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913

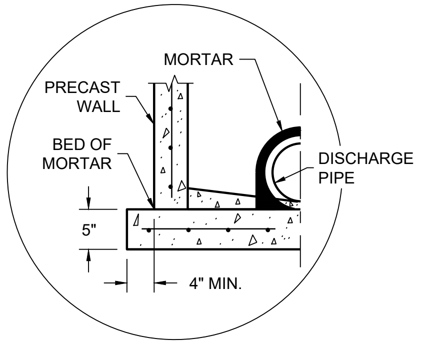
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

CATCH BASIN COVER MATRIX

INLET SIZE	WIDTH Ⓦ (FT.)	LENGTH Ⓛ (FT.)	INLET COVER TYPE									
			ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM	V V-B
2 X 2-FT	2	2	X	X				X				
2 X 2.5-FT	2	2.5			X			X	X	X	X	
2 X 3-FT	2	3					X					
2.5 X 3-FT	2.5	3				X						
2 X 3.5-FT	2	3.5										X

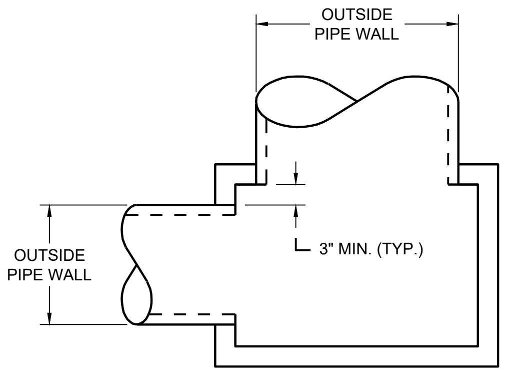
PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2 X 2-FT	12	12
2 X 2.5-FT	12	18
2 X 3-FT	12	24
2.5 X 3-FT	18	24
2 X 3.5-FT	12	30



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "B"



DETAIL "A"

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2X3.5-FT

INLETS 2 X 2-FT, 2 X 2.5-FT, 2 X 3-FT, 2.5 X 3-FT AND 2 X 3.5-FT

STATE OF WISCONSIN
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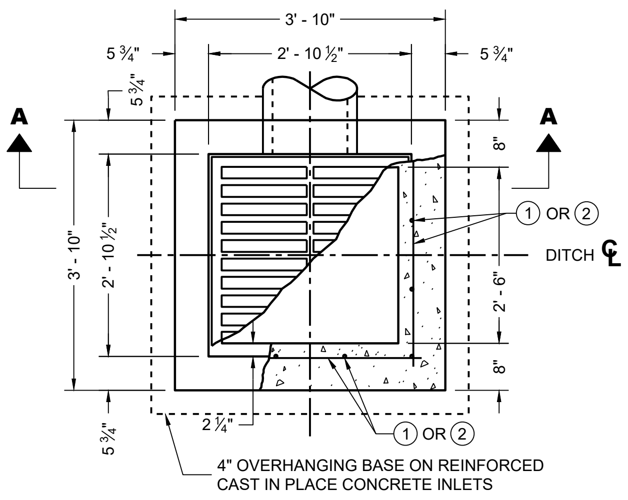
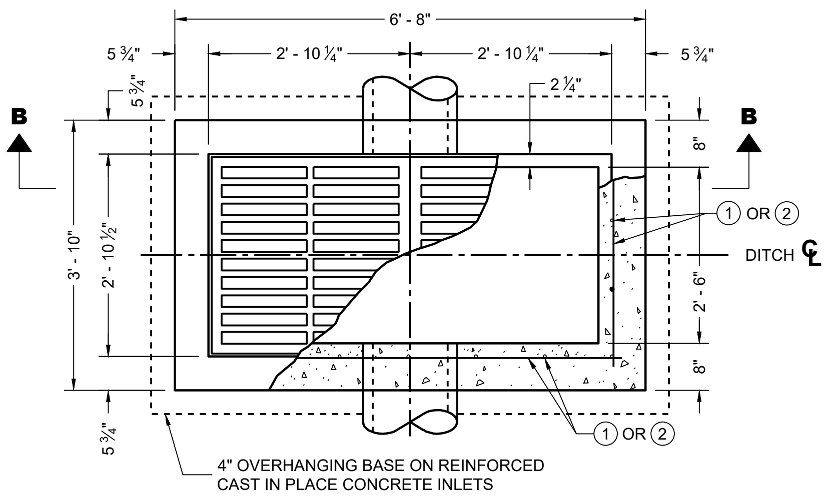
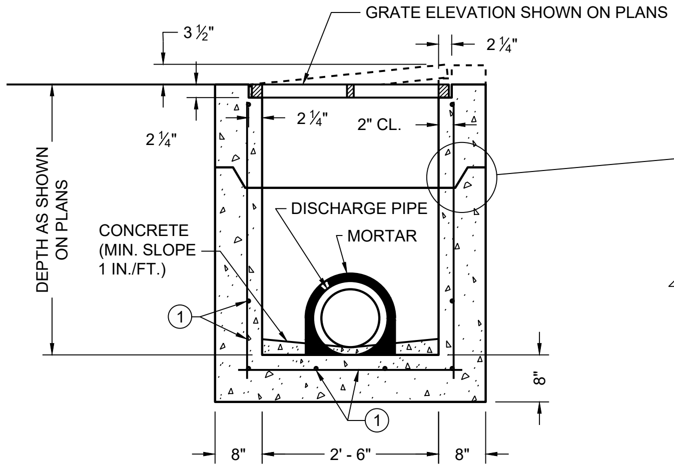
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



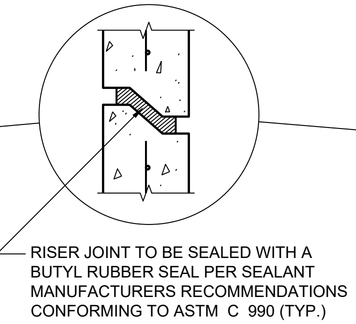
PLAN VIEW

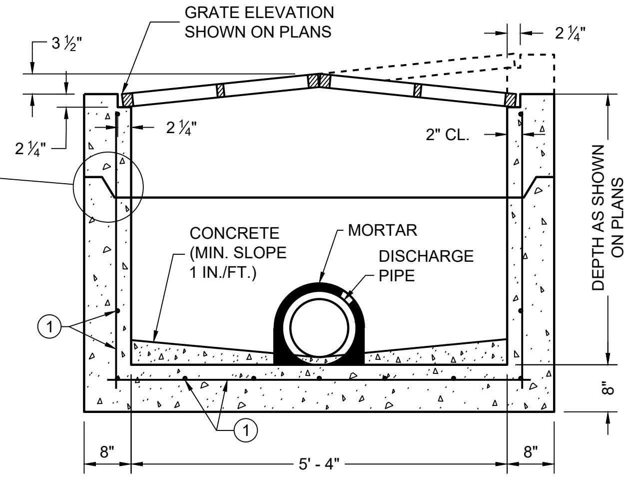


PLAN VIEW

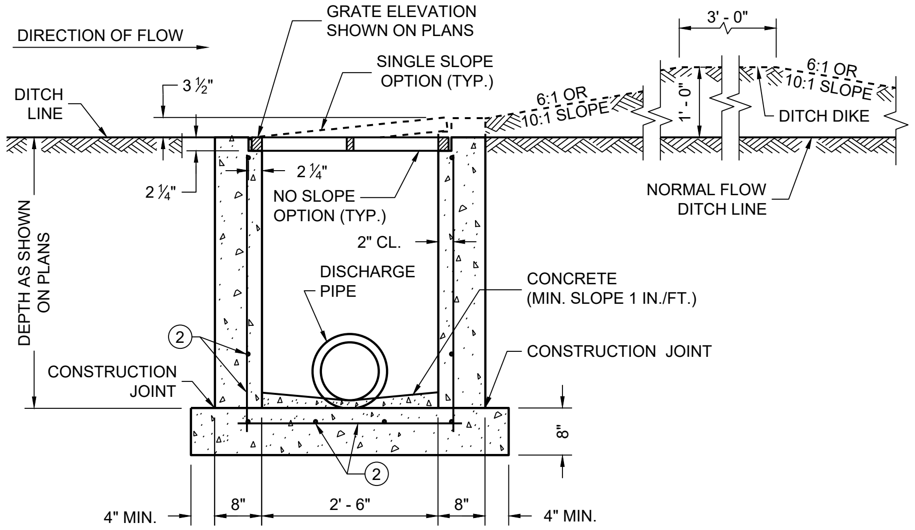


PRECAST REINFORCED CONCRETE
SECTION A - A



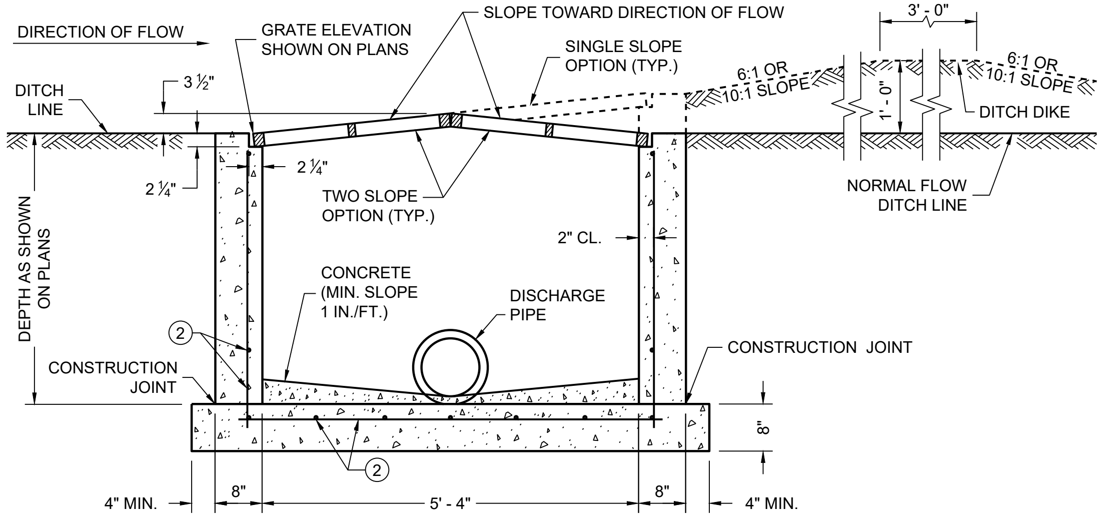


PRECAST REINFORCED CONCRETE
SECTION B - B



REINFORCED CAST IN PLACE CONCRETE
SECTION A - A

INLETS MEDIAN 1 GRATE



REINFORCED CAST IN PLACE CONCRETE
SECTION B - B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE 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.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

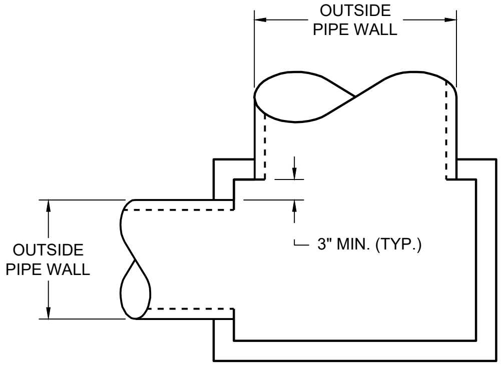
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3" CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.



DETAIL "A"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

6

6

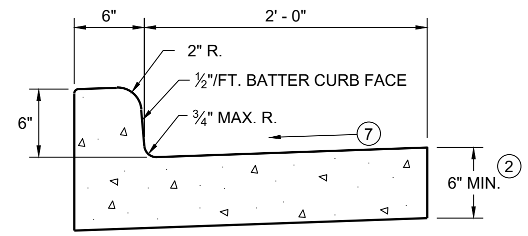
INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

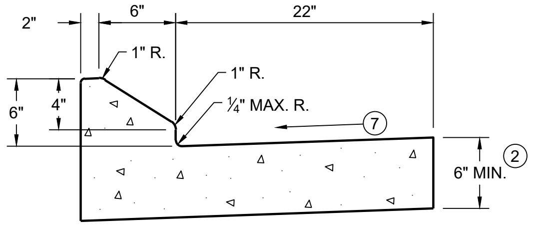
APPROVED
December 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

SDD 08C08-03

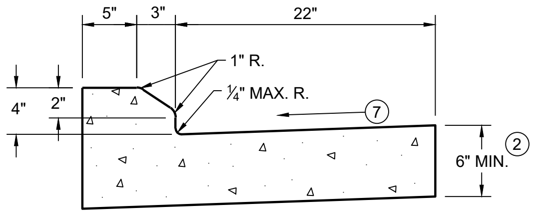
SDD 08C08-03



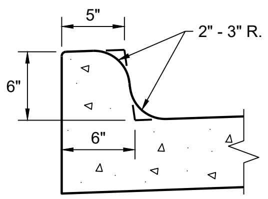
TYPES A① & D



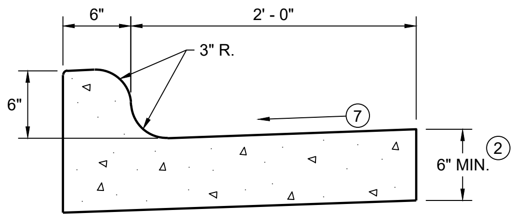
6" SLOPED CURB TYPES G① & J



4" SLOPED CURB TYPES G① & J

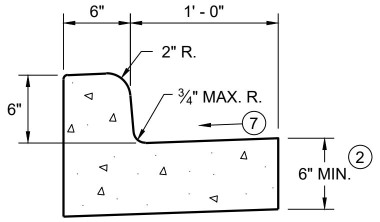


TYPES K① & L
(OPTIONAL CURB SHAPE)



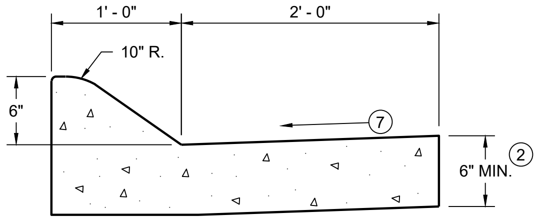
TYPES K① & L

CONCRETE CURB AND GUTTER 30"

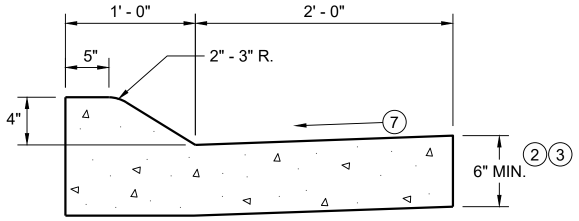


TYPES A① & D

CONCRETE CURB AND GUTTER 18"

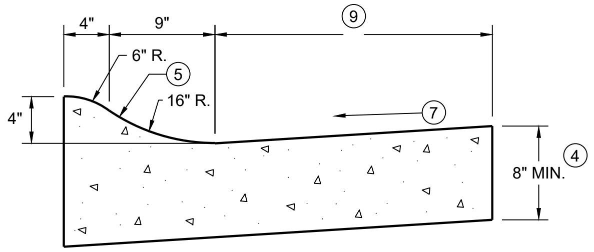


6" SLOPED CURB TYPES A① & D



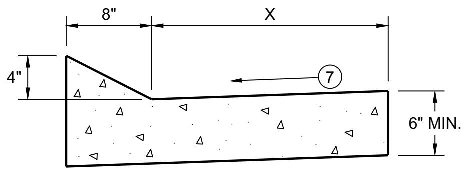
4" SLOPED CURB TYPES A① & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R① & T

TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT ①

CONCRETE CURB AND GUTTER

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.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

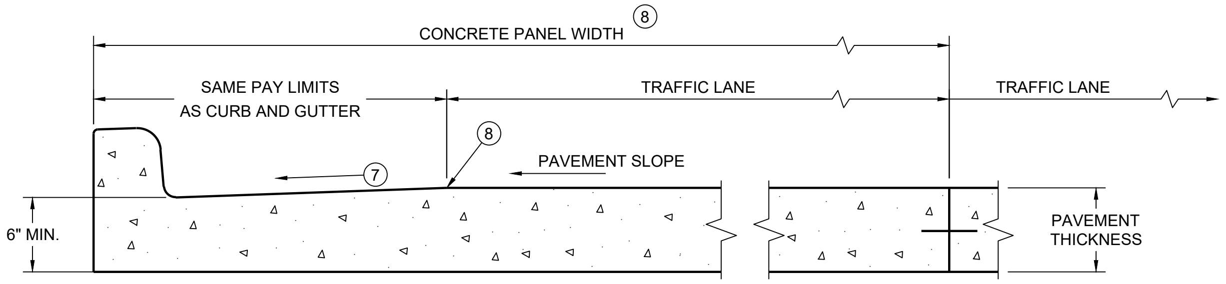
⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

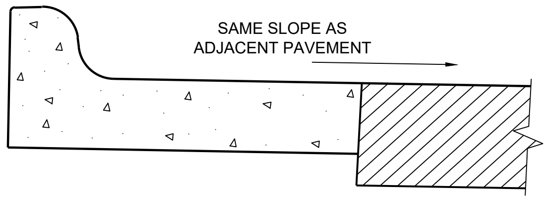
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER *

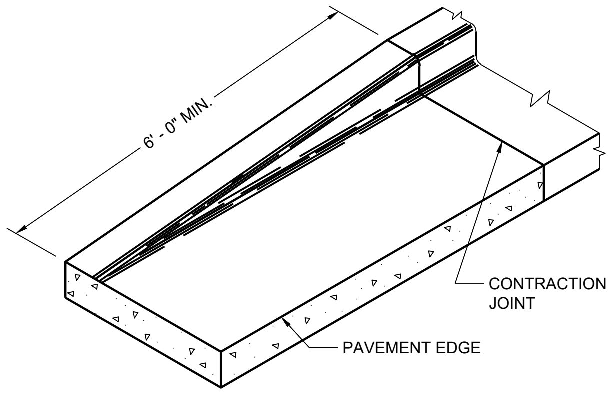
* BIKE LANE IS NOT SHOWN



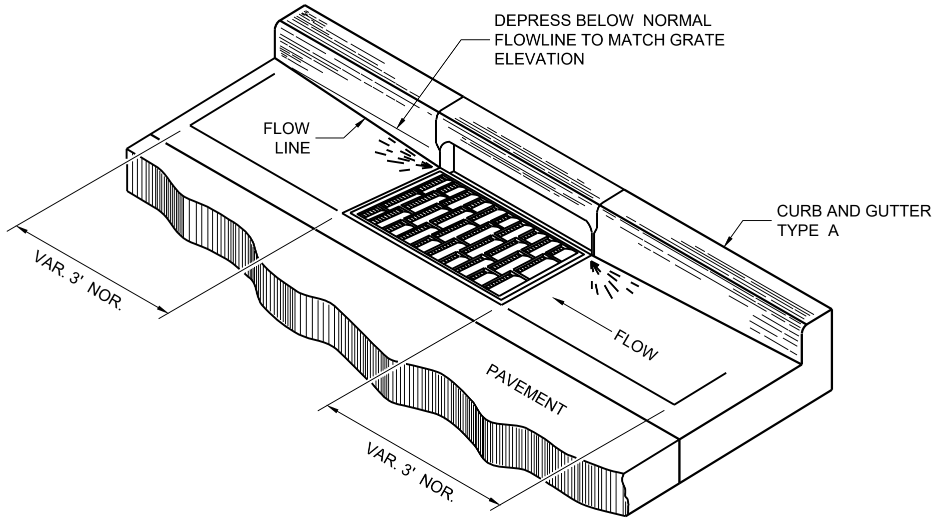
REVERSE SLOPE GUTTER ⑥
(TYPICAL FOR ALL CURB & GUTTER TYPES)

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

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.

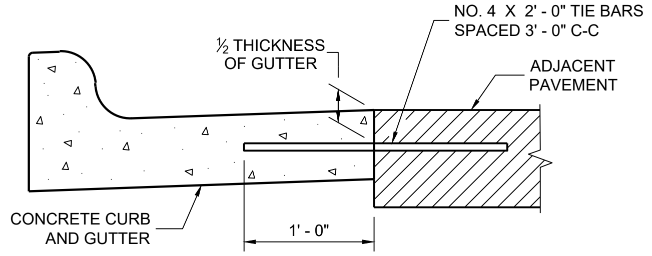
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

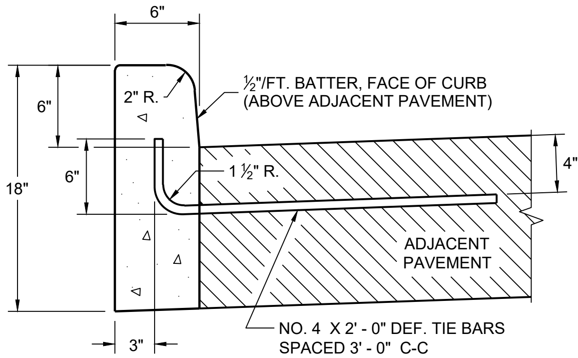
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

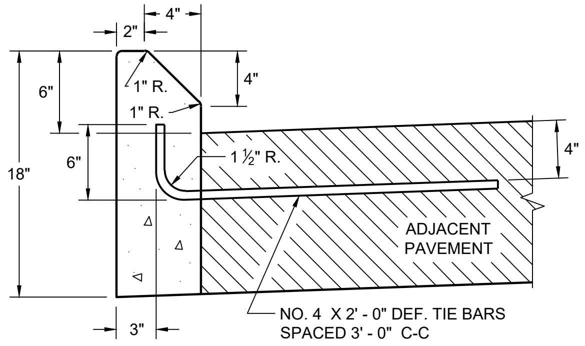
⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION ①

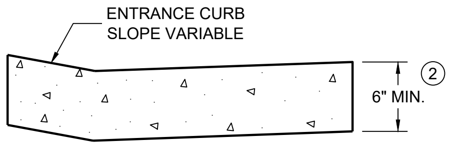


TYPES A① & D



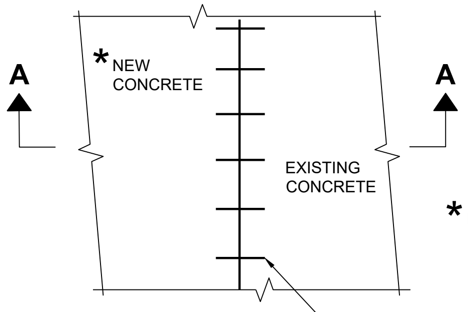
TYPES G① & J

CONCRETE CURB



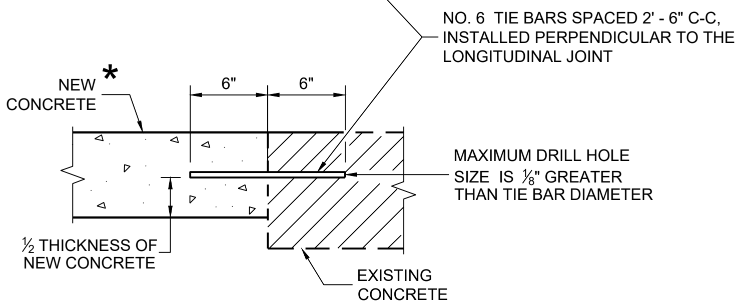
DRIVEWAY ENTRANCE CURB ⑩

(WHEN DIRECTED BY THE ENGINEER)



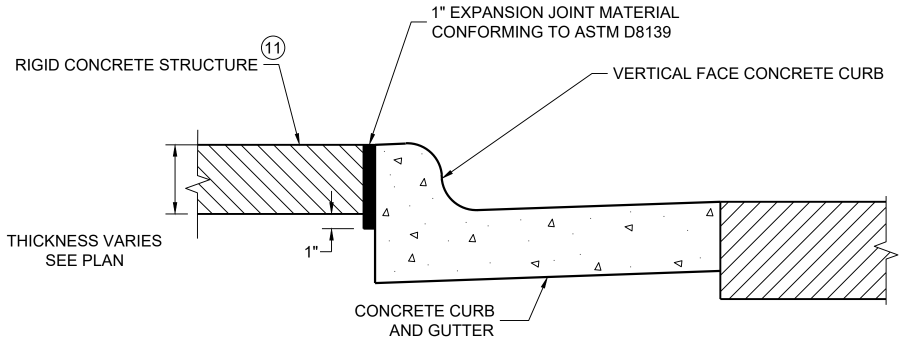
* NEW CURB AND GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE ⑪

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodnery Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

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.

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

① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

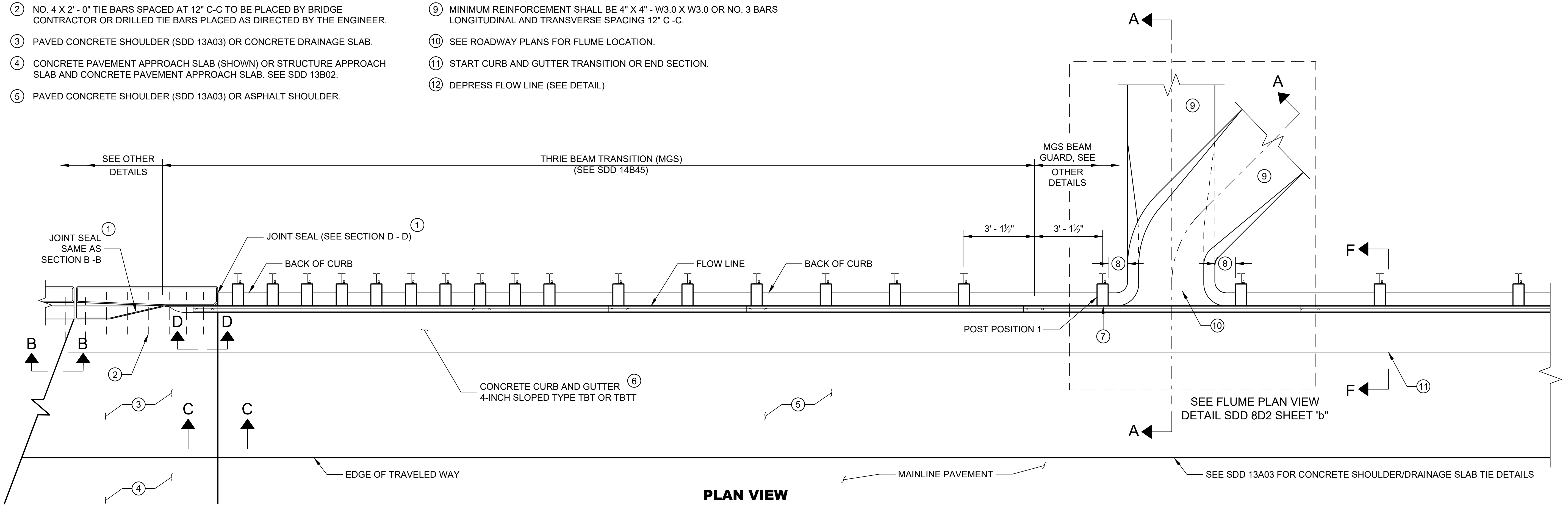
⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

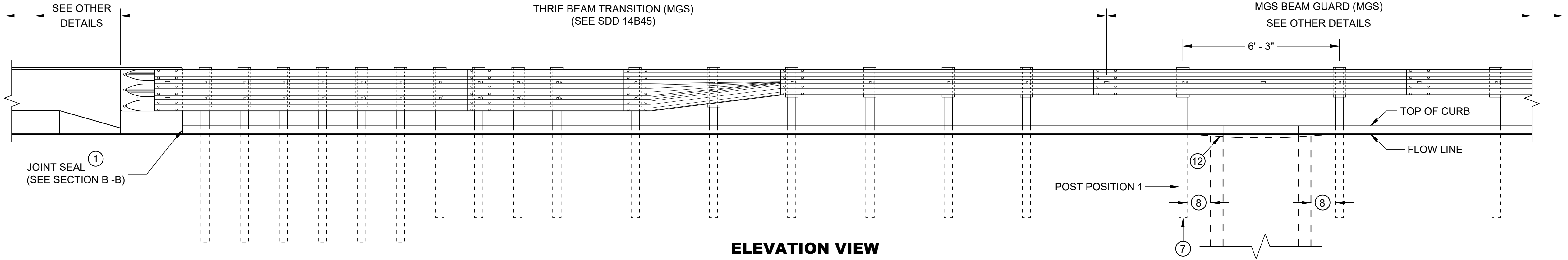
⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.

⑪ START CURB AND GUTTER TRANSITION OR END SECTION.

⑫ DEPRESS FLOW LINE (SEE DETAIL)



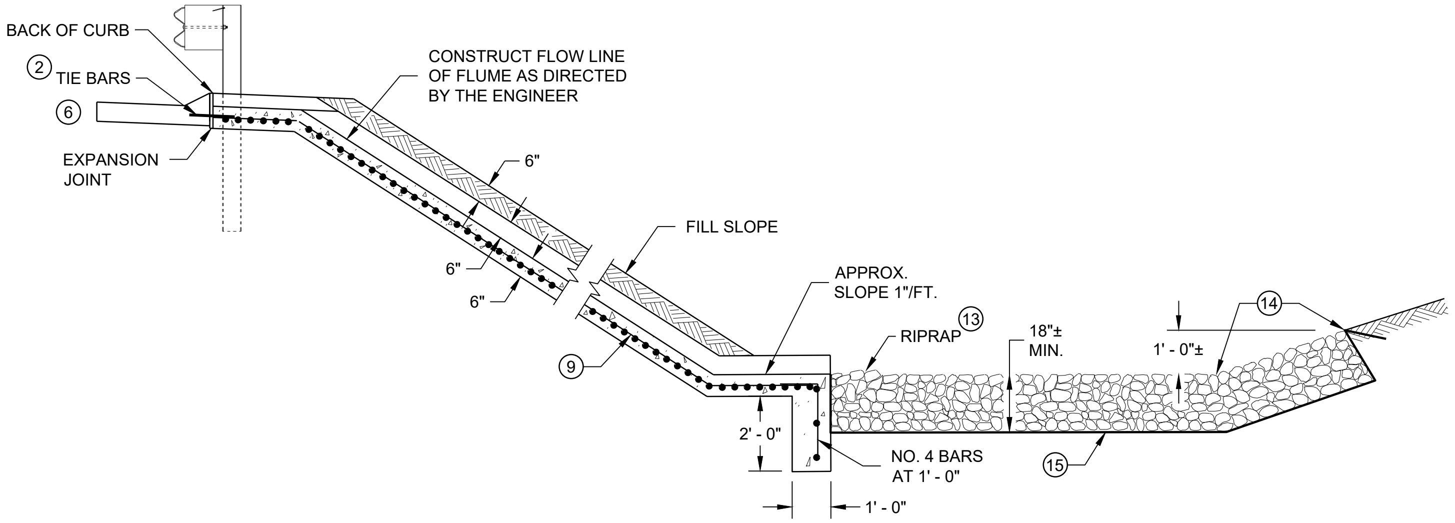
PLAN VIEW



ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



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.

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

① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.

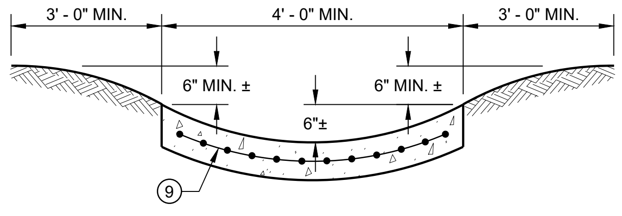
⑪ START CURB AND GUTTER TRANSITION OR END SECTION.

⑫ DEPRESS FLOW LINE (SEE DETAIL)

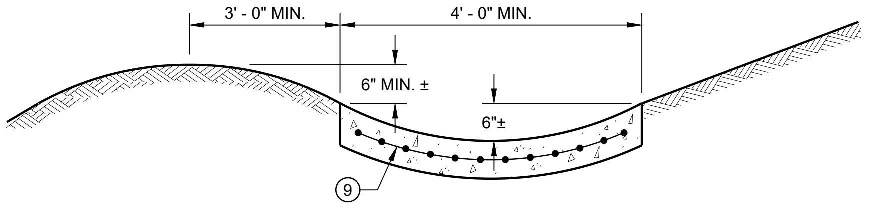
⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.

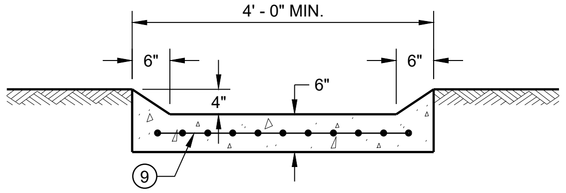
⑮ GEOTEXTILE TYPE HR.



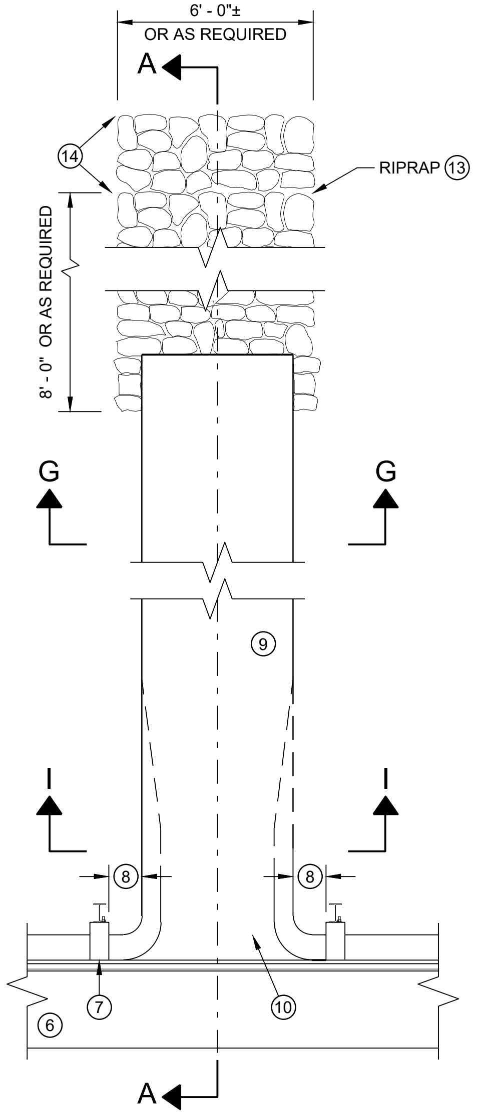
SECTION G - G



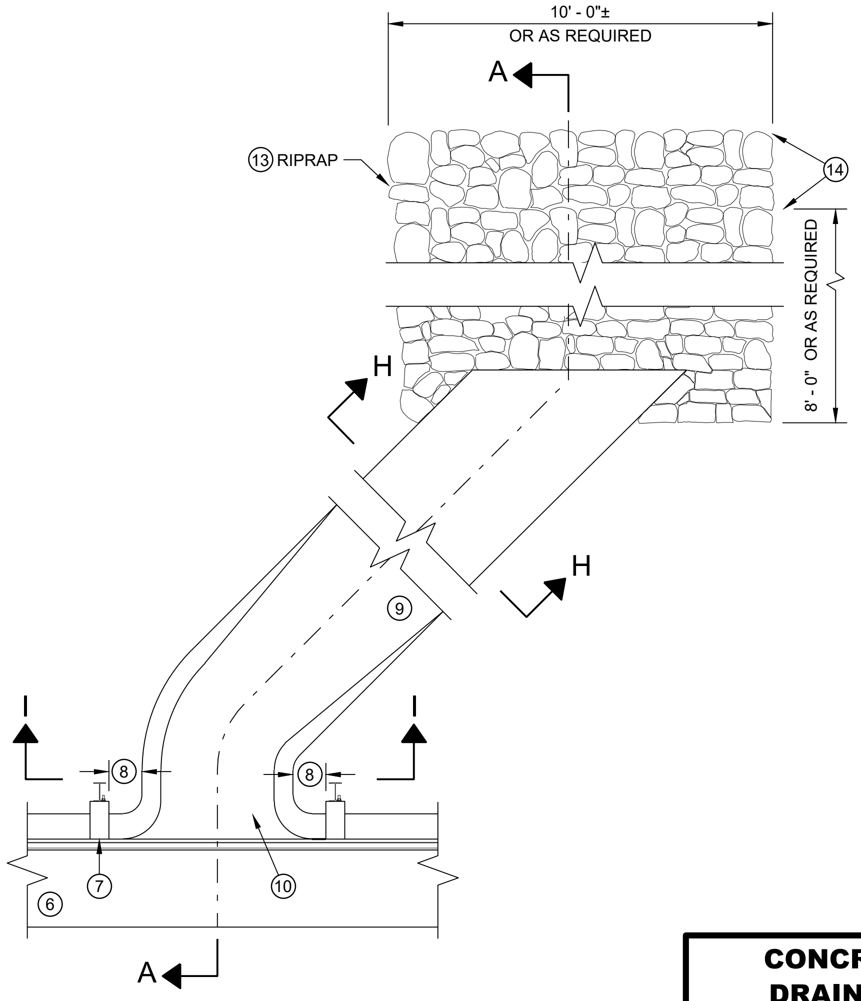
SECTION H - H



SECTION I - I



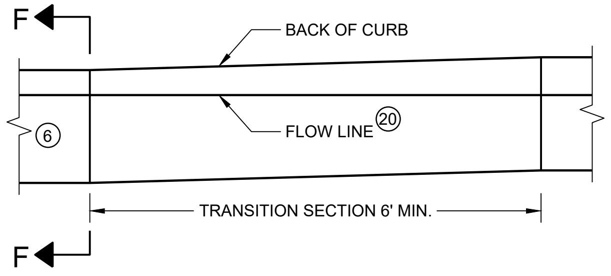
PLAN VIEW PERPENDICULAR FLUME



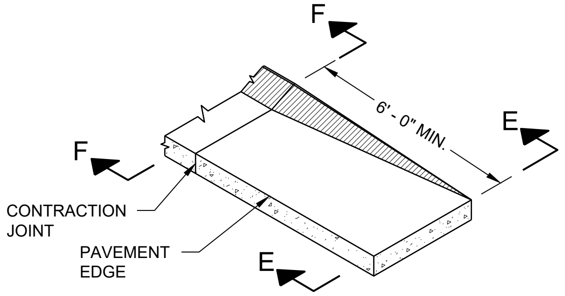
PLAN VIEW SKEWED FLUME

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

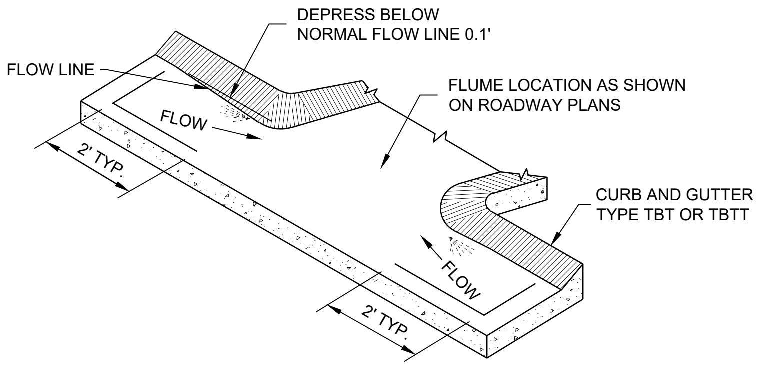
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



CURB AND GUTTER TRANSITION SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION AT FLUMES CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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.

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

① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.

⑪ START CURB AND GUTTER TRANSITION OR END SECTION.

⑫ DEPRESS FLOW LINE (SEE DETAIL)

⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

⑮ GEOTEXTILE TYPE HR.

⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

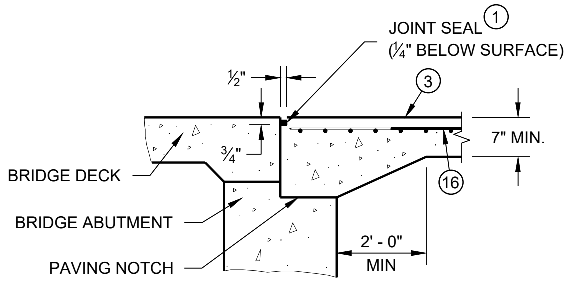
⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

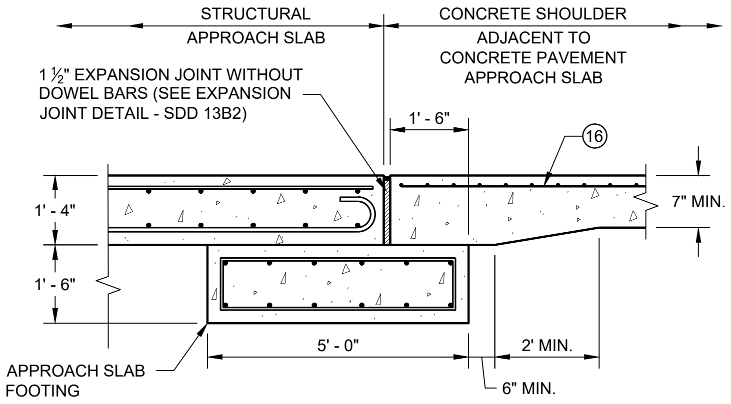
⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.

⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

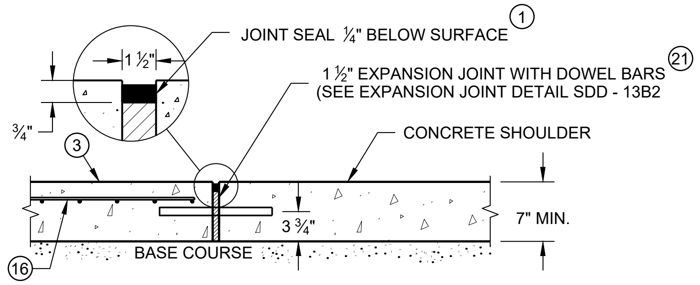


SECTION B-B ④



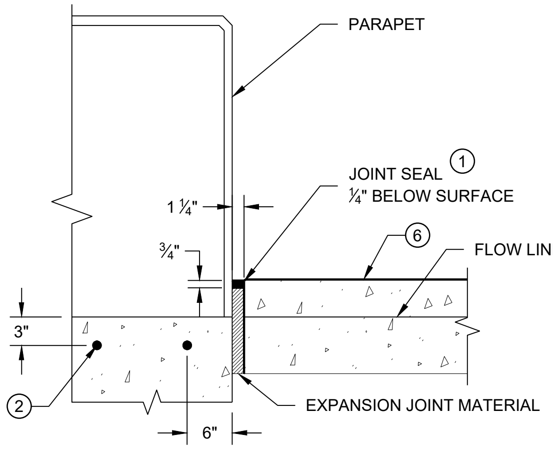
SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB

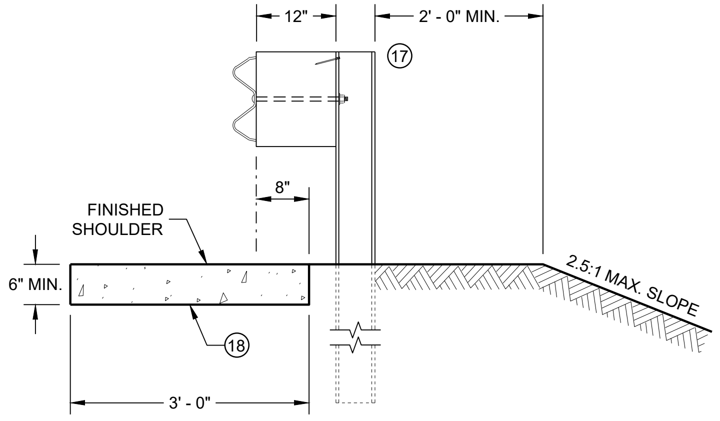


SECTION C - C

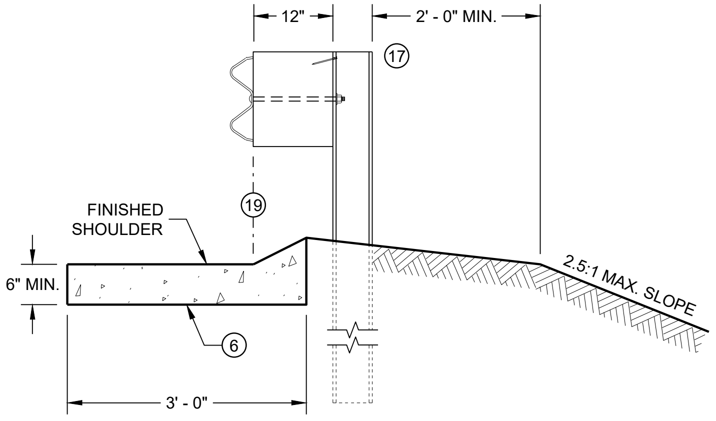
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E

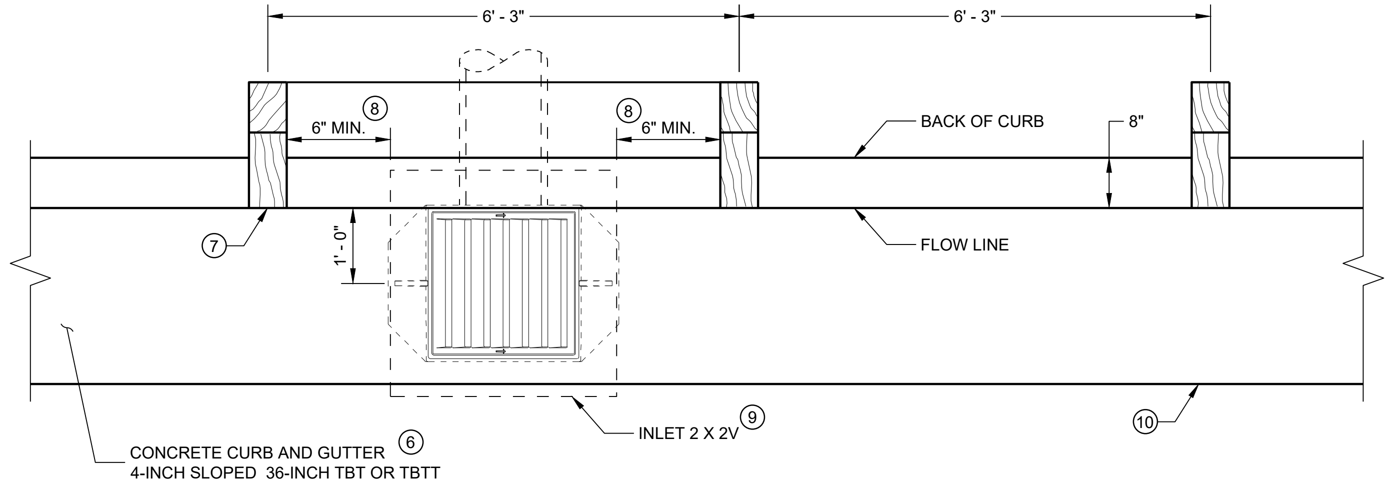


SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

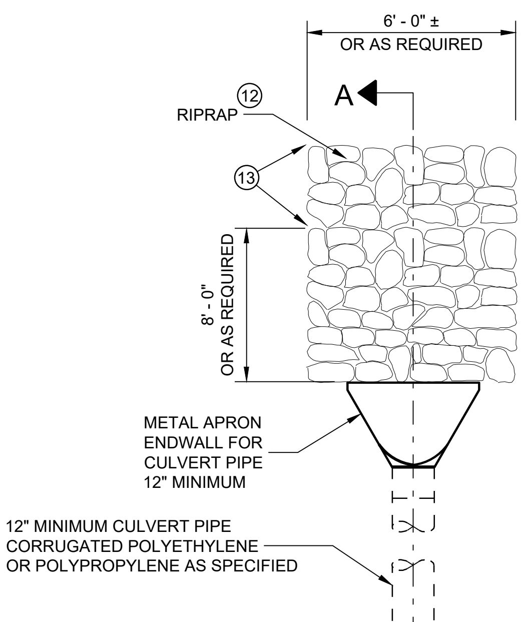
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)



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.

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

① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

⑦ PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

⑧ CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

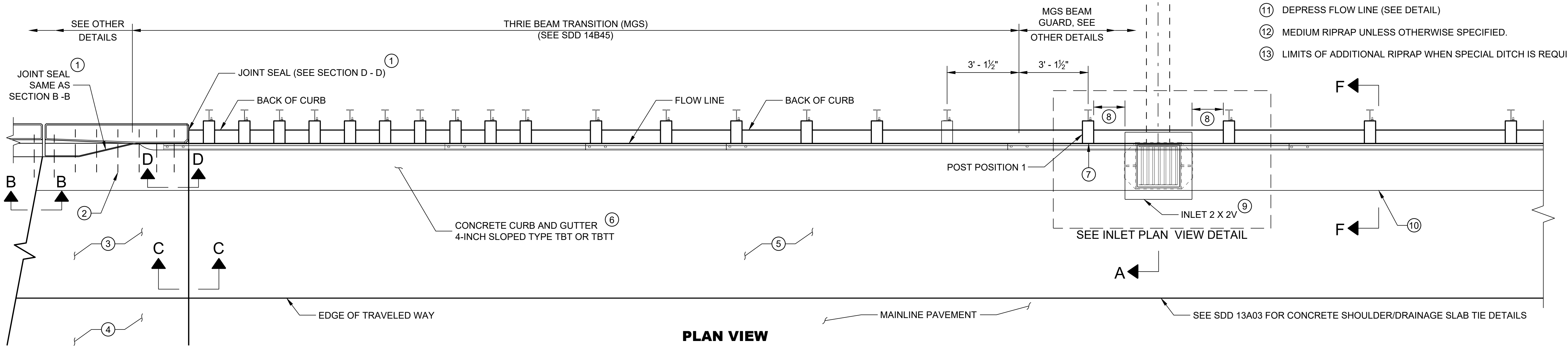
⑨ SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

⑩ START CURB AND GUTTER TRANSITION OR END SECTION.

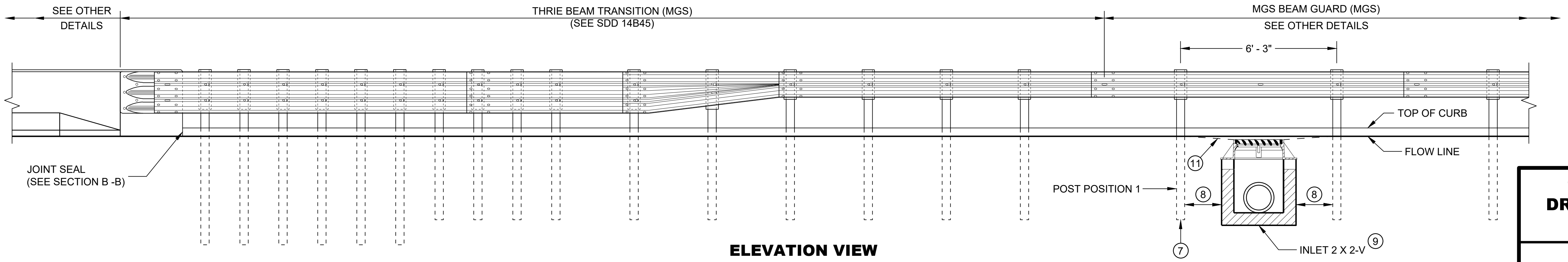
⑪ DEPRESS FLOW LINE (SEE DETAIL)

⑫ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

⑬ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



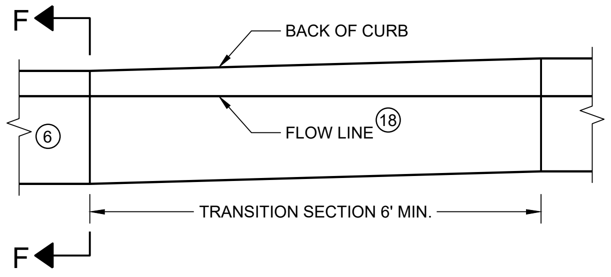
PLAN VIEW



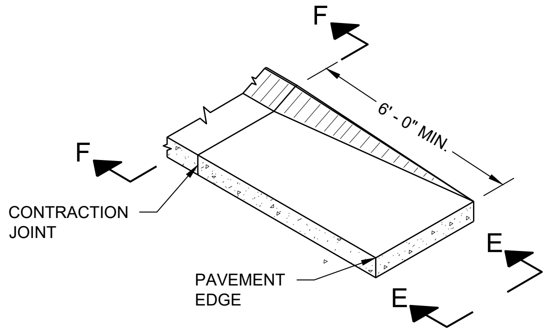
ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

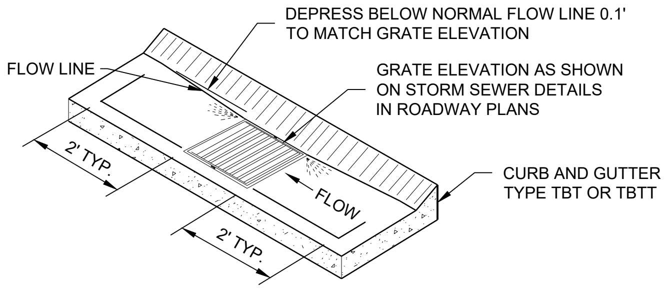
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



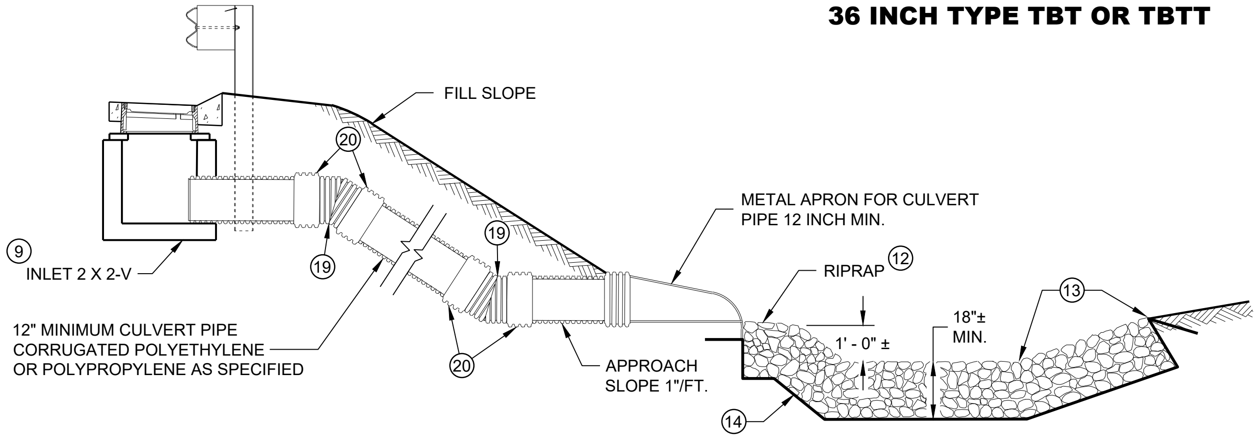
CURB AND GUTTER TRANSITION SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



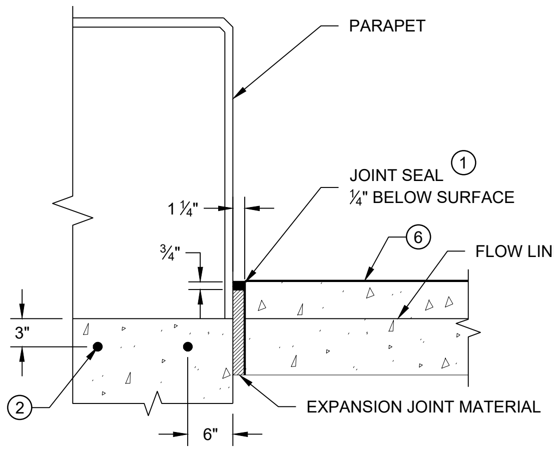
CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



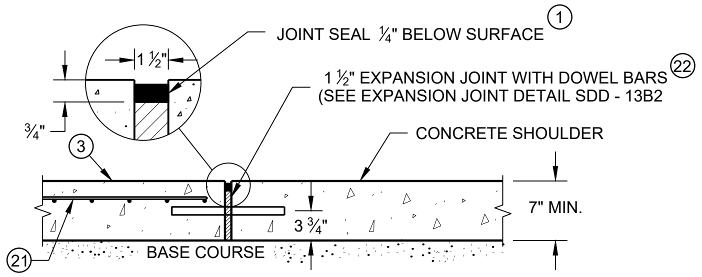
CURB AND GUTTER FLOW LINE DEPRESSION AT INLETS CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



SECTION A - A

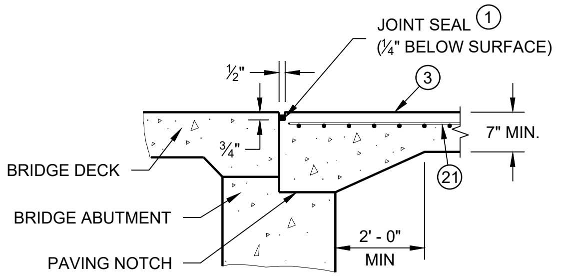


SECTION D - D

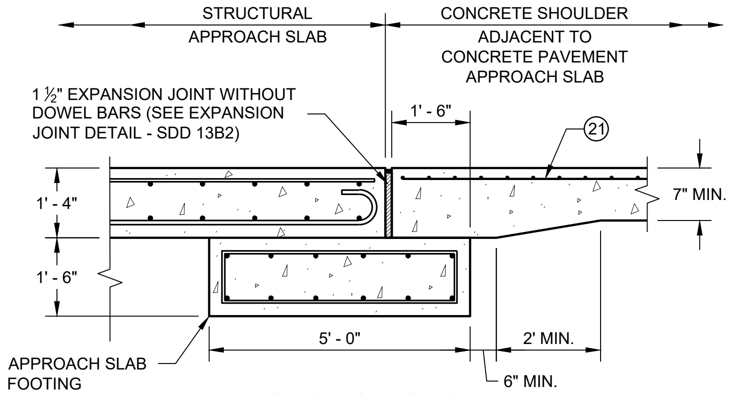


SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

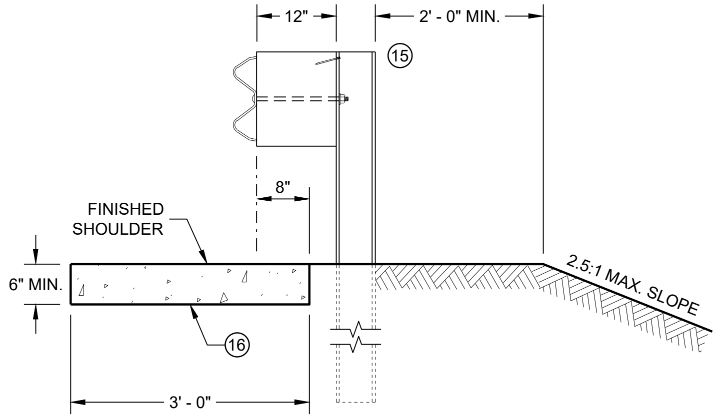


SECTION B-B ④

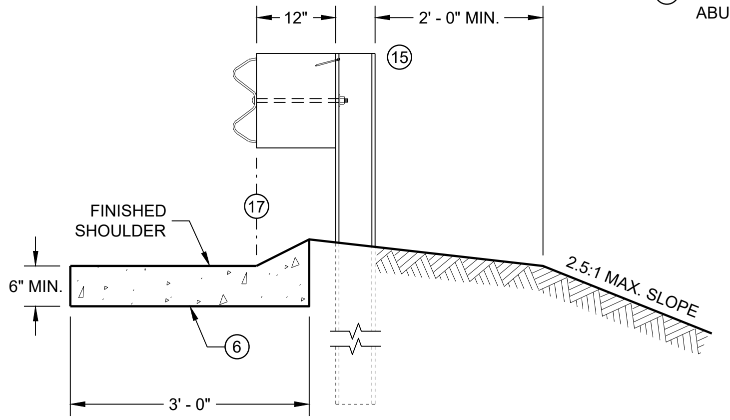


SECTION C - C

JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



SECTION E - E



SECTION F - F

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.

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

① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

⑦ PLACE DRAINAGE STRUCTURE BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

⑧ CENTER DRAINAGE STRUCTURE BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE WALL OF DRAINAGE STRUCTURE TO POSTS.

⑨ SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

⑩ START CURB AND GUTTER TRANSITION OR END SECTION.

⑪ DEPRESS FLOW LINE (SEE DETAIL)

⑫ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

⑬ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

⑭ GEOTEXTILE TYPE HR.

⑮ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

⑯ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

⑰ ALIGN FACE OF POST BLOCK WITH FLOW LINE.

⑱ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

⑲ MANUFACTURER SUPPLIED BEND.

⑳ MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

㉑ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

㉒ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.

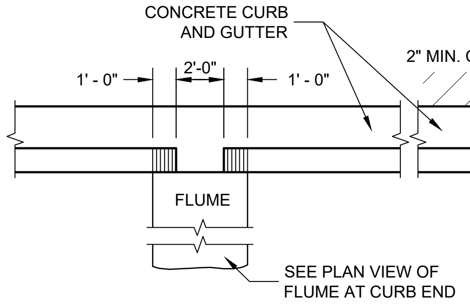
CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

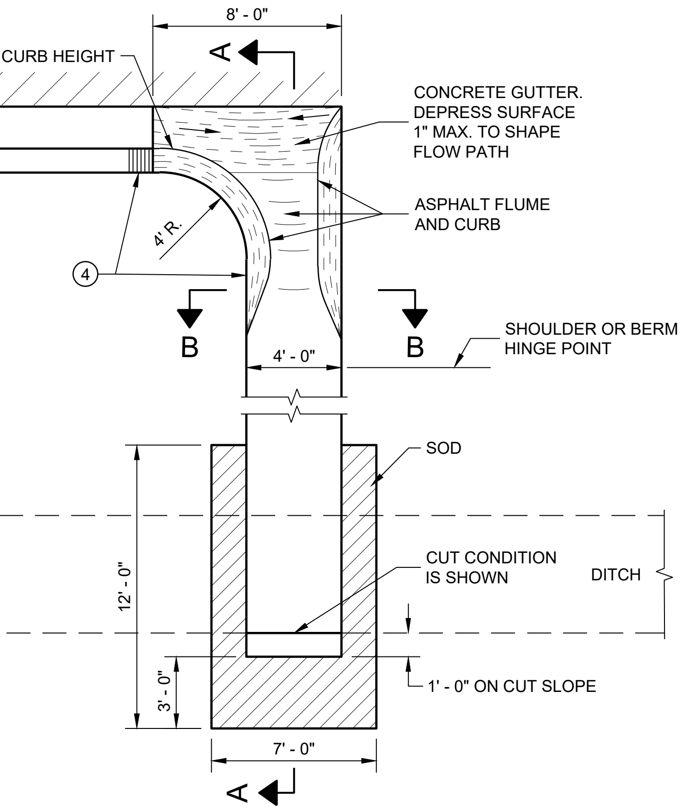
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER
FHWA

NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING FOR FLUME



PLAN VIEW
FLUME AT CURB END

GENERAL NOTES

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

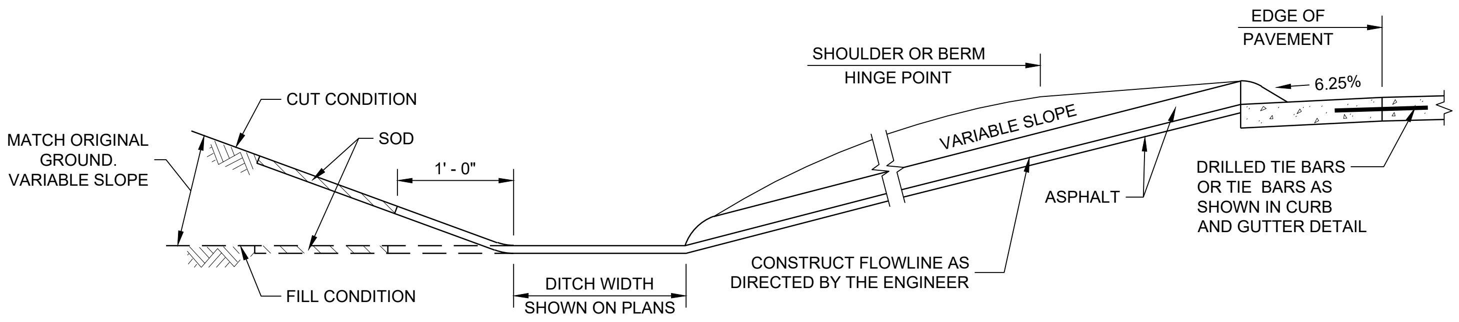
4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛" TO ¼" WIDE BY 1½" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

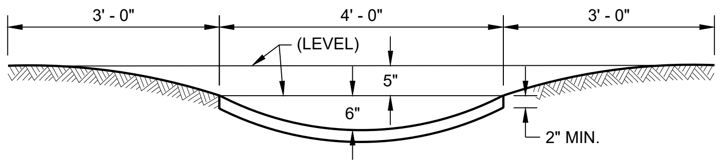
② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.

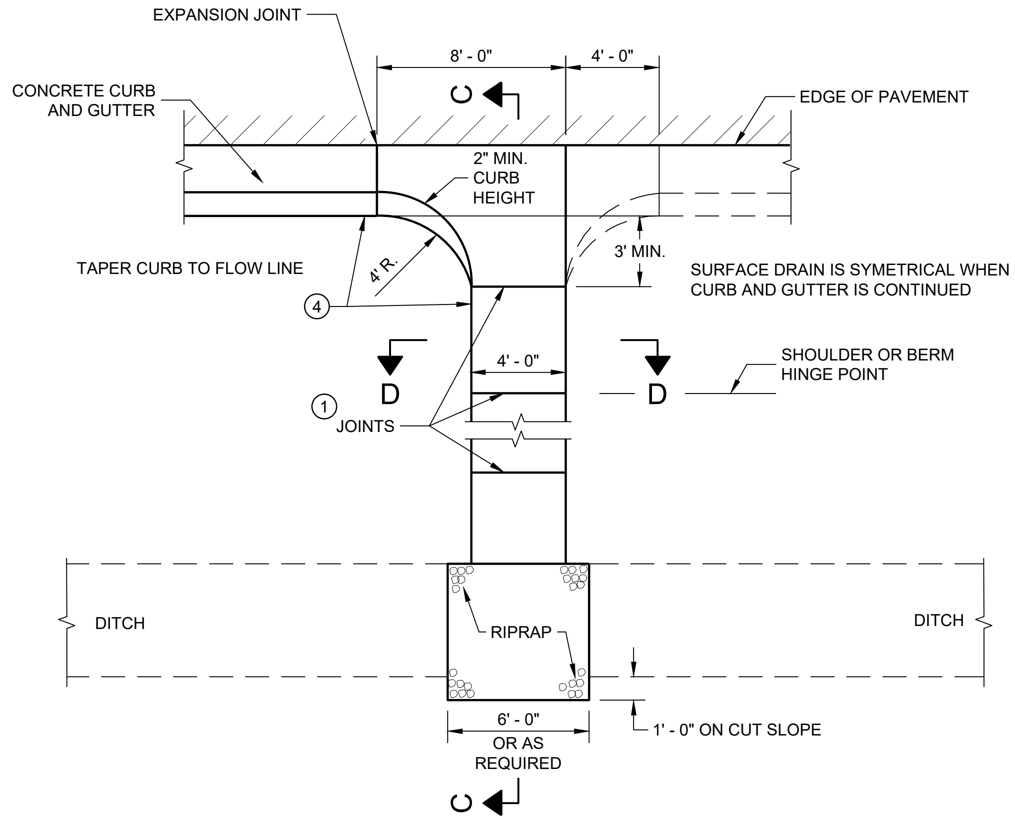
④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



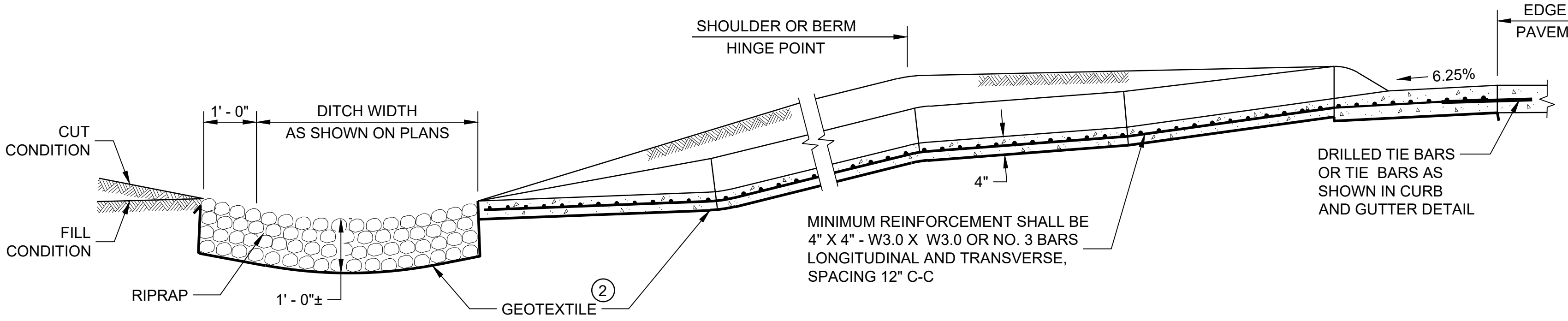
SECTION A - A



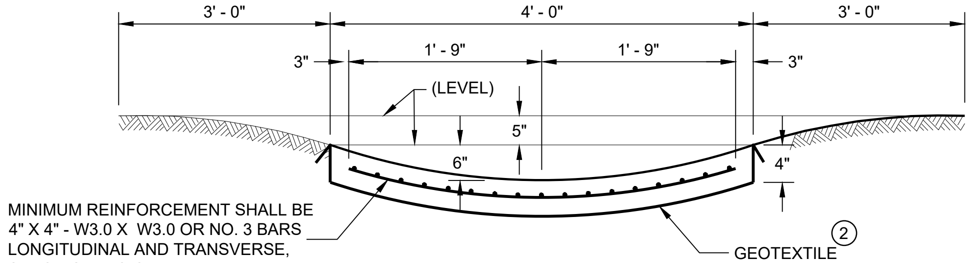
SECTION B - B



PLAN VIEW
CONCRETE SURFACE DRAIN



SECTION C - C

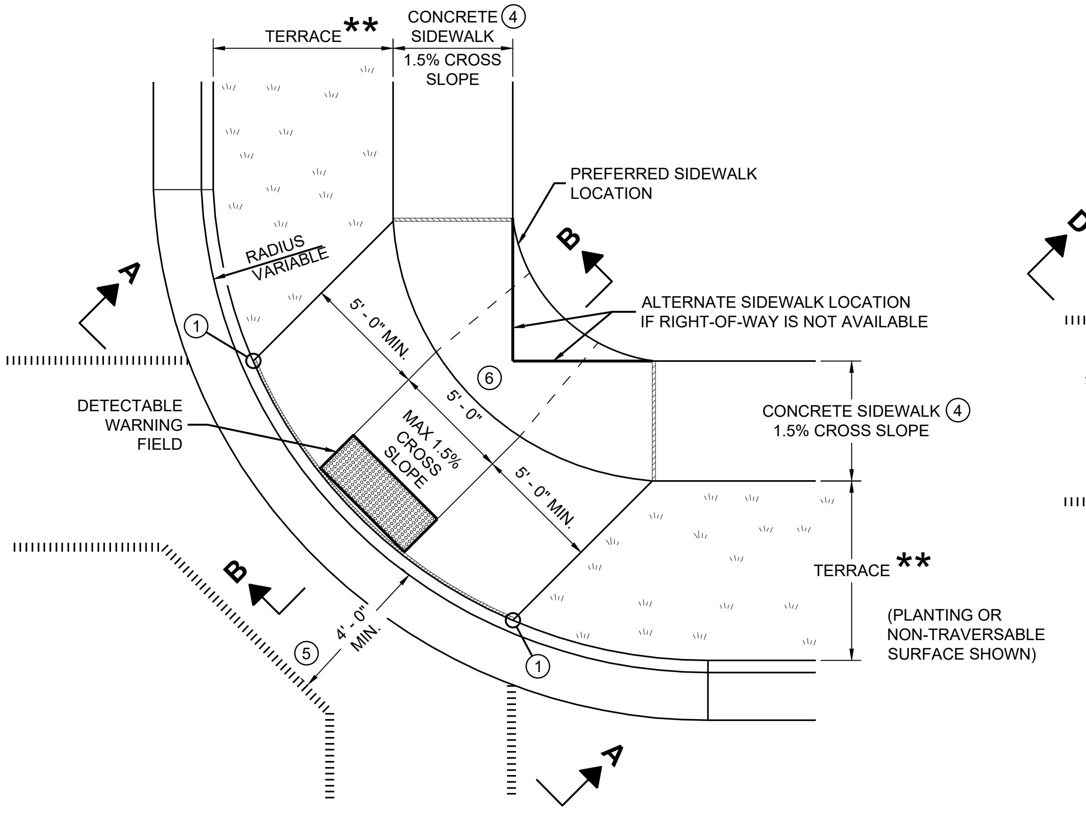


SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

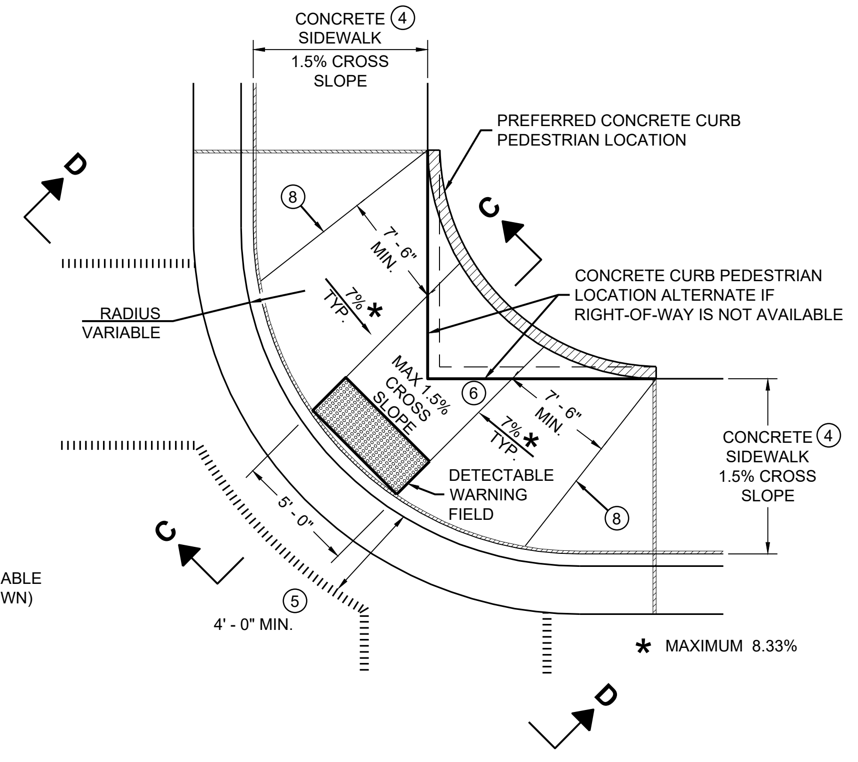
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



PLAN VIEW

CURB RAMP TYPE 1

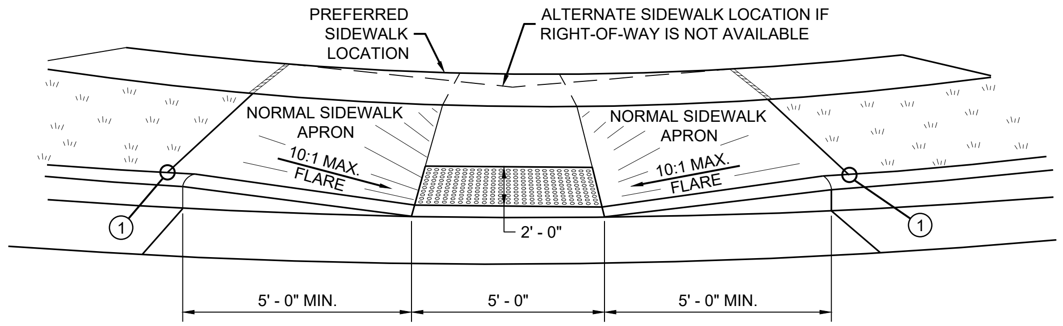
(CENTER OF CORNER RADIUS)



PLAN VIEW

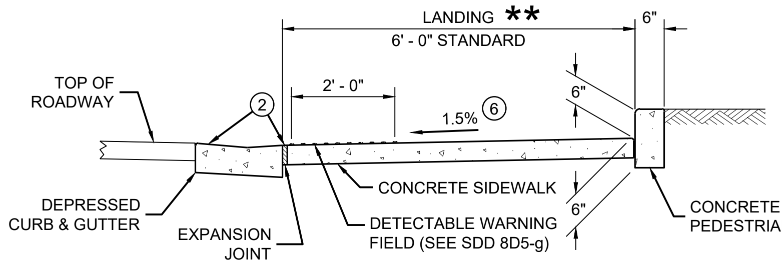
CURB RAMP TYPE 1 - A

(NO TERRACE)

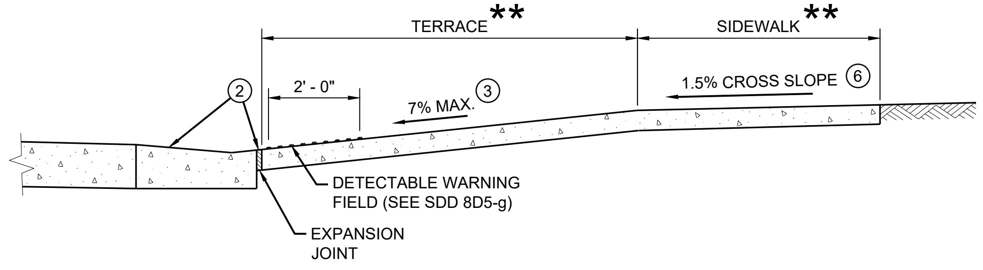


VIEW A - A FOR TYPE 1

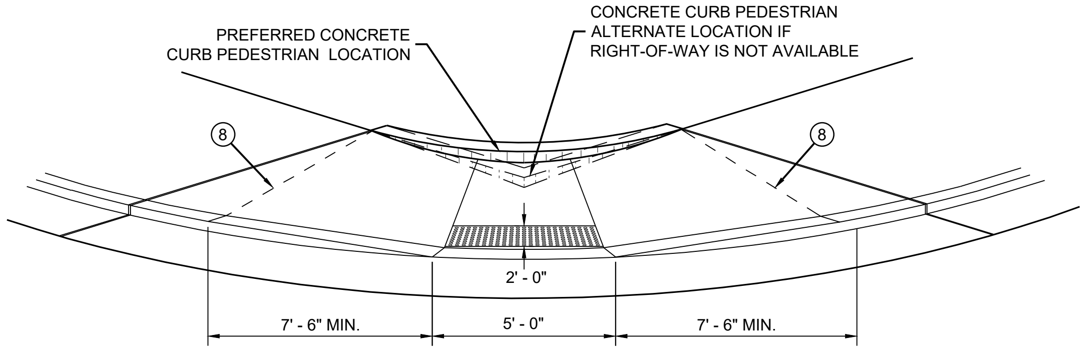
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION C - C FOR TYPE 1 - A



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FILED SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

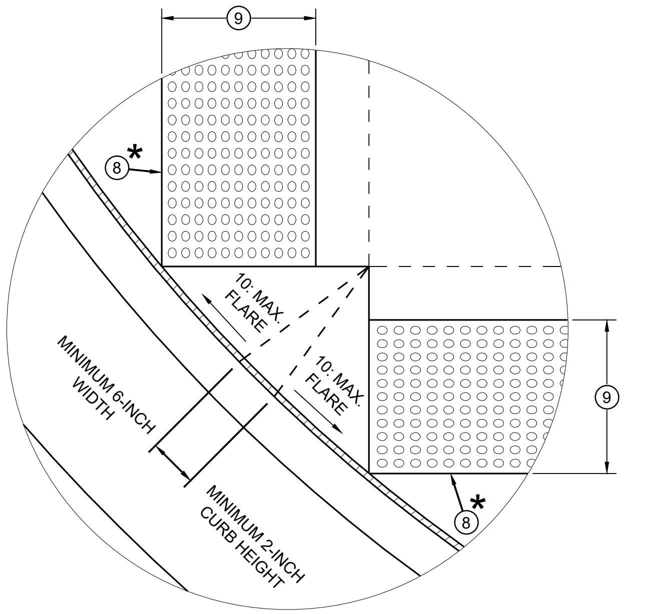
⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

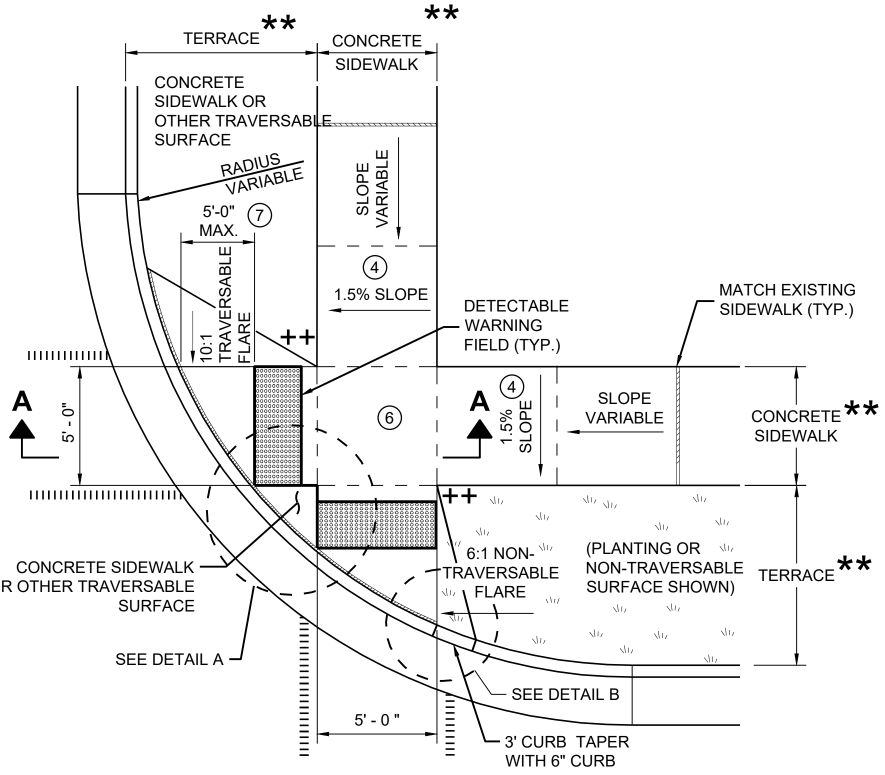
▨	½" EXPANSION JOINT SIDEWALK
– – –	CONTRACTION JOINT FIELD LOCATED
IIIIIIIIIII	PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL A



PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

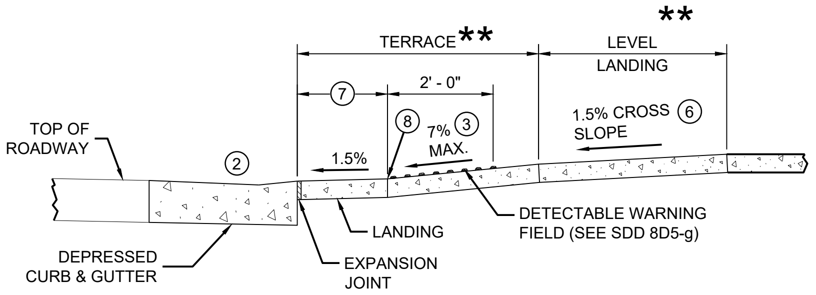
④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

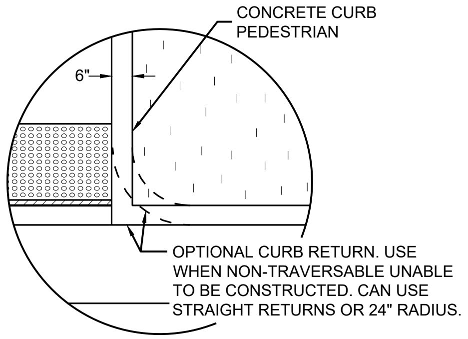


SECTION A - A FOR TYPE 2

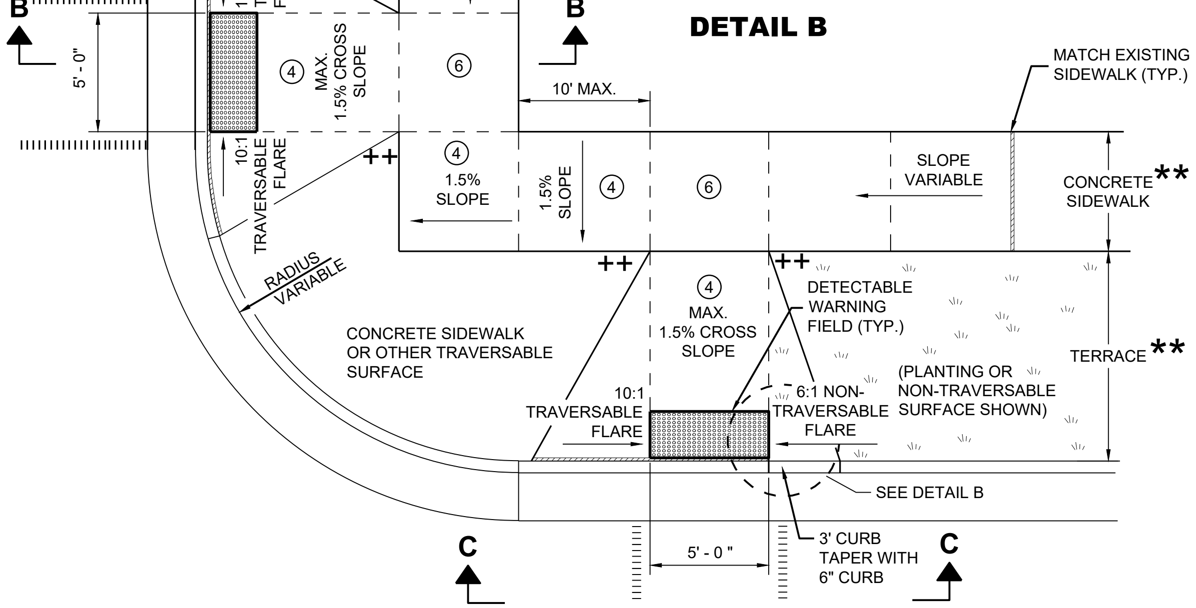
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

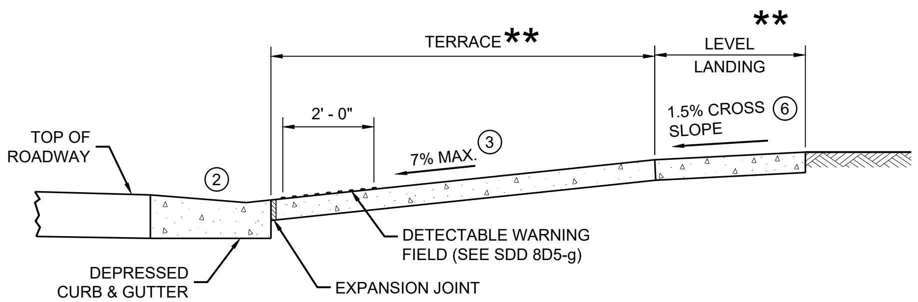
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



DETAIL B



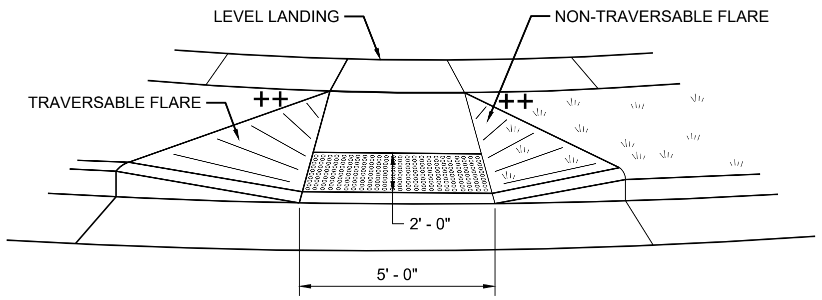
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION B - B FOR TYPE 3

LEGEND

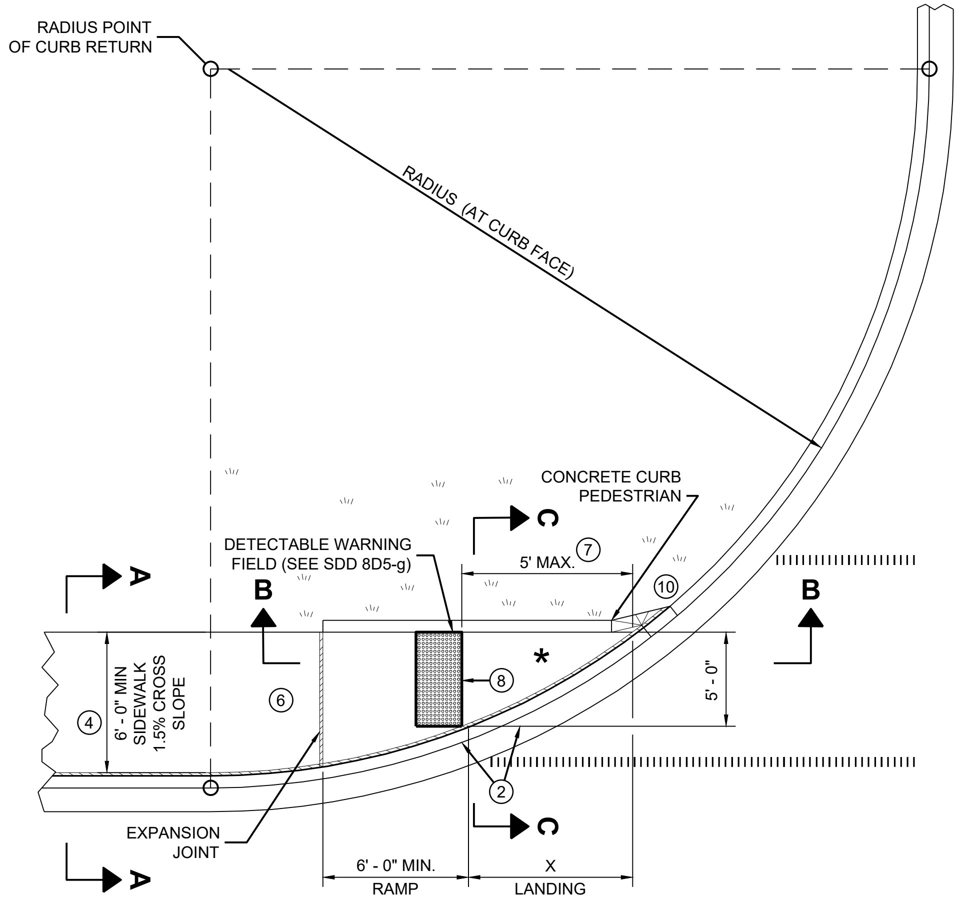
▨	½" EXPANSION JOINT SIDEWALK
– – – –	CONTRACTION JOINT SIDEWALK
ıııııııııı	PAVEMENT MARKING CROSSWALK (WHITE)



VIEW C - C FOR TYPE 3

CURB RAMPS
TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

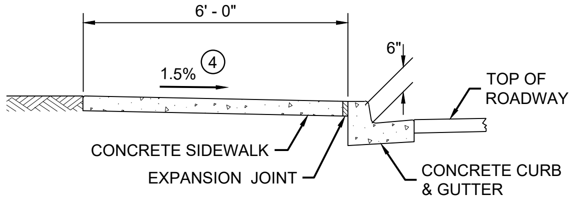


PLAN VIEW

CURB RAMP TYPE 4A

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

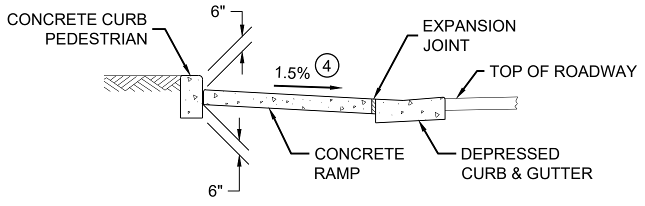
⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

▨ ½" EXPANSION JOINT SIDEWALK

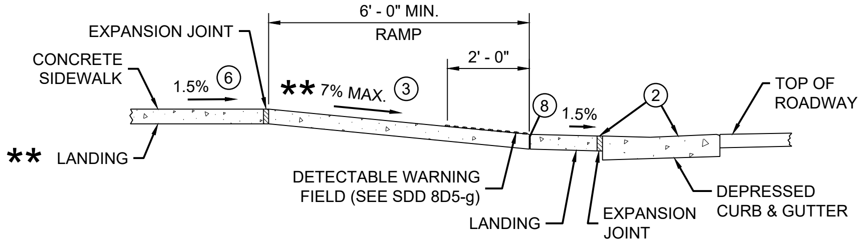
– – – – CONTRACTION JOINT SIDEWALK

IIIIIIIIIIII PAVEMENT MARKING CROSSWALK (WHITE)



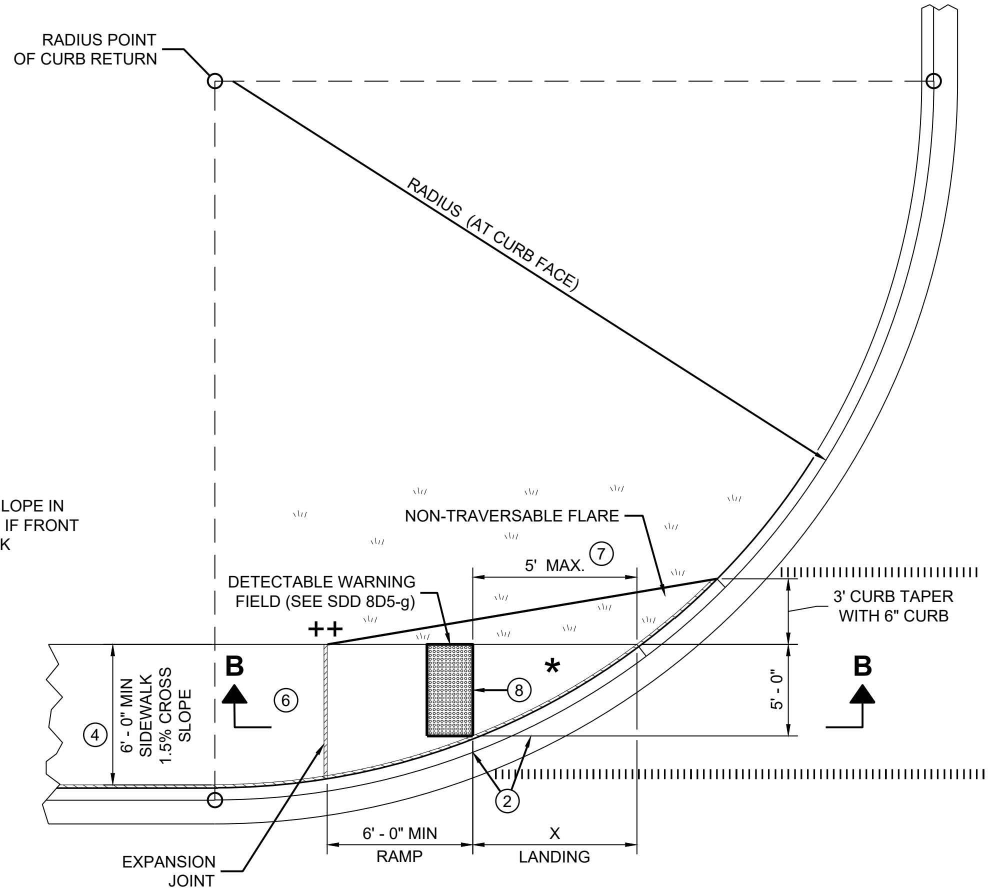
SECTION C - C FOR TYPE 4A

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



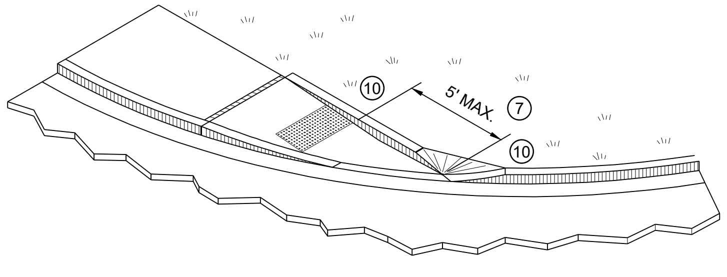
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B - B FOR TYPE 4A AND TYPE 4A1

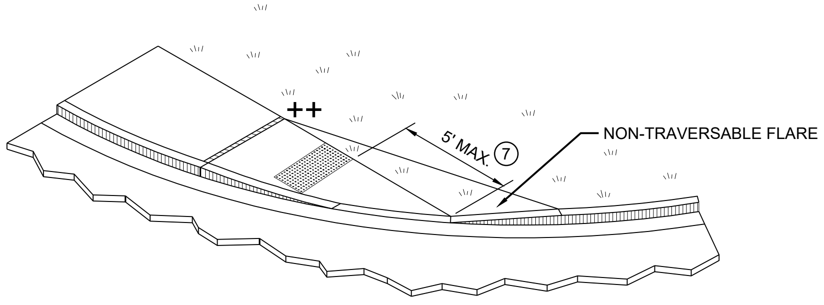


PLAN VIEW

CURB RAMP TYPE 4A1



ISOMETRIC VIEW FOR TYPE 4A

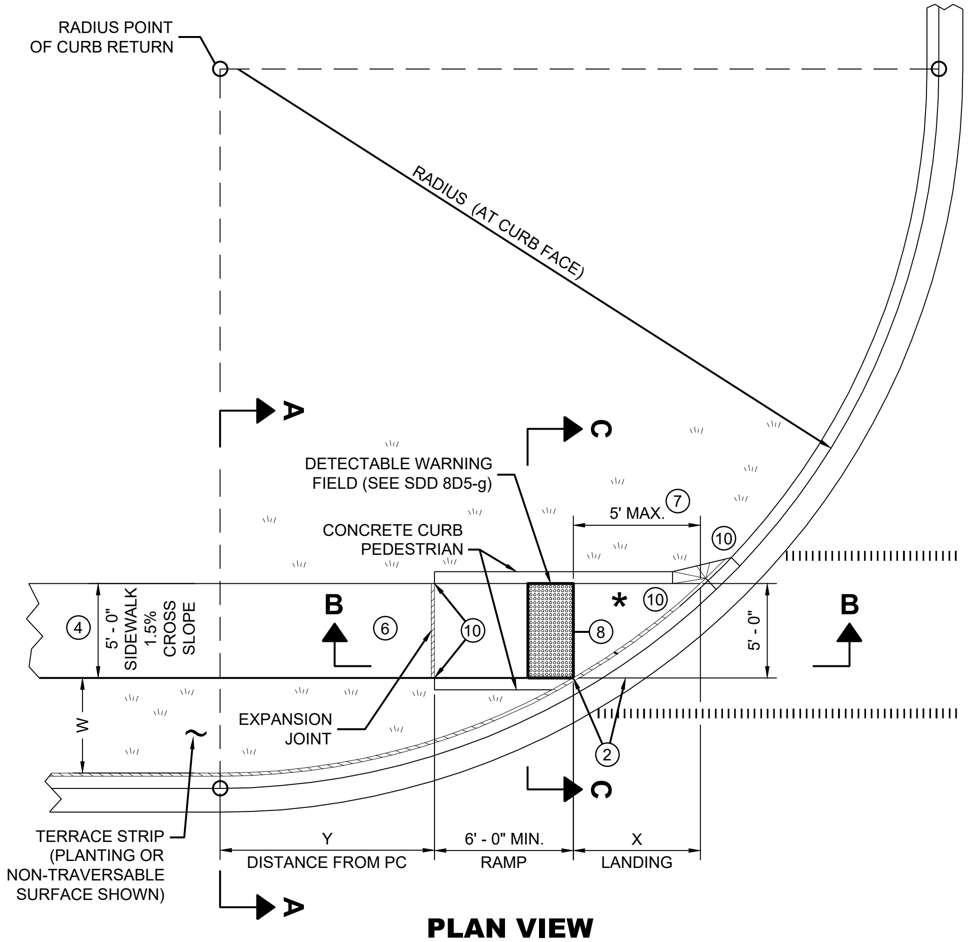


ISOMETRIC VIEW FOR TYPE 4A1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 ¼"	0' - 5"	2' - 1"	1' - 4 ½"	1' - 5"	2' - 1"	0' - 10"	2' - 7 ½"	0' - 3 ¼"	3' - 0 ¼"						
15 FEET	4' - 6 ¾"	2' - 1 ¾"	3' - 9"	3' - 5 ¾"	3' - 1 ¼"	4' - 6"	2' - 6 ¾"	5' - 4 ½"	2' - 1"	6' - 1"	1' - 8"	6' - 8 ½"	1' - 3 ¼"	7' - 2 ½"	0' - 10 ¾"	7' - 7 ¼"
20 FEET			4' - 11 ½"	5' - 1 ¾"	4' - 3 ¼"	6' - 5 ½"	3' - 8 ¾"	7' - 7"	3' - 3"	8' - 6 ½"	2' - 10"	9' - 4 ½"	2' - 5 ½"	10' - 1 ¼"	2' - 1 ¼"	10' - 9"
30 FEET									4' - 10 ¾"	12' - 5 ¾"	4' - 5 ½"	13' - 7 ¾"	4' - 0 ¾"	14' - 8 ½"	3' - 8 ½"	15' - 8 ¼"
40 FEET															4' - 10 ¾"	19' - 8 ¼"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

LEGEND

▨ ½" EXPANSION JOINT SIDEWALK
– – – – CONTRACTION JOINT SIDEWALK
IIIIIIIIIIII PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

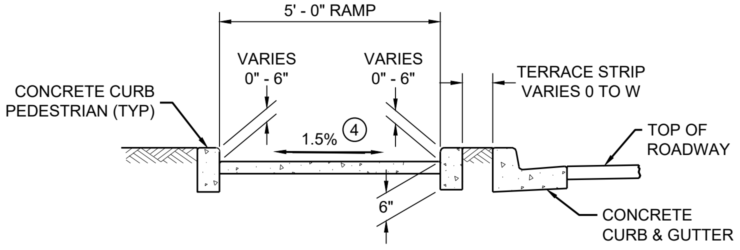
④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

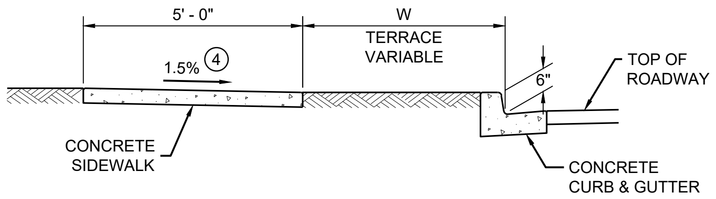
⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

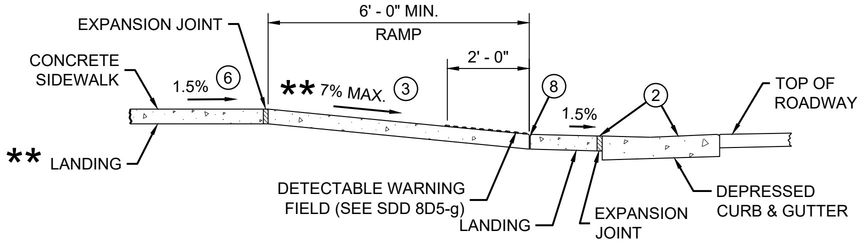


SECTION C - C FOR TYPE 4B



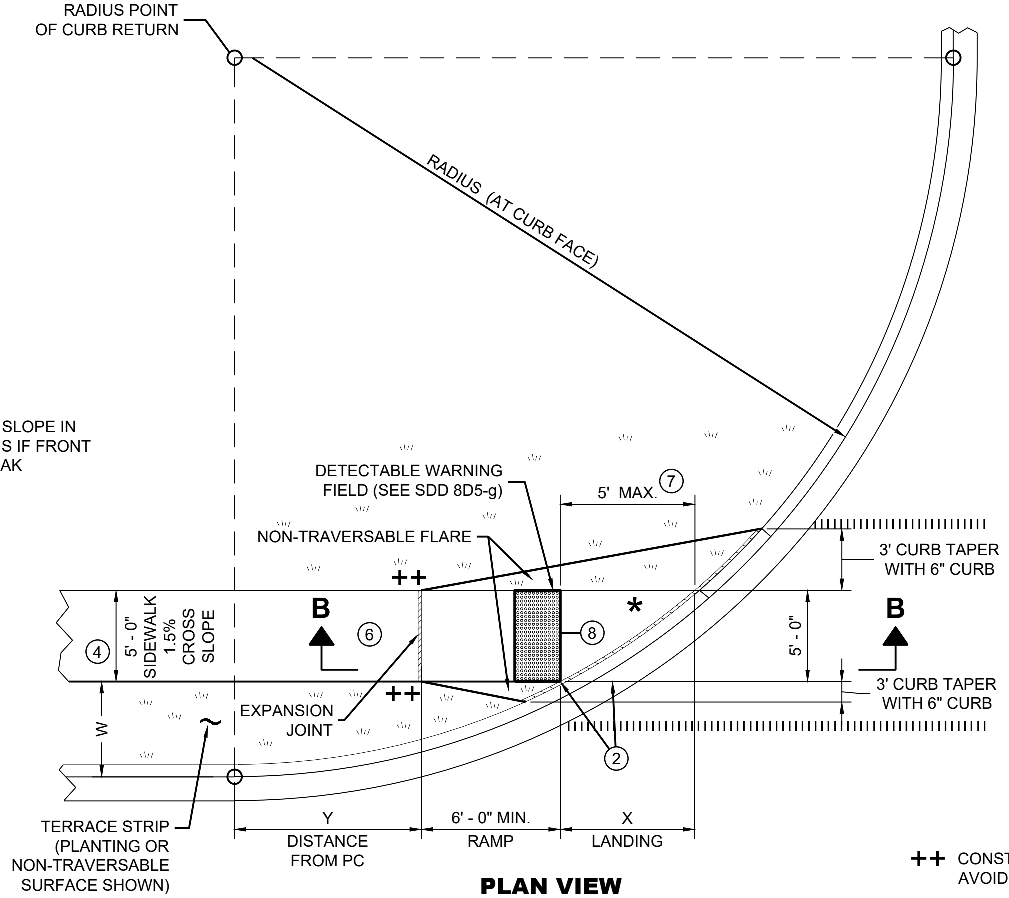
SECTION A - A FOR TYPE 4B

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK



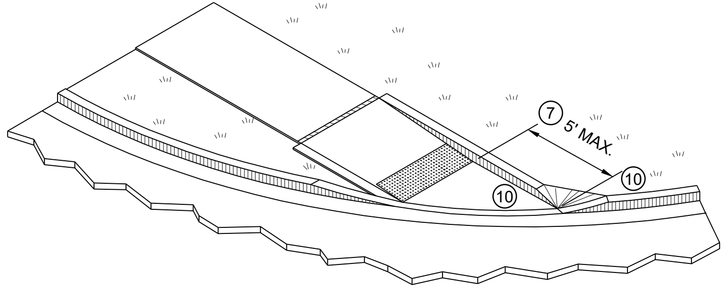
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B - B FOR TYPE 4B AND TYPE 4B1

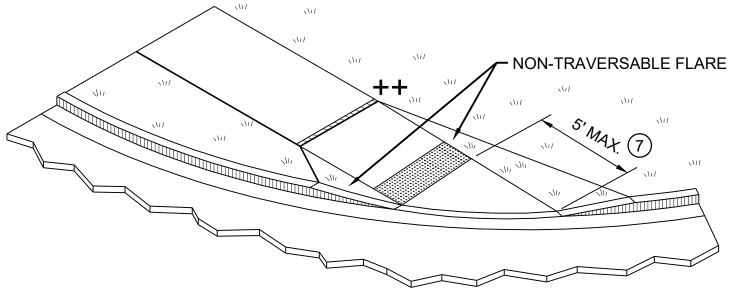


PLAN VIEW
CURB RAMP TYPE 4B1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



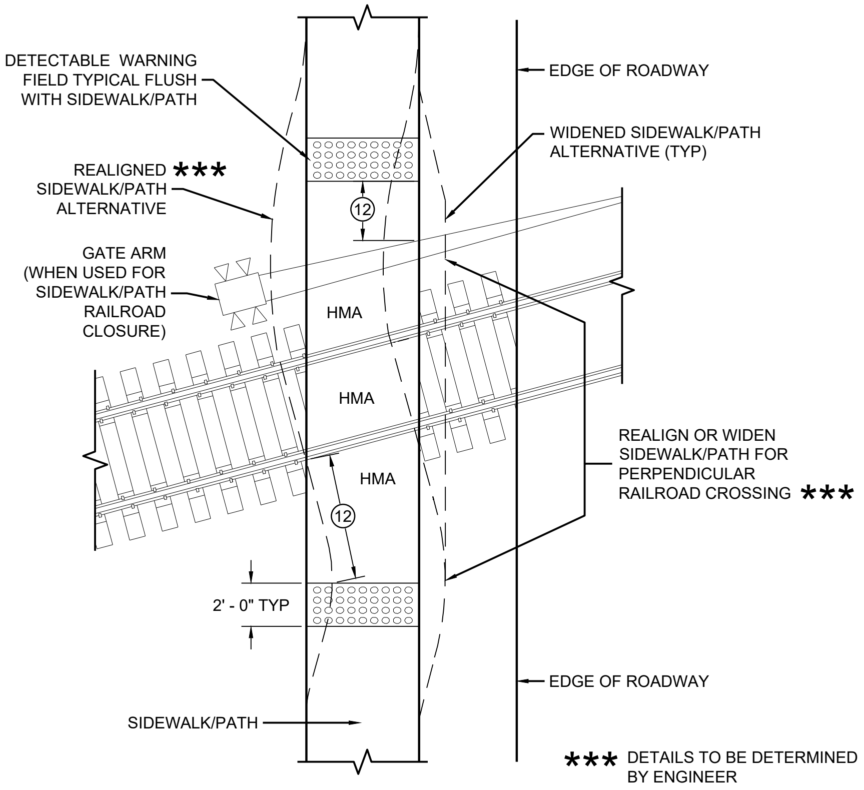
ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

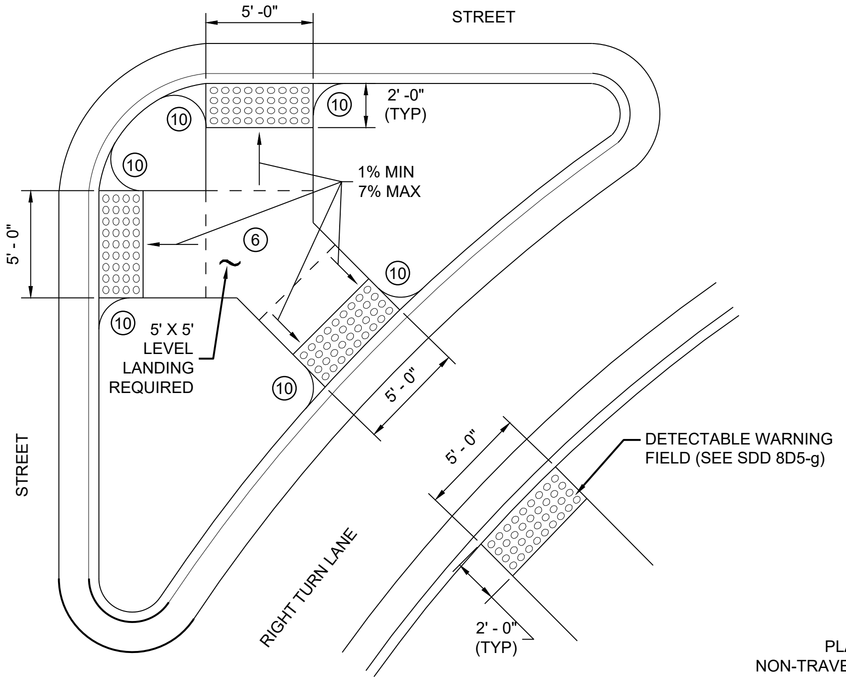
CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 8

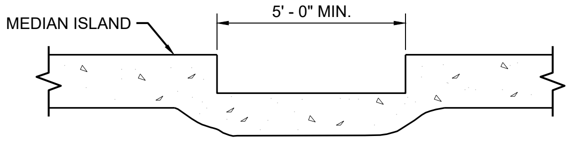
DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



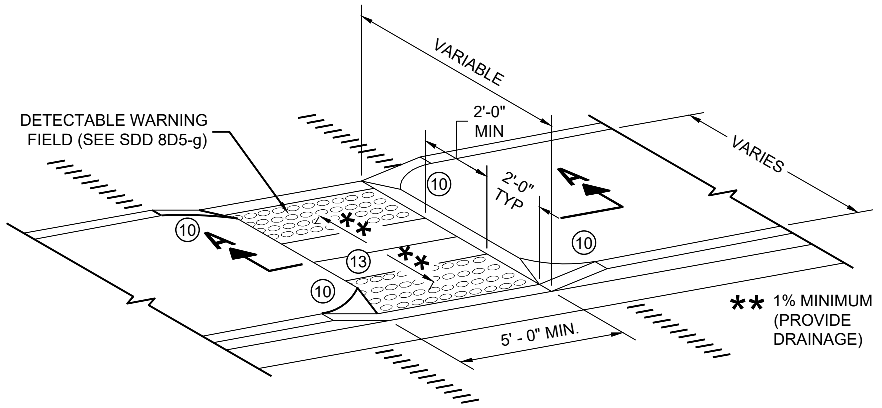
CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES ② AND ③
FOR ALL ISLAND CURB RAMPS

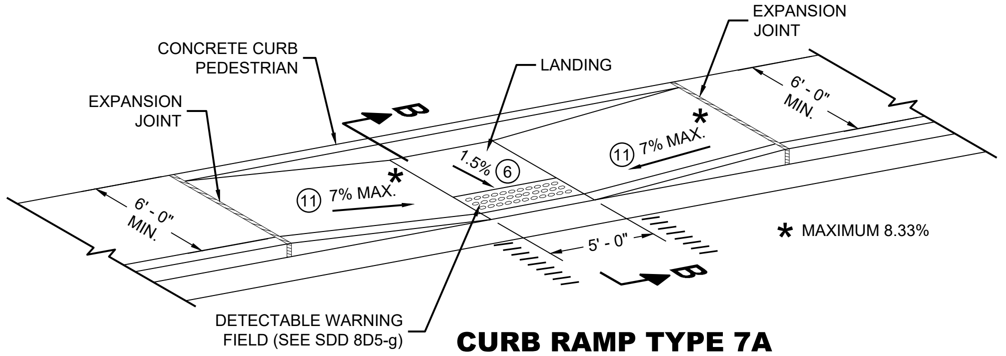


SECTION A - A FOR TYPE 5



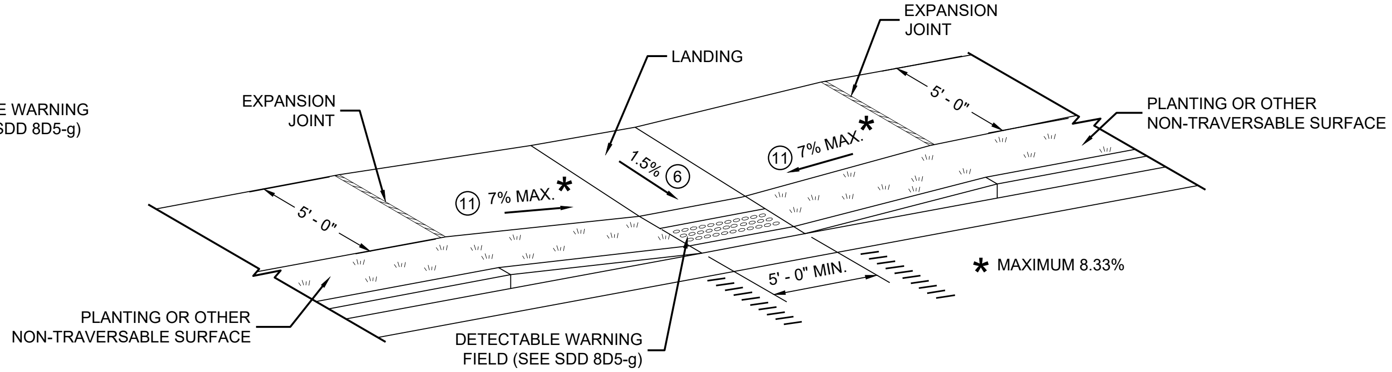
CURB RAMP TYPE 5

MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING



CURB RAMP TYPE 7A

FOR INTERSECTIONS AND MID BLOCK CROSSINGS



CURB RAMP TYPE 7B

FOR INTERSECTIONS AND MID BLOCK CROSSINGS

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

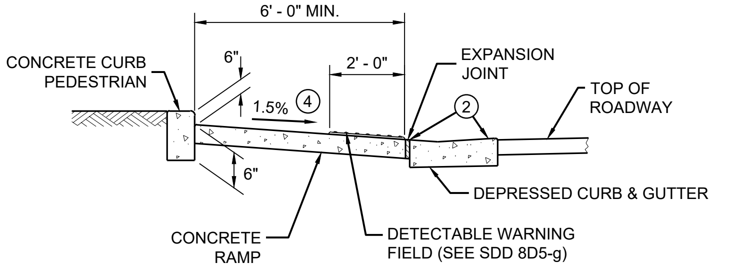
⑪ SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

⑫ THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.

⑬ DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

▨	½" EXPANSION JOINT SIDEWALK
– – – –	CONTRACTION JOINT FIELD LOCATED
❘❘❘❘❘❘❘❘❘	PAVEMENT MARKING CROSSWALK (WHITE)

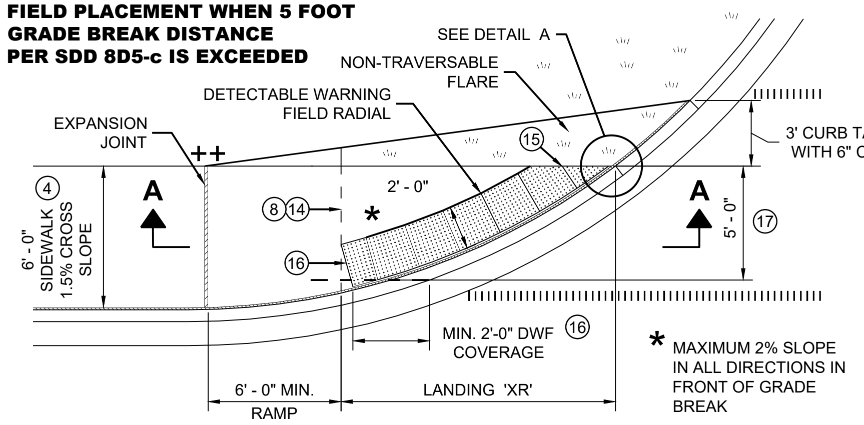


SECTION B - B FOR TYPE 7A

CURB RAMPS
TYPE 5, 6, 7A, 7B & 8

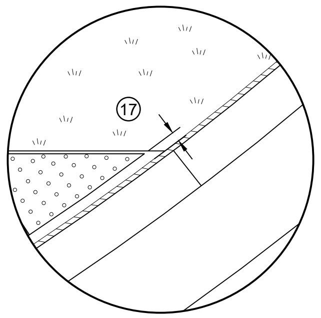
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-c IS EXCEEDED

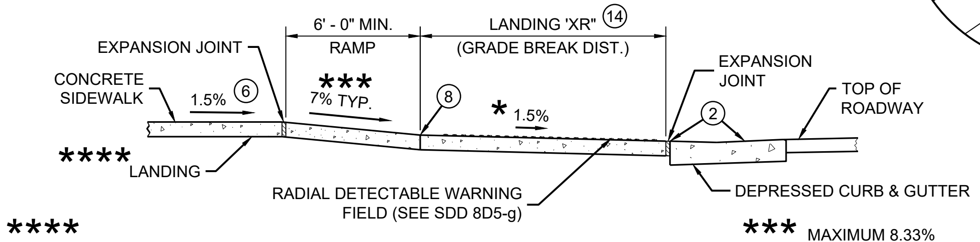


* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

PLAN VIEW
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL A



**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1

LEGEND

▨ ½" EXPANSION JOINT SIDEWALK

- - - CONTRACTION JOINT SIDEWALK

||||||||||| PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

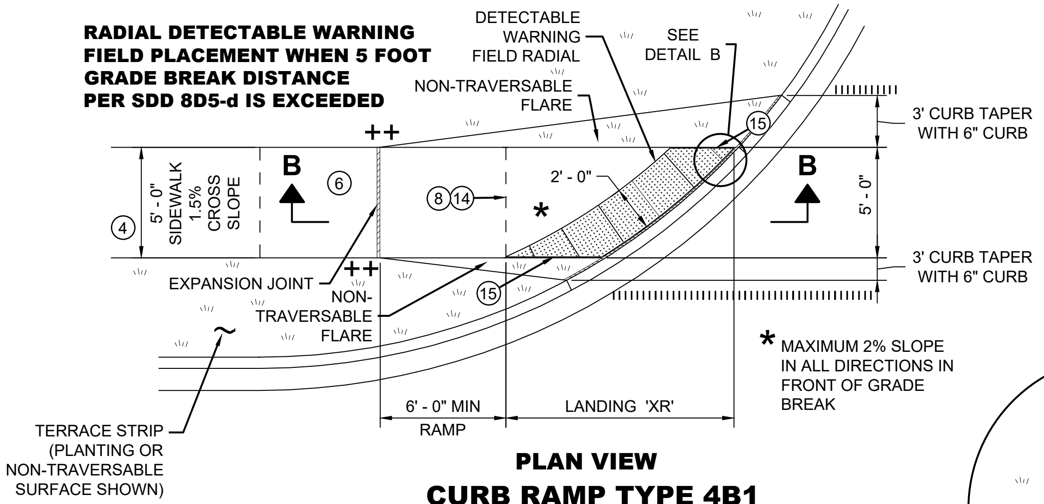
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(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 ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

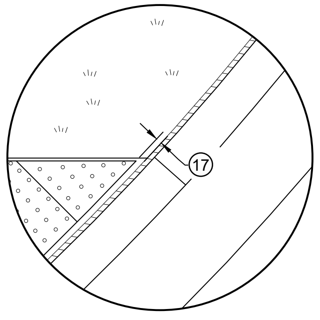
(17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-d IS EXCEEDED

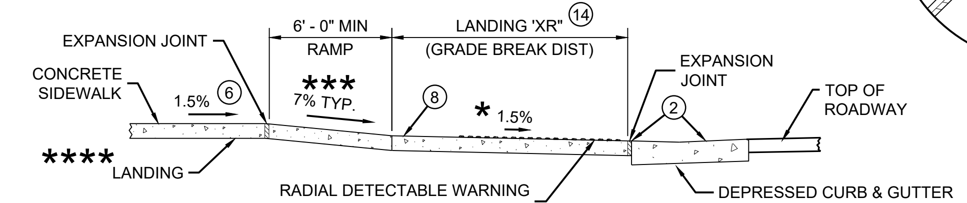


* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



DETAIL B

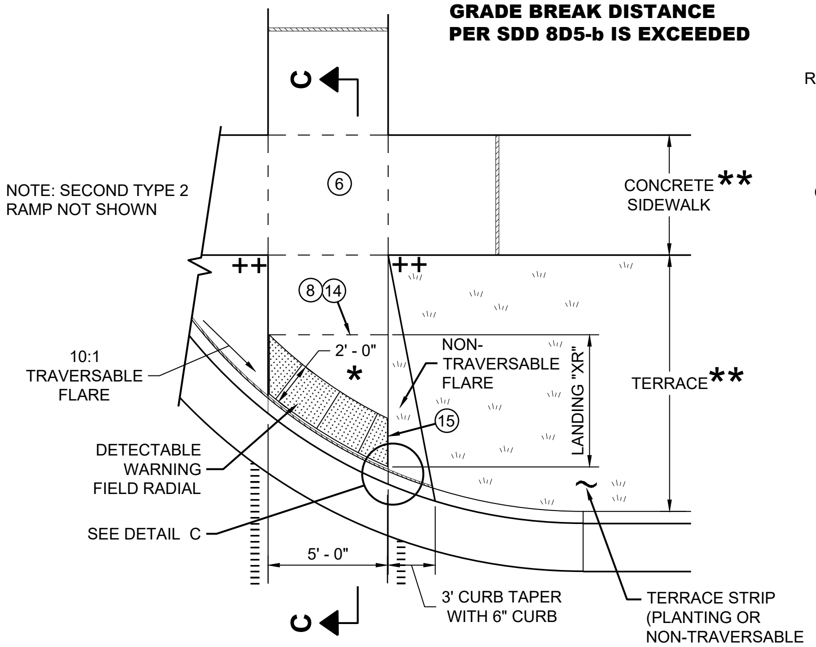


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

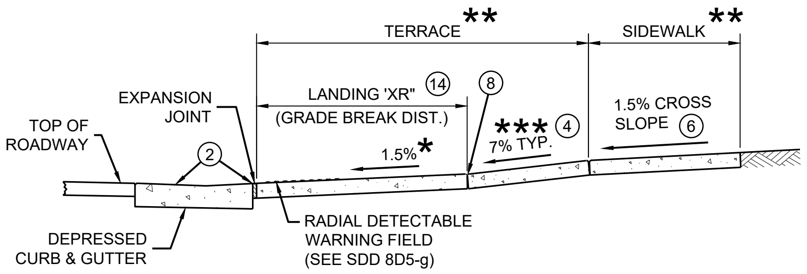
*** MAXIMUM 8.33%

SECTION B - B FOR TYPE 4B1

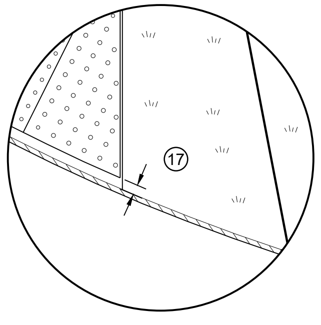
RADIAL DETECTABLE WARNING FIELD PLACEMENT WHEN 5 FOOT GRADE BREAK DISTANCE PER SDD 8D5-b IS EXCEEDED



PLAN VIEW
CURB RAMP TYPE 2
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)



SECTION C - C FOR TYPE 2



DETAIL C

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%

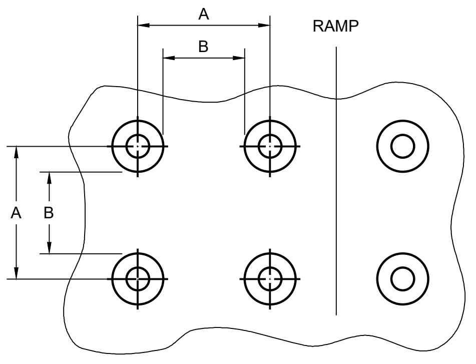
++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS
RADIAL DETECTABLE WARNING

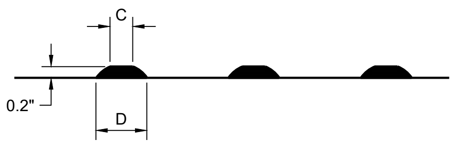
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

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

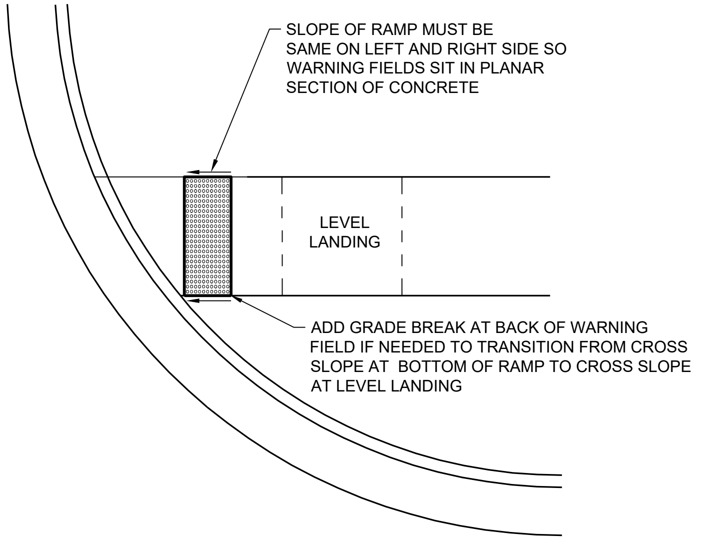


PLAN VIEW



ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



DETECTABLE WARNING FIELD
PLANAR INSTALLATION

GENERAL NOTES

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.

