

PROJECT ID: 1166-01-84, 1166-05-81/-85
COUNTY: MARATHON

WITH:

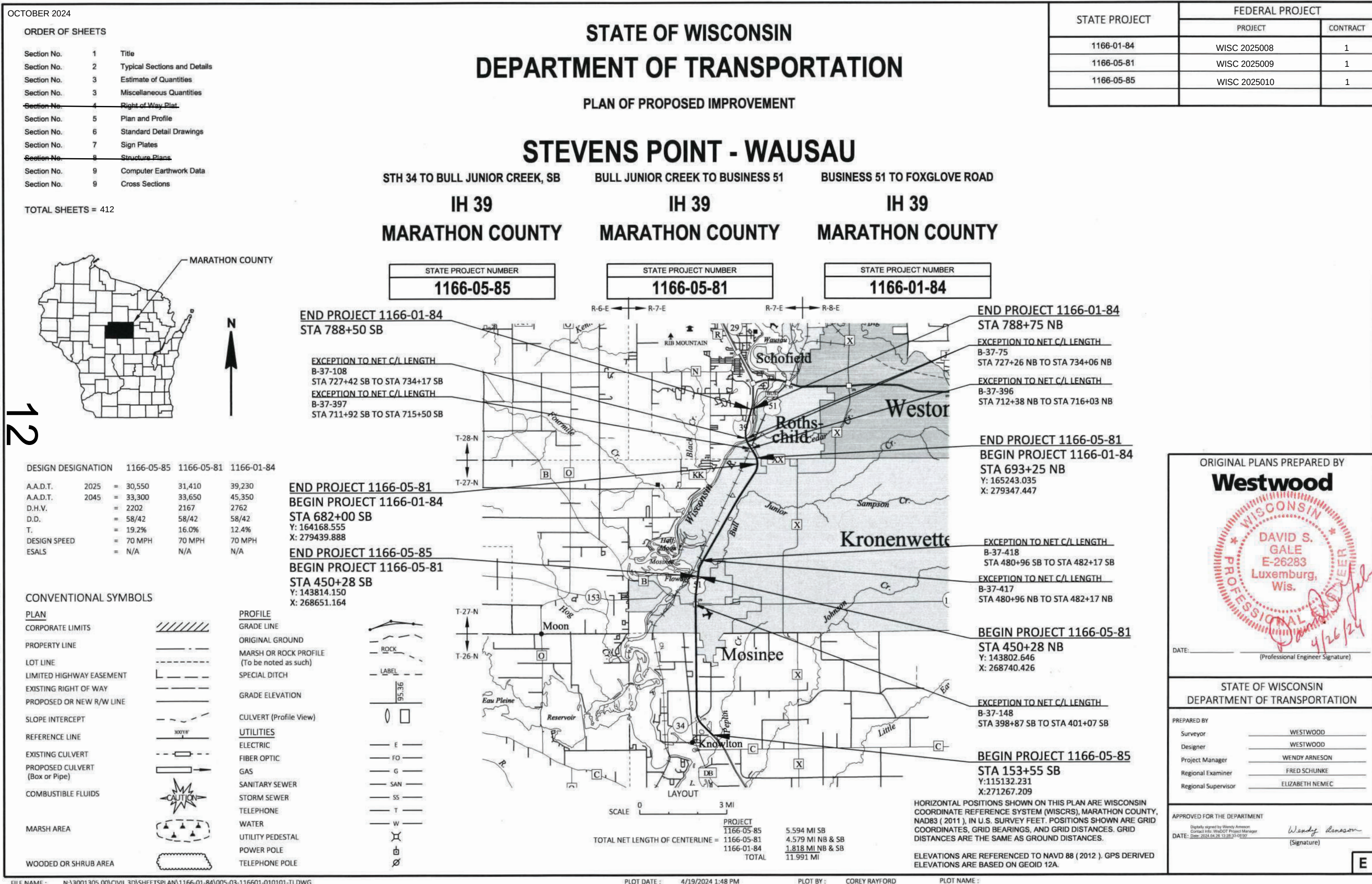
12

WISCONSIN

DATE: 4/19/2024 1:48 PM

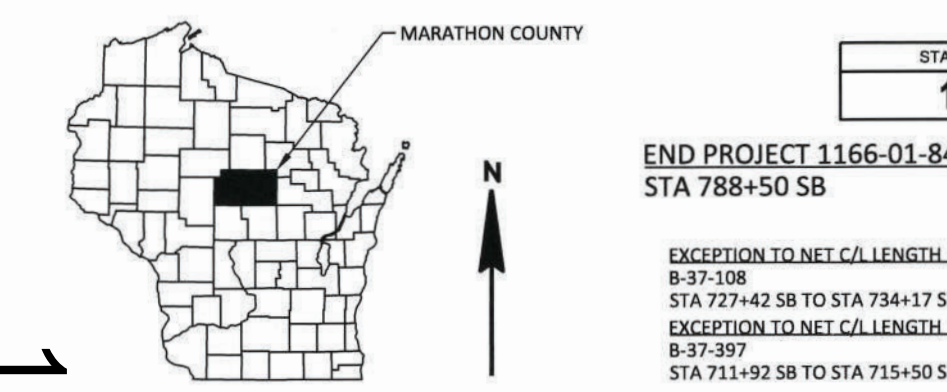
PLOT BY: COREY RAYFORD

PLOT NAME:



ORDER OF SHEETS		
Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
Section No.	8	Structure Plans
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 412



DESIGN DESIGNATION	1166-05-85	1166-05-81	1166-01-84
A.A.D.T. 2025	= 30,550	31,410	39,230
A.A.D.T. 2045	= 33,300	33,650	45,350
D.H.V.	= 2202	2167	2762
D.D.	= 58/42	58/42	58/42
T.	= 19.2%	16.0%	12.4%
DESIGN SPEED	= 70 MPH	70 MPH	70 MPH
ESALS	= N/A	N/A	N/A

CONVENTIONAL SYMBOLS	
PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION PLAN OF PROPOSED IMPROVEMENT

STEVENS POINT - WAUSAU

STH 34 TO BULL JUNIOR CREEK, SB BULL JUNIOR CREEK TO BUSINESS 51 BUSINESS 51 TO FOXGLOVE ROAD
IH 39 IH 39 IH 39
MARATHON COUNTY MARATHON COUNTY MARATHON COUNTY

STATE PROJECT NUMBER	STATE PROJECT NUMBER	STATE PROJECT NUMBER
1166-05-85	1166-05-81	1166-01-84

END PROJECT 1166-01-84 STA 788+50 SB	END PROJECT 1166-05-81 STA 682+00 SB Y: 164168.555 X: 279439.888	END PROJECT 1166-01-84 STA 788+75 NB EXCEPTION TO NET C/L LENGTH B-37-75 STA 727+26 NB TO STA 734+06 NB EXCEPTION TO NET C/L LENGTH B-37-396 STA 712+38 NB TO STA 716+03 NB
EXCEPTION TO NET C/L LENGTH B-37-108 STA 727+42 SB TO STA 734+17 SB EXCEPTION TO NET C/L LENGTH B-37-397 STA 711+92 SB TO STA 715+50 SB	END PROJECT 1166-05-81 STA 450+28 SB Y: 143814.150 X: 268651.164	END PROJECT 1166-05-81 STA 450+28 NB Y: 143802.646 X: 268740.426
	BEGIN PROJECT 1166-01-84 STA 693+25 NB Y: 165243.035 X: 279347.447	BEGIN PROJECT 1166-01-84 STA 153+55 SB Y: 115132.231 X: 271267.209
	EXCEPTION TO NET C/L LENGTH B-37-418 STA 480+96 SB TO STA 482+17 SB EXCEPTION TO NET C/L LENGTH B-37-417 STA 480+96 NB TO STA 482+17 NB	EXCEPTION TO NET C/L LENGTH B-37-148 STA 398+87 SB TO STA 401+07 SB

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1166-01-84	WISC 2025008	1
1166-05-81	WISC 2025009	1
1166-05-85	WISC 2025010	1

ORIGINAL PLANS PREPARED BY

Westwood

DAVID S. GALE
E-26283
Luxemburg, Wis.

PROFESSIONAL ENGINEER

DATE: 4/26/24

(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WESTWOOD
Designer	WESTWOOD
Project Manager	WENDY ARNESON
Regional Examiner	FRED SCHUNKE
Regional Supervisor	ELIZABETH NEMEC

APPROVED FOR THE DEPARTMENT

Digitally signed by Wendy Arneson
Contact Info: WiscDOT Project Manager
DATE: 2024.04.26 13:28:23 -0500

Wendy Arneson
(Signature)

E

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 12A.

2	UTILITIES					2	
	ELECTRICITY TRANSMISSION	ATC MANAGEMENT INC. DOUG VOSBERG 2489 RINDEN ROAD COTTAGE GROVE, WI 53527 TELEPHONE: 608-877-7650 EMAIL: dvosberg@atc11c.com	COMMUNICATION	SPECTRUM SCOTT GOHDES 853 MCINTOSH STREET WAUSAU, WI 54403 TELEPHONE: 715-519-0065 EMAIL: Scott.gohdes@charter.com	ELECTRICITY WISCONSIN PUBLIC SERVICE CORPORATION JESSE PATTEN P.O. BOX 1166 WAUSAU, WI 54402-1166 TELEPHONE: 715-573-0349 EMAIL: jessie.patten@wisconsinpublicservice.com		
	COMMUNICATION	BUG TUSSEL DUSTIN TEAFF 1262 CAMBER COURT DE PERE, WI 54115 TELEPHONE: 920-254-3539 EMAIL: dustin.teaff@kesexcavating.com	COMMUNICATION	TDS TELECOM ROD HEINZ 211 W 3RD STREET NECEDAH, WI 54646 TELEPHONE: 608-255-7090 EMAIL: rod.heinz@tdstelecom.com	GAS/PETROLEUM WISCONSIN PUBLIC SERVICE CORPORATION TYLER DAHLSTROM 1700 SHERMAN STREET WAUSAU, WI 54402-1166 TELEPHONE: 715-432-9212 EMAIL: tyler.dahlstrom@wisconsinpublicservice.com		
	COMMUNICATION	EVERSTREAM ABBY STEIN 324 E WISCONSIN AVENUE SUITE 730 MILWAUKEE, WI 53202 TELEPHONE: 262-442-9427 EMAIL: astein@everstream.net	SEWER	VILLAGE OF KRONENWETTER LEONARD LUDI 1582 KRONENWETTER DRIVE KRONENWETTER, WI 54455 TELEPHONE: 715-692-1731 EMAIL: lludi@kronenwetter.org			
	COMMUNICATION	FRONTIER COMMUNICATIONS OF WI LLC CHRIS POLLACK 521 N 4TH STREET WAUSAU, WI 54403 TELEPHONE: 715-847-1240 EMAIL: christopher.pollack@FTR.com	WATER	VILLAGE OF KRONENWETTER LEONARD LUDI 1582 KRONENWETTER DRIVE KRONENWETTER, WI 54455 TELEPHONE: 715-692-1731 EMAIL: lludi@kronenwetter.org			
	COMMUNICATION	NET LEC LLC RICK VINCENT 470 SECURITY BLVD. GREEN BAY, WI 54313 TELEPHONE: 920-617-7316 EMAIL: rick.vincent@nsight.com	SEWER	VILLAGE OF ROTHSCHILD RICK STOVIAK 211 GRAND AVENUE ROTHSCHILD, WI 54474 TELEPHONE: 715-302-0707 EMAIL: rstoviak@rothschildwi.com	OTHER CONTACTS WIS. DEPARTMENT OF NATURAL RESOURCES JAY SCHIEFELBEIN 2984 SHAWANO AVENUE GREEN BAY, WI 54313-6727 TELEPHONE: 920-360-3784 EMAIL: jeremiah.schiefelbein@wisconsin.gov		
	COMMUNICATION	NSIGHT TELSERVICE RICK VINCENT 470 SECURITY BLVD. GREEN BAY, WI 54313 TELEPHONE: 920-617-7316 EMAIL: rick.vincent@nsight.com	WATER	VILLAGE OF ROTHSCHILD RICK STOVIAK 211 GRAND AVENUE ROTHSCHILD, WI 54474 TELEPHONE: 715-302-0707 EMAIL: rstoviak@rothschildwi.com			
	SEWER	RIB MOUNTAIN METROPOLITAN SEWERAGE DISTRICT ERIC DONALDSON 151401 ASTER ROAD WAUSAU, WI 54401 TELEPHONE: 715-359-7852 EMAIL: eric.rmmsd@ribmountainmetro.com	COMMUNICATION	WINDSTREAM KDL LLC LORI KETTER 969 WAUBE LANE GREEN BAY, WI 54304 TELEPHONE: 920-410-6902 EMAIL: lori.ketter@windstream.com	ORDER OF "SECTION 2" SHEETS SHEET TITLE GENERAL NOTES PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS PAVING DETAILS EROSION CONTROL DETAILS STORM SEWER DETAILS PERMANENT SIGNING PAVEMENT MARKING TRAFFIC CONTROL AND STAGING		
	<u>GENERAL NOTES</u> LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. ON MILLED SURFACES APPLY TACK COAT AT THE UPPER RANGE OF APPLICATION RATES DESCRIBED IN THE STANDARD SPECIFICATIONS.						 Dial 811 or (800) 242-8511 www.DiggersHotline.com
	PROJECT NO: 1166-01-84 / 1166-05-81 / 1166-05-85		HWY: IH 39	COUNTY: MARATHON	GENERAL NOTES		SHEET: 2 E

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	0.08	0.16	0.22	0.12	0.20	0.27	0.15	0.24	0.33	0.19	0.28	0.38
	0.22	0.30	0.38	0.26	0.34	0.44	0.30	0.37	0.50	0.34	0.41	0.56
MEDIAN STRIP - TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25	0.30
	0.24	0.26	0.30	0.25	0.28	0.33	0.26	0.30	0.37	0.27	0.32	0.40
SIDE SLOPE - TURF			0.25			0.27			0.28			0.30
			0.32			0.34			0.36			0.38
PAVEMENT:												
ASPHALT				.70 - .95								
CONCRETE				.80 - .95								
BRICK				.70 - .80								
DRIVES, WALKS				.75 - .85								
ROOFS				.75 - .95								
GRAVEL ROADS, SHOULDERS				.40 - .60								

EROSION CONTROL NOTES

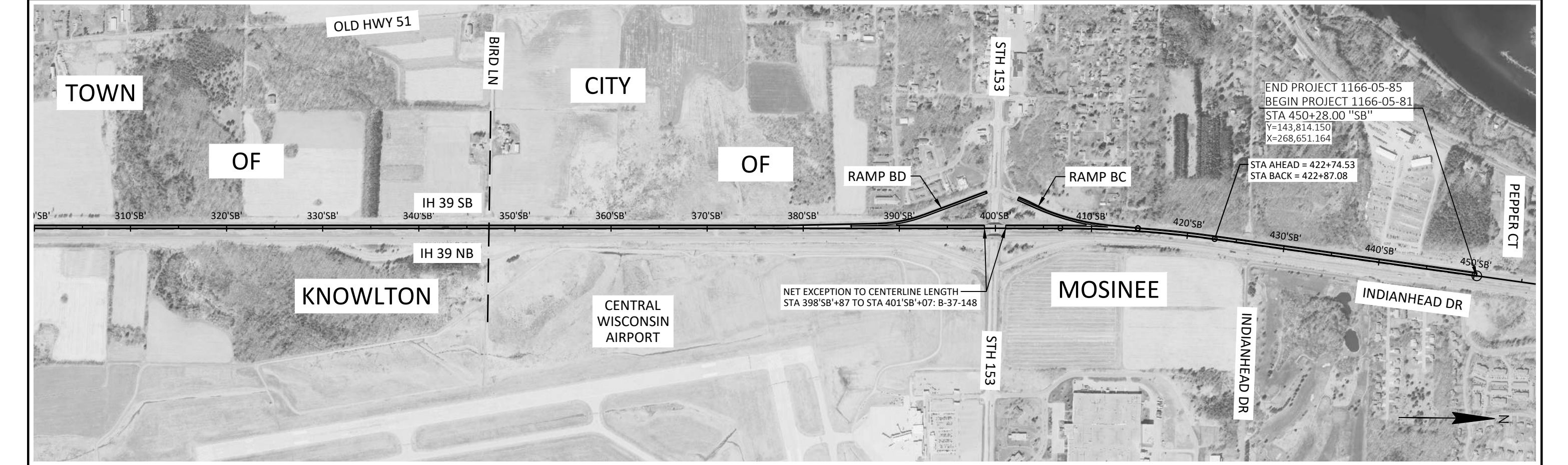
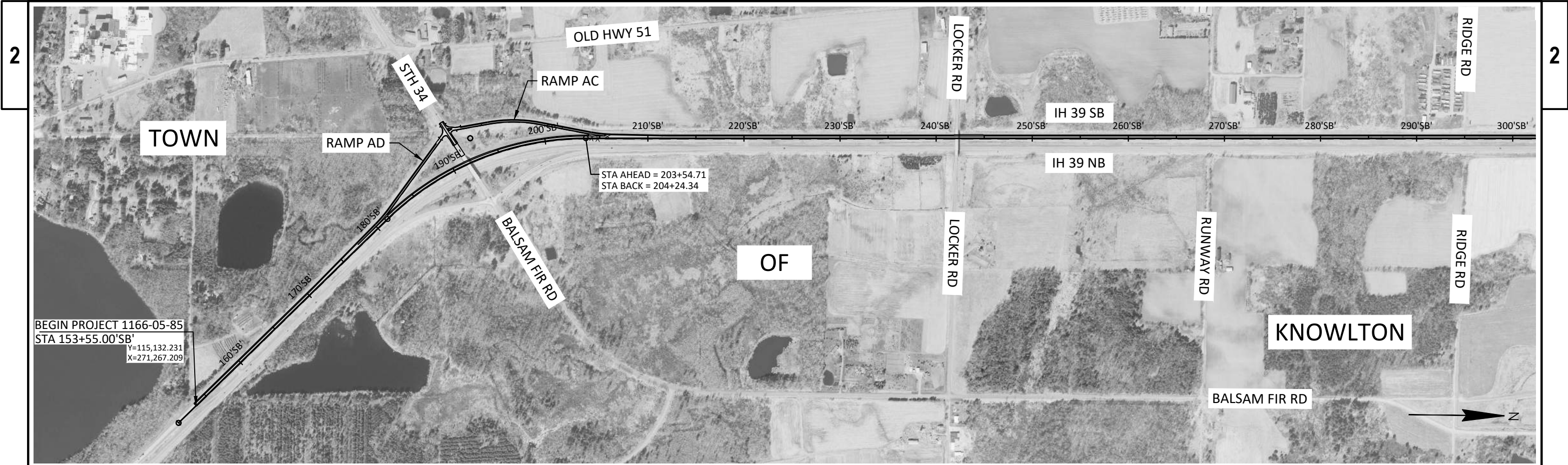
RUNOFF COEFFICIENT FOR THIS PROJECT: EXISTING PAVEMENT 0.95, EXISTING SLOPES 0.30, NEW PAVEMENT 0.95, NEW SLOPES 0.30

TOTAL PROJECT AREA = 500.89 ACRES.
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 99.55 ACRES.

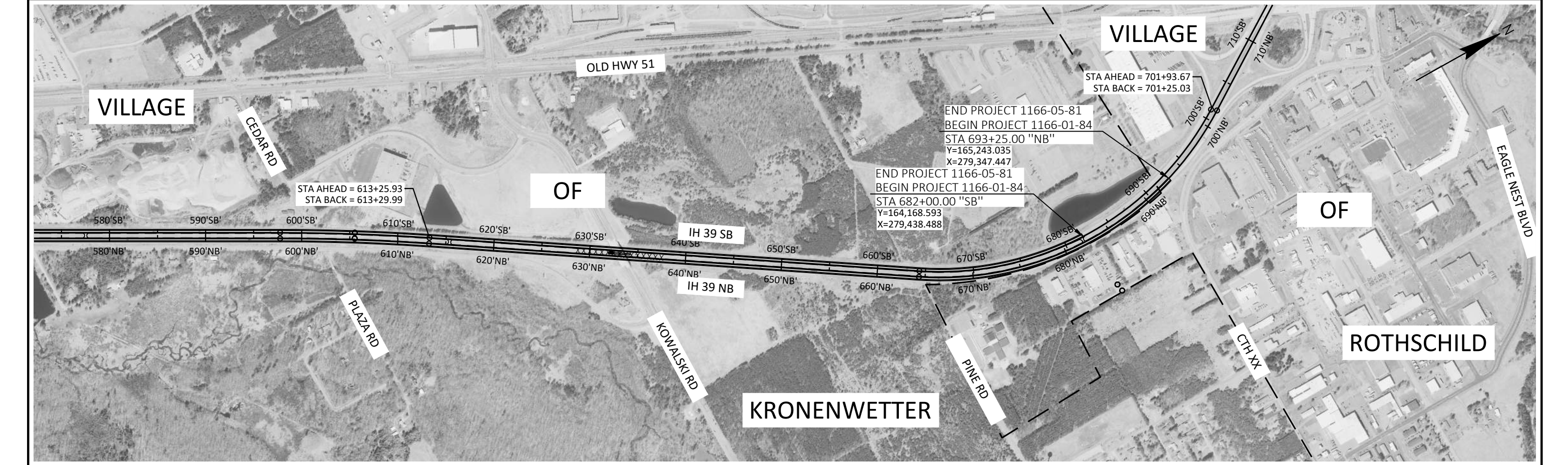
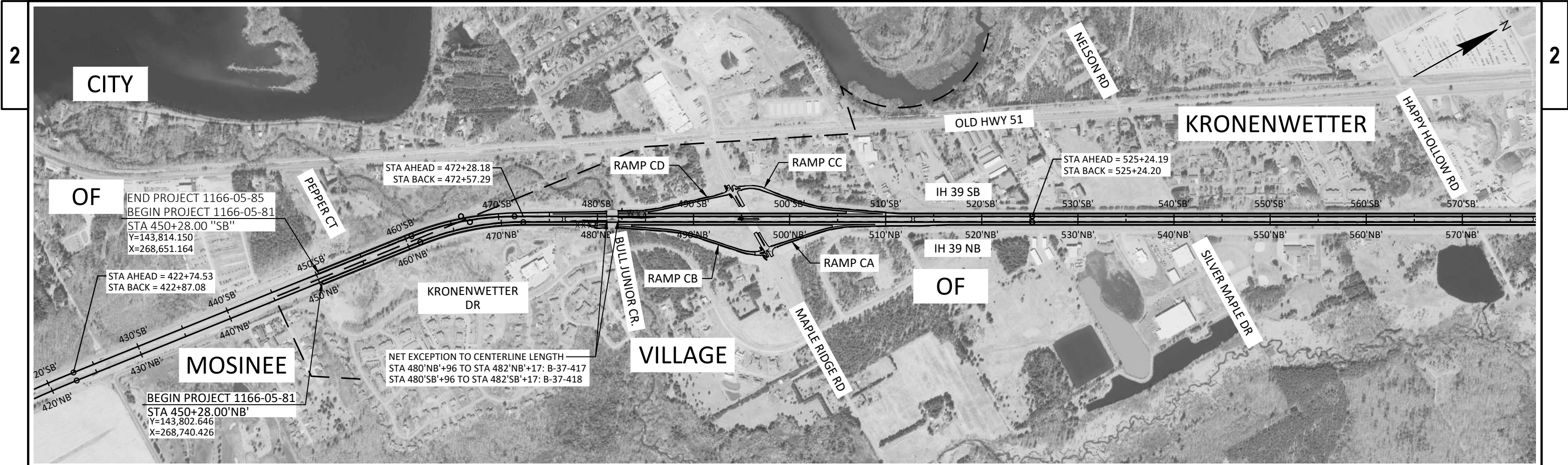
DIGGERSHOTLINE

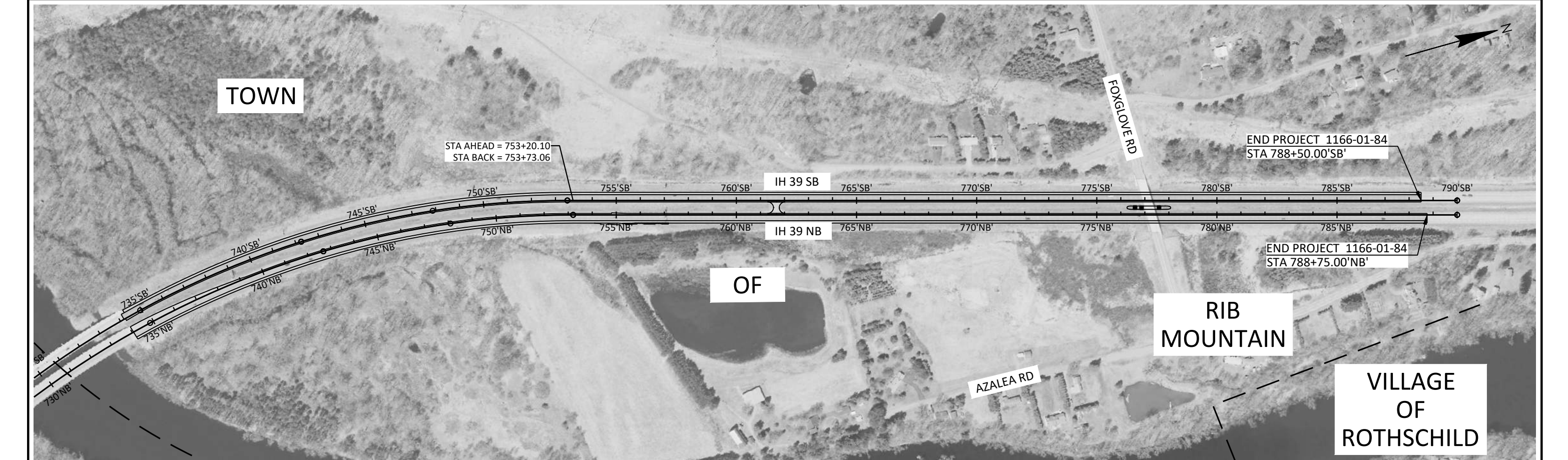
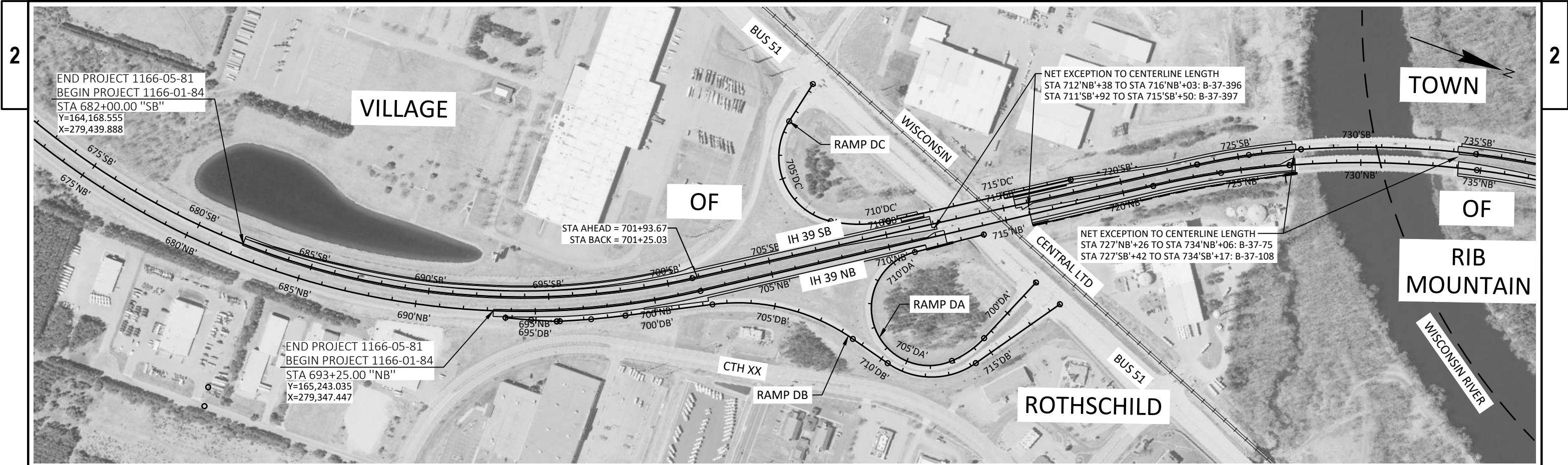
Dial 811 or (800) 242-8511

www.DiggersHotline.com



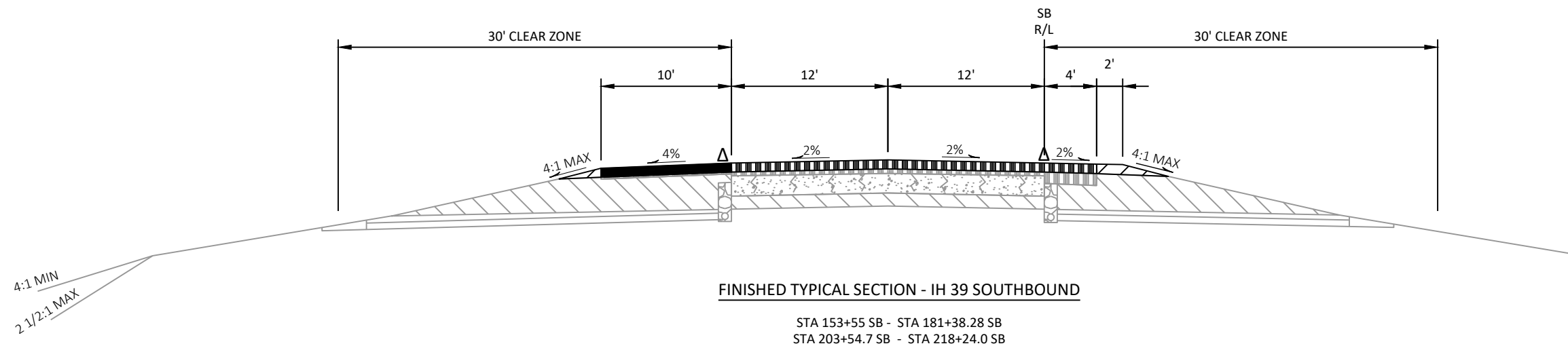
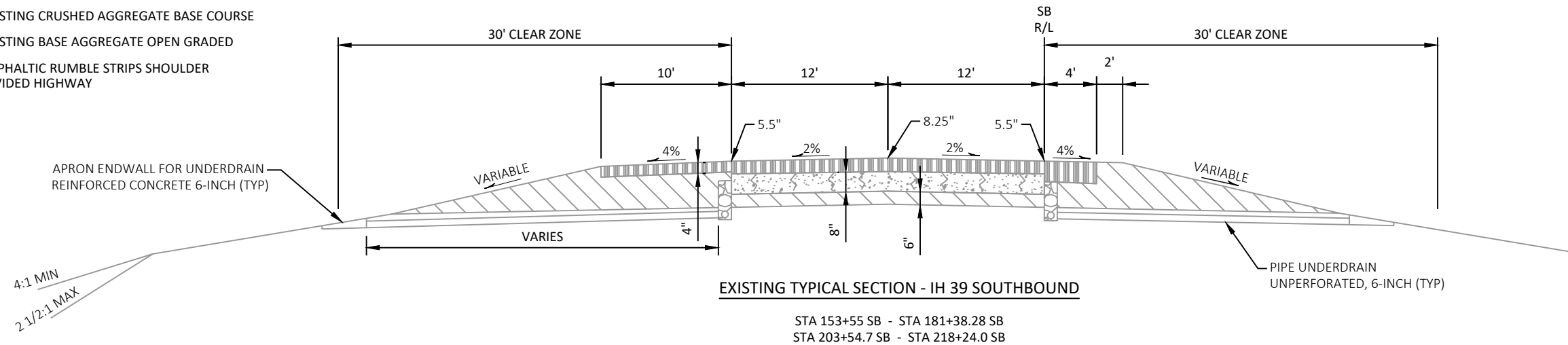
PROJECT NO: 1166-05-85	HWY: IH 39	COUNTY: MARATHON	PROJECT OVERVIEW	SHEET 4	E
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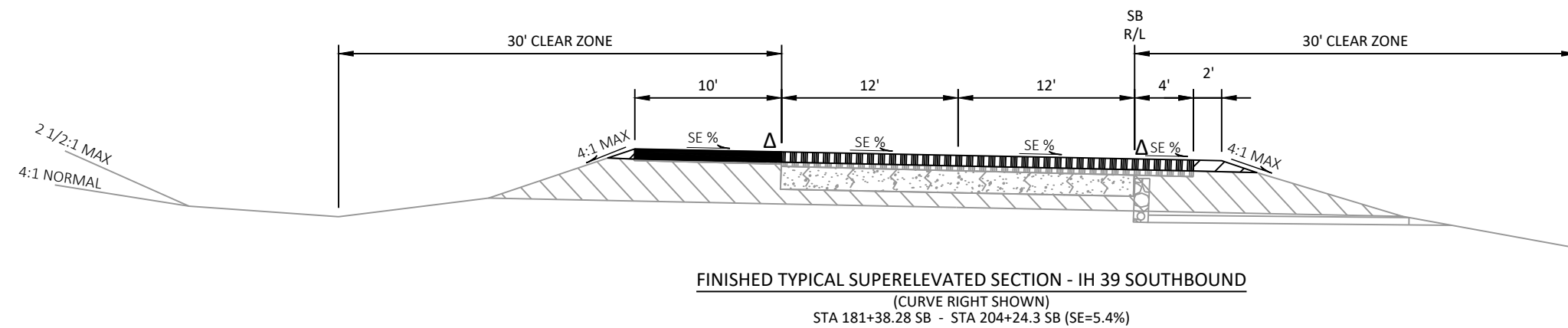
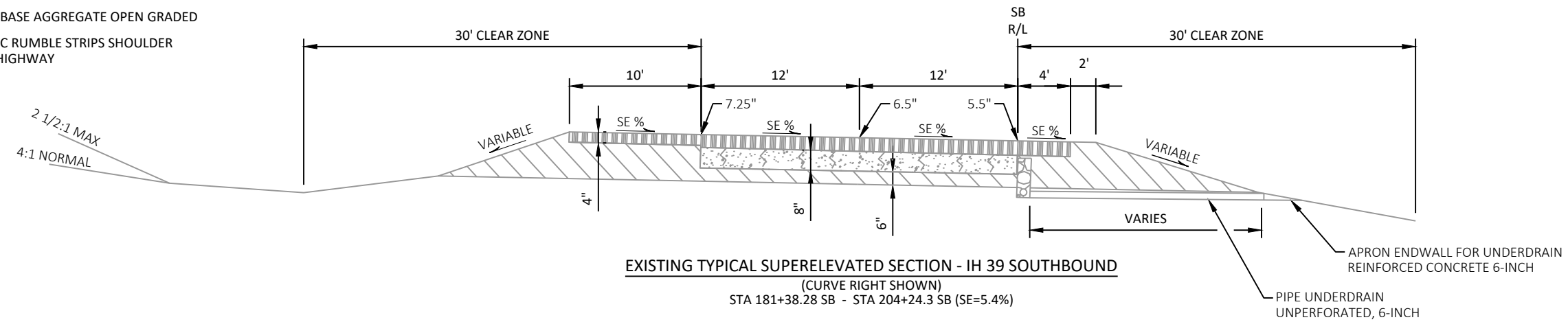


LEGEND

- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 SMA 58-28 H PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 LT 58-28 S PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- EXISTING ASPHALTIC CONCRETE PAVEMENT
- EXISTING RUBBLIZED CONCRETE PAVEMENT
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING BASE AGGREGATE OPEN GRADED
- ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY

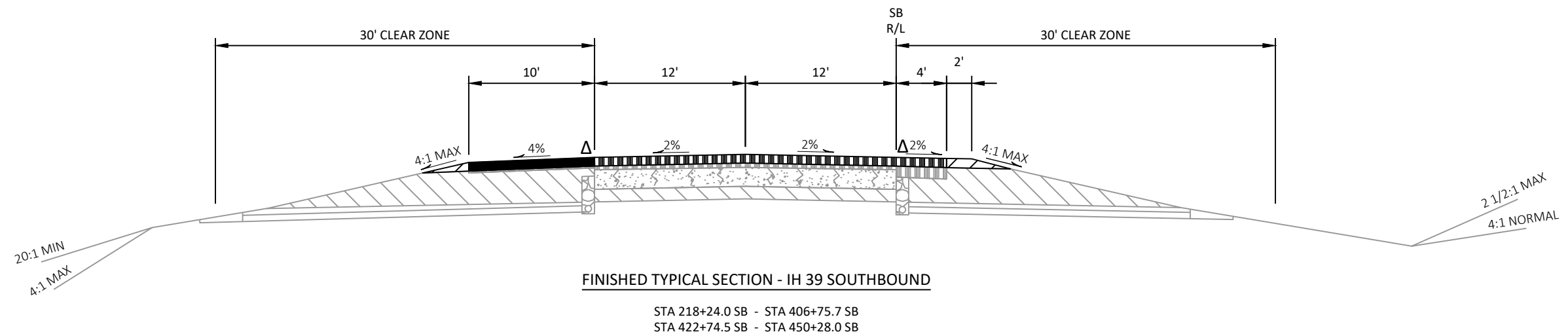
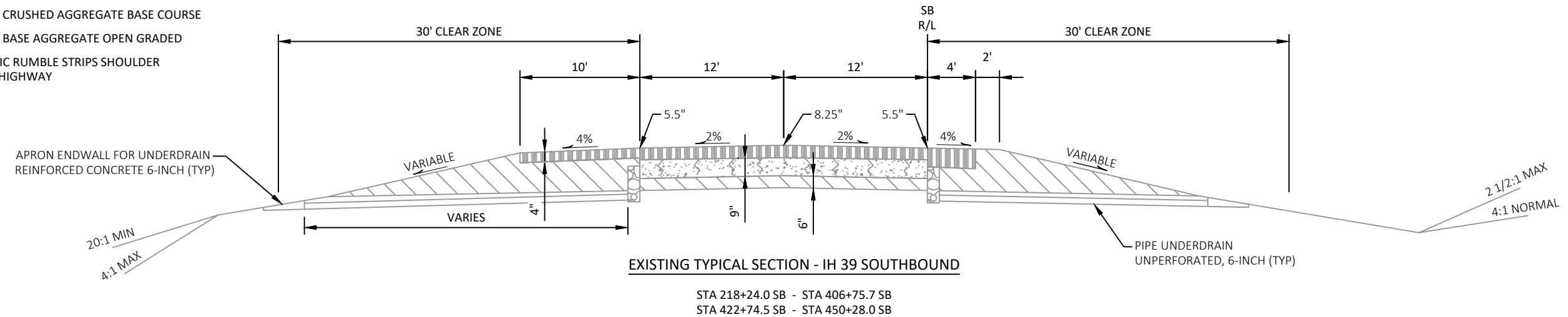


	REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 SMA 58-28 H PAVEMENT
	REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 LT 58-28 S PAVEMENT
	BASE AGGREGATE DENSE 3/4-INCH
	EXISTING ASPHALTIC CONCRETE PAVEMENT
	EXISTING RUBBLIZED CONCRETE PAVEMENT
	EXISTING CRUSHED AGGREGATE BASE COURSE
	EXISTING BASE AGGREGATE OPEN GRADED
	ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



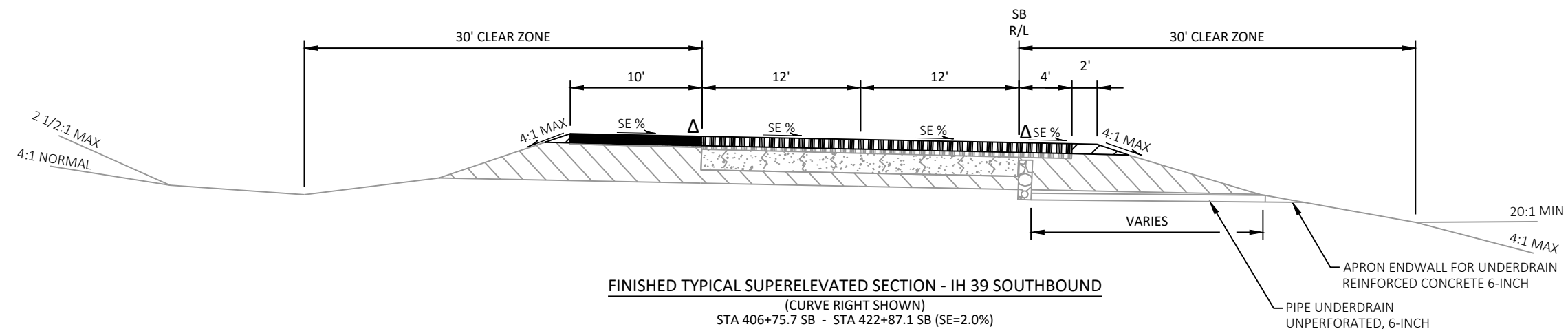
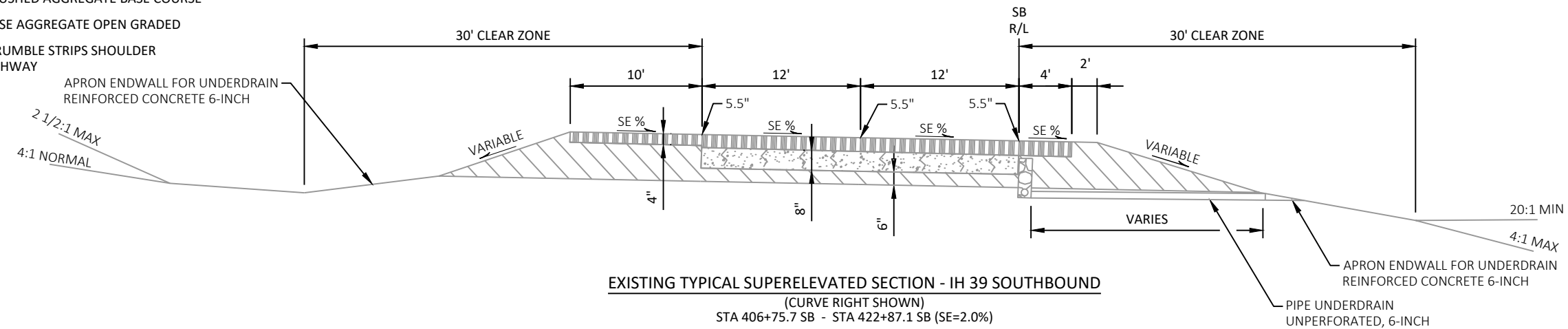
LEGEND

- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 SMA 58-28 H PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 LT 58-28 S PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- EXISTING ASPHALTIC CONCRETE PAVEMENT
- EXISTING RUBBLIZED CONCRETE PAVEMENT
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING BASE AGGREGATE OPEN GRADED
- ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



LEGEND

- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 SMA 58-28 H PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 LT 58-28 S PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- EXISTING ASPHALTIC CONCRETE PAVEMENT
- EXISTING RUBBLIZED CONCRETE PAVEMENT
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING BASE AGGREGATE OPEN GRADED
- ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



LEGEND

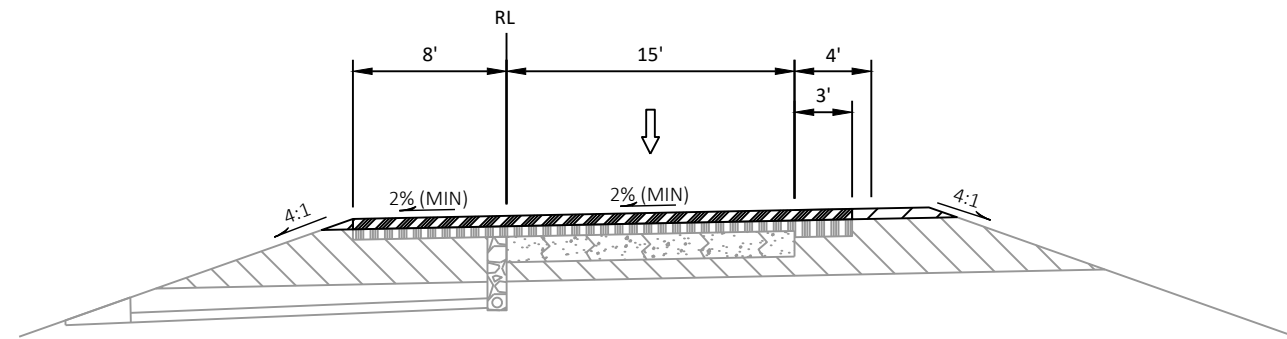
-  REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 MT 58-28 H PAVEMENT
-  6.75" HMA PAVEMENT
 - 2.25" UPPER LAYER TYPE 4 MT 58-28 H
 - 2.25" LOWER LAYER TYPE 3 MT 58-28 S
 - 2.25" LOWER LAYER TYPE 3 MT 58-28 S
-  BASE AGGREGATE DENSE 3/4-INCH
-  BASE AGGREGATE DENSE 1 1/4-INCH
-  SELECT CRUSHED MATERIAL
-  EXISTING ASPHALTIC CONCRETE PAVEMENT
-  EXISTING RUBBLIZED CONCRETE PAVEMENT
-  EXISTING CRUSHED AGGREGATE BASE COURSE
-  EXISTING BASE AGGREGATE OPEN GRADED
-  EXISTING SELECT CRUSHED MATERIAL
-  EXISTING CONCRETE PAVEMENT

APRON ENDWALL FOR UNDERDRAIN
REINFORCED CONCRETE 6-INCH

PIPE UNDERDRAIN
UNPERFORATED, 6-INCH

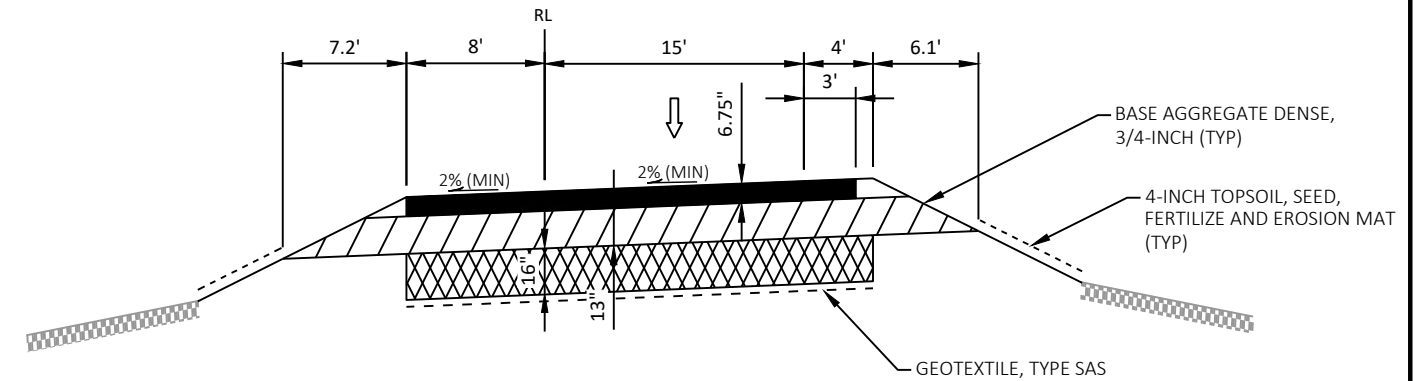
EXISTING TYPICAL RAMP SECTION

STH 34 SB ENTRANCE RAMP
STA 181+62 'AD' - STA 191+25 'AD'
STH 34 SB EXIT RAMP
STA 190+28 'AC' - STA 192+51 'AC'
STA 201+03 'AC' - STA 205+50 'AC'



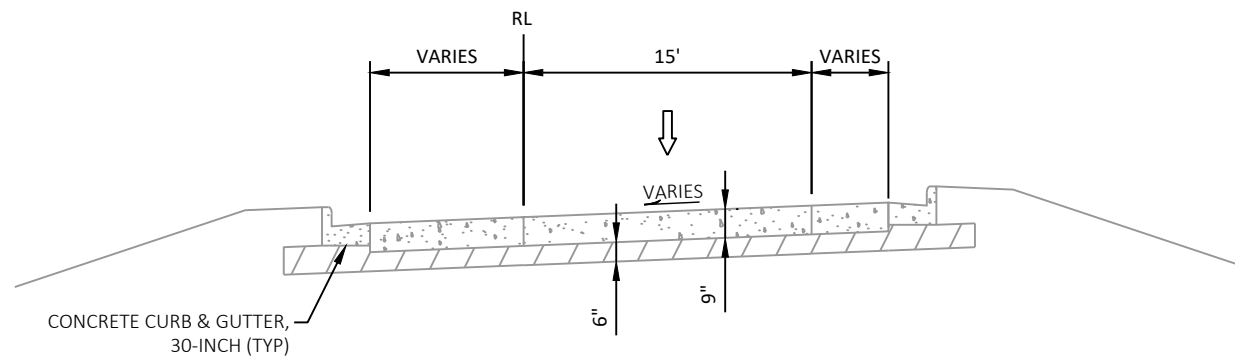
FINISHED TYPICAL RAMP SECTION

STH 34 SB ENTRANCE RAMP
STA 181+62 'AD' - STA 191+25 'AD'



FINISHED TYPICAL RAMP SECTION

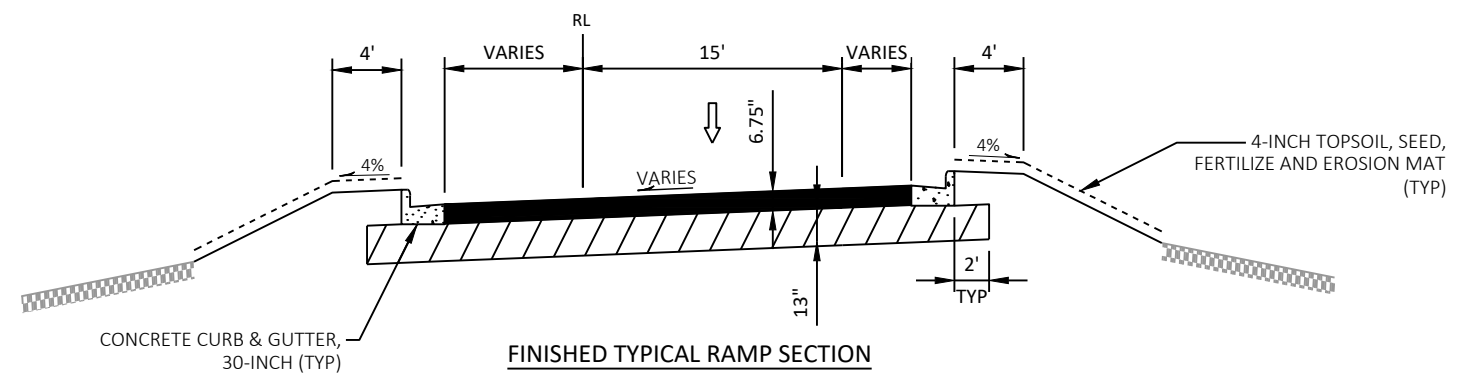
STH 34 SB EXIT RAMP
STA 190+28 'AC' - STA 192+51 'AC'
STA 201+03 'AC' - STA 205+50 'AC'



EXISTING TYPICAL RAMP SECTION

STH 34 SB ENTRANCE RAMP
STA 191+25 'AD' - STA 192+26 'AD'

STH 34 SB EXIT RAMP
STA 188+93 'AC' - STA 190+28 'AC'



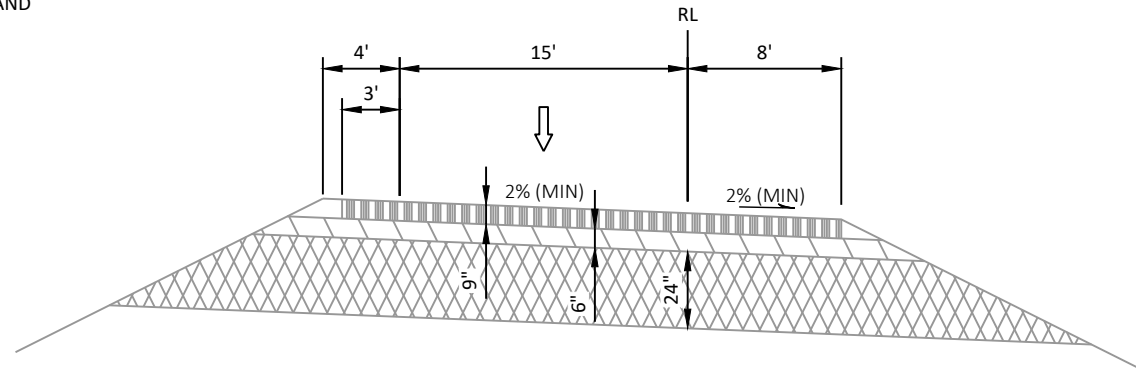
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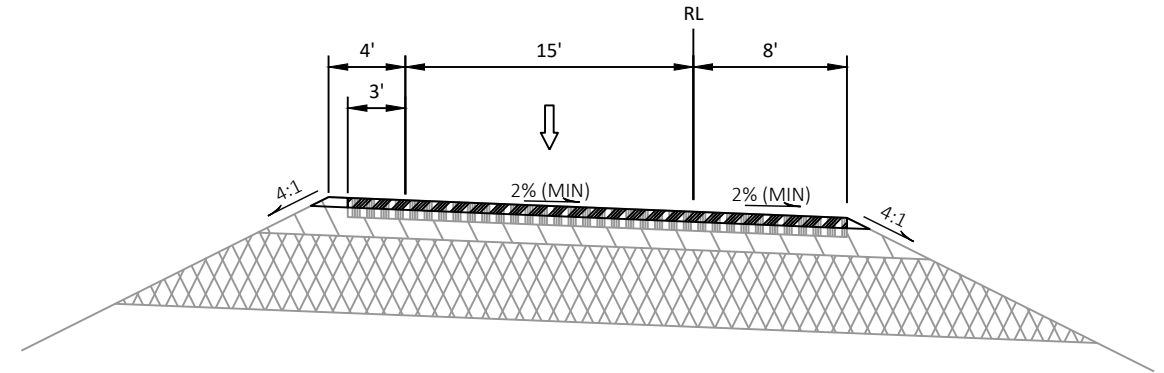
STH 34 SB EXIT RAMP
STA 188+93 'AC' - STA 190+28 'AC'

LEGEND

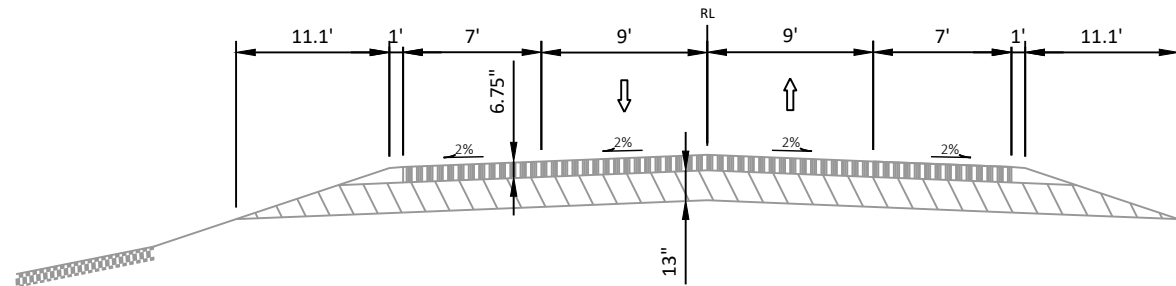
-  REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 MT 58-28 H PAVEMENT
-  6.75" HMA PAVEMENT
- 2.25" UPPER LAYER TYPE 4 MT 58-28 H
- 2.25" LOWER LAYER TYPE 3 MT 58-28 S
- 2.25" LOWER LAYER TYPE 3 MT 58-28 S
-  BASE AGGREGATE DENSE 3/4-INCH
-  BASE AGGREGATE DENSE 1 1/4-INCH
-  SELECT CRUSHED MATERIAL
-  EXISTING ASPHALTIC CONCRETE PAVEMENT
-  EXISTING RUBBLIZED CONCRETE PAVEMENT
-  EXISTING CRUSHED AGGREGATE BASE COURSE
-  EXISTING BASE AGGREGATE OPEN GRADED
-  EXISTING SELECT CRUSHED MATERIAL
-  EXISTING CONCRETE PAVEMENT



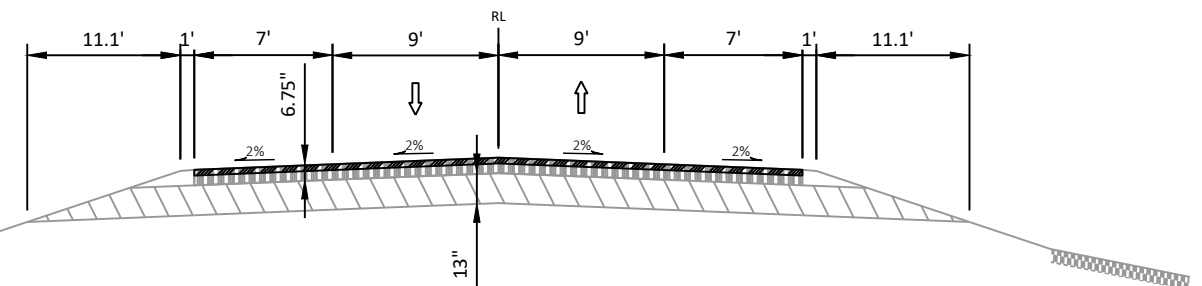
EXISTING TYPICAL RAMP SECTION

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STA 192+51 'AC' - STA 201+03 'AC'

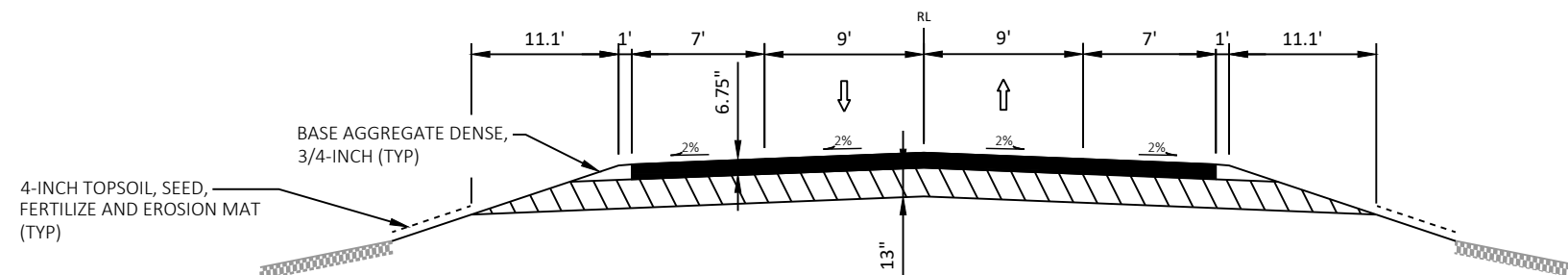
FINISHED TYPICAL RAMP SECTION

STH 34 SB EXIT RAMP
STA 192+51 'AC' - STA 201+03 'AC'

EXISTING TYPICAL SECTION

STH 34
STA 13+34 - STA 16+07
STA 16+07 - STA 17+48

FINISHED TYPICAL SECTION

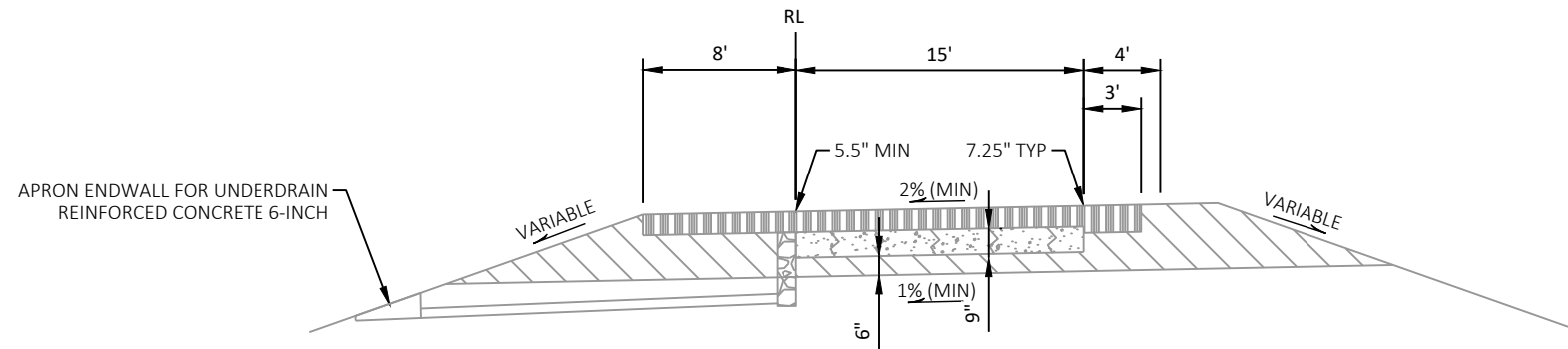
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STH 34
STA 16+07 - STA 17+48

FINISHED TYPICAL SECTION

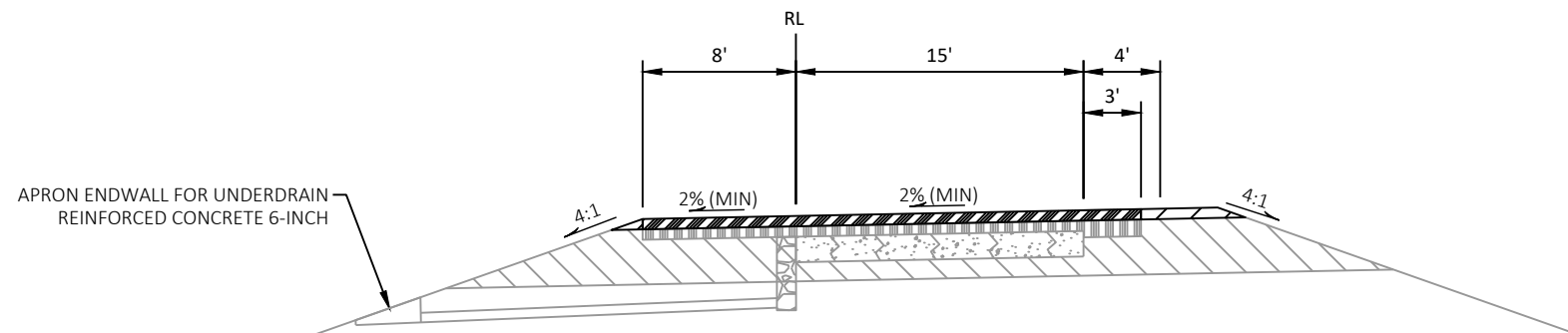
STH 34
STA 13+34 - STA 16+07

LEGEND

	REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 MT 58-28 H PAVEMENT
	BASE AGGREGATE DENSE 3/4-INCH
	BASE AGGREGATE DENSE 1 1/4-INCH
	EXISTING ASPHALTIC CONCRETE PAVEMENT
	EXISTING RUBBLIZED CONCRETE PAVEMENT
	EXISTING CRUSHED AGGREGATE BASE COURSE
	EXISTING COMPACTED MILLED MATERIAL

**EXISTING TYPICAL RAMP SECTION**

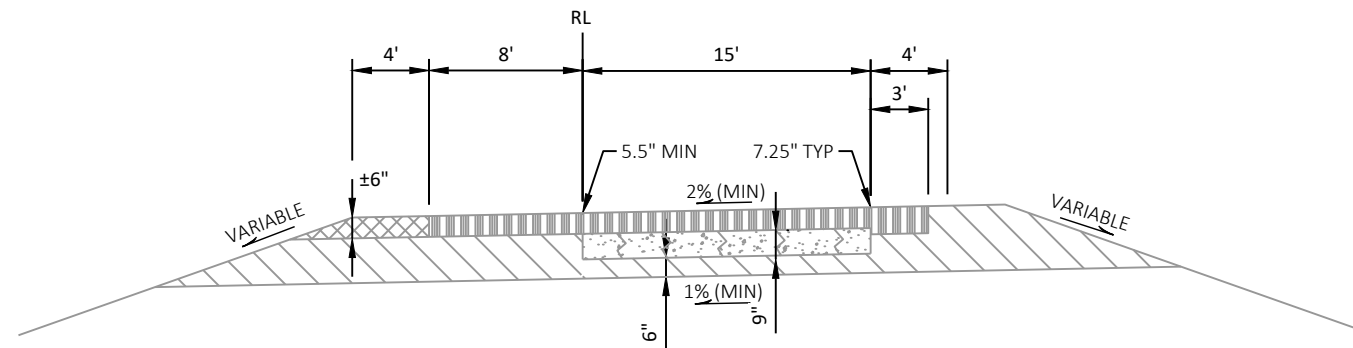
STH 153 SB EXIT RAMP
STA 401+86 'BC' - STA 411+76 'BC'

**FINISHED TYPICAL RAMP SECTION**

STH 153 SB EXIT RAMP
STA 401+86 'BC' - STA 411+76 'BC'

LEGEND

	REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 MT 58-28 H PAVEMENT
	BASE AGGREGATE DENSE 3/4-INCH
	BASE AGGREGATE DENSE 1 1/4-INCH
	EXISTING ASPHALTIC CONCRETE PAVEMENT
	EXISTING RUBBLIZED CONCRETE PAVEMENT
	EXISTING CRUSHED AGGREGATE BASE COURSE
	EXISTING COMPACTED MILLED MATERIAL

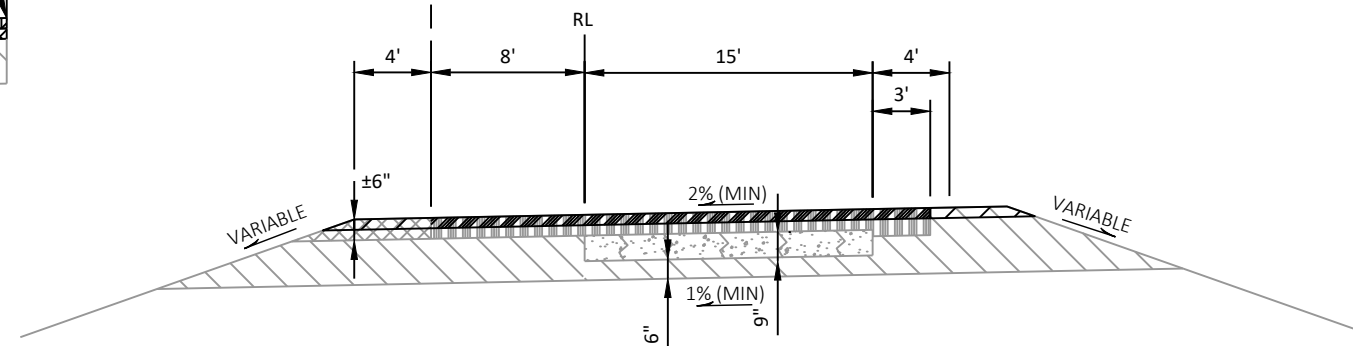
**EXISTING TYPICAL RAMP SECTION**STH 153 SB ENTRANCE RAMP
STA 384+89 'BD' - STA 399+65 'BD'

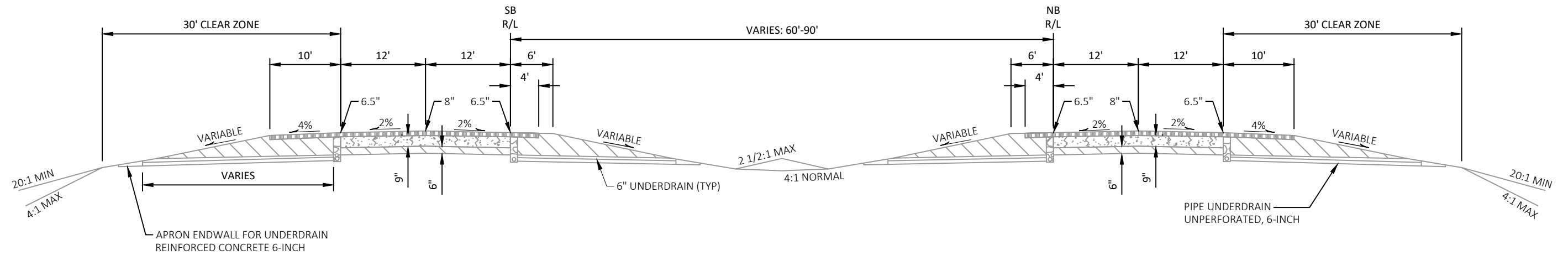
SAW CUT REQUIRED

VARIABLE

REMOVING EXISTING COMPACTED MILLED MATERIAL &
REPLACE WITH 1 3/4\"

STH 153 SB ENTRANCE RAMP
STA 396+00 'BD' - STA 399+65 'BD'

**FINISHED TYPICAL RAMP SECTION**STH 153 SB ENTRANCE RAMP
STA 384+89 'BD' - STA 396+00 'BD'

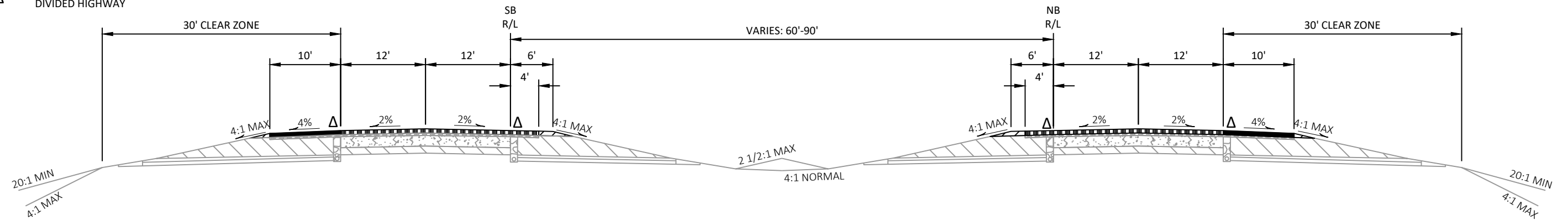


EXISTING TYPICAL SECTION - IH 39

STA 450+28 NB - STA 461+29.91 NB
STA 472+28.2 NB - STA 477+78 NB
STA 450+28 SB - STA 460+67.1 SB
STA 471+65.43 SB - STA 477+75.0 SB

LEGEND

- REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 SMA 58-28 H PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28 S PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- EXISTING ASPHALTIC CONCRETE PAVEMENT
- EXISTING RUBBLIZED CONCRETE PAVEMENT
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING BASE AGGREGATE OPEN GRADED
- ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY

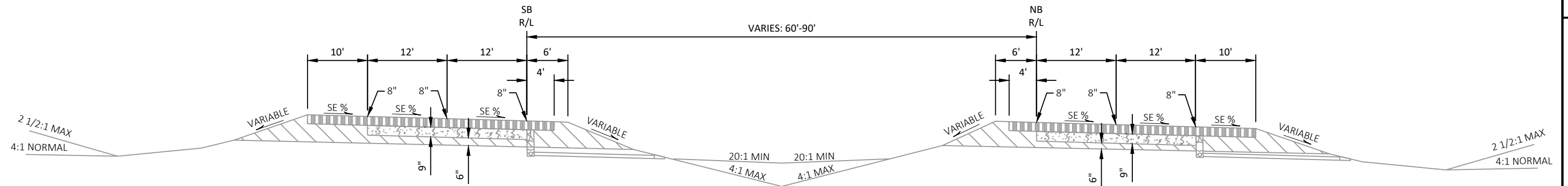


FINISHED TYPICAL SECTION - IH 39

STA 450+28 NB - STA 461+29.91 NB
STA 472+28.2 NB - STA 477+78 NB
STA 450+28 SB - STA 460+67.1 SB
STA 471+65.43 SB - STA 477+75.0 SB

2

2 |

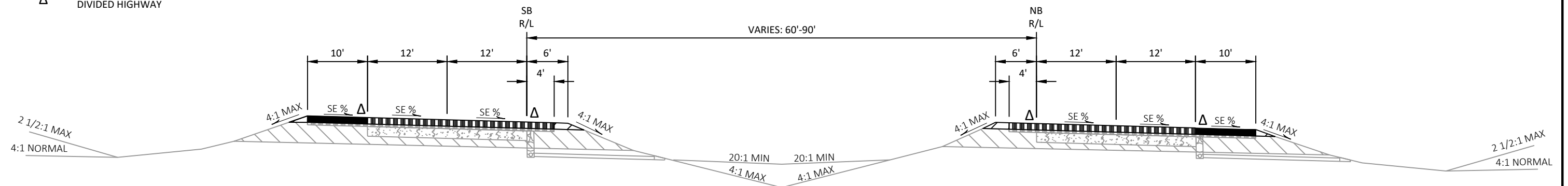


EXISTING TYPICAL SUPERELEVATED SECTION - IH 39

STA 461+29.91 NB - STA 472+28.2 NB (SE = 5.4%)
STA 460+67.1 SB - STA 471+65.43 SB (SE = 5.4%)

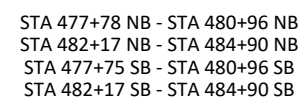
LEGEND

- | | |
|---|---|
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 SMA 58-28 H PAVEMENT |
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28 S PAVEMENT |
|  | BASE AGGREGATE DENSE 3/4-INCH |
|  | EXISTING ASPHALTIC CONCRETE PAVEMENT |
|  | EXISTING RUBBLIZED CONCRETE PAVEMENT |
|  | EXISTING CRUSHED AGGREGATE BASE COURSE |
|  | EXISTING BASE AGGREGATE OPEN GRADED |
|  | ASPHALTIC RUMBLE STRIPS SHOULDER
DIVIDED HIGHWAY |



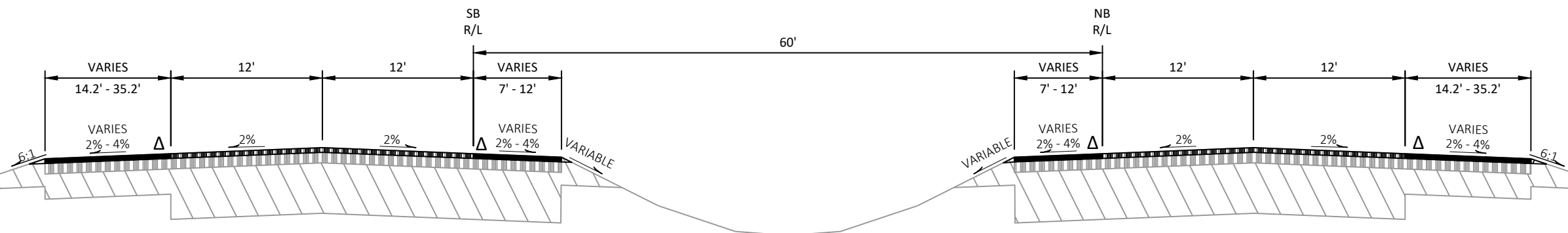
FINISHED TYPICAL SUPERELEVATED SECTION - IH 39

STA 461+29.91 NB - STA 472+28.2 NB (SE = 5.4%)
STA 460+67.1 SB - STA 471+65.43 SB (SE = 5.4%)



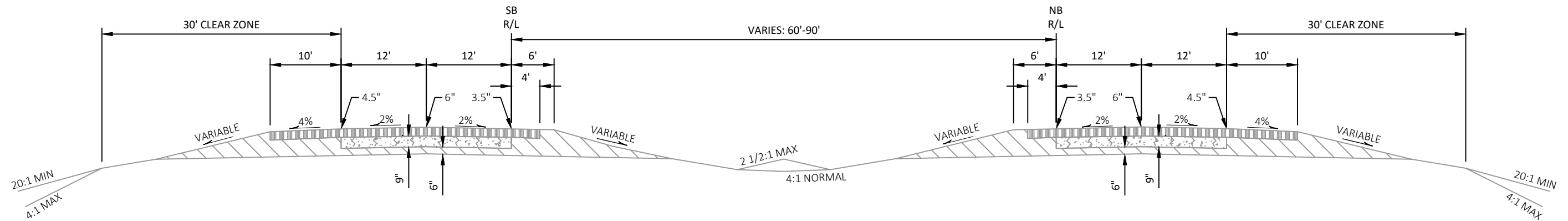
LEGEND

- | | |
|---|---|
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 SMA 58-28 H PAVEMENT |
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28 S PAVEMENT |
|  | BASE AGGREGATE DENSE 3/4-INCH |
|  | EXISTING ASPHALTIC CONCRETE PAVEMENT |
|  | EXISTING CRUSHED AGGREGATE BASE COURSE |
|  | ASPHALTIC RUMBLE STRIPS SHOULDER
DIVIDED HIGHWAY |



FINISHED TYPICAL SECTION - IH 39

STA 477+78 NB - STA 480+96 NB
STA 482+17 NB - STA 484+90 NB
STA 477+75 SB - STA 480+96 SB
STA 482+17 SB - STA 484+90 SB

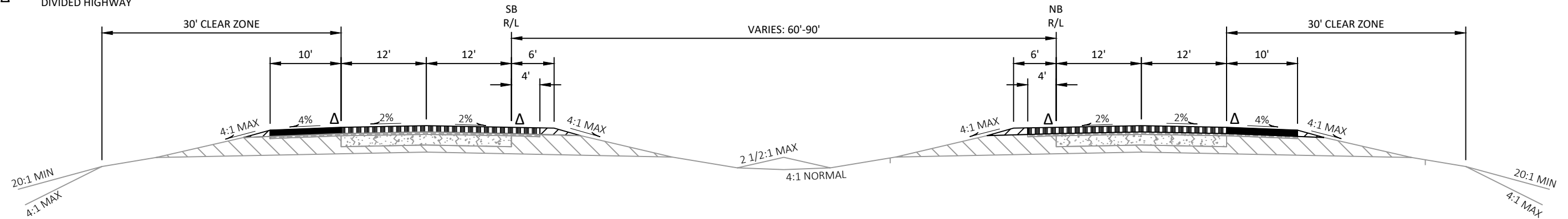


EXISTING TYPICAL SECTION - IH 39

STA 484+90 NB - STA 518+00 NB
STA 484+90 SB - STA 518+00 SB

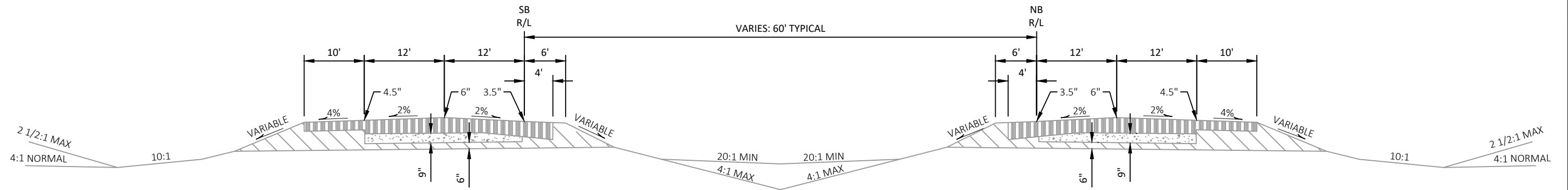
LEGEND

- REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 SMA 58-28 H PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28 S PAVEMENT
- BASE AGGREGATE DENSE 3/4-INCH
- EXISTING ASPHALTIC CONCRETE PAVEMENT
- EXISTING RUBBLIZED CONCRETE PAVEMENT
- EXISTING CRUSHED AGGREGATE BASE COURSE
- EXISTING BASE AGGREGATE OPEN GRADED
- ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