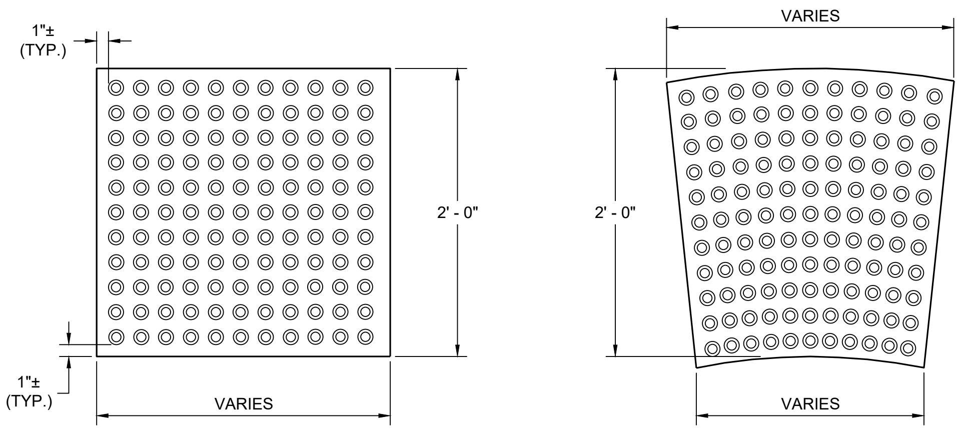
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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 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 ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

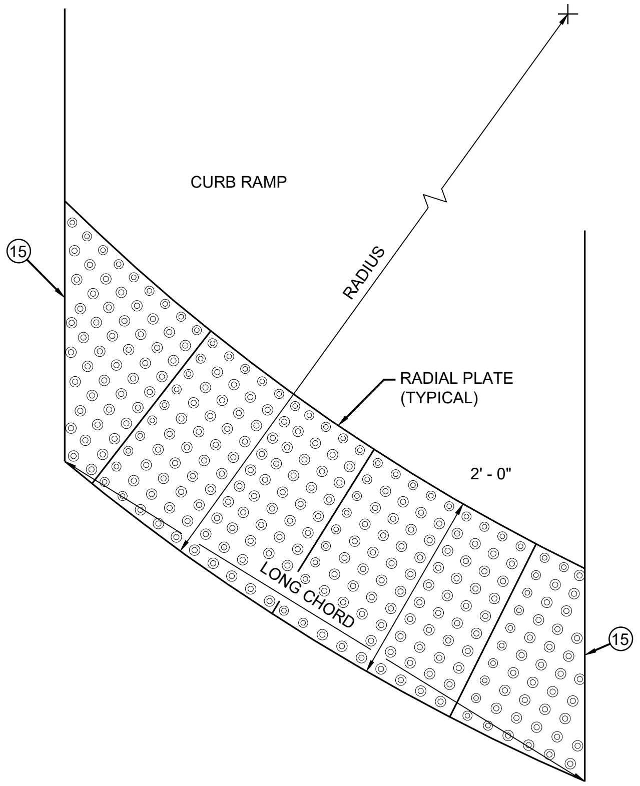


RECTANGULAR PLATES

RADIAL PLATES

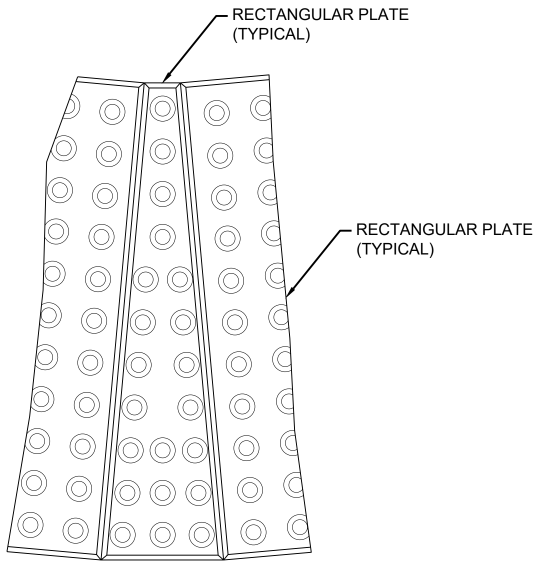
PLAN VIEW

DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW

RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



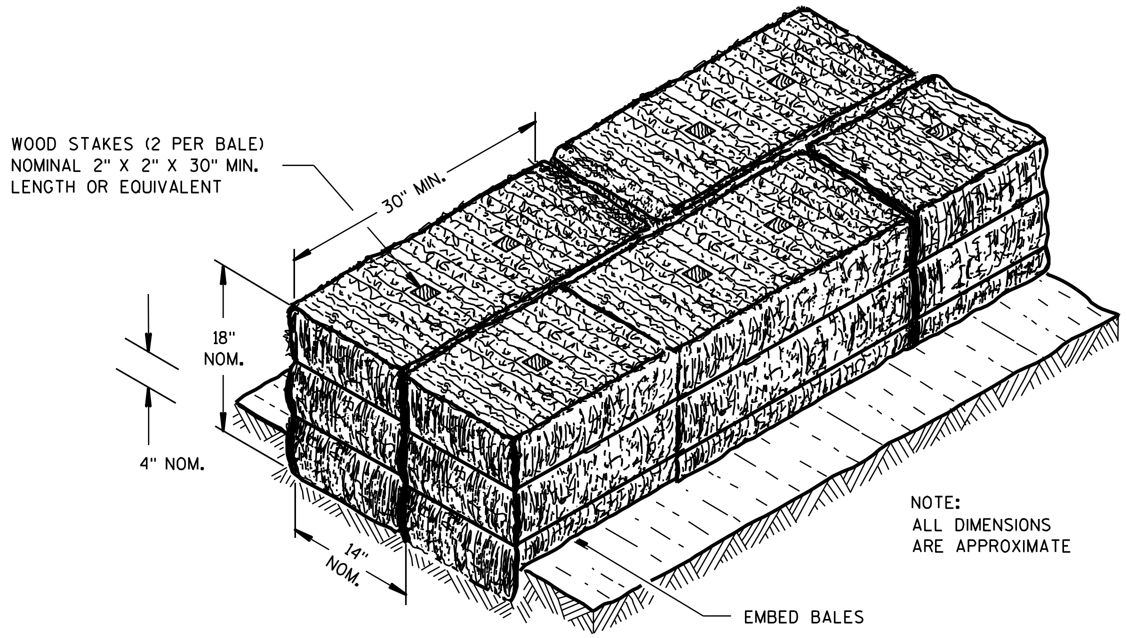
PLAN VIEW

RADIAL WEDGE PLATE CONNECTION DETAIL

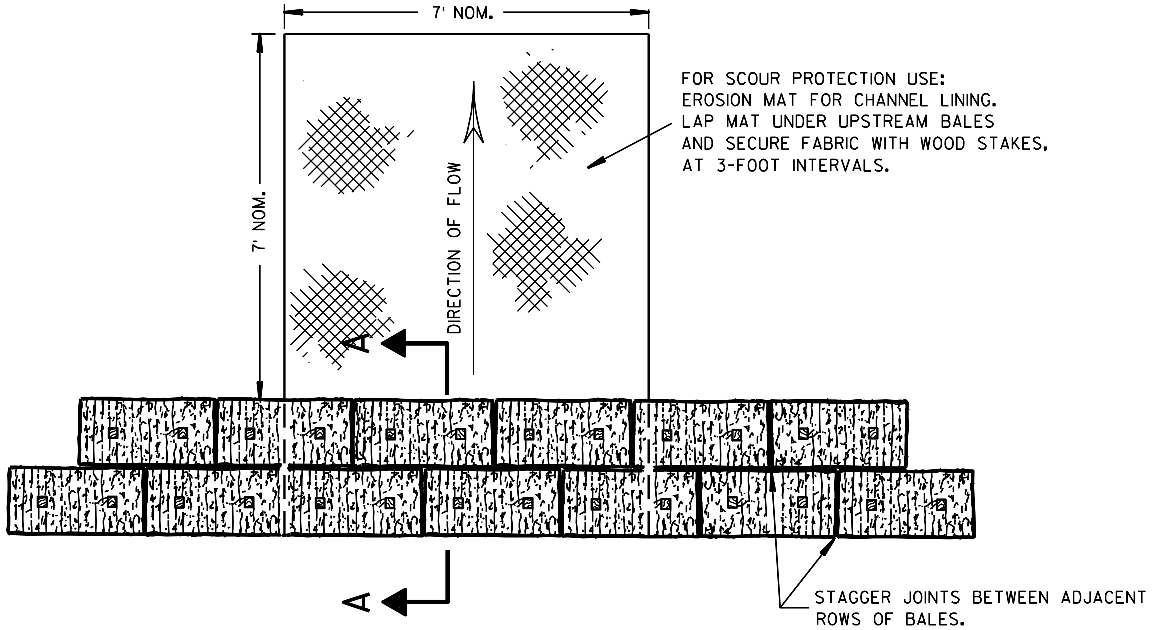
CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

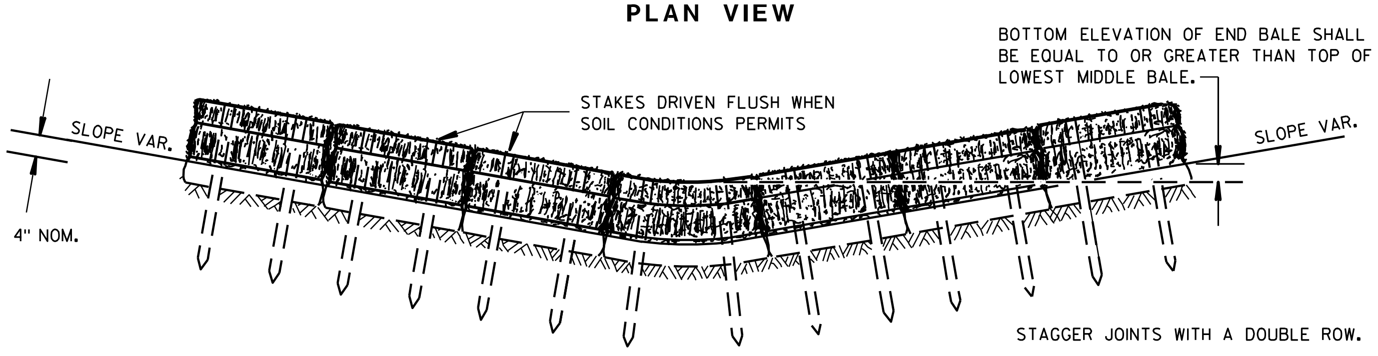
APPROVED
July 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



SECTION A-A



PLAN VIEW



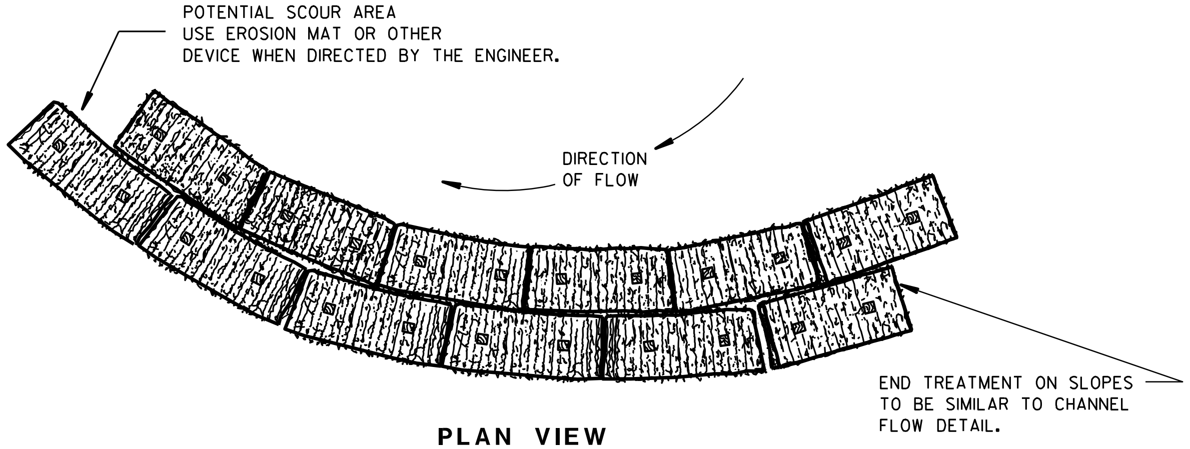
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

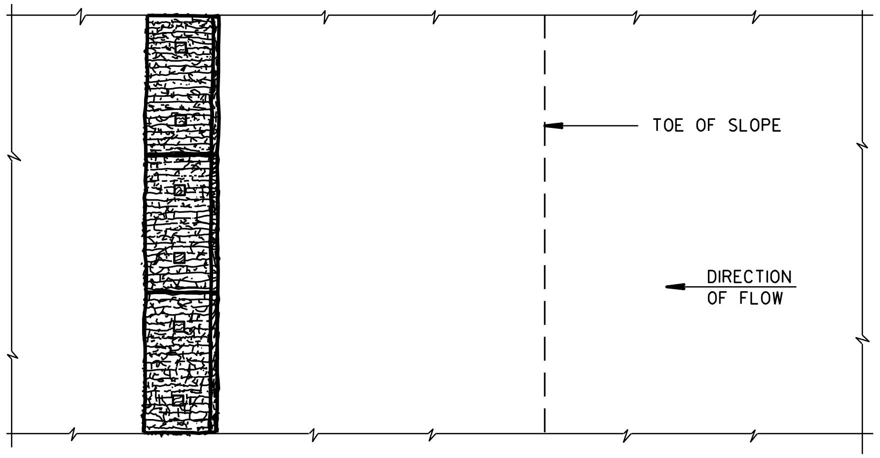
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

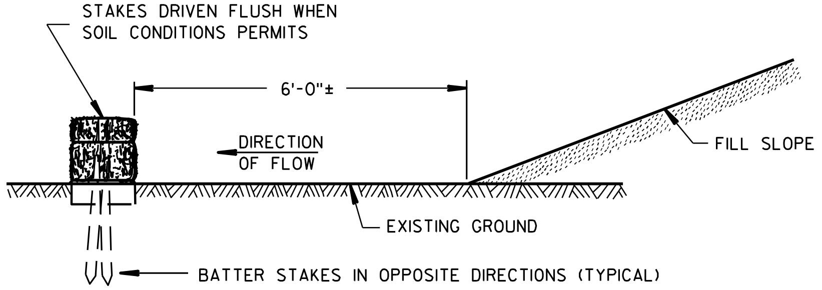


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

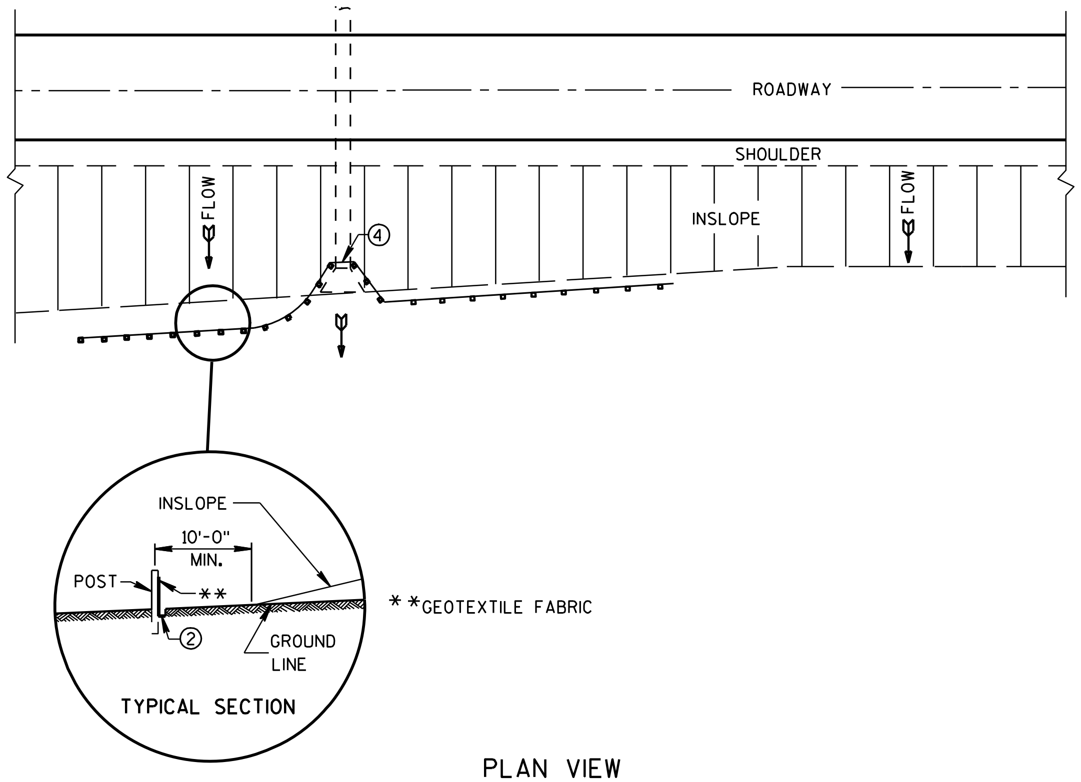
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

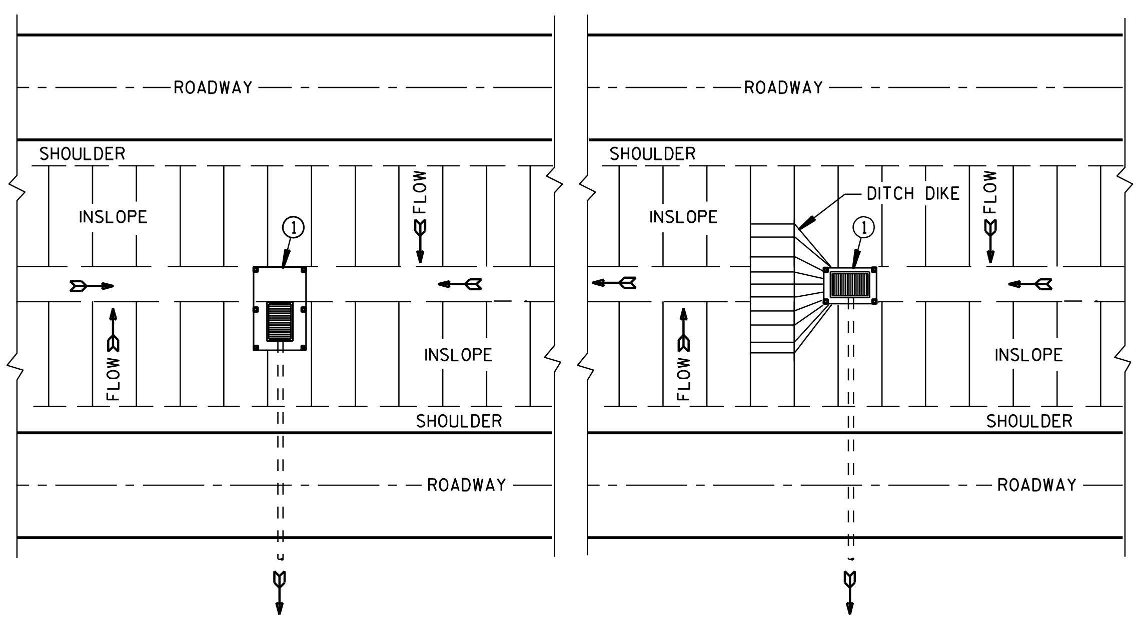
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02
DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOP GINEER
FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



SITUATION 1

SITUATION 2

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.

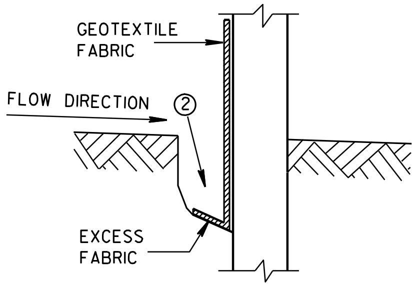
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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 $1\frac{1}{8}$" X $1\frac{1}{8}$" OF OAK OR HICKORY.

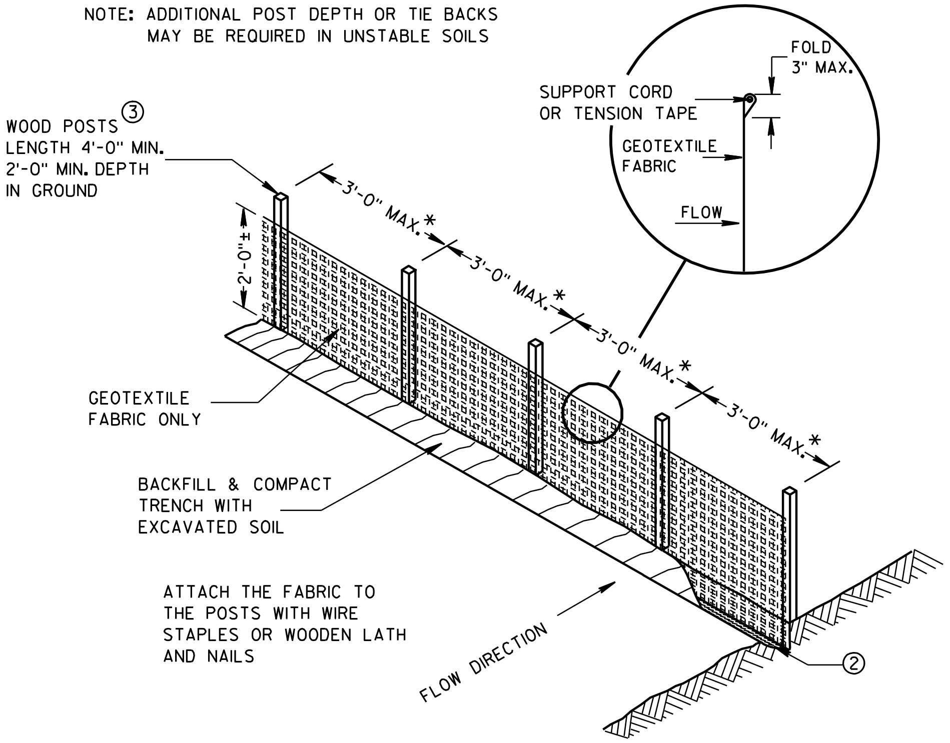
④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

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.



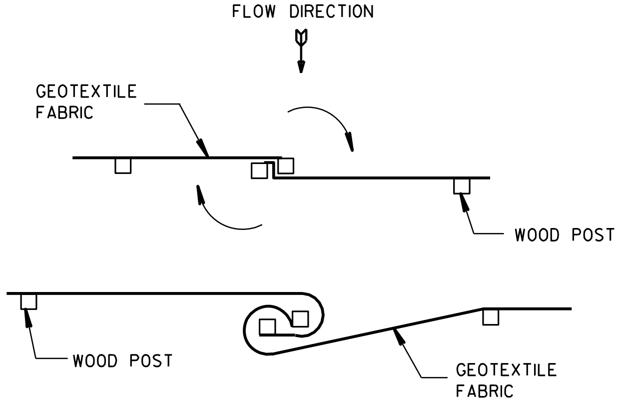
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

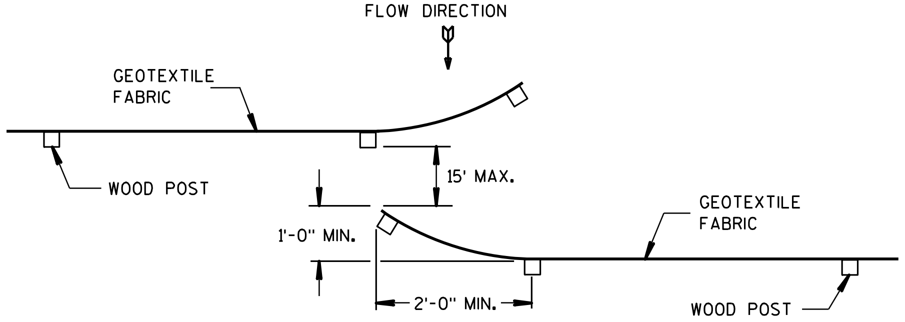


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

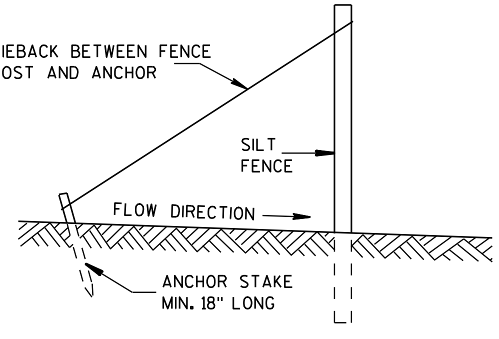


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE⑤



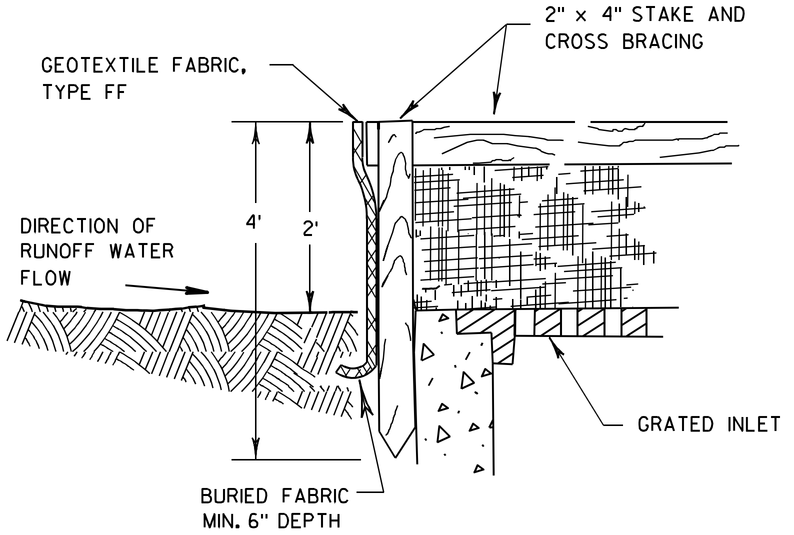
SILT FENCE TIE BACK

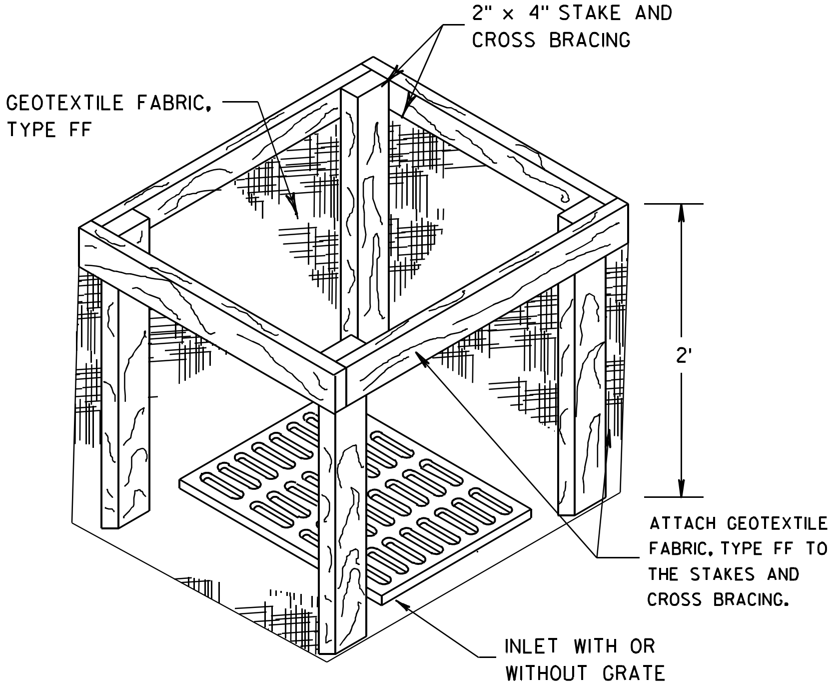
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

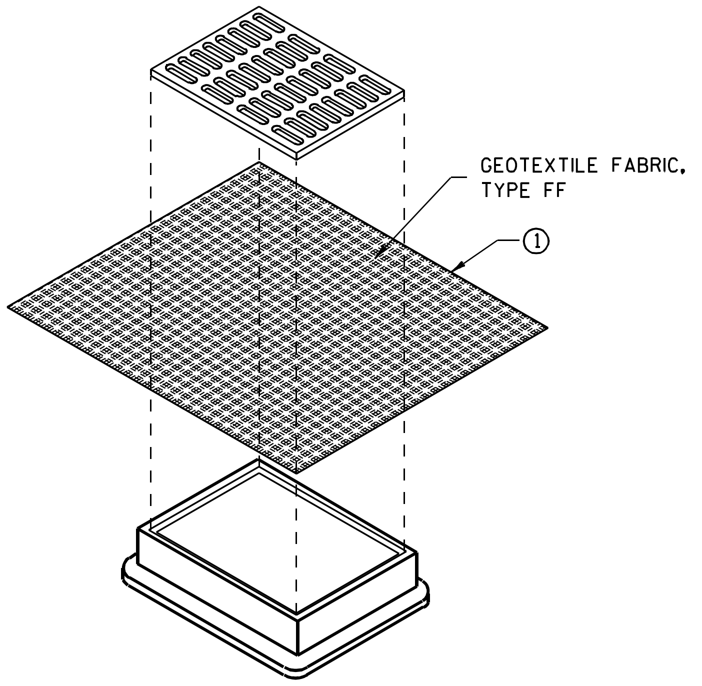
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE
/S/ Beth Cann
CHIEF ROADWAY DEVELOP INEER
FHWA



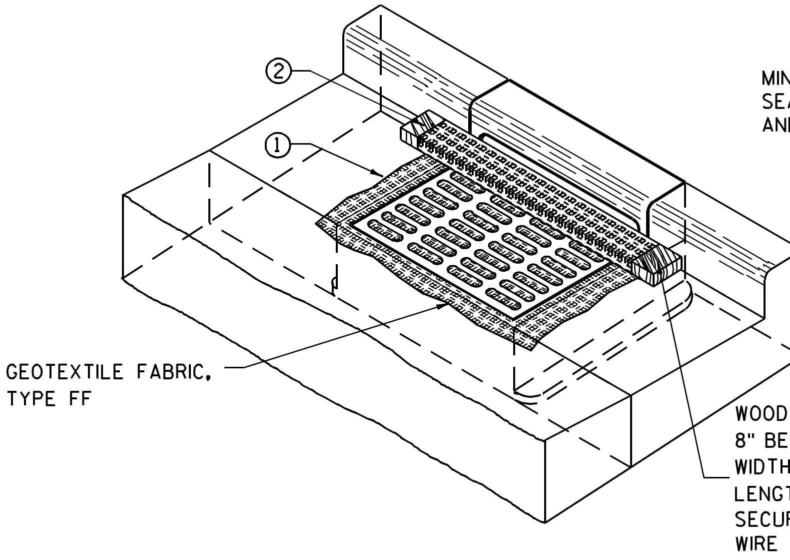


INLET PROTECTION, TYPE A

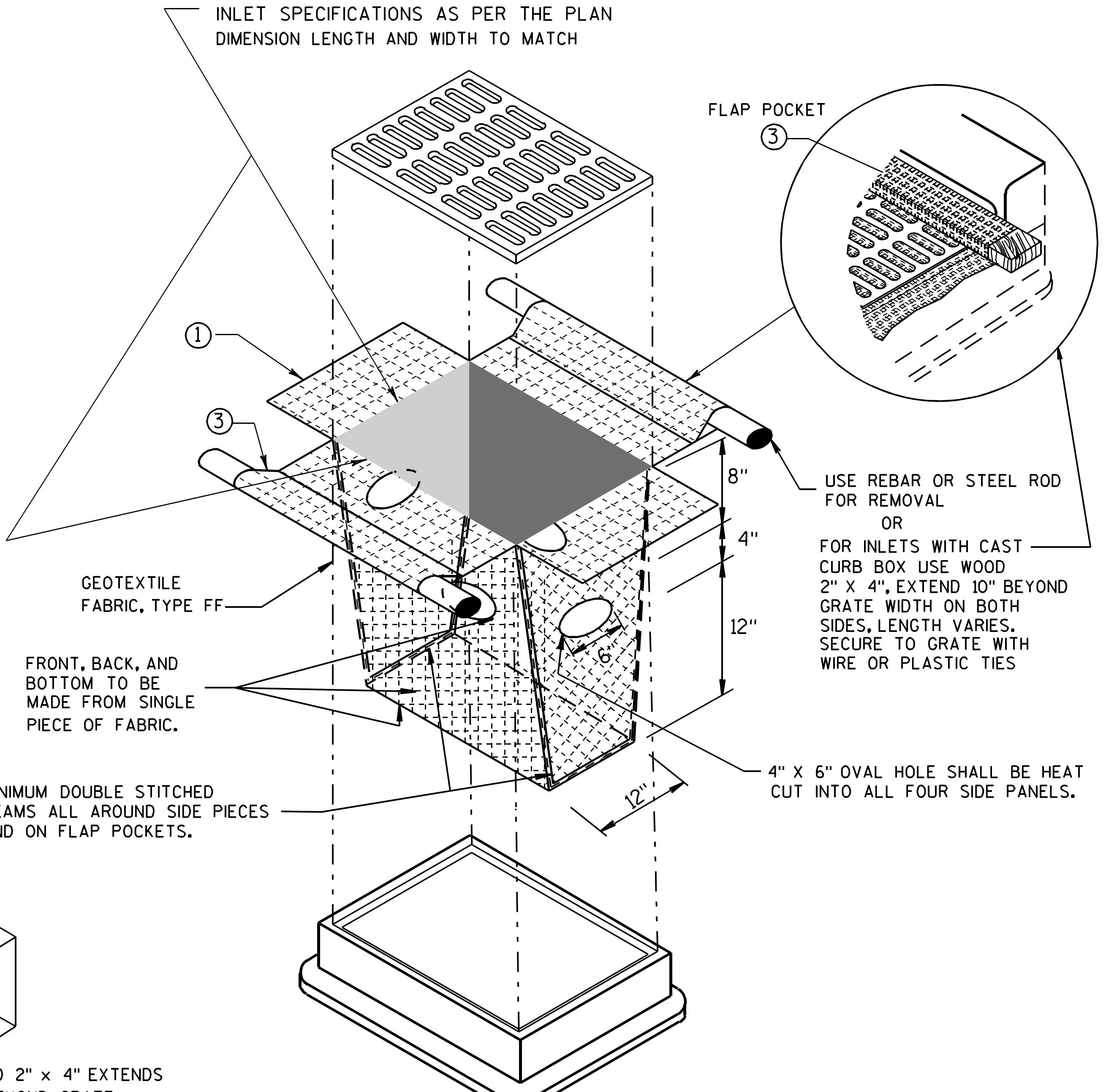


INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

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 SUBSTITUTED.

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.

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.

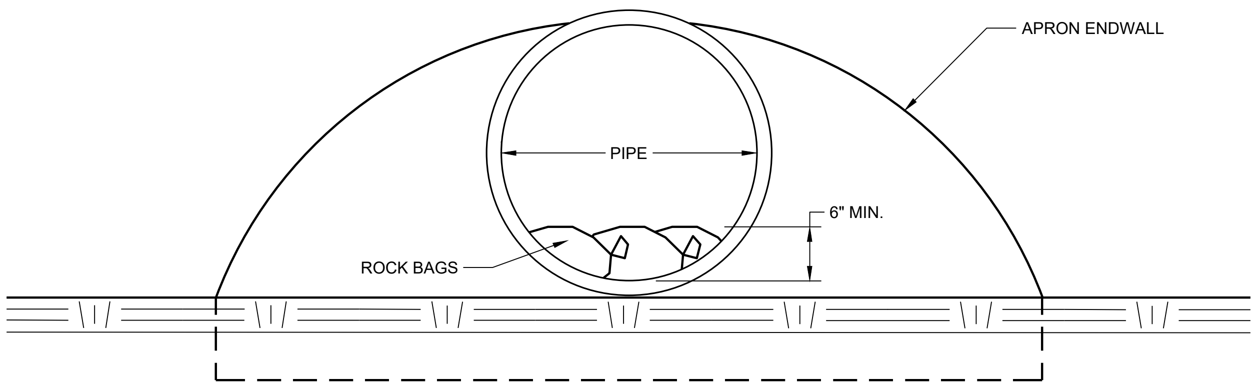
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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.

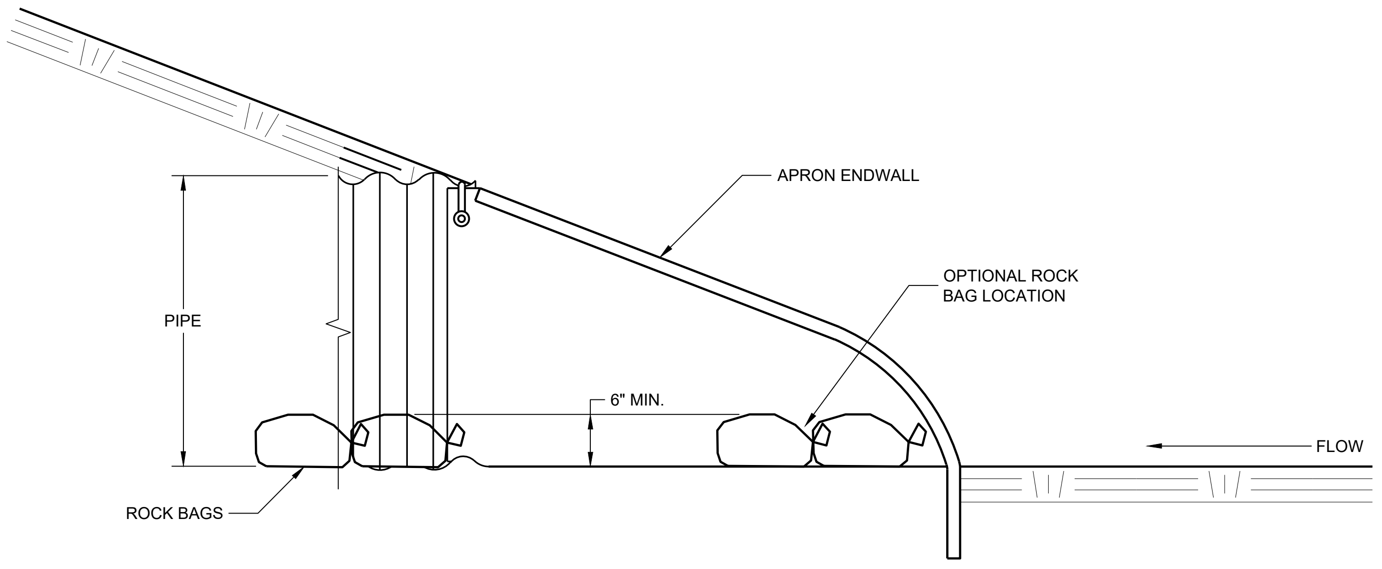
INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02 /S/ Beth Cann
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE
/S/ Daniel Schave
EROSION CONTROL ENGI
FHWA

METAL APRON ENDWALLS

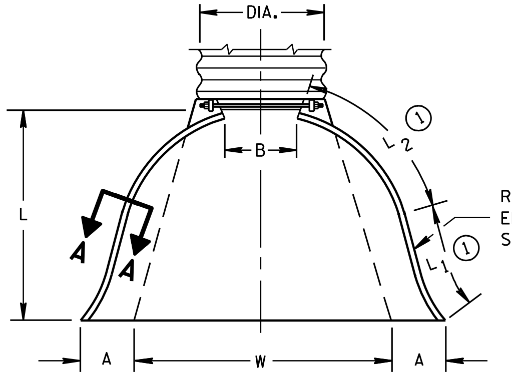
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L_1 ①	L_2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 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	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL
SEE GENERAL NOTES

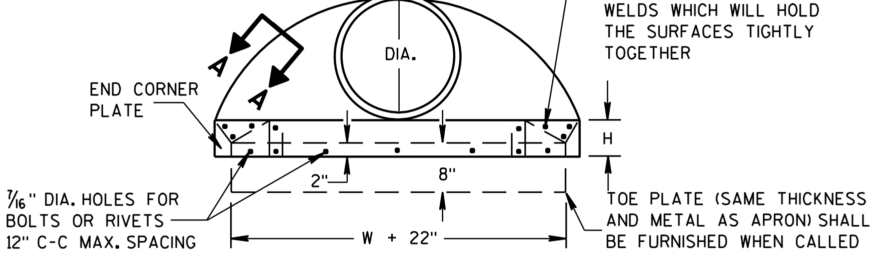
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 7/8	72 7/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	*33 1/4-**35	*98 1/4-**100	90	5 1/2	2 2/5 to 1
60	6	*30-**35	60	39	99	96	5	2 to 1
66	6 1/2	*24-**30	*72-**78	*21-**27	99	102	5 1/2	2 to 1
72	7	*24-**36	78	21	99	108	6	2 to 1
78	7 1/2	*24-**36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

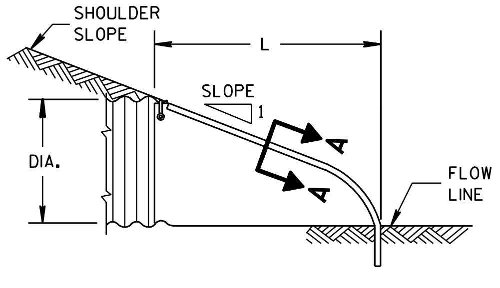
*MINIMUM
**MAXIMUM



PLAN VIEW

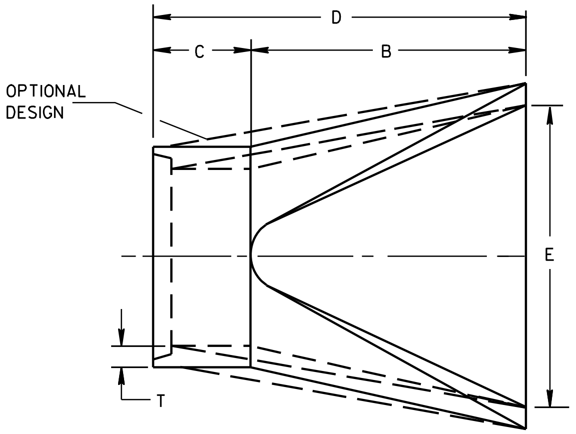


END VIEW

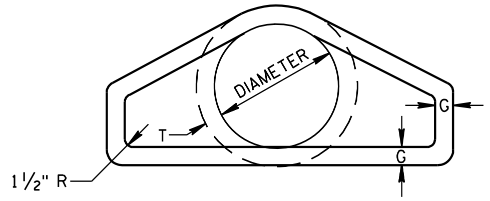


SIDE ELEVATION

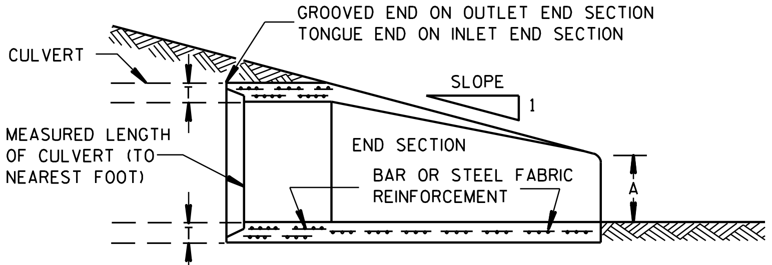
METAL ENDWALLS



PLAN

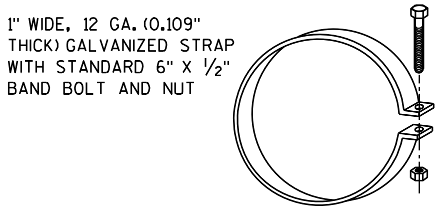


END VIEW



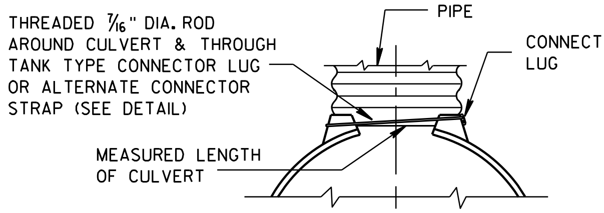
LONGITUDINAL SECTION

CONCRETE ENDWALLS

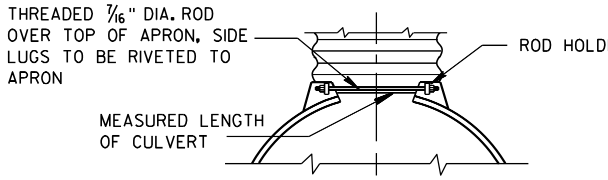


ALTERNATE FOR TYPE 1 CONNECTION

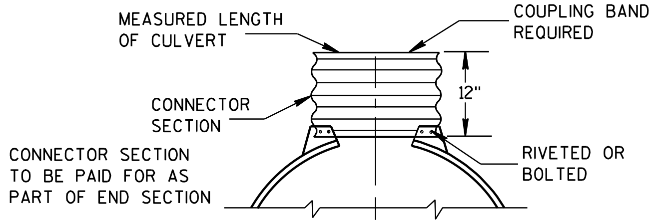
END SECTION CONNECTOR STRAP



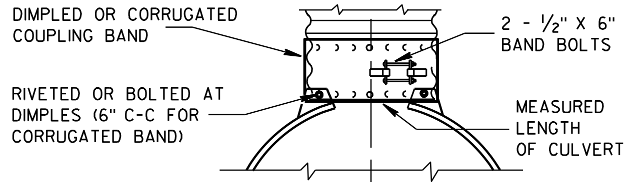
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

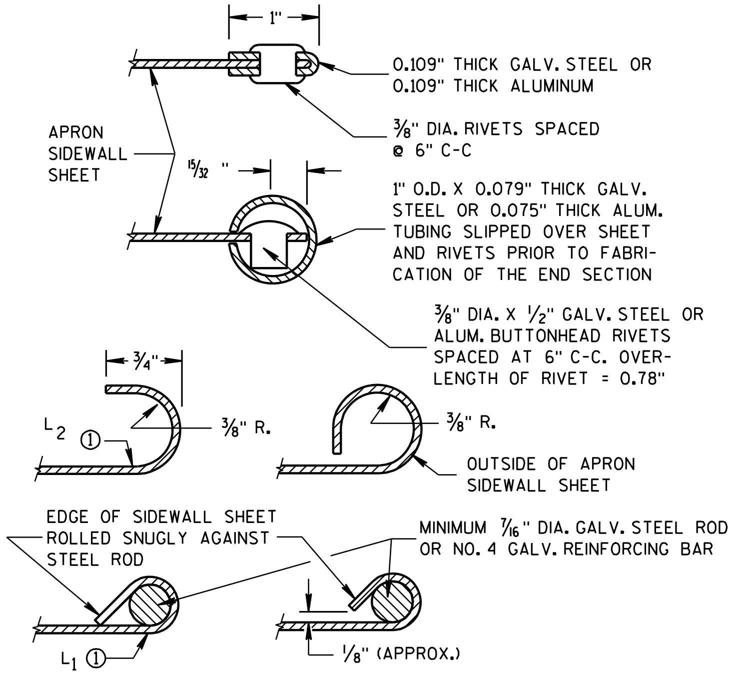
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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.

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 PERIMETER.

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.

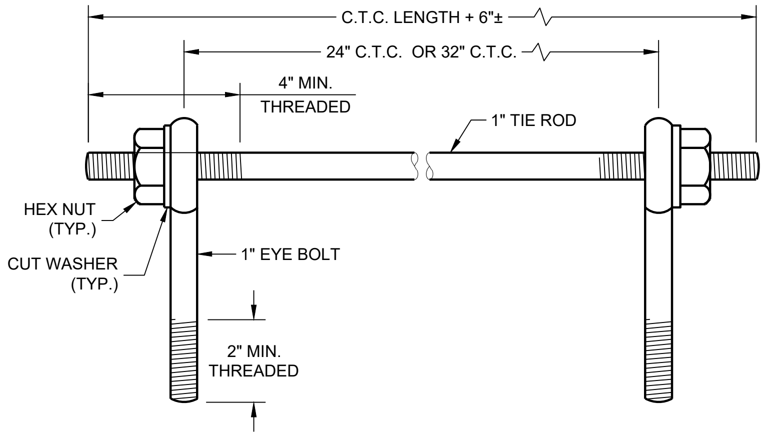
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

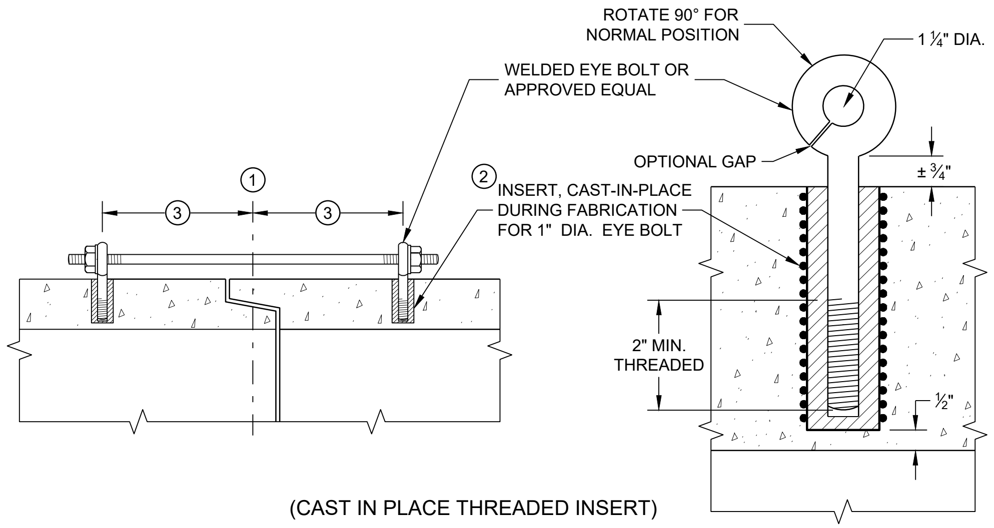
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhi
CHIEF ROADWAY DEVELOP NEER
FHWA



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

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 CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

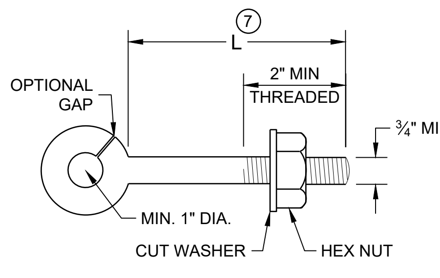
③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

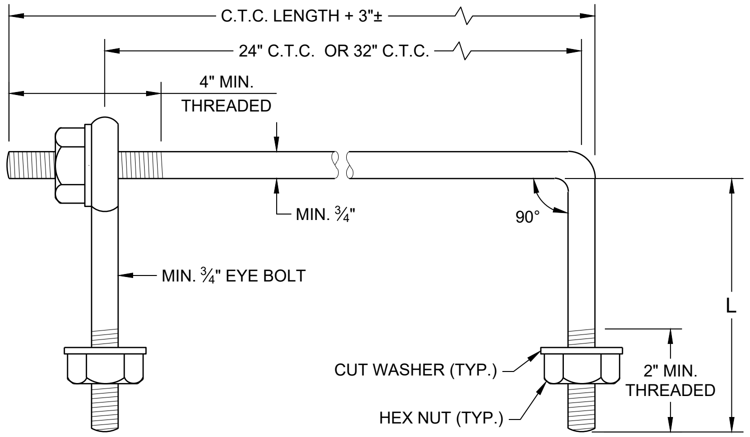
⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

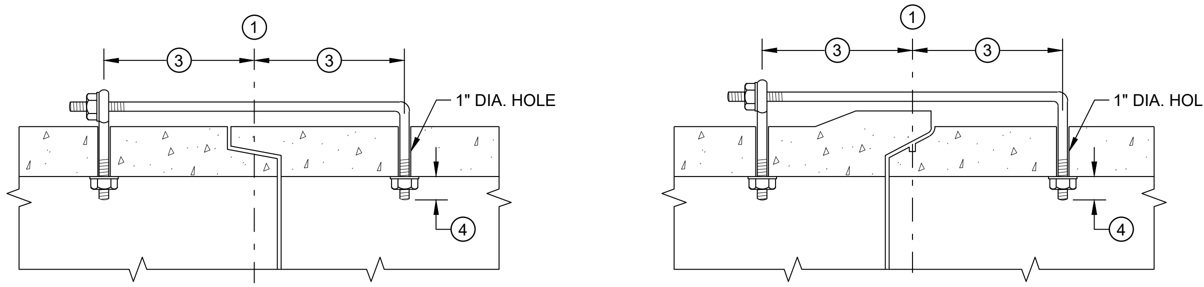


EYE BOLT⑦

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)

(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

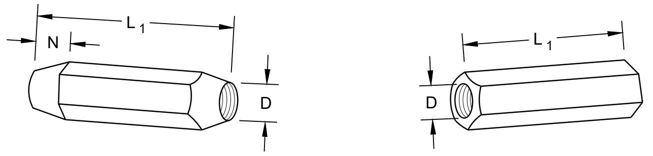
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7⁄16

DIMENSIONS SHOWN ARE IN INCHES

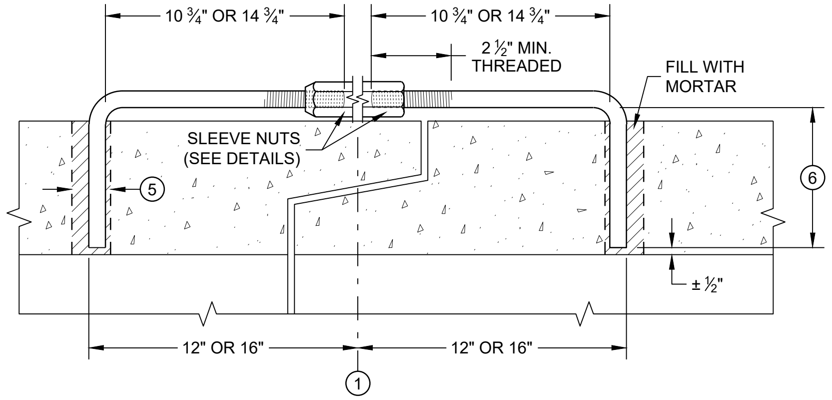


TAPERED

PLAIN

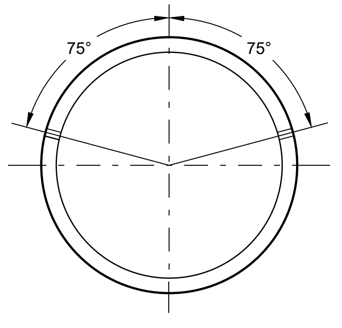
RIGHT AND LEFT THREADS

SLEEVE NUTS



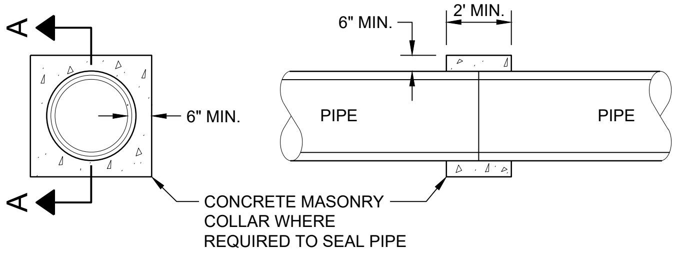
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE 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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

GENERAL NOTES

① ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

② SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

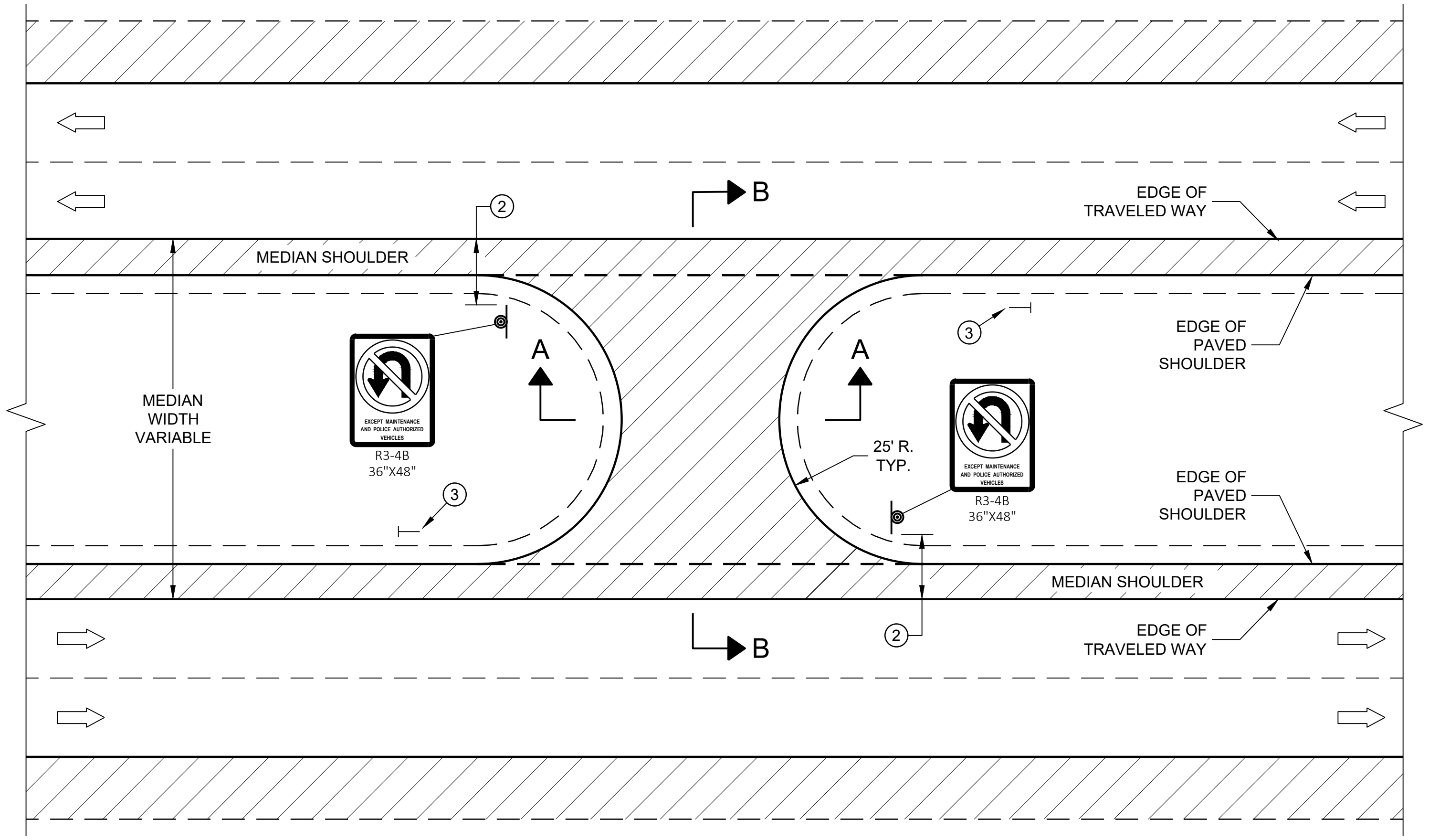
③ INSTALL DELINEATOR. SEE STANDARD DETAIL DRAWING 15A4.

LEGEND

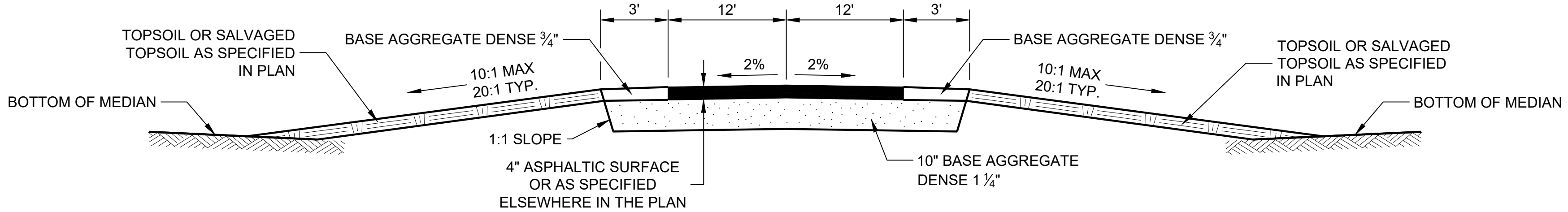
◉ SIGN ON PERMANENT SUPPORT

⊢ DELINEATOR

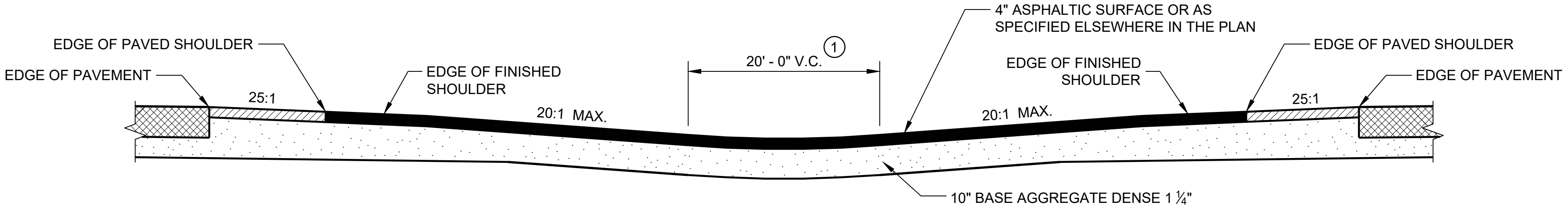
⇨ DIRECTION OF TRAFFIC



PLAN VIEW



SECTION A-A

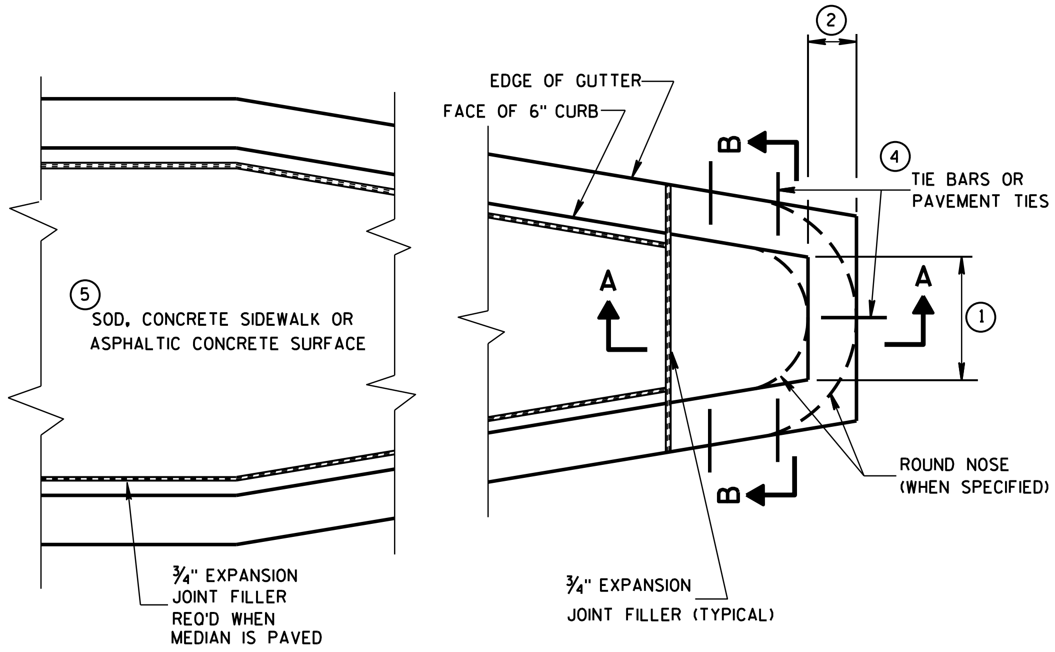


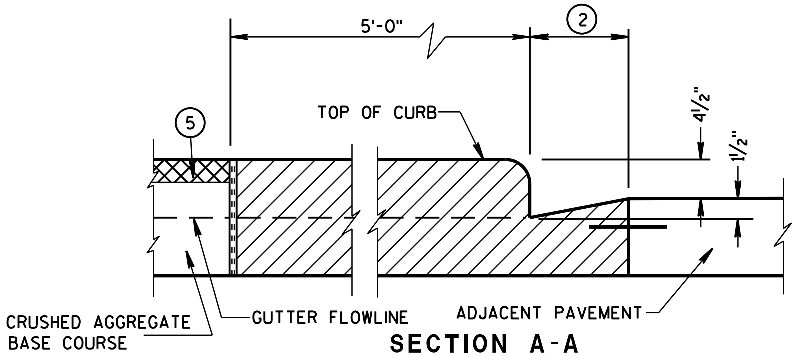
SECTION B-B

MAINTENANCE CROSSOVER FOR FREEWAYS

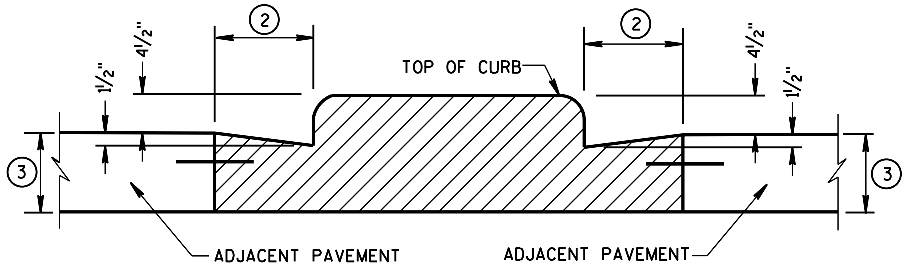
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER
FHWA





SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

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.

① SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

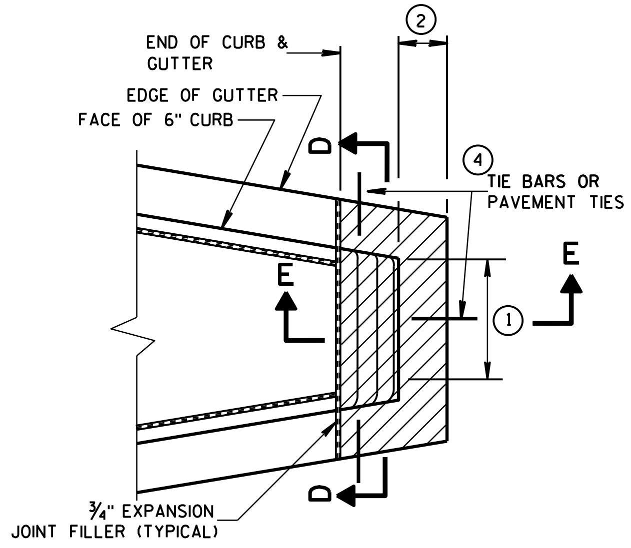
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

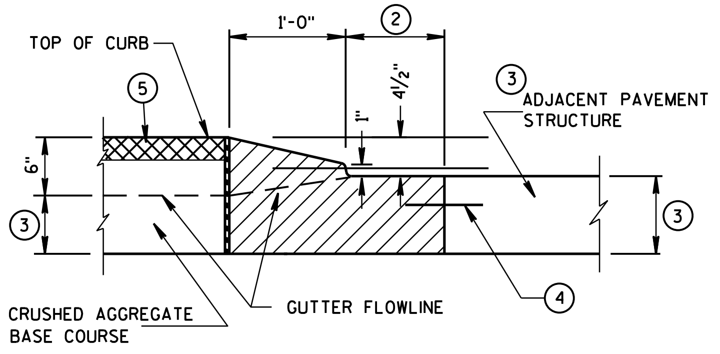
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

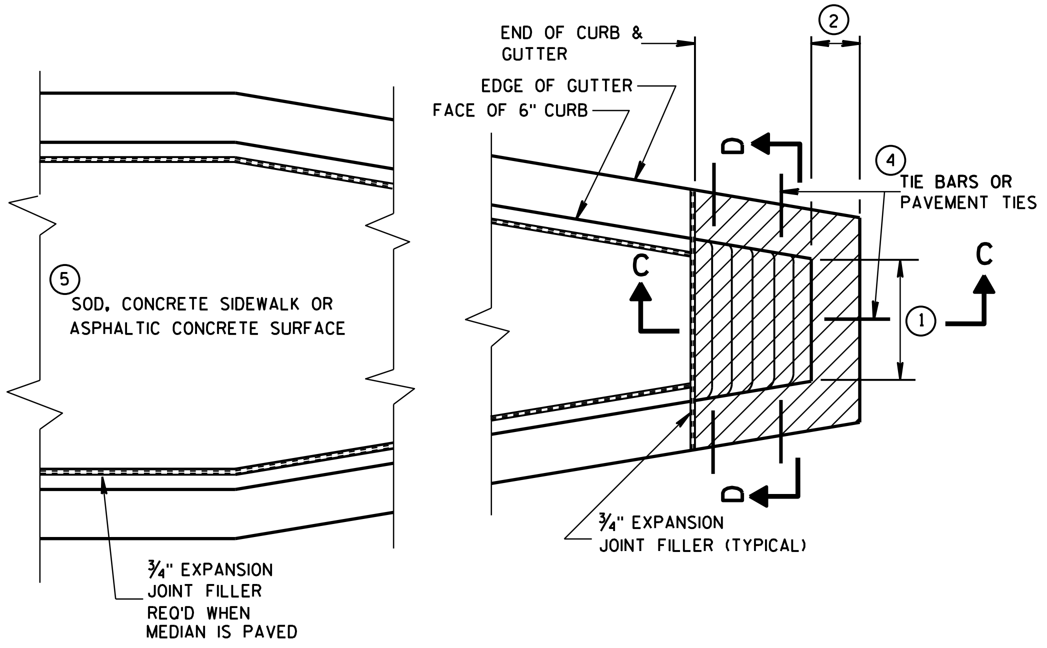
⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

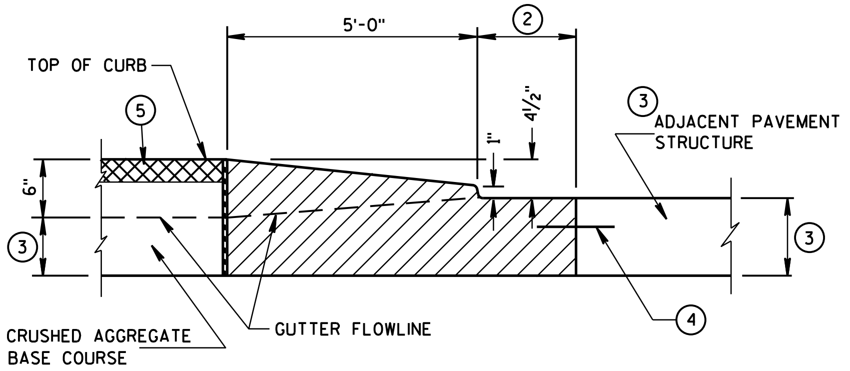




SECTION E-E

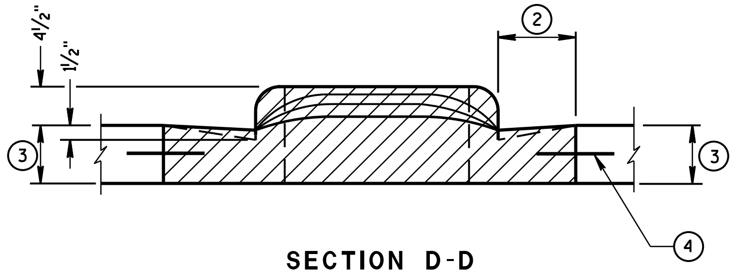
CONCRETE MEDIAN SLOPED NOSE TYPE 2





SECTION C-C

CONCRETE MEDIAN SLOPED NOSE TYPE 1



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

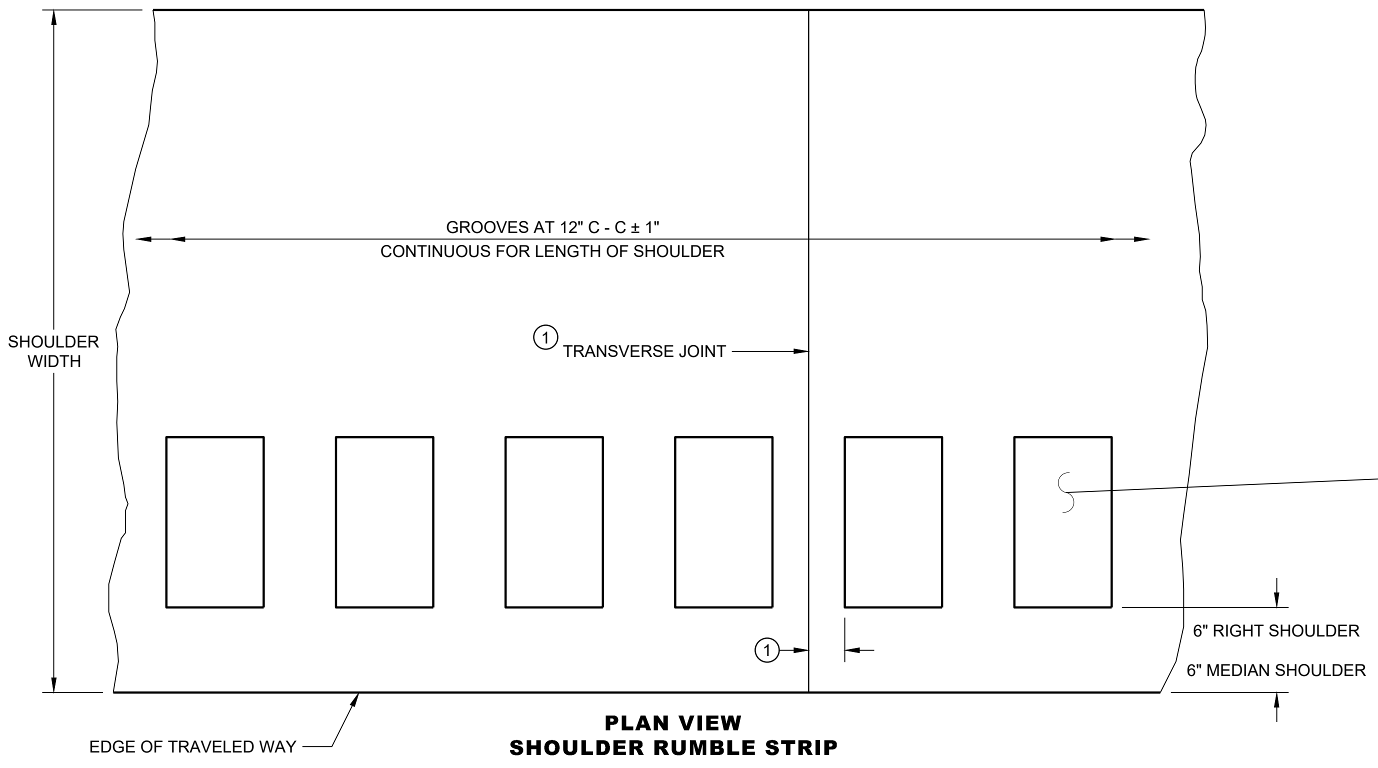
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D NT
ENGINEER
FHWA

GENERAL NOTES

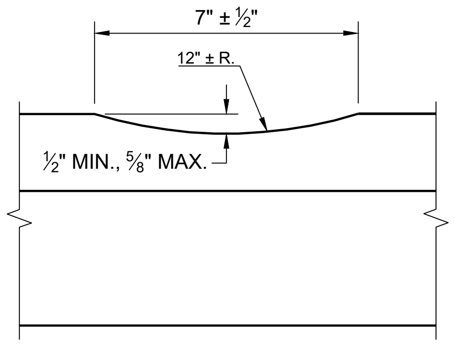
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

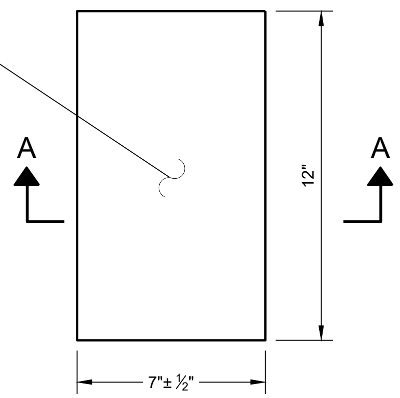
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6 INCHES AWAY FROM TRANSVERSE JOINTS.



PLAN VIEW
SHOULDER RUMBLE STRIP

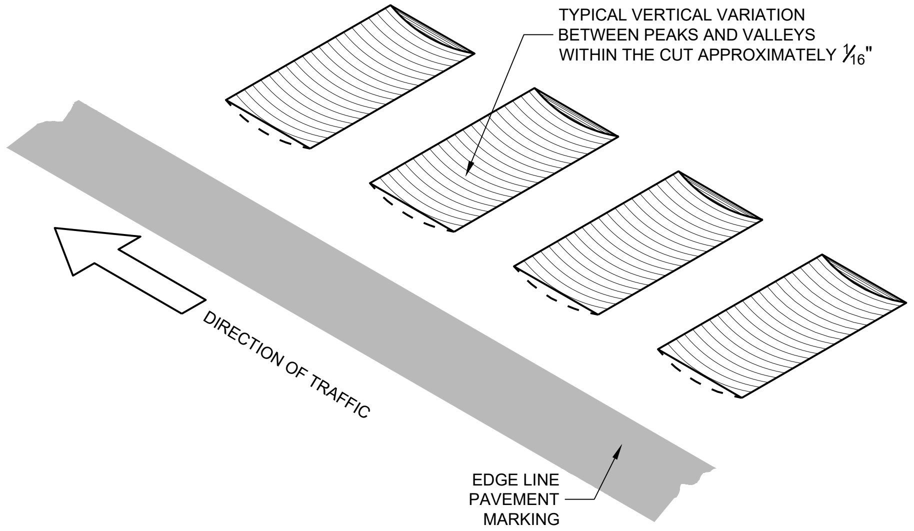


SECTION A - A

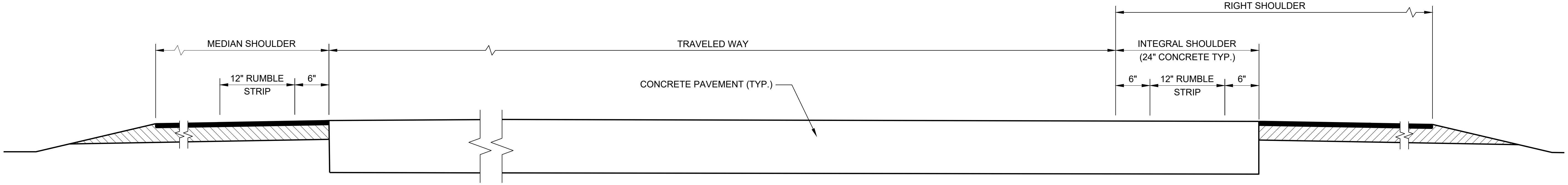


PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR RUMBLE STRIP



ISOMETRIC

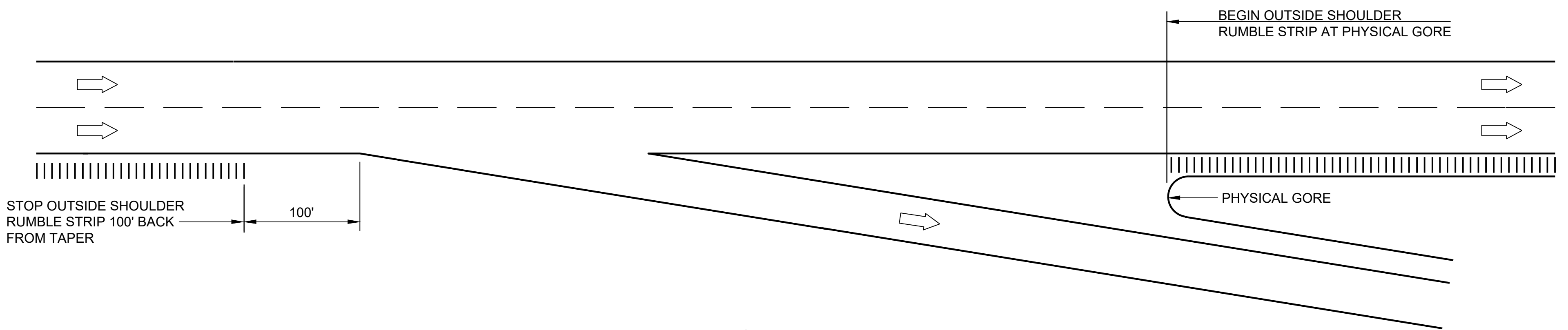


SECTION VIEW

TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIPS, DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA



TYPICAL EXIT RAMP

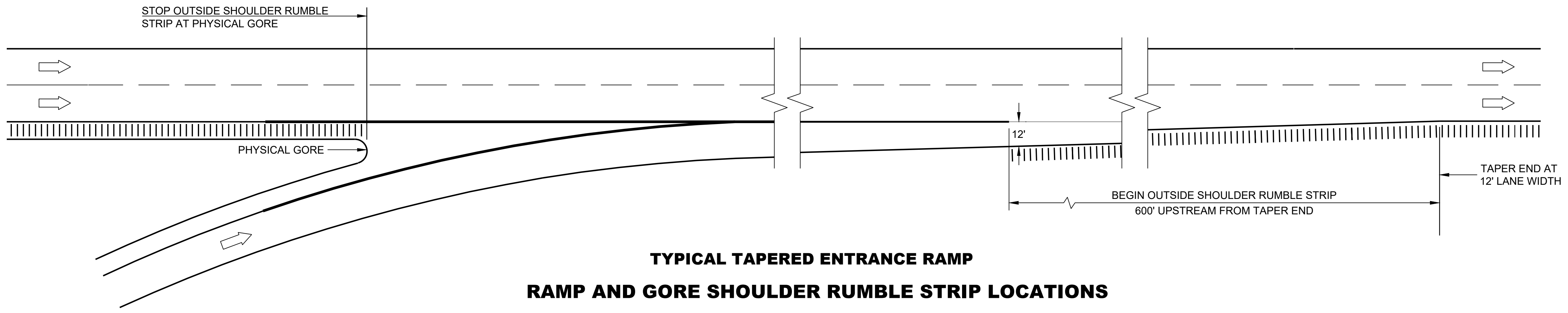
GENERAL NOTES

NO RUMBLE STRIP ON EXIT, DIRECTIONAL OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIALAND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSINGS.

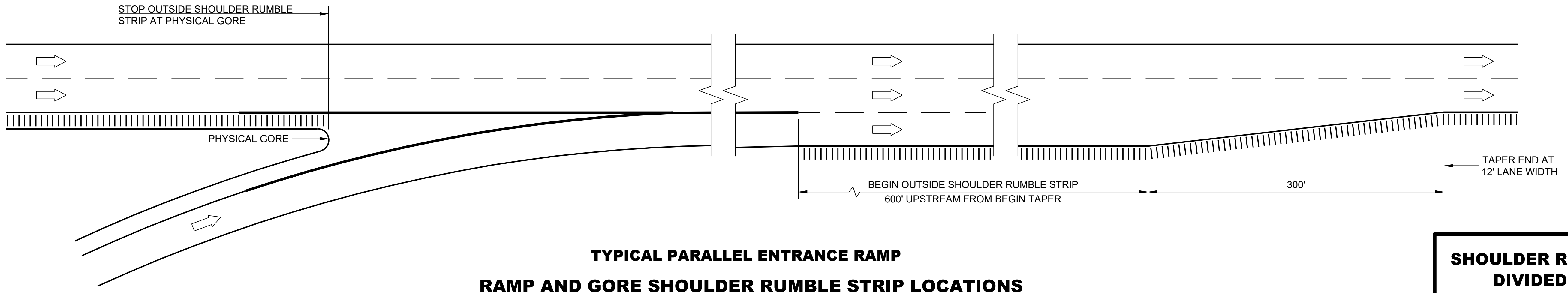
LEGEND

⇨ DIRECTION OF TRAFFIC



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS



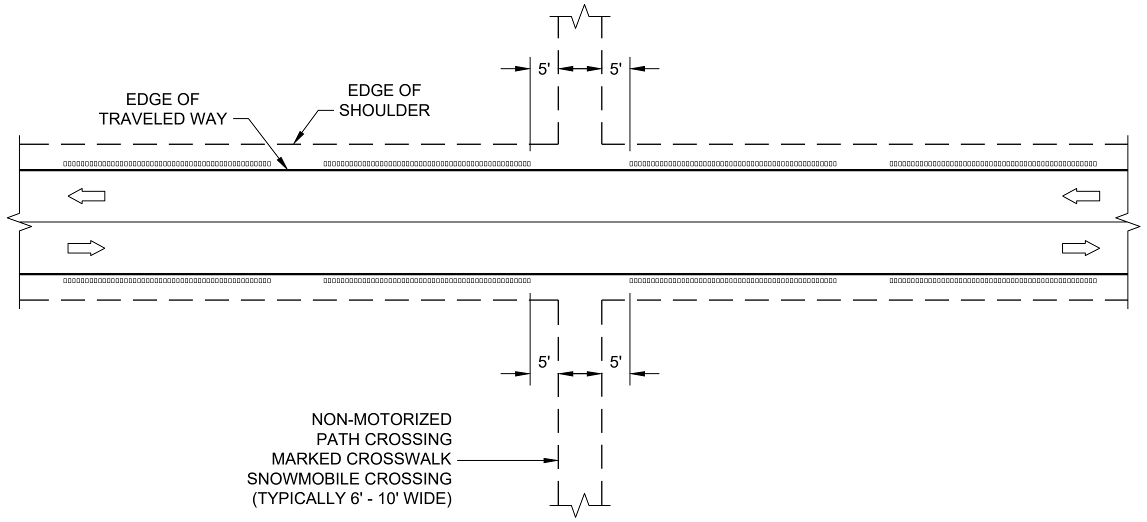
TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

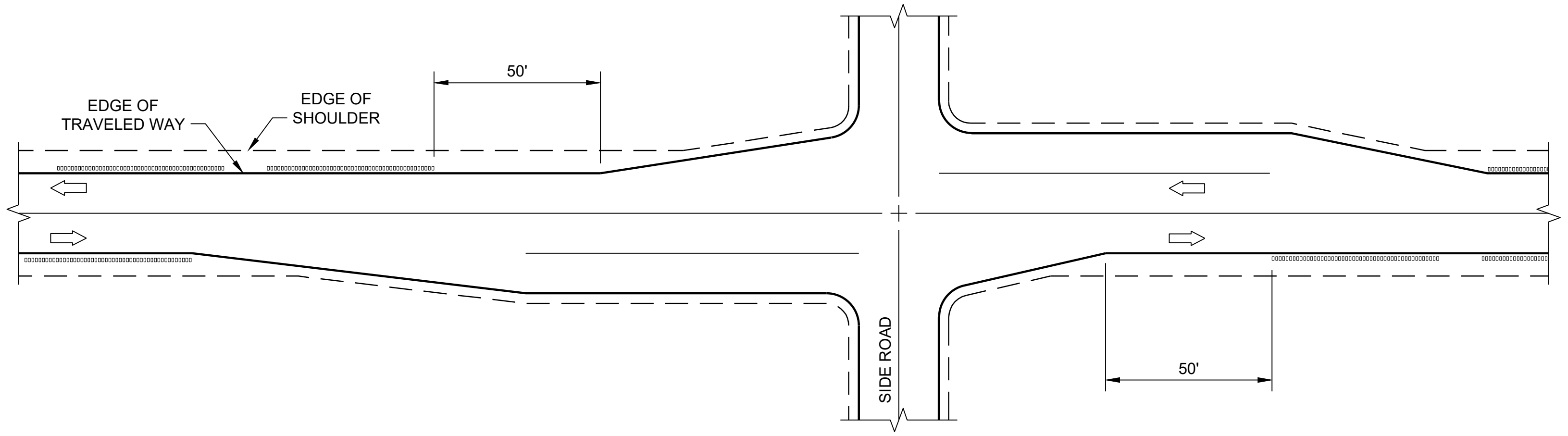
SHOULDER RUMBLE STRIPS,
DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

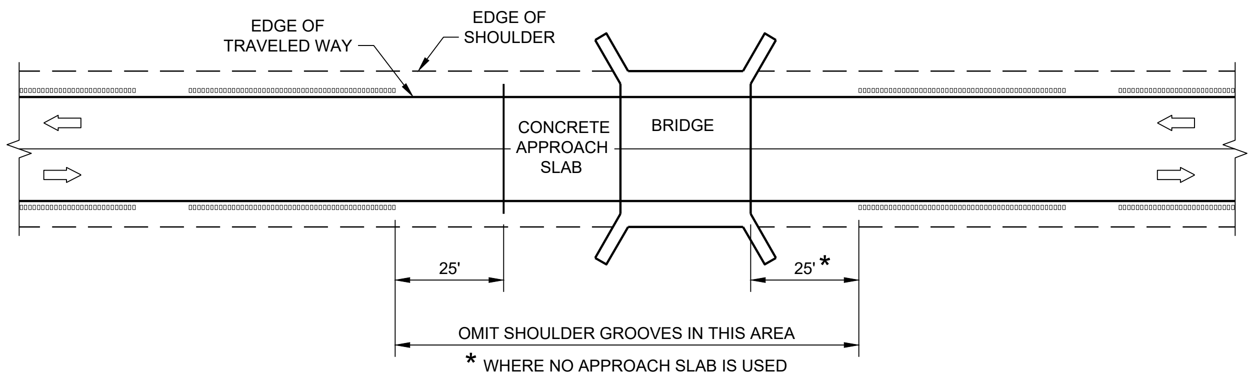
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY DESIGN STAND
UNIT SUPERVISOR
FHWA



GROOVES AT MISCELLANEOUS CROSSINGS

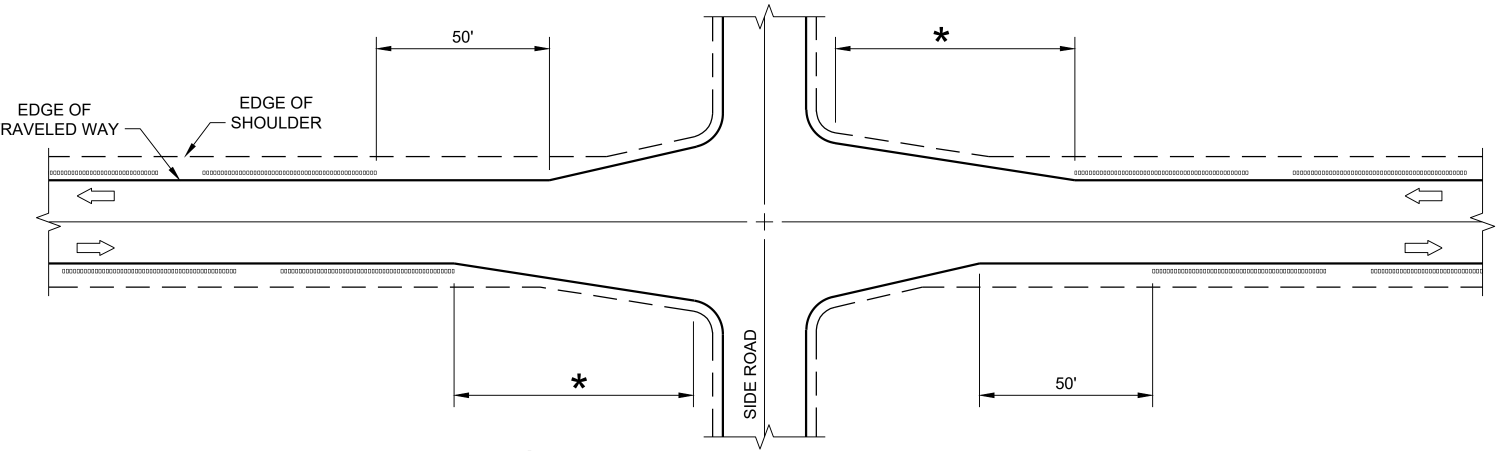


GROOVES AT RIGHT TURN LANE



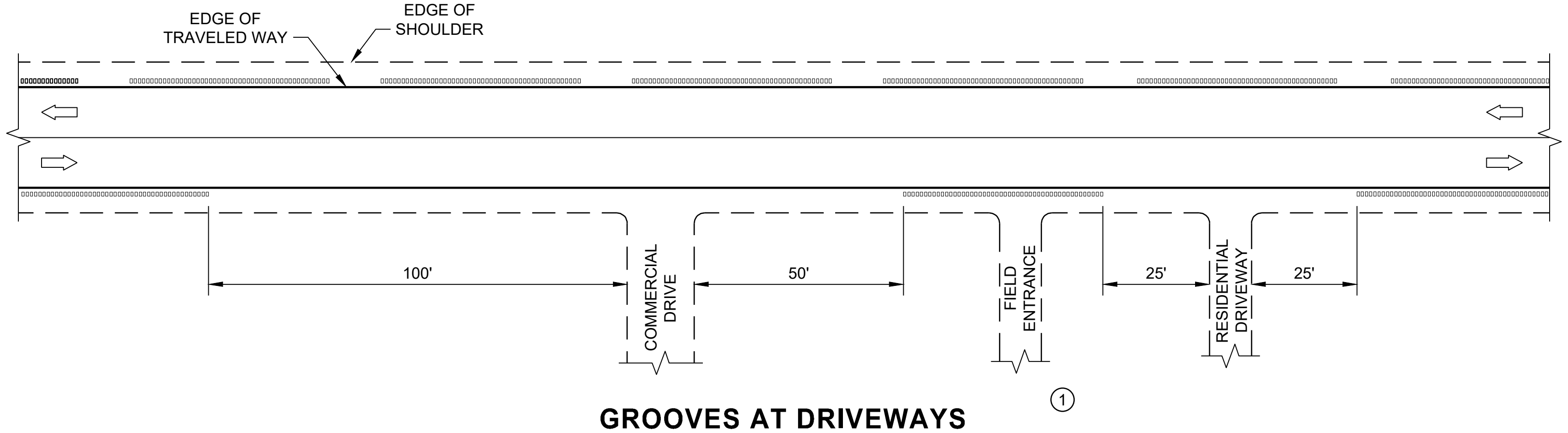
* WHERE NO APPROACH SLAB IS USED

GROOVES AT BRIDGES



*GREATER OF 100' OR APPROACH TAPER LENGTH

GROOVES AT INTERSECTIONS WITH APPROACH TAPER



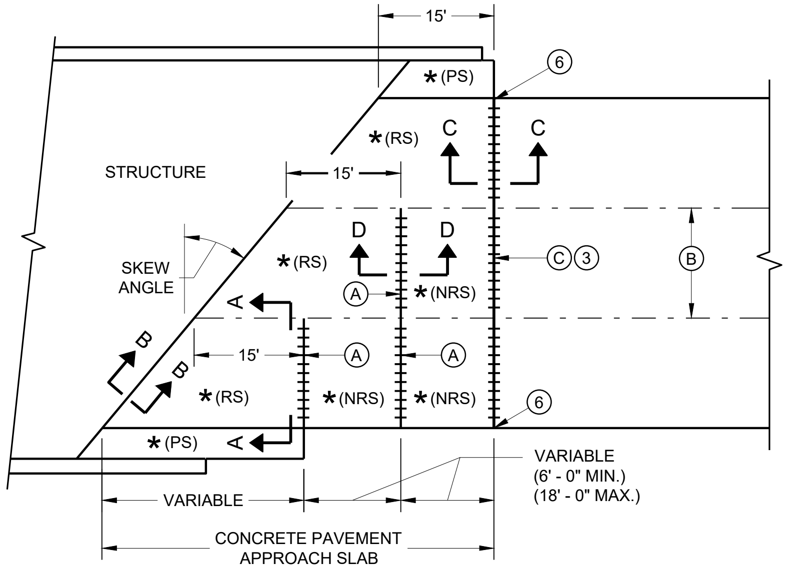
GROOVES AT DRIVEWAYS

GENERAL NOTES

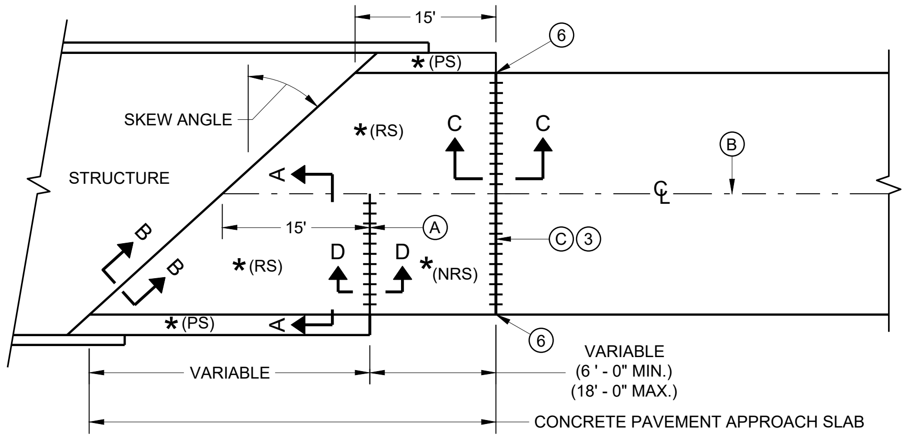
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

SHOULDER AND EDGE LINE
RUMBLE STRIPS
CROSSINGS, INTERSECTIONS,
BRIDGES, DRIVEWAYS

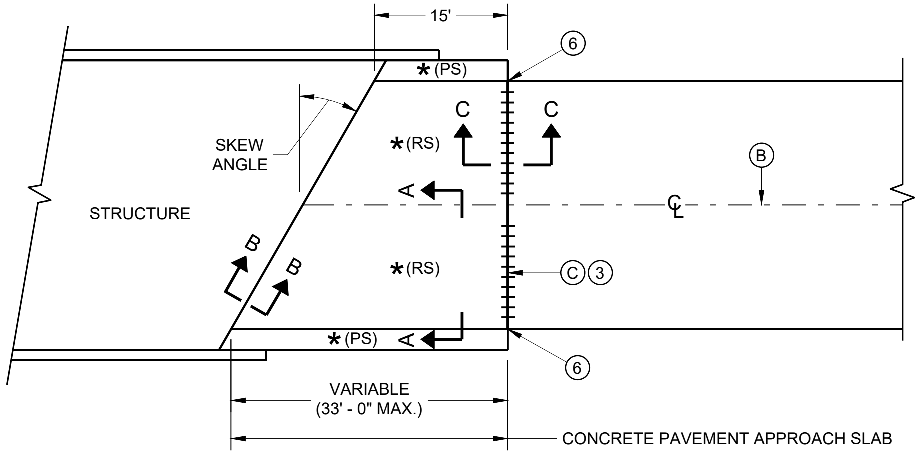
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

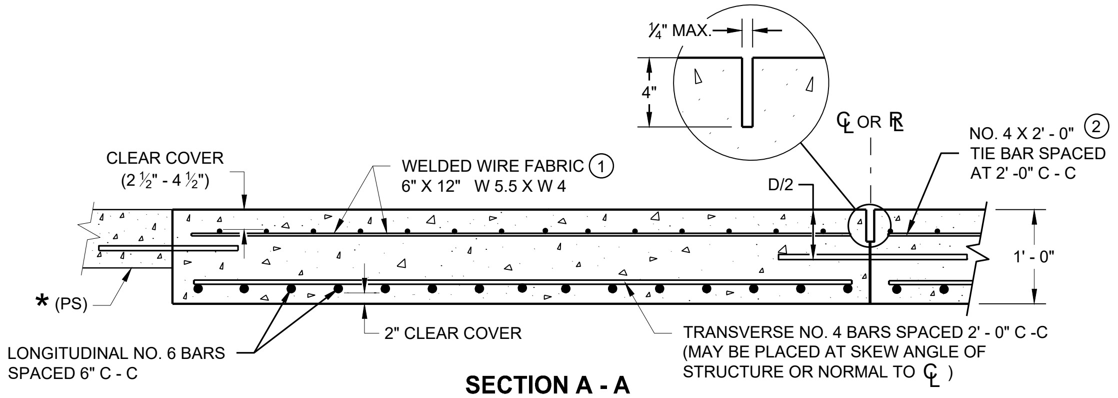
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

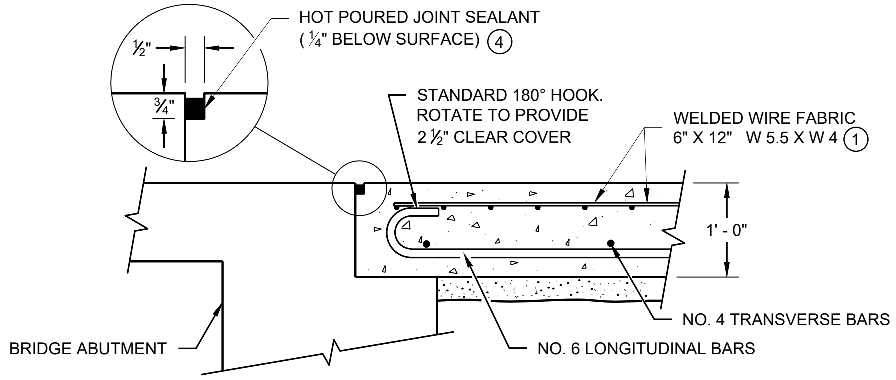
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

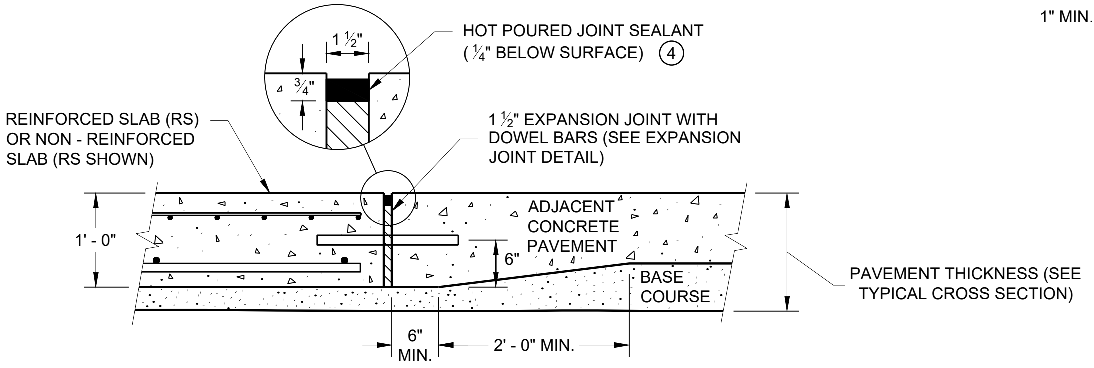
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0 " C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

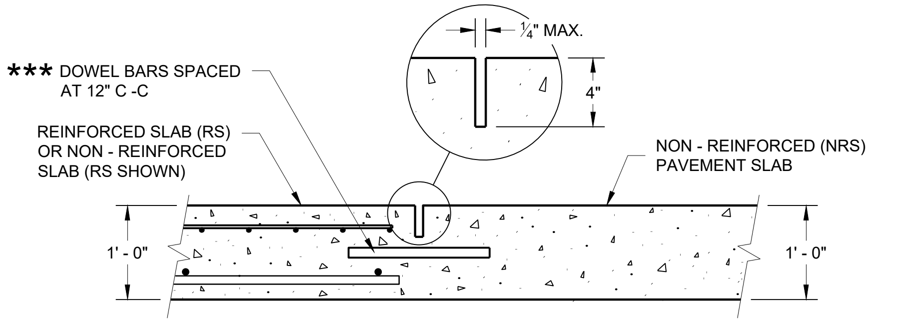
⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

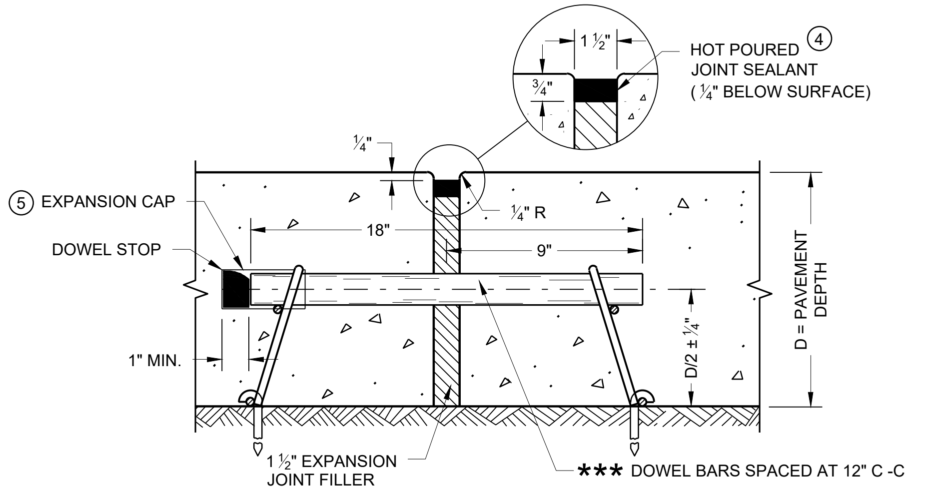
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

Ⓒ 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT

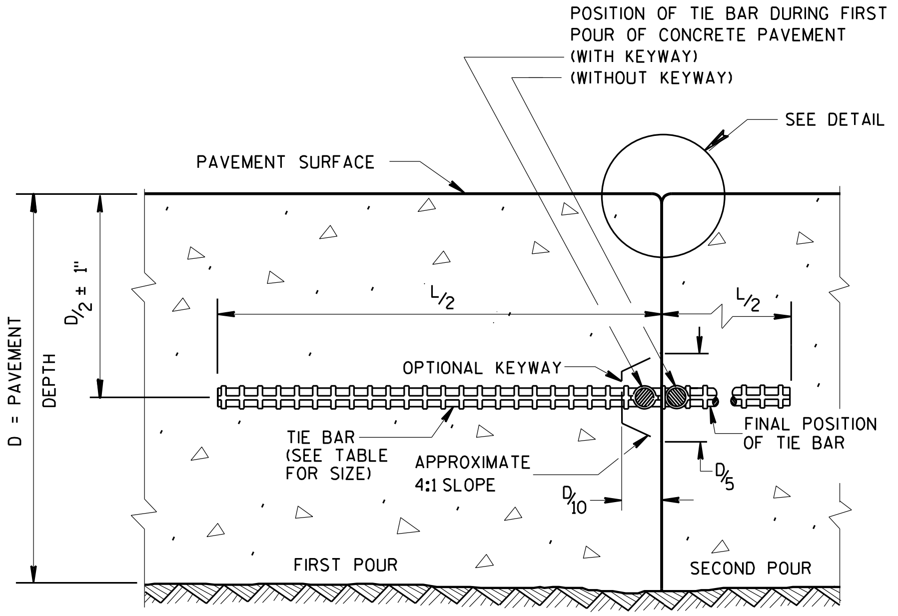


EXPANSION JOINT DETAIL

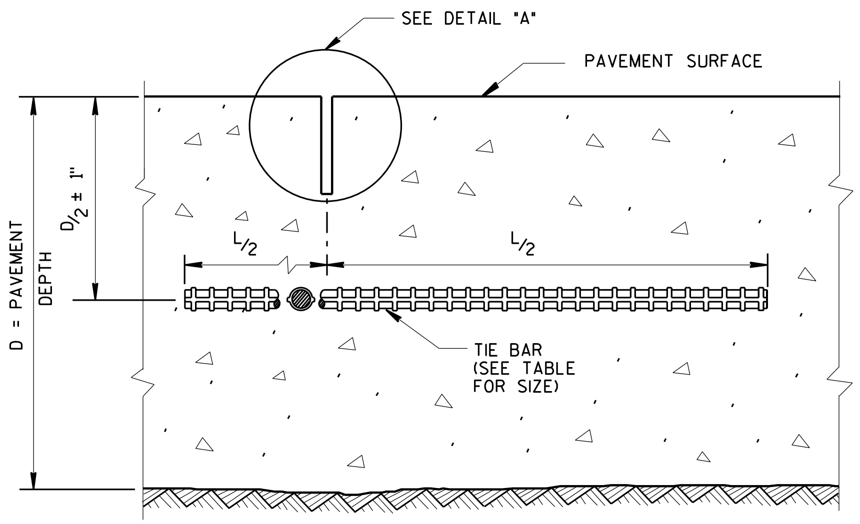
CONCRETE PAVEMENT
APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVIS
FHWA



CONSTRUCTION JOINT



SAWED JOINT

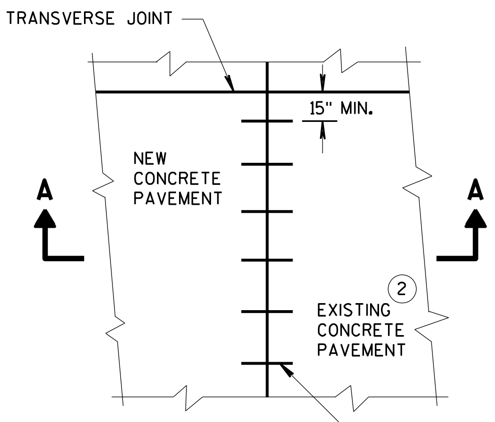
GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

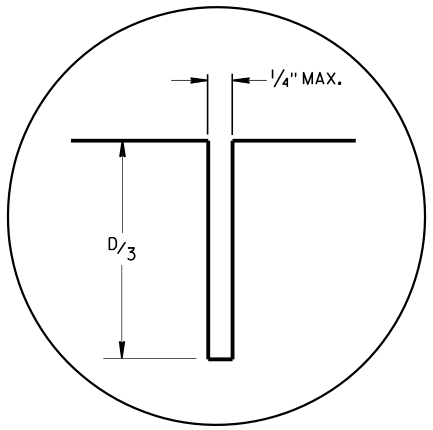
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

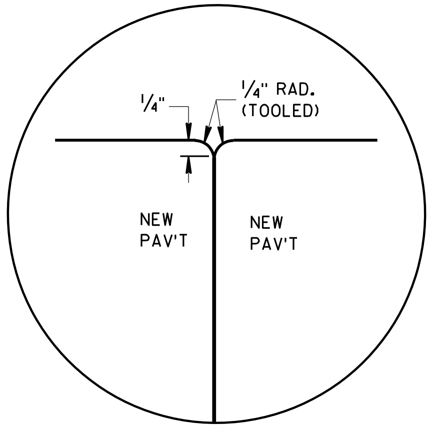
② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



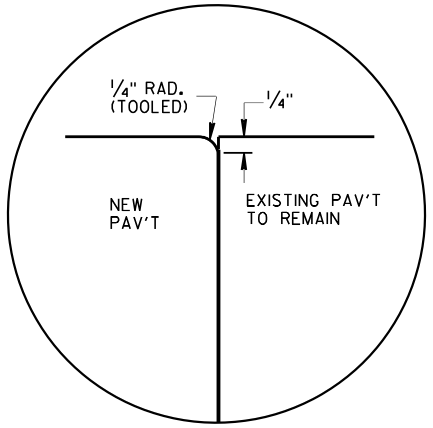
PLAN VIEW



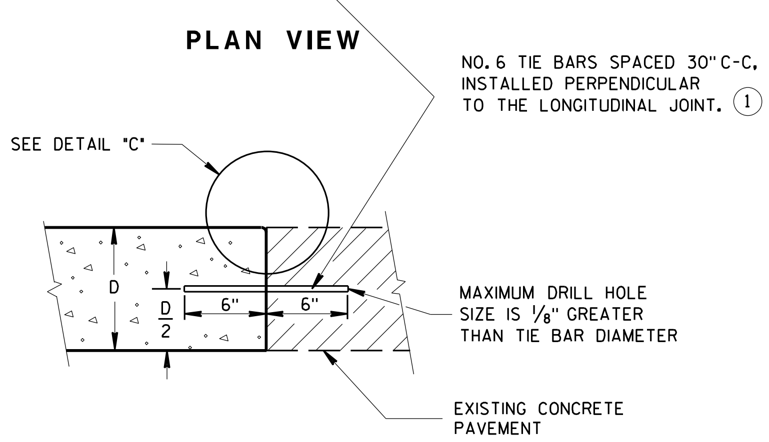
DETAIL "A"



DETAIL "B"



DETAIL "C"



SECTION A-A

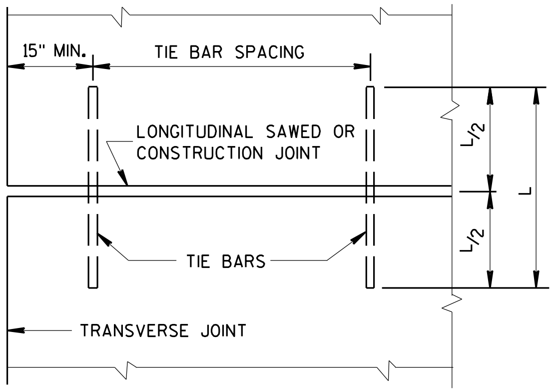
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW

SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE
/S/ Peter Kem
PAVEMENT SUPE
FHWA

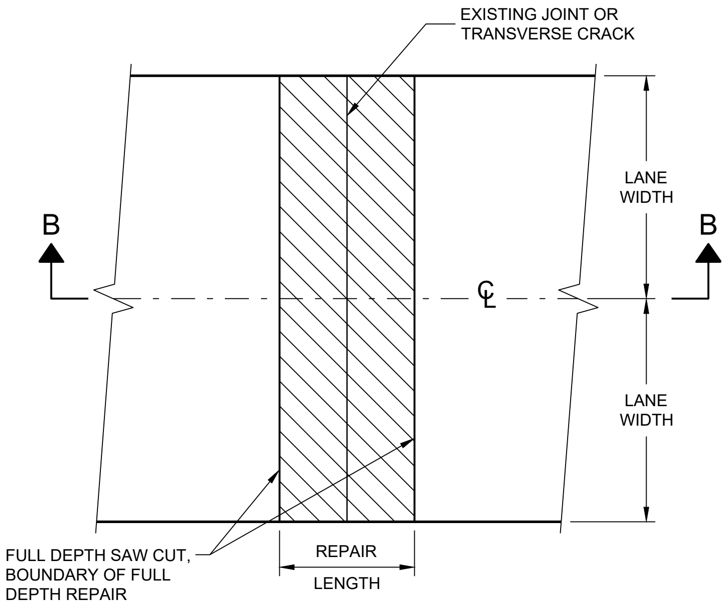
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

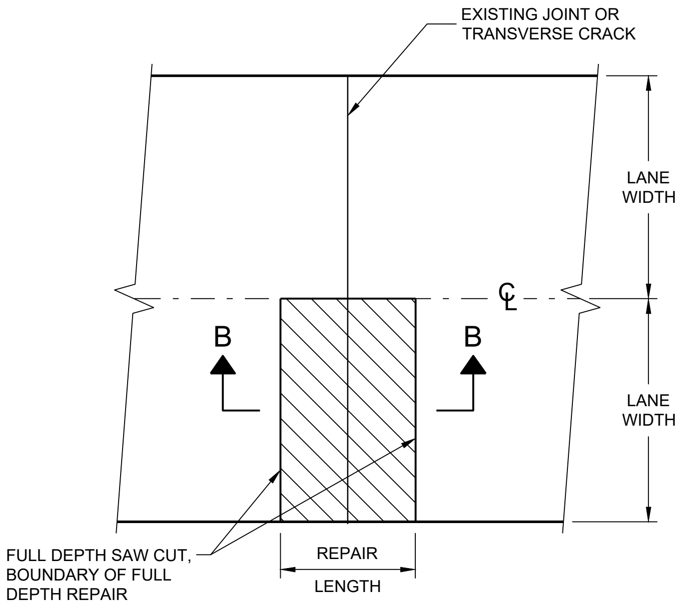
PROVIDE A 6 FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREA TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NON-DOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

① DOWEL BARS MAY NOT BE PRESENT.

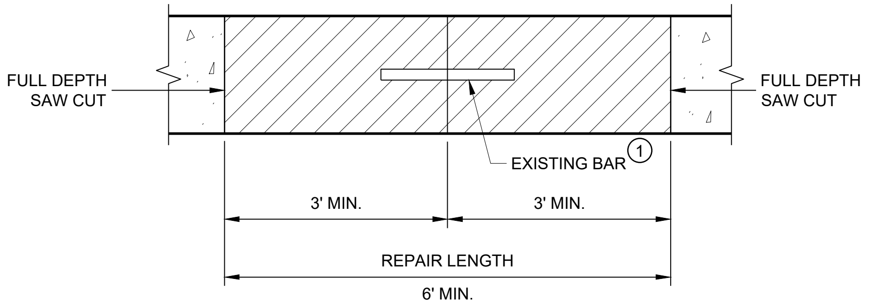


PLAN VIEW
(DOUBLE LANE REPAIR)



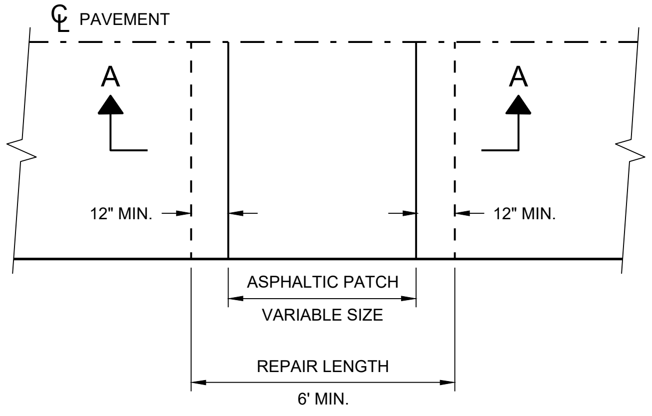
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

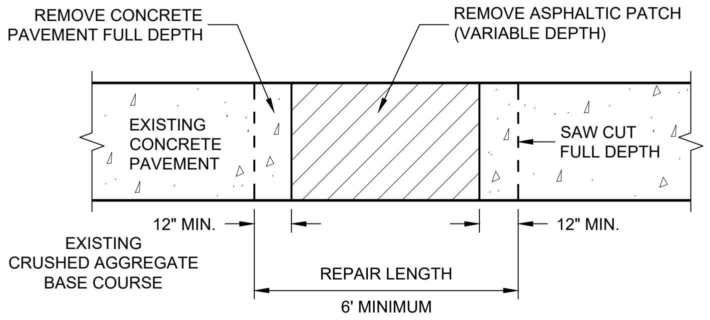


SECTION B - B

CONCRETE REMOVAL



PLAN VIEW

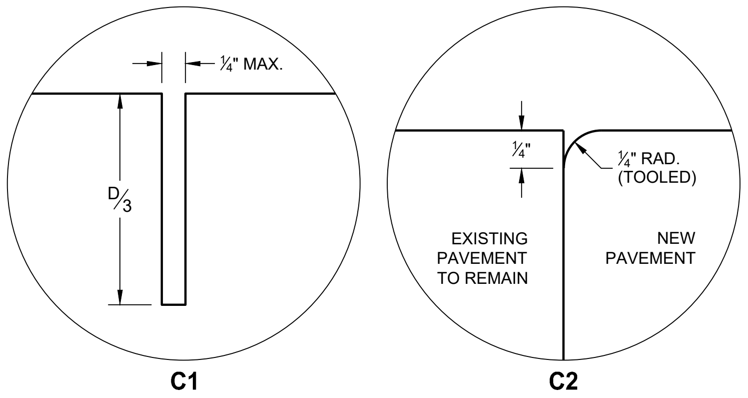


SECTION A - A

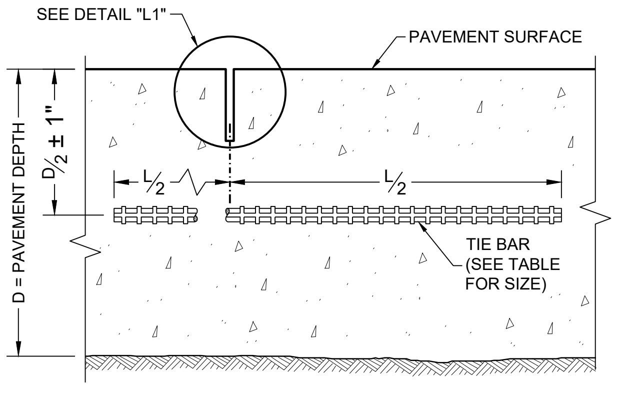
HMA PATCH REMOVAL

CONCRETE PAVEMENT
REPAIR AND REPLACEMENT

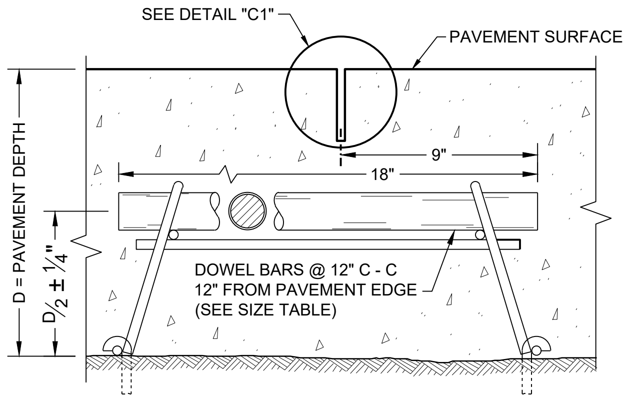
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



TRANSVERSE JOINTS



SECTION C - C
SAWED LONGITUDINAL JOINT



SECTION F - F
DOWELED CONTRACTION JOINT

GENERAL NOTES

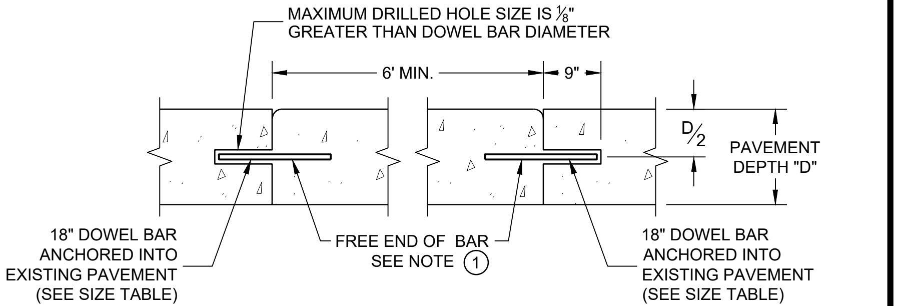
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE PAVEMENT REPAIRS OF EXISTING NON-DOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

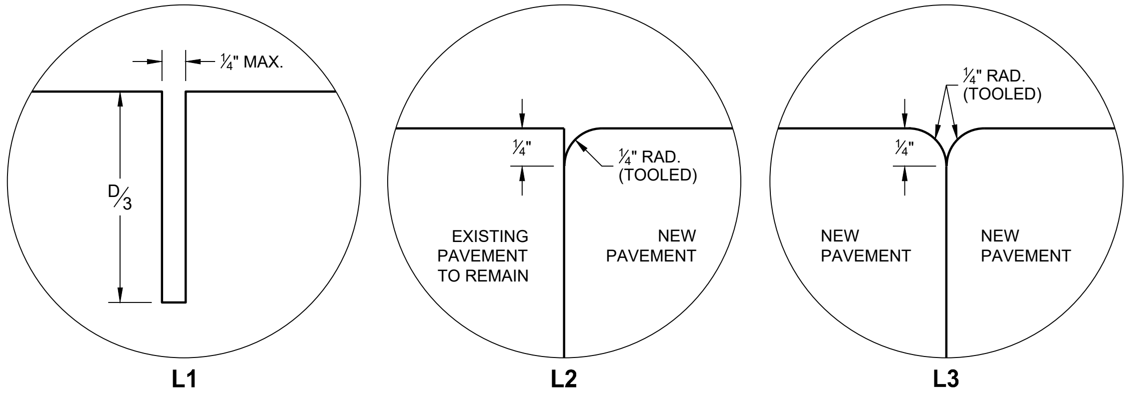
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

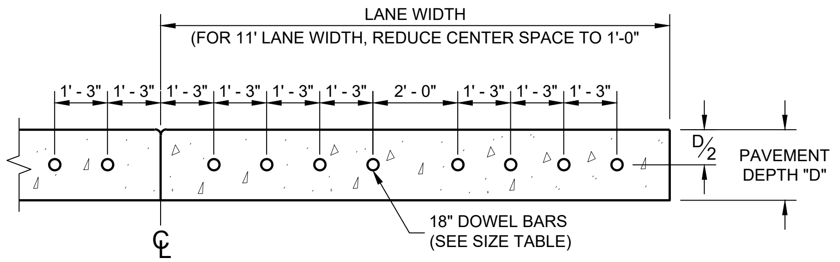
① APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



SECTION D - D



LONGITUDINAL JOINTS



SECTION E - E
DRILLED DOWEL BAR CONSTRUCTION JOINT

TIE BAR TABLE

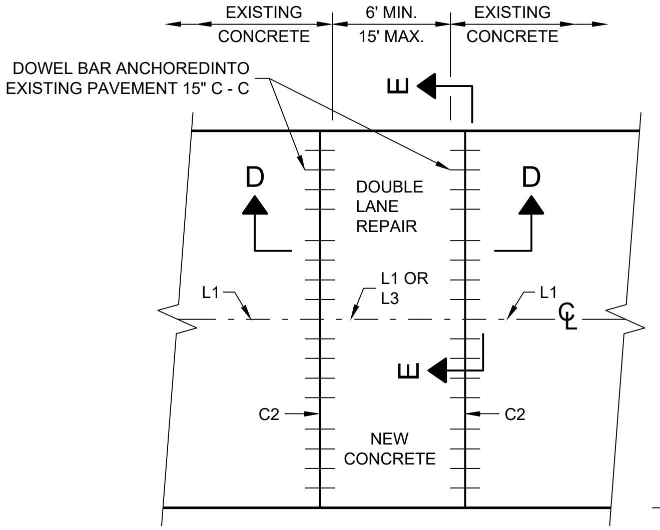
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

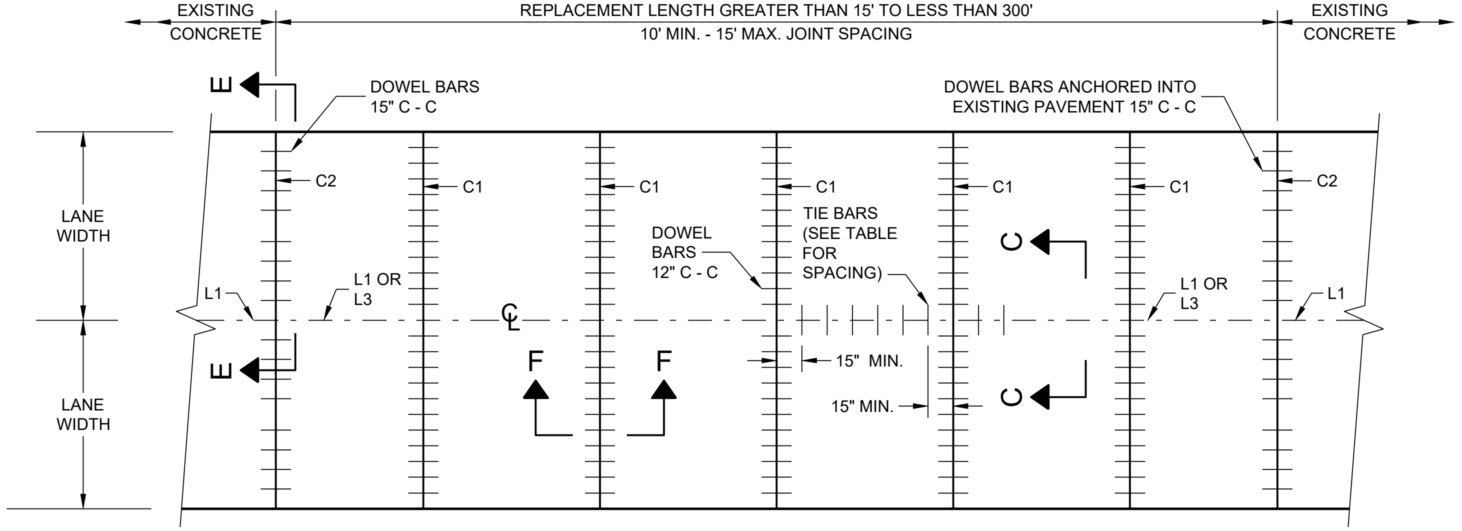
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	DRILLED DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	NONE	12'
7", 7 ½"	1"	1"	14'
8" & ABOVE	1 ¼"	1 ¼"	15'



PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPAIR



PLAN VIEW
MULTILANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

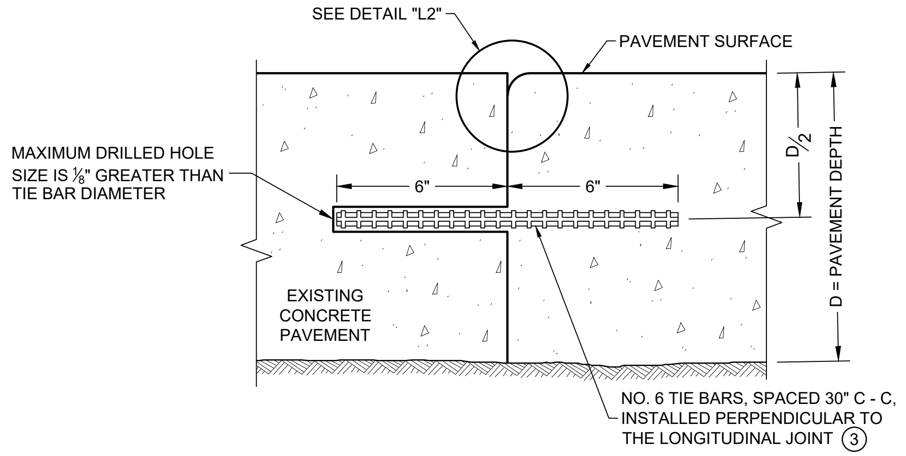
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI

GENERAL NOTES

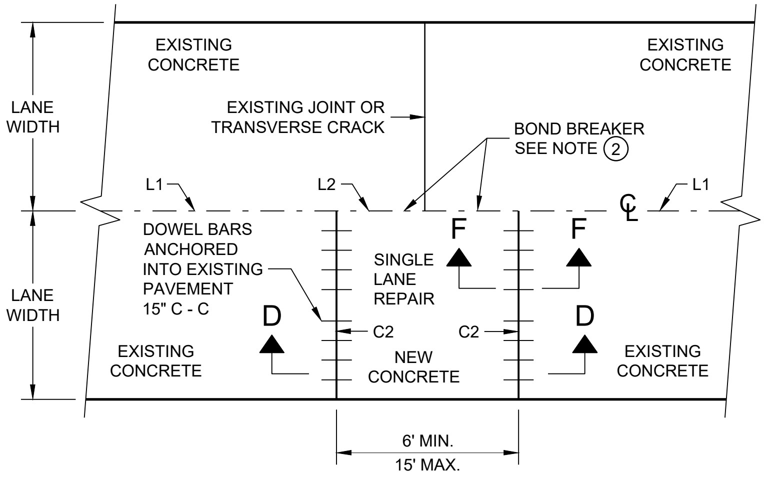
① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.

② USE AN ENGINEER APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

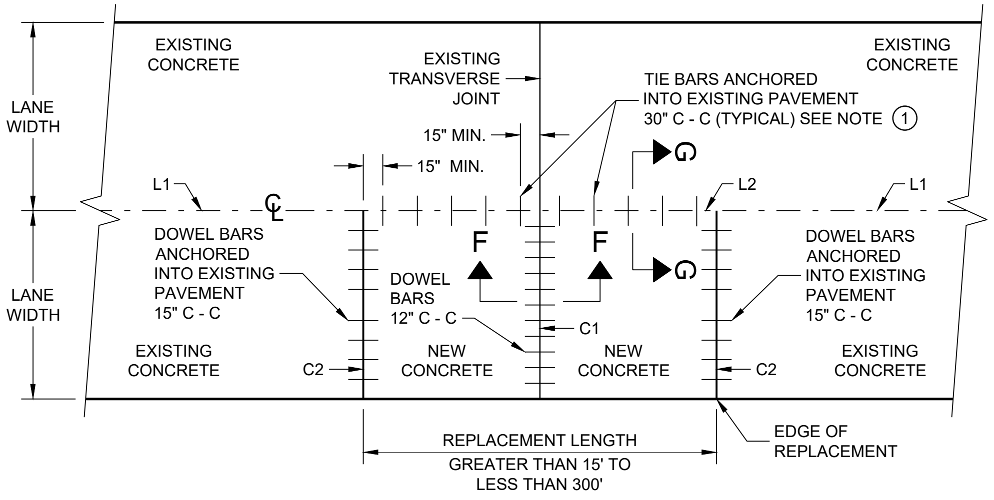
③ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



SECTION G - G
TIE BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW
SINGLE LANE CONCRETE PAVEMENT REPAIR

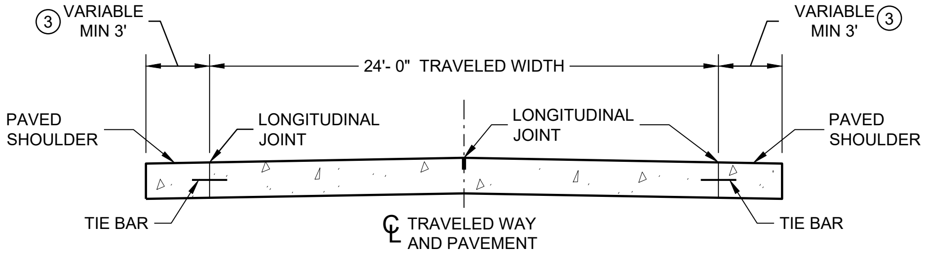


PLAN VIEW
SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE REPAIR AND REPLACEMENT

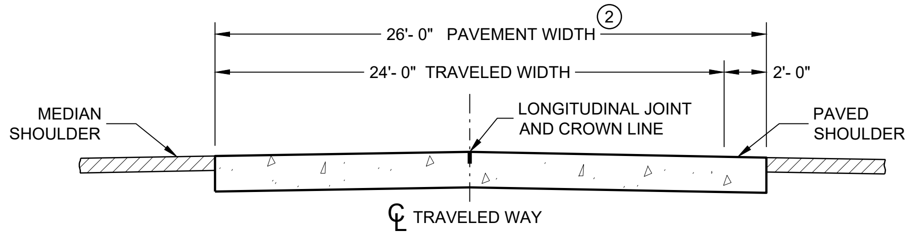
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS
FHWA

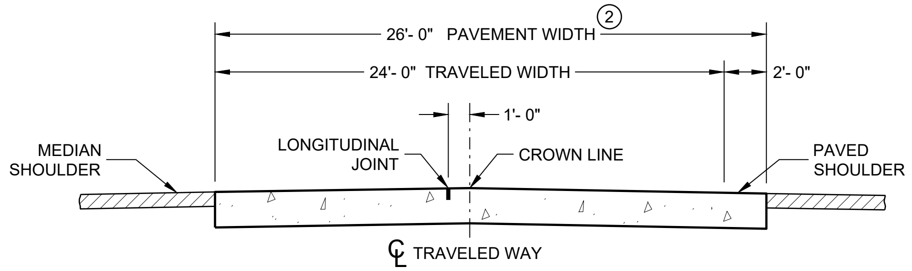


SECTION A - A

TWO-LANE TWO-WAY HIGHWAY ①



SECTION B - B



ALTERNATIVE SECTION B - B

DIVIDED HIGHWAY ①

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

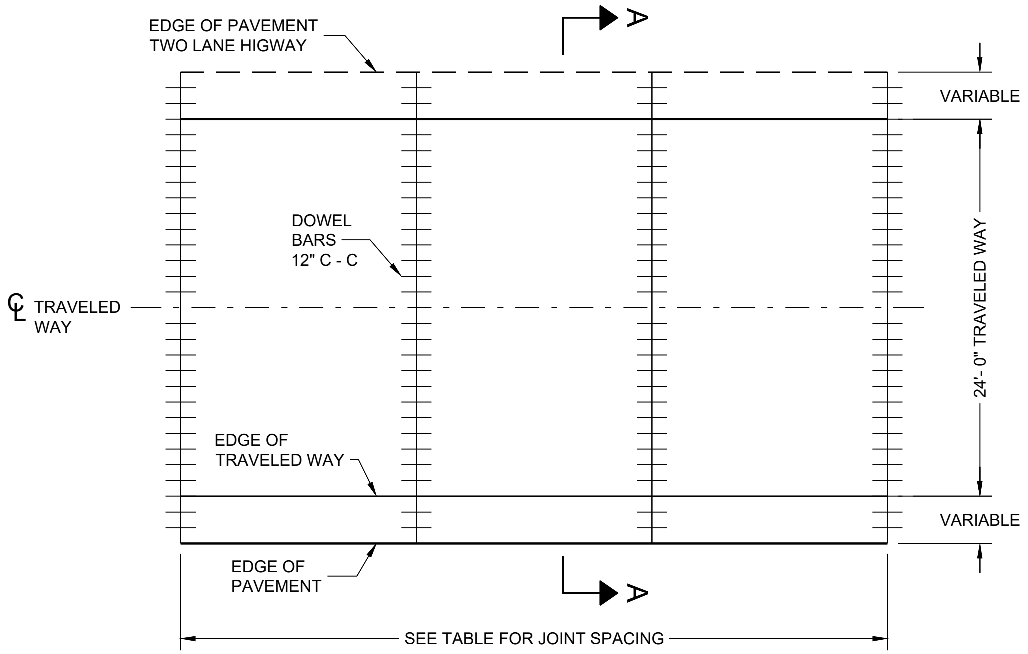
① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED "PAVED SHOULDER" AS CONCRETE PAVEMENT.

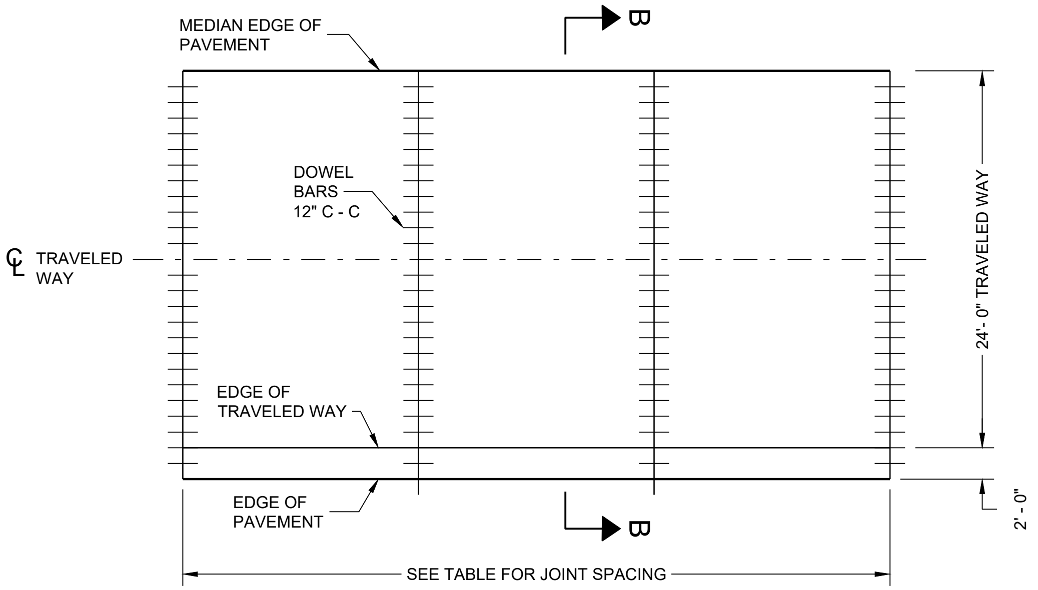
③ SHOULDER WIDTHS LESS THAN 3 FEET SHALL BE PAVED INTEGRAL TO THE MAINLINE CONCRETE PAVEMENT, SEE SECTION B-B.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8" & ABOVE	1 ¼"	15'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

GENERAL NOTES

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

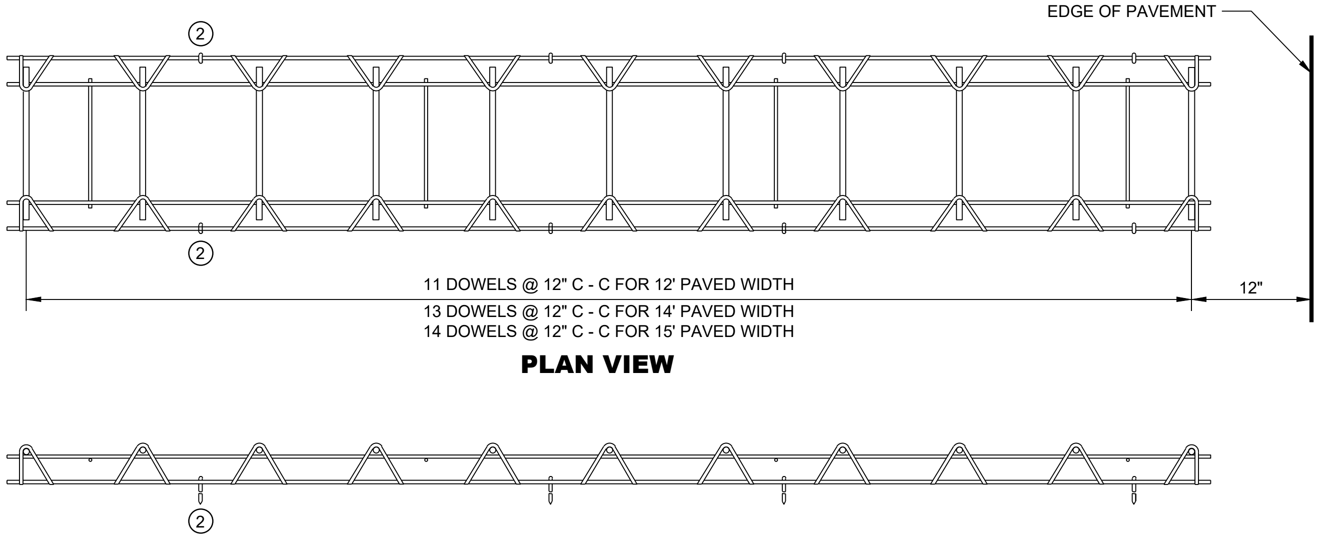
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



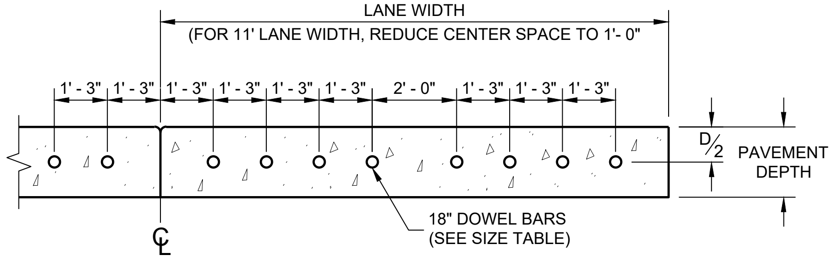
11 DOWELS @ 12" C - C FOR 12' PAVED WIDTH
13 DOWELS @ 12" C - C FOR 14' PAVED WIDTH
14 DOWELS @ 12" C - C FOR 15' PAVED WIDTH

PLAN VIEW

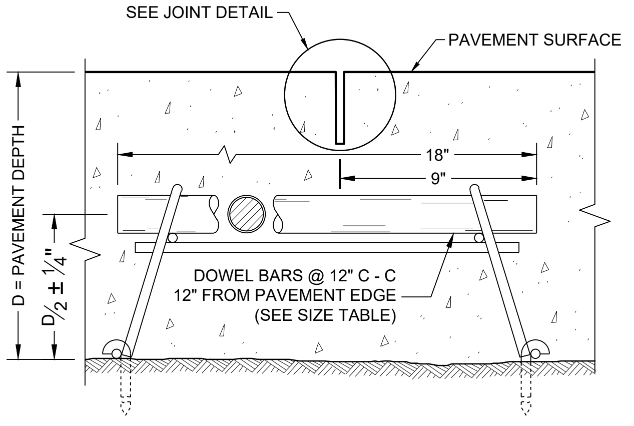
SIDE VIEW

(NORMAL TO CENTERLINE)

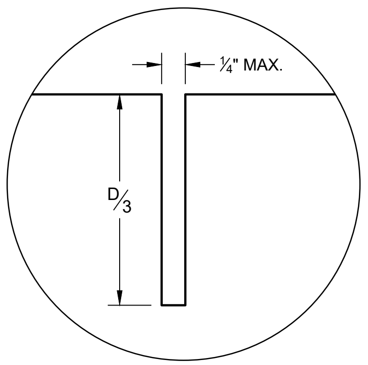
CONTRACTION JOINT DOWEL ASSEMBLY ①



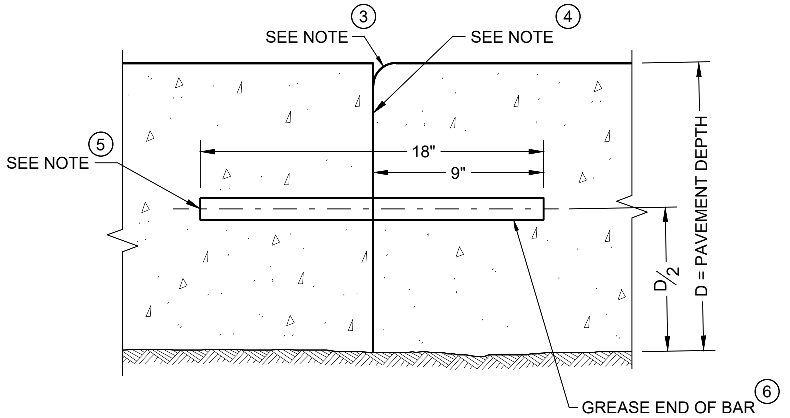
DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



DOWELED CONTRACTION JOINT



JOINT DETAIL

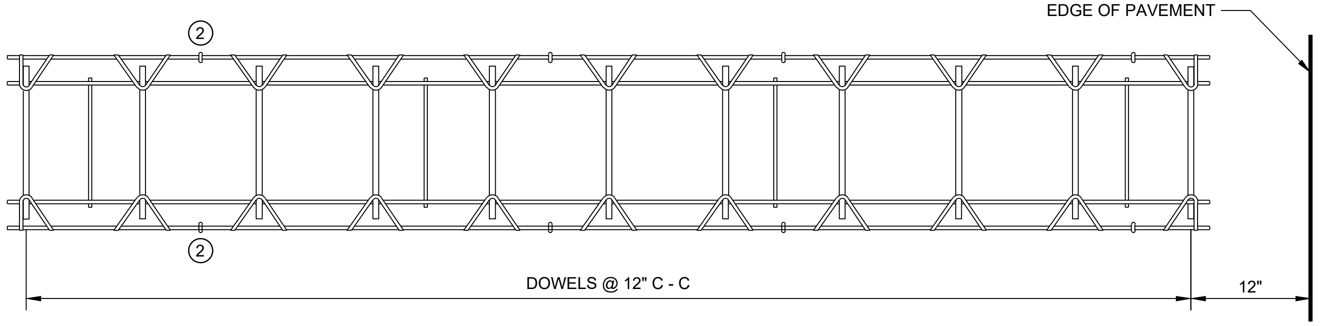


TRANSVERSE CONSTRUCTION JOINT

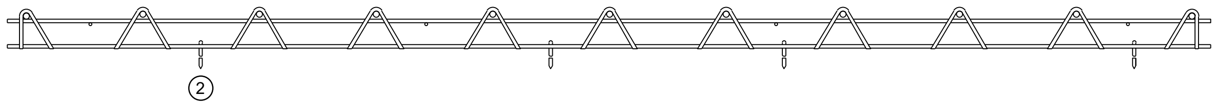
RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVISOR
FHWA

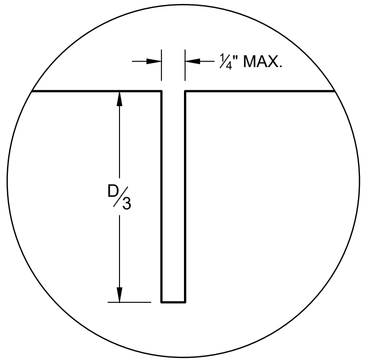


PLAN VIEW



SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

① OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTION CONTRACTION JOINTS.