FINISHED TYPICAL SECTION - IH 39

STA 484+90 NB - STA 518+00 NB
STA 484+90 SB - STA 518+00 SB

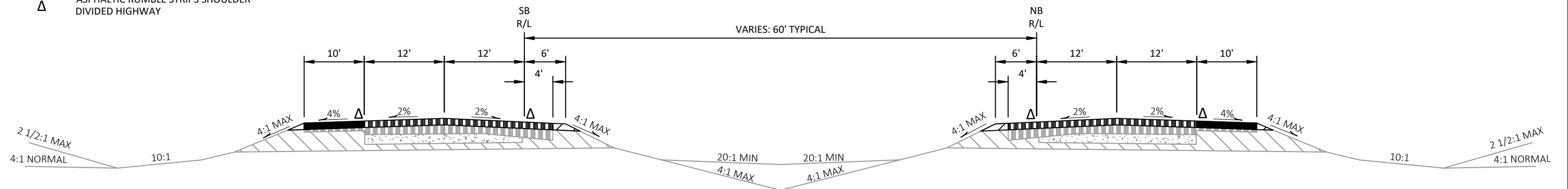


EXISTING TYPICAL SECTION - IH 39

STA 518+00.0 NB - STA 597+75.0 NB
STA 613+26.0 NB - STA 664+35.8 NB
STA 518+00.0 SB - STA 597+75.0 SB
STA 613+25.93 SB - STA 664+36.2 SB

LEGEND

-  REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 SMA 58-28 H PAVEMENT
-  REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28 S PAVEMENT
-  BASE AGGREGATE DENSE 3/4-INCH
-  EXISTING ASPHALTIC CONCRETE PAVEMENT
-  EXISTING CONCRETE PAVEMENT
-  EXISTING CRUSHED AGGREGATE BASE COURSE
-  EXISTING BASE AGGREGATE OPEN GRADED
-  ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



FINISHED TYPICAL SECTION - IH 39

STA 518+00.0 NB - STA 597+75.0 NB
STA 613+26.0 NB - STA 664+35.8 NB
STA 518+00.0 SB - STA 597+75.0 SB
STA 613+26.0 SB - STA 664+36.2 SB

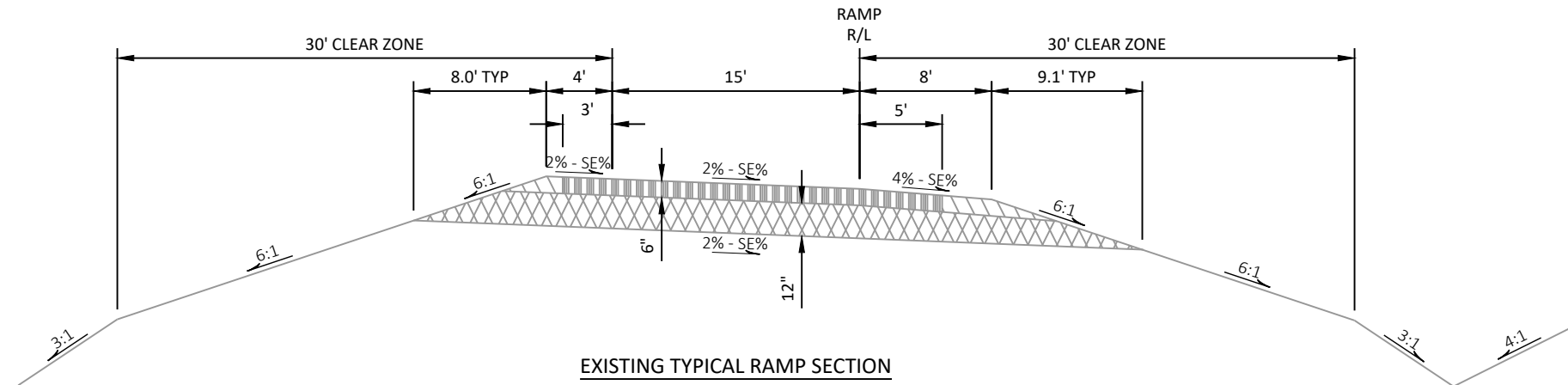


2

LEGEND

- | | |
|---|--|
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 MT 58-28 H PAVEMENT |
|  | REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28S PAVEMENT |
|  | BASE AGGREGATE DENSE 3/4-INCH |
|  | BASE AGGREGATE DENSE 1 1/4-INCH |
|  | EXISTING ASPHALTIC CONCRETE PAVEMENT |
|  | EXISTING BASE AGGREGATE DENSE 3/4-INCH |
|  | EXISTING BASE AGGREGATE DENSE 1 1/4-INCH |

2 |



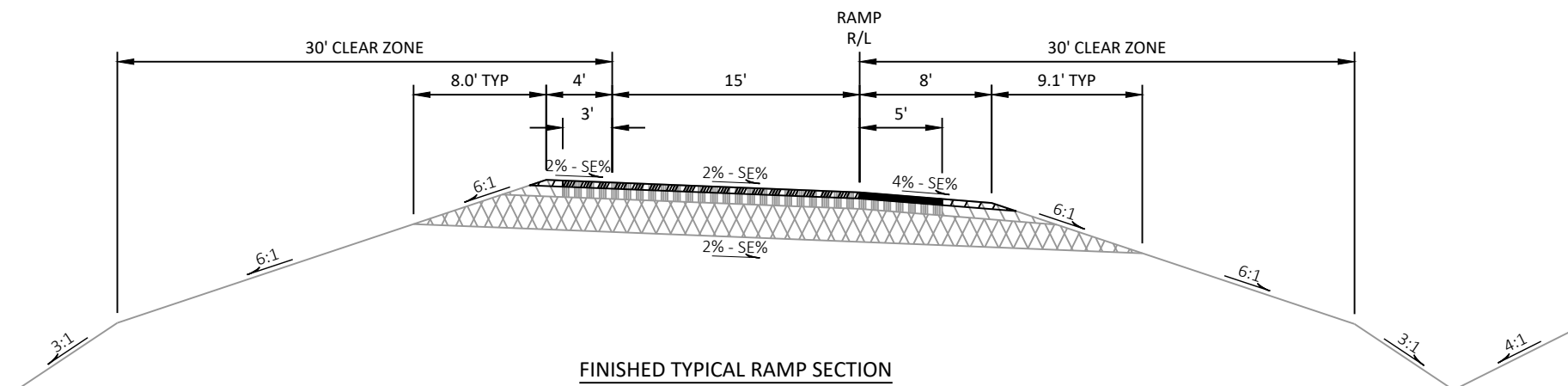
EXISTING TYPICAL RAMP SECTION

MAPLE RIDGE ROAD NB EXIT RAMP (SE = 6.0% & 4.0%)
STA 482+18.2 CB - STA 497+80.3 CB

MAPLE RIDGE ROAD NB ENTRANCE RAMP (SE = 6.0%
STA 498+26.4 CA - STA 506+92.3 CA

MAPLE RIDGE ROAD SB EXIT RAMP (SE 6.0% & 4.0%)
STA 494+48.7 CC - STA 510+93.4 CC

MAPLE RIDGE ROAD SB ENTRANCE RAMP (SE = 6.0%)
STA 482+49.5 CD - STA 493+64.5 CD



FINISHED TYPICAL RAMP SECTION

MAPLE RIDGE ROAD NB EXIT RAMP (SE = 6.0% & 4.0%)
STA 482+18.2 CB - STA 496+75 CB

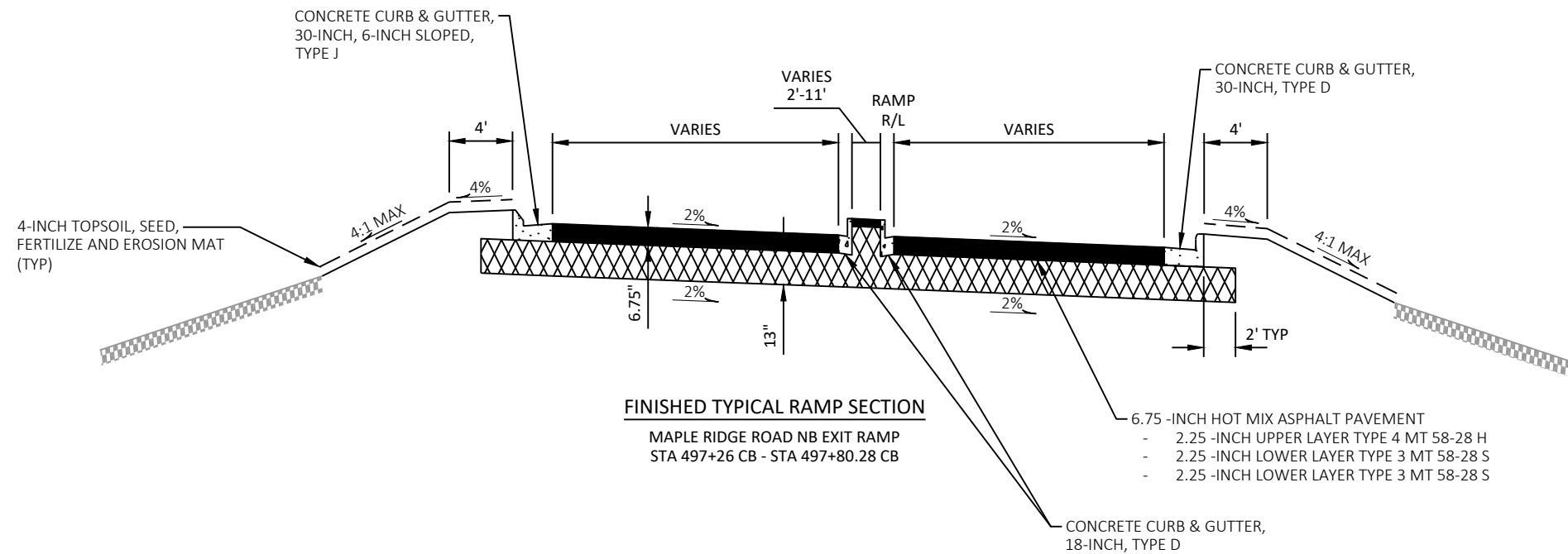
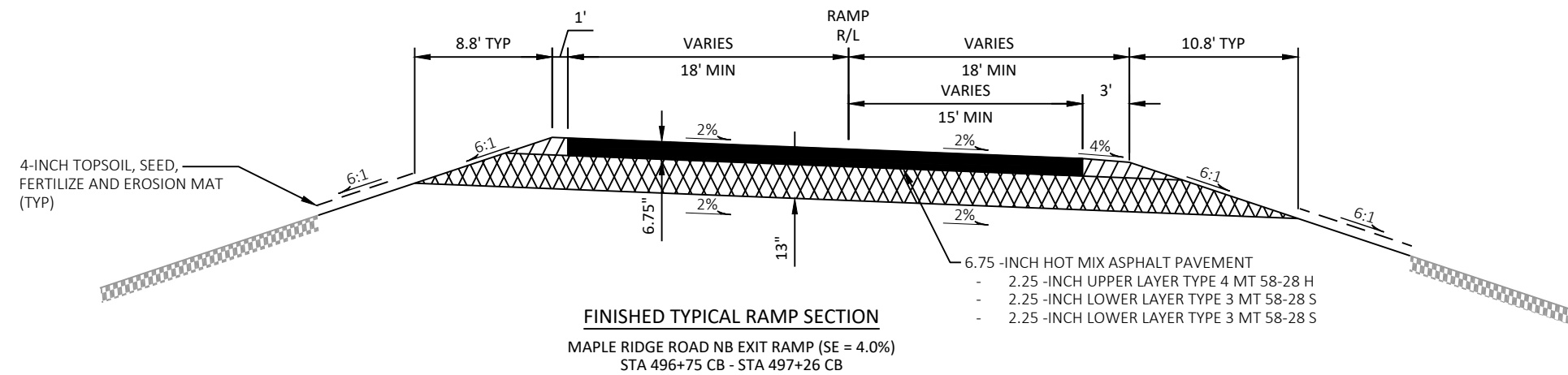
MAPLE RIDGE ROAD NB ENTRANCE RAMP (SE = 6.0%)
STA 498+26.4 CA - STA 506+92.3 CA

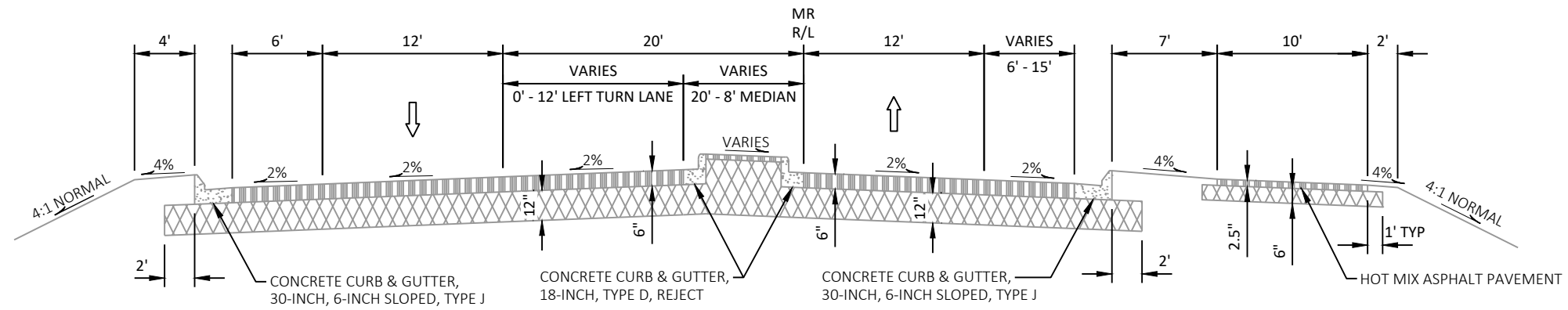
MAPLE RIDGE ROAD SB EXIT RAMP (SE = 6.0% & 4.0%)
STA 494+48.7 CC - STA 510+93.4 CC

MAPLE RIDGE ROAD SB ENTRANCE RAMP (SE = 6.0%)
STA 482+49.5 CD - STA 493+64.5 CD

LEGEND

- HOT MIX ASPHALT PAVEMENT
- ▨ BASE AGGREGATE DENSE 3/4-INCH
- ▩ BASE AGGREGATE DENSE 1 1/4-INCH

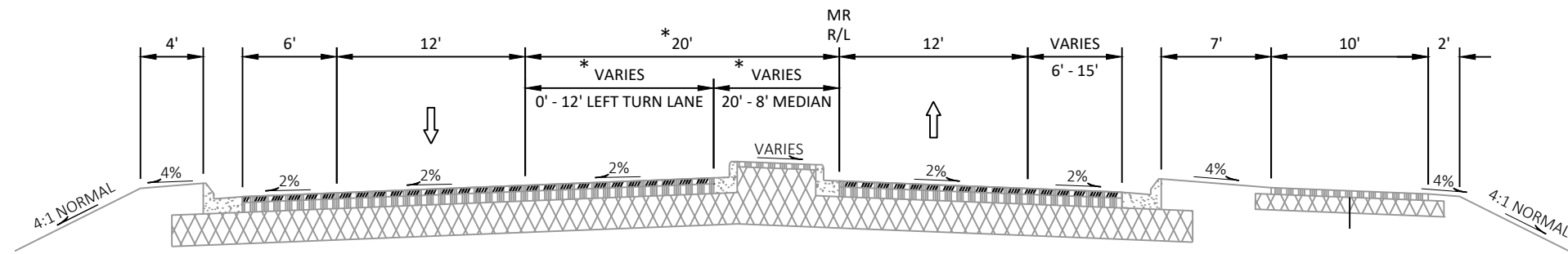


**LEGEND**

-  REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 MT 58-28 H PAVEMENT
-  REMOVING ASPHALTIC SURFACE MILLING 2.25-INCH AND 2.25-INCH 4 LT 58-28S PAVEMENT
-  BASE AGGREGATE DENSE 3/4-INCH
-  BASE AGGREGATE DENSE 1 1/4-INCH
-  EXISTING ASPHALTIC CONCRETE PAVEMENT
-  EXISTING BASE AGGREGATE DENSE 3/4-INCH
-  EXISTING BASE AGGREGATE DENSE 1 1/4-INCH

EXISTING TYPICAL MAPLE RIDGE RD

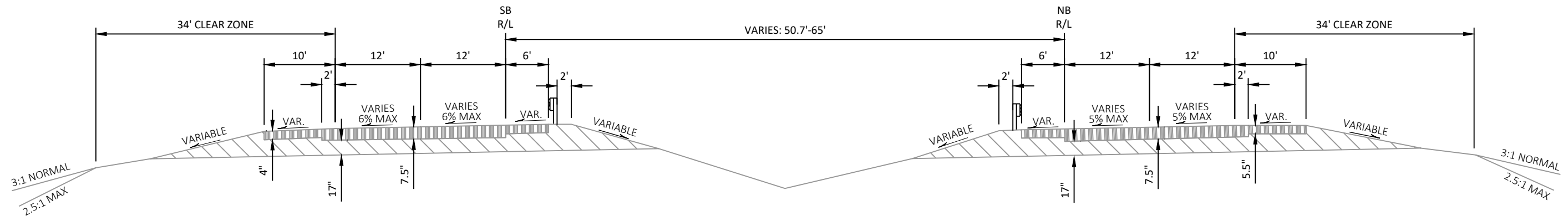
STA 23+98 MR - STA 26+64.87 MR
STA 29+68.05 MR - STA 32+67.08 MR



* MIRROR MEDIAN SECTION FOR EB LEFT TURN SECTION

FINISHED TYPICAL MAPLE RIDGE RD

STA 23+98 MR - STA 26+64.87 MR
STA 29+68.05 MR - STA 32+67.08 MR



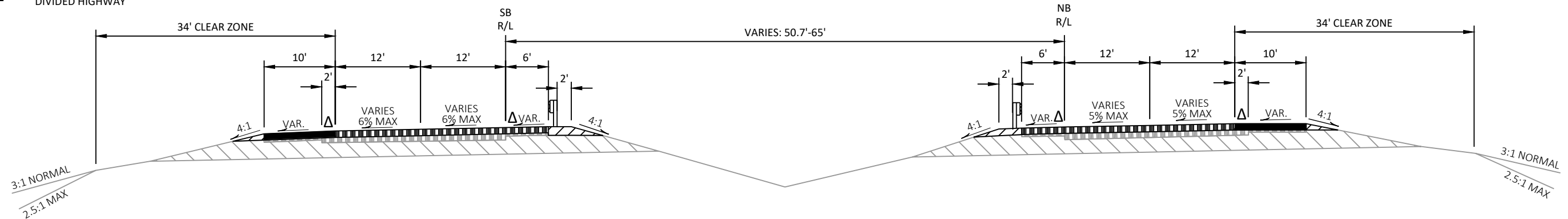
EXISTING TYPICAL SUPERELEVATION SECTION - IH 39

STA 693+25 NB - STA 701+93.67 NB (SE = 5.1%)
STA 721+28.6 NB - STA 753+20.1 NB (SE = 4.9% *)
STA 682+00 SB - STA 701+25.03 SB (SE = 5.1%)
STA 723+26.4 SB - STA 753+73 SB (SE = 4.9% *)

* SE OPPOSITE DIRECTION

LEGEND

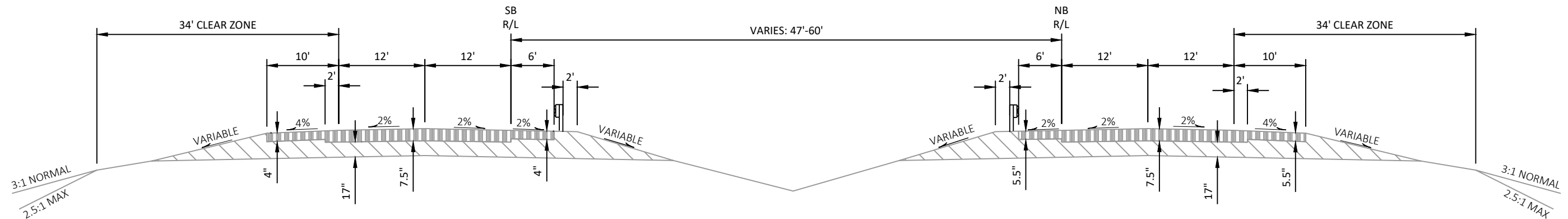
-  REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 SMA 58-28 H PAVEMENT
-  REMOVING ASPHALTIC SURFACE MILLING 2.25" AND 2.25" 4 LT 58-28 S PAVEMENT
-  BASE AGGREGATE DENSE 3/4-INCH
-  EXISTING ASPHALTIC CONCRETE PAVEMENT
-  EXISTING RUBBLIZED CONCRETE PAVEMENT
-  EXISTING CRUSHED AGGREGATE BASE COURSE
-  EXISTING BASE AGGREGATE OPEN GRADED
-  ASPHALTIC RUMBLE STRIPS SHOULDER DIVIDED HIGHWAY



FINISHED TYPICAL SUPERELEVATION SECTION - IH 39

STA 693+25 NB - STA 701+93.67 NB (SE = 5.1%)
STA 721+28.6 NB - STA 753+20.1 NB (SE = 4.9% *)
STA 682+00 SB - STA 701+25.03 SB (SE = 5.1%)
STA 723+26.4 SB - STA 753+73 SB (SE = 4.9% *)

* SE OPPOSITE DIRECTION

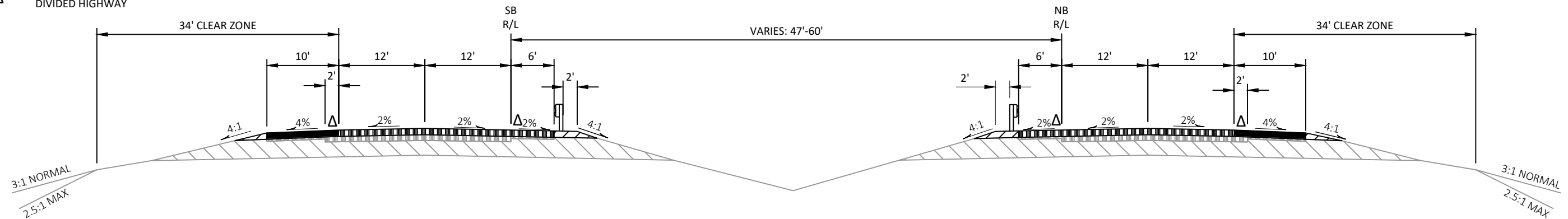


EXISTING TYPICAL SECTION - IH 39

STA 701+93.67 NB - STA 721+28.6 NB
STA 701+93.67 SB - STA 723+26.4 SB

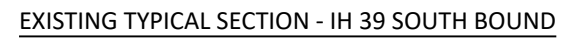
LEGEND

-



FINISHED TYPICAL SECTION - IH 39

STA 701+93.67 NB - STA 721+28.6 NB
STA 701+93.67 SB - STA 723+26.4 SB



LEGEND

-
- Diagram illustrating the cross-section of a highway bridge deck, showing the SB (Southbound) and NB (Northbound) directions. The diagram includes dimensions for the clear zone, lane width, and slopes.
- SB R/L (Left Side):**
- 30' CLEAR ZONE
 - 10' (Shoulder width)
 - 2' (Shoulder slope)
 - 12' (Lane width)
 - 12' (Lane width)
 - 6' (Distance from lane edge to SB R/L)
 - 4:1 (Slope)
 - 4% (Shoulder slope)
 - 2% (Lane slope)
 - 2% (Lane slope)
 - 2%* (Lane slope)
 - 4:1 (Slope)
- NB R/L (Right Side):**
- 30' CLEAR ZONE
 - 10' (Shoulder width)
 - 2' (Shoulder slope)
 - 12' (Lane width)
 - 12' (Lane width)
 - 6' (Distance from lane edge to NB R/L)
 - 4:1 (Slope)
 - 4% (Shoulder slope)
 - 2% (Lane slope)
 - 2% (Lane slope)
 - 2%* (Lane slope)
 - 4:1 (Slope)
- Other Dimensions:**
- VARIES: 60' (Distance between SB and NB R/L)
 - EXISTING CABLE GUARD (Location of cable guard)
 - APRON ENDWALL FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH (Location of apron endwall)
 - 4:1 NORMAL (Slope)
 - 2.5:1 MAX (Slope)

STA 753+20.1 NB - STA 788+75.0 NB
STA 753+20.1 SB - STA 788+50 SB

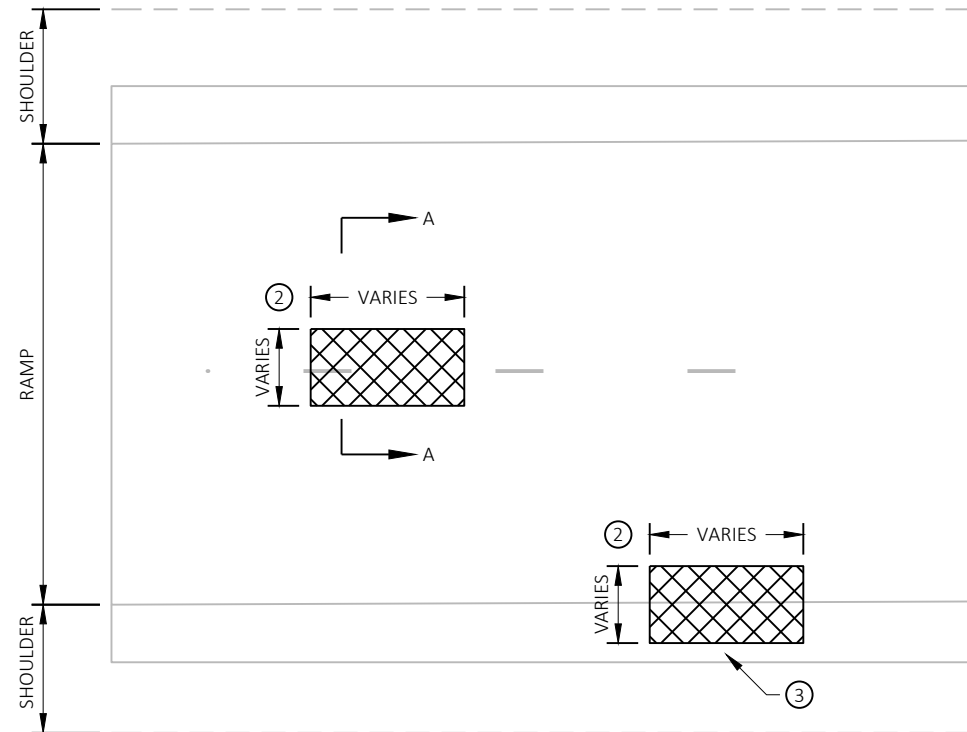
NOTES:

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

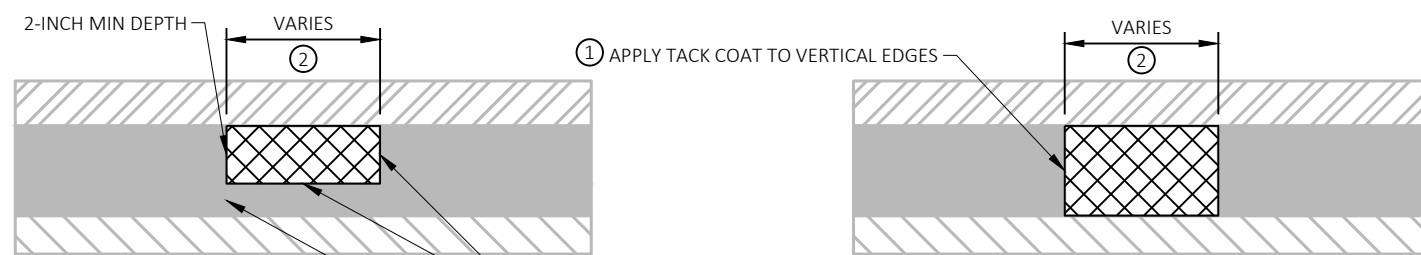
① MILLED VERTICAL EDGES ARE ACCEPTABLE, SAW CUTS ARE NOT REQUIRED.

② THE SMALLEST DIMENSION OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS 4 FEET IN ANY DIRECTION.

③ WHEN THE DISTANCE FROM THE EDGE OF PAVEMENT TO EDGE OF REMOVING DISTRESSED ASPHALTIC SURFACE MILLING IS LESS THAN 1-FOOT, EXTEND THE REMOVING DISTRESSED ASPHALTIC SURFACE MILLING TO THE EDGE OF PAVEMENT.



PLAN VIEW



PARTIAL DEPTH

FULL DEPTH

① APPLY TACK COAT TO VERTICAL EDGES

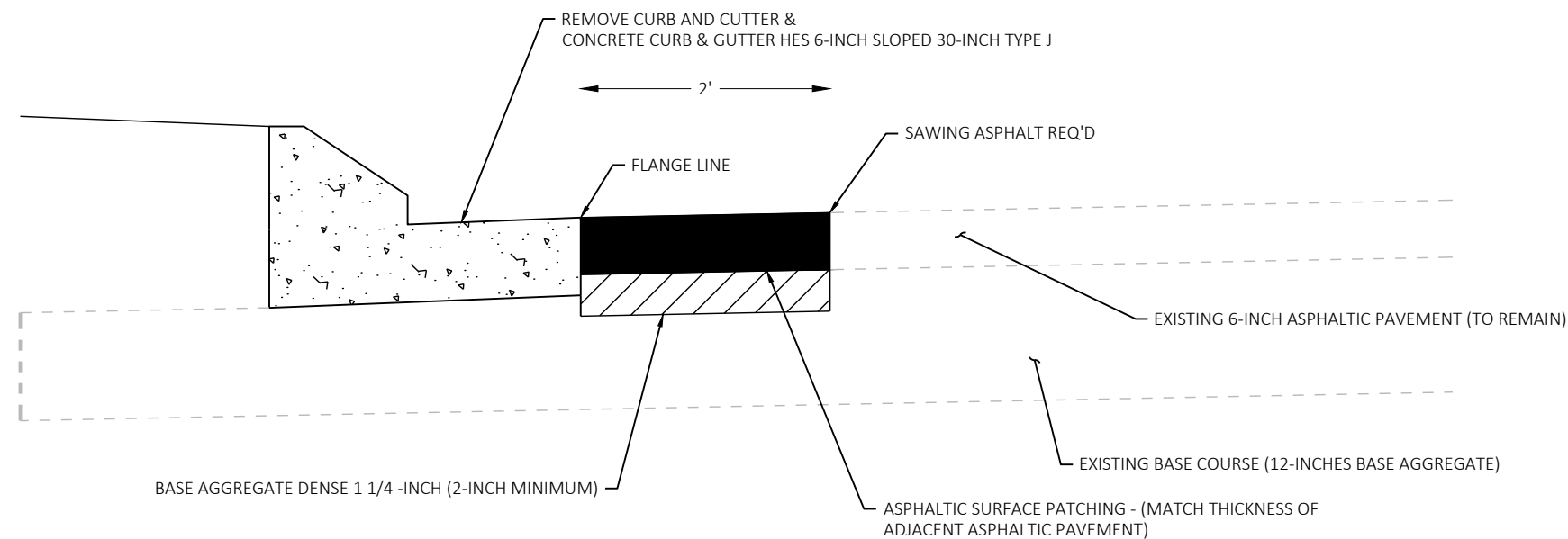
① APPLY TACK COAT TO BOTTOM AND VERTICAL EDGES
2-INCH MIN ASPHALT TO REMAIN IF LESS THAN 2 INCHES WILL REMAIN REMOVE FULL DEPTH

SECTION A-A

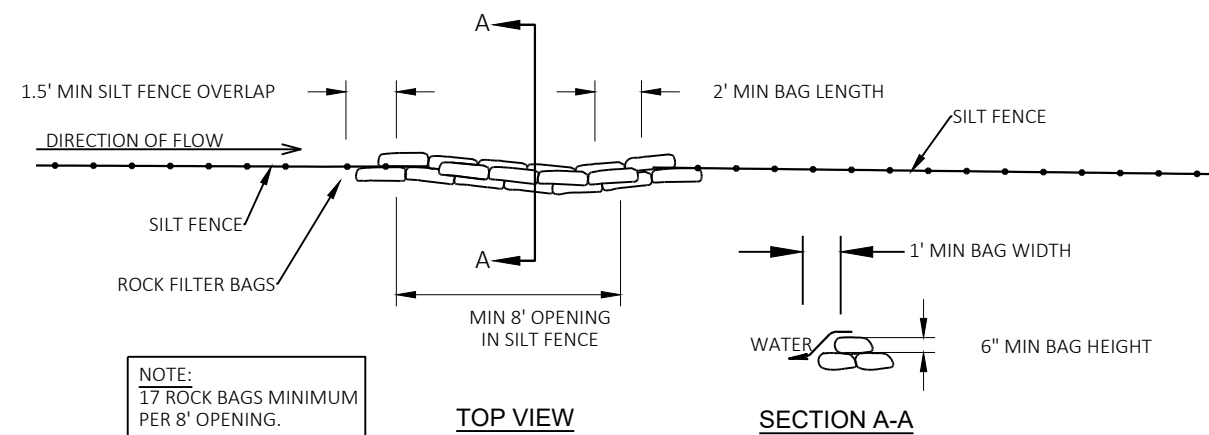
- REMOVING ASPHALTIC SURFACE MILLING
- REMOVING DISTRESSED ASPHALTIC SURFACE MILLING
- ASPHALTIC SURFACE PATCHING
- EXISTING ASPHALT
- EXISTING BASE COURSE

REMOVING DISTRESSED ASPHALTIC SURFACE MILLING

STH 153 ENTRANCE RAMP STA 399'BD'+54 - STA 399'BD'+60



CONCRETE CURB AND GUTTER REPLACEMENT

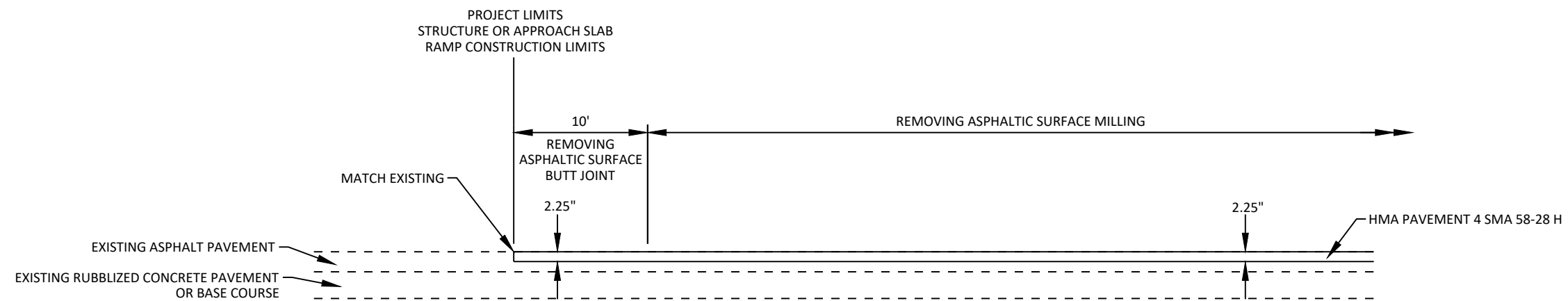


TOP VIEW

SECTION A-A

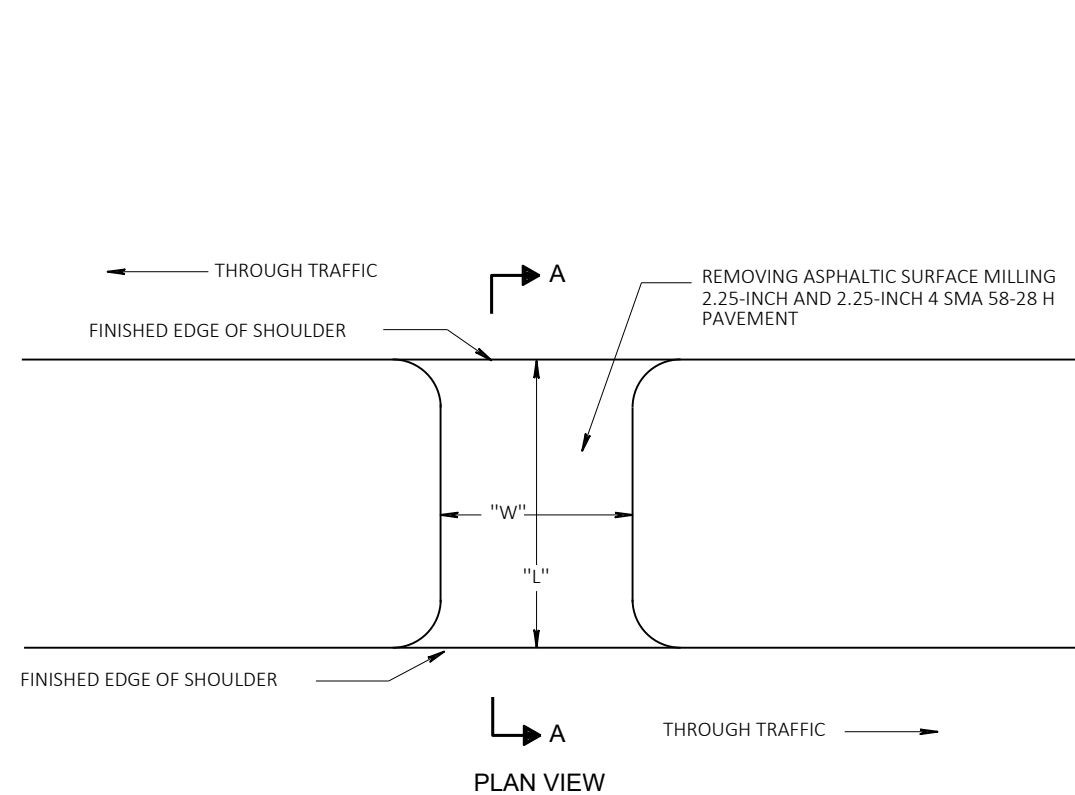
ROCK BAGS USED FOR SILT FENCE RELIEF

THIS FRAME INTENTIONALLY LEFT BLANK



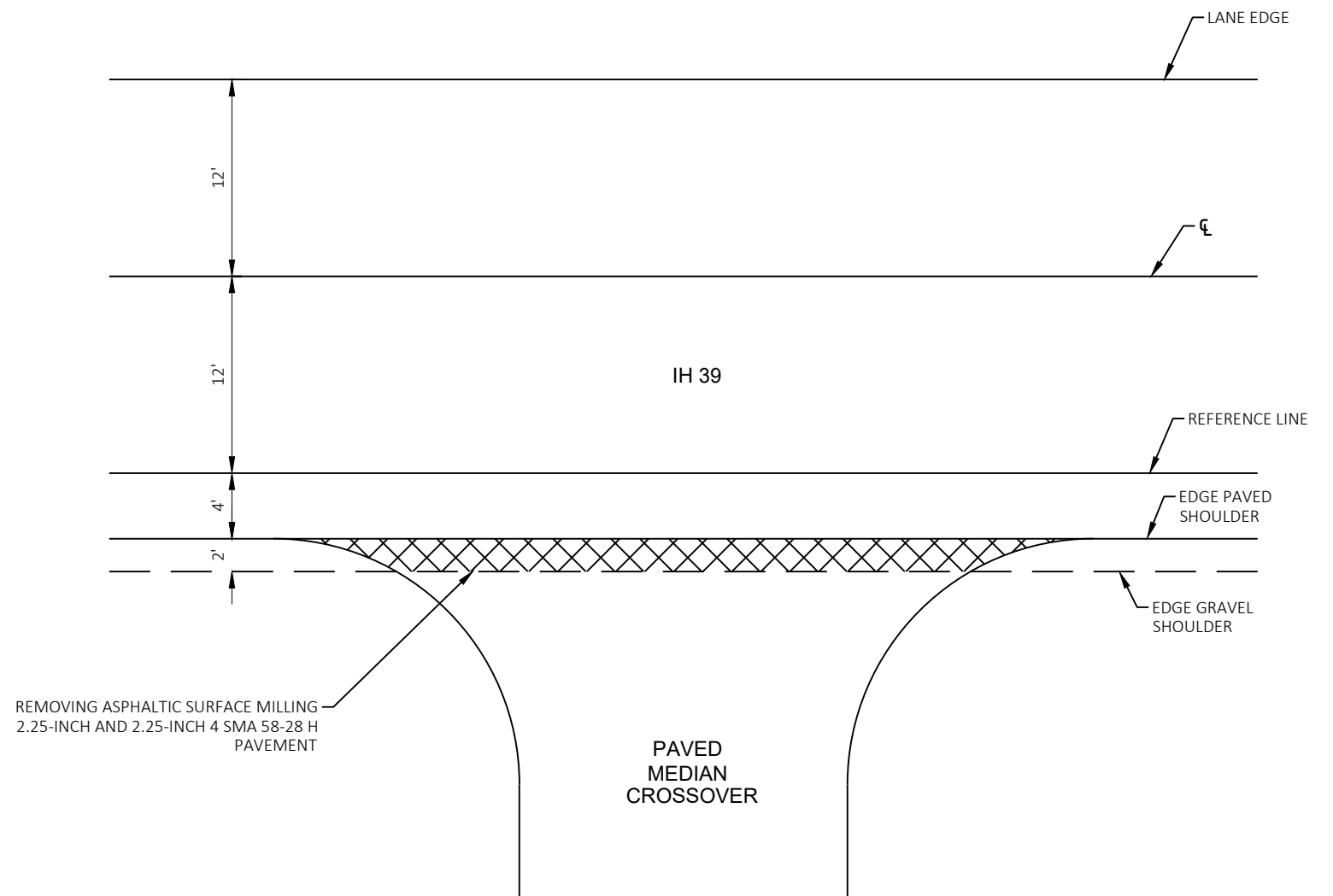
TYPICAL BUTT JOINT DETAIL

SB: STA 153+55: SOUTH PROJECT LIMITS
SB: STA 788+50: NORTH PROJECT LIMITS
NB: STA 450+28: SOUTH PROJECT LIMITS
NB: STA 788+75: NORTH PROJECT LIMITS
STRUCTURE OR APPROACH SLAB LOCATIONS
RAMP CONSTRUCTION LIMITS



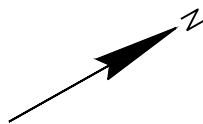
MAINTENANCE CROSSOVER DETAIL - IH 39 NB

STA 476+50
STA 512+84
STA 577+52
STA 615+38
STA 682+13
STA 761+66

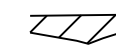


CONSTRUCTION DETAIL - MEDIAN CROSSOVER

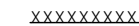
STA 159'SB'+25
STA 220'SB'+25
STA 307'SB'+50
STA 371'SB'+00
STA 445'SB'+00



LEGEND

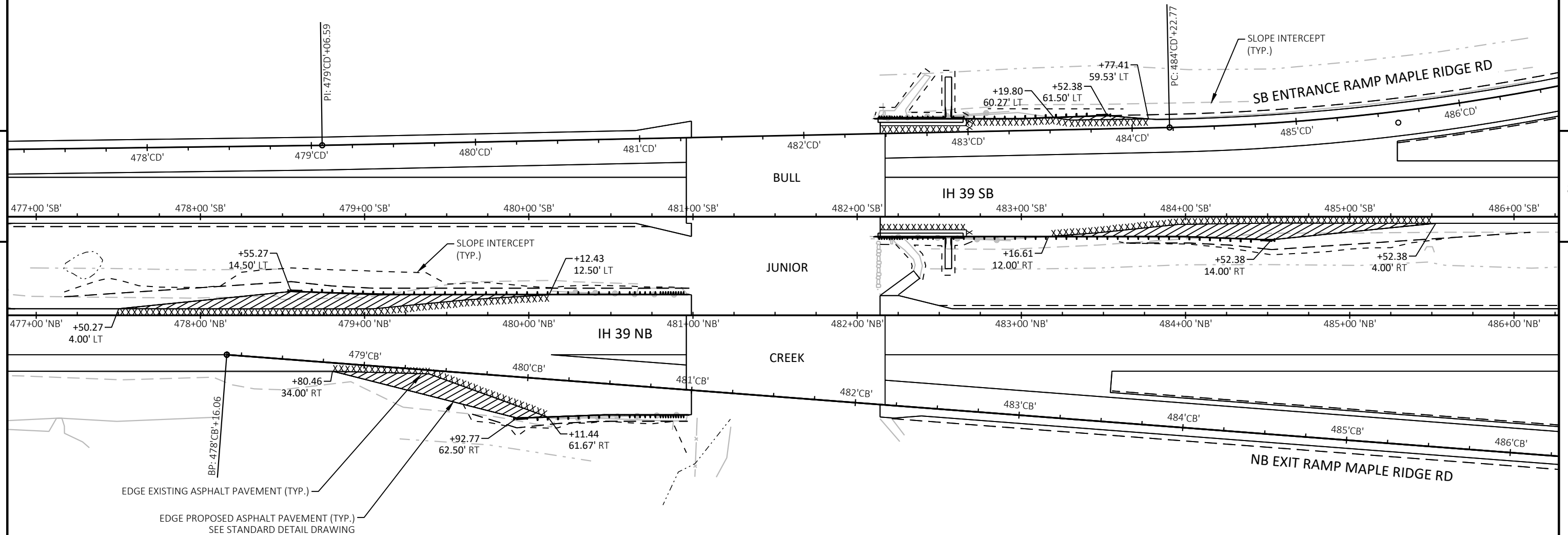


EXCAVATION COMMON, 2.25-INCH BASE AGGREGATE
DENSE 3/4-INCH AND 2.25-INCH ASPHALTIC SURFACE
SLOPE AT -4%



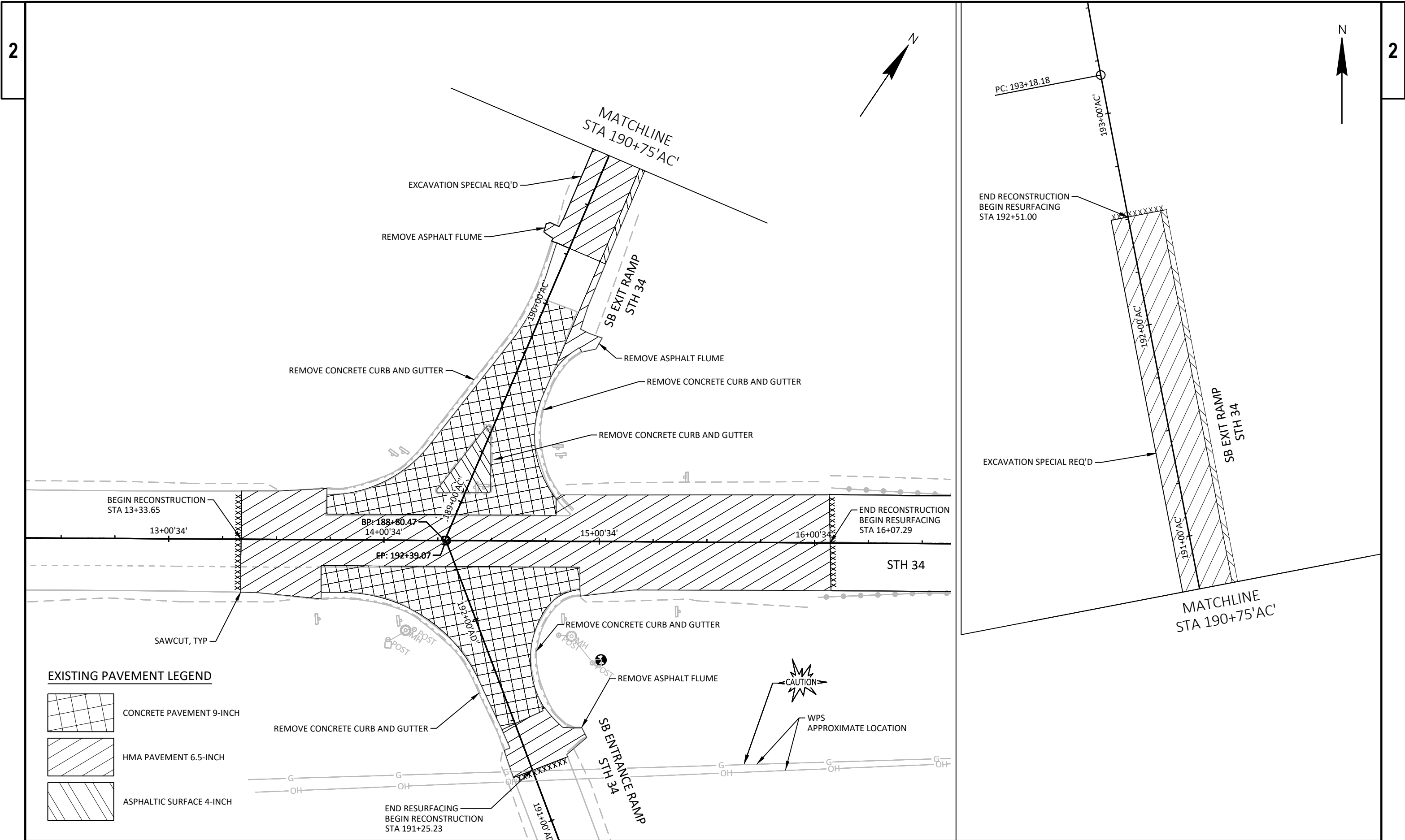
SAWING ASPHALT

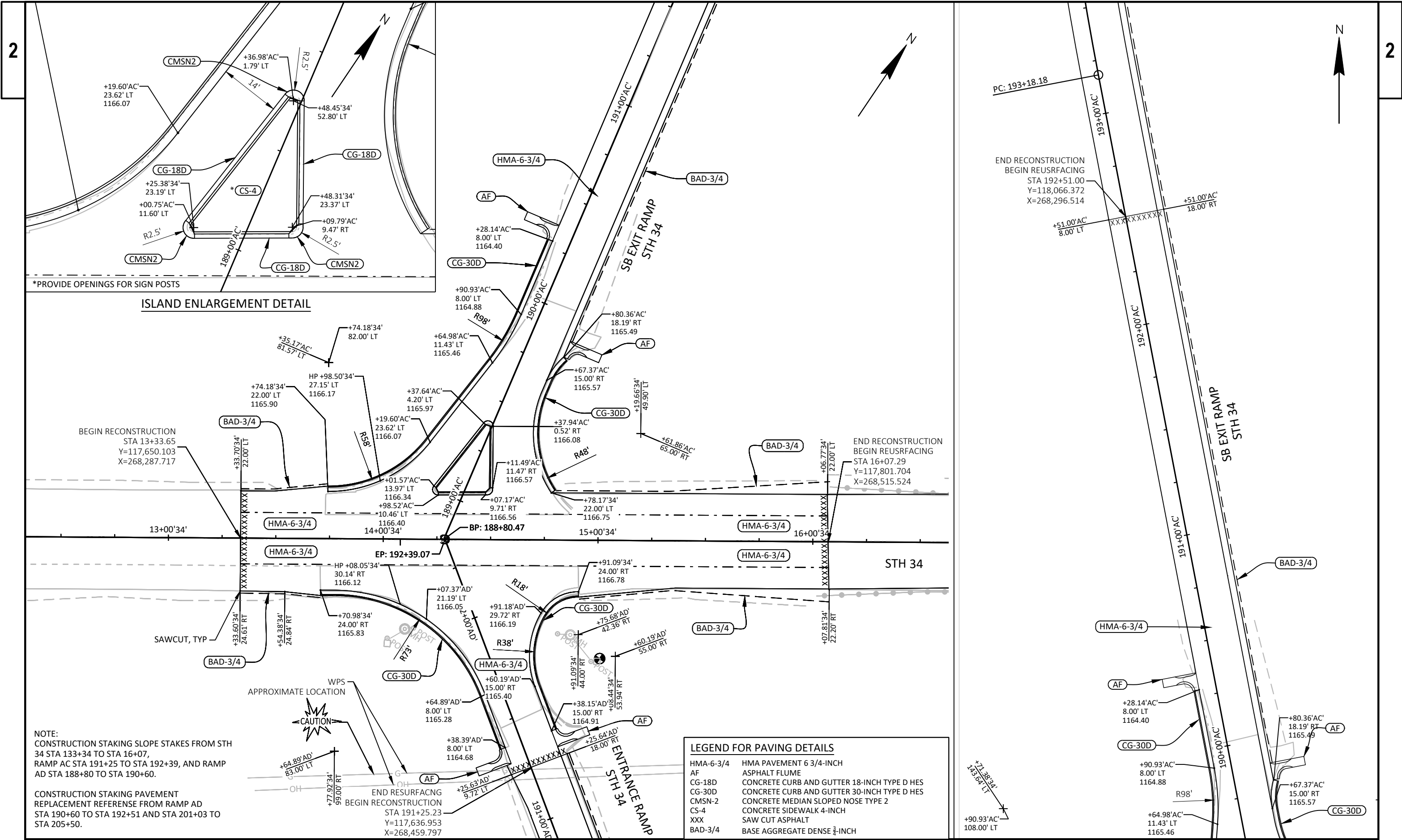
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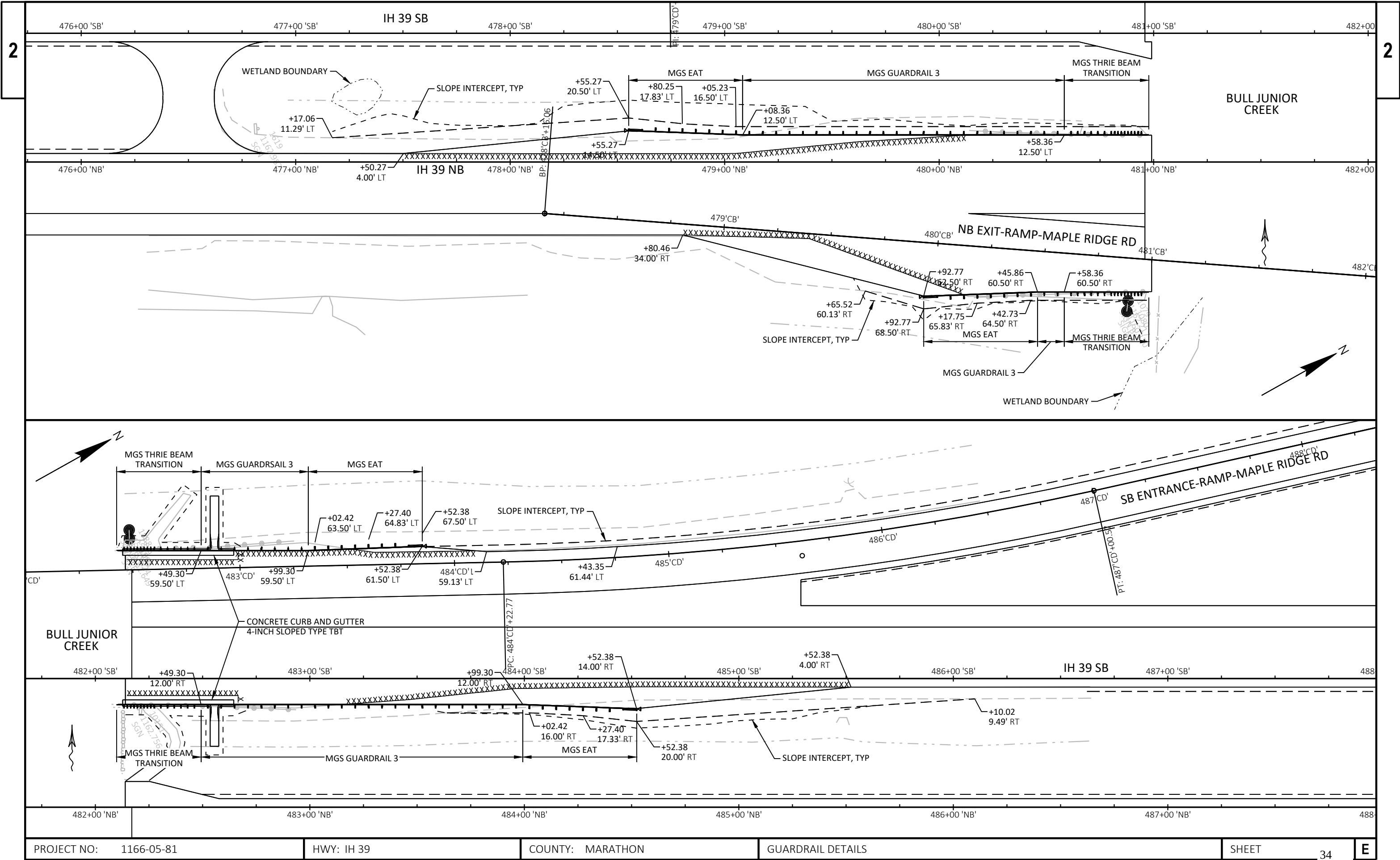


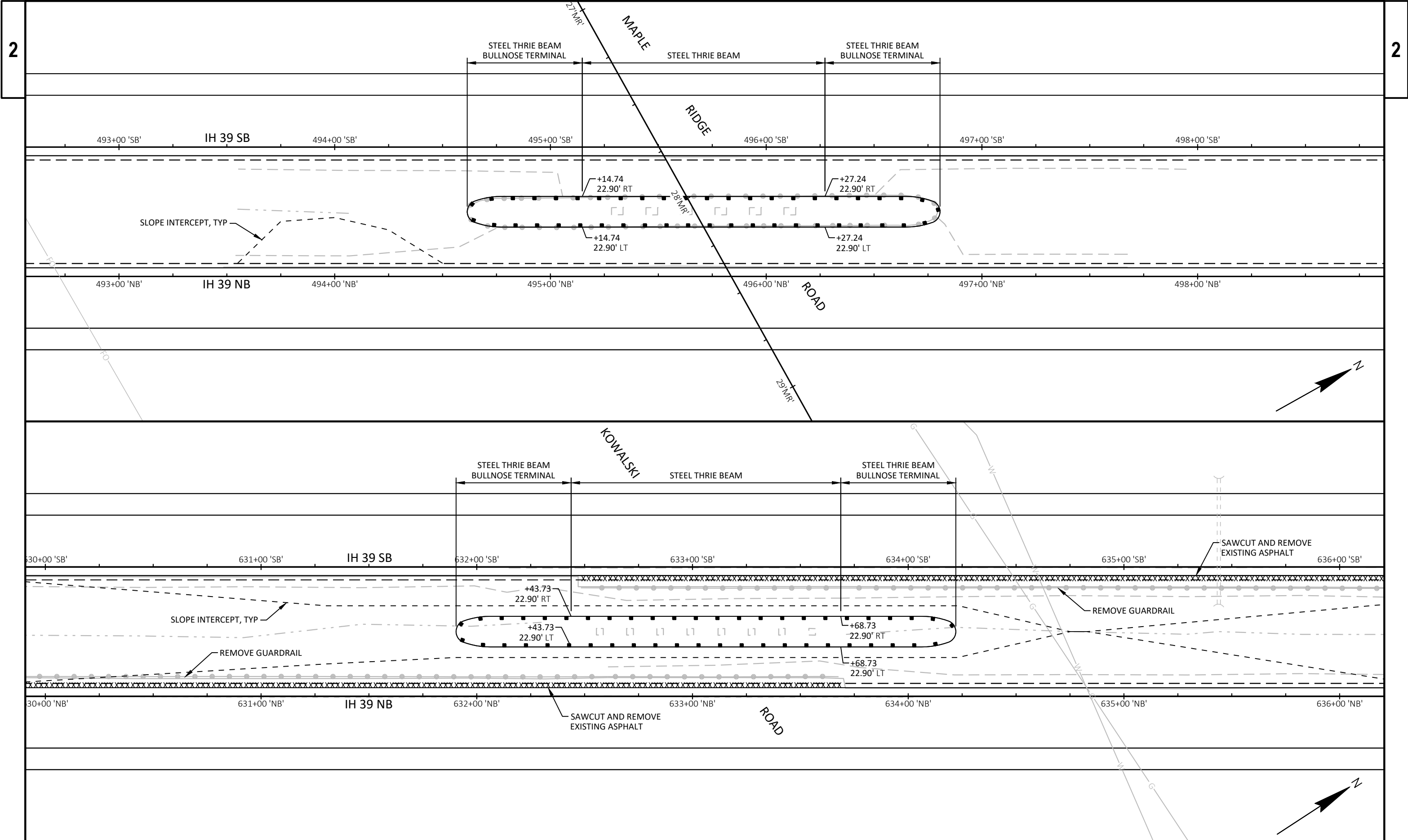
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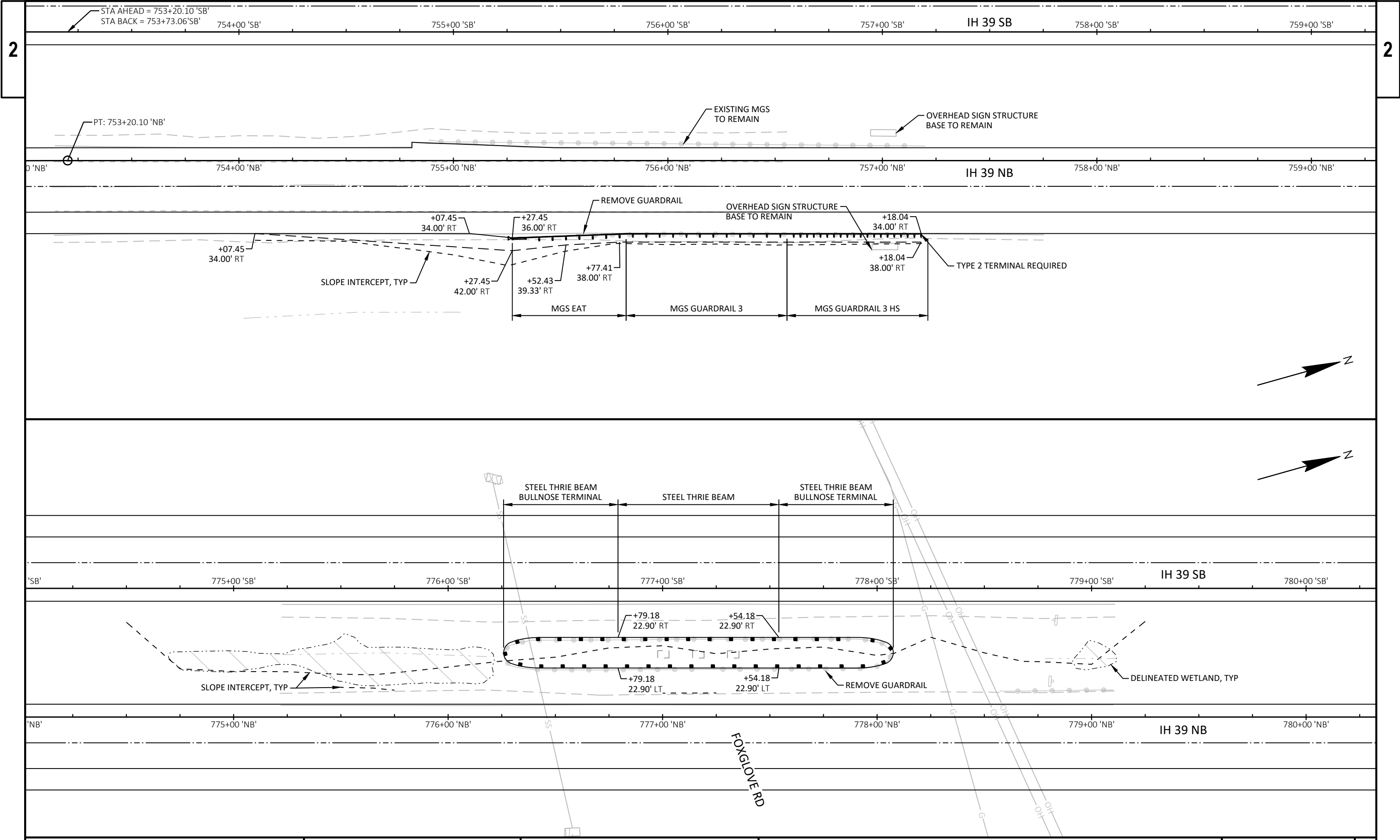
PROJECT NO: 1166-05-81	HWY: IH 39	COUNTY: MARATHON	CONSTRUCTION DETAILS	SHEET 30	E
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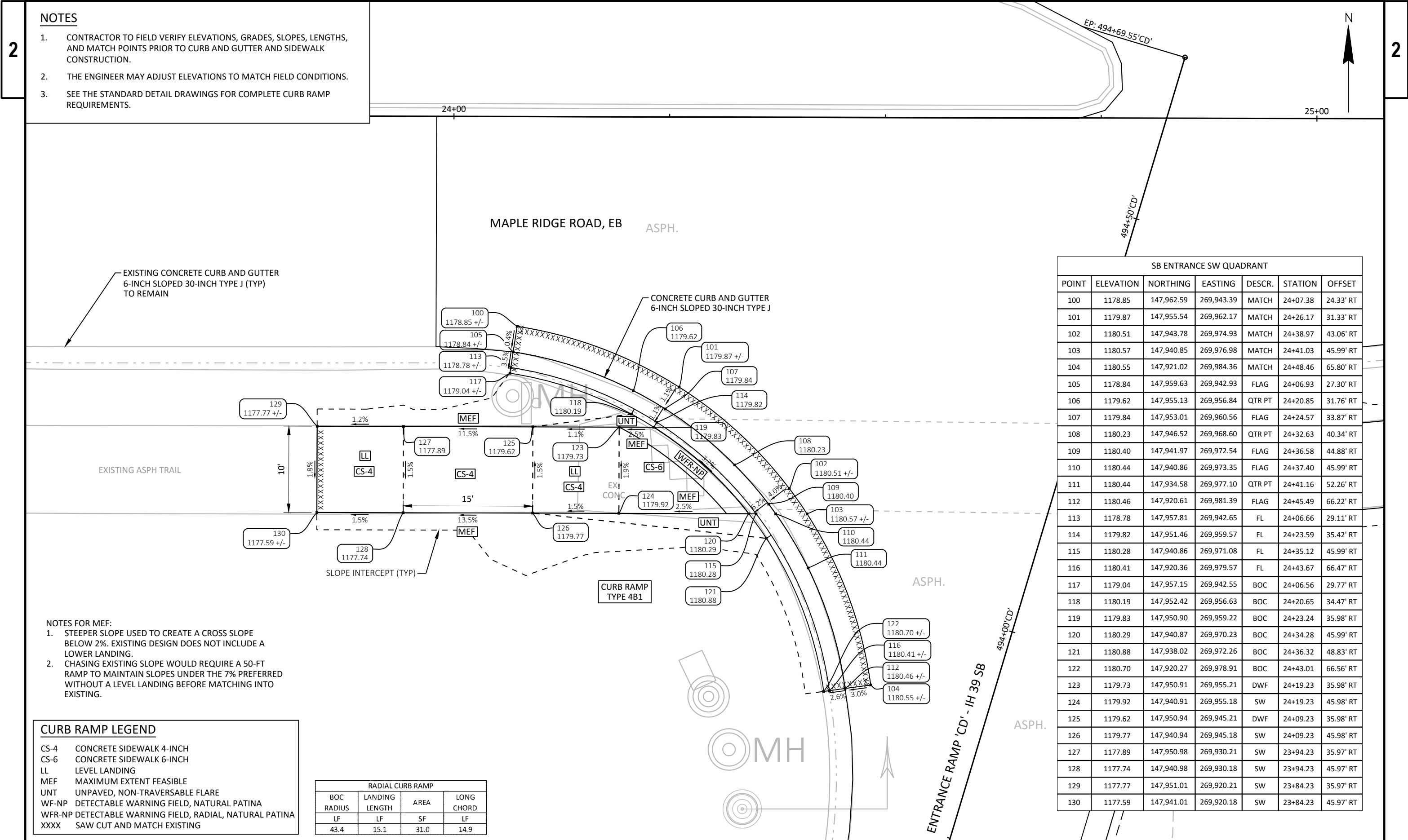












- NOTES**
1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS, AND MATCH POINTS PRIOR TO CURB AND GUTTER AND SIDEWALK CONSTRUCTION.
 2. THE ENGINEER MAY ADJUST ELEVATIONS TO MATCH FIELD CONDITIONS.
 3. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

- NOTES FOR MEF:**
1. STEEPER SLOPE USED TO CREATE A CROSS SLOPE BELOW 2%. EXISTING DESIGN DOES NOT INCLUDE A LOWER LANDING.
 2. CHASING EXISTING SLOPE WOULD REQUIRE A 50-FT RAMP TO MAINTAIN SLOPES UNDER THE 7% PREFERRED WITHOUT A LEVEL LANDING BEFORE MATCHING INTO EXISTING.

CURB RAMP LEGEND	
CS-4	CONCRETE SIDEWALK 4-INCH
CS-6	CONCRETE SIDEWALK 6-INCH
LL	LEVEL LANDING
MEF	MAXIMUM EXTENT FEASIBLE
UNT	UNPAVED, NON-TRAVERSABLE FLARE
WF-NP	DETECTABLE WARNING FIELD, NATURAL PATINA
WFR-NP	DETECTABLE WARNING FIELD, RADIAL, NATURAL PATINA
XXXX	SAW CUT AND MATCH EXISTING

RADIAL CURB RAMP			
BOC RADIUS	LANDING LENGTH	AREA	LONG CHORD
LF	LF	SF	LF
43.4	15.1	31.0	14.9

SB ENTRANCE SW QUADRANT						
POINT	ELEVATION	NORTHING	EASTING	DESCR.	STATION	OFFSET
100	1178.85	147,962.59	269,943.39	MATCH	24+07.38	24.33' RT
101	1179.87	147,955.54	269,962.17	MATCH	24+26.17	31.33' RT
102	1180.51	147,943.78	269,974.93	MATCH	24+38.97	43.06' RT
103	1180.57	147,940.85	269,976.98	MATCH	24+41.03	45.99' RT
104	1180.55	147,921.02	269,984.36	MATCH	24+48.46	65.80' RT
105	1178.84	147,959.63	269,942.93	FLAG	24+06.93	27.30' RT
106	1179.62	147,955.13	269,956.84	QTR PT	24+20.85	31.76' RT
107	1179.84	147,953.01	269,960.56	FLAG	24+24.57	33.87' RT
108	1180.23	147,946.52	269,968.60	QTR PT	24+32.63	40.34' RT
109	1180.40	147,941.97	269,972.54	FLAG	24+36.58	44.88' RT
110	1180.44	147,940.86	269,973.35	FLAG	24+37.40	45.99' RT
111	1180.44	147,934.58	269,977.10	QTR PT	24+41.16	52.26' RT
112	1180.46	147,920.61	269,981.39	FLAG	24+45.49	66.22' RT
113	1178.78	147,957.81	269,942.65	FL	24+06.66	29.11' RT
114	1179.82	147,951.46	269,959.57	FL	24+23.59	35.42' RT
115	1180.28	147,940.86	269,971.08	FL	24+35.12	45.99' RT
116	1180.41	147,920.36	269,979.57	FL	24+43.67	66.47' RT
117	1179.04	147,957.15	269,942.55	BOC	24+06.56	29.77' RT
118	1180.19	147,952.42	269,956.63	BOC	24+20.65	34.47' RT
119	1179.83	147,950.90	269,959.22	BOC	24+23.24	35.98' RT
120	1180.29	147,940.87	269,970.23	BOC	24+34.28	45.99' RT
121	1180.88	147,938.02	269,972.26	BOC	24+36.32	48.83' RT
122	1180.70	147,920.27	269,978.91	BOC	24+43.01	66.56' RT
123	1179.73	147,950.91	269,955.21	DWF	24+19.23	35.98' RT
124	1179.92	147,940.91	269,955.18	SW	24+19.23	45.98' RT
125	1179.62	147,950.94	269,945.21	DWF	24+09.23	35.98' RT
126	1179.77	147,940.94	269,945.18	SW	24+09.23	45.98' RT
127	1177.89	147,950.98	269,930.21	SW	23+94.23	35.97' RT
128	1177.74	147,940.98	269,930.18	SW	23+94.23	45.97' RT
129	1177.77	147,951.01	269,920.21	SW	23+84.23	35.97' RT
130	1177.59	147,941.01	269,920.18	SW	23+84.23	45.97' RT

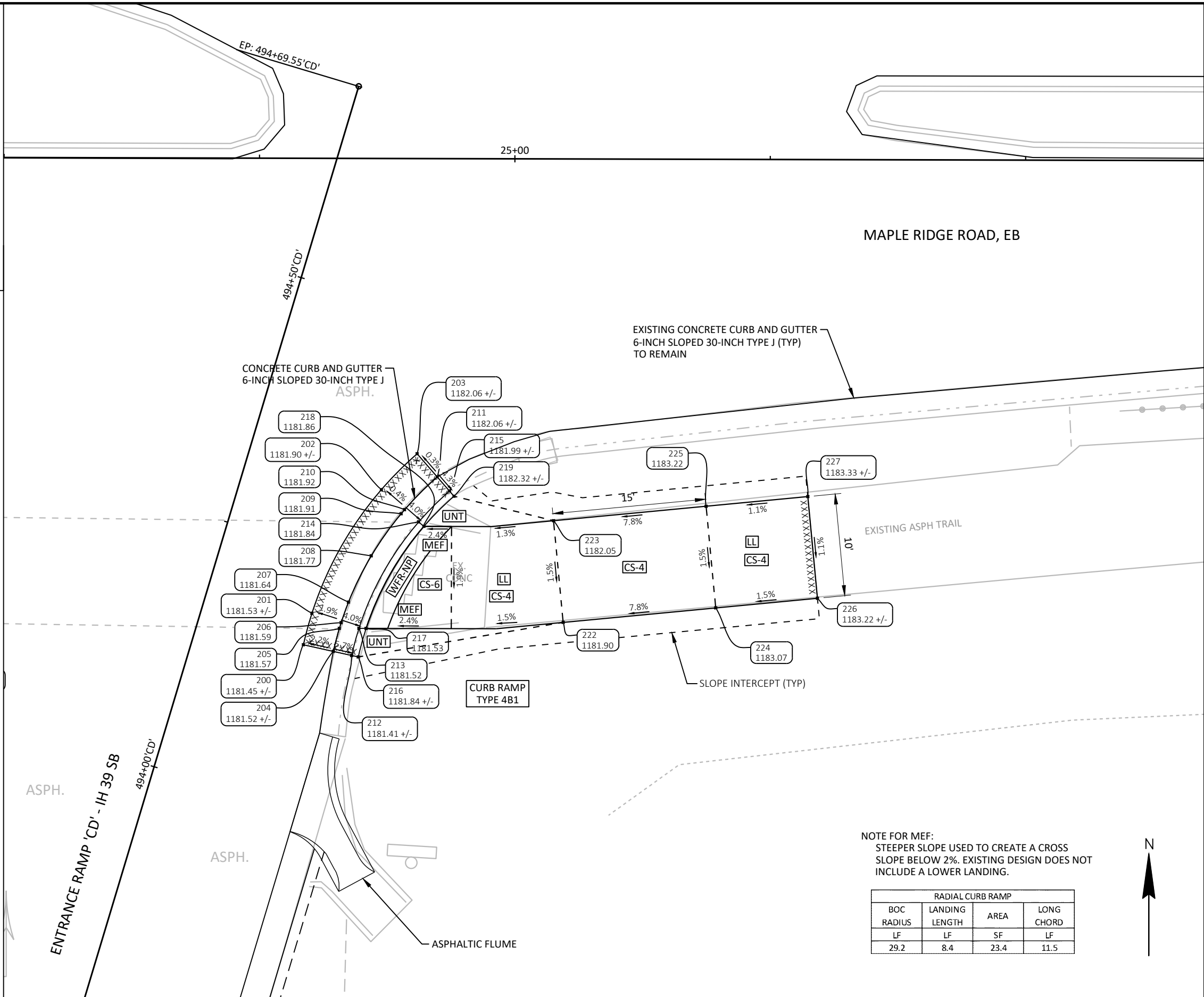
CURB RAMP LEGEND

- CS-4 CONCRETE SIDEWALK 4-INCH
- CS-6 CONCRETE SIDEWALK 6-INCH
- LL LEVEL LANDING
- MEF MAXIMUM EXTENT FEASIBLE
- UNT UNPAVED, NON-TRAVERSABLE FLARE
- WF-NP DETECTABLE WARNING FIELD, NATURAL PATINA
- WFR-NP DETECTABLE WARNING FIELD, RADIAL, NATURAL PATINA
- XXXX SAW CUT AND MATCH EXISTING

NOTES

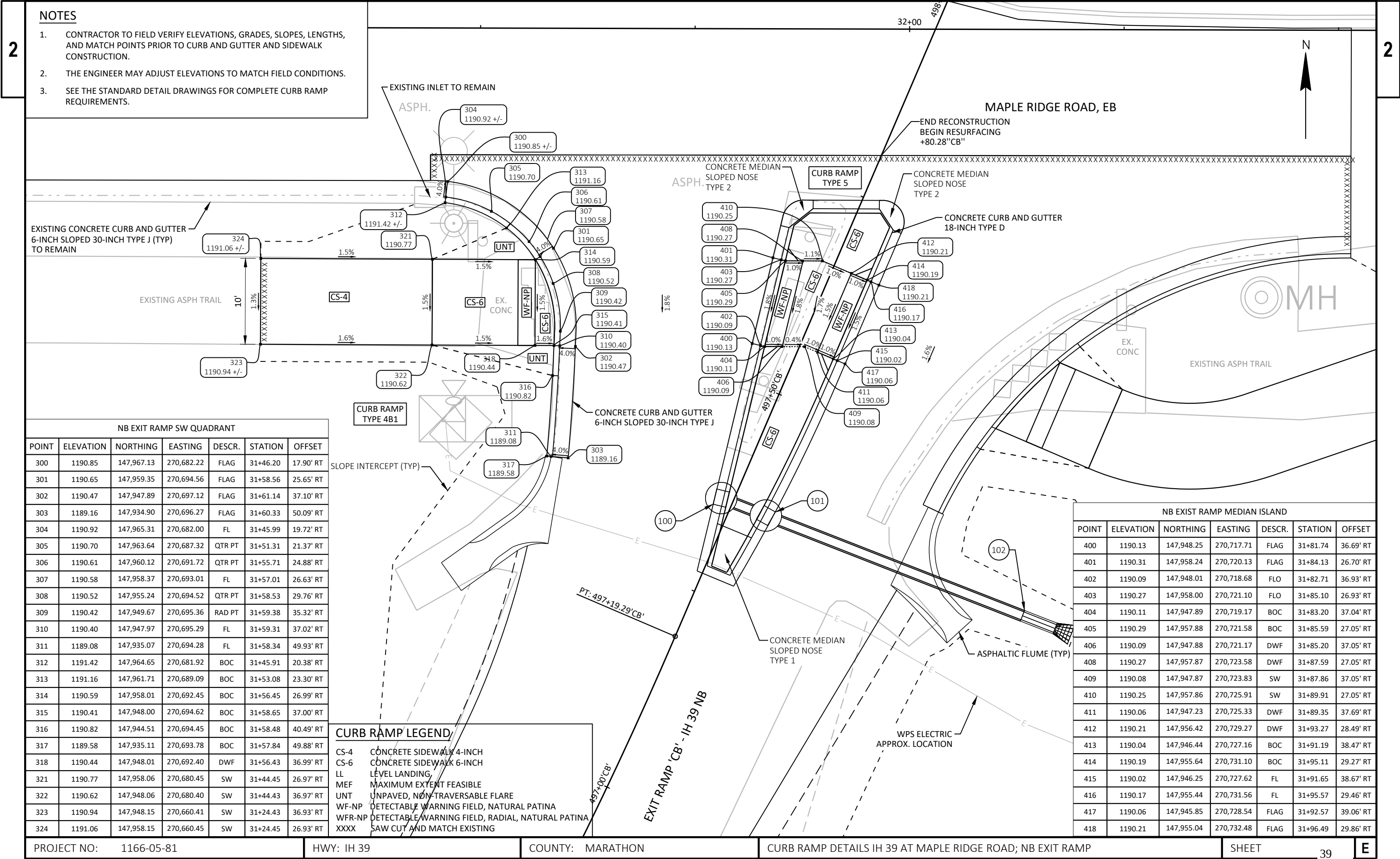
- CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS, AND MATCH POINTS PRIOR TO CURB AND GUTTER AND SIDEWALK CONSTRUCTION.
- THE ENGINEER MAY ADJUST ELEVATIONS TO MATCH FIELD CONDITIONS.
- SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

SB ENTRANCE RAMP SE QUADRANT						
POINT	ELEVATION	NORTHING	EASTING	DESCR.	STATION	OFFSET
200	1181.45	147,939.11	270,015.36	MATCH	24+79.41	47.62' RT
201	1181.53	147,942.20	270,016.20	MATCH	24+80.24	44.54' RT
202	1181.90	147,954.30	270,023.00	MATCH	24+87.01	32.42' RT
203	1182.06	147,957.81	270,026.50	MATCH	24+90.50	28.90' RT
204	1181.52	147,938.46	270,018.29	FLAG	24+82.34	48.27' RT
205	1181.57	147,940.73	270,018.88	FLAG	24+82.93	46.00' RT
206	1181.59	147,941.28	270,019.05	FLAG	24+83.10	45.45' RT
207	1181.64	147,943.29	270,019.78	QTR PT	24+83.82	43.44' RT
208	1181.77	147,947.82	270,022.01	QTR PT	24+86.04	38.90' RT
209	1181.91	147,951.94	270,024.93	QTR PT	24+88.95	34.77' RT
210	1181.92	147,952.34	270,025.26	FLAG	24+89.28	34.37' RT
211	1182.06	147,955.55	270,028.47	FLAG	24+92.48	31.16' RT
212	1181.41	147,938.07	270,020.08	FL	24+84.13	48.66' RT
213	1181.52	147,940.72	270,020.80	FL	24+84.85	46.00' RT
214	1181.84	147,951.14	270,026.65	FL	24+90.67	35.57' RT
215	1181.99	147,954.16	270,029.67	FL	24+93.68	32.54' RT
216	1181.84	147,937.92	270,020.73	BOC	24+84.79	48.80' RT
217	1181.53	147,940.72	270,021.50	BOC	24+85.55	46.00' RT
218	1181.86	147,950.70	270,027.16	BOC	24+91.18	36.00' RT
219	1182.32	147,953.66	270,030.11	BOC	24+94.12	33.04' RT
220	1181.73	147,940.70	270,029.84	SW	0+00.00	0.00'
221	1181.92	147,950.70	270,029.87	DWF	0+00.00	0.00'
222	1181.90	147,941.31	270,040.80	SW	24+98.32	46.00' RT
223	1182.05	147,951.26	270,039.85	DWF	24+97.79	36.01' RT
224	1183.07	147,942.72	270,055.73	SW	25+13.25	44.55' RT
225	1183.22	147,952.68	270,054.79	SW	25+12.28	34.60' RT
226	1183.22	147,943.66	270,065.69	SW	25+18.23	44.06' RT
227	1183.33	147,953.62	270,064.74	SW	25+17.26	34.11' RT



NOTE FOR MEF:
STEEPER SLOPE USED TO CREATE A CROSS
SLOPE BELOW 2%. EXISTING DESIGN DOES NOT
INCLUDE A LOWER LANDING.