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

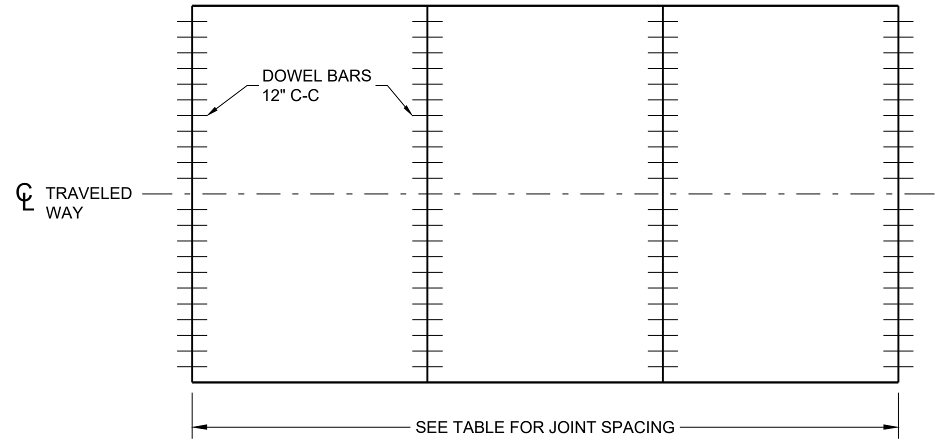
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼" RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

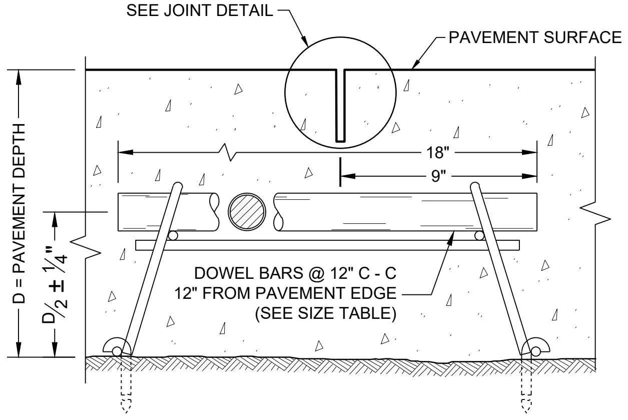
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C - C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO THE "DRILLED DOWEL BAR CONSTRUCTION JOINT" DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



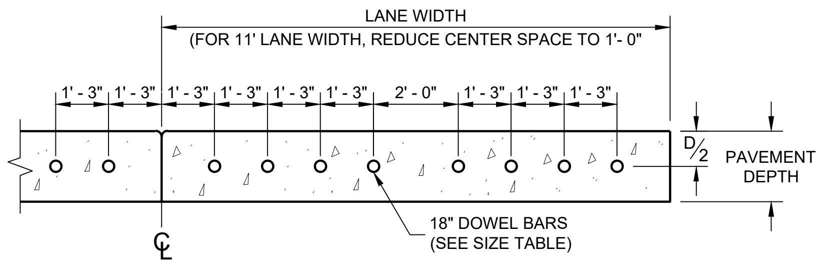
CONTRACTION JOINT LOCATIONS



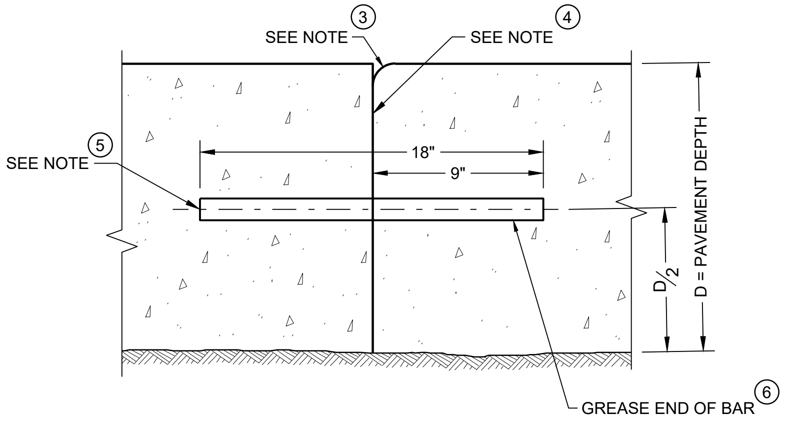
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8" & ABOVE	1 ¼"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

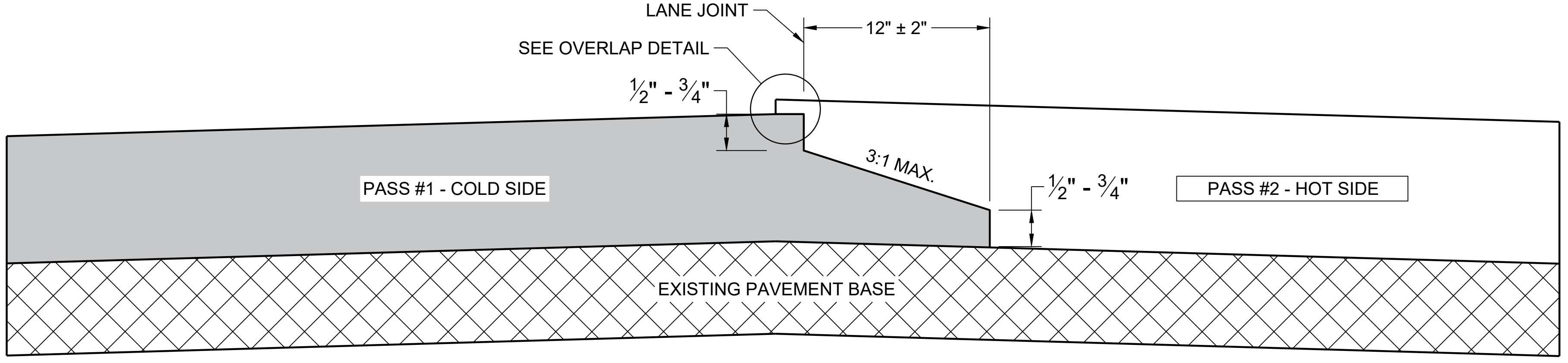


TRANSVERSE CONSTRUCTION JOINT

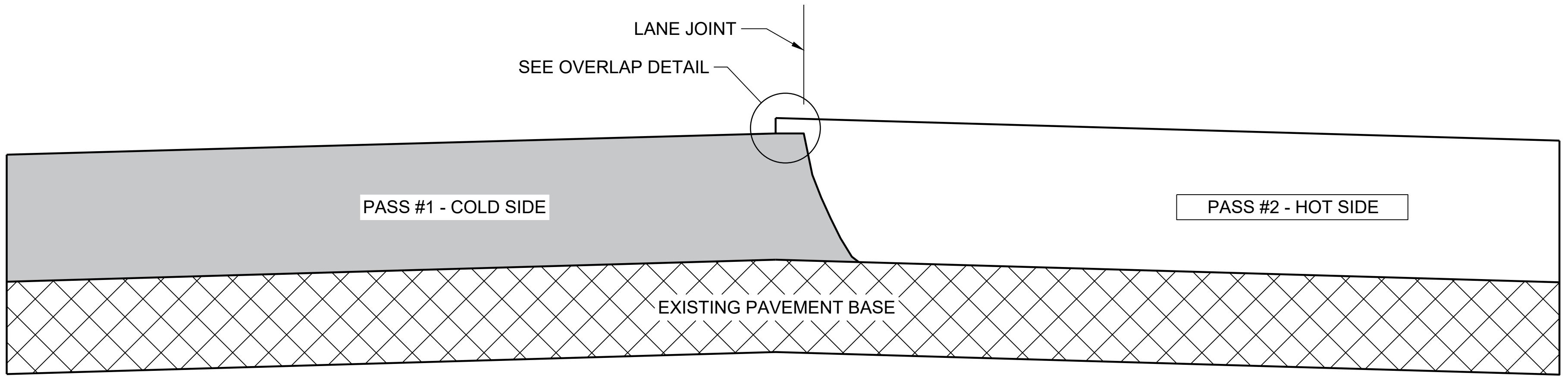
URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

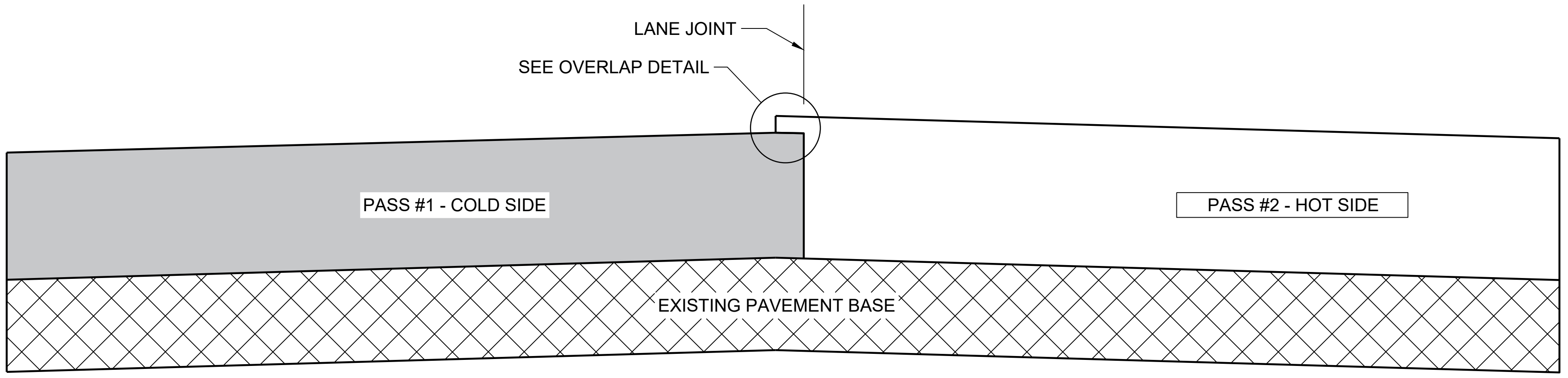
APPROVED
November 2022 /S/ Peter Kemp P.E.
DATE PAVEMENT SUPERVIS
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

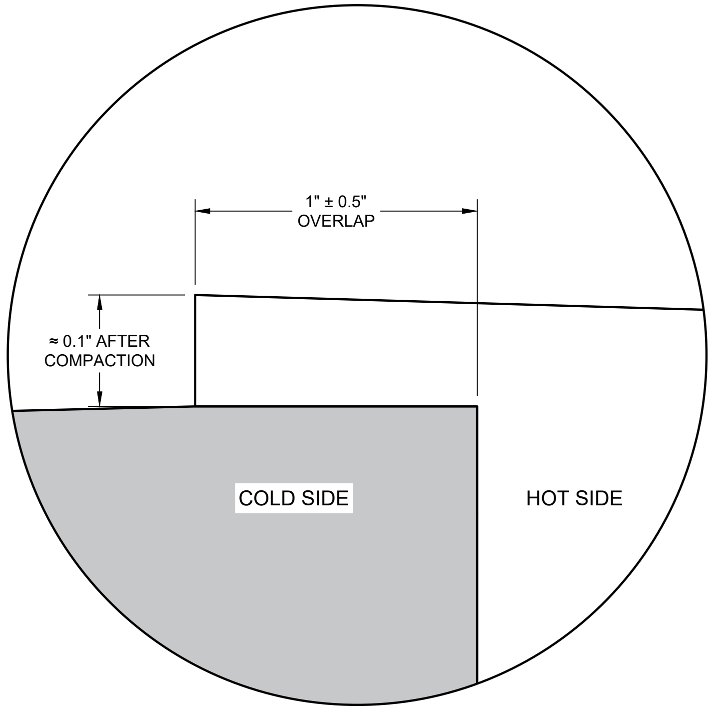
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

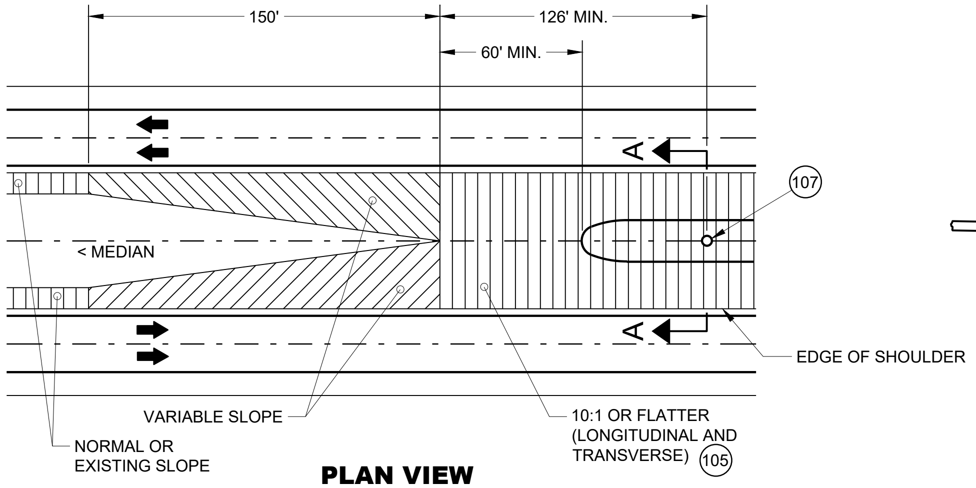


OVERLAP DETAIL (TYPICAL)

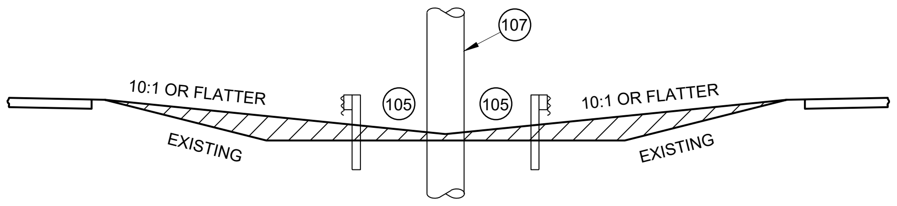
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE
/S/ Steven Hefel
HMA PAVEMENT ENGINI
FHWA



PLAN VIEW
GRADING AT BULLNOSE
(ALL INSTALLATIONS)



SECTION A -A
MEDIAN GRADING
(ALL INSTALLATIONS)

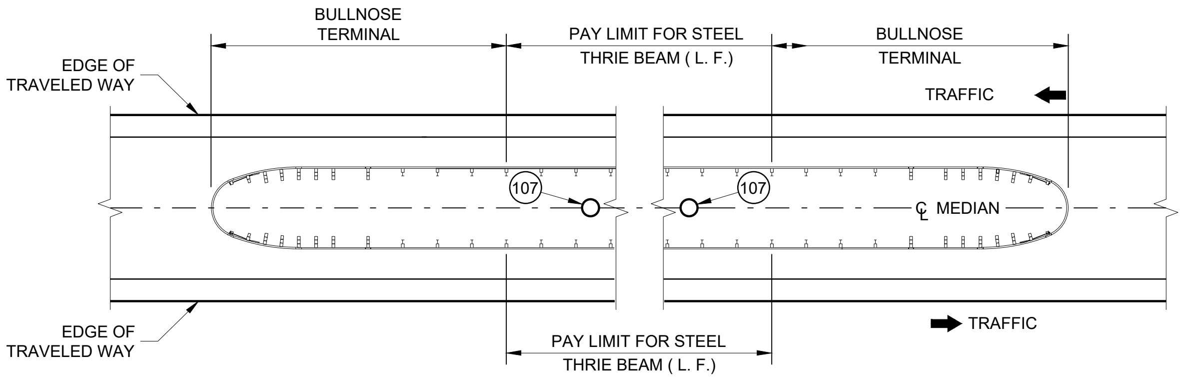
GENERAL NOTES

THRIE BEAM RAILS MAY NEED TO BE FIELD BENT TO FIT THE LOCATION.

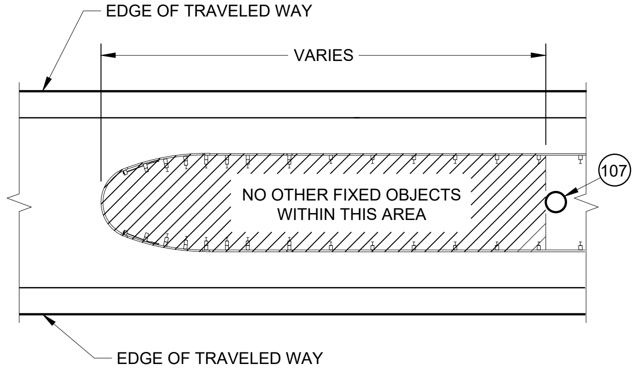
SEE STANDARD DETAIL DRAWINGS 14B26 SHEETS a-h.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½". MINIMUM DIAMETER OF THE ROCK REMOVAL IS 12" DIAMETER

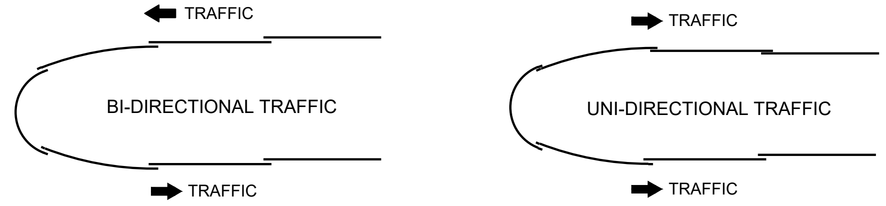
E1	UNBENT STANDARD THRIE BEAM RAIL B1 (POST 8 TO POST 10 AND POST 10 TO POST 12)
E2	SLOTTED THRIE BEAM RAIL E1 (POST 1 TO POST 1)
E3	SLOTTED THRIE BEAM RAIL B3 (POST 5 TO POST 8)
E4	SLOTTED THRIE BEAM RAIL E4 (POST 1 TO POST 5)
5	BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.
(100)	DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.
(101)	U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.
(102)	NOSE CABLE WITH SWAGGED END BUTTONS.
(103)	NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).
(104)	THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.
(105)	MINIMUM WORKING WIDTH 4' - 2".
(106)	MAX. WIDTH OF SYSTEM IS 14' - 2 ½" MEASURED FROM THE BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.
(107)	FIXED OBJECT OR OTHER HAZARD.
(108)	PLAN IS TO PROVIDE STATION OFFSET TO CENTER OF POST 5 IN PLANS.



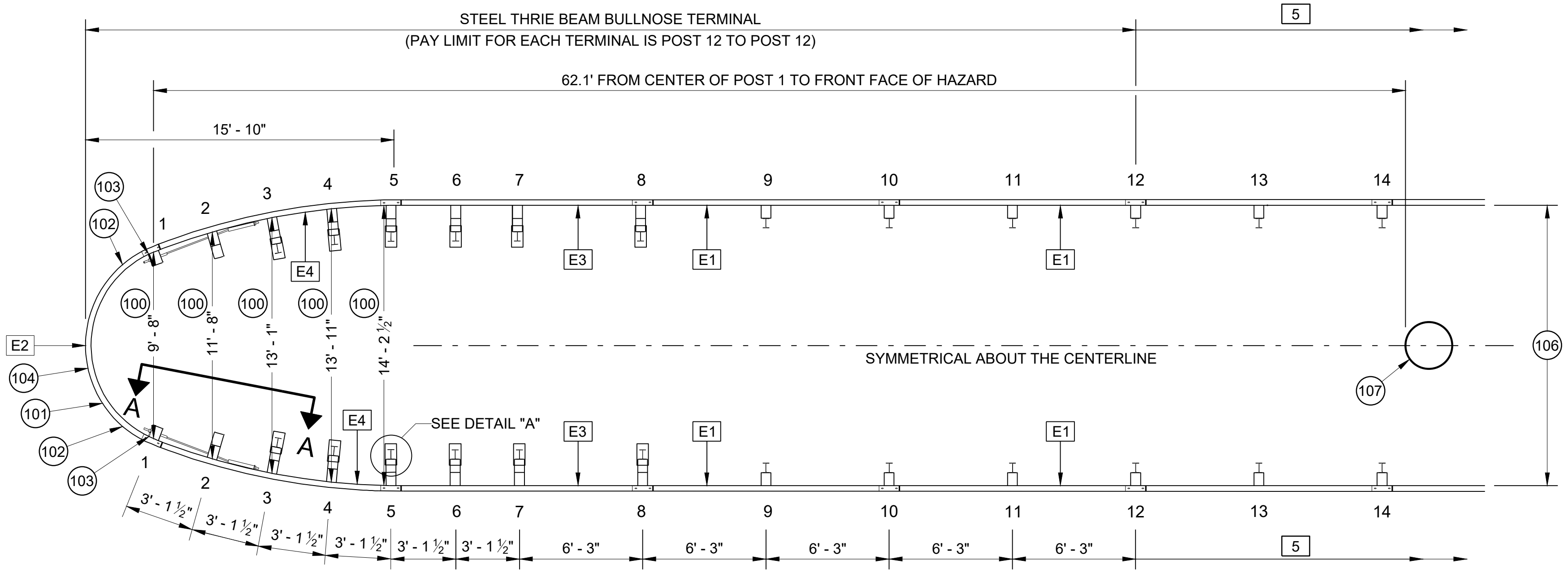
MEDIAN HAZARD PROTECTION PAY LIMITS



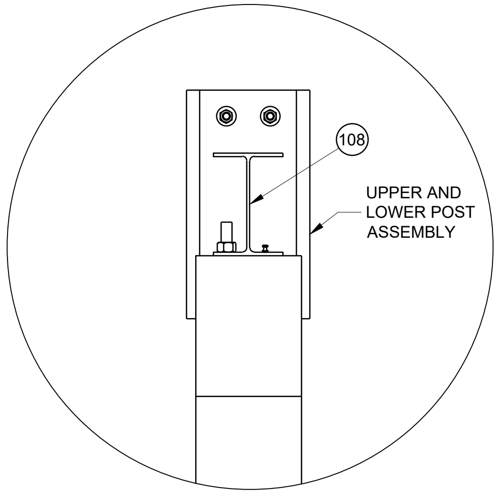
HAZARD FREE AREA
INSIDE BULLNOSE



LAPPING DETAIL



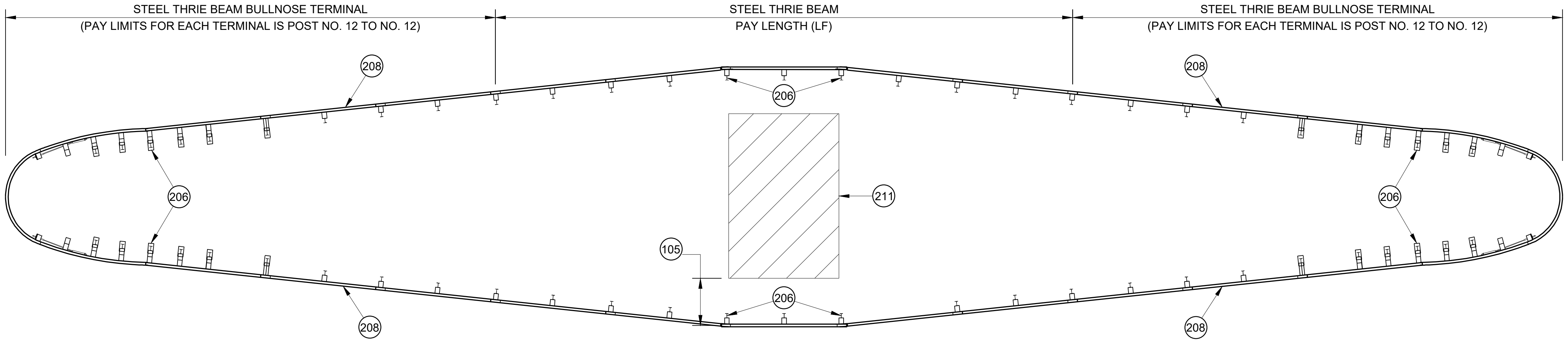
PLAN VIEW
TYPICAL BULLNOSE LAYOUT



DETAIL "A"

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



VARIABLE WIDTH BULLNOSE

GENERAL NOTES

(200) 6' - 3" ASYMMETRICAL 10-GAUGE W-BEAM TO THRIE BEAM GUARD TRANSITION. SEE SDD 14B45 FOR MORE INFORMATION.

(201) W-BEAM RAIL. SEE SDD 14B42 FOR MORE INFORMATION.

(202) SEE POST NO. 9 AND ALL STEEL THRIE BEAM POST BEYOND DETAIL.

(203) SEE SDD 14B42 FOR INSTALLATION INFORMATION.

(204) SEE SDD 14B45 FOR INSTALLATION DETAILS. REPLACE ASYMMETRICAL W-BEAM TO THRIE BEAM TRANSITION AND W-BEAM RAIL WITH E1. PAY FOR MODIFIED THRIE BEAM TRANSITION.

(205) CONCRETE BARRIER OR BRIDGE RAIL.

(206) SEE PLAN FOR STATION AND OFFSET TO CENTER OF POST.

(207) SEE PLAN FOR STATION AND OFFSET TO CENTER OF SPLICE.

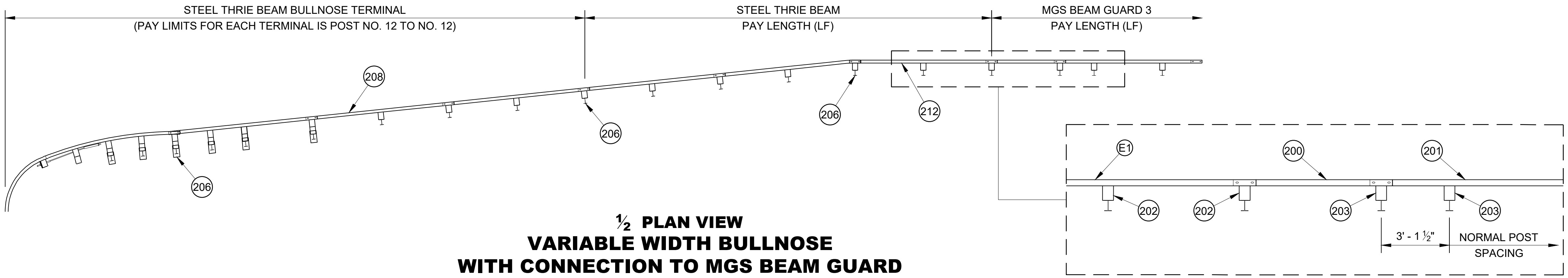
(208) SEE PLAN FOR FLARE RATE.

(209) A MINIMUM OF 25 FT OF THRIE BEAM TANGENT BEFORE TRANSITIONING TO BEAM GUARD OR THRIE BEAM TRANSITION.

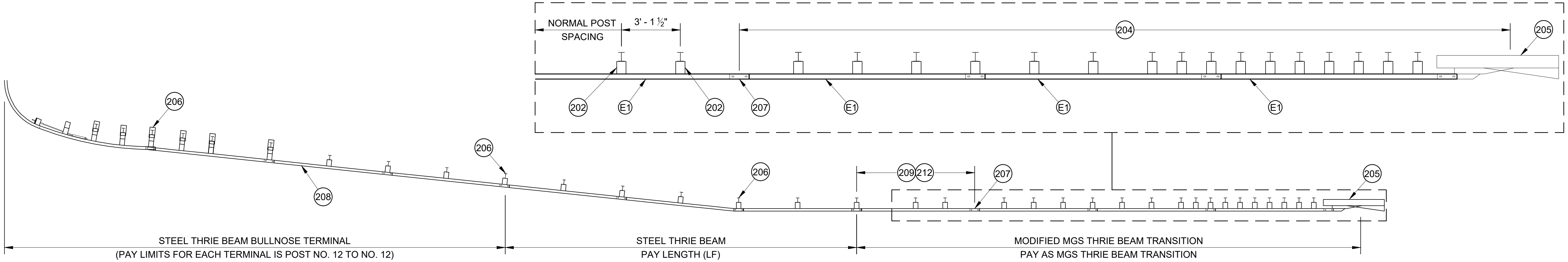
(210) NOT ALL BULLNOSE HARDWARE SHOWN. SEE OTHER SHEETS IN 14B26.

(211) WIDER HAZARD TO BE SHIELDED.

(212) TRANSITION RAIL HEIGHT TO 31" OVER THE LENGTH OF A 12' - 6" BEAM SECTION.



½ PLAN VIEW
VARIABLE WIDTH BULLNOSE WITH CONNECTION TO MGS BEAM GUARD

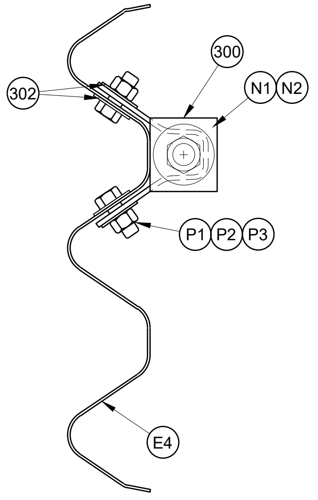


½ PLAN VIEW

VARIABLE WIDTH BULLNOSE WITH CONNECTION TO RIGID BARRIER

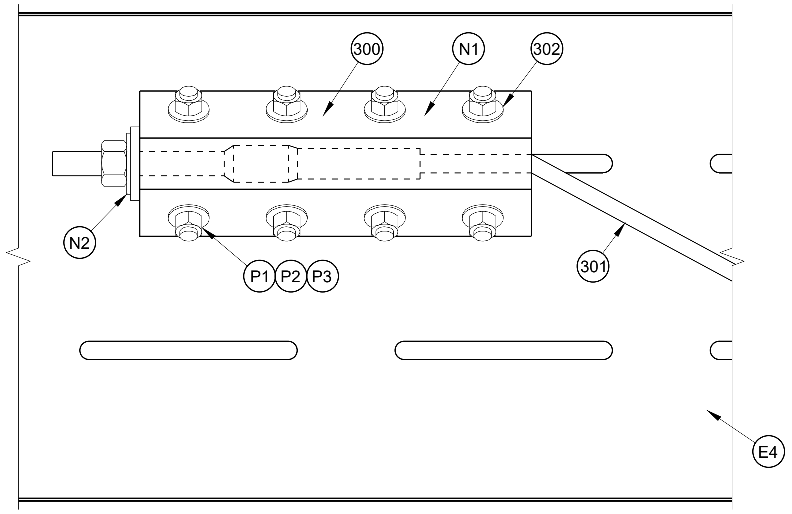
STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

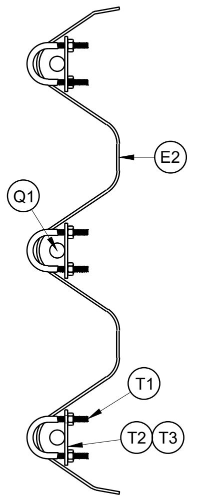


PROFILE VIEW

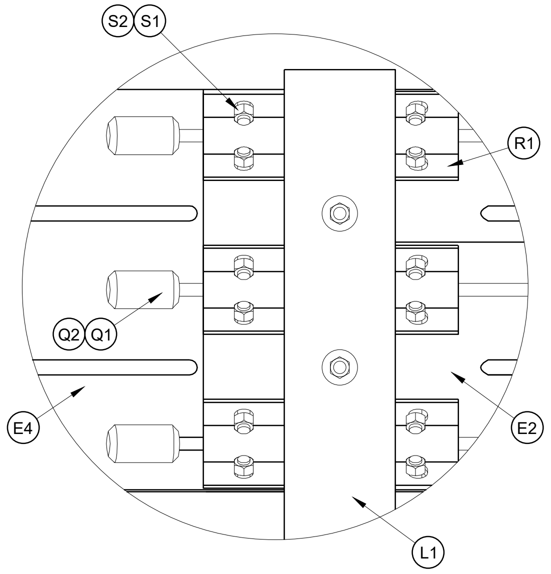
CABLE ANCHOR ASSEMBLY CONNECTION



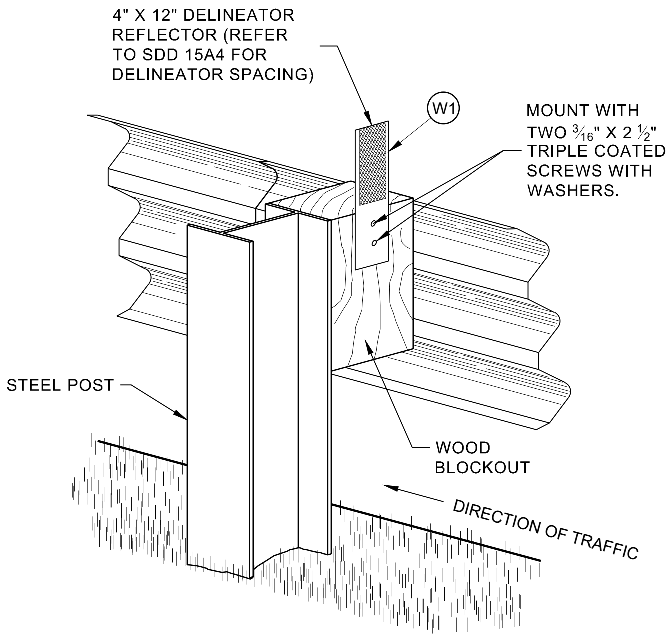
CABLE ANCHOR ASSEMBLY



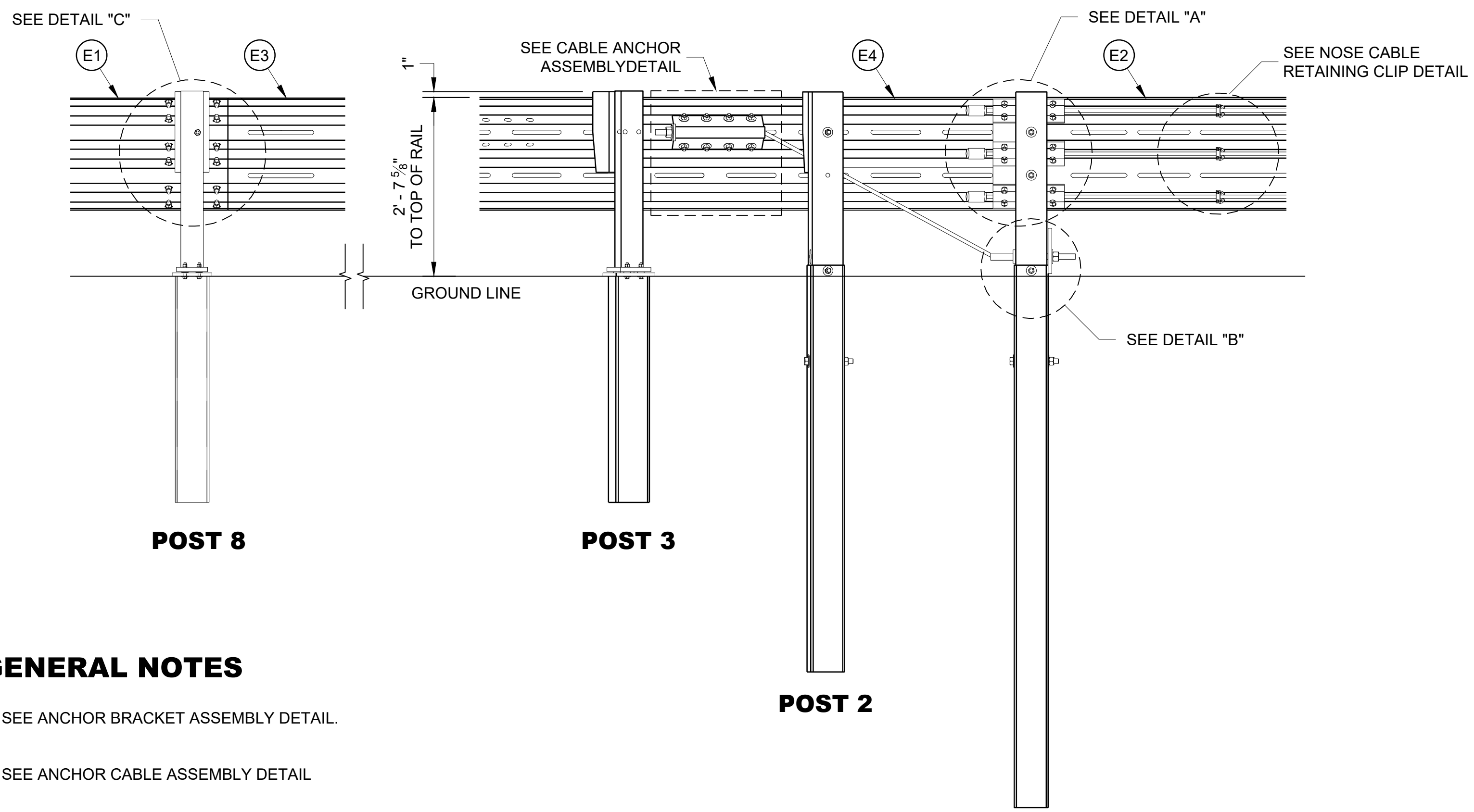
NOSE CABLE RETAINING CLIP



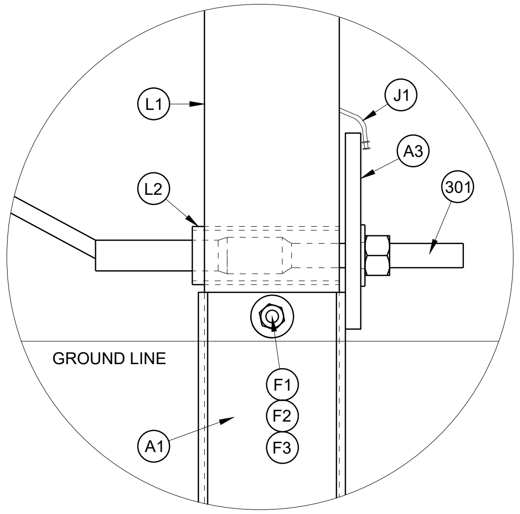
DETAIL "A"



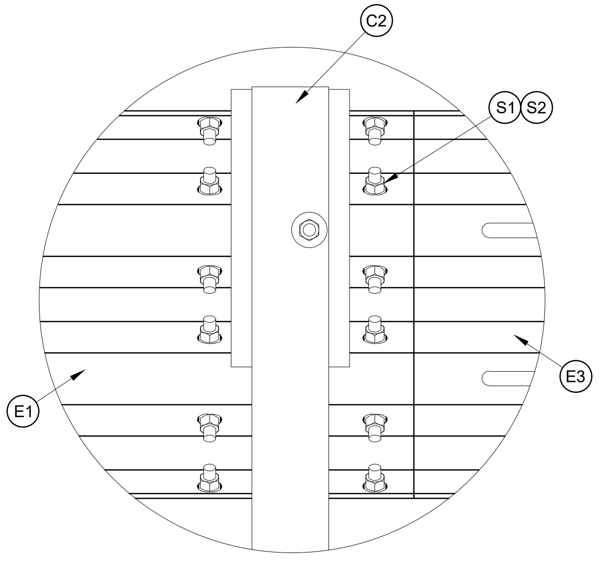
ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION



CROSS SECTION A - A



DETAIL "B"



DETAIL "C"
THRIE BEAM SPLICE

GENERAL NOTES

(300) SEE ANCHOR BRACKET ASSEMBLY DETAIL.

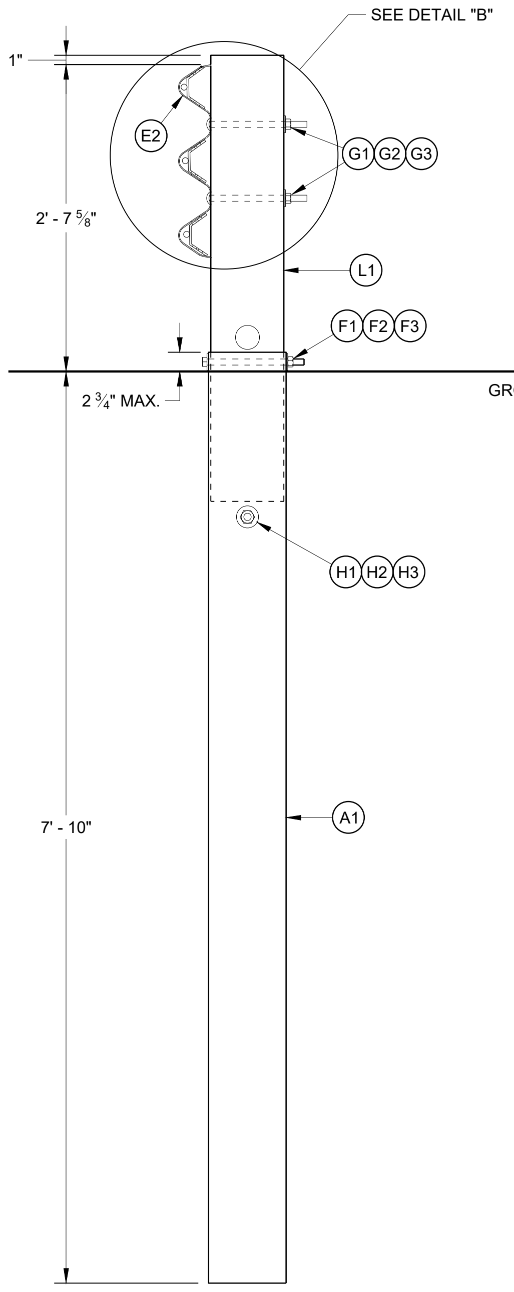
(301) SEE ANCHOR CABLE ASSEMBLY DETAIL

(302) ONE WASHER BETWEEN BOLT HEAD AND RAIL AND BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

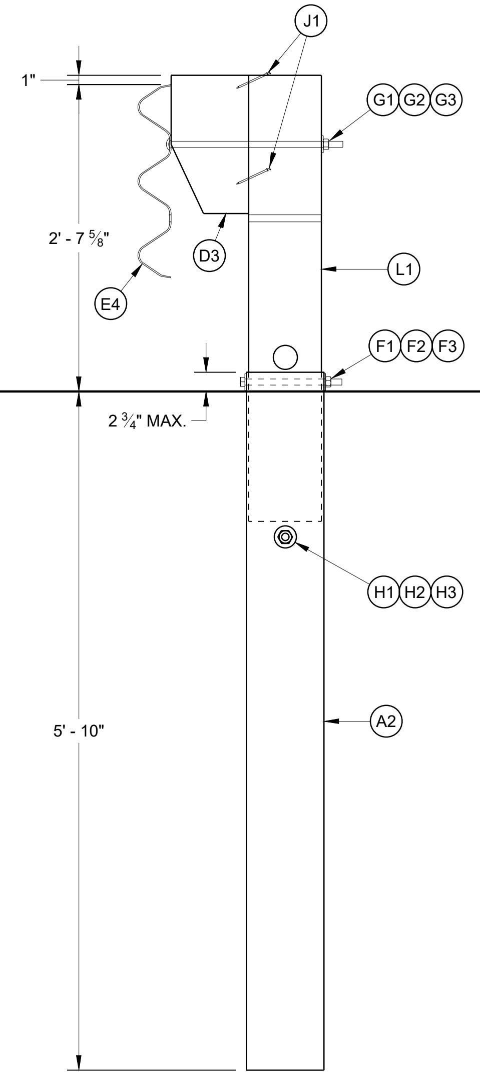
(303) ONE WASHER BETWEEN BOLD HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

STEEL THRIE BEAM
BULLNOSE TERMINAL

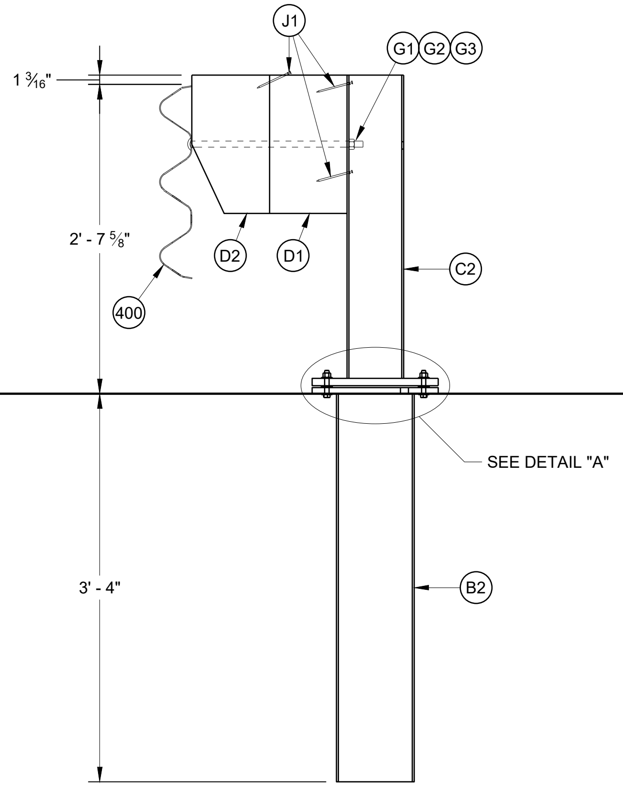
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



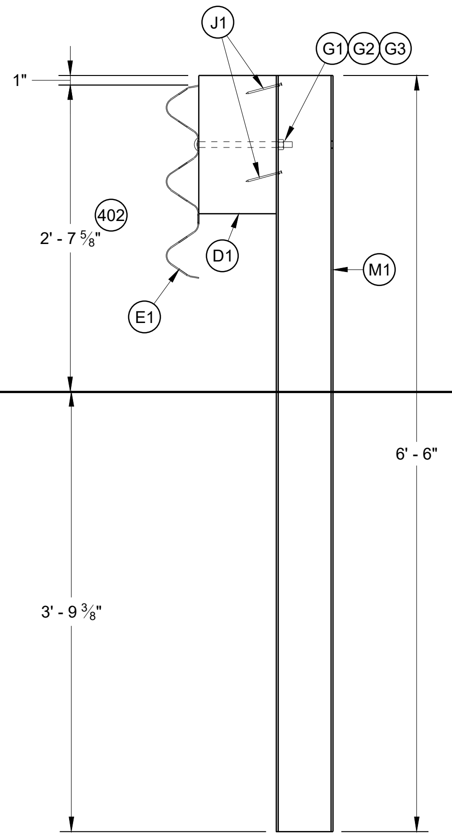
POST NO. 1



POST NO. 2



POST NOS. 3-8



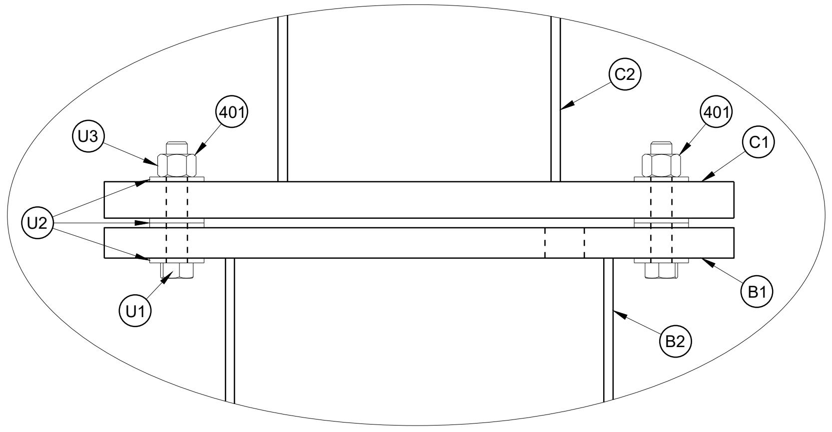
POST NOS. 9 AND ALL STEEL THRIE BEAM POSTS BEYOND

GENERAL NOTES

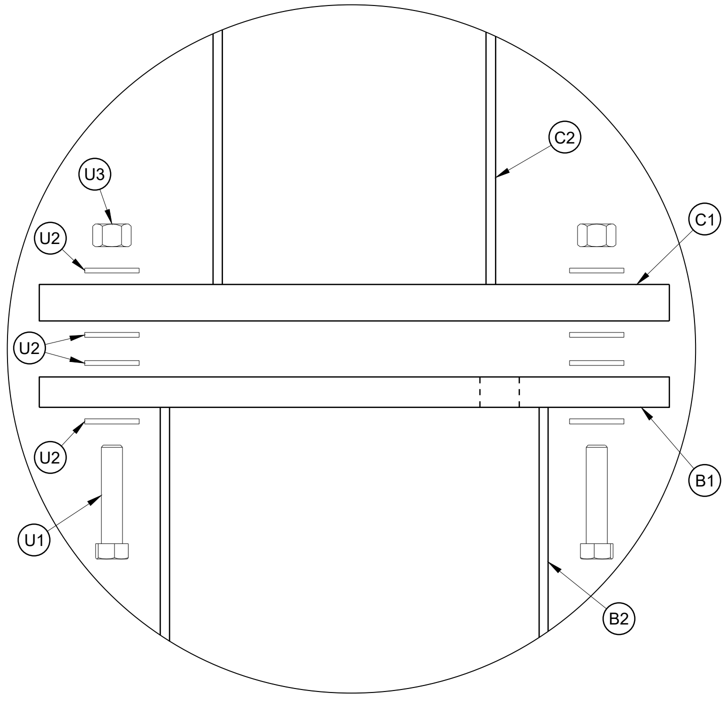
400 RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.

401 TORQUE BOLD BETWEEN 60-75 FT-LB

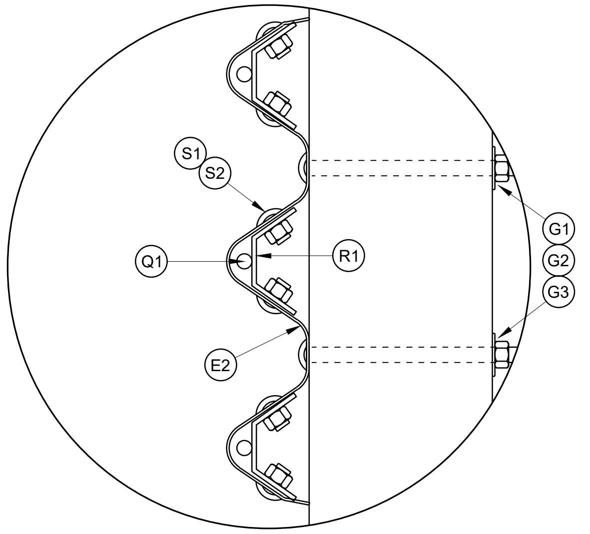
402 HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".



DETAIL "A"



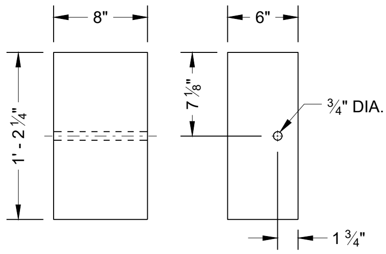
EXPLODED VIEW
DETAIL "A"



DETAIL "B"

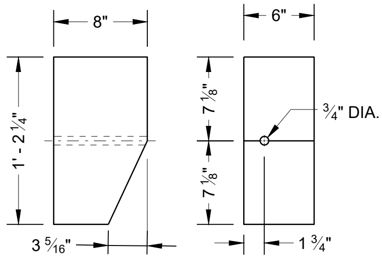
STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



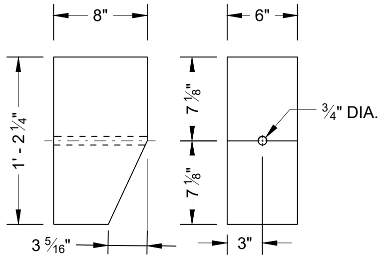
ELEVATION PROFILE

BLOCKOUT (D1)



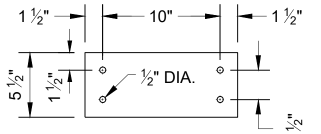
ELEVATION PROFILE

BLOCKOUT (D2)

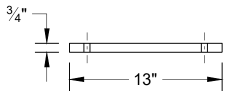


ELEVATION PROFILE

BLOCKOUT (D3)

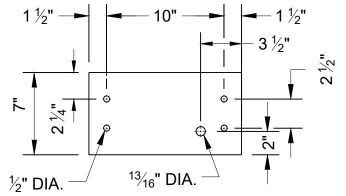


PLAN

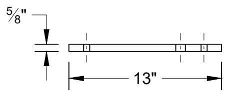


PROFILE

UPPER SHEAR PLATE (C1)

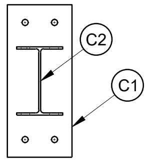


PLAN

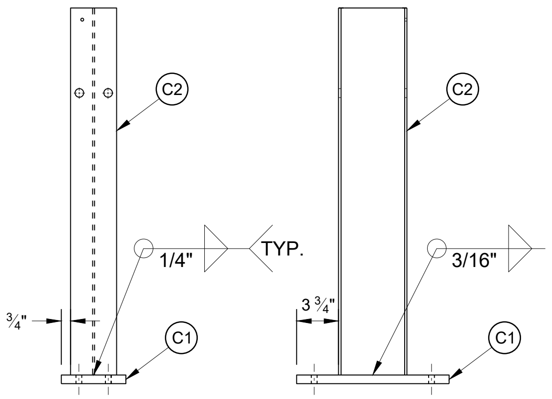


PROFILE

LOWER SHEAR PLATE (B1)

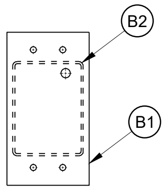


PLAN

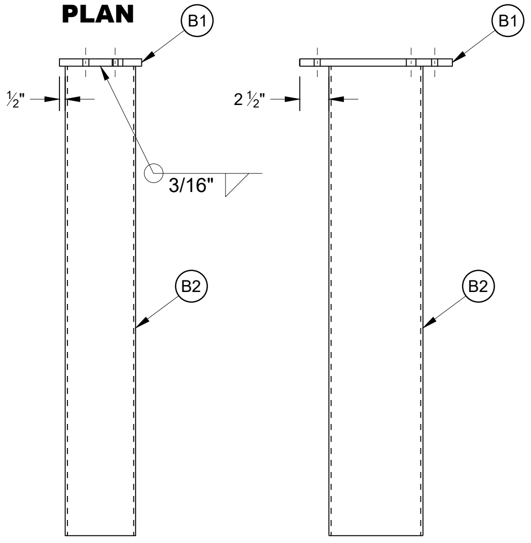


ELEVATION PROFILE

UPPER POST ASSEMBLY

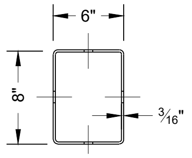


PLAN



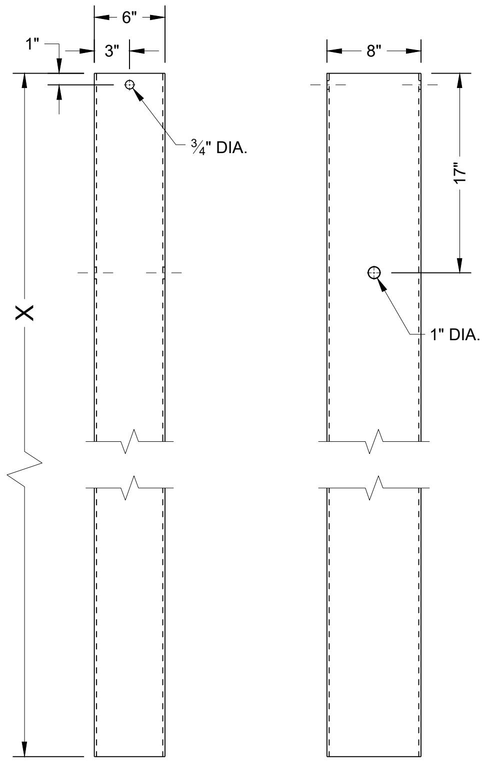
ELEVATION PROFILE

LOWER POST ASSEMBLY



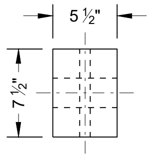
PLAN

PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"

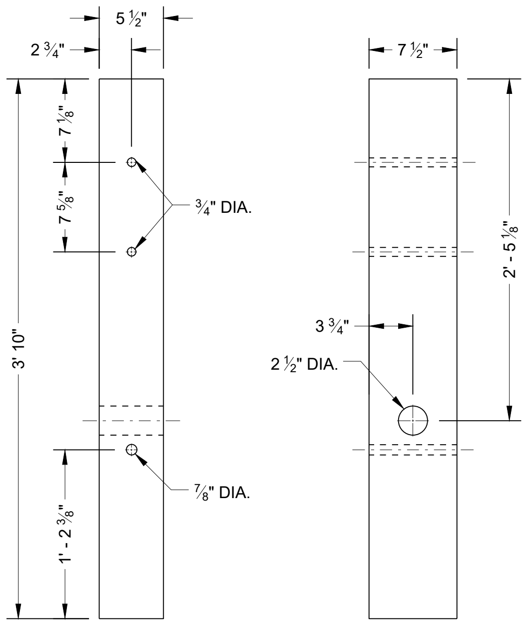


ELEVATION PROFILE

FOUNDATION TUBE

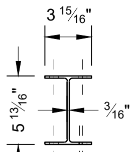


PLAN

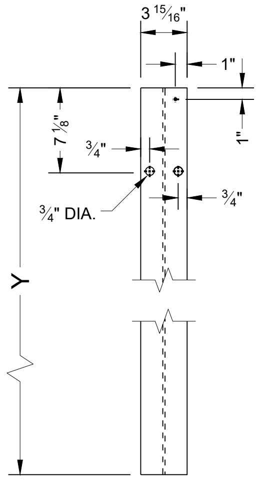


ELEVATION PROFILE

BCT POST (L1)



PLAN



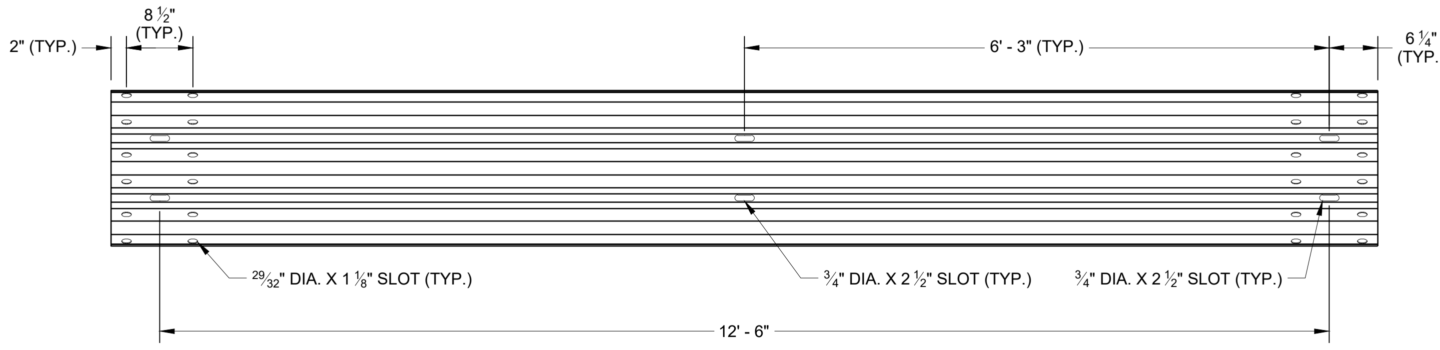
ELEVATION

POST

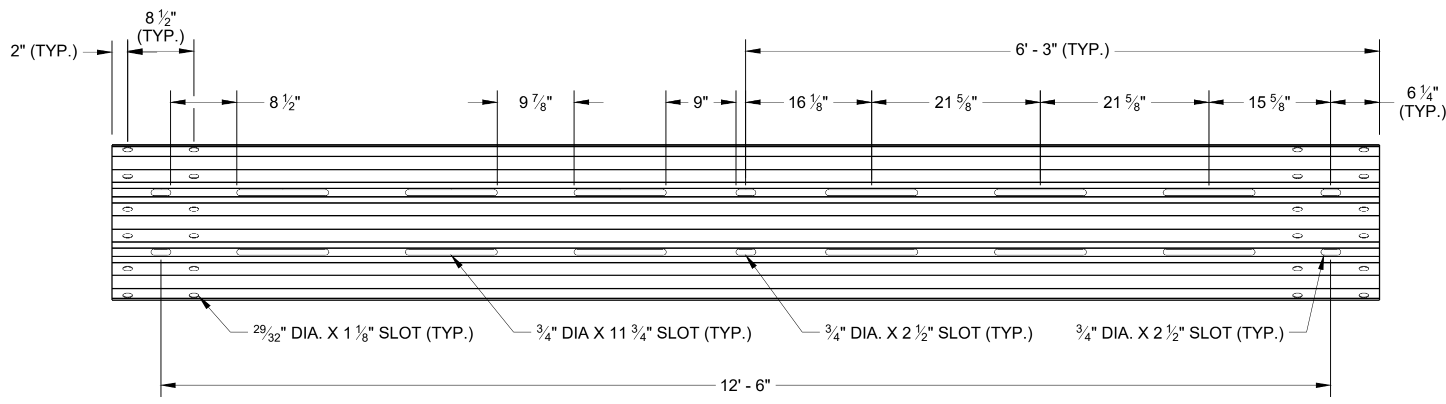
PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

STEEL THRIE BEAM
BULLNOSE TERMINAL

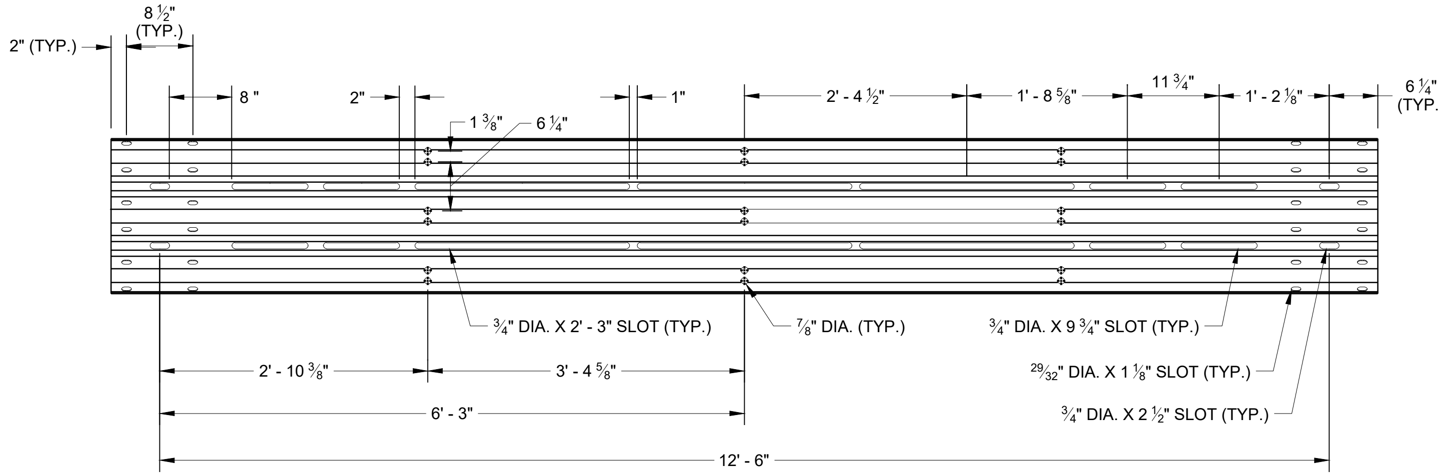
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



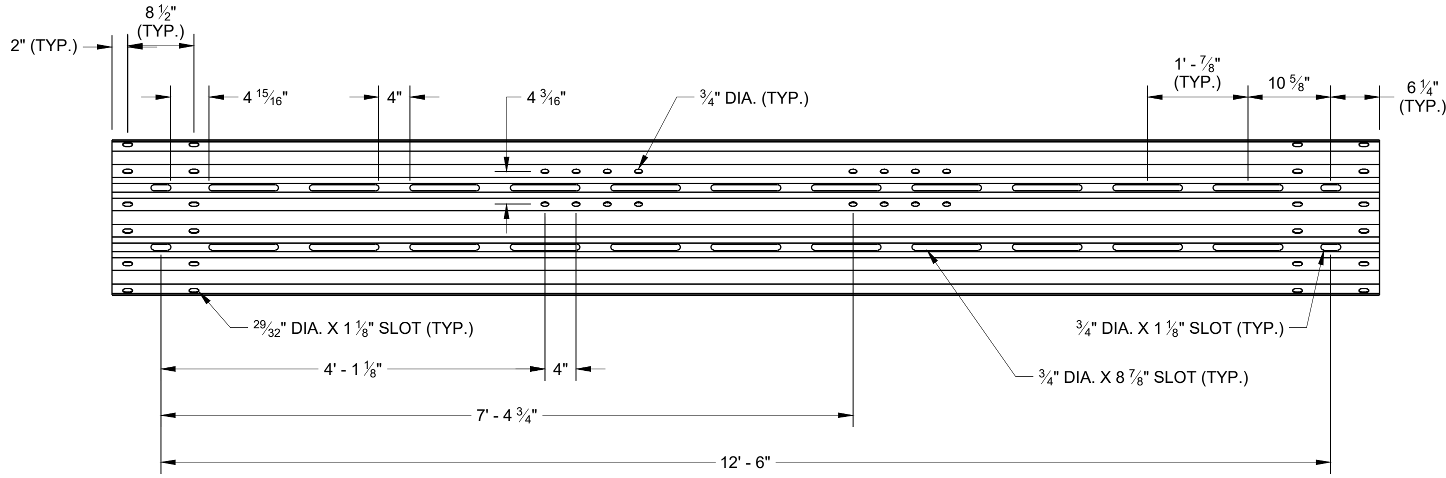
SLOTTED THRIE BEAM RAIL E1



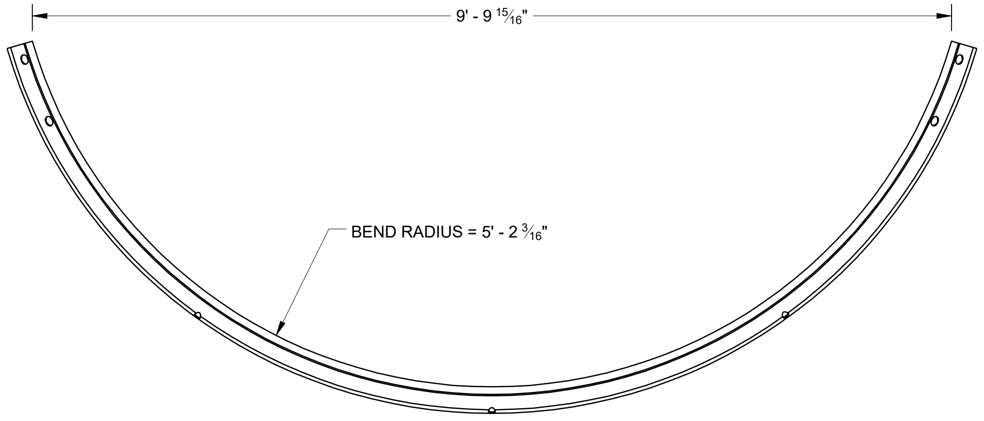
SLOTTED THRIE BEAM RAIL E3



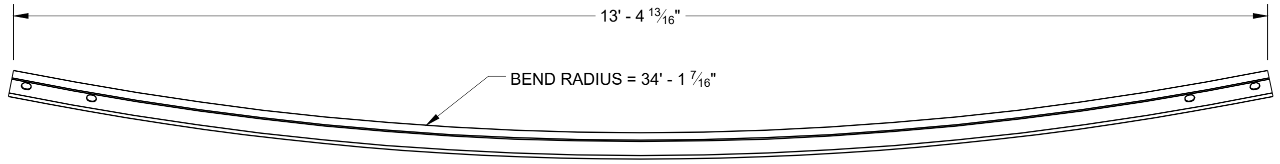
ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E2



ELEVATION VIEW NON - RADIUSED
SLOTTED THRIE BEAM RAIL E4



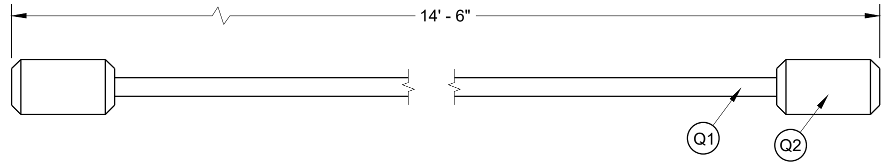
PLAN VIEW
SLOTTED THRIE BEAM RAIL E2



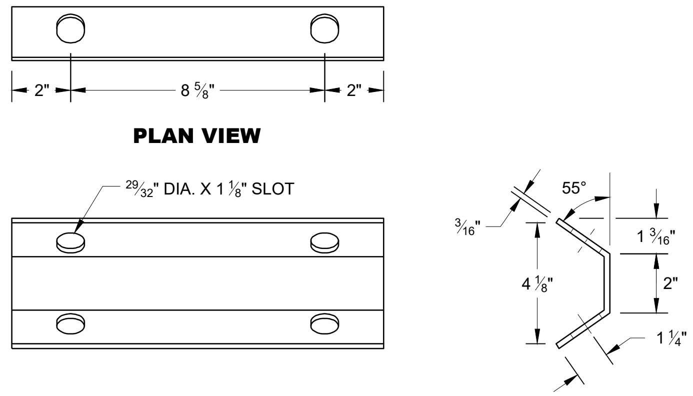
PLAN VIEW
SLOTTED THRIE BEAM RAIL E4

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



NOSE CABLE AND SWAGE BUTTON

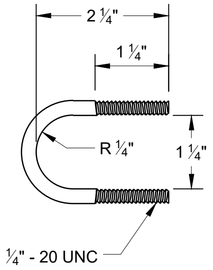


PLAN VIEW

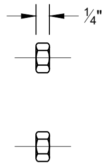
ELEVATION VIEW

PROFILE VIEW

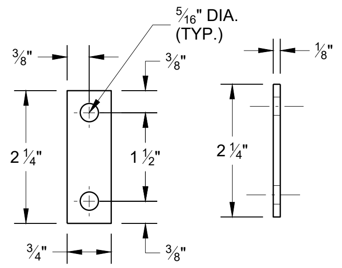
NOSE CABLE ANCHOR (R1)



U - BOLT (T1)



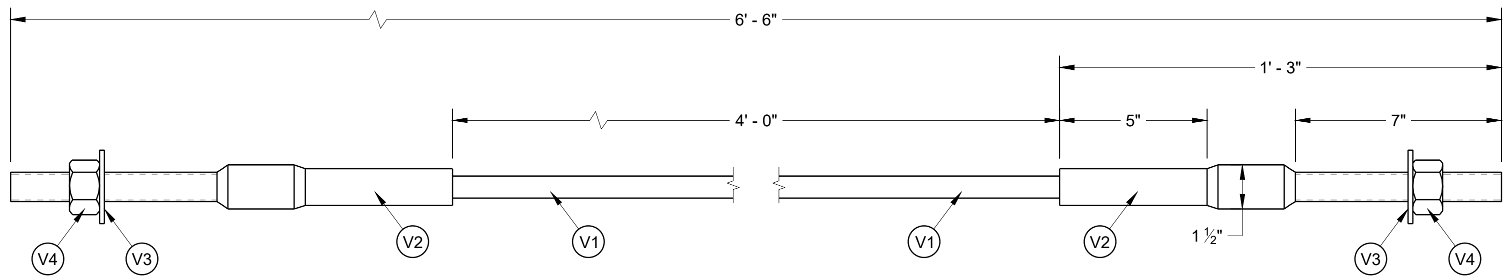
U - BOLT NUT (T3)



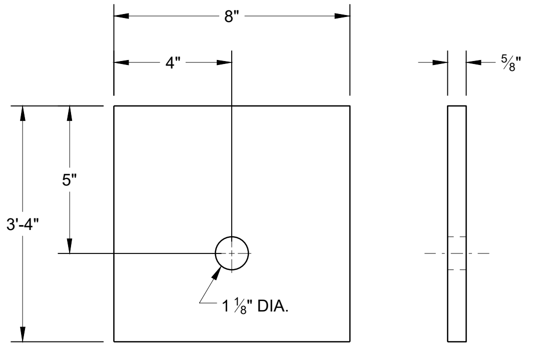
ELEVATION VIEW

PROFILE VIEW

U - BOLT PLATE WASHER (T2)



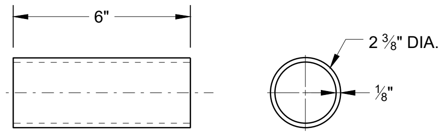
ANCHOR CABLE ASSEMBLY



ELEVATION VIEW

PROFILE VIEW

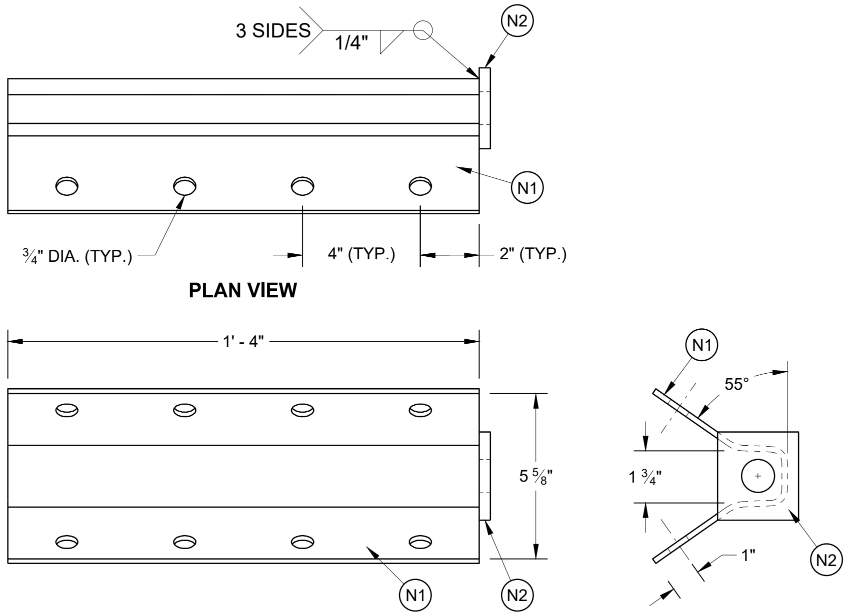
BCT BEARING PLATE (A3)



ELEVATION VIEW

PROFILE VIEW

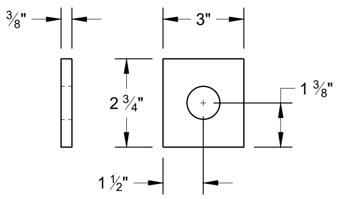
BCT POST SLEEVE (L2)



ELEVATION VIEW

PROFILE VIEW

ANCHOR BRACKET ASSEMBLY (N1)



ANCHOR BRACKET END PLATE (N2)

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

BILL OF MATERIALS LIST

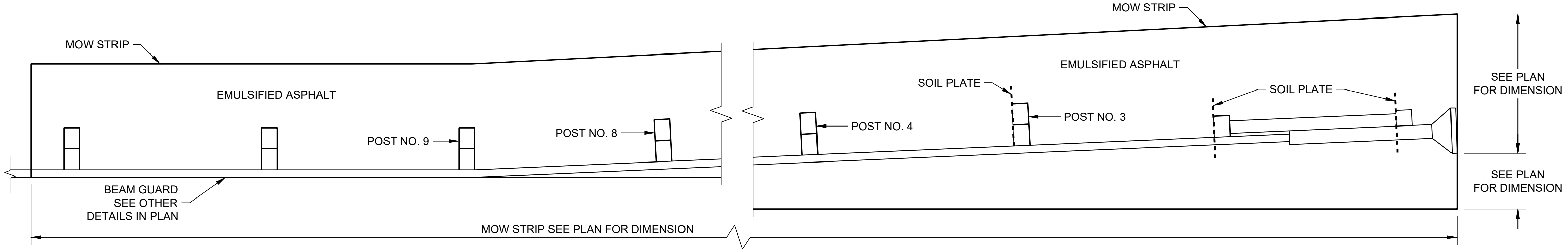
PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
A1	LONG FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A2	FOUNDATION TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
A3	BEARING PLATE AT POST	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B1	LOWER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
B2	LOWER SLIP POST ASSEMBLY - TUBE	AASHTO M111/ASTM A123 ASTM A500 GRADE B OR ASTM A-501
C1	UPPER SLIP POST ASSEMBLY - PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
C2	UPPER SLIP POST ASSEMBLY - POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
D1	BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D2	TAPERED BLOCK FOR STEEL POST - WOOD	WISDOT SPEC. 614
D3	TAPERED BLOCK FOR BCT POST - WOOD	WISDOT SPEC. 614
E1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E2	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
E3	THRIE BEAM RAIL - PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER
E4	THRIE BEAM RAIL - SHOP BENT AND PUNCHED	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER. INDICATE RADIUS BEAM GUARD IS BENT TO ON THE BACKSIDE OF RAIL. FOLLOW AASHTO M180. MARK RADIUS.
F1	5/8" DIA. HEX HEAD GROUND STRUT AND YOKE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
F2	5/8" DIA. GROUND STRUT AND YOKE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
F3	GROUND STRUT AND YOKE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
G1	5/8 " DIA. POST BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G2	POST BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER TYPICALLY USED WITH STEEL POSTS) OR ASTM F844 (UNHARDENED WASHER TYPICALLY USED WITH WOOD)
G3	POST BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
H1	7/8" DIA. SOIL TUBE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
H2	SOIL TUBE BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 7/8" ASTM F844 TYPE 1 (HARDEN WASHER ONLY)
H3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD 7/8" ASTM A563DH OR SAE J995 GRADE 5
J1	16D DOUBLE HEAD NAIL	ASTM A153 HOT DIPPED CLASS D DOUBLE HEAD ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)
L1	BCT TIMBER POST	WISDOT SPEC. 614 S4S FINISH ON 4 SIDE
L2	BCT POST SLEEVE	AASHTO M111/ASTM A123 2 3/8" OD ASTM 53 GRADE B
M1	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
M2	W6X8.5 OR W6X9 STEEL POST	AASHTO M111/ASTM A123 ASTM A6 W6X9 OR W6X8.5 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N1	ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
N2	ANCHOR BRACKET - BEARING PLATE	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI

PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
P2	ANCHOR BRACKET BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
P3	SOIL TUBE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
Q1	5/8" DIA. NOSE CABLE	6X19 AASTHO M30 / ASTM A741 XIPS INDEPENDENT WIRE CORE (IWRC) PR 6X25 XIPS, IWRC NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
Q2	NOSE CABLE-SWAGE BUTTON	COLD TUFF BUTTON, S-409 SIZE NO. 12 STOCK NUMBER 1040395 OR ANY OTHER SIMILAR SIZED WAGED-GRIP-BUTTON FERRULES. ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FIELD SWAGED PER MANUFACTURERS RECOMMENDATION. NOMINAL BREAKING STRENGTH OF 41.2 KIPS.
R1	NOSE CABLE ANCHOR BRACKET	AASHTO M111/ASTM A123 ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX. STRENGTH 50 KSI, OR ASTM A709 MAX. STRENGTH 50 KSI, OR ASTM A992 MAX. STRENGTH 50 KSI
S1	5/8" DIA. SPLICE BOLT - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
S2	SPLICE - BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 AASHTO M180 RECESSED HEAVY HEX HEAD 5/8" ASTM A563DH OR SAE J995 GRADE 5
T1	1/4" DIA. NOSE CABLE - U BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
T2	U-BOLT - PLATE WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
T3	U-BOLT NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
U1	7/16" DIA. SLIP POST ASSEMBLY - BREAKAWAY BOLT	ASTM A153 OR B695 CLASS 55 OR F2329 UNC FULLY THREADED HEX HEAD TAP BOLT ASTM A449 OR SAE J429 GRADE 5
U2	7/16" DIA. SLIP POST ASSEBLY - BREAKAWAY BOLT - WASHER	ASTM F436 TYPE I (HARDEN TYPICALLY USED WITH STEEL) GALV. AASHTO M111/ASTM A 123 OR GALV. HOT DIP. TO POST BOLT CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 55, F2329
U3	SLIP POST ASSEBLY - BREAKAWAY BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / STM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291/ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
V1	¾" DIA. BCT CABLE	AASHTO M30 / ASTM A741 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6X19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN BREAKING STRENGTH OF 42.7 KIPS
V2	ANCHOR CABLE-SWAGE FITTING	UNC ASTM A576 GRADE 1035 SWAGE FITTING ARE TO BE FACTORY SWAGED. MIN. BREAKING STRENGTH OF 42.7 KIPS. ASME B30.26 "FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING IN TO CONNECTION: NAME OF MANUFACTURE OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE FOR ALLOY EYEBOLTS."
V3	1" DIA. ANCHOR CABLE-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1 / ASTM B695 CLASS 50 TYPE 1 F436 TYPE 1 (HARDEN WASHER ONLY)
V4	1" DIA. ANCHOR CABLE-NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5
W1	REFLECTOR	SEE SDD 15A4

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVE ENGINEER
FHWA



PLAN VIEW
MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL

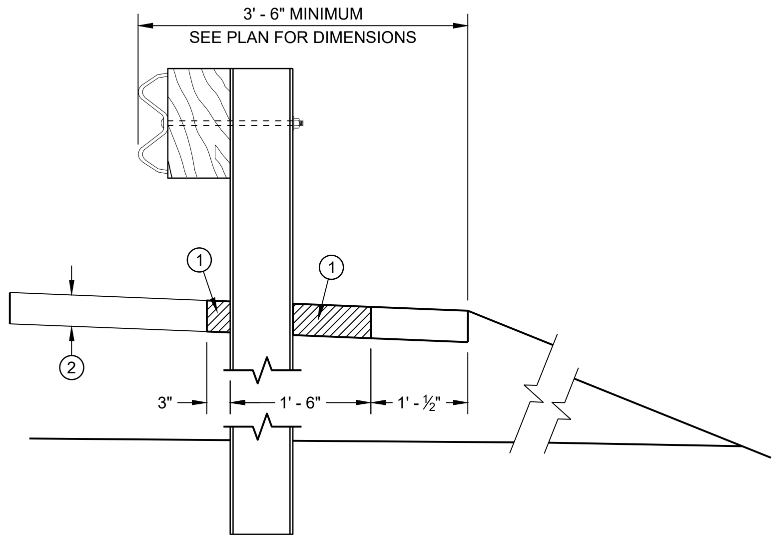
GENERAL NOTES

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

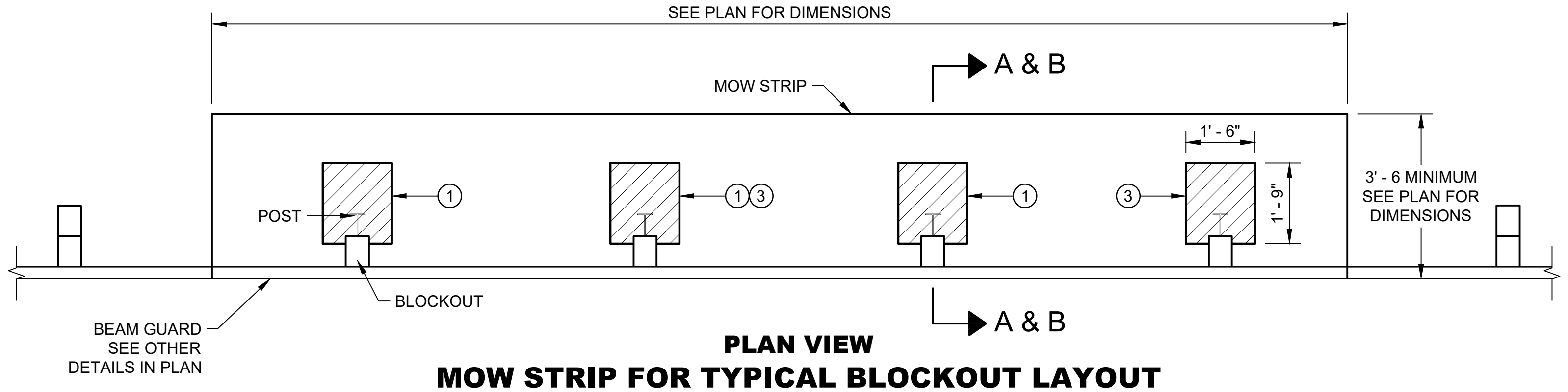
① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

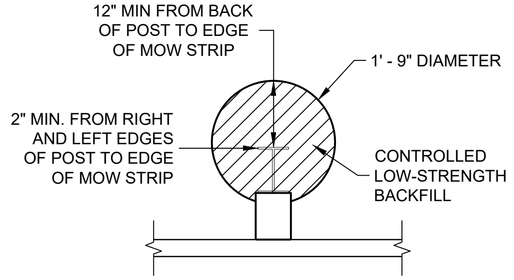
③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS).



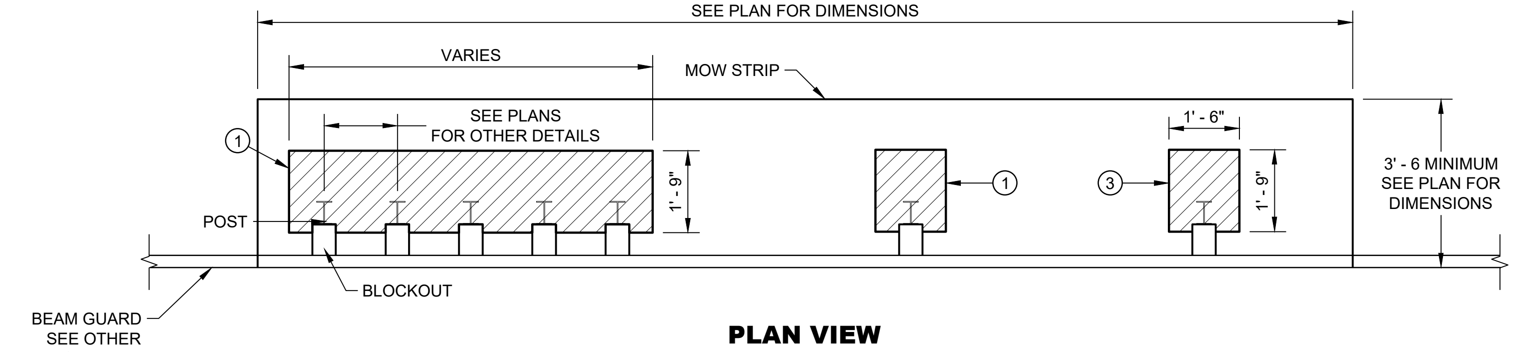
SECTION A - A



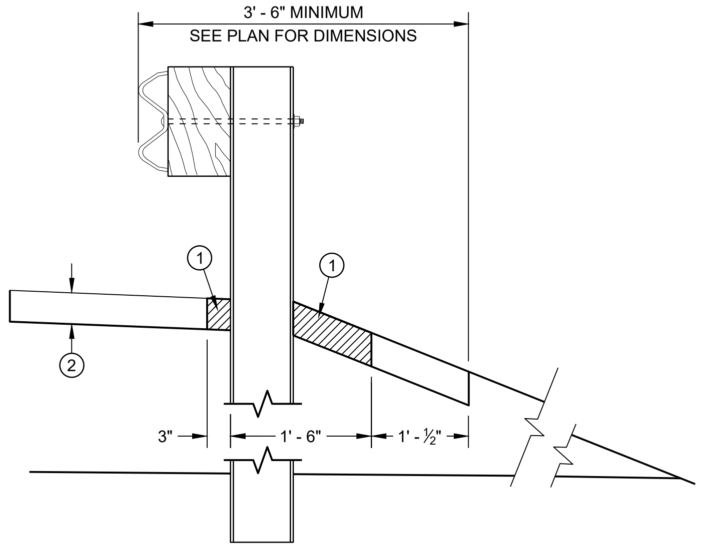
PLAN VIEW
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



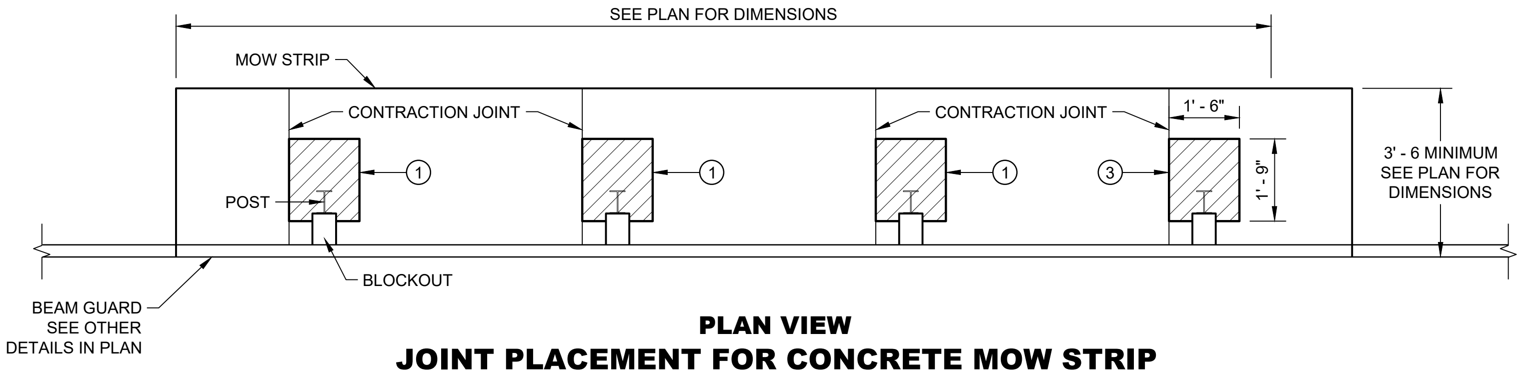
ALTERNATIVE HMA MOW STRIP DESIGN



PLAN VIEW
MOW STRIP FOR TIGHT SPACING LAYOUT



SECTION B - B



PLAN VIEW
JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

6

SDD 14B28 - 04a

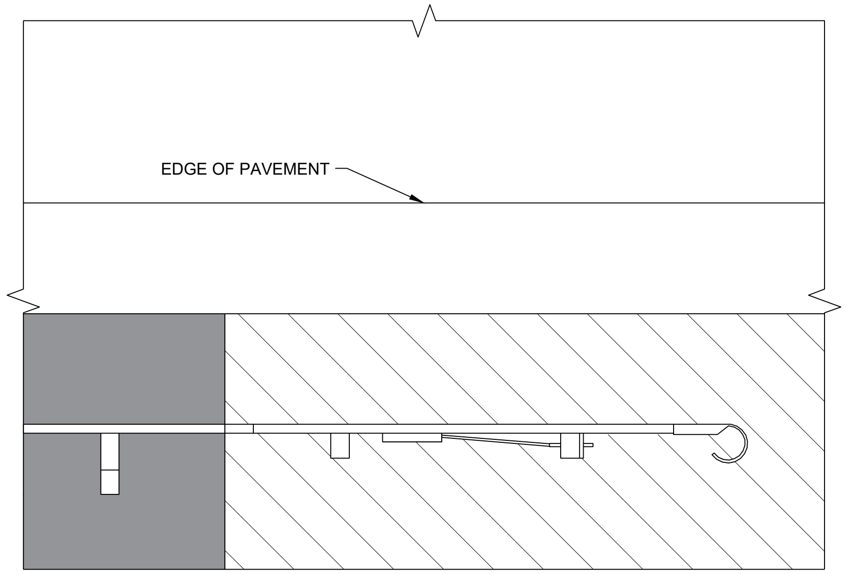
LEGEND

■ CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

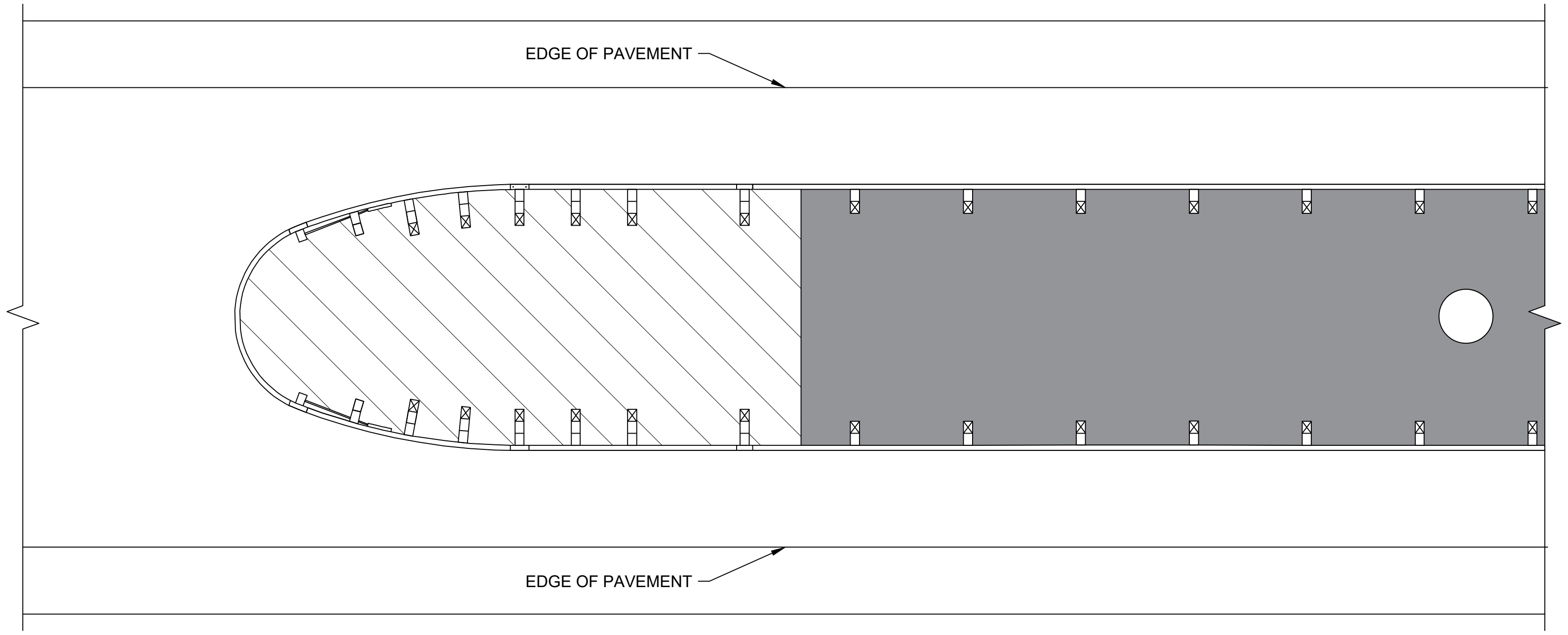
▨ EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

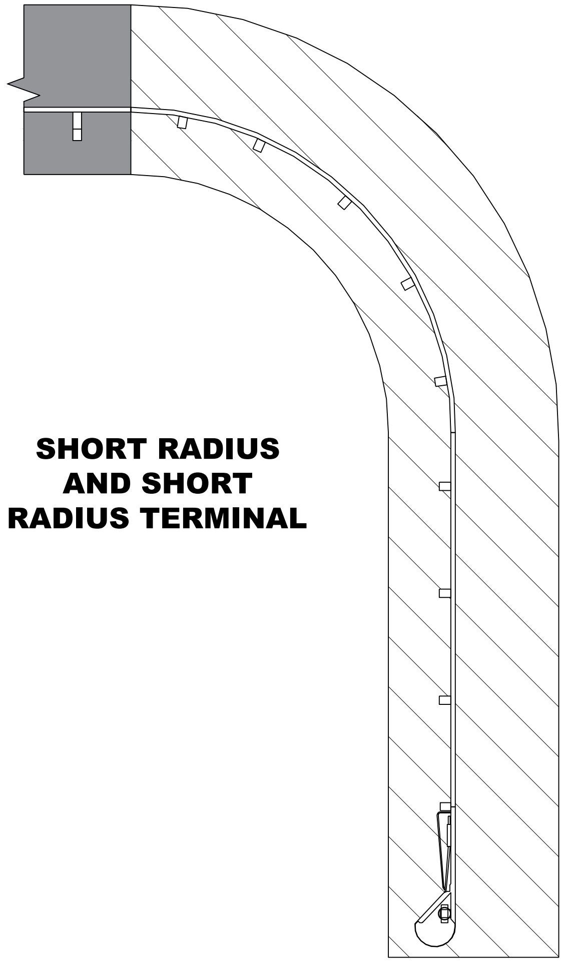
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



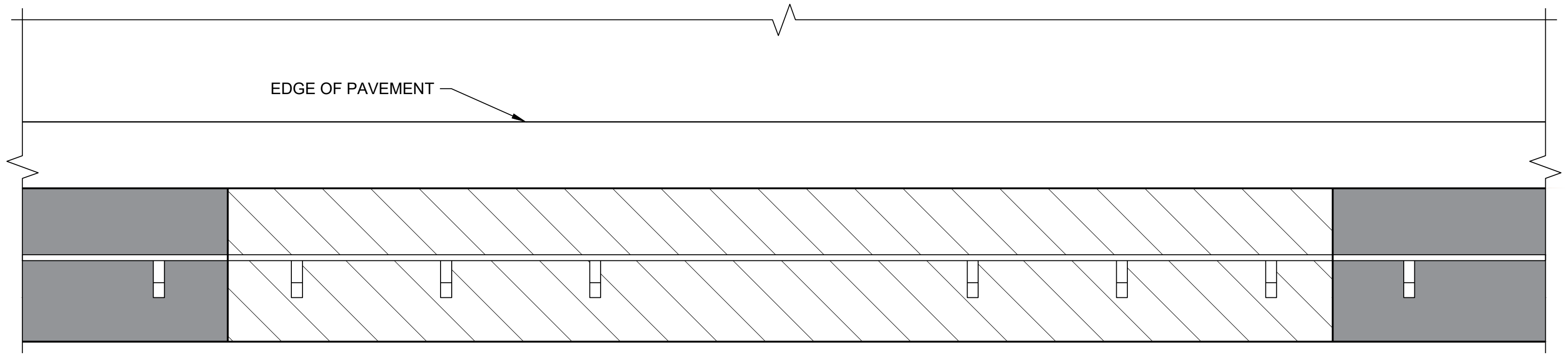
TYPE 2 TERMINAL



THRIE BEAM BULLNOSE



SHORT RADIUS AND SHORT RADIUS TERMINAL



LONG - SPAN

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
ENGINEER
FHWA

① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

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.

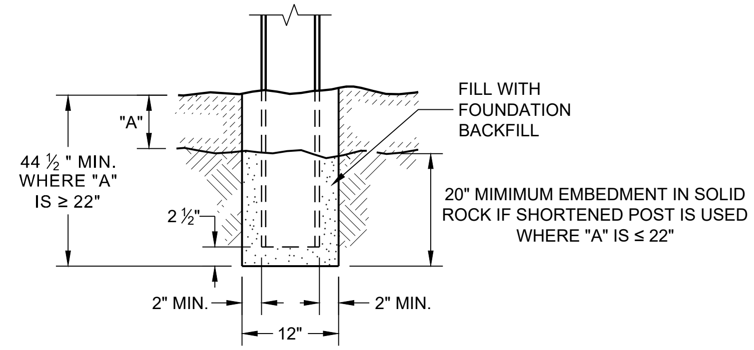
③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS 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).

⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

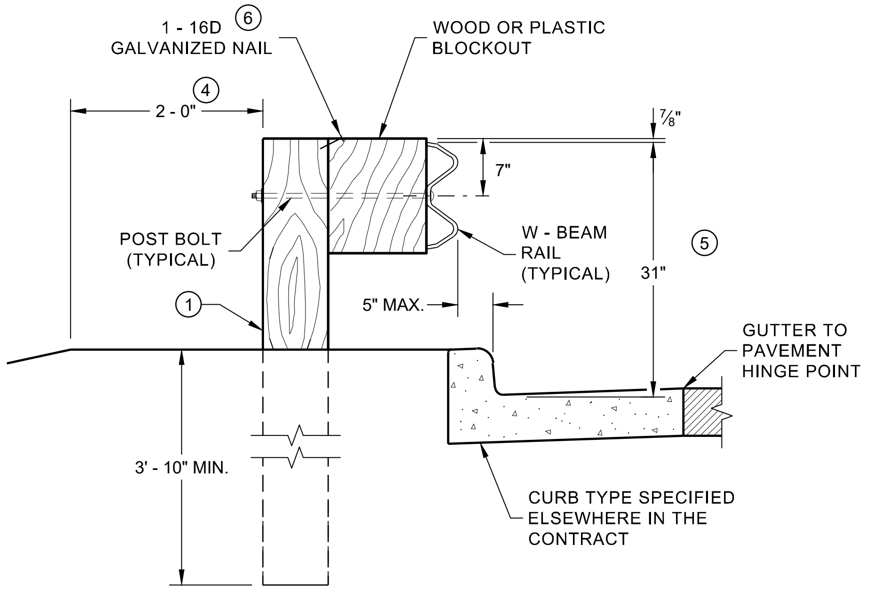
⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



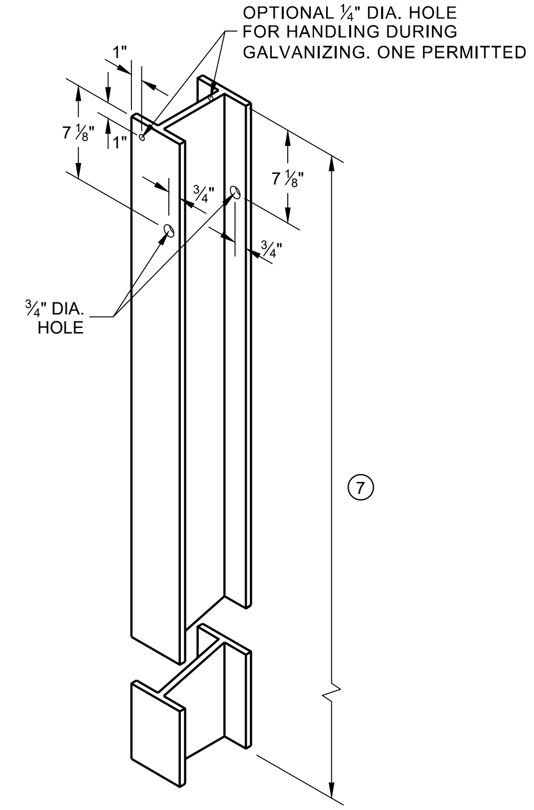
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③

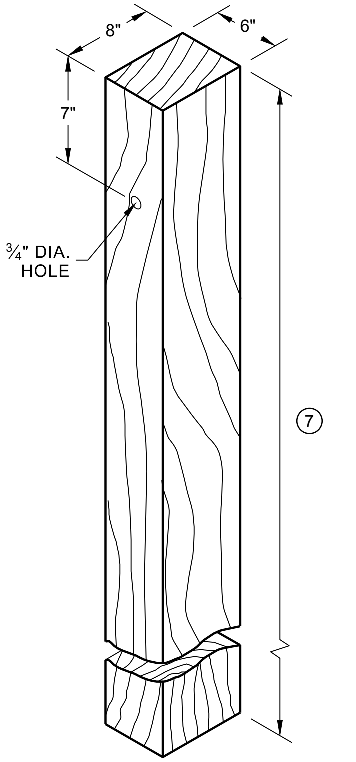


END VIEW

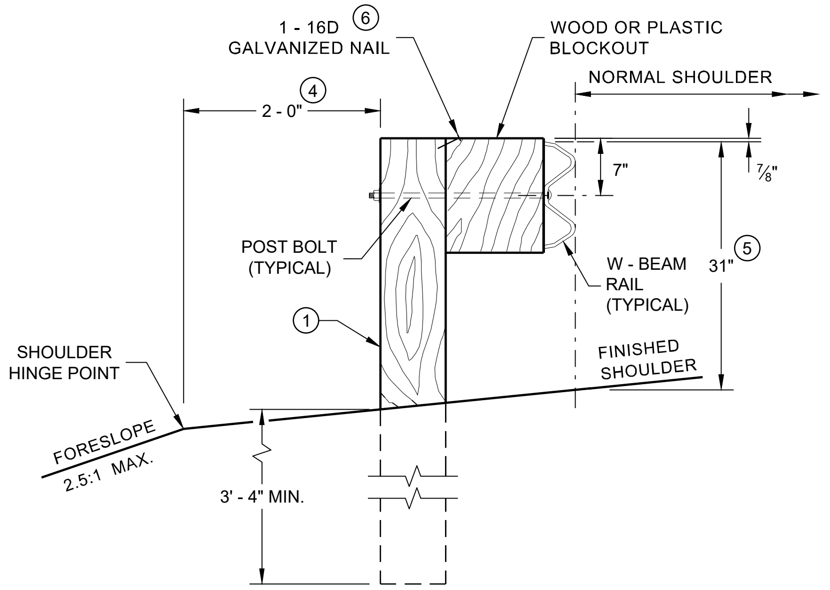
LOCATED ALONG A CURBED ROADWAY



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

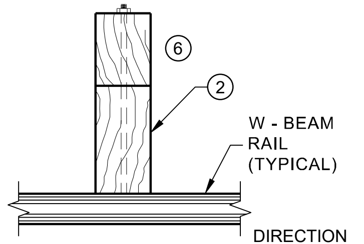


WOOD POST (6" X 8") NOMINAL ①



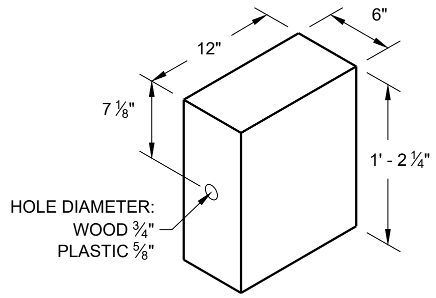
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION

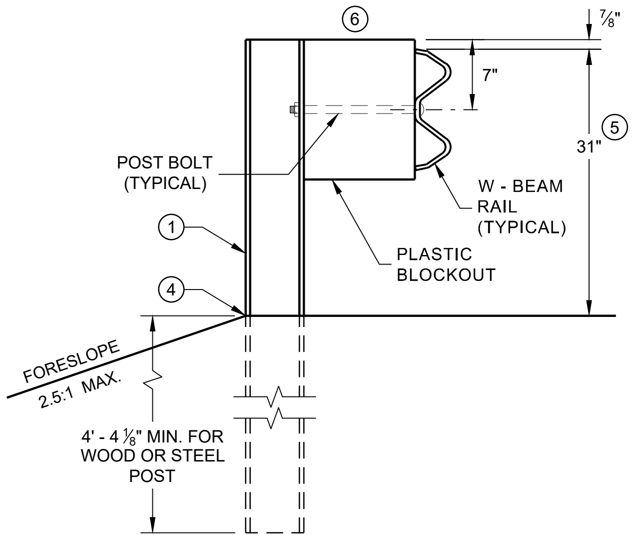


PLAN VIEW

WOOD POST, BLOCKOUT & BEAM

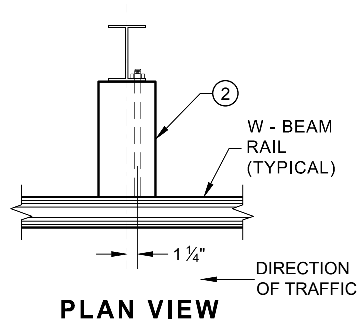


WOOD OR PLASTIC BLOCKOUT ②



END VIEW

MGS LONGER POST AT HALFPOST SPACING W BEAM (K)

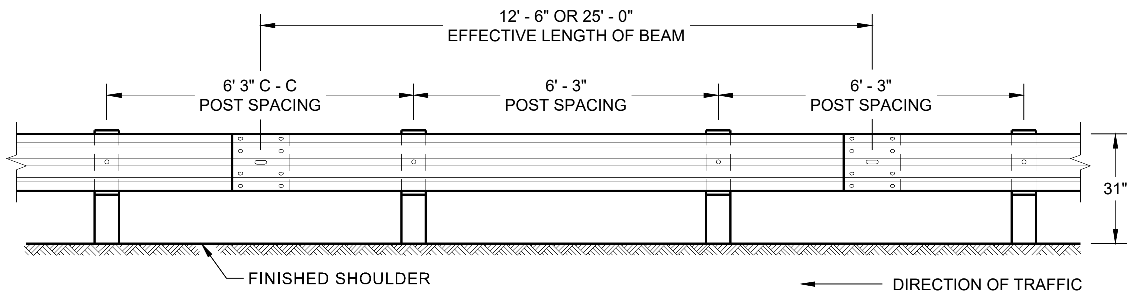


PLAN VIEW

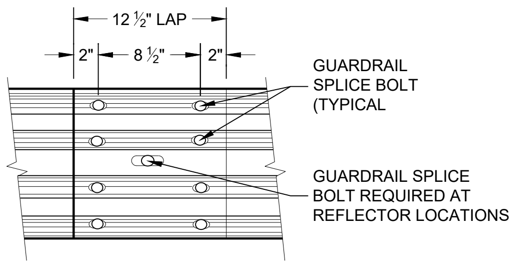
STEEL POST, PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



FRONT VIEW
POST SPACING STANDARD INSTALLATION



FRONT VIEW
MID-SPAN BEAM SPLICE

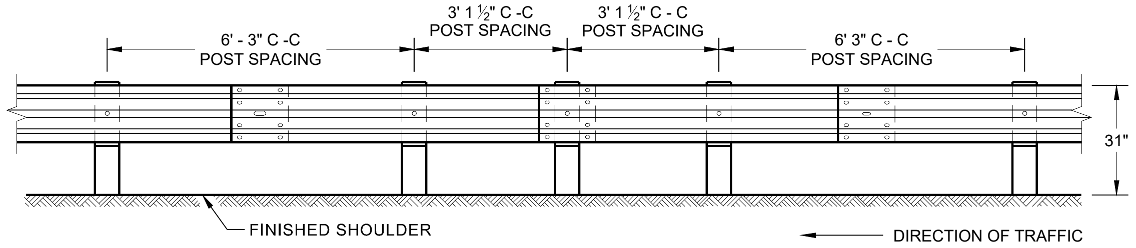
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

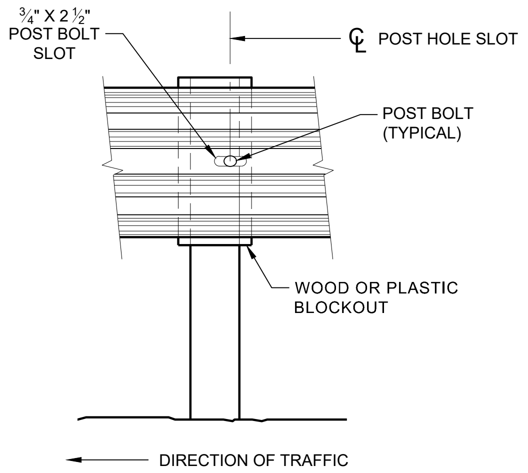
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

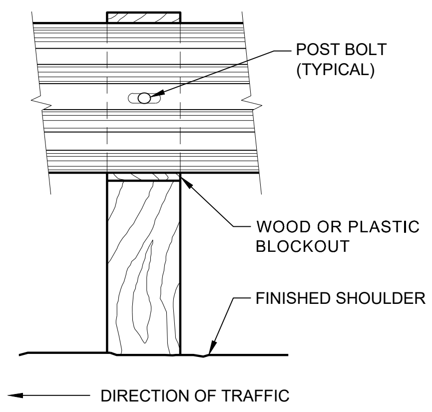
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



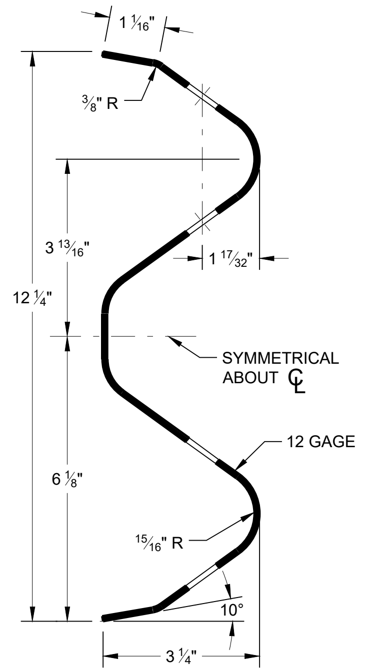
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



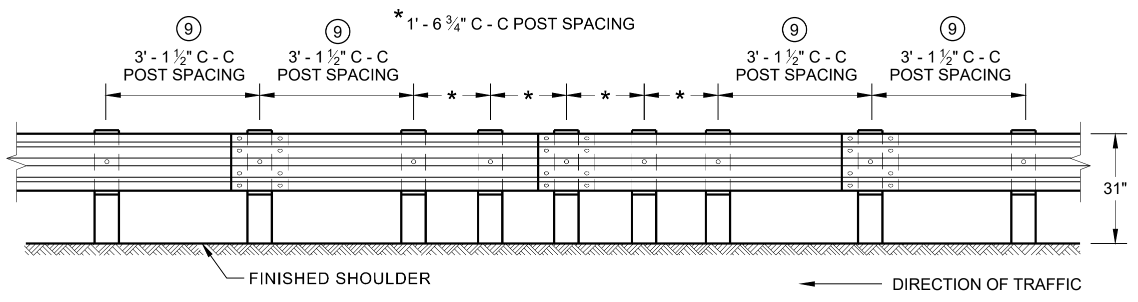
FRONT VIEW AT STEEL POST



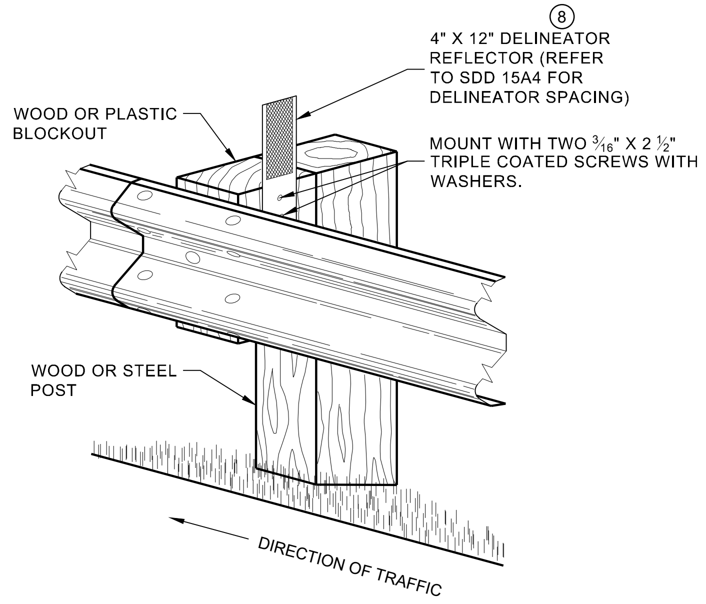
FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



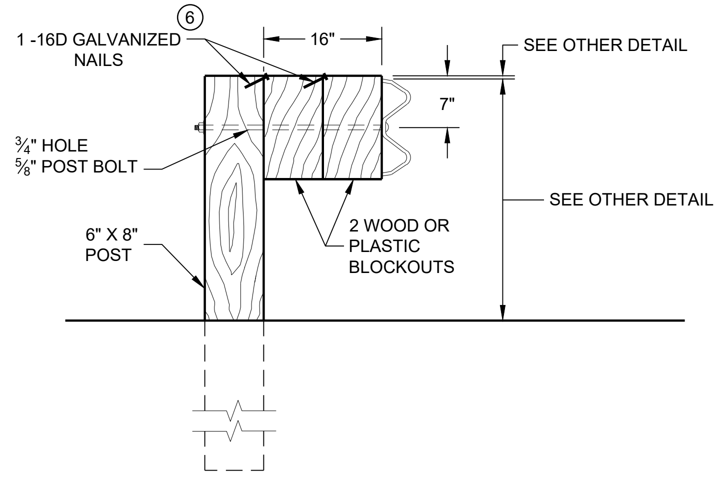
FRONT VIEW
QUARTER POST SPACING (QS)



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

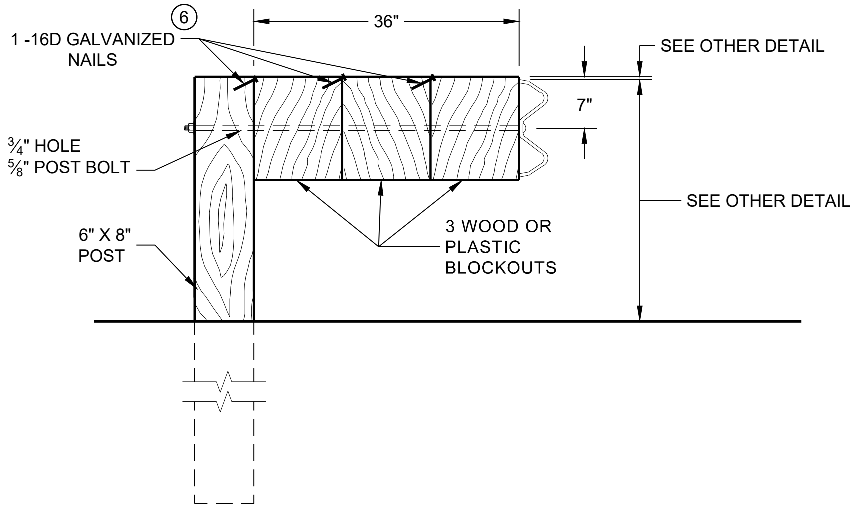
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



DETAIL FOR 16" BLOCKOUT DEPTH

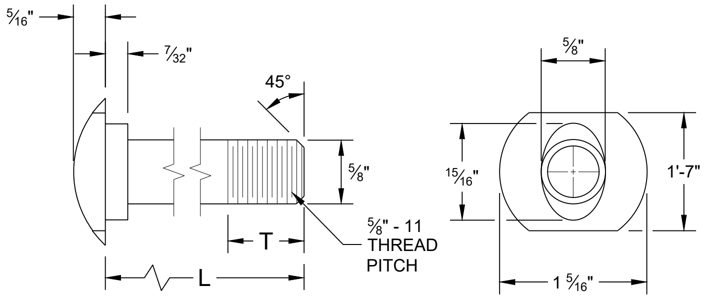
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

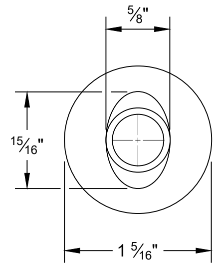
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

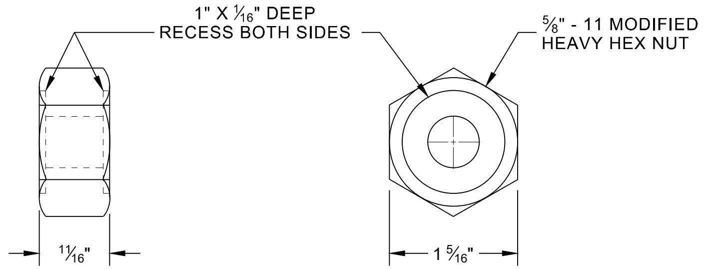


POST BOLT TABLE

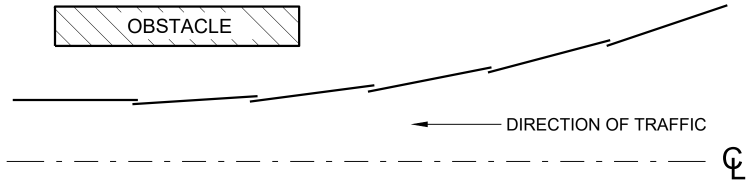
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



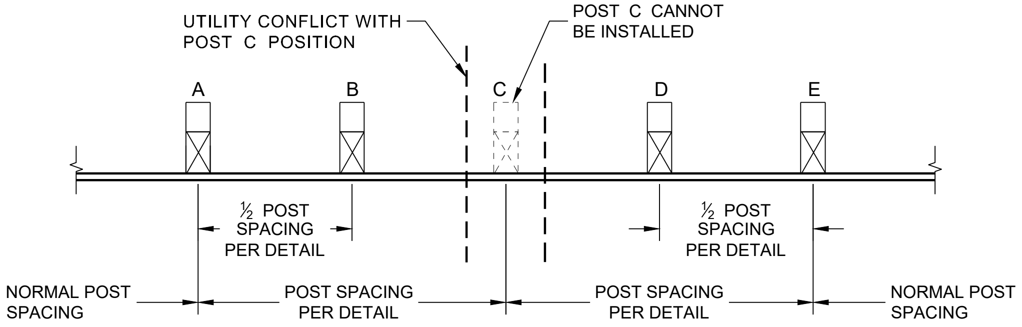
ALTERNATE BOLT HEAD



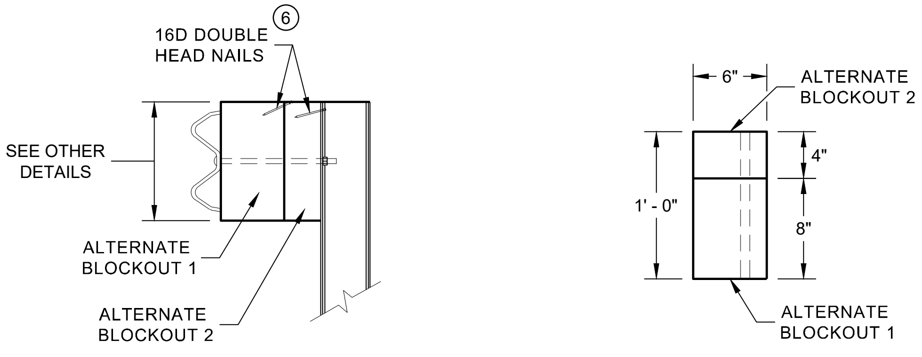
POST BOLT, SPLICE BOLT AND RECESS NUT



PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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.

⑥ WHEN USING STEEL POST AD 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.

6

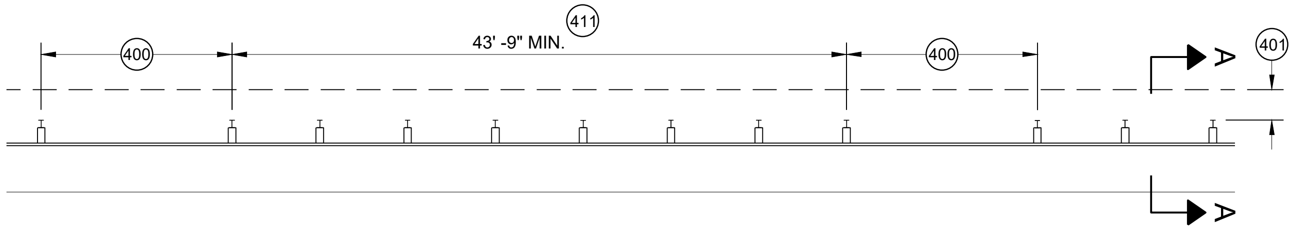
6

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

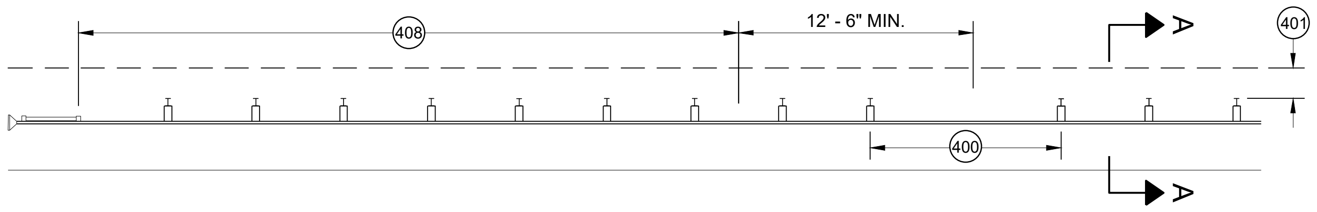
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT

SDD 14B42 - 07c

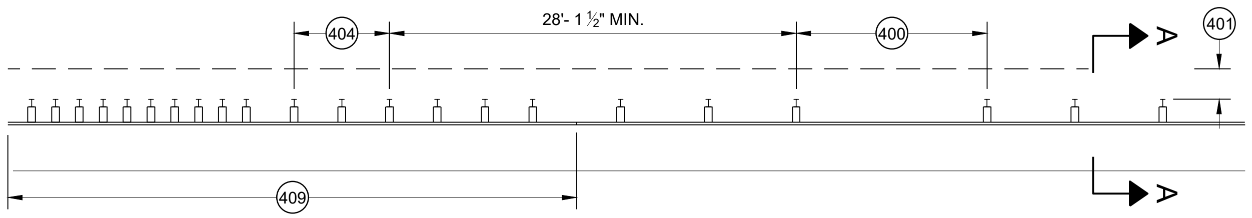
SDD 14B42 - 07c



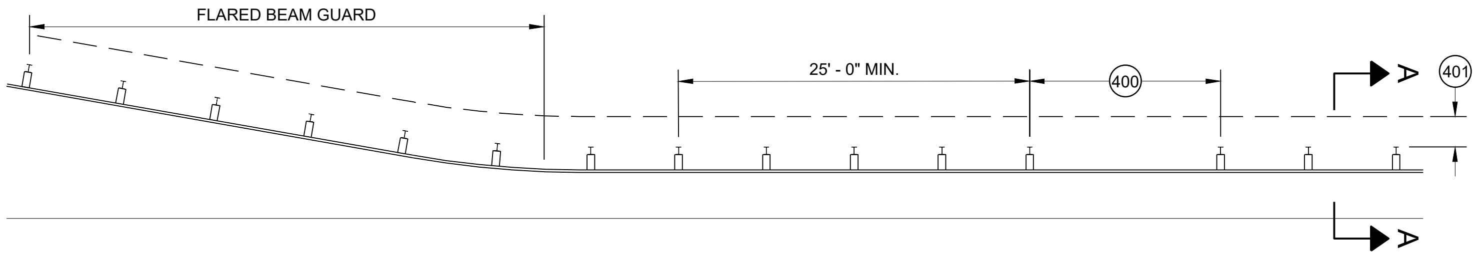
MISSING POST IN MGS GUARDRAIL



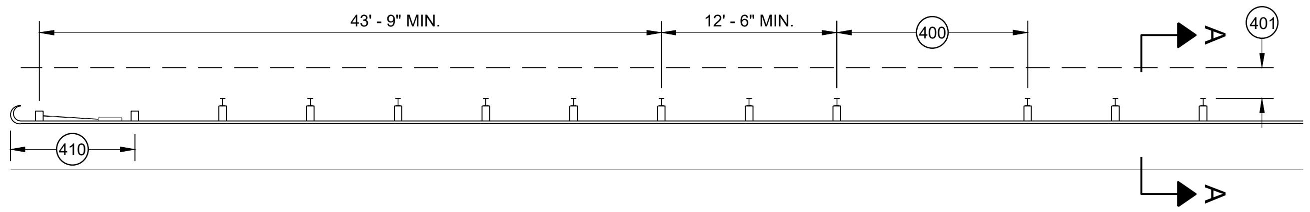
MISSING POST IN MGS GUARDRAIL NEAR EAT



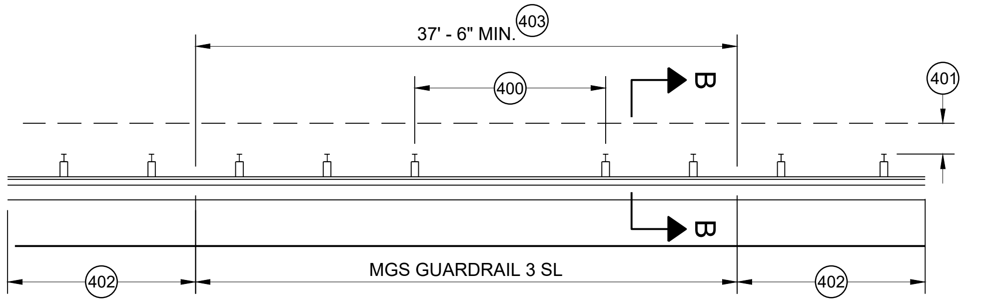
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

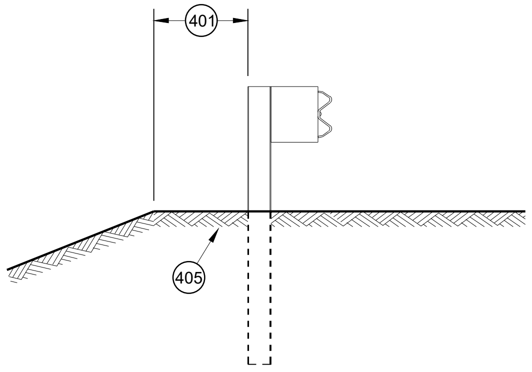


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

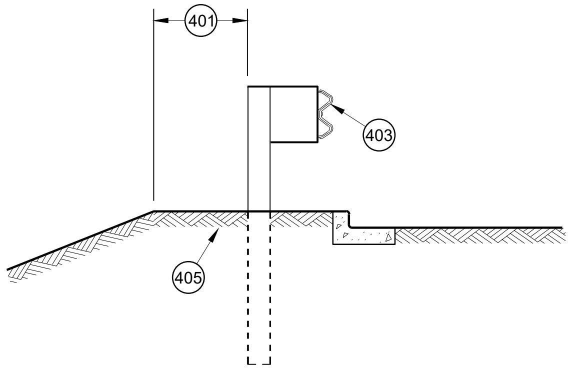


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) (407)

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A (406)



SECTION B - B (406)

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR
FHWA

GENERAL NOTES

Ⓐ THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL) AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

Ⓑ AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED

Ⓒ DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

Ⓓ ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.