RADIAL CURB RAMP			
BOC RADIUS	LANDING LENGTH	AREA	LONG CHORD
LF	LF	SF	LF
29.2	8.4	23.4	11.5



NOTES

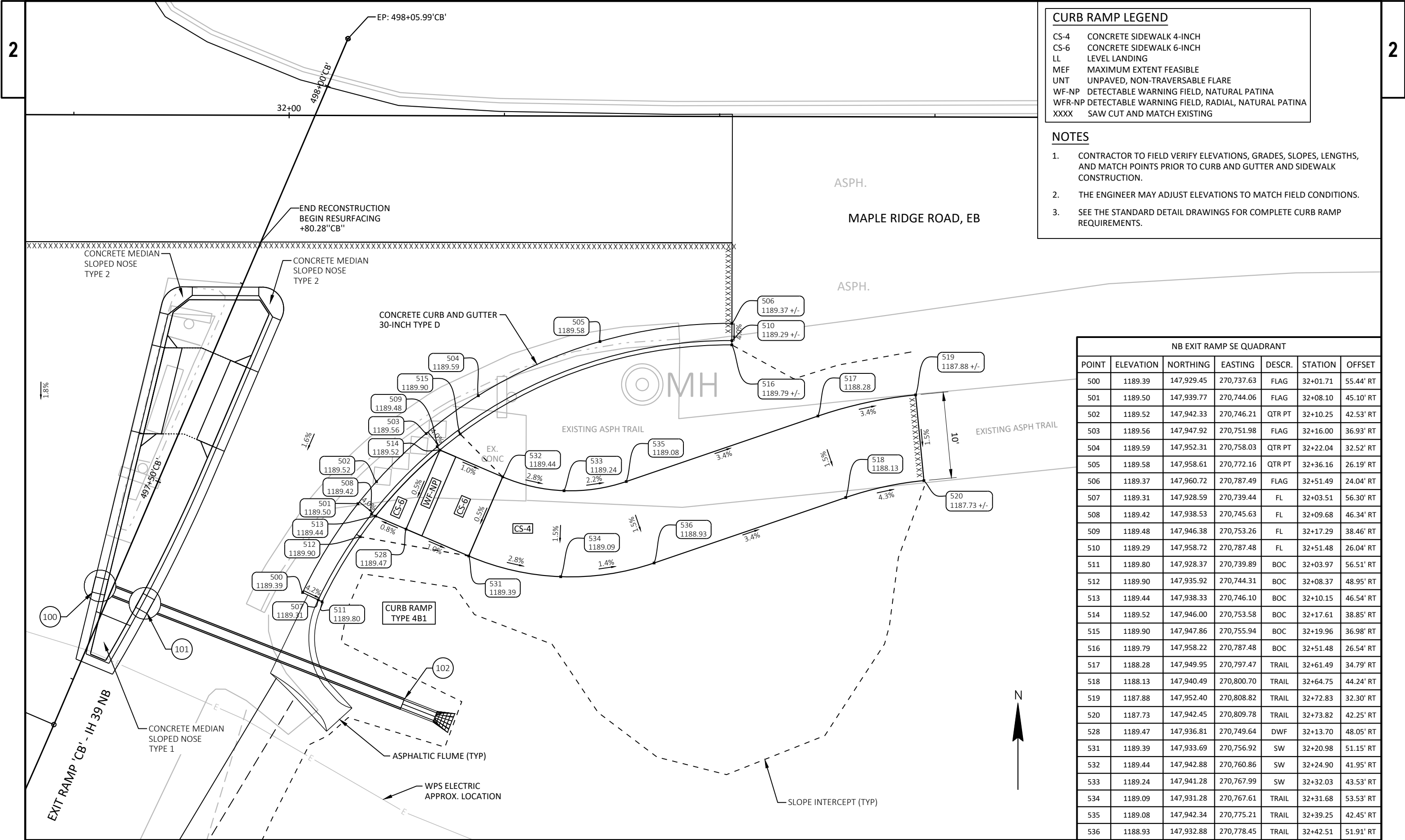
- 1. CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS, AND MATCH POINTS PRIOR TO CURB AND GUTTER AND SIDEWALK CONSTRUCTION.
- 2. THE ENGINEER MAY ADJUST ELEVATIONS TO MATCH FIELD CONDITIONS.
- 3. SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

NB EXIT RAMP SW QUADRANT						
POINT	ELEVATION	NORTHING	EASTING	DESCR.	STATION	OFFSET
300	1190.85	147,967.13	270,682.22	FLAG	31+46.20	17.90' RT
301	1190.65	147,959.35	270,694.56	FLAG	31+58.56	25.65' RT
302	1190.47	147,947.89	270,697.12	FLAG	31+61.14	37.10' RT
303	1189.16	147,934.90	270,696.27	FLAG	31+60.33	50.09' RT
304	1190.92	147,965.31	270,682.00	FL	31+45.99	19.72' RT
305	1190.70	147,963.64	270,687.32	QTR PT	31+51.31	21.37' RT
306	1190.61	147,960.12	270,691.72	QTR PT	31+55.71	24.88' RT
307	1190.58	147,958.37	270,693.01	FL	31+57.01	26.63' RT
308	1190.52	147,955.24	270,694.52	QTR PT	31+58.53	29.76' RT
309	1190.42	147,949.67	270,695.36	RAD PT	31+59.38	35.32' RT
310	1190.40	147,947.97	270,695.29	FL	31+59.31	37.02' RT
311	1189.08	147,935.07	270,694.28	FL	31+58.34	49.93' RT
312	1191.42	147,964.65	270,681.92	BOC	31+45.91	20.38' RT
313	1191.16	147,961.71	270,689.09	BOC	31+53.08	23.30' RT
314	1190.59	147,958.01	270,692.45	BOC	31+56.45	26.99' RT
315	1190.41	147,948.00	270,694.62	BOC	31+58.65	37.00' RT
316	1190.82	147,944.51	270,694.45	BOC	31+58.48	40.49' RT
317	1189.58	147,935.11	270,693.78	BOC	31+57.84	49.88' RT
318	1190.44	147,948.01	270,692.40	DWF	31+56.43	36.99' RT
321	1190.77	147,958.06	270,680.45	SW	31+44.45	26.97' RT
322	1190.62	147,948.06	270,680.40	SW	31+44.43	36.97' RT
323	1190.94	147,948.15	270,660.41	SW	31+24.43	36.93' RT
324	1191.06	147,958.15	270,660.45	SW	31+24.45	26.93' RT

CURB RAMP LEGEND:

- CS-4 CONCRETE SIDEWALK 4-INCH
- CS-6 CONCRETE SIDEWALK 6-INCH
- LL LEVEL LANDING
- MEF MAXIMUM EXTENT FEASIBLE
- UNT UNPAVED, NON-TRAVERSABLE FLARE
- WF-NP DETECTABLE WARNING FIELD, NATURAL PATINA
- WFR-NP DETECTABLE WARNING FIELD, RADIAL, NATURAL PATINA
- XXXX SAW CUT AND MATCH EXISTING

NB EXIST RAMP MEDIAN ISLAND						
POINT	ELEVATION	NORTHING	EASTING	DESCR.	STATION	OFFSET
400	1190.13	147,948.25	270,717.71	FLAG	31+81.74	36.69' RT
401	1190.31	147,958.24	270,720.13	FLAG	31+84.13	26.70' RT
402	1190.09	147,948.01	270,718.68	FLO	31+82.71	36.93' RT
403	1190.27	147,958.00	270,721.10	FLO	31+85.10	26.93' RT
404	1190.11	147,947.89	270,719.17	BOC	31+83.20	37.04' RT
405	1190.29	147,957.88	270,721.58	BOC	31+85.59	27.05' RT
406	1190.09	147,947.88	270,721.17	DWF	31+85.20	37.05' RT
408	1190.27	147,957.87	270,723.58	DWF	31+87.59	27.05' RT
409	1190.08	147,947.87	270,723.83	SW	31+87.86	37.05' RT
410	1190.25	147,957.86	270,725.91	SW	31+89.91	27.05' RT
411	1190.06	147,947.23	270,725.33	DWF	31+89.35	37.69' RT
412	1190.21	147,956.42	270,729.27	DWF	31+93.27	28.49' RT
413	1190.04	147,946.44	270,727.16	BOC	31+91.19	38.47' RT
414	1190.19	147,955.64	270,731.10	BOC	31+95.11	29.27' RT
415	1190.02	147,946.25	270,727.62	FL	31+91.65	38.67' RT
416	1190.17	147,955.44	270,731.56	FL	31+95.57	29.46' RT
417	1190.06	147,945.85	270,728.54	FLAG	31+92.57	39.06' RT
418	1190.21	147,955.04	270,732.48	FLAG	31+96.49	29.86' RT



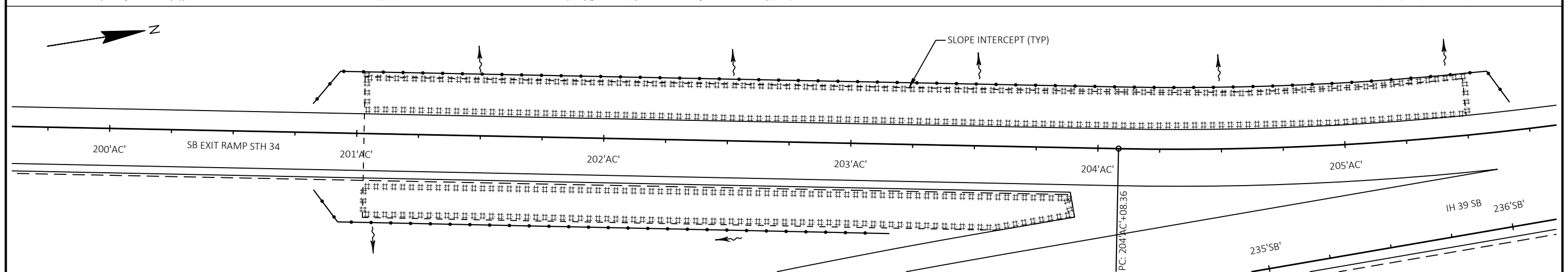
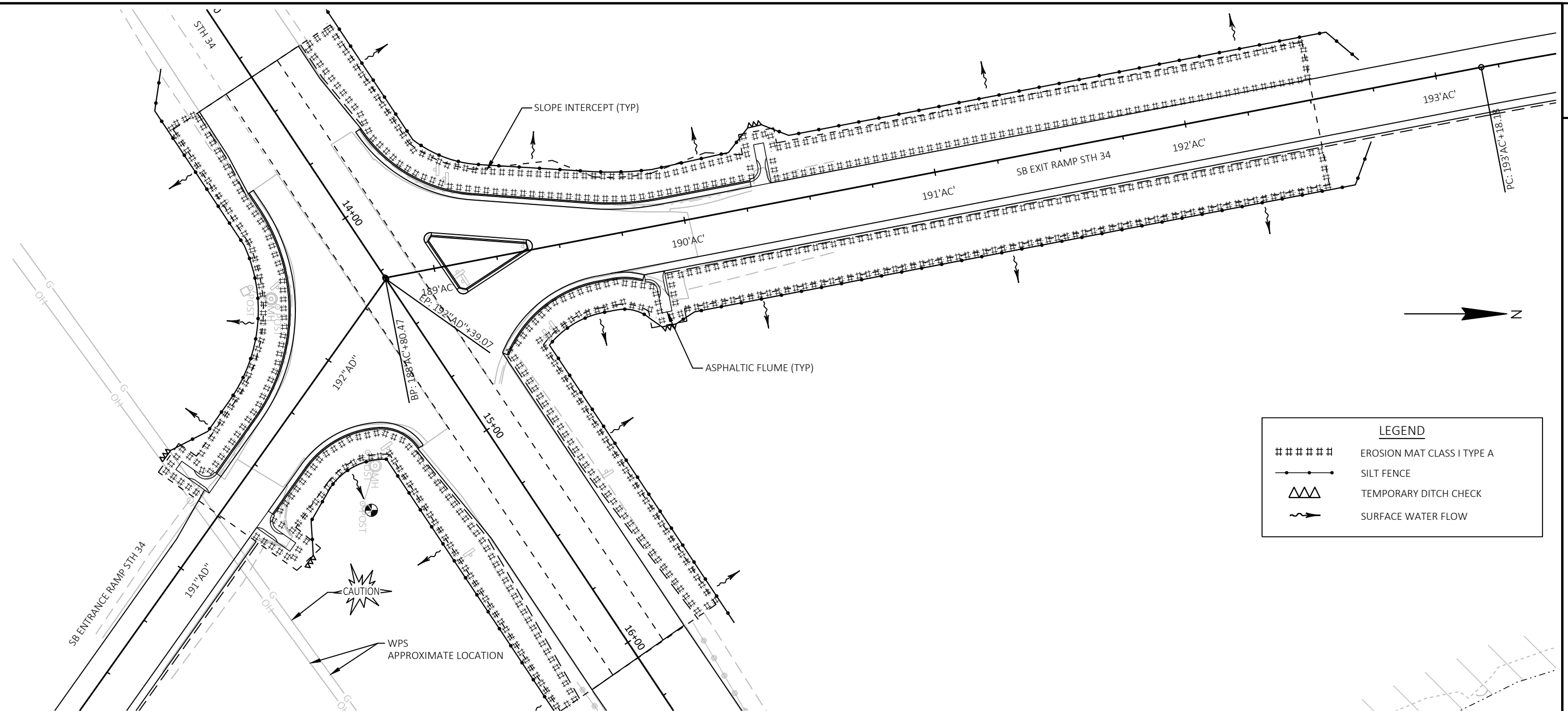
CURB RAMP LEGEND	
CS-4	CONCRETE SIDEWALK 4-INCH
CS-6	CONCRETE SIDEWALK 6-INCH
LL	LEVEL LANDING
MEF	MAXIMUM EXTENT FEASIBLE
UNT	UNPAVED, NON-TRAVERSABLE FLARE
WF-NP	DETECTABLE WARNING FIELD, NATURAL PATINA
WFR-NP	DETECTABLE WARNING FIELD, RADIAL, NATURAL PATINA
XXXX	SAW CUT AND MATCH EXISTING

- NOTES
- CONTRACTOR TO FIELD VERIFY ELEVATIONS, GRADES, SLOPES, LENGTHS, AND MATCH POINTS PRIOR TO CURB AND GUTTER AND SIDEWALK CONSTRUCTION.
 - THE ENGINEER MAY ADJUST ELEVATIONS TO MATCH FIELD CONDITIONS.
 - SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS.

NB EXIT RAMP SE QUADRANT						
POINT	ELEVATION	NORTHING	EASTING	DESCR.	STATION	OFFSET
500	1189.39	147,929.45	270,737.63	FLAG	32+01.71	55.44' RT
501	1189.50	147,939.77	270,744.06	FLAG	32+08.10	45.10' RT
502	1189.52	147,942.33	270,746.21	QTR PT	32+10.25	42.53' RT
503	1189.56	147,947.92	270,751.98	FLAG	32+16.00	36.93' RT
504	1189.59	147,952.31	270,758.03	QTR PT	32+22.04	32.52' RT
505	1189.58	147,958.61	270,772.16	QTR PT	32+36.16	26.19' RT
506	1189.37	147,960.72	270,787.49	FLAG	32+51.49	24.04' RT
507	1189.31	147,928.59	270,739.44	FL	32+03.51	56.30' RT
508	1189.42	147,938.53	270,745.63	FL	32+09.68	46.34' RT
509	1189.48	147,946.38	270,753.26	FL	32+17.29	38.46' RT
510	1189.29	147,958.72	270,787.48	FL	32+51.48	26.04' RT
511	1189.80	147,928.37	270,739.89	BOC	32+03.97	56.51' RT
512	1189.90	147,935.92	270,744.31	BOC	32+08.37	48.95' RT
513	1189.44	147,938.33	270,746.10	BOC	32+10.15	46.54' RT
514	1189.52	147,946.00	270,753.58	BOC	32+17.61	38.85' RT
515	1189.90	147,947.86	270,755.94	BOC	32+19.96	36.98' RT
516	1189.79	147,958.22	270,787.48	BOC	32+51.48	26.54' RT
517	1188.28	147,949.95	270,797.47	TRAIL	32+61.49	34.79' RT
518	1188.13	147,940.49	270,800.70	TRAIL	32+64.75	44.24' RT
519	1187.88	147,952.40	270,808.82	TRAIL	32+72.83	32.30' RT
520	1187.73	147,942.45	270,809.78	TRAIL	32+73.82	42.25' RT
528	1189.47	147,936.81	270,749.64	DWF	32+13.70	48.05' RT
531	1189.39	147,933.69	270,756.92	SW	32+20.98	51.15' RT
532	1189.44	147,942.88	270,760.86	SW	32+24.90	41.95' RT
533	1189.24	147,941.28	270,767.99	SW	32+32.03	43.53' RT
534	1189.09	147,931.28	270,767.61	TRAIL	32+31.68	53.53' RT
535	1189.08	147,942.34	270,775.21	TRAIL	32+39.25	42.45' RT
536	1188.93	147,932.88	270,778.45	TRAIL	32+42.51	51.91' RT

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2



PROJECT NO:	1166-05-85
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HWY: IH 39

COUNTY: MARATHON

EROSION CONTROL - STH 34 SB RAMPS

SHEET

41

11

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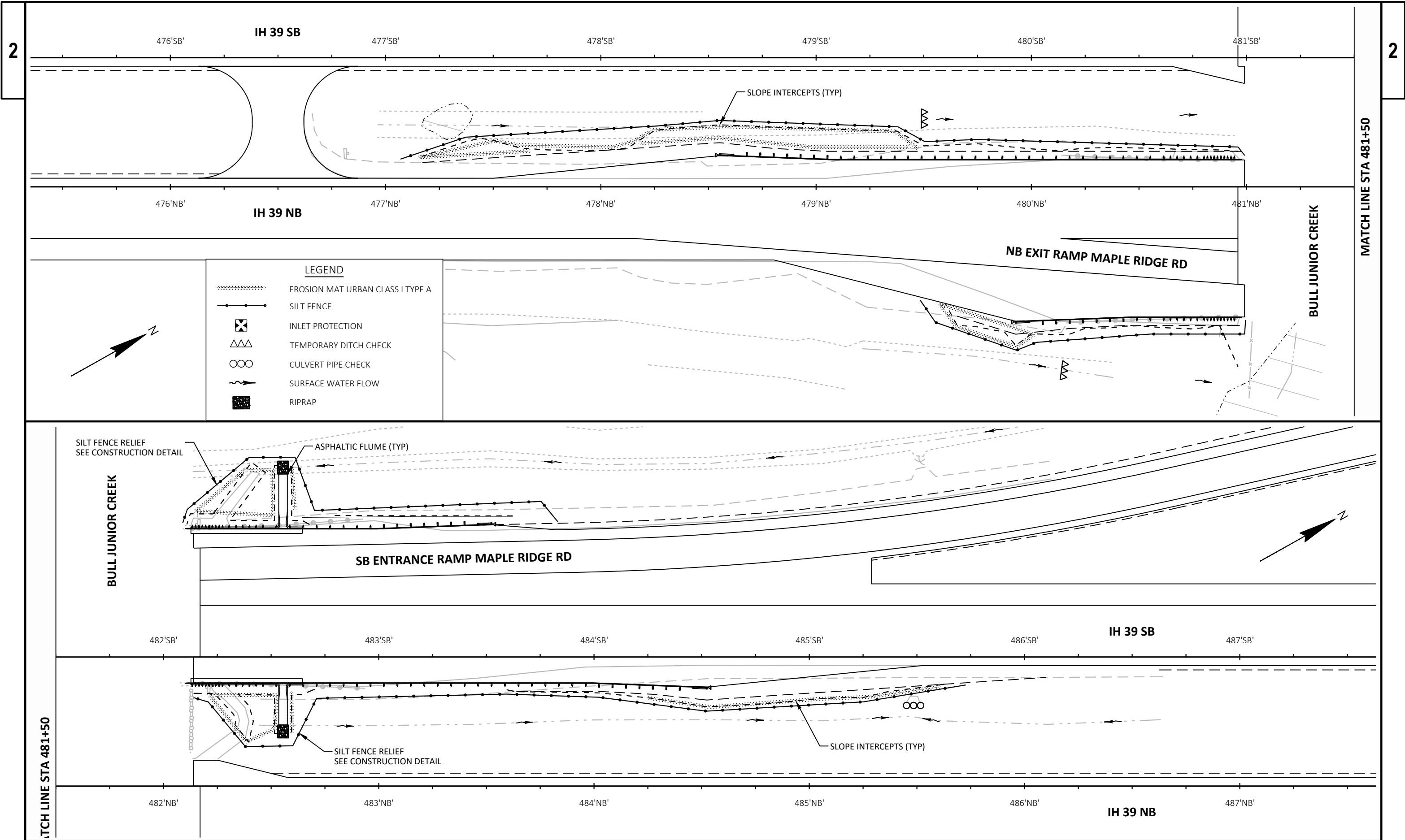
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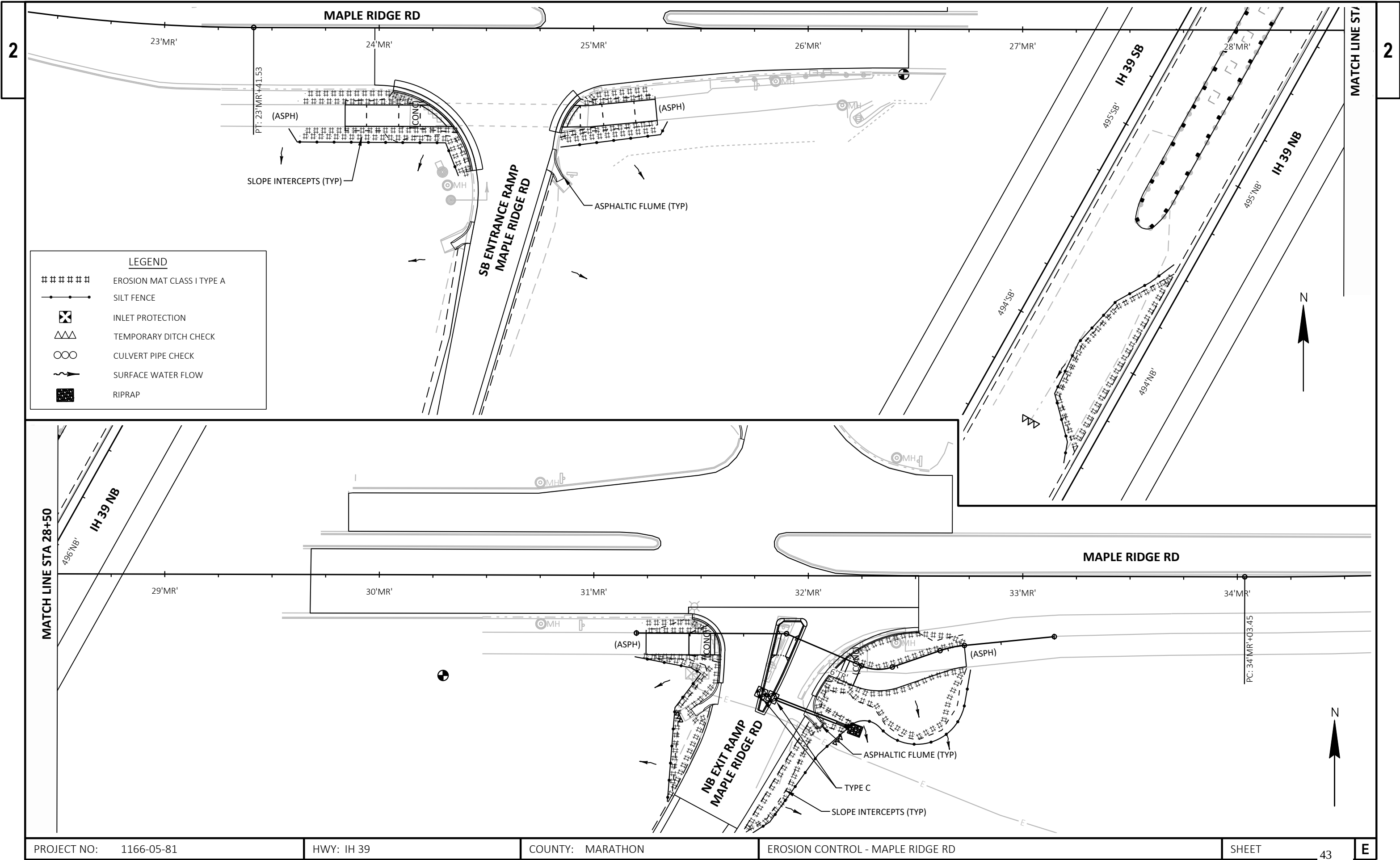
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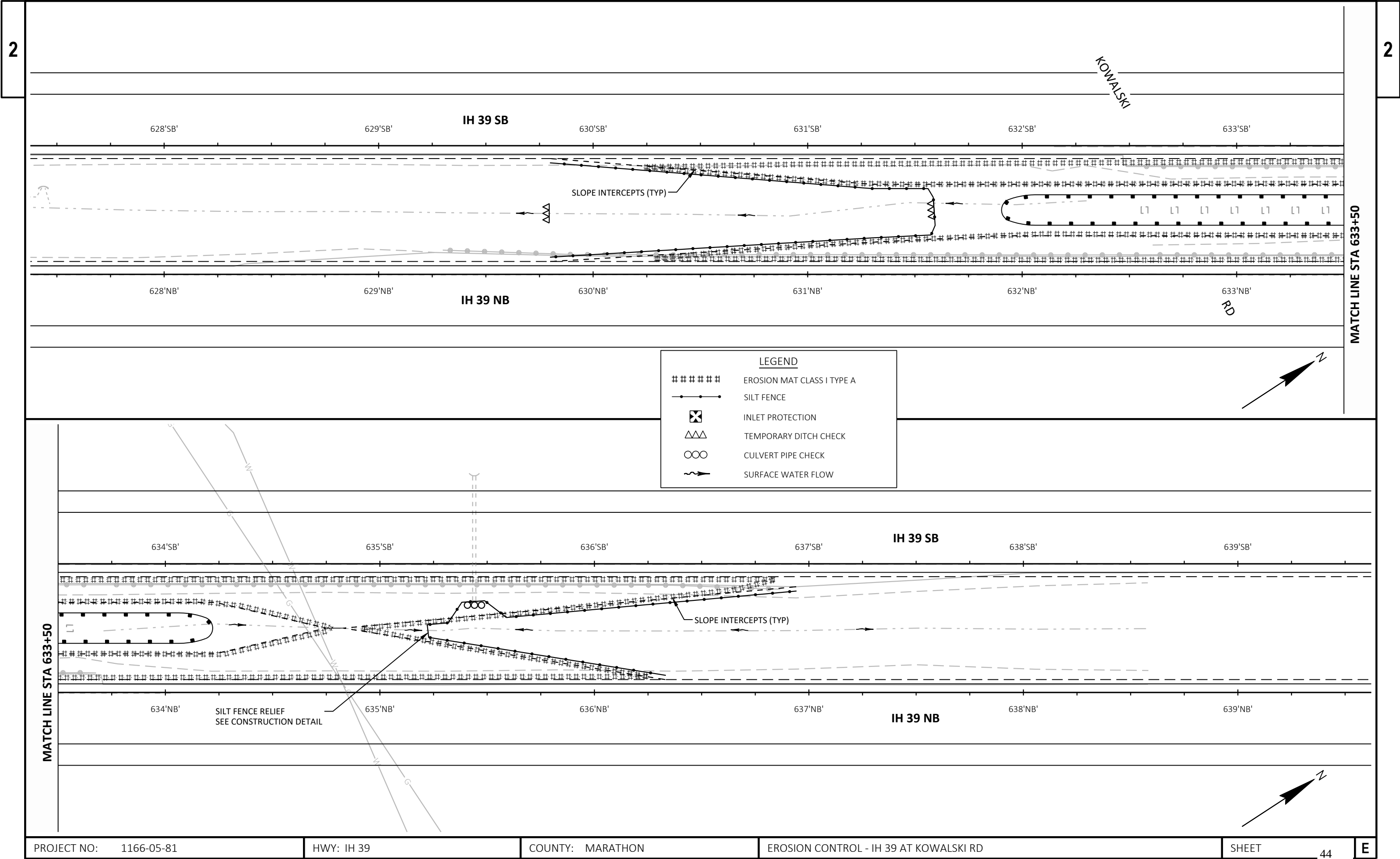
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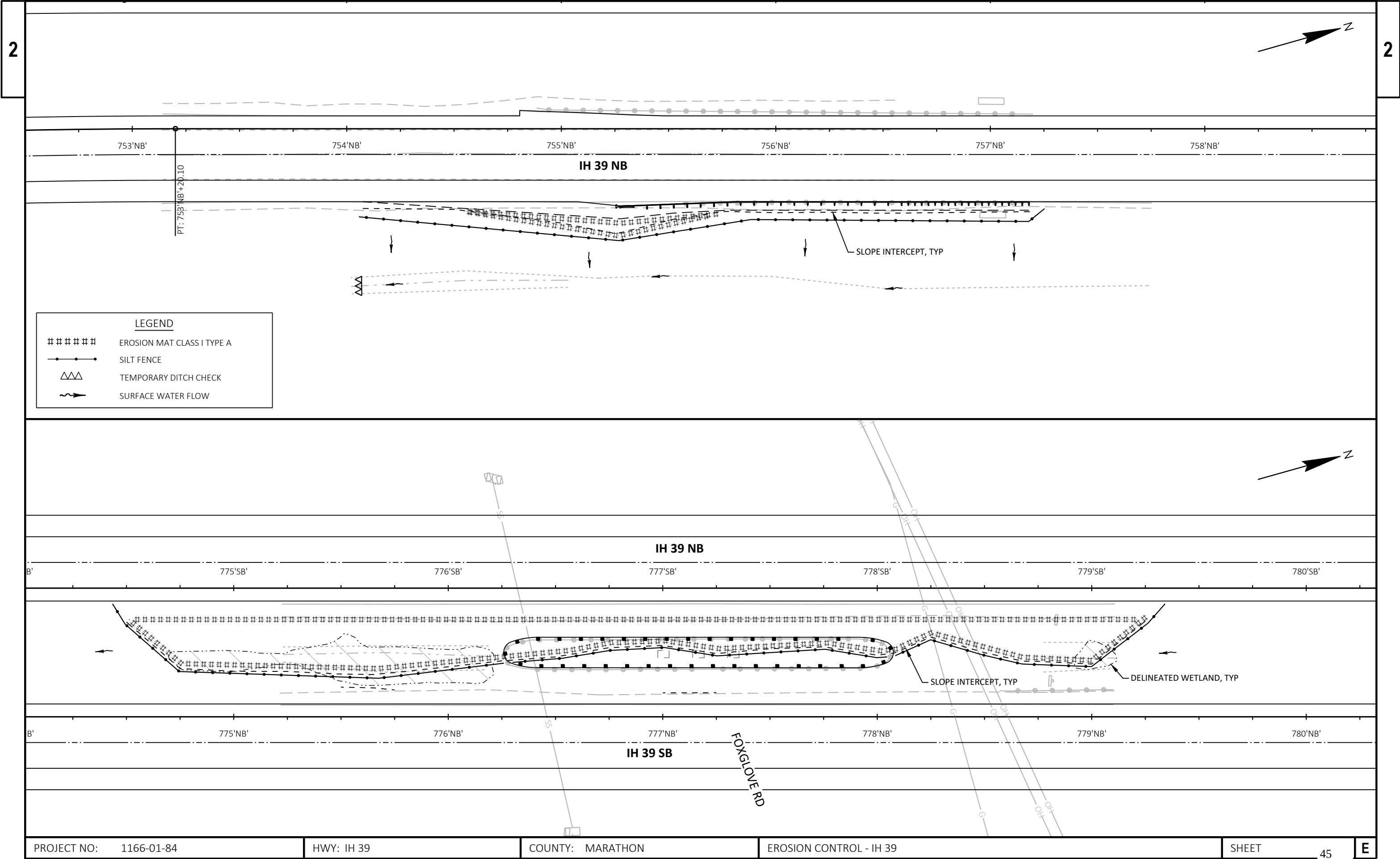
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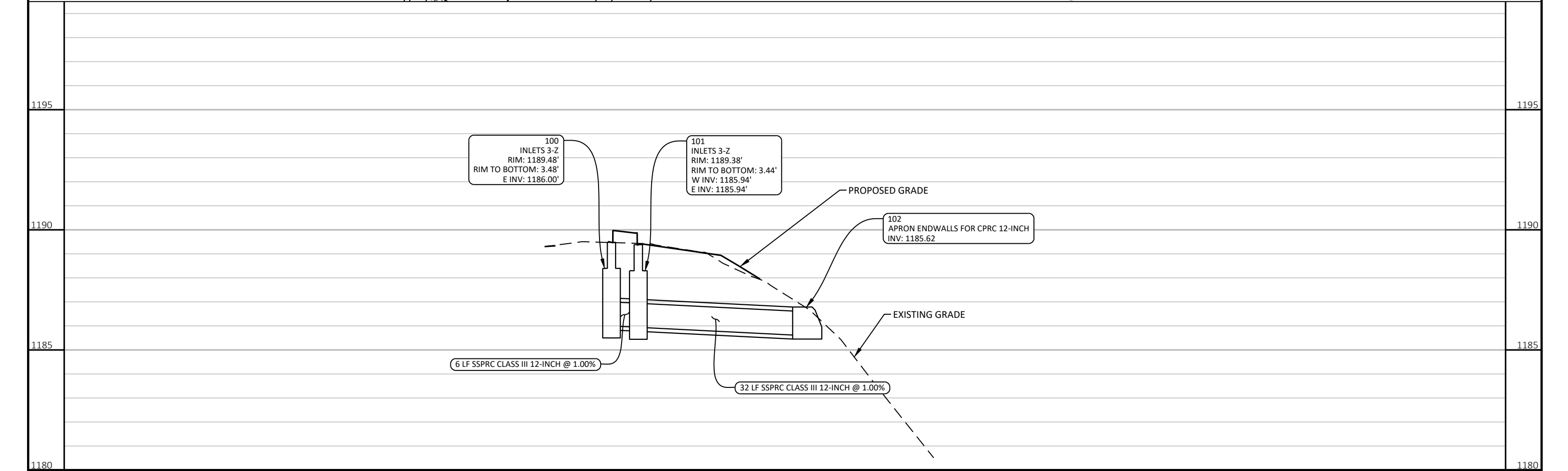
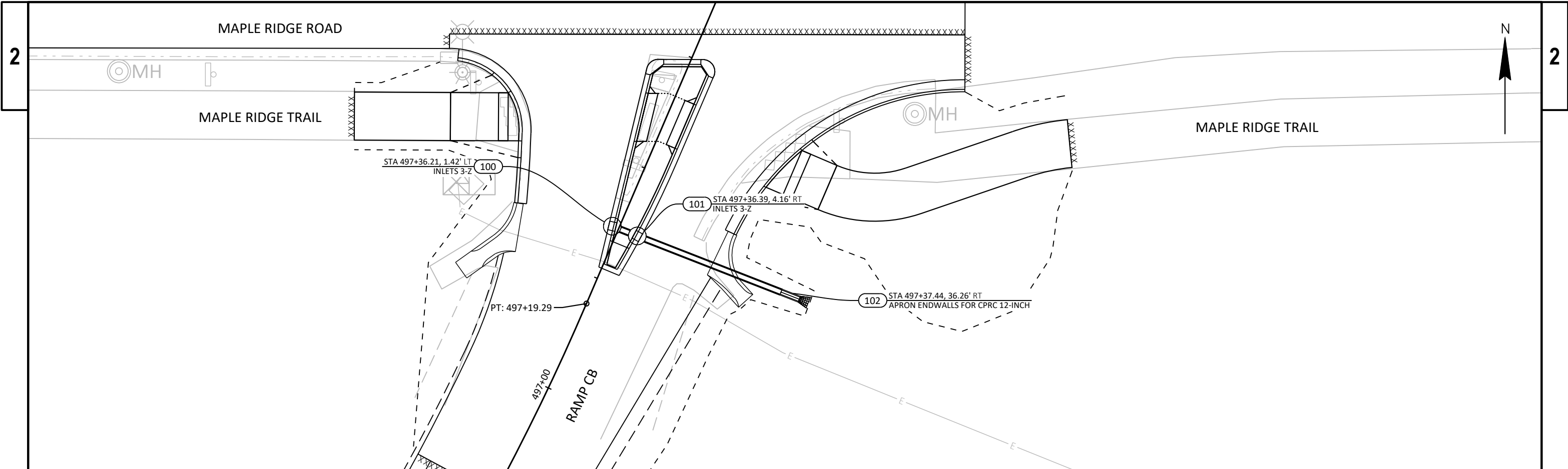
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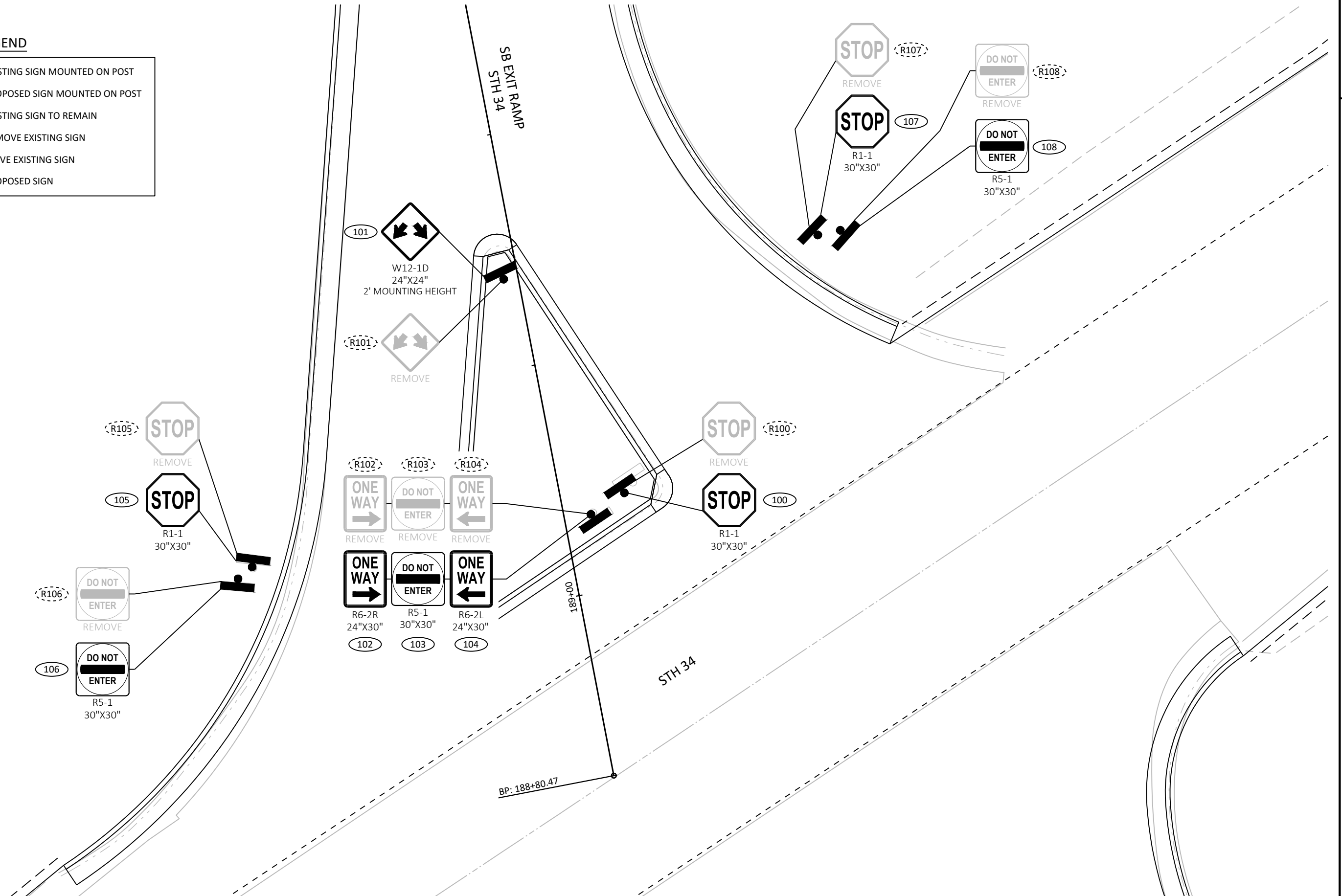


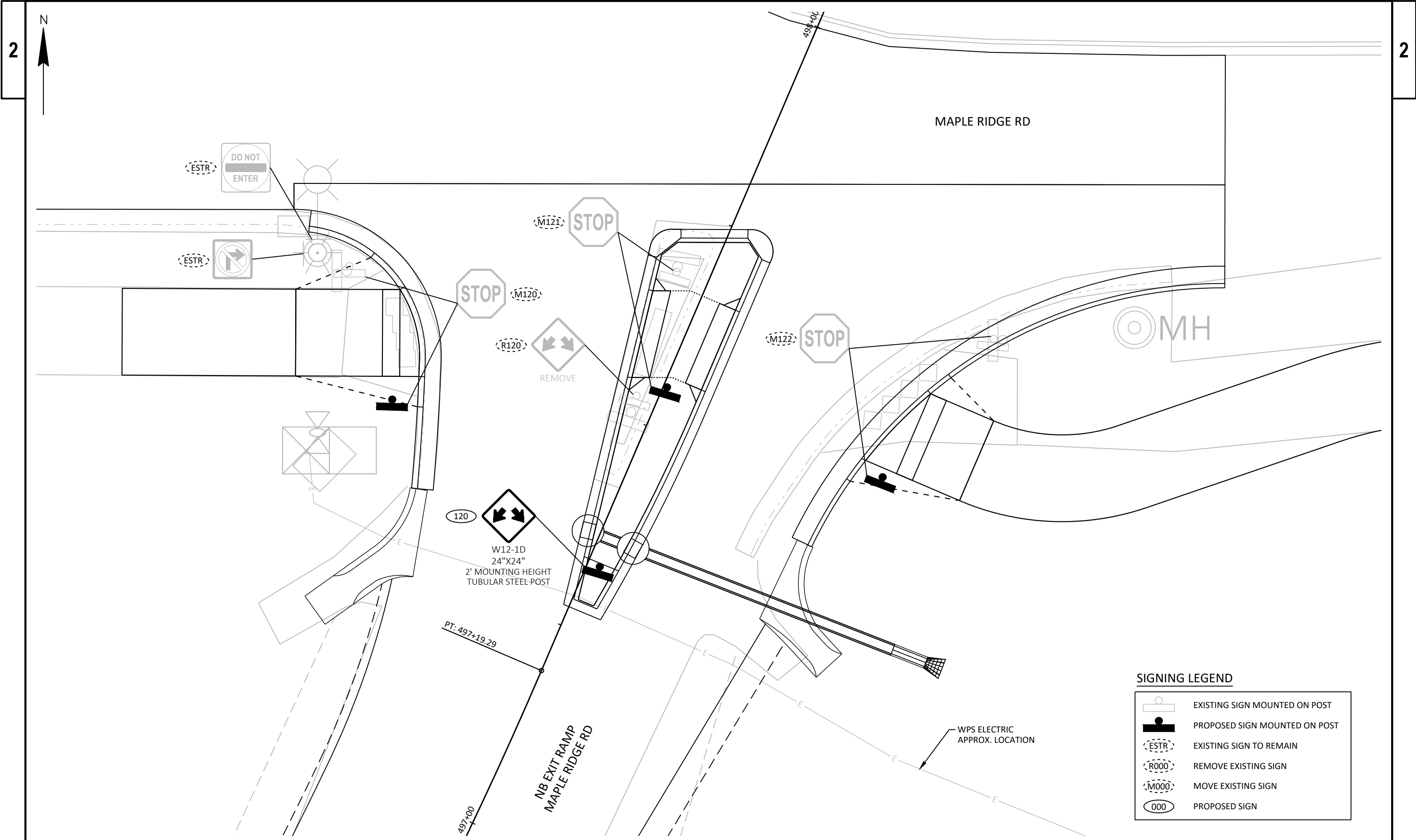


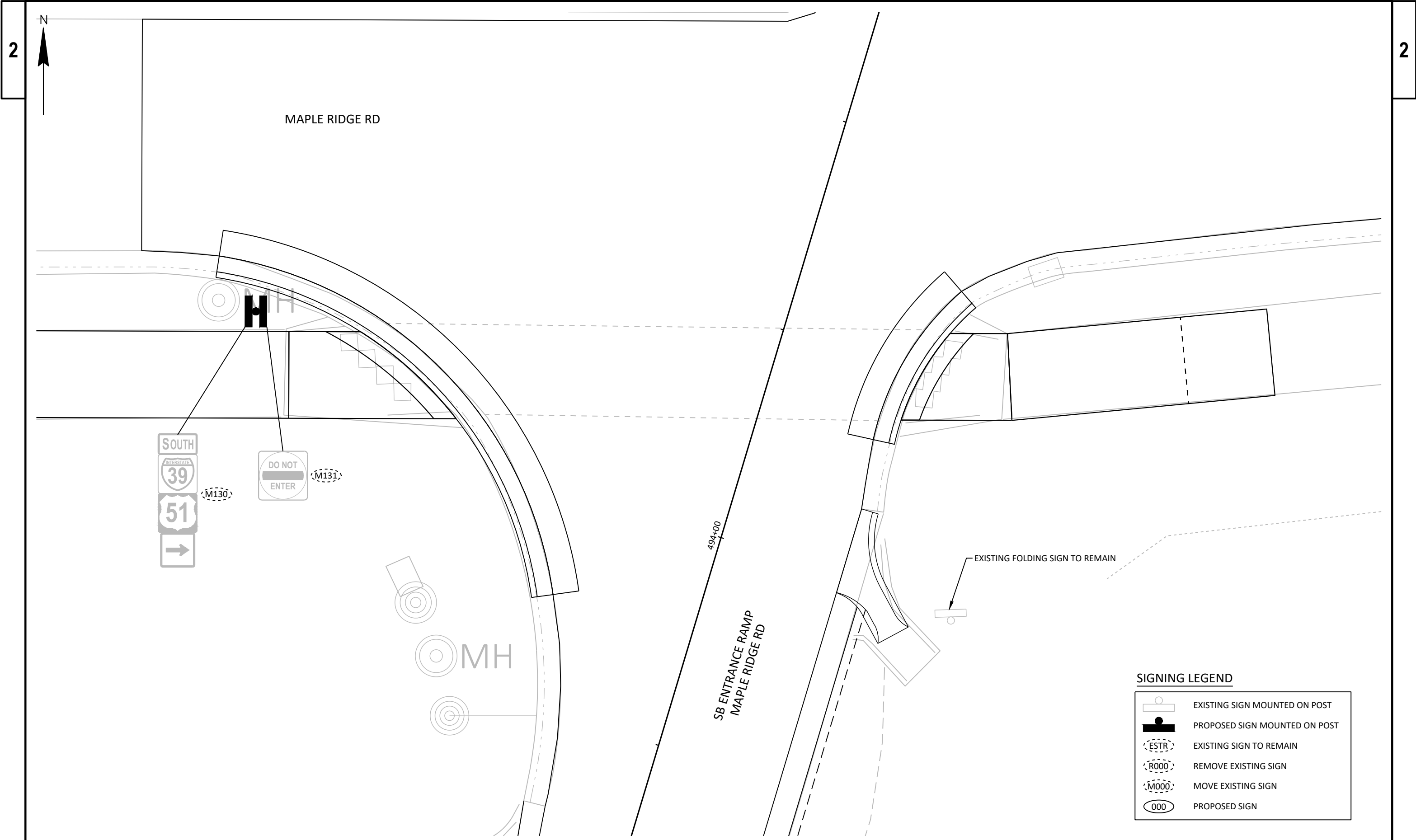


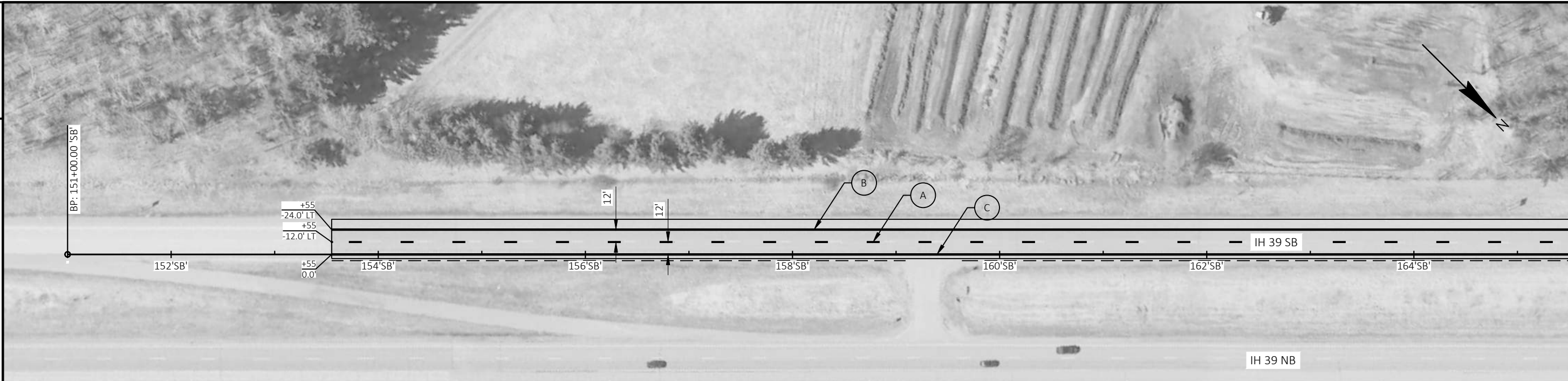


	EXISTING SIGN MOUNTED ON POST
	PROPOSED SIGN MOUNTED ON POST
	EXISTING SIGN TO REMAIN
	REMOVE EXISTING SIGN
	MOVE EXISTING SIGN
	PROPOSED SIGN





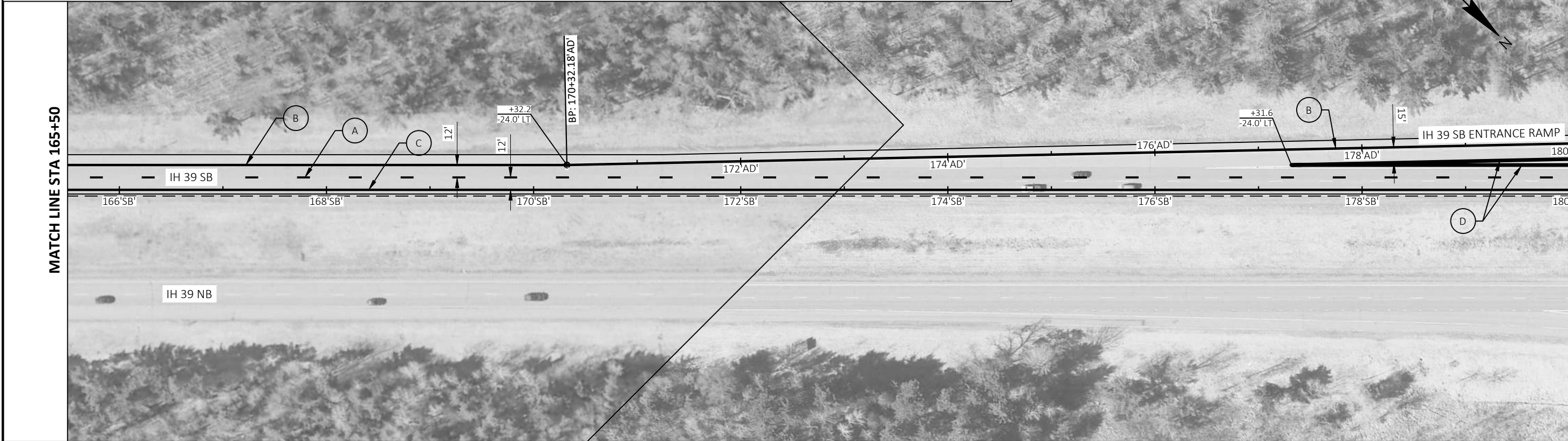




MATCH LINE STA 165+50

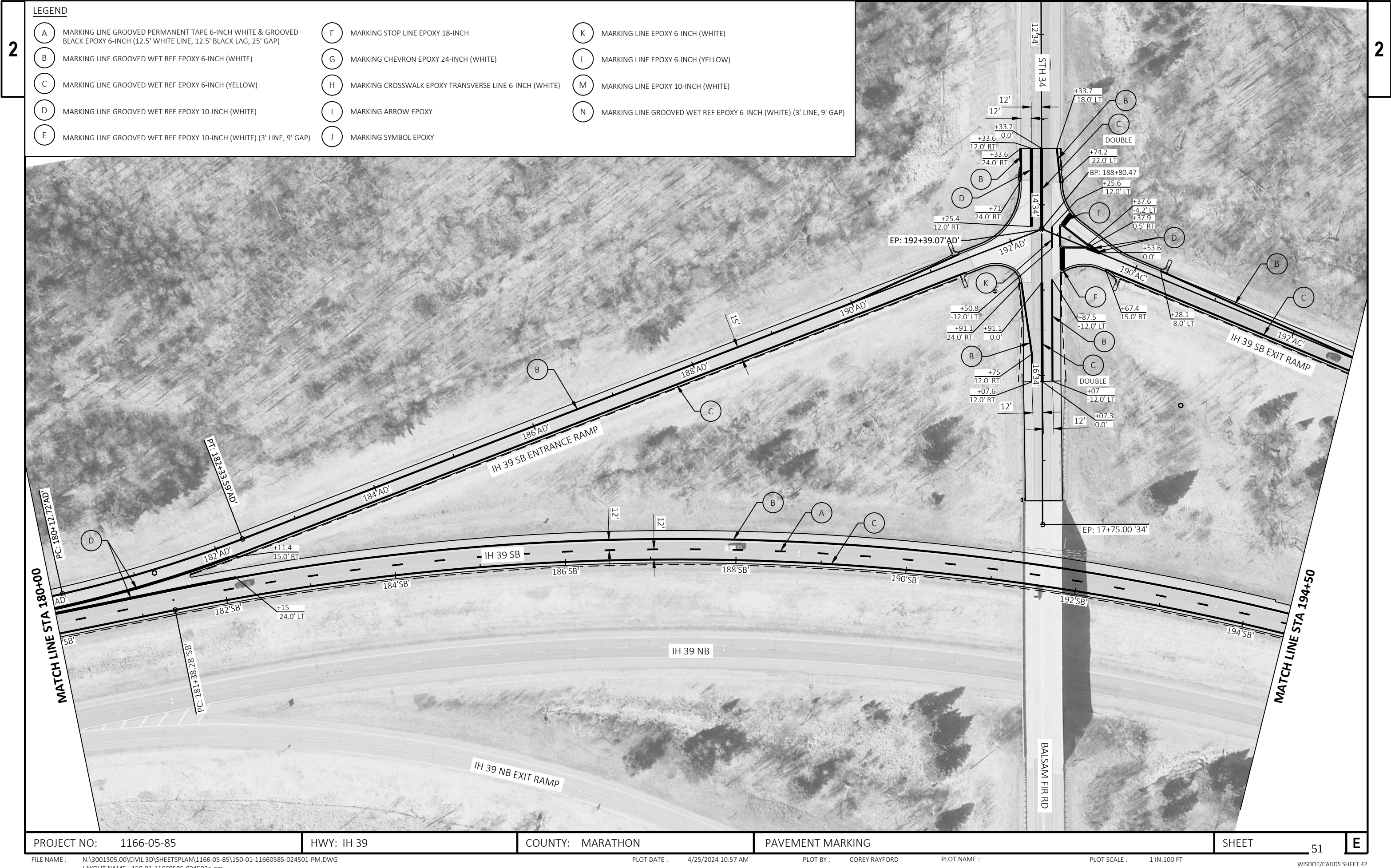
LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



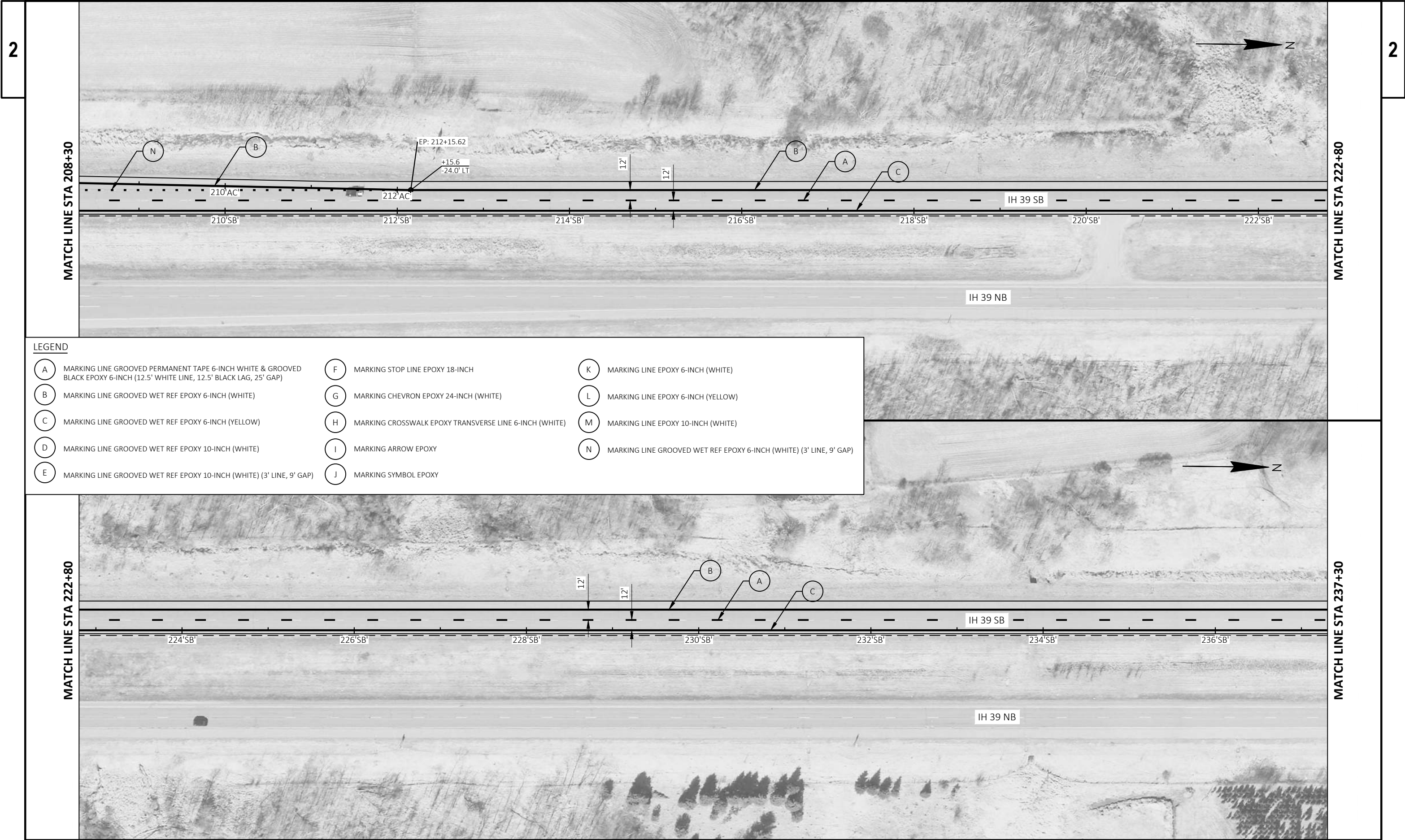
MATCH LINE STA 165+50

MATCH LINE STA 180+00



LEGEND					
A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		





LEGEND					
(A)	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	(F)	MARKING STOP LINE EPOXY 18-INCH	(K)	MARKING LINE EPOXY 6-INCH (WHITE)
(B)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	(G)	MARKING CHEVRON EPOXY 24-INCH (WHITE)	(L)	MARKING LINE EPOXY 6-INCH (YELLOW)
(C)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	(H)	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	(M)	MARKING LINE EPOXY 10-INCH (WHITE)
(D)	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	(I)	MARKING ARROW EPOXY	(N)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
(E)	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	(J)	MARKING SYMBOL EPOXY		



LEGEND

- | | | |
|--|--|---|
| (A) MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP) | (F) MARKING STOP LINE EPOXY 18-INCH | (K) MARKING LINE EPOXY 6-INCH (WHITE) |
| (B) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) | (G) MARKING CHEVRON EPOXY 24-INCH (WHITE) | (L) MARKING LINE EPOXY 6-INCH (YELLOW) |
| (C) MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) | (H) MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) | (M) MARKING LINE EPOXY 10-INCH (WHITE) |
| (D) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) | (I) MARKING ARROW EPOXY | (N) MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP) |
| (E) MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP) | (J) MARKING SYMBOL EPOXY | |



LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



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2 |



- | | | | | | |
|---|--|---|--|---|---|
| A | MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP) | F | MARKING STOP LINE EPOXY 18-INCH | K | MARKING LINE EPOXY 6-INCH (WHITE) |
| B | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) | G | MARKING CHEVRON EPOXY 24-INCH (WHITE) | L | MARKING LINE EPOXY 6-INCH (YELLOW) |
| C | MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) | H | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) | M | MARKING LINE EPOXY 10-INCH (WHITE) |
| D | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) | I | MARKING ARROW EPOXY | N | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP) |
| E | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP) | J | MARKING SYMBOL EPOXY | | |

PROJECT NO:	1166-05-85
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HWY: IH 39

COUNTY: MARATHON

PAVEMENT MARKING

SHEET

59

11

FILE NAME : N:\3001305.00\CIVIL 3D\SHEETSP\1166-05-85\150-01-11660585-024501-PM.DWG
LAYOUT NAME - 150-01-11660585-024509a-pm

PLOT DATE : 2/29/2024 11:41 AM

PLOT BY : BRANDI SWANSON

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

LEGEND

- | | | | | | |
|-----|--|-----|--|-----|---|
| (A) | MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP) | (F) | MARKING STOP LINE EPOXY 18-INCH | (K) | MARKING LINE EPOXY 6-INCH (WHITE) |
| (B) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) | (G) | MARKING CHEVRON EPOXY 24-INCH (WHITE) | (L) | MARKING LINE EPOXY 6-INCH (YELLOW) |
| (C) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) | (H) | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) | (M) | MARKING LINE EPOXY 10-INCH (WHITE) |
| (D) | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) | (I) | MARKING ARROW EPOXY | (N) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP) |
| (E) | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP) | (J) | MARKING SYMBOL EPOXY | | |





LEGEND

- | | | | | | |
|-----|--|-----|--|-----|---|
| (A) | MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP) | (F) | MARKING STOP LINE EPOXY 18-INCH | (K) | MARKING LINE EPOXY 6-INCH (WHITE) |
| (B) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) | (G) | MARKING CHEVRON EPOXY 24-INCH (WHITE) | (L) | MARKING LINE EPOXY 6-INCH (YELLOW) |
| (C) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) | (H) | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) | (M) | MARKING LINE EPOXY 10-INCH (WHITE) |
| (D) | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) | (I) | MARKING ARROW EPOXY | (N) | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP) |
| (E) | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP) | (J) | MARKING SYMBOL EPOXY | | |

MATCH LINE STA 440+18





LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		

MATCH LINE STA 479+00

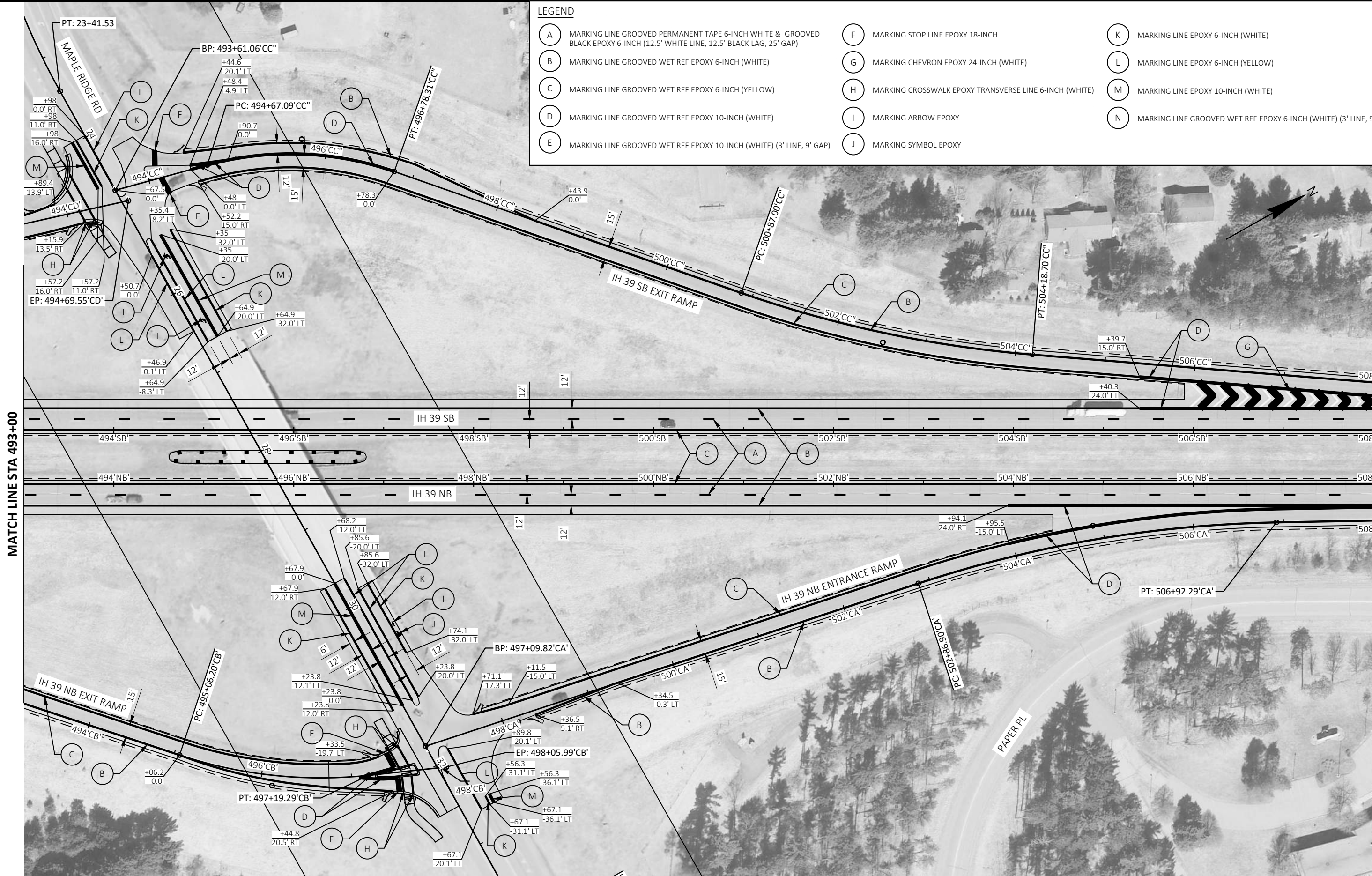
MATCH LINE STA 493+00



LEGEND					
(A)	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	(F)	MARKING STOP LINE EPOXY 18-INCH	(K)	MARKING LINE EPOXY 6-INCH (WHITE)
(B)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	(G)	MARKING CHEVRON EPOXY 24-INCH (WHITE)	(L)	MARKING LINE EPOXY 6-INCH (YELLOW)
(C)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	(H)	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	(M)	MARKING LINE EPOXY 10-INCH (WHITE)
(D)	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	(I)	MARKING ARROW EPOXY	(N)	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
(E)	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	(J)	MARKING SYMBOL EPOXY		

LEGEND

- | | | | | | |
|---|--|---|--|---|---|
| A | MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP) | F | MARKING STOP LINE EPOXY 18-INCH | K | MARKING LINE EPOXY 6-INCH (WHITE) |
| B | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) | G | MARKING CHEVRON EPOXY 24-INCH (WHITE) | L | MARKING LINE EPOXY 6-INCH (YELLOW) |
| C | MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW) | H | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) | M | MARKING LINE EPOXY 10-INCH (WHITE) |
| D | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) | I | MARKING ARROW EPOXY | N | MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP) |
| E | MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP) | J | MARKING SYMBOL EPOXY | | |



PROJECT NO: 1166-05-81

HWY: IH 39

COUNTY: MARATHON

PAVEMENT MARKING

SHEET

65

E

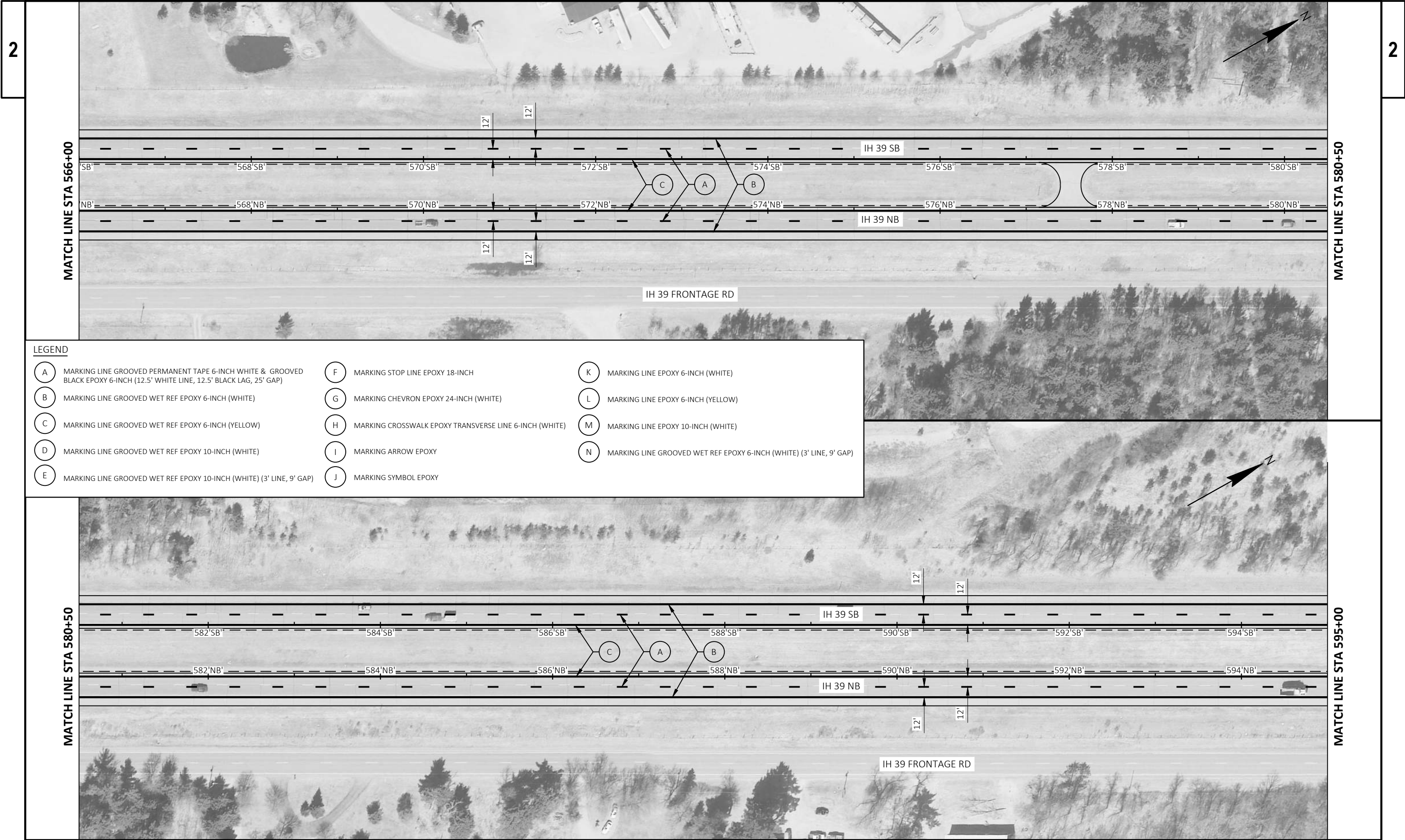


LEGEND					
A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		

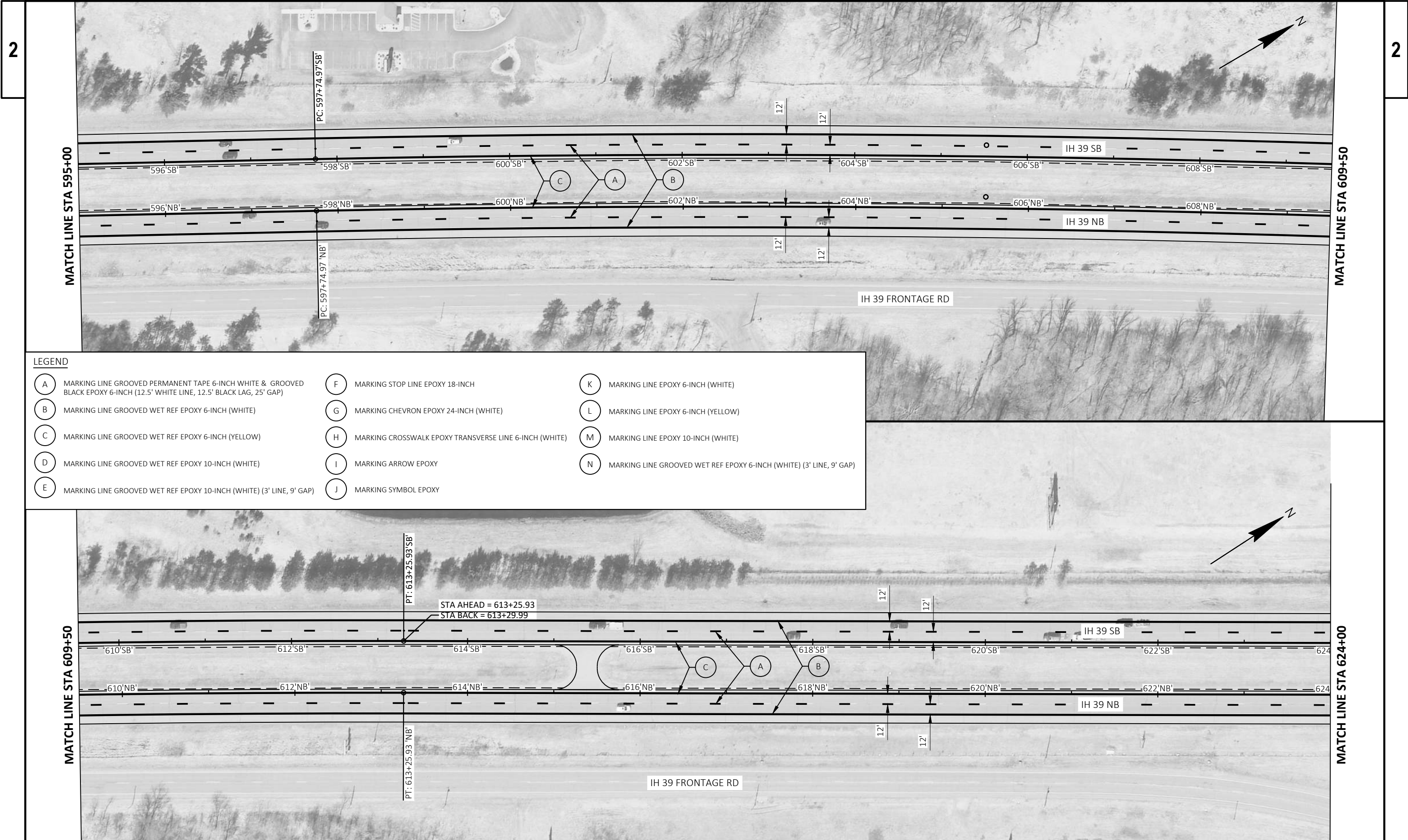


LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		

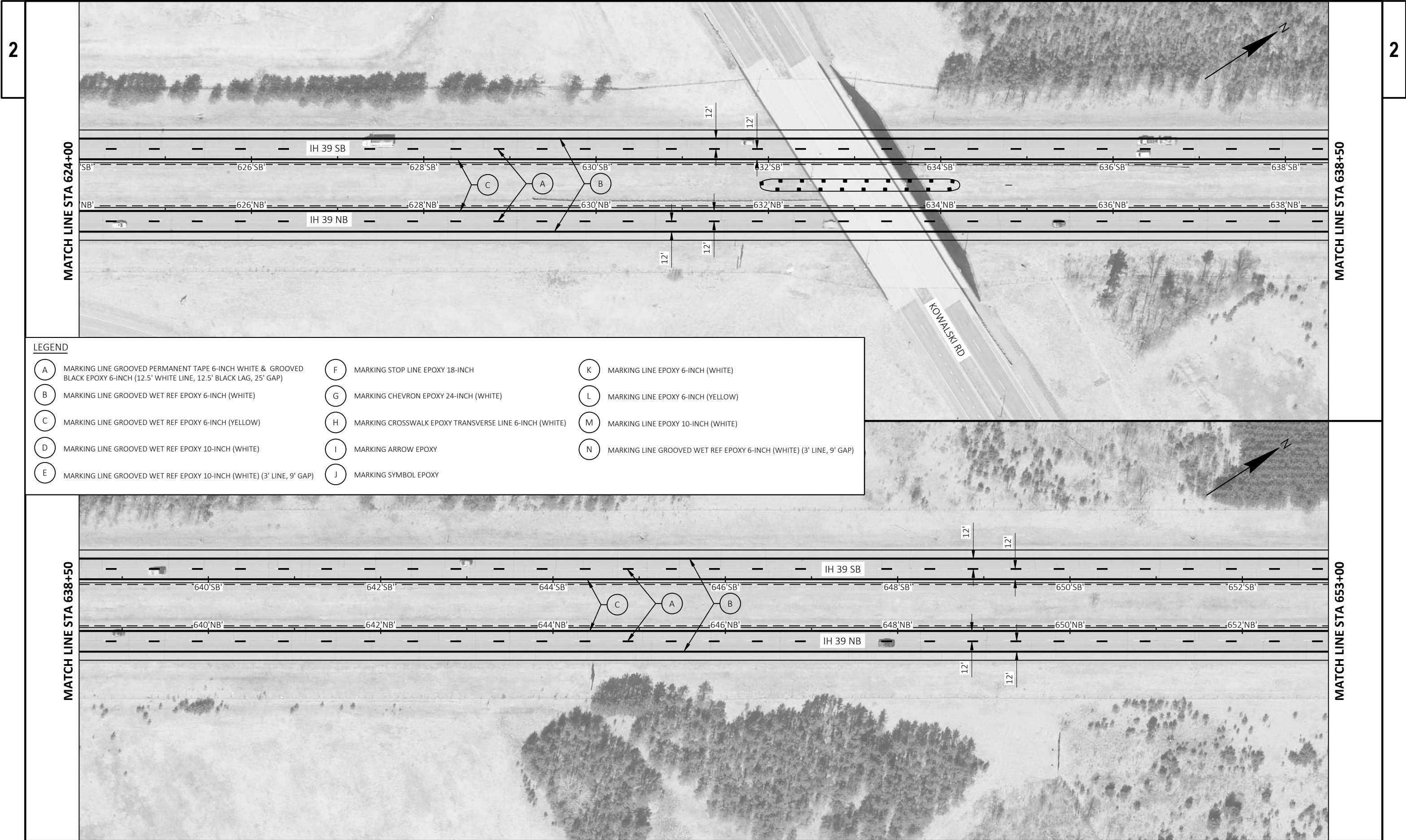


LEGEND					
A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



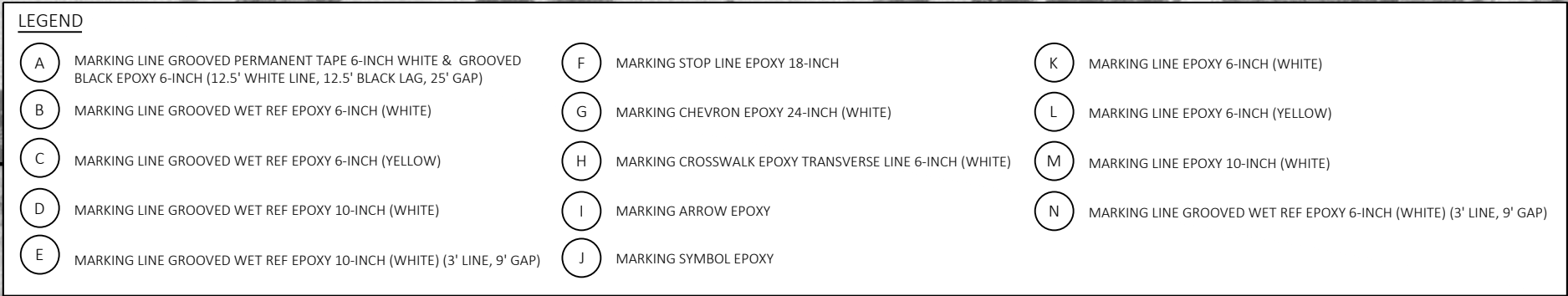
LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



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PROJECT NO:	1166-05-81	HWY: IH 39	COUNTY: MARATHON	PAVEMENT MARKING	SHEET	71	E
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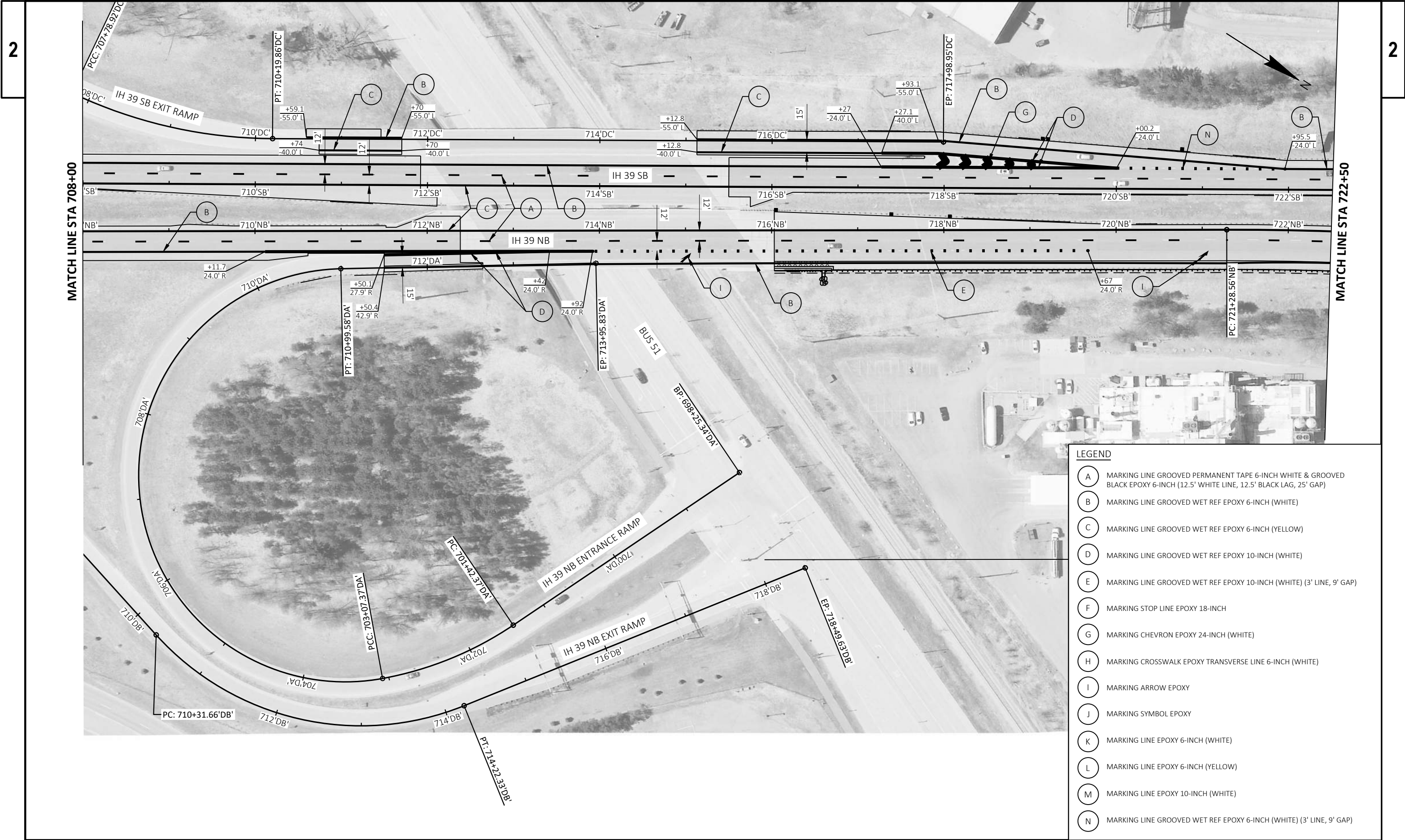
WISDOT/CADDS SHEET 44





LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		

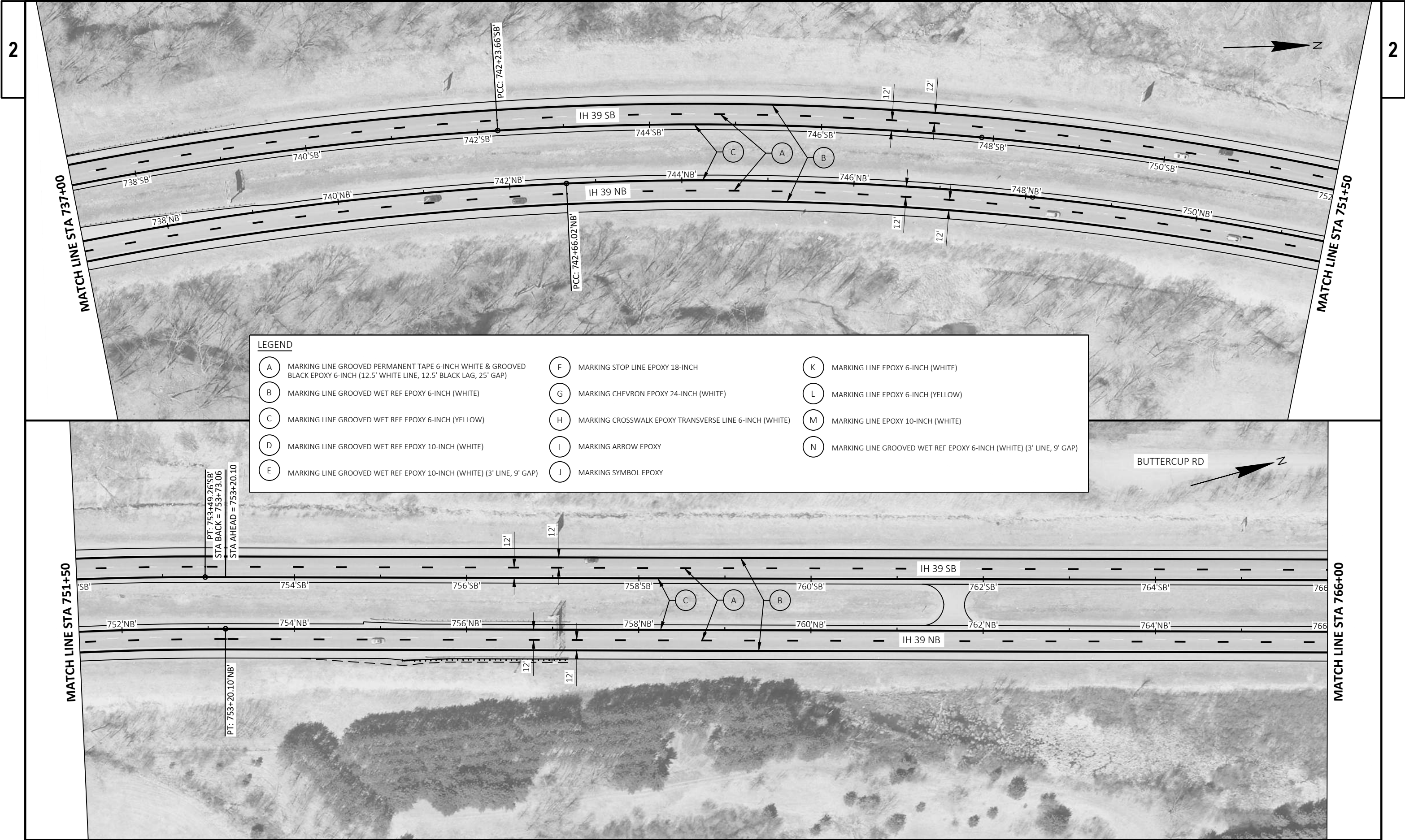


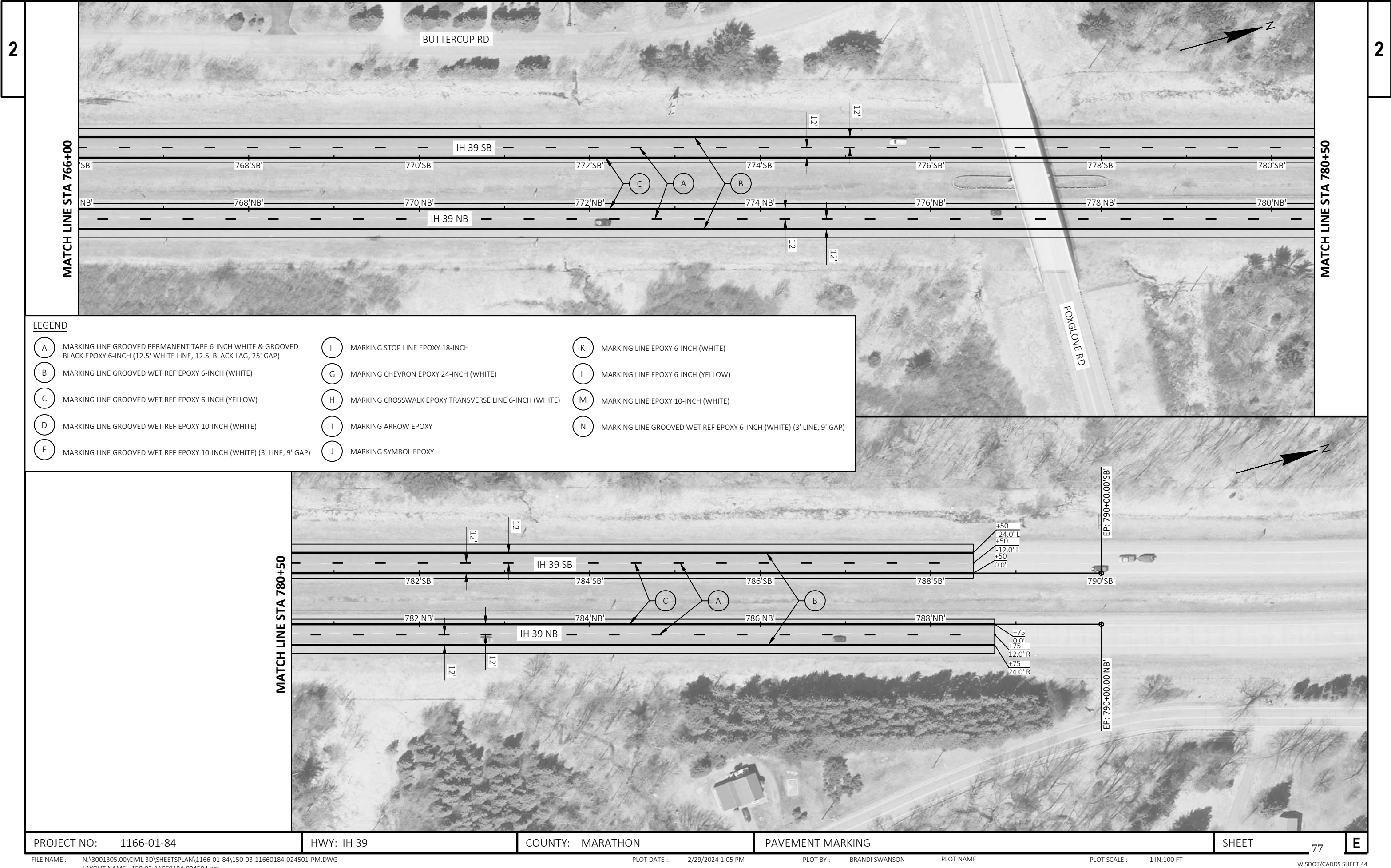
LEGEND	
A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)
F	MARKING STOP LINE EPOXY 18-INCH
G	MARKING CHEVRON EPOXY 24-INCH (WHITE)
H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)
I	MARKING ARROW EPOXY
J	MARKING SYMBOL EPOXY
K	MARKING LINE EPOXY 6-INCH (WHITE)
L	MARKING LINE EPOXY 6-INCH (YELLOW)
M	MARKING LINE EPOXY 10-INCH (WHITE)
N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)



LEGEND

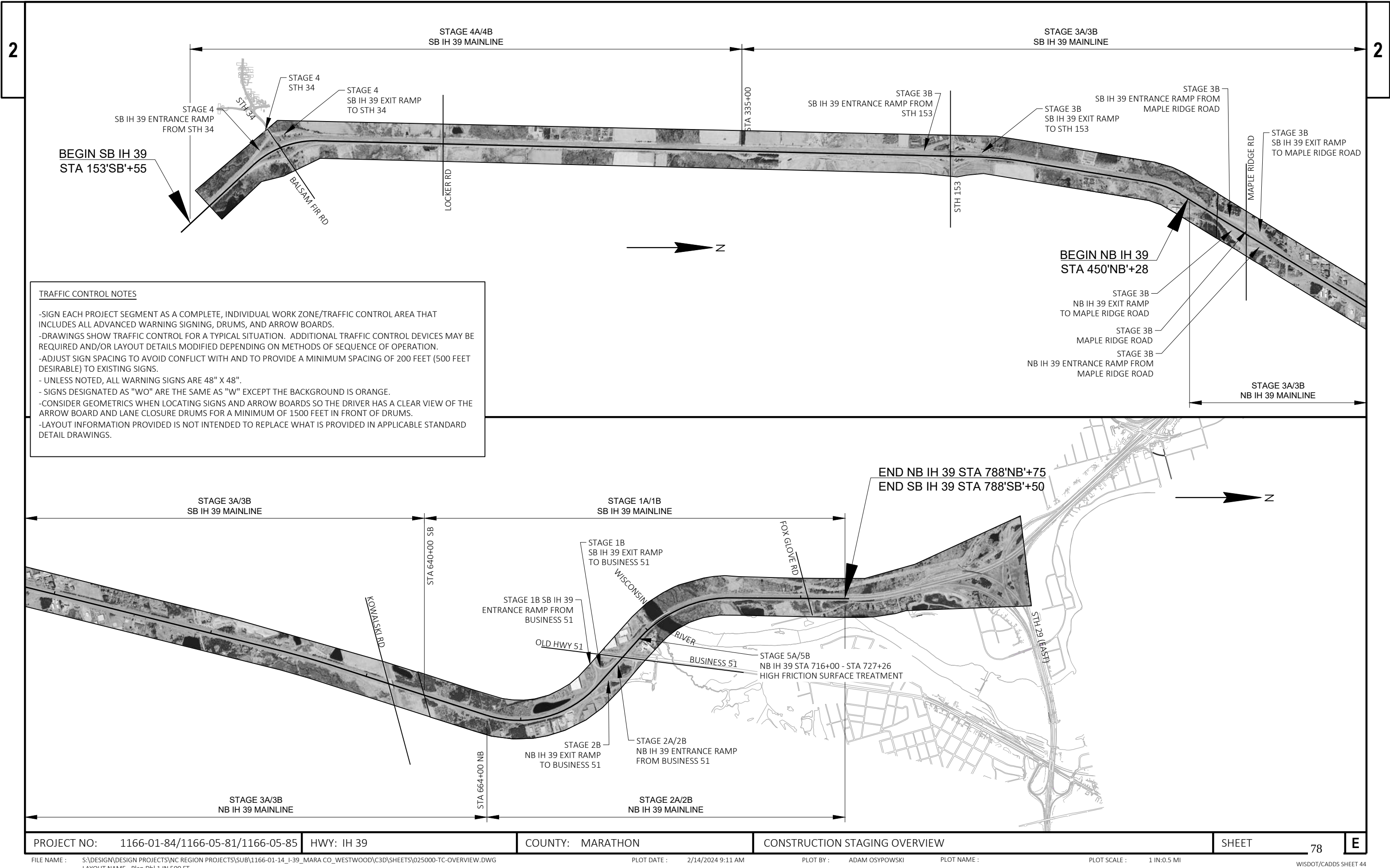
A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		





LEGEND

A	MARKING LINE GROOVED PERMANENT TAPE 6-INCH WHITE & GROOVED BLACK EPOXY 6-INCH (12.5' WHITE LINE, 12.5' BLACK LAG, 25' GAP)	F	MARKING STOP LINE EPOXY 18-INCH	K	MARKING LINE EPOXY 6-INCH (WHITE)
B	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE)	G	MARKING CHEVRON EPOXY 24-INCH (WHITE)	L	MARKING LINE EPOXY 6-INCH (YELLOW)
C	MARKING LINE GROOVED WET REF EPOXY 6-INCH (YELLOW)	H	MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	M	MARKING LINE EPOXY 10-INCH (WHITE)
D	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	I	MARKING ARROW EPOXY	N	MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (3' LINE, 9' GAP)
E	MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE) (3' LINE, 9' GAP)	J	MARKING SYMBOL EPOXY		



TRAFFIC CONTROL NOTES

- SIGN EACH PROJECT SEGMENT AS A COMPLETE, INDIVIDUAL WORK ZONE/TRAFFIC CONTROL AREA THAT INCLUDES ALL ADVANCED WARNING SIGNING, DRUMS, AND ARROW BOARDS.
- DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON METHODS OF SEQUENCE OF OPERATION.
- ADJUST SIGN SPACING TO AVOID CONFLICT WITH AND TO PROVIDE A MINIMUM SPACING OF 200 FEET (500 FEET DESIRABLE) TO EXISTING SIGNS.
- UNLESS NOTED, ALL WARNING SIGNS ARE 48" X 48".
- SIGNS DESIGNATED AS "WO" ARE THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM OF 1500 FEET IN FRONT OF DRUMS.
- LAYOUT INFORMATION PROVIDED IS NOT INTENDED TO REPLACE WHAT IS PROVIDED IN APPLICABLE STANDARD DETAIL DRAWINGS.

DMS

EXISTING TRAFFIC OPERATIONS CENTER DYNAMIC MESSAGE SIGN (DIRECTION)

MB XX

PCMS SITE LOCATIONS

SITE	APPROXIMATE LOCATION
N1	NB IH 39 NEAR KOWALSKI RD - PROJECT START (STAGE 2A)
N2	NB IH 39 1000' SOUTH OF MAPLE RIDGE ROAD EXIT - PROJECT START (STAGE 3A)
S1	SB IH 39 BETWEEN ENTRANCE RAMP FROM STH 29 AND FOX GLOVE ROAD PROJECT START (STAGE 1A)
B1	SB IH 39 APPROX 500' PRIOR TO EXIT RAMP TO BUSINESS 51
B2	SB IH 39 BETWEEN RAMPS IN CTH N INTERCHANGE - BUS 51 EXIT RAMP CLOSURE ALT ROUTE
B3	SB IH 39 ENTRANCE RAMP FROM BUSINESS 51
B4	NB IH 39 ENTRANCE RAMP FROM BUSINESS 51
B5	NB IH 39 APPROX 500' PRIOR TO EXIT RAMP TO BUSINESS 51
M1	SB IH 39 APPROX 500' PRIOR TO EXIT RAMP TO MAPLE RIDGE ROAD
M2	SB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD
M3	NB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD
M4	SB IH 39 APPROX 400' PRIOR TO EXIT RAMP TO MAPLE RIDGE ROAD
M5	MAPLE RIDGE ROAD EAST OF OLD HWY 51
M6	MAPLE RIDGE ROAD WEST OF KRONENWETTER RD
R1	SB IH 39 APPROX 500' PRIOR TO EXIT RAMP TO STH 153
R2	SB IH 39 ENTRANCE RAMP FROM STH 153
D1	SB IH 39 APPROX 500' PRIOR TO EXIT RAMP TO STH 34
D2	NB STH 34 BETWEEN CTH DB AND IH 39
D3	SB STH 34 BETWEEN NB IH 39 ENTRANCE RAMP AND OVERPASS

*ADDITIONAL PCMS NEEDED WITH "STRADDLE RUMBLE STRIPS" MESSAGE NEAR WORK AREAS DURING STAGES 1A, 2A, 3A, AND 4A

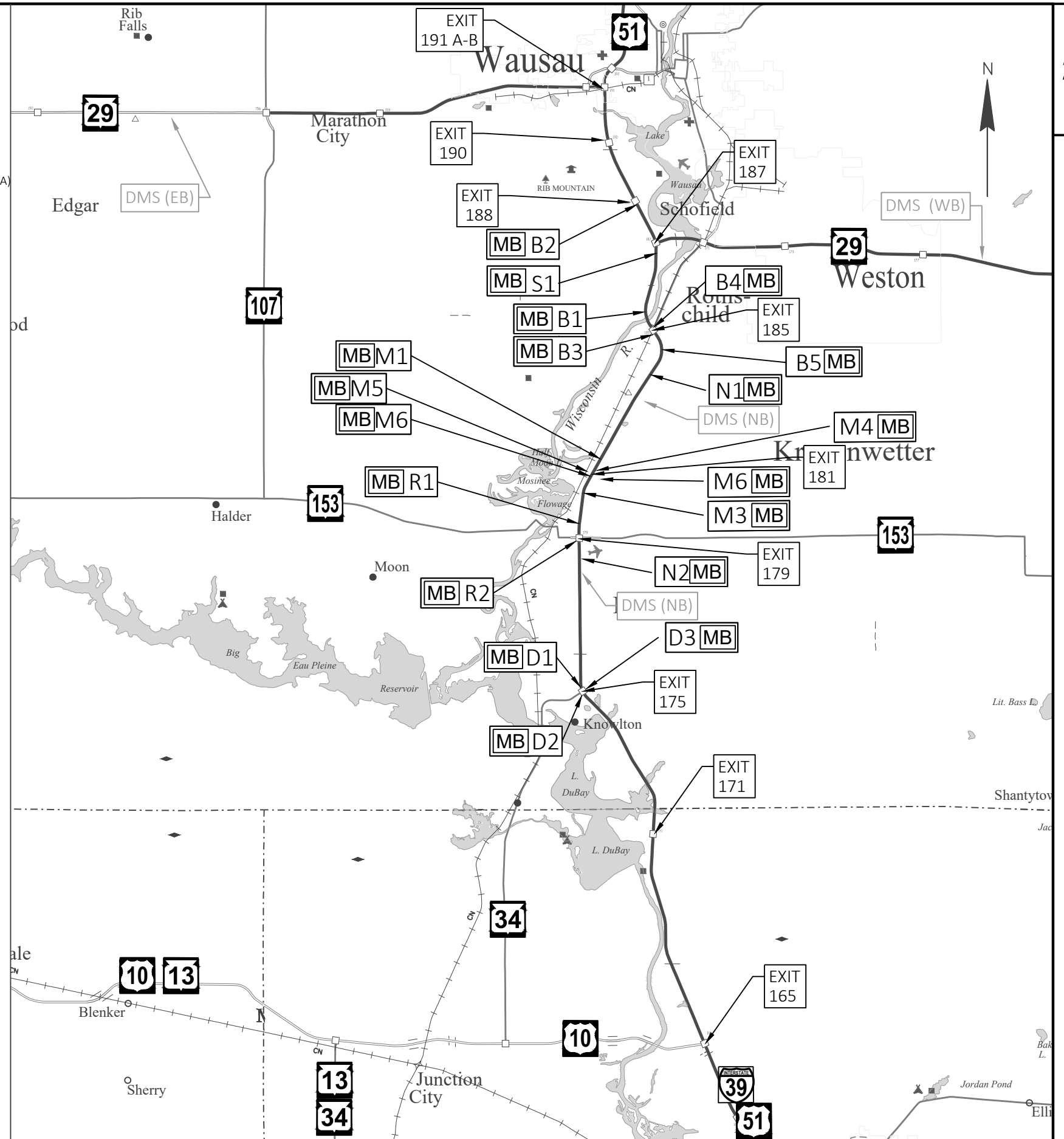
GENERAL NOTES FOR CHANGEABLE MESSAGE BOARDS

PCMS=PORTABLE CHANGEABLE MESSAGE SIGN

CONSIDER CLEAR ROADWAY GEOMETRICS WHEN LOCATING MESSAGE SIGNS. PLACE THE SIGNS SO THE DRIVER HAS A CLEAR VIEW OF THE MESSAGE FOR A MINIMUM OF 1500 FEET.

MESSAGE SIGNS SHOULD BE PLACED AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF INTERSTATE CONSTRUCTION PROJECTS, THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ROADWAY.

FOR INTERMITTENT WORK SUCH AS A FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF FIVE (5) REFLECTORIZED DRUMS OR SHALL BE PLACED AHEAD OF A PCMS THAT IS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.



PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - PCMS LOCATIONS

SHEET

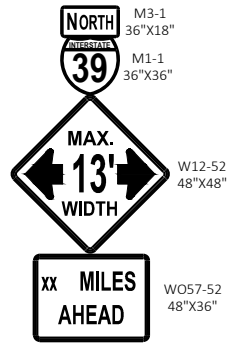
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E

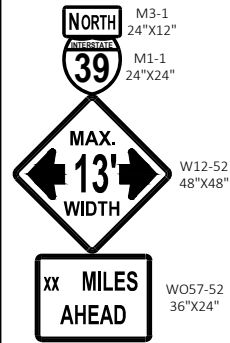
INSTALL STAGE	SITE NO.	ROADWAY CONDITION/ CONSTRUCTION	7 DAYS PRIOR TO WORK/CLOSURE		DURING WORK/CLOSURE	
			PHASE 1 (3 SEC)	PHASE 2 (3 SEC)	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)
1A	SITE S1	SOUTHBOUND IH 39 PROJECT PREWARN	ROAD WORK BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
1A	MISC	ADJACENT TO MILLING AND PAVING OPERATIONS	NO MESSAGE BOARD USED		LANE SHIFT RIGHT	STRADDLE RUMBLE STRIP
1B	SITE B1	SB IH 39 EXIT RAMP TO BUS 51 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
1B	SITE B2	BUS 51 EXIT RAMP CLOSURE ALT ROUTE	NO MESSAGE BOARD USED		EXIT #185 CLOSED	USE EXIT #187
1B	SITE B3	SB IH 39 ENTRANCE RAMP FROM BUS 51 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
2A	SITE N1	NORTHBOUND IH 39 PROJECT PREWARN	ROAD WORK BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
2A	SITE B4	NB IH 39 ENTRANCE RAMP FROM BUS 51 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
2A	MISC	ADJACENT TO MILLING AND PAVING OPERATIONS	NO MESSAGE BOARD USED		LANE SHIFT RIGHT	STRADDLE RUMBLE STRIP
2B	SITE B5	NB IH 39 EXIT RAMP TO BUS 51 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
3A	SITE N2	NORTHBOUND IH 39 PROJECT PREWARN (NEW LIMIT)	ROAD WORK BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
3A	MISC	ADJACENT TO MILLING AND PAVING OPERATIONS	NO MESSAGE BOARD USED		LANE SHIFT RIGHT	STRADDLE RUMBLE STRIP

INSTALL STAGE	SITE NO.	ROADWAY CONDITION/ CONSTRUCTION	7 DAYS PRIOR TO WORK/CLOSURE		DURING WORK/CLOSURE	
			PHASE 1 (3 SEC)	PHASE 2 (3 SEC)	PHASE 1 (3 SEC)	PHASE 2 (3 SEC)
3B	SITE M1	SB IH 39 EXIT RAMP TO MAPLE RIDGE RD CLOSURE	RAMP TO CLOSE	XXXX DAY XXPM- XXAM	RAMP CLOSED	USE EXIT #181
3B	SITE M2	SB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
3B	SITE M3	NB IH 39 EXIT RAMP TO MAPLE RIDGE RD CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
3B	SITE M4	NB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD CLOSURE	RAMP TO CLOSE	XXXX DAY XXPM- XXAM	NO MESSAGE BOARD USED	
3B	SITE M5	MAPLE RIDGE ROAD CLOSURE	ROAD TO CLOSE	XXXX DAY XXPM- XXAM	NO MESSAGE BOARD USED	
3B	SITE M6	MAPLE RIDGE ROAD CLOSURE	ROAD TO CLOSE	XXXX DAY XXPM- XXAM	NO MESSAGE BOARD USED	
3B	SITE R1	SB IH 39 EXIT RAMP TO STH 153 CLOSURE	RAMP TO CLOSE	XXXX DAY XXPM- XXAM	RAMP CLOSED	USE EXIT #175
3B	SITE R2	SB IH 39 ENTRANCE RAMP FROM STH 153 CLOSURE	RAMP TO CLOSE	XXX DAY XX/XX	NO MESSAGE BOARD USED	
4A	SITE D1	SB IH 39 EXIT RAMP TO STH 34 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
4A	SITE D2	STH 34 CLOSURE	ROAD CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
4A	SITE D3	STH 34 CLOSURE	ROAD CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	
4A	MISC	ADJACENT TO MILLING AND PAVING OPERATIONS	NO MESSAGE BOARD USED		LANE SHIFT RIGHT	STRADDLE RUMBLE STRIP
5A	SITE B4	NB IH 39 ENTRANCE RAMP FROM BUS 51 CLOSURE	RAMP CLOSED BEGINS	XXXX DAY XX/XX	NO MESSAGE BOARD USED	

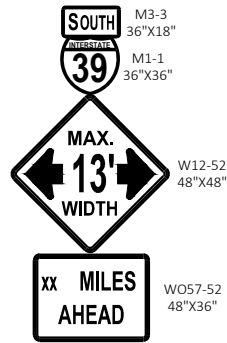
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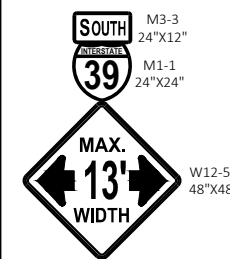
STAGES 2B,3B
N1 = 26 MILES
N2 = 19 MILES
N5 = 4 MILES



STAGES 2B,3B
N3 = 12 MILES
N4 = 8 MILES



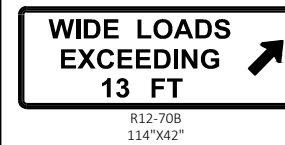
STAGES 1B,3B,4B
S1 = 6 MILES
S2 = 5 MILES
S3 = 1 MILES
S4 = 3 MILES
S5 = 1 MILES



STAGES 3B,4B
B2



STAGES 2B,3B,4B
B1



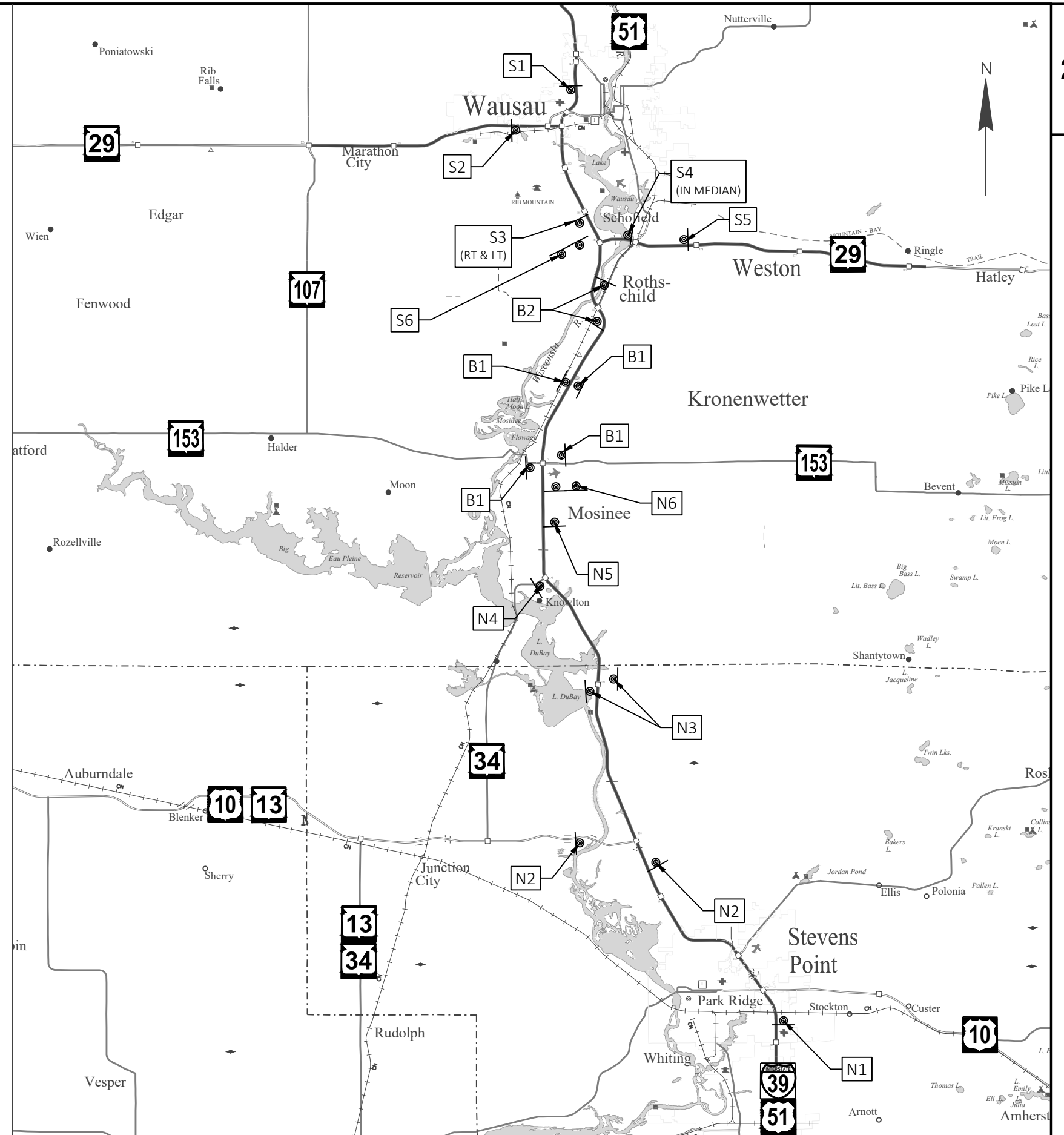
STAGES 1B, 2B, 3B, 4B

S6

STAGES 2B,3B
N6

OSOW SIGNING NOTES

- OSOW SIGNING SHALL BE USED WHEN AVAILABLE PAVED WIDTH IS 14' OR LESS.
- SIGNS SHALL BE PUT DOWN OR COVERED WHEN LANE CLOSURE IS NOT IN USE



PROJECT NO:	1166-01-84/1166-05-81/1166-05-85
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HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - OSOW SIGNING

SHEET

31

1

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.

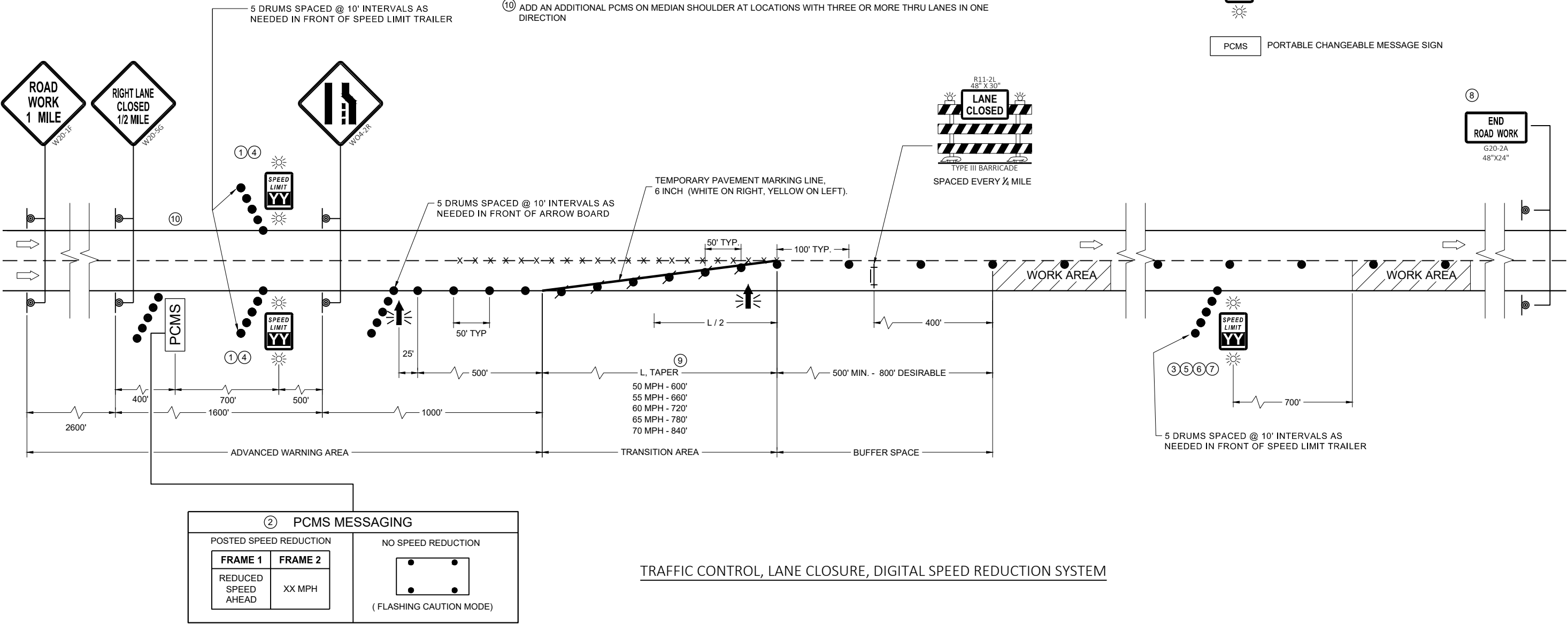
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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 EXISTING POST MOUNTED SPEED LIMIT SIGNS SHOULD BE COVERED OR REMOVED.
- 2 PCMS SHALL FOLLOW ARROW BOARD STANDARDS WHEN DISPLAYING FLASHING FOUR CORNER CAUTION MODE.
- 3 PLACE A DIGITAL SPEED LIMIT TRAILER 700' FEET UPSTREAM OF EACH ACTIVE WORK AREA WHERE WORKERS ARE PRESENT.
- 4 A DIGITAL SPEED LIMIT TRAILER SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP.
- 5 IF WORK AREA STARTS LESS THAN 1,000 FEET FROM END OF LANE CLOSURE TAPER, OMIT DIGITAL SPEED LIMIT TRAILER AT THAT LOCATION.
- 6 PLACE A DIGITAL SPEED LIMIT TRAILER A MINIMUM OF EVERY ONE MILE. MODIFY PLACEMENT AS DIRECTED BY ENGINEER WHEN DIGITAL SPEED LIMIT TRAILER IS LOCATED IN CLOSE PROXIMITY TO AN ACCELERATION LANE OF AN ENTRANCE RAMP.
- 7 OMIT DRUM DELINEATION FOR DIGITAL SPEED LIMIT TRAILER WITHIN A CLOSURE.
- 8 INCLUDE NON-DIGITAL R2-1 RESUME SPEED LIMIT SIGNS 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END ROAD WORK" SIGN.
- 9 IF THE SPEED LIMIT WILL CHANGE BASED ON THE PRESENCE OF WORKERS, USE THE TAPER LENGTH THAT MATCHES THE HIGHER OF THE TWO SPEEDS FOR A CONTINUOUS LANE CLOSURE.
- 10 ADD AN ADDITIONAL PCMS ON MEDIAN SHOULDER AT LOCATIONS WITH THREE OR MORE THRU LANES IN ONE DIRECTION

LEGEND

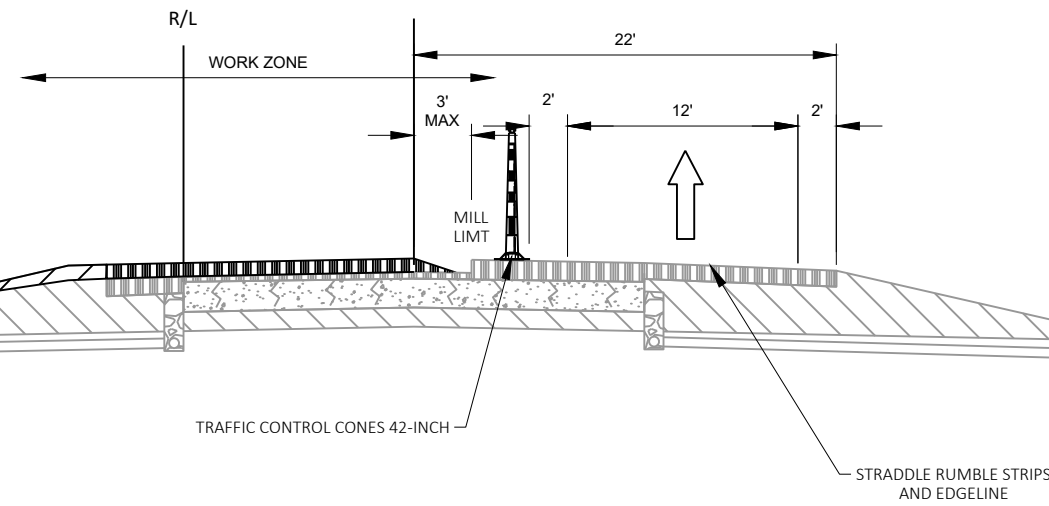
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- DIGITAL SPEED LIMIT TRAILER
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN



TRAFFIC CONTROL, LANE CLOSURE, DIGITAL SPEED REDUCTION SYSTEM

WORK:
INSIDE LANE AND SHOULDER
MILL EXISTING ASPHALTIC SURFACE, INSTALL HMA PAVEMENT
BAD 3/4-INCH SHOULDER ADJUSTMENT

IH 39 MEDIAN

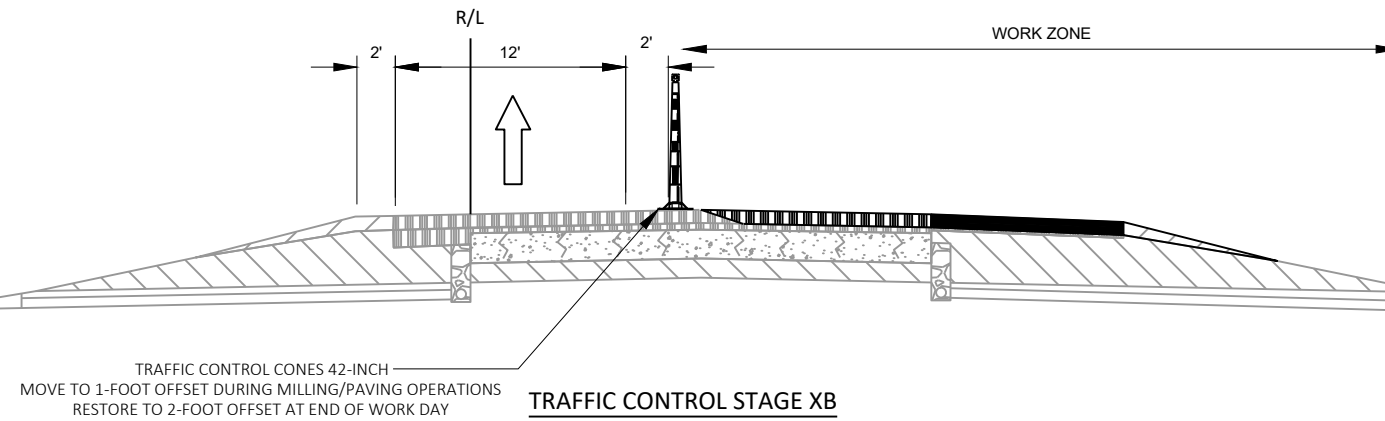


TRAFFIC CONTROL - STAGE XA

STAGE 1A - SOUTHBOUND (MIRRORED ACROSS MEDIAN)
STAGE 2A - NORTHBOUND
STAGE 3A - NORTHBOUND
STAGE 3A - SOUTHBOUND (MIRRORED ACROSS MEDIAN)
STAGE 4A - SOUTHBOUND (MIRRORED ACROSS MEDIAN)

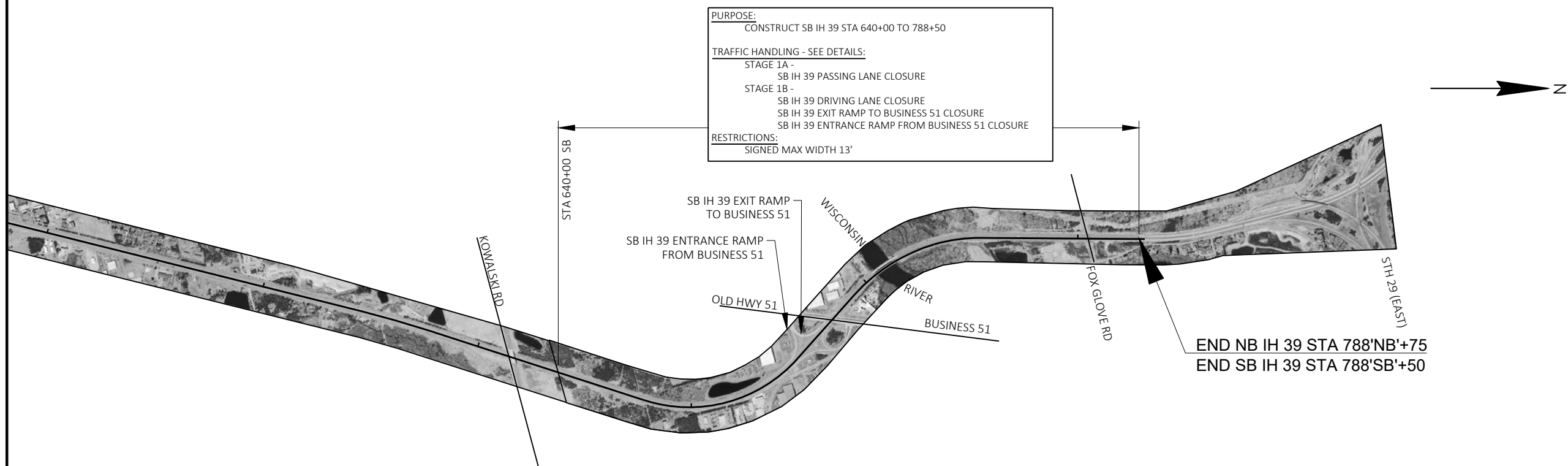
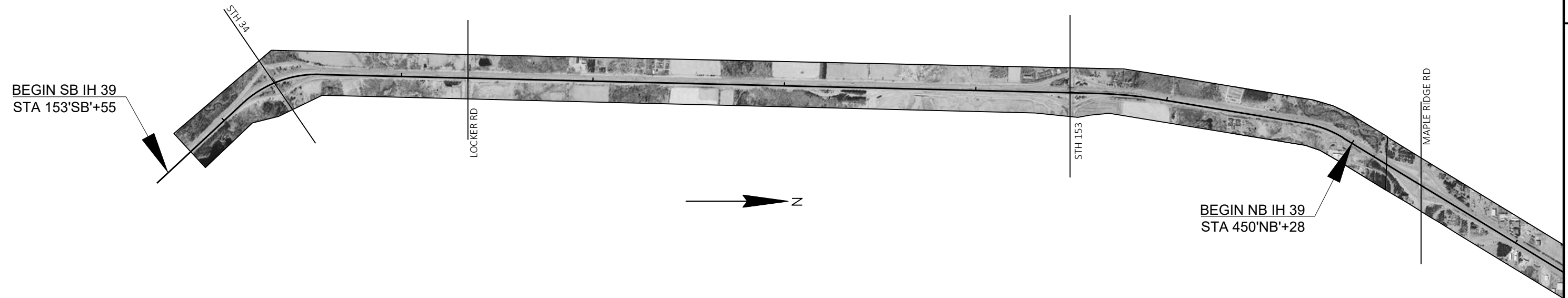
WORK:
OUTSIDE LANE AND SHOULDER
MILL EXISTING ASPHALTIC SURFACE, INSTALL HMA PAVEMENT
BAD 3/4-INCH SHOULDER ADJUSTMENT

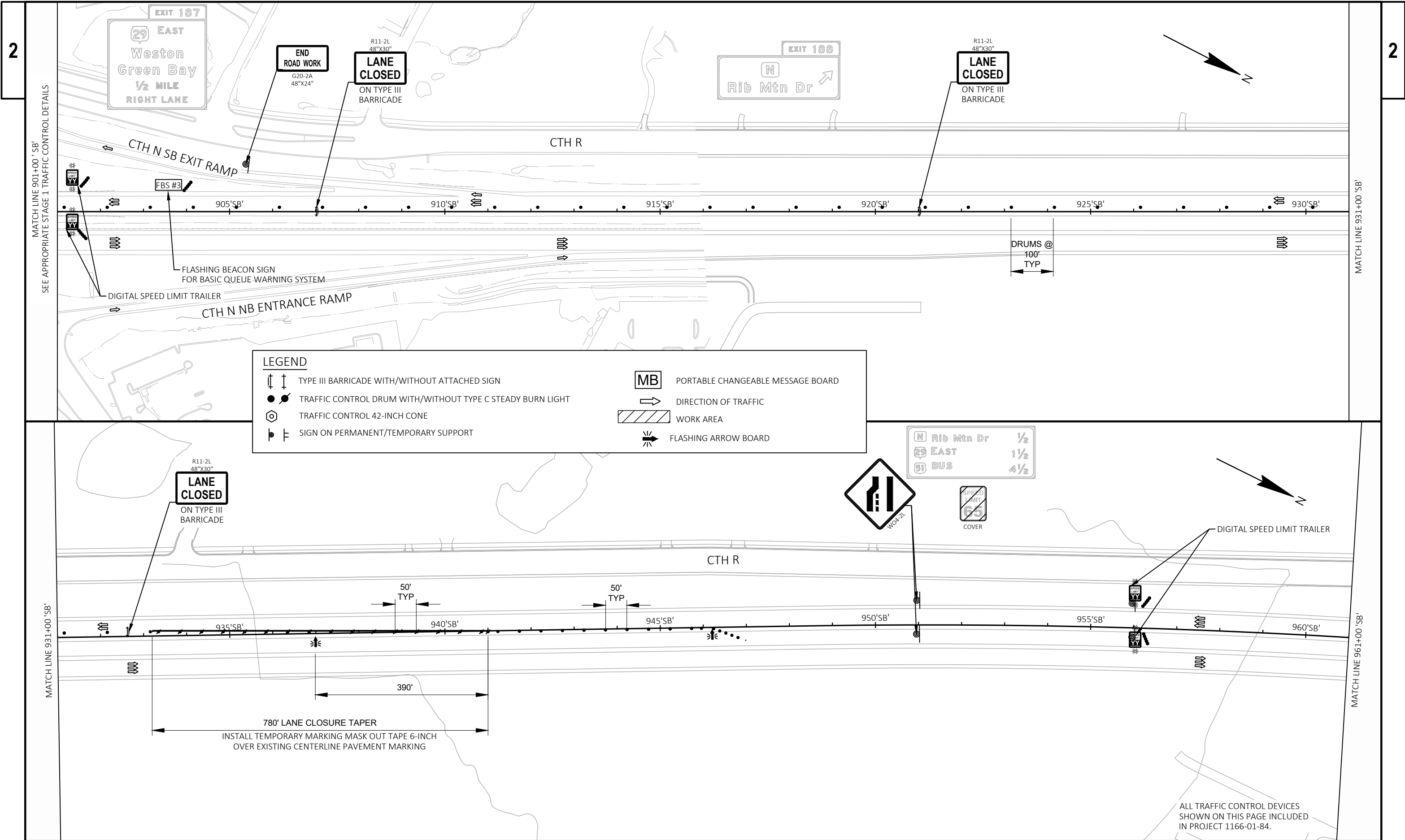
IH 39 MEDIAN



TRAFFIC CONTROL STAGE XB

STAGE 1B - SOUTHBOUND (MIRRORED ACROSS MEDIAN)
STAGE 2B - NORTHBOUND
STAGE 3B - NORTHBOUND
STAGE 3B - SOUTHBOUND (MIRRORED ACROSS MEDIAN)
STAGE 4B - SOUTHBOUND (MIRRORED ACROSS MEDIAN)



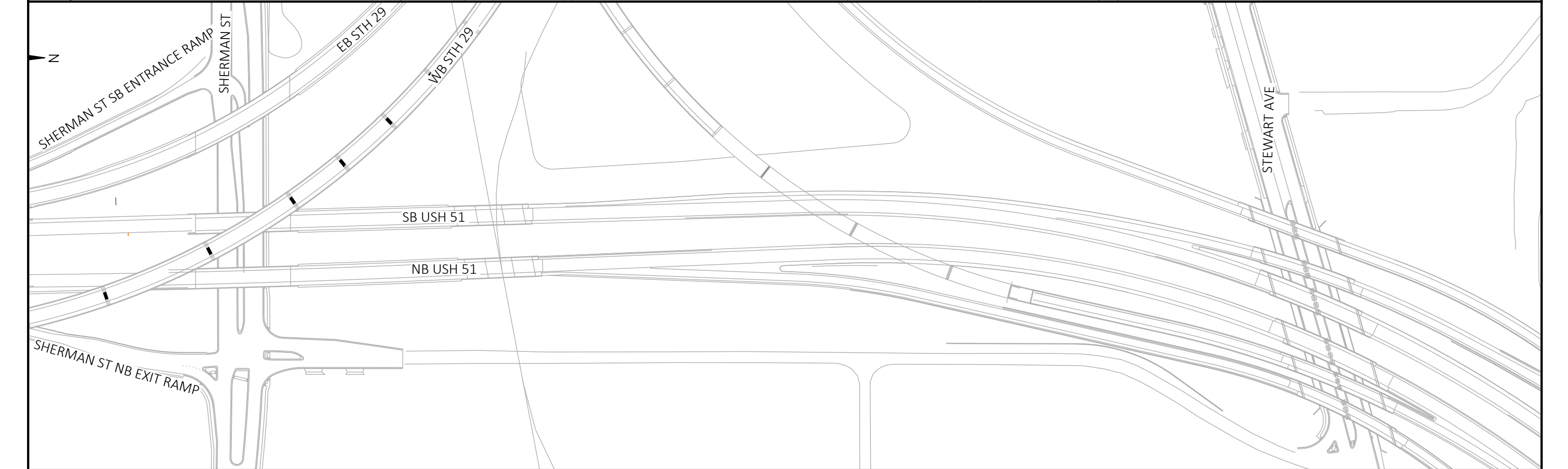
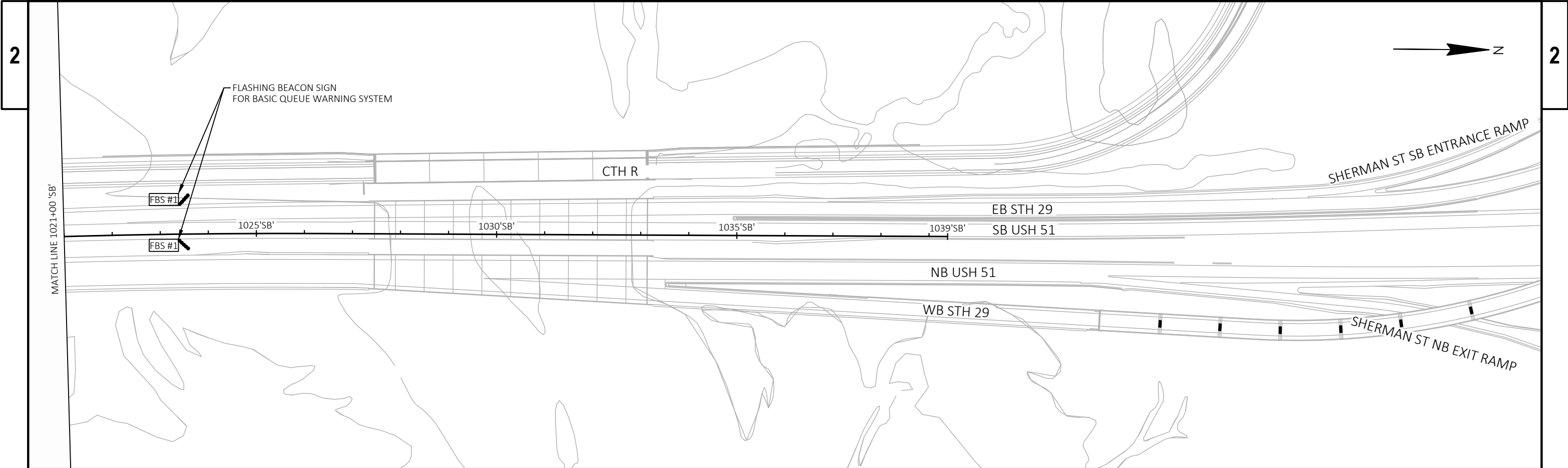


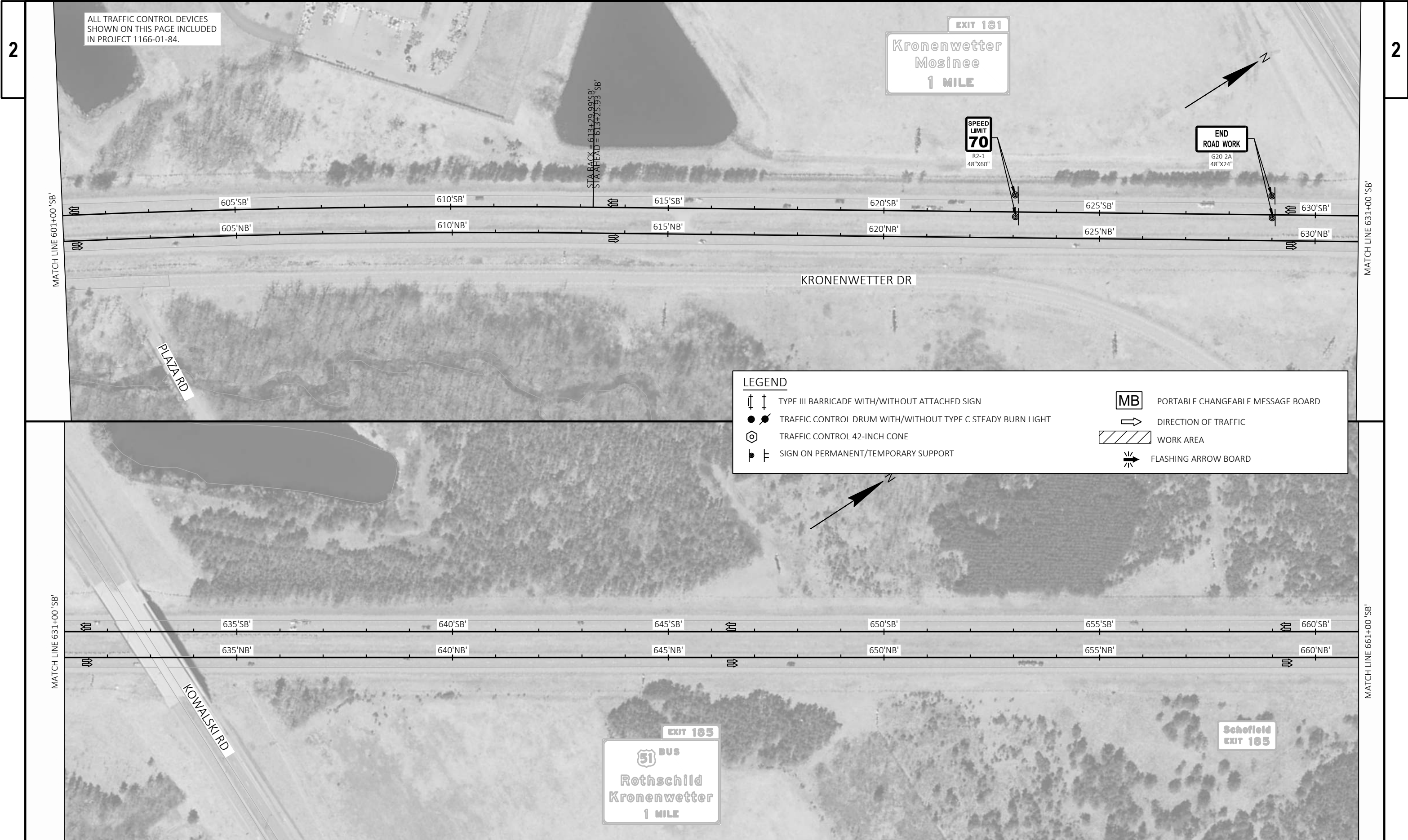
MATCH LINE 961+00 'SB

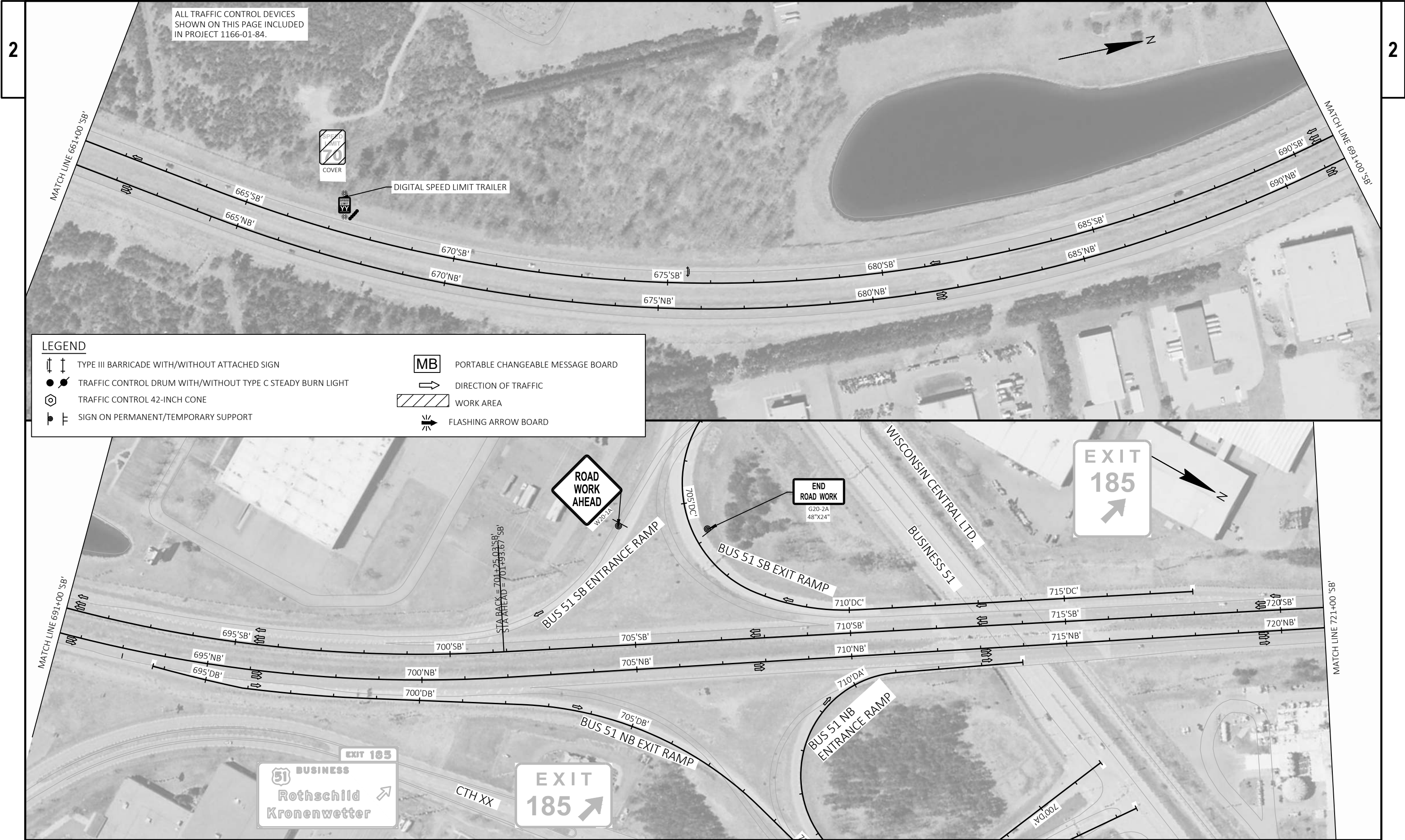


FLASHING ARROW BOARD









LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

SIGN ON PERMANENT/TEMPORARY SUPPORT

MB

PORTABLE CHANGEABLE MESSAGE BOARD

DIRECTION OF TRAFFIC

WORK AREA

FLASHING ARROW BOARD

PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - STAGE 1 (2 LANE/WEEKEND)

SHEET 89

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NC REGION PROJECTS\SUB\1166-01-14_I-39_MARA_CO_WESTWOOD\C3D\SHEETS\025105-TC-51-2LANE.DWG

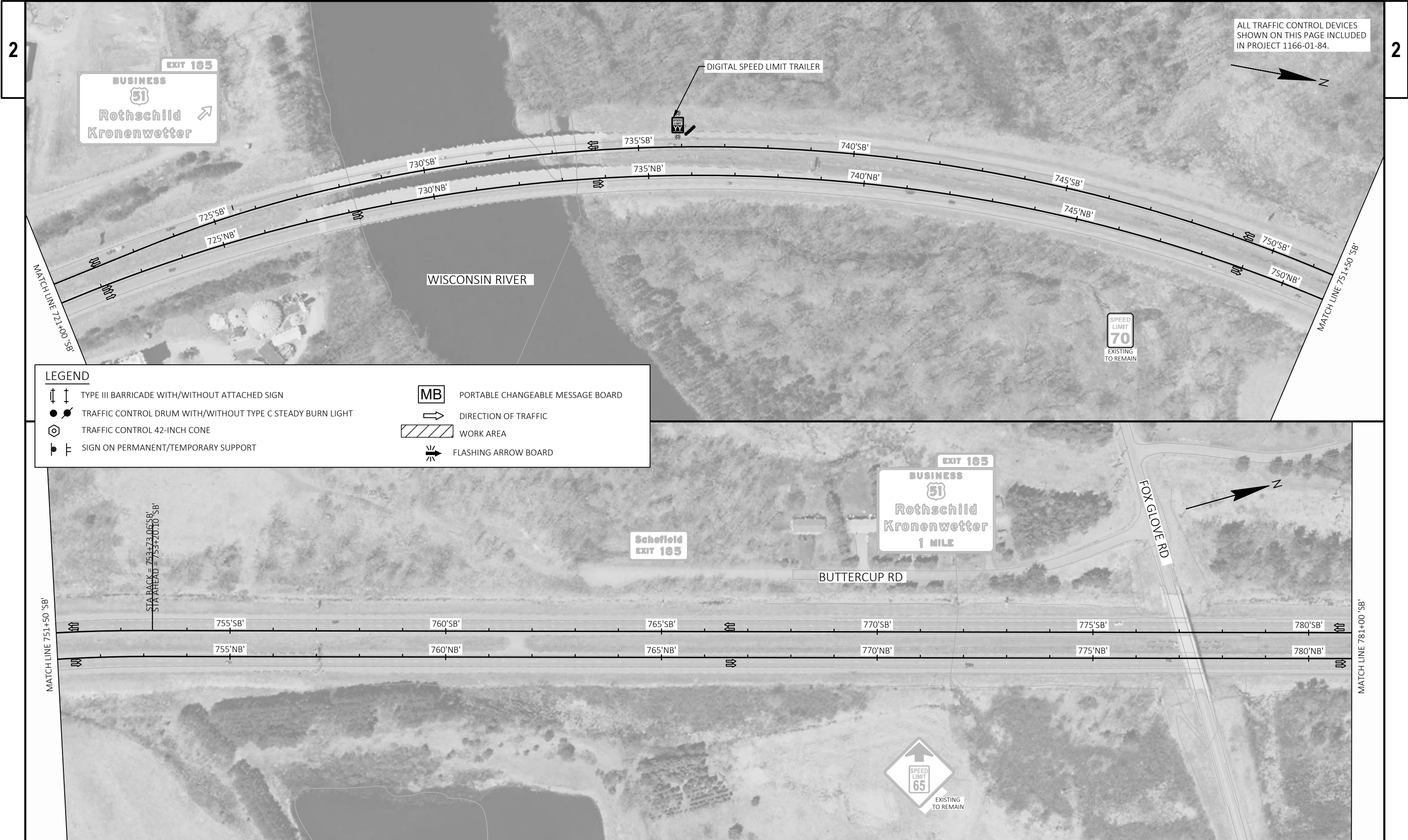
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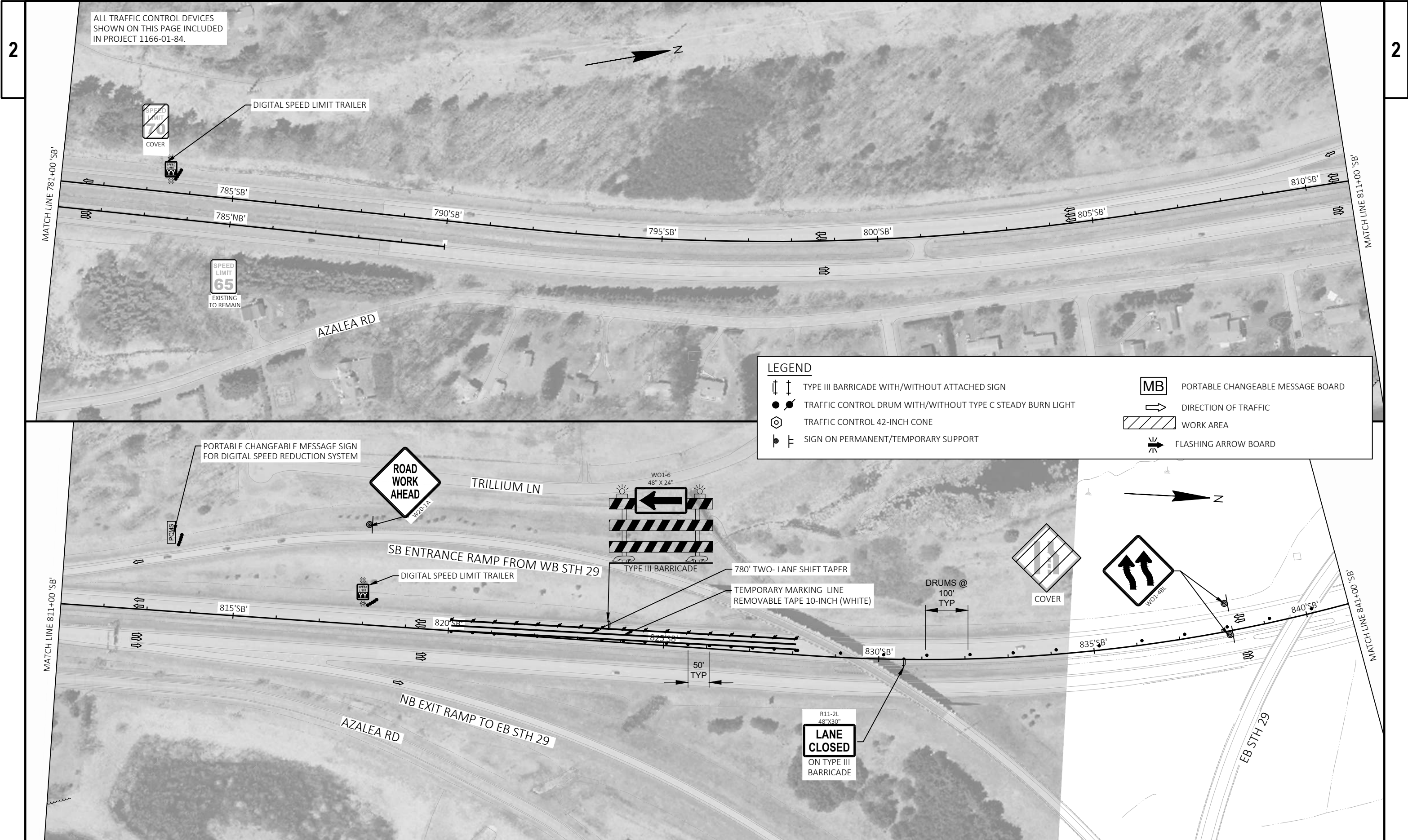
PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDs SHEET 44





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.