Ⓔ HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

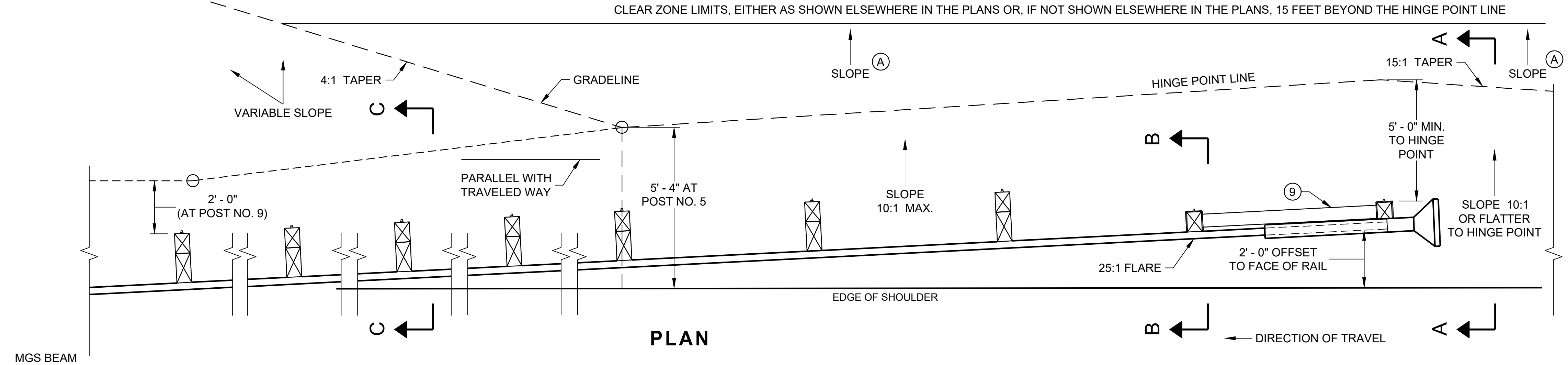
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

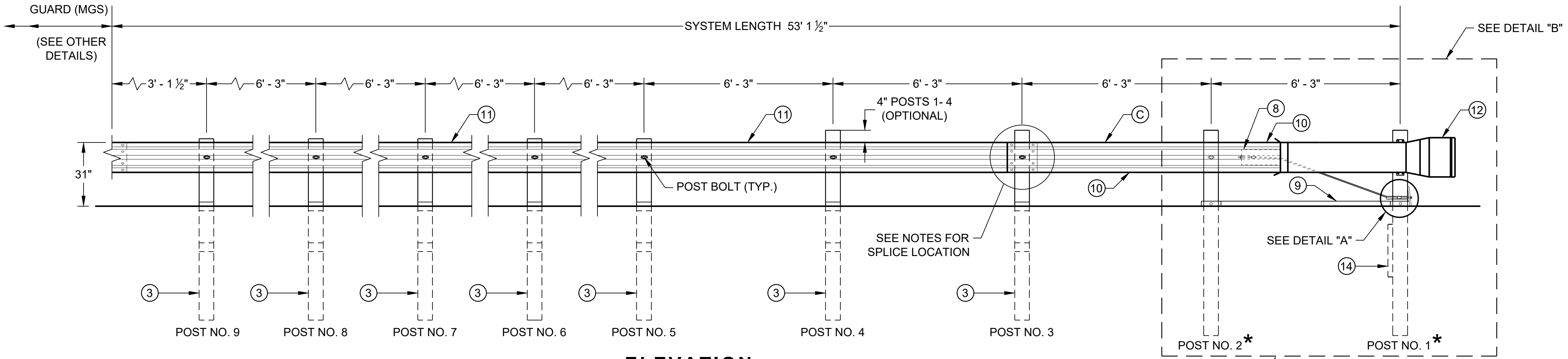
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

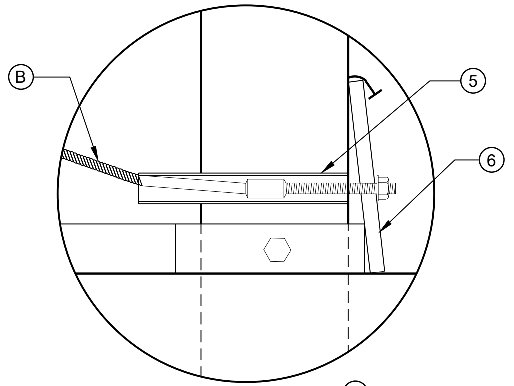
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



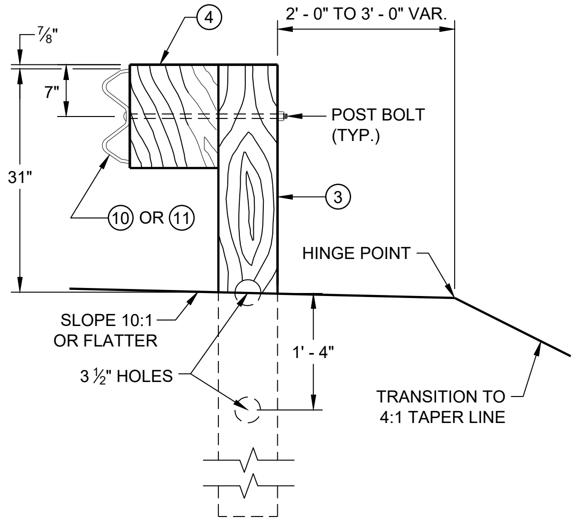
PLAN



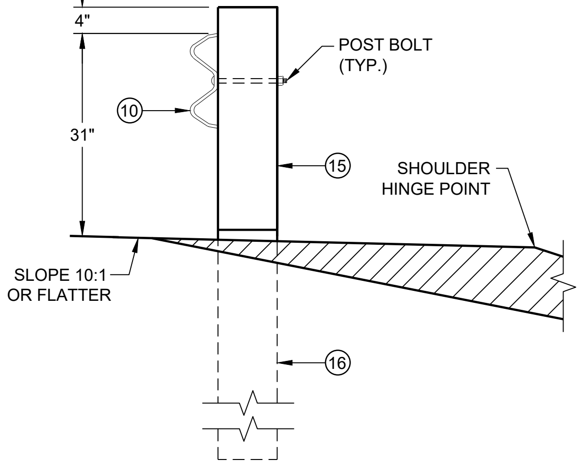
ELEVATION



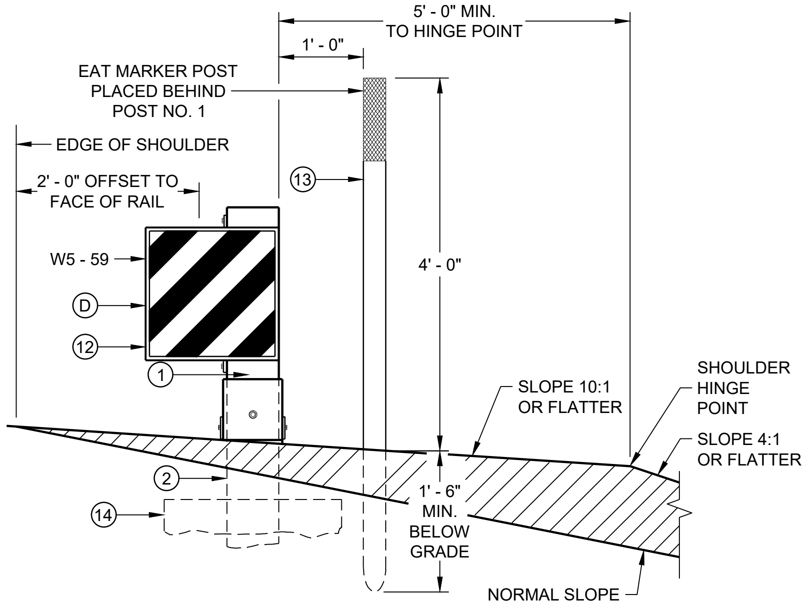
DETAIL "A" Ⓔ



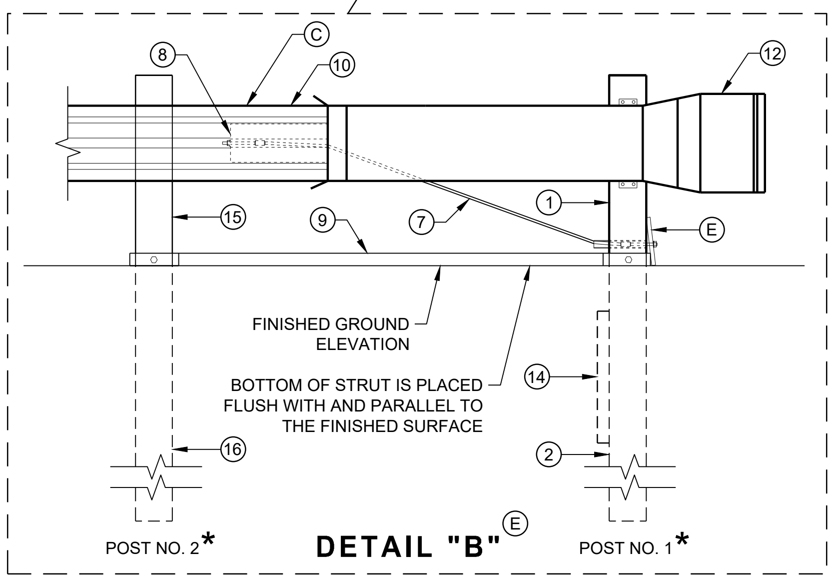
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



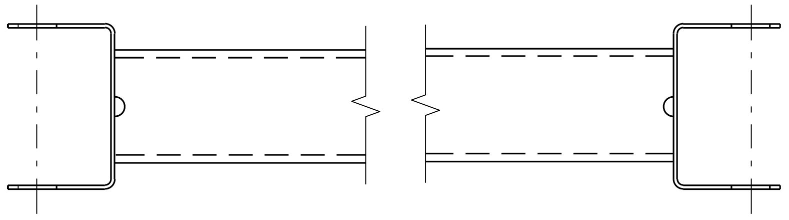
SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B" Ⓔ

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

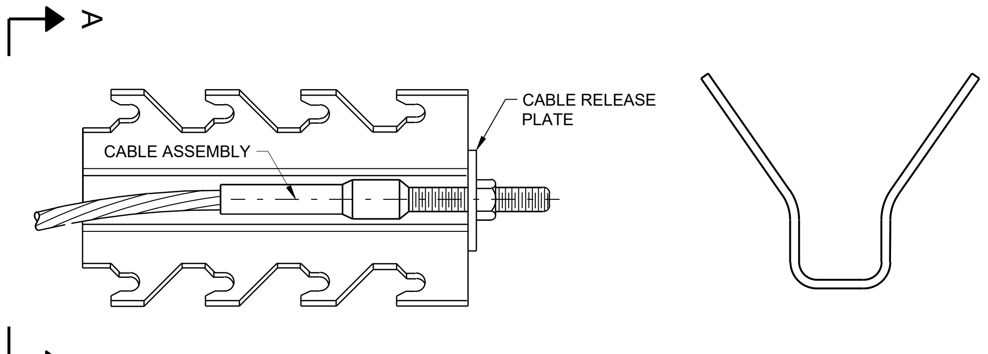
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTAT



GENERIC GROUND STRUT ⑨Ⓔ

BILL OF MATERIALS

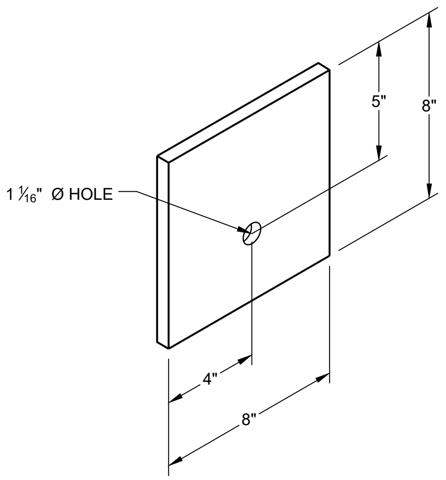
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	IMPACT HEAD
⑬	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)
⑭	SOIL PLATE
⑮	UPPER POST NO. 2
⑯	LOWER POST NO. 2



FRONT VIEW

SECTION A - A

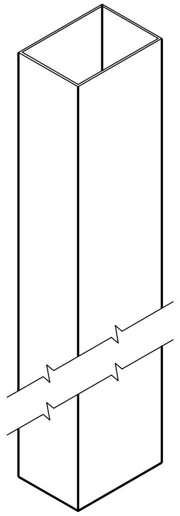
GENERIC ANCHOR CABLE BOX ⑨Ⓔ



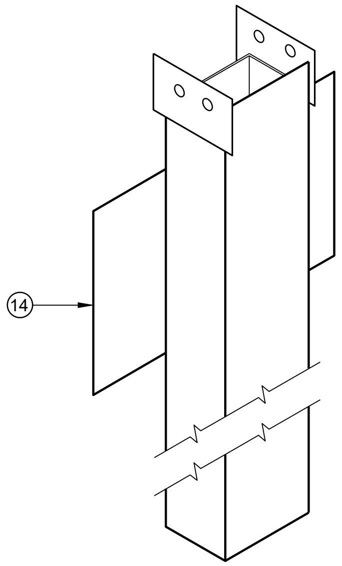
BEARING PLATE ⑥Ⓔ

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

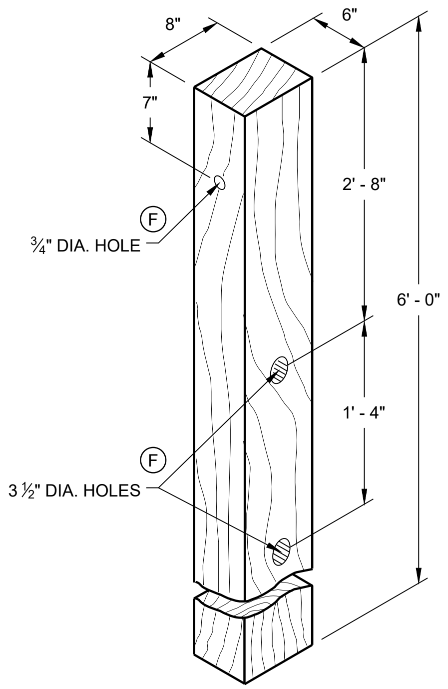
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATI



UPPER POST NO. 1 ① Ⓔ

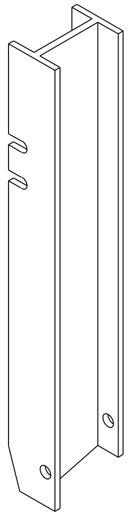


LOWER POST NO. 1 ② Ⓔ

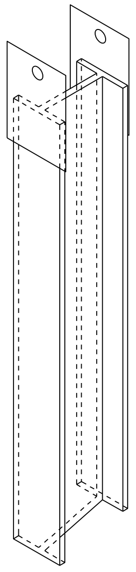


WOOD CRT POST ③ Ⓔ

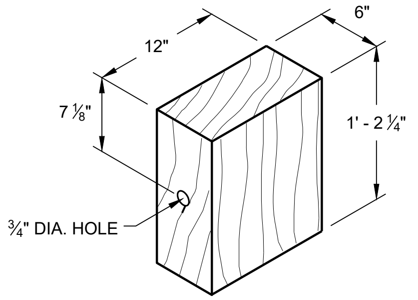
POSTS NUMBER 3-9



UPPER POST NO. 2 ⑮ Ⓔ

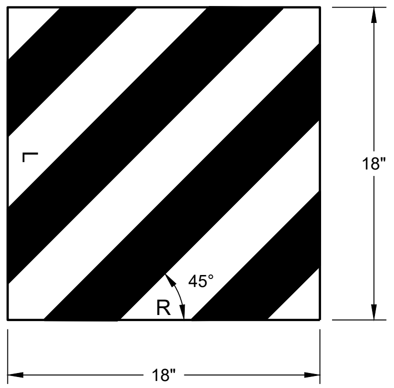


LOWER POST NO. 2 ⑯ Ⓔ



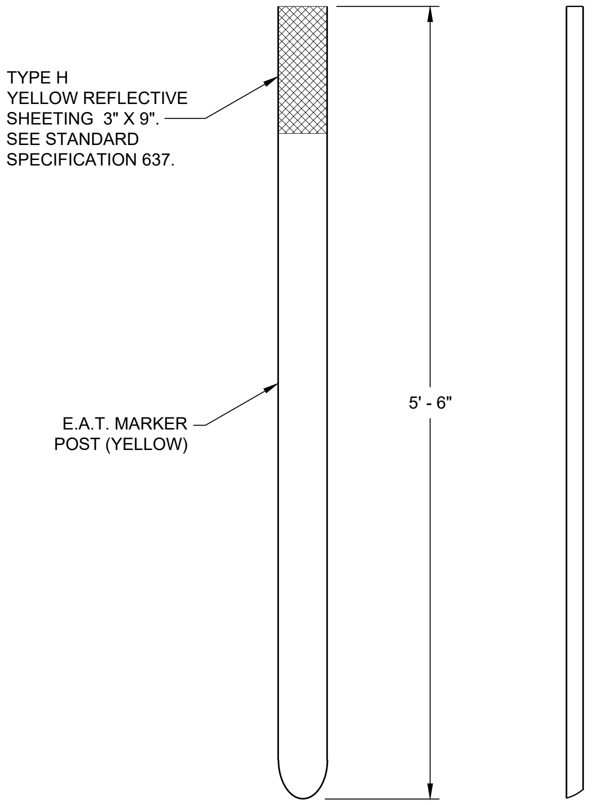
WOOD BLOCKOUT ④

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



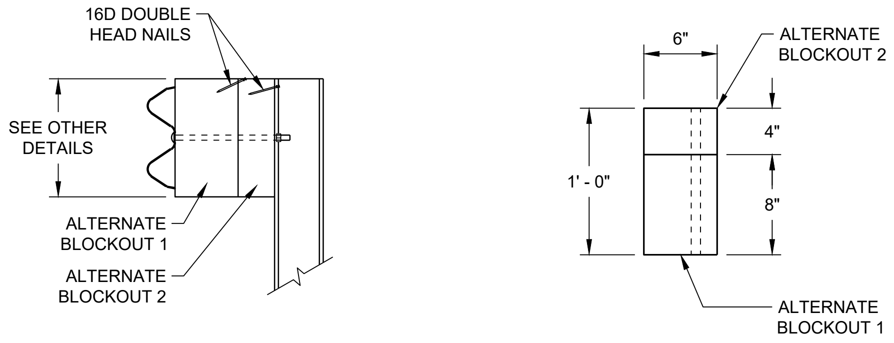
W5 - 59

REFLECTIVE SHEETING DETAIL Ⓔ



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST ⑬



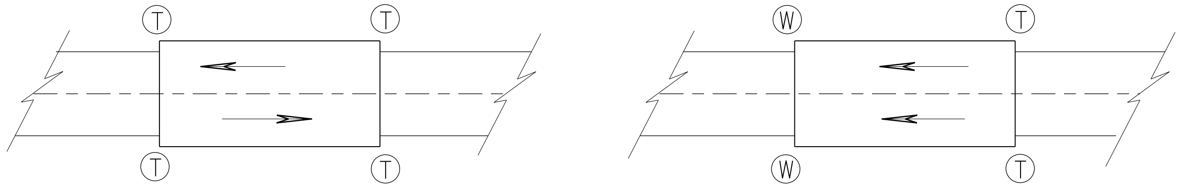
SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

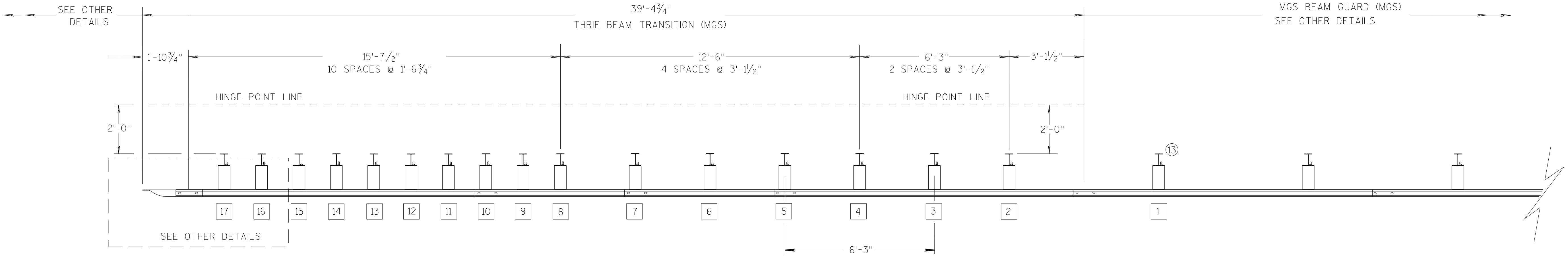
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

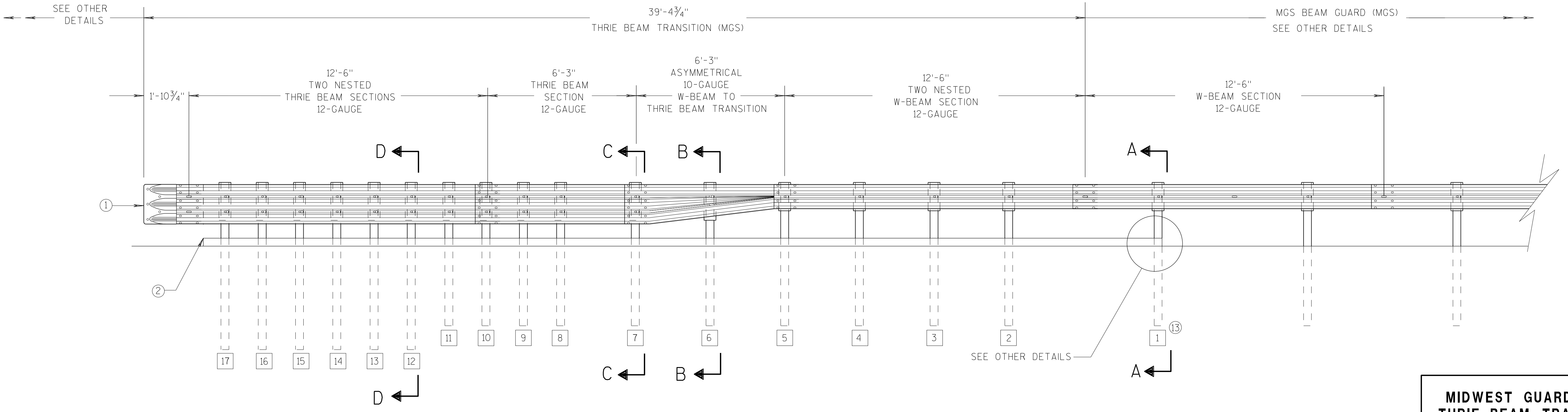
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

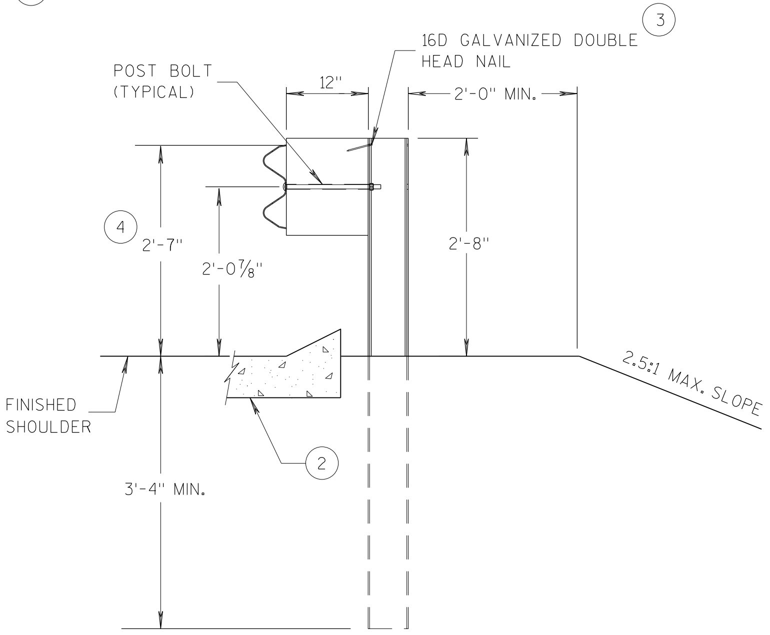
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

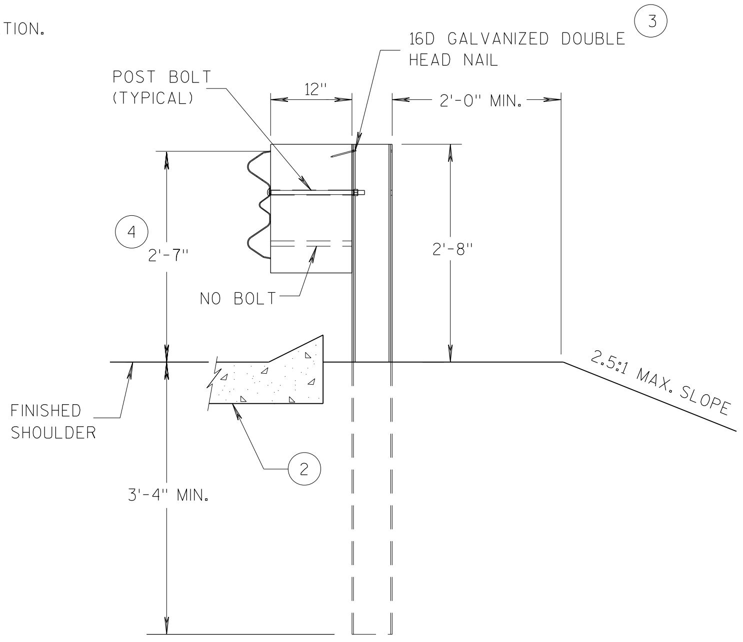
④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



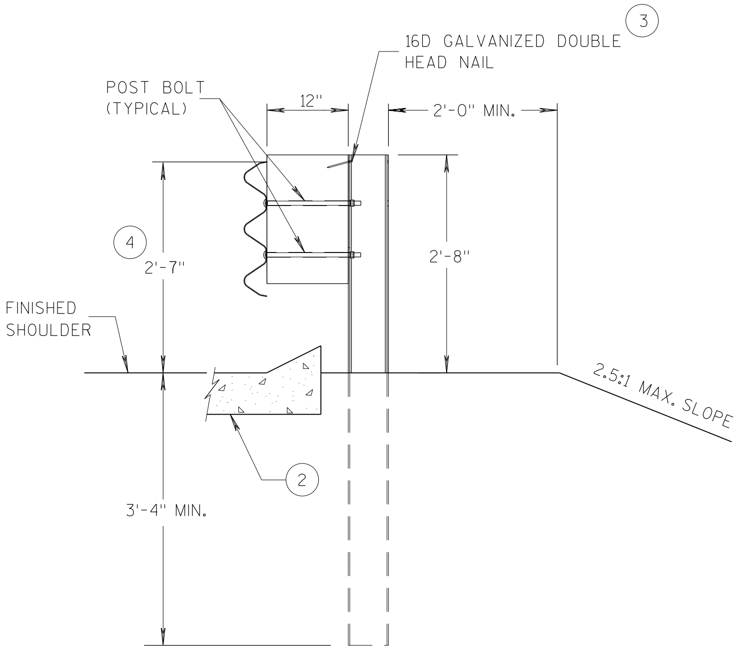
SECTION A-A ⑬

POSTS 1-5



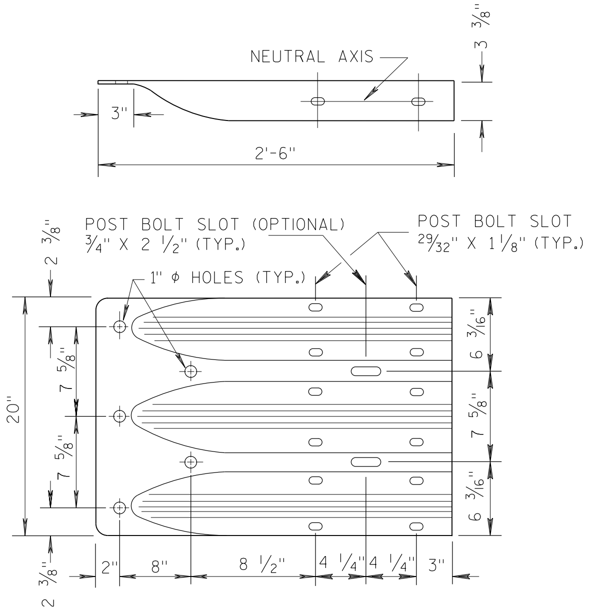
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

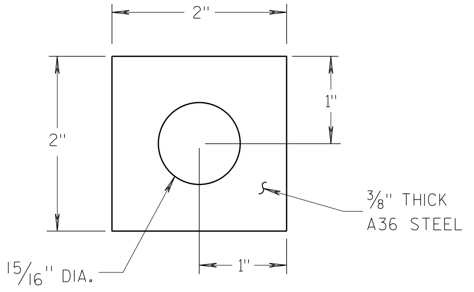
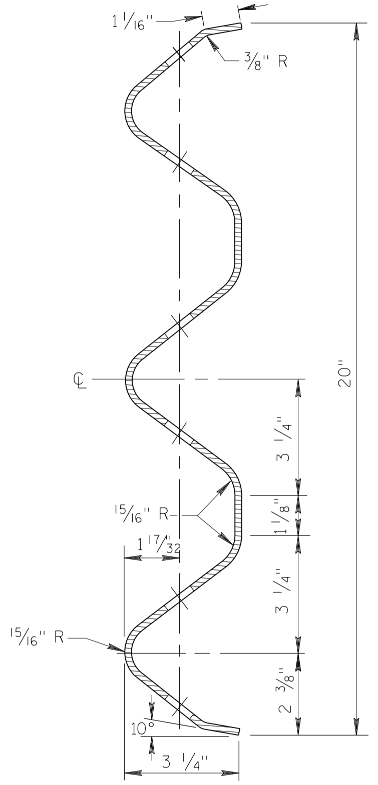
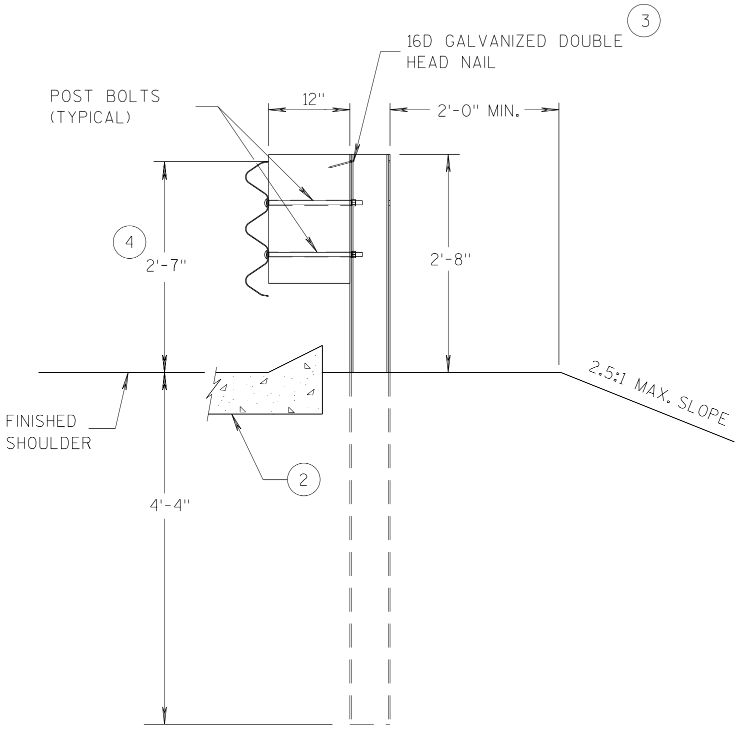


PLATE WASHER DETAIL

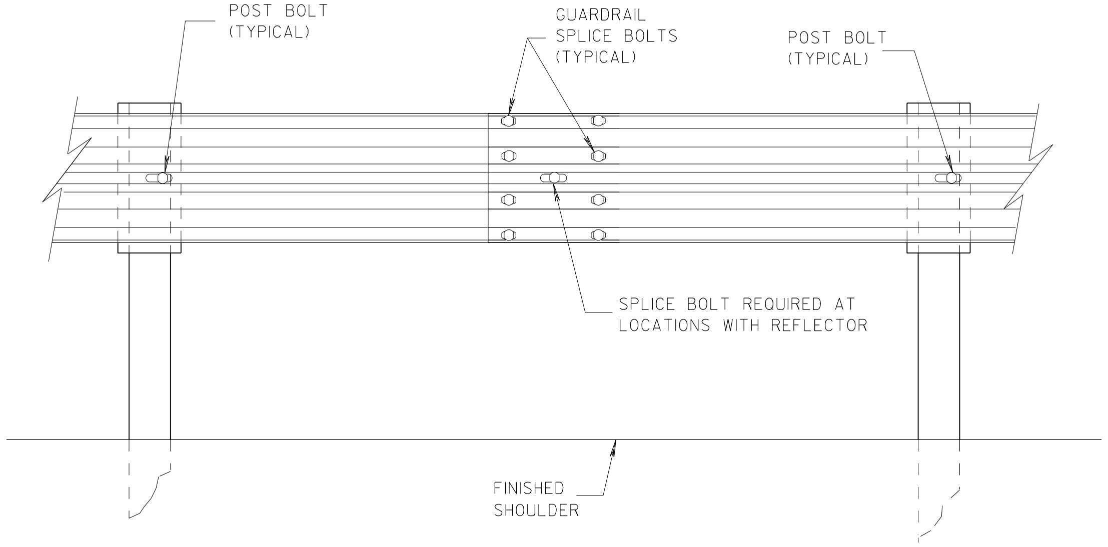


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

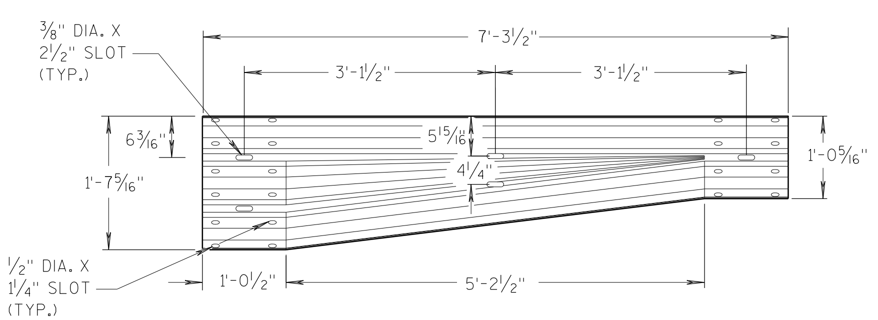
POSTS 12-17



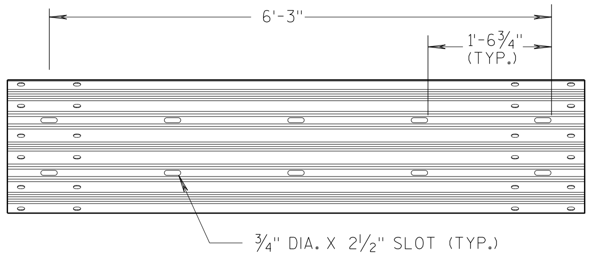
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

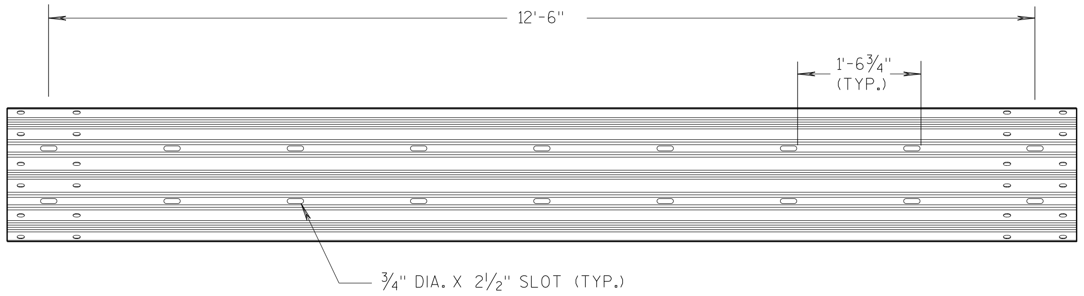
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



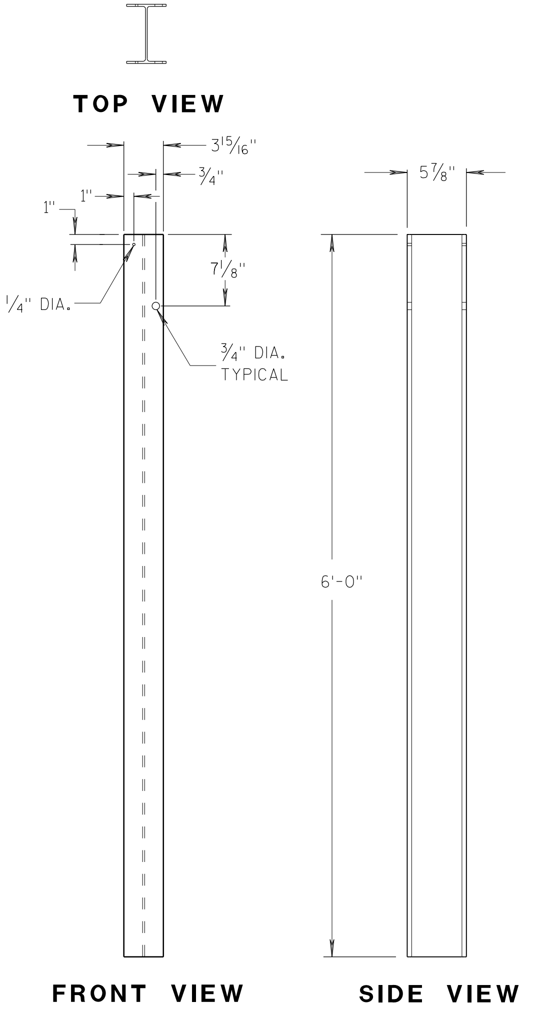
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION



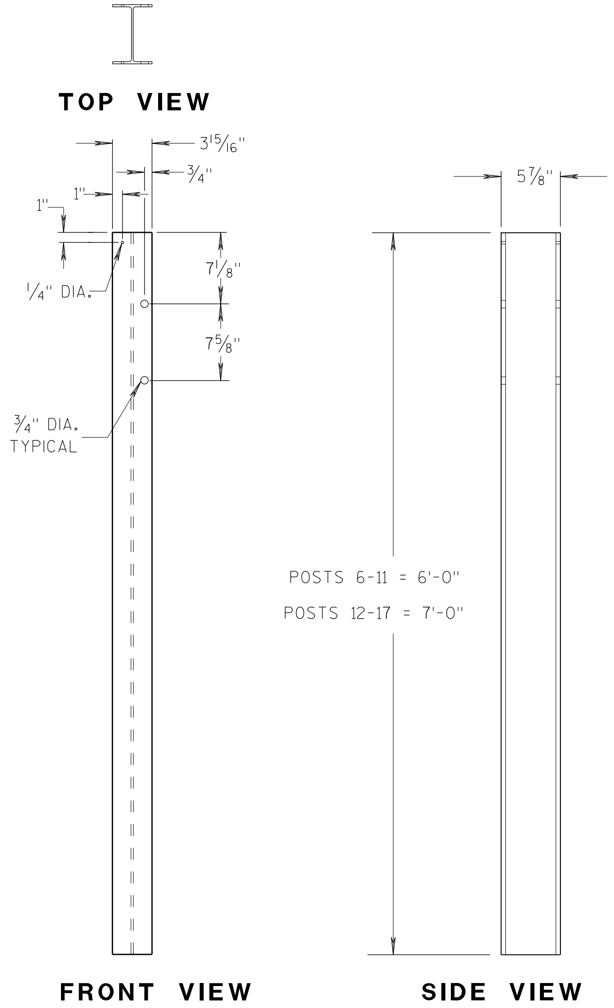
12'-6" THRIE BEAM SECTION


TOP VIEW

FRONT VIEW

SIDE VIEW

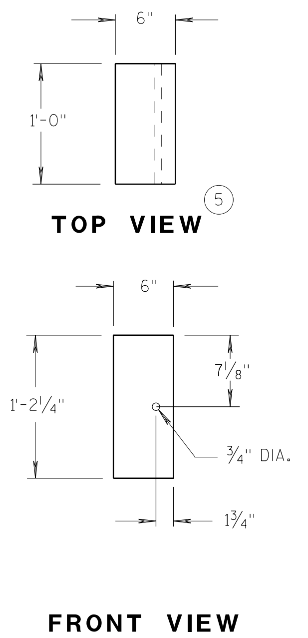
STEEL POSTS 1-5 ⑬


TOP VIEW

FRONT VIEW

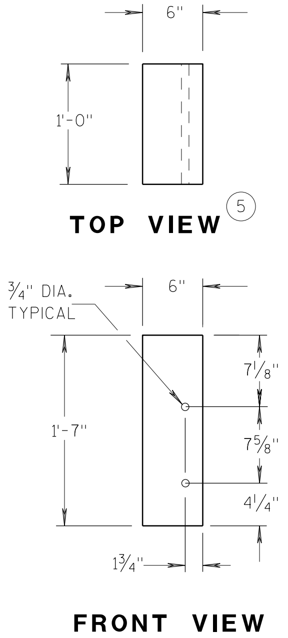
SIDE VIEW

STEEL POSTS 6-17


TOP VIEW ⑤

FRONT VIEW

BLOCKOUT POSTS 1-5


TOP VIEW ⑤

FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

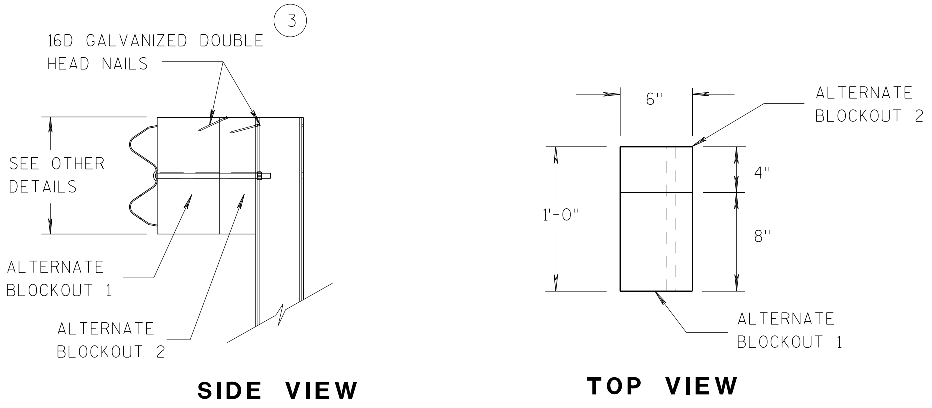
STEEL POSTS ARE W6X9 OR W6X8.5.

BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

③ WHEN USING STEEL POSTS 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.

⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

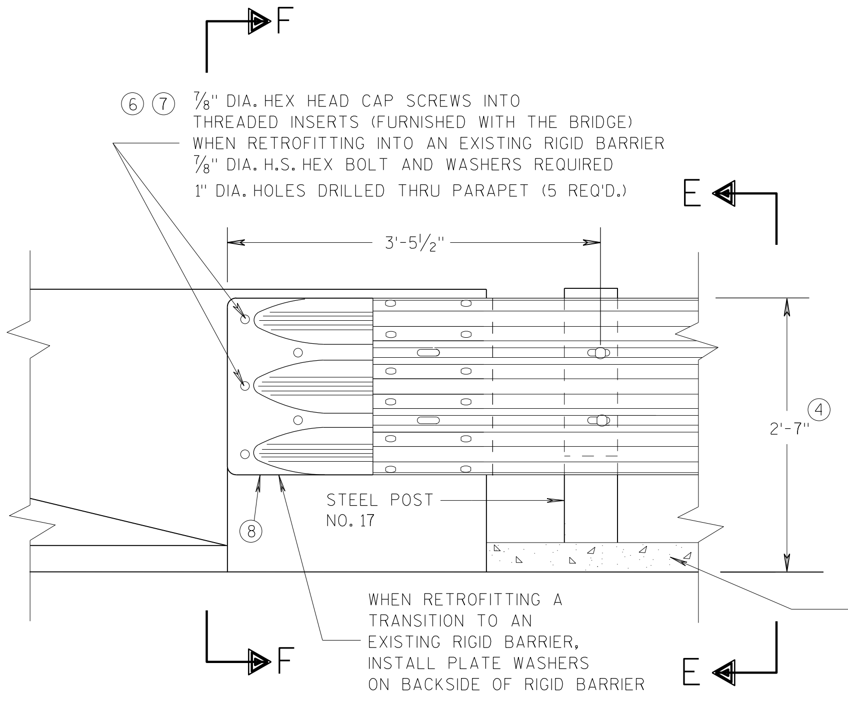

SIDE VIEW

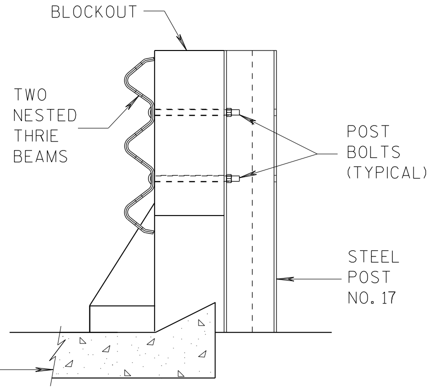
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR





SECTION E-E

FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

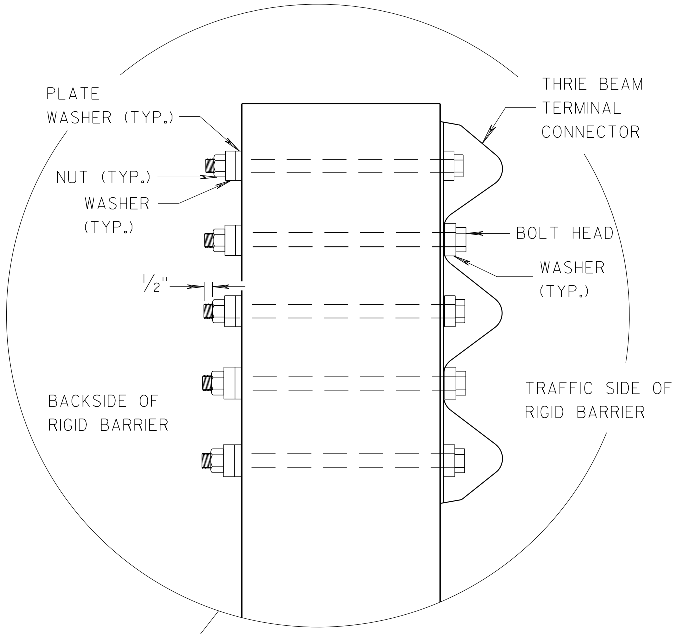
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

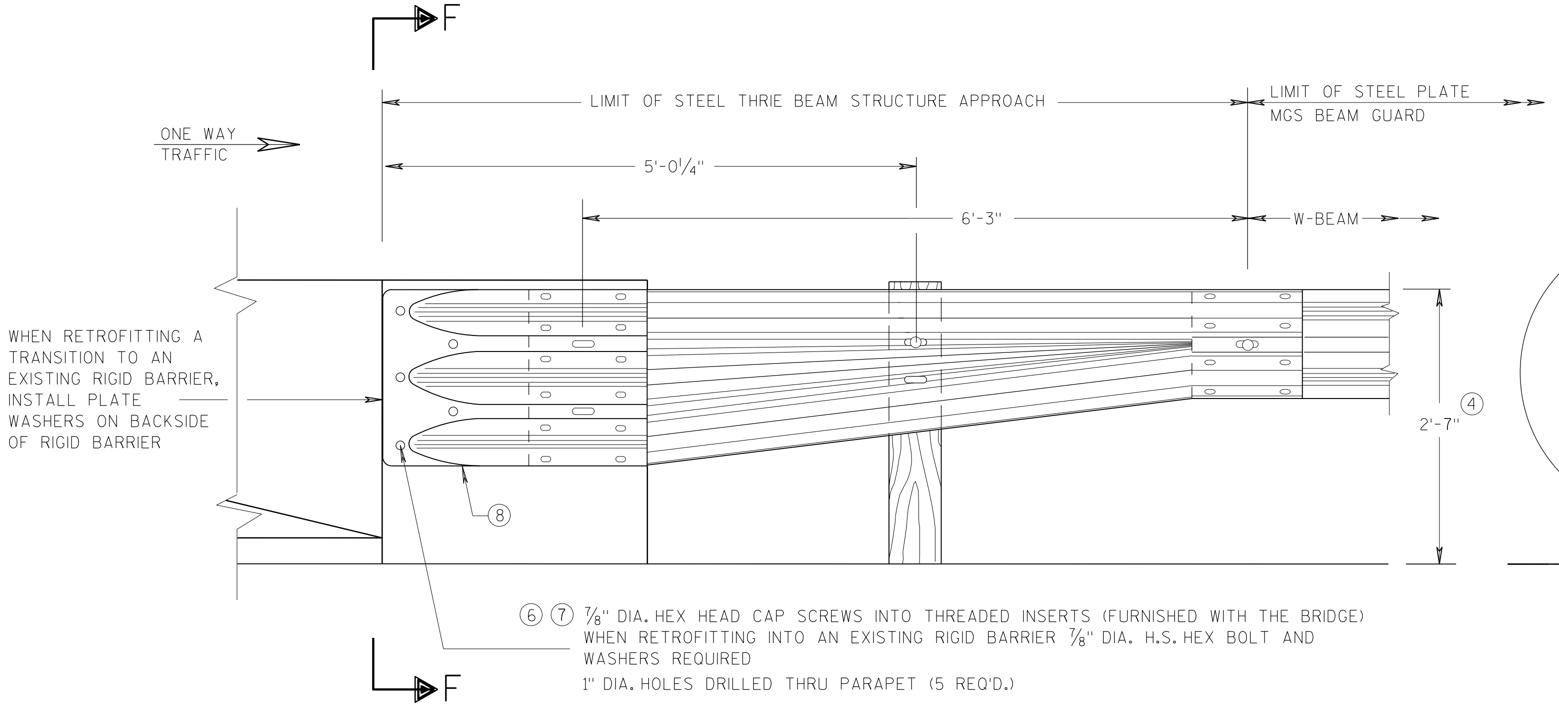
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

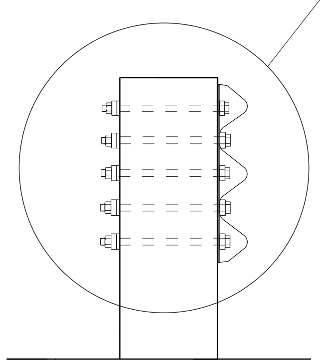
⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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.

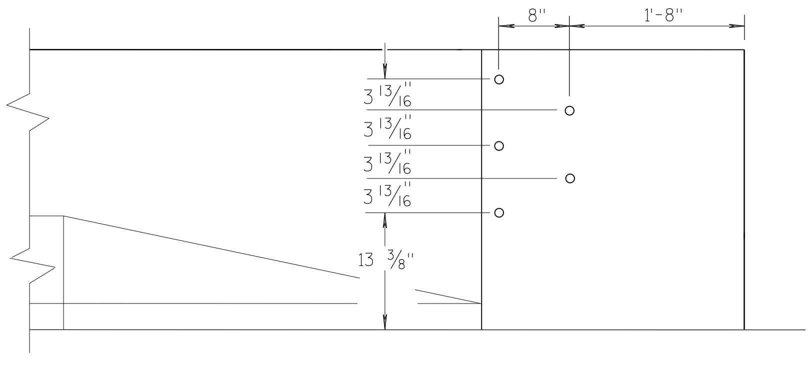
⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".







SECTION F-F



DRILL HOLE LOCATION

FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D NT
UNIT SUPERVIS
FHWA

GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

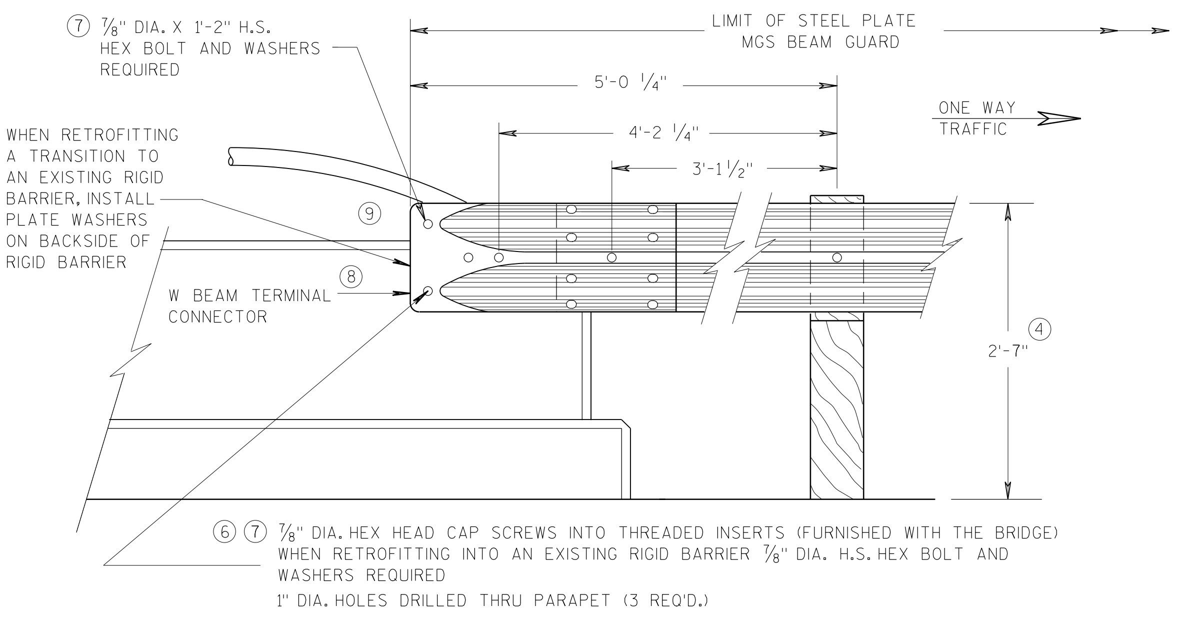
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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".

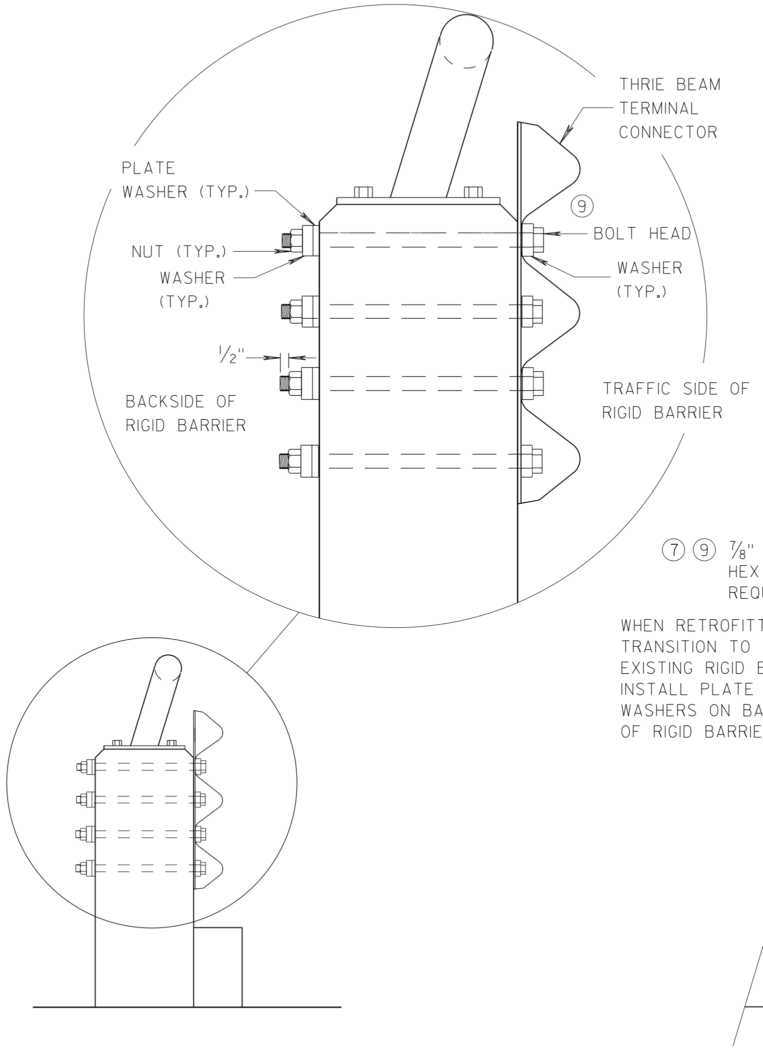
⑨ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



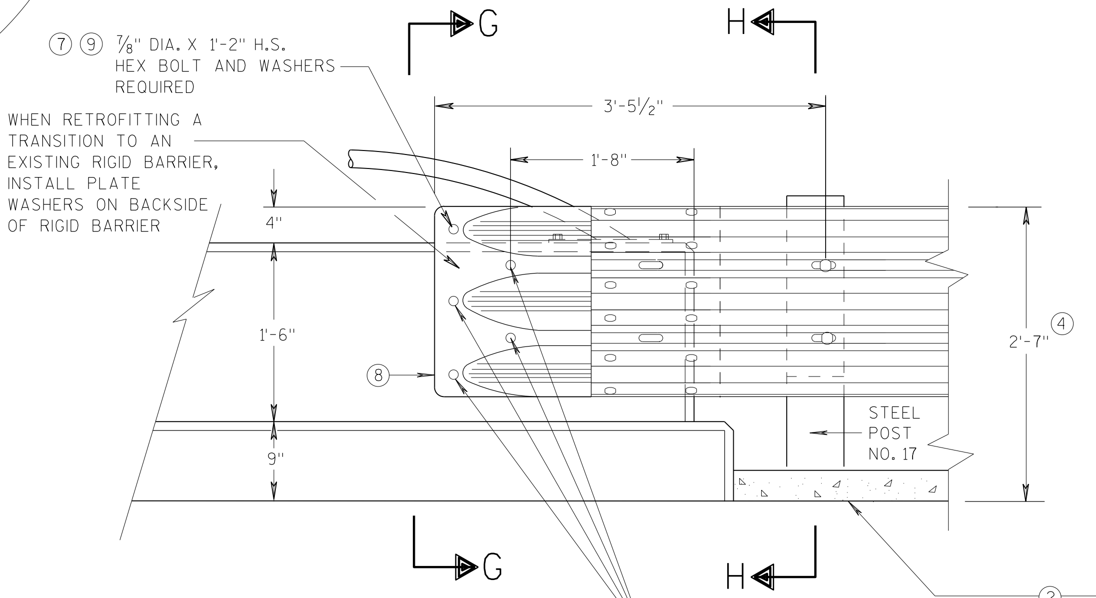
FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

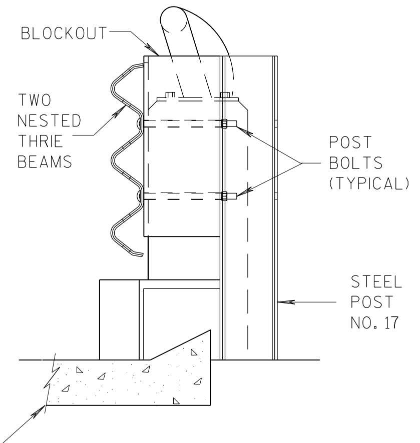
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION G-G



FRONT VIEW



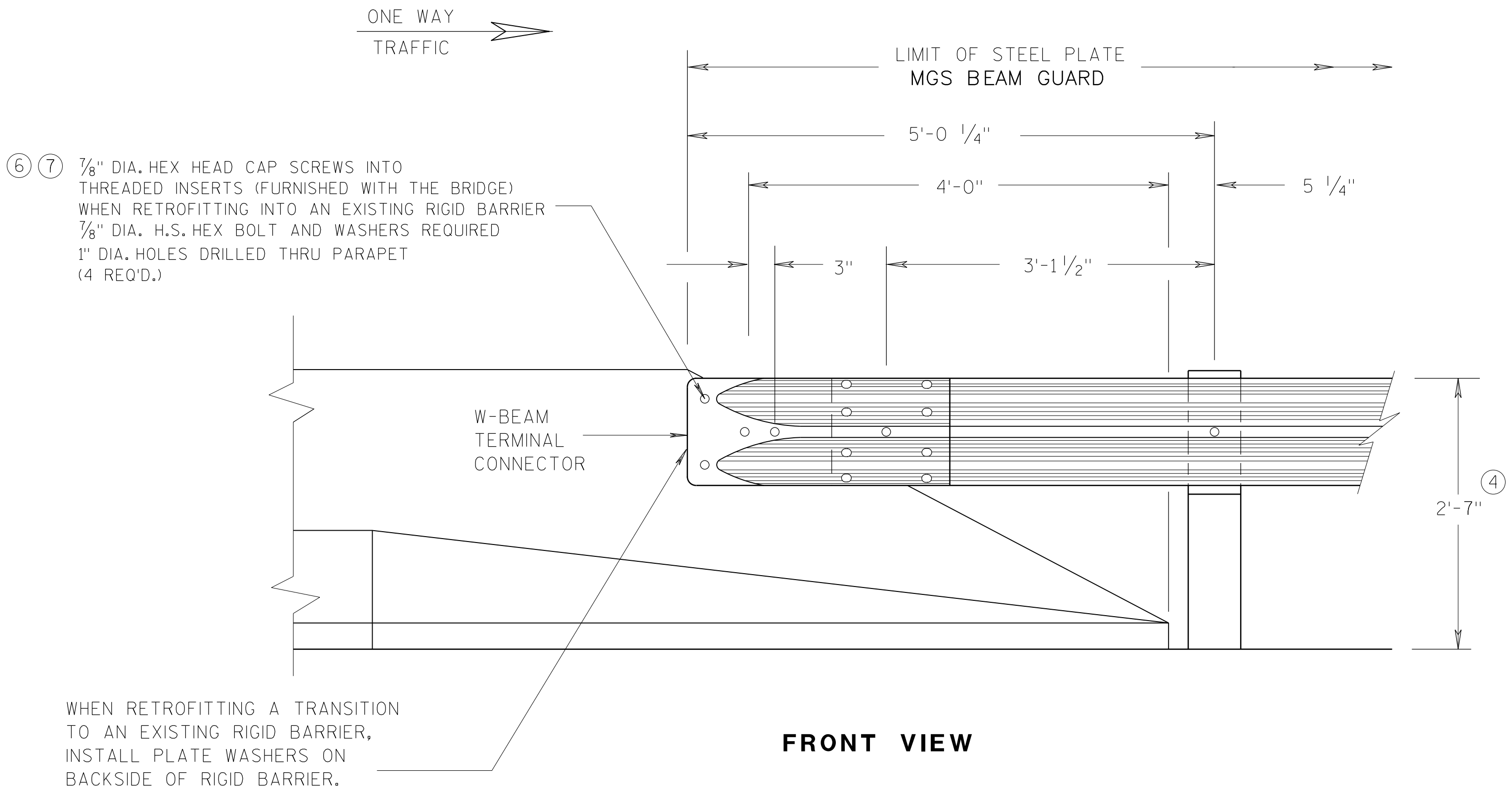
SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D NT
UNIT SUPERVIS
FHWA



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

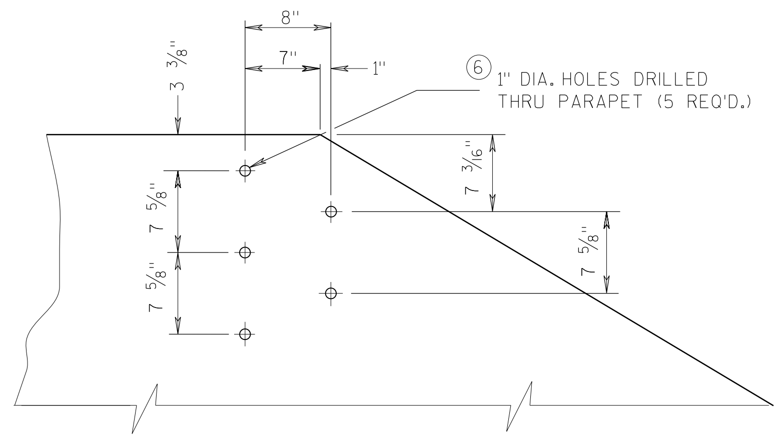
GENERAL NOTES

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

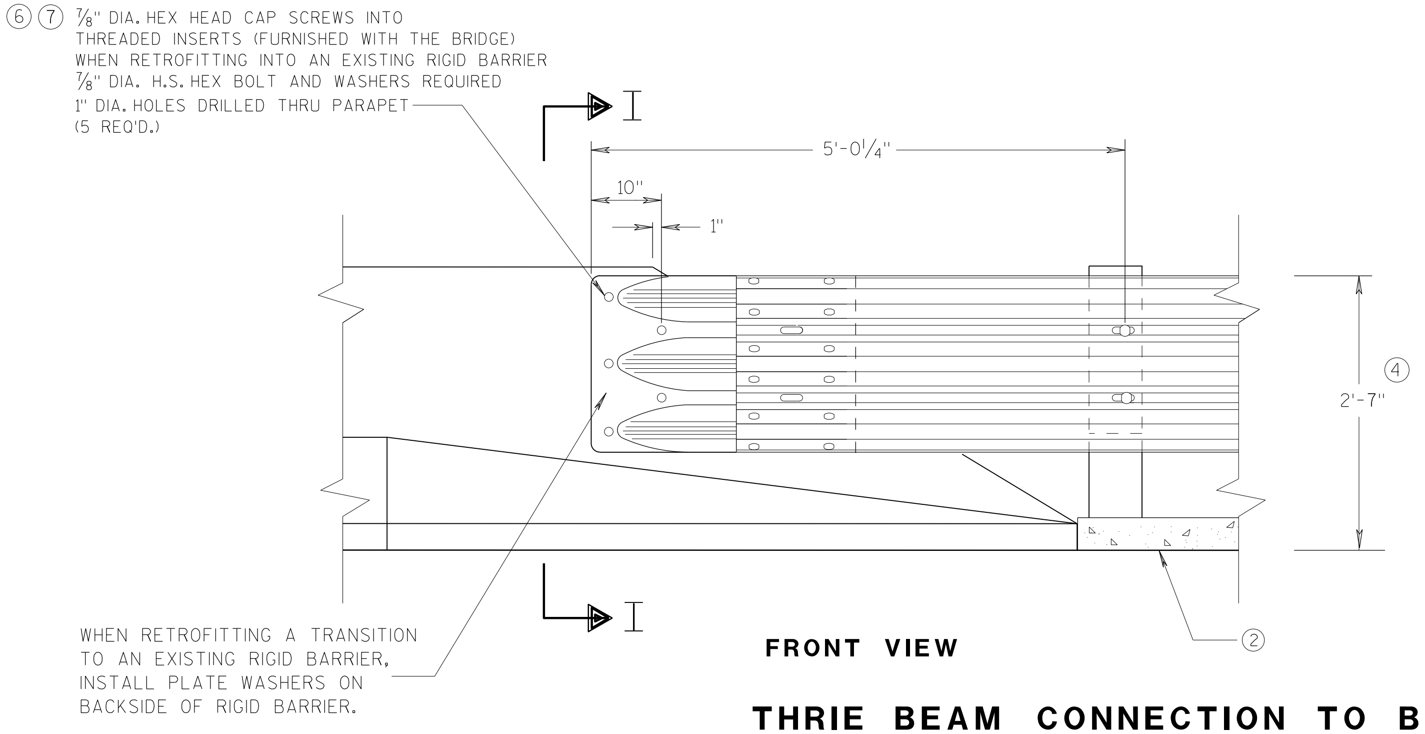
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

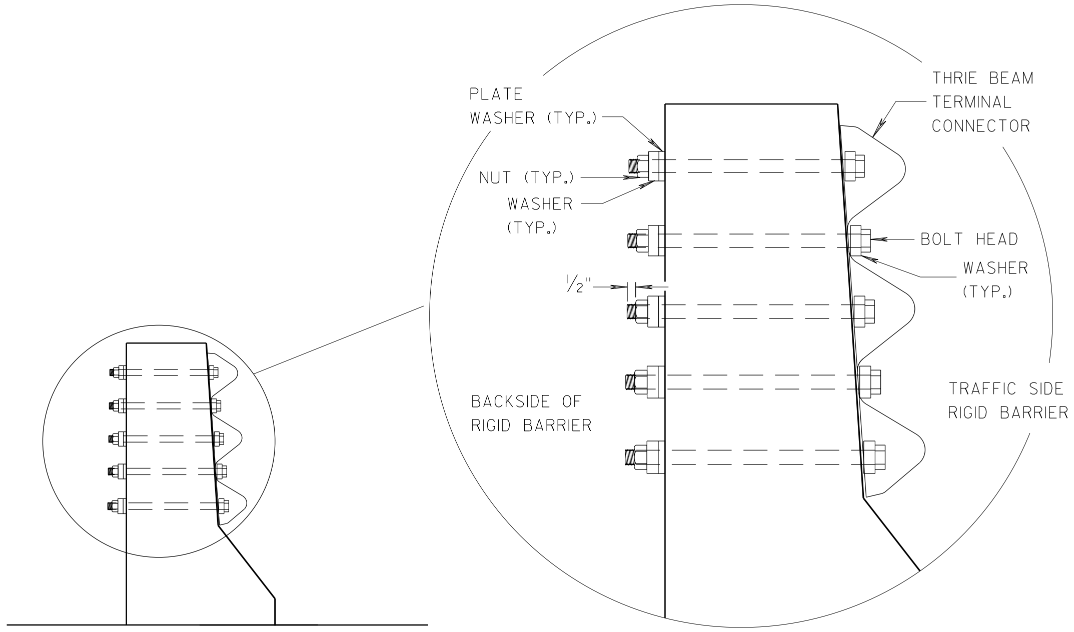
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



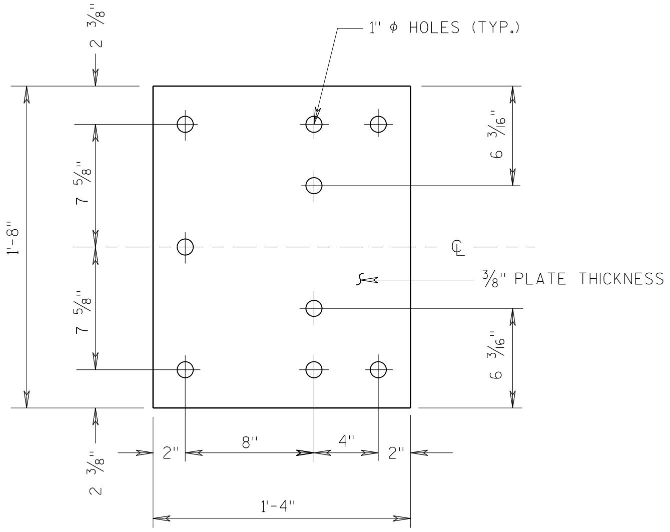
SECTION I-I

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

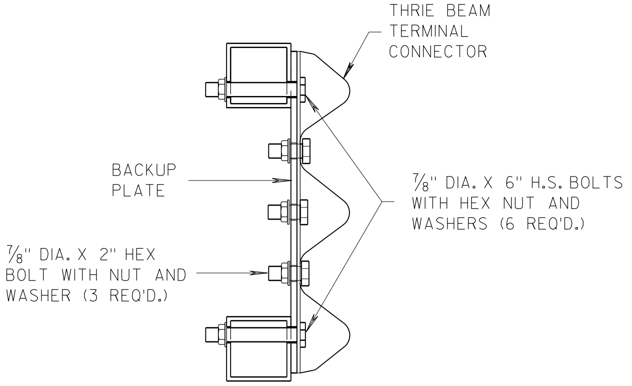
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



BACK-UP PLATE DETAIL

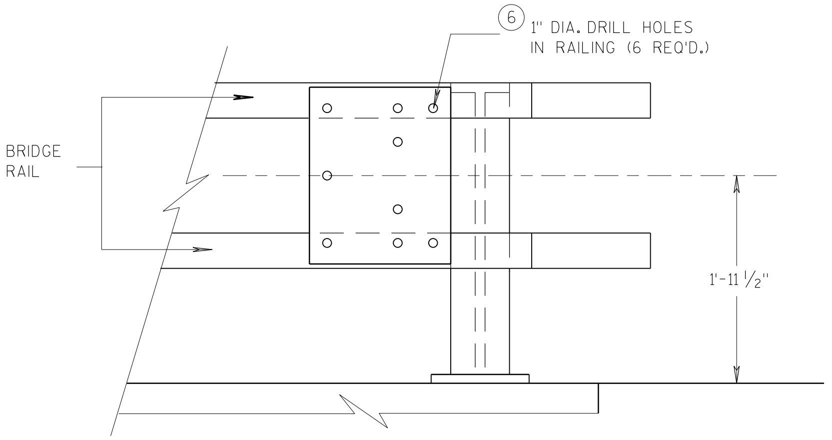


SECTION J-J

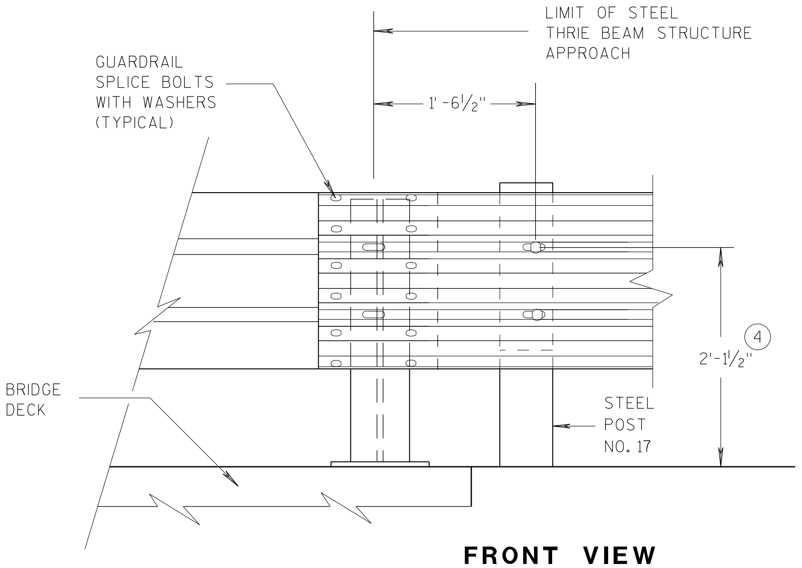
GENERAL NOTES

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

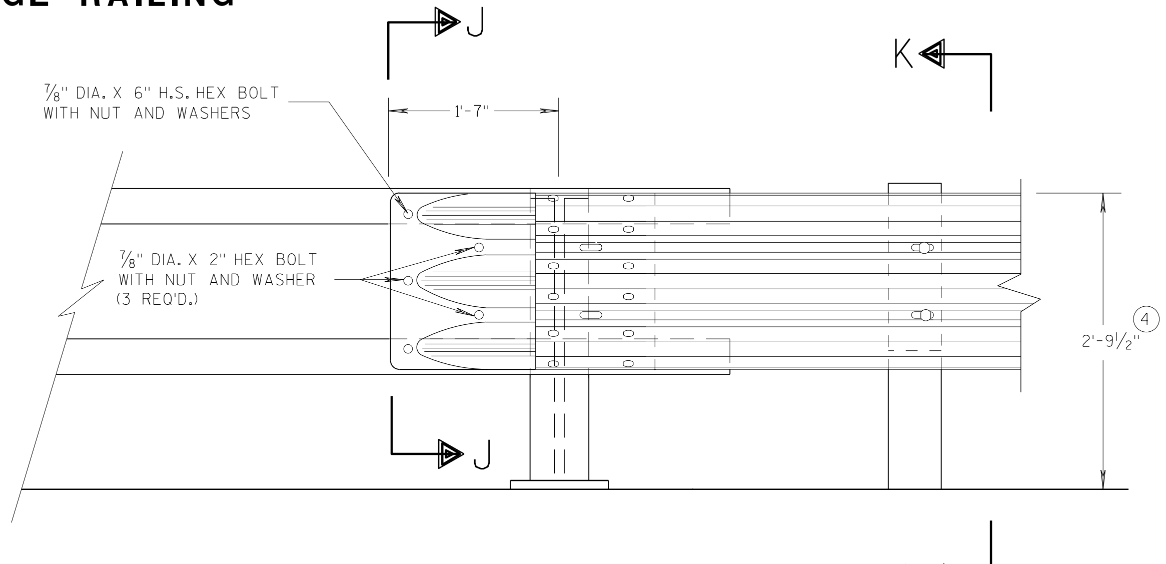


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

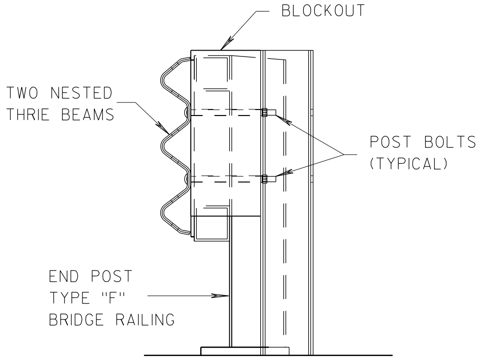


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

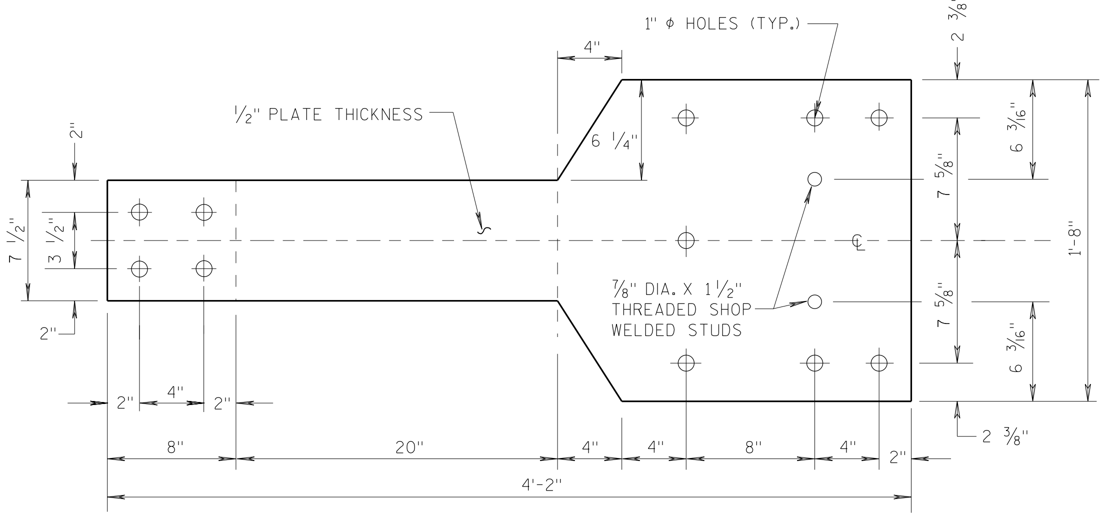
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

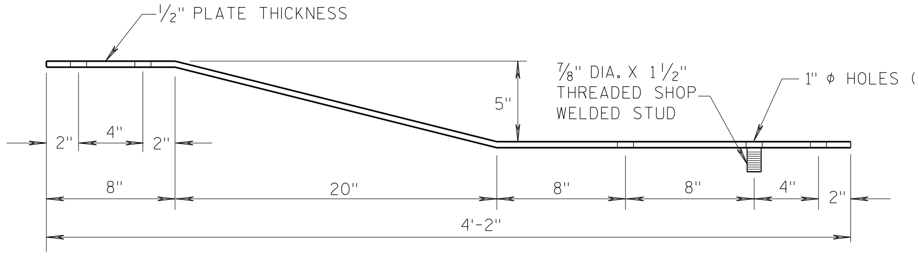
APPROVED
07/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA

GENERAL NOTES

④ TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

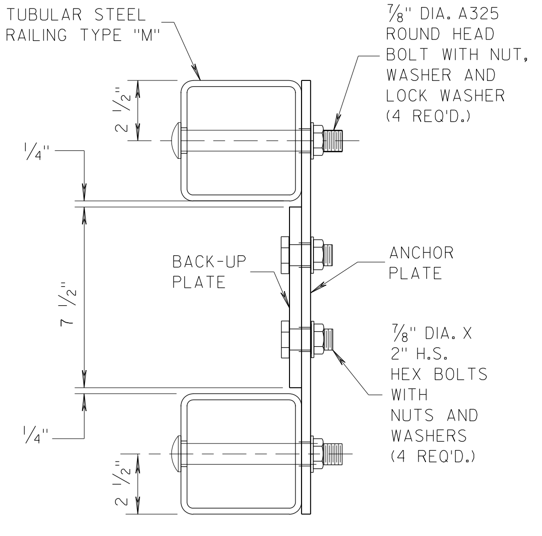


FRONT VIEW

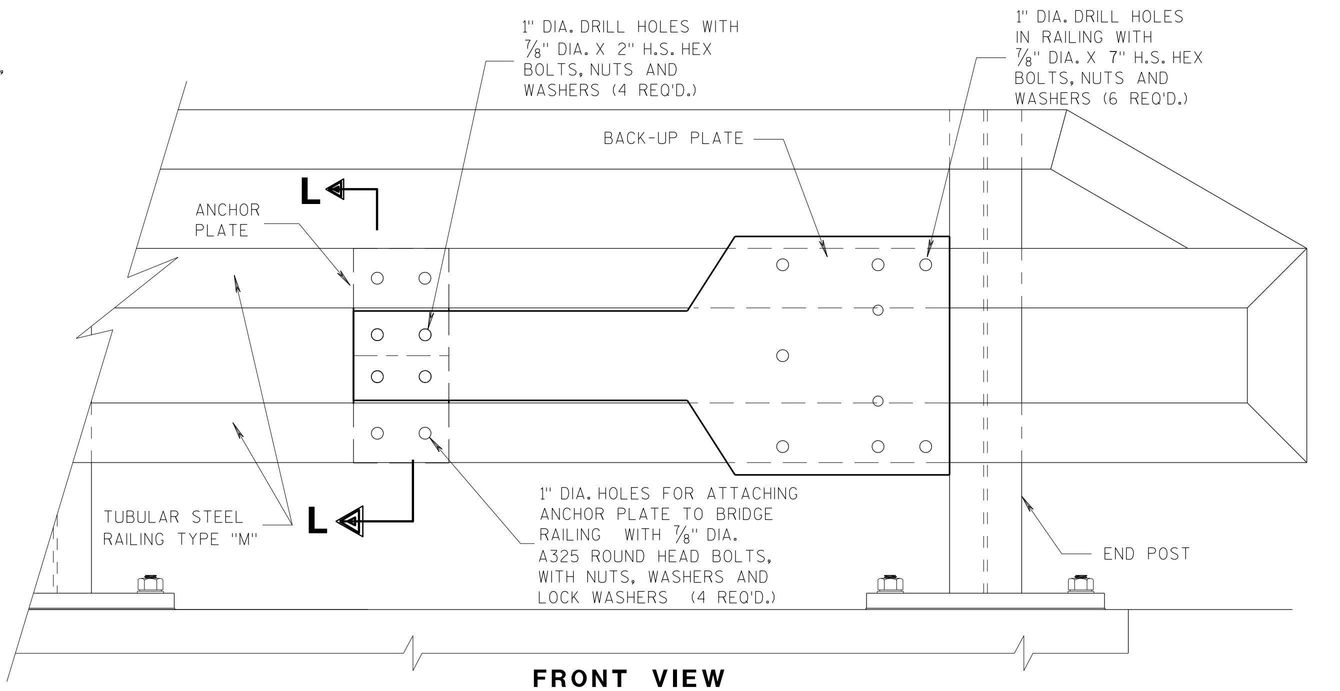


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

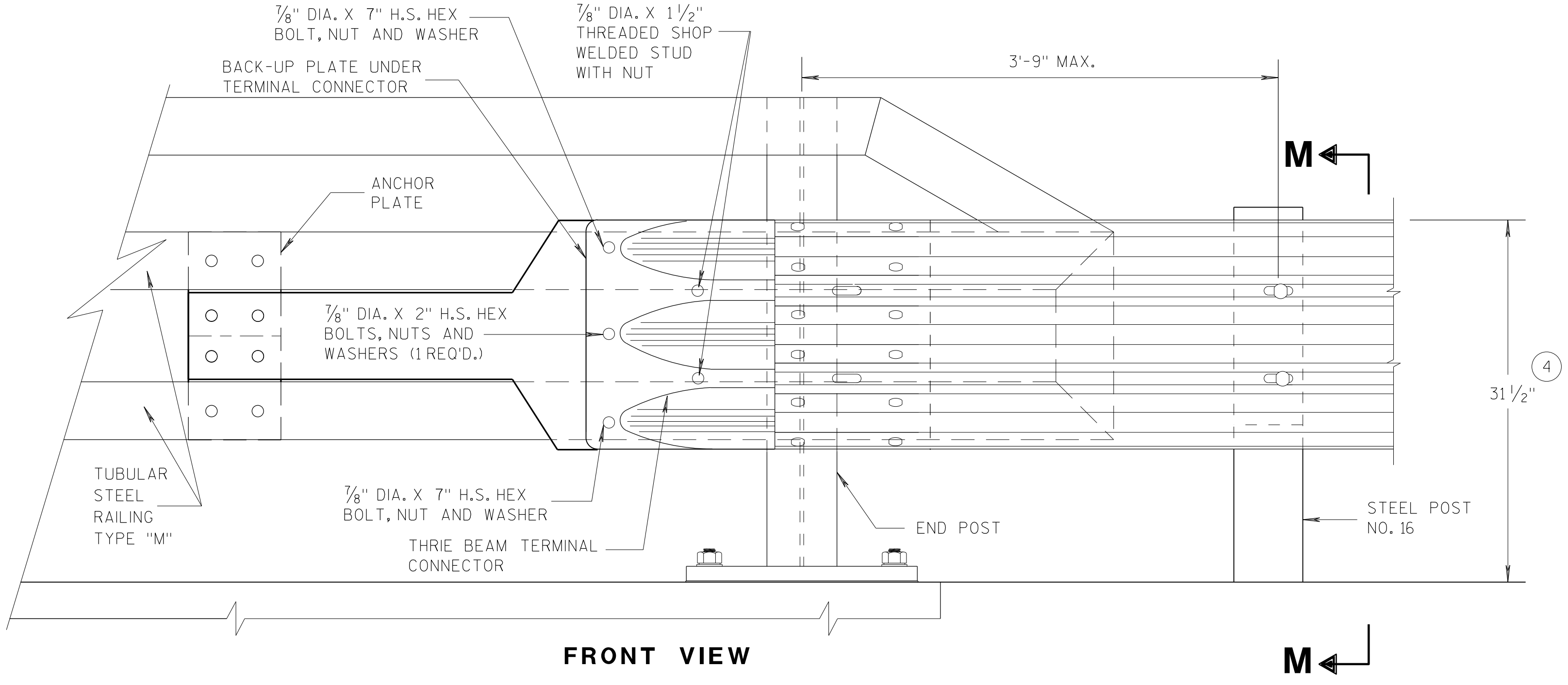


SECTION L-L

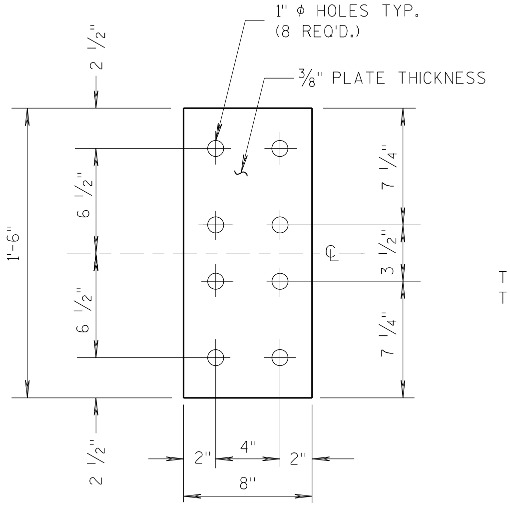


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

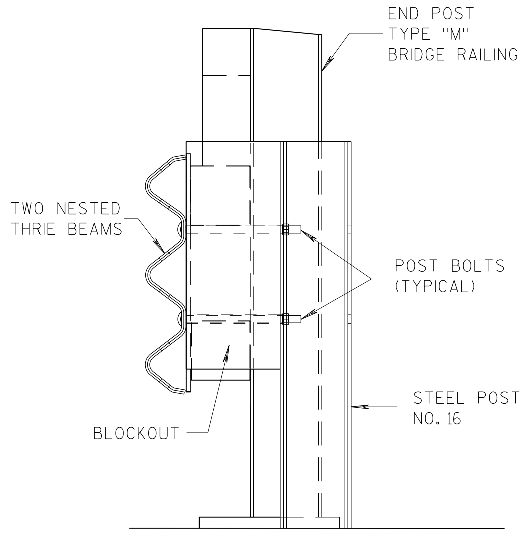


FRONT VIEW

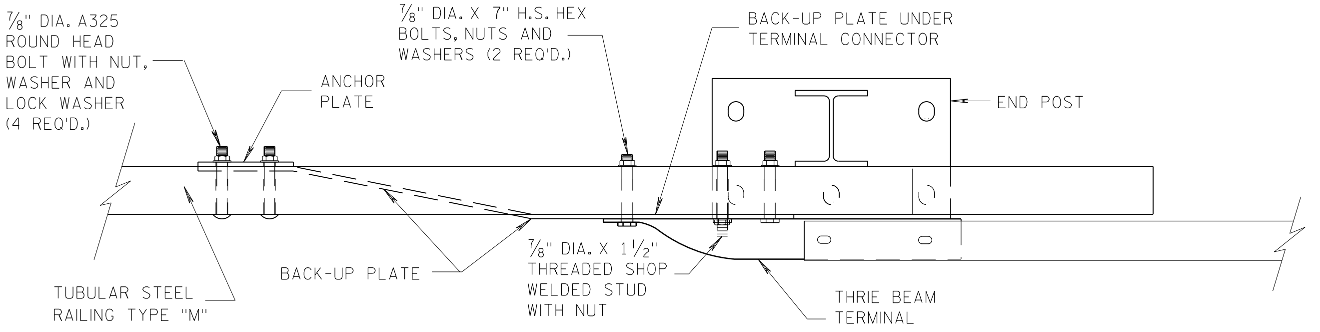


FRONT VIEW

ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVI ENT
FHWA

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

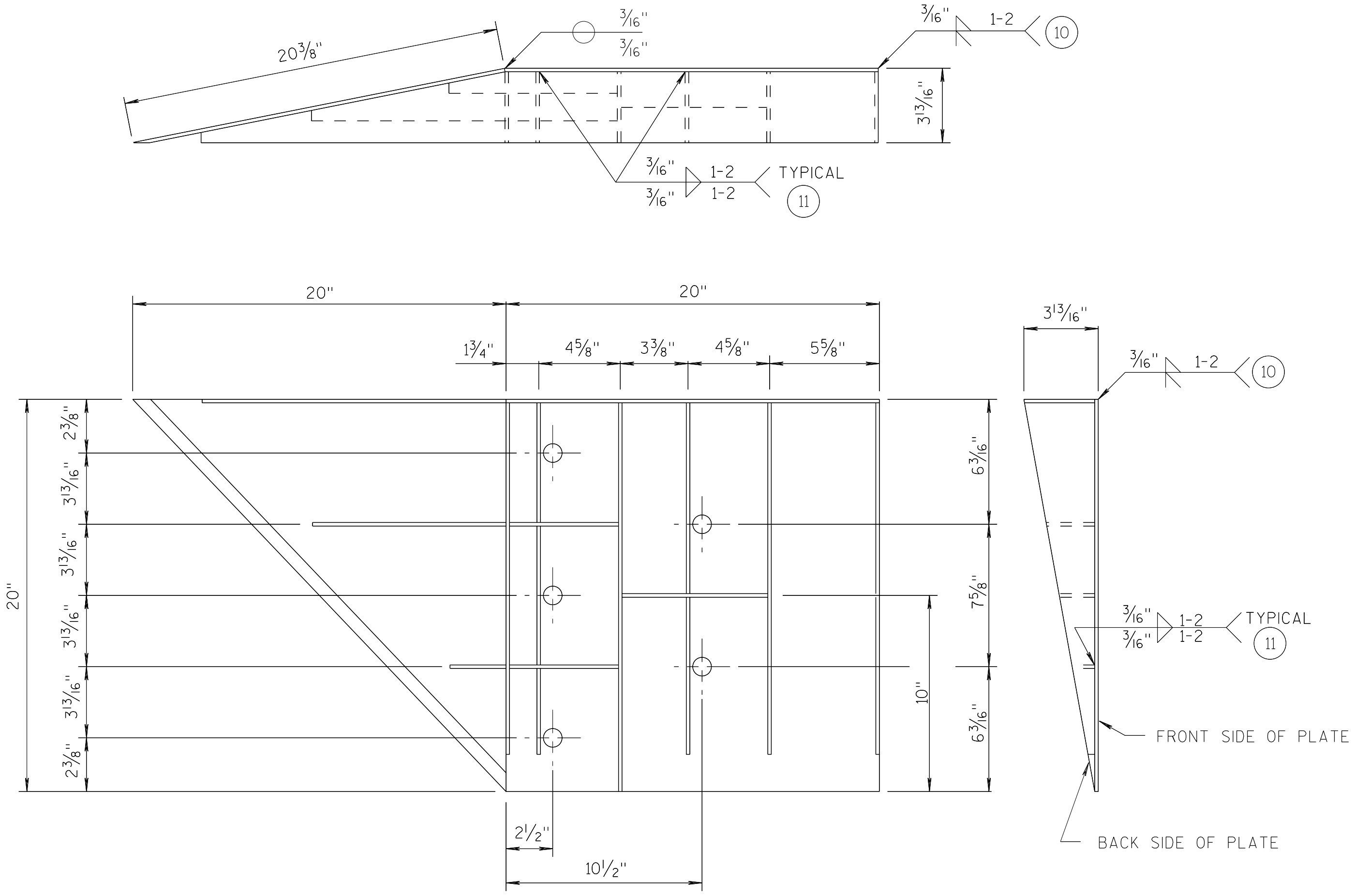
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

⑩ STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS: SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

⑪ STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS: 3/16" FILLET WELD BY 1" LONG SPACED AT 2".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

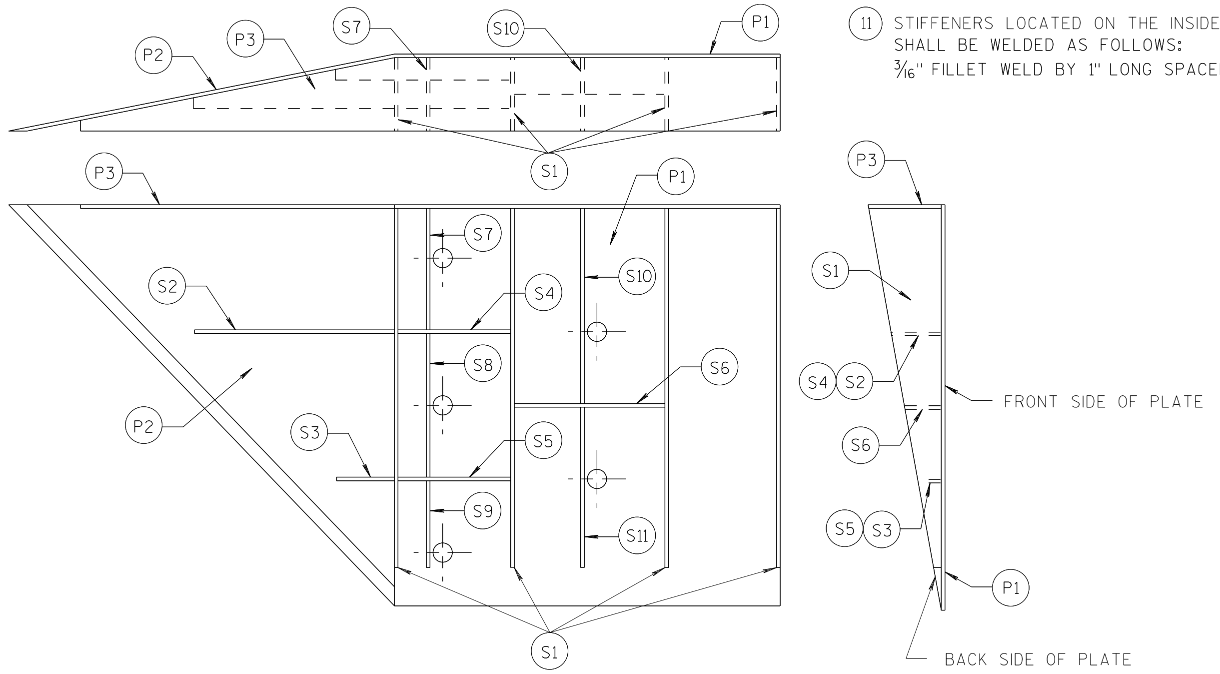


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS
P1	1		20" × 20"	3/16"
P2	1		20" × 20" × 28 9/16"	3/16"
P3	1		39" × 3 5/8" × 20" × 19 5/16"	3/16"
S1	4		18 7/16" × 3 5/8" × 18 3/4"	1/4"
S2	1		10 1/4" × 2 7/16" × 10 3/8" × 1/2"	1/4"
S3	1		3" × 1 1/16" × 3 1/8" × 1/2"	1/4"
S4	1		6 1/8" × 2 7/16"	1/4"
S5	1		6 1/8" × 1 1/16"	1/4"
S6	1		7 3/4" × 1 3/4"	1/4"
S7	1		2 9/16" × 6" × 3 5/8" × 5 7/8"	1/4"
S8	1		1 5/32" × 7 1/2" × 2 1/2" × 7 3/8"	1/4"
S9	1		6 1/16" × 6 3/16" × 1 3/32"	1/4"
S10	1		1 7/8" × 9 7/8" × 3 5/8" × 9 11/16"	1/4"
S11	1		8 1/2" × 8 3/4" × 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

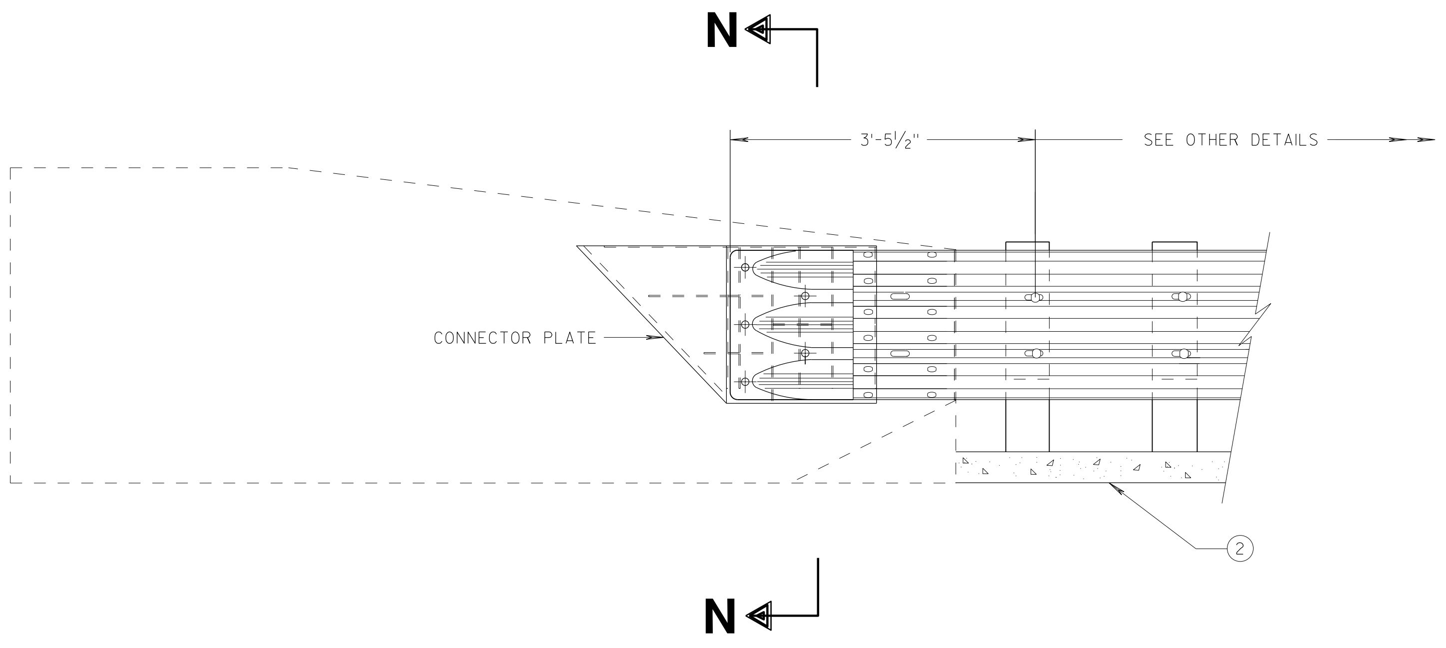
/S/ Rodney Taylor
ROADWAY STANDARDS
UNIT SUPERVI
ENT

GENERAL NOTES

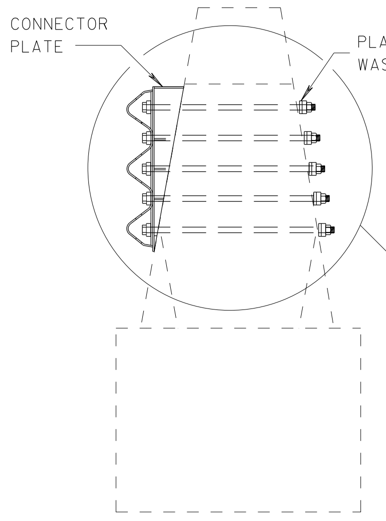
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

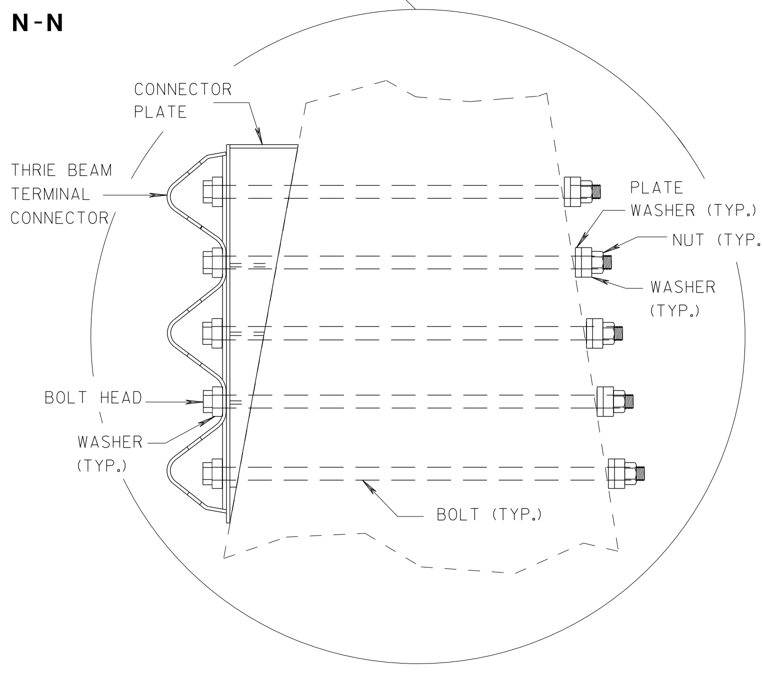
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.

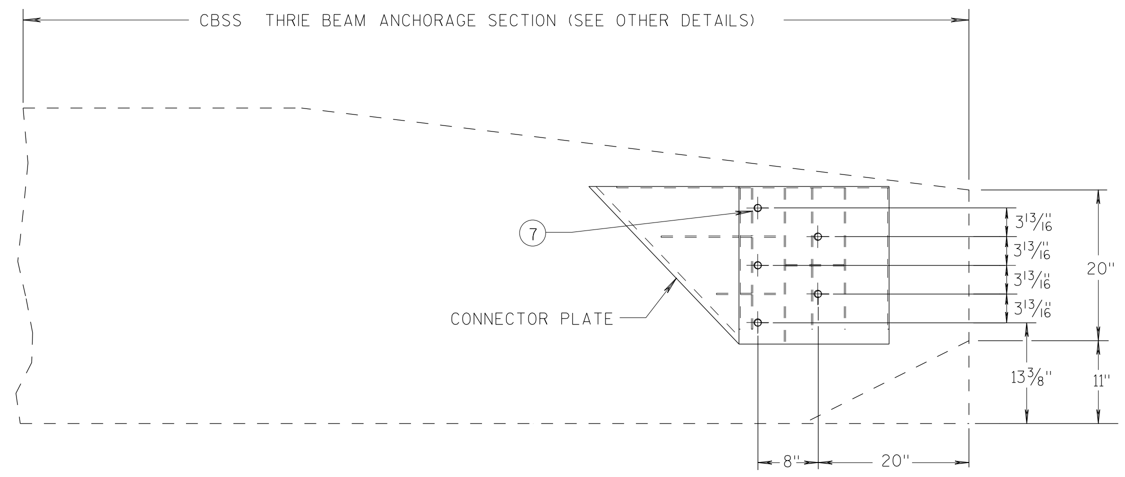


THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



SECTION N-N



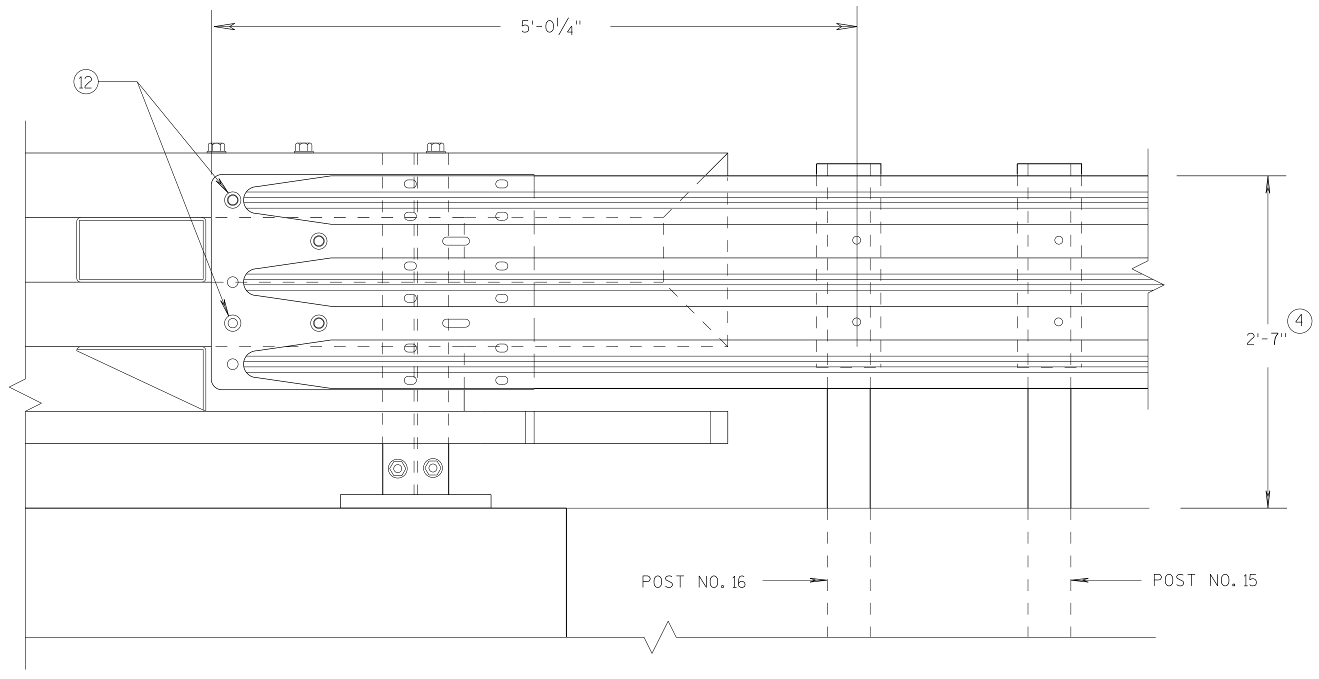


SINGLE SLOPE CONNECTION PLATE PLACEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

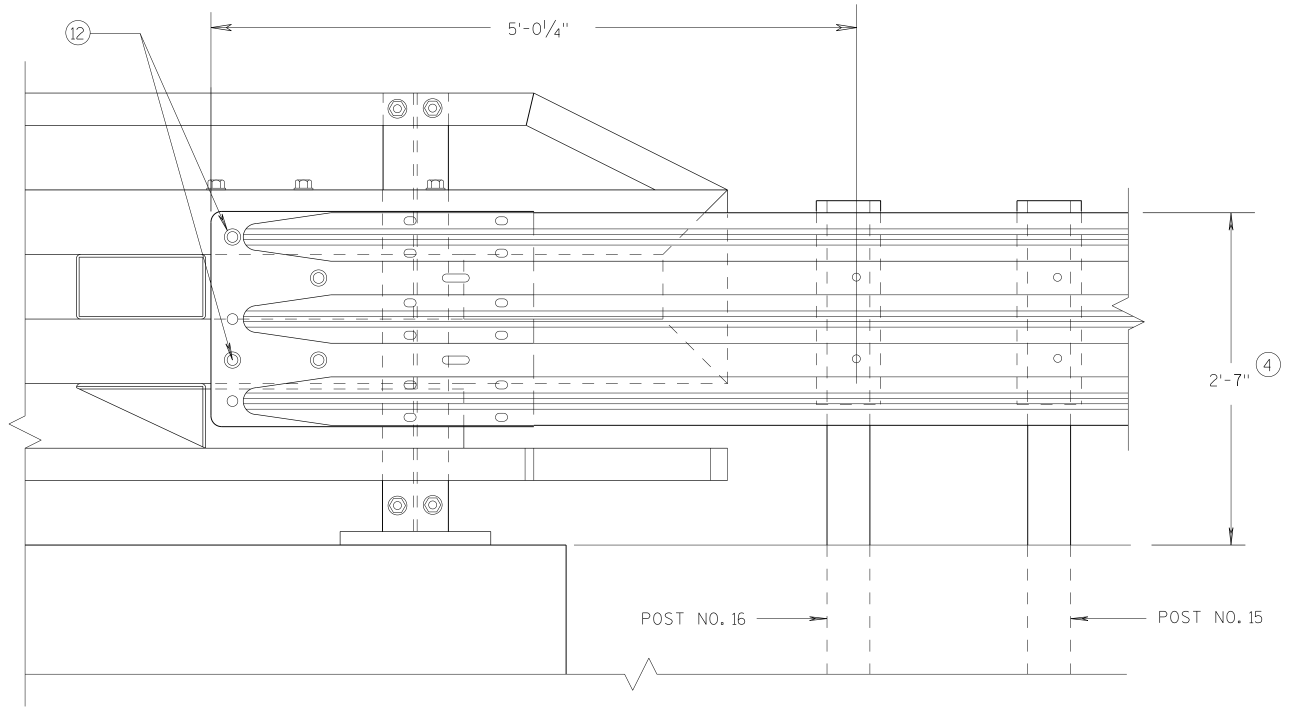
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DI NT
UNIT SUPERVIS
FHWA



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".

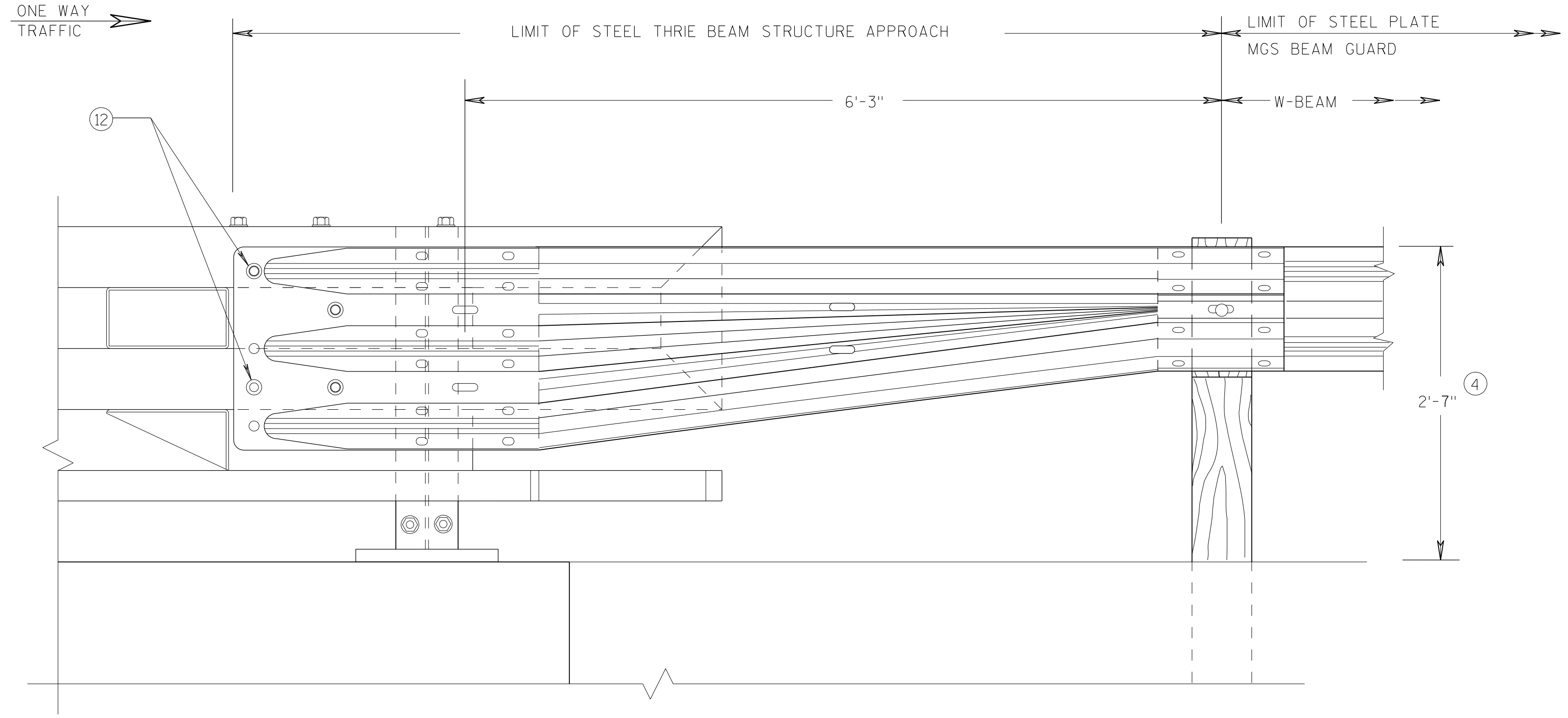
⑫ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT



FRONT VIEW

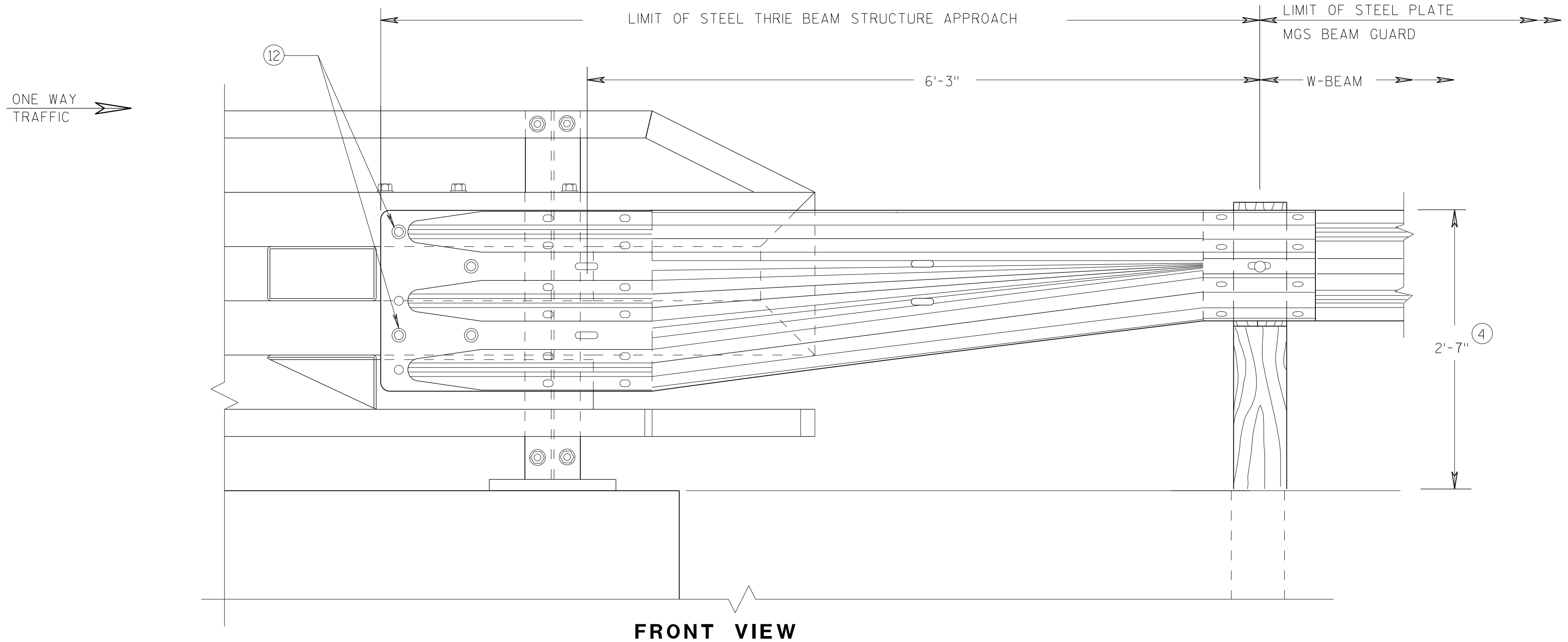
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

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.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

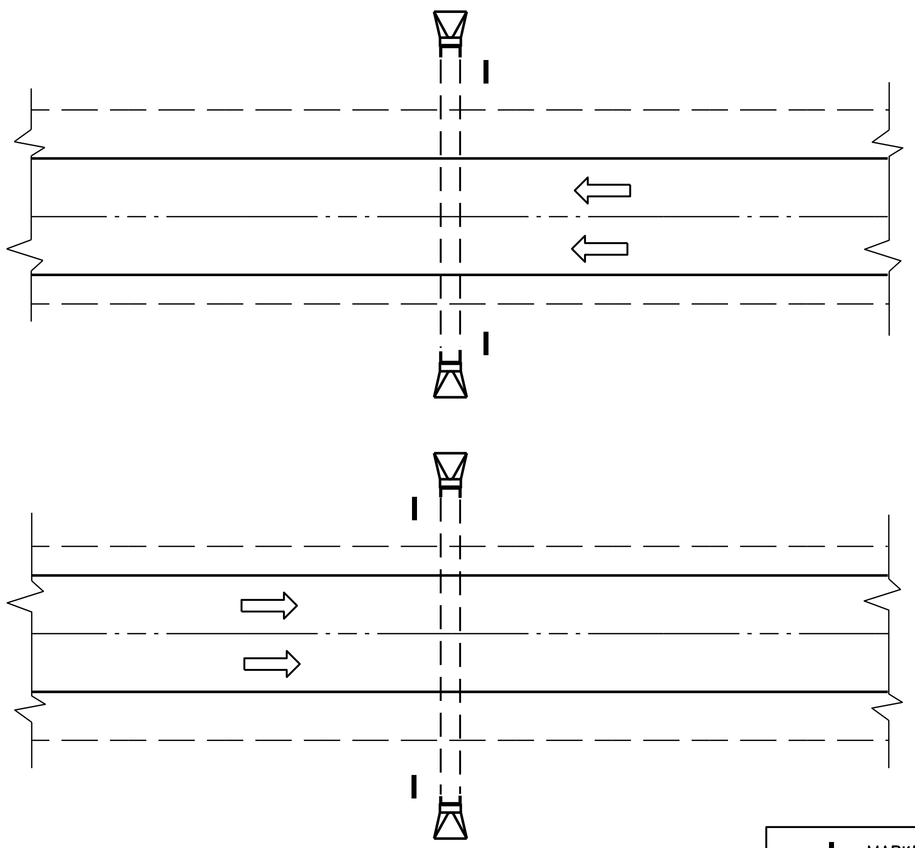
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA
/S/ Rodney Taylor
ROADWAY STANDARDS D
UNIT SUPERVIS
NT

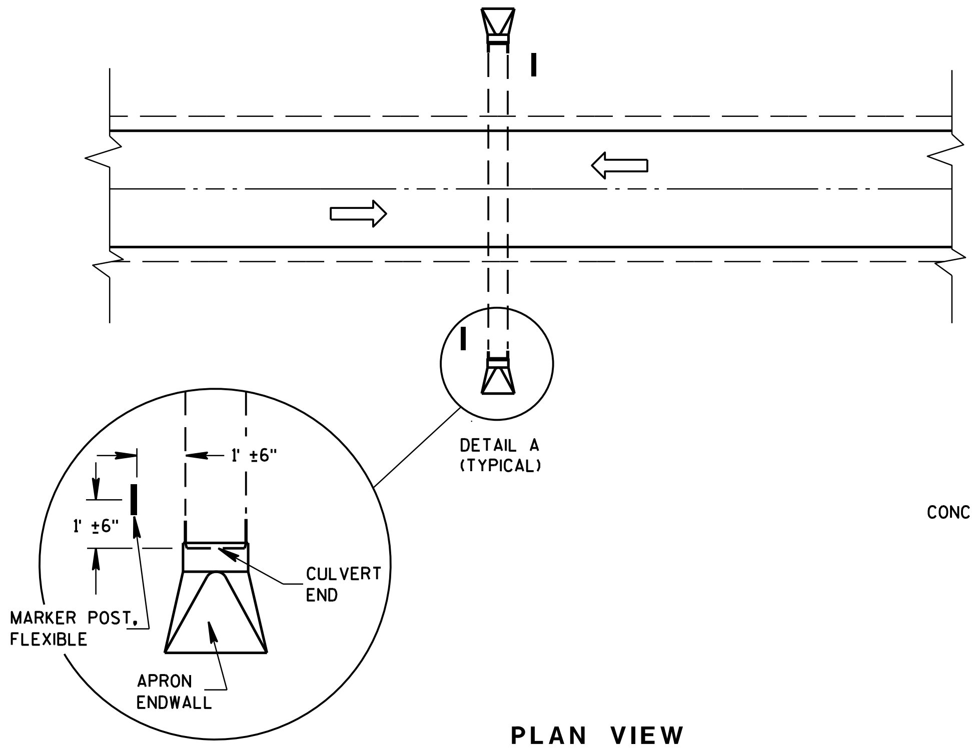
GENERAL NOTES

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.



PLAN VIEW

DIVIDED HIGHWAY



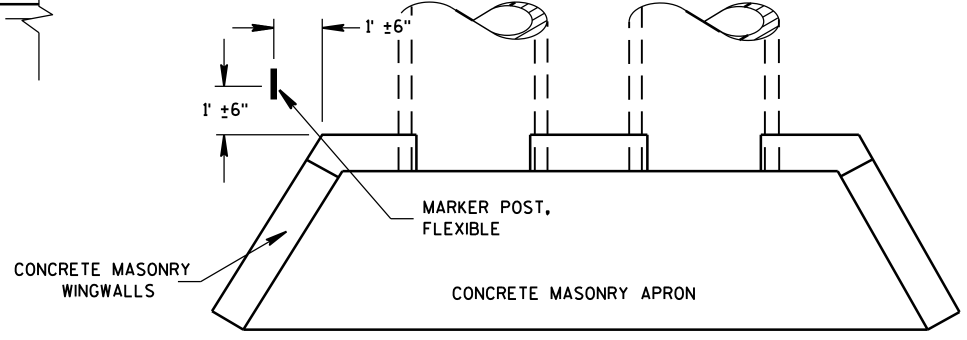
DETAIL A
(TYPICAL)

PLAN VIEW

UNDIVIDED HIGHWAY

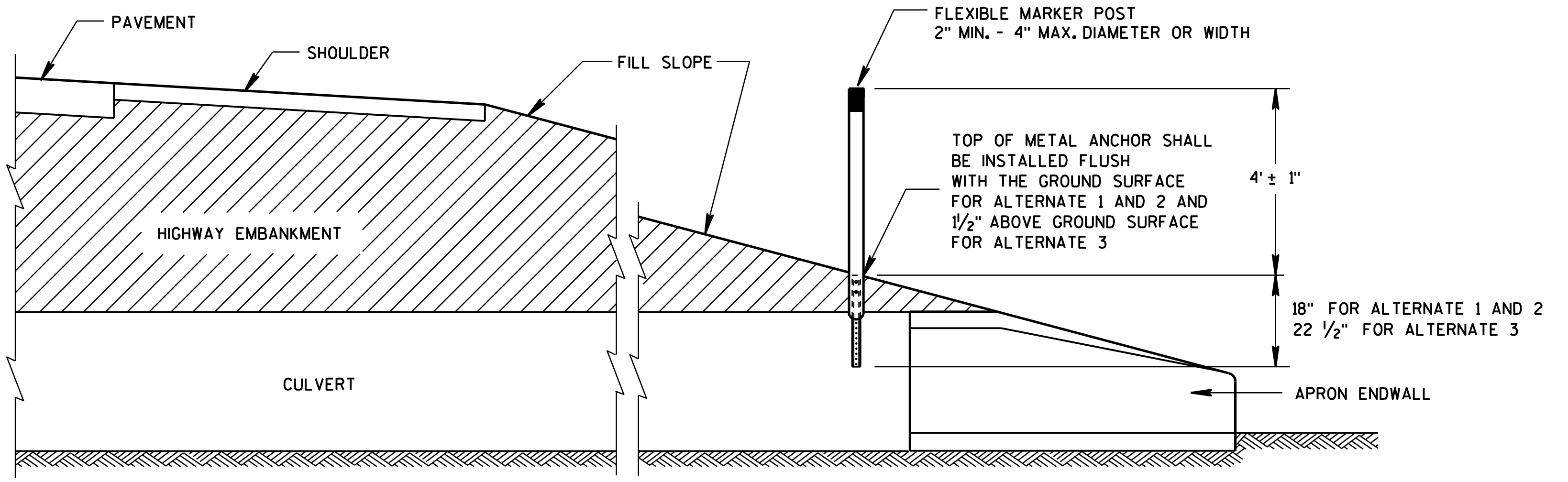
I	MARKER POST, FLEXIBLE
⇨	DIRECTION OF TRAFFIC FLOW

FLEXIBLE MARKER POST LOCATION



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH



CROSS SECTION

FLEXIBLE MARKER POST

6

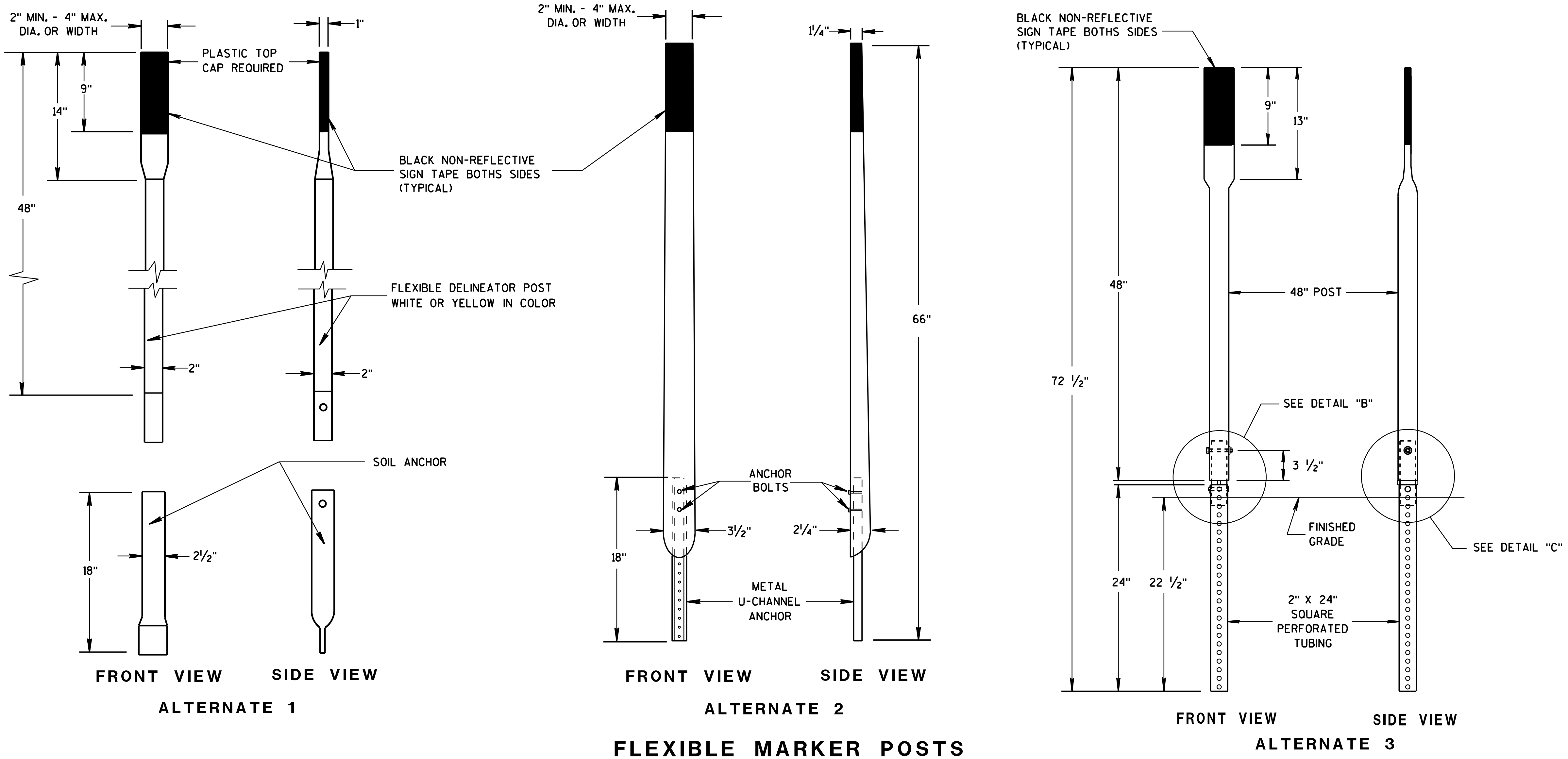
6

S.D.D. 15 A 3-2a

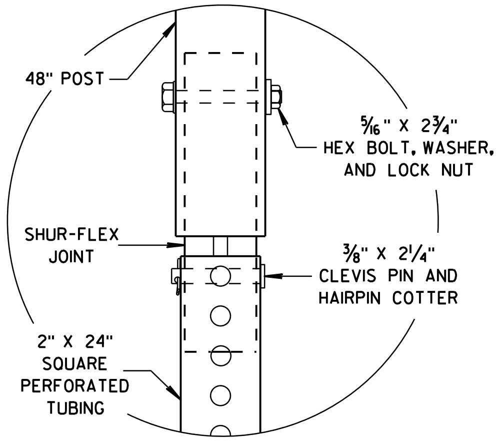
S.D.D. 15 A 3-2a

FLEXIBLE MARKER POST
FOR CULVERT END

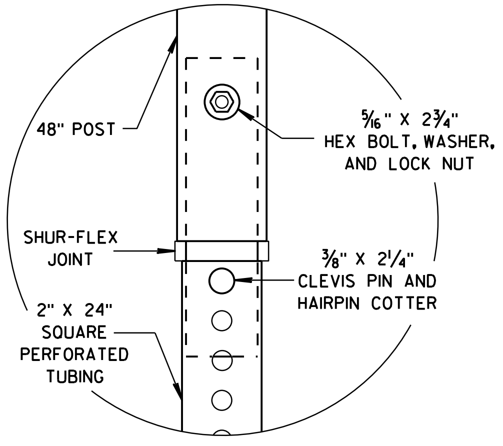
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



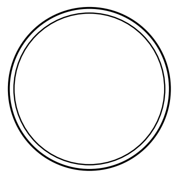
FLEXIBLE MARKER POSTS



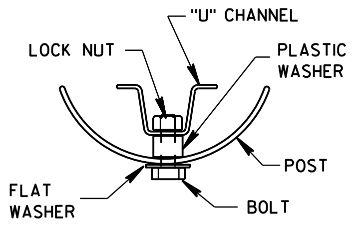
DETAIL B



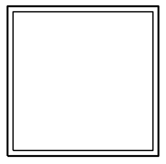
DETAIL C



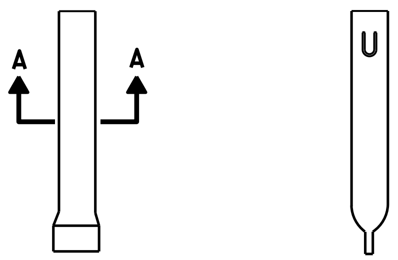
SECTION A-A



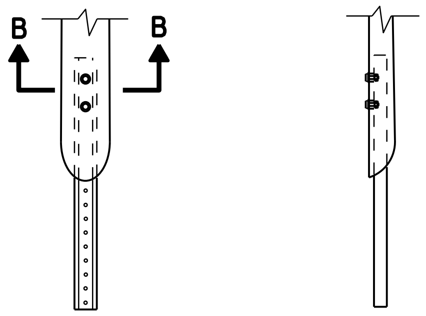
SECTION B-B



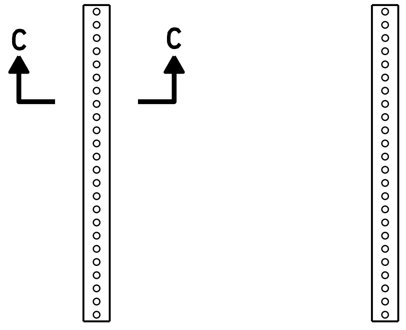
SECTION C-C



ALTERNATE 1



ALTERNATE 2



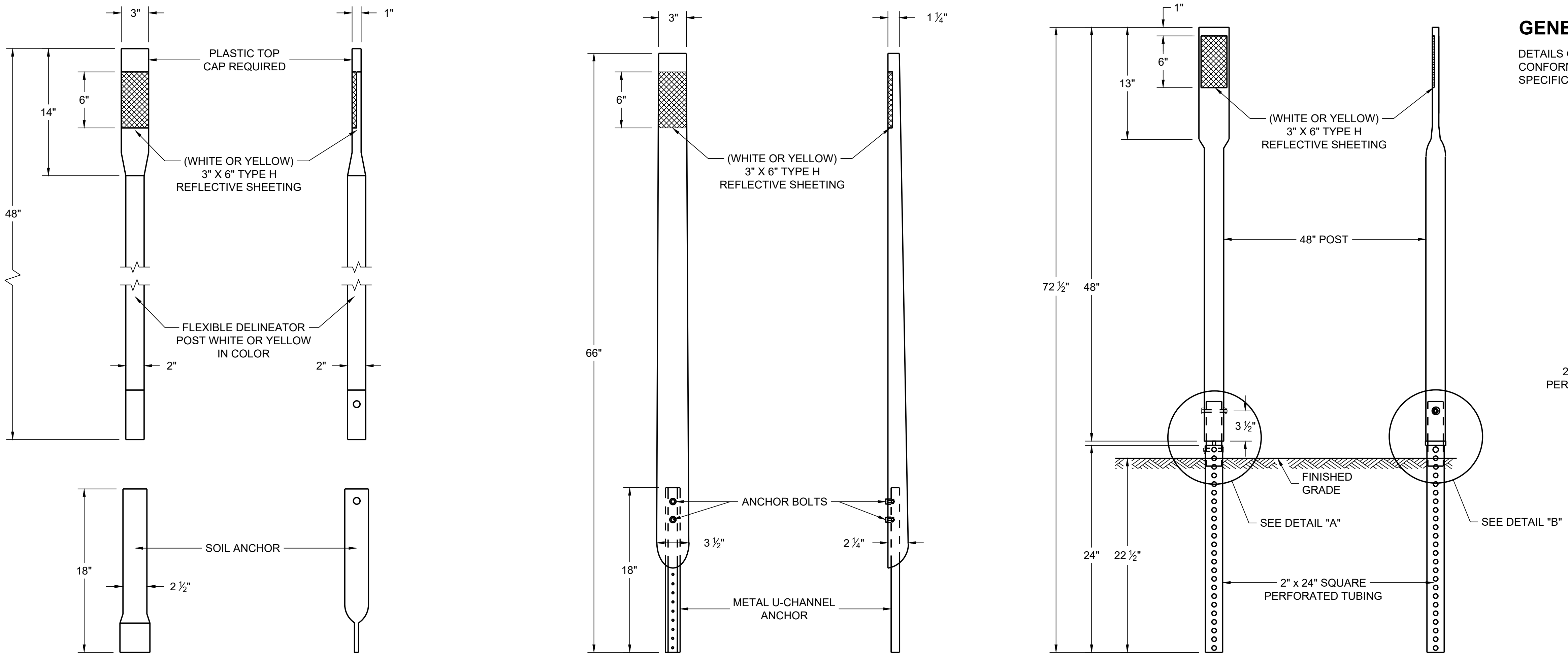
ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER IGN
FHWA



FRONT VIEW **SIDE VIEW**

ALTERNATE 1

FRONT VIEW **SIDE VIEW**

ALTERNATE 2

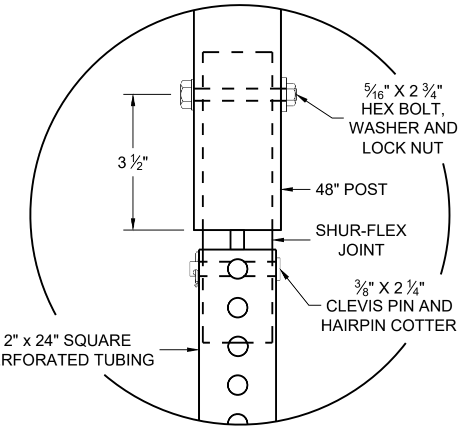
FRONT VIEW **SIDE VIEW**

ALTERNATE 3

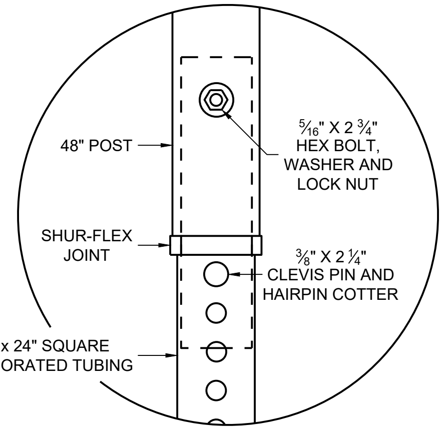
FLEXIBLE DELINEATOR POSTS

GENERAL NOTES

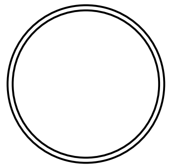
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



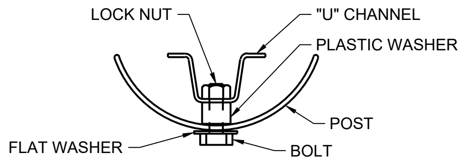
DETAIL A



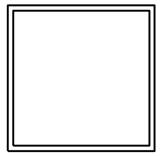
DETAIL B



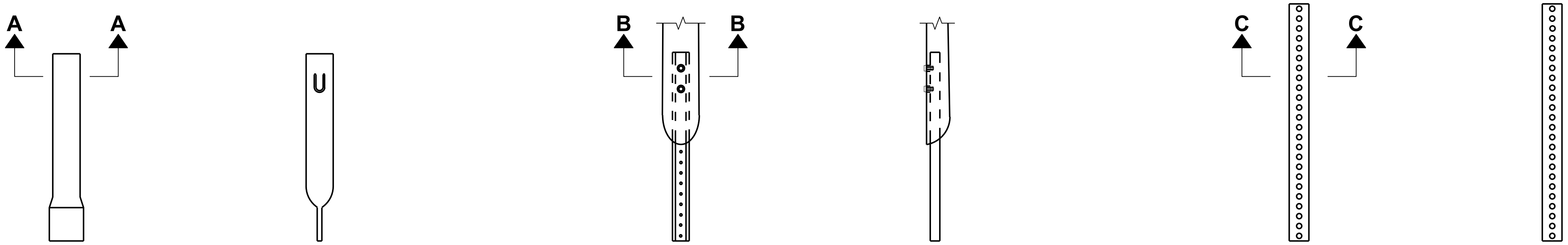
SECTION A - A



SECTION B - B



SECTION C - C



FRONT VIEW **SIDE VIEW**

ALTERNATE 1

FRONT VIEW **SIDE VIEW**

ALTERNATE 2

FRONT VIEW **SIDE VIEW**

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

REFLECTOR SPACING TABLE

REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER

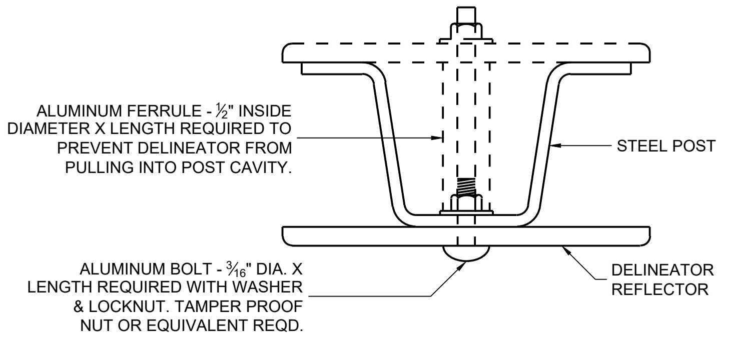
FLEXIBLE DELINEATOR POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

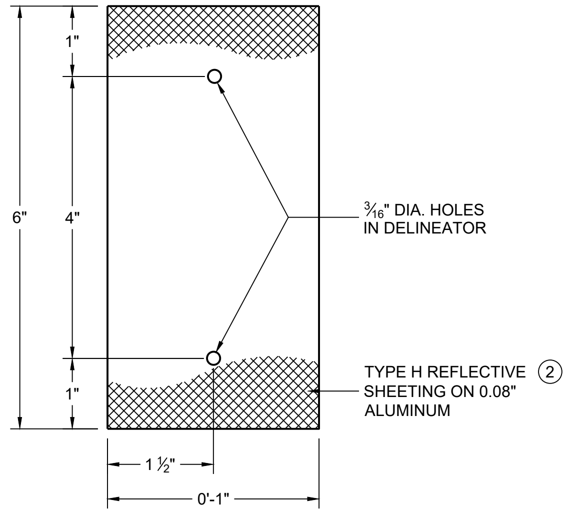
APPROVED
March 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

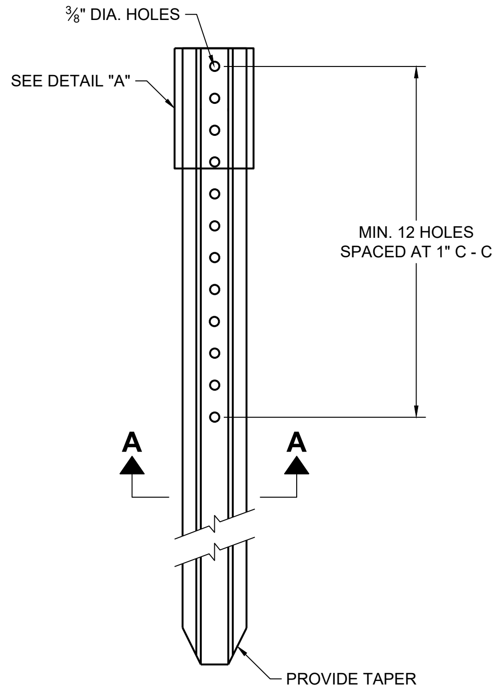
FHWA



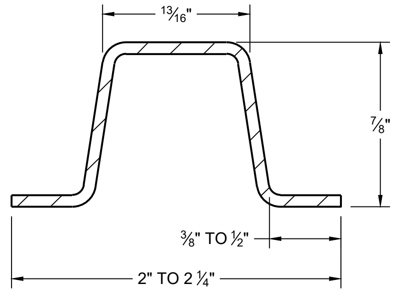
MOUNTING DETAIL FOR DELINEATOR REFLECTOR



DETAIL "A" 3" X 6" DELINEATOR REFLECTOR



DELINEATOR POST



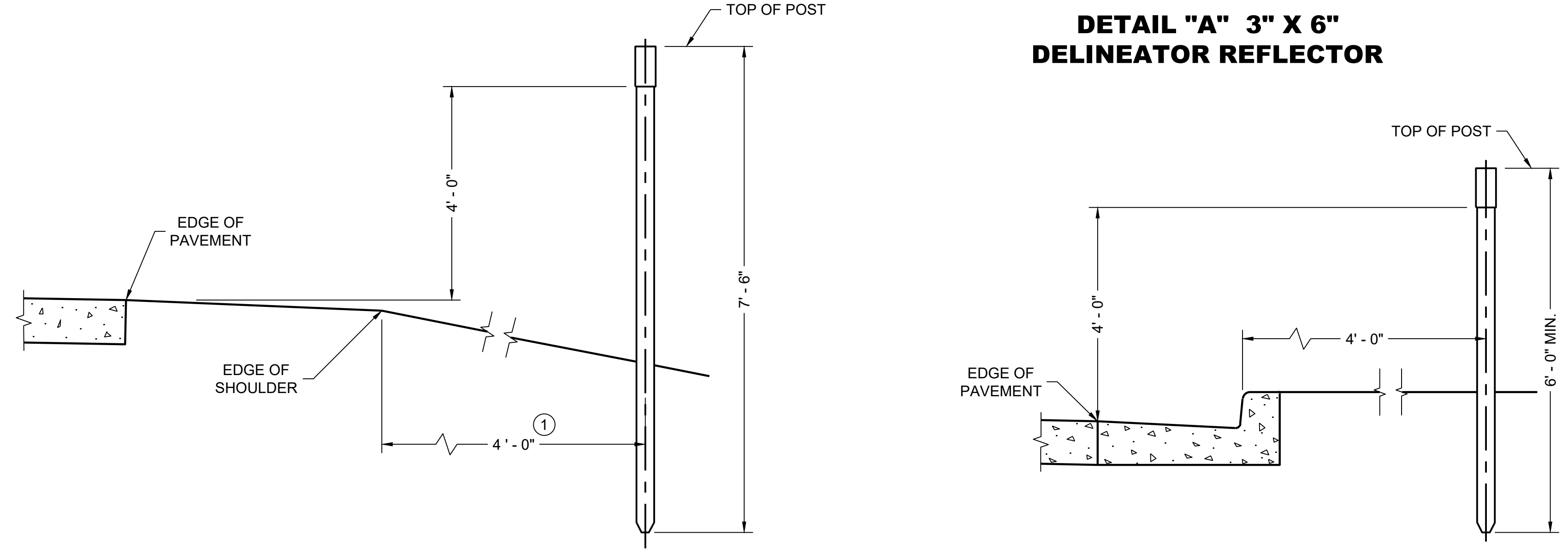
SECTION A - A

WEIGHT 1.12 LBS PER FT. \ 0.1 LB.