DIGITAL SPEED LIMIT TRAILER



AZALEA RD

LEGEND



TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

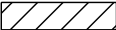
SIGN ON PERMANENT/TEMPORARY SUPPORT



PORTABLE CHANGEABLE MESSAGE BOARD



DIRECTION OF TRAFFIC



WORK AREA

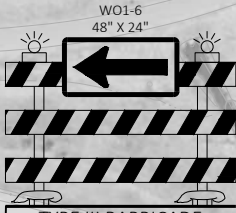


FLASHING ARROW BOARD

PORTABLE CHANGEABLE MESSAGE SIGN FOR DIGITAL SPEED REDUCTION SYSTEM



TRILLIUM LN



WO1-6
48" X 24"

SB ENTRANCE RAMP FROM WB STH 29

DIGITAL SPEED LIMIT TRAILER

780' TWO-LANE SHIFT TAPER

TEMPORARY MARKING LINE
REMOVABLE TAPE 10-INCH (WHITE)

DRUMS @
100'
TYP



WO1-ABL

MATCH LINE 811+00 'SB'

NB EXIT RAMP TO EB STH 29

AZALEA RD

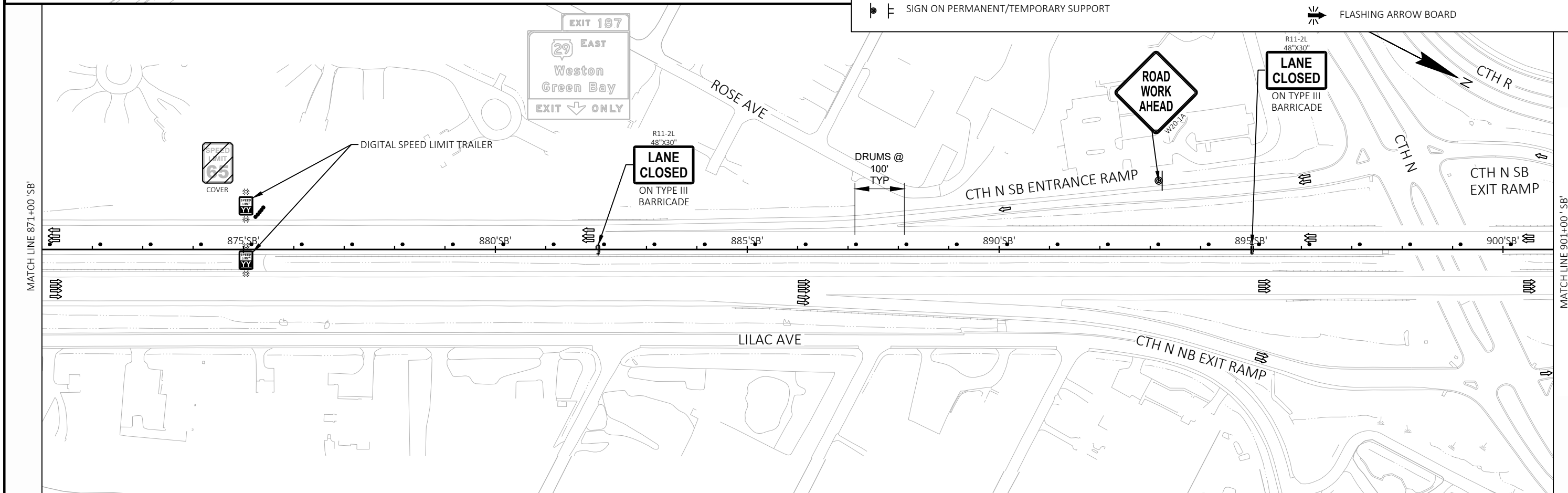


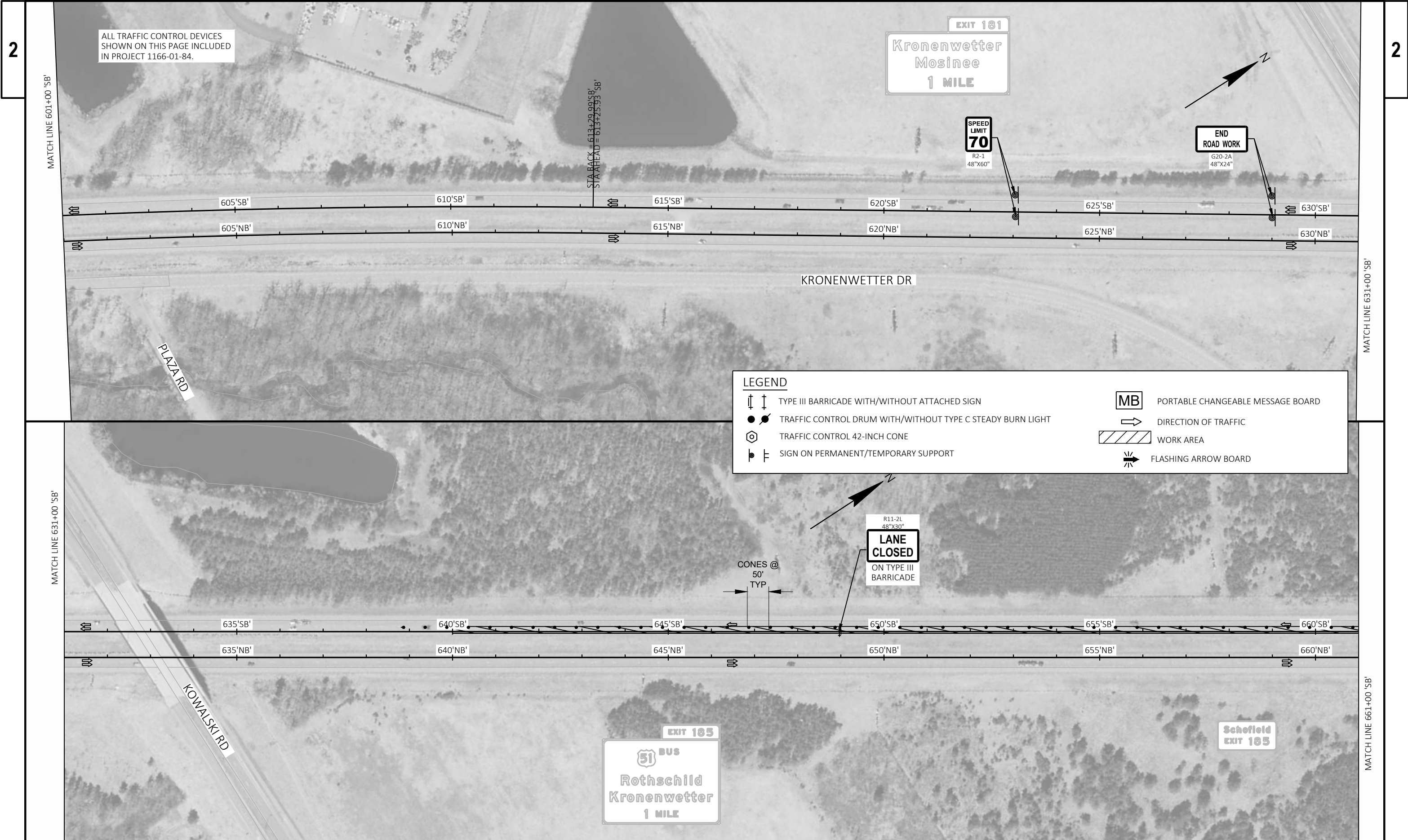
R11-2L
48" X 30"

LANE
CLOSED

ON TYPE III
BARRICADE

MATCH LINE 841+00 'SB'





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.

LEGEND

↑ ↓

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

● ●

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

⬡

TRAFFIC CONTROL 42-INCH CONE

⚡

SIGN ON PERMANENT/TEMPORARY SUPPORT

MB

PORTABLE CHANGEABLE MESSAGE BOARD

→

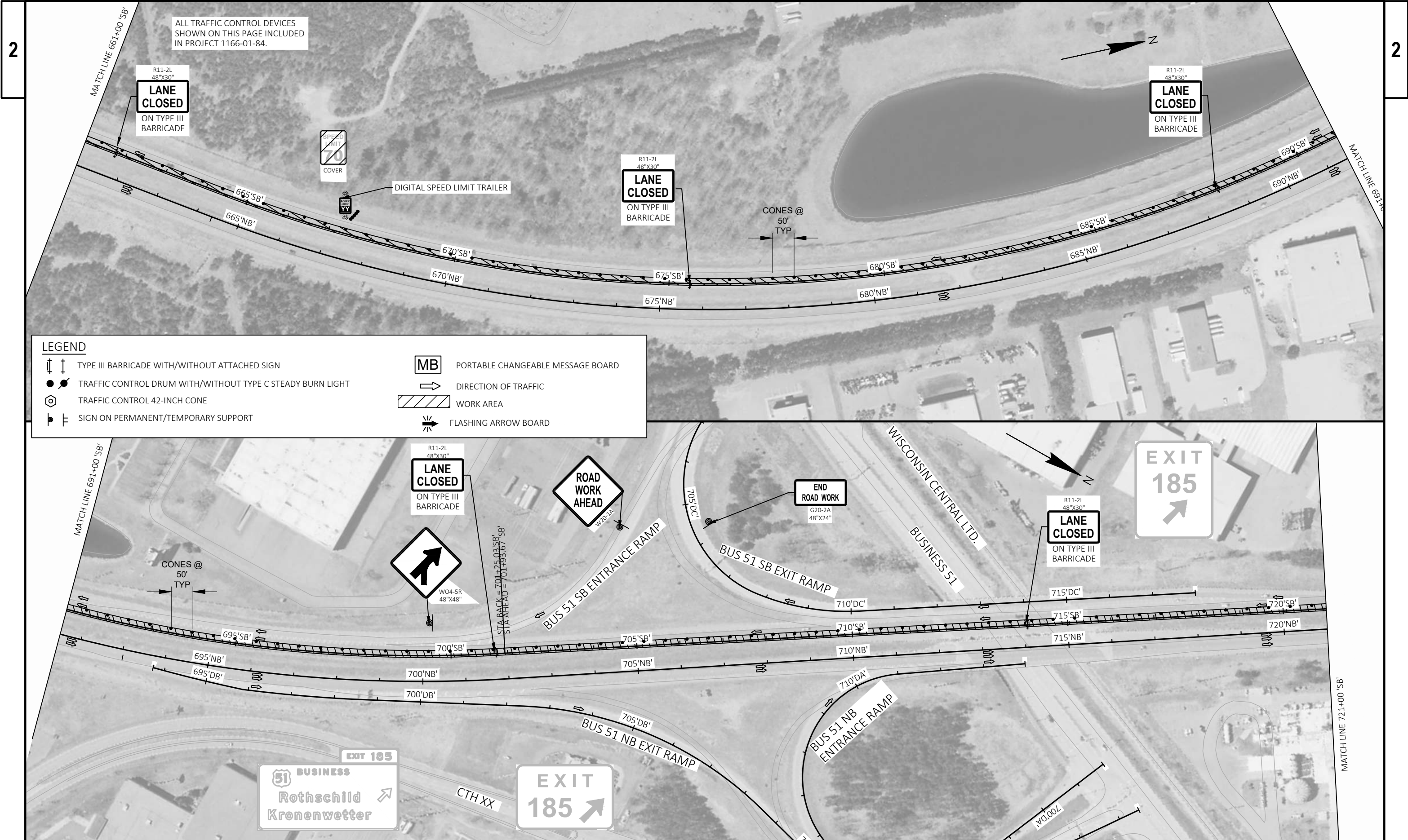
DIRECTION OF TRAFFIC

▨

WORK AREA

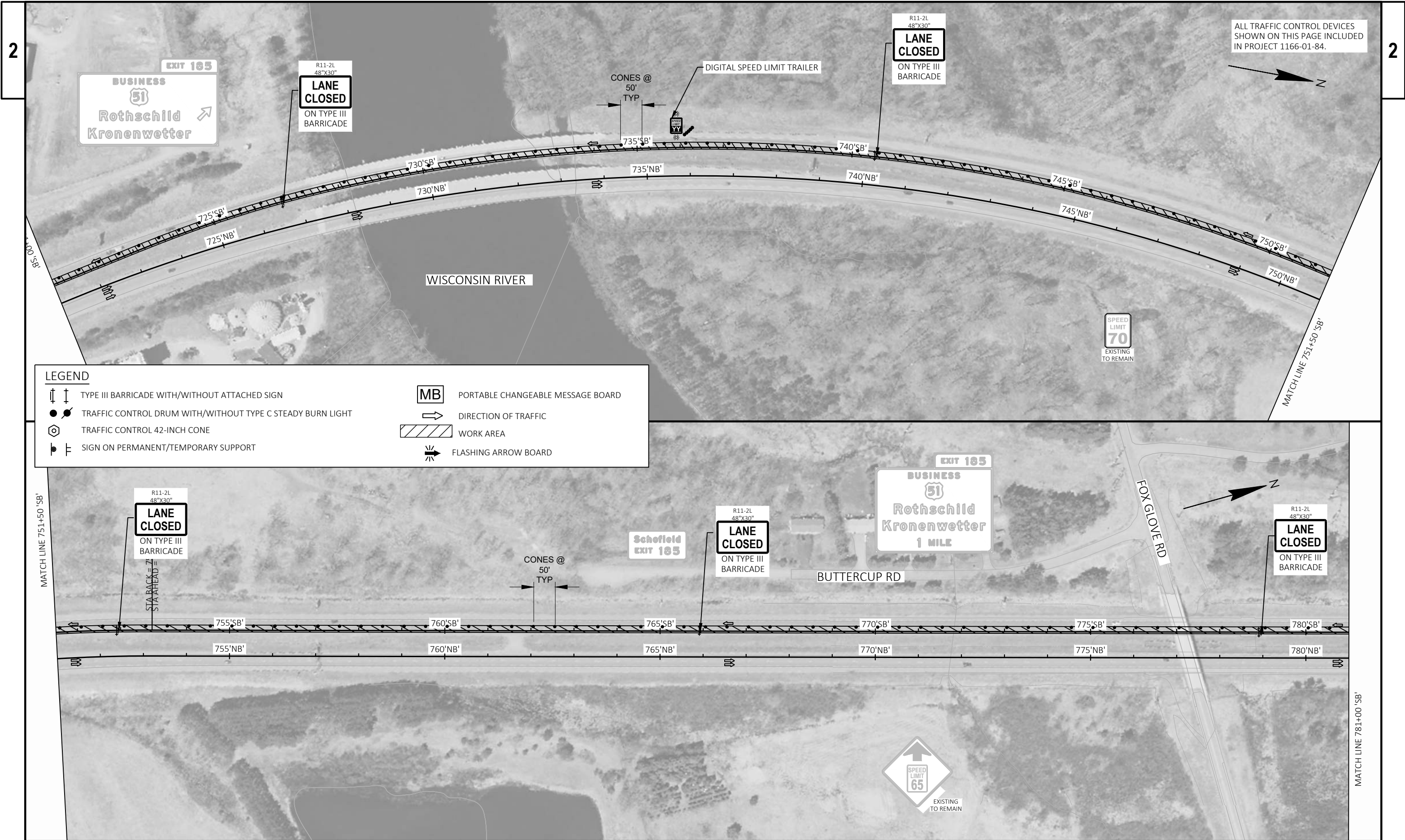
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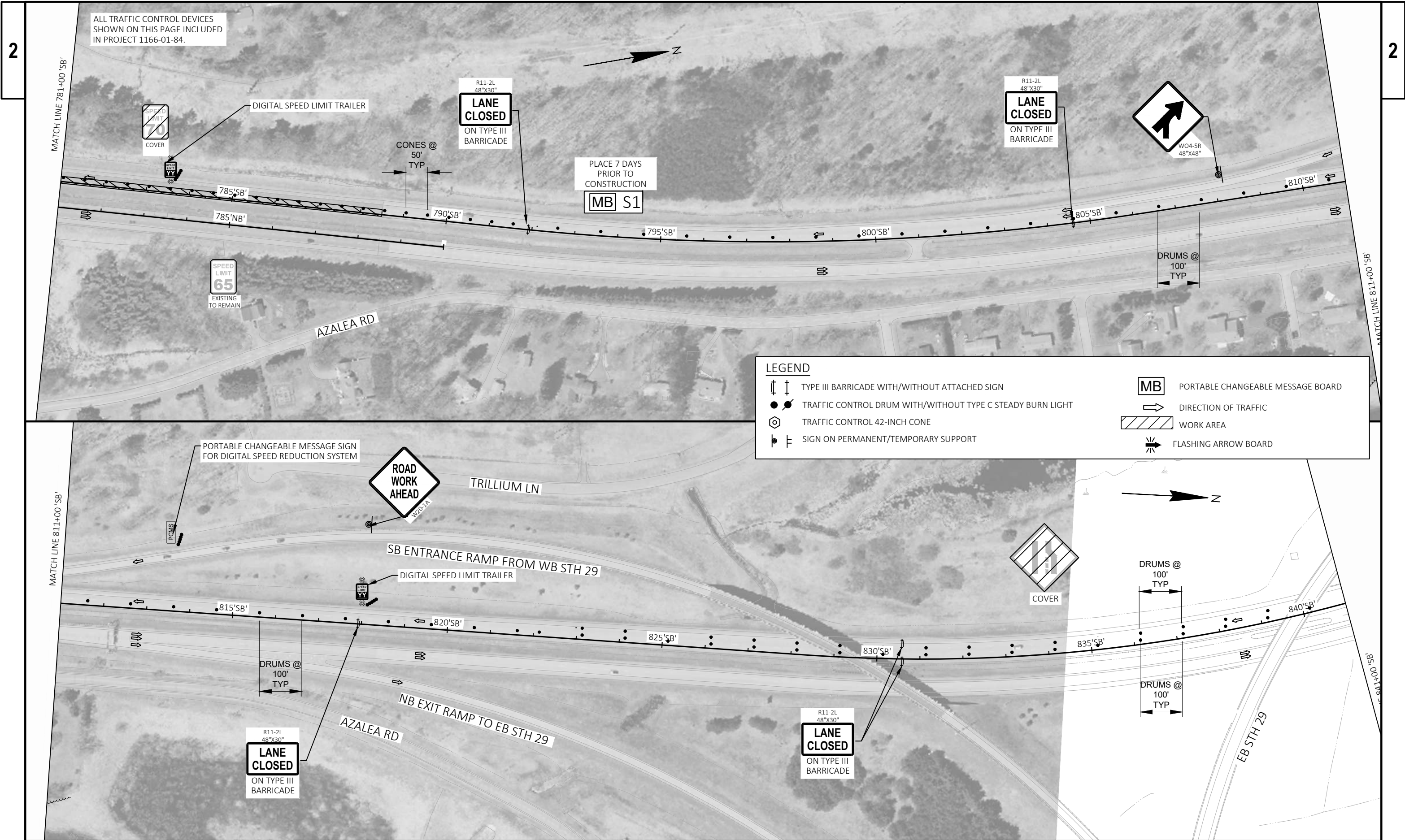
FLASHING ARROW BOARD

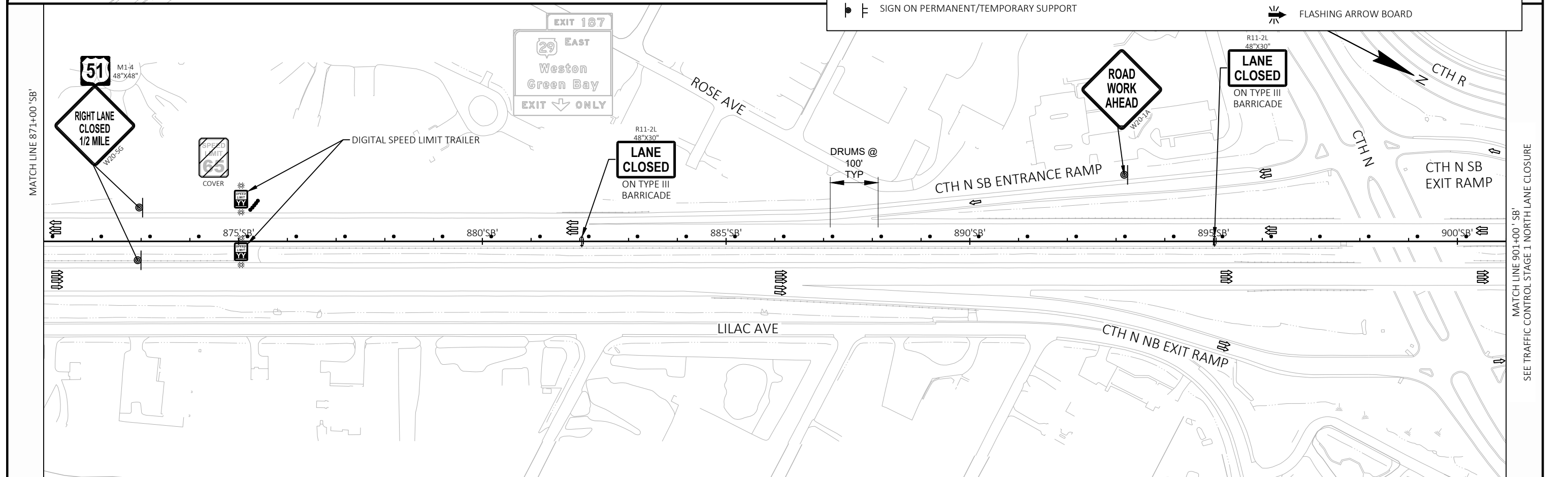


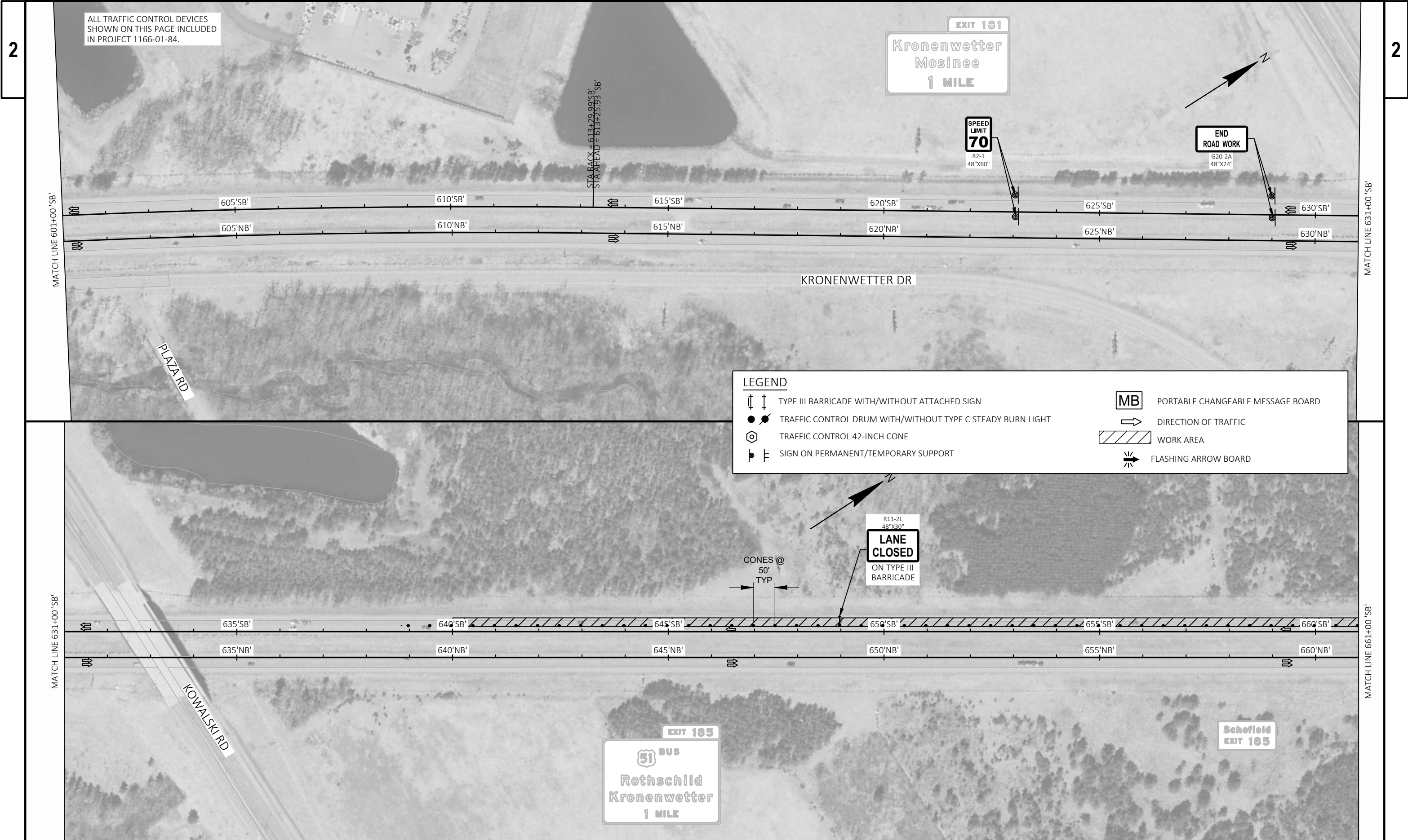
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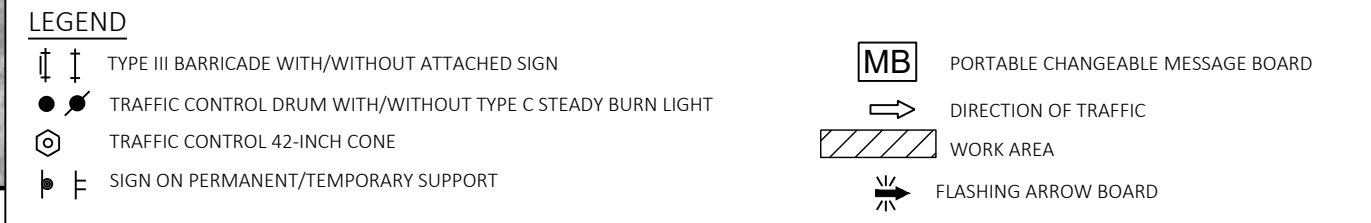
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL 42-INCH CONE		WORK AREA
	SIGN ON PERMANENT/TEMPORARY SUPPORT		FLASHING ARROW BOARD



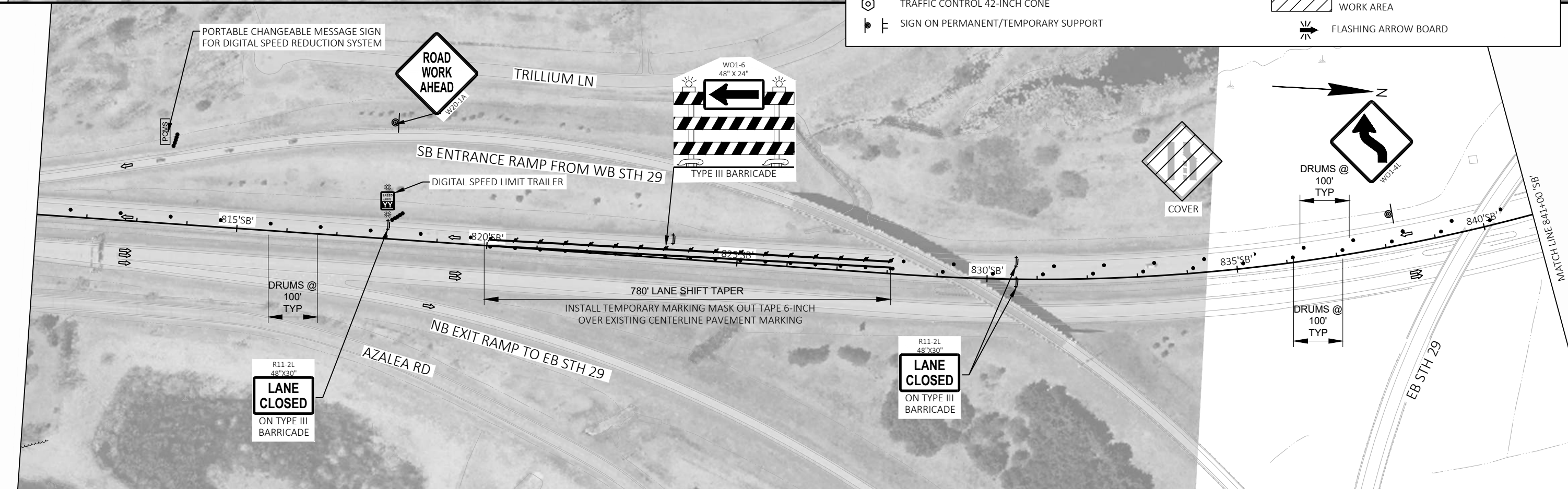


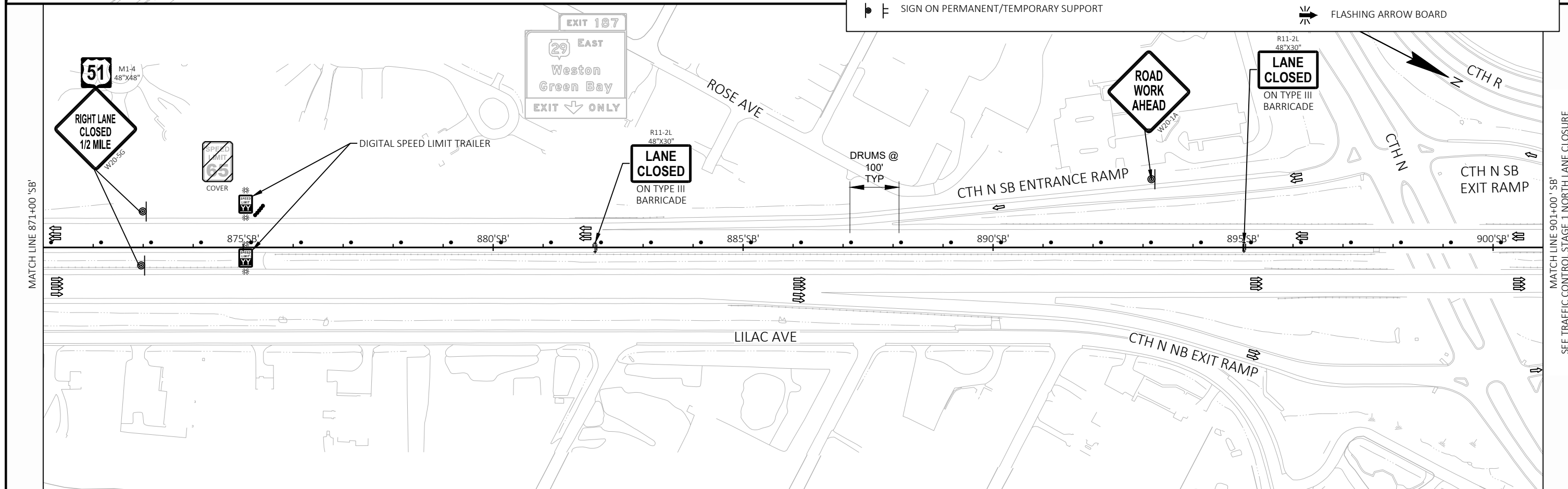


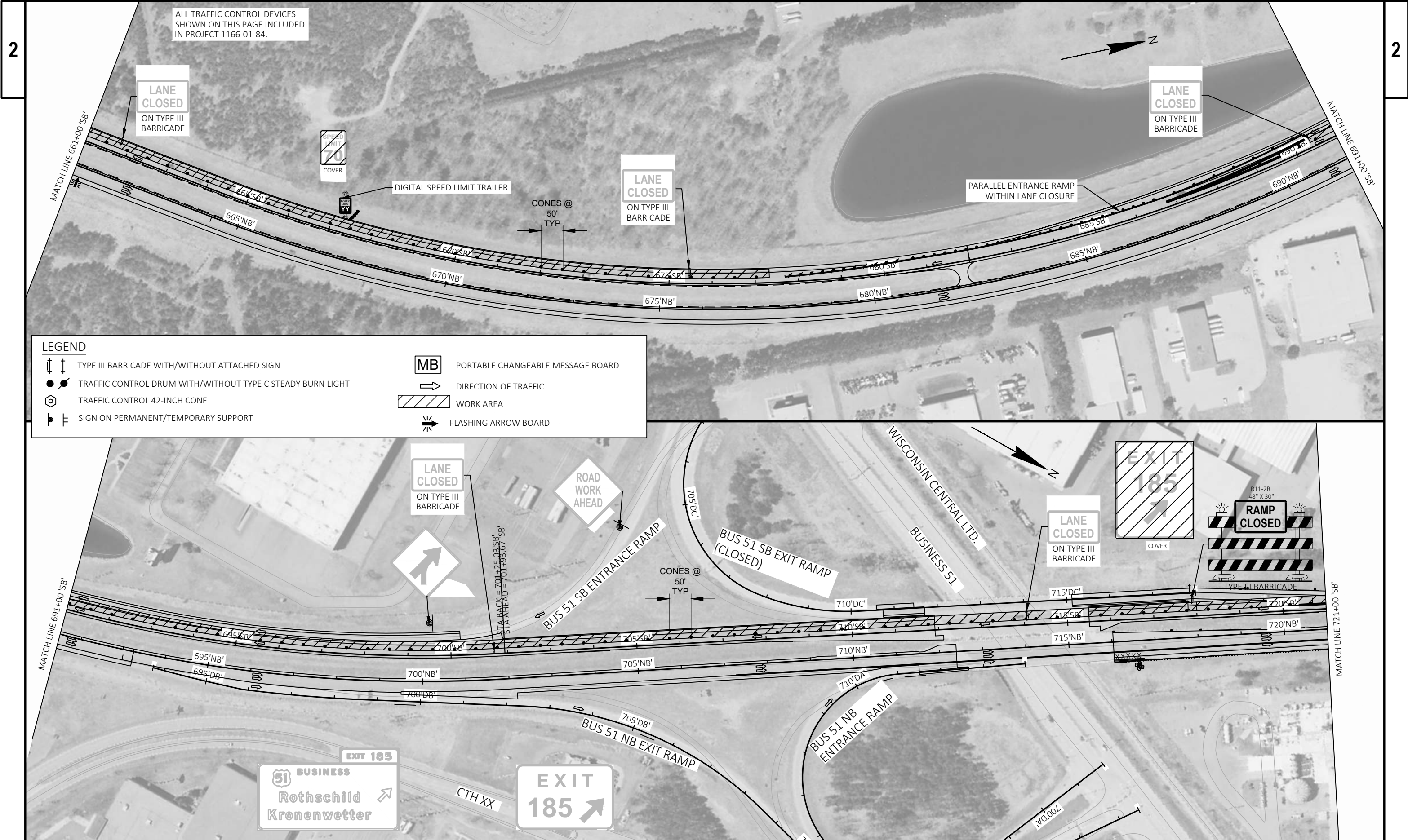






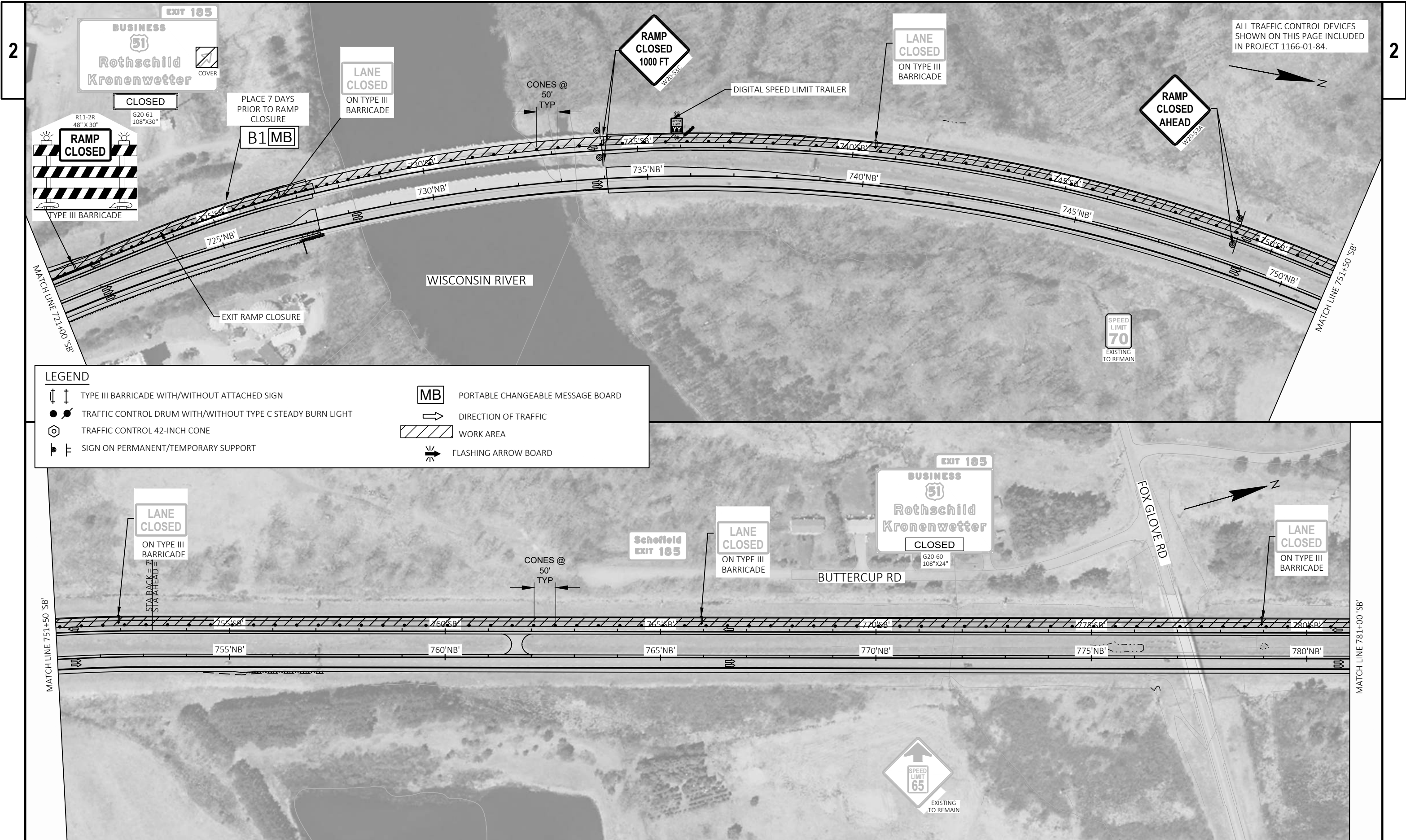






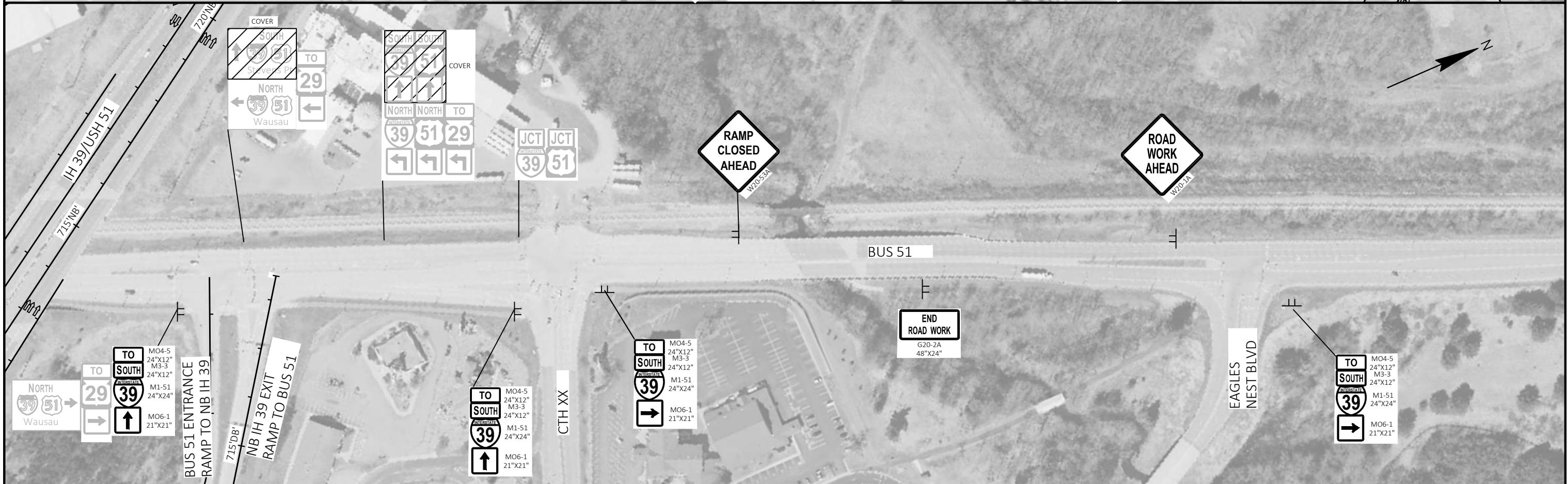
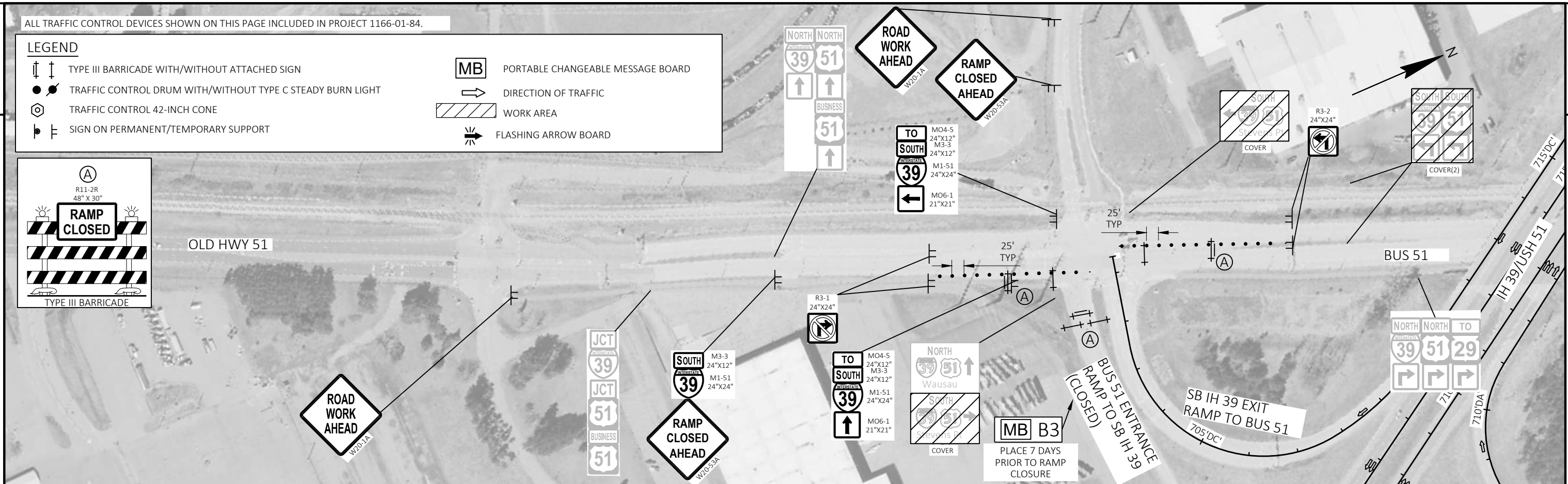
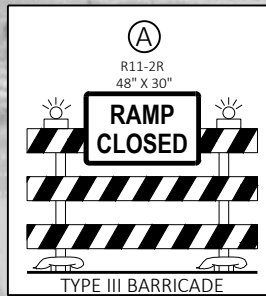
LEGEND

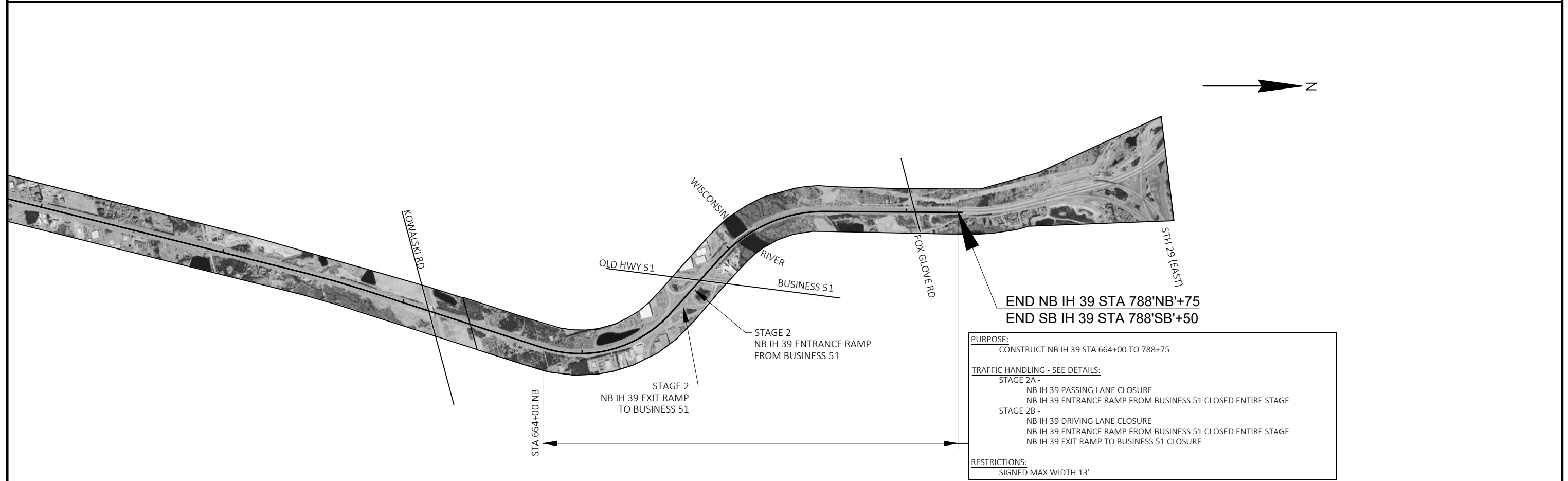
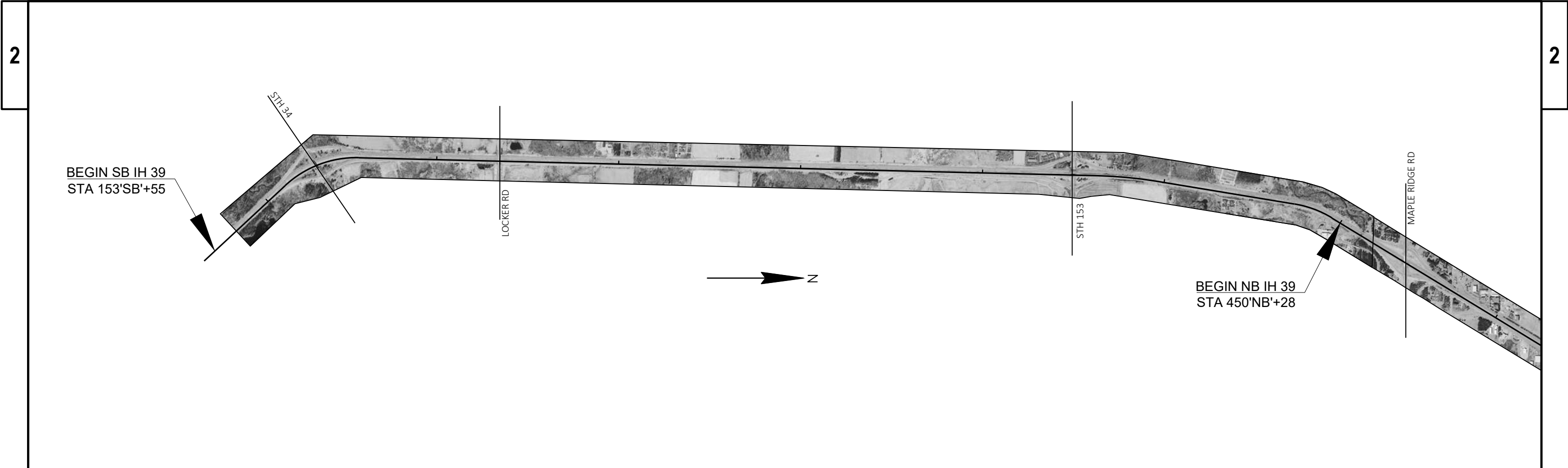
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL 42-INCH CONE		WORK AREA
	SIGN ON PERMANENT/TEMPORARY SUPPORT		FLASHING ARROW BOARD

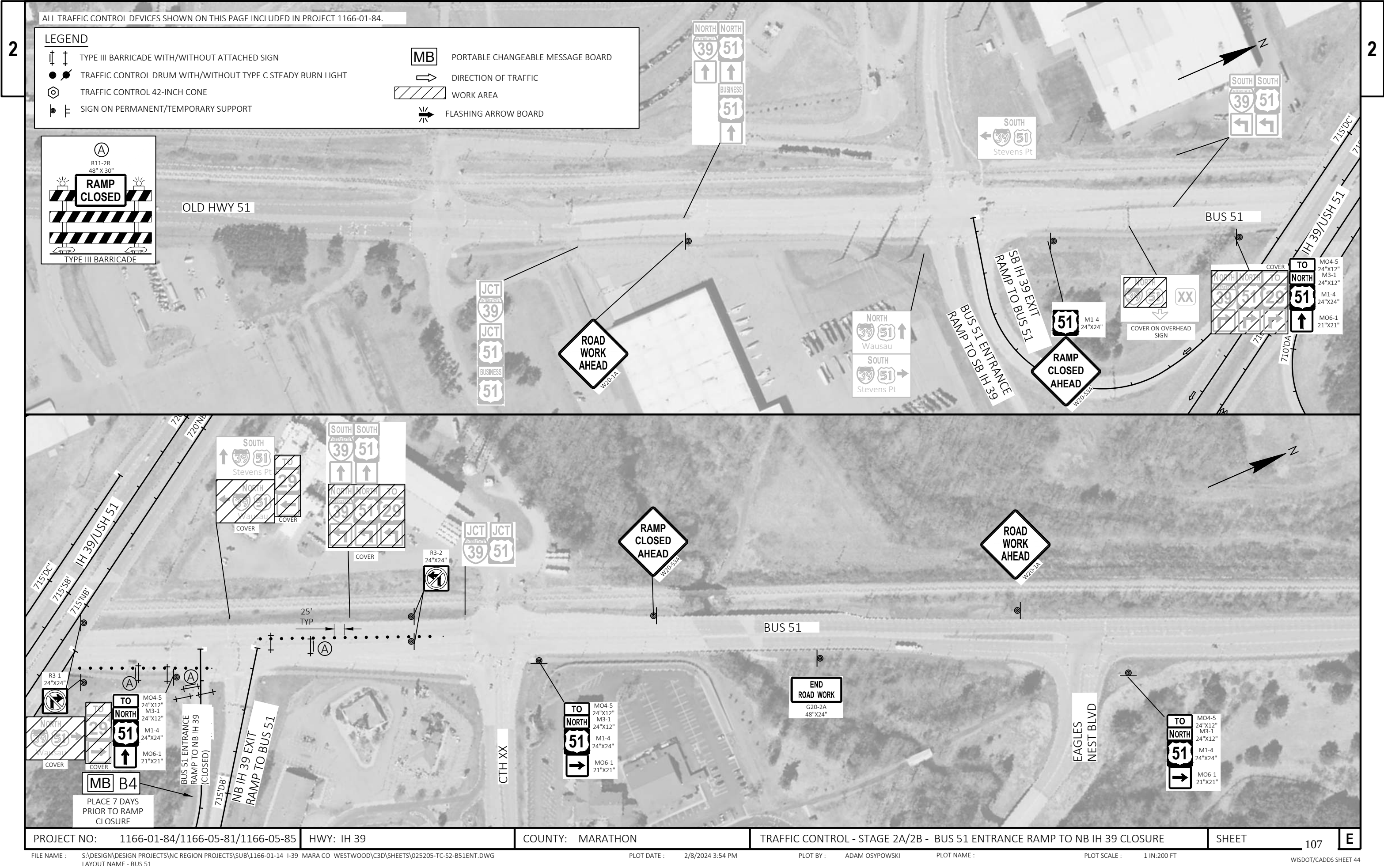


LEGEND

- | | | | |
|---|--|---|-----------------------------------|
|  | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN |  | PORTABLE CHANGEABLE MESSAGE BOARD |
|  | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT |  | DIRECTION OF TRAFFIC |
|  | TRAFFIC CONTROL 42-INCH CONE |  | WORK AREA |
|  | SIGN ON PERMANENT/TEMPORARY SUPPORT |  | FLASHING ARROW BOARD |



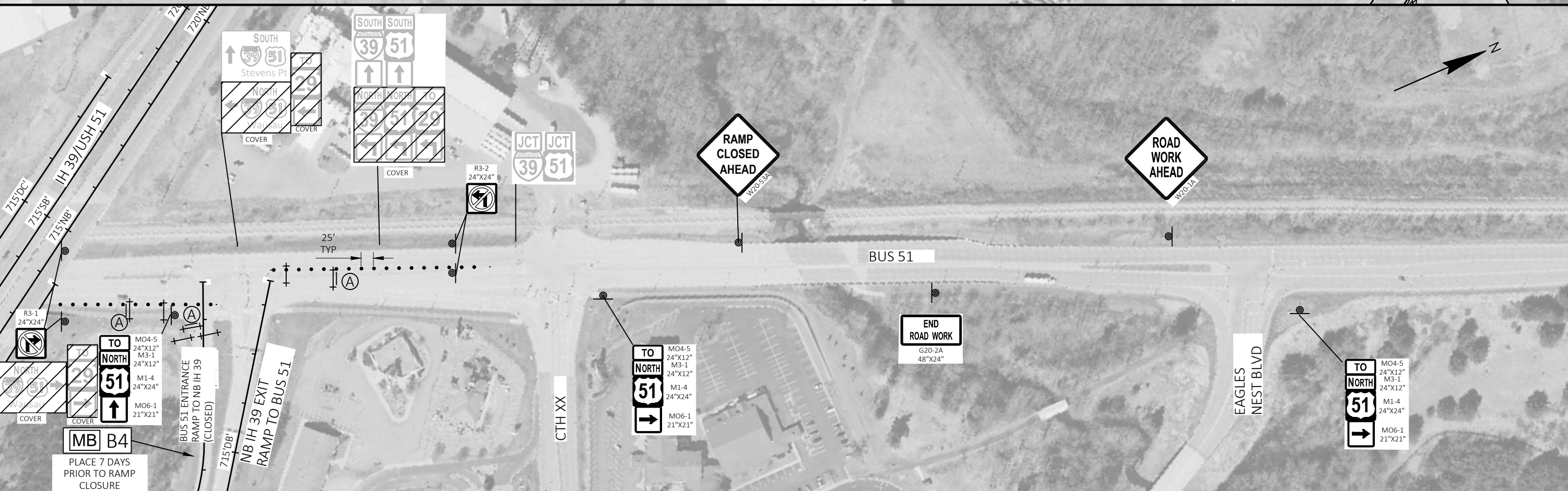
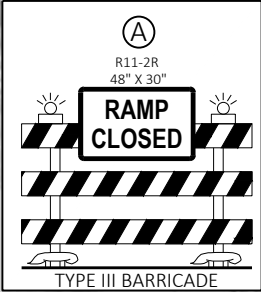


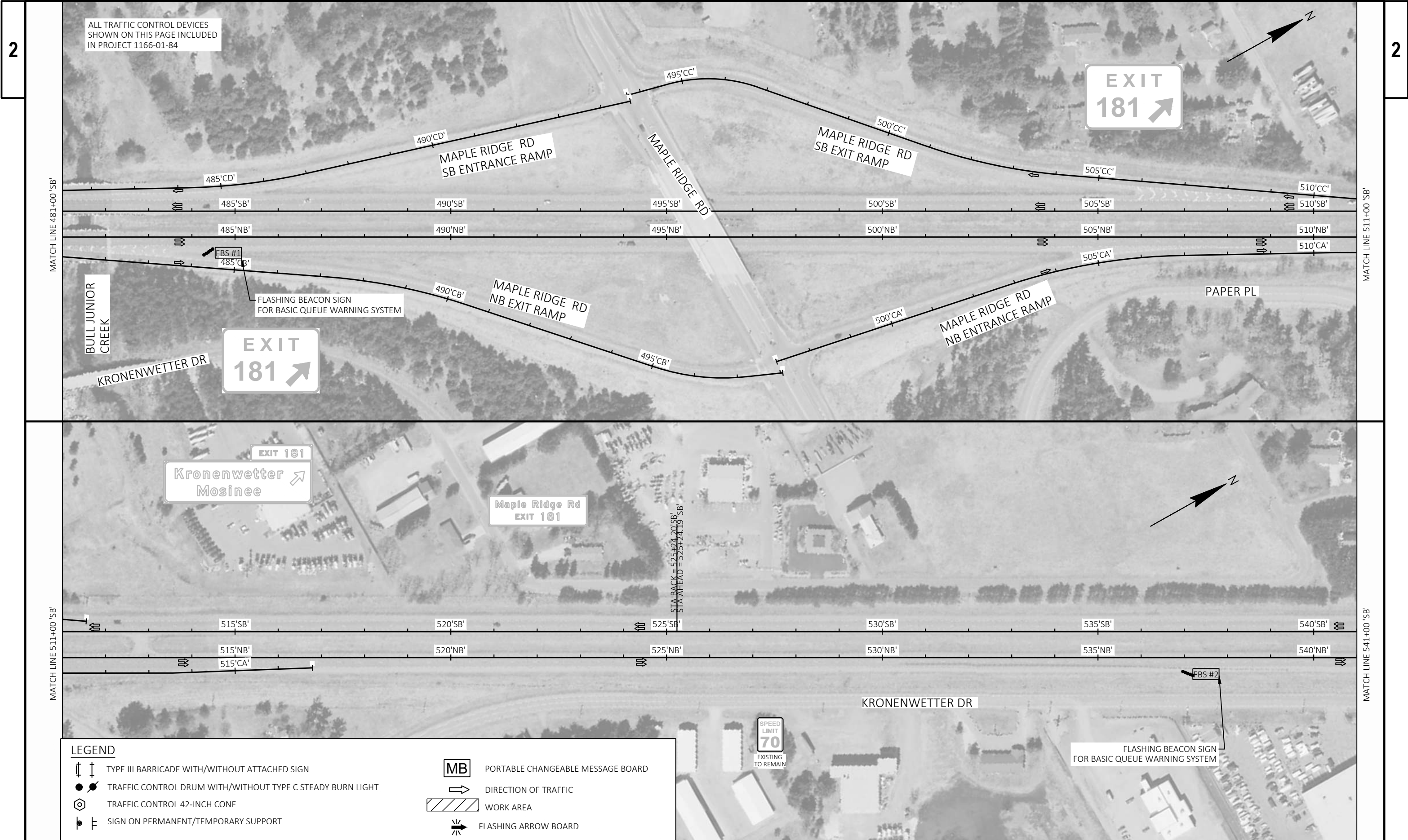


ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL 42-INCH CONE
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD





ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-01-84

EXIT
181

EXIT
181

EXIT 181
Kronenwetter
Mosinee

Maple Ridge Rd
EXIT 181

KRONENWETTER DR

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



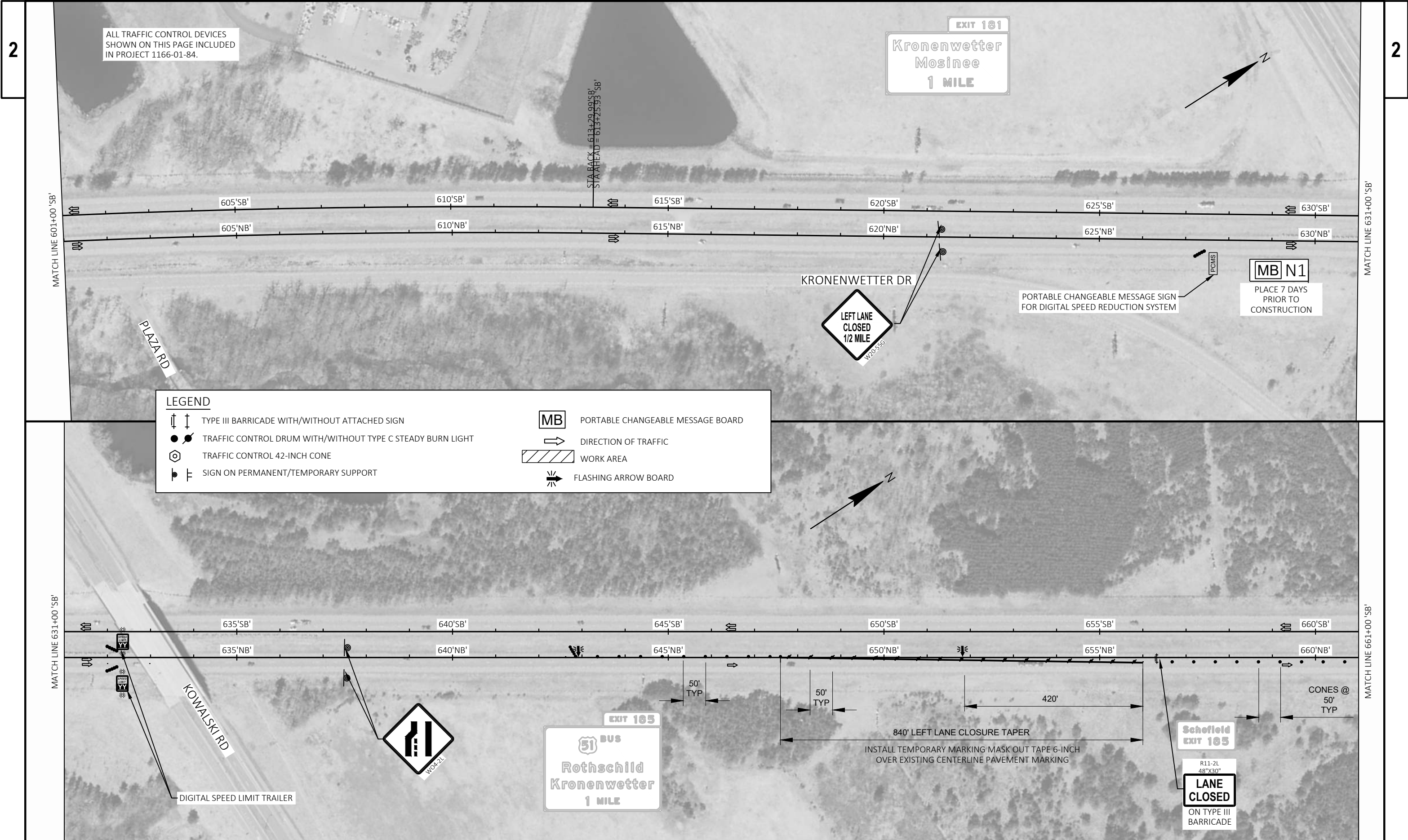
ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.

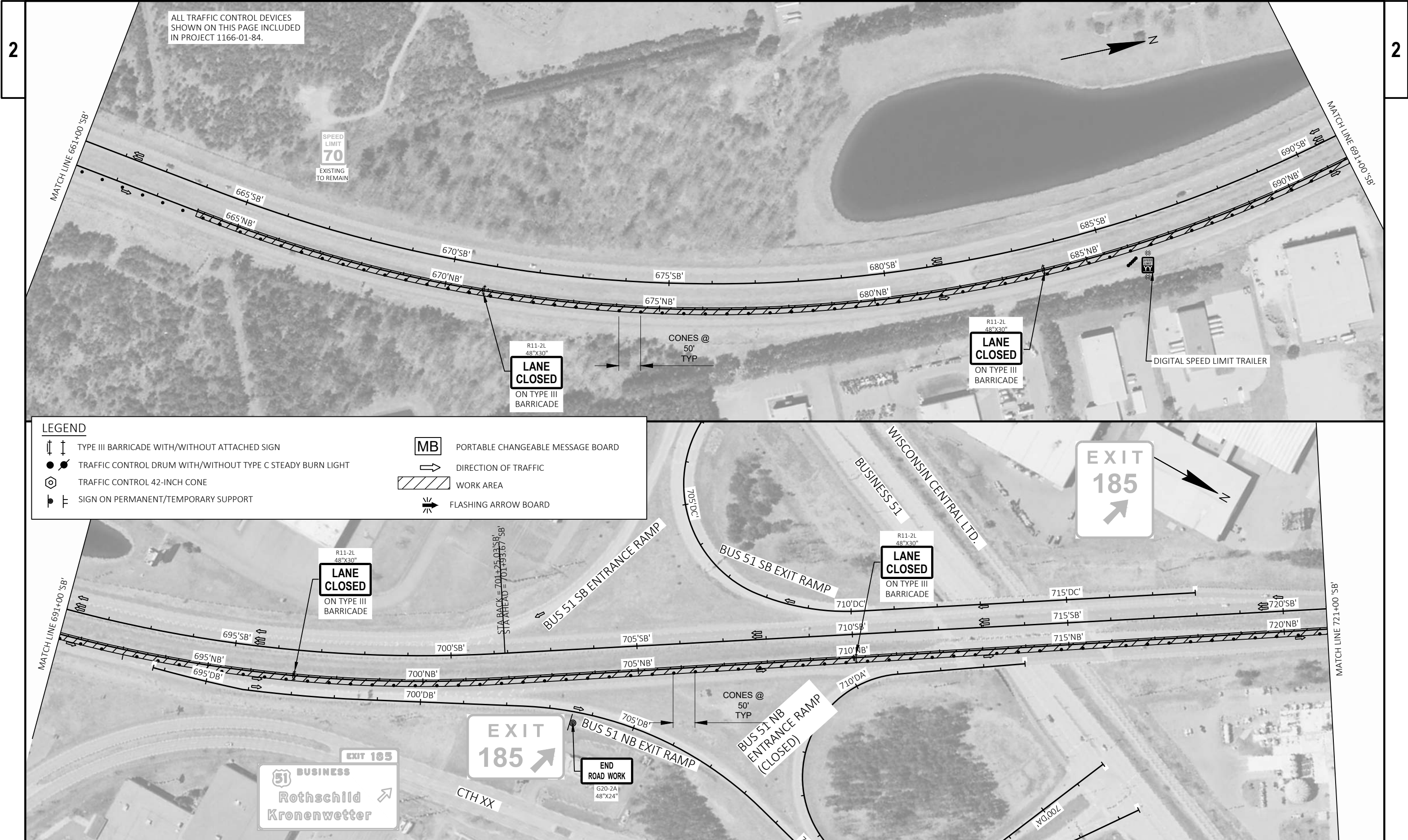
LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |

FLASHING BEACON SIGN FOR BASIC QUEUE WARNING SYSTEM

ROAD WORK 1 MILE W20-1F





ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-01-84.

SPEED
LIMIT
70
EXISTING
TO REMAIN

R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

CONES @
50'
TYP

R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

DIGITAL SPEED LIMIT TRAILER

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |

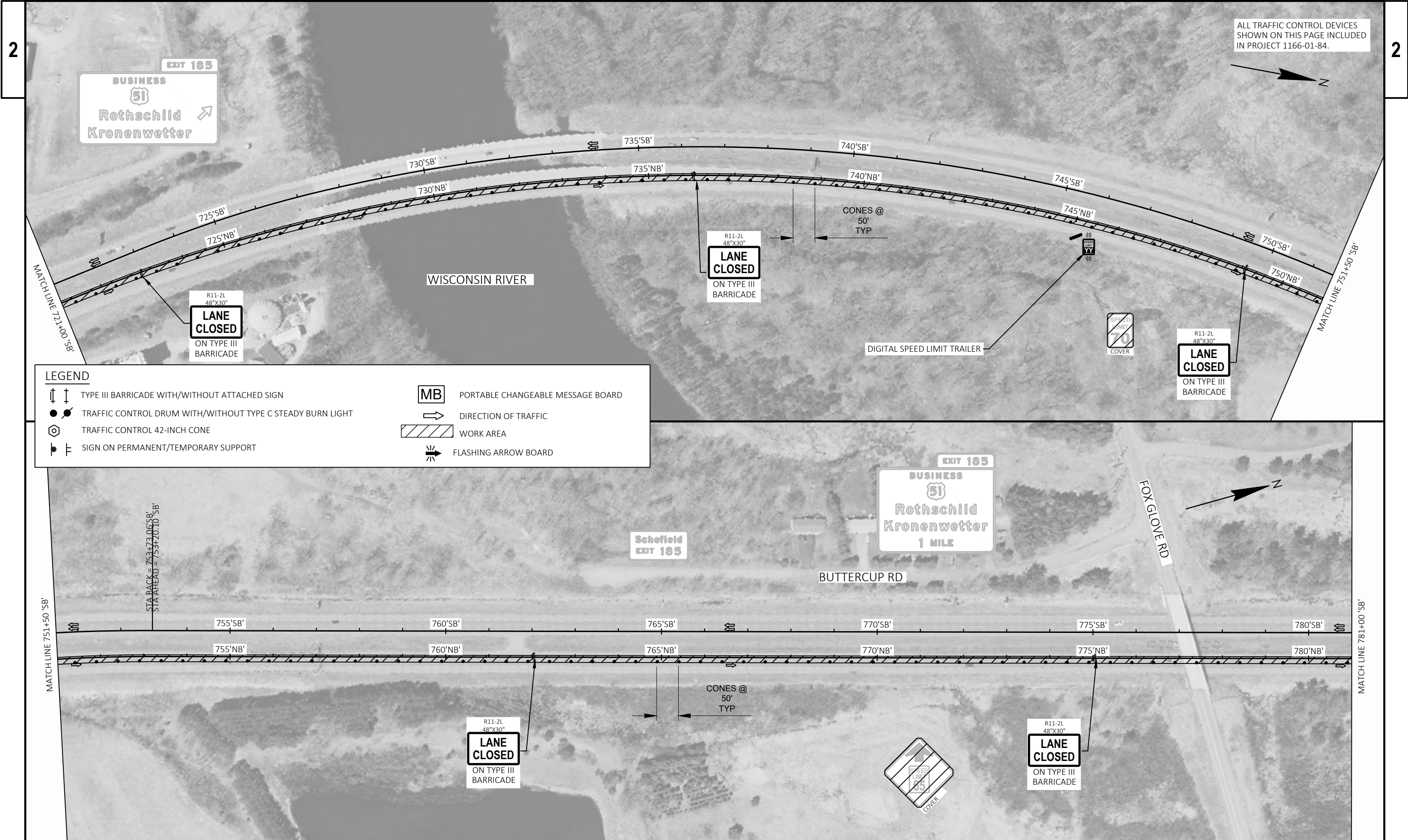
R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

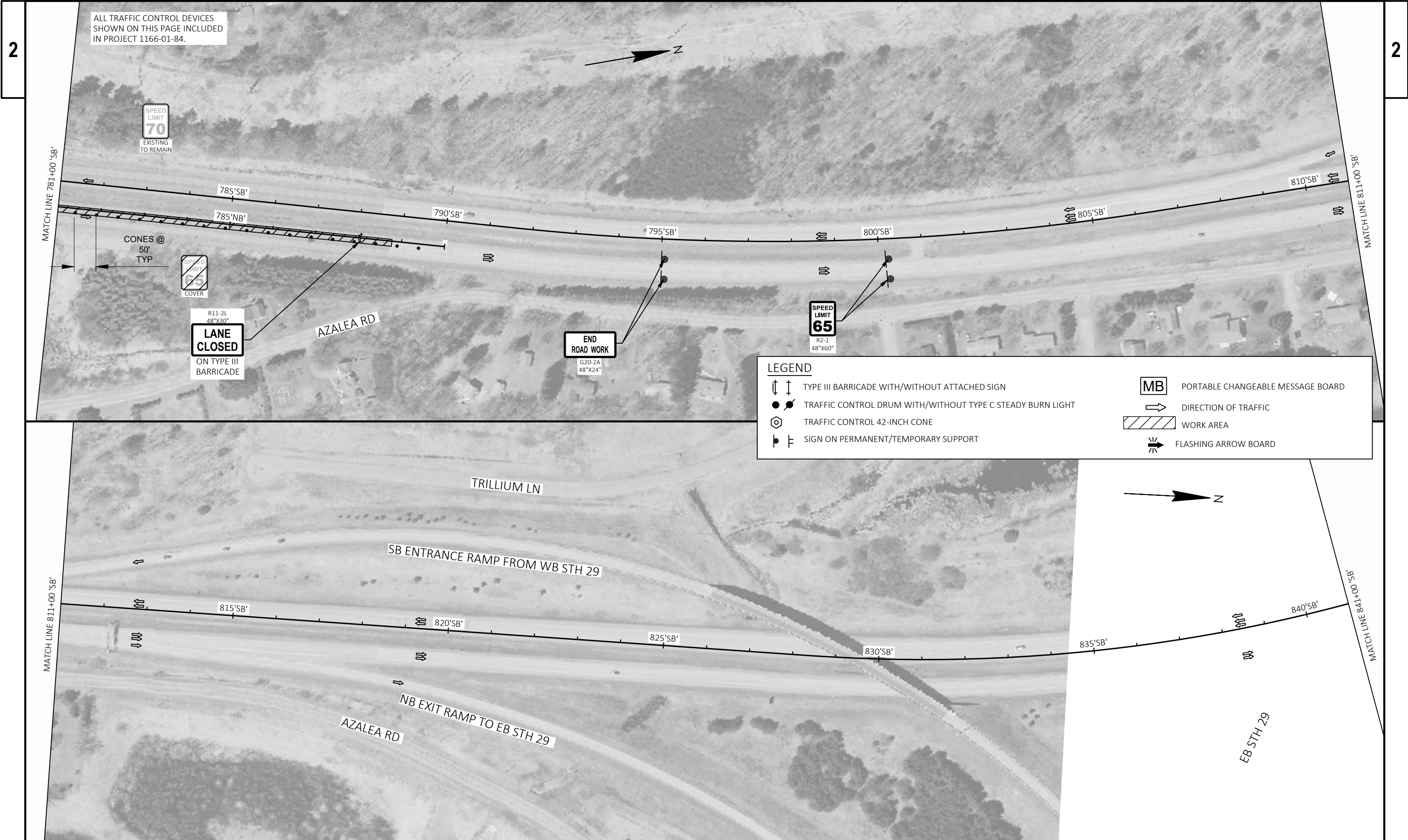
R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

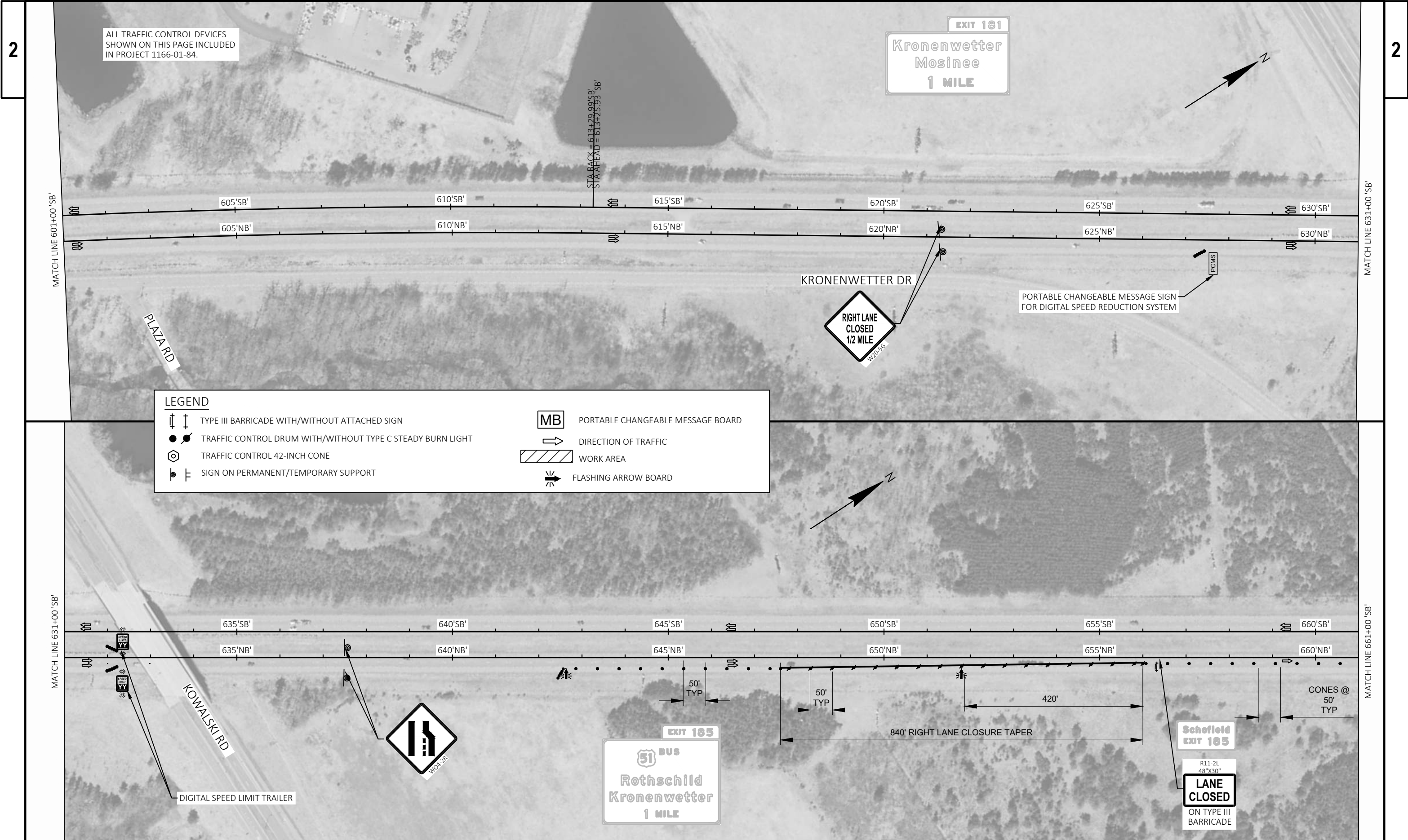
**EXIT
185**

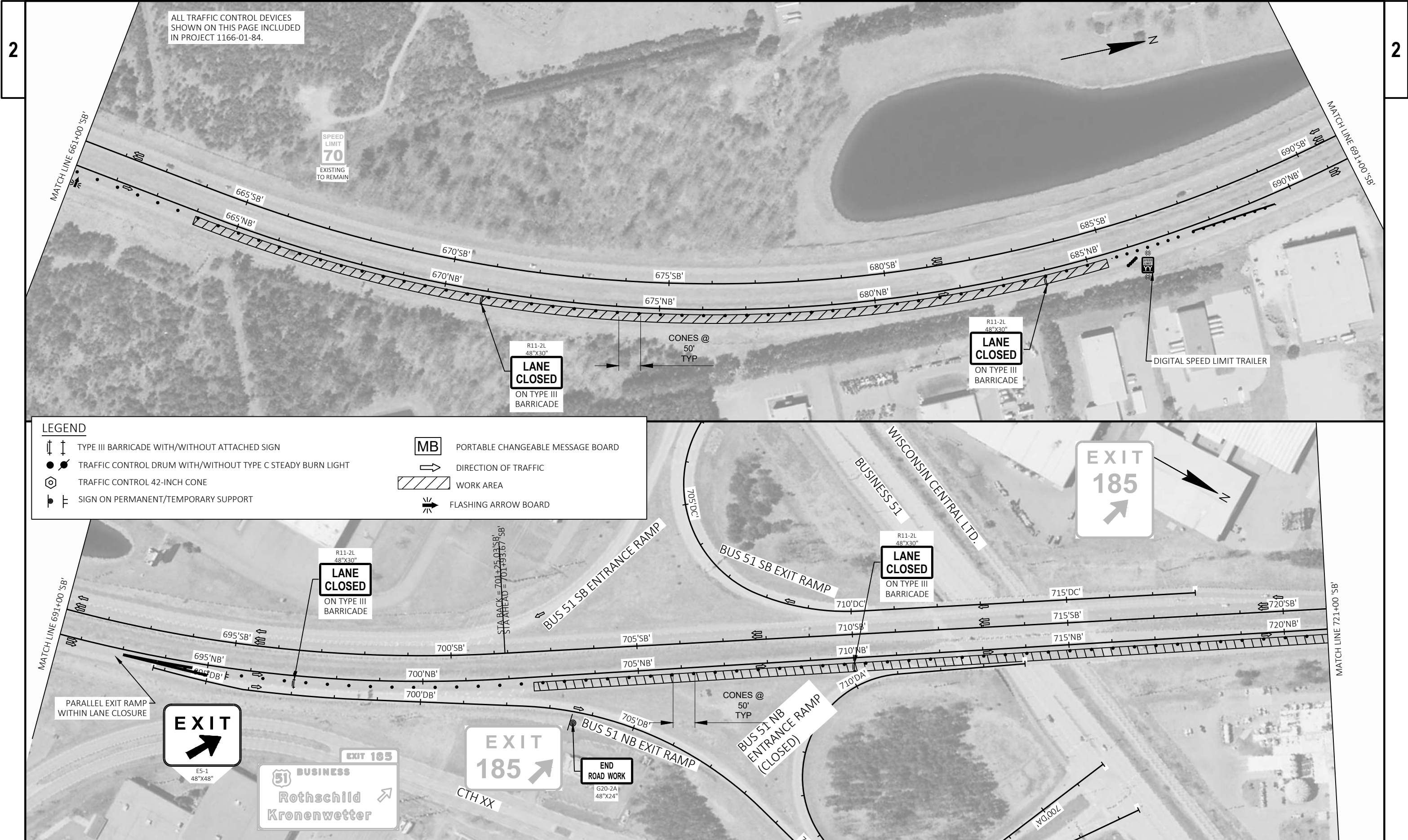
**END
ROAD WORK**
G20-2A
48"x24"

EXIT 185
51 BUSINESS
Rothschild
Kronenwetter









ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.

SPEED LIMIT
70
EXISTING TO REMAIN

R11-2L
48"x30"
LANE CLOSED
ON TYPE III BARRICADE

CONES @
50'
TYP

R11-2L
48"x30"
LANE CLOSED
ON TYPE III BARRICADE

DIGITAL SPEED LIMIT TRAILER

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |

R11-2L
48"x30"
LANE CLOSED
ON TYPE III BARRICADE

R11-2L
48"x30"
LANE CLOSED
ON TYPE III BARRICADE

BUS 51 NB
ENTRANCE RAMP
(CLOSED)

BUS 51 SB
EXIT RAMP

BUS 51 NB
EXIT RAMP

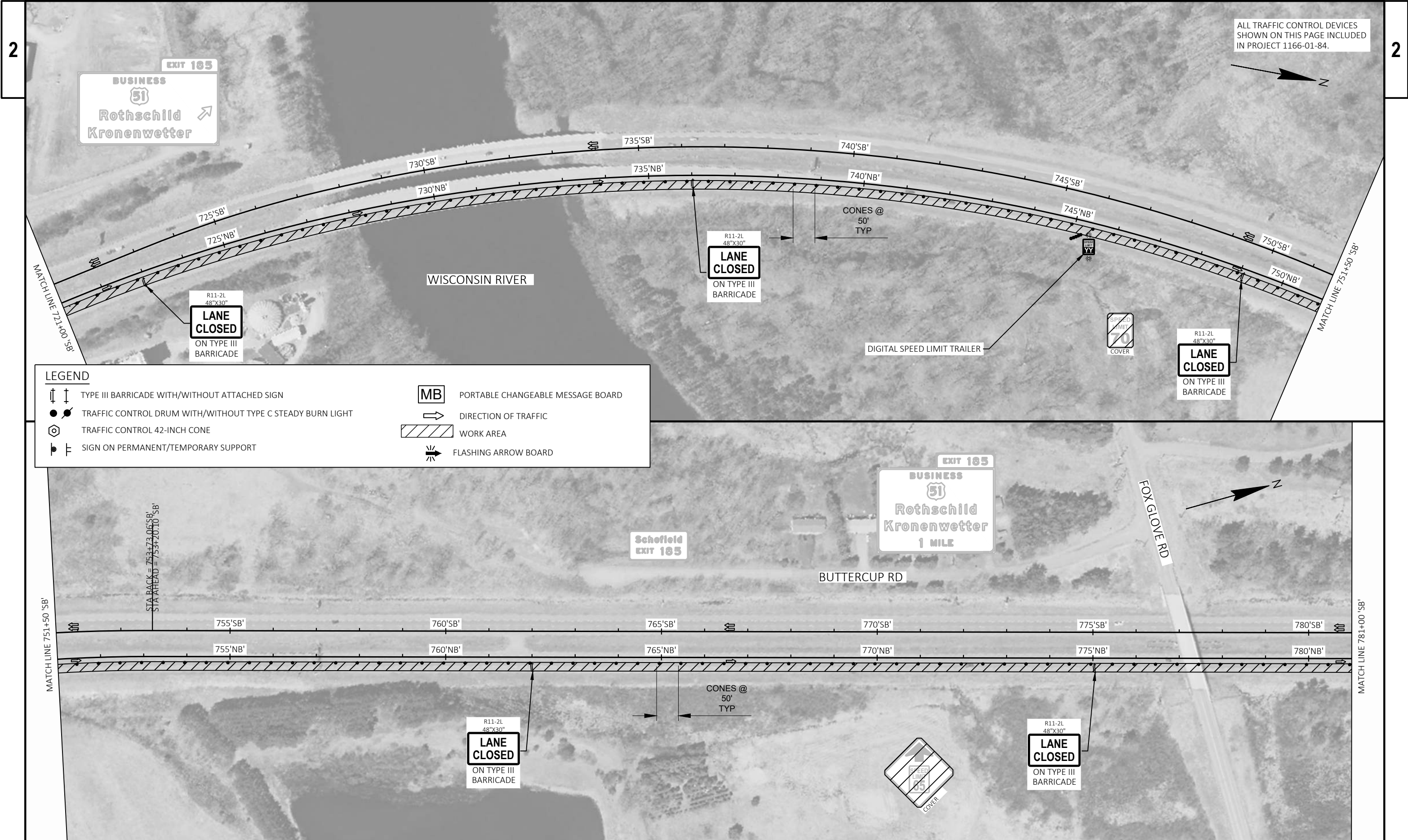
BUS 51 SB
EXIT RAMP

EXIT
E5-1
48"x48"

EXIT 185
BUSINESS
Rothschild
Kronenwetter

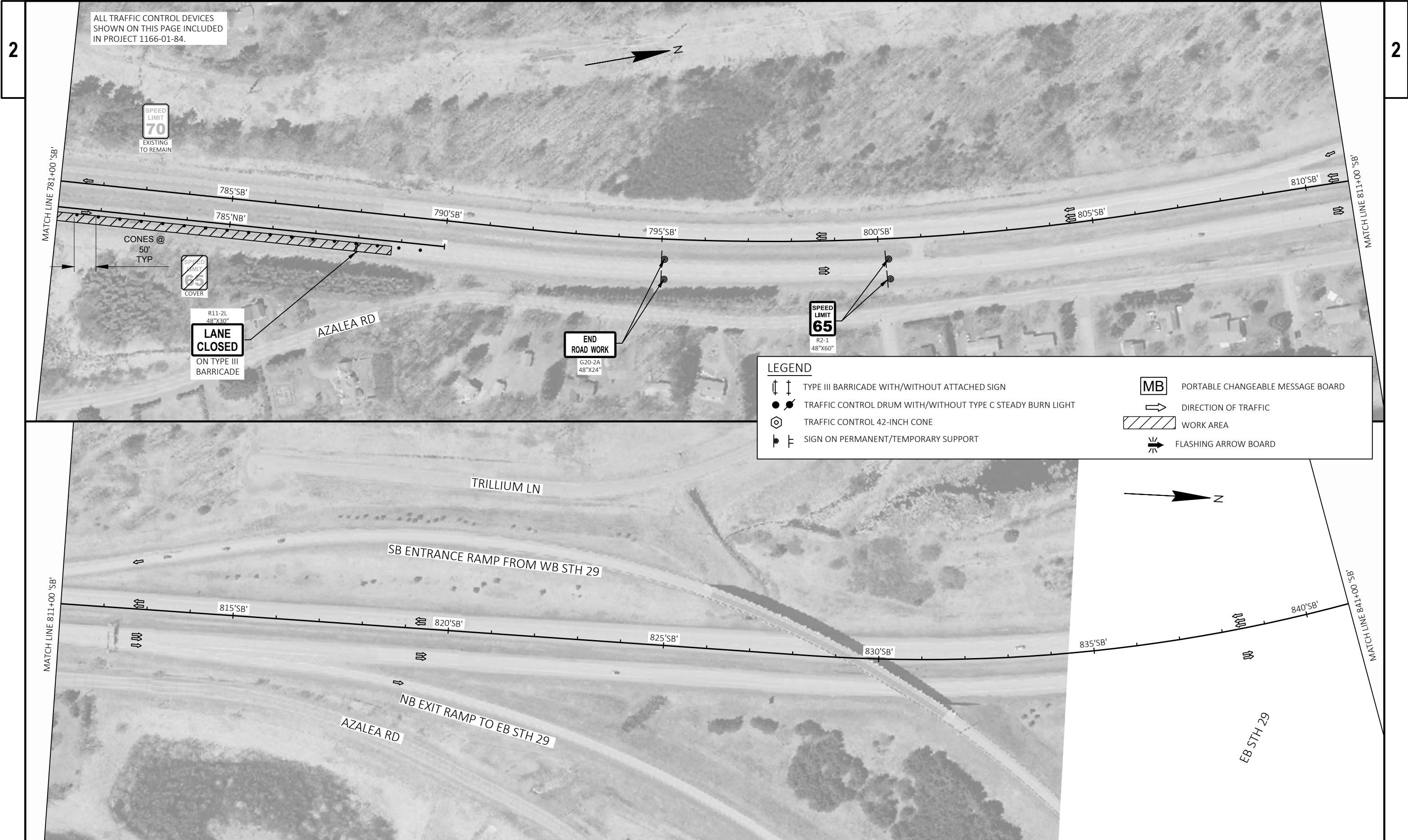
EXIT 185

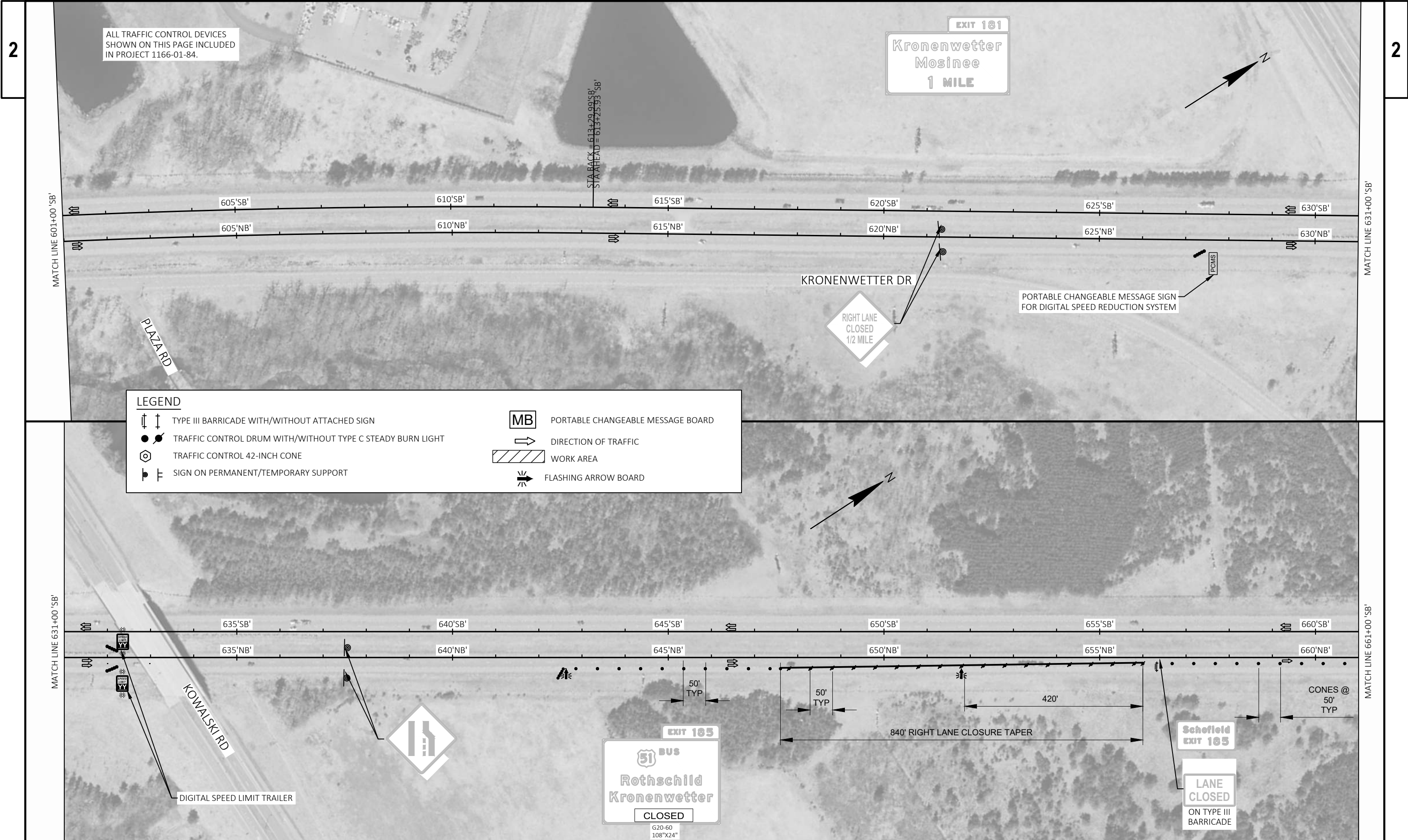
END ROAD WORK
G20-2A
48"x24"

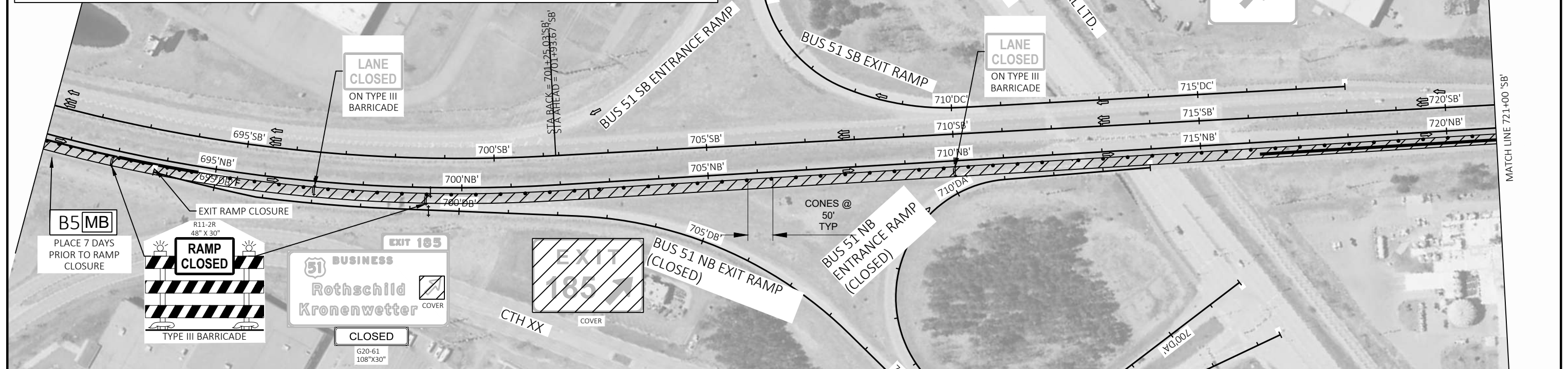
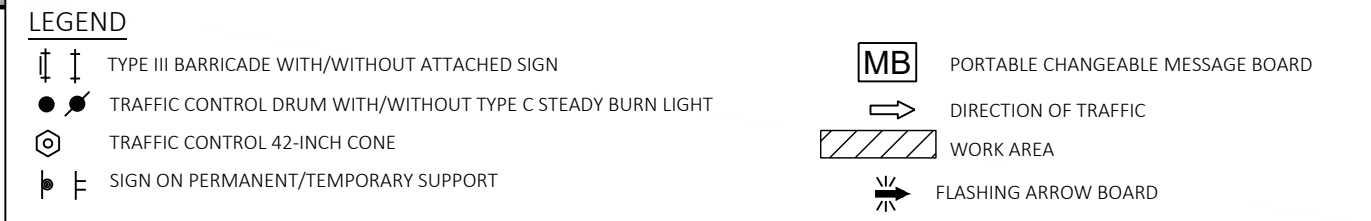


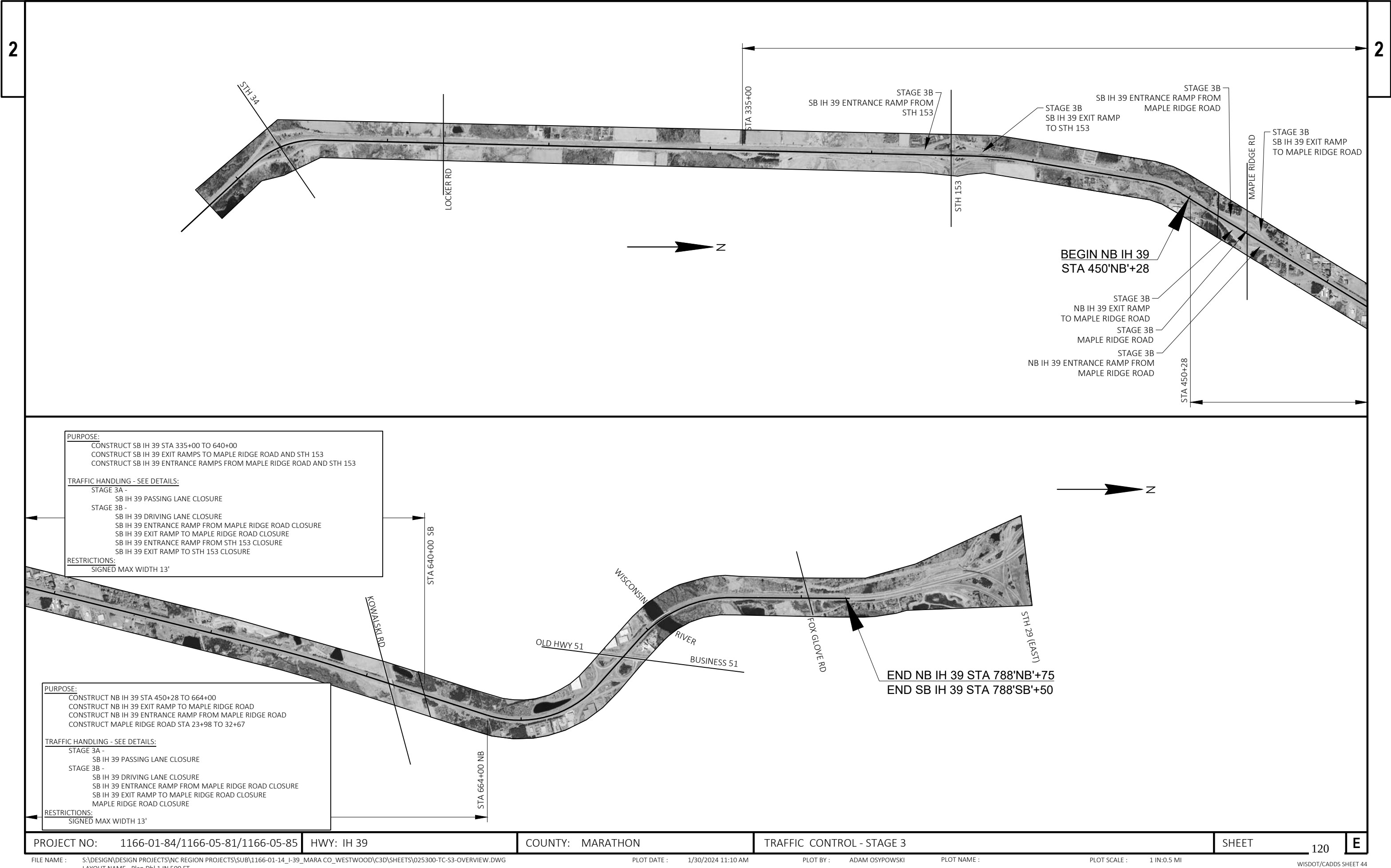
LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL 42-INCH CONE		WORK AREA
	SIGN ON PERMANENT/TEMPORARY SUPPORT		FLASHING ARROW BOARD









PURPOSE:
CONSTRUCT SB IH 39 STA 335+00 TO 640+00
CONSTRUCT SB IH 39 EXIT RAMP TO MAPLE RIDGE ROAD AND STH 153
CONSTRUCT SB IH 39 ENTRANCE RAMPS FROM MAPLE RIDGE ROAD AND STH 153

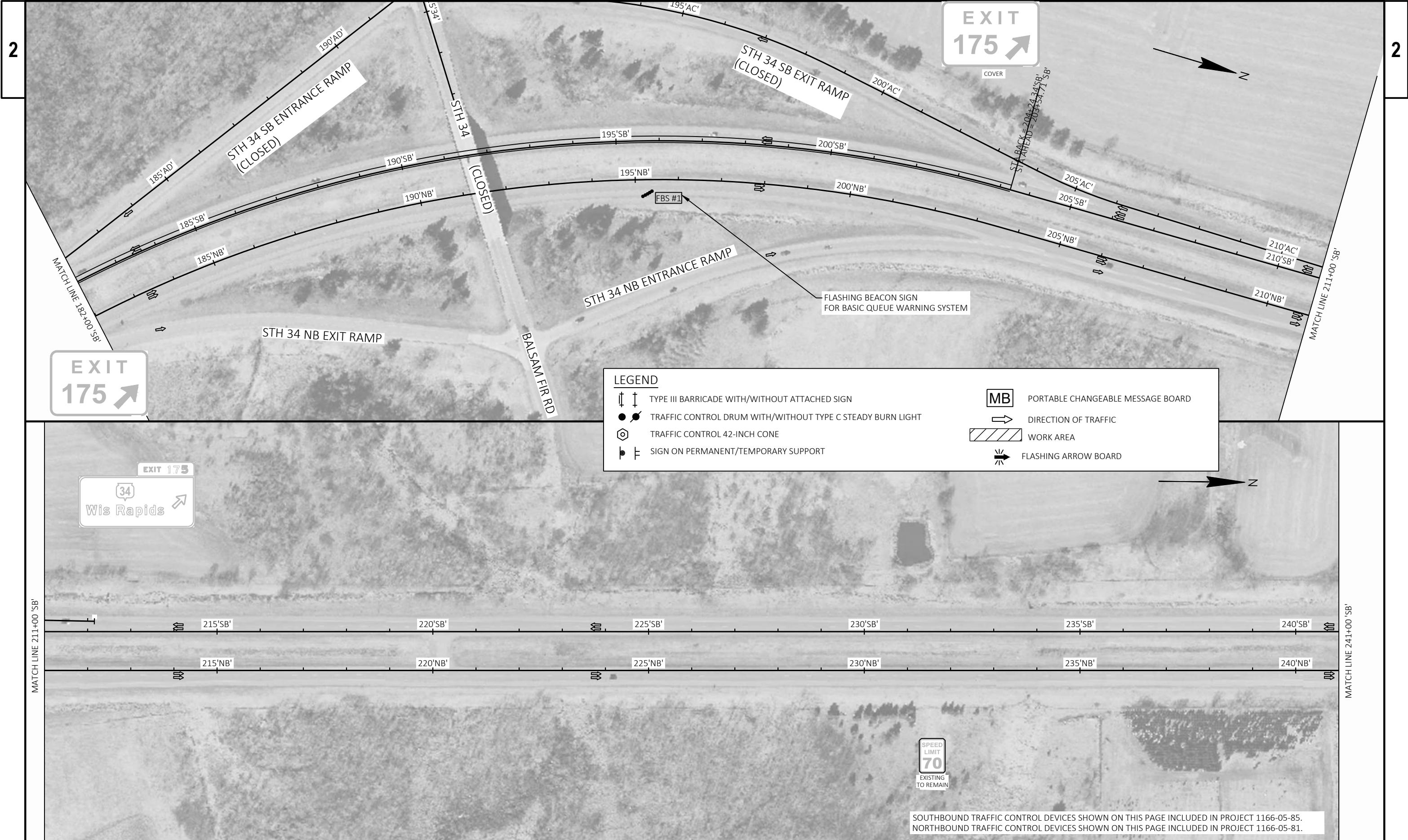
TRAFFIC HANDLING - SEE DETAILS:
STAGE 3A -
SB IH 39 PASSING LANE CLOSURE
STAGE 3B -
SB IH 39 DRIVING LANE CLOSURE
SB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD CLOSURE
SB IH 39 EXIT RAMP TO MAPLE RIDGE ROAD CLOSURE
SB IH 39 ENTRANCE RAMP FROM STH 153 CLOSURE
SB IH 39 EXIT RAMP TO STH 153 CLOSURE

RESTRICTIONS:
SIGNED MAX WIDTH 13'

PURPOSE:
CONSTRUCT NB IH 39 STA 450+28 TO 664+00
CONSTRUCT NB IH 39 EXIT RAMP TO MAPLE RIDGE ROAD
CONSTRUCT NB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD
CONSTRUCT MAPLE RIDGE ROAD STA 23+98 TO 32+67

TRAFFIC HANDLING - SEE DETAILS:
STAGE 3A -
SB IH 39 PASSING LANE CLOSURE
STAGE 3B -
SB IH 39 DRIVING LANE CLOSURE
SB IH 39 ENTRANCE RAMP FROM MAPLE RIDGE ROAD CLOSURE
SB IH 39 EXIT RAMP TO MAPLE RIDGE ROAD CLOSURE
MAPLE RIDGE ROAD CLOSURE

RESTRICTIONS:
SIGNED MAX WIDTH 13'





SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

SIGN ON PERMANENT/TEMPORARY SUPPORT

MB

PORTABLE CHANGEABLE MESSAGE BOARD

DIRECTION OF TRAFFIC

WORK AREA

FLASHING ARROW BOARD

SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

MATCH LINE 361+00 'SB'

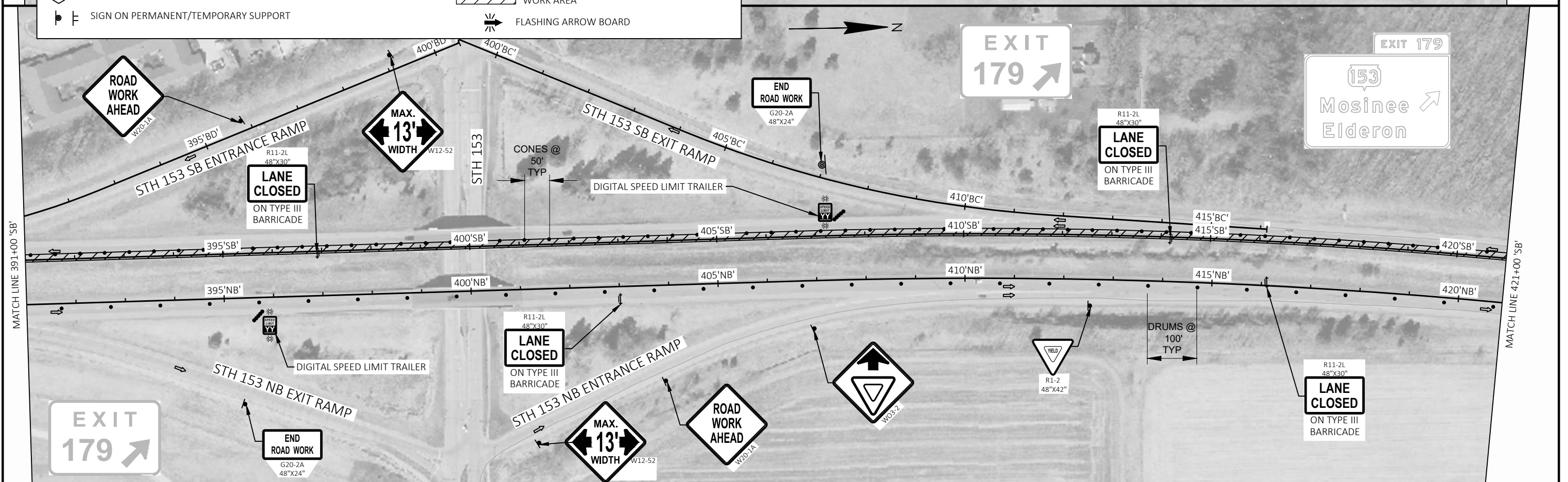
MATCH LINE 391+00 'SB'

MATCH LINE 391+00 'SB'

MATCH LINE 421+00 'SB'

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - STAGE 3A

SHEET

124

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NC REGION PROJECTS\SUB\1166-01-14_I-39_MARA_CO_WESTWOOD\C3D\SHEETS\025310-TC-S3A.DWG
LAYOUT NAME - 05

PLOT DATE : 4/18/2024 8:49 AM

PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDs SHEET 44

LEGEND

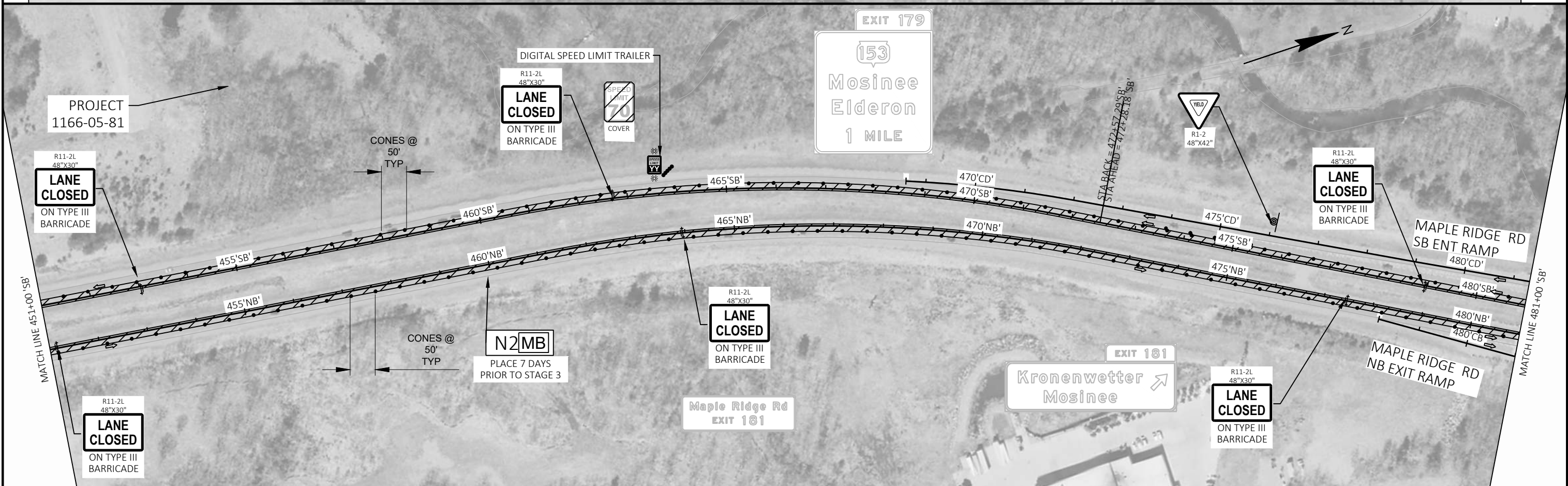
- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL 42-INCH CONE
- SIGN ON PERMANENT/TEMPORARY SUPPORT
- PORTABLE CHANGEABLE MESSAGE BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD

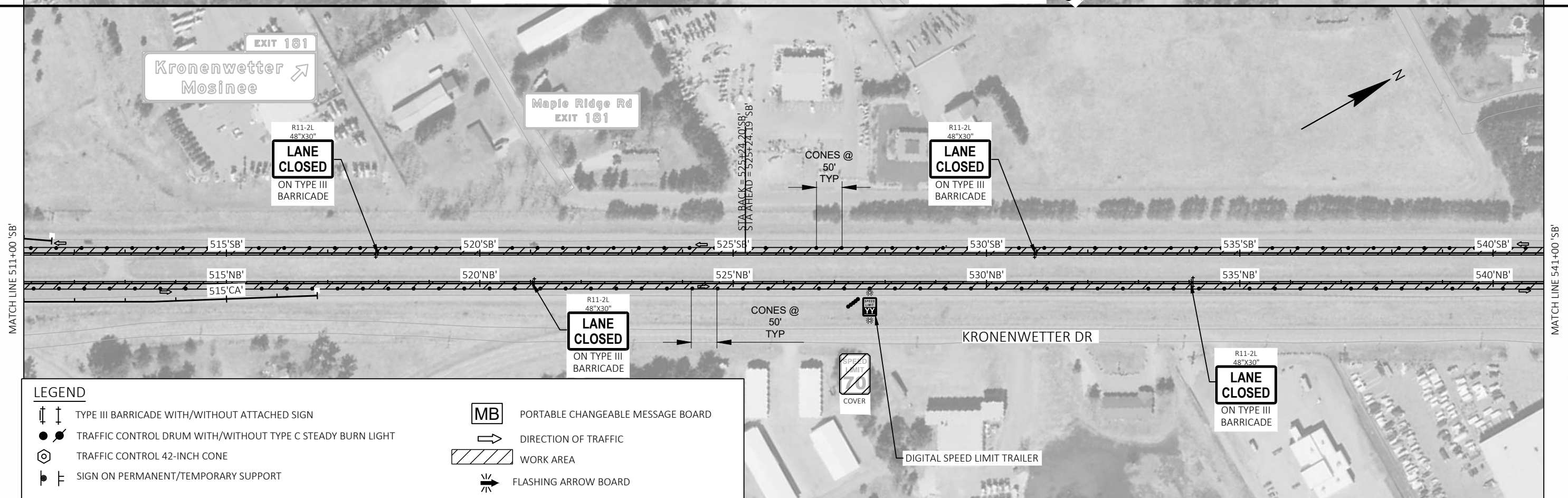
SOUTHBOUND TRAFFIC CONTROL DEVICES SOUTH OF STATION 450+28 PAGE INCLUDED IN PROJECT 1166-05-85.
SOUTHBOUND TRAFFIC CONTROL DEVICES NORTH OF STATION 450+28 PAGE INCLUDED IN PROJECT 1166-05-81.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

PROJECT
1166-05-85

MATCH LINE 421+00 'SB'

MATCH LINE 451+00 'SB'



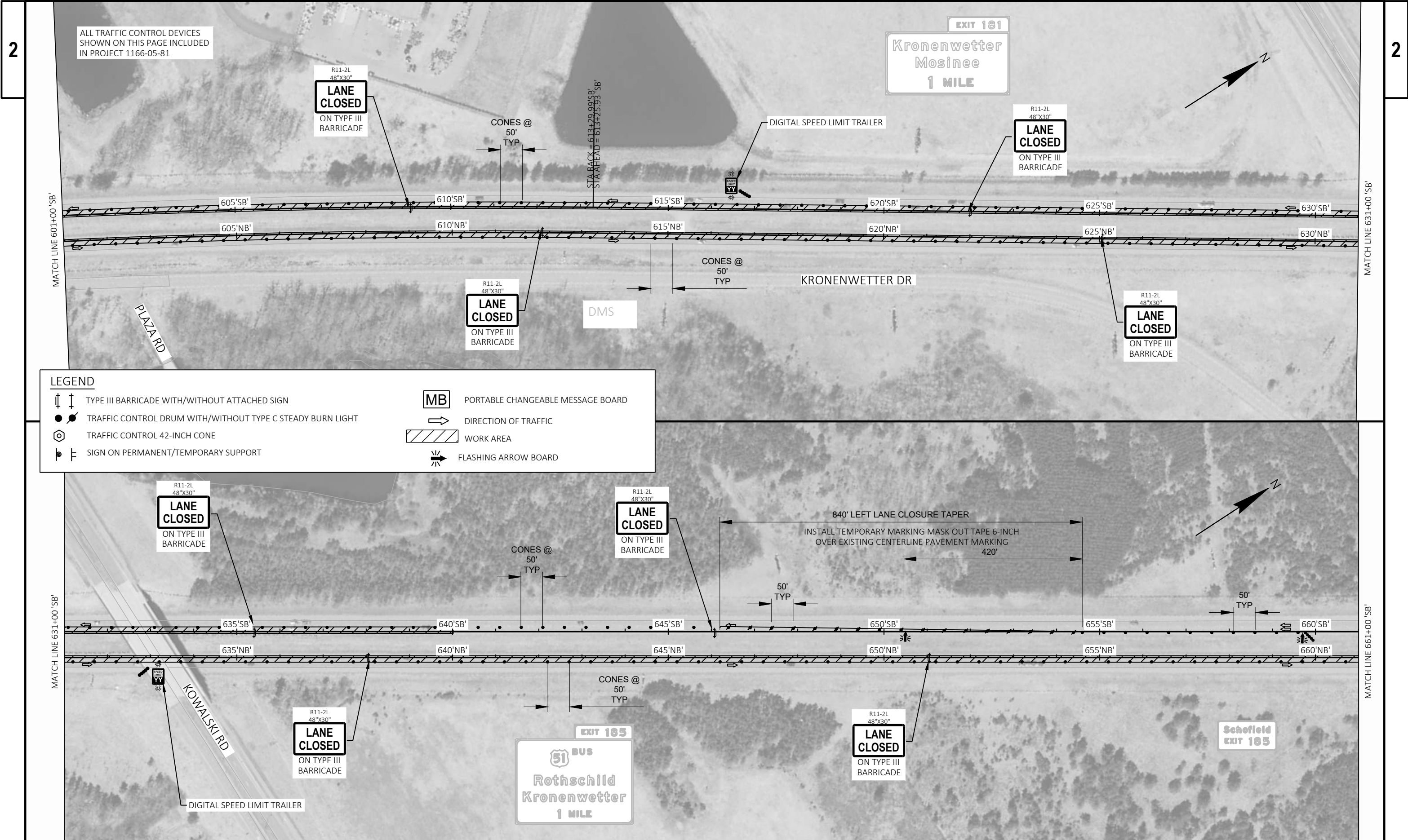


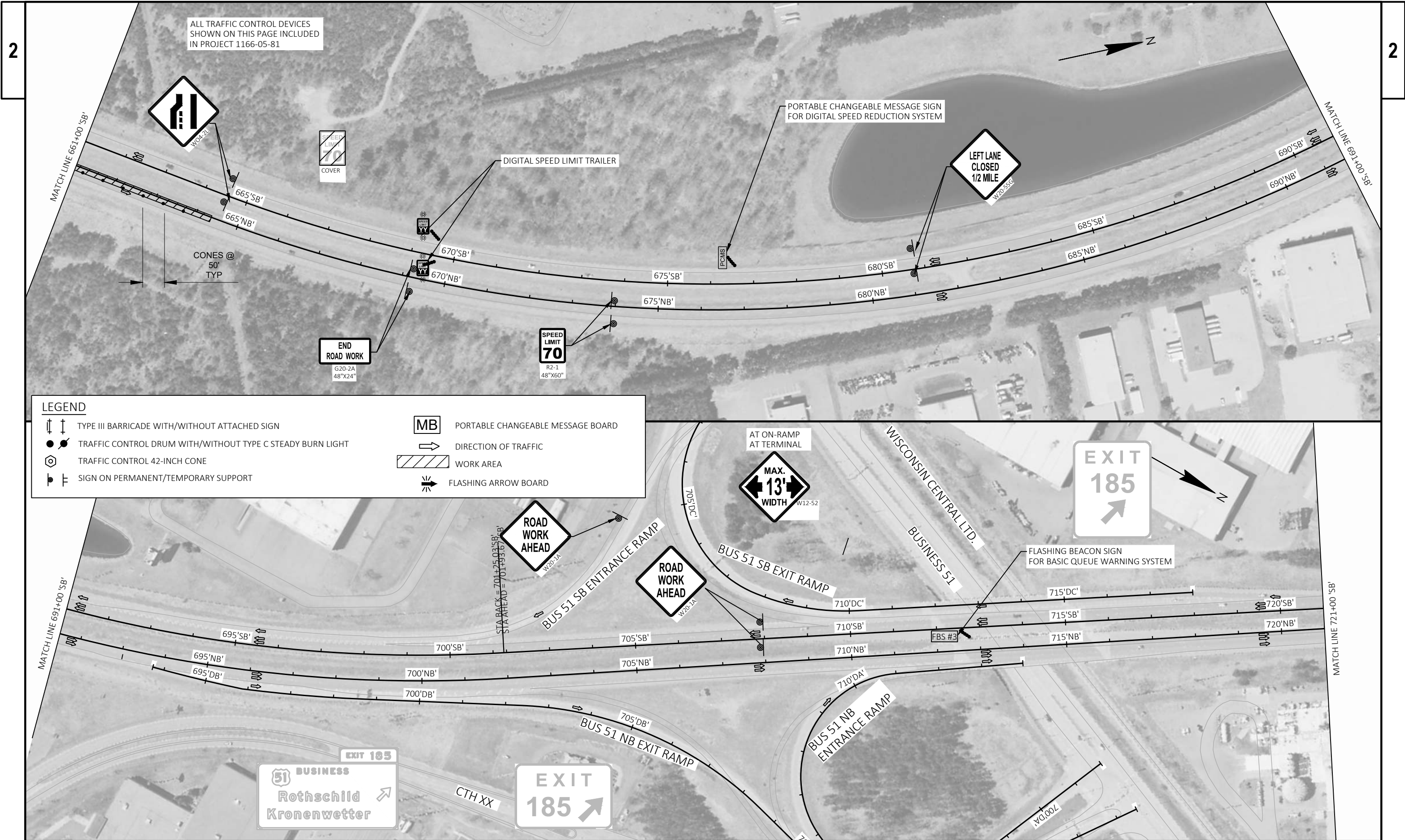


ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-05-81

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |





LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

SIGN ON PERMANENT/TEMPORARY SUPPORT

PORTABLE CHANGEABLE MESSAGE BOARD

DIRECTION OF TRAFFIC

WORK AREA

FLASHING ARROW BOARD

PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - STAGE 3A

SHEET 129

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NC REGION PROJECTS\SUB\1166-01-14_I-39_MARA_CO_WESTWOOD\C3D\SHEETS\025310-TC-S3A.DWG

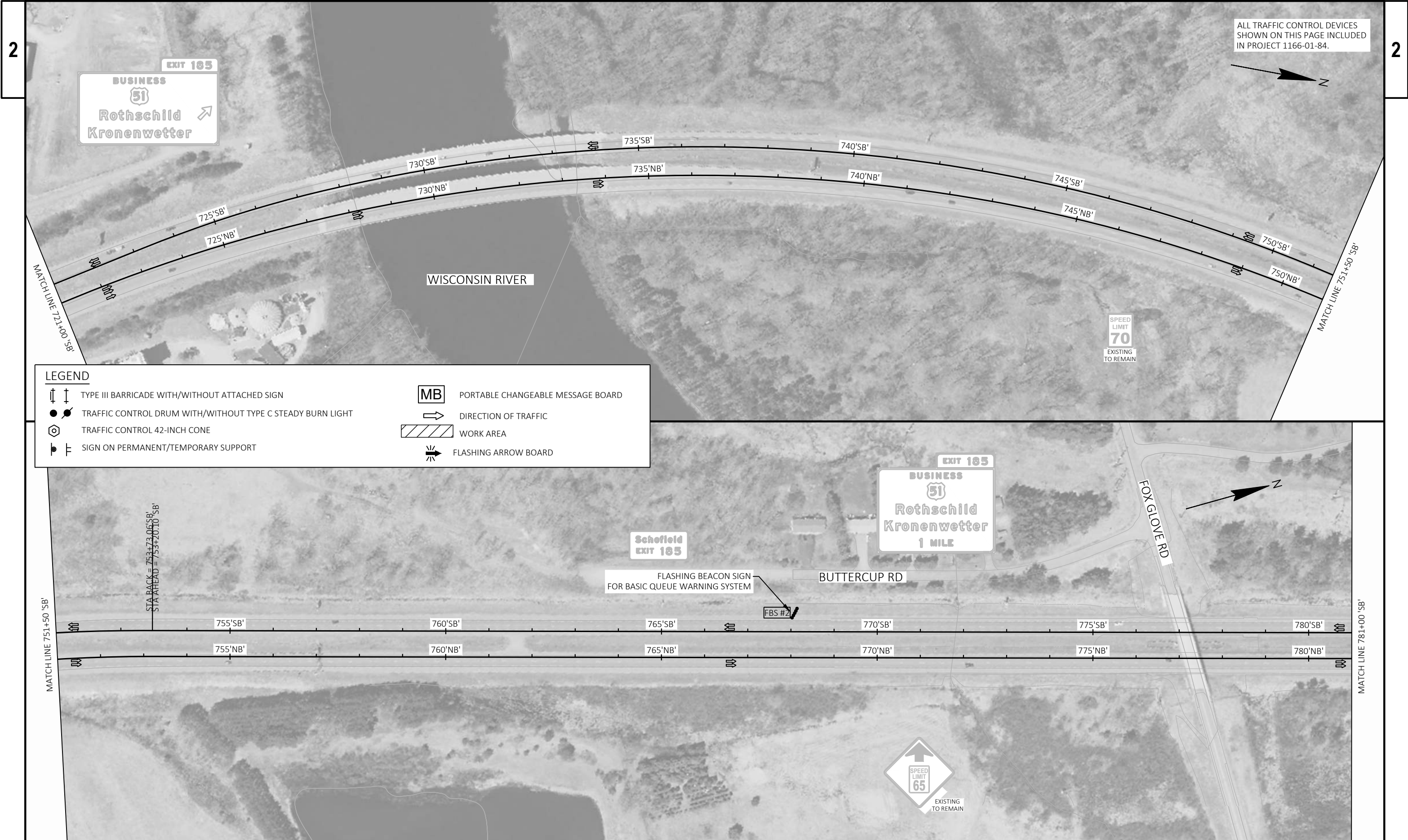
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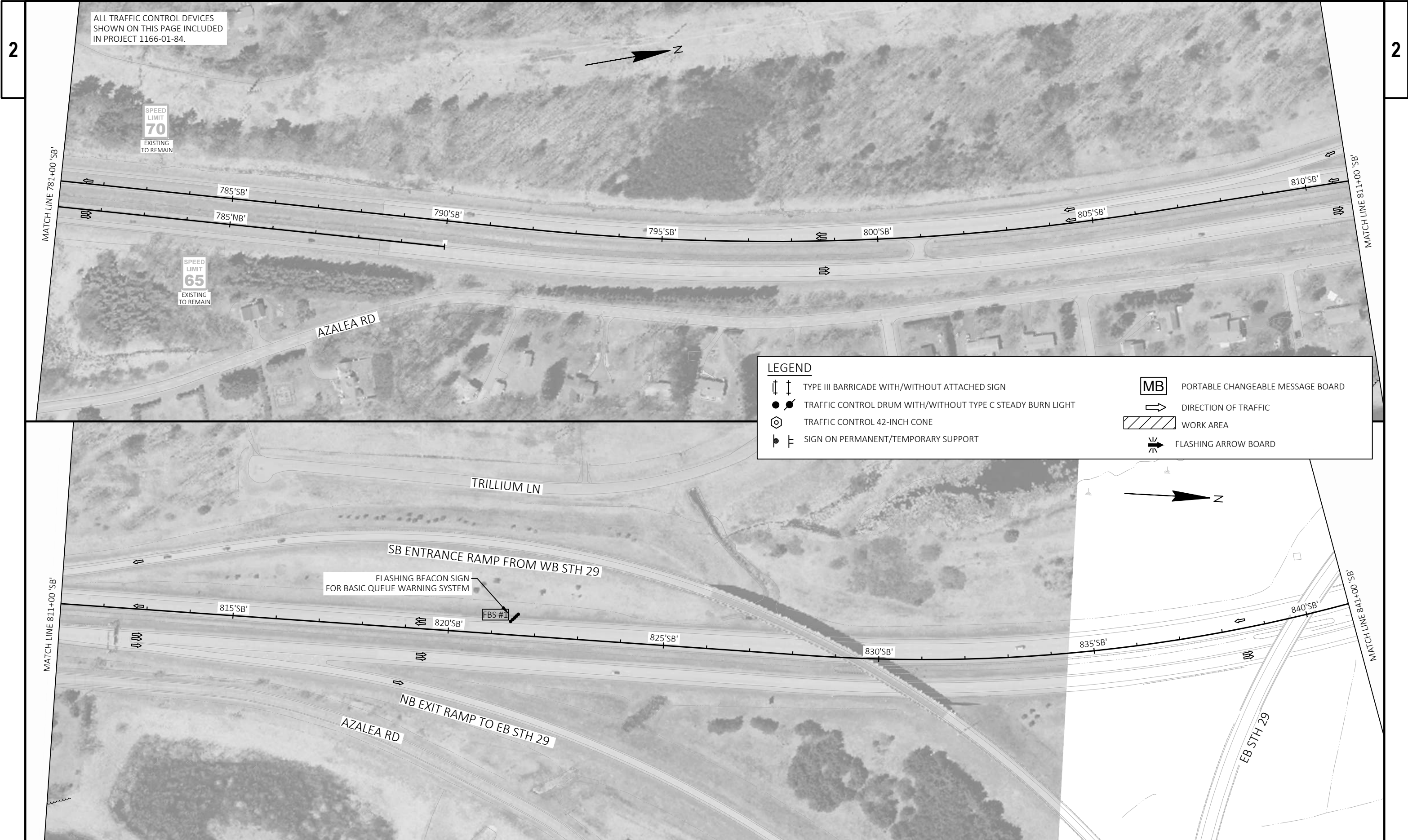
PLOT BY : ADAM OSYPOWSKI

PLOT NAME :

PLOT SCALE : 1 IN:200 FT

WISDOT/CADDs SHEET 44





ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-01-84.

SPEED
LIMIT
70
EXISTING
TO REMAIN

SPEED
LIMIT
65
EXISTING
TO REMAIN

AZALEA RD

TRILLIUM LN

SB ENTRANCE RAMP FROM WB STH 29

FLASHING BEACON SIGN
FOR BASIC QUEUE WARNING SYSTEM

FBS #1

NB EXIT RAMP TO EB STH 29

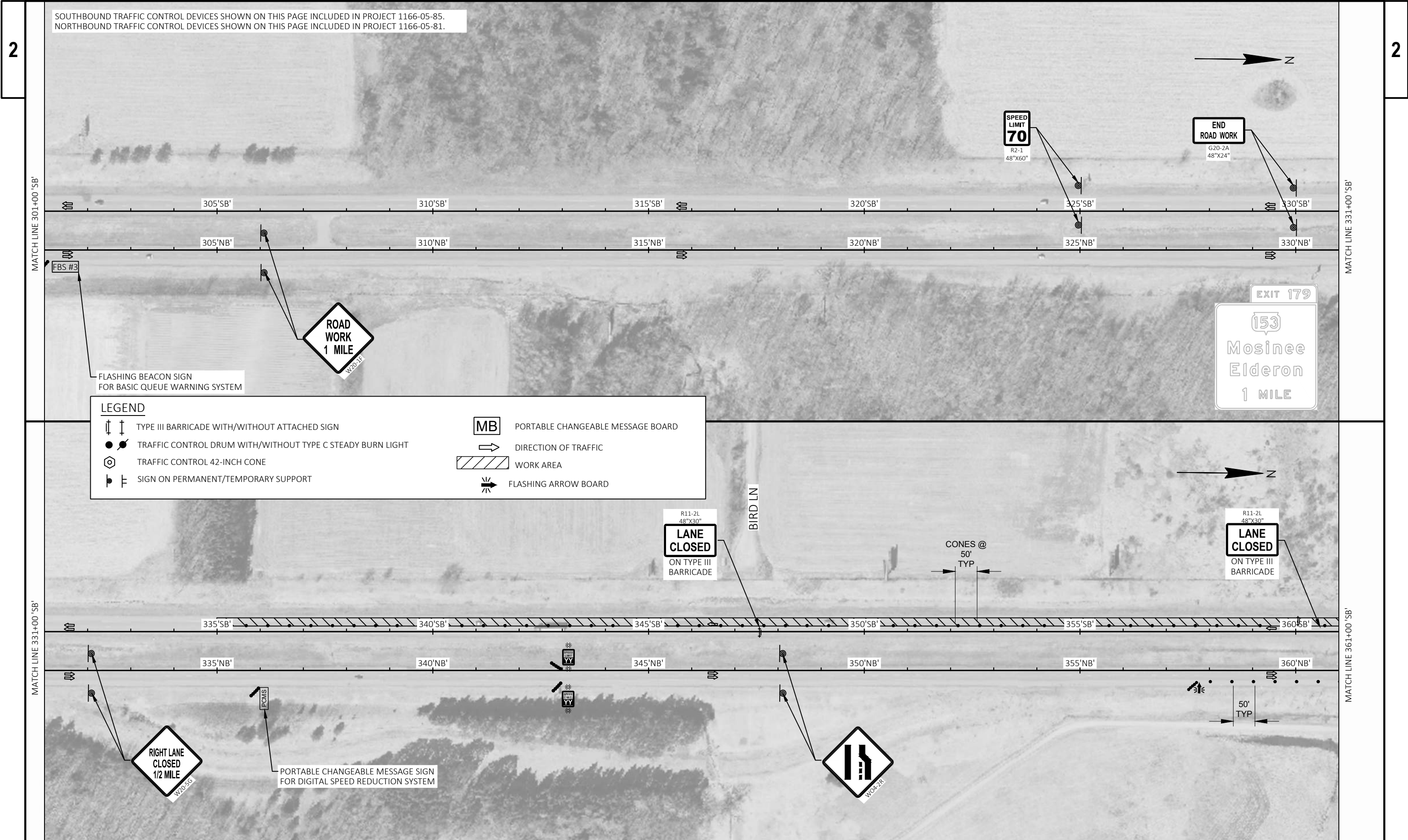
AZALEA RD

EB STH 29

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL 42-INCH CONE
- SIGN ON PERMANENT/TEMPORARY SUPPORT

- PORTABLE CHANGEABLE MESSAGE BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

SIGN ON PERMANENT/TEMPORARY SUPPORT

MB

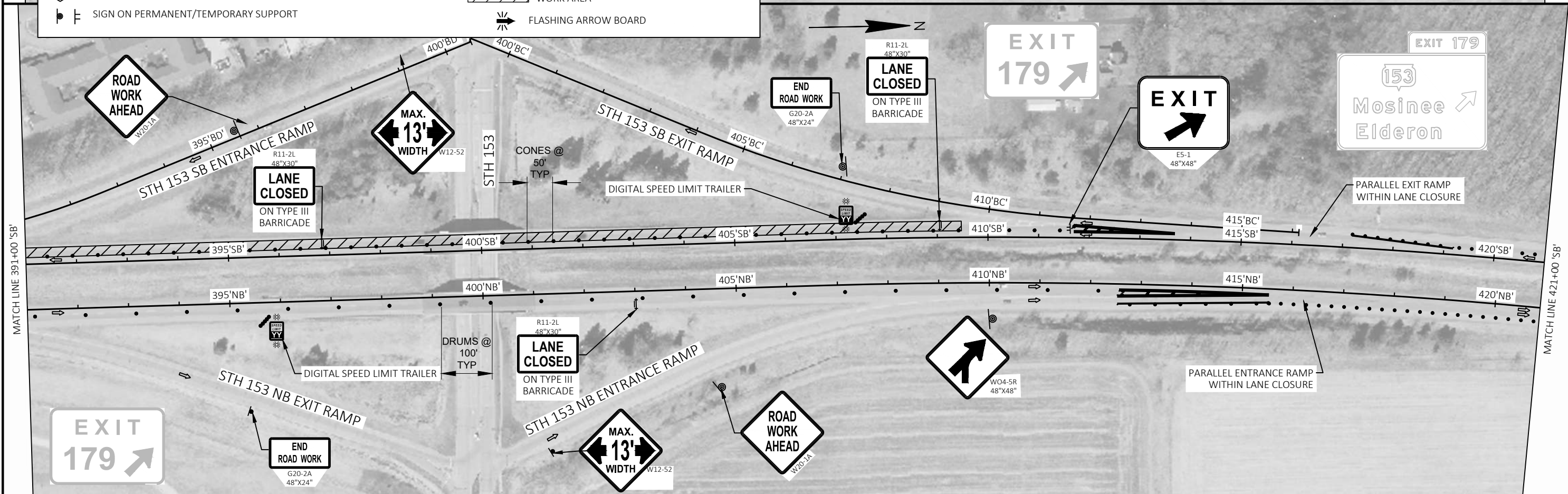
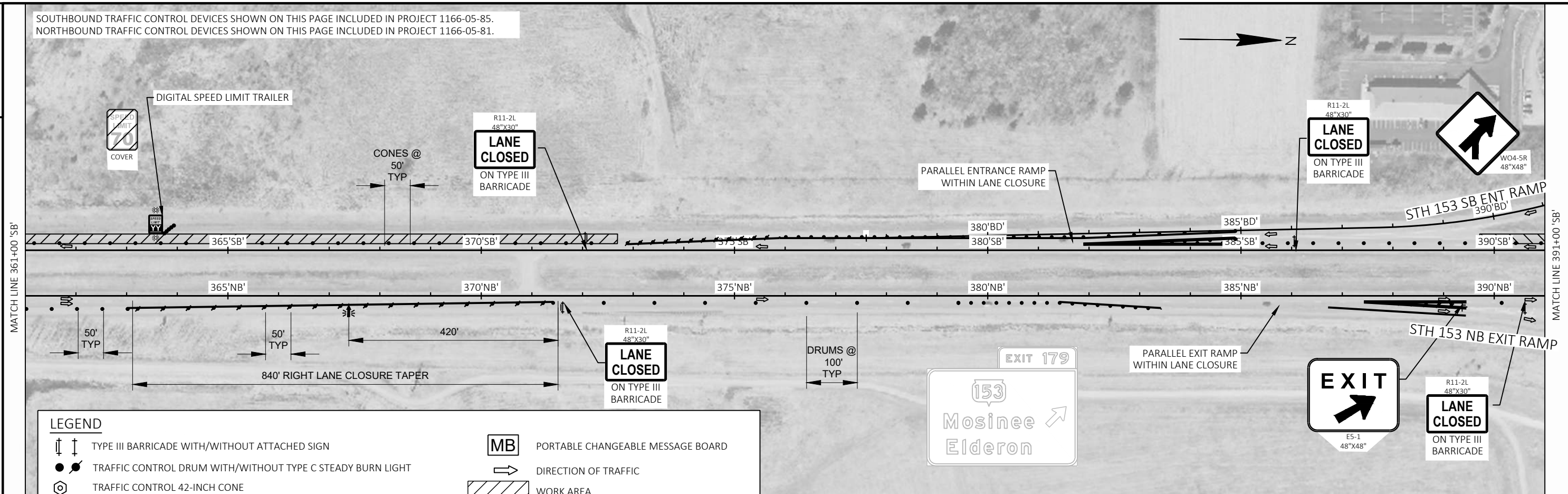
PORTABLE CHANGEABLE MESSAGE BOARD

DIRECTION OF TRAFFIC

WORK AREA

FLASHING ARROW BOARD

SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.



PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

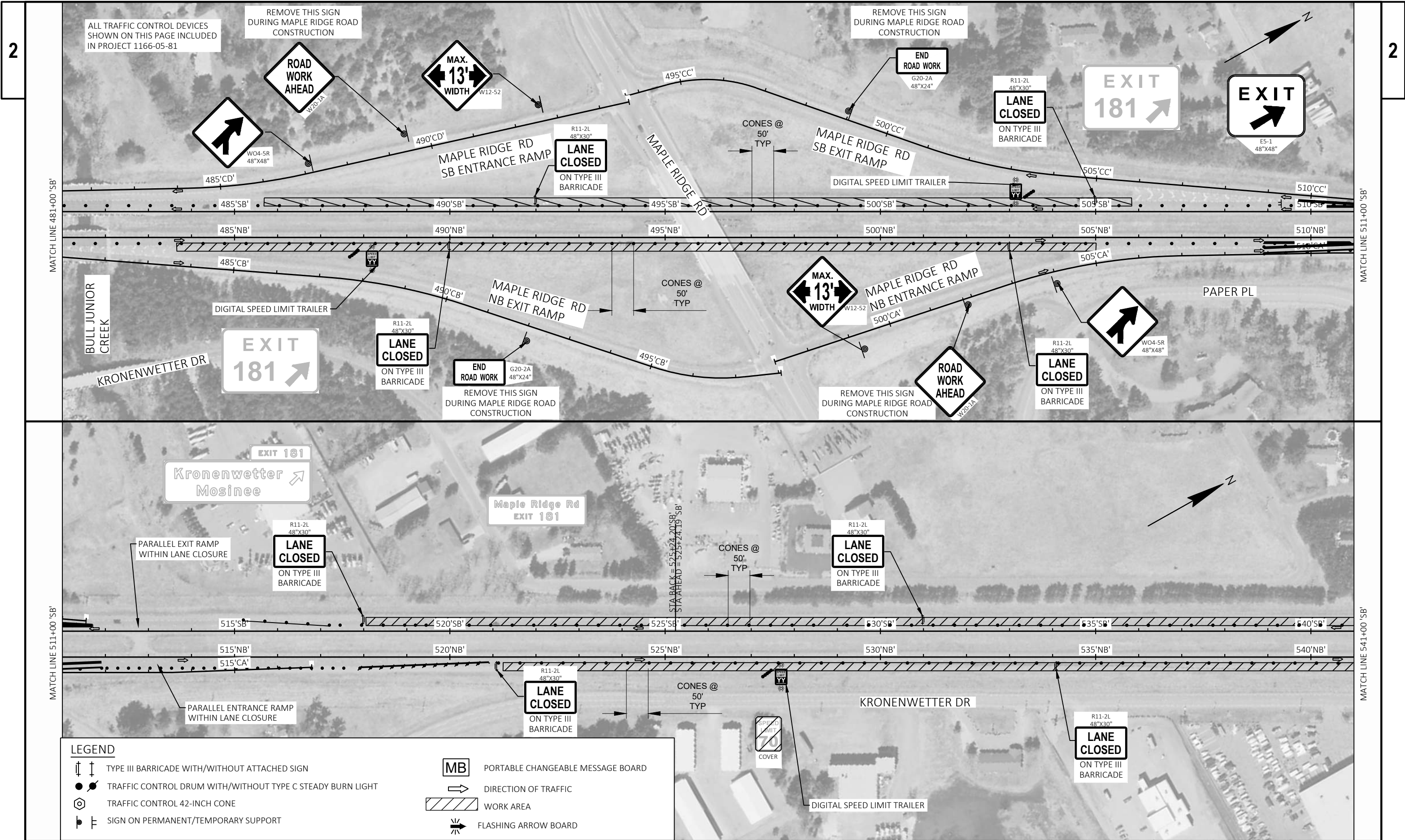
COUNTY: MARATHON

TRAFFIC CONTROL - STAGE 3B

SHEET

133

E



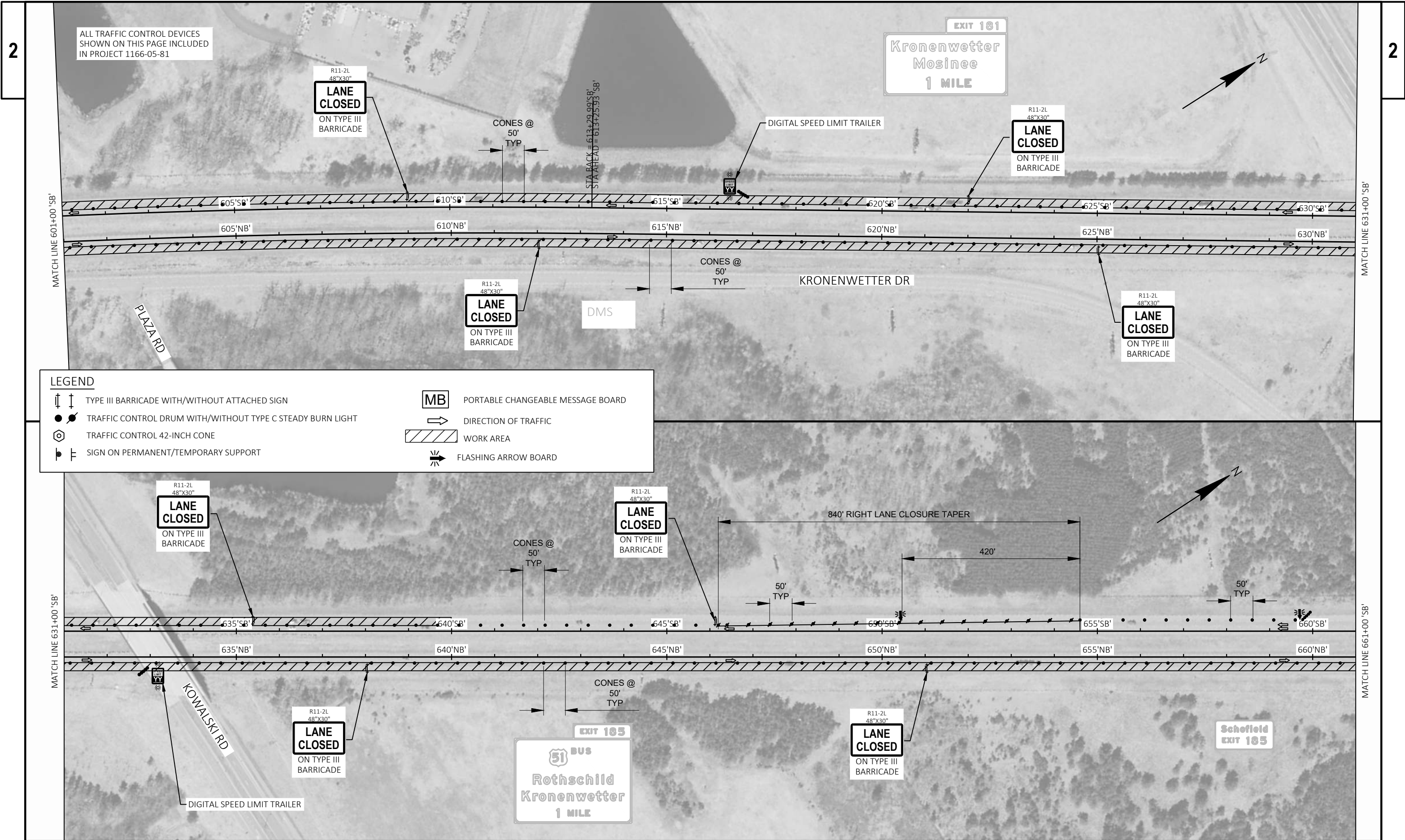


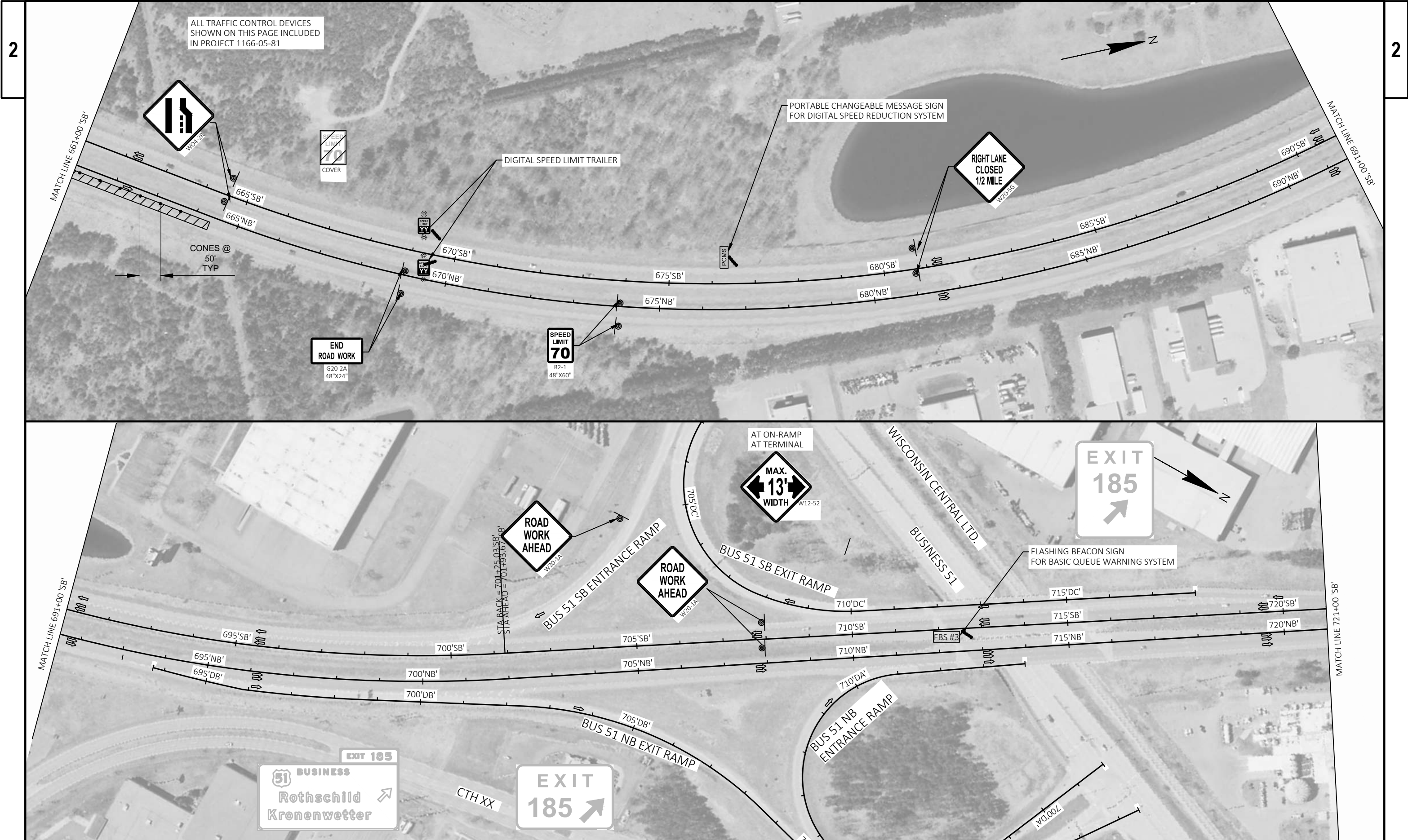
ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-05-81

KRONENWETTER DR

KRONENWETTER DR

CEDAR RD





SOUTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.
NORTHBOUND TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-81.