REFLECTOR SPACING TABLE

REFLECTOR SPACING	LOCATION
* 100' C-C	RAMPS
400' C-C	MAINLINE

* START AT BEGINNING OF RAMP TAPER AND END AT END OF RAMP TAPER



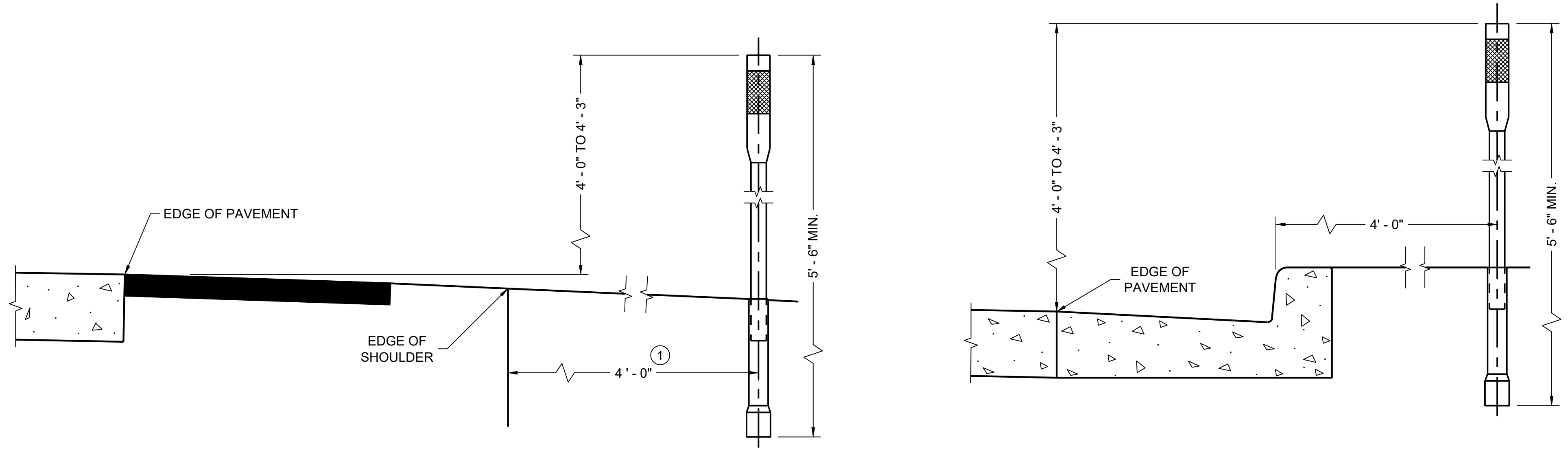
TYPICAL INSTALLATIONS OF DELINEATOR POSTS

GENERAL NOTES

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

① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

② FURNISH TYPE H SHEETING FROM THE APPROVED PRODUCTS LIST.

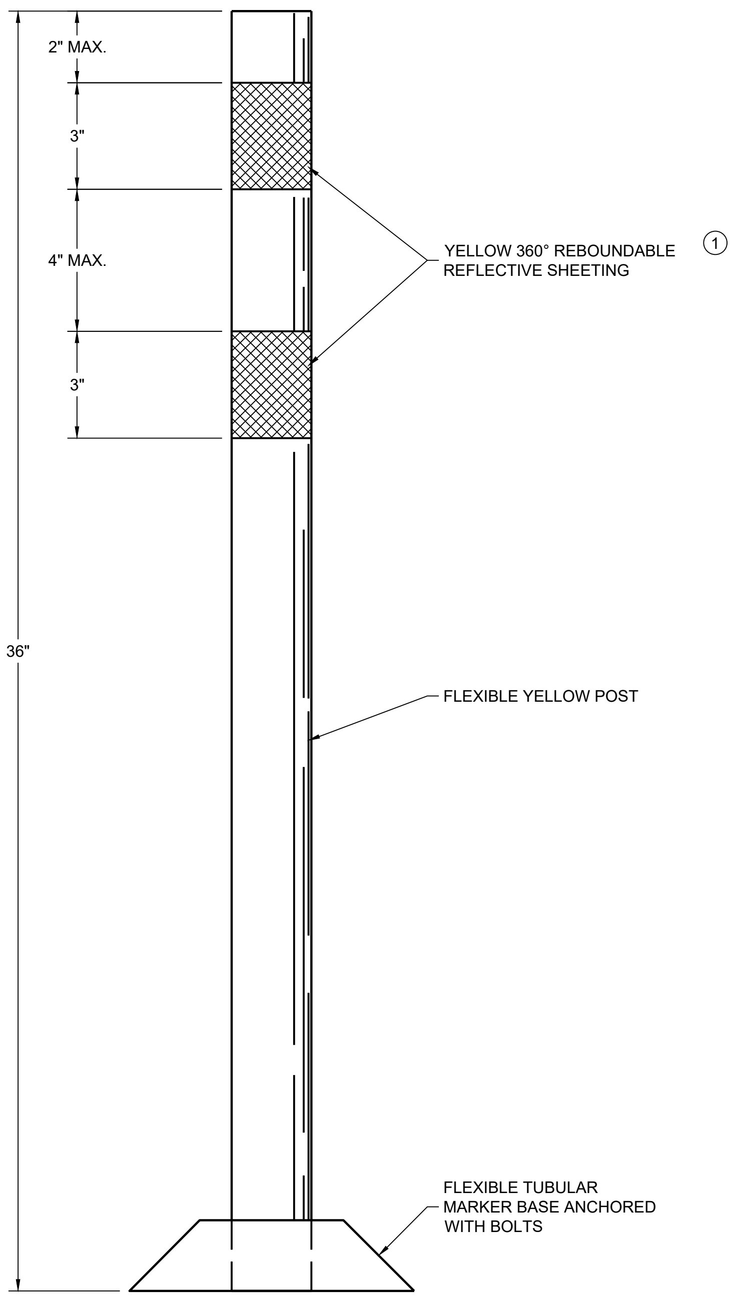


TYPICAL INSTALLATIONS OF FLEXIBLE DELINEATOR POSTS

DELINEATOR POST WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA



PERMANENT FLEXIBLE TUBULAR MARKER POST

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

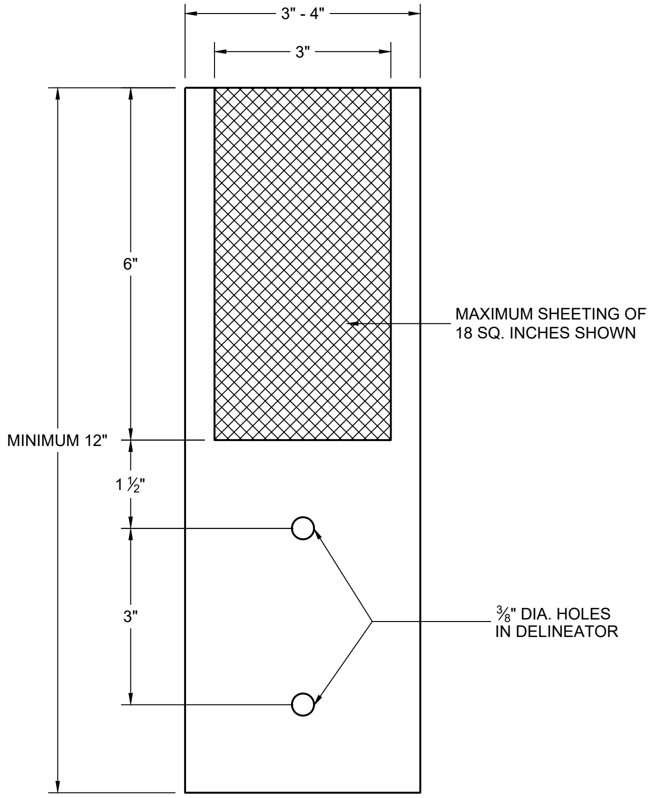
THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES PERMANENT FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA



4" x 12" DELINEATOR WITH REFLECTIVE SHEETING

REFLECTOR SPACING TABLE

REFLECTOR SPACING	MINIMUM NUMBER OF REFLECTORS
100' C-C	3

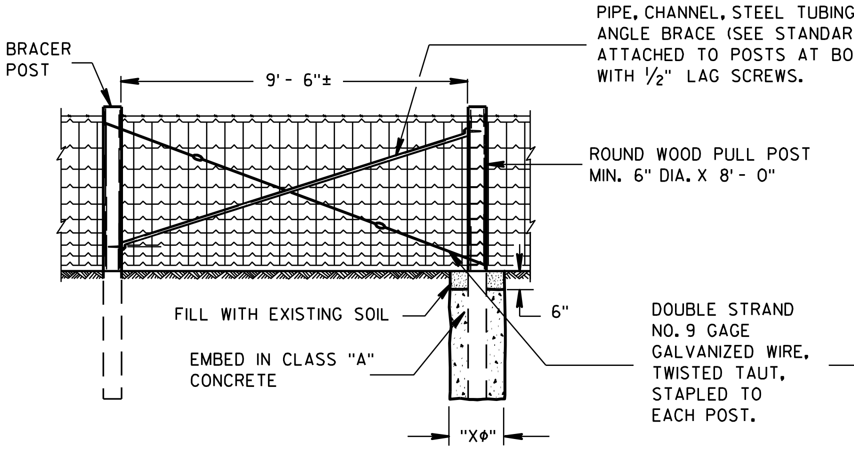
DELINEATOR POST WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

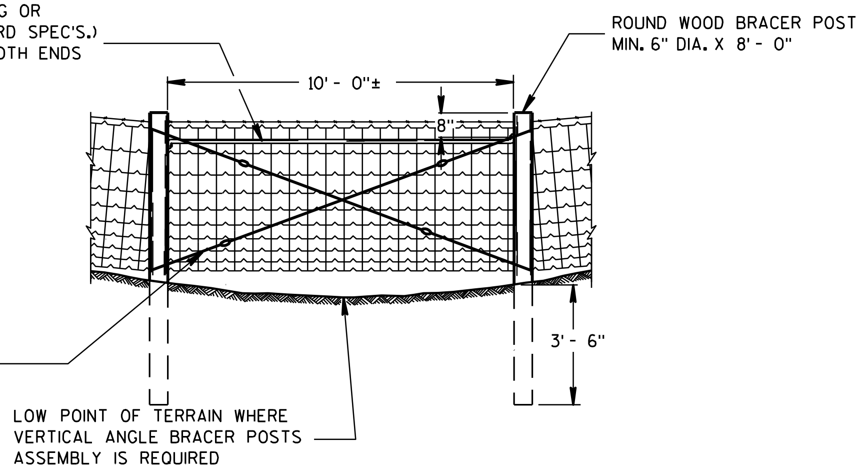
APPROVED
March 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

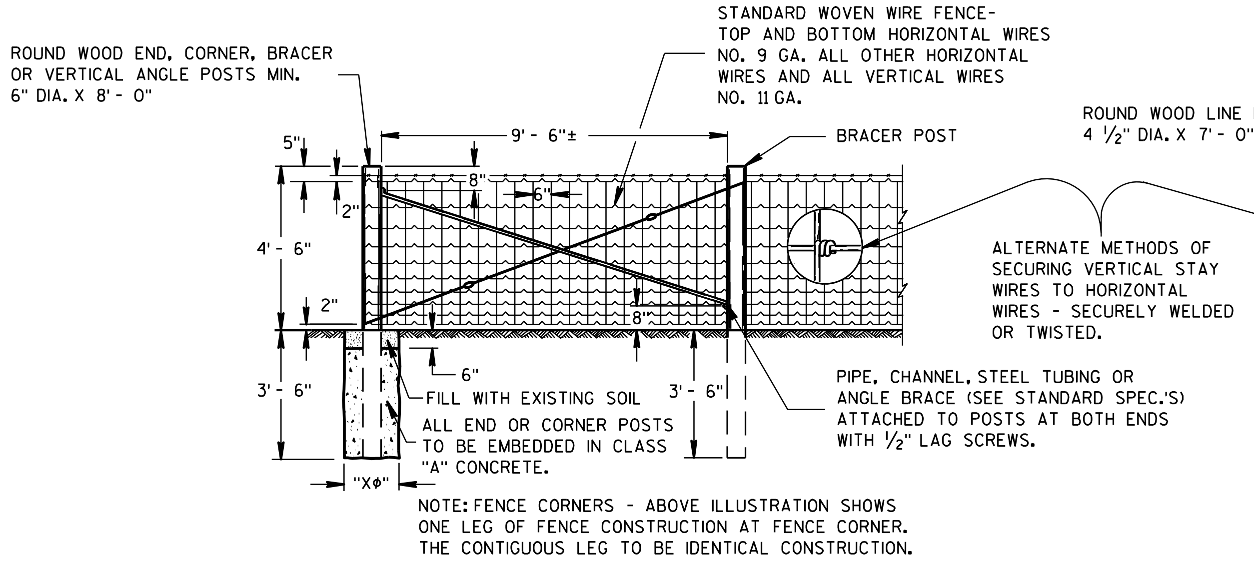
GENERAL NOTES

"Xϕ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

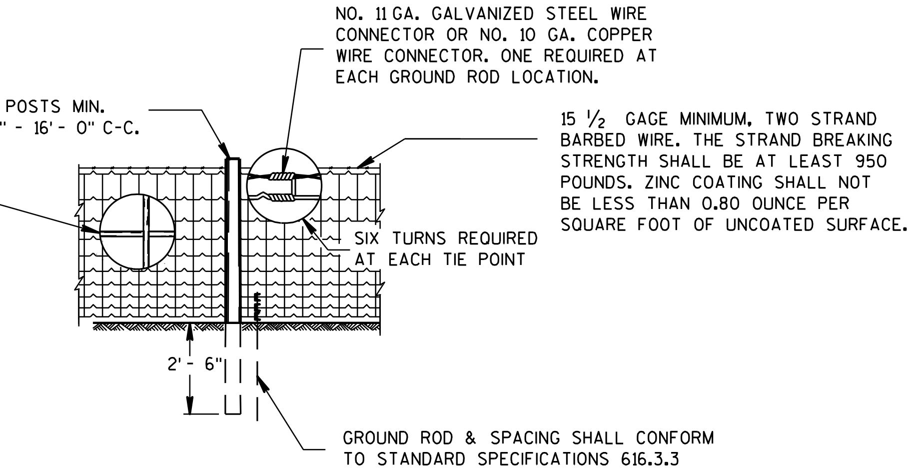
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



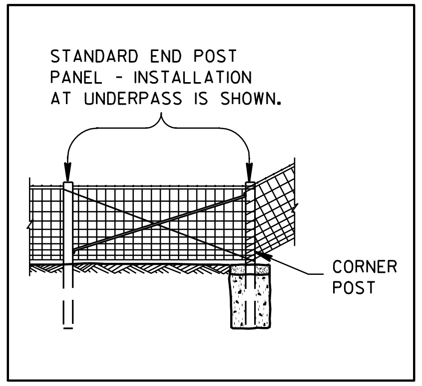
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

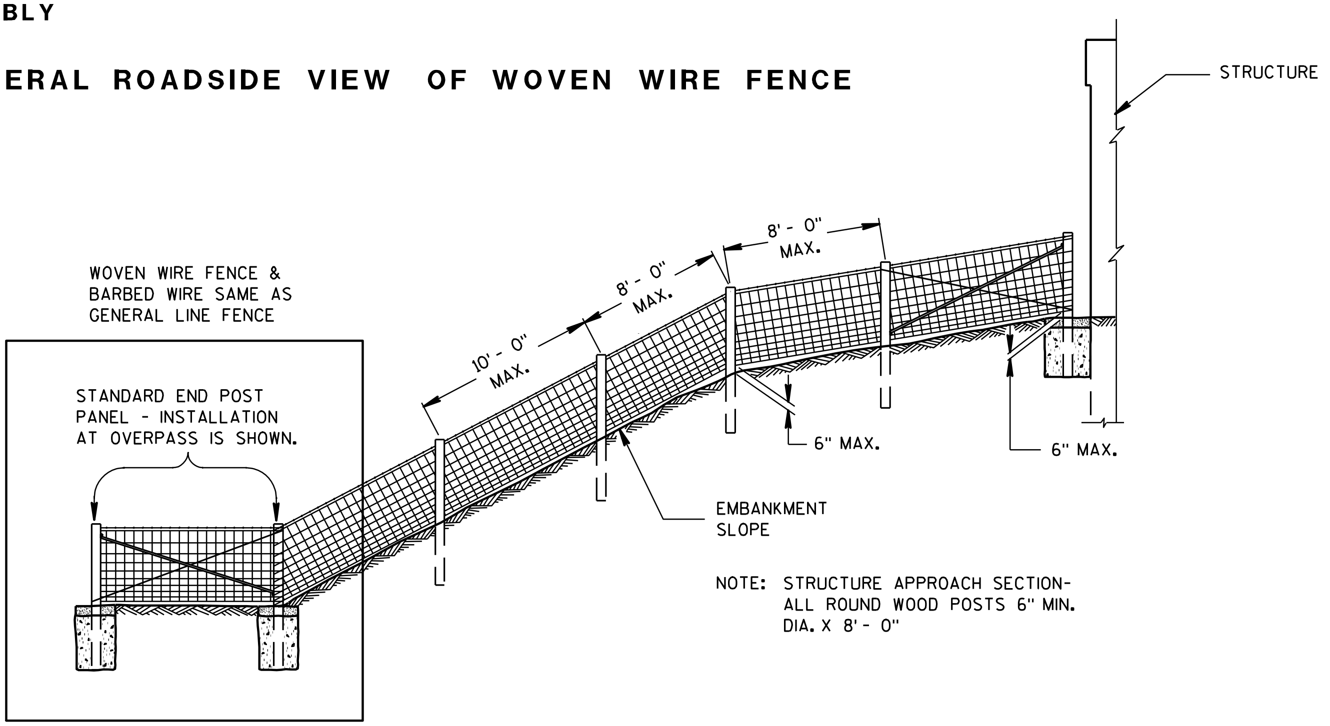


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE

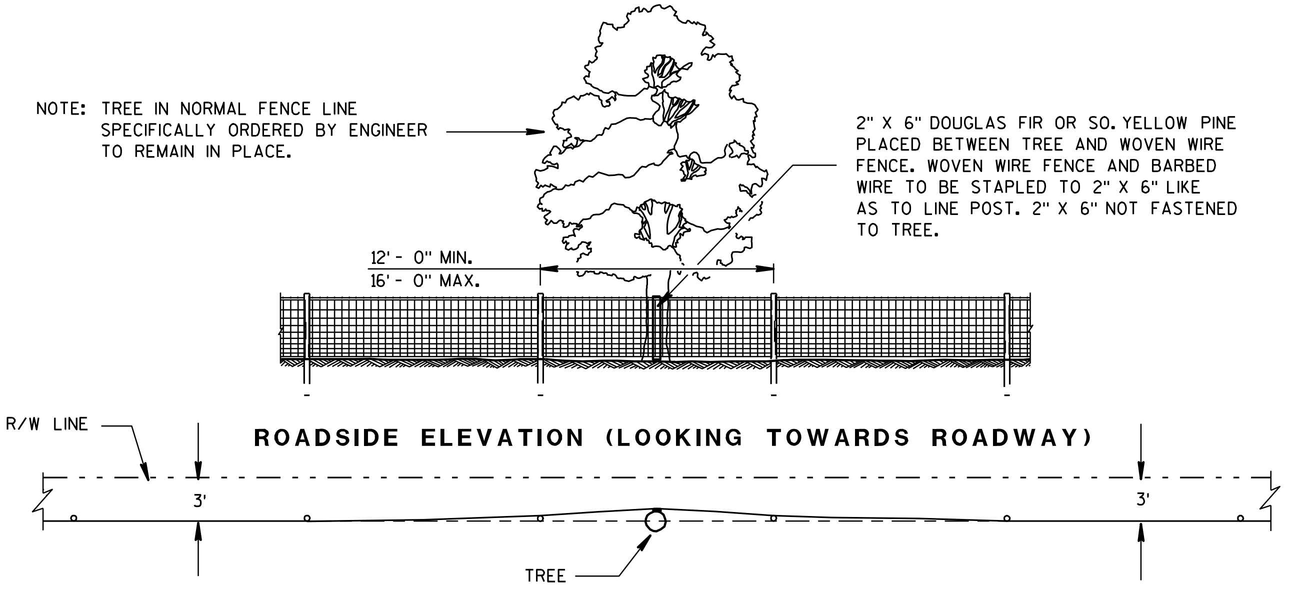


NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

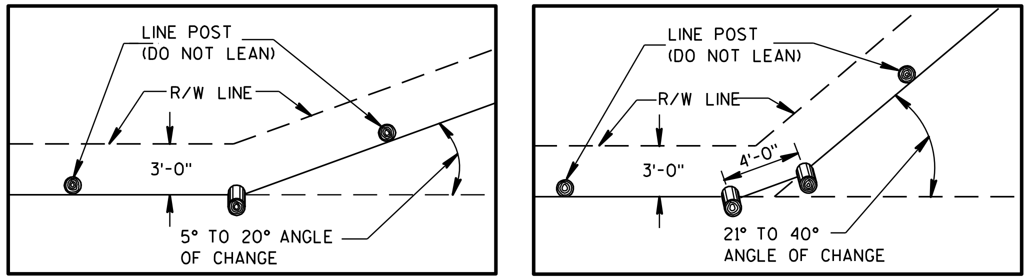
STATE OF WISCONSI
DEPARTMENT OF TRANSPO



ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



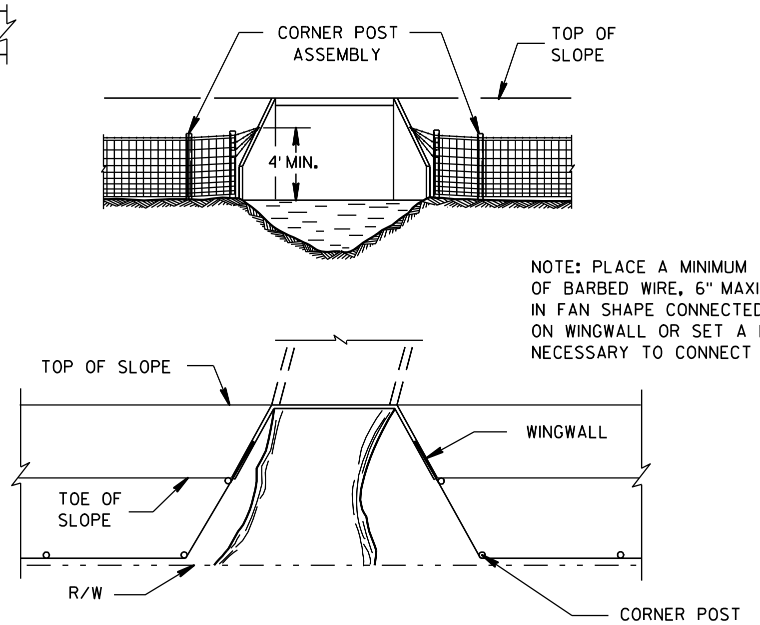
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

RIGHT OF WAY LINE CHANGE 40° AND LESS

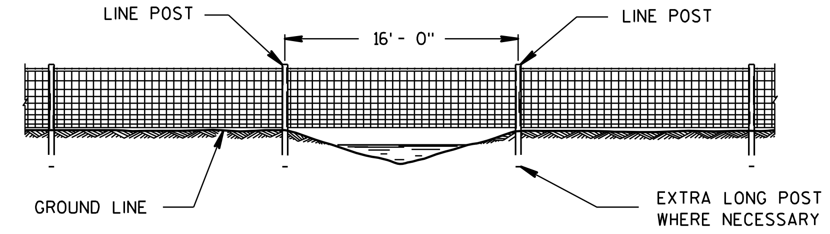
NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0"
WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40°
USE THE CORNER OR STRETCHER POSTS ASSEMBLY.

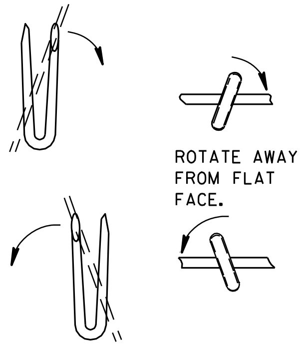


NOTE: PLACE A MINIMUM OF 4 STRANDS
OF BARBED WIRE, 6" MAXIMUM CENTERS
IN FAN SHAPE CONNECTED TO AN EYE BOLT
ON WINGWALL OR SET A LONE POST WHEN
NECESSARY TO CONNECT BARBED WIRE.

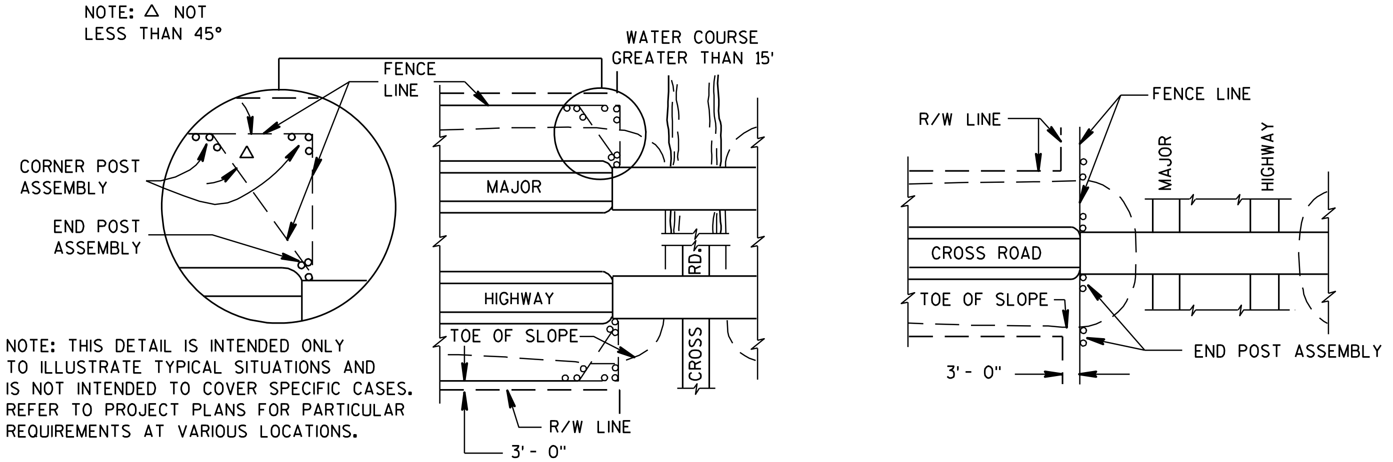
FENCE INSTALLATION TO WINGWALLS



FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST



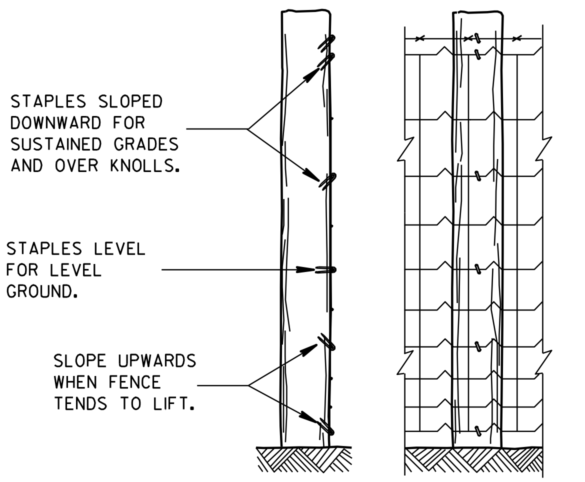
NOTE: THIS DETAIL IS INTENDED ONLY
TO ILLUSTRATE TYPICAL SITUATIONS AND
IS NOT INTENDED TO COVER SPECIFIC CASES.
REFER TO PROJECT PLANS FOR PARTICULAR
REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE
CROSSING OF GREATER THAN 15 FT. IN WIDTH

PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE
SMALL END SHALL BE DOWN.



END
ELEVATION

FARM
SIDE
ELEVATION

FENCE MOUNTING DETAIL

FENCE WOVEN WIRE

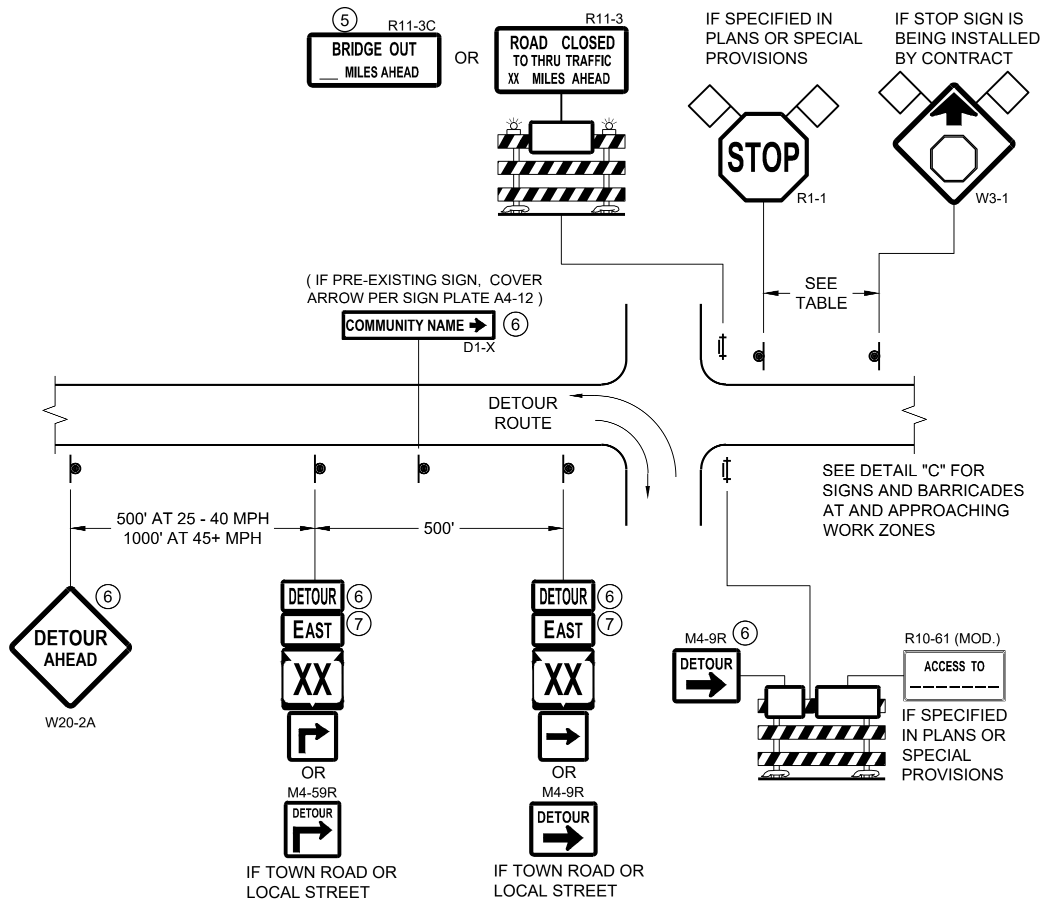
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

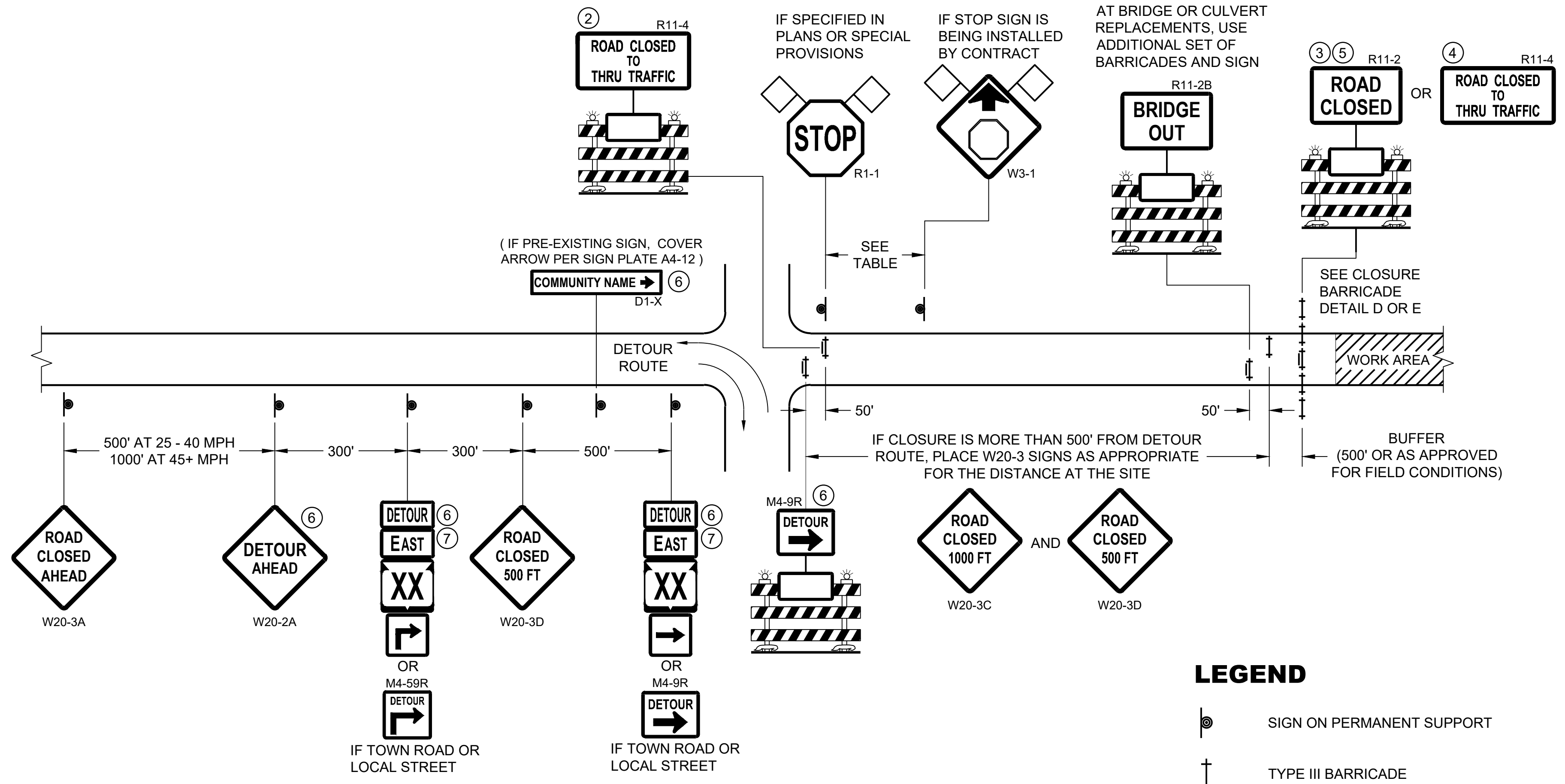
4/4/2008
DATE

/S/ Jerry H.
ROADWAY STANDARDS ENT
ENGINEER

FHWA



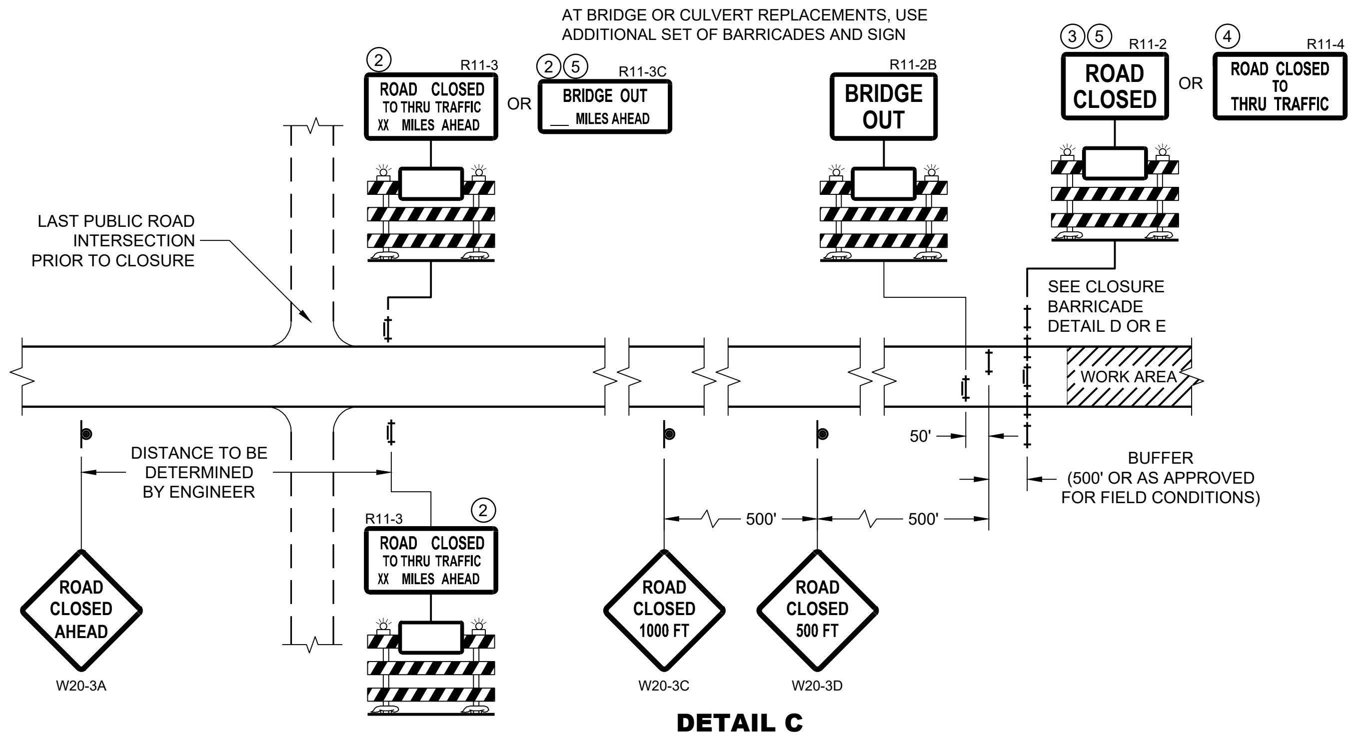
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- ▨ WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
- M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

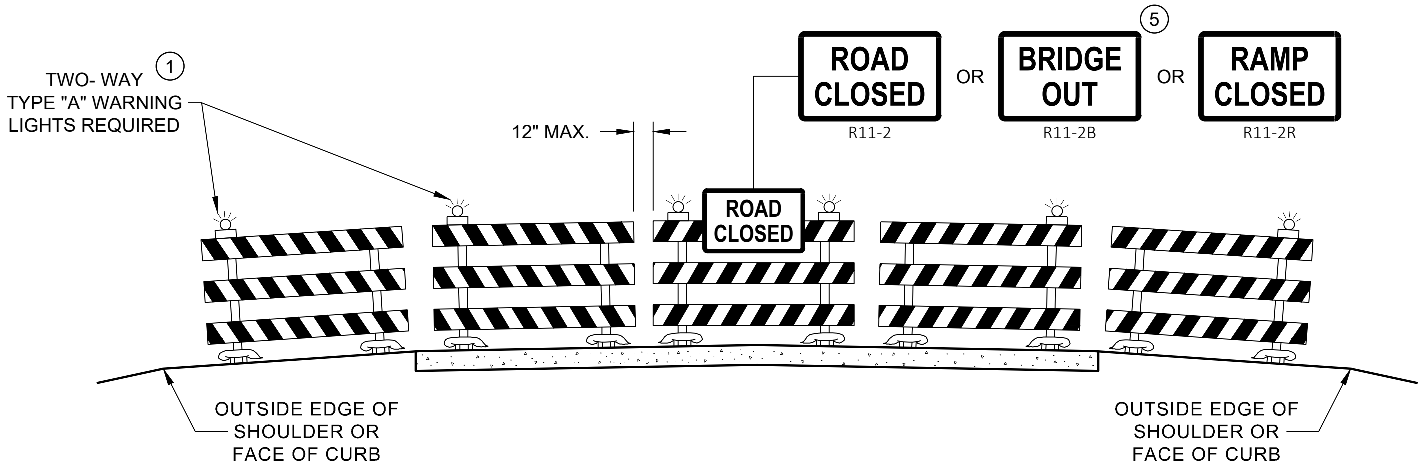
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

SEE SDD 15C2-SHEET "b"
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

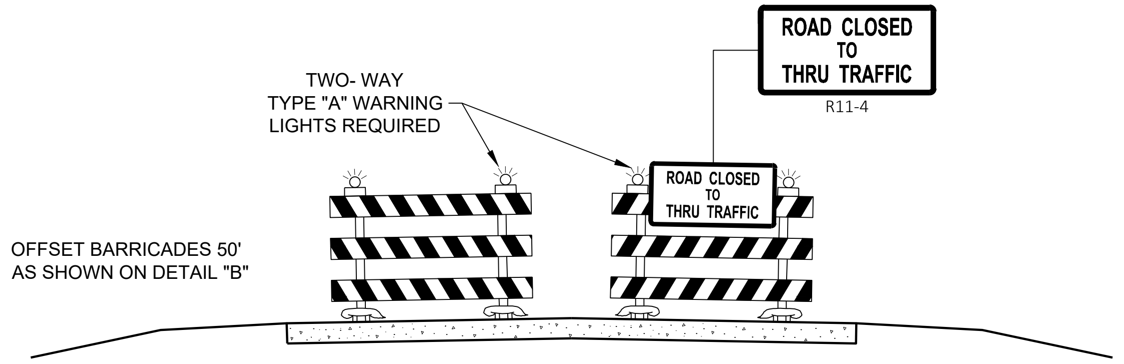
BARRICADES AND SIGNS
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11 - 2 SHALL BE 48" X 30"
R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
M4 - 9 SHALL BE 30" X 24"
M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
R1 - 1 SHALL BE 36" X 36"

① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING.

② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.

③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".

④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".

⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.

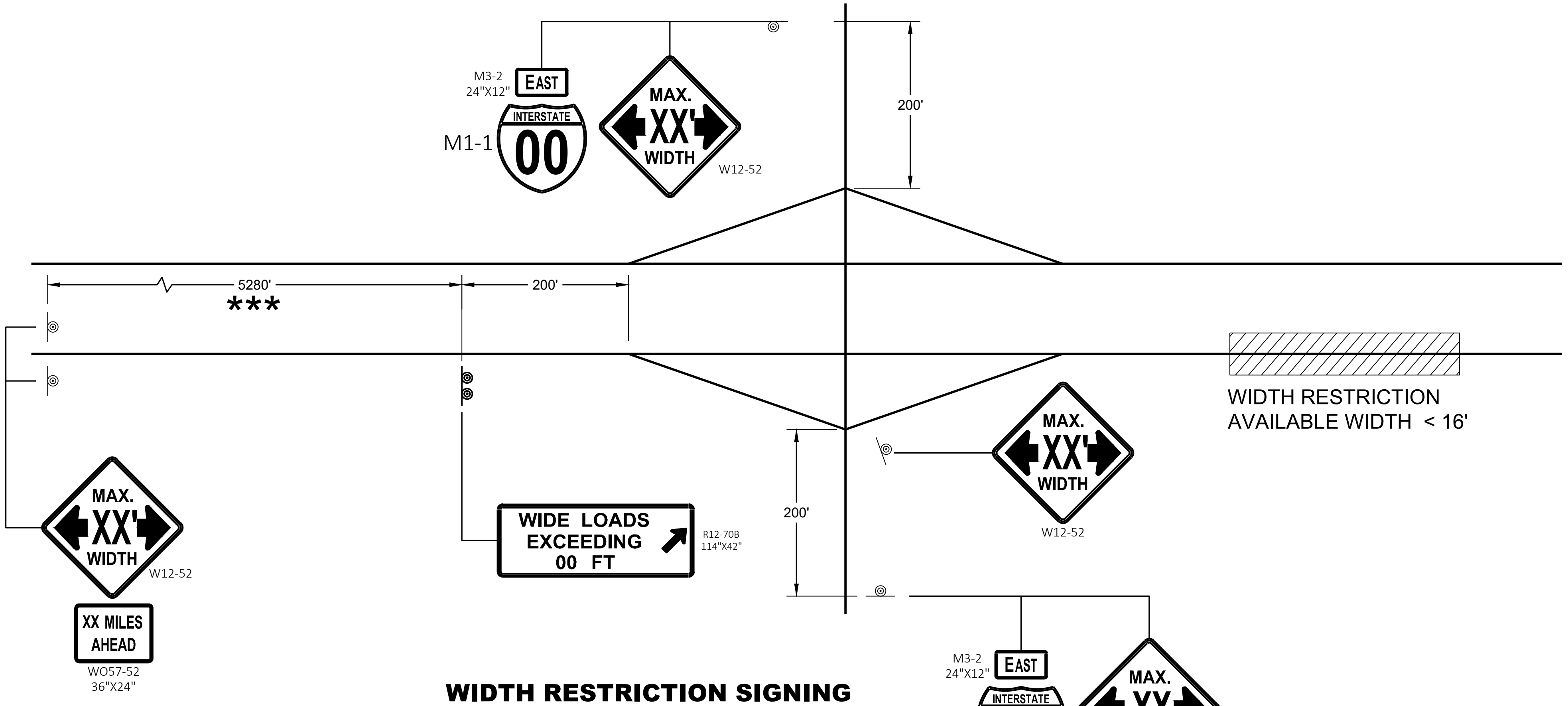
⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

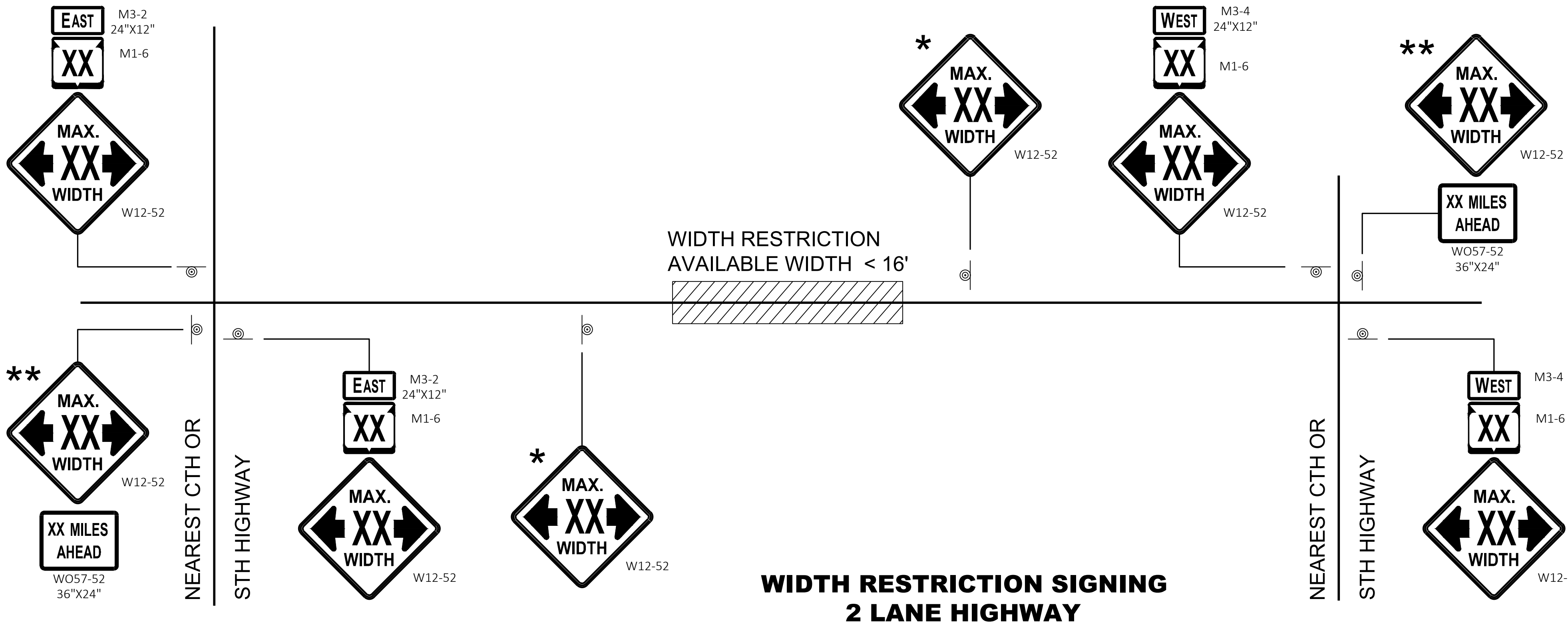
BARRICADES AND SIGNS
FOR
VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEE
FHWA



WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

LEGEND

◎ SIGN ON PERMANENT SUPPORT

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL " IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

WIDTH ON SIGN TO BE
APPROX. 1 - FOOT LESS
THAN AVAILABLE WIDTH

**ADVANCED WIDTH
RESTRICTION SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA

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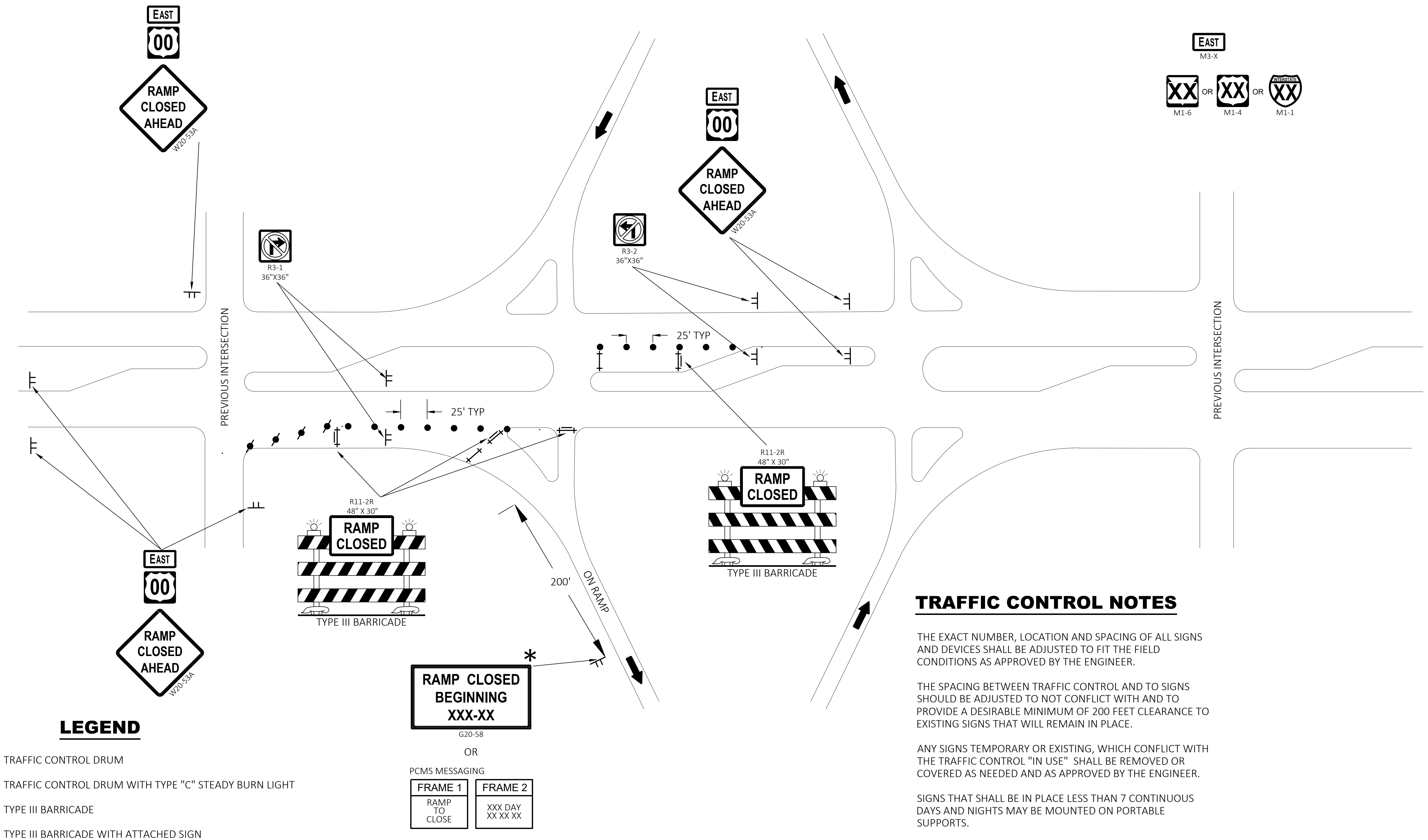

LEGEND

●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
↕	TYPE III BARRICADE
↕	TYPE III BARRICADE WITH ATTACHED SIGN
╞	SIGN ON PERMANENT SUPPORT
╞	SIGN ON TEMPORARY SUPPORT
➡	DIRECTION OF TRAFFIC

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

TRAFFIC CONTROL NOTES

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

THE SPACING BETWEEN TRAFFIC CONTROL AND TO SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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.

SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24"x24" (36" x18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-1, M1-4, AND M1-6 SHALL BE 24"x24" (36"x36" IF NEEDED TO MATCH EXISTING SIGNS)
- W20-53A SHALL BE 48"X48"

* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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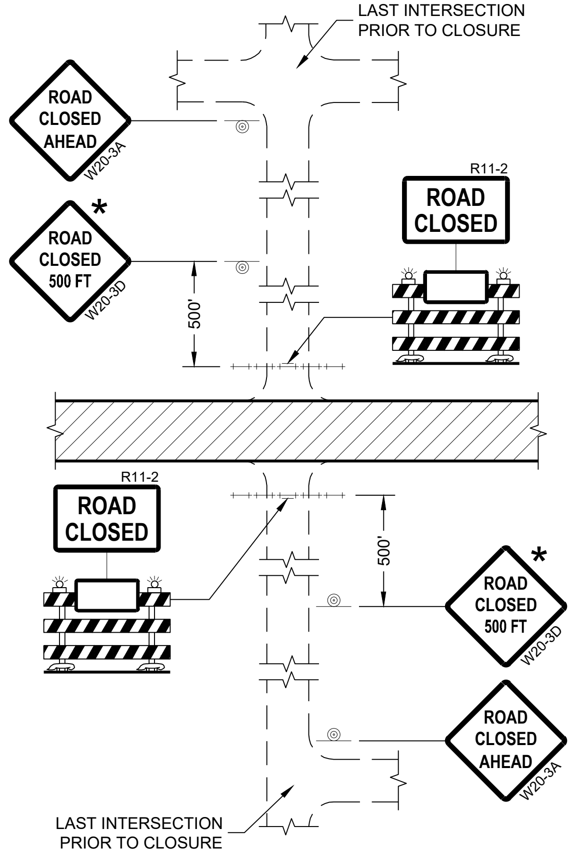
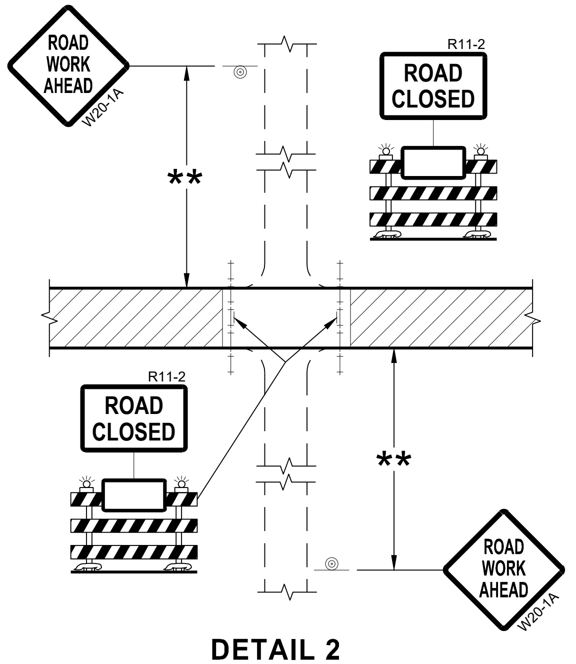


DETAIL 1

(NO ACCESS TO PROJECT)



DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)

GENERAL NOTES

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

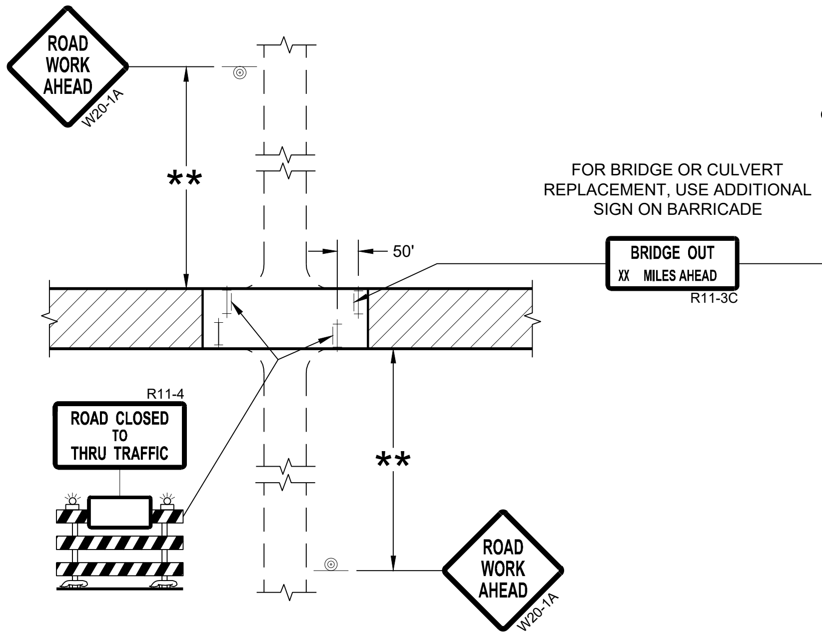
ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

* OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.

** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

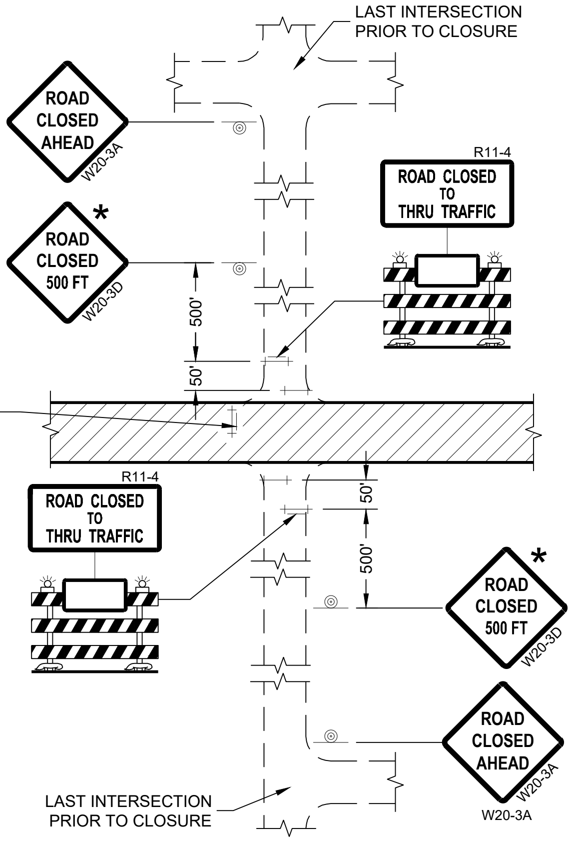
LEGEND

◎	SIGN ON PERMANENT SUPPORT
┼	TYPE III BARRICADE
╪	TYPE III BARRICADE WITH ATTACHED SIGN
☼	TYPE "A" WARNING LIGHT (FLASHING)
▨	WORK AREA



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4

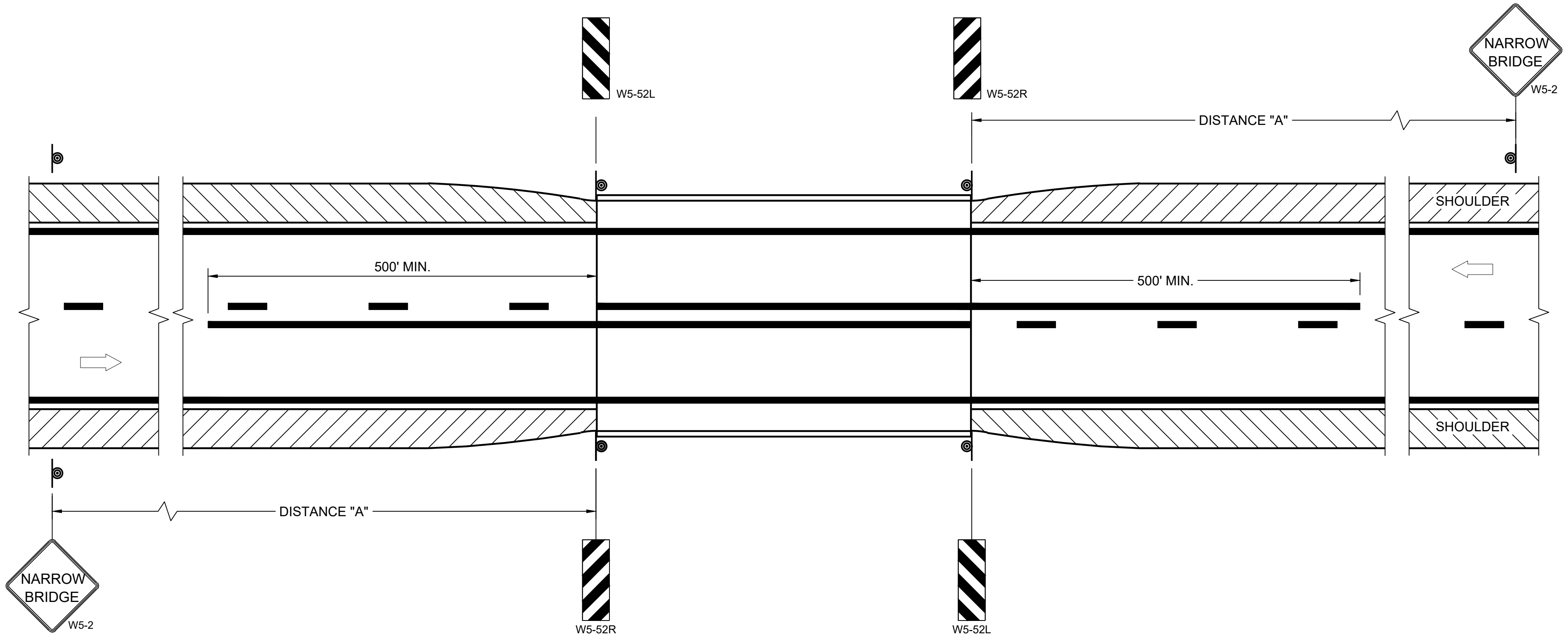
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

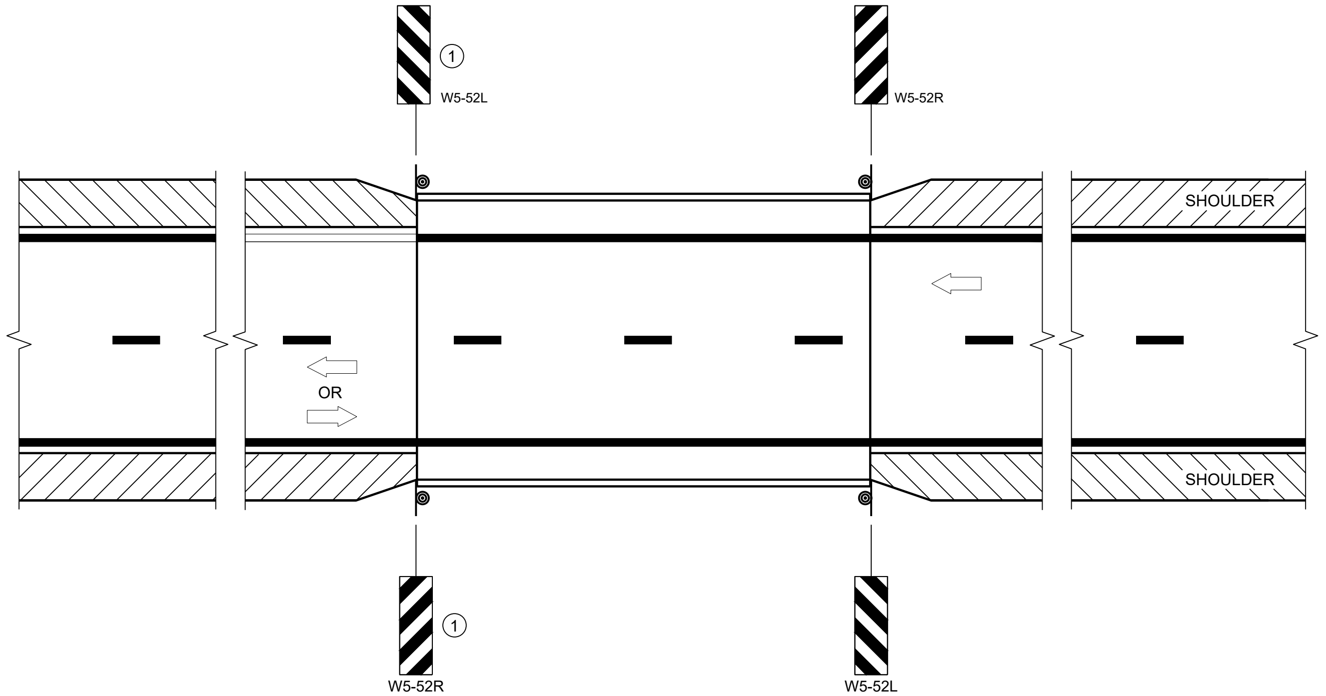
APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



SITUATION 1

WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2

WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊚ SIGN ON PERMANENT SUPPORT

⇨ DIRECTION OF TRAFFIC

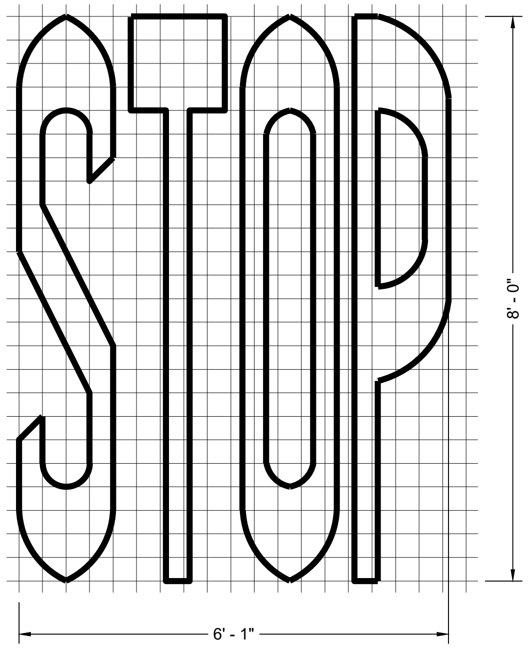
DISTANCE TABLE

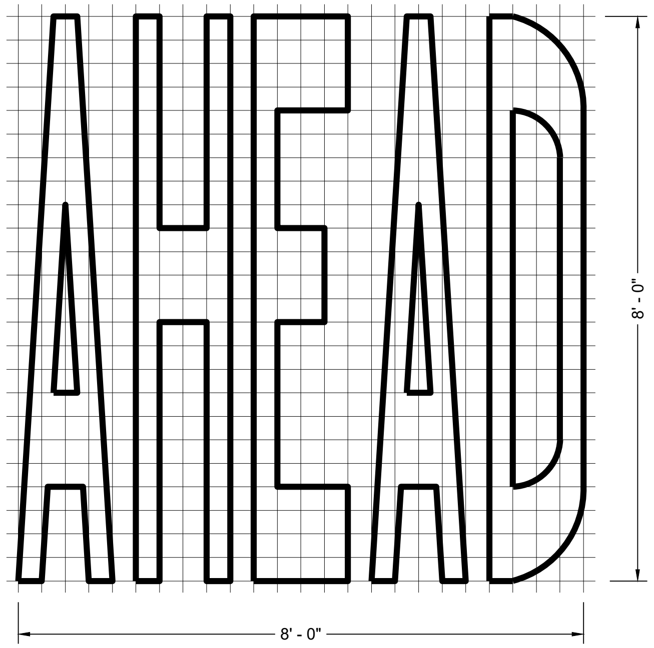
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

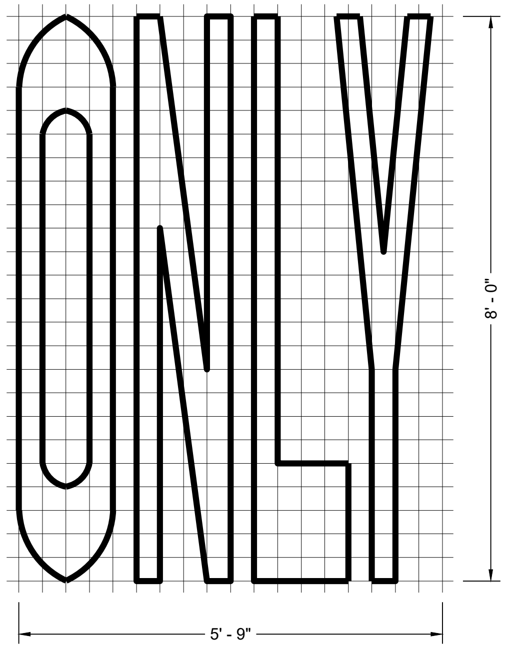
SIGNING AND MARKING FOR TWO LANE BRIDGES

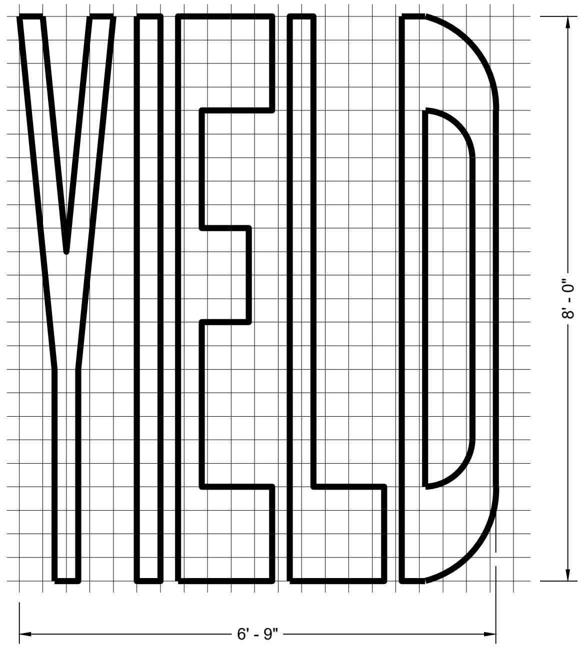
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

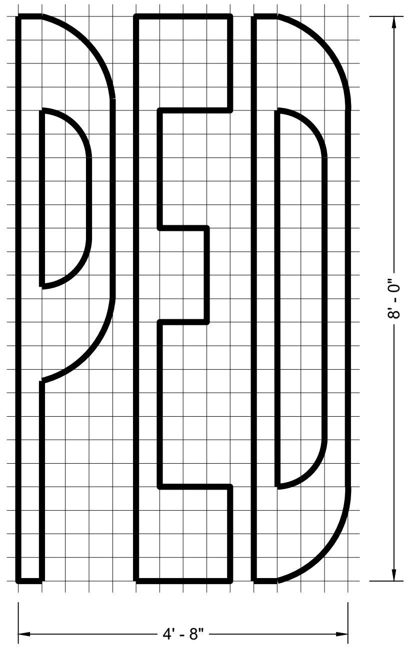
APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

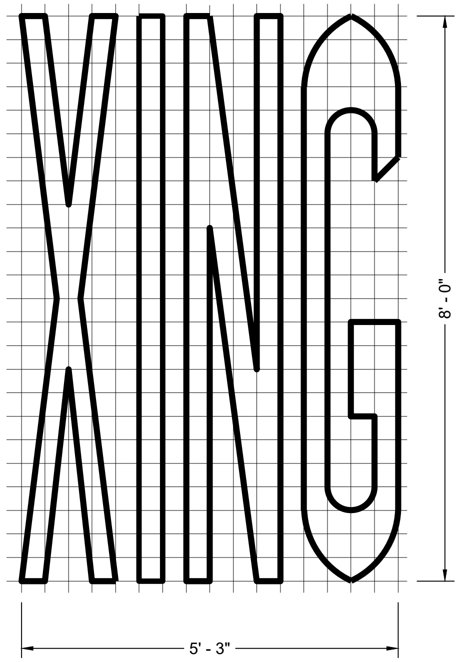


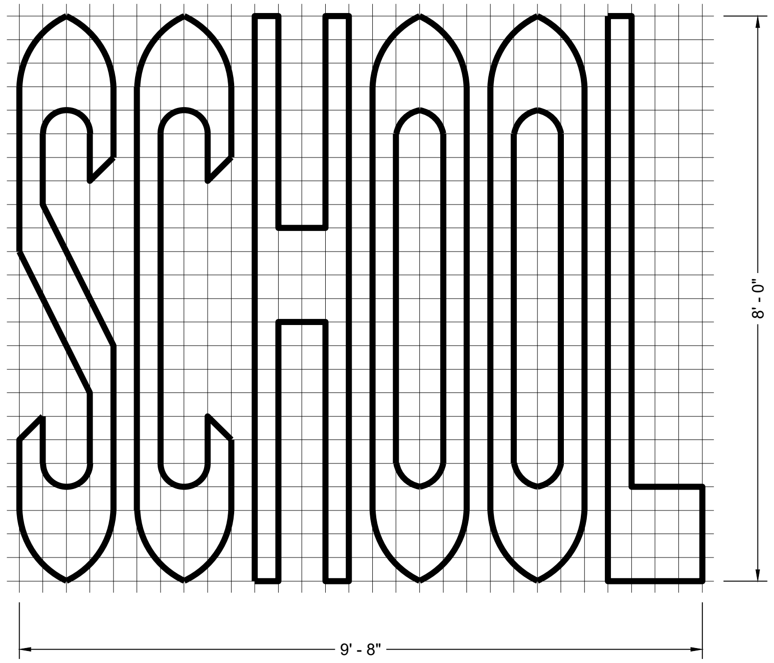




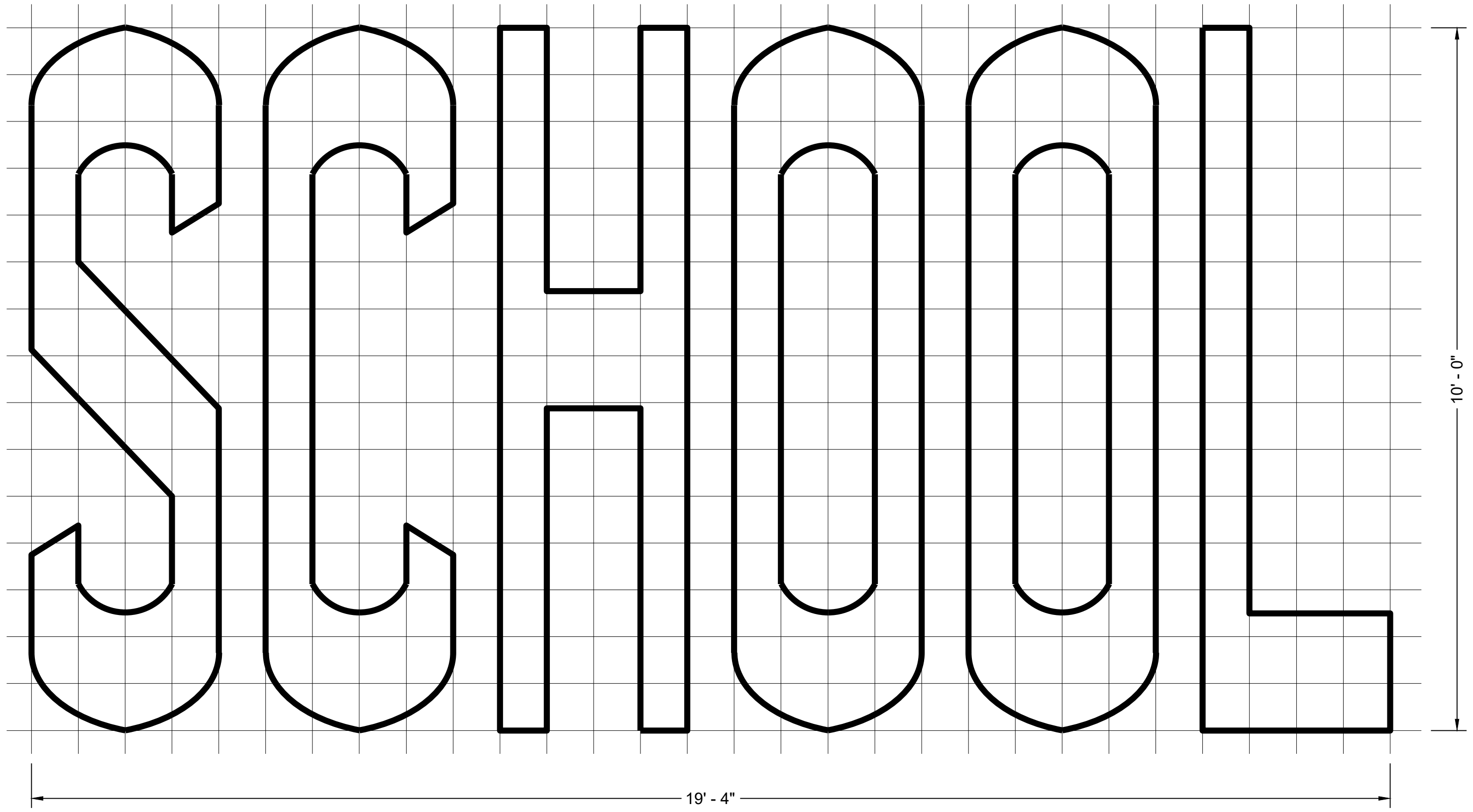








SINGLE LANE



TWO - LANE

GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

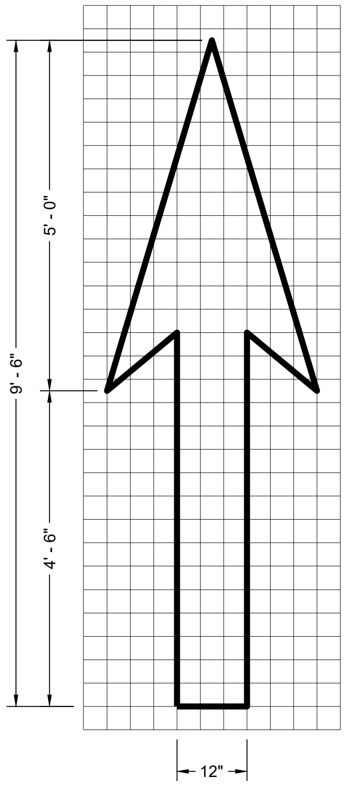
APPROVED
November 2024
DATE

/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER

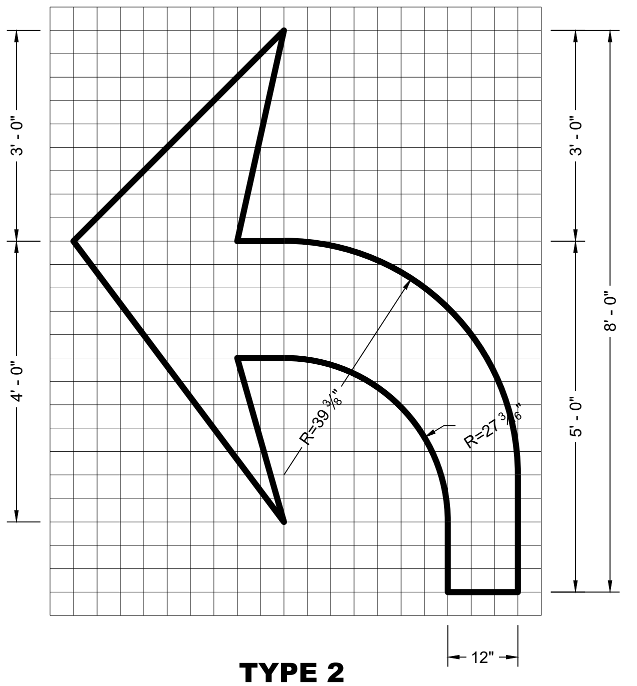
FHWA

GENERAL NOTES

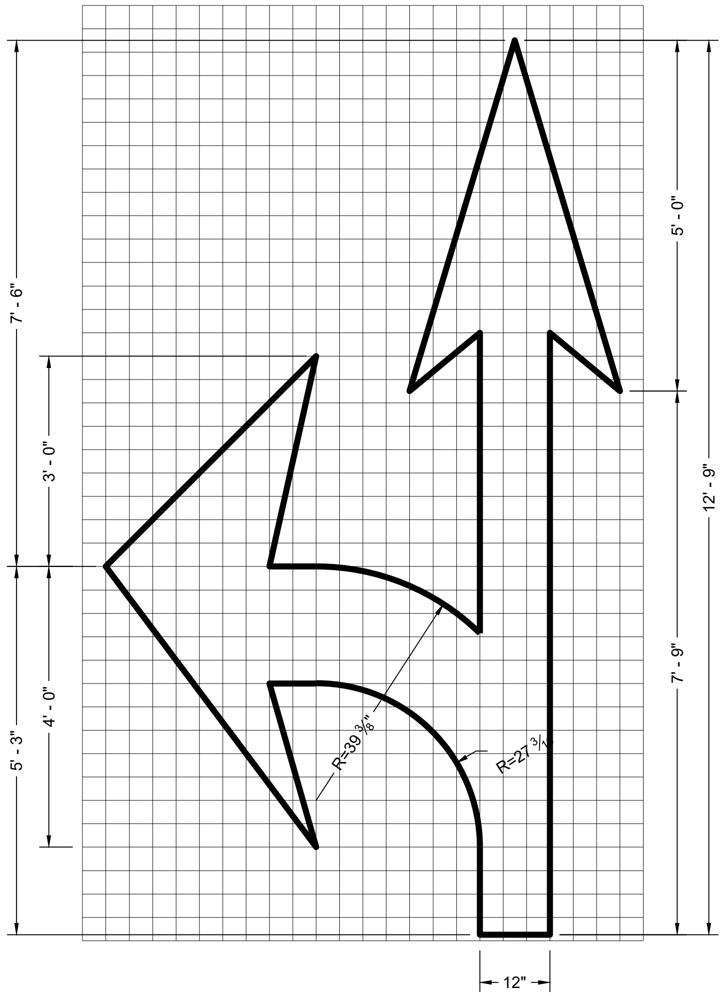
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



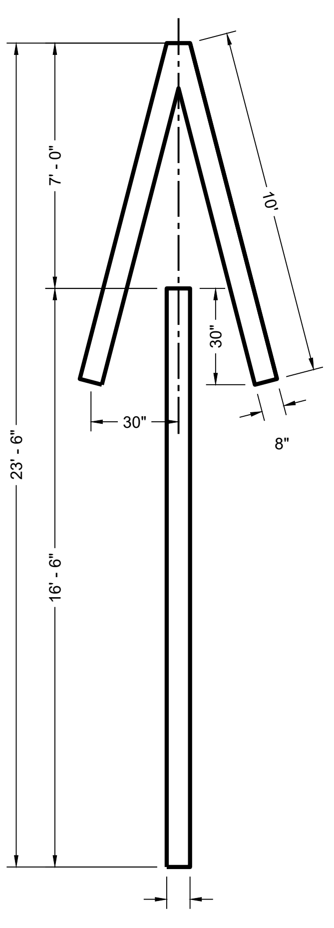
TYPE 1



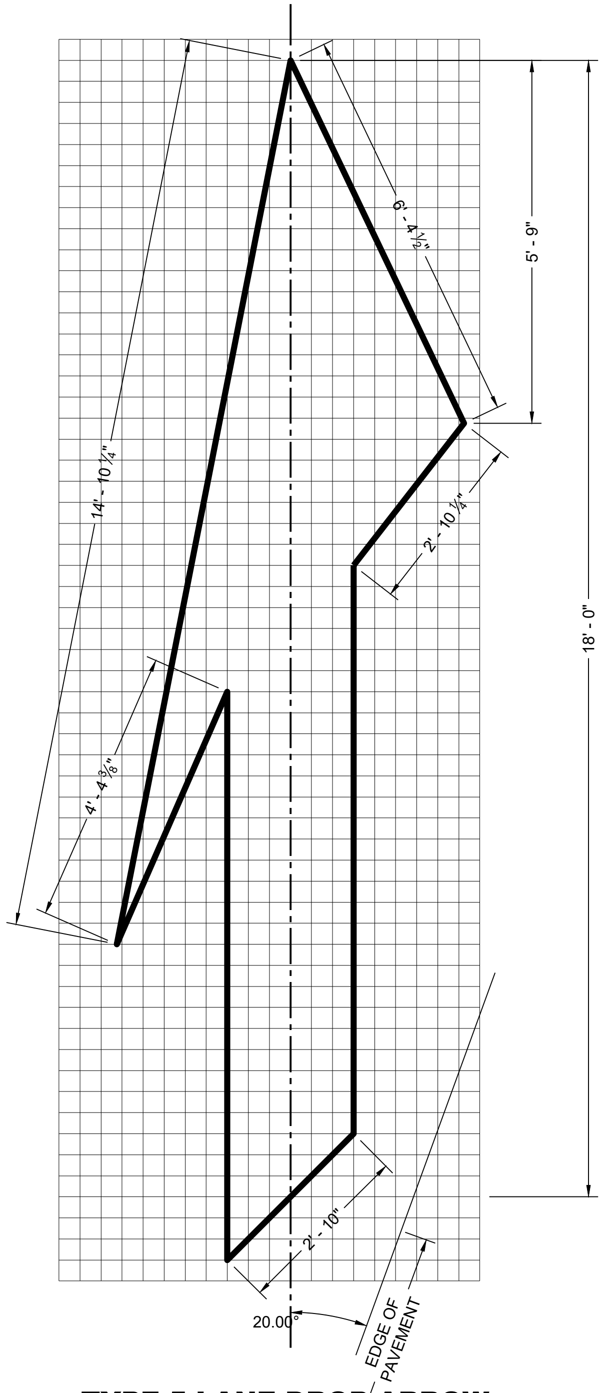
TYPE 2



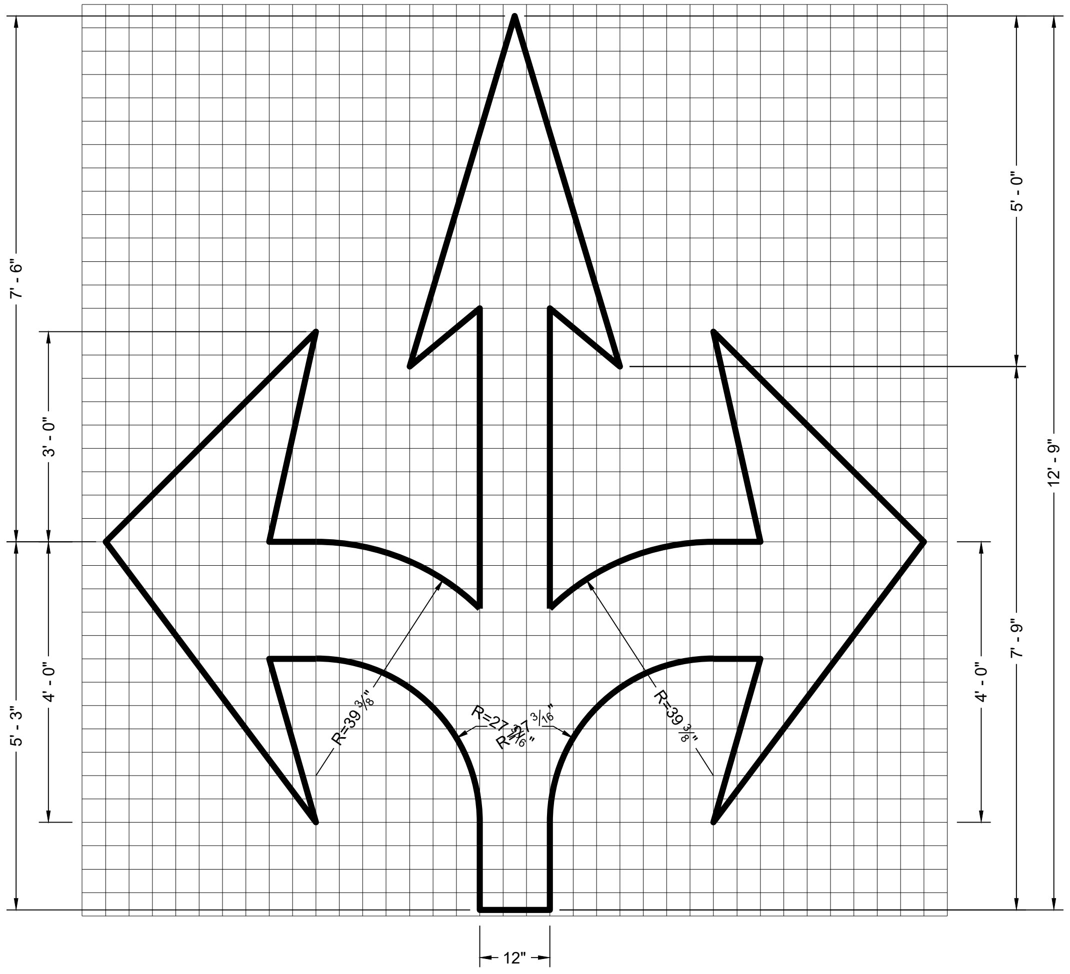
TYPE 3



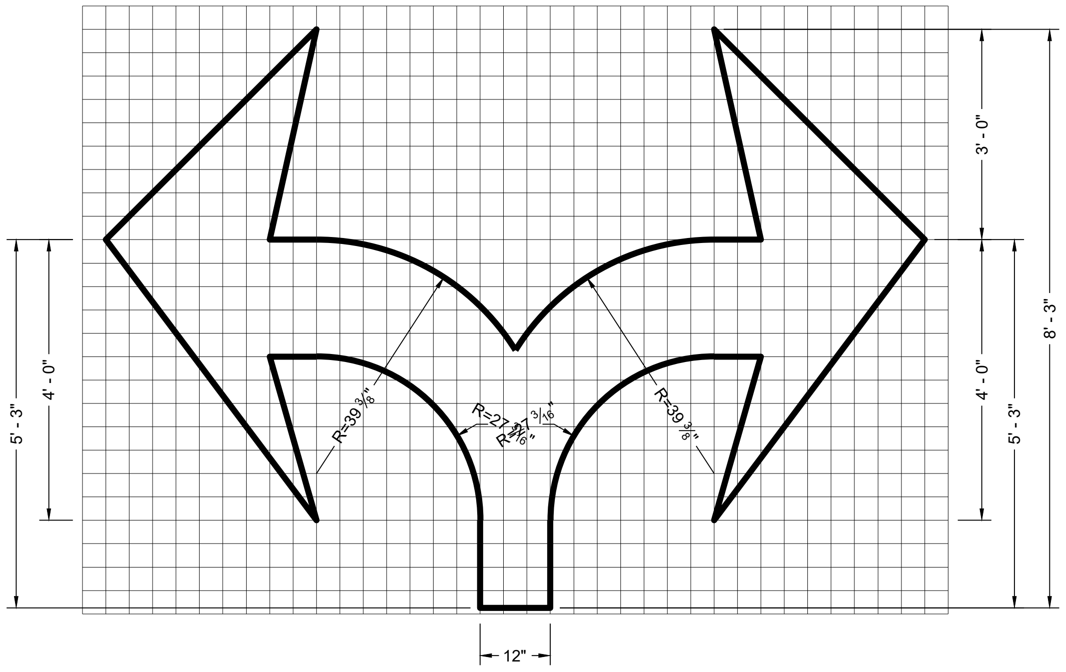
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 6



TYPE 7

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024
DATE
/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

GENERAL NOTES

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

① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

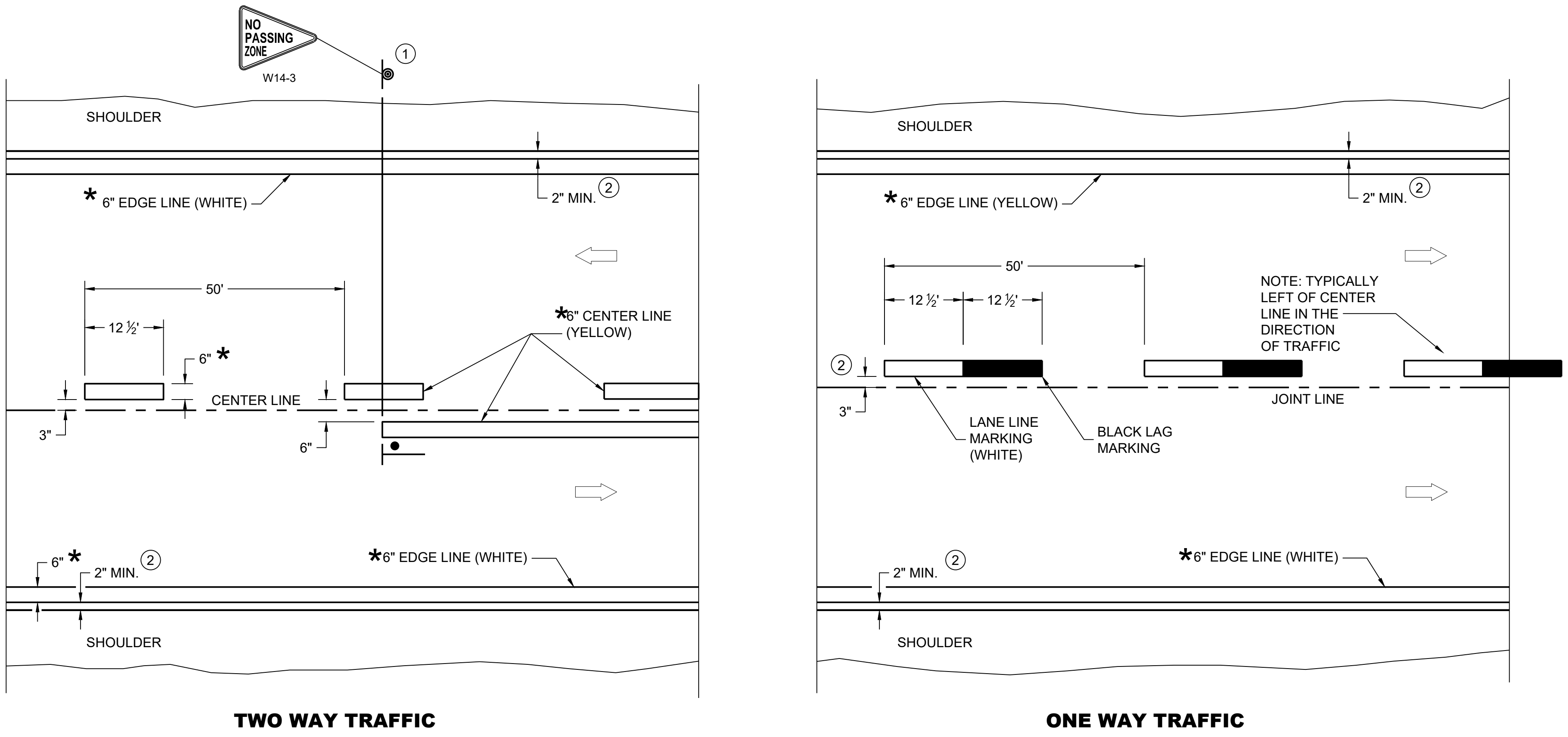
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

⊢● "T" MARKING

◎ SIGN ON PERMANENT SUPPORT

⇨ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC

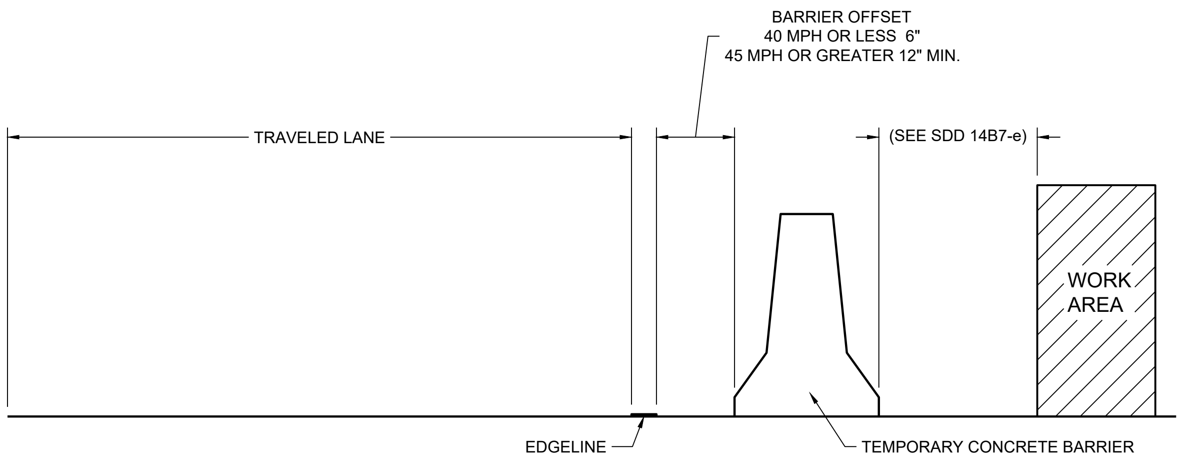
ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA



TEMPORARY BARRIER OFFSET FROM EDGELINE

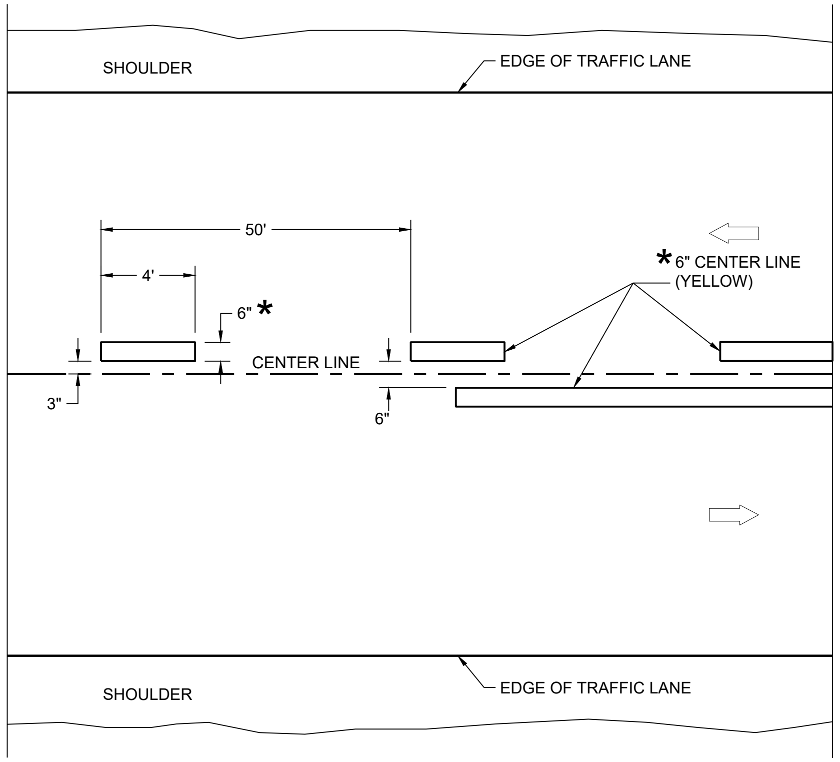
GENERAL NOTES

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

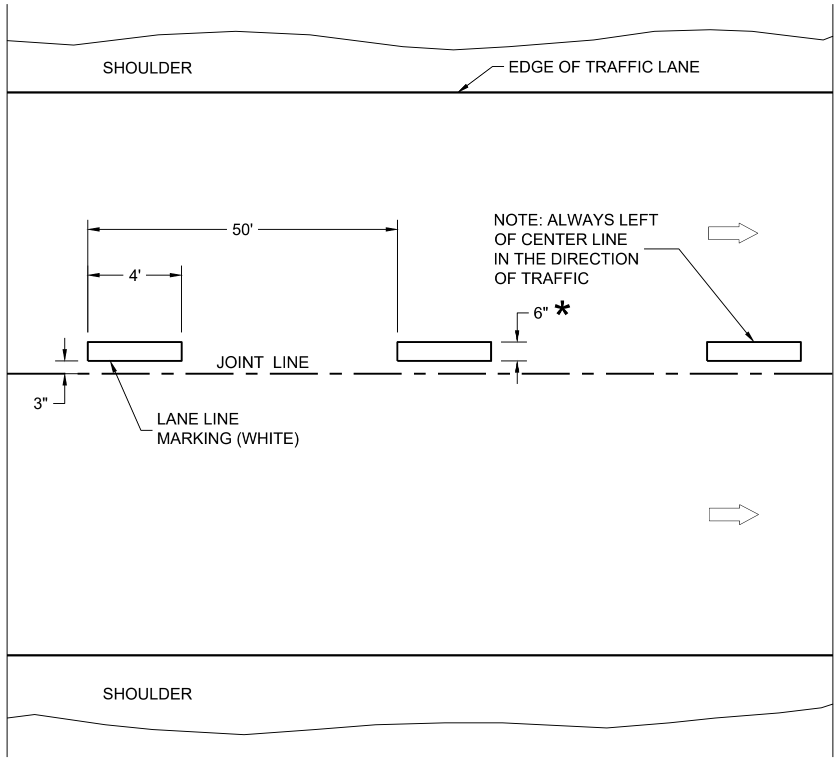
LEGEND

⇨ DIRECTION OF TRAFFIC

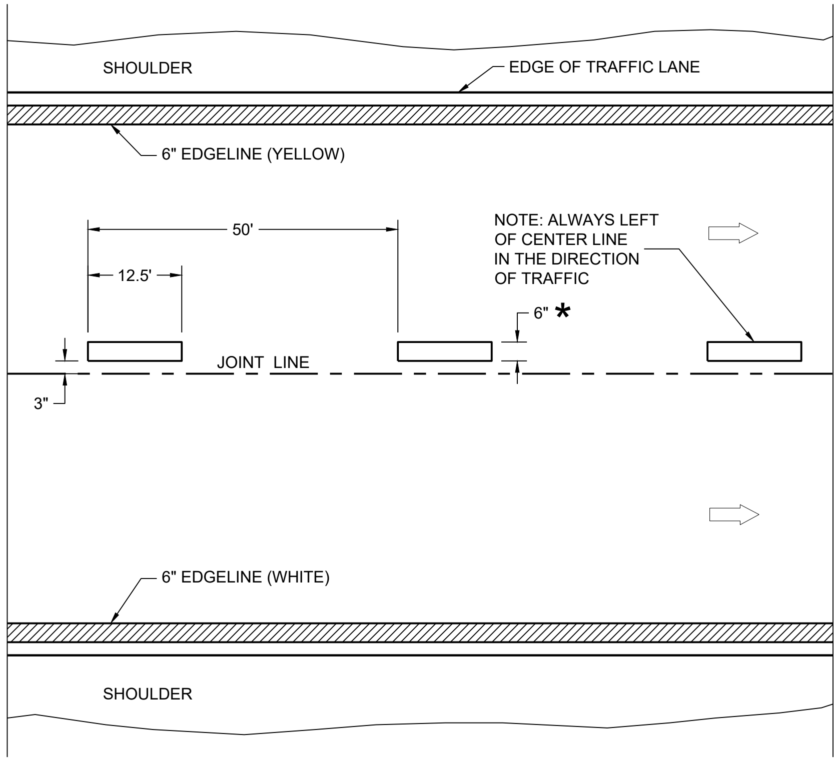
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



ONE WAY TRAFFIC



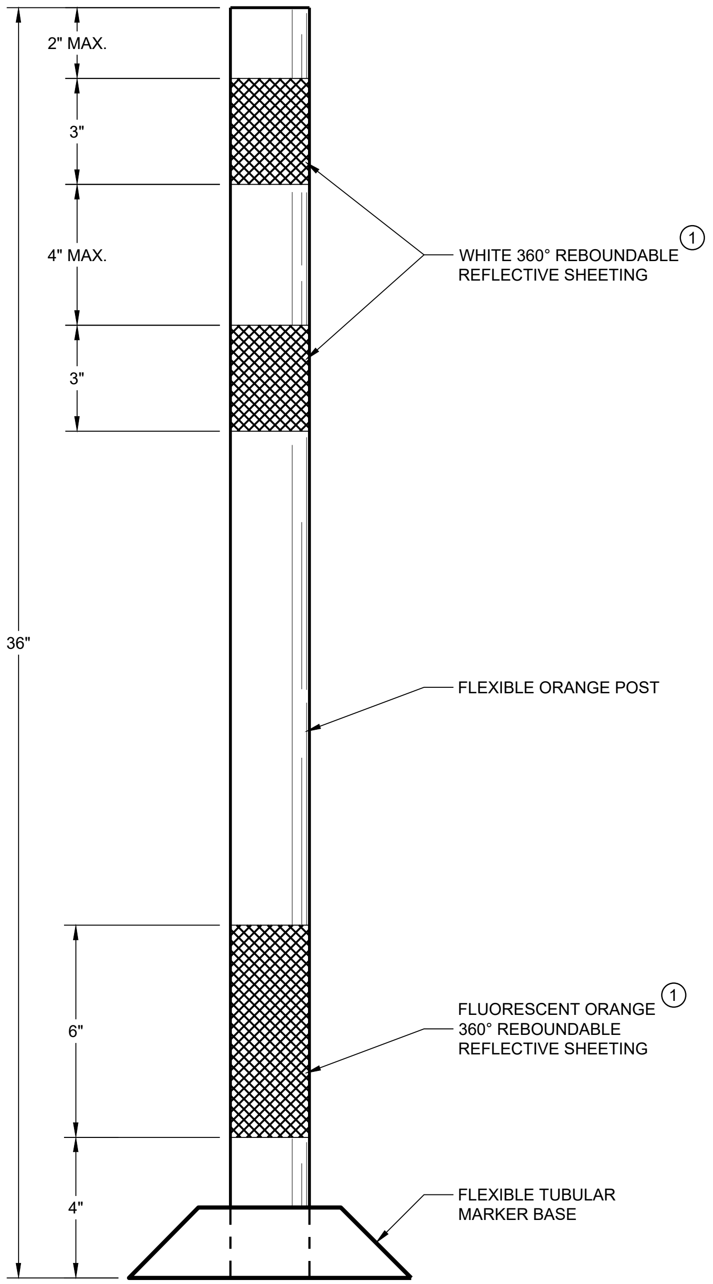
FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA



FLEXIBLE TUBULAR
MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES
FLEXIBLE TUBULAR
MARKER POST

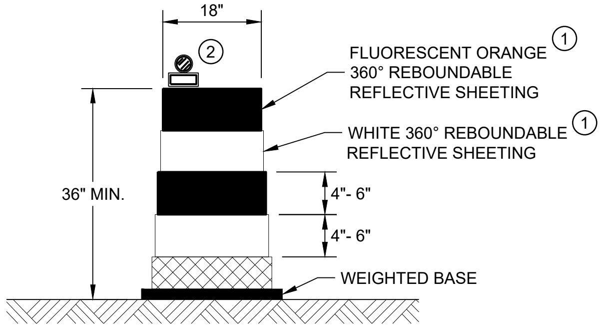
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEE
FHWA

GENERAL NOTES

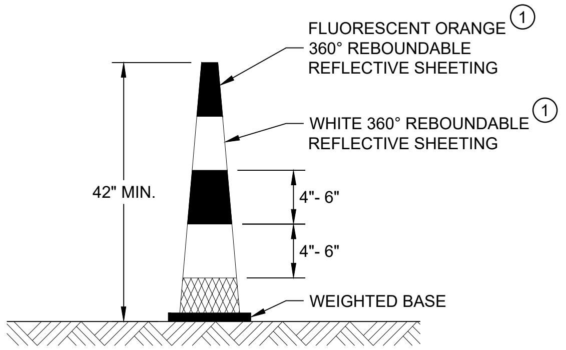
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

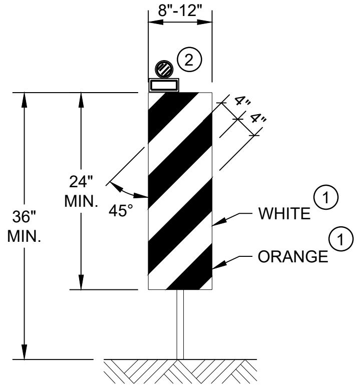
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

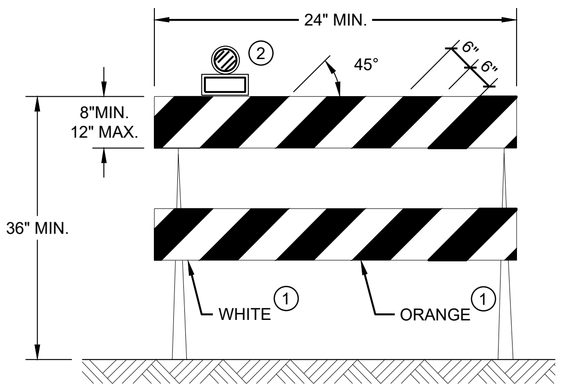
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



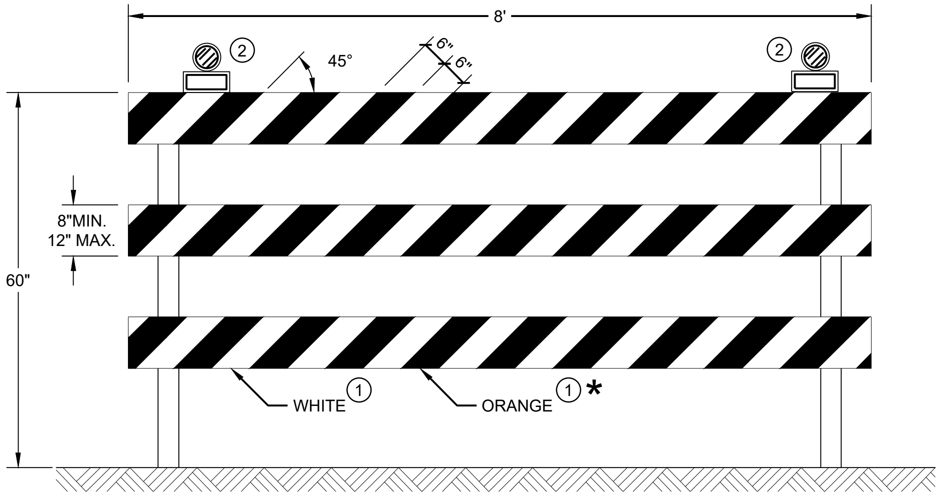
VERTICAL PANEL

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

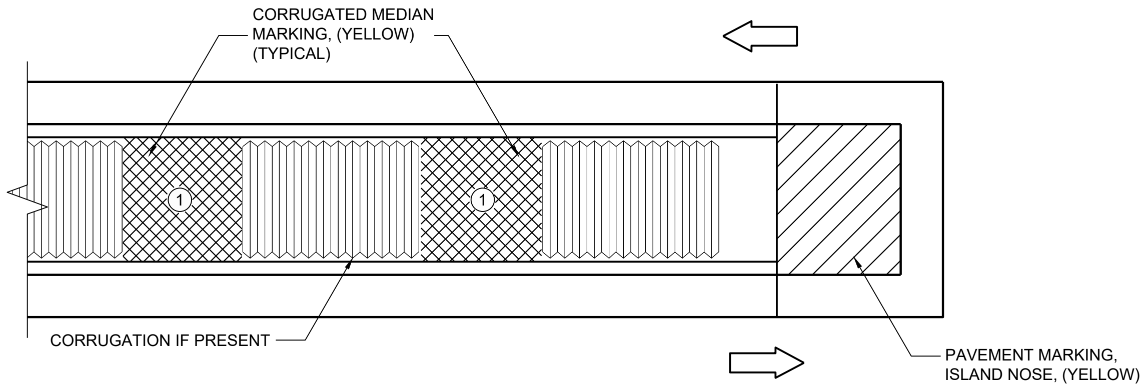
IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

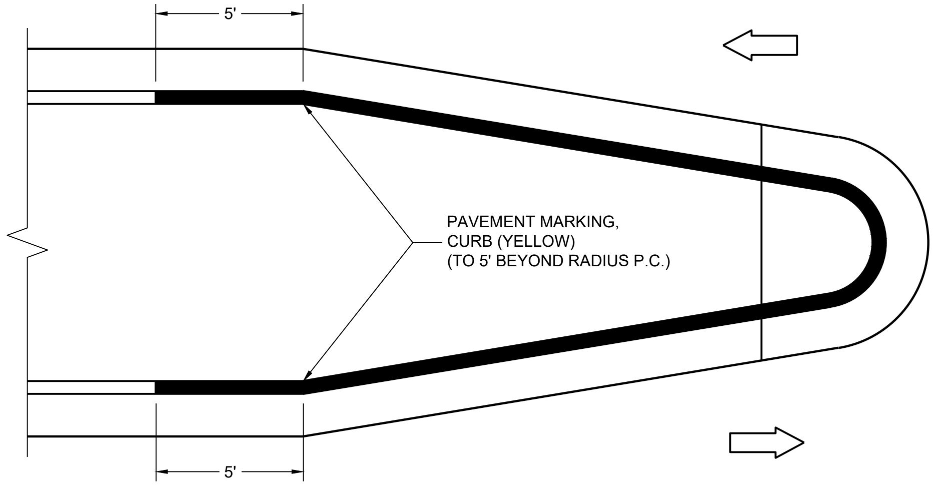
CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

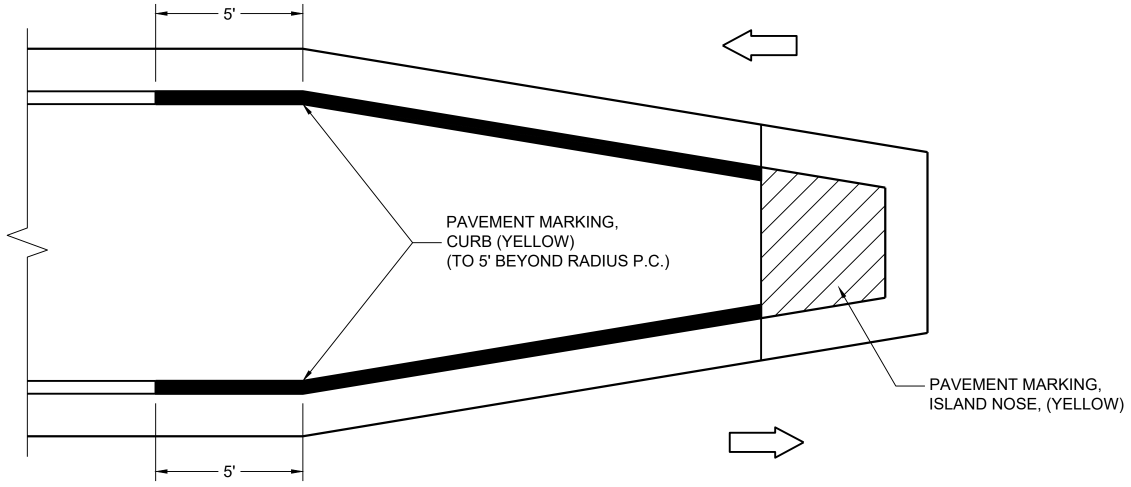
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

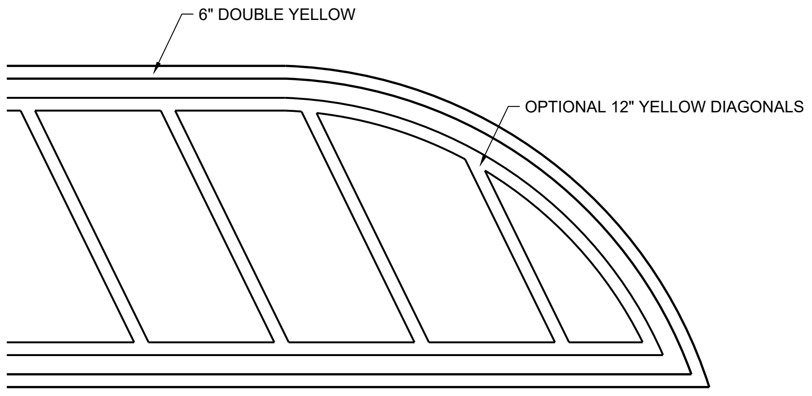
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.

① APPLY PAVEMENT MARKING TO THE FLAT PORTION OF CORRUGATED MEDIAN.

▨	ISLAND NOSE MARKING
■	CURB MARKING
▩	CORRUGATED MEDIAN MARKING
⇨	DIRECTION OF TRAVEL



FLUSH MEDIAN ISLAND NOSE

PAVEMENT MARKINGS,
MEDIAN ISLAND NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

REQUIREMENTS FOR EDGE LINES

POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

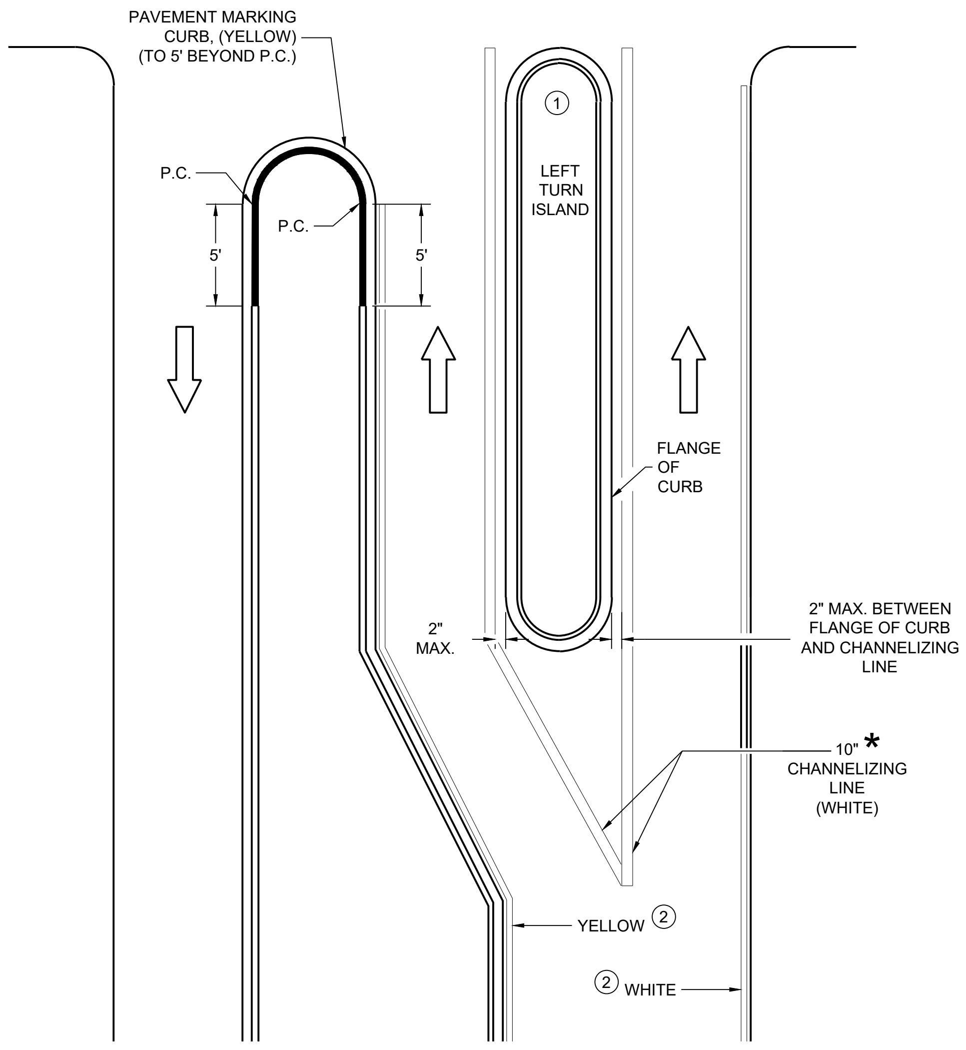
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

① MARK CURB NOSES YELLOW.

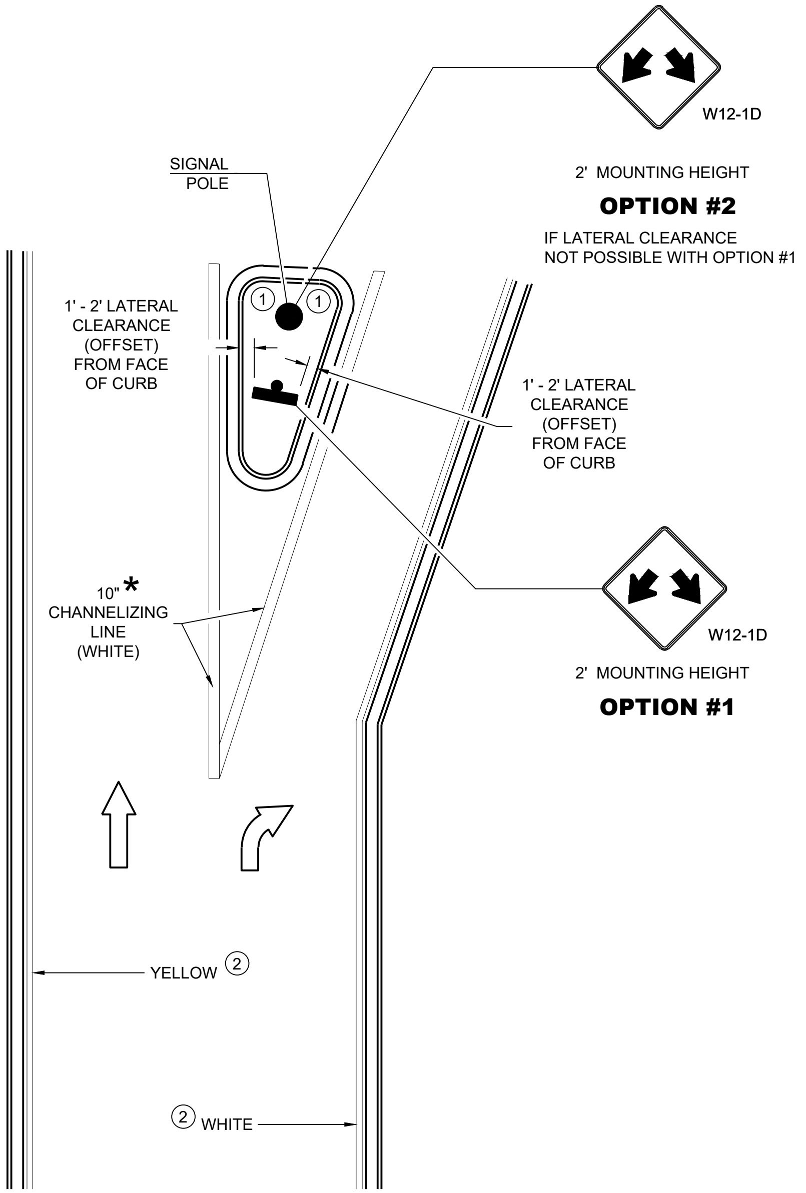
② MARK ACCORDING TO TABLE.

③ CHEVRON MAY BE OMITTED IF LESS THAN 4" WIDE

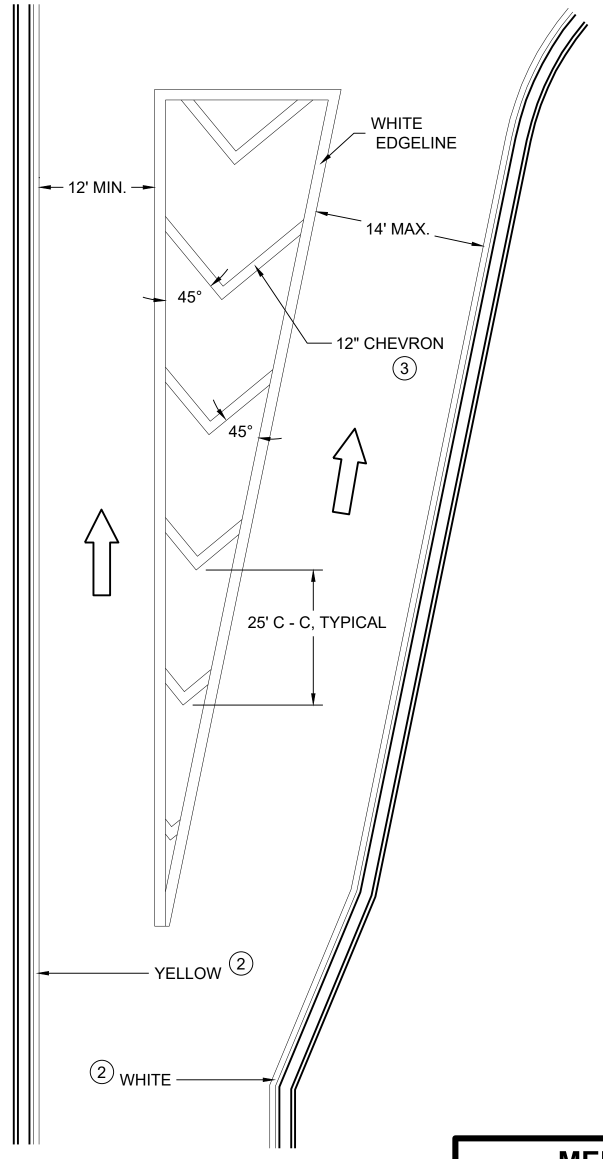
⇨ DIRECTION OF TRAVEL



LEFT TURN & MEDIAN ISLAND



RIGHT TURN ISLAND



TURN LANE DETAIL

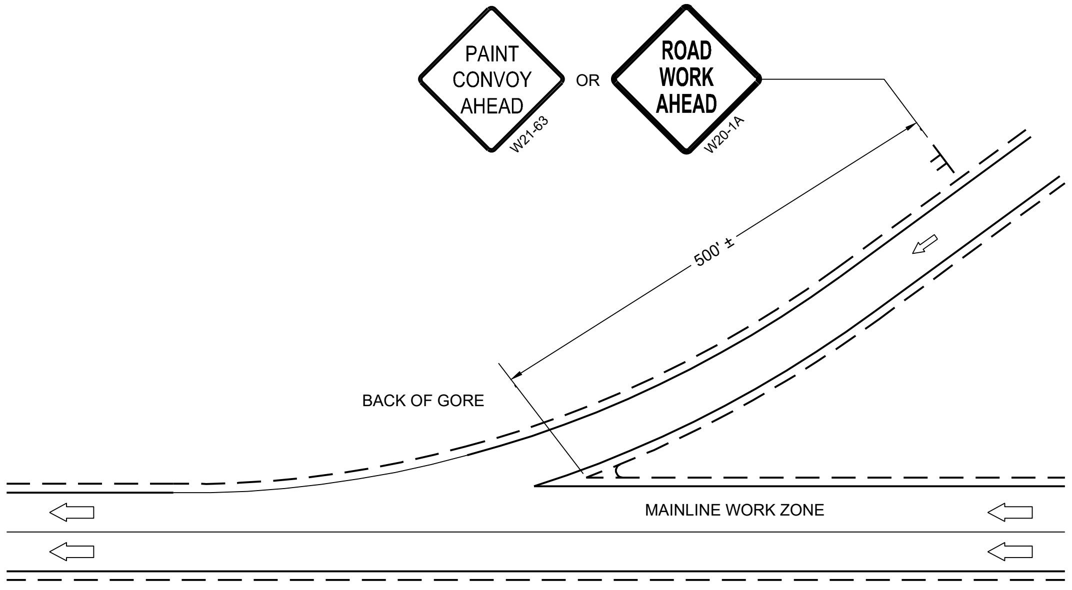
MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2024
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

LEGEND

V1	MARKING VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE
⧅	TRUCK MOUNTED ATTENUATOR (TMA)
⊢	SIGN ON TEMPORARY SUPPORT
⇨	DIRECTION OF TRAFFIC
•••••••:	FLASHING ARROW PANEL (MERGE)



GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

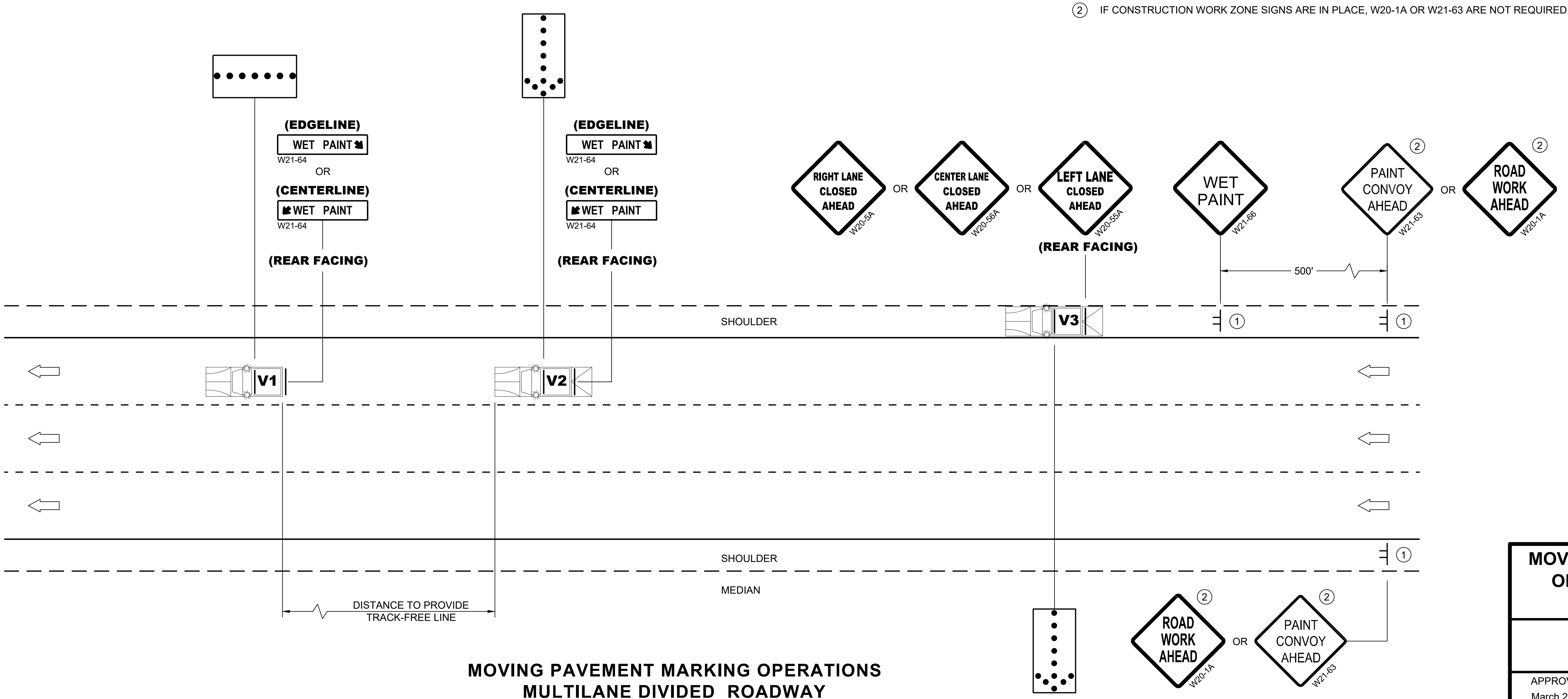
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS

① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY ON RAMP.

② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS
MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

GENERAL NOTES

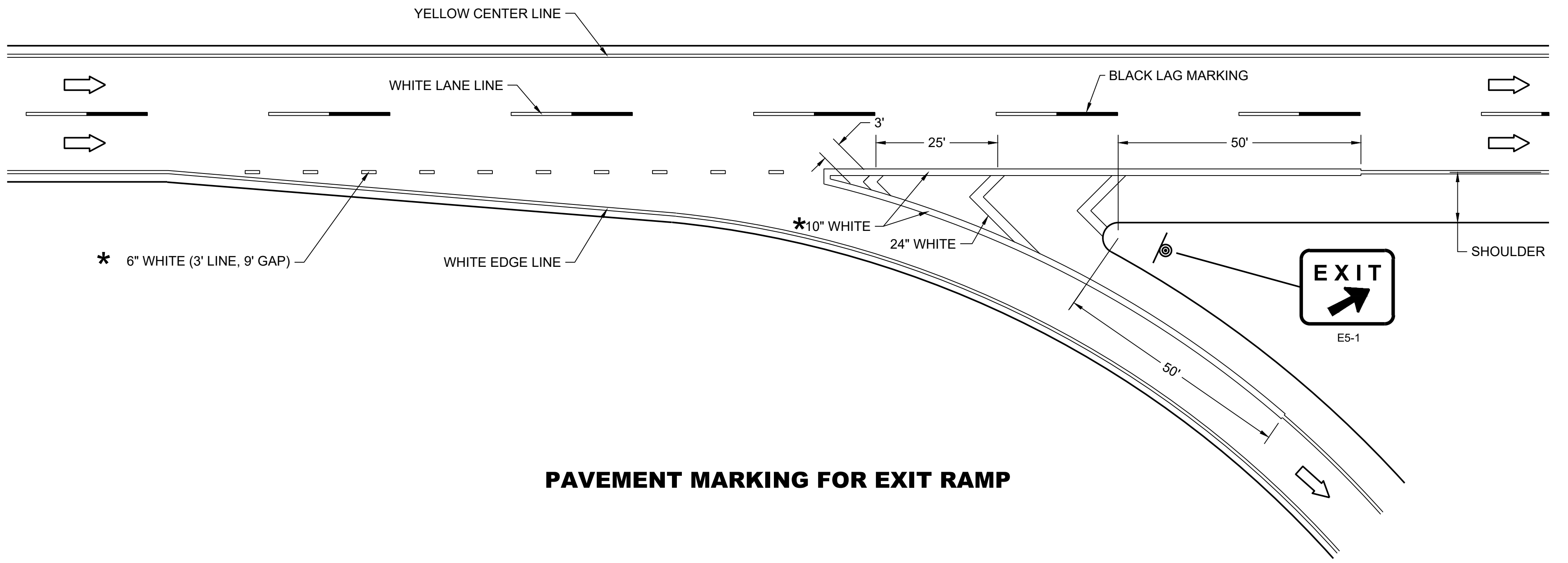
PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

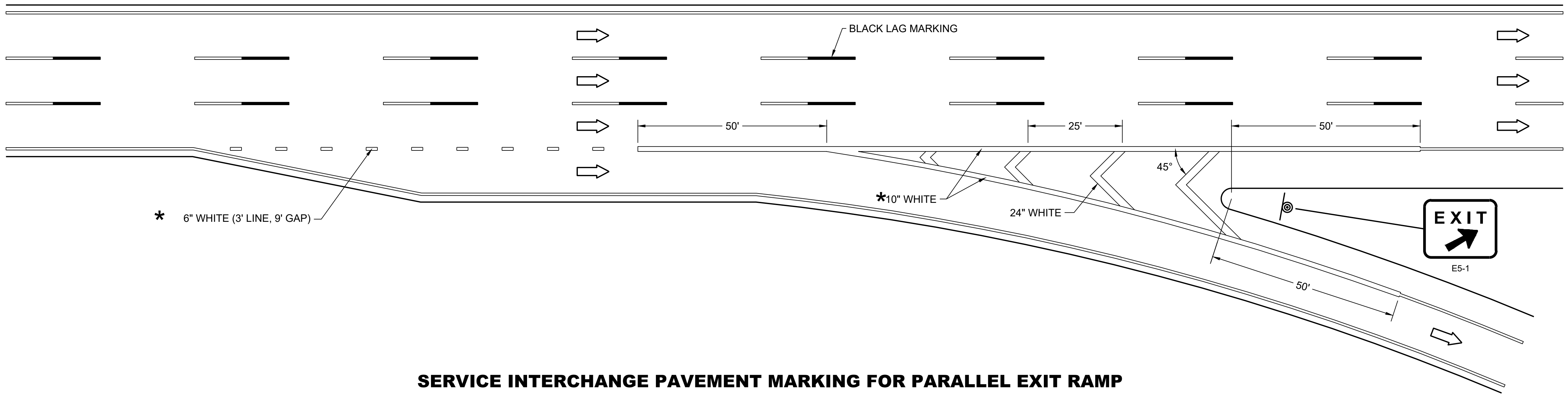
SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR EXIT RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

PAVEMENT MARKING, EXIT RAMP AND PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

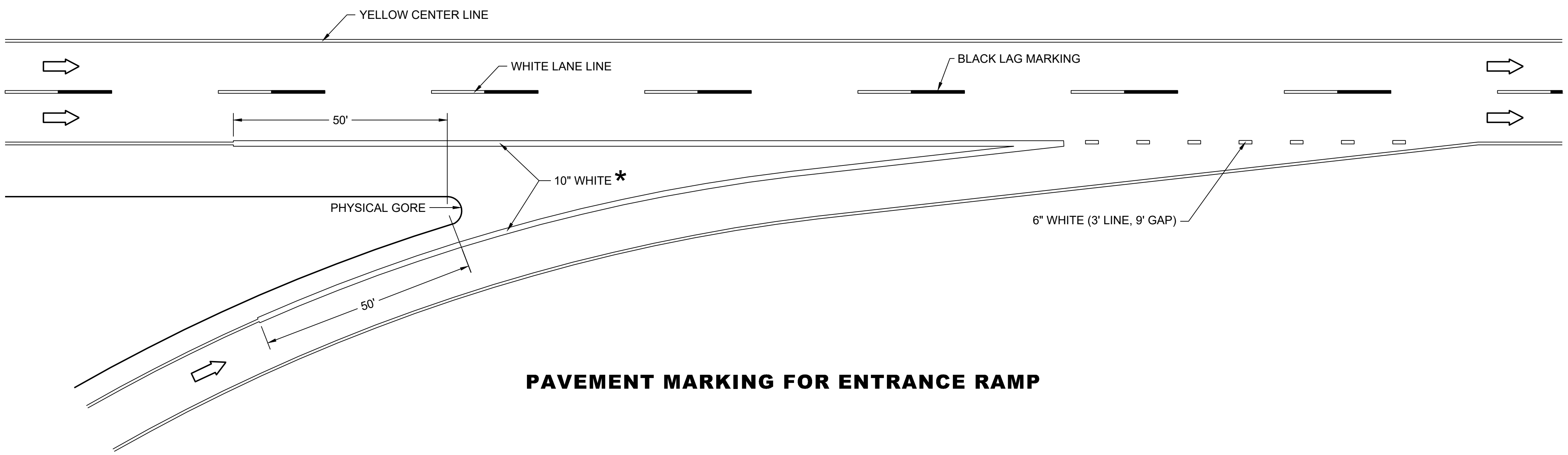
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

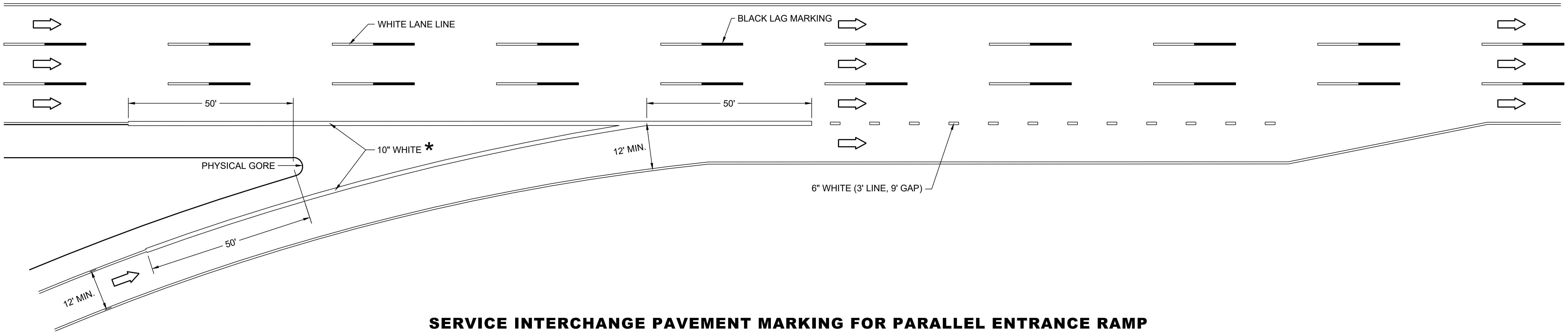
LEGEND

⇨ DIRECTION OF TRAVEL

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.

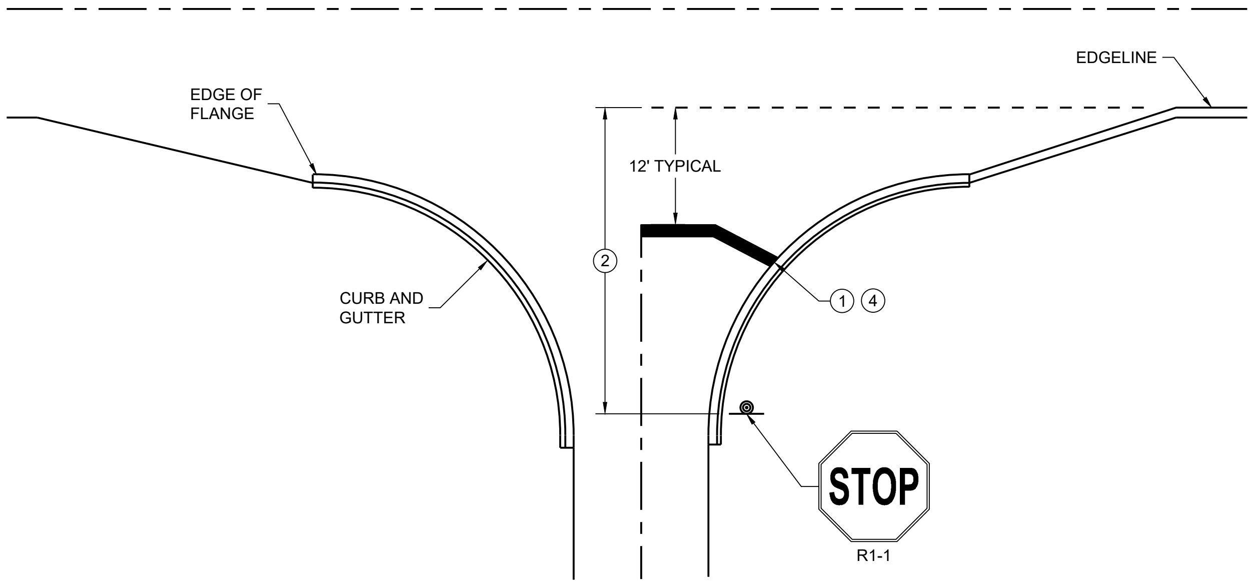
② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.

③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.

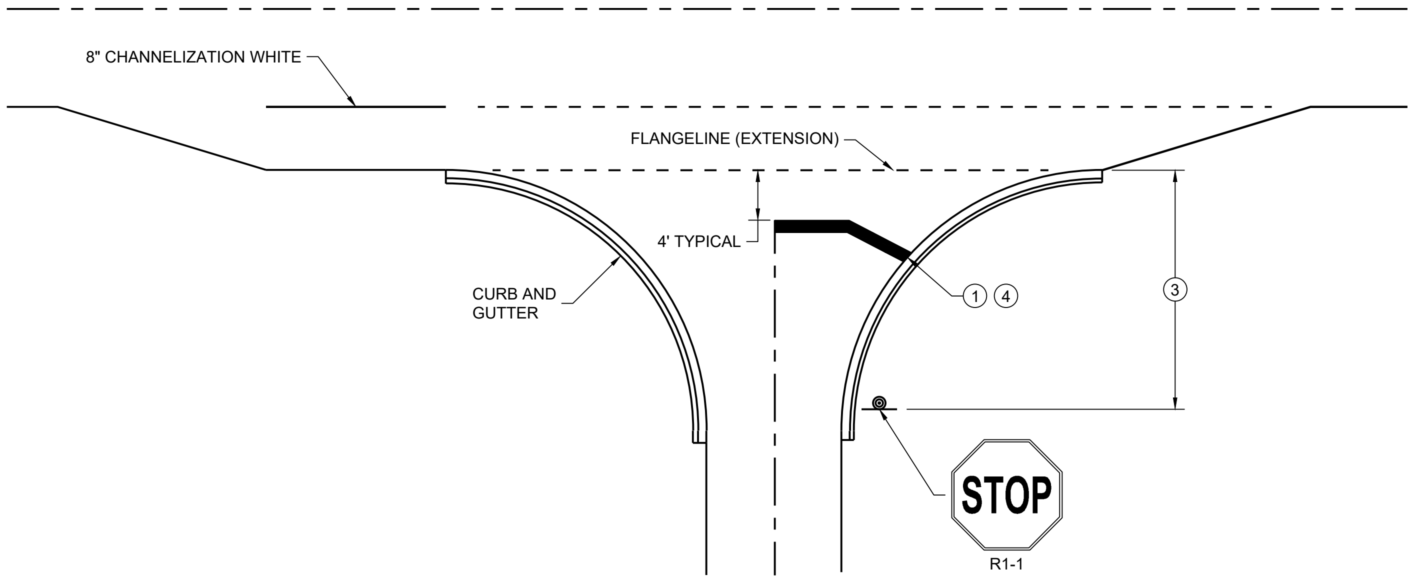
④ MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).

⑤ LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.

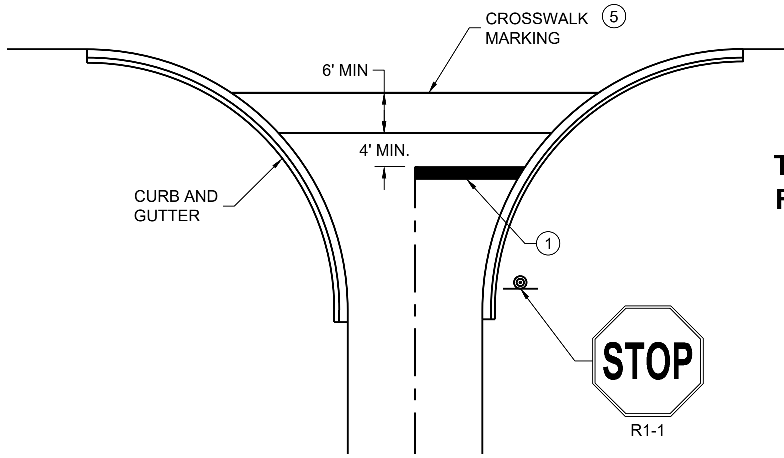
⑥ POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



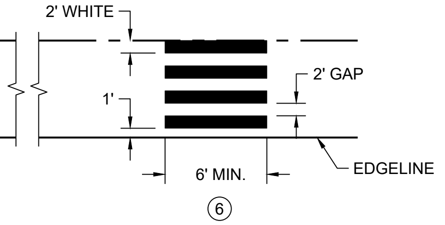
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



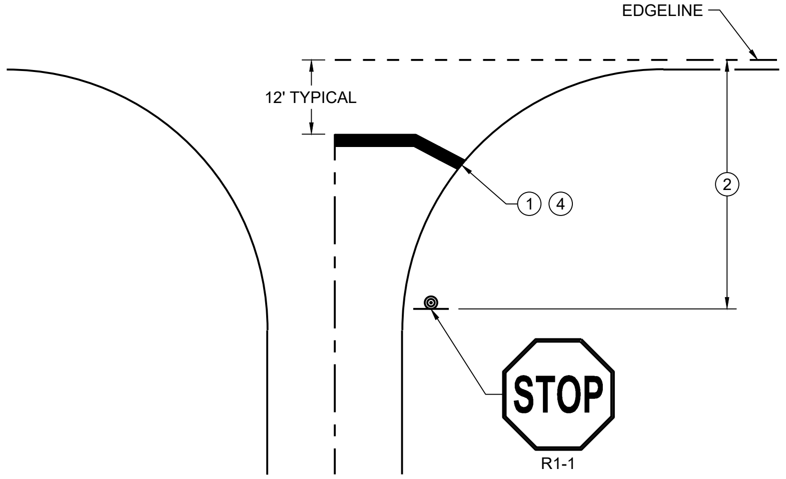
TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK ⑤



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2024
DATE
/S/ Matthew Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.

② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.

③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.

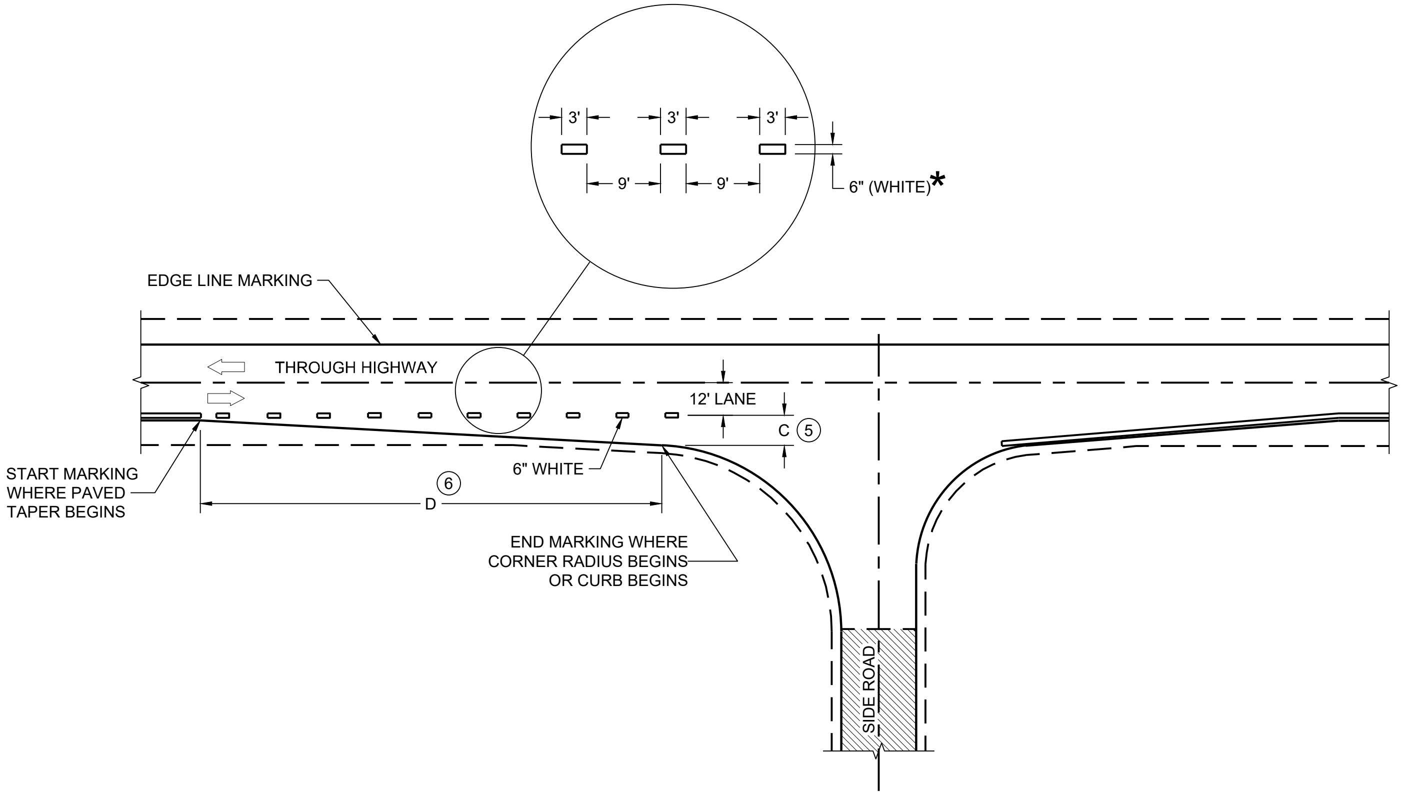
④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.

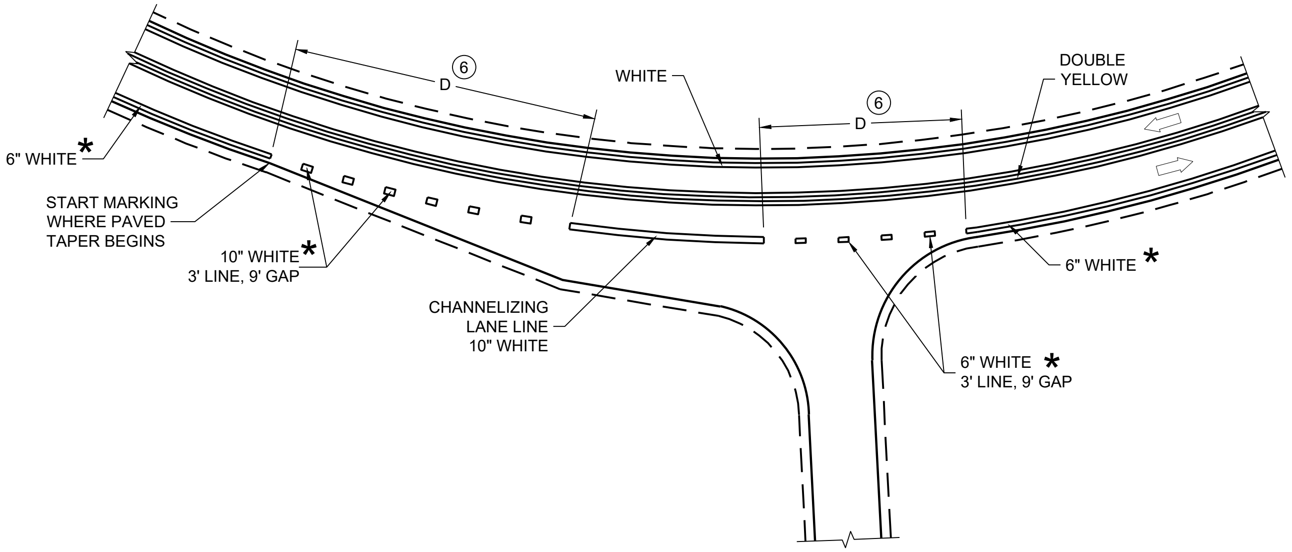
⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

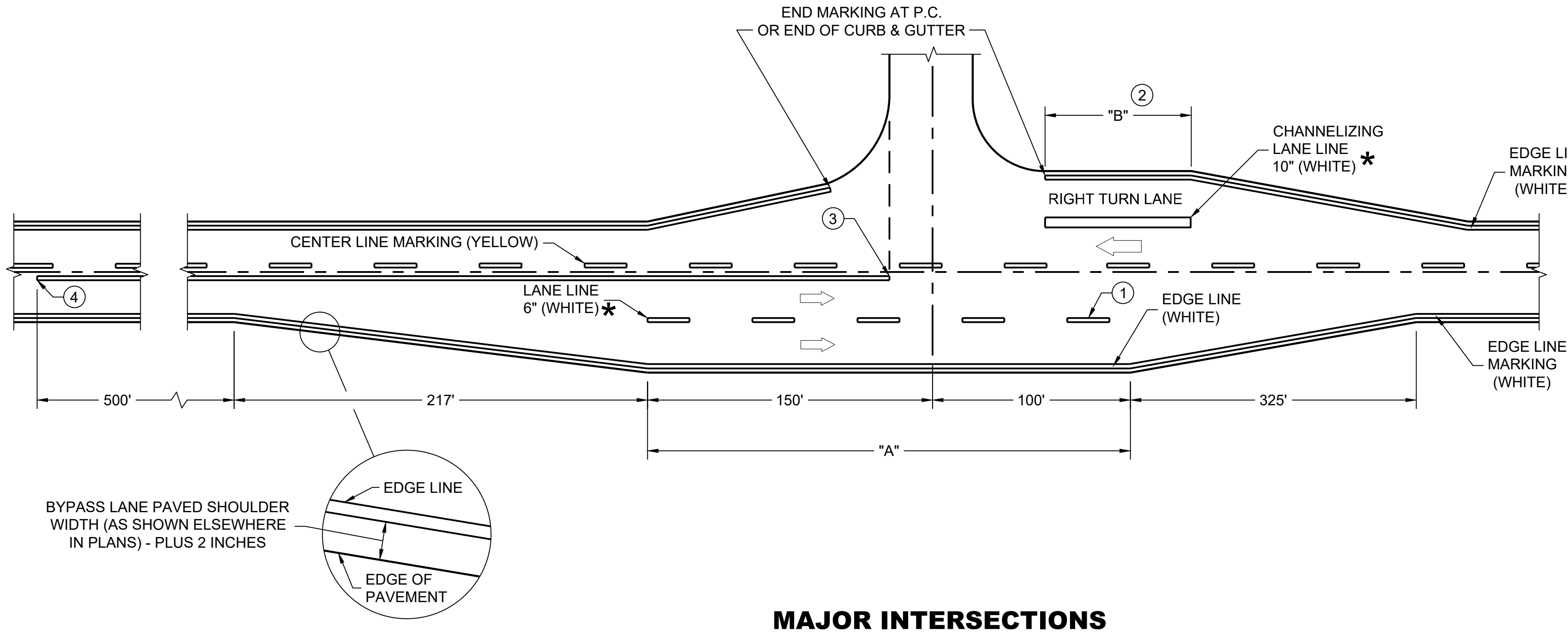
⇨ DIRECTION OF TRAVEL



MINOR INTERSECTION



INTERSECTION ON OUTSIDE OF CURVE



MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

◉	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
⊙	DELINEATOR, FLEXIBLE/TUBULAR MARKER
⊢	TEMPORARY DELINEATOR (STEEL POST W/SINGLE DELINEATOR)
▭	PORTABLE CRASH CUSHION
▭ ▭ ▭	CONCRETE BARRIER TEMPORARY PRECAST
X X X	REMOVE PAVEMENT MARKINGS
⇨	DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

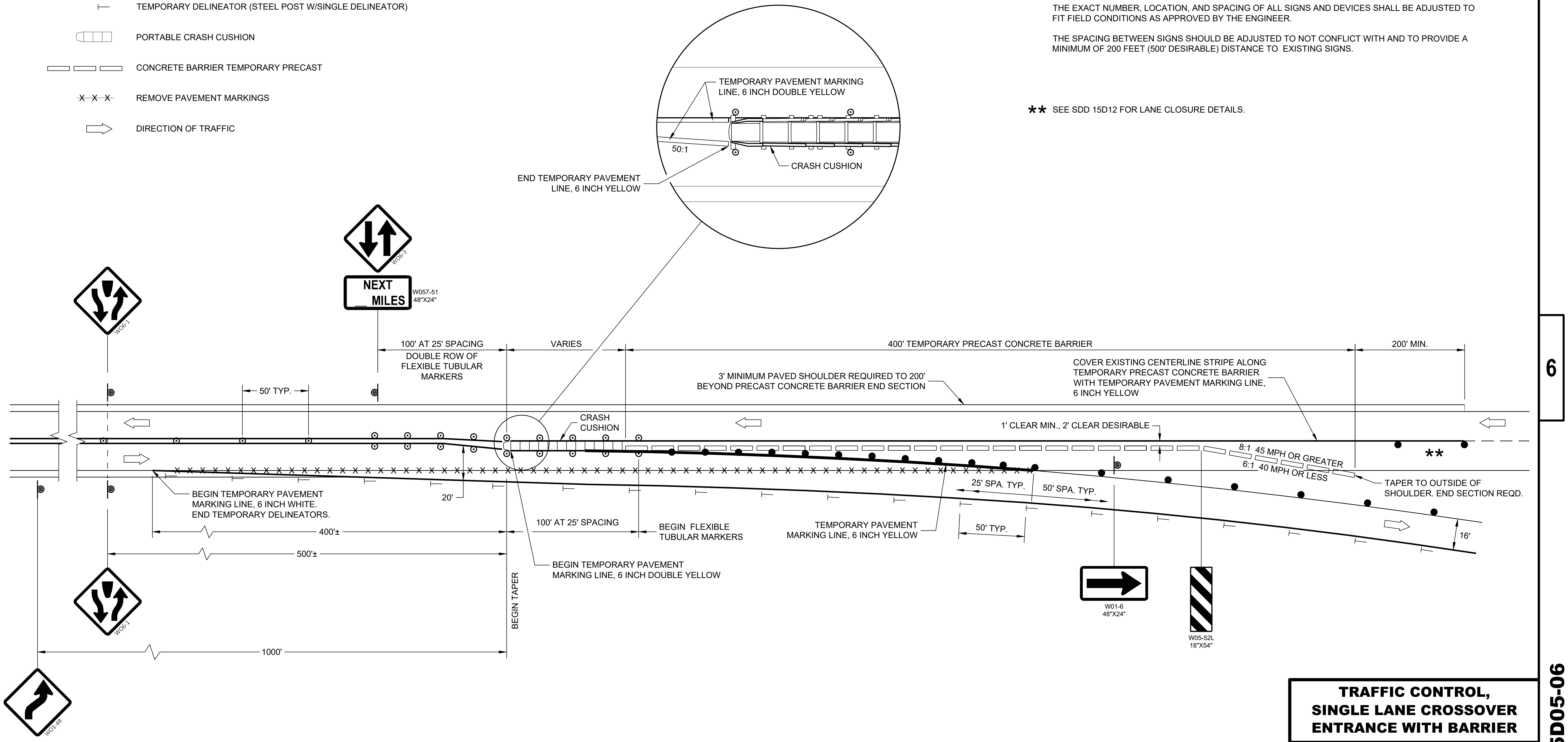
"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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.

** SEE SDD 15D12 FOR LANE CLOSURE DETAILS.



TRAFFIC CONTROL, SINGLE LANE CROSSOVER ENTRANCE WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

- ◉ SIGN ON PERMANENT SUPPORT
- ⊙ DELINEATOR, FLEXIBLE/TUBULAR MARKER
- ⇨ 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.

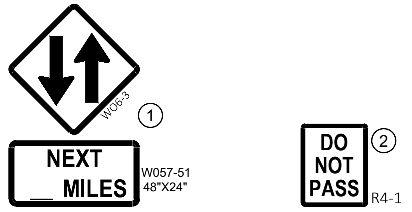
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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.

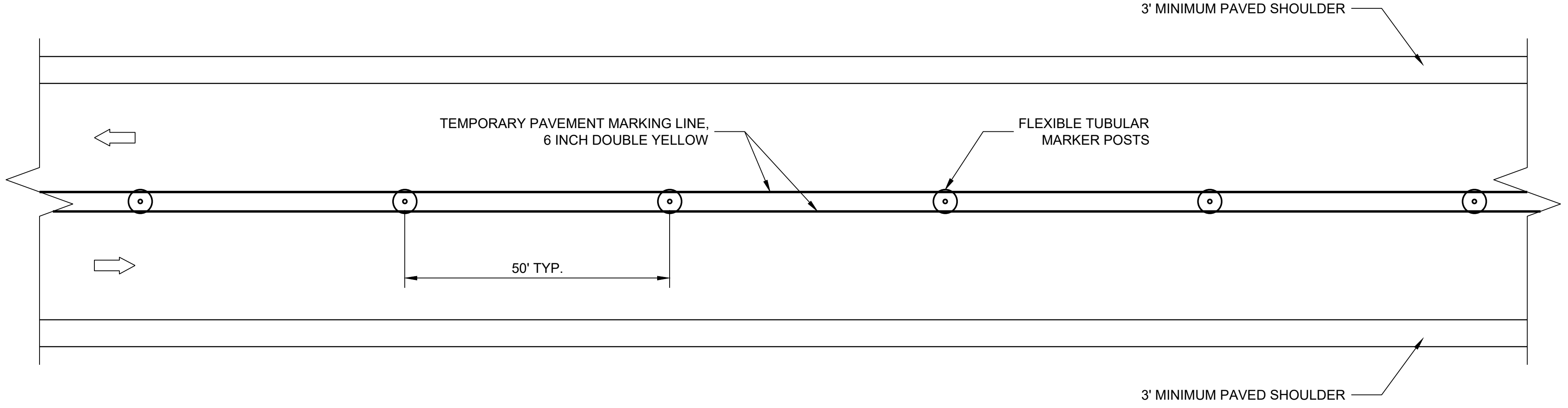
A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW.



① THE WO6-3 AND WO57-51 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 WO6-3 AND THE WO57-51 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

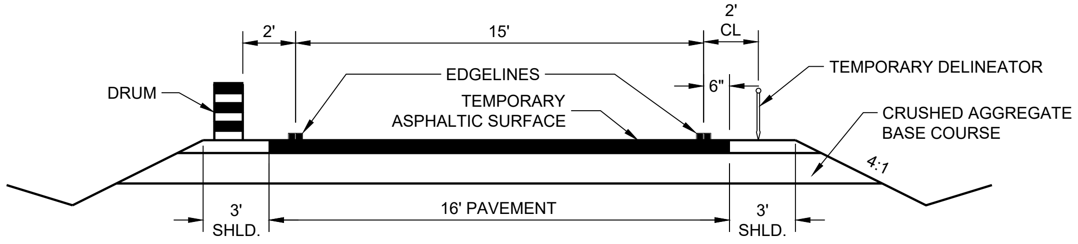
TRAFFIC CONTROL
TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

◎	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
⊙	DELINEATOR FLEXIBLE / TUBULAR MARKER
⊢	TEMPORARY DELINEATOR - WHITE (STEEL POST WITH SINGLE DELINEATOR)
☼	TYPE "A" WARNING LIGHT (FLASHING)
‡	TYPE III BARRICADE
‡	TYPE III BARRICADE WITH ATTACHED SIGN
◇ ◇	FLAGS, 16" X 16" MIN., ORANGE
⇨	DIRECTION OF TRAFFIC
X X X	REMOVE PAVEMENT MARKINGS
▨	WORK AREA
▩	TEMPORARY CROSSOVER ASPHALTIC PAVEMENT



TYPICAL RAMP CROSSOVER ROADWAY DIMENSIONS

** ADJUST RAMP SPEED AS NEEDED IN THE FIELD. DISTANCE TO SIGN LOCATION SHALL ALSO BE PLACED ACCORDING TO TABLE.

** TABLE FOR ADVANCE WARNING SIGN DISTANCE (FT)

POSTED SPEED LIMIT (MPH)	DESIRED EXIT RAMP SPEED (MPH)					
	10	20	30	40	50	60
45	350	300	250			
50	425	400	325	225		
55	500	475	400	300		
60	575	550	500	400	300	
65	650	625	575	500	375	100
70	650	625	575	500	375	375

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.

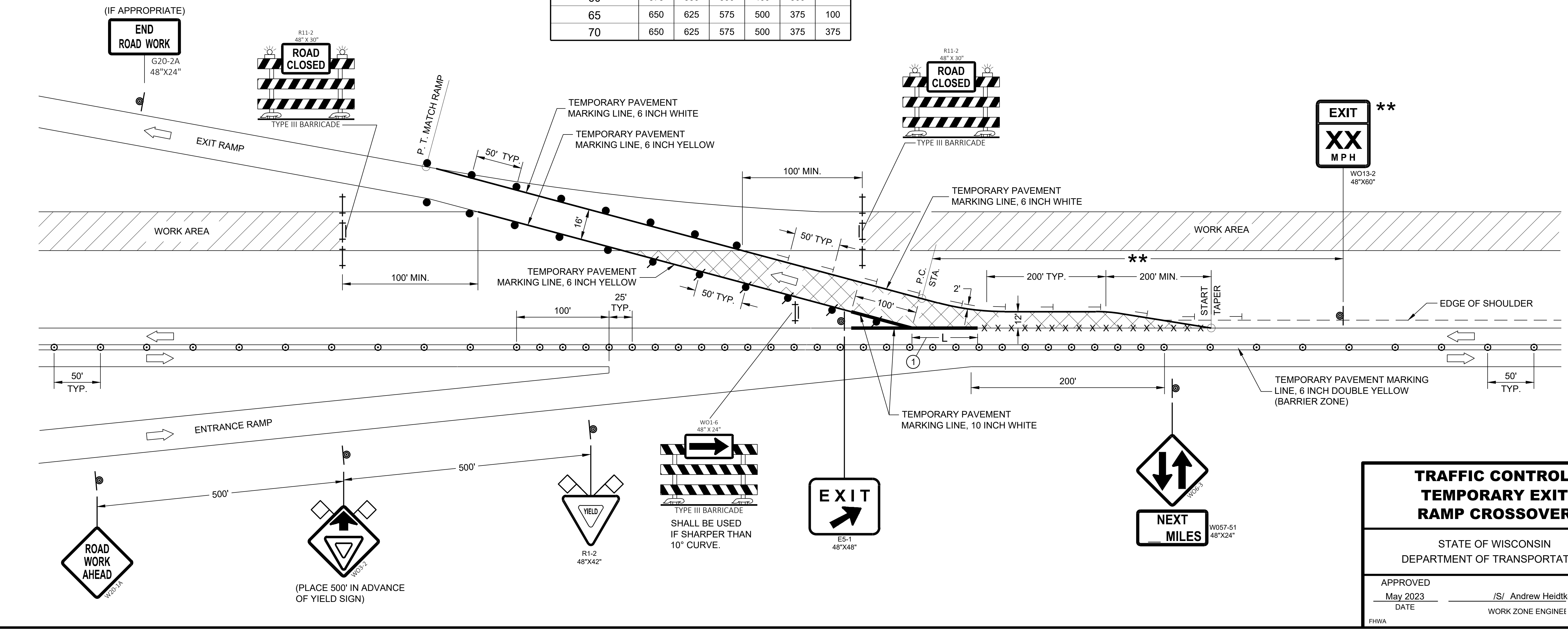
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

① LENGTH "L" SHALL BE REQUIRED WHEN TANGENT LENGTH OF EXIT RAMP PARALLEL TO MAINLINE EXCEEDS 300 FEET. LENGTH SHALL BE EQUAL TO THE EXIT RAMP TANGENT LENGTH MINUS 300 FEET OR AS APPROVED BY THE ENGINEER AND SHALL CHANGE TO ACCOMMODATE PAVING GAPS.



TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

⊚	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
⊙	DELINEATOR FLEXIBLE / TUBULAR MARKER
⊢	TEMPORARY DELINEATOR - WHITE (STEEL POST WITH SINGLE DELINEATOR)
☼	TYPE "A" WARNING LIGHT (FLASHING)
‡	TYPE III BARRICADE
‡	TYPE III BARRICADE WITH ATTACHED SIGN
◇ ◇	FLAGS, 16" X 16" MIN., ORANGE
⇨	DIRECTION OF TRAFFIC
✕ ✕ ✕	REMOVE PAVEMENT MARKINGS
▨	WORK AREA
▩	TEMPORARY CROSSOVER ASPHALTIC PAVEMENT

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.

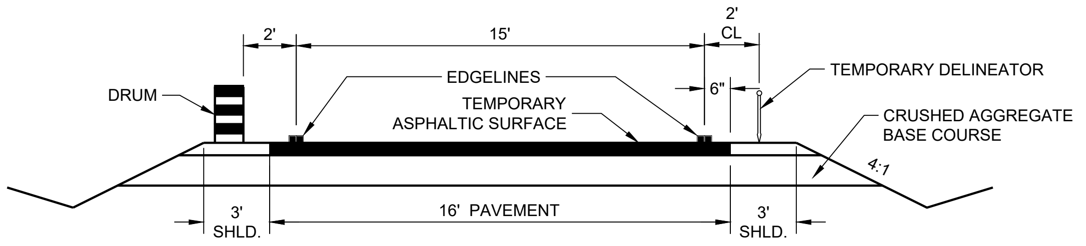
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

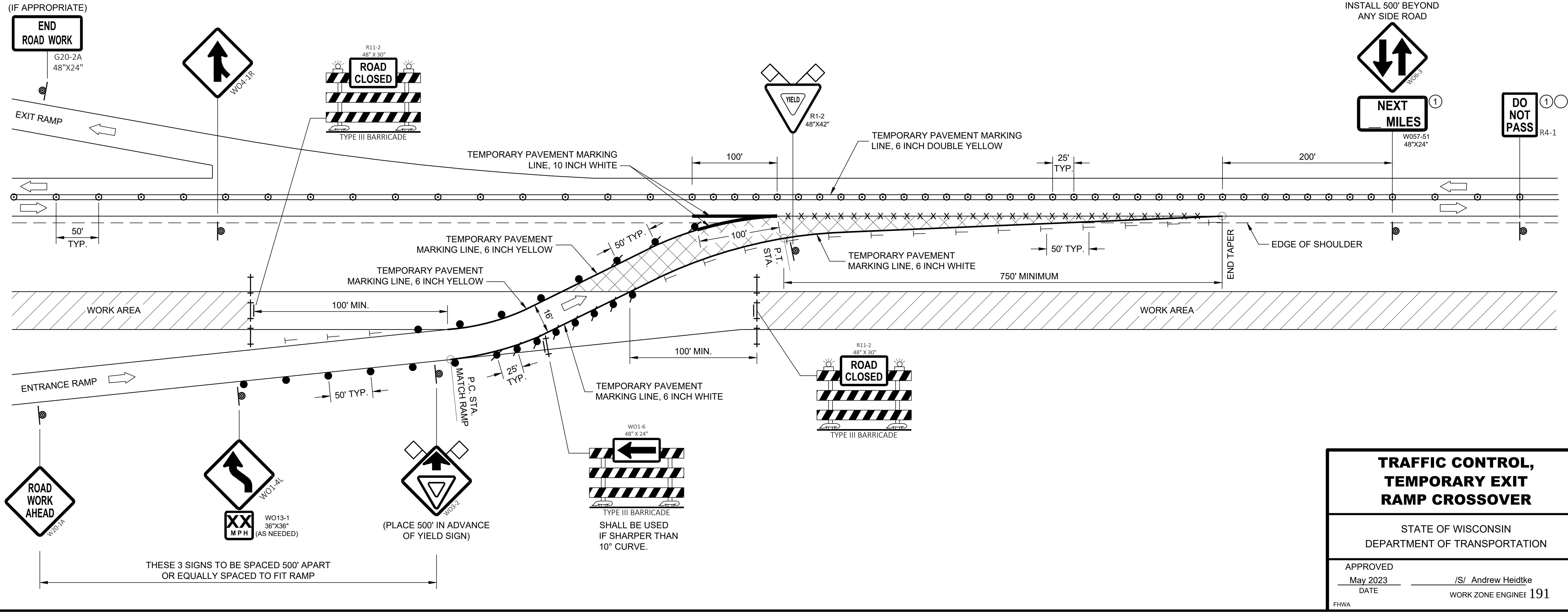
TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

① INSTALL THE WO6-3 SIGN WITH THE R4-1 SIGN 1000 FEET BEYOND THE WO6-3 SIGN WITH THE WO57-51 AND ALTERNATE THE SEQUENCE OF THESE SIGNS EVERY 1 MILE.

② CONVENTIONAL: 24" X 30"
FREEWAY AND EXPRESSWAY: 36" X 48"



TYPICAL RAMP CROSSOVER ROADWAY DIMENSIONS



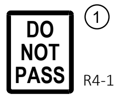
TRAFFIC CONTROL,
TEMPORARY EXIT
RAMP CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

- ⊚ SIGN ON PERMANENT SUPPORT
- ● TRAFFIC CONTROL DRUM
- ⊙ DELINEATOR FLEXIBLE / TUBULAR MARKER
- ⊢ TEMPORARY DELINEATOR (STEEL POST DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE RESPECTIVE EDGE LINE MARKING
- ⇨ DIRECTION OF TRAFFIC
- X X X REMOVE PAVEMENT MARKINGS



INSTALL THE R4-1 SIGN 1000 FEET BEYOND THE WO6-3 SIGN WITH THE WO57-51 AND ALTERNATE THE SEQUENCE OF THESE SIGNS EVERY 1 MILE.

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

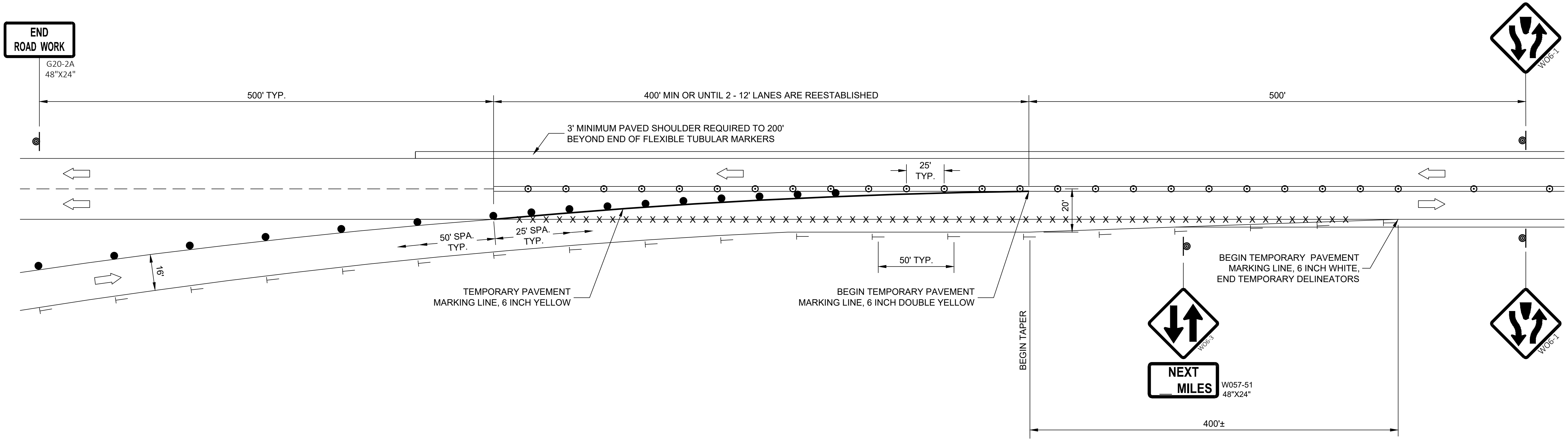
"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

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.

①	CONVENTIONAL:	24" X 30"
	FREEWAY AND EXPRESSWAY:	36" X 48"



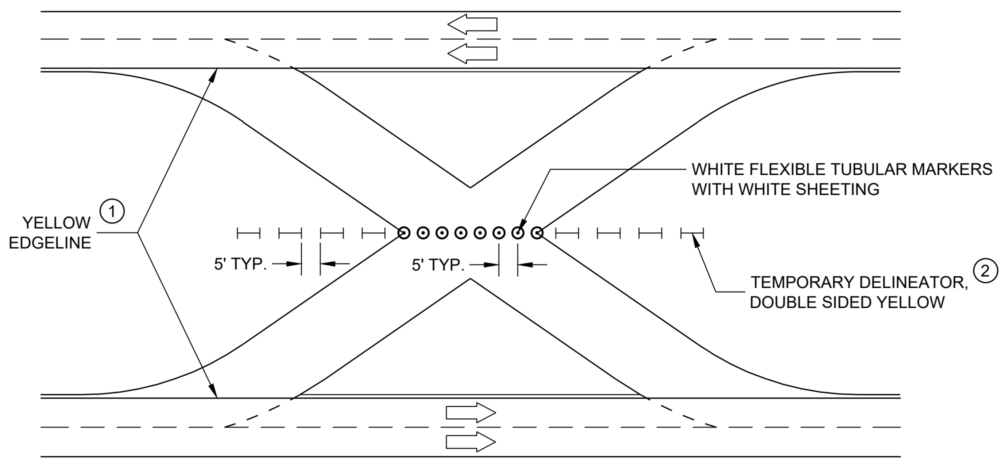
TRAFFIC CONTROL, SINGLE LANE CROSSOVER EXIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

⊚	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
●	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
⊙	DELINEATOR FLEXIBLE / TUBULAR MARKER
⊢	TEMPORARY DELINEATOR (STEEL POST WITH SINGLE DELINEATOR) COLOR OF DELINEATOR SHALL MATCH THE COLOR OF THE RESPECTIVE EDGELINE MARKING
⊢⊣	TEMPORARY DELINEATOR (DOUBLE SIDED)
☼	TYPE "A" WARNING LIGHT (FLASHING)
┼	TYPE III BARRICADE
╫	TYPE III BARRICADE WITH ATTACHED SIGN
⇨	DIRECTION OF TRAFFIC
X X X	REMOVE PAVEMENT MARKINGS
▨	WORK AREA



TRAFFIC CONTROL FOR CROSSOVER THAT IS NOT IN USE

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.

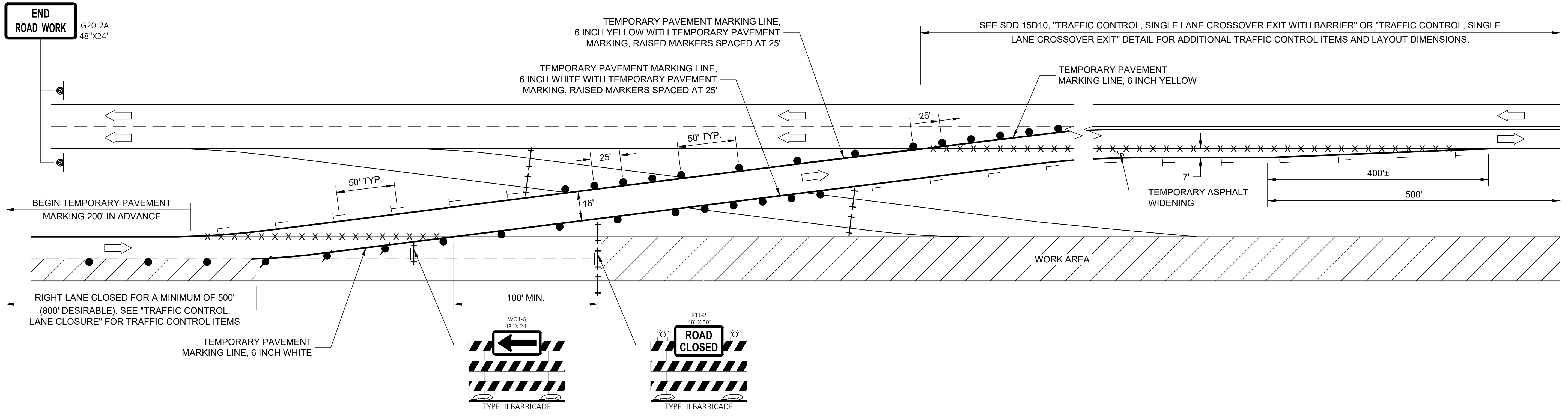
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

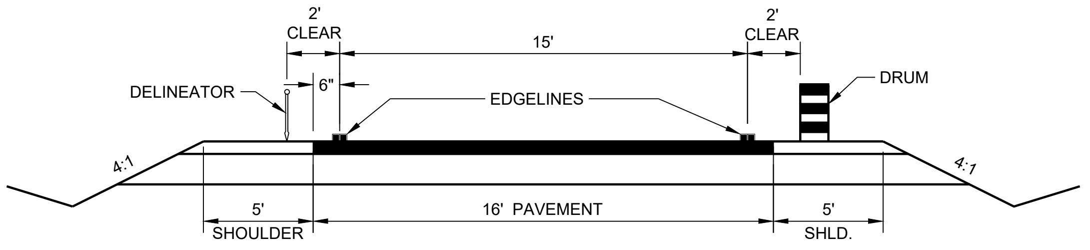
THE SPACING BETWEEN PROPOSED SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

REVERSE DEVICES WHEN OTHER LEG OF CROSSOVER IS IN USE.

① FOR PERMANENT CROSSOVER, PAVEMENT MARKING SHOULD CONFORM TO SECTION 646 OF THE STANDARD SPECIFICATIONS.

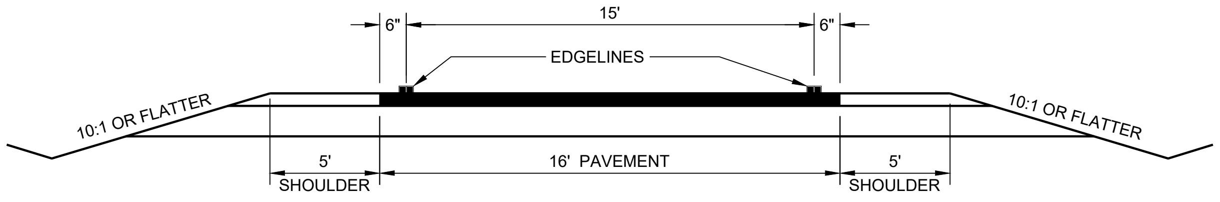
② FOR PERMANENT CROSSOVER, INSTALL PERMANENT DELINEATORS ACCORDING TO SECTION 633 OF THE STANDARD SPECIFICATIONS.





TYPICAL TEMPORARY CROSSOVER ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)



TYPICAL CROSSOVER TO REMAIN IN PLACE ROADWAY DIMENSIONS

(SEE PLAN FOR ROADWAY DESIGN ELEMENTS)

TRAFFIC CONTROL,
SINGLE LANE CROSSOVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEE
FHWA

GENERAL NOTES

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 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

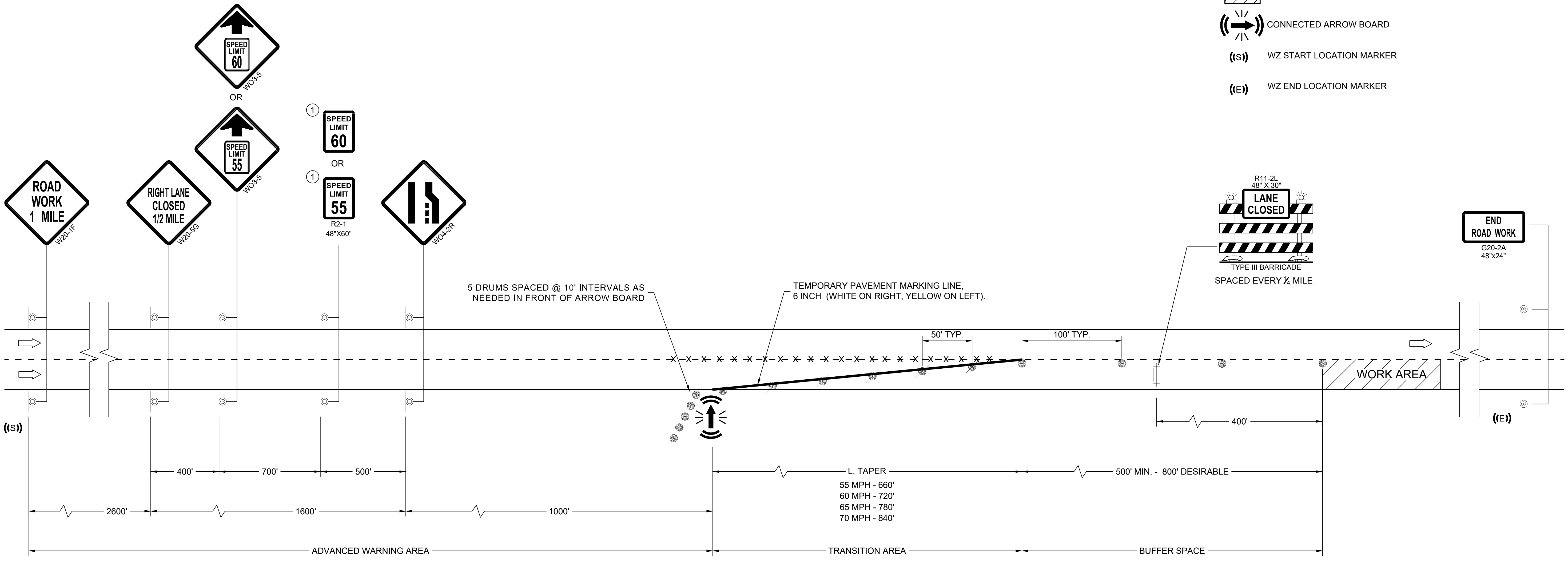
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

◎ SIGN ON PERMANENT SUPPORT
● TRAFFIC CONTROL DRUM
⊘ TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
TYPE III BARRICADE WITH ATTACHED SIGN
TYPE "A" WARNING LIGHT (FLASHING)
-X-X-X- REMOVING PAVEMENT MARKINGS
⇨ DIRECTION OF TRAFFIC
▨ WORK AREA
((→)) CONNECTED ARROW BOARD
((S)) WZ START LOCATION MARKER
((E)) WZ END LOCATION MARKER



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2024 /S/ Andrew Heidtke
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

LEGEND

⊸	SIGN ON PERMANENT SUPPORT
⊢	SIGN ON TEMPORARY SUPPORT
●	TRAFFIC CONTROL DRUM
⌀	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
X-X-X-X	REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
╪	TYPE III BARRICADE WITH ATTACHED SIGN
◇ ◇	FLAGS, 16" X 16" MIN., ORANGE
⇨	DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

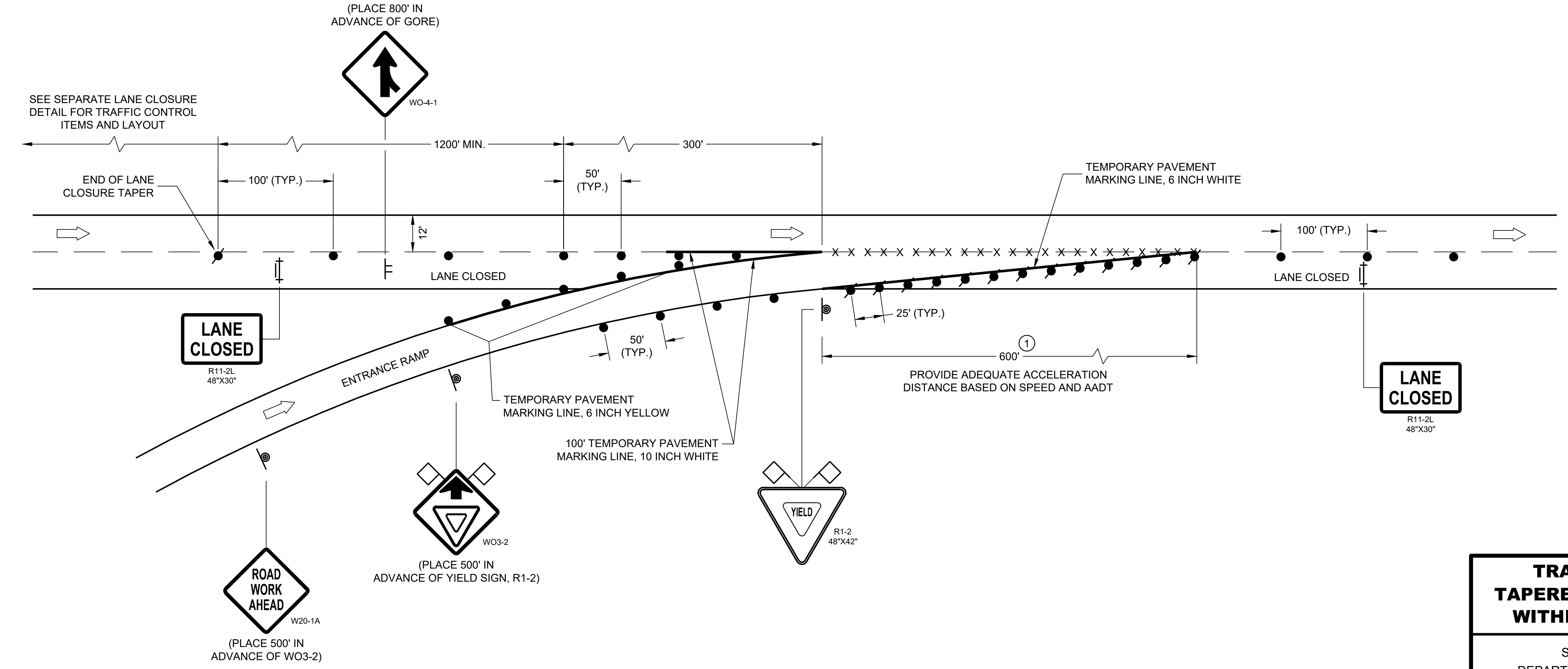
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

① CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER
FHWA

LEGEND

⊸	SIGN ON PERMANENT SUPPORT
⊧	SIGN ON TEMPORARY SUPPORT
●	TRAFFIC CONTROL DRUM
⌀	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
‡	TYPE III BARRICADE WITH ATTACHED SIGN
◇ ◇	FLAGS, 16" X 16" MIN., ORANGE
⇨	DIRECTION OF TRAFFIC

GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

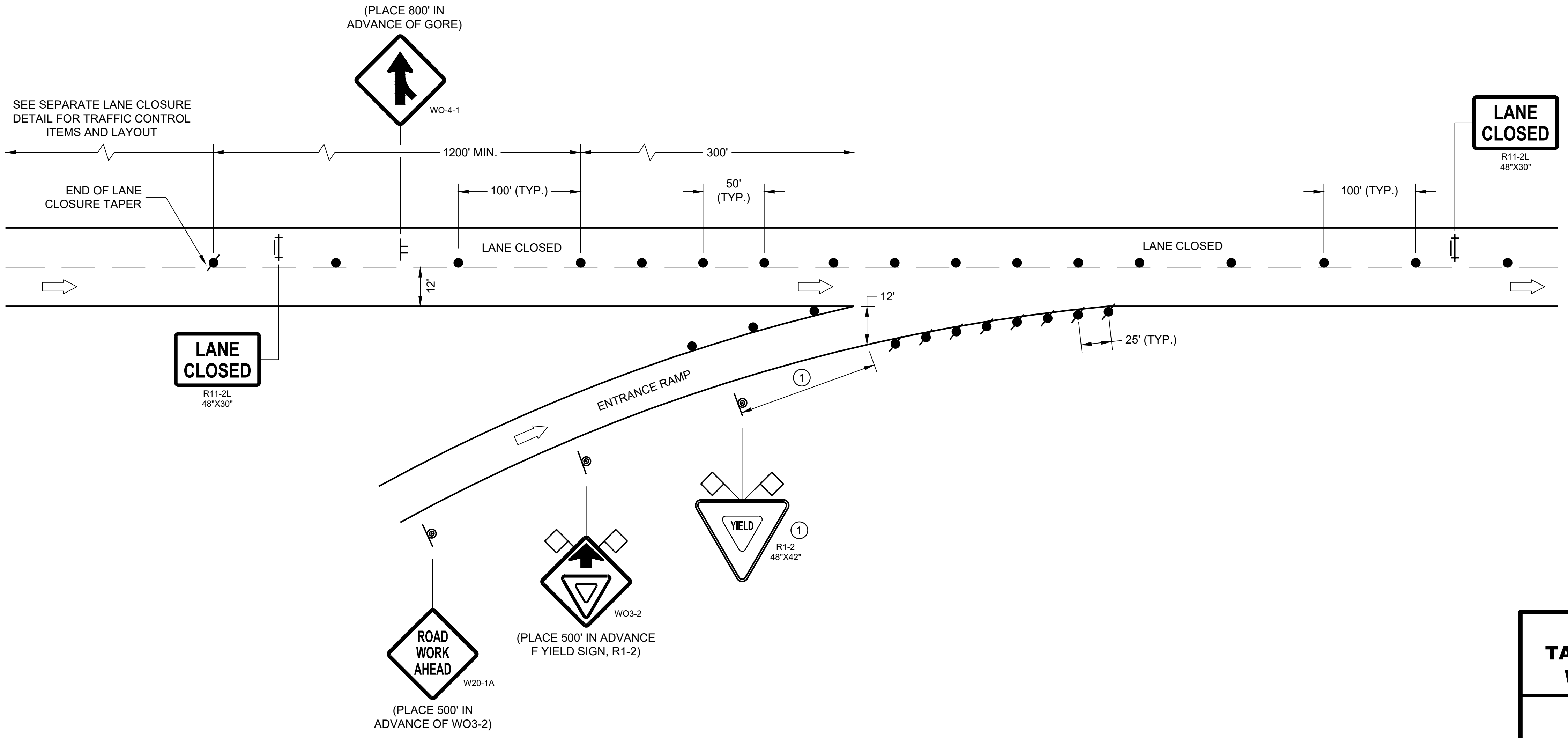
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

① PLACE YIELD SIGN TO PROVIDE ADEQUATE SIGHT DISTANCE AND ACCELERATION DISTANCE.



(PLACE 800' IN ADVANCE OF GORE)

SEE SEPARATE LANE CLOSURE DETAIL FOR TRAFFIC CONTROL ITEMS AND LAYOUT

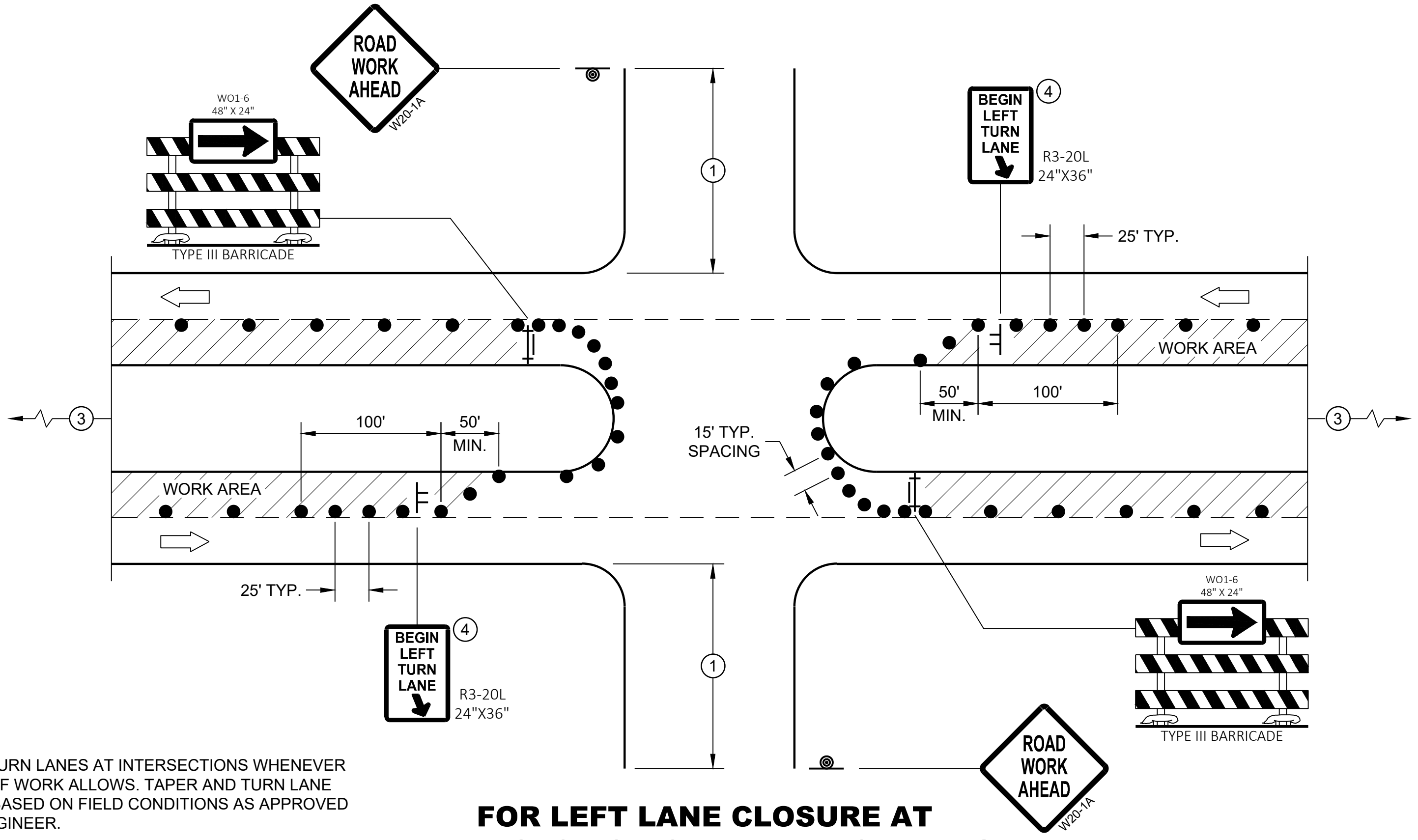
(PLACE 500' IN ADVANCE F YIELD SIGN, R1-2)

(PLACE 500' IN ADVANCE OF WO3-2)

TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE

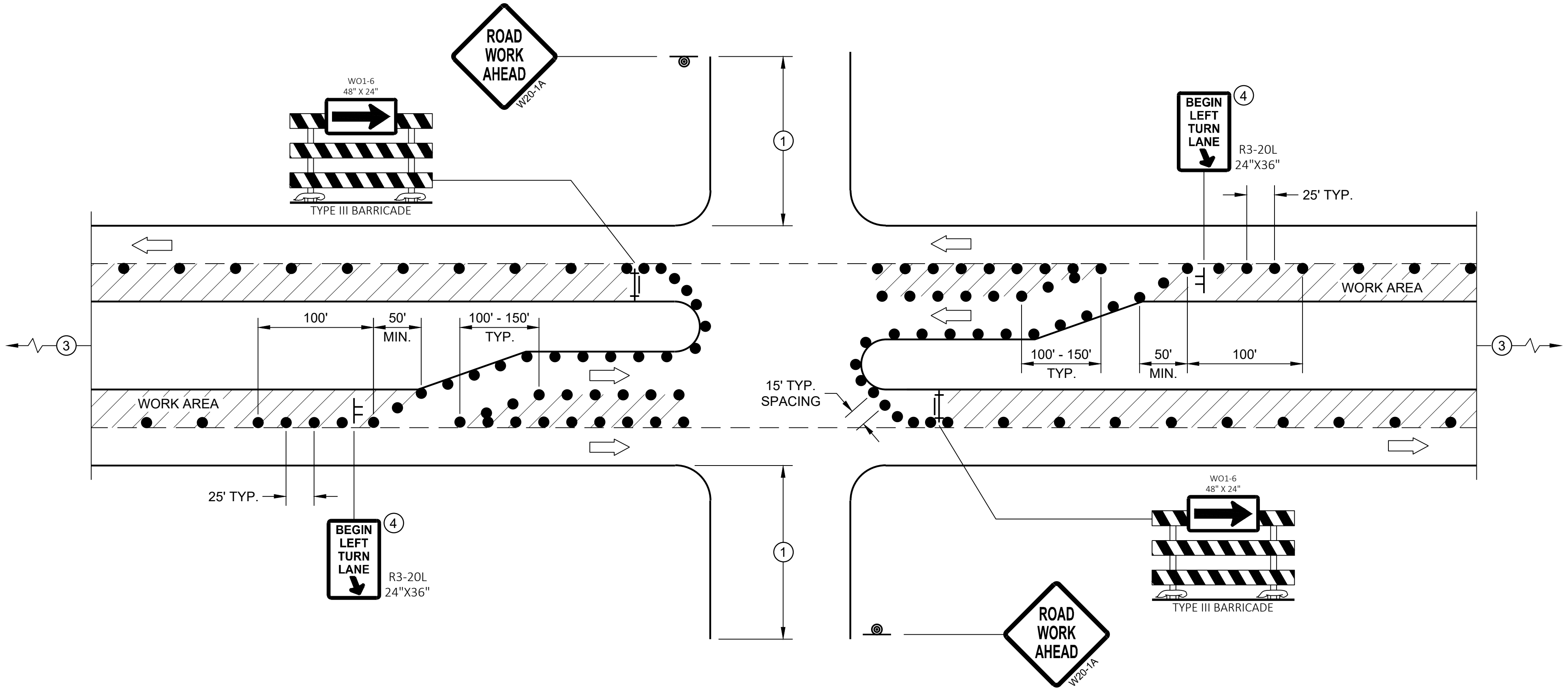
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING



FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.

② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

⊢	SIGN ON TEMPORARY SUPPORT
◉	SIGN ON PERMANENT SUPPORT
●	TRAFFIC CONTROL DRUM
ǂ	TYPE III BARRICADE WITH ATTACHED SIGN
⇨	DIRECTION OF TRAFFIC
◇ ◇	FLAGS, 16" X 16" MIN., ORANGE
▨	WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
August 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

LEGEND

● TRAFFIC CONTROL DRUM

SIGN ON PERMANENT SUPPORT

⇨ DIRECTION OF TRAFFIC

➡ FLASHING ARROW BOARD

▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

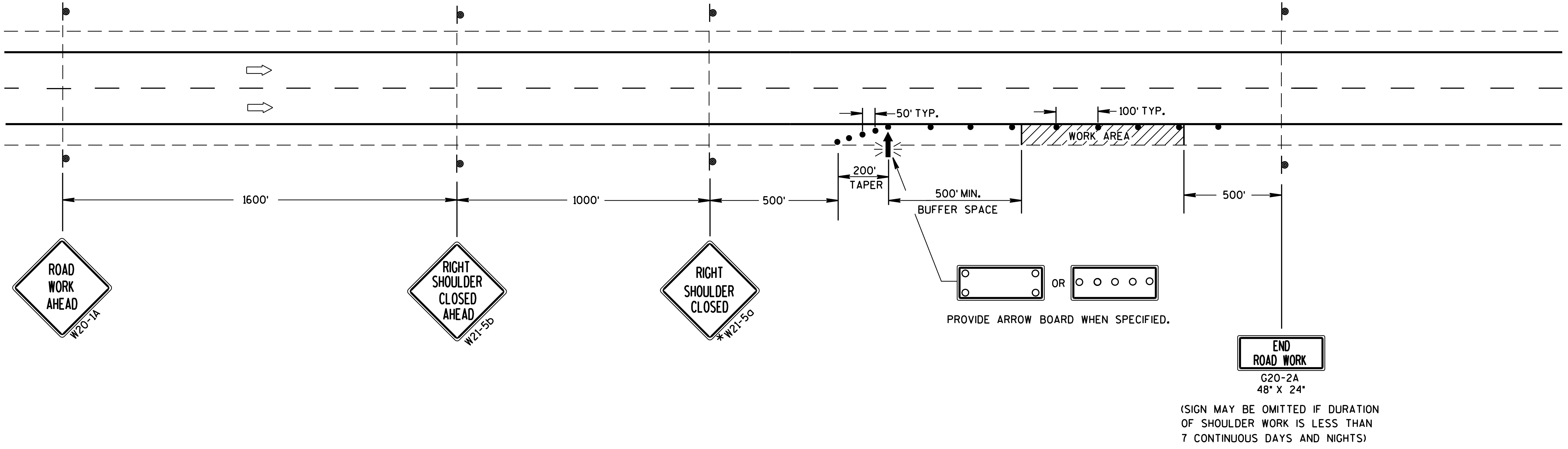
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



6

6

TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

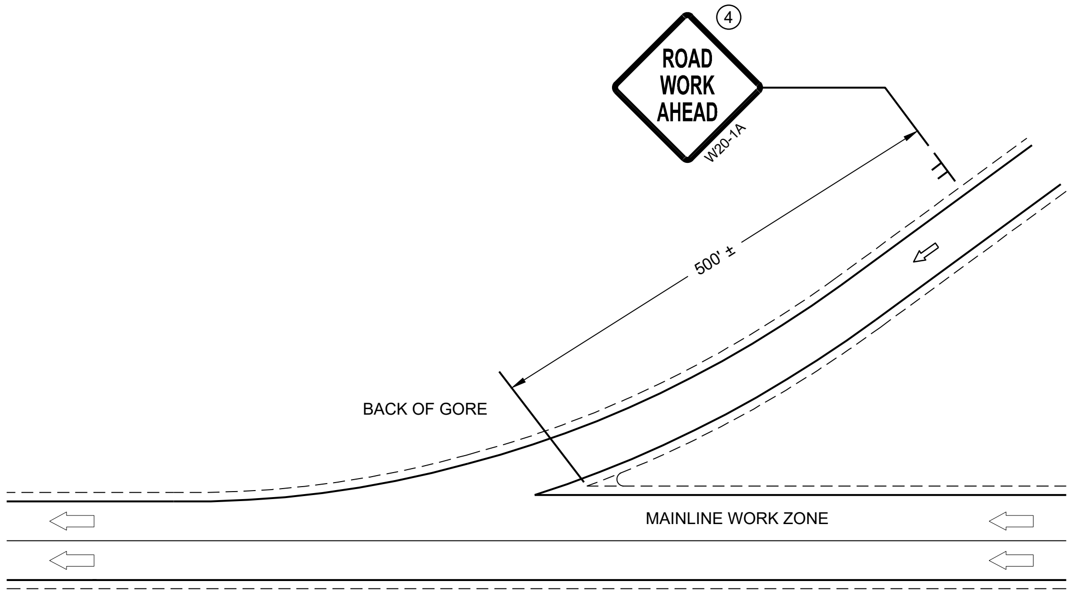
APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZO FIC
SAFETY ENGIN
FHWA

S.D.D. 15 D 27-3

S.D.D. 15 D 27-3

LEGEND

V1	SHADOW VEHICLE 1
V2	SHADOW VEHICLE 2
V3	ADVANCE WARNING TRUCK
●	TRAFFIC CONTROL DRUM
⊠	TRUCK MOUNTED ATTENUATOR (TMA)
├	SIGN ON TEMPORARY SUPPORT
⇨	DIRECTION OF TRAFFIC
▭	FLASHING ARROW PANEL (MERGE)
▭	FLASHING ARROW PANEL (CAUTION)
PCMS	PORTABLE CHANGEABLE MESSAGE SIGN
▨	WORK AREA



GENERAL NOTES

SHORT DURATION IS WORK THAT OCCUPIES A LOCATION UP TO 1 HOUR.

MOBILE IS WORK THAT MOVES INTERMITTENTLY OR CONTINUOUSLY.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

WHEN WORK ACTIVITY BLOCKS THE RIGHT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC

① DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

② DRUMS ARE TO BE USED FOR BRIDGE DECK SEALING AND OTHER PROJECTS THAT REQUIRE DELINEATION.

③ WITHIN 5 MILES, RELOCATE SIGNS AS WORK PROGRESSES AND NECESSARY OR AS DIRECTED BY THE ENGINEER.

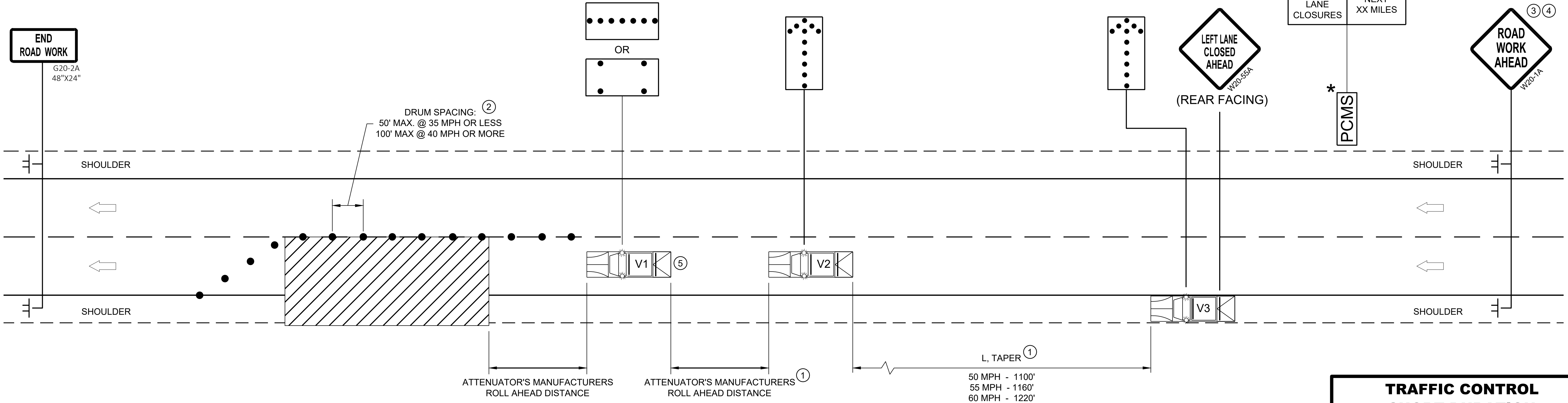
④ SIGN NOT REQUIRED IF MOVING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

⑤ SHADOW VEHICLE 1 (V1) IS OPTIONAL

* PCMS OPTIONAL

PCMS MESSAGING

FRAME 1	FRAME 2
MOVING LANE CLOSURES	NEXT XX MILES



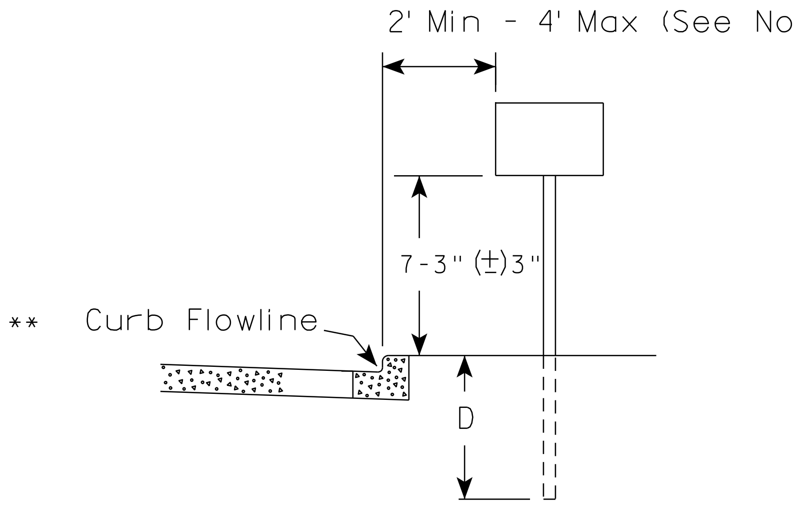
50 MPH - 1100'
55 MPH - 1160'
60 MPH - 1220'
65 MPH - 1280'
70 MPH - 1340'

TRAFFIC CONTROL
SHORT DURATION
MOBILE OPERATIONS

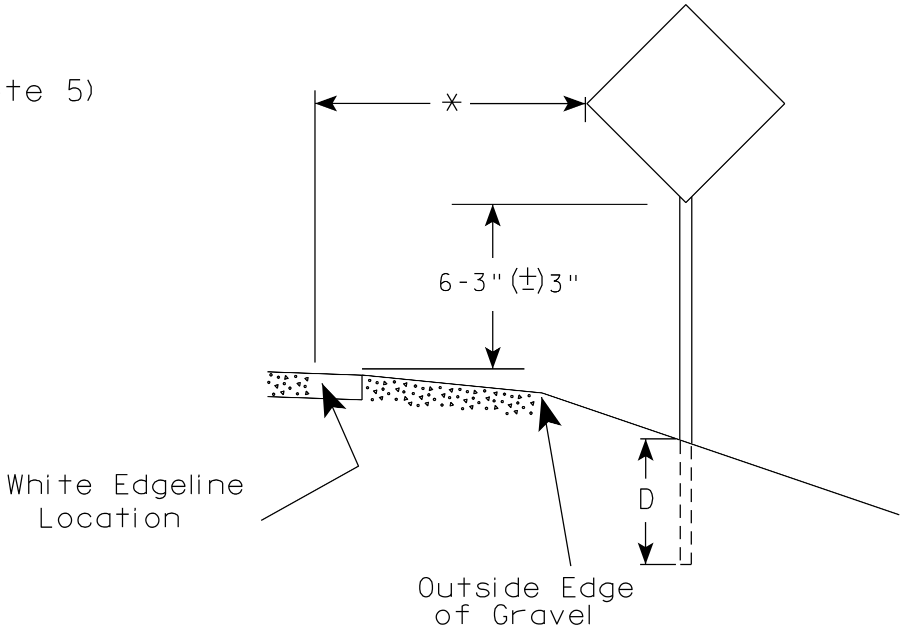
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

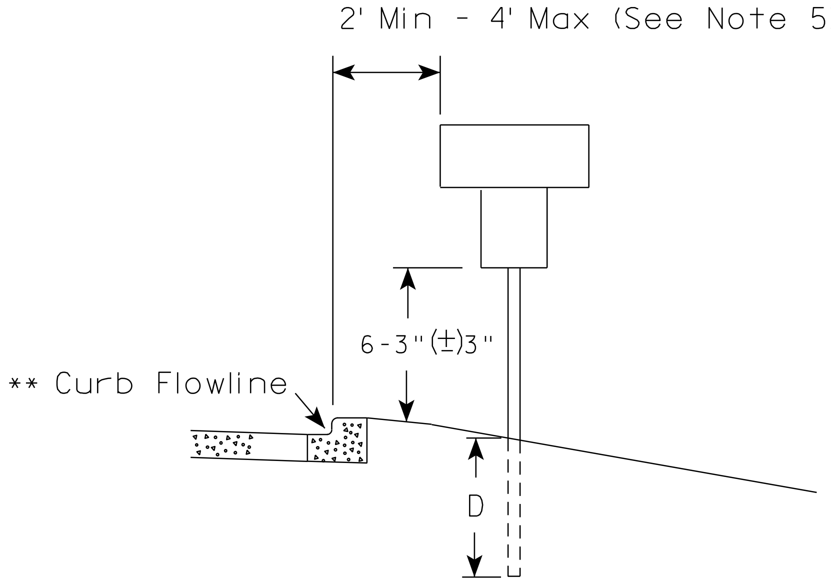
APPROVED
August 2021
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

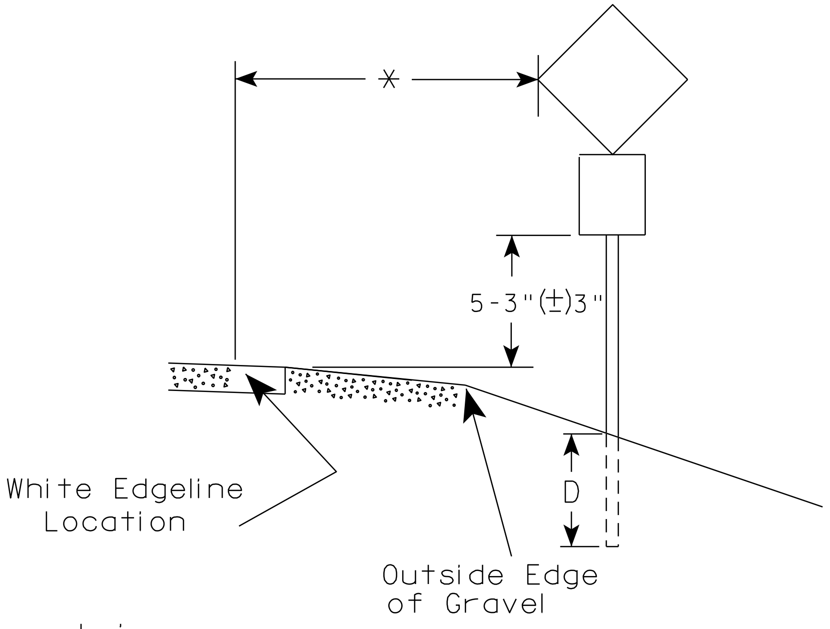
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

POST EMBEDMENT DEPTH

Area of Sign Installation (Sq. Ft.)	D (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.

* 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.

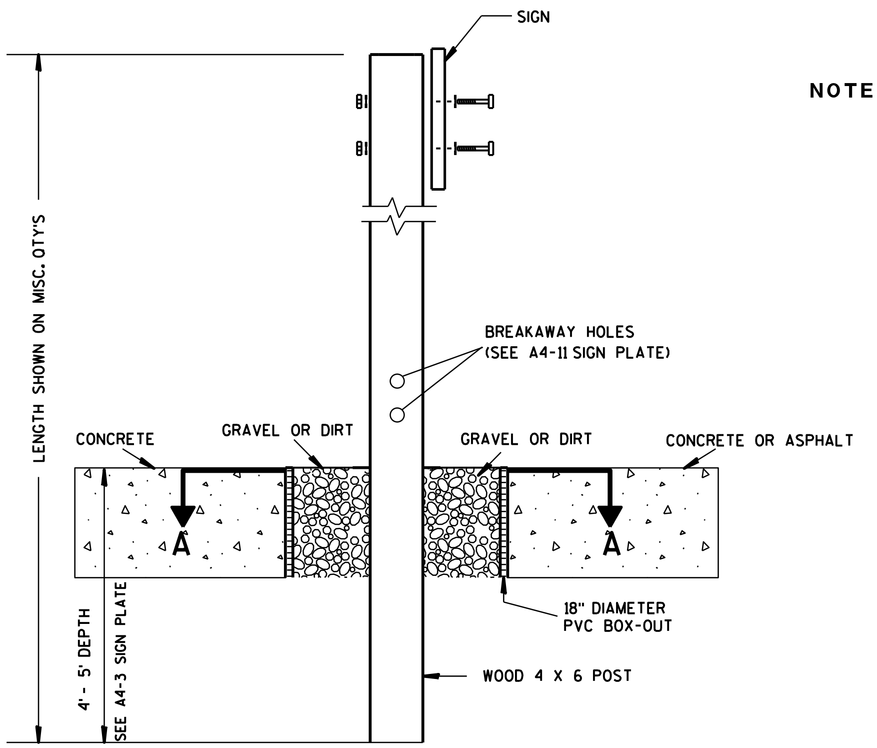
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

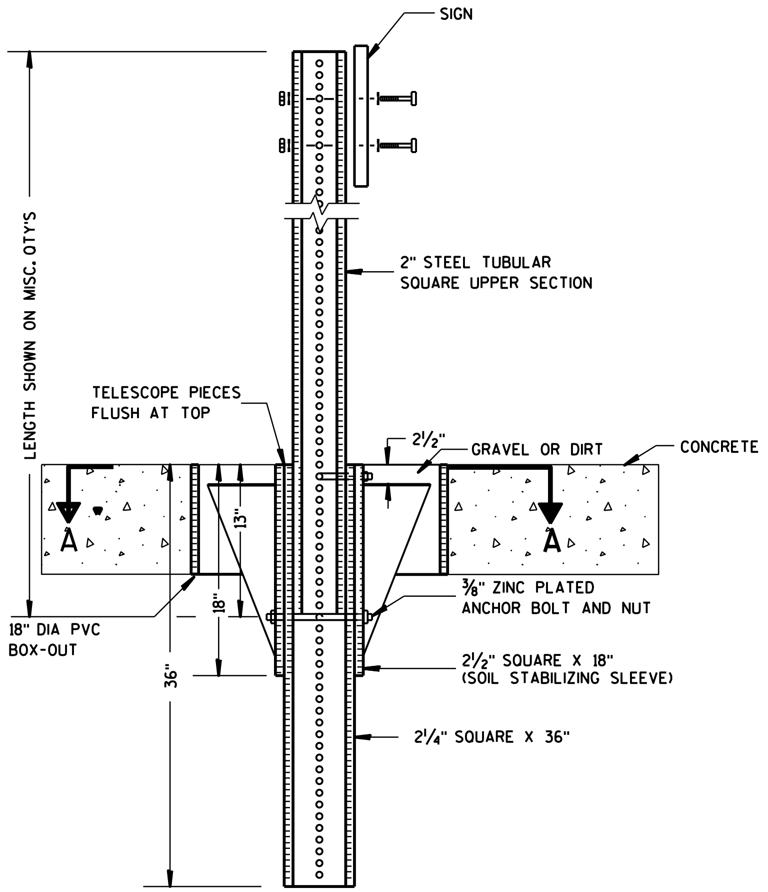
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 200 | E



ELEVATION VIEW

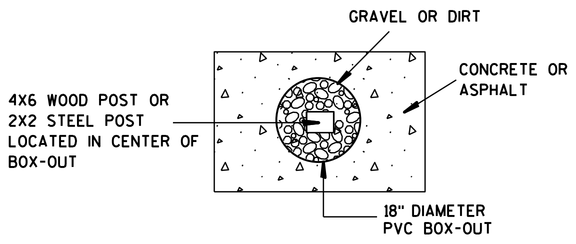
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

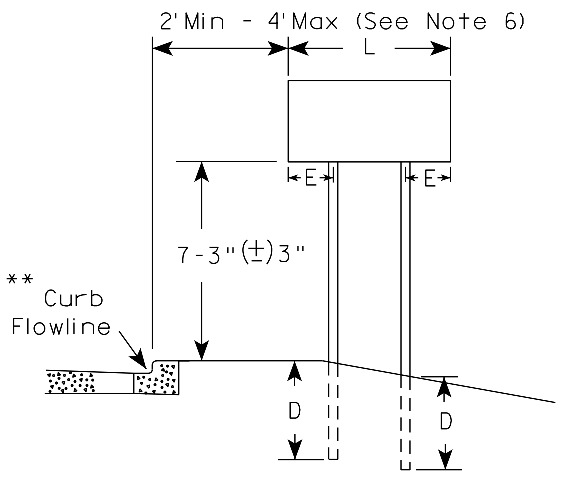
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

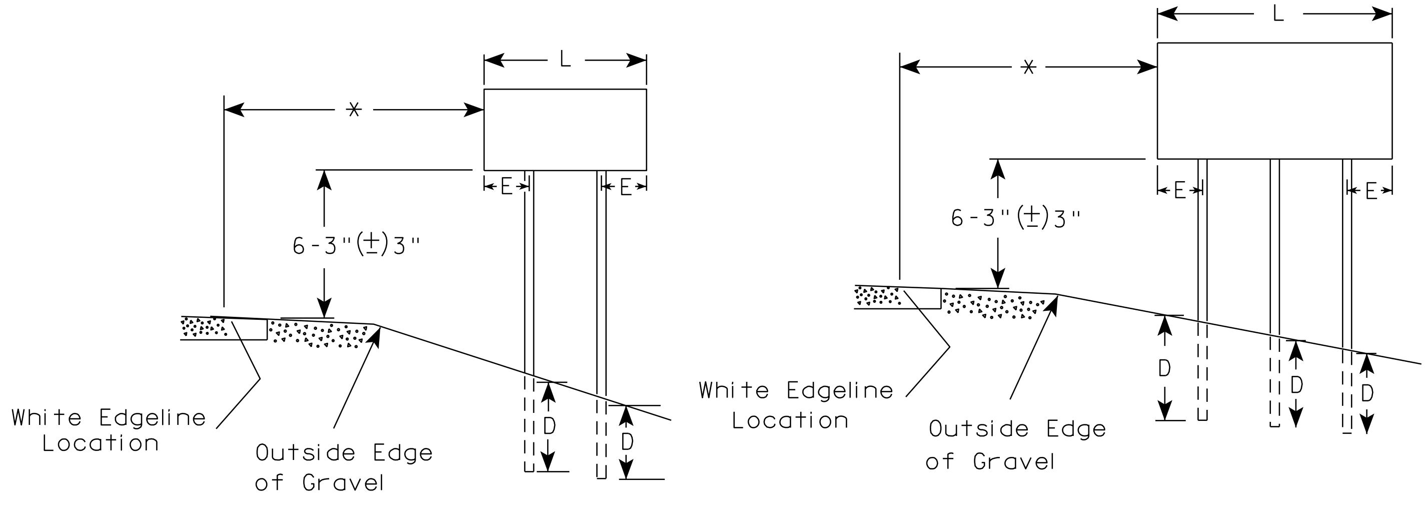
DATE 1/27/14 PLATE NO. A4-3B.1

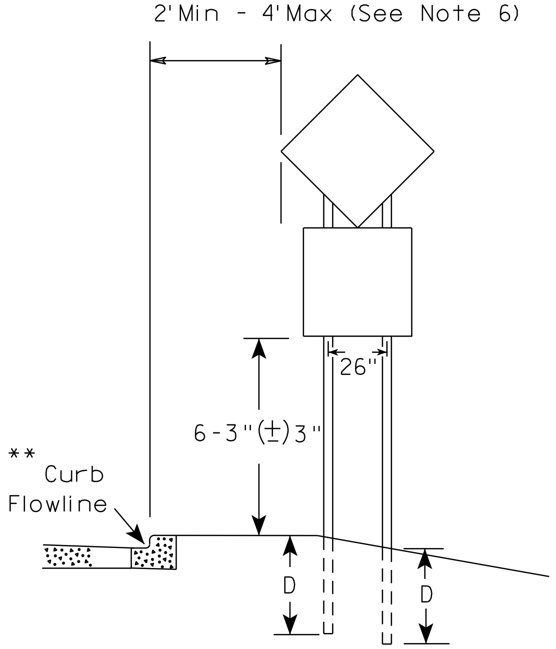
PROJECT NO: HWY: COUNTY: SHEET NO: E

URBAN AREA

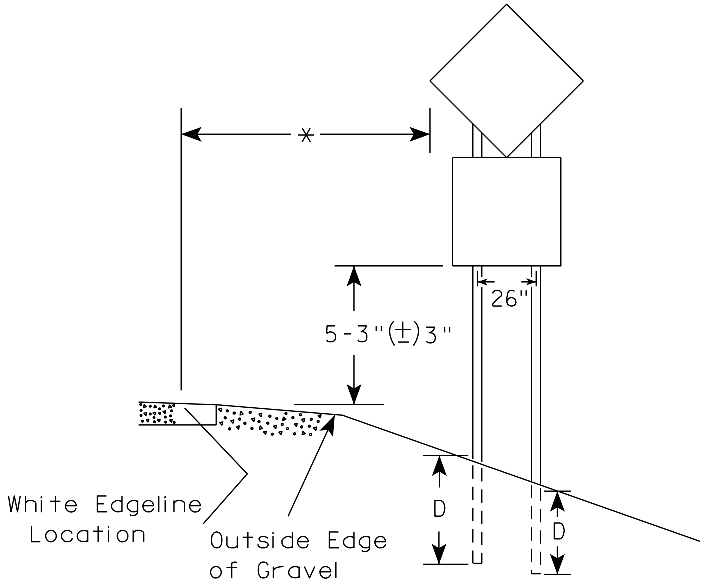


RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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" (±) 3" or 6'-3" (±) 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" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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.

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

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

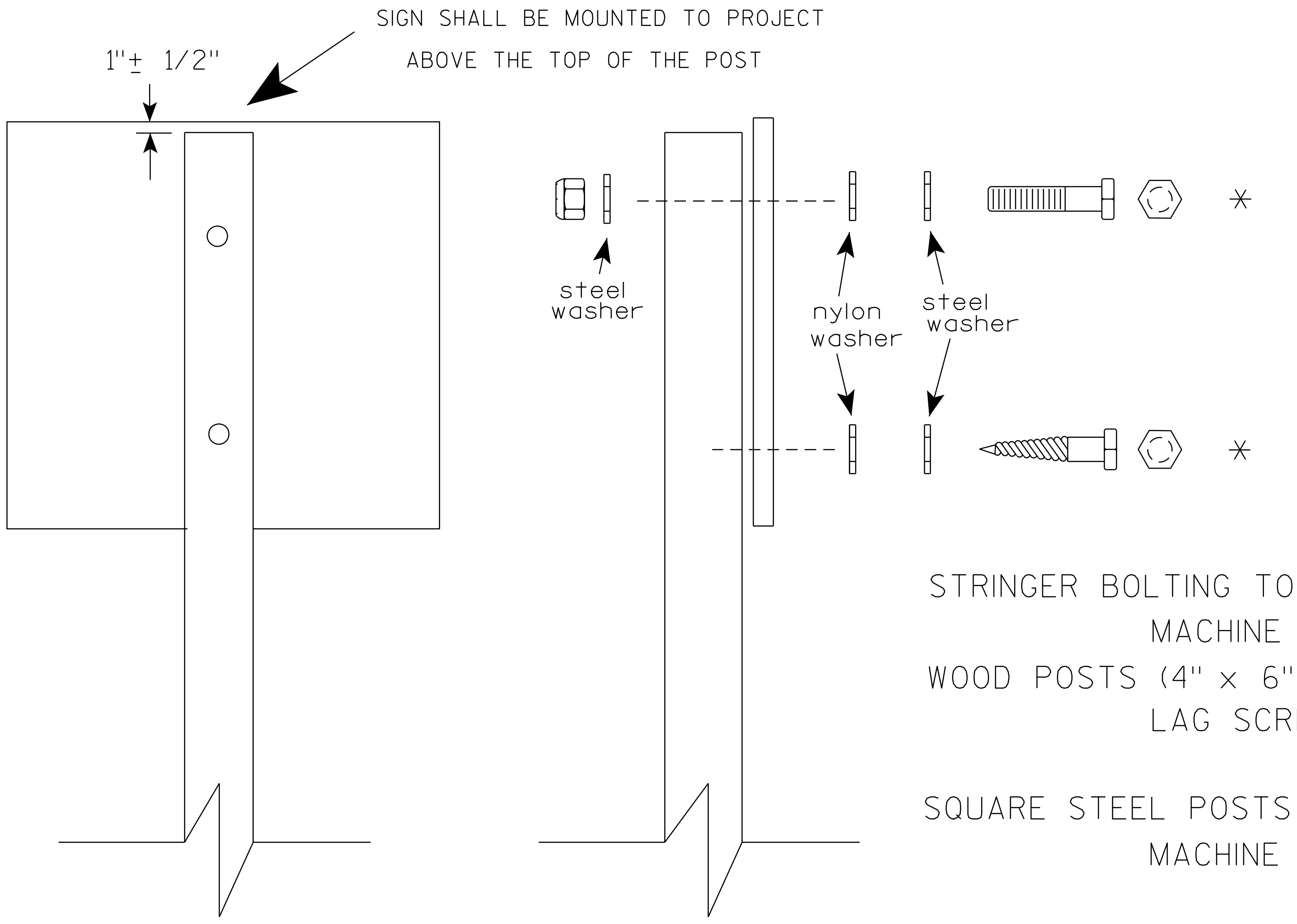
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



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" x 6")
LAG SCREWS - $\frac{3}{8}$" X 3" (NO STRINGERS ON BACK OF SIGN)
$\frac{3}{8}$" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - $\frac{3}{8}$" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
$\frac{3}{8}$" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - $\frac{9}{32}$" (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

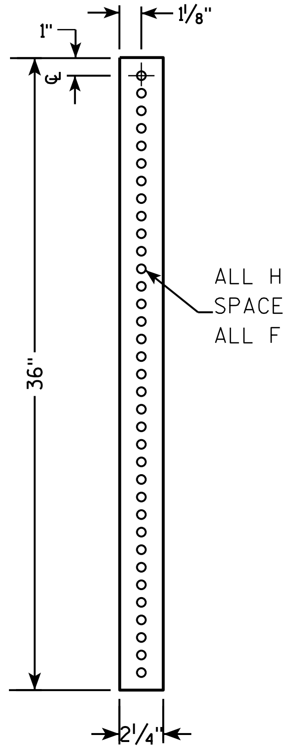
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

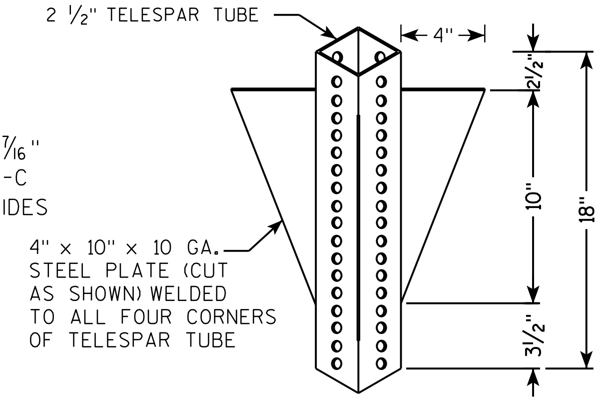
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

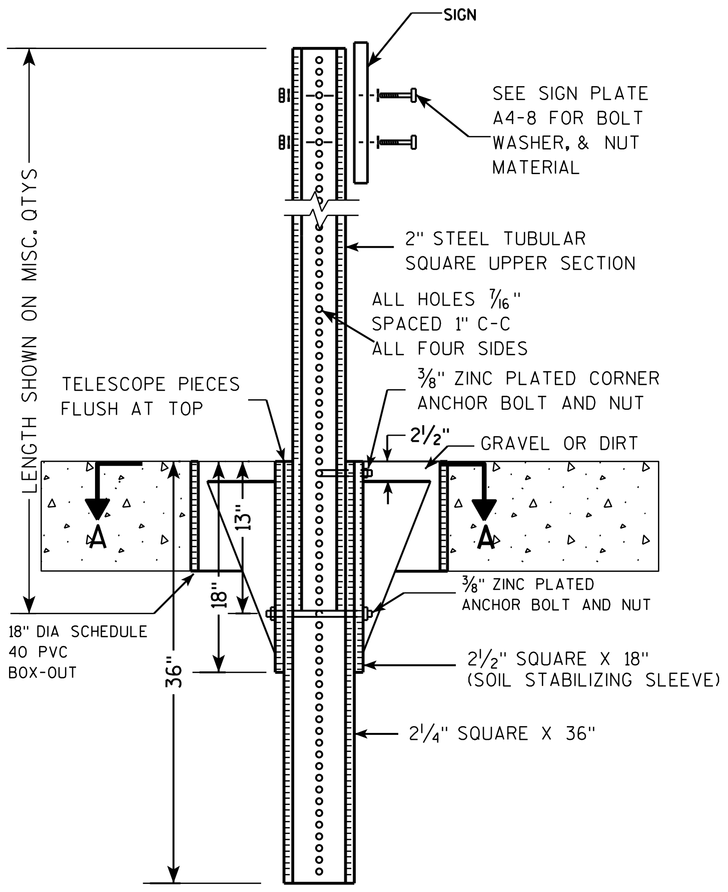
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



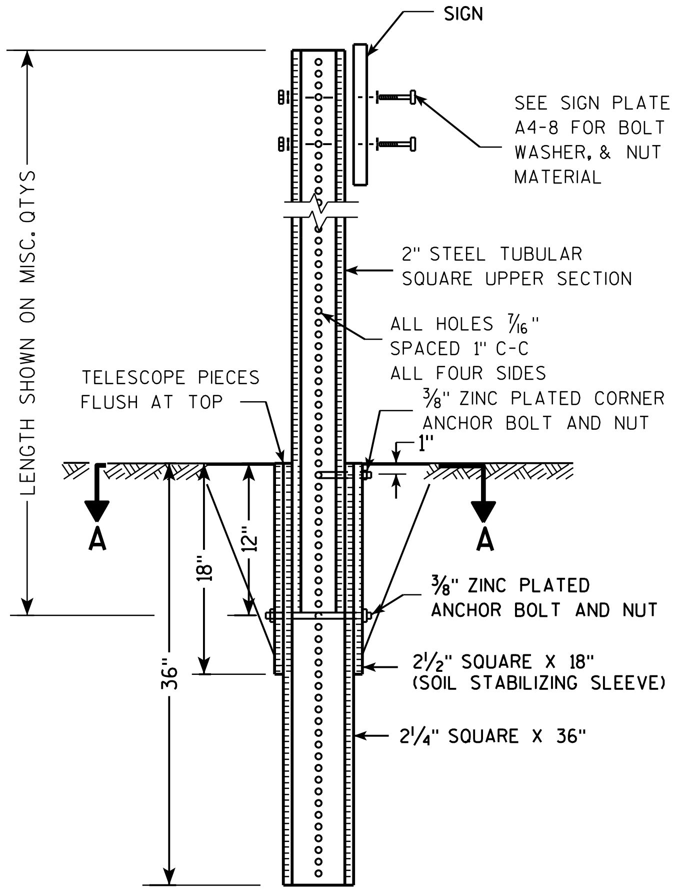
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

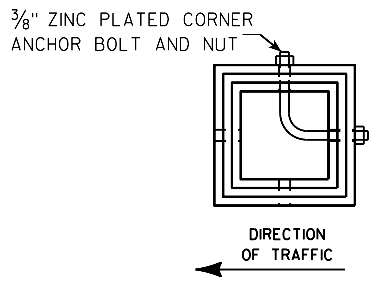


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required 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 sq. ft shall be mounted on multiple posts (see above table).

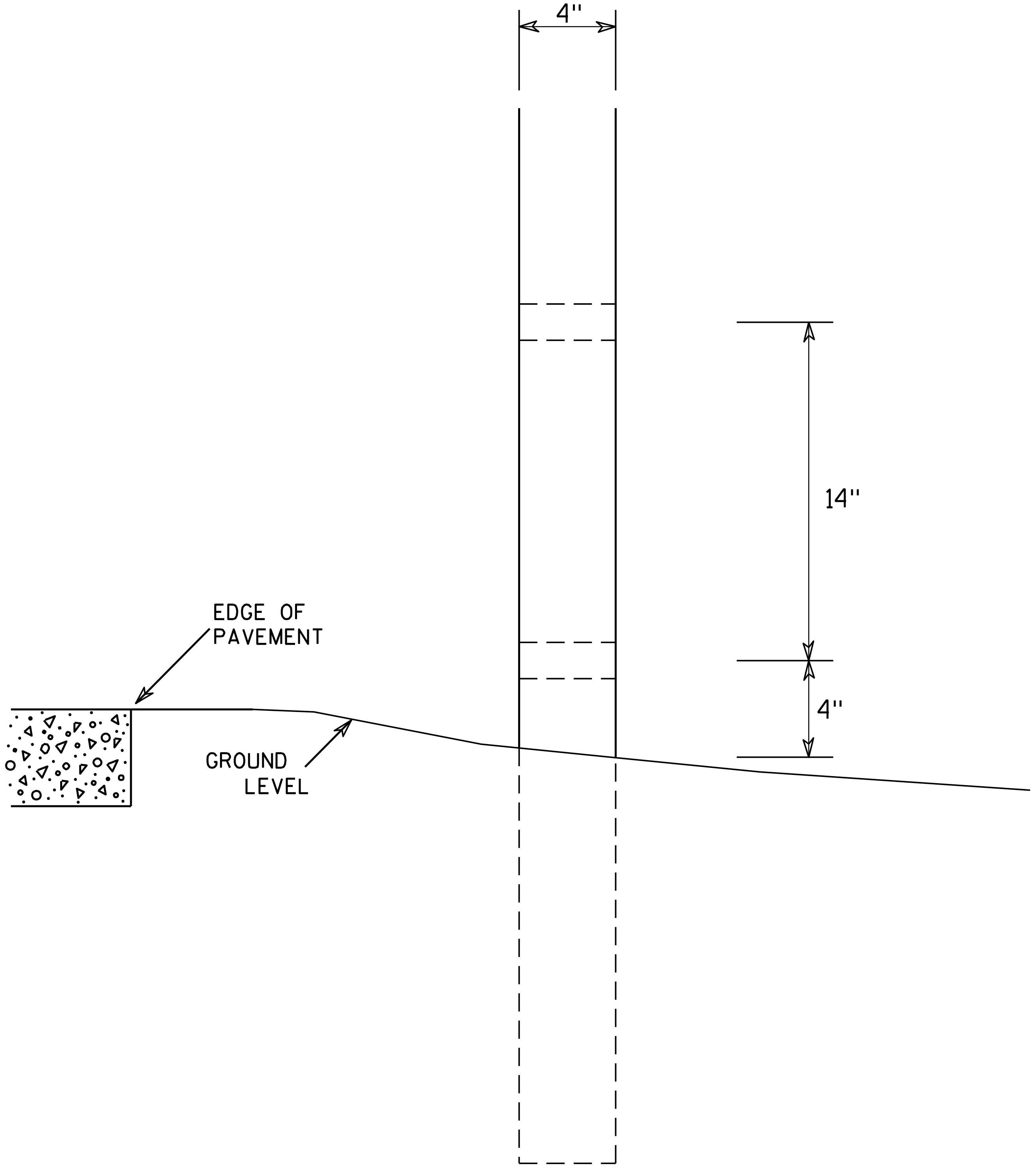
TUBULAR STEEL
SIGN POST
A4-9

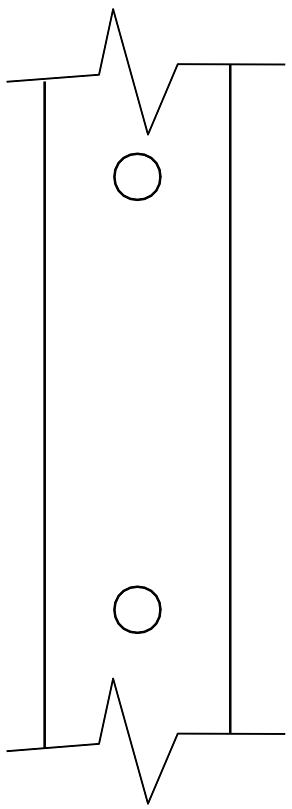
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E





SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two $1\frac{1}{2}$" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

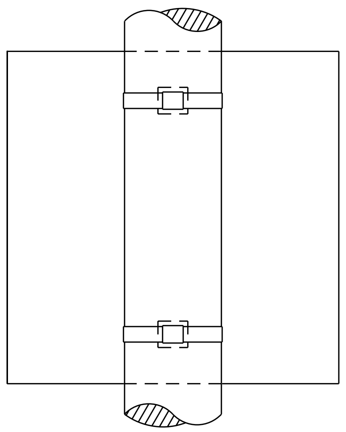
APPROVED Chester J Spang
for State Traffic Engineer

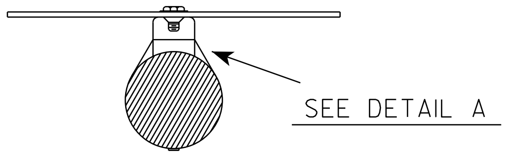
DATE 3/27/97 PLATE NO. A4-11.2

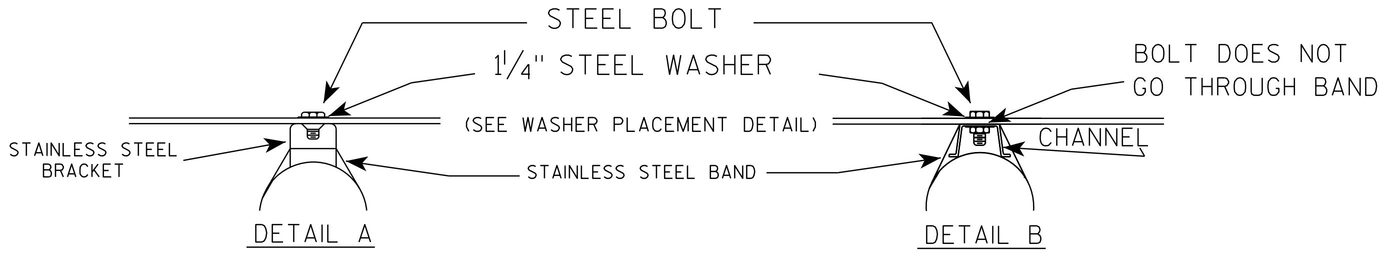
PROJECT NO: HWY: COUNTY: SHEET NO: 205 E

BANDING

SINGLE SIGN



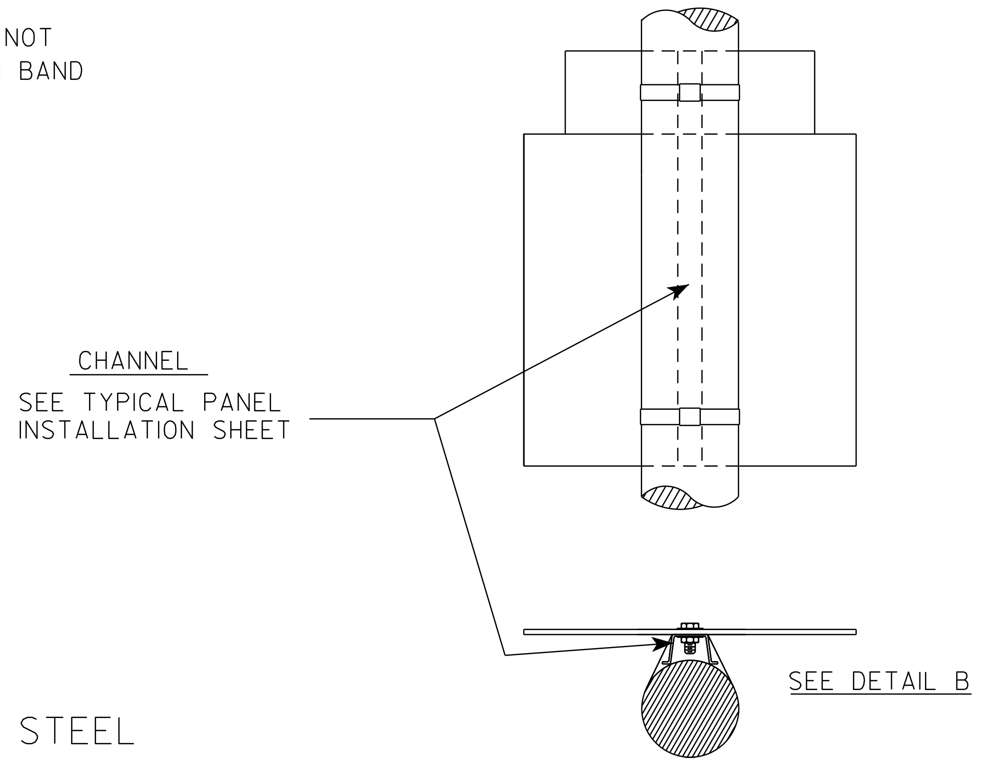




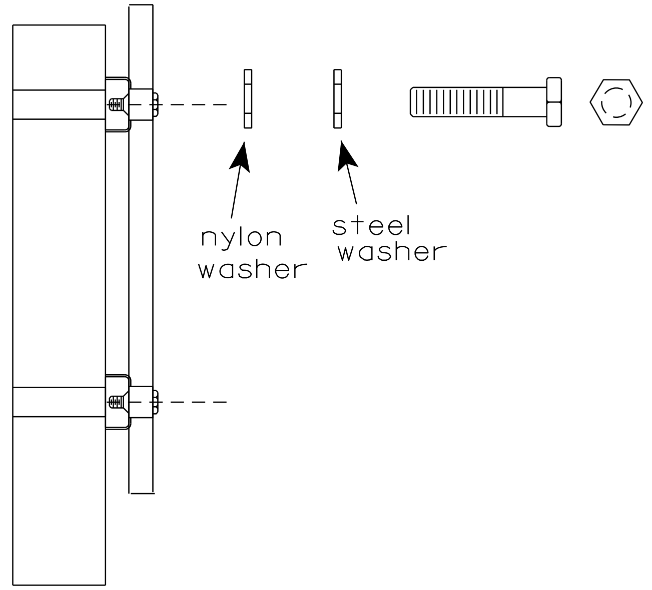
GENERAL NOTES

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 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

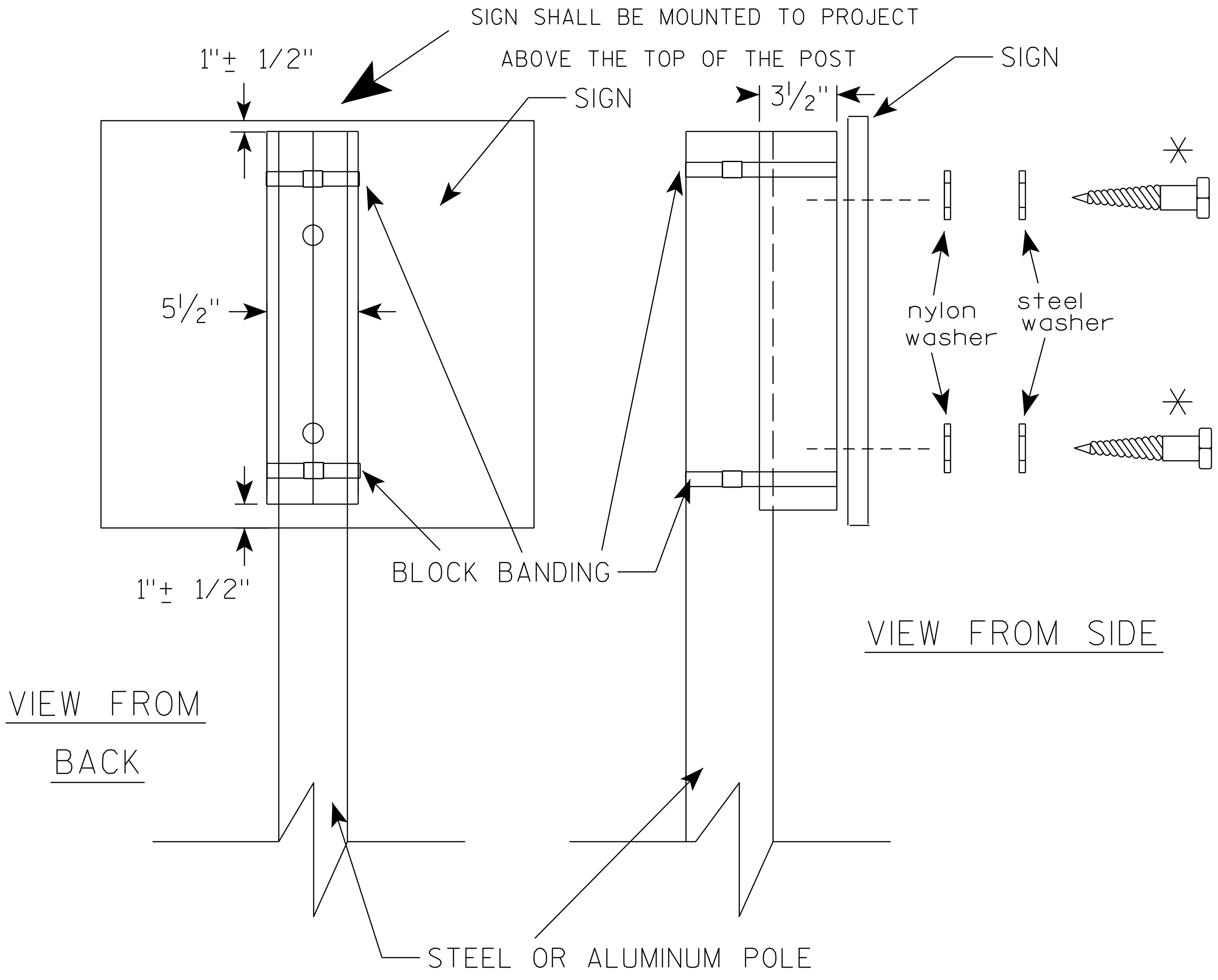


WASHER PLACEMENT



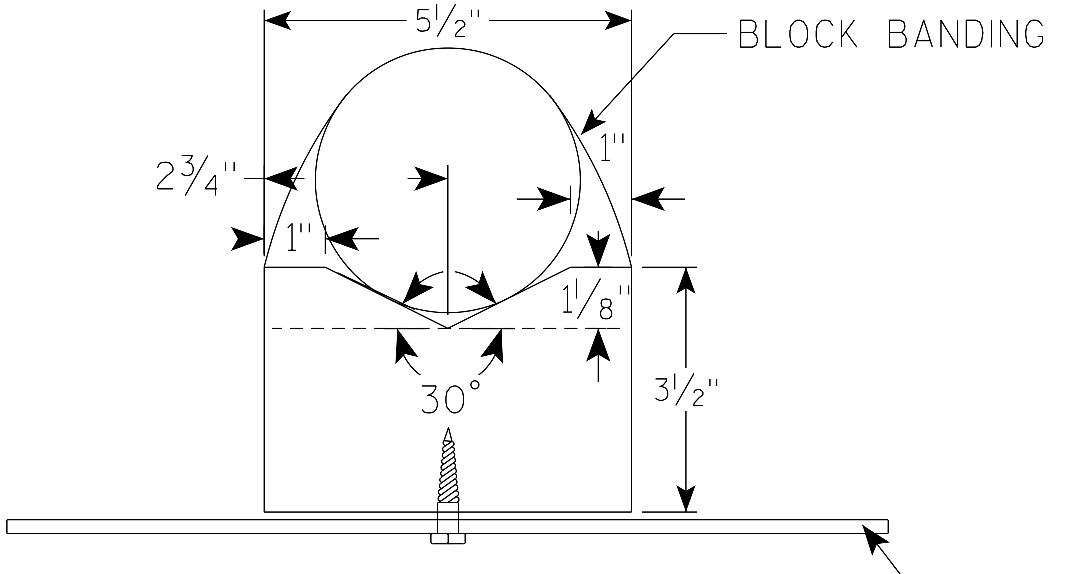
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

STANDARD SIGN
SIGN BANDING DETAILS
WISCONSIN DEPT OF TRANSPORTATION
APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM BACK

VIEW FROM SIDE



VIEW FROM TOP

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 $1\frac{1}{4}$" O.D. X $\frac{3}{8}$" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

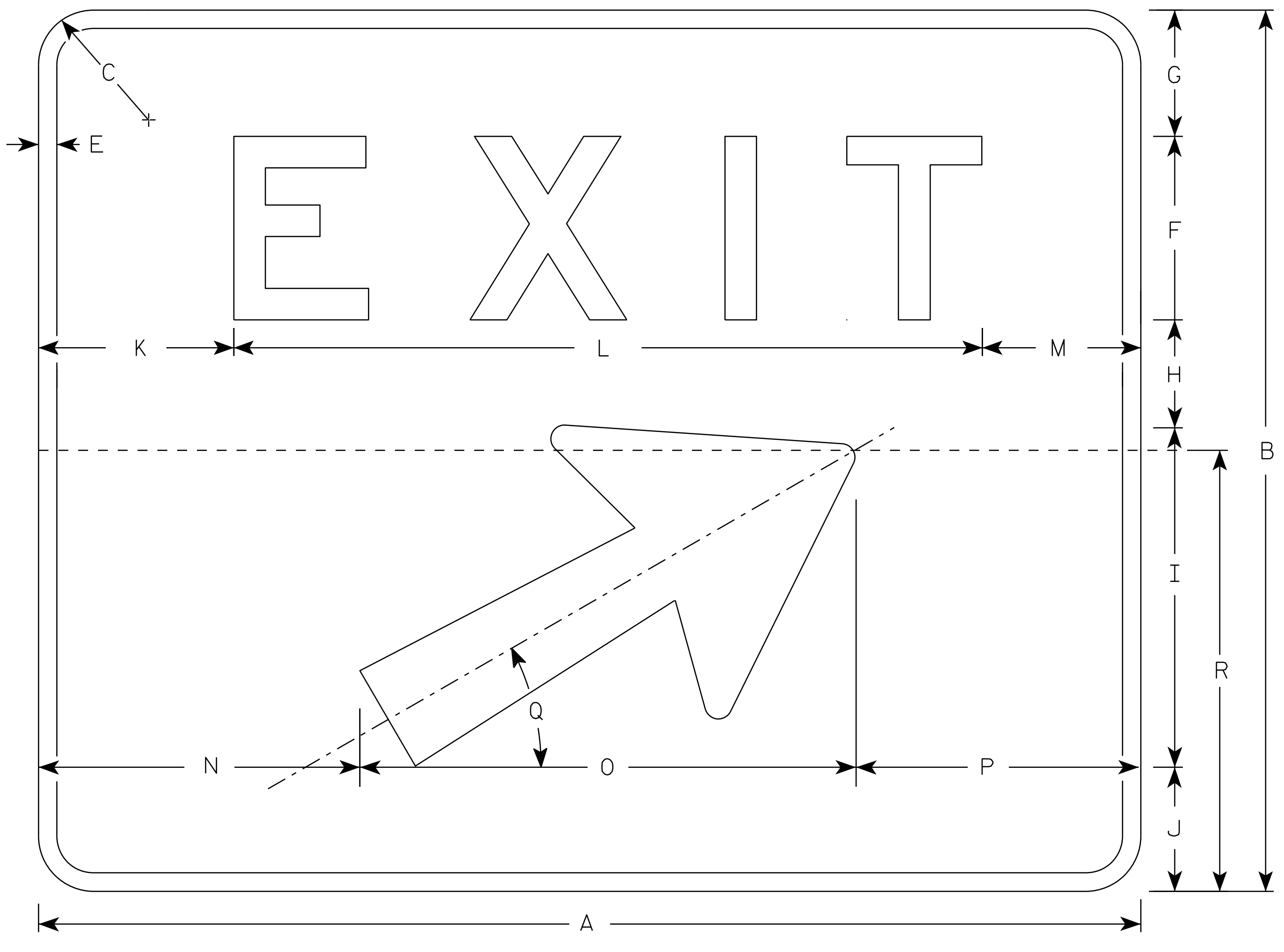
* LAG BOLTS SHALL BE $\frac{3}{8}$" X $2\frac{1}{2}$"

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3



E5-1

NOTES

1. Sign is Type II - Type H reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E
4. Sign shall be split into two seperate pieces as shown on the detail by the dashed line (------------) for sizes 4 & 5.
5. Arrow is Type "A" from sign plate A1-1.
6. As per the Standard Spec's, this sign shall not have a vertical joint.
7. Size 3 E5-1 shall only be used in a Work Zone application with a Temporary Sign Support

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3	48	48	3		1	10	6 7/8	5 7/8	18 1/2	6 3/4	8 1/2	31 1/8	8 3/8	11 1/2	27	9 1/2	30°	30									16.0
4	60	48	3		1	10	6 7/8	5 7/8	18 1/2	6 3/4	10 5/8	40 3/4	8 5/8	17 1/2	27	15 1/2	30°	30									20.0
5	72	60	3		1	12	9 3/4	10	18 1/2	9 3/4	13 1/4	48 1/2	10 1/4	23 1/2	27	21 1/2	30°	30									30.0

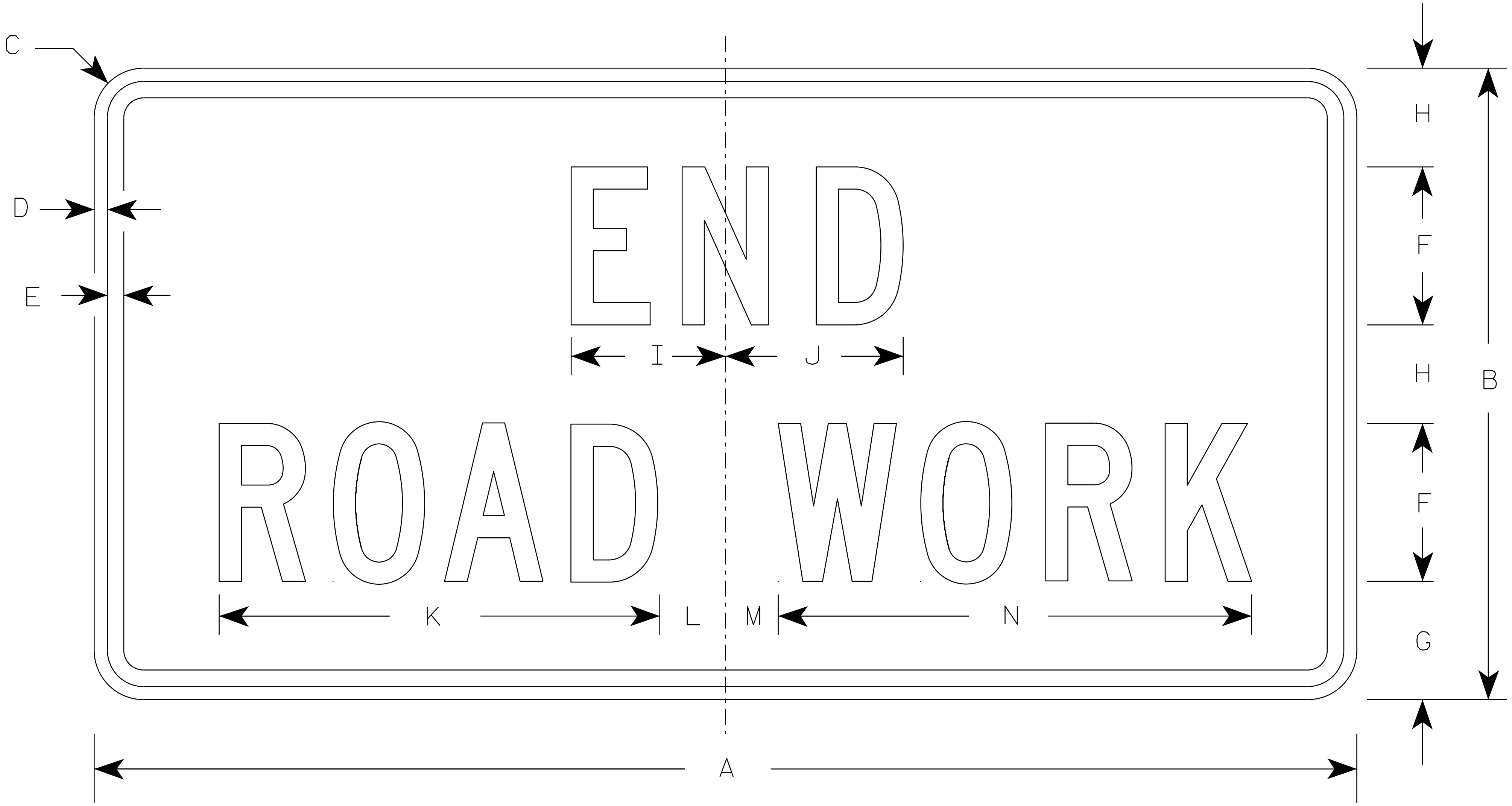
STANDARD SIGN
E5-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. E5-1.12

PROJECT NO: HWY: COUNTY: SHEET NO: 208 E



G20-2A

NOTES

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	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
2	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
2M	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
3	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
4	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0
5	48	24	1 7/8	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0

STANDARD SIGN
G20-2A

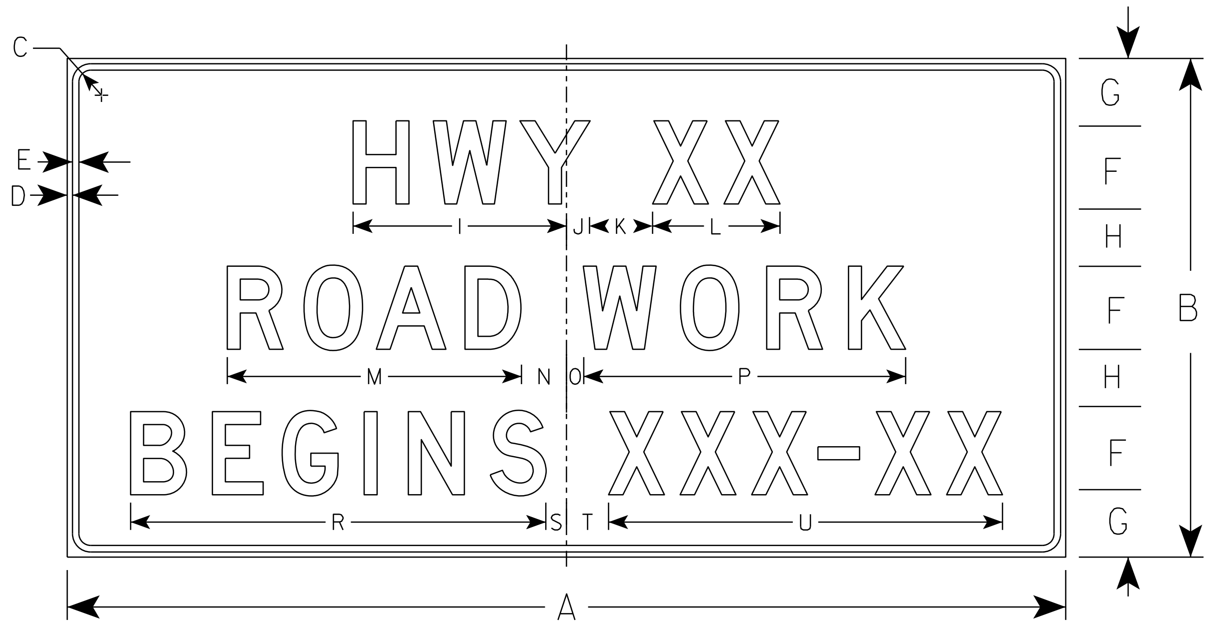
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-2A.10

NOTES

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.