MATCH LINE 361+00 'SB'

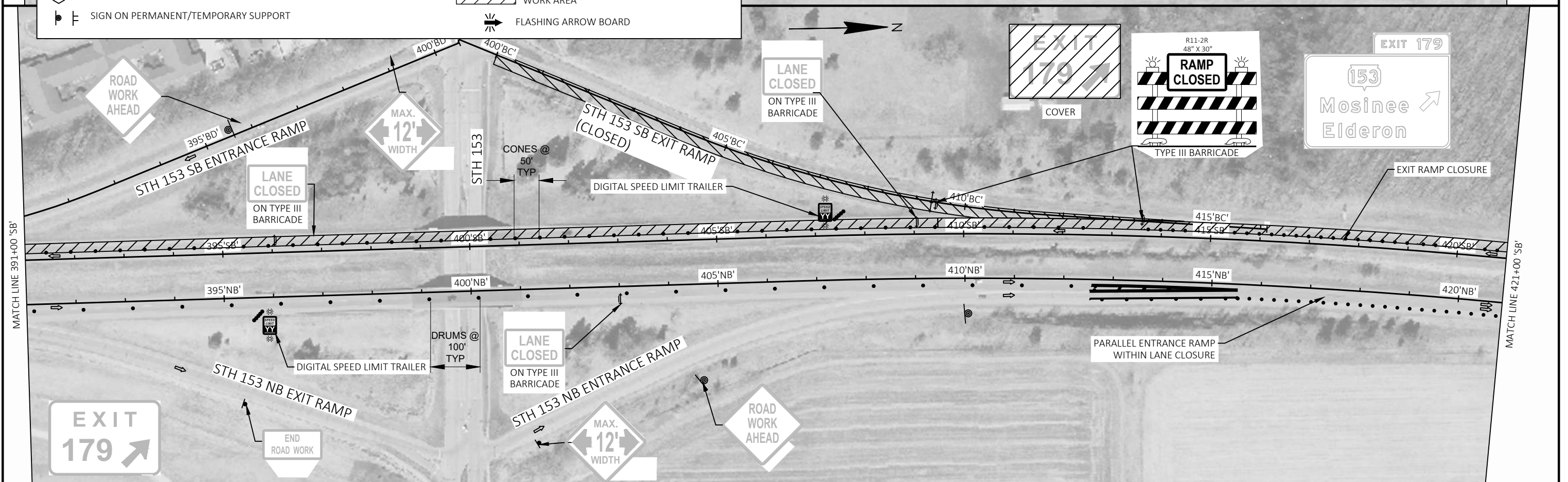
MATCH LINE 391+00 'SB'

MATCH LINE 391+00 'SB'

MATCH LINE 421+00 'SB'

LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

TRAFFIC CONTROL - STAGE 3B SOUTHBOUND IH 39 EXIT RAMP TO STH 153 CLOSURE

SHEET

139

E

FILE NAME : S:\DESIGN\DESIGN PROJECTS\NC REGION PROJECTS\SUB\1166-01-14_I-39_MARA_CO_WESTWOOD\C3D\SHEETS\025325-TC-S3B5B153-EXIT.DWG
LAYOUT NAME - 05

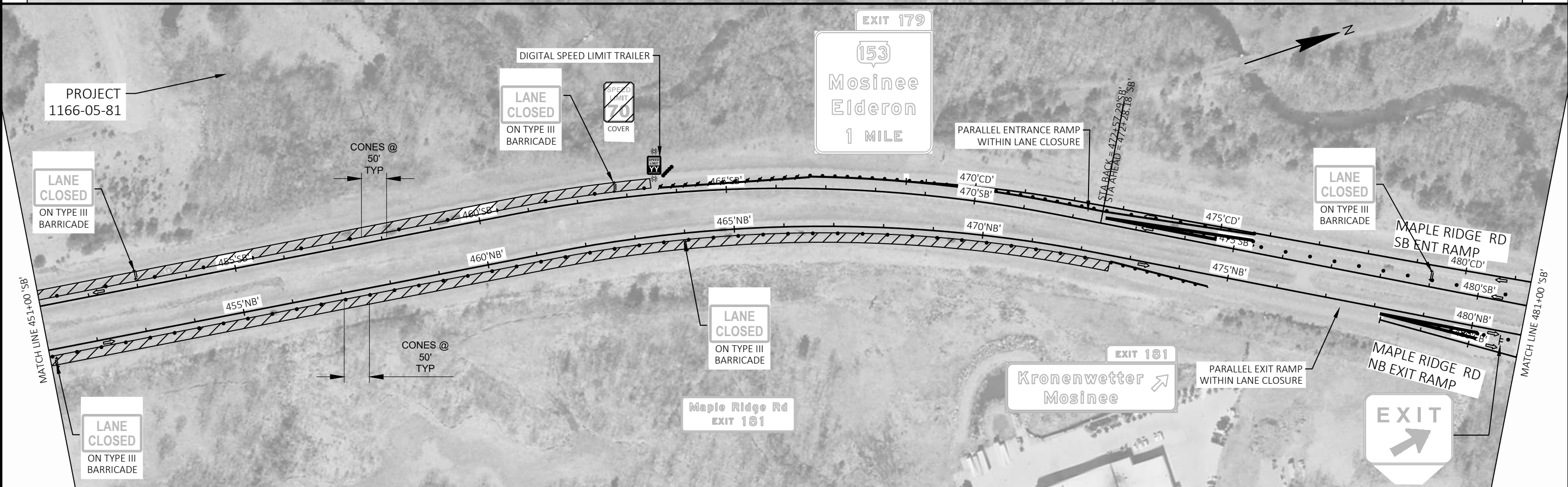
PLOT DATE : 4/4/2024 2:00 PM

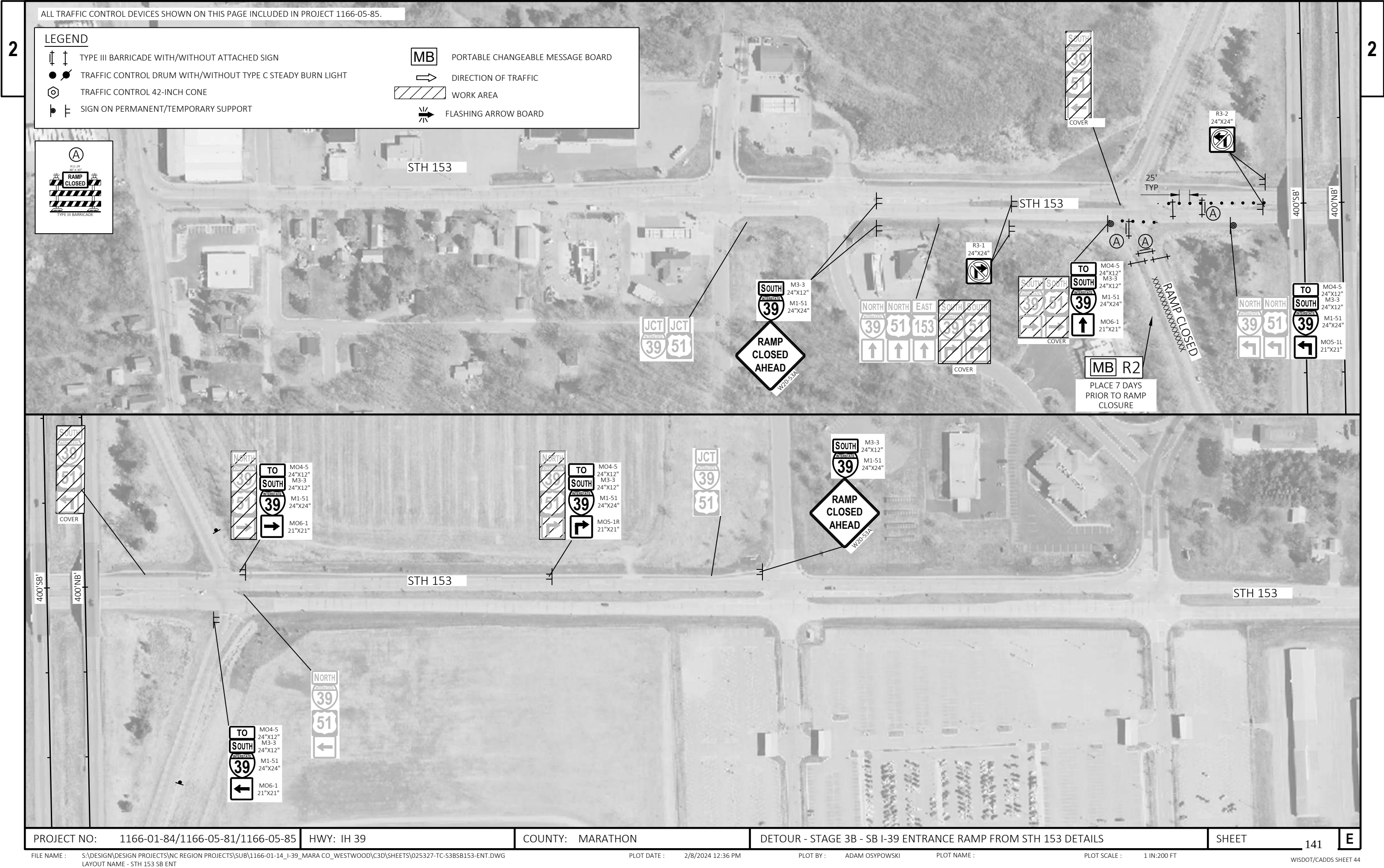
PLOT BY : ADAM OSYPOWSKI

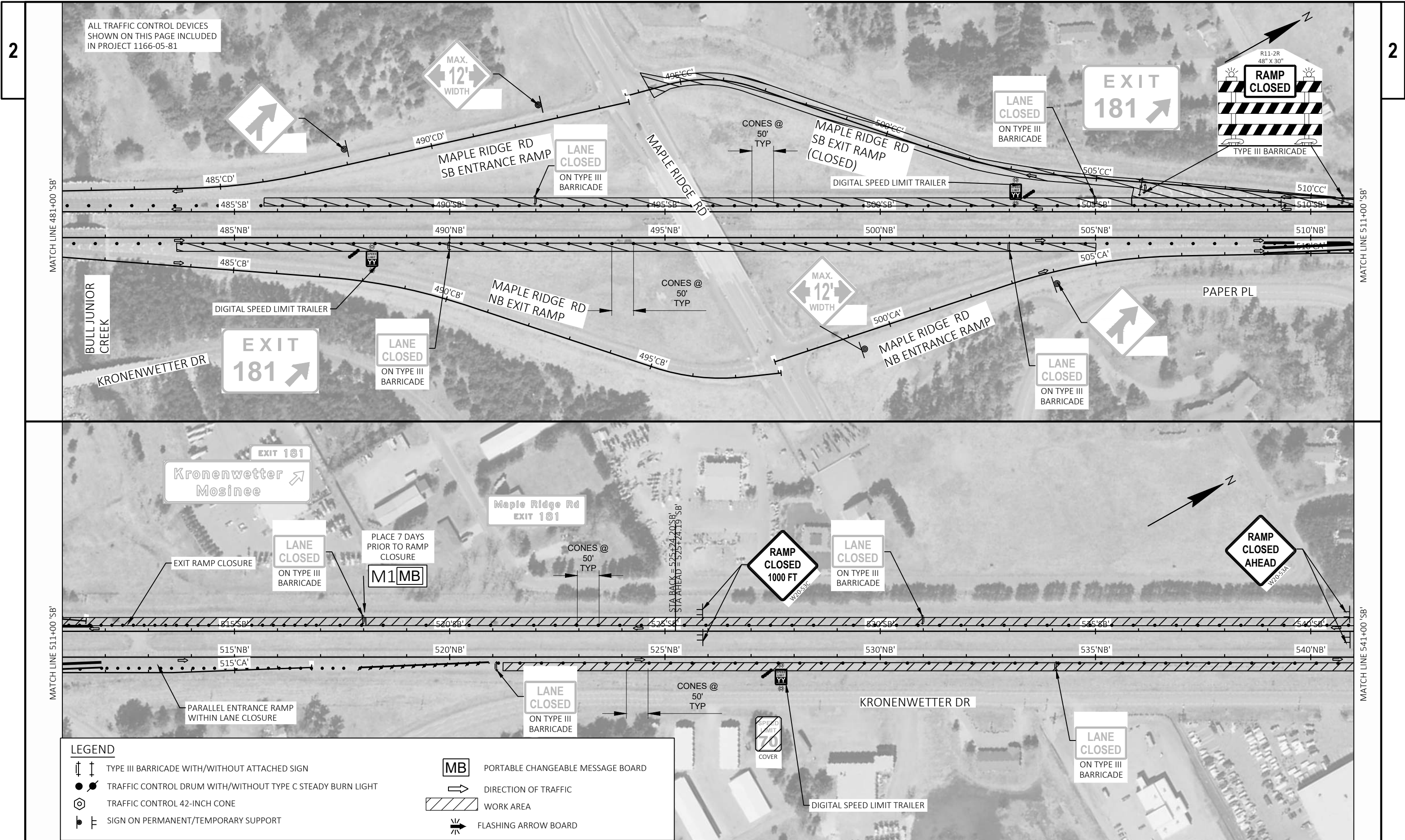
PLOT NAME :

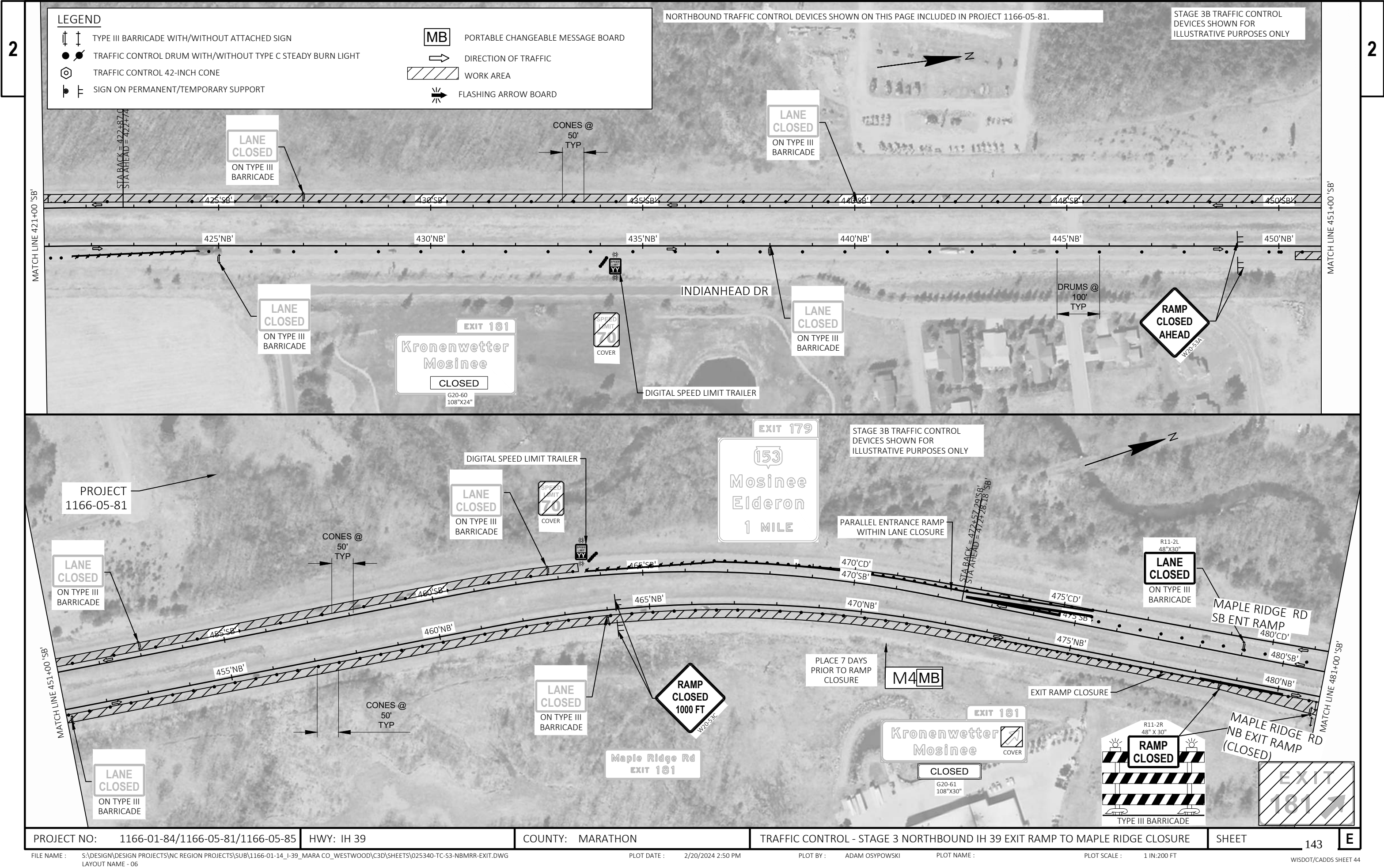
PLOT SCALE : 1 IN:200 FT

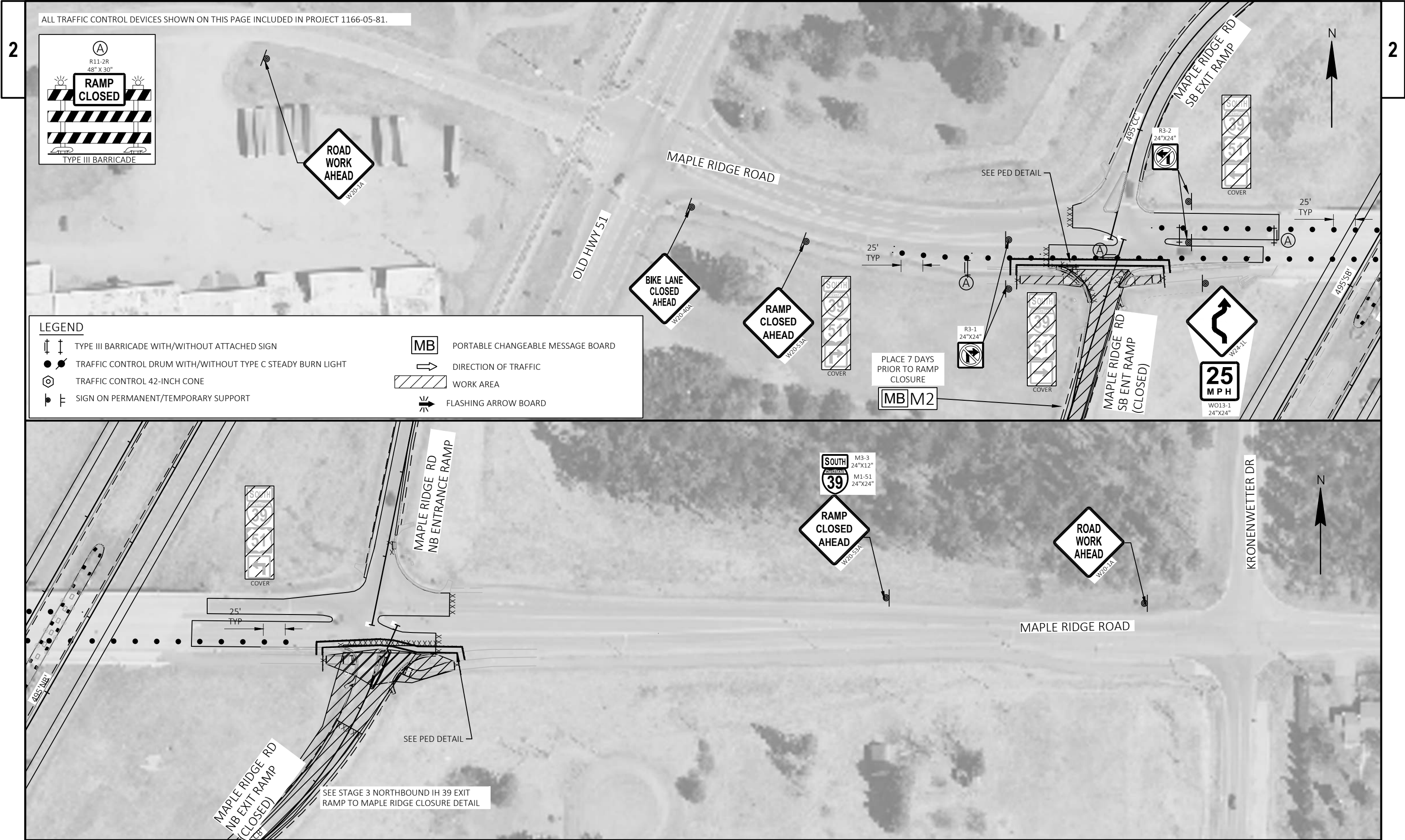
WISDOT/CADDs SHEET 44

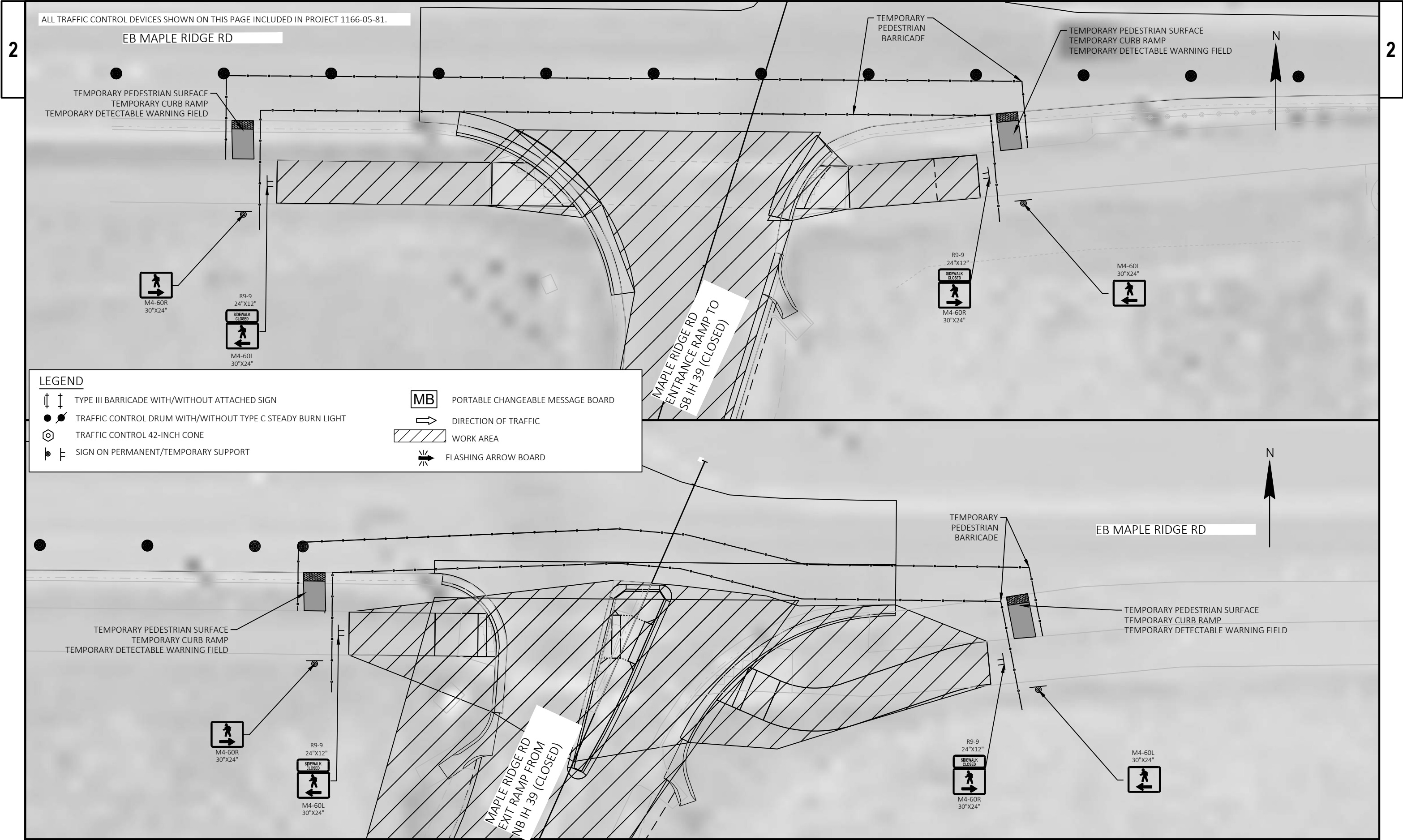


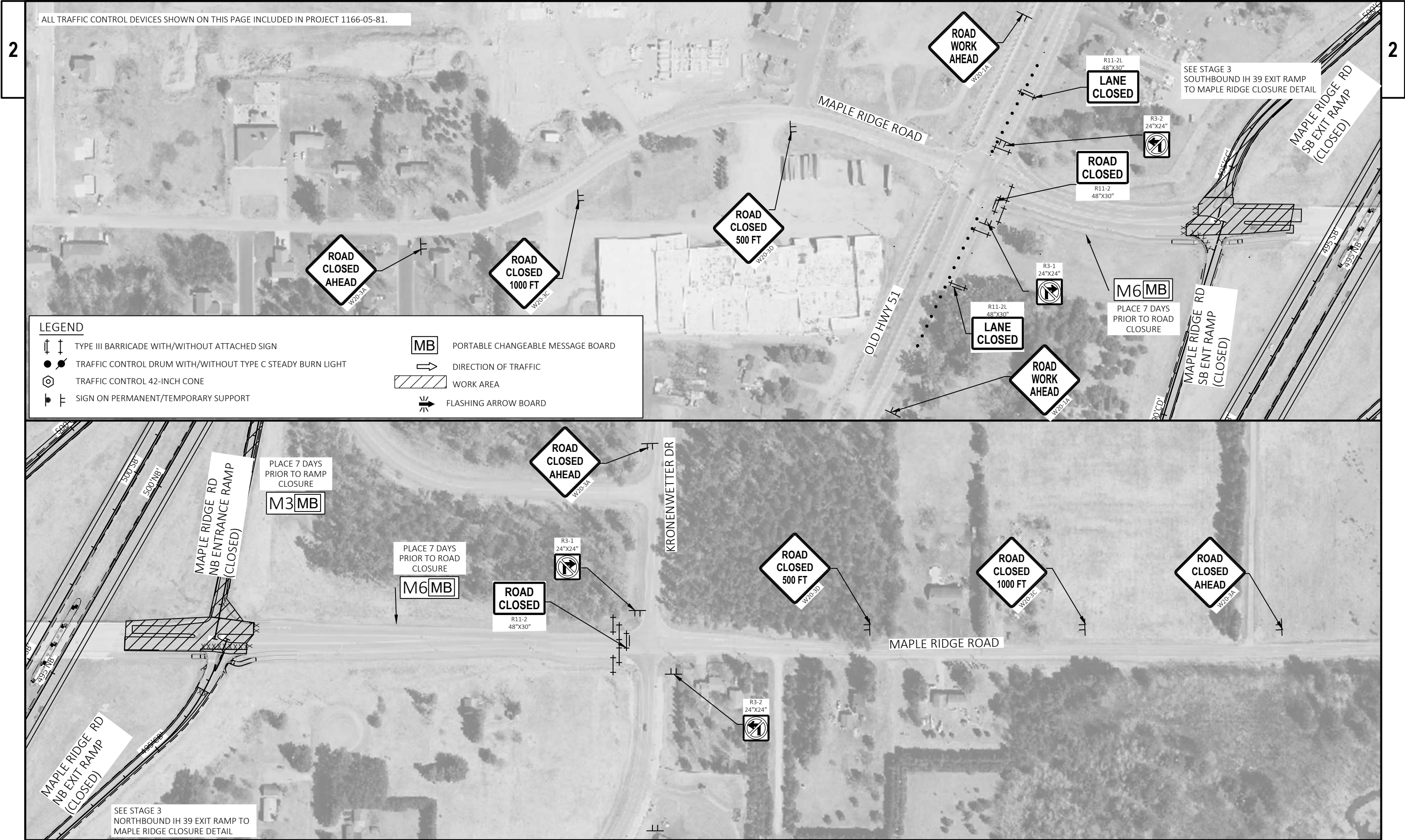


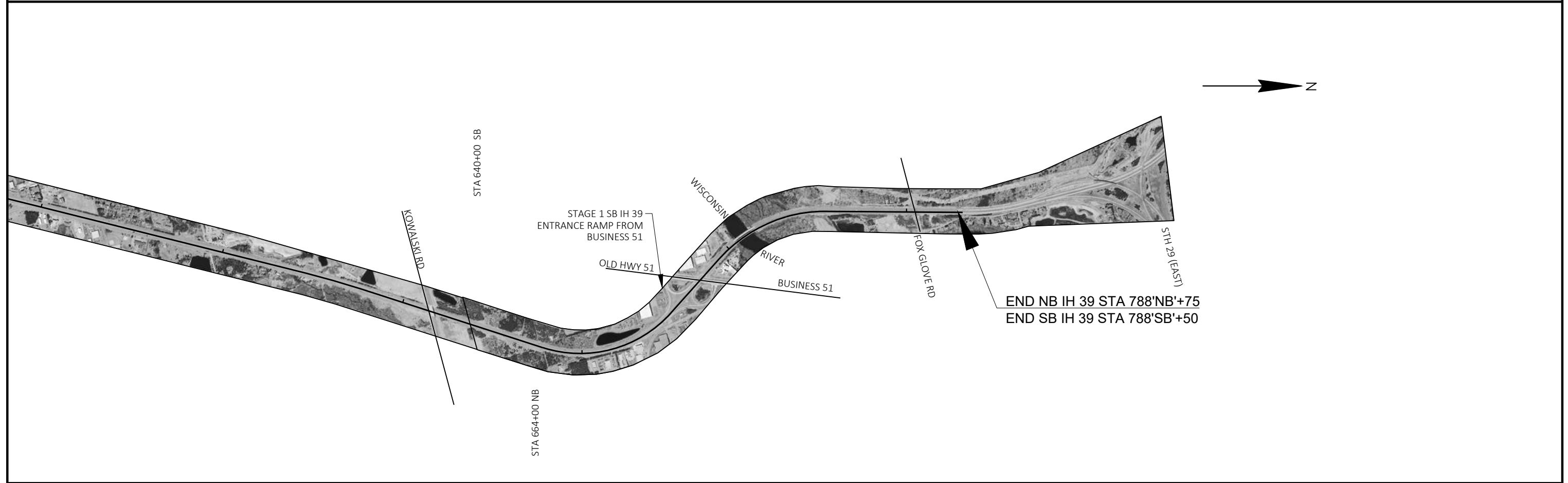
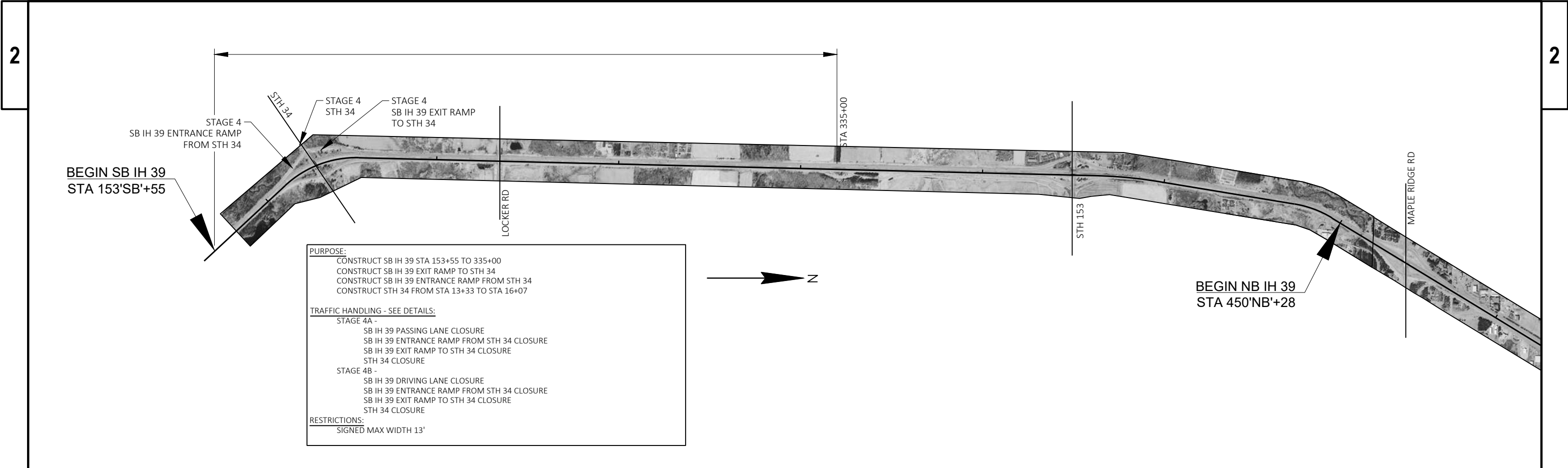


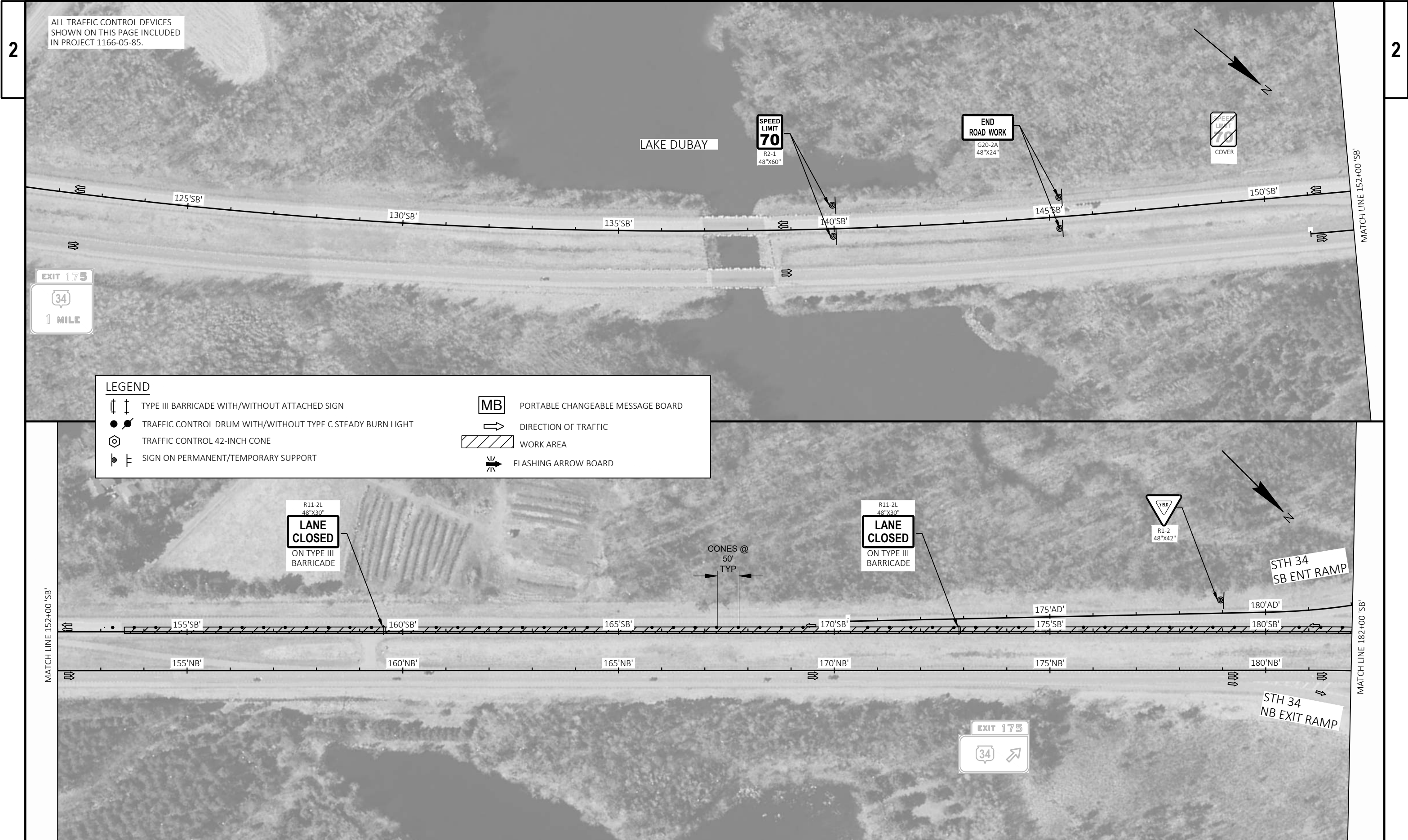












ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.

LEGEND

TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN

TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT

TRAFFIC CONTROL 42-INCH CONE

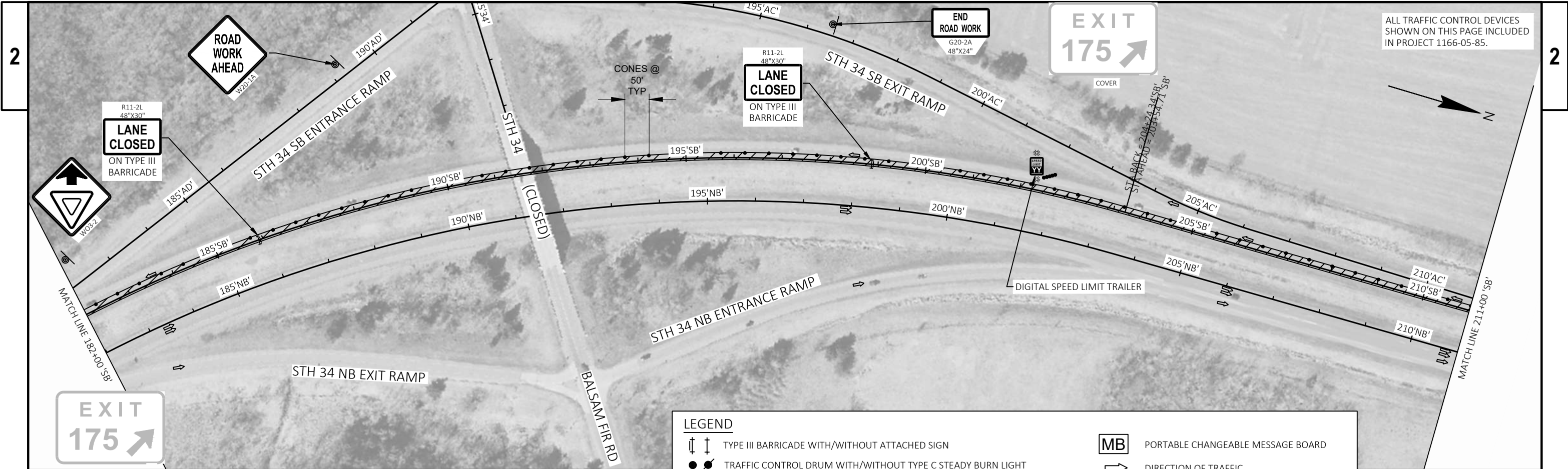
SIGN ON PERMANENT/TEMPORARY SUPPORT

PORTABLE CHANGEABLE MESSAGE BOARD

DIRECTION OF TRAFFIC

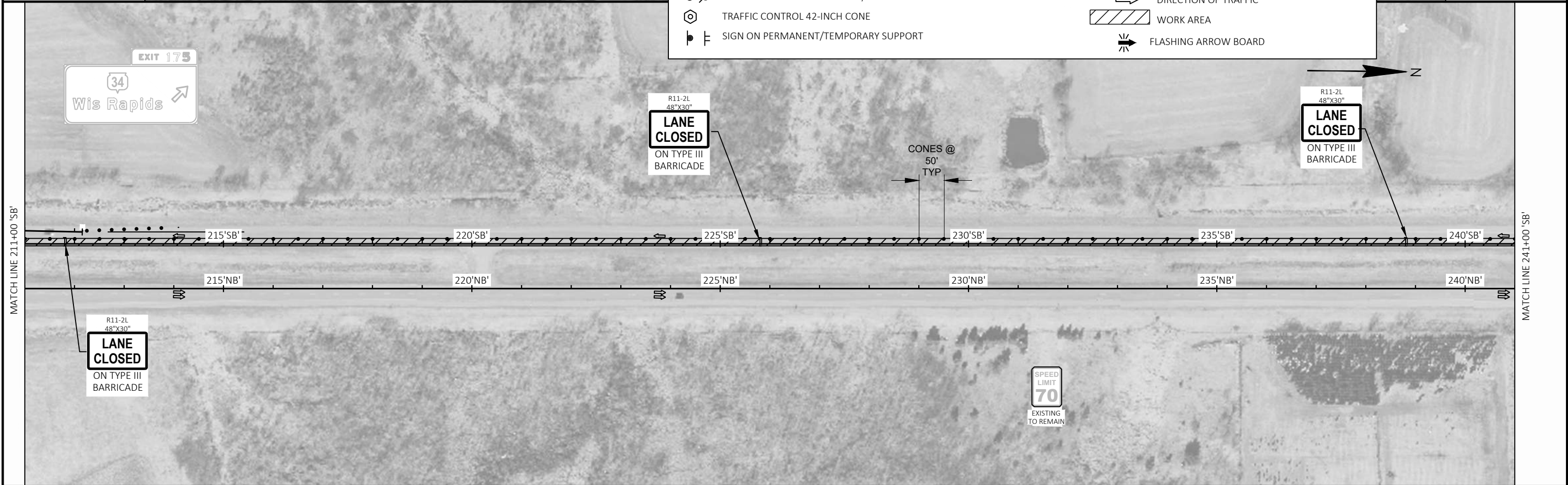
WORK AREA

FLASHING ARROW BOARD

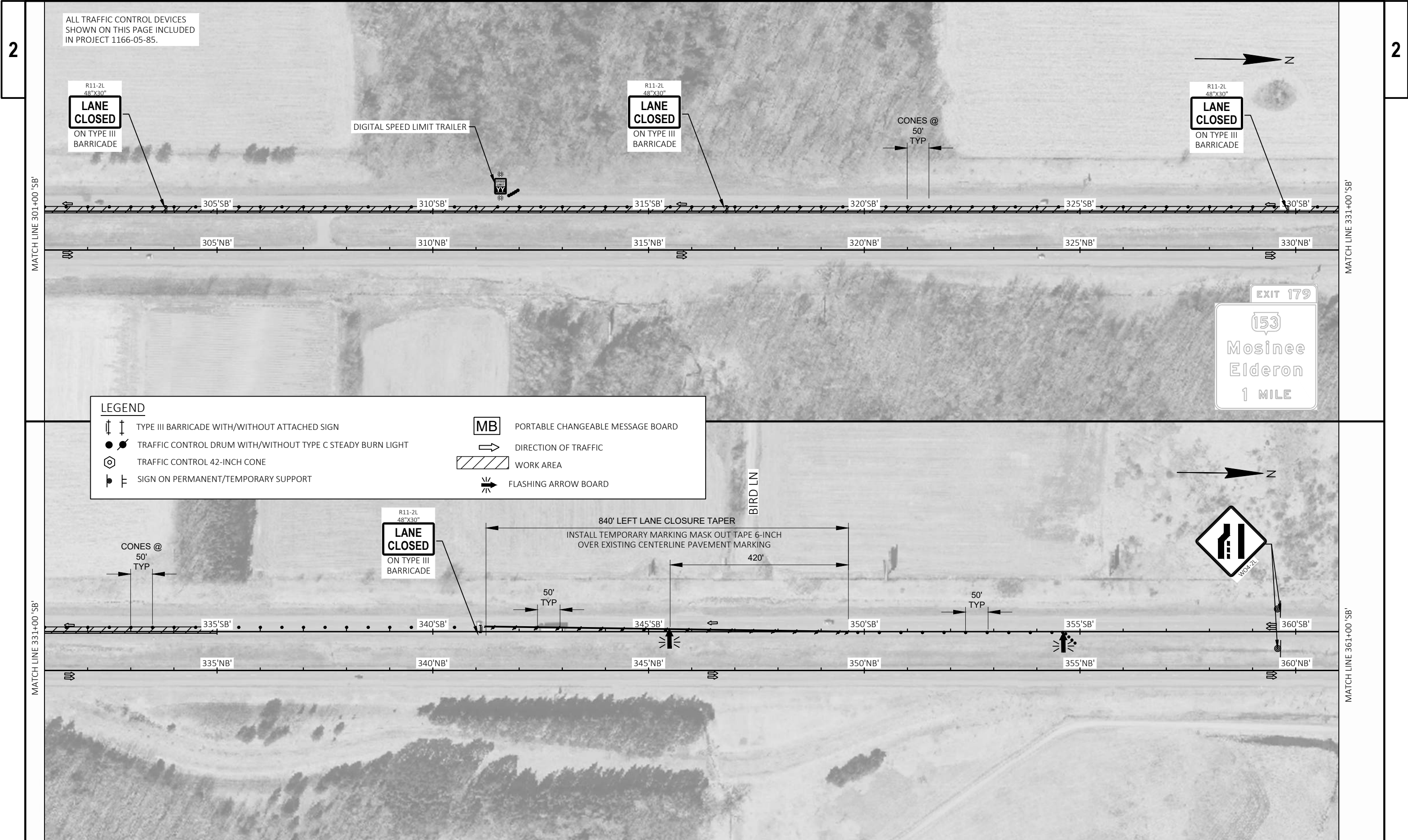


LEGEND

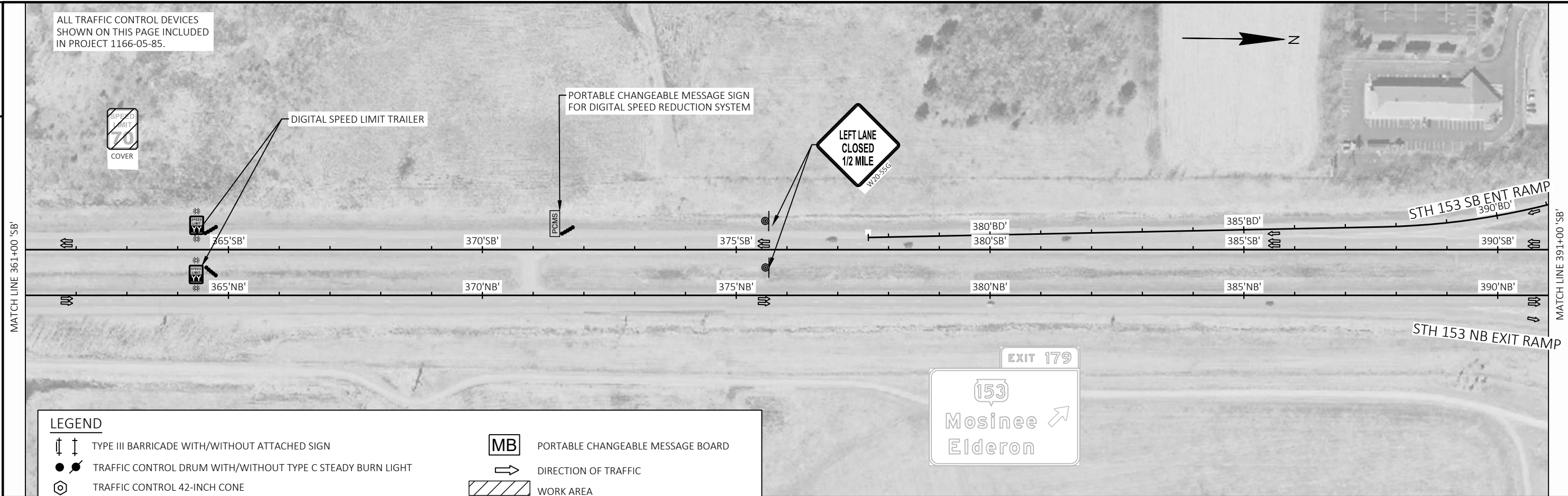
	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL 42-INCH CONE		WORK AREA
	SIGN ON PERMANENT/TEMPORARY SUPPORT		FLASHING ARROW BOARD





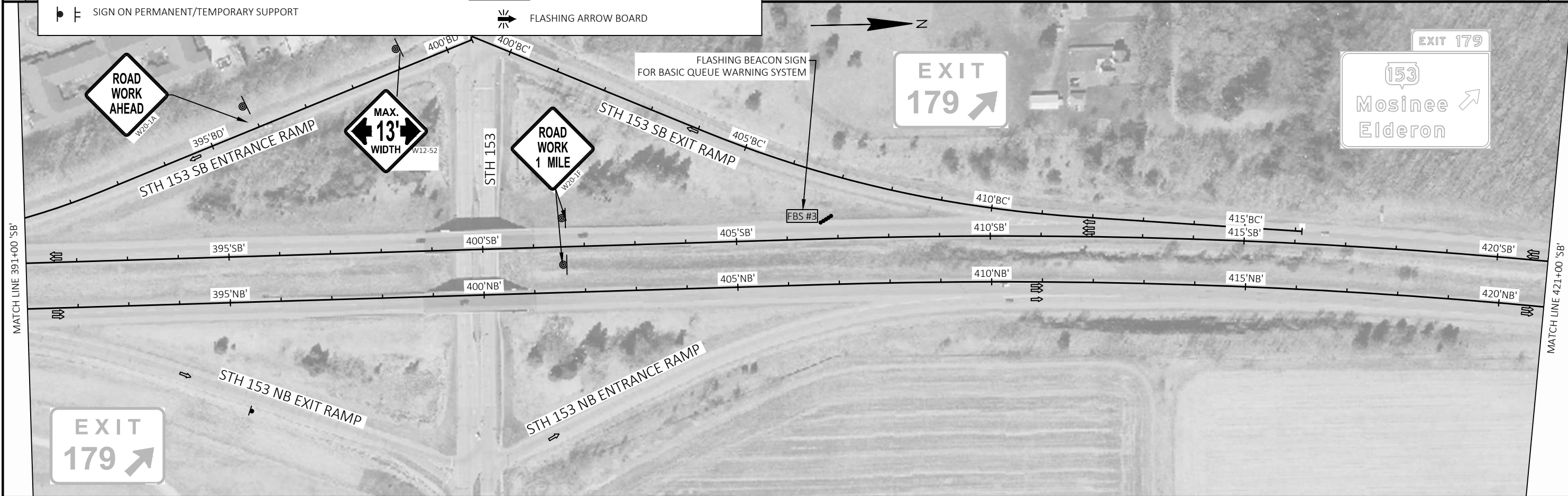


ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.



LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



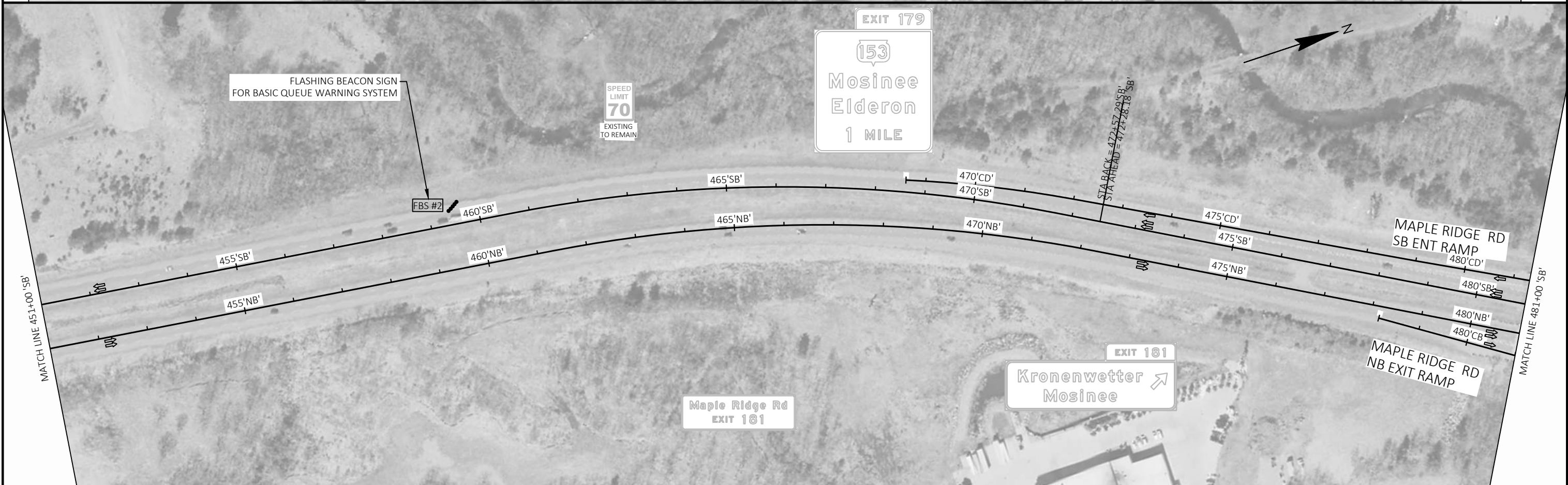
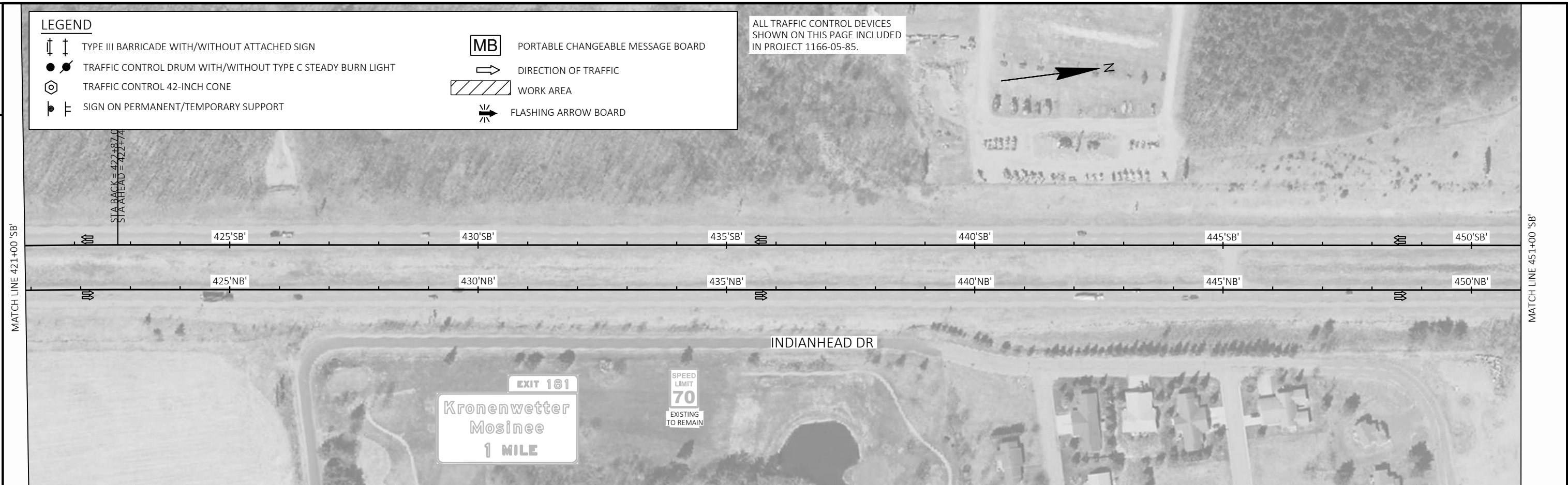
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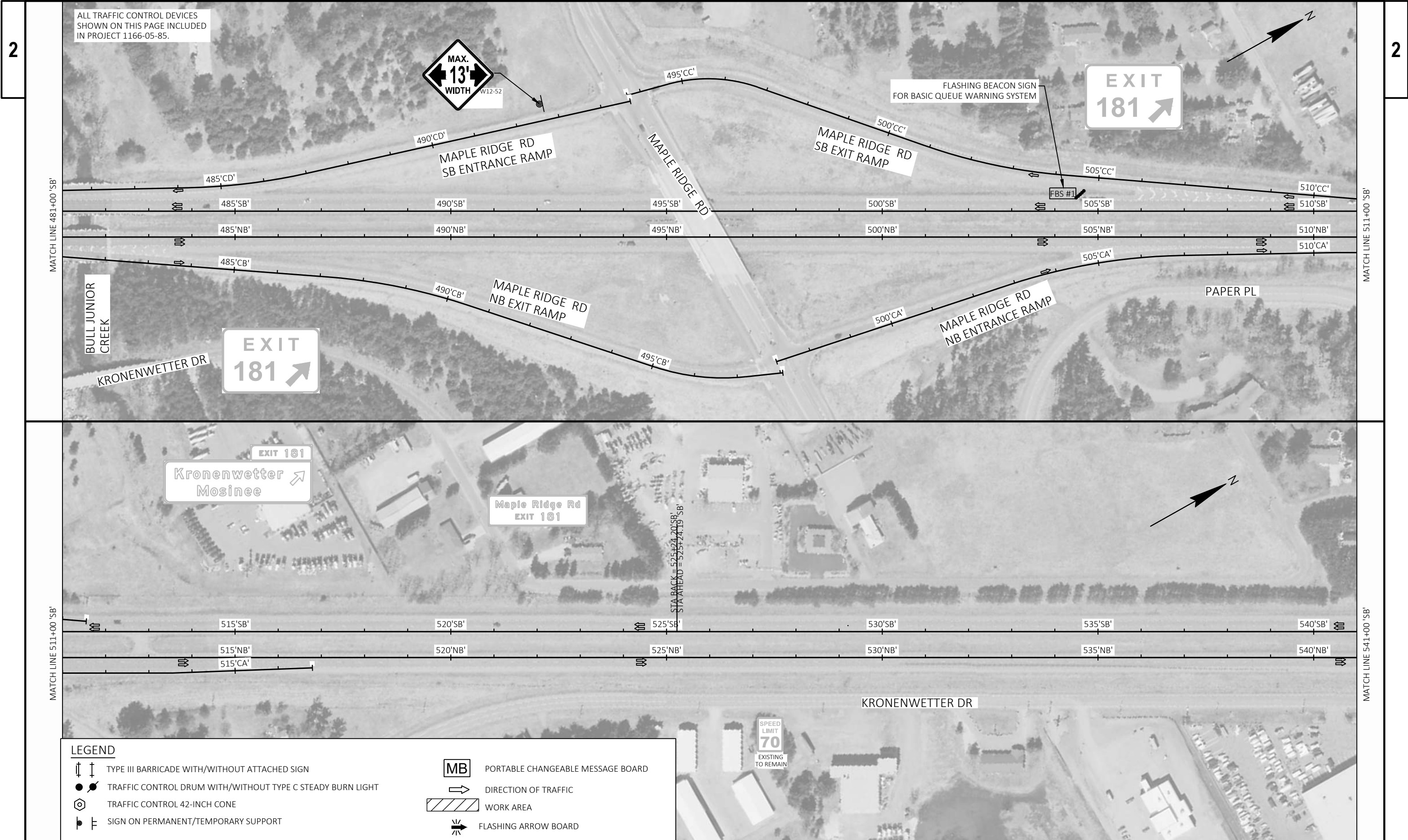
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LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN		PORTABLE CHANGEABLE MESSAGE BOARD
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT		DIRECTION OF TRAFFIC
	TRAFFIC CONTROL 42-INCH CONE		WORK AREA
	SIGN ON PERMANENT/TEMPORARY SUPPORT		FLASHING ARROW BOARD

ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-05-85.



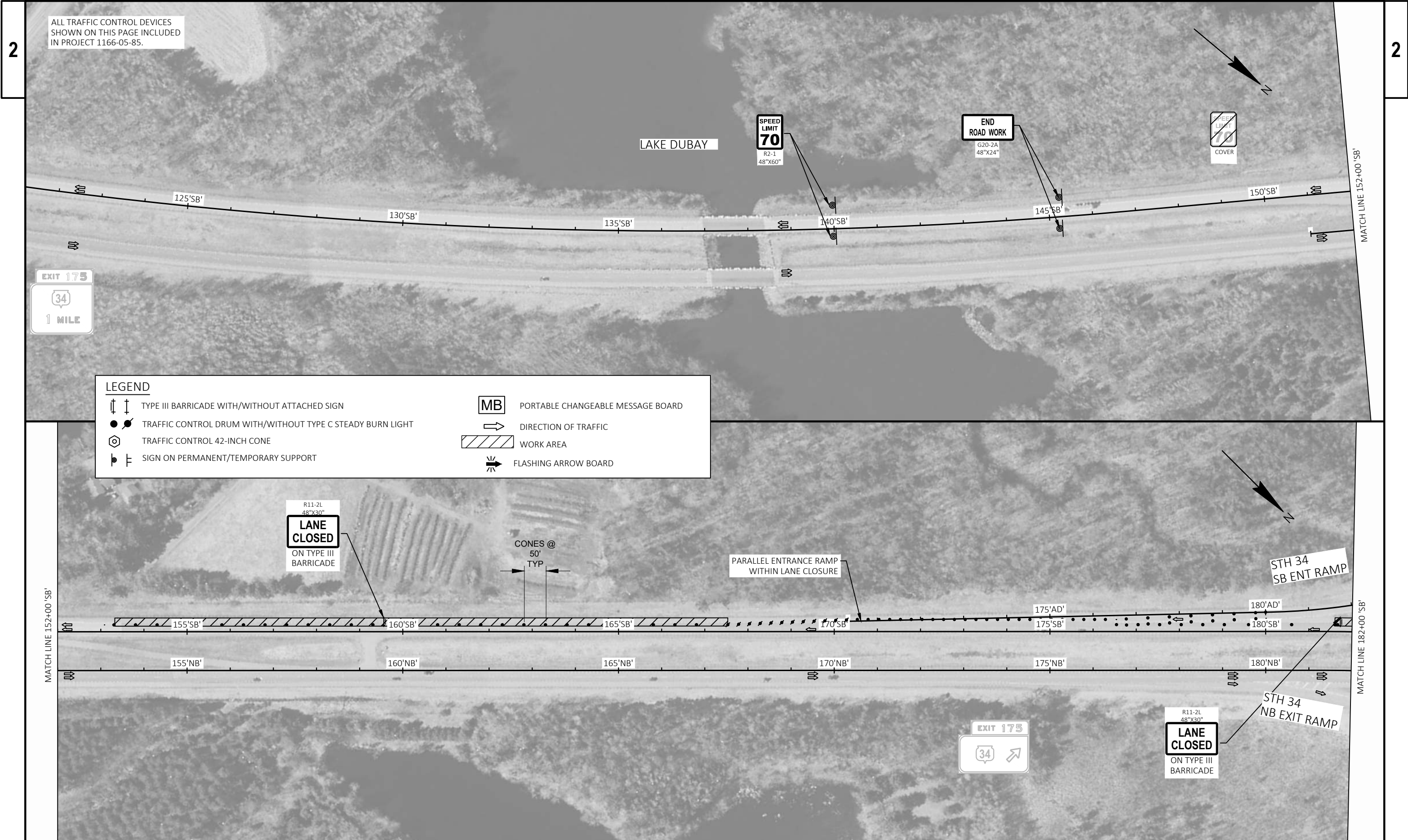


ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.



LEGEND

- | | | | |
|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |



ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-05-85.

LAKE DUBAY

SPEED
LIMIT
70
R2-1
48"x60"

END
ROAD WORK
G20-2A
48"x24"

SPEED
LIMIT
70
COVER

EXIT 175
34
1 MILE

LEGEND

- | | | | |
|---|--|----|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | MB | PORTABLE CHANGEABLE MESSAGE BOARD |
| ● | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | → | DIRECTION OF TRAFFIC |
| ⦿ | TRAFFIC CONTROL 42-INCH CONE | ▨ | WORK AREA |
| ⦿ | SIGN ON PERMANENT/TEMPORARY SUPPORT | ↔ | FLASHING ARROW BOARD |

R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

CONES @
50'
TYP

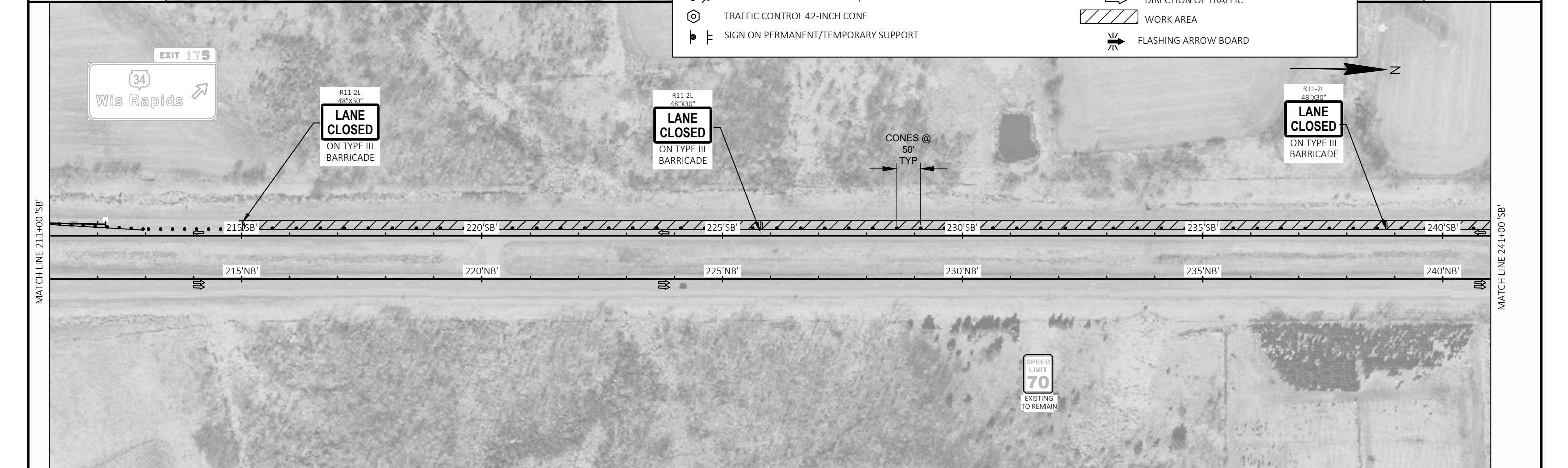
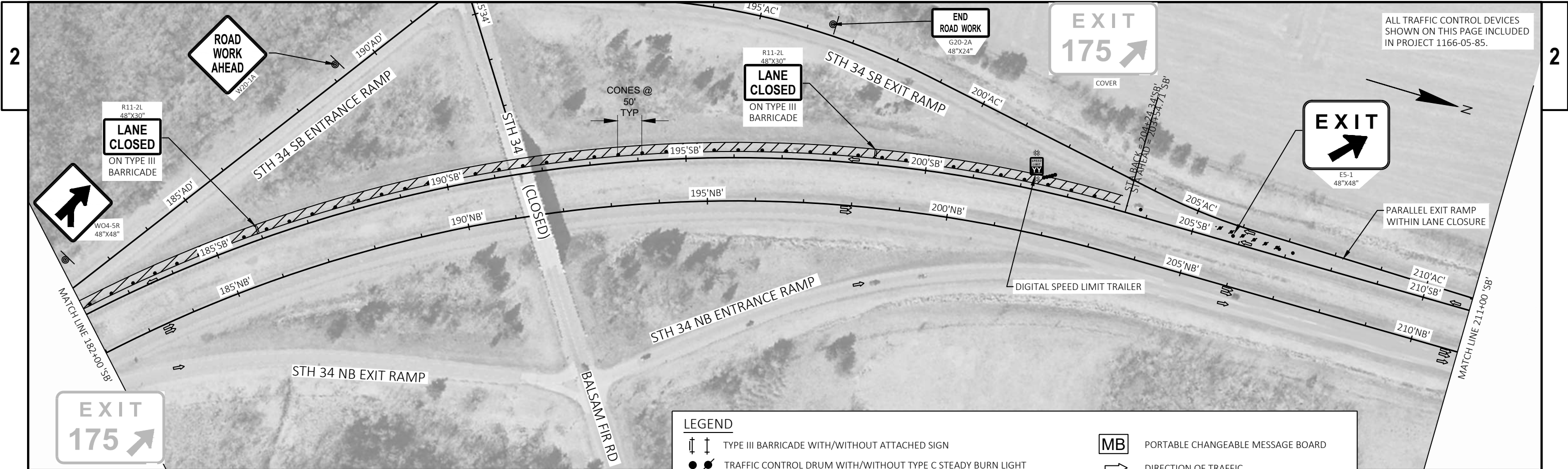
PARALLEL ENTRANCE RAMP
WITHIN LANE CLOSURE

STH 34
SB ENT RAMP

R11-2L
48"x30"
**LANE
CLOSED**
ON TYPE III
BARRICADE

STH 34
NB EXIT RAMP

EXIT 175
34





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85.

LEGEND

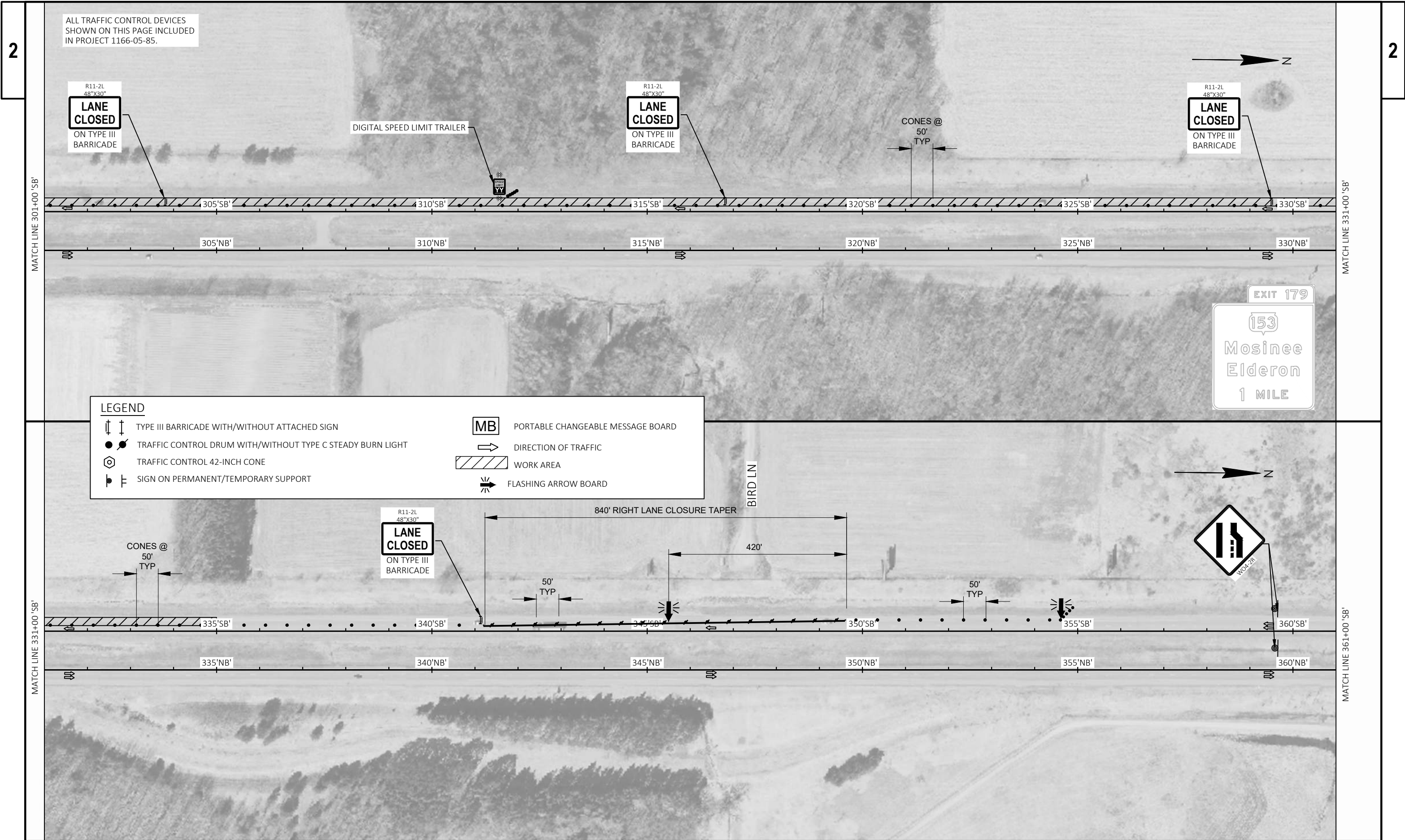
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|--|--|--|-----------------------------------|
| | TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN | | PORTABLE CHANGEABLE MESSAGE BOARD |
| | TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT | | DIRECTION OF TRAFFIC |
| | TRAFFIC CONTROL 42-INCH CONE | | WORK AREA |
| | SIGN ON PERMANENT/TEMPORARY SUPPORT | | FLASHING ARROW BOARD |

MATCH LINE 241+00 'SB'

MATCH LINE 271+00 'SB'

MATCH LINE 271+00 'SB'

MATCH LINE 301+00 'SB'



ALL TRAFFIC CONTROL DEVICES
SHOWN ON THIS PAGE INCLUDED
IN PROJECT 1166-05-85.