G20-57

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	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 7/8	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 5/8	2 1/4	6	12 1/4	28 1/4	4 3/8	1 5/8	31		39 1/4	2	4	37 7/8						32.0
5																											

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

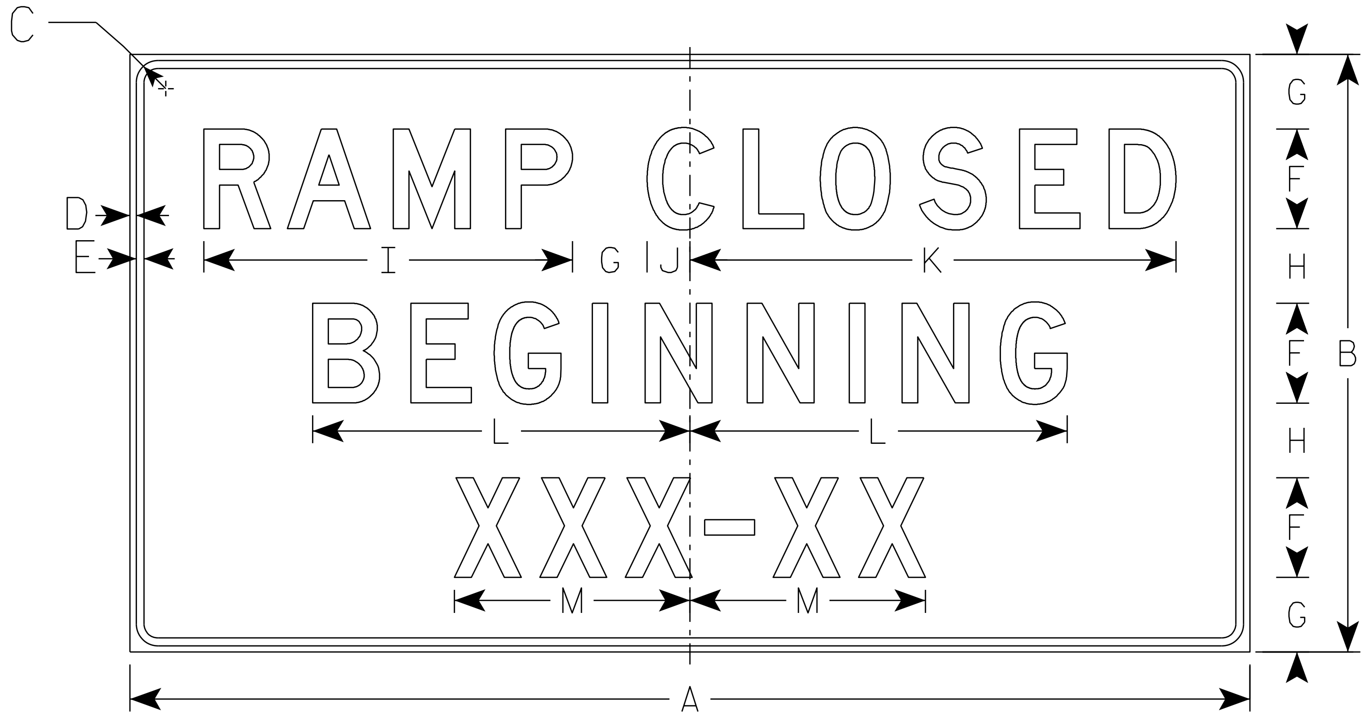
DATE 1/22/19 PLATE NO. G20-57.3

PROJECT NO: HWY: COUNTY: SHEET NO: 210 **E**

FILE NAME : C:\CAEfiles\Projects\tr_stdplate_G2057.dgn PLOT DATE : 22-JAN-2019 1:46 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



G20-58

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	72	36	1 5/8	5/8	3/4	6	5	4	22 1/4	2 3/8	29 1/2	22 3/4	14 1/4														18.0
3	90	48	1 5/8	5/8	3/4	8	6	6	29 5/8	3 3/8	39	30 3/8	19														30.0
4																											
5																											

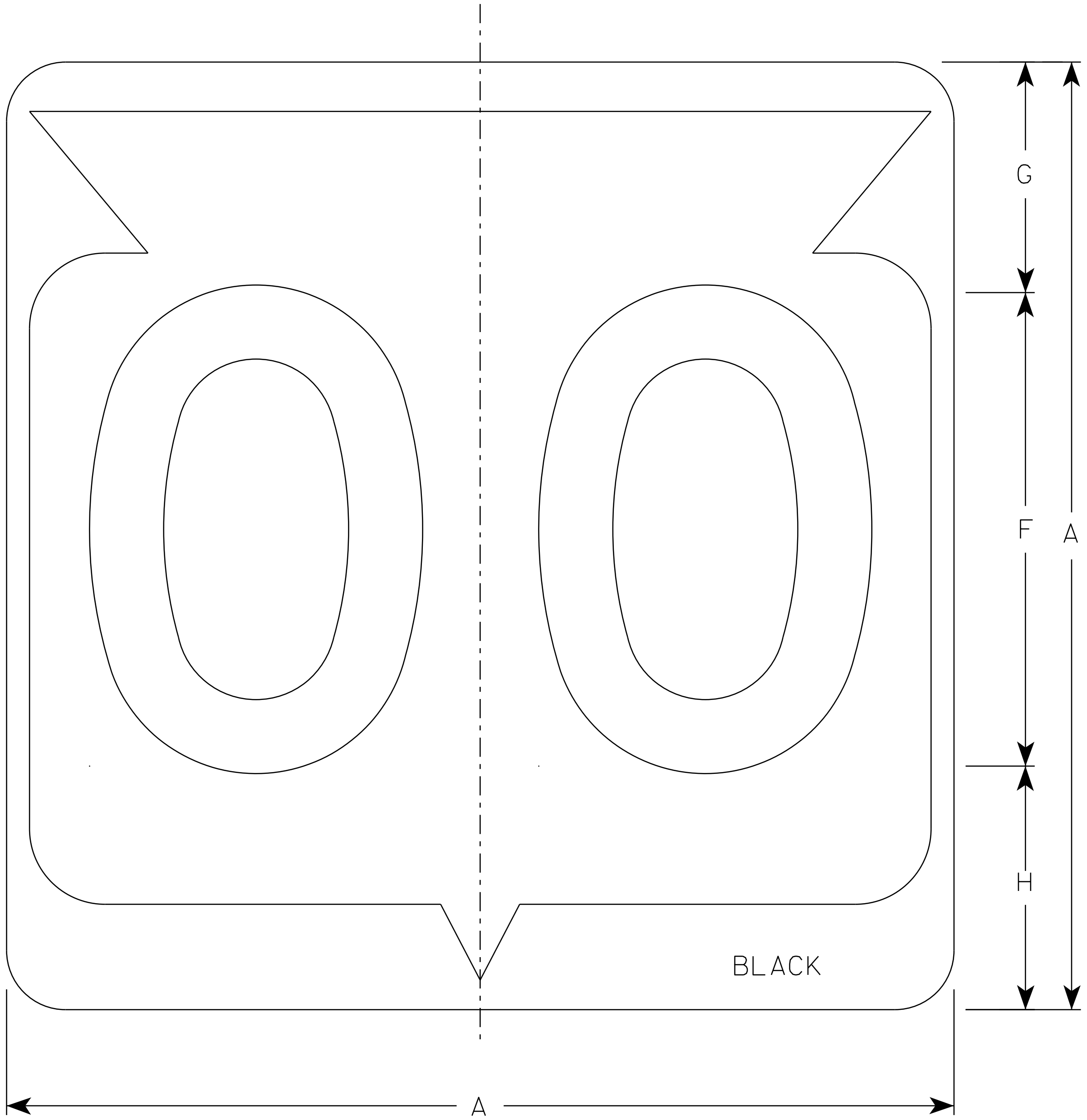
STANDARD SIGN
G20-58

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/19/2020 PLATE NO. G20-58.2

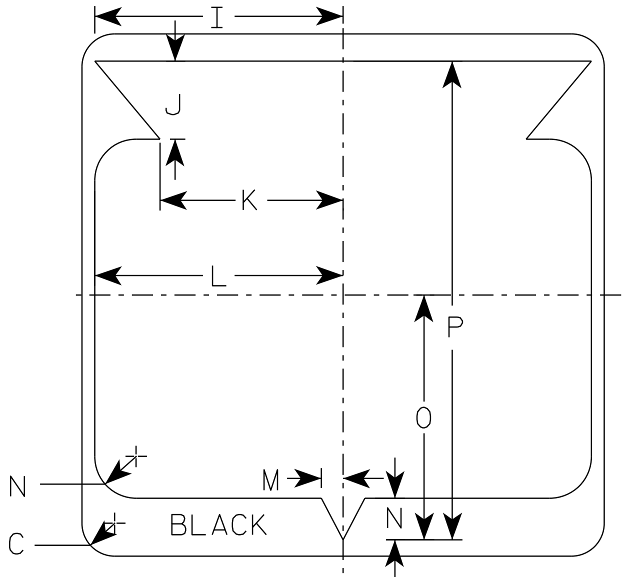
PROJECT NO: HWY: COUNTY: SHEET NO: 211 E



M1-6

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D except 3 number signs Series C



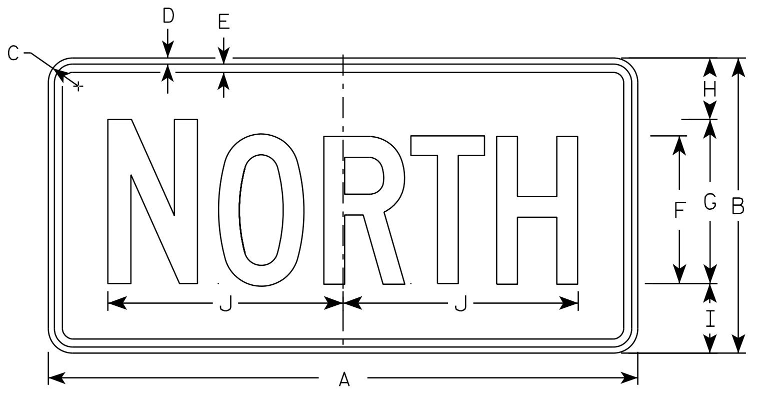
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

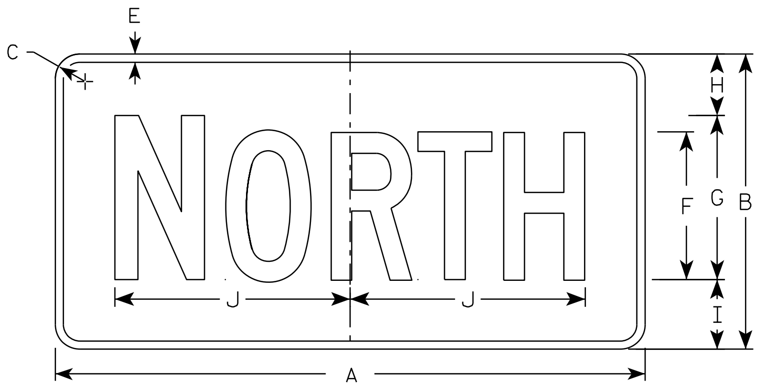
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

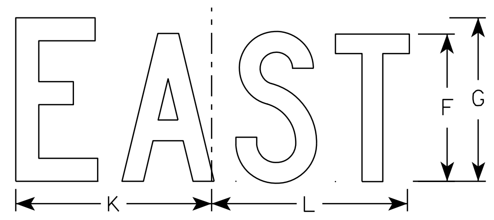


M3-1
MM3-1
MP3-1

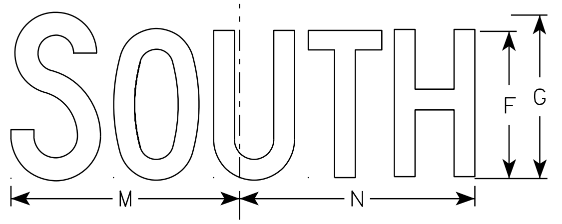


MB3-1
MK3-1
MN3-1

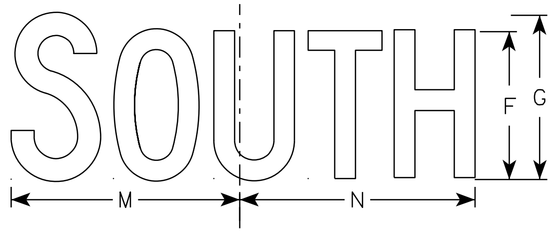
M3-2
MM3-2
MP3-2



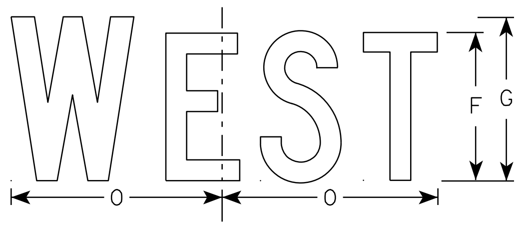
MB3-2
MK3-2
MN3-2



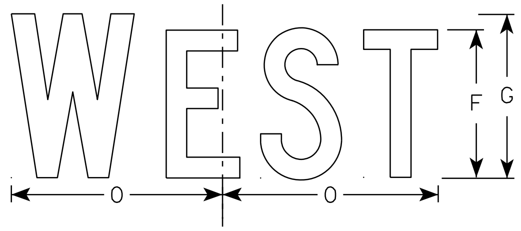
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H Reflective
2. Color:
   Background - See note 5
   Message - See note 5
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. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
2M	24	12	1 1/2	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

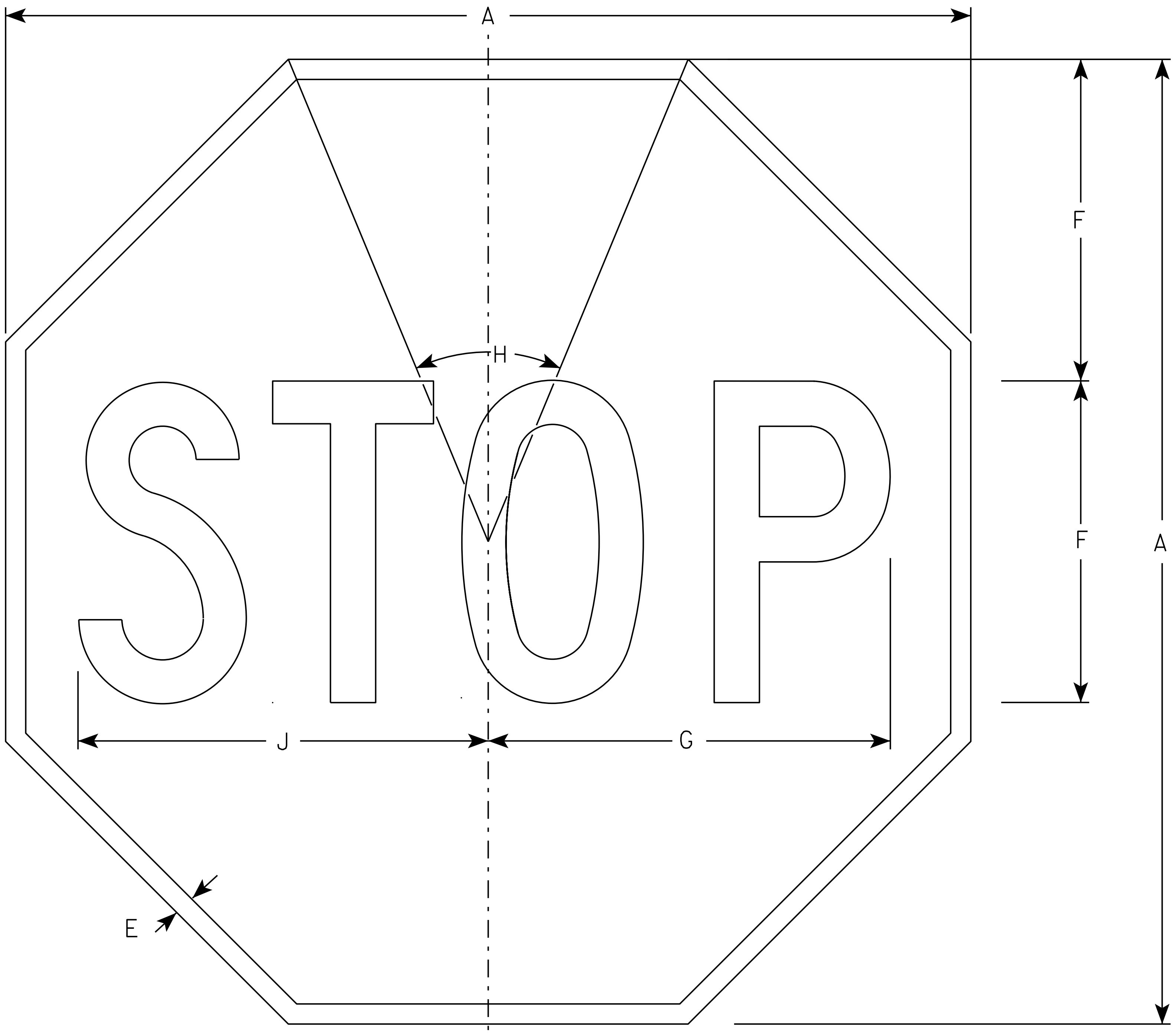
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: HWY: COUNTY: SHEET NO: 213 **E**

FILE NAME : C:\CAEfiles\Projects\tr_stdplate_M31.dgn PLOT DATE : 8-FEB 2023 11:00 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7



R1-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				⅝	10	12 ½	45°		12 ¾																	5.18
2S	30				⅝	10	12 ½	45°		12 ¾																	5.18
2M	36				¾	12	15	45°		15 ⅜																	7.46
3	36				¾	12	15	45°		15 ⅜																	7.46
4	48				1	16	20	45°		20 ½																	13.25
5	48				1	16	20	45°		20 ½																	13.25
6	18				⅜	6	7 ¾	45°		7 ¾																	1.86
7	12				¼	4	5	45°		5 ⅛																	0.78

7

STANDARD SIGN
R1-1

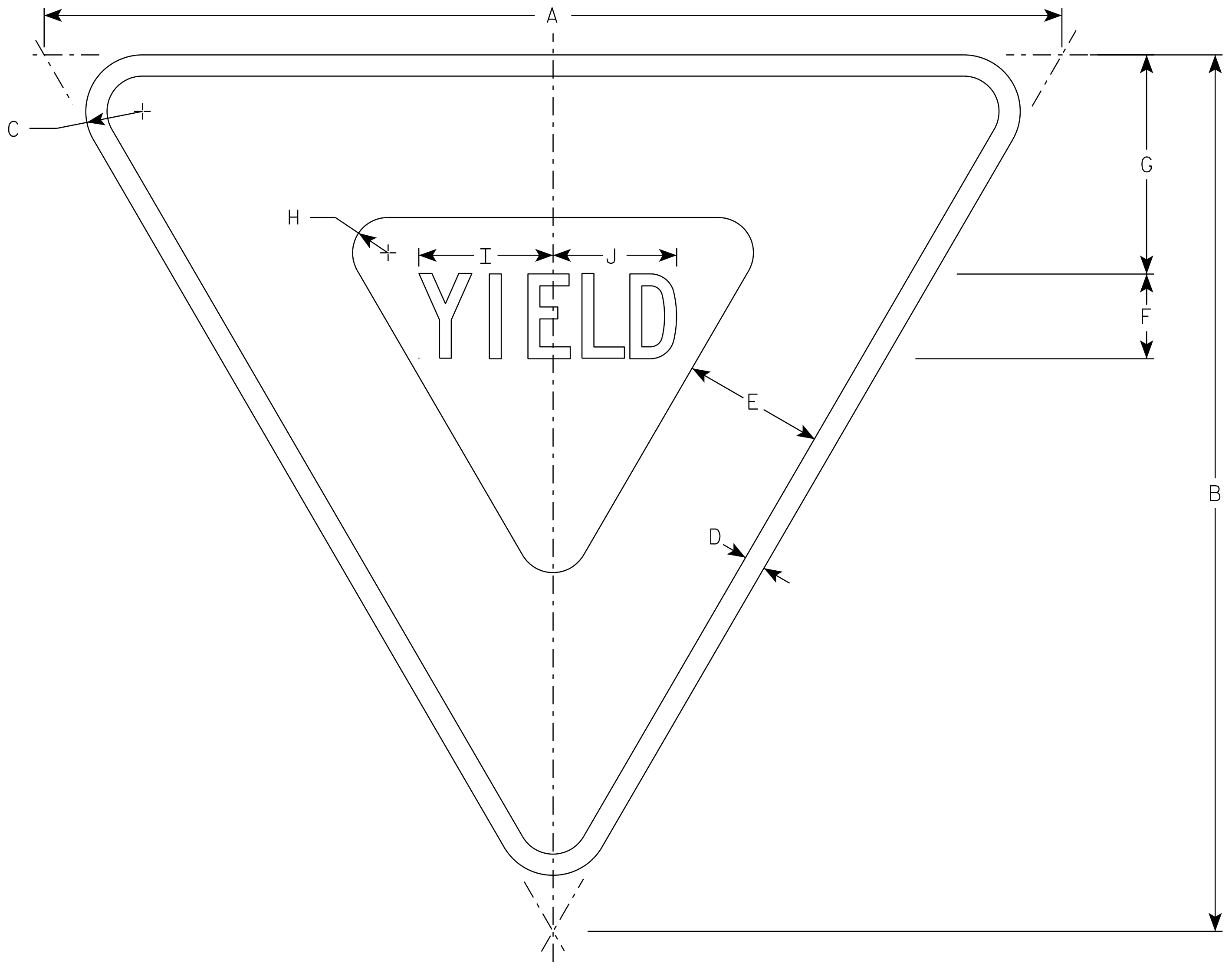
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 214 **E**

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 22-AUG-2017 07:19 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 4.427909:1.000000 WISDOT/CADDS SHEET 42



R1-2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - See note 4
3. Message Series - C
4. The border strip and word message are reflectorized red.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

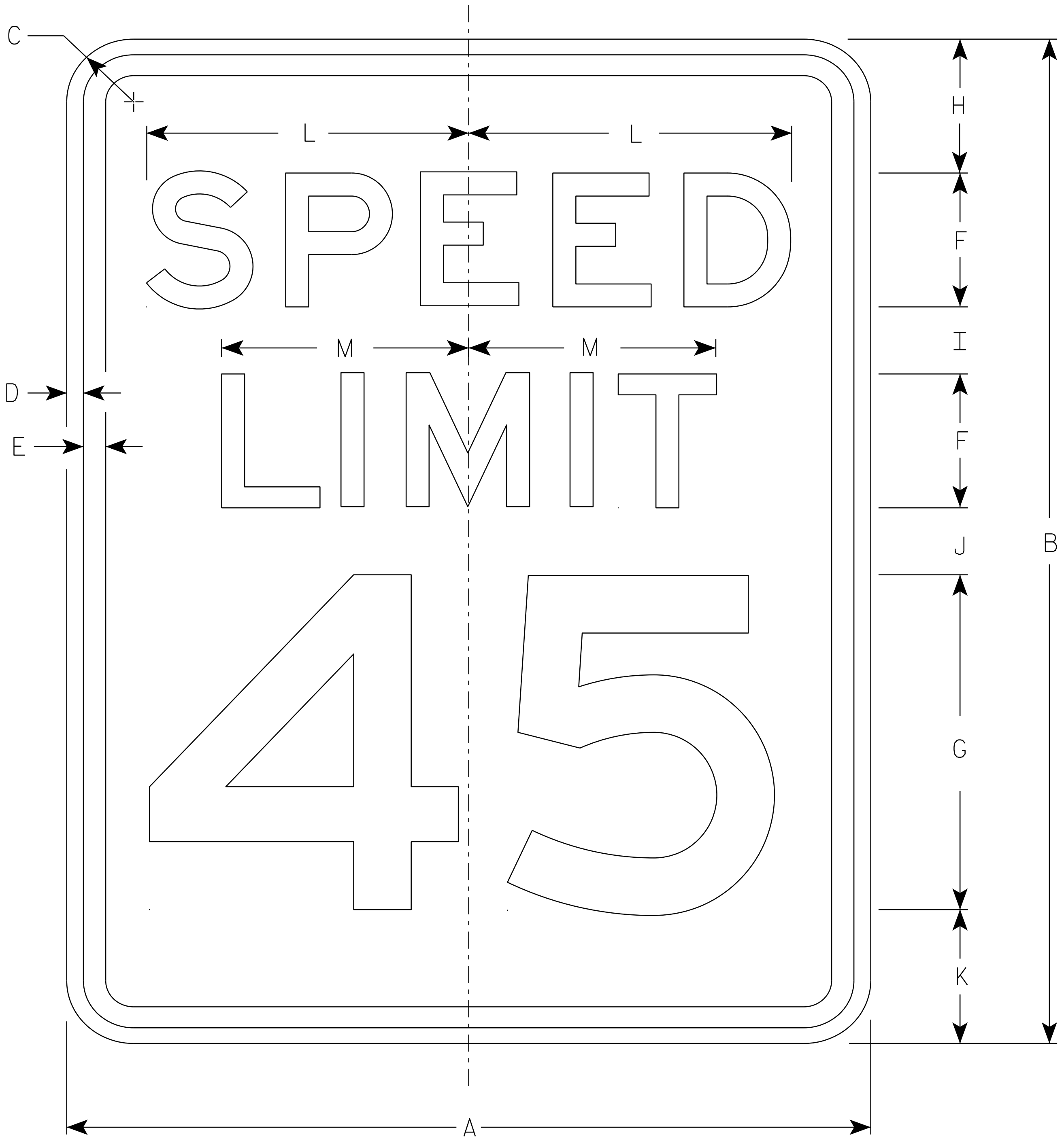
STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/10/2024 PLATE NO. R1-2.13

PROJECT NO: HWY: COUNTY: SHEET NO: 215 E



R2-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/2	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/2	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 7/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 7/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	3	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

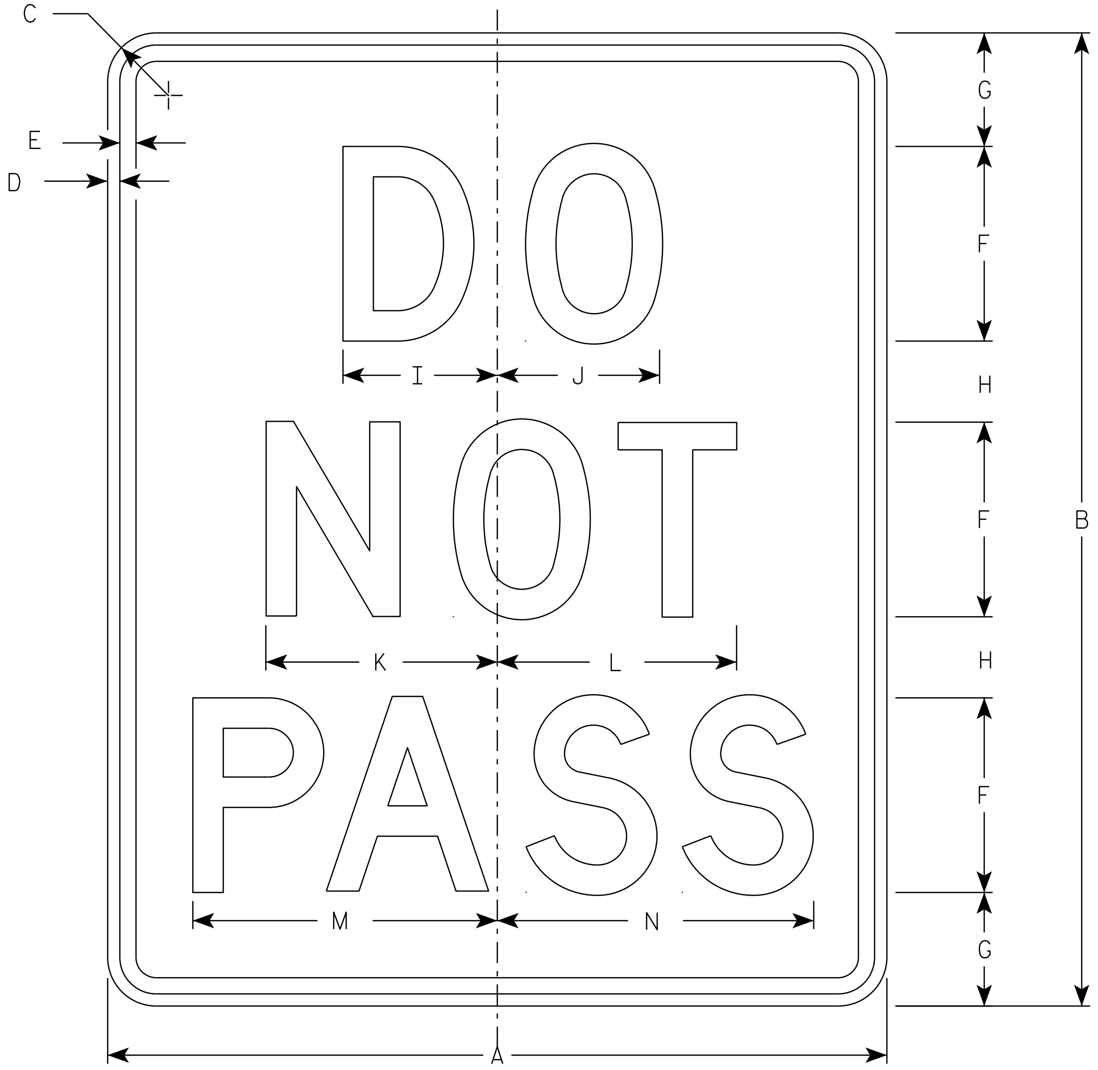
DATE 2/1/23 PLATE NO. R2-1.14

PROJECT NO: HWY: COUNTY: SHEET NO: 216 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R21.dgn PLOT DATE : 9-JULY 2024 1:47 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



R4-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 ½	⅜	½	4	3 ½	2 ½	3 ⅛	3 ¼	4 ¾	4 ⅞	6 ¼	6 ½													3.0
2S	24	30	1 ½	⅜	½	6	3 ½	2 ½	4 ¾	5	7 ⅛	7 ⅜	9 ⅜	9 ¾													5.0
2M	24	30	1 ½	⅜	½	6	3 ½	2 ½	4 ¾	5	7 ⅛	7 ⅜	9 ⅜	9 ¾													5.0
3	36	48	1 ⅞	⅝	¾	8	7	5	6 ¼	6 ⅝	9 ½	9 ¾	12 ½	13													12.0
4	36	48	1 ⅞	⅝	¾	8	7	5	6 ¼	6 ⅝	9 ½	9 ¾	12 ½	13													12.0
5	48	60	3	¾	1	10	8	7	7 ¾	8 ⅜	11 ⅞	12 ¼	15 ⅝	16 ¼													20.0

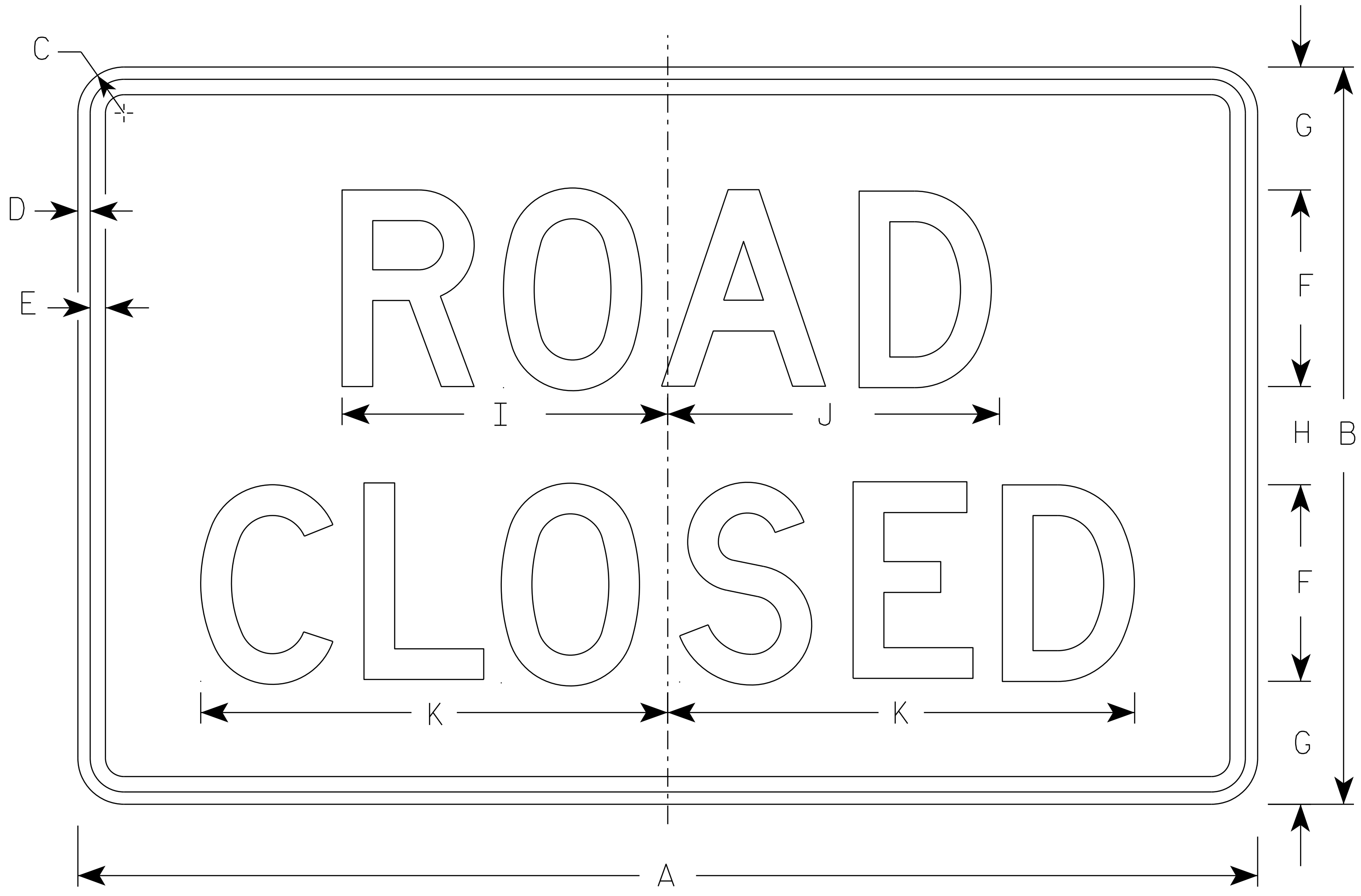
STANDARD SIGN
R4-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/23 PLATE NO. R4-1.8

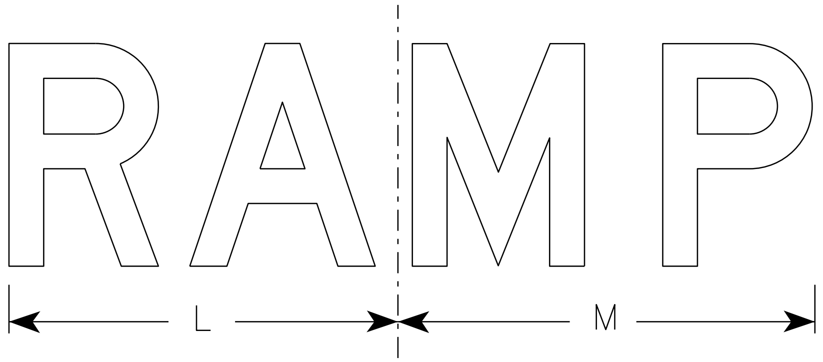
PROJECT NO: HWY: COUNTY:



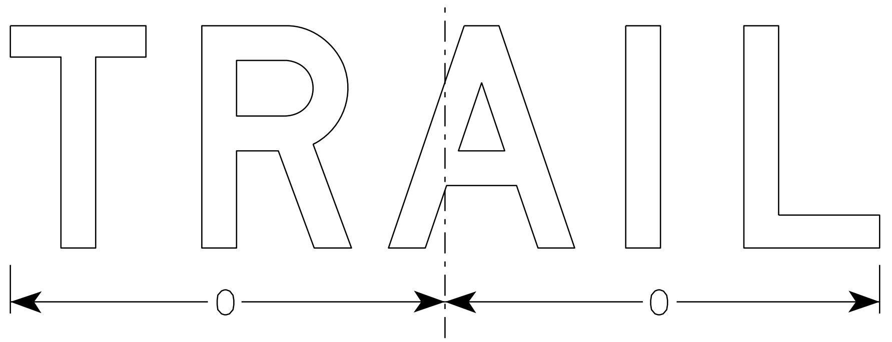
R11-2

NOTES

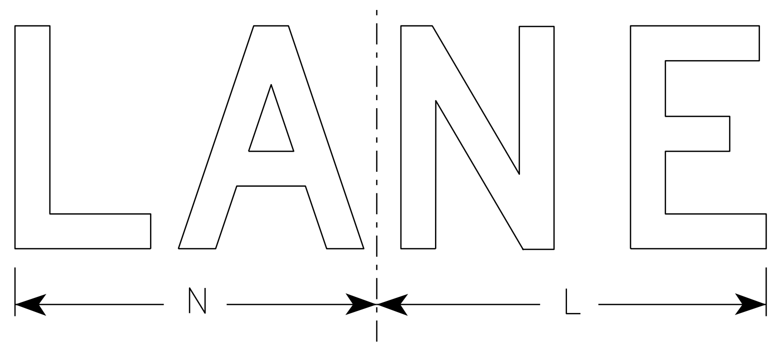
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

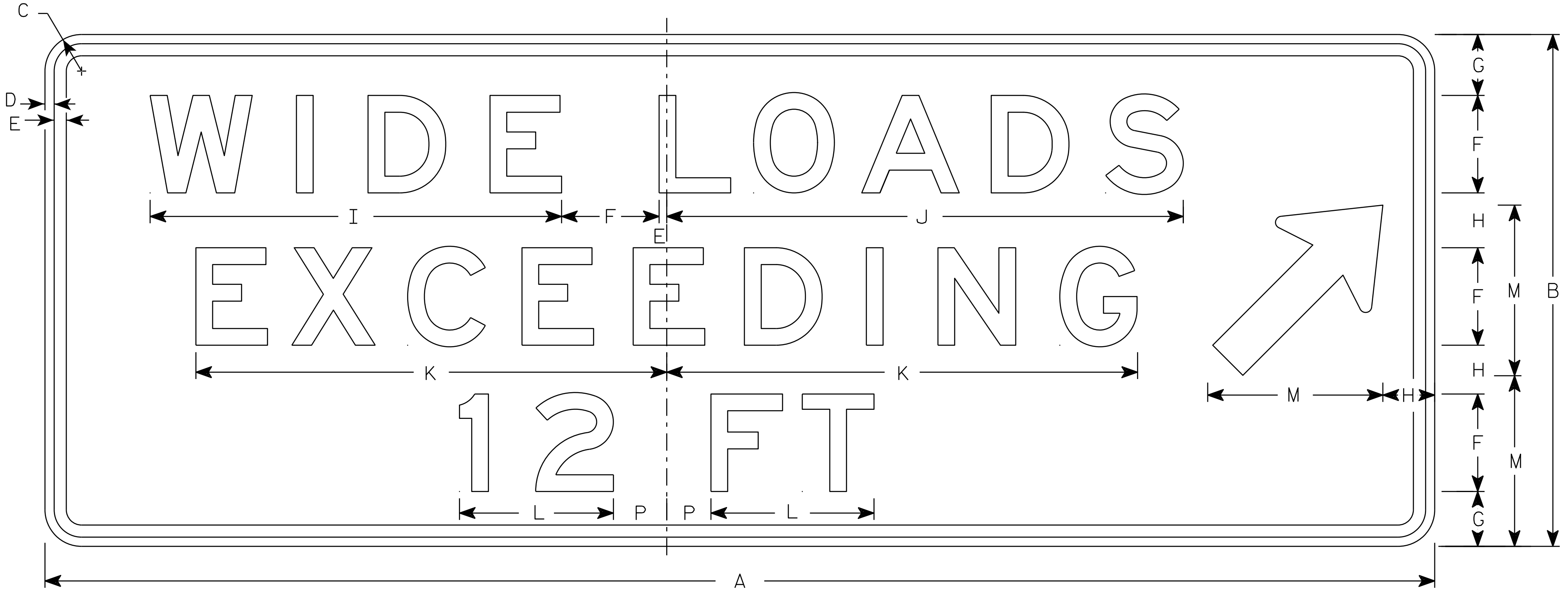
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 218 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 5-FEB 2024 2:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

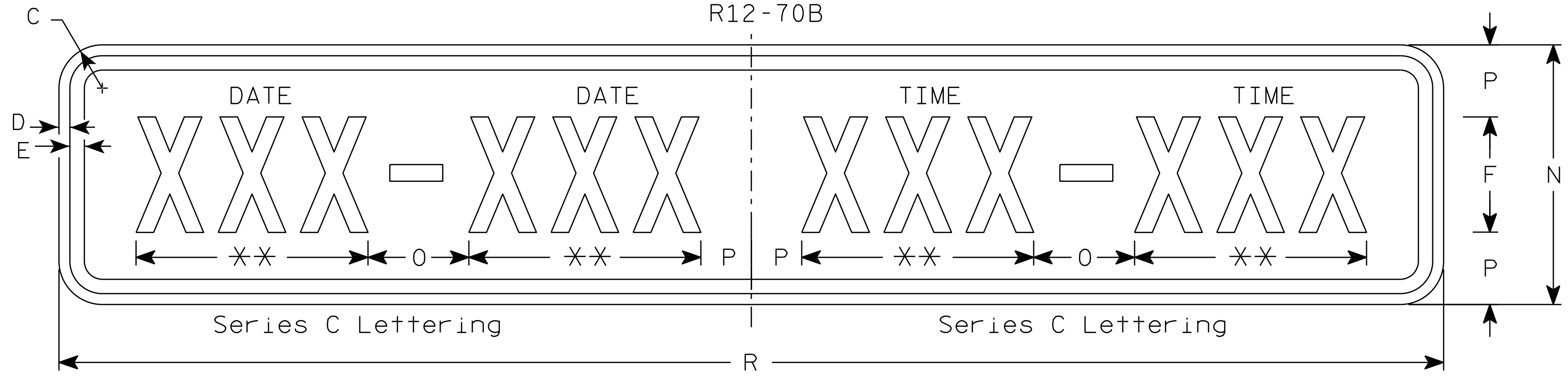
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - E except as noted
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.

✶✶ Substitute appropriate message, optically center message



R12-70B



R12-70C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	R12-70 Area sq. ft.	R12-70C Area sq. ft.
1																												
2S	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
2M	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
3	90	36	3	1/2	5/8	6	4	5	20 7/8	28 3/8	24 5/8	8 1/8	12	12	6	3		66									22.5	5.5
4	114	42	3	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0
5	114	42	3	3/4	1	8	5	4	34	42	39	13	14	18	7	3 1/2		96									36.75	12.0

TYPICAL SIGN
R12-70B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/24 PLATE NO. R12-70B.4

PROJECT NO: HWY: COUNTY:

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   - Background - Yellow
   - Message - Black
3. Message Series - B

W4-4P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/2	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
2M	24	12	1 1/2	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
3	36	15	1 1/2	3/8	1/2	4	2 5/8	1 3/4	10 3/4	2 3/8	3/8	13 1/2	8 3/8	3	3 1/8	8 3/8											3.75
4	42	18	1 1/2	3/8	1/2	5	3	2	13 3/8	3 1/8	3/8	16 7/8	10 1/2	3 5/8	3 7/8	10 3/8											5.25
5																											

STANDARD SIGN
W4-4P

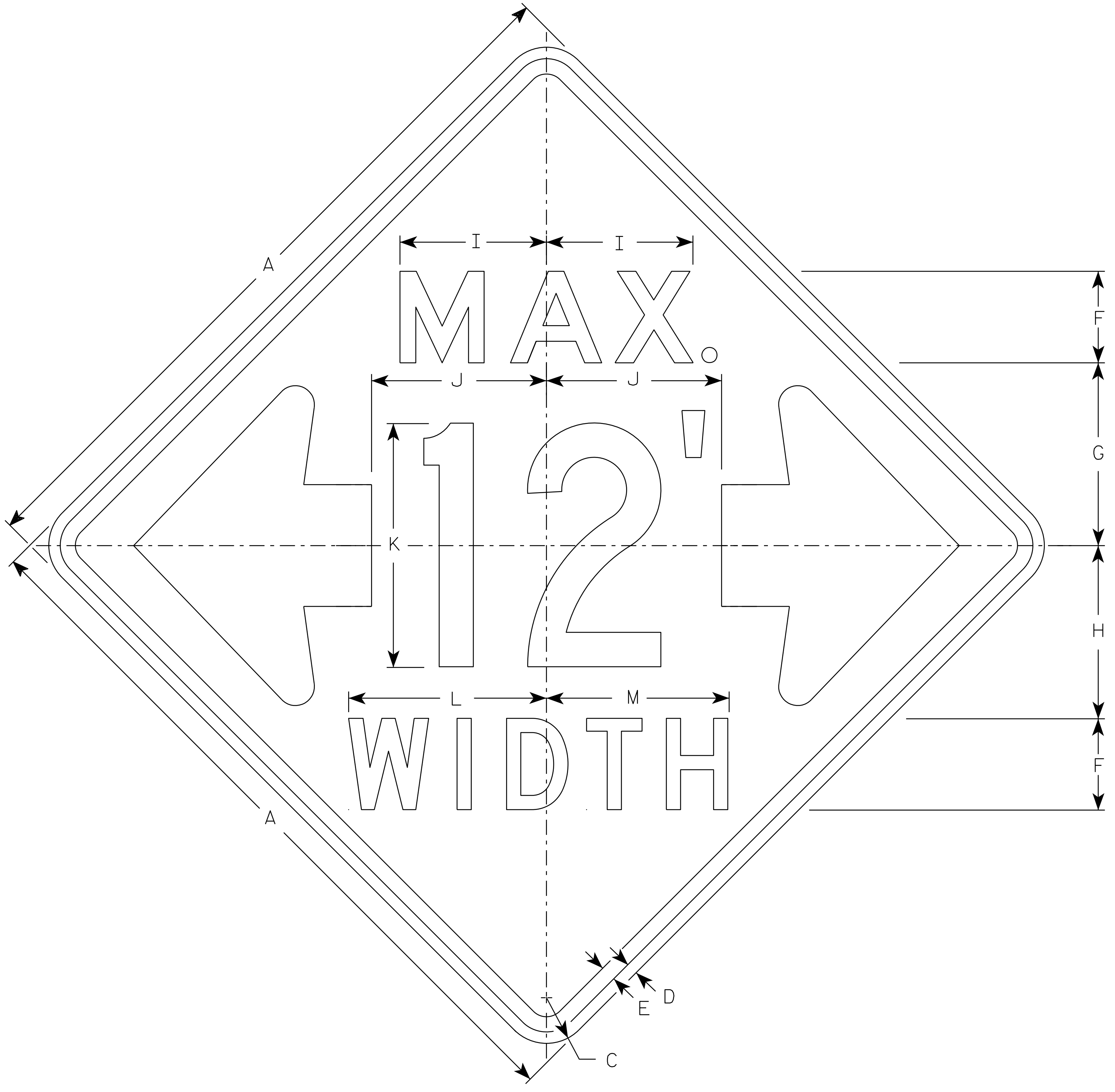
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/5/2023 PLATE NO. W4-4P.3

PROJECT NO: HWY: COUNTY: SHEET NO: 220 E

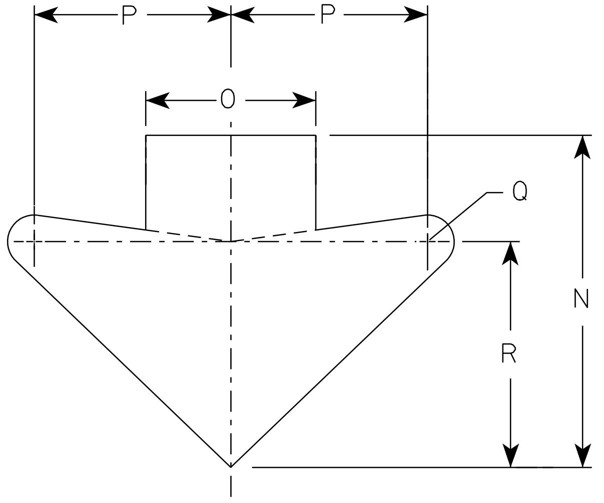
7



W12-52

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. The top line is series E, the numerals are series C, and the bottom line is series D.
5. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		3	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		3	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

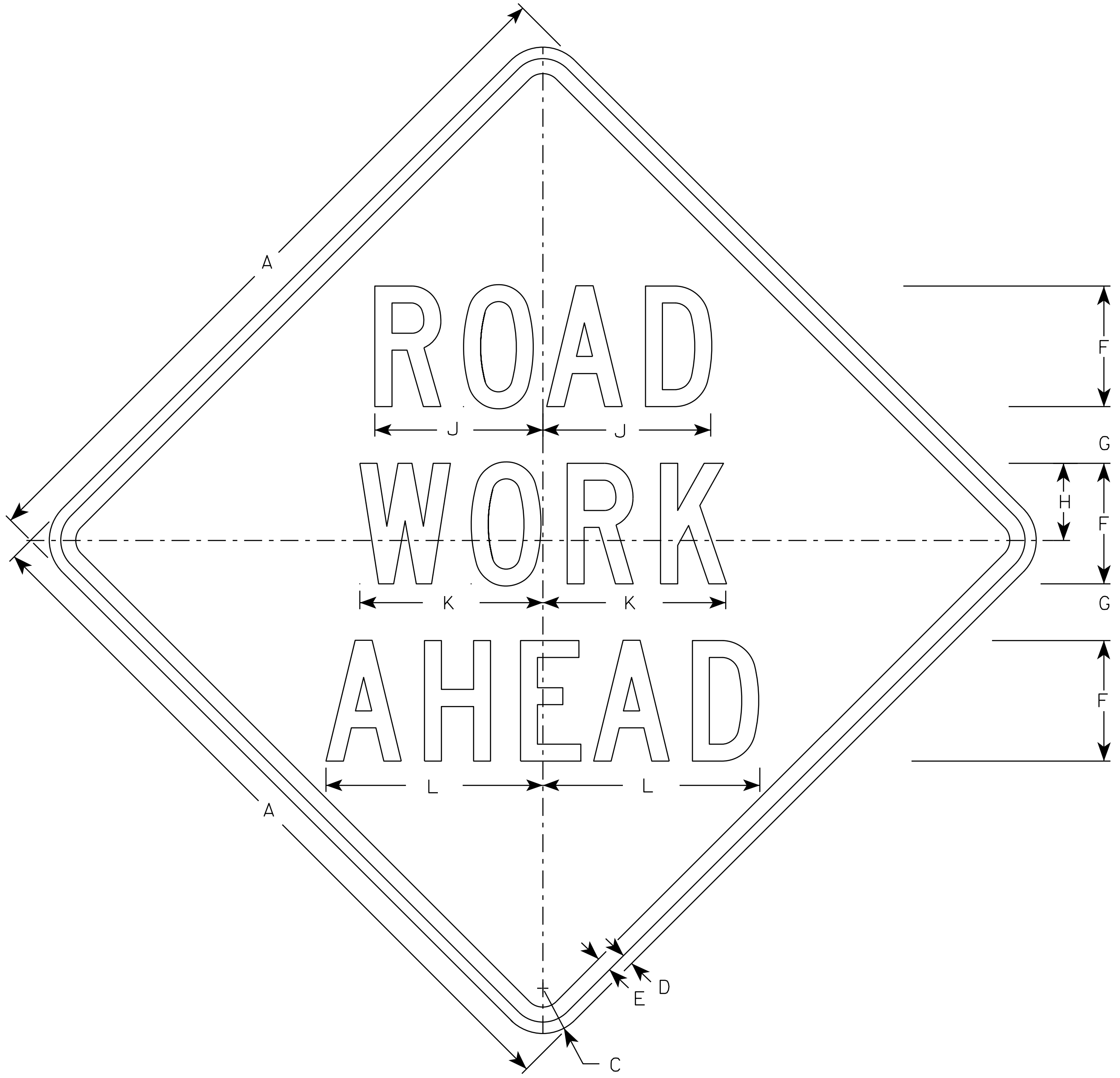
STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

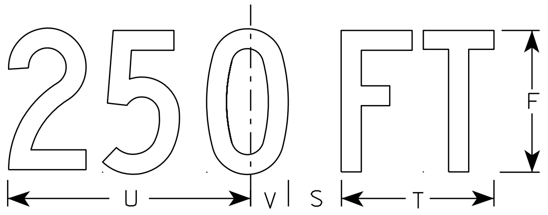
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

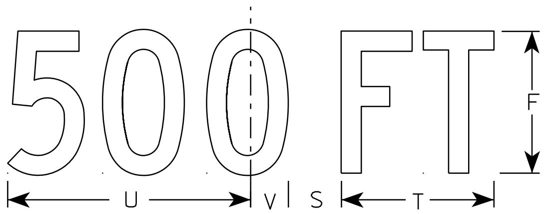
PROJECT NO: HWY: COUNTY: SHEET NO: 221 E



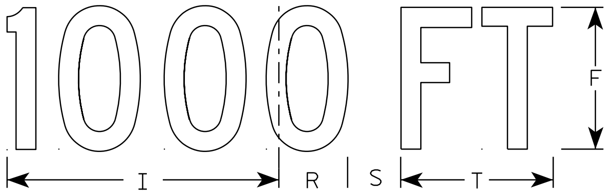
W20-1A



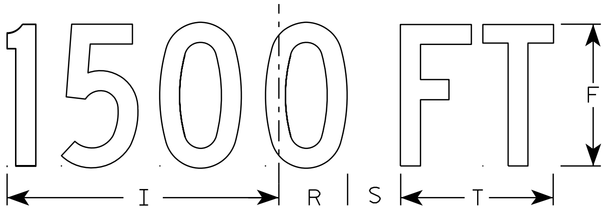
W20-1H



W20-1D



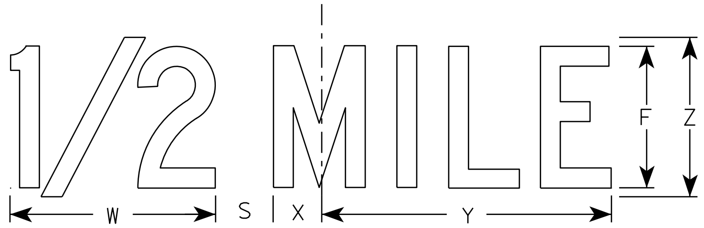
W20-1C



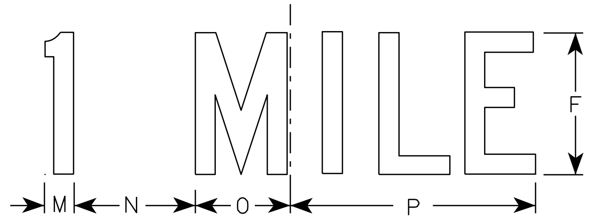
W20-1B

NOTES

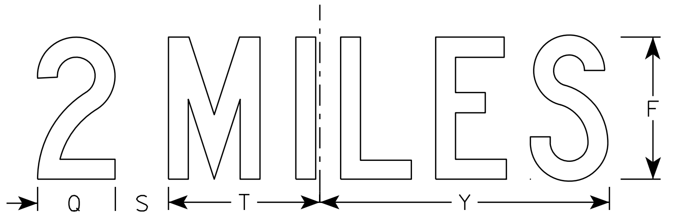
1. Sign is Type II - Type F Reflective
2. Color:
   - Background - Orange
   - Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	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 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	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 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	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 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	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 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	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 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

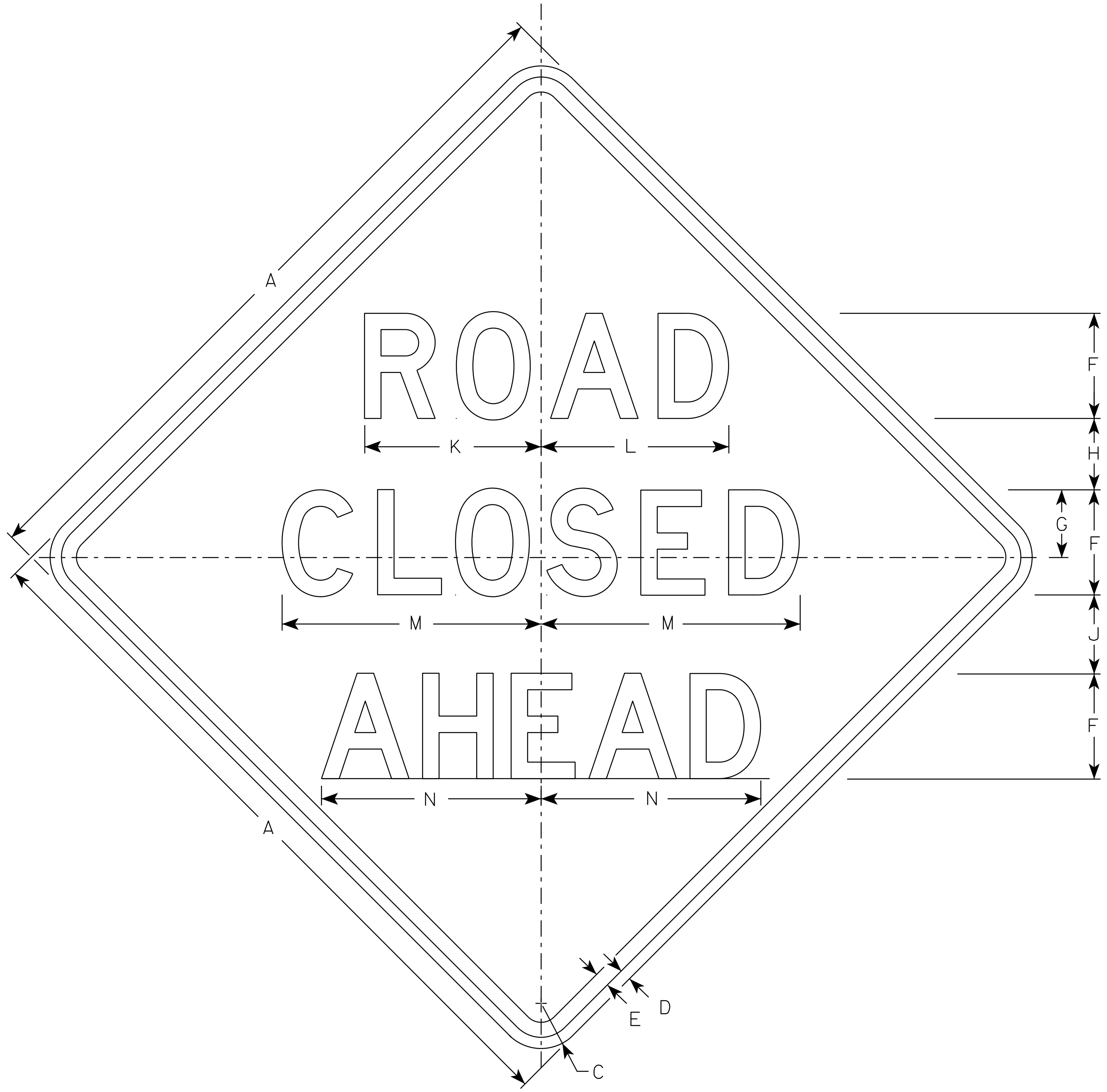
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

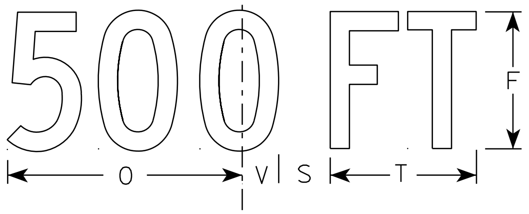
DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

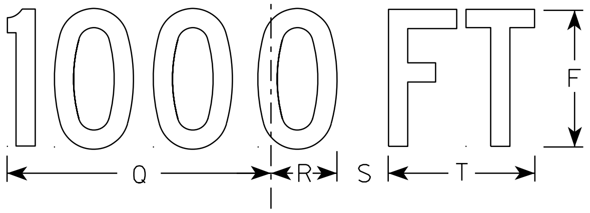
SHEET NO: 222 **E**



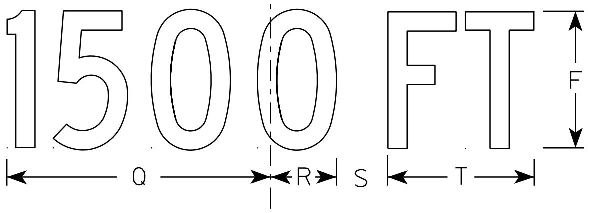
W20-3A



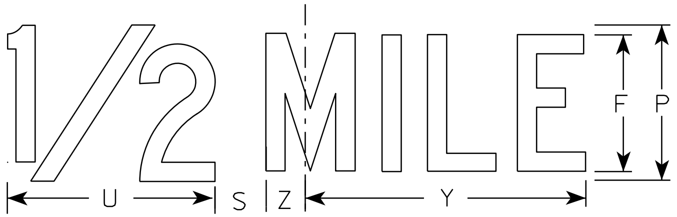
W20-3D



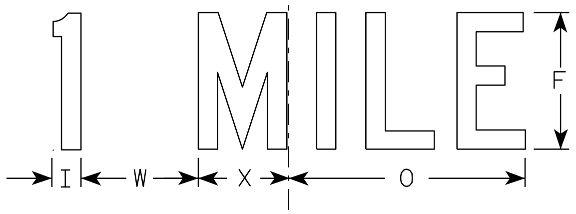
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - see note 5
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. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

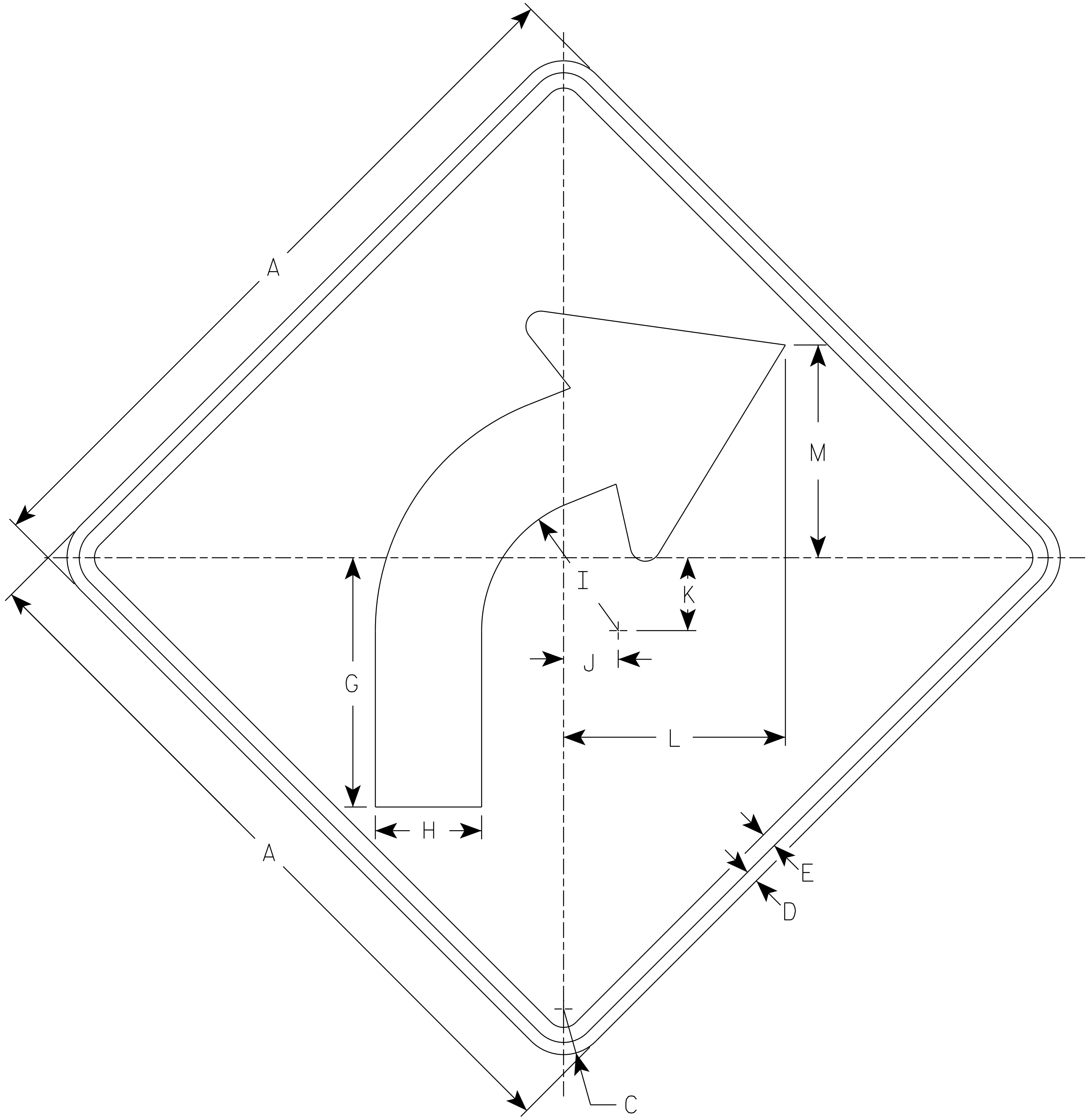
STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

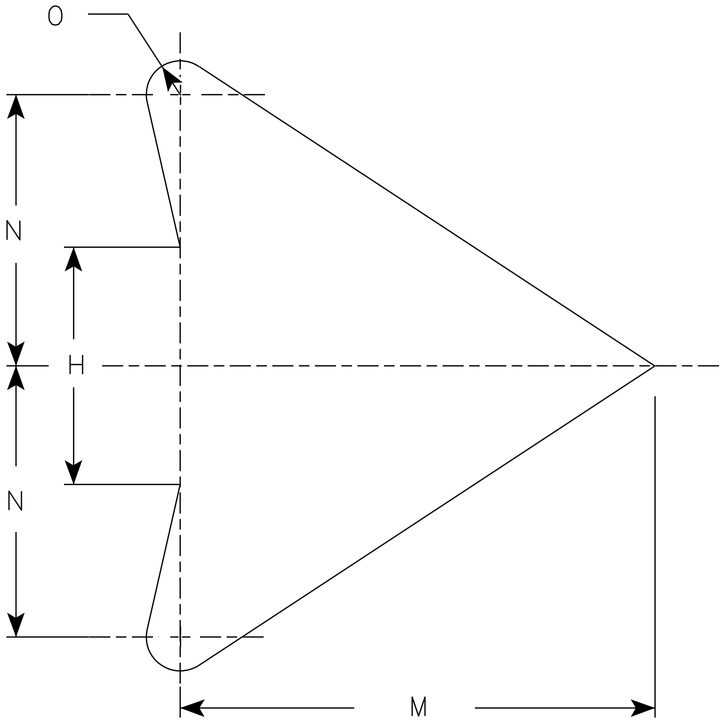
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 223 | E



W01-2R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. 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.
4. W01-2L is the same as W01-2R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												4.0
2S	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
2M	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
3	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
4	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0
5	48		3	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

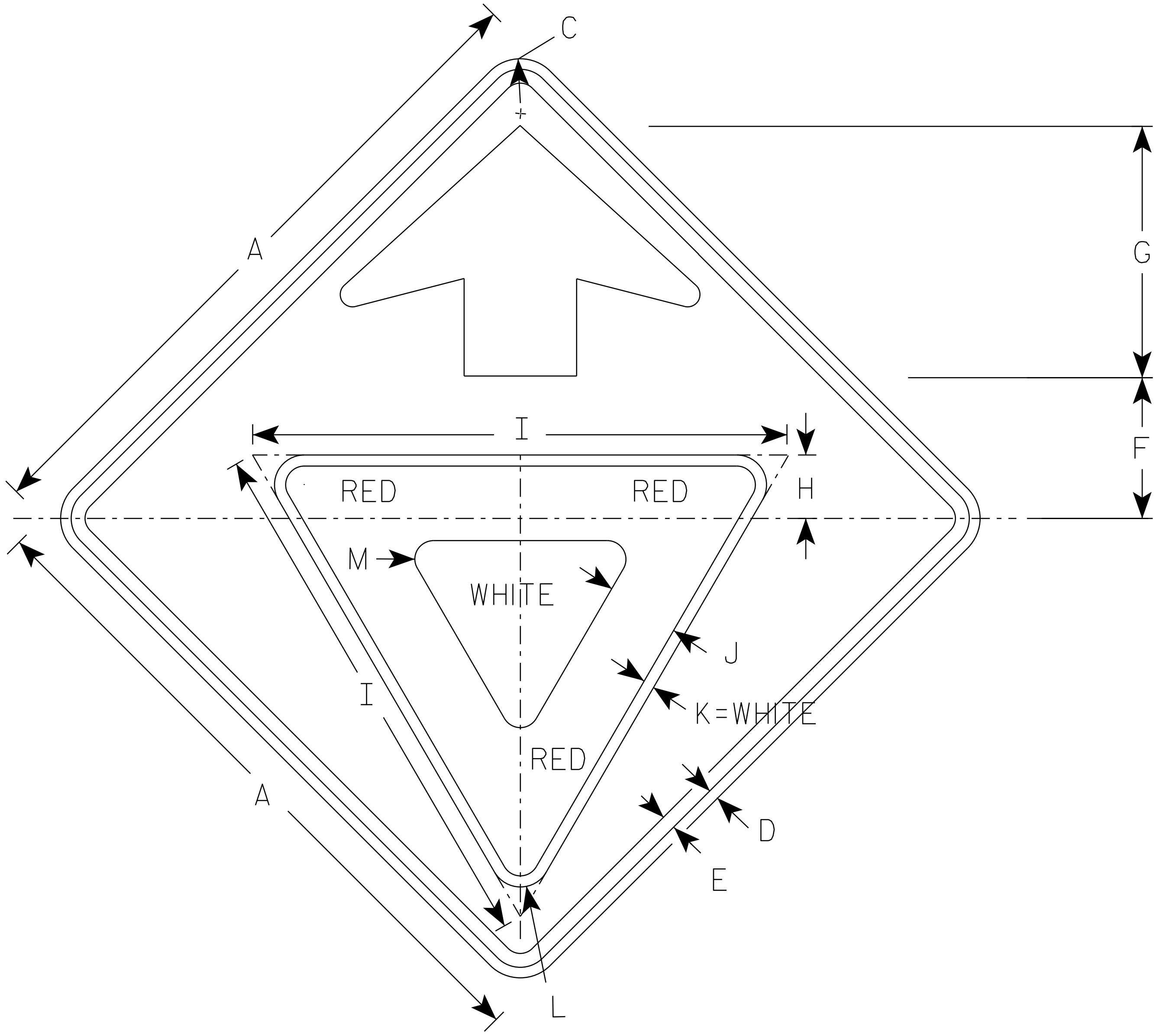
STANDARD SIGN
W01-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W01-2.2

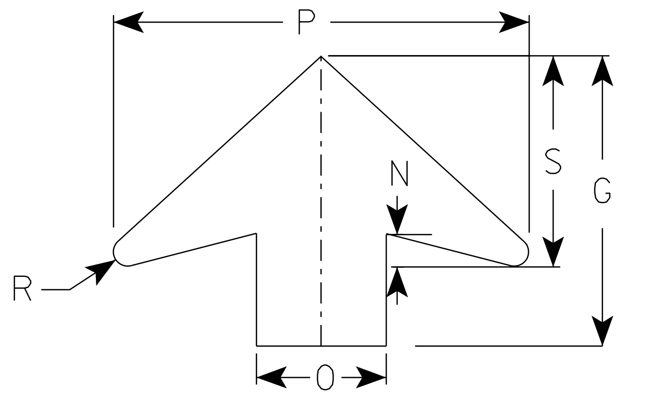
PROJECT NO: HWY: COUNTY: SHEET NO: 224 E



W03-2

NOTES

1. All Signs Type II - Type F Reflective
2. Color:
   Background - ORANGE
   Arrow & Border - BLACK
   Yield Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	7 1/2	13 1/2	3 3/8	28	3 3/4	5/8	1 1/2	1	1 5/8	6	19 1/4		5/8	9 3/4								9.0
2S	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
2M	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
3	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
4	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0
5	48		3	3/4	1	10	17 7/8	4 1/2	38	5	3/4	2 1/8	1 3/8	2	8	25 5/8		7/8	13								16.0

STANDARD SIGN
W03-2

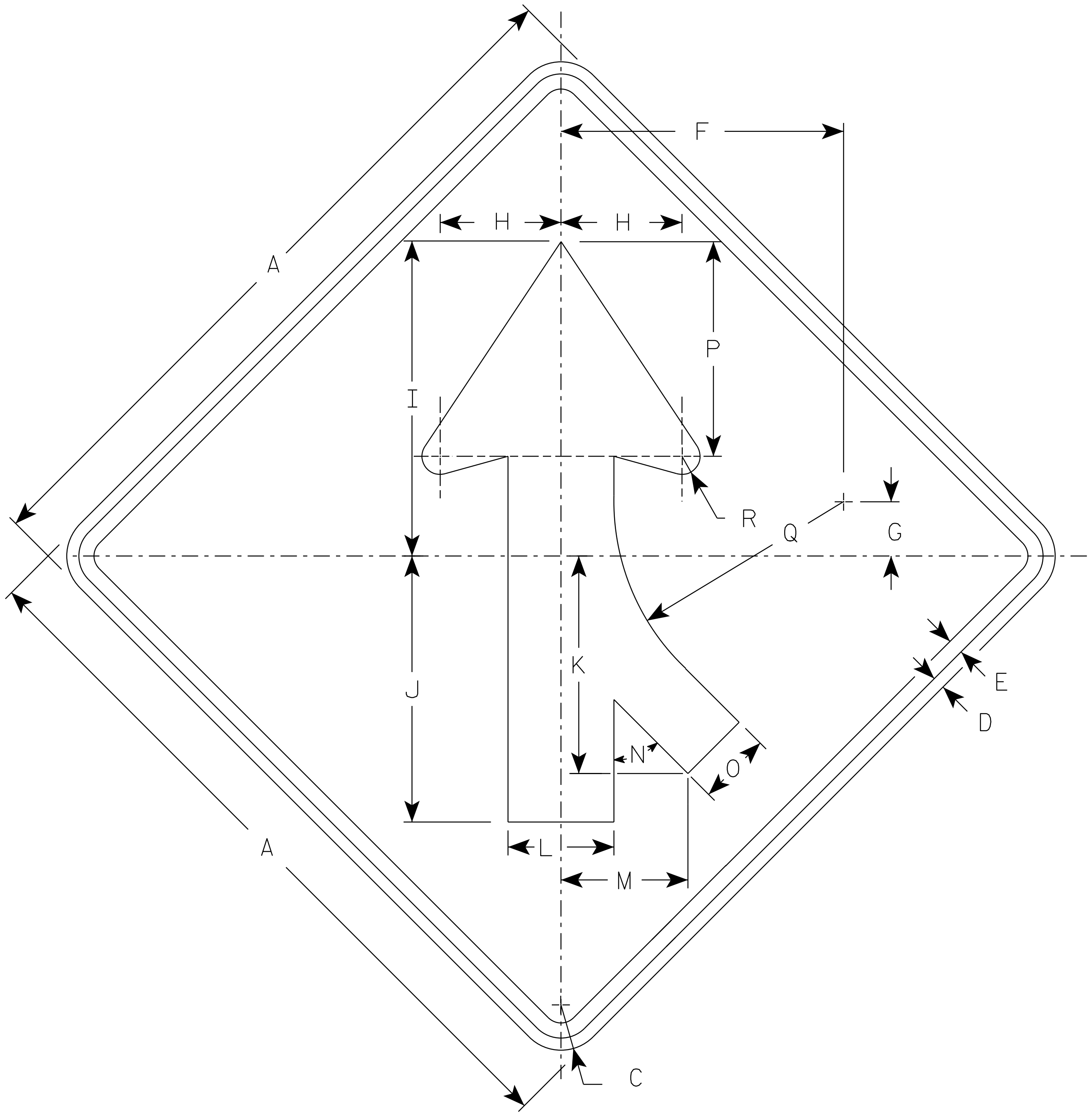
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/2024 PLATE NO. W03-2.2

PROJECT NO:

SHEET NO: E



W04-1R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. 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.
4. W04-1L is the same as W04-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2S	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
2M	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
3	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
4	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

STANDARD SIGN
W04-1

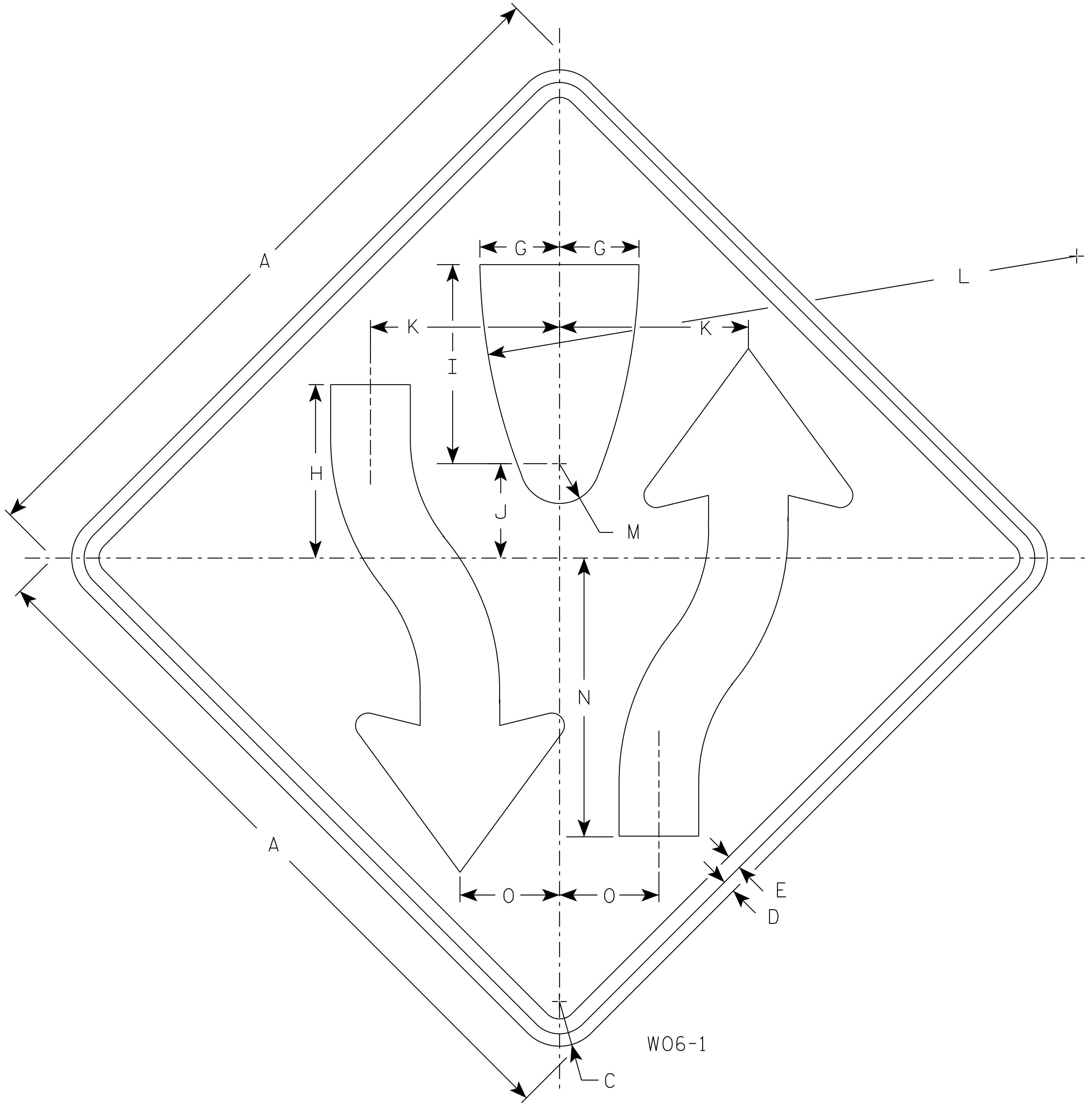
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-1.3

PROJECT NO: HWY: COUNTY:

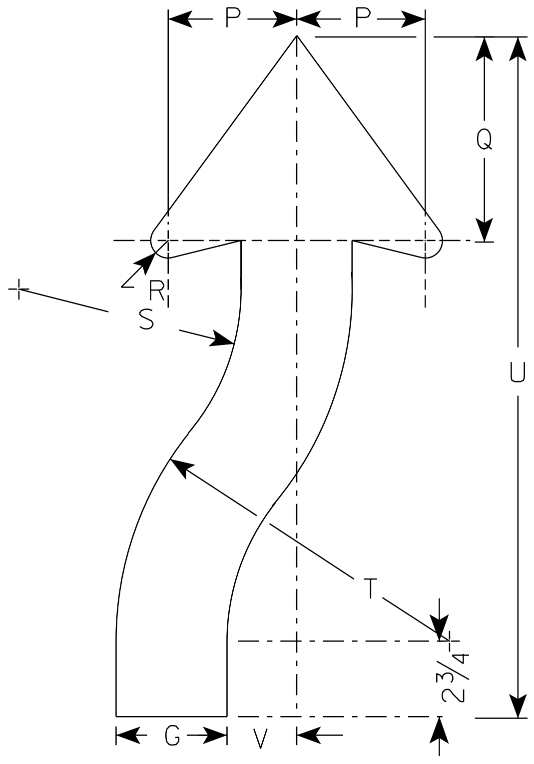
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W041.dgn PLOT DATE : 25-JAN 2024 8:20 PLOT BY : dotc4c PLOT NAME : PLOT SCALE :



W06-1

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. 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.
4. W06-2 same as W06-1 but is rotated 180° when mounted.



ARROW DETAIL

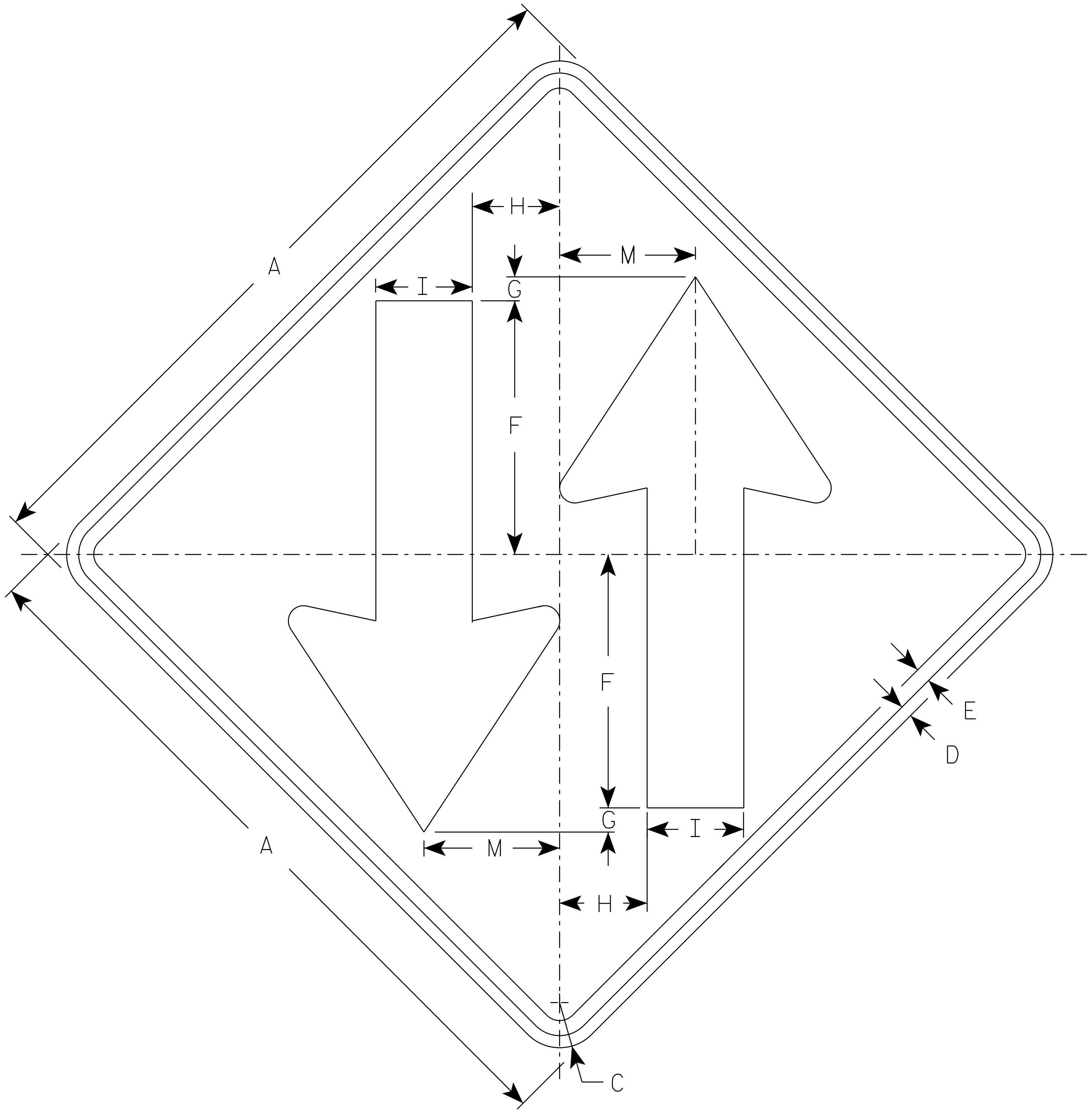
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2S	48		3	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
2M	48		3	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
3	48		3	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
4	48		3	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		3	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W06-1 & W06-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

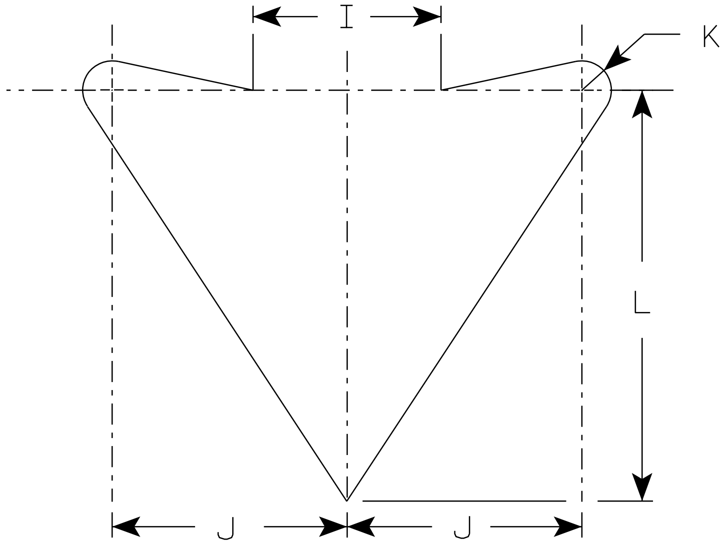
DATE 1/30/2024 PLATE NO. W06-1.2



W06-3

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. 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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2S	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
2M	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
3	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
4	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0
5	48		3	3/4	1	15 1/2	1	6	6	8	1	14	9														16.0

STANDARD SIGN
W06-3

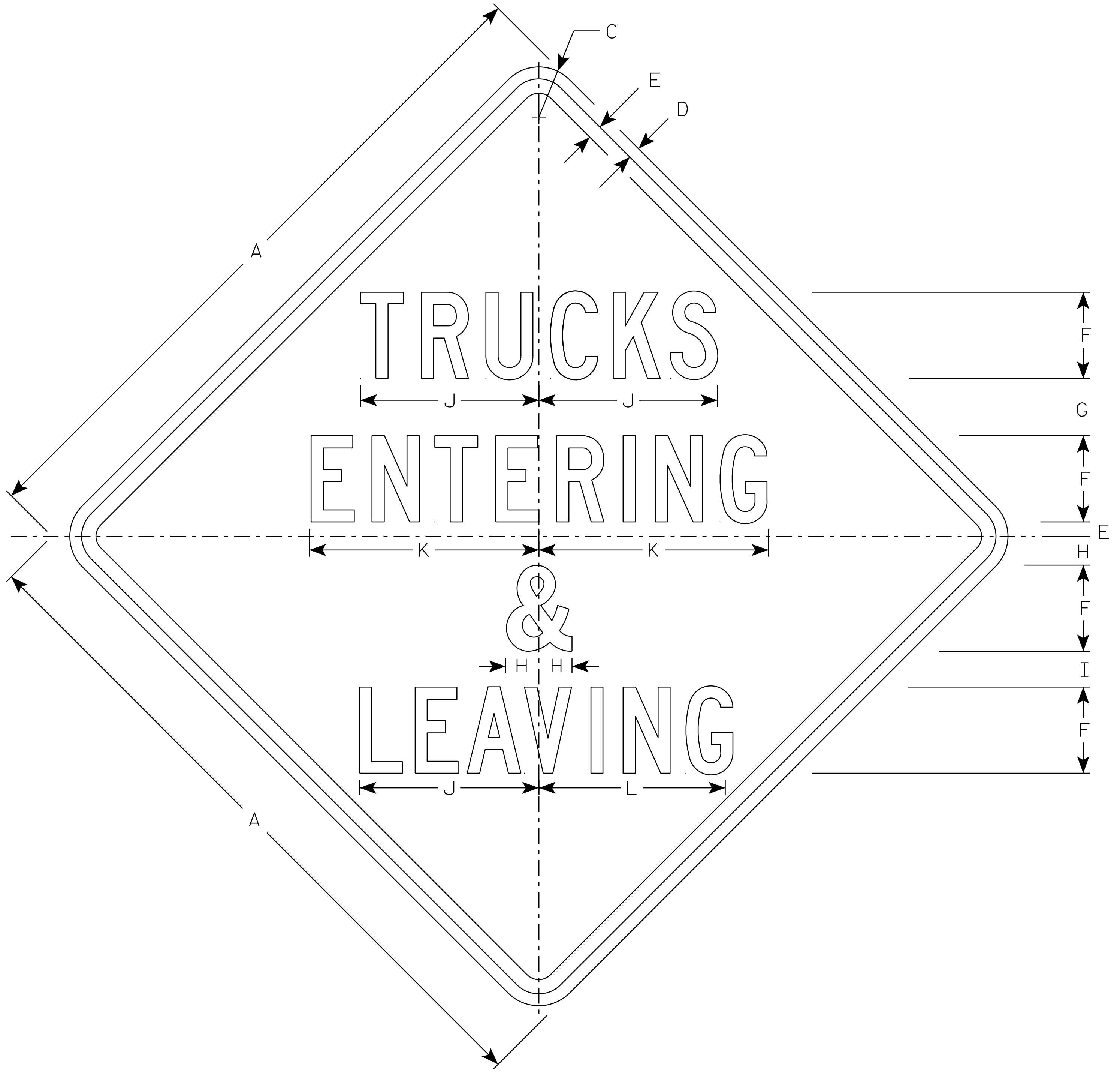
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/30/2024 PLATE NO. W06-3.2

PROJECT NO: HWY: COUNTY: SHEET NO: 228 E

7



W08-6A

NOTES

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	1/2	5/8	4 1/2	3	1 1/2	1 7/8	9 3/8	12	9 3/4															9.0
2S	48		3	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16.0
2M	48		3	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16.0
3	48		3	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16.0
4	48		3	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16.0
5	48		3	3/4	1	6	4	2	2 1/2	12 1/2	16	13															16.0

STANDARD SIGN
W08-6A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

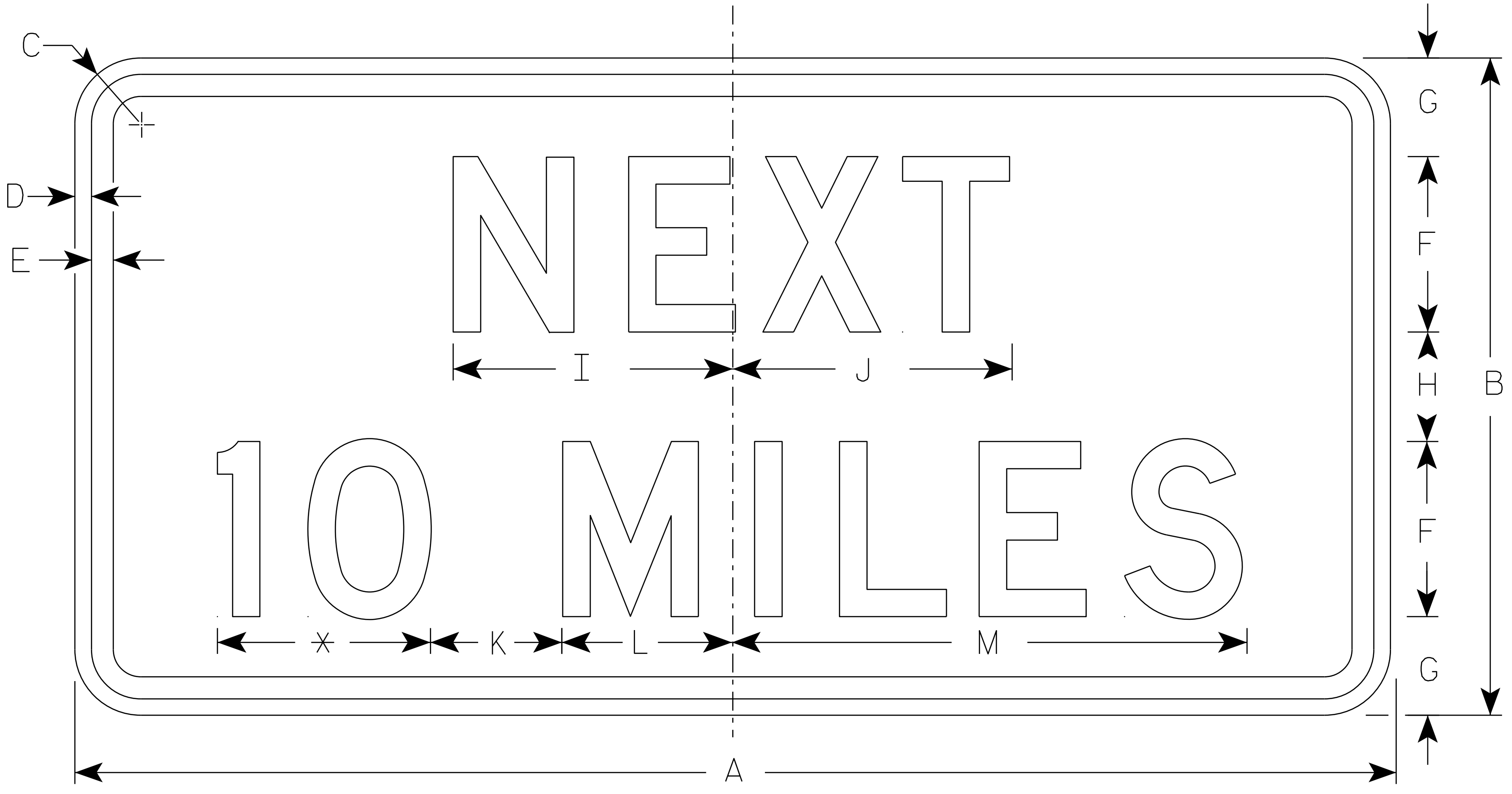
DATE 1/31/2024 PLATE NO. W08-6A.2

PROJECT NO: HWY: COUNTY: SHEET NO: 229 E

7

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
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 the nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance.



W057-51

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/2	3/8	1/2	5	2 3/4	2 1/2	7 7/8	8	5	4 1/8	15 3/8														4.5
2S	48	24	1 7/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
2M	48	24	1 7/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
3	48	24	1 7/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
4	48	24	1 7/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0
5	48	24	1 7/8	1/2	5/8	6	4	4	10	10 1/8	6	5 5/8	19														8.0

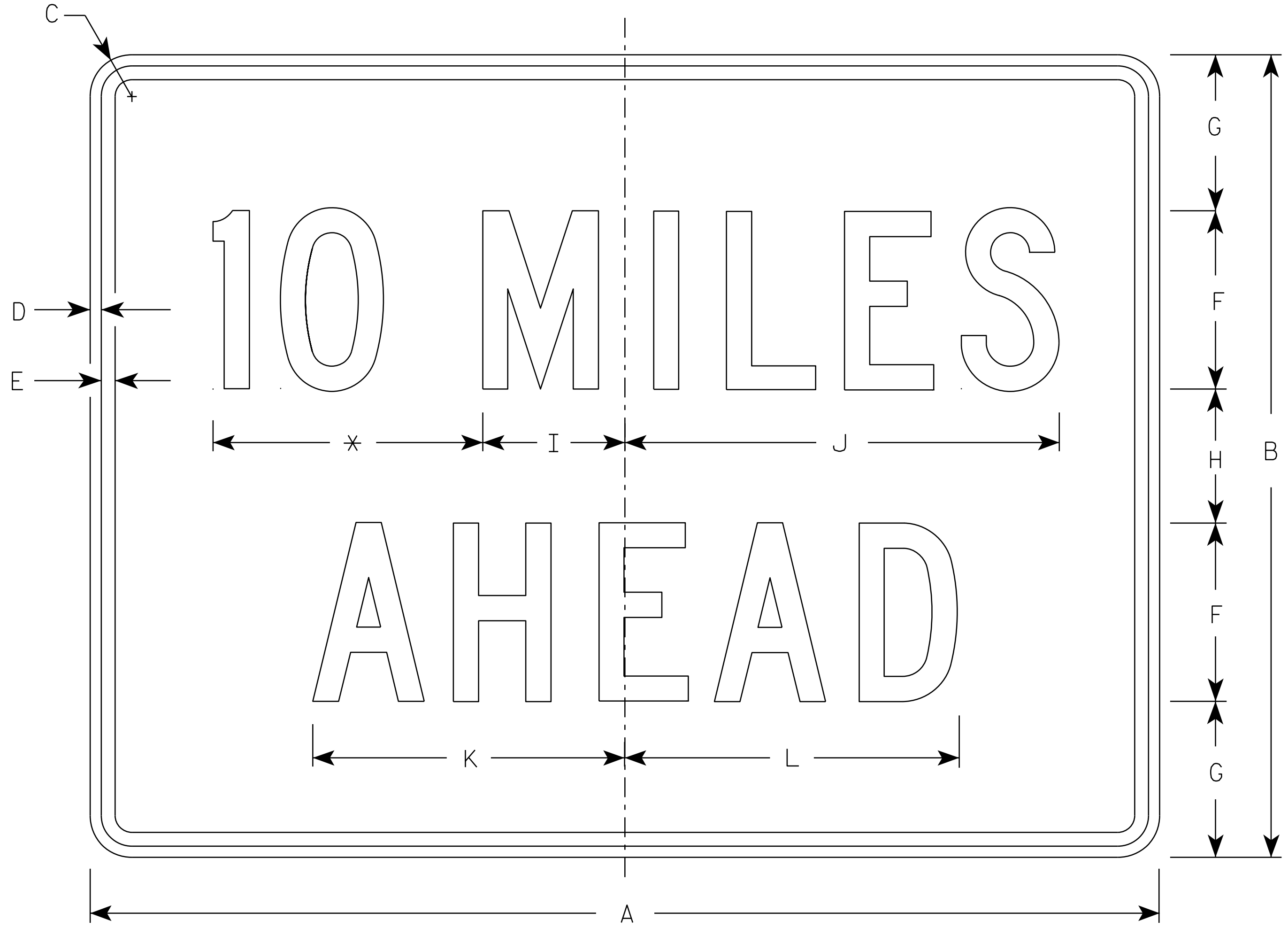
STANDARD SIGN
W057-51

WISCONSIN DEPT OF TRANSPORTATION

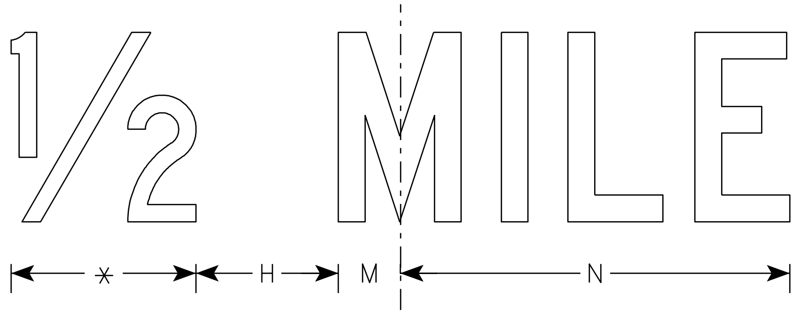
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-51.4

PROJECT NO: HWY: COUNTY:



W057-52



NOTES

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. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/2	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	2 1/4	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

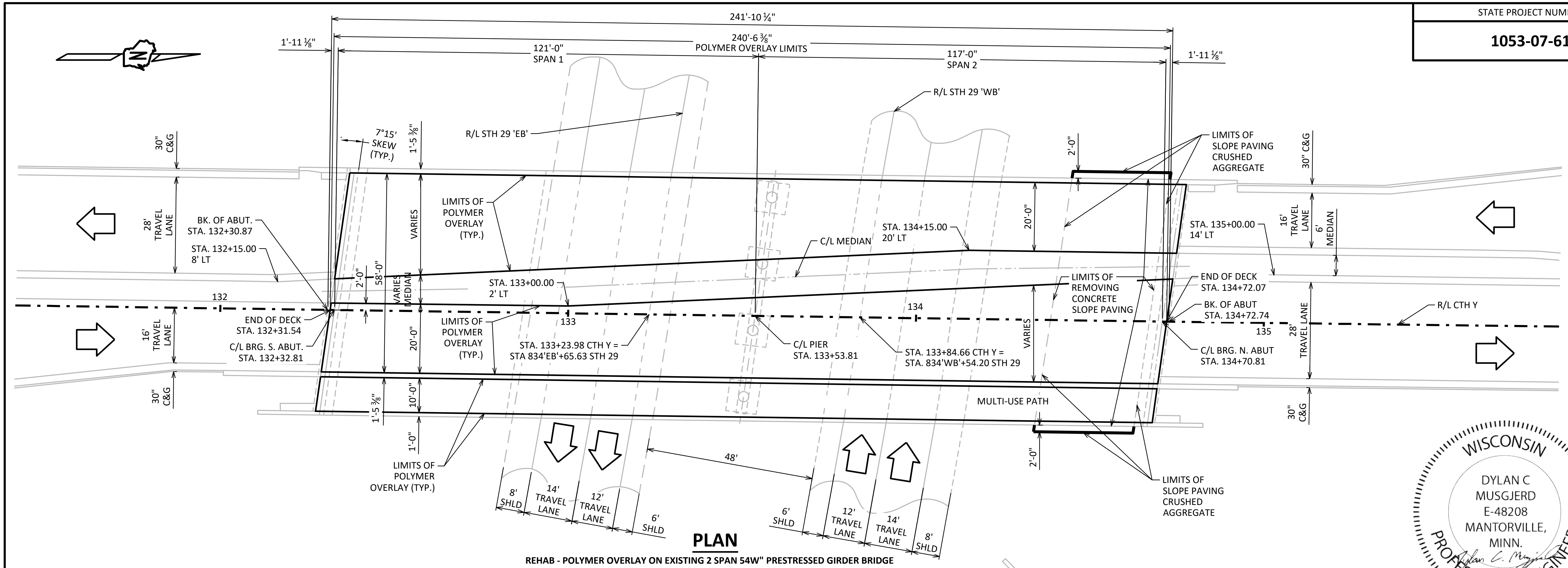
STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

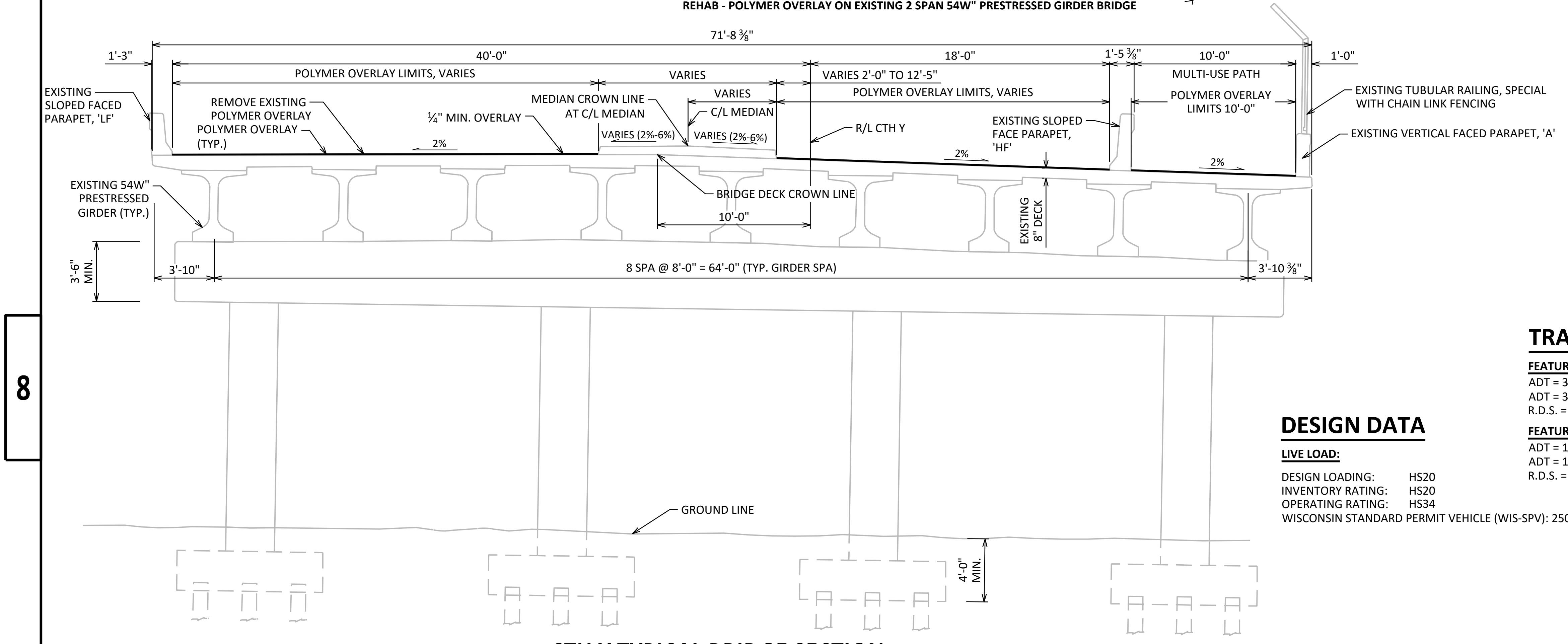
DATE 2/1/2024 PLATE NO. W057-52.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 231 | E



PLAN

REHAB - POLYMER OVERLAY ON EXISTING 2 SPAN 54W" PRESTRESSED GIRDER BRIDGE



CTH Y TYPICAL BRIDGE SECTION

DYLAN C MUSGJERD
E-48208
MANTORVILLE, MINN.
05/01/2025

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES & NOTES

BRIDGE OFFICE CONTACT:
AARON BONK, P.E.
(608) 261-0261

CONSULTANT CONTACT:
DYLAN MUSGJERD, P.E.
(608) 789-2034

TRAFFIC DATA

FEATURE ON: CTH Y
ADT = 3,600 (2026)
ADT = 3,600 (2046)
R.D.S. = 50 MPH

FEATURE UNDER: STH 29
ADT = 12,650 (2026)
ADT = 12,850 (2046)
R.D.S. = 70 MPH

DESIGN DATA

LIVE LOAD:

DESIGN LOADING:	HS20
INVENTORY RATING:	HS20
OPERATING RATING:	HS34

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
LA CROSSE OFFICE
201 MAIN STREET
SUITE 1020
LA CROSSE, WI 54601
ISG

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED EMK 05/07/25
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-377

CTH Y OVER STH 29

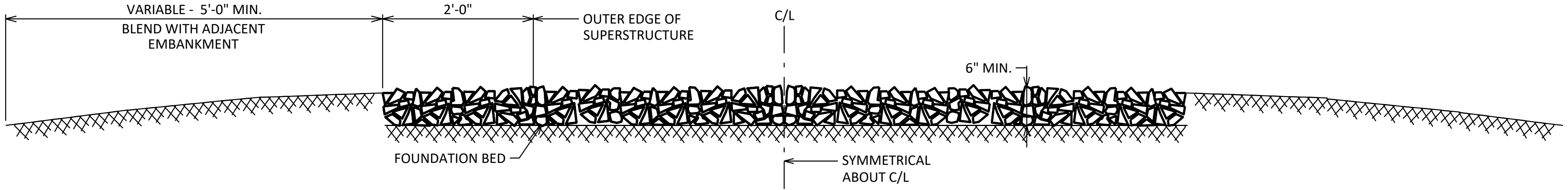
COUNTY	TOWN
MARATHON	NORRIE

DESIGN SPEC.
REHABILITATION - N/A

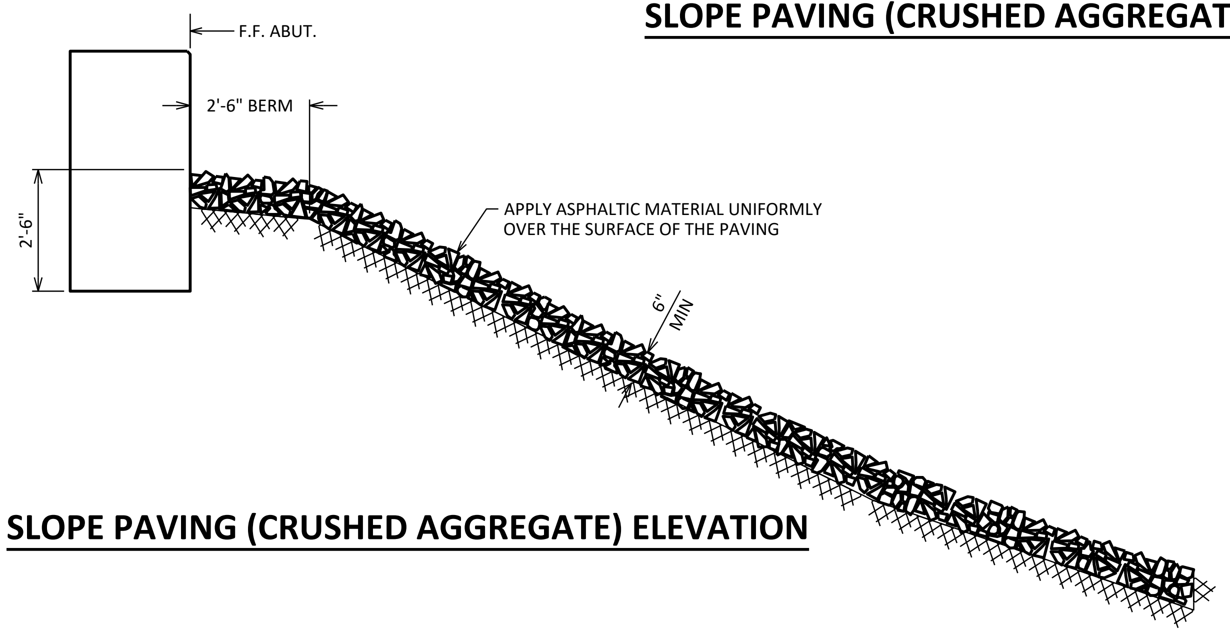
DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
DCM	JMB	JRM	DCM

GENERAL PLAN

SHEET 1 OF 2



SLOPE PAVING (CRUSHED AGGREGATE) TYPICAL SECTION



SLOPE PAVING (CRUSHED AGGREGATE) ELEVATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THIS PROJECT WILL REHABILITATE THE EXISTING STRUCTURE, B-37-377, A 2 SPAN 54W" PRESTRESSED GIRDER BRIDGE SET ON STEEL PILING ABUTMENTS.

APPLY POLYMER OVERLAY TO DECK SURFACE AND MULTI-USE PATH.

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

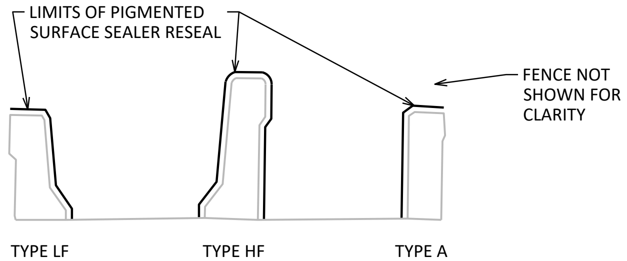
SEE ROADWAY PLANS FOR TRAFFIC CONTROL INFORMATION.

SEAL VERTICAL BASE OF BARRIER JOINTS, AT BRIDGE JOINT, WITH FELT AND MASTIC.

SEAL RAIL/WING/CURB JOINTS.

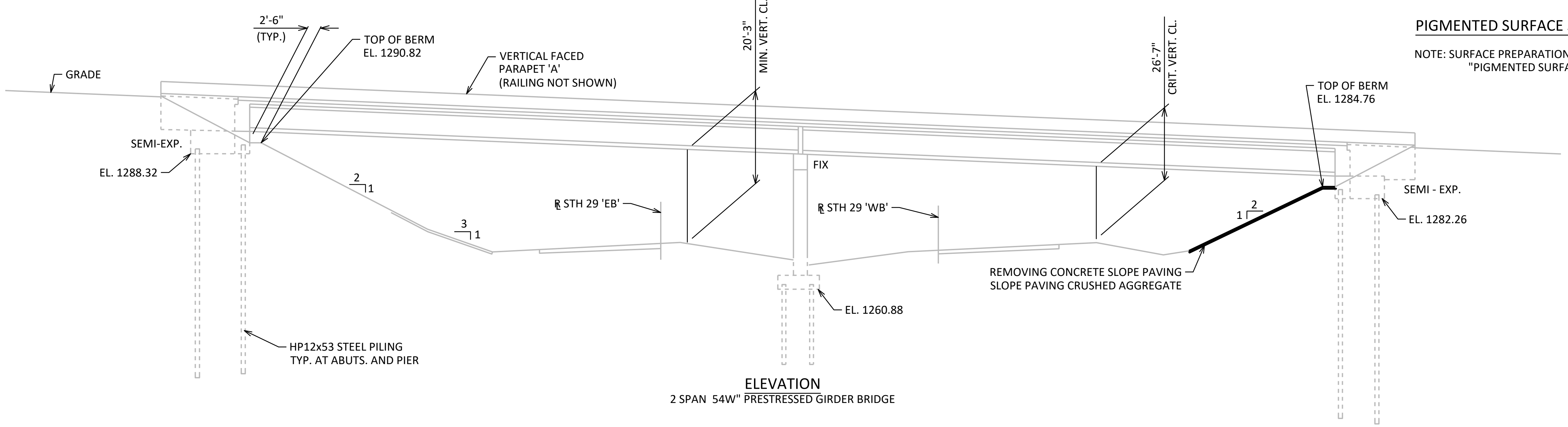
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER	SOUTH ABUT.	NORTH ABUT.	TOTALS
204.0175	REMOVING CONCRETE SLOPE PAVING	SY	---	---	280	280
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	402	---	---	402
509.5100.S	POLYMER OVERLAY	SY	1,563	---	---	1,563
509.9015.S	REMOVING POLYMER OVERLAY STRUCTURE B-37-377	SY	1,563	---	---	1,563
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	---	---	295	295
	NON-BID ITEMS					
	FILLER	SIZE				½", ¾"



PIGMENTED SURFACE SEALER RESEAL DETAIL

NOTE: SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "PIGMENTED SURFACE SEALER RESEAL"



ELEVATION
2 SPAN 54W" PRESTRESSED GIRDER BRIDGE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-37-377

DRAWN BY NHL
PLANS CK'D KPM

QUANTITIES AND NOTES

SHEET 2 OF 2

DIVISION 1 - X01

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.25	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
657+00.00	65700.00	0.00	26.12	1.96	4.62	0	0	0	0	0	0
657+50.00	65750.00	50.00	27.33	1.98	11.07	49	4	15	49	19	26
658+00.00	65800.00	50.00	29.09	2.00	21.25	52	4	30	101	56	37
658+50.00	65850.00	50.00	32.57	1.92	13.78	57	4	32	158	96	50
659+00.00	65900.00	50.00	66.47	16.15	0.00	92	17	13	250	113	109
659+50.00	65950.00	50.00	38.73	2.16	26.24	97	17	24	347	143	159
660+00.00	66000.00	50.00	42.96	2.01	55.94	76	4	76	423	238	136
660+50.00	66050.00	50.00	44.34	2.03	53.35	81	4	101	504	364	86
661+00.00	66100.00	50.00	48.95	2.01	45.59	86	4	92	590	479	53
661+50.00	66150.00	50.00	55.33	2.02	43.97	97	4	83	687	583	43
662+00.00	66200.00	50.00	58.31	2.02	41.56	105	4	79	792	681	45
662+50.00	66250.00	50.00	60.79	2.01	41.32	110	4	77	902	778	55
663+00.00	66300.00	50.00	59.11	1.97	29.83	111	4	66	1013	860	79
663+50.00	66350.00	50.00	57.97	2.00	21.91	108	4	48	1121	920	123
664+00.00	66400.00	50.00	57.61	1.95	6.11	107	4	26	1228	953	194
664+50.00	66450.00	50.00	42.30	1.99	4.62	93	4	10	1321	965	270
665+00.00	66500.00	50.00	62.09	2.02	0.15	97	4	4	1418	970	358
665+50.00	66550.00	50.00	75.47	2.00	0.00	127	4	0	1545	970	481
666+00.00	66600.00	50.00	78.12	2.02	0.00	142	4	0	1687	970	619
666+50.00	66650.00	50.00	80.08	2.04	0.00	146	4	0	1833	970	761
667+00.00	66700.00	50.00	76.40	2.03	0.00	145	4	0	1978	970	902
667+50.00	66750.00	50.00	70.22	2.00	0.09	136	4	0	2114	970	1034
668+00.00	66800.00	50.00	63.99	2.01	3.13	124	4	3	2238	974	1150
668+50.00	66850.00	50.00	55.68	2.02	8.23	111	4	11	2349	988	1244
669+00.00	66900.00	50.00	51.56	2.01	22.69	99	4	29	2448	1024	1302
669+50.00	66950.00	50.00	51.27	1.99	30.76	95	4	49	2543	1085	1332
670+00.00	67000.00	50.00	59.41	1.98	36.13	102	4	62	2645	1163	1353
670+50.00	67050.00	50.00	59.45	1.98	40.75	110	4	71	2755	1251	1370
671+00.00	67100.00	50.00	50.56	1.97	42.25	102	4	77	2857	1348	1372
671+50.00	67150.00	50.00	42.71	1.98	38.50	86	4	75	2943	1441	1360
672+00.00	67200.00	50.00	41.76	2.00	34.49	78	4	68	3021	1526	1349
672+50.00	67250.00	50.00	40.29	2.01	22.24	76	4	53	3097	1593	1355
673+00.00	67300.00	50.00	37.05	2.00	26.63	72	4	45	3169	1649	1366
673+50.00	67350.00	50.00	33.81	1.99	22.17	66	4	45	3235	1705	1372
674+00.00	67400.00	50.00	30.29	1.98	14.27	59	4	34	3294	1748	1385
674+50.00	67450.00	50.00	28.86	1.95	20.02	55	4	32	3349	1788	1396
675+00.00	67500.00	50.00	40.55	1.86	6.66	64	4	25	3413	1819	1424
675+44.00	67544.00	44.00	98.55	1.79	0.00	113	3	5	3526	1825	1528

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
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)]

9

9

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	EARTHWORK DATA	SHEET 234	E

DIVISION 1 - TX01

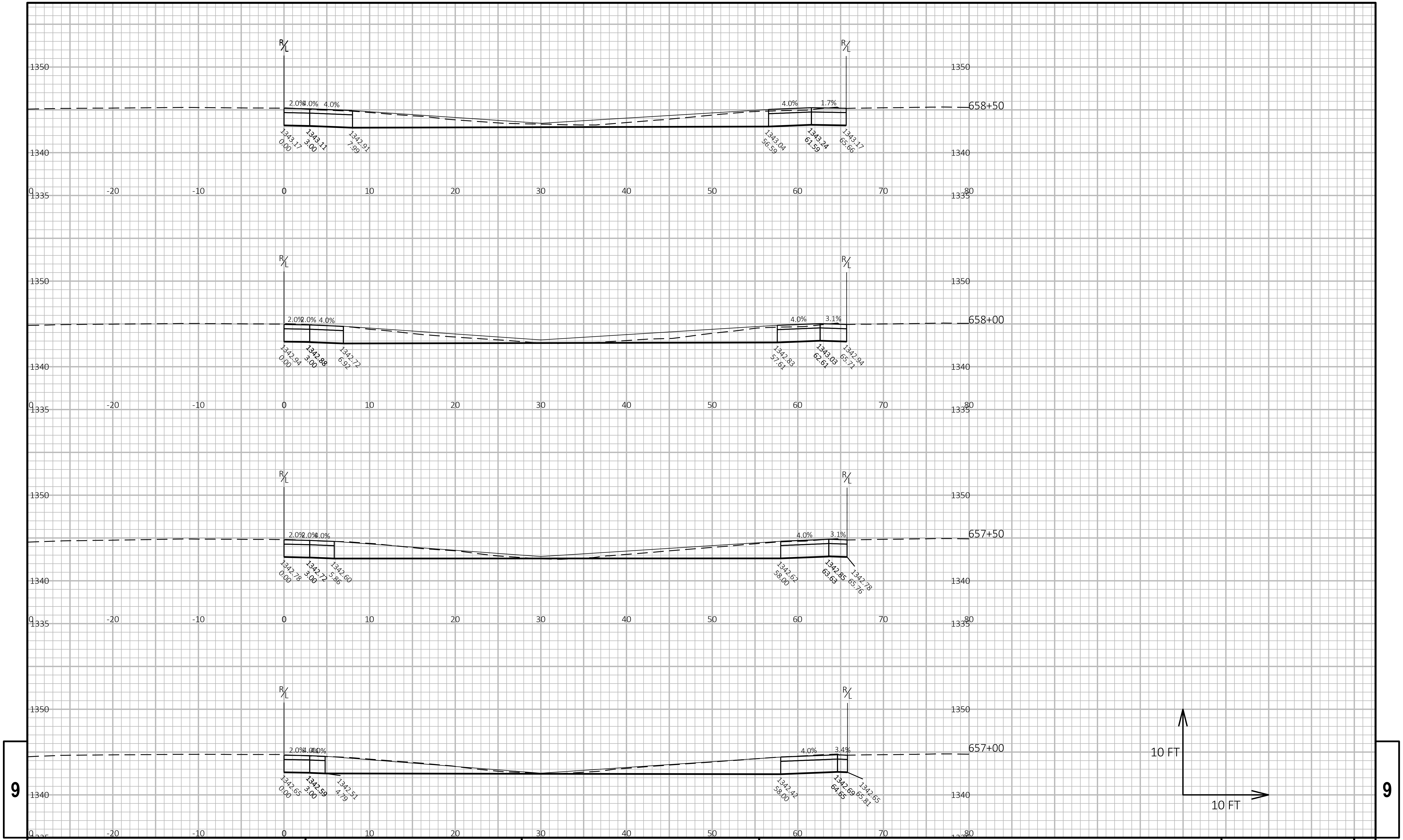
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
									1.00	1.25	
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		NOTE 8
844+47.42	84447.42	0.00	23.31	0.00	12.07	0	0	0	0	0	0
844+50.00	84450.00	2.58	29.14	0.00	8.40	3	0	1	3	1	2
845+00.00	84500.00	50	35.46	1.36	25.43	60	1	31	63	40	22
845+50.00	84550.00	50	48.93	1.57	27.49	78	3	49	141	101	36
846+00.00	84600.00	50	65.94	1.49	22.72	106	3	46	247	159	81
846+50.00	84650.00	50	74.70	1.40	21.62	130	3	41	377	210	157
847+00.00	84700.00	50	83.10	1.74	14.66	146	3	34	523	253	258
847+50.00	84750.00	50	70.72	1.35	8.31	142	3	21	665	279	370
848+00.00	84800.00	50	80.45	1.63	8.23	140	3	15	805	298	489
848+50.00	84850.00	50	73.91	1.56	11.11	143	3	18	948	320	606
849+00.00	84900.00	50	70.77	1.45	13.77	134	3	23	1082	349	708
849+50.00	84950.00	50	65.60	1.76	15.58	126	3	27	1208	383	798
850+00.00	85000.00	50	60.31	1.30	17.42	117	3	31	1325	421	873
850+50.00	85050.00	50	48.95	1.61	24.71	101	3	39	1426	470	922
851+00.00	85100.00	50	59.18	1.59	41.62	100	3	61	1526	546	943
851+50.00	85150.00	50	52.88	1.42	50.68	104	3	85	1630	653	938
852+00.00	85200.00	50	45.79	1.78	55.93	91	3	99	1721	776	902
852+50.00	85250.00	50	44.13	1.34	50.06	83	3	98	1804	899	859
853+00.00	85300.00	50	35.41	1.59	51.61	74	3	94	1878	1016	813
853+50.00	85350.00	50	28.29	1.71	36.60	59	3	82	1937	1119	766
853+98.51	85398.51	48.51	0.00	0.00	0.00	25	2	33	1962	1160	748

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
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)]

DIVISION 1 - X02

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT NOTE 1	SALVAGED/UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	MASS ORDINATE NOTE 8
907+78.84	90778.84	0.00	0.00	0.00	0.00	0	0	0	0	0	0
908+00.00	90800.00	21.16	32.20	1.60	5.66	13	1	2	13	3	10
908+50.00	90850.00	50.00	31.38	1.57	7.80	59	3	12	72	18	51
909+00.00	90900.00	50.00	32.55	1.56	10.29	59	3	17	131	39	85
909+50.00	90950.00	50.00	34.89	1.71	11.74	62	3	20	193	64	119
910+00.00	91000.00	50.00	37.36	1.69	15.21	67	3	25	260	95	152
910+50.00	91050.00	50.00	40.79	1.55	31.94	72	3	44	332	150	166
911+00.00	91100.00	50.00	45.77	1.56	66.92	80	3	92	412	265	128
911+50.00	91150.00	50.00	51.39	1.55	56.26	90	3	114	502	408	73
912+00.00	91200.00	50.00	53.44	1.73	47.38	97	3	96	599	528	47
912+50.00	91250.00	50.00	57.26	1.69	36.78	102	3	78	701	625	48
913+00.00	91300.00	50.00	57.44	1.65	27.45	106	3	59	807	699	77
913+50.00	91350.00	50.00	55.54	1.57	15.94	105	3	40	912	749	129
914+00.00	91400.00	50.00	57.60	1.72	8.37	105	3	23	1017	778	203
914+50.00	91450.00	50.00	55.82	1.66	9.82	105	3	17	1122	799	283
915+00.00	91500.00	50.00	53.19	1.62	11.04	101	3	19	1223	823	358
915+50.00	91550.00	50.00	51.19	1.55	12.01	97	3	21	1320	849	425
916+00.00	91600.00	50.00	51.48	1.67	11.26	95	3	22	1415	876	490
916+50.00	91650.00	50.00	52.79	1.65	11.00	97	3	21	1512	903	558
917+00.00	91700.00	50.00	55.11	1.63	7.67	100	3	17	1612	924	633
917+50.00	91750.00	50.00	55.82	1.63	10.76	103	3	17	1715	945	712
918+00.00	91800.00	50.00	55.80	1.62	9.73	103	3	19	1818	969	788
918+50.00	91850.00	50.00	55.35	1.76	24.65	103	3	32	1921	1009	848
919+00.00	91900.00	50.00	54.26	1.70	37.94	101	3	58	2022	1081	874
919+50.00	91950.00	50.00	53.21	1.63	47.74	100	3	79	2122	1180	872
920+00.00	92000.00	50.00	50.56	1.59	54.78	96	3	95	2218	1299	846
920+50.00	92050.00	50.00	45.51	1.75	64.34	89	3	110	2307	1436	795
921+00.00	92100.00	50.00	40.39	1.66	65.71	80	3	120	2387	1586	722
921+50.00	92150.00	50.00	37.34	1.65	67.67	72	3	123	2459	1740	637
922+00.00	92200.00	50.00	35.39	1.62	60.50	67	3	119	2526	1889	552
922+50.00	92250.00	50.00	34.71	0.00	39.61	65	2	93	2591	2005	499
922+72.63	92272.63	22.63	35.29	0.00	9.52	29	0	21	2620	2031	502

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
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)]



PROJECT NO: 1053-07-61

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: 29WB_CROSSOVER

SHEET

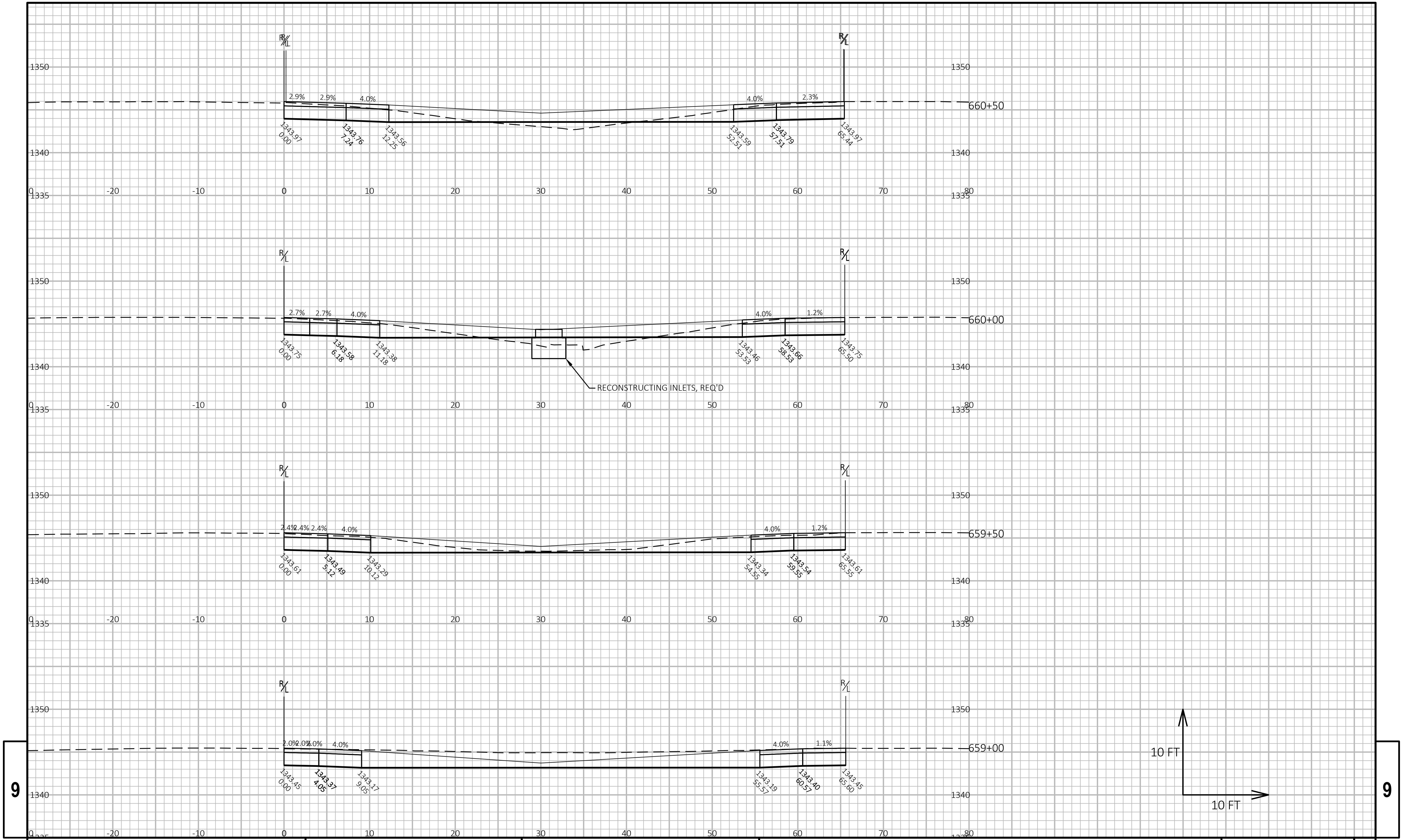
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 01

PLOT DATE : 5/1/2025 10:25 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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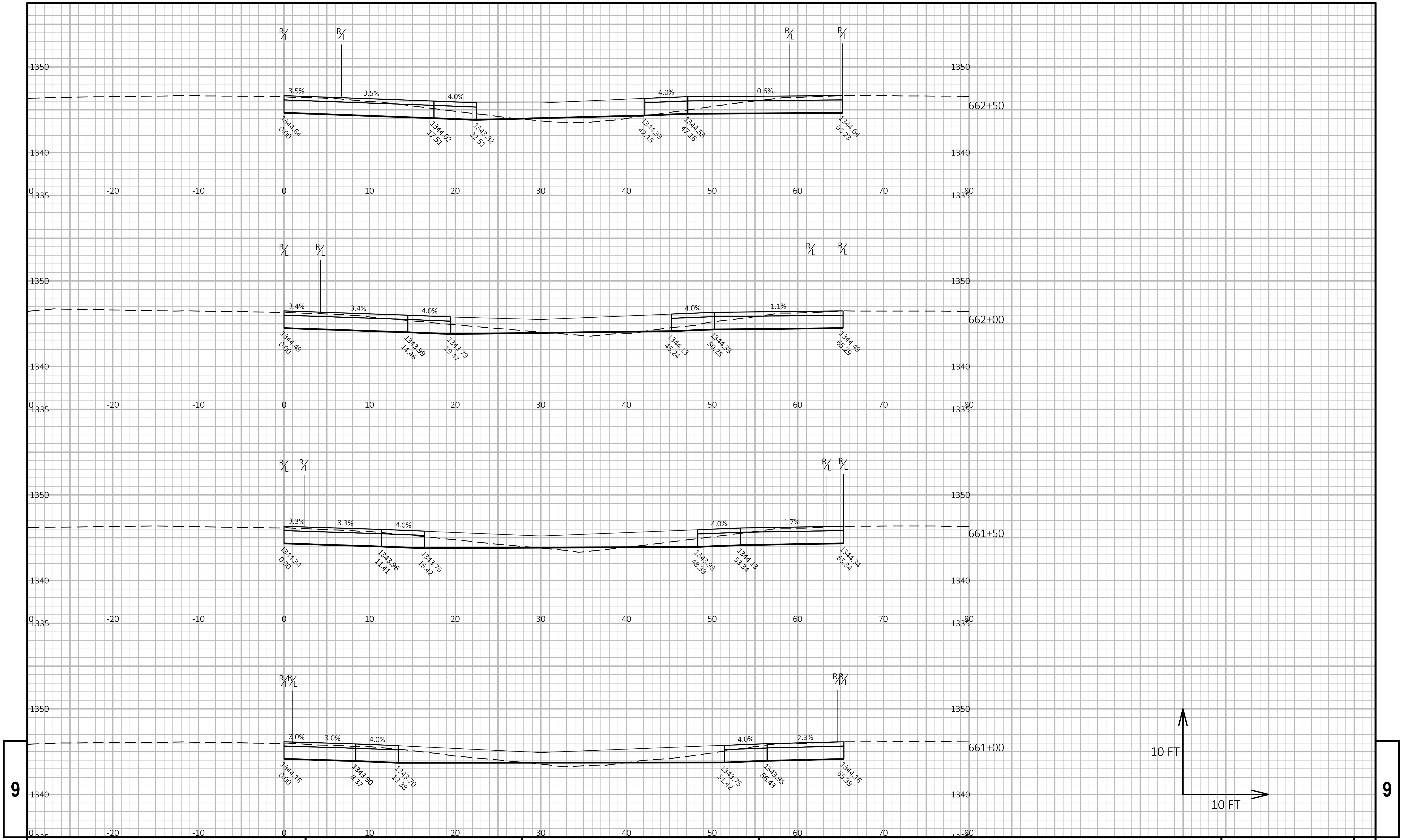
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 238 | E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 02

PLOT DATE : 5/1/2025 10:25 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 239 | E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 03

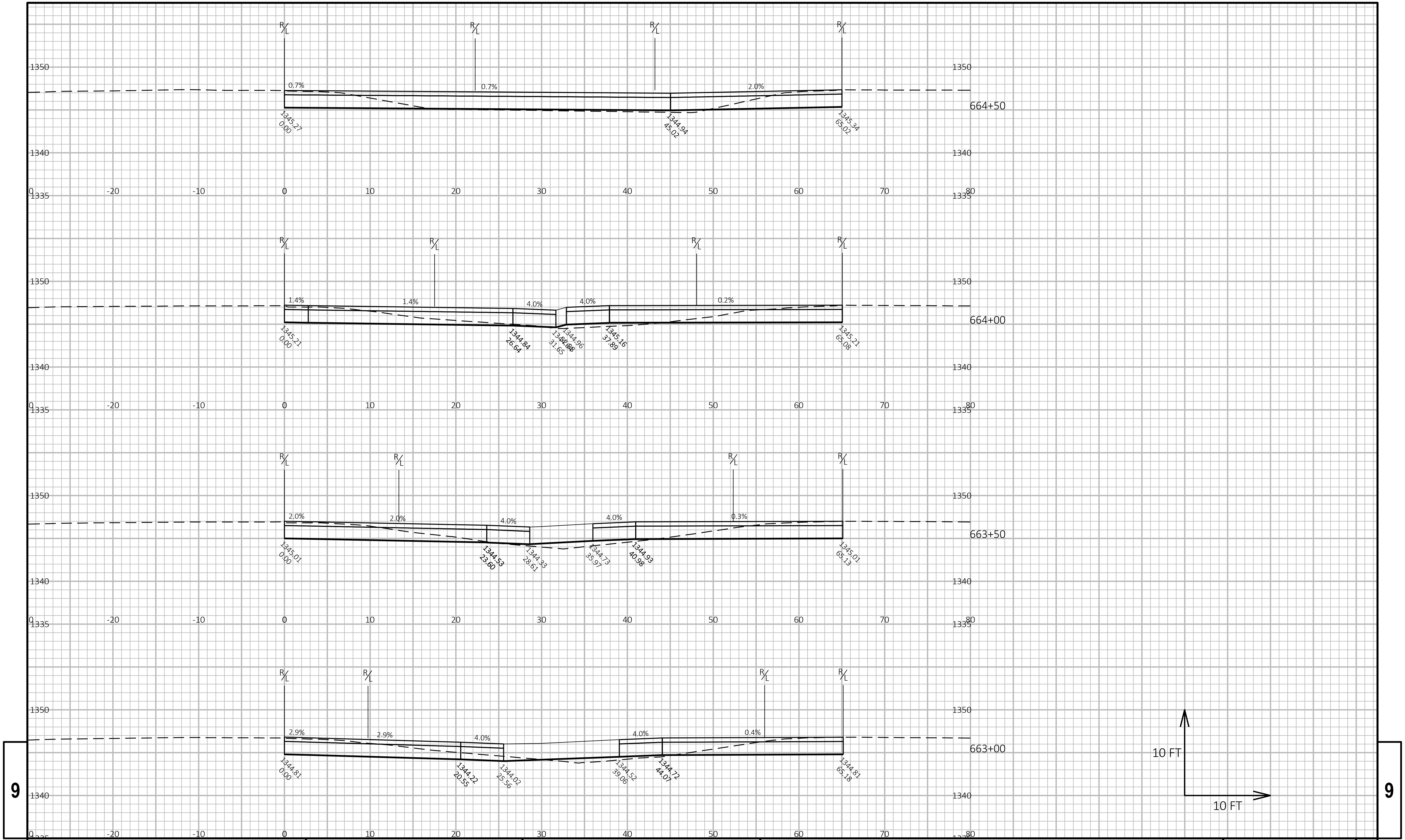
PLOT DATE : 5/1/2025 10:25 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 240	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 04

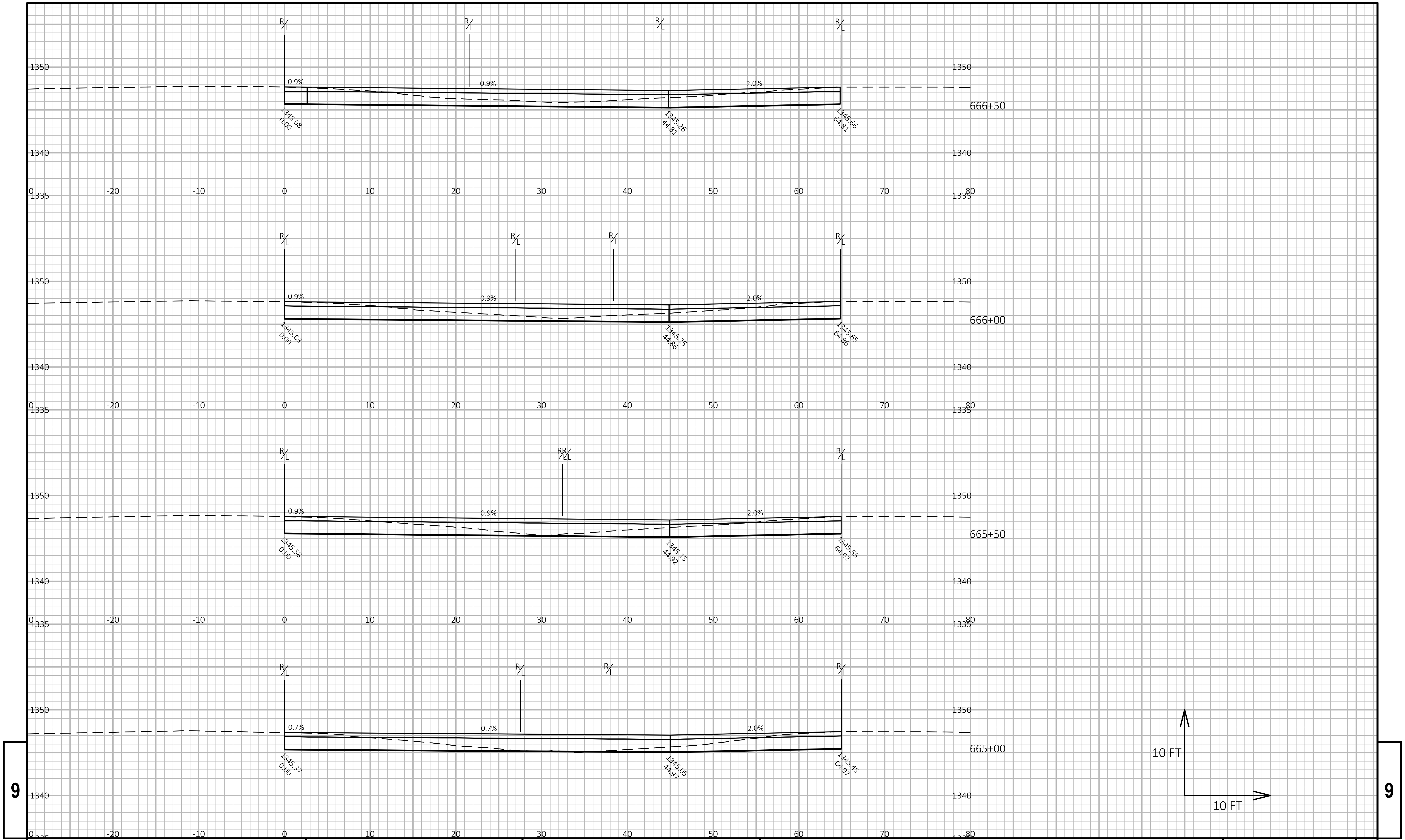
PLOT DATE : 5/1/2025 10:25 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 241	E

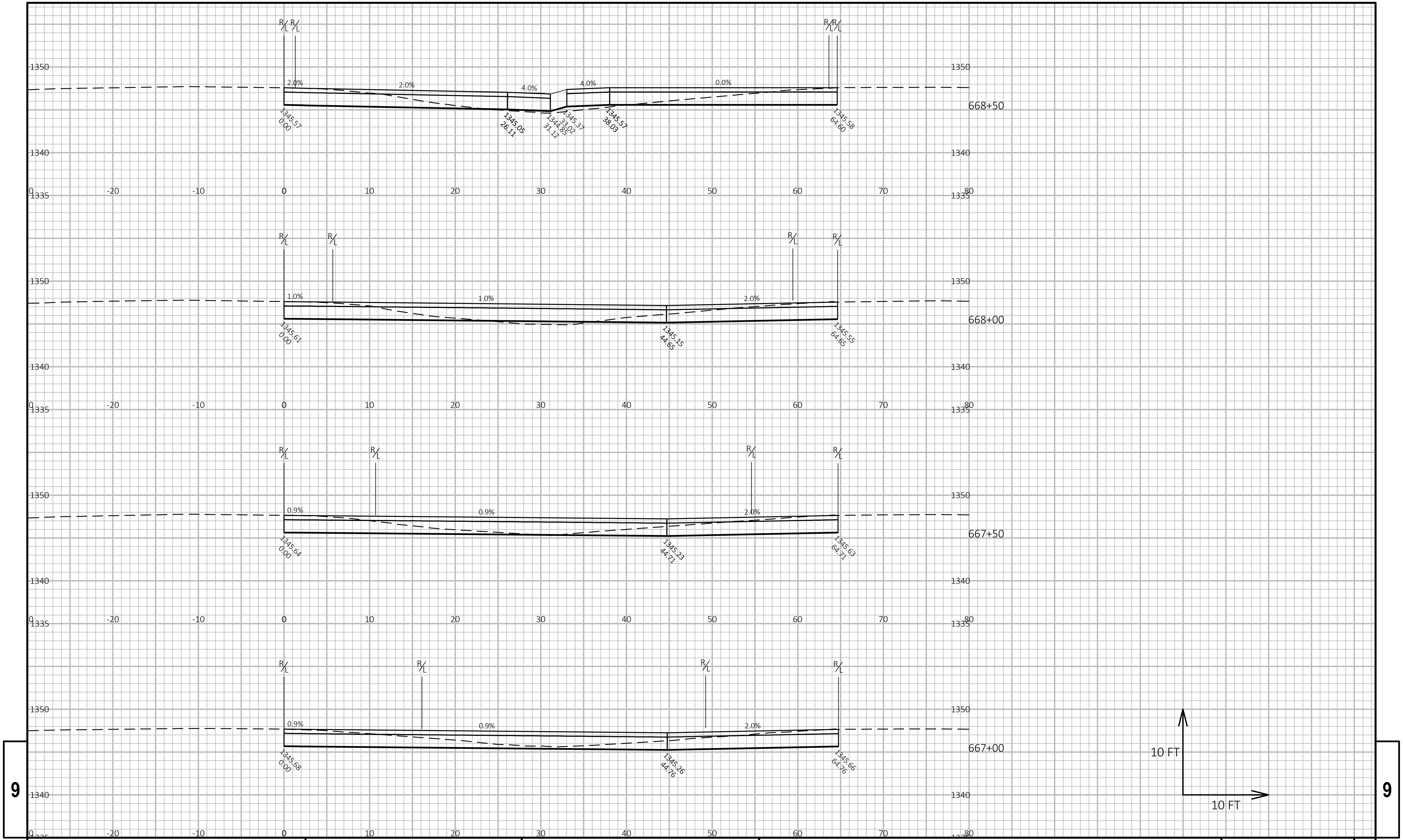
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 05

PLOT DATE : 5/1/2025 10:25 AM

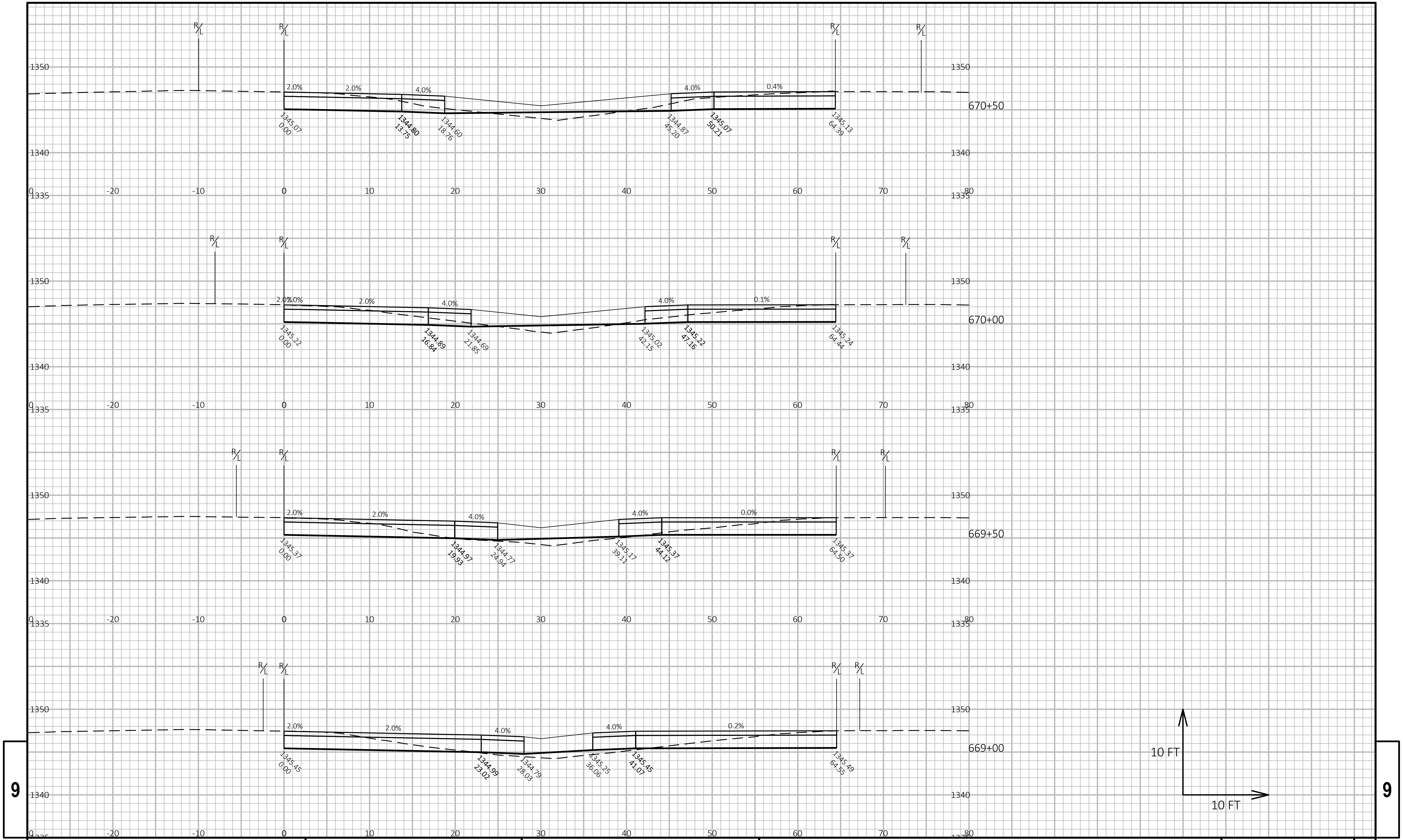
PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 242	E



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PROJECT NO: 1053-07-61

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: 29WB_CROSSOVER

SHEET 243

E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 07

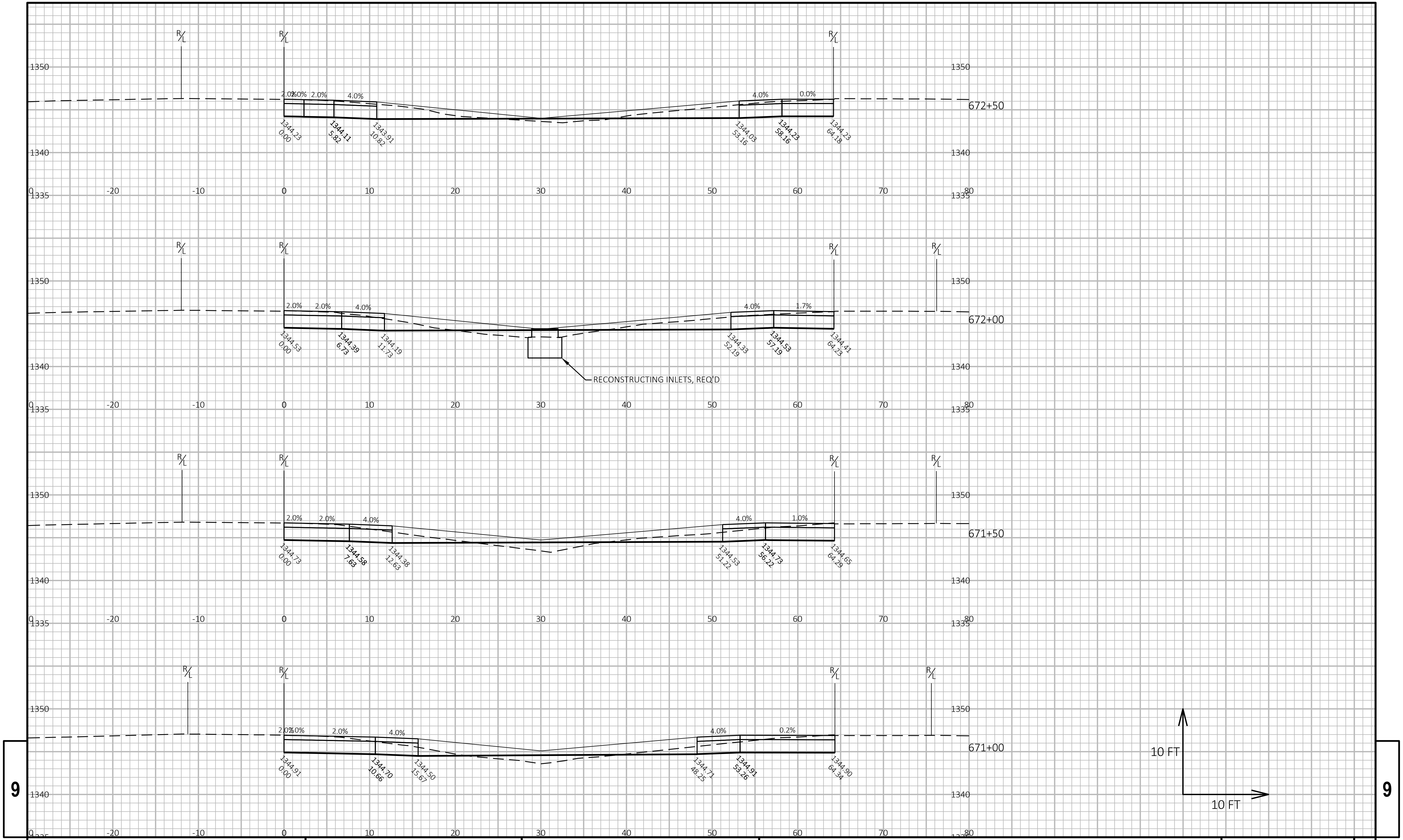
PLOT DATE : 5/1/2025 10:26 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

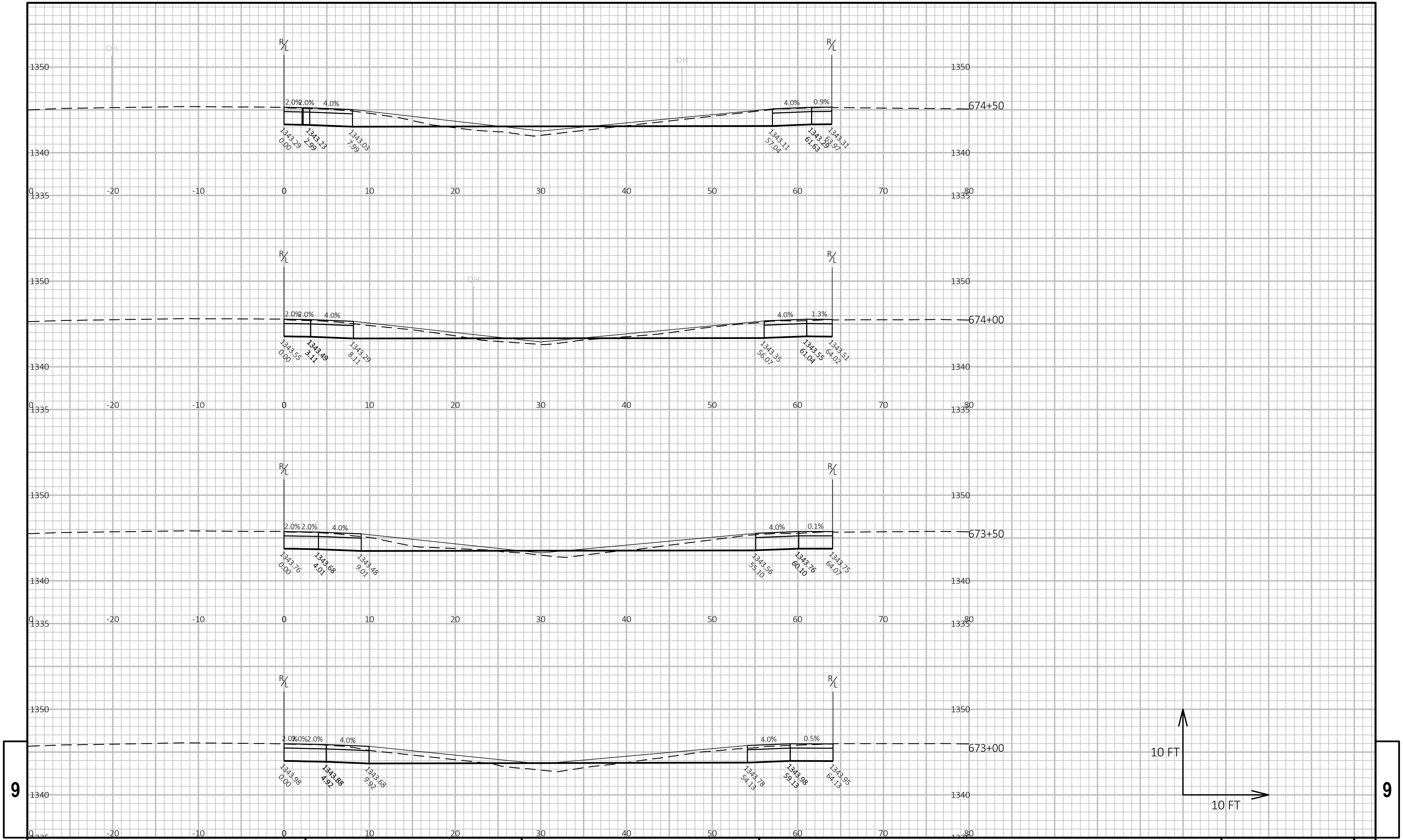
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



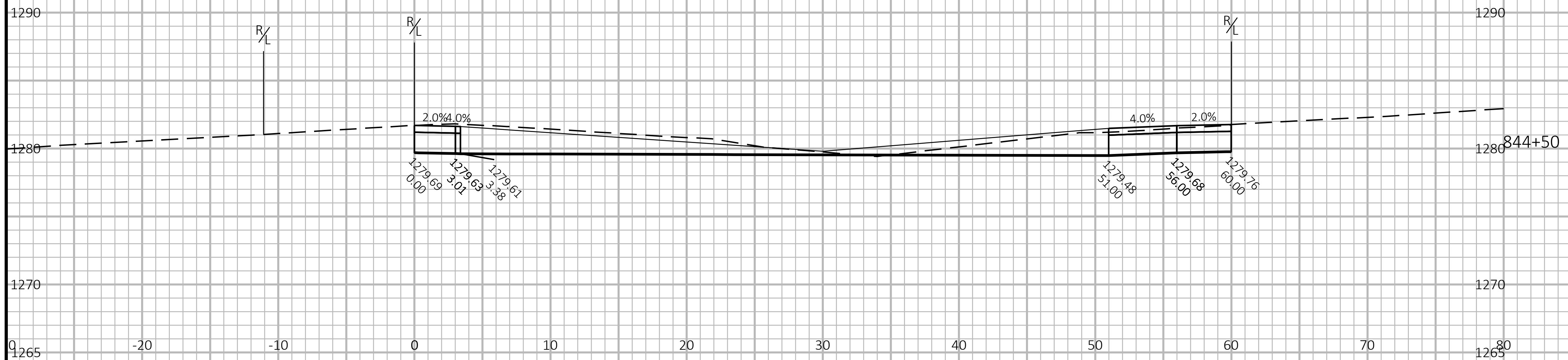
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 244 | E

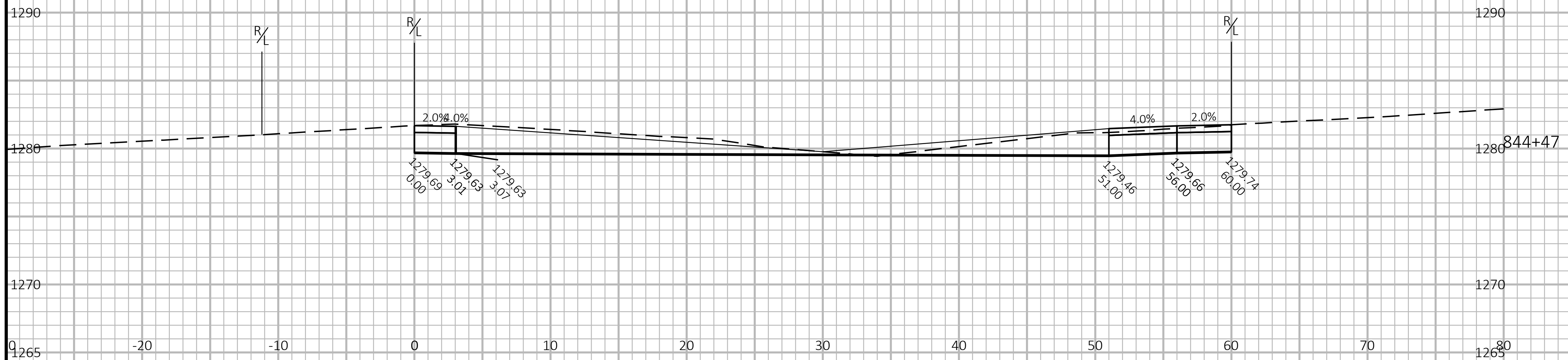
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 08
PLOT DATE : 5/1/2025 10:26 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

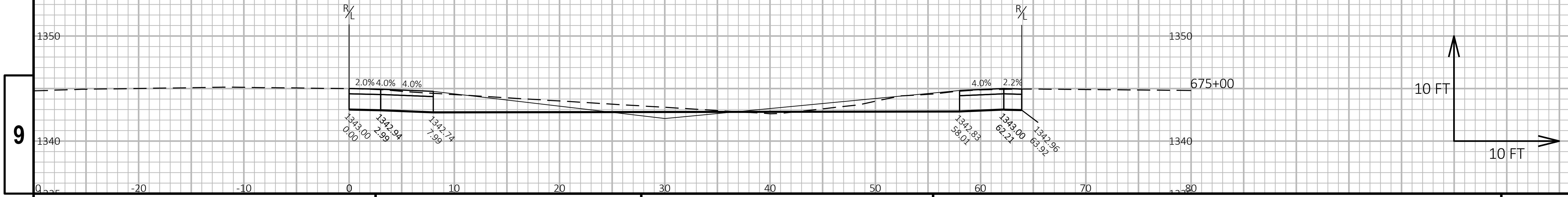


PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 245 | E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 09
PLOT DATE : 5/1/2025 10:26 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

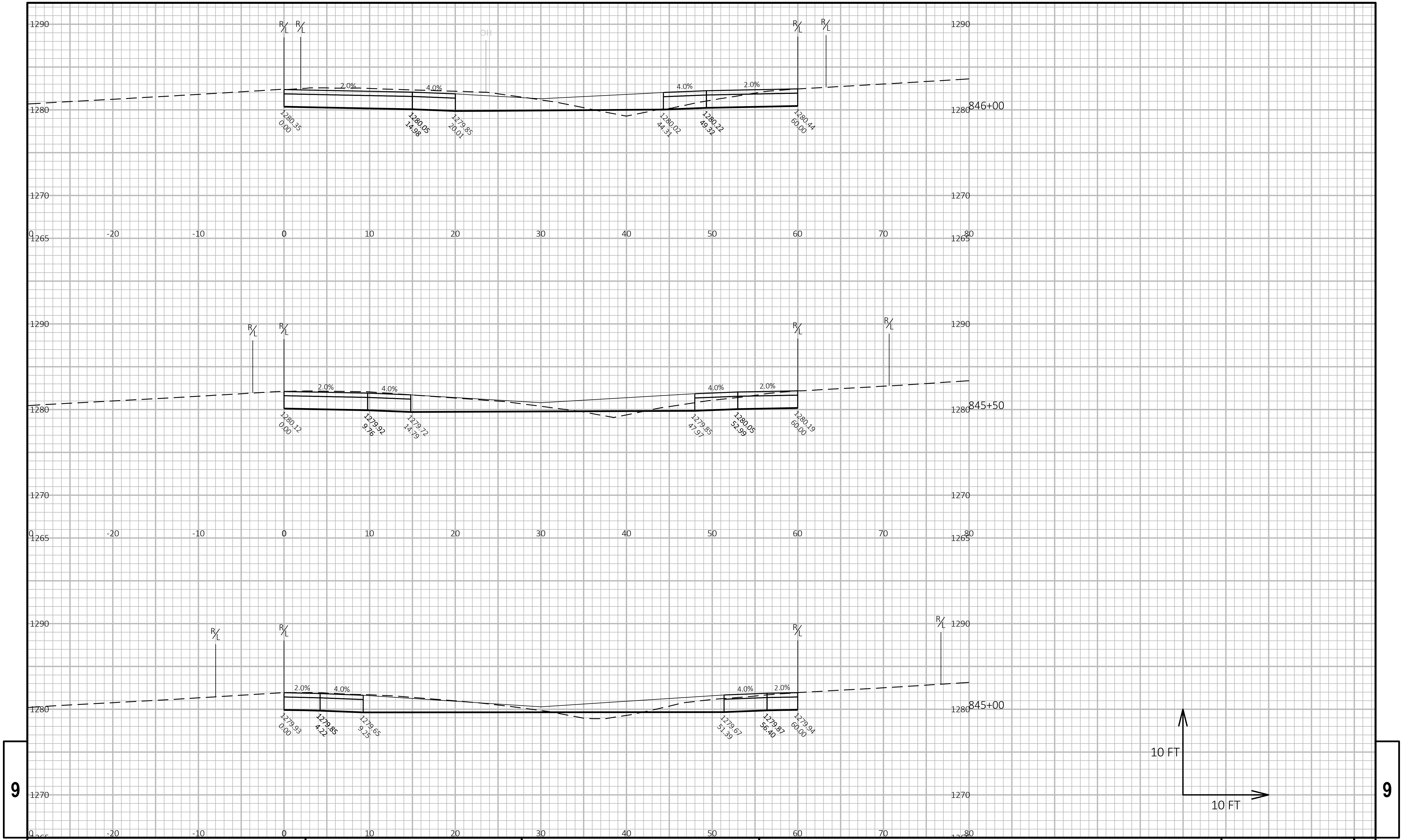






PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 246	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 10
PLOT DATE : 5/1/2025 10:26 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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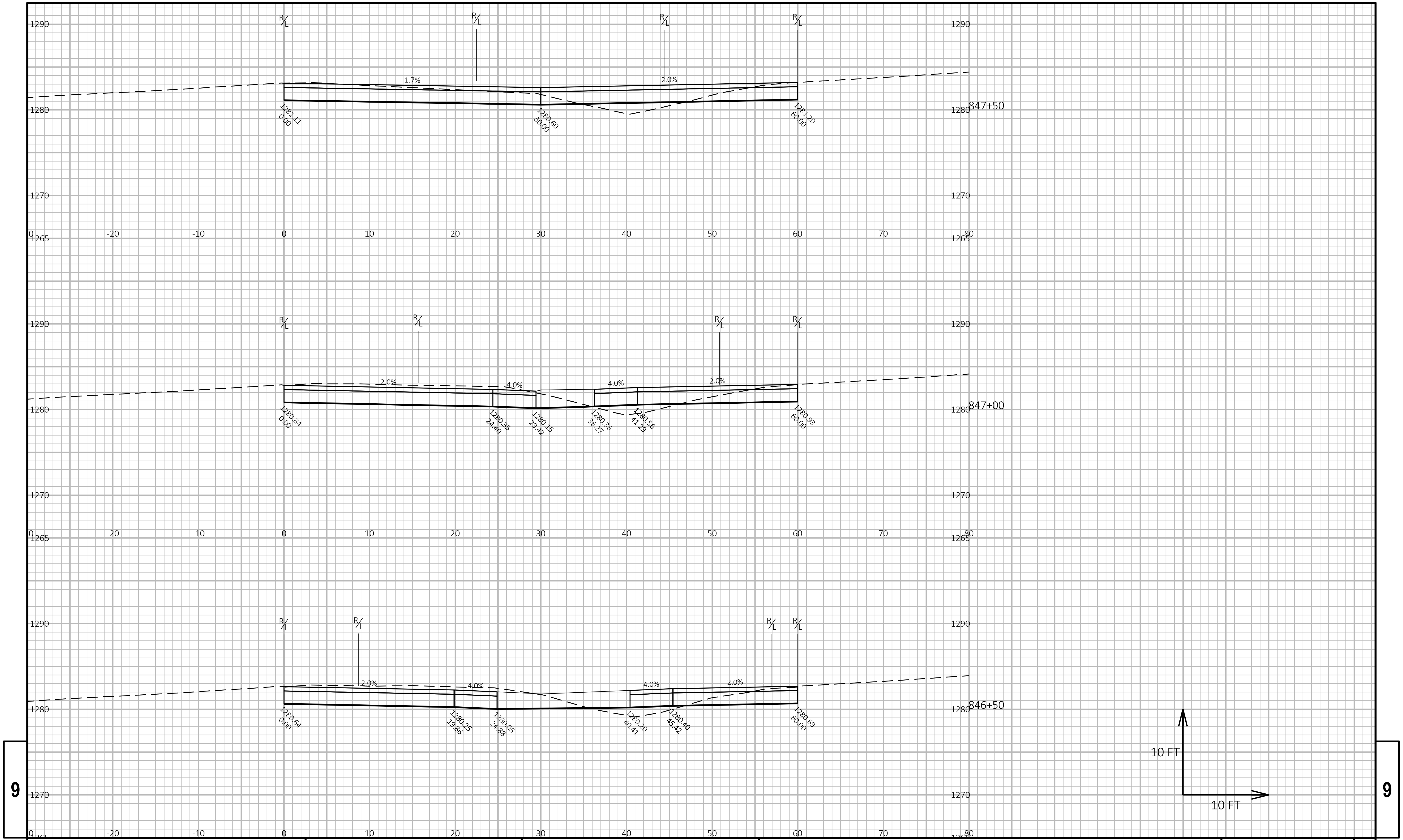
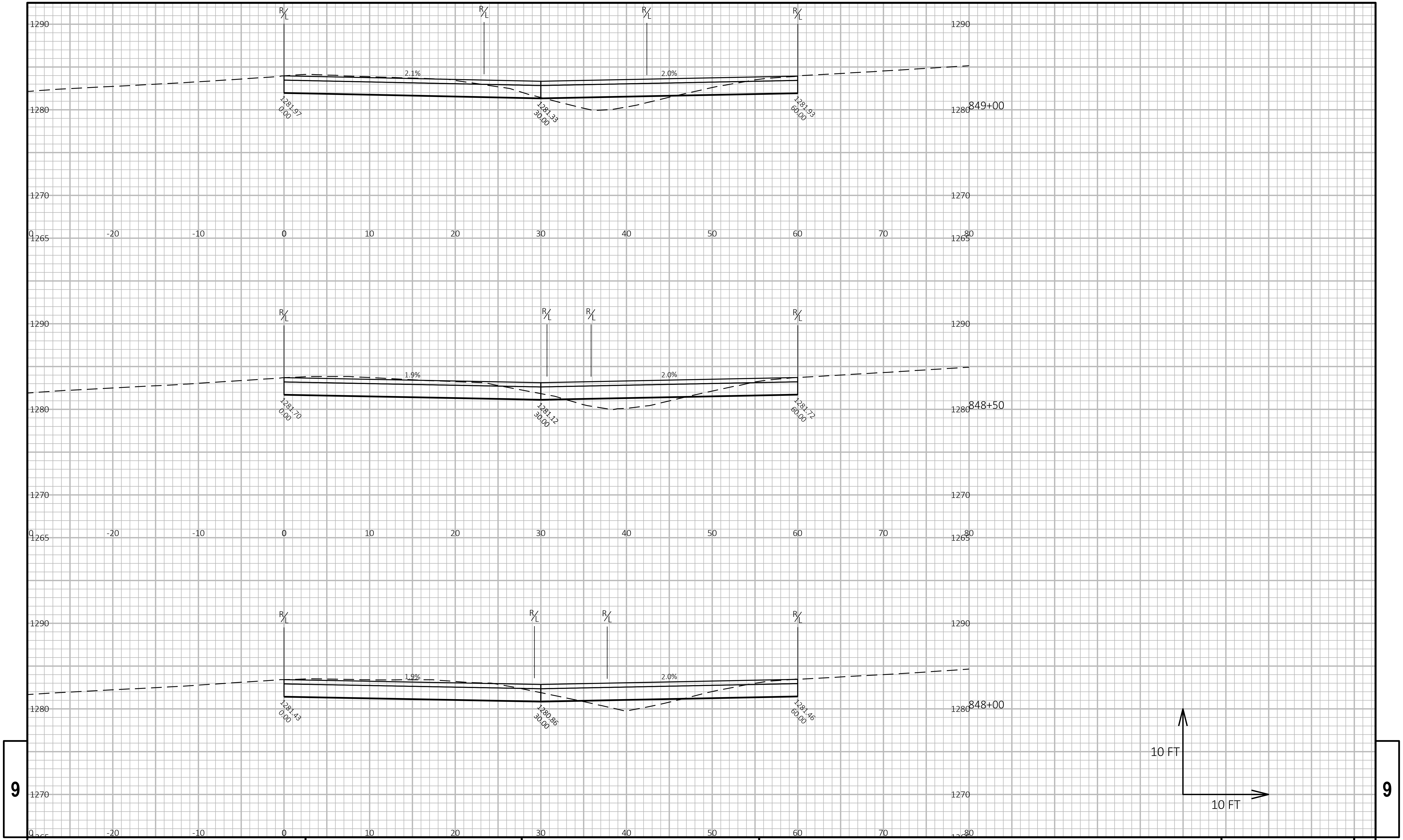
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 247	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 11
PLOT DATE : 5/1/2025 10:26 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 248 | E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 12
PLOT DATE : 5/1/2025 10:27 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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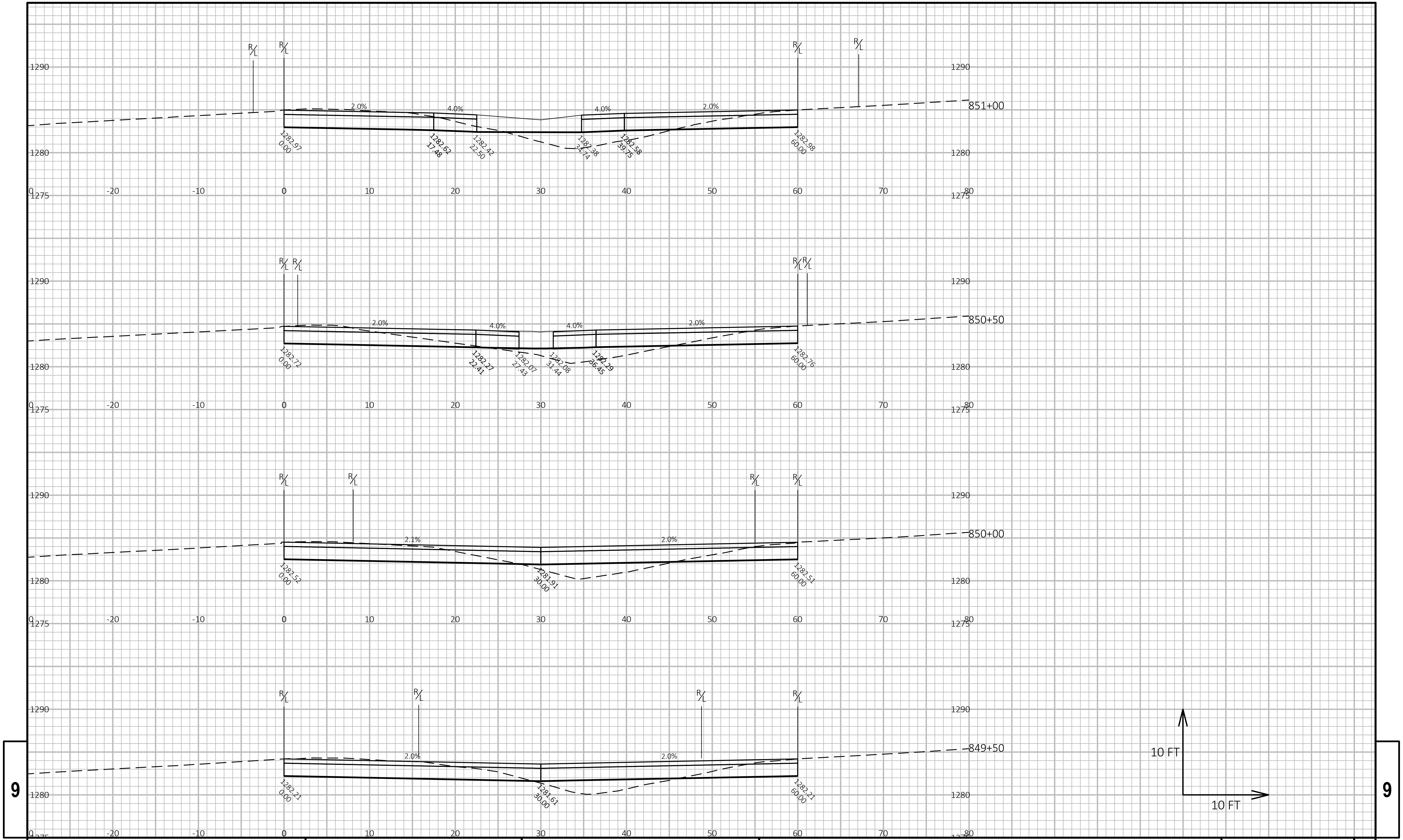
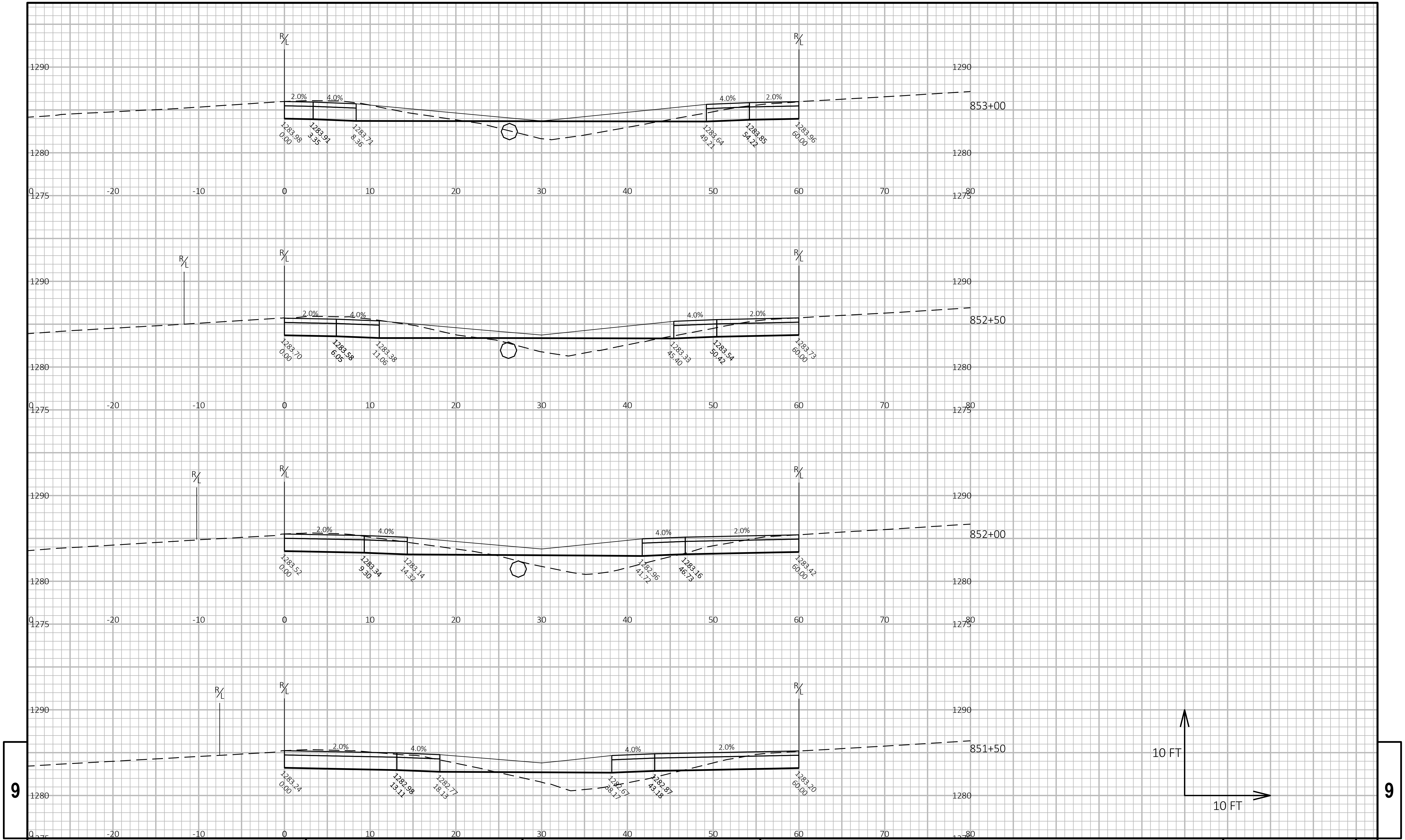
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 249	E



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 250 | E

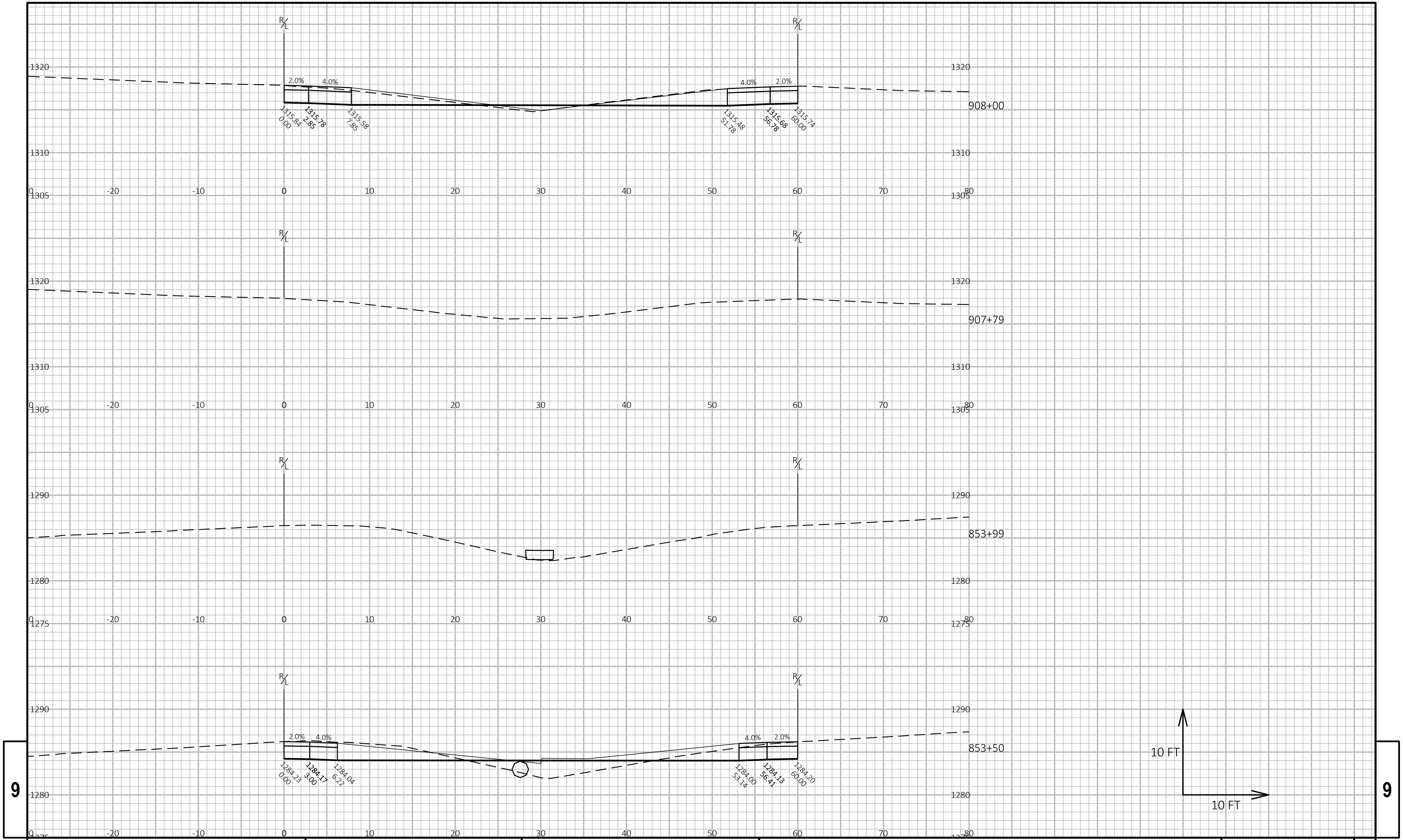
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 14

PLOT DATE : 5/1/2025 10:27 AM PLOT BY : RYAN BOOTH PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 251	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 15
PLOT DATE : 5/1/2025 10:27 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

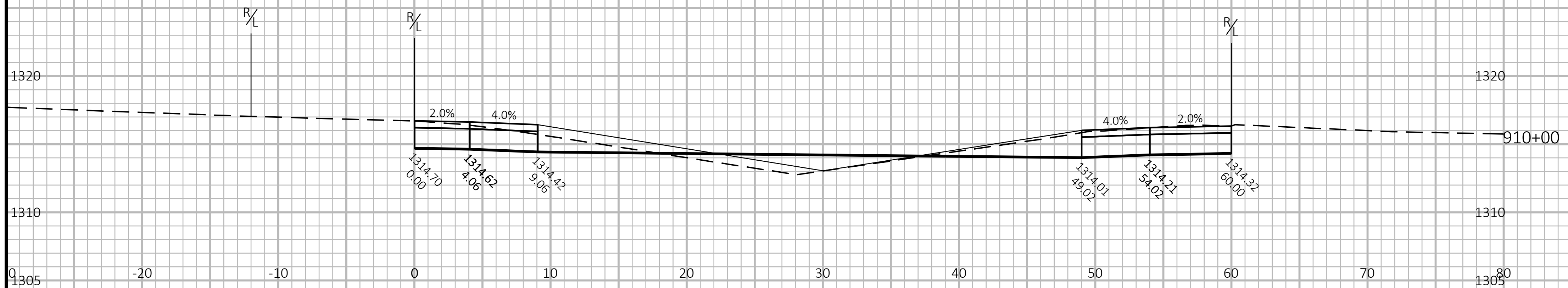


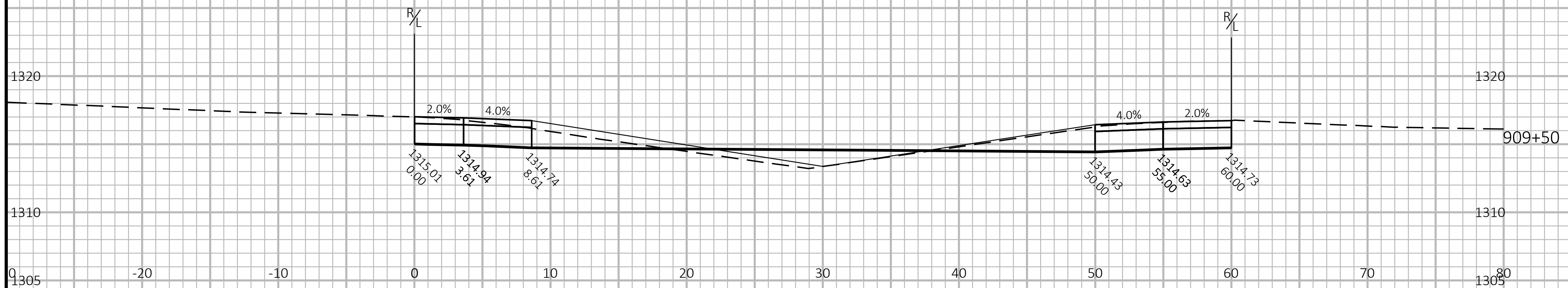
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 252	E

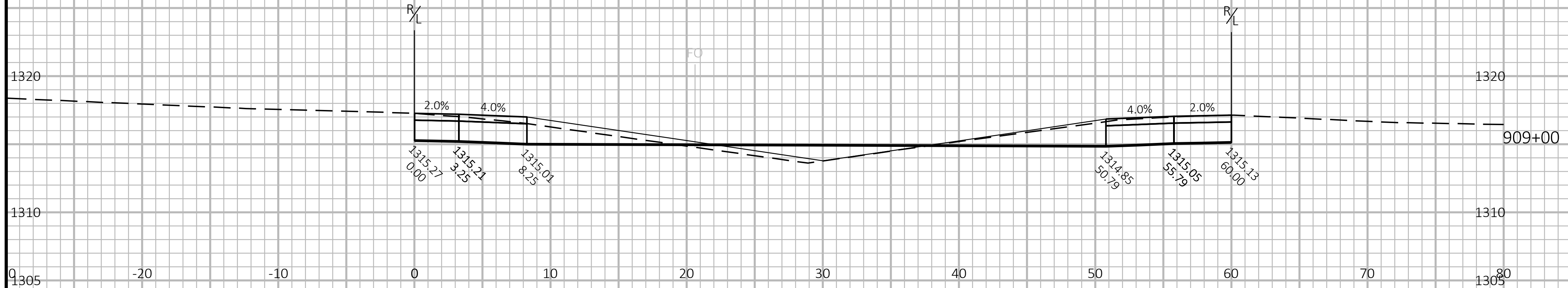
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 16

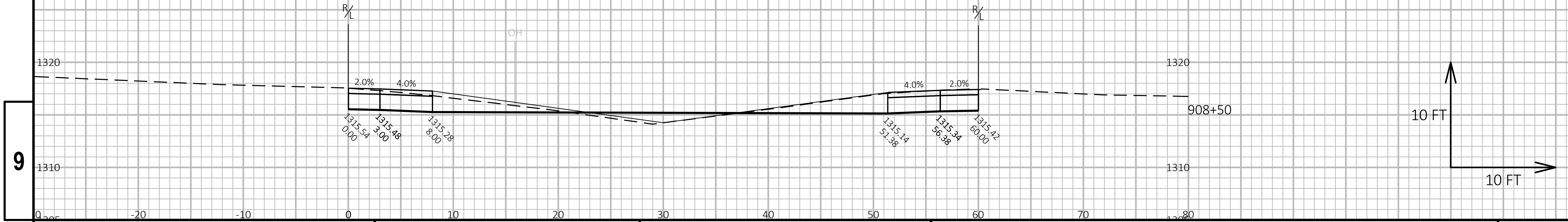
PLOT DATE : 5/1/2025 10:27 AM PLOT BY : RYAN BOOTH PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49









PROJECT NO: 1053-07-61

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: 29WB_CROSSOVER

SHEET

E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG

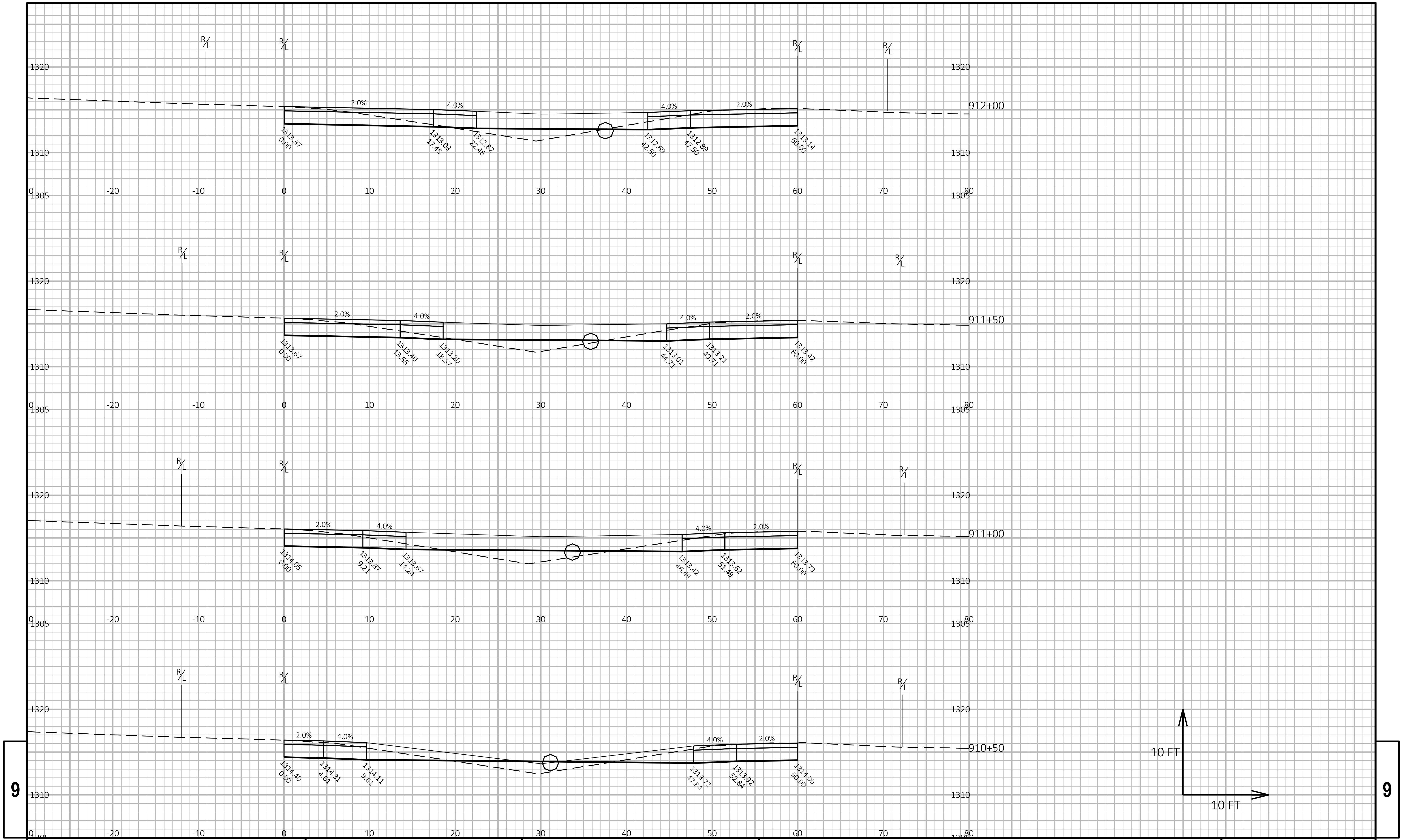
LAYOUT NAME - 17

PLOT DATE : 5/1/2025 10:27 AM

PLOT BY : RYAN BOOTH

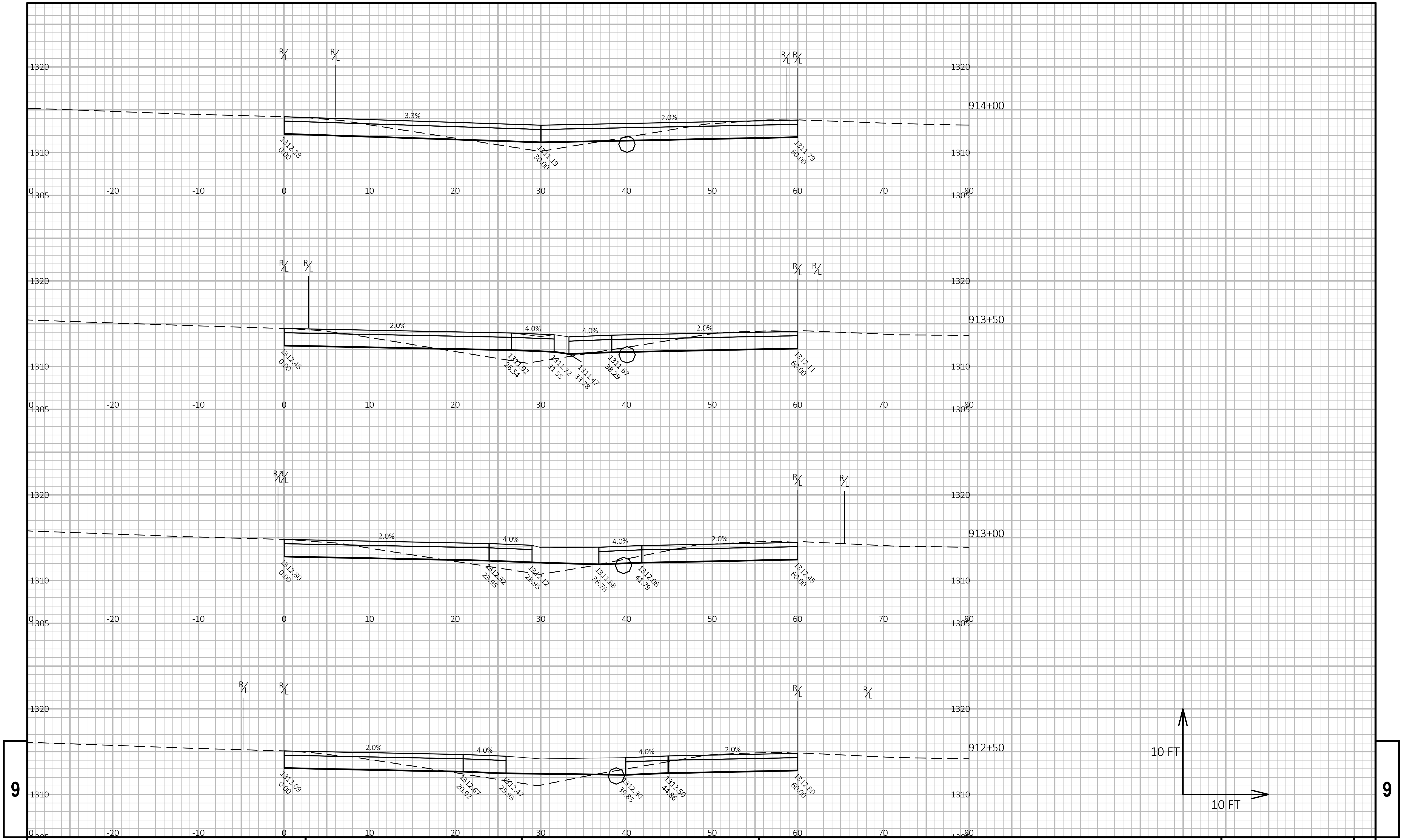
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_CROSSOVER | SHEET 254 | E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 18
PLOT DATE : 5/1/2025 10:28 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 255	E

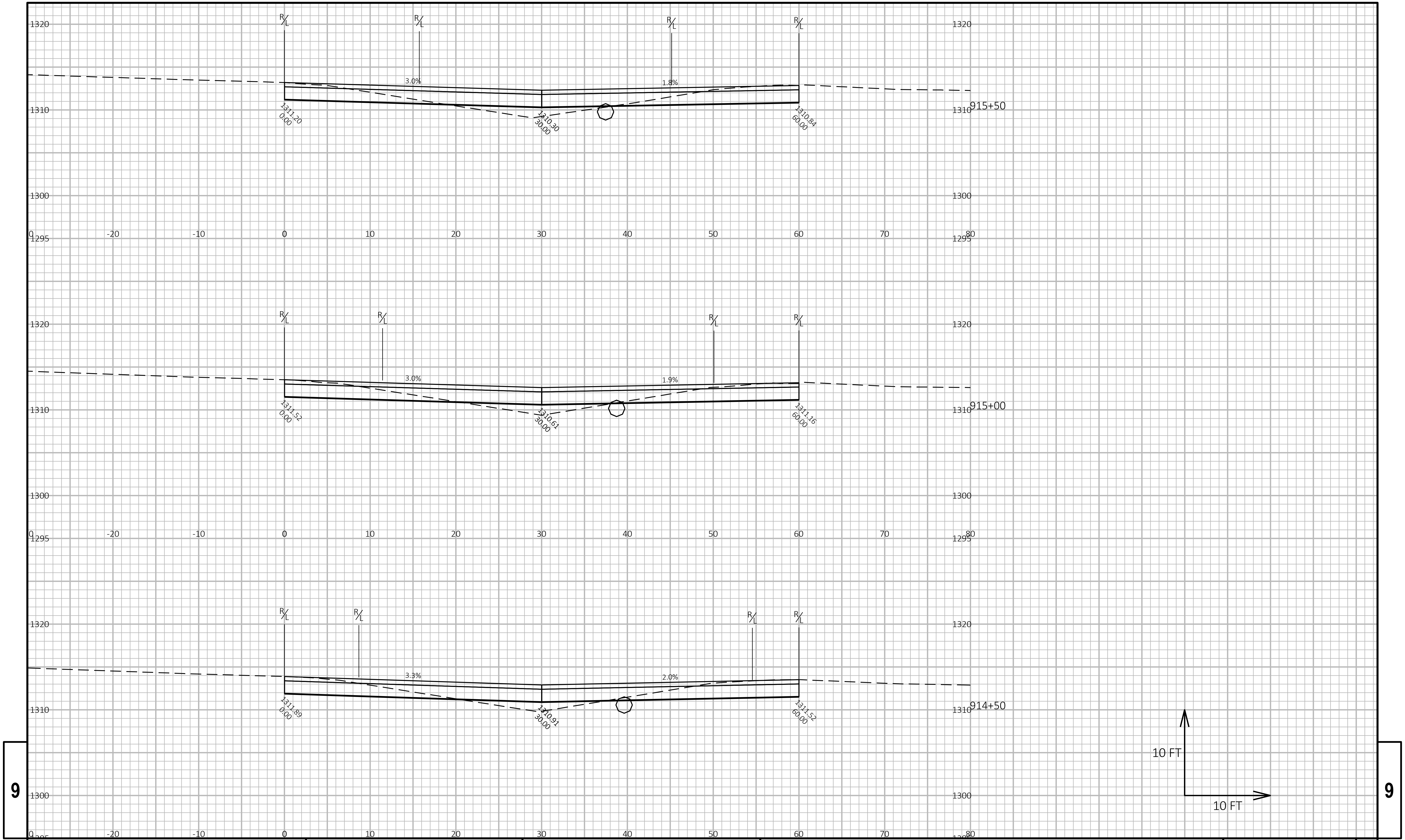
FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 19

PLOT DATE : 5/1/2025 10:28 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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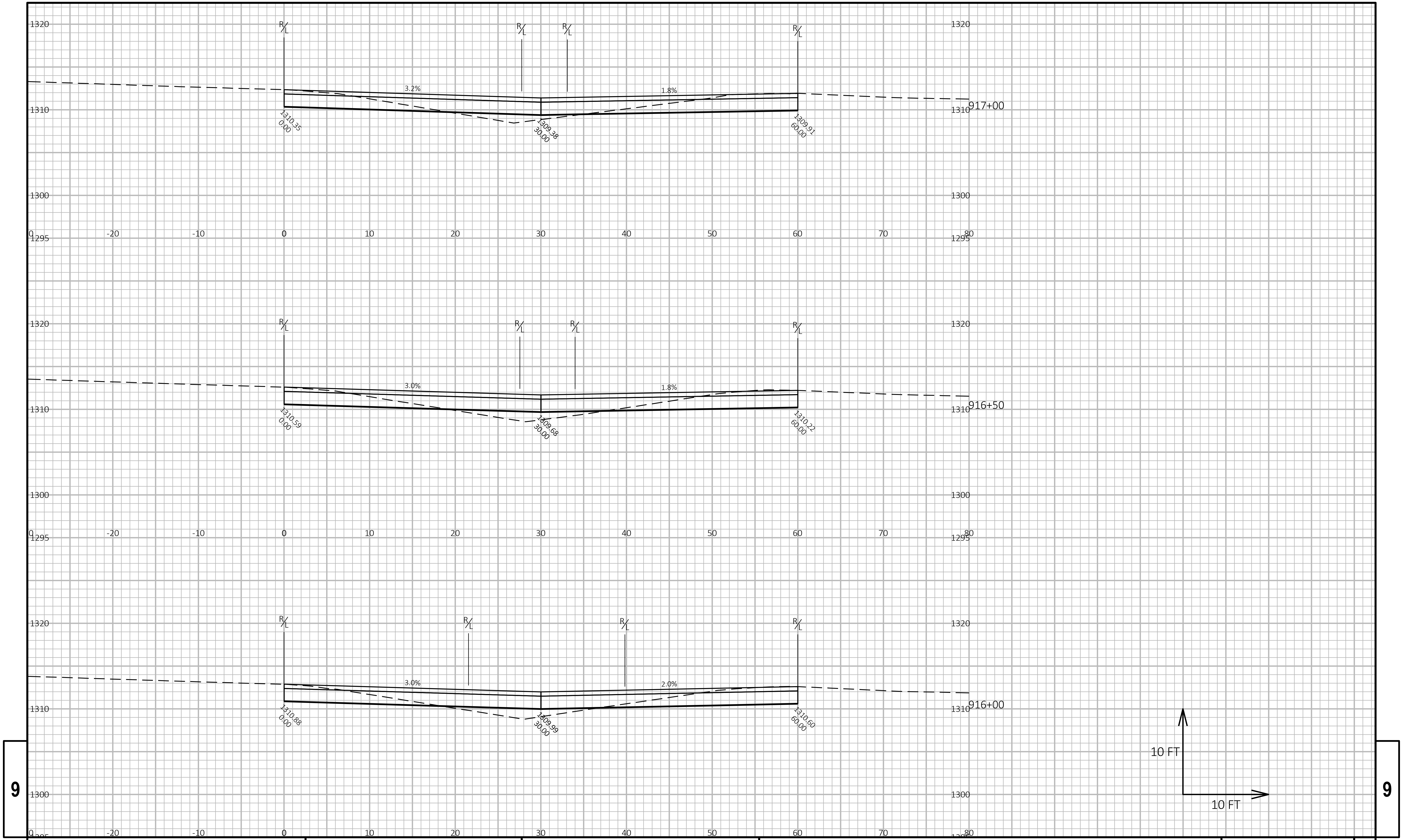
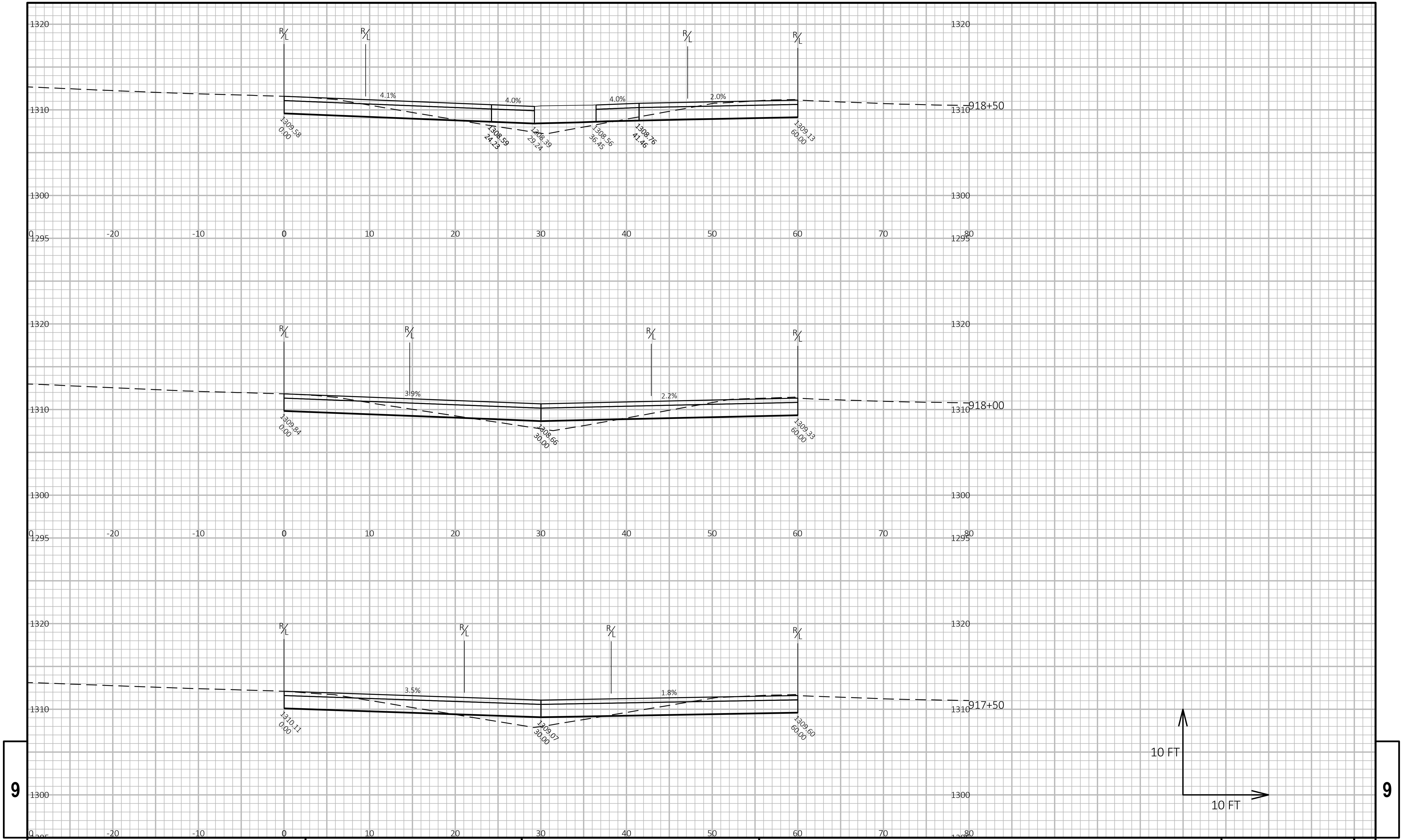
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 256	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 20
PLOT DATE : 5/1/2025 10:28 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 257	E



9

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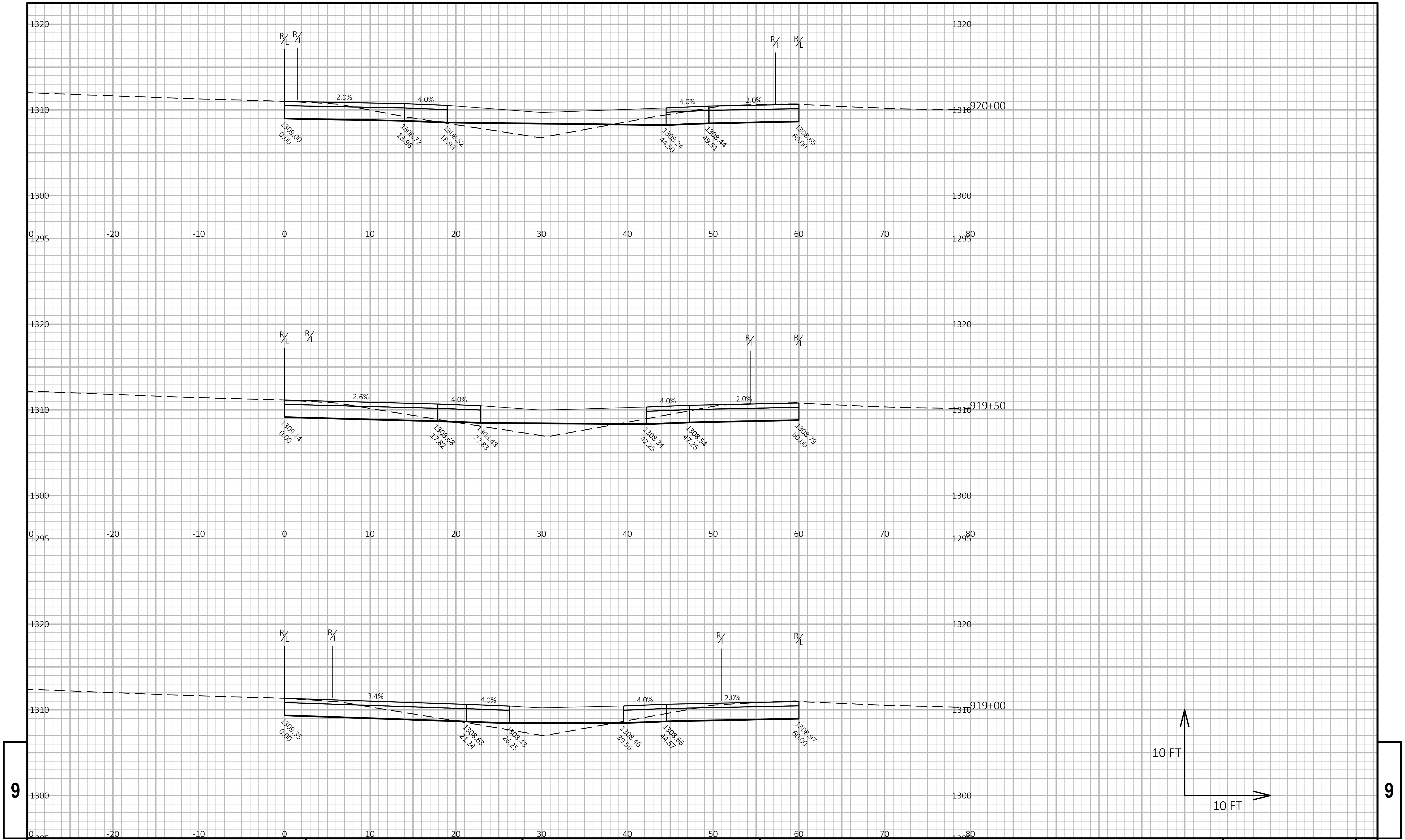
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 258	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 22
PLOT DATE : 5/1/2025 10:28 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



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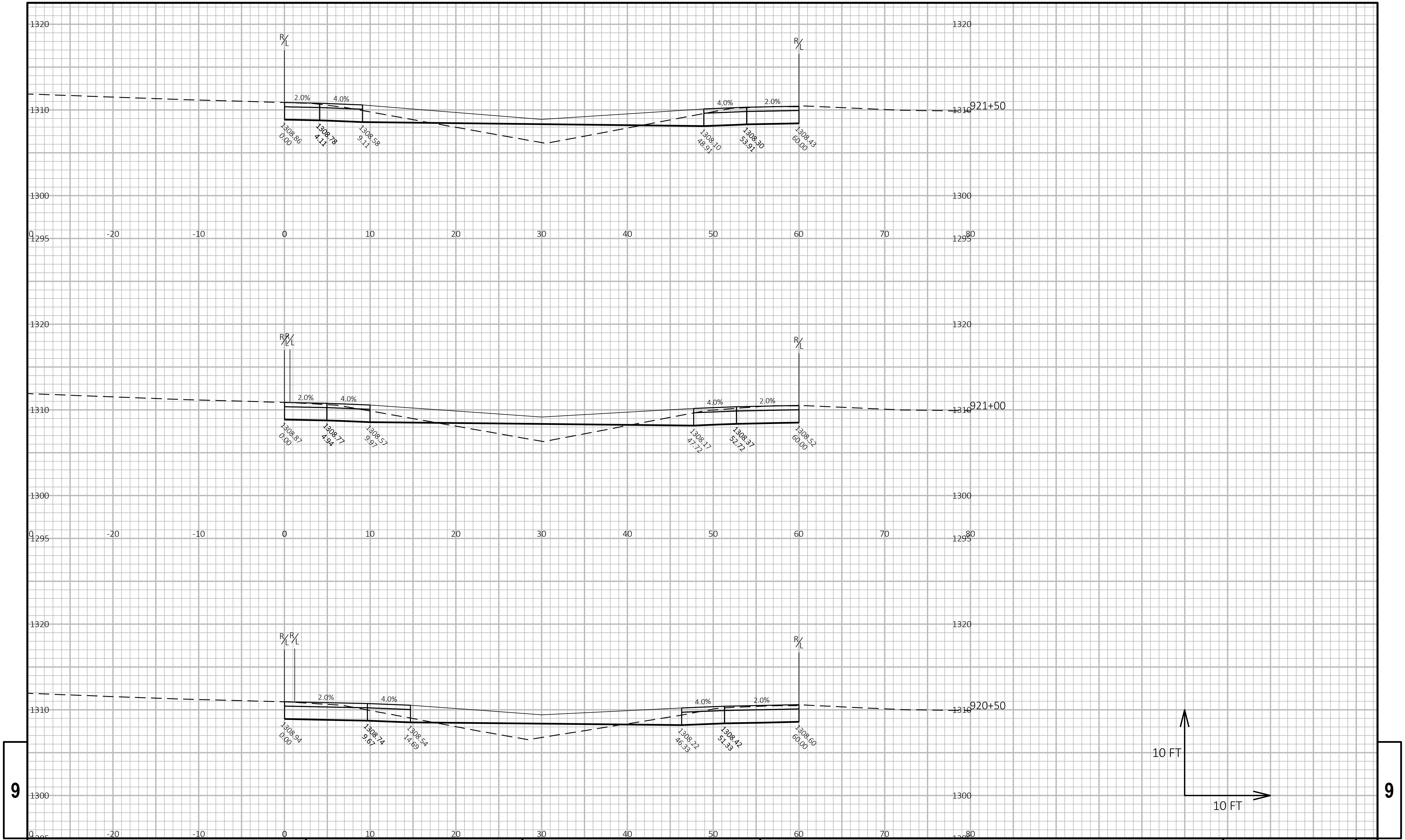
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 259	E



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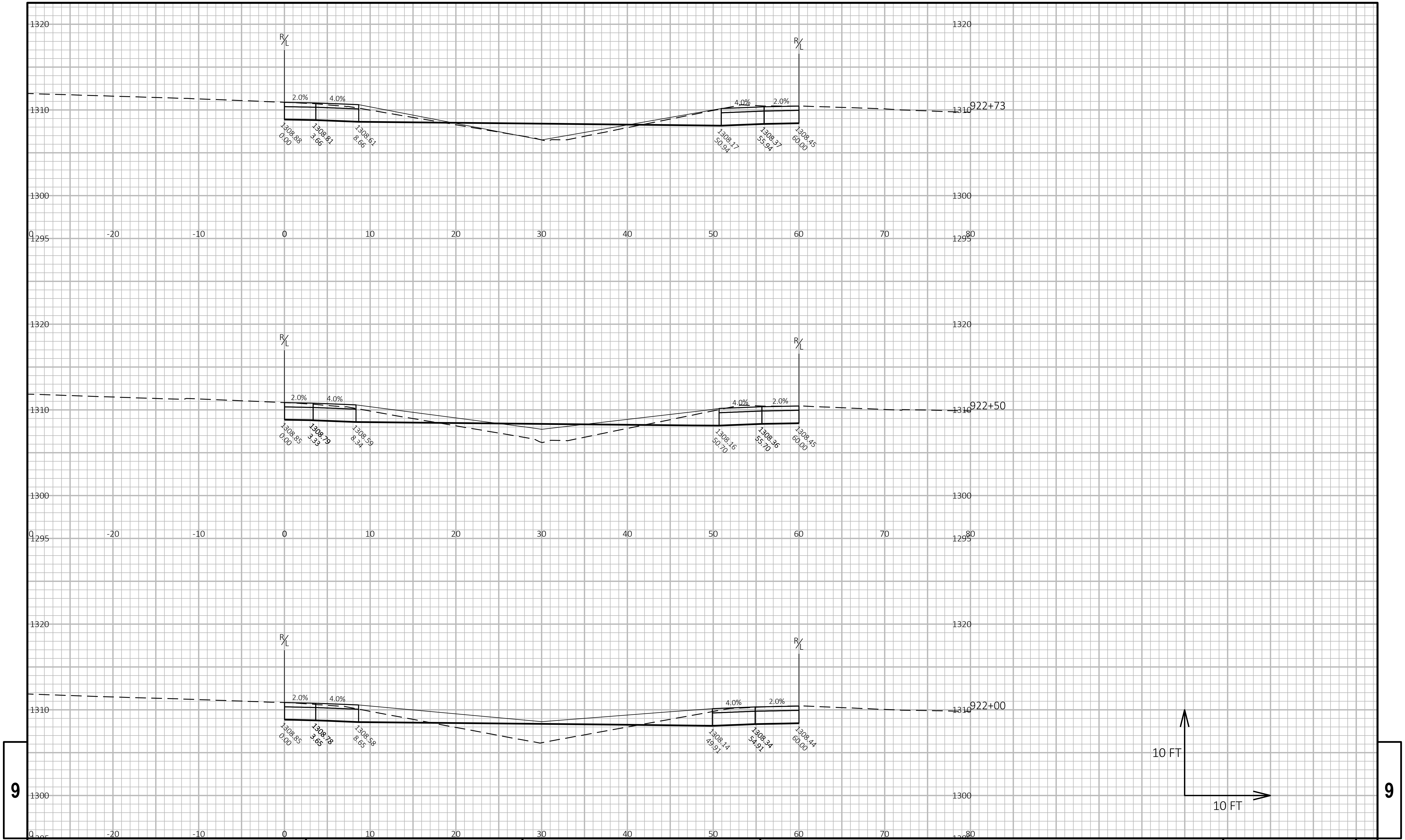
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 260	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 24

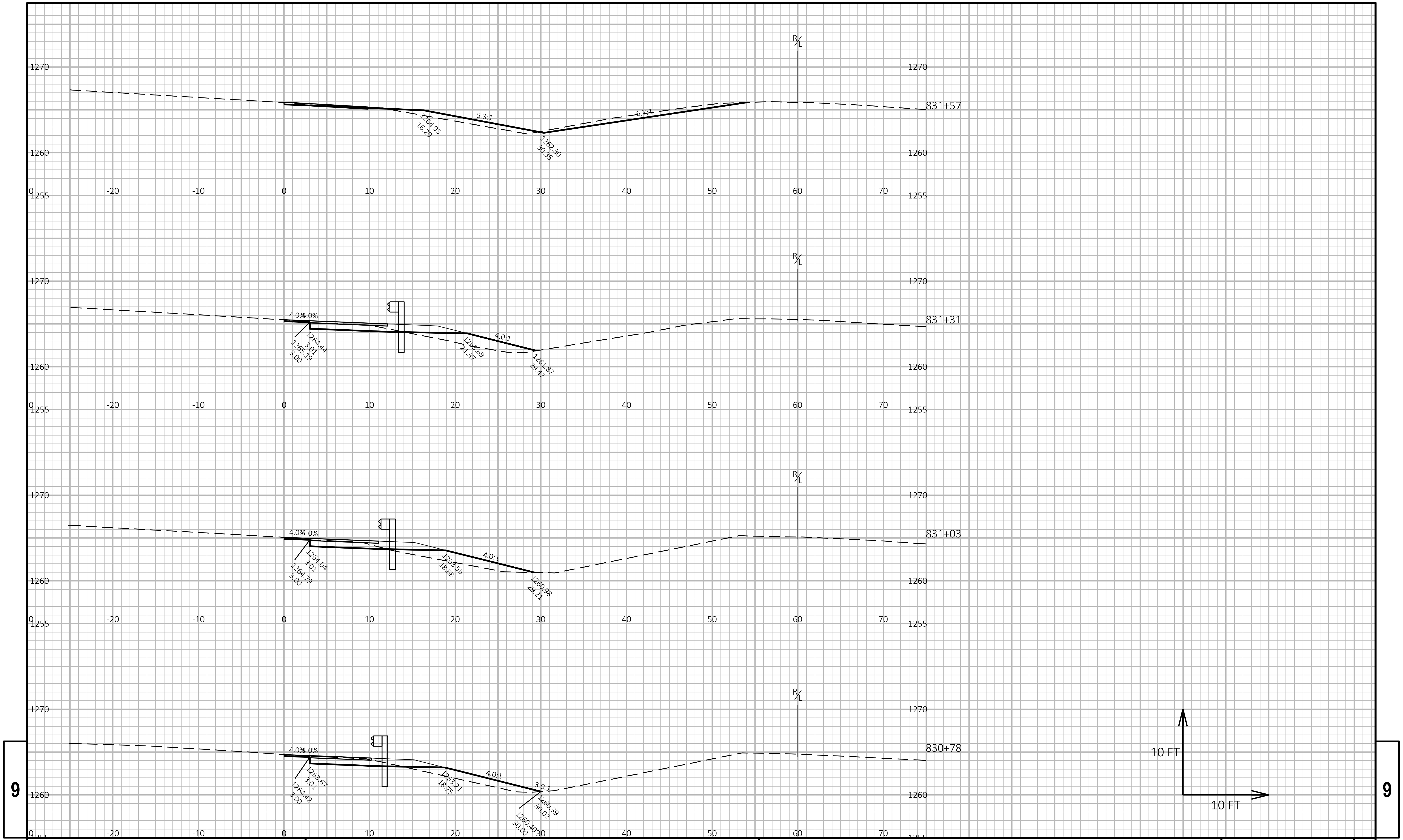
PLOT DATE : 5/1/2025 10:29 AM PLOT BY : RYAN BOOTH PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_CROSSOVER	SHEET 261	E

FILE NAME : W:\10530731\SHEETS\090201-XS.DWG
LAYOUT NAME - 25
PLOT DATE : 5/1/2025 10:29 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: 29WB_BG

SHEET 262

E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 27

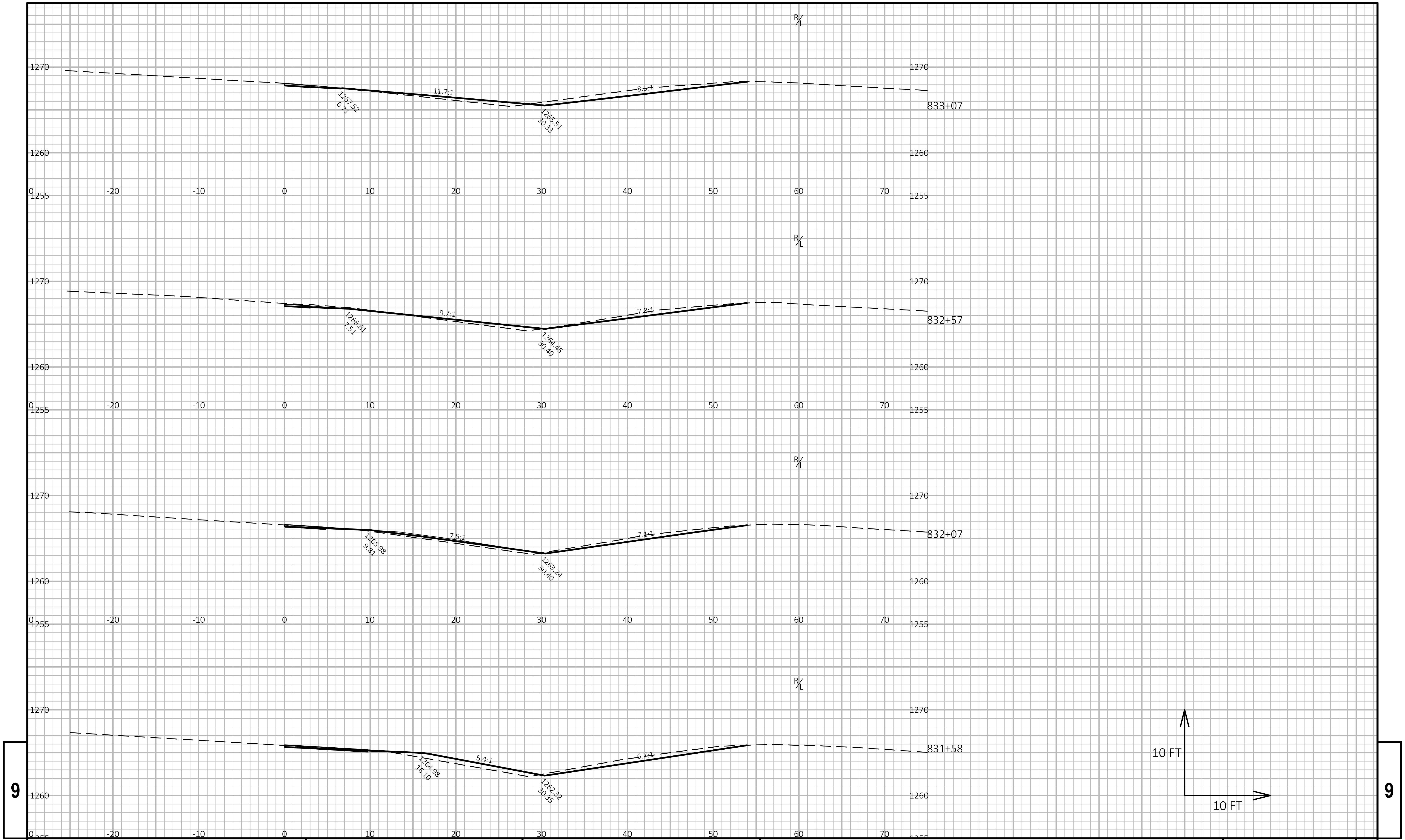
PLOT DATE : 5/1/2025 10:29 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_BG | SHEET 263 | E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 28

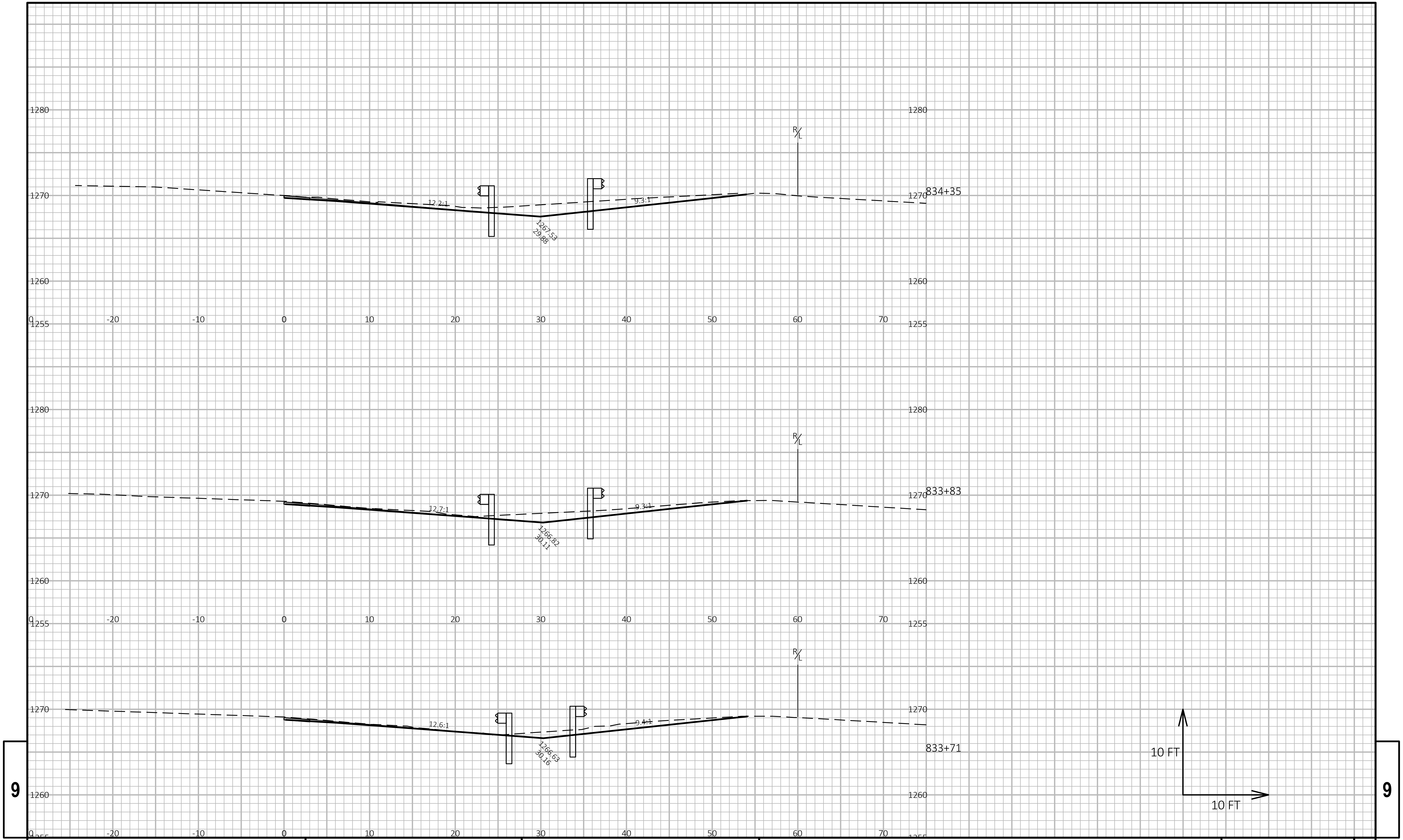
PLOT DATE : 5/1/2025 10:29 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

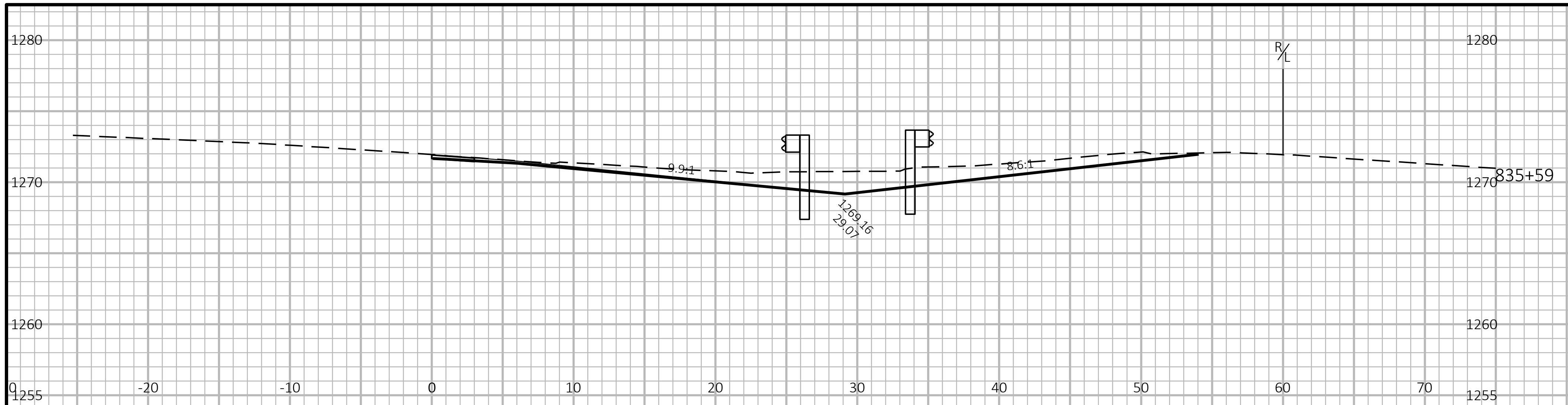
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

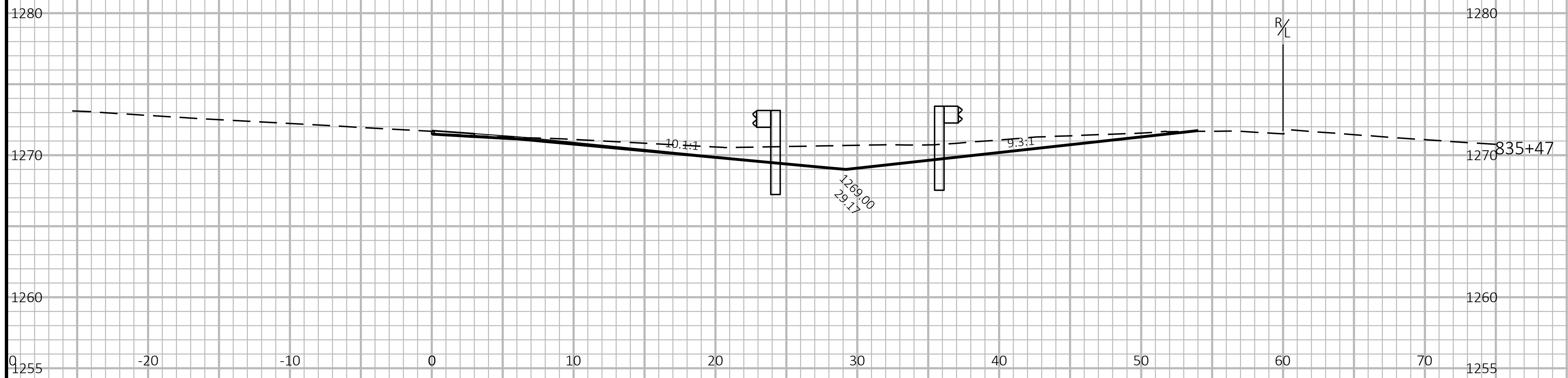
WISDOT/CADDS SHEET 49

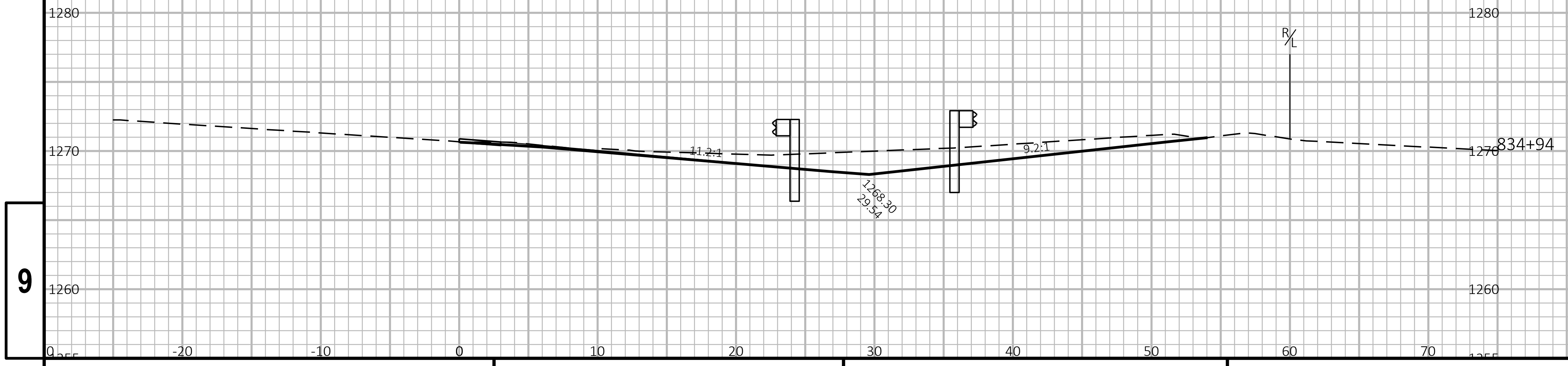


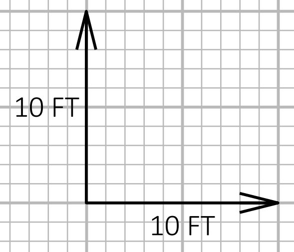
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_BG | SHEET 264 | E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 29
PLOT DATE : 5/1/2025 10:30 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.









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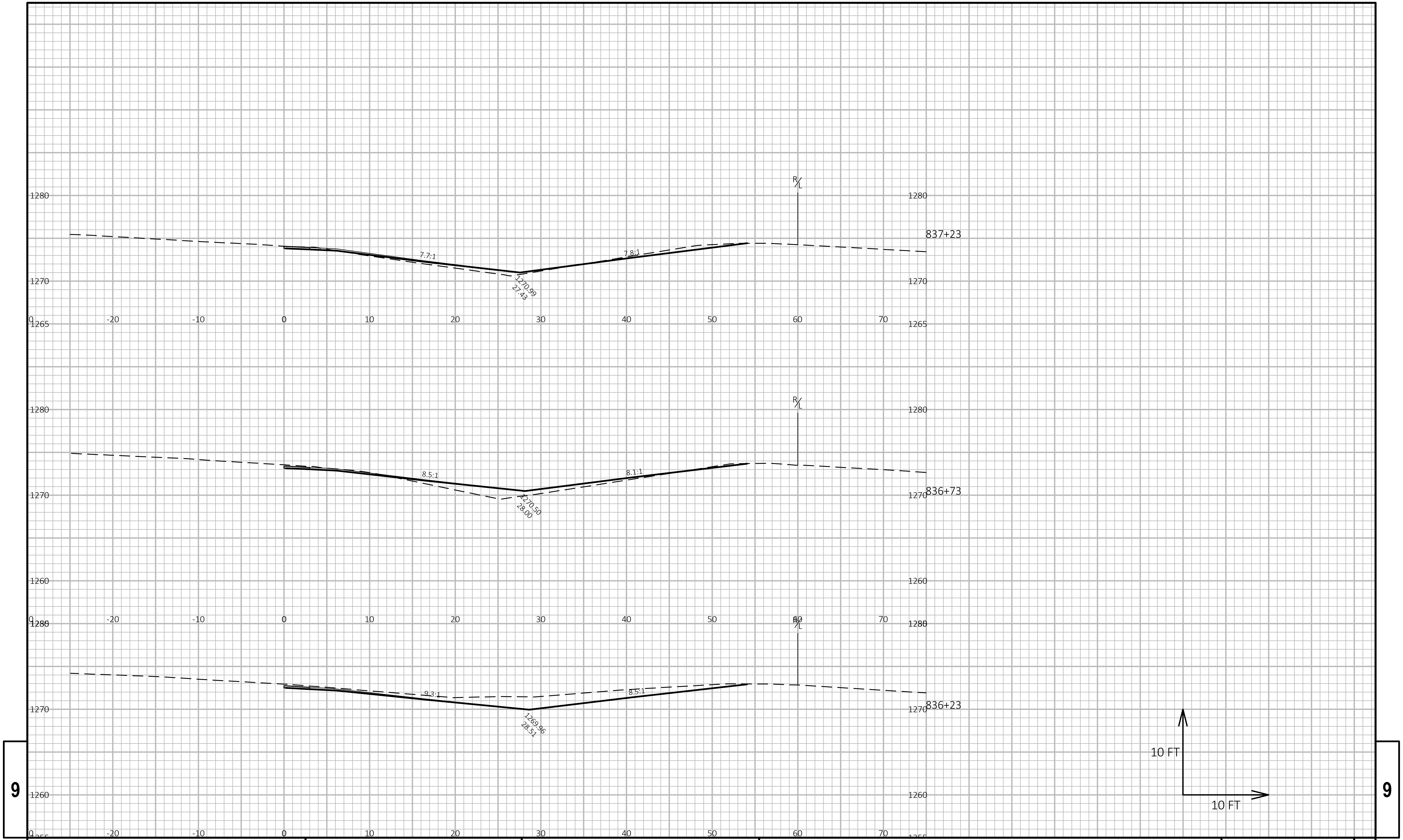
PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: 29WB_BG | SHEET 265 | E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 30
PLOT DATE : 5/1/2025 10:30 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



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PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_BG	SHEET 266	E

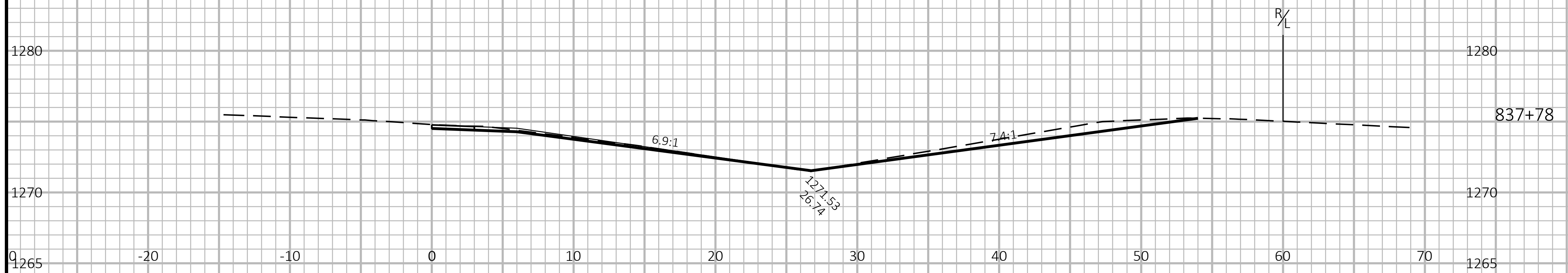
FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 31

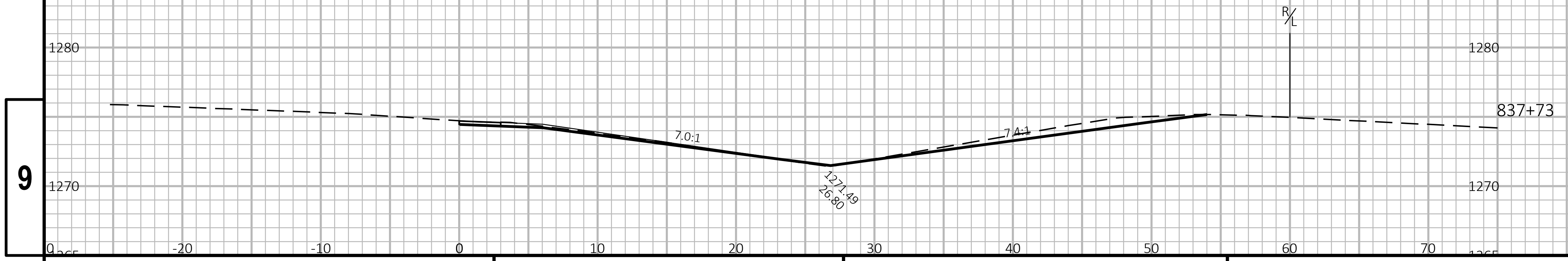
PLOT DATE : 5/1/2025 10:30 AM

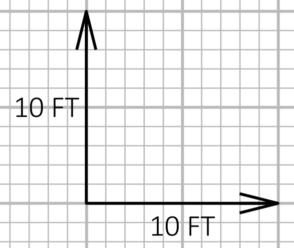
PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.







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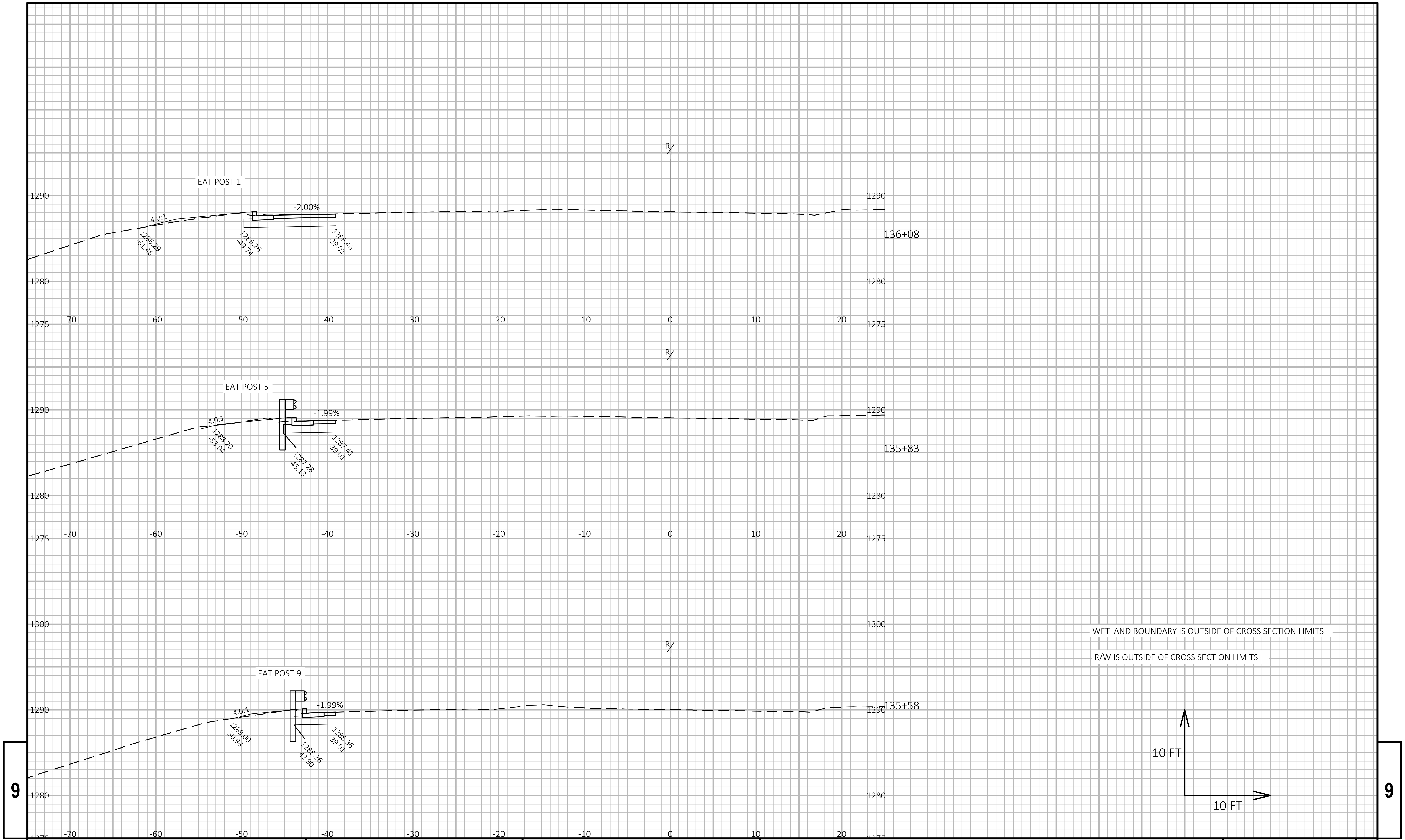
PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: 29WB_BG	SHEET 267	E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29WB_BG.DWG
LAYOUT NAME - 32
PLOT DATE : 5/1/2025 10:30 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
WISDOT/CADDS SHEET 49



WETLAND BOUNDARY IS OUTSIDE OF CROSS SECTION LIMITS

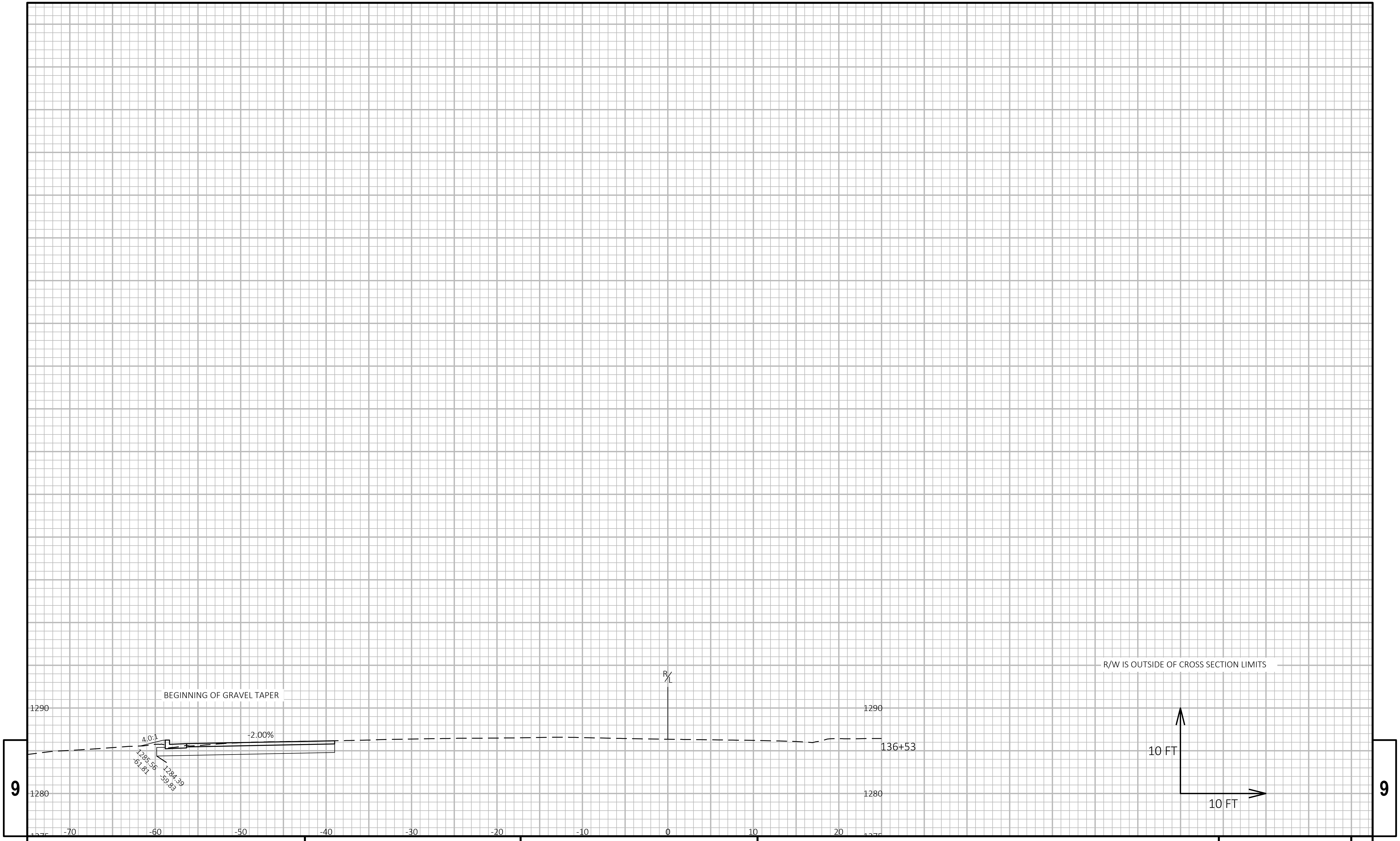
R/W IS OUTSIDE OF CROSS SECTION LIMITS

PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: CTH Y_BG | SHEET

E

FILE NAME : W:\105307311\DSGN\CRDR\CRDR_CTH Y NW_BG.DWG
LAYOUT NAME - 33

PLOT DATE : 5/1/2025 11:21 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CTH Y_BG	SHEET 269	E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_CTH Y NW_BG.DWG
LAYOUT NAME - 34

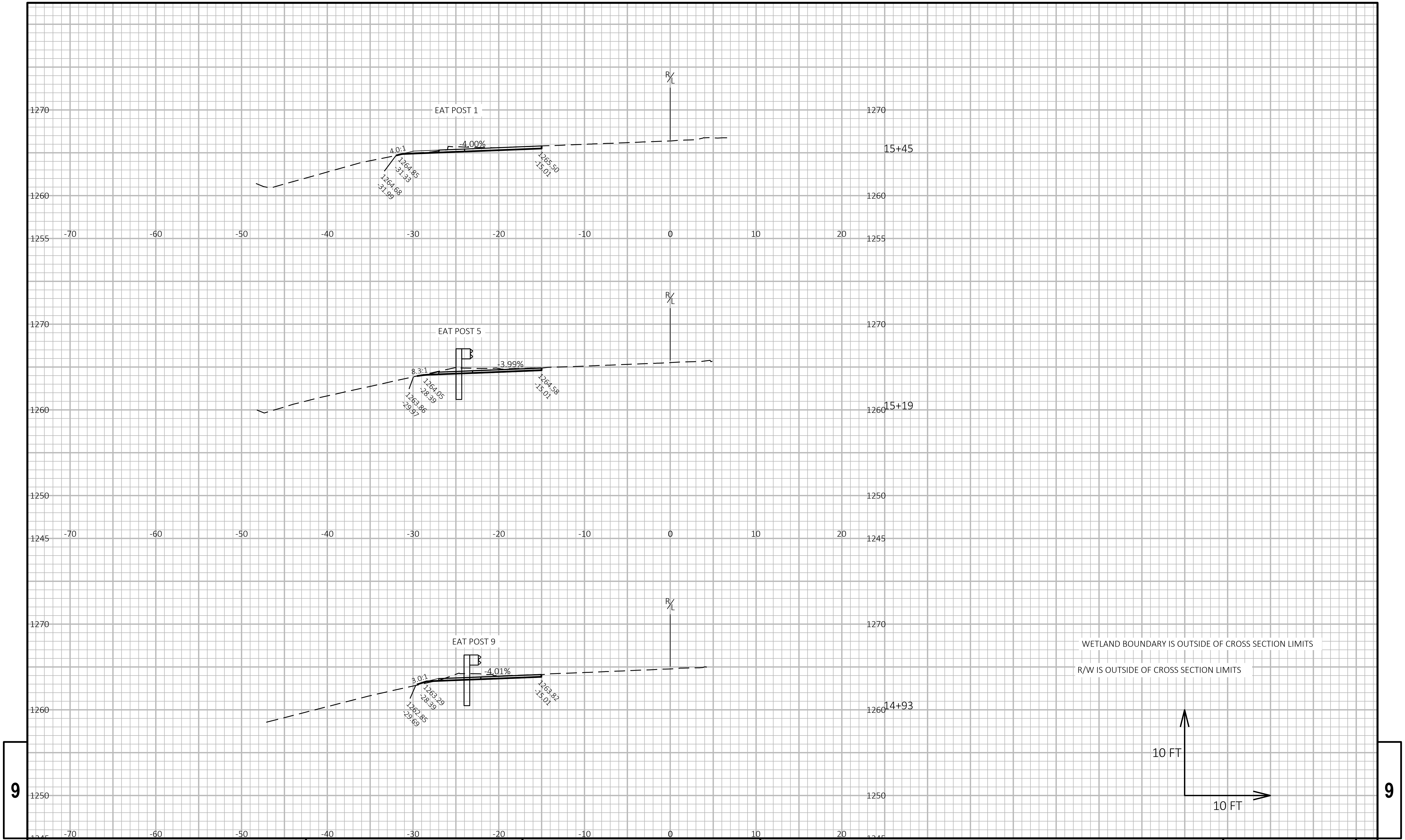
PLOT DATE : 5/1/2025 11:21 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



WETLAND BOUNDARY IS OUTSIDE OF CROSS SECTION LIMITS

R/W IS OUTSIDE OF CROSS SECTION LIMITS

PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CTH Y NW RAMP_BG	SHEET 270	E

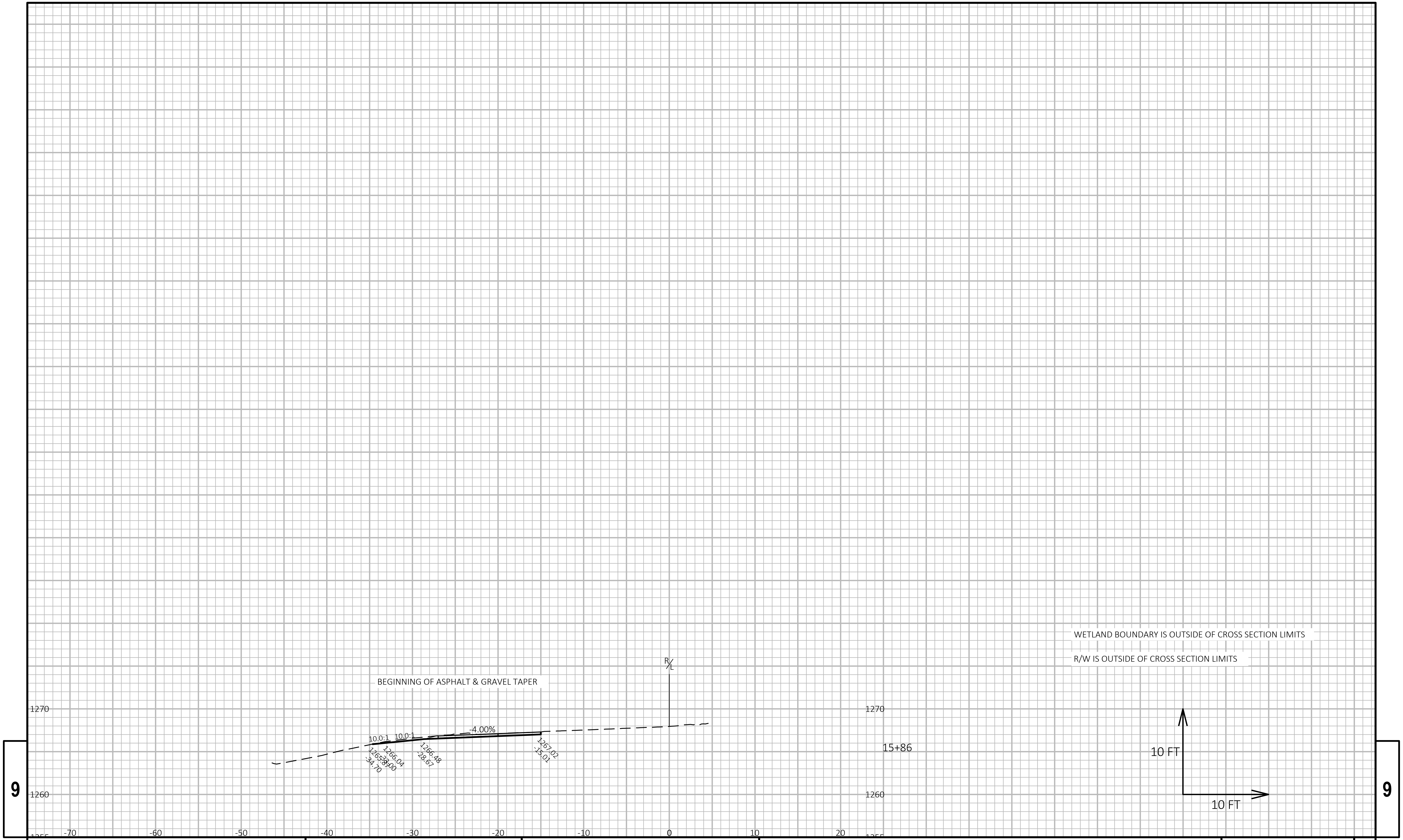
FILE NAME : W:\10530731\DSGN\CRDR\CRDR_CTH Y NW_BG.DWG
LAYOUT NAME - 35

PLOT DATE : 5/1/2025 11:21 AM

PLOT BY : RYAN BOOTH

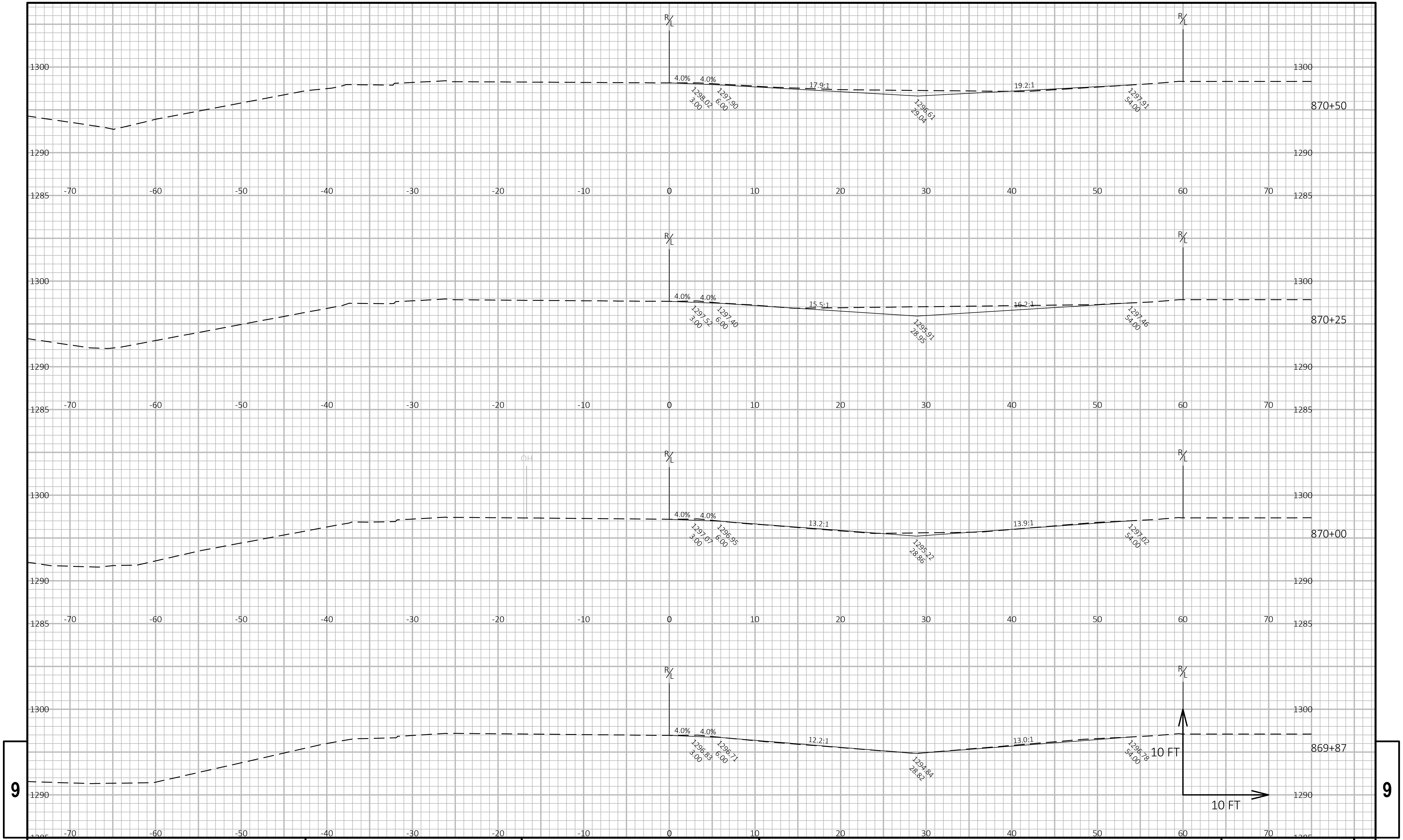
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61 | HWY: STH 29 | COUNTY: MARATHON | CROSS SECTIONS: CTH Y NW RAMP_BG | SHEET 271 | E

FILE NAME : W:\105307311\DSGN\CRDR\CRDR_CTH Y NW_BG.DWG
LAYOUT NAME - 36
PLOT DATE : 5/1/2025 11:21 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 1053-07-61

HWY: STH 29

COUNTY: MARATHON

CROSS SECTIONS: WB STH 29 (MEDIAN)

SHEET 272 E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29_ACCESS CONTROL_STA 871.DWG
LAYOUT NAME - 37

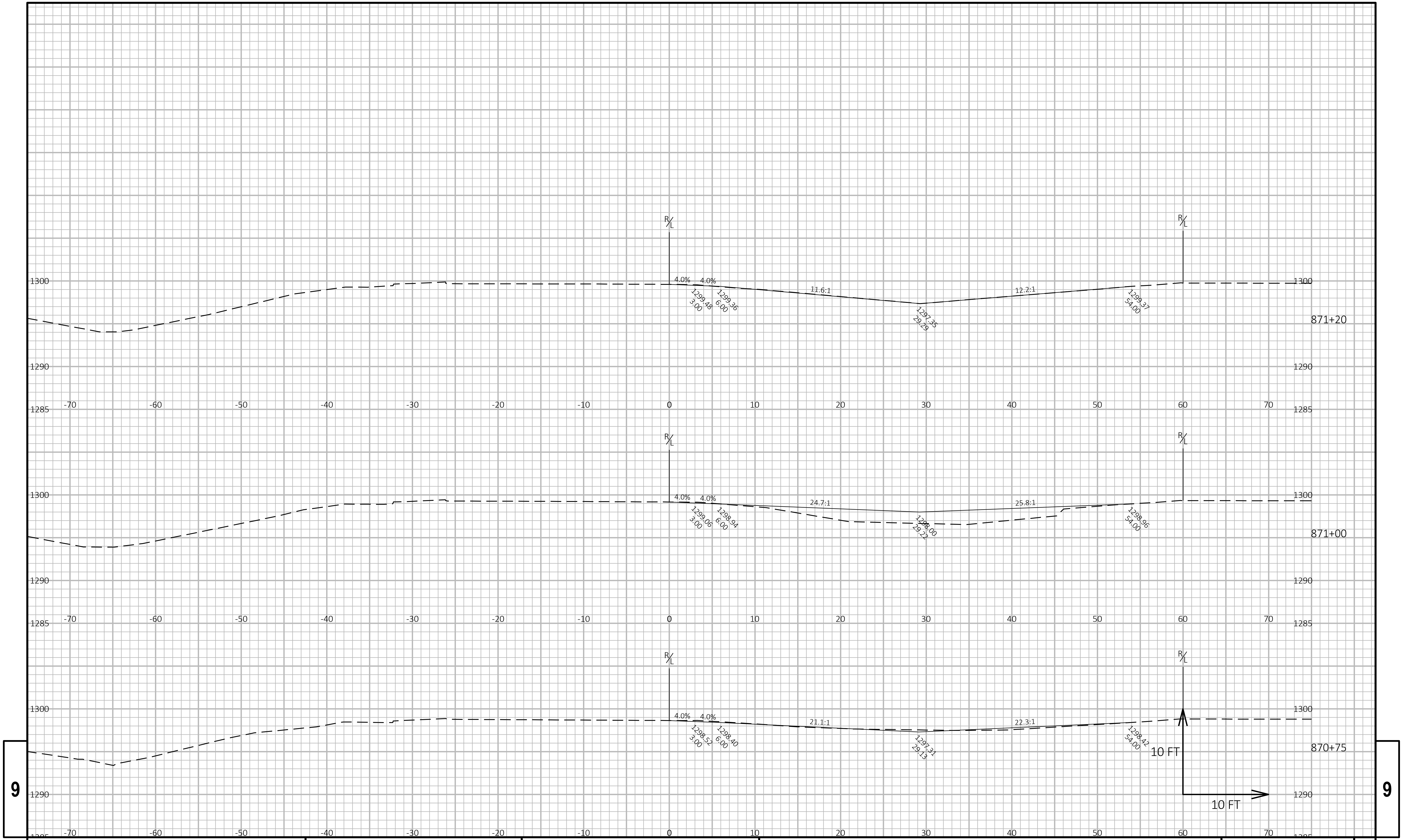
PLOT DATE : 5/1/2025 10:31 AM

PLOT BY : RYAN BOOTH

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 1053-07-61	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: WB STH 29 (MEDIAN)	SHEET 273	E

FILE NAME : W:\10530731\DSGN\CRDR\CRDR_29_ACCESS CONTROL_STA 871.DWG
LAYOUT NAME - 38
PLOT DATE : 5/1/2025 10:32 AM
PLOT BY : RYAN BOOTH
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Wisconsin Department of Transportation

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