DIGITAL SPEED LIMIT TRAILER

PORTABLE CHANGEABLE MESSAGE SIGN
FOR DIGITAL SPEED REDUCTION SYSTEM



W20-SG

STH 153 SB ENT RAMP

390'BD'

390'SB'

390'NB'

STH 153 NB EXIT RAMP

EXIT 179



LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL 42-INCH CONE
- SIGN ON PERMANENT/TEMPORARY SUPPORT

- PORTABLE CHANGEABLE MESSAGE BOARD
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD



STH 153 SB ENTRANCE RAMP

395'BD'

395'SB'

395'NB'



W12-S2

STH 153

400'BD'

400'SB'

400'NB'

405'SB'

405'NB'

410'NB'

415'NB'

420'NB'

425'NB'

430'NB'

435'NB'

440'NB'

445'NB'

450'NB'

455'NB'

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830'NB'

835'NB'

840'NB'

845'NB'

850'NB'

855'NB'

860'NB'

865'NB'

870'NB'

875'NB'

880'NB'

885'NB'

890'NB'

895'NB'

900'NB'

905'NB'

910'NB'

915'NB'

920'NB'

925'NB'

930'NB'

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950'NB'

955'NB'

960'NB'

965'NB'

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995'NB'

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1005'NB'

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1100'NB'

1105'NB'

1110'NB'

1115'NB'

1120'NB'

1125'NB'

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1200'NB'

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1600'NB'

1605'NB'

1610'NB'

1615'NB'

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1625'NB'

1630'NB'

1635'NB'

1640'NB'

1645'NB'

1650'NB'

1655'NB'

1660'NB'

1665'NB'

1670'NB'

1675'NB'

1680'NB'

1685'NB'

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1705'NB'

1710'NB'

1715'NB'

1720'NB'

1725'NB'

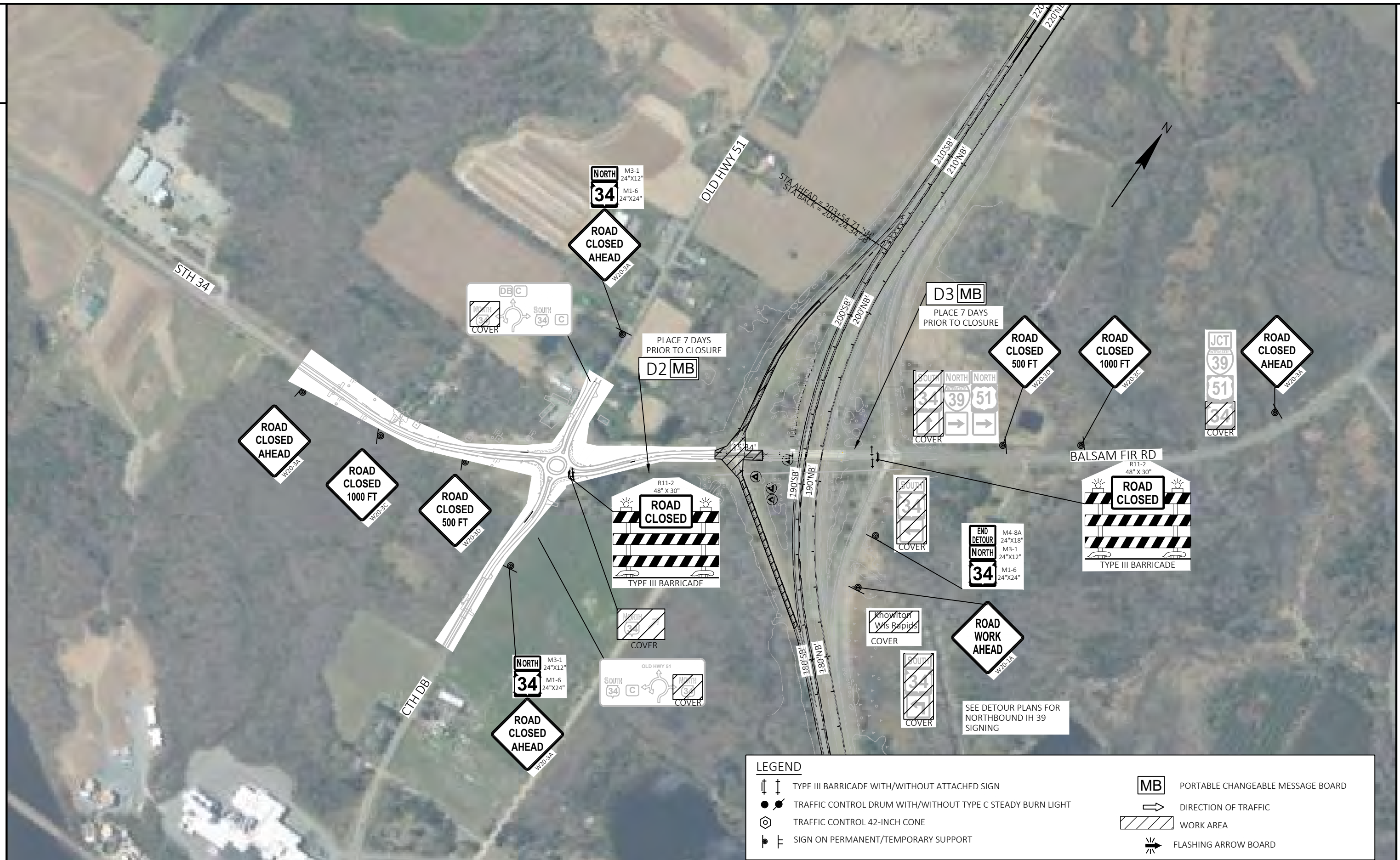
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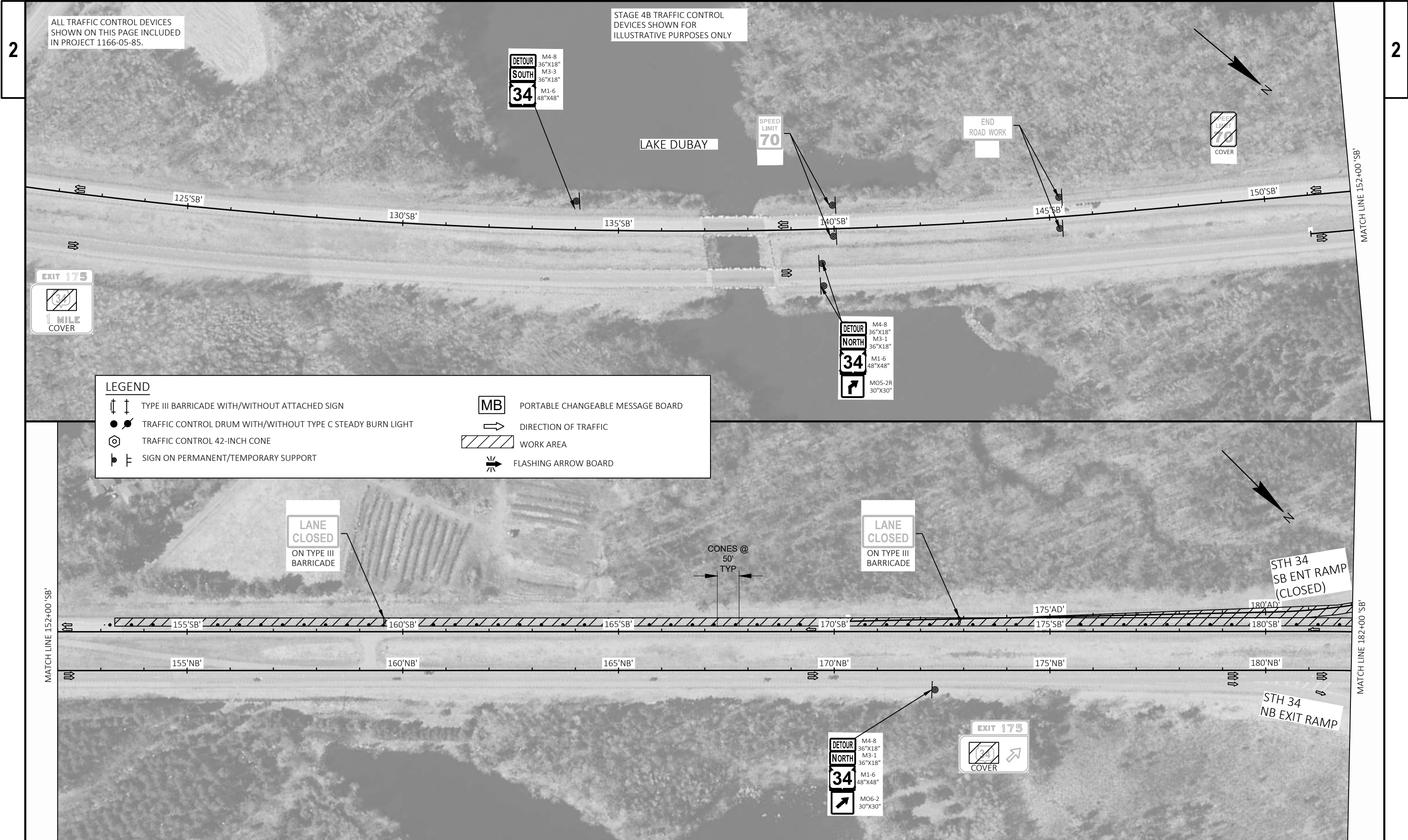
1735'NB'

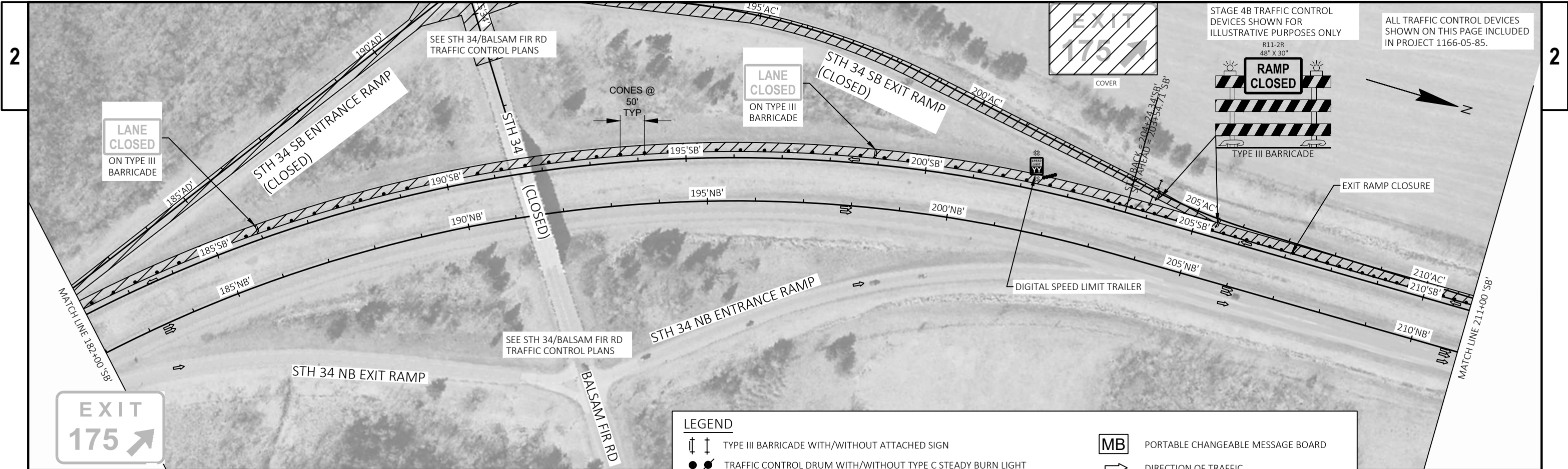
1740'NB'

1745'NB'

1750'NB'

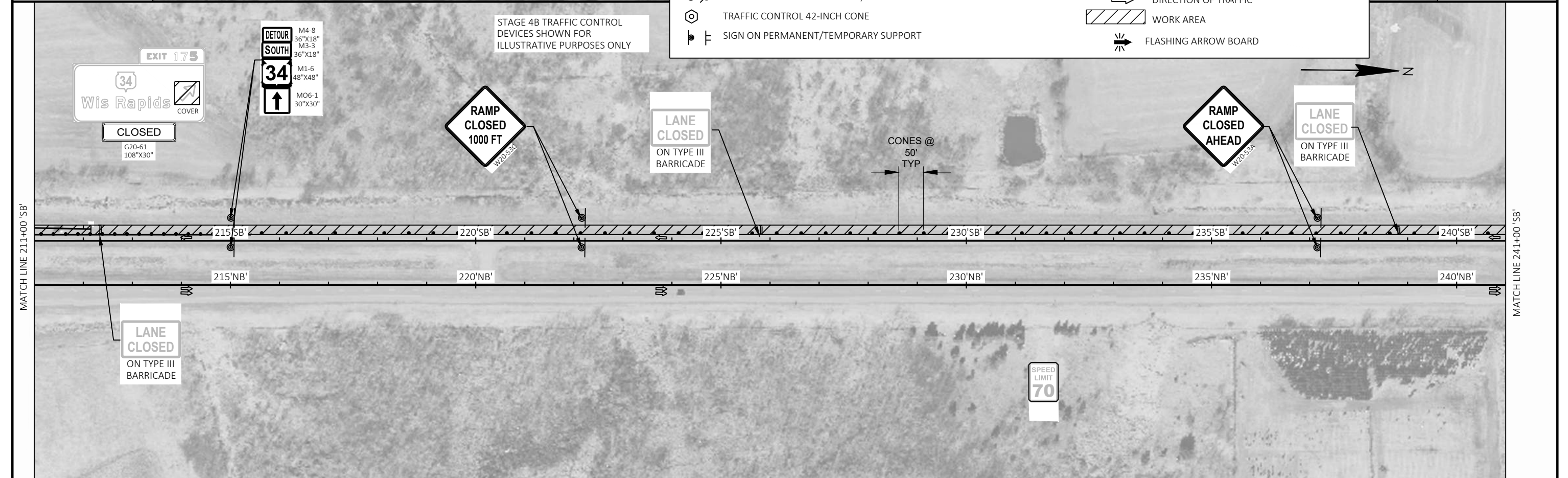


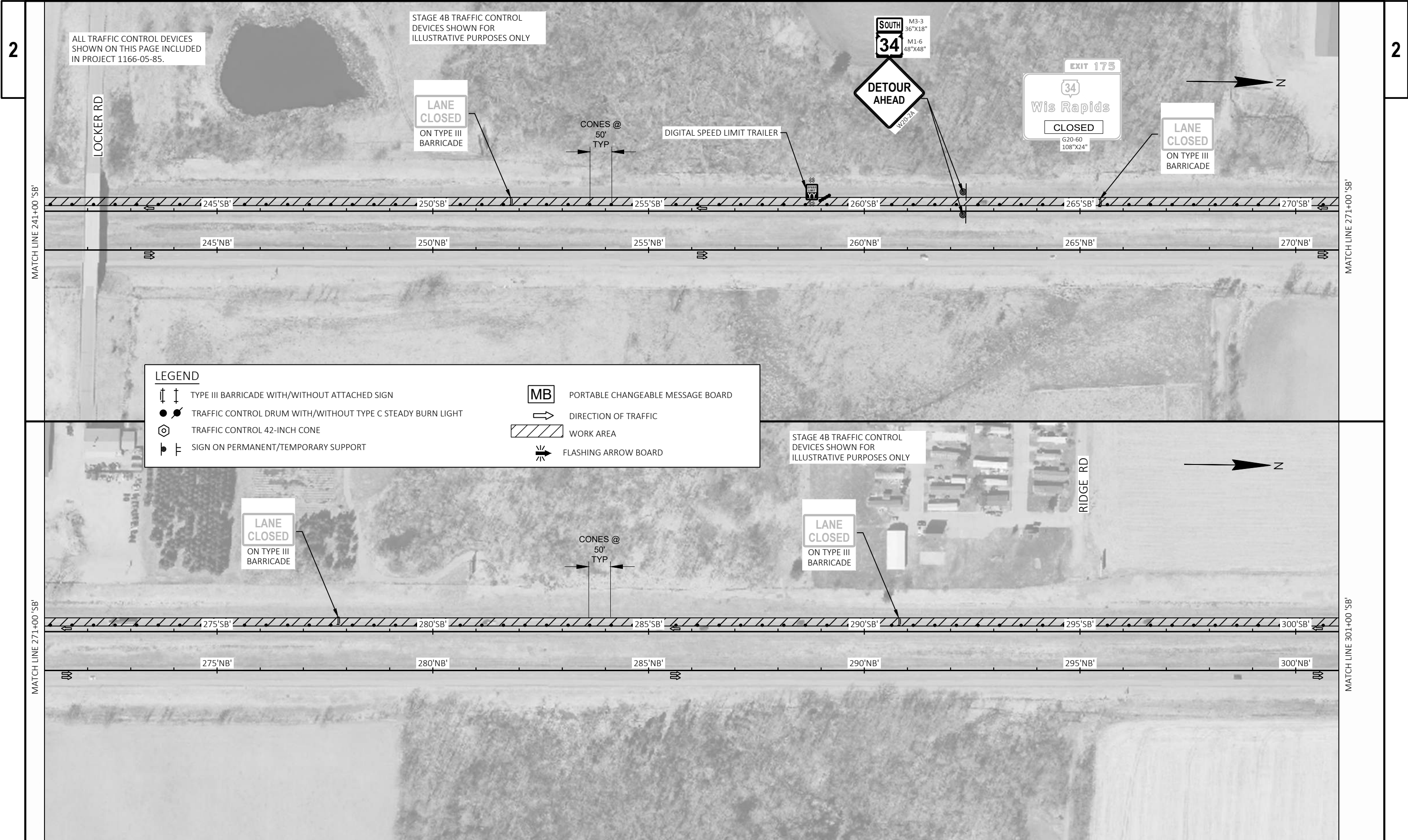


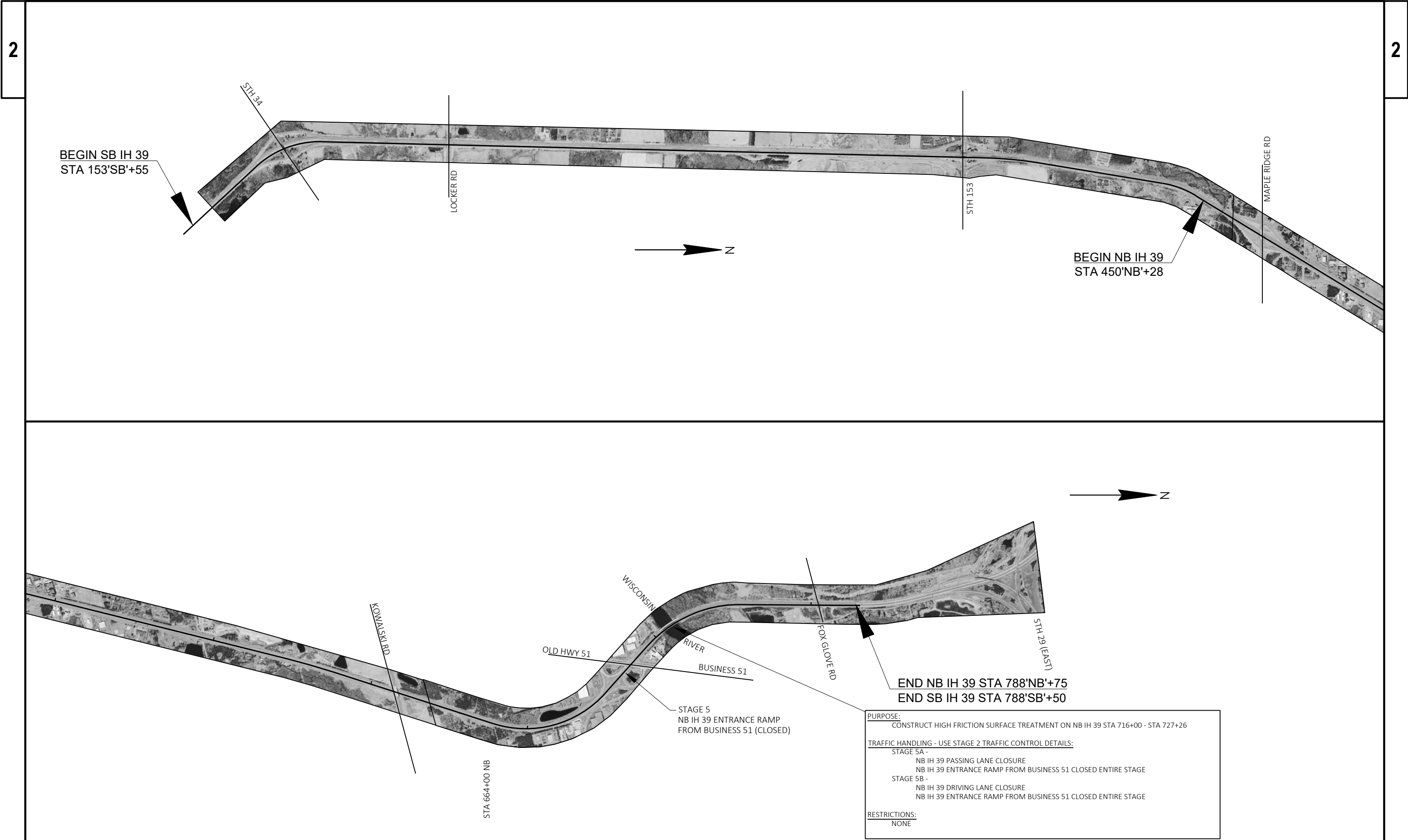


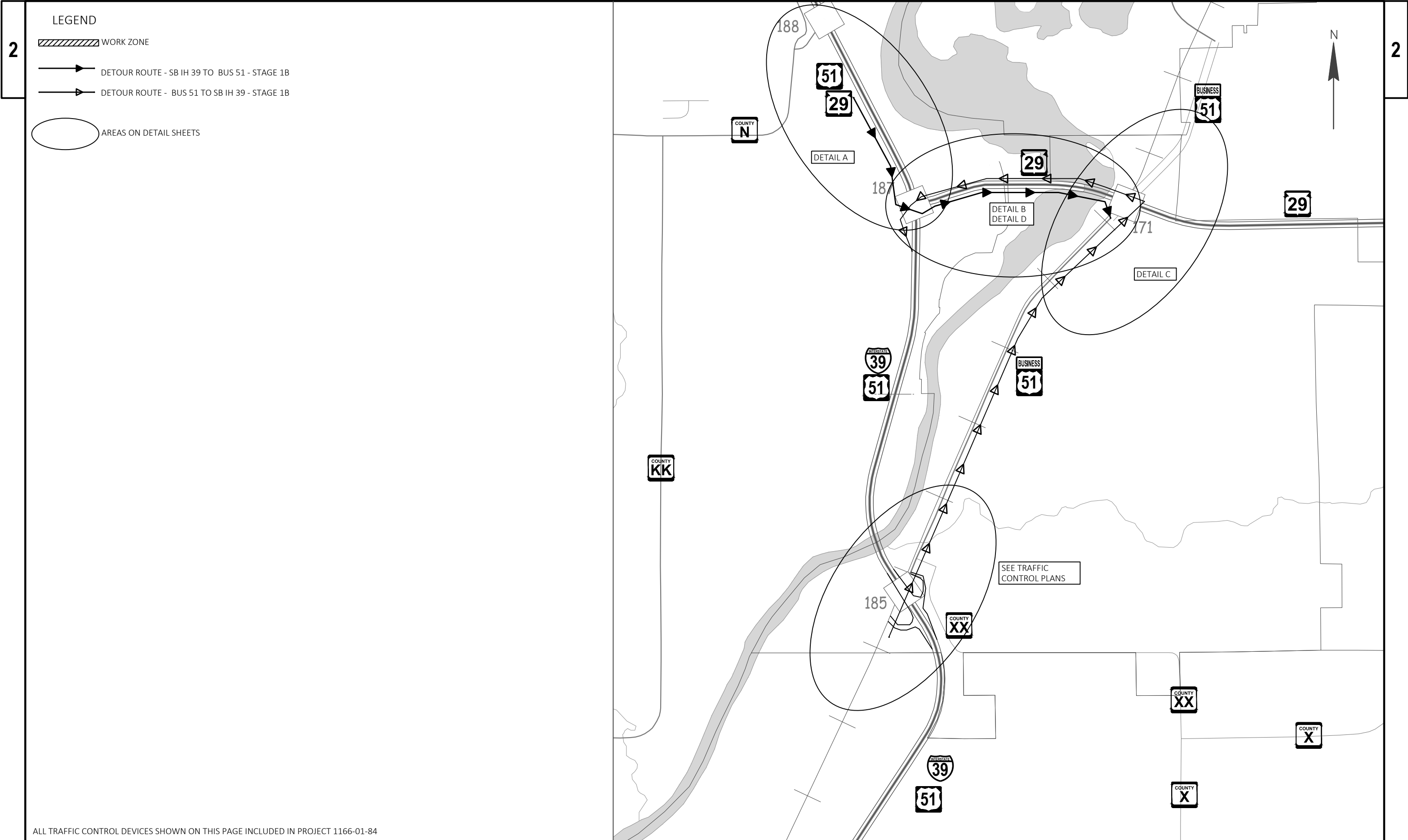
LEGEND

	TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
	TRAFFIC CONTROL DRUM WITH/WITHOUT TYPE C STEADY BURN LIGHT
	TRAFFIC CONTROL 42-INCH CONE
	SIGN ON PERMANENT/TEMPORARY SUPPORT
	PORTABLE CHANGEABLE MESSAGE BOARD
	DIRECTION OF TRAFFIC
	WORK AREA
	FLASHING ARROW BOARD

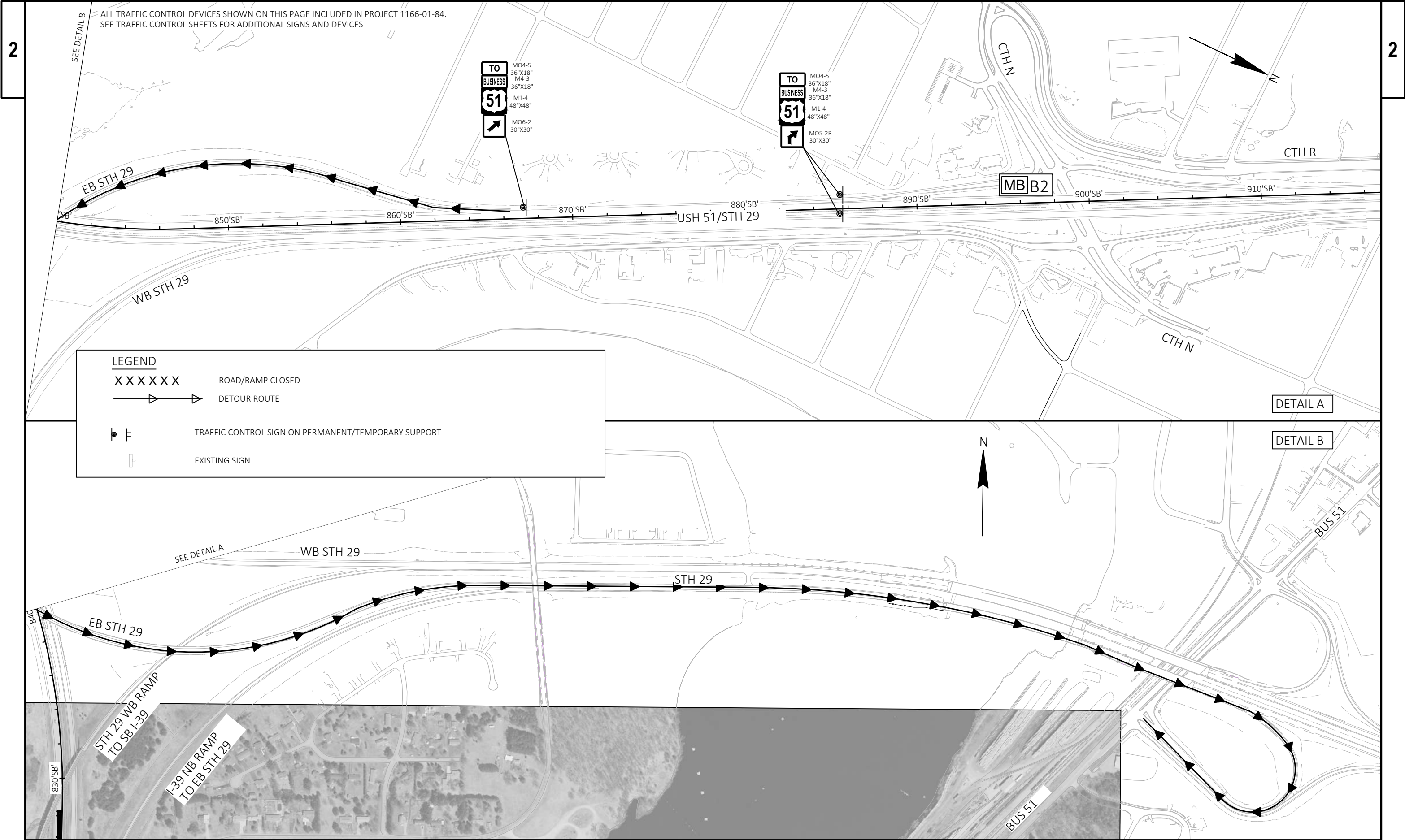


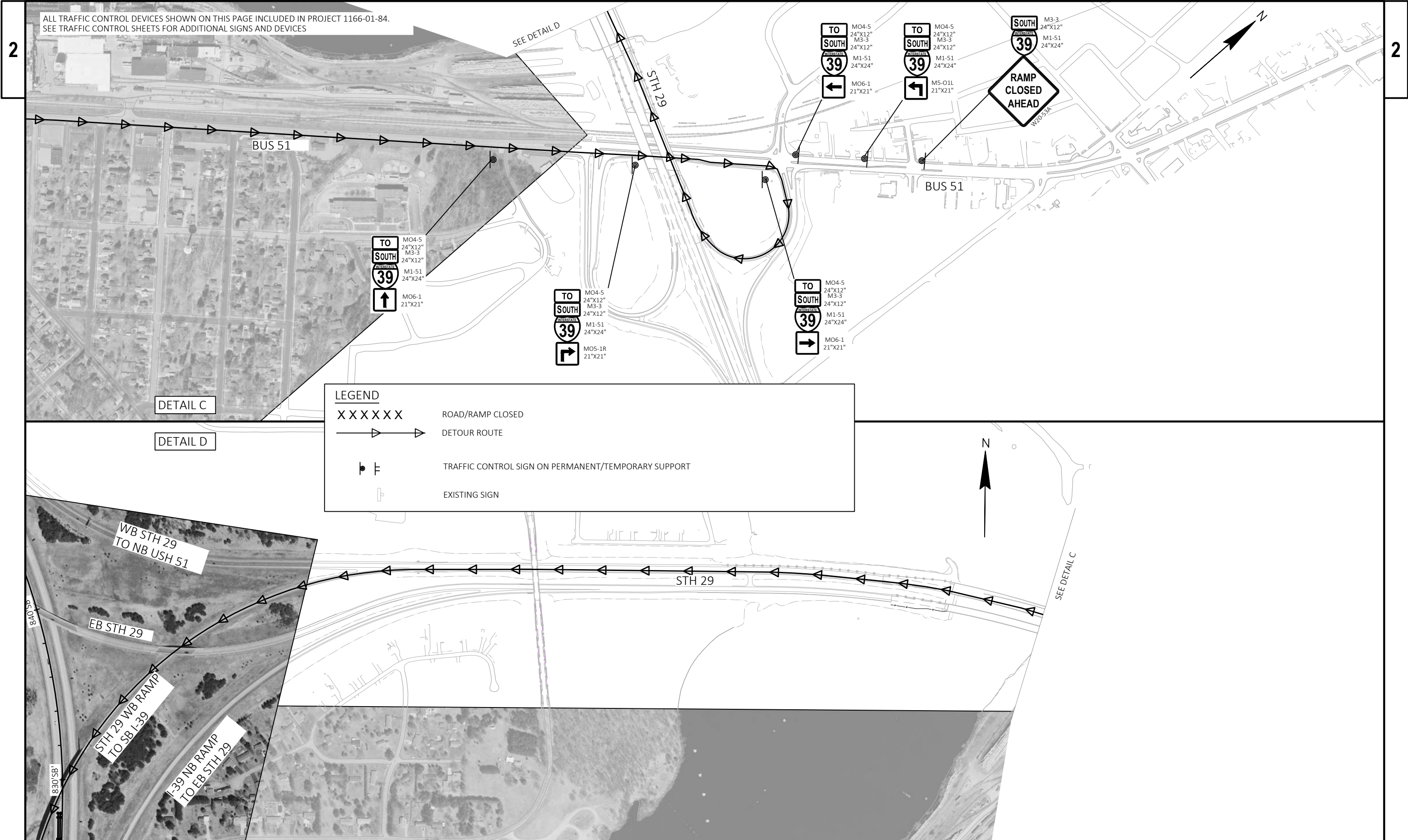






ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.
SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL SIGNS AND DEVICES

LEGEND

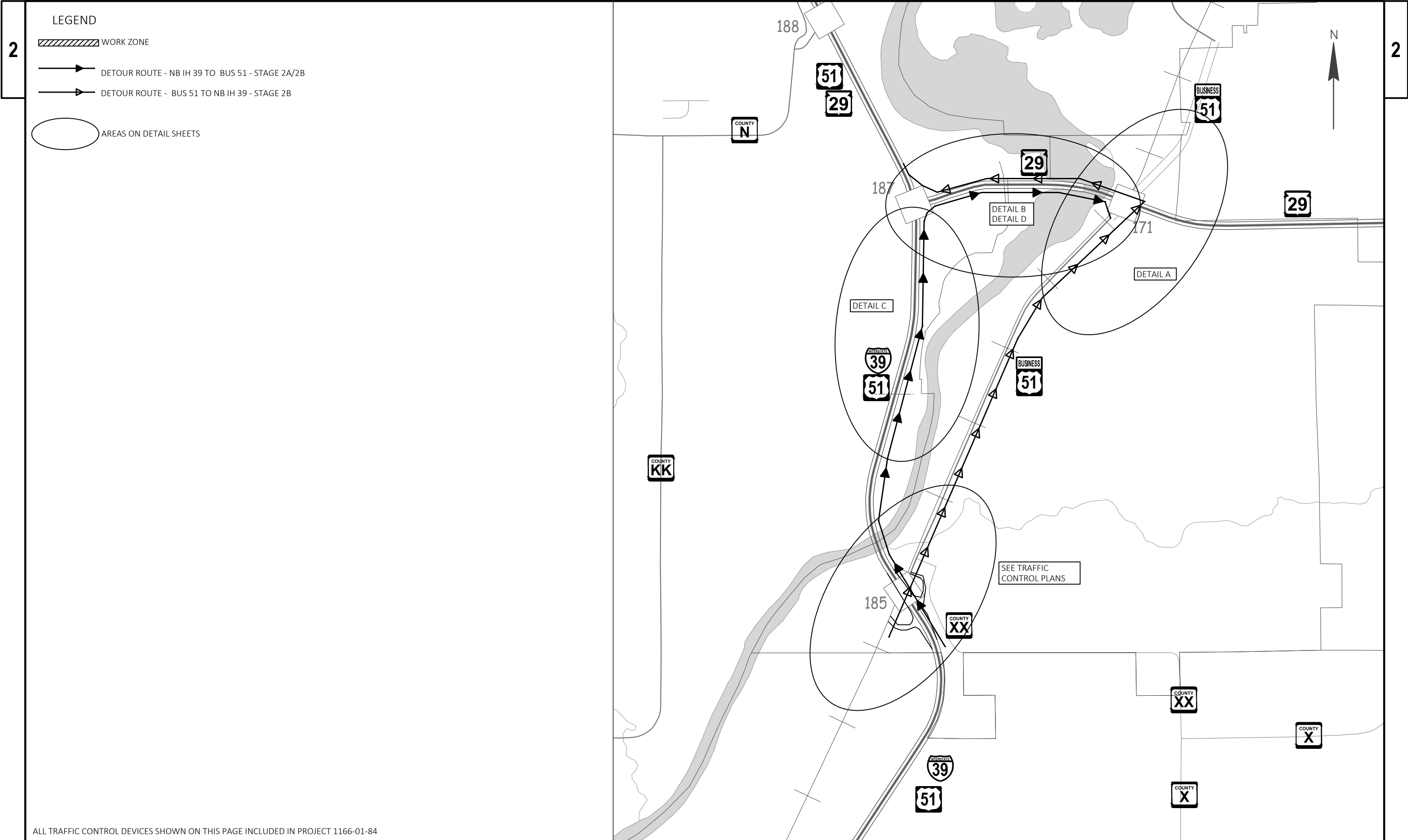
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ROAD/RAMP CLOSED

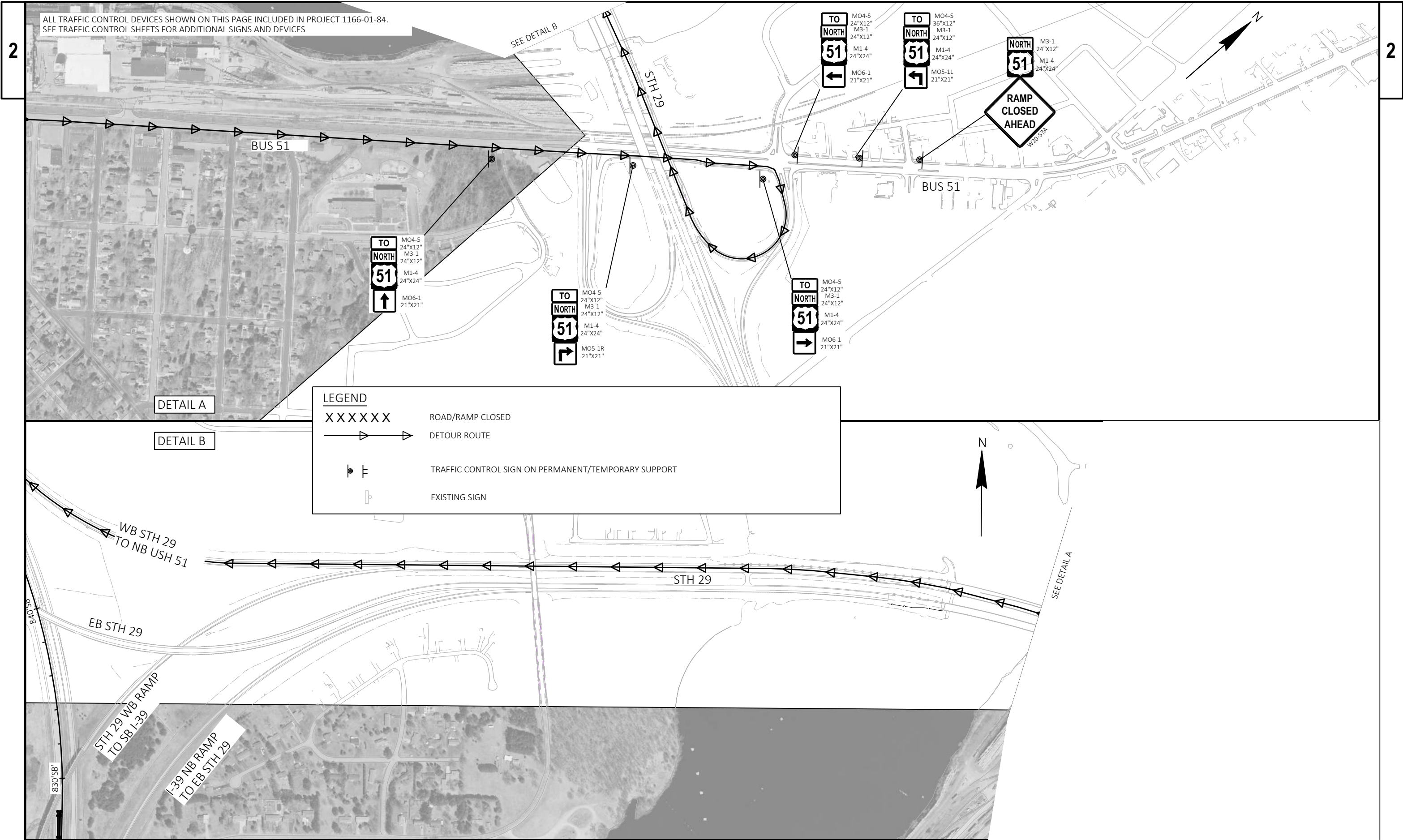
DETOUR ROUTE

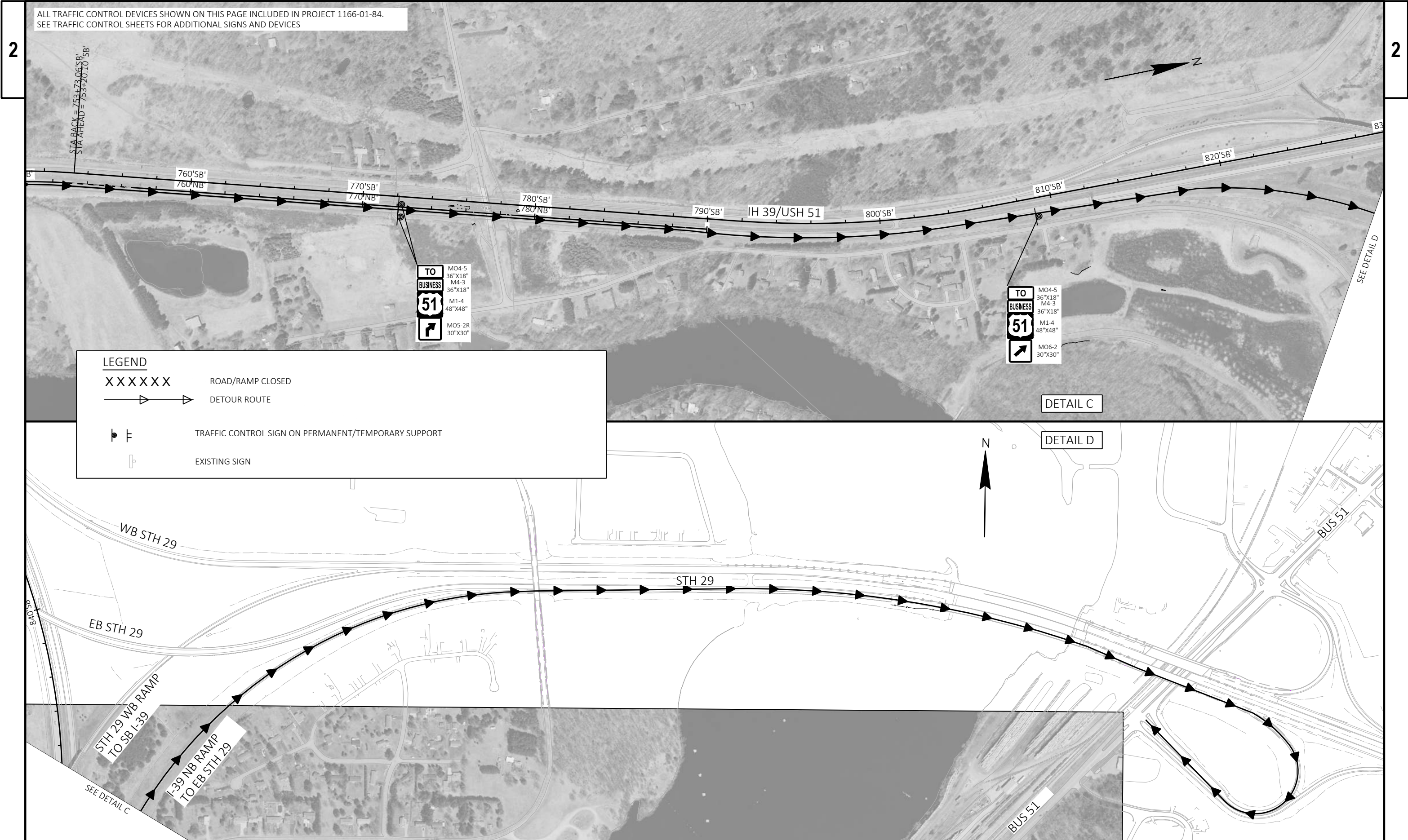
TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT

EXISTING SIGN



ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-01-84.
SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL SIGNS AND DEVICES

LEGEND

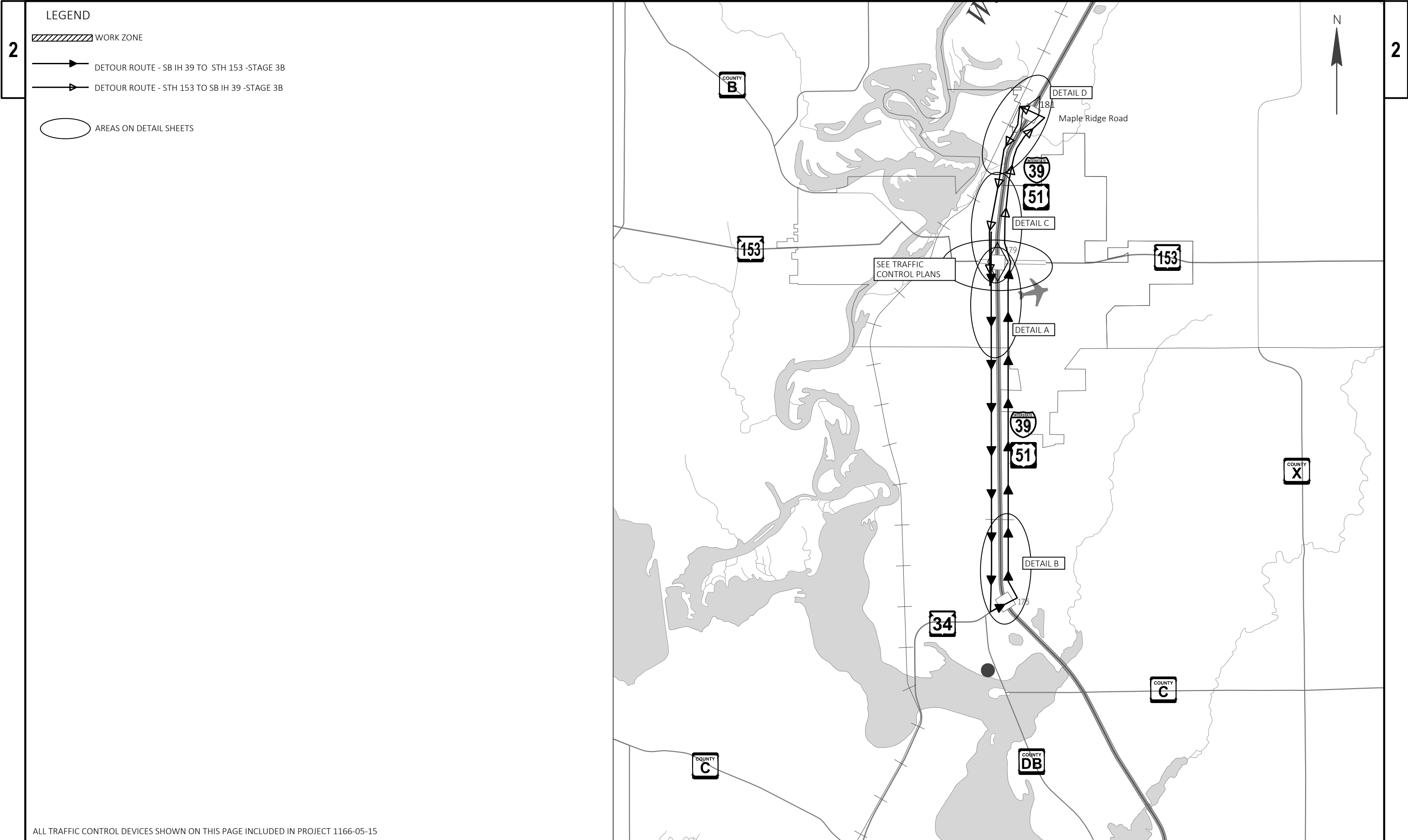
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- DETOUR ROUTE
- ⦿ TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT
- ⦿ EXISTING SIGN

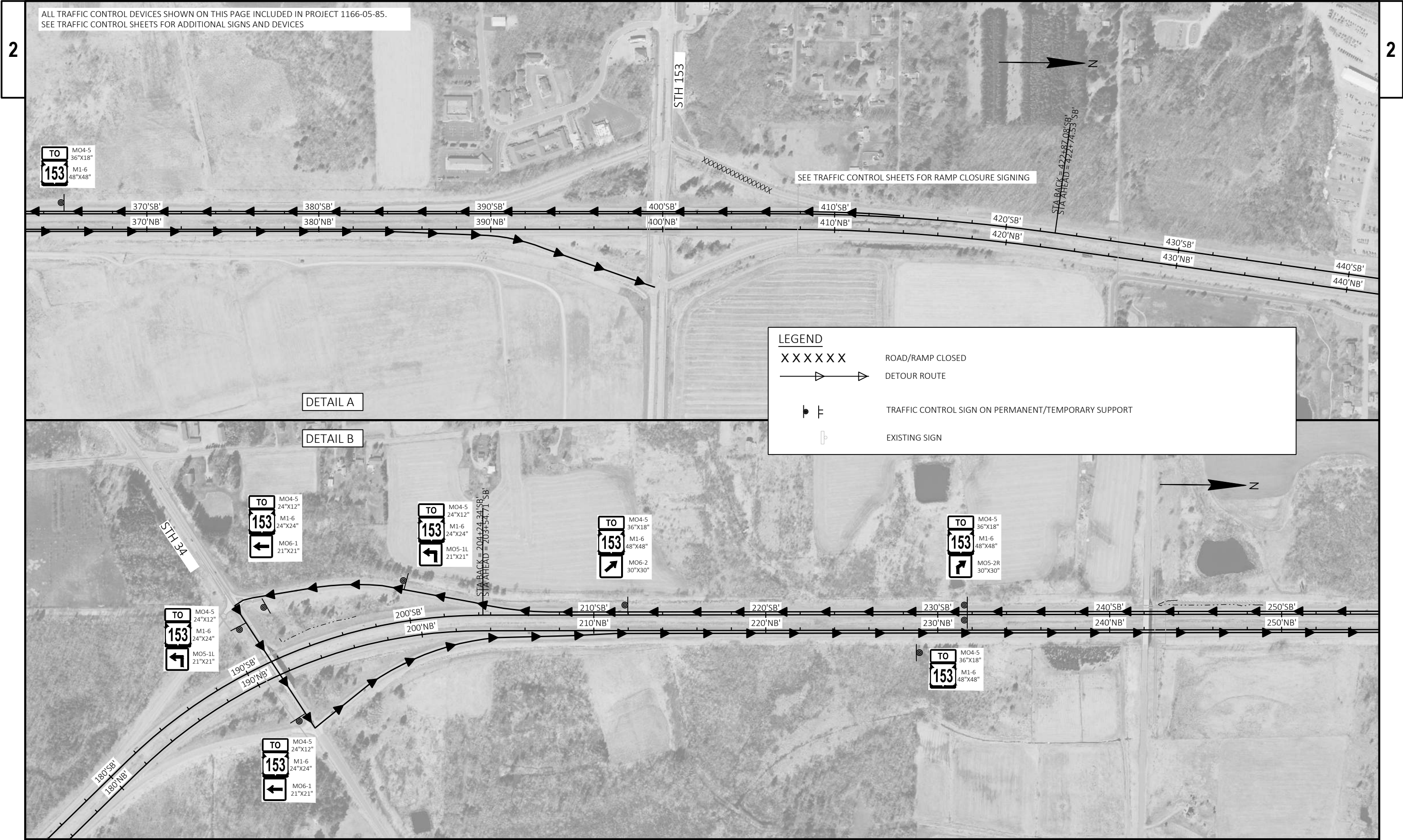
TO
BUSINESS
51
M04-5
36"x18"
M4-3
36"x18"
M1-4
48"x48"
M05-2R
30"x30"

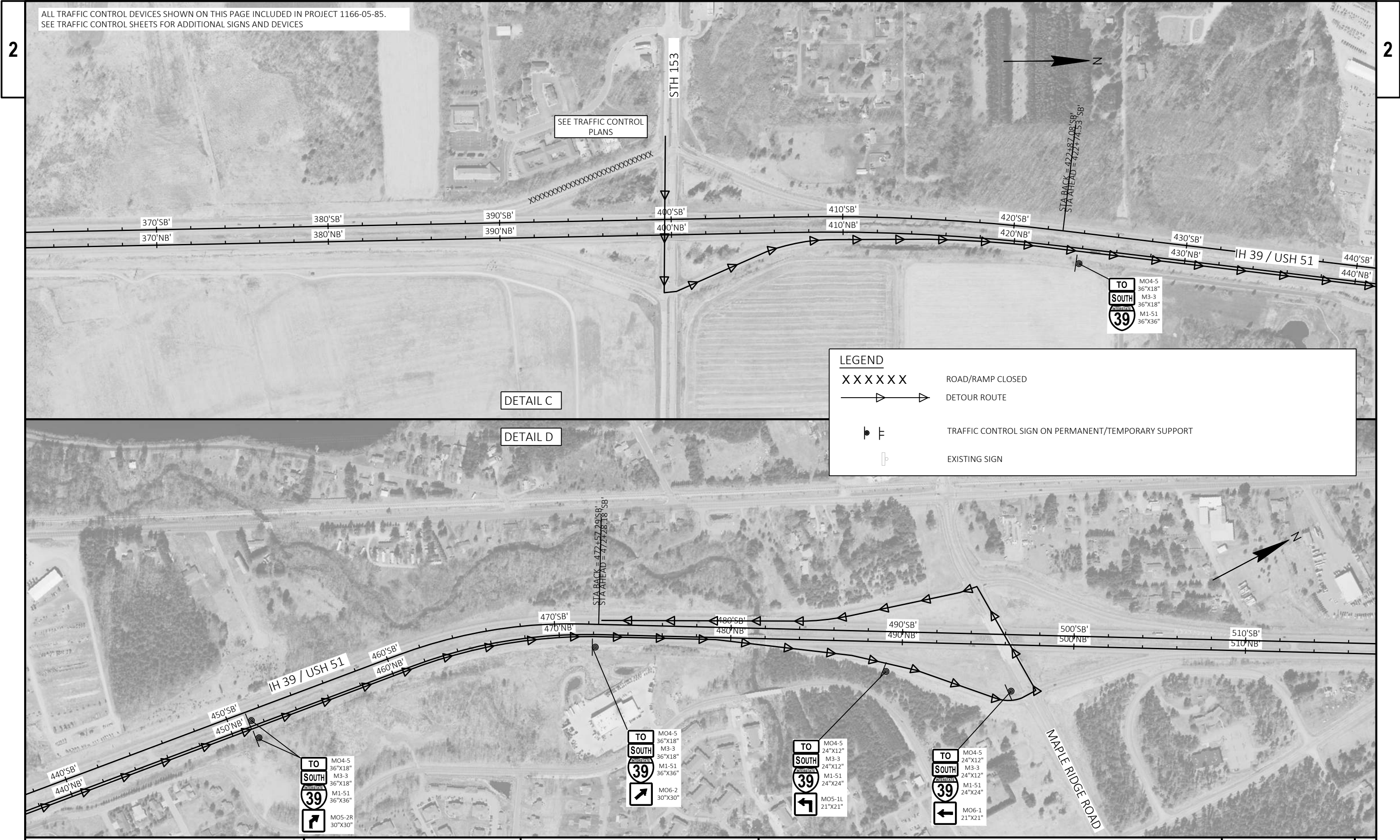
TO
BUSINESS
51
M04-5
36"x18"
M4-3
36"x18"
M1-4
48"x48"
M06-2
30"x30"

DETAIL C

DETAIL D







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SEE TRAFFIC CONTROL SHEETS FOR ADDITIONAL SIGNS AND DEVICES

DETAIL C

DETAIL D

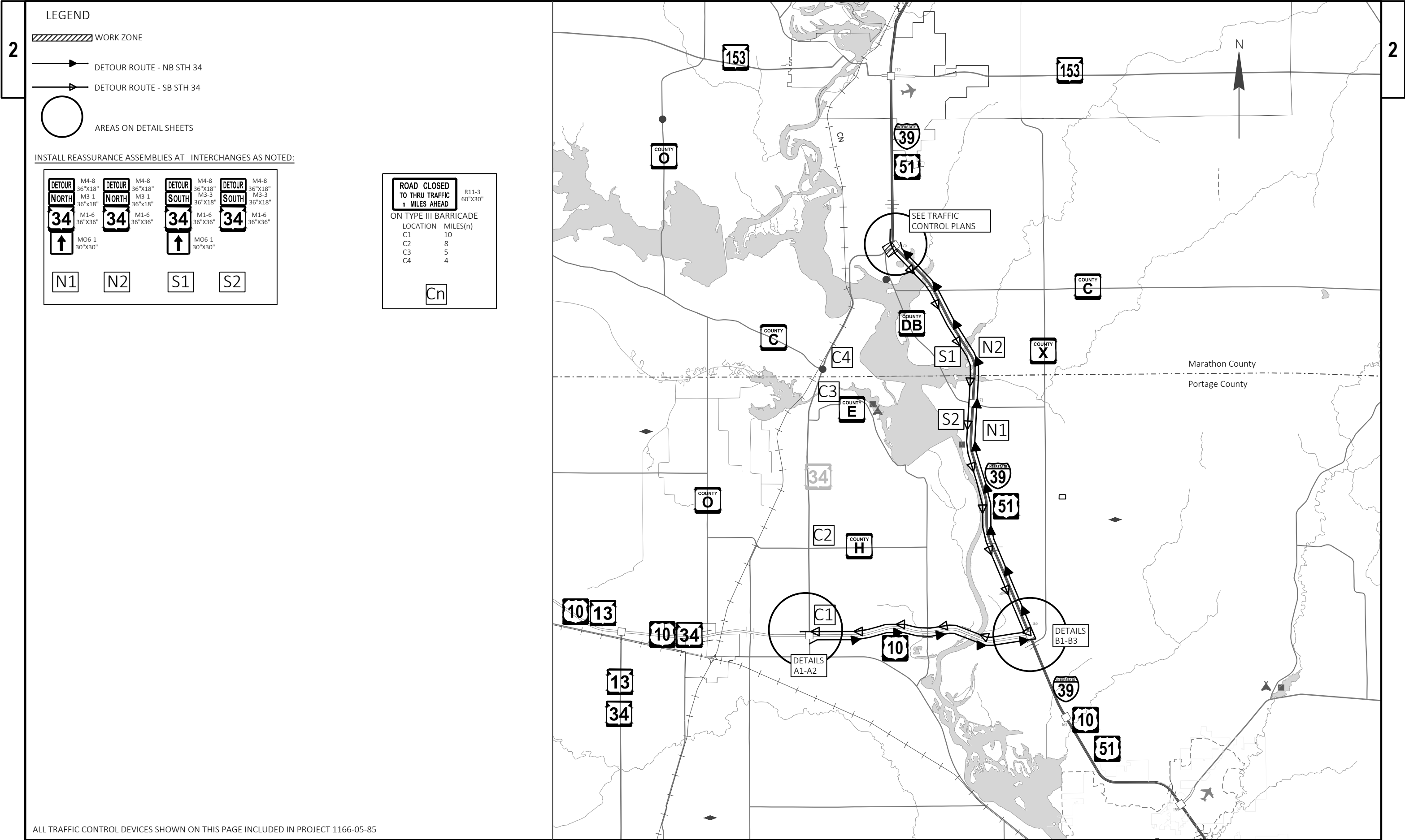
LEGEND

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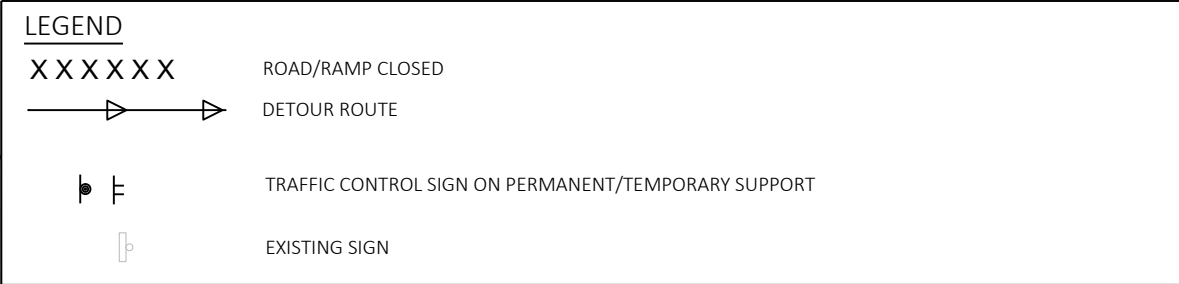
→ DETOUR ROUTE

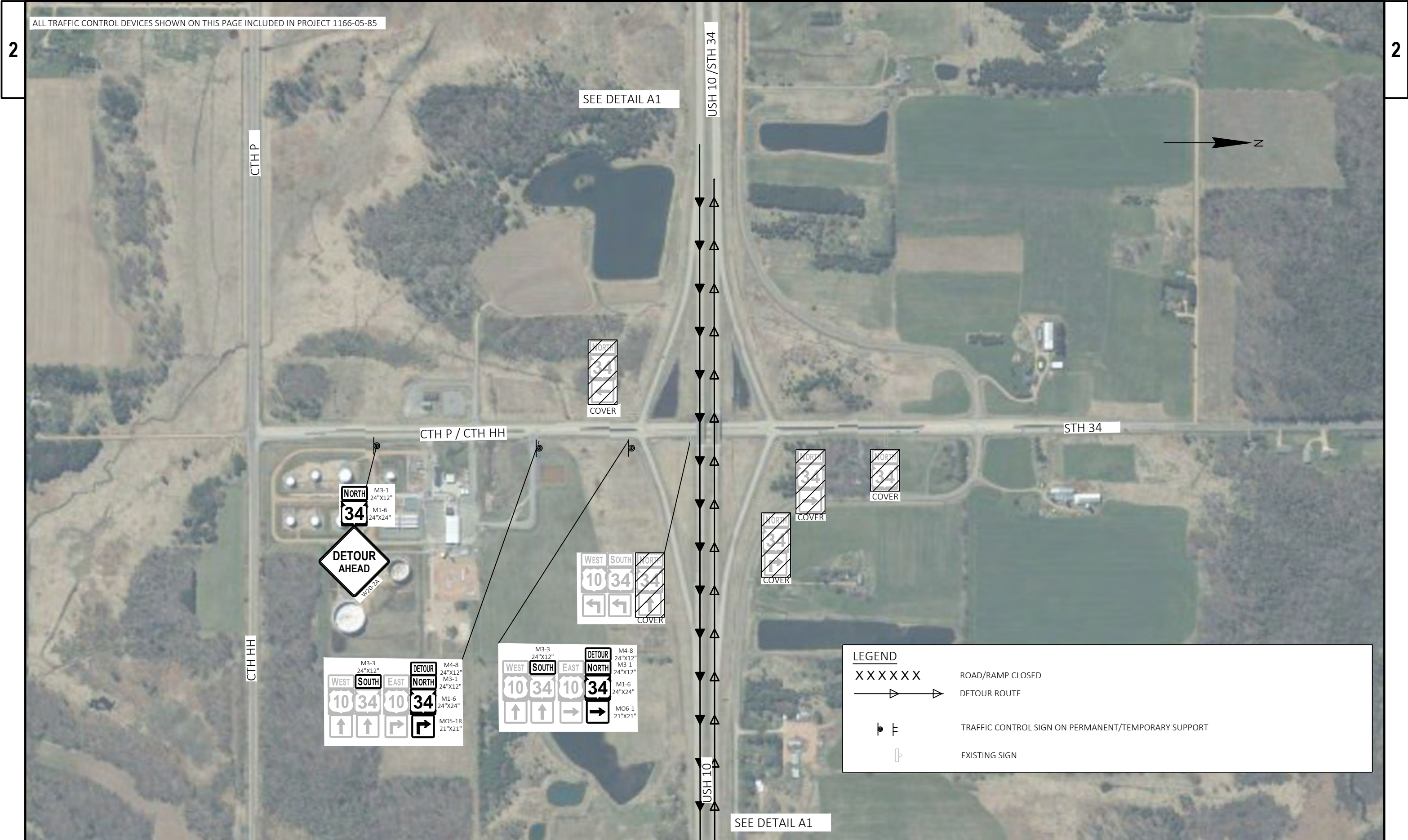
TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT

EXISTING SIGN



ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85

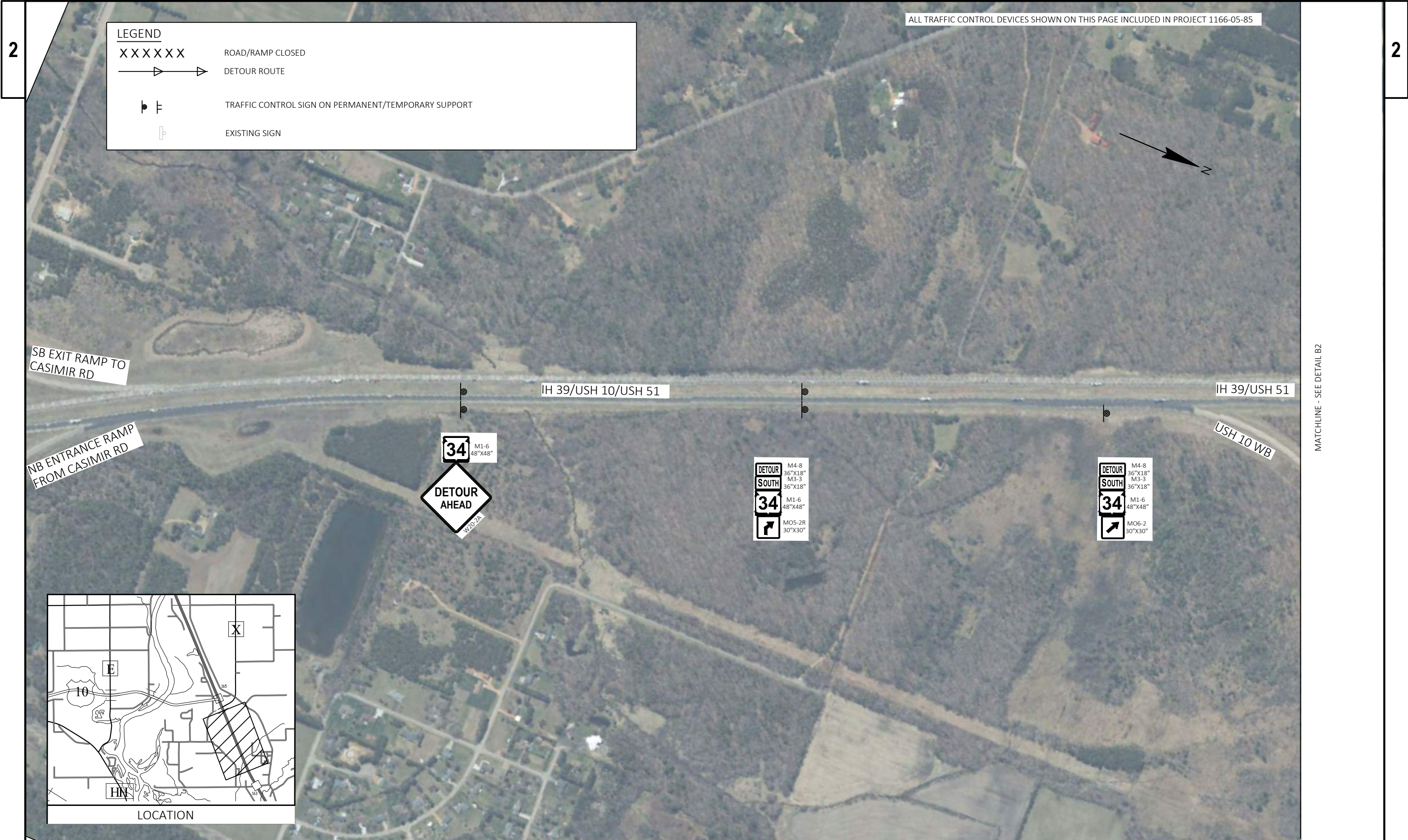




ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85

2

2



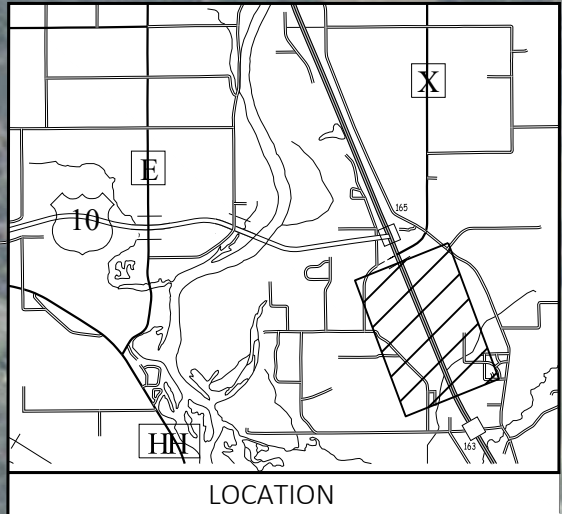
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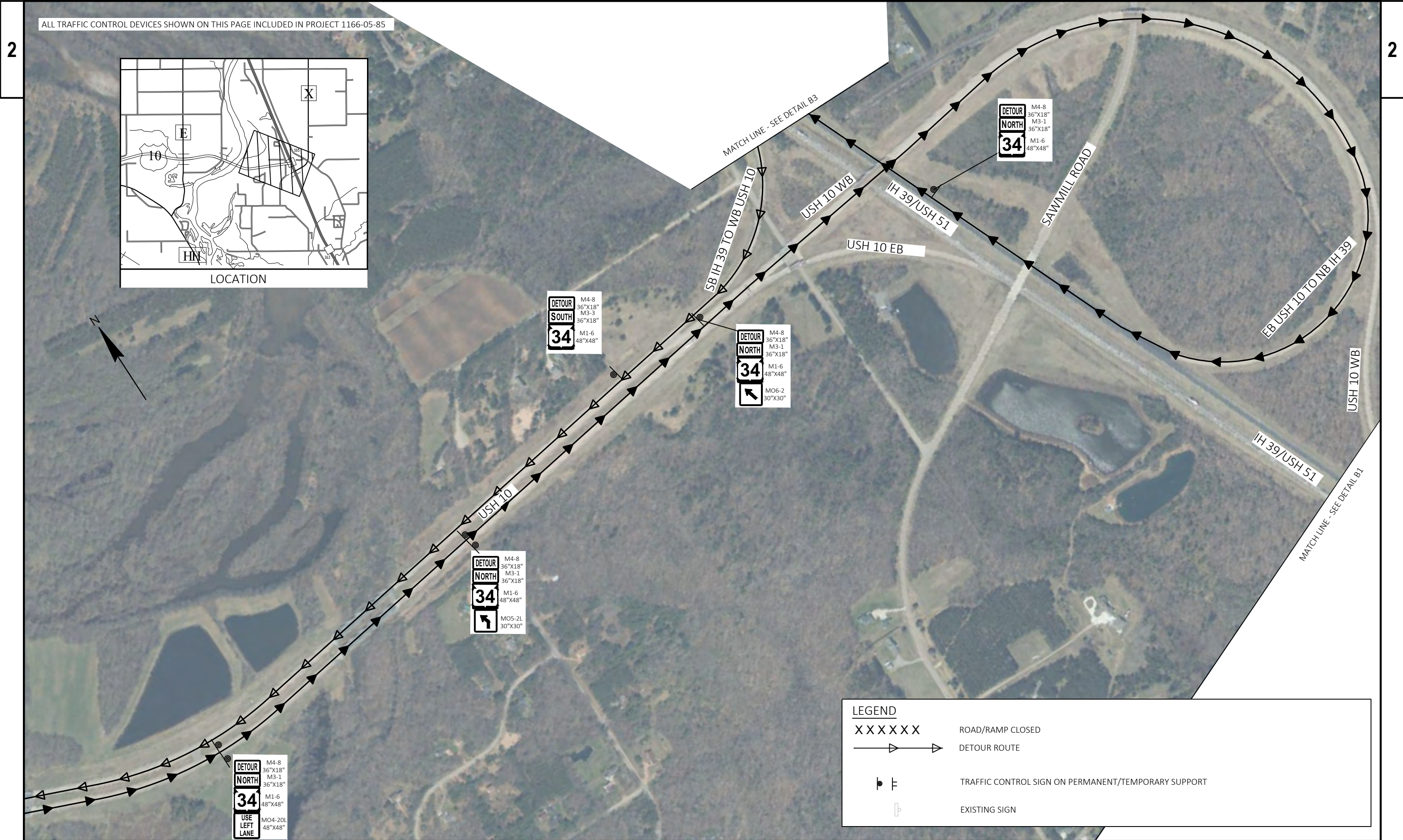
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→ → → DETOUR ROUTE

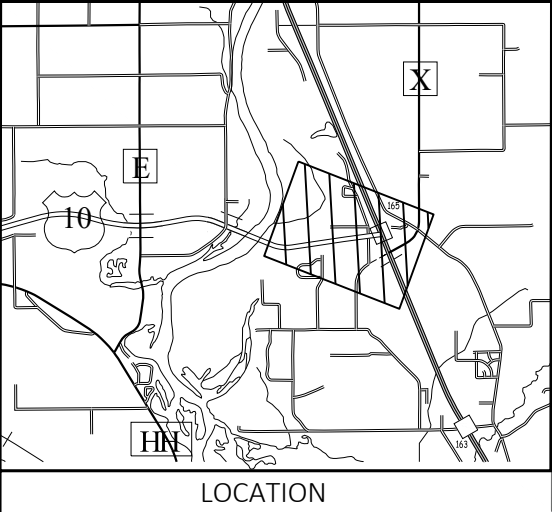
⌋ ⌋ TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT

⌋ EXISTING SIGN





ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85



LOCATION

DETOUR
SOUTH
34
M4-8
36"x18"
M3-3
36"x18"
M1-6
48"x48"

DETOUR
NORTH
34
M4-8
36"x18"
M3-1
36"x18"
M1-6
48"x48"
MO6-2
30"x30"

DETOUR
NORTH
34
M4-8
36"x18"
M3-1
36"x18"
M1-6
48"x48"

DETOUR
NORTH
34
M4-8
36"x18"
M3-1
36"x18"
M1-6
48"x48"
MO5-2L
30"x30"

DETOUR
NORTH
34
M4-8
36"x18"
M3-1
36"x18"
M1-6
48"x48"
MO4-20L
48"x48"
USE
LEFT
LANE

LEGEND

X X X X X X

ROAD/RAMP CLOSED

—>—>

DETOUR ROUTE

⦿

TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT

⦿

EXISTING SIGN

PROJECT NO: 1166-01-84/1166-05-81/1166-05-85

HWY: IH 39

COUNTY: MARATHON

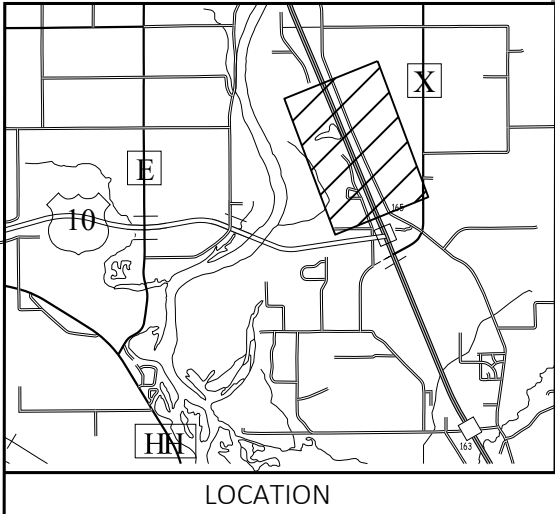
DETOUR - STAGE 4 - STH 34 DETAIL B2

SHEET

178

E

ALL TRAFFIC CONTROL DEVICES SHOWN ON THIS PAGE INCLUDED IN PROJECT 1166-05-85



LEGEND

XXXXXX ROAD/RAMP CLOSED

→ → DETOUR ROUTE

TRAFFIC CONTROL SIGN ON PERMANENT/TEMPORARY SUPPORT

EXISTING SIGN

Estimate Of Quantities

					1166-01-84	1166-05-81	1166-05-85
Line	Item	Item Description	Unit	Total	Qty	Qty	Qty
0002	204.0100	Removing Concrete Pavement	SY	1,010.000			1,010.000
0004	204.0110	Removing Asphaltic Surface	SY	938.000		888.000	50.000
0006	204.0115	Removing Asphaltic Surface Butt Joints	SY	1,544.000	700.000	586.000	258.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	448,480.000	87,400.000	220,740.000	140,340.000
0010	204.0150	Removing Curb & Gutter	LF	263.000	20.000	199.000	44.000
0012	204.0155	Removing Concrete Sidewalk	SY	70.000		70.000	
0014	204.0165	Removing Guardrail	LF	2,932.000	1,279.000	1,653.000	
0016	204.0190	Removing Surface Drains	EACH	9.000	1.000	5.000	3.000
0018	204.9060.S	Removing (item description) 01. Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	1.000			1.000
0020	205.0100	Excavation Common	CY	1,820.000		225.000	1,595.000
0022	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 1166-01-84	EACH	1.000	1.000		
0024	211.0101	Prepare Foundation for Asphaltic Paving (project) 02. 1166-05-81	EACH	1.000		1.000	
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 03. 1166-05-85	EACH	1.000			1.000
0028	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	9.000		9.000	
0030	213.0100	Finishing Roadway (project) 01. 1166-01-84	EACH	1.000	1.000		
0032	213.0100	Finishing Roadway (project) 02. 1166-05-81	EACH	1.000		1.000	
0034	213.0100	Finishing Roadway (project) 03. 1166-05-85	EACH	1.000			1.000
0036	305.0110	Base Aggregate Dense 3/4-Inch	TON	7,720.000	1,105.000	3,940.000	2,675.000
0038	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,565.000		2,140.000	3,425.000
0040	312.0110	Select Crushed Material	TON	1,595.000			1,595.000
0042	450.4000	HMA Cold Weather Paving	TON	4,930.000			4,930.000
0044	455.0605	Tack Coat	GAL	27,435.000	5,250.000	13,285.000	8,900.000
0046	460.0115.S	HMA Pavement Test Strip Volumetrics	EACH	1.000	0.200	0.500	0.300
0048	460.0120.S	HMA Pavement Test Strip Density	EACH	1.000	0.200	0.500	0.300
0050	460.2000	Incentive Density HMA Pavement	DOL	38,810.000	7,420.000	18,640.000	12,750.000
0052	460.5224	HMA Pavement 4 LT 58-28 S	TON	12,716.000	1,943.000	7,076.000	3,697.000
0054	460.6223	HMA Pavement 3 MT 58-28 S	TON	1,162.000		129.000	1,033.000
0056	460.6424	HMA Pavement 4 MT 58-28 H	TON	7,042.000	1,329.000	2,616.000	3,097.000
0058	460.8424	HMA Pavement 4 SMA 58-28 H	TON	38,966.000	8,033.000	19,033.000	11,900.000
0060	460.9000.S	Material Transfer Vehicle 01. 1166-01-84	EACH	1.000	0.200	0.500	0.300
0062	465.0110	Asphaltic Surface Patching	TON	5.000		4.000	1.000
0064	465.0315	Asphaltic Flumes	SY	114.000		74.000	40.000
0066	465.0510	Asphaltic Rumble Strips, Shoulder Divided Roadway	LF	180,240.000	32,450.000	91,635.000	56,155.000
0068	520.8700	Cleaning Culvert Pipes	EACH	2.000		2.000	
0070	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	1.000	1.000		
0072	522.0118	Culvert Pipe Reinforced Concrete Class III 18-Inch	LF	6.000		6.000	
0074	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	1.000		1.000	
0076	522.1030	Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch	EACH	1.000			1.000
0078	524.0618	Apron Endwalls for Culvert Pipe Salvaged 18-Inch	EACH	1.000		1.000	
0080	530.0112	Culvert Pipe Corrugated Polyethylene 12-Inch	LF	30.000	30.000		
0082	602.0515	Curb Ramp Detectable Warning Field Natural Patina	SF	80.000		80.000	
0084	602.0615	Curb Ramp Detectable Warning Field Radial Natural Patina	SF	55.000		55.000	
0086	602.3010	Concrete Surface Drains	CY	3.000	1.000	2.000	
0088	606.0200	Riprap Medium	CY	7.000	2.000	5.000	
0090	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	38.000		38.000	
0092	611.0654	Inlet Covers Type V	EACH	1.000	1.000		
0094	611.0666	Inlet Covers Type Z	EACH	2.000		2.000	
0096	611.3003	Inlets 3-FT Diameter	EACH	2.000		2.000	

Estimate Of Quantities

					1166-01-84	1166-05-81	1166-05-85
Line	Item	Item Description	Unit	Total	Qty	Qty	Qty
0098	611.3220	Inlets 2x2-FT	EACH	1.000	1.000		
0100	614.0010	Barrier System Grading Shaping Finishing	EACH	8.000	2.000	6.000	
0102	614.0220	Steel Thrie Beam Bullnose Terminal	EACH	6.000	2.000	4.000	
0104	614.0230	Steel Thrie Beam	LF	855.000	380.000	475.000	
0106	614.0950	Replacing Guardrail Posts and Blocks	EACH	10.000	10.000		
0108	614.0951	Replacing Guardrail Rail and Hardware	LF	1,775.000	1,775.000		
0110	614.2300	MGS Guardrail 3	LF	1,476.500	1,114.000	362.500	
0112	614.2310	MGS Guardrail 3 HS	LF	62.500	62.500		
0114	614.2500	MGS Thrie Beam Transition	LF	236.400	78.800	157.600	
0116	614.2610	MGS Guardrail Terminal EAT	EACH	5.000	1.000	4.000	
0118	614.2620	MGS Guardrail Terminal Type 2	EACH	1.000	1.000		
0120	618.0100	Maintenance and Repair of Haul Roads (project) 01. 1166-01-84	EACH	1.000	1.000		
0122	618.0100	Maintenance and Repair of Haul Roads (project) 02. 1166-05-81	EACH	1.000		1.000	
0124	618.0100	Maintenance and Repair of Haul Roads (project) 03. 1166-05-85	EACH	1.000			1.000
0126	619.1000	Mobilization	EACH	1.000	0.200	0.500	0.300
0128	620.0300	Concrete Median Sloped Nose	SF	51.000		31.000	20.000
0130	624.0100	Water	MGAL	132.700	11.100	60.600	61.000
0132	625.0100	Topsoil	SY	4,390.000		490.000	3,900.000
0134	628.1504	Silt Fence	LF	6,752.000	1,067.000	2,935.000	2,750.000
0136	628.1520	Silt Fence Maintenance	LF	6,752.000	1,067.000	2,935.000	2,750.000
0138	628.1905	Mobilizations Erosion Control	EACH	6.000	2.000	3.000	1.000
0140	628.1910	Mobilizations Emergency Erosion Control	EACH	7.000	2.000	4.000	1.000
0142	628.2002	Erosion Mat Class I Type A	SY	4,390.000		490.000	3,900.000
0144	628.7015	Inlet Protection Type C	EACH	2.000		2.000	
0146	628.7504	Temporary Ditch Checks	LF	220.000		95.000	125.000
0148	628.7555	Culvert Pipe Checks	EACH	15.000		15.000	
0150	628.7570	Rock Bags	EACH	75.000		75.000	
0152	629.0210	Fertilizer Type B	CWT	2.700		0.300	2.400
0154	630.0130	Seeding Mixture No. 30	LB	75.000		9.000	66.000
0156	630.0500	Seed Water	MGAL	96.000		10.000	86.000
0158	633.5200	Markers Culvert End	EACH	3.000		3.000	
0160	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	1.000			1.000
0162	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	6.000			6.000
0164	634.0803	Posts Tubular Steel 2x2-Inch X 3-FT	EACH	1.000		1.000	
0166	637.2210	Signs Type II Reflective H	SF	44.290			44.290
0168	637.2230	Signs Type II Reflective F	SF	8.000		4.000	4.000
0170	638.2102	Moving Signs Type II	EACH	5.000		5.000	
0172	638.2602	Removing Signs Type II	EACH	10.000		1.000	9.000
0174	638.3000	Removing Small Sign Supports	EACH	8.000		1.000	7.000
0176	642.5201	Field Office Type C	EACH	1.000	0.200	0.500	0.300
0178	643.0300	Traffic Control Drums	DAY	29,404.000	10,084.000	11,925.000	7,395.000
0180	643.0420	Traffic Control Barricades Type III	DAY	4,913.000	1,413.000	1,718.000	1,782.000
0182	643.0705	Traffic Control Warning Lights Type A	DAY	9,826.000	2,826.000	3,436.000	3,564.000
0184	643.0715	Traffic Control Warning Lights Type C	DAY	8,412.000	2,254.000	3,416.000	2,742.000
0186	643.0800	Traffic Control Arrow Boards	DAY	468.000	180.000	168.000	120.000
0188	643.0900	Traffic Control Signs	DAY	19,003.000	5,668.000	4,572.000	8,763.000
0190	643.0910	Traffic Control Covering Signs Type I	EACH	18.000	7.000	3.000	8.000
0192	643.0920	Traffic Control Covering Signs Type II	EACH	911.000	209.000	381.000	321.000
0194	643.1000	Traffic Control Signs Fixed Message	SF	66.500	66.500		

Estimate Of Quantities

					1166-01-84	1166-05-81	1166-05-85
Line	Item	Item Description	Unit	Total	Qty	Qty	Qty
0196	643.1050	Traffic Control Signs PCMS	DAY	340.000	74.000	143.000	123.000
0198	643.1070	Traffic Control Cones 42-Inch	DAY	79,190.000	16,568.000	32,991.000	29,631.000
0200	643.1205.S	Basic Traffic Queue Warning System	DAY	108.000	36.000	42.000	30.000
0202	643.3170	Temporary Marking Line Epoxy 6-Inch	LF	240,684.000	61,650.000	112,146.000	66,888.000
0204	643.3180	Temporary Marking Line Removable Tape 6-Inch	LF	21,950.000	10,800.000	7,150.000	4,000.000
0206	643.3280	Temporary Marking Line Removable Tape 10-Inch	LF	7,900.000	2,000.000	3,500.000	2,400.000
0208	643.3960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	5,551.000	2,013.000	2,275.000	1,263.000
0210	643.5000	Traffic Control	EACH	1.000	0.200	0.500	0.300
0212	644.1440	Temporary Pedestrian Surface Matting	SF	145.000		145.000	
0214	644.1601	Temporary Pedestrian Curb Ramp	DAY	56.000		56.000	
0216	644.1605	Temporary Pedestrian Detectable Warning Field	SF	40.000		40.000	
0218	644.1810	Temporary Pedestrian Barricade	LF	860.000		860.000	
0220	645.0120	Geotextile Type HR	SY	13.000	3.000	10.000	
0222	645.0140	Geotextile Type SAS	SY	1,890.000			1,890.000
0224	646.2020	Marking Line Epoxy 6-Inch	LF	1,111.000		1,111.000	
0226	646.2025	Marking Line Grooved Black Epoxy 6-Inch	LF	24,537.000	5,013.000	11,965.000	7,559.000
0228	646.2040	Marking Line Grooved Wet Ref Epoxy 6-Inch	LF	209,009.000	39,222.000	102,638.000	67,149.000
0230	646.2050	Marking Line Grooved Permanent Tape 6-Inch	LF	24,537.000	5,013.000	11,965.000	7,559.000
0232	646.4020	Marking Line Epoxy 10-Inch	LF	356.000		356.000	
0234	646.4040	Marking Line Grooved Wet Ref Epoxy 10-Inch	LF	14,089.000	5,073.000	5,635.000	3,381.000
0236	646.5020	Marking Arrow Epoxy	EACH	5.000	2.000	3.000	
0238	646.5220	Marking Symbol Epoxy	EACH	1.000		1.000	
0240	646.6120	Marking Stop Line Epoxy 18-Inch	LF	114.000		72.000	42.000
0242	646.6466	Cold Weather Marking Epoxy 6-Inch	LF	29,673.000			29,673.000
0244	646.6470	Cold Weather Marking Epoxy 10-Inch	LF	1,575.000			1,575.000
0246	646.7220	Marking Chevron Epoxy 24-Inch	LF	1,513.000	724.000	561.000	228.000
0248	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	188.000		188.000	
0250	650.4000	Construction Staking Storm Sewer	EACH	3.000		3.000	
0252	650.4500	Construction Staking Subgrade	LF	515.000			515.000
0254	650.5000	Construction Staking Base	LF	515.000			515.000
0256	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	748.000		233.000	515.000
0258	650.8000	Construction Staking Resurfacing Reference	LF	106,688.000	18,489.000	54,014.000	34,185.000
0260	650.9000	Construction Staking Curb Ramps	EACH	6.000		6.000	
0262	650.9911	Construction Staking Supplemental Control (project) 01. 1166-01-84	EACH	1.000	1.000		
0264	650.9911	Construction Staking Supplemental Control (project) 02. 1166-05-81	EACH	1.000		1.000	
0266	650.9911	Construction Staking Supplemental Control (project) 03. 1166-05-85	EACH	1.000			1.000
0268	650.9920	Construction Staking Slope Stakes	LF	1,258.000		105.000	1,153.000
0270	690.0150	Sawing Asphalt	LF	3,169.000		2,448.000	721.000
0272	690.0250	Sawing Concrete	LF	21.000		21.000	
0274	740.0440	Incentive IRI Ride	DOL	71,810.000	13,720.000	35,780.000	22,310.000
0276	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	2,400.000	2,400.000		
0278	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	3,800.000	3,800.000		
0280	SPV.0035	Special 01. Excavation Special	CY	1,880.000			1,880.000
0282	SPV.0045	Special 01. Digital Speed Reduction System	DAY	208.000	64.000	84.000	60.000
0284	SPV.0060	Special 01. Grading Shaping Finishing Culvert Pipe STA 635+44 LT	EACH	1.000		1.000	
0286	SPV.0060	Special 02. Locate & Clean Existing Underdrain Outfall	EACH	900.000	180.000	440.000	280.000
0288	SPV.0090	Special 01. Construction Staking Pavement Replacement Reference	LF	743.000		105.000	638.000
0290	SPV.0090	Special 03. Concrete Curb and Gutter HES 18-Inch Type D	LF	181.000		93.000	88.000
0292	SPV.0090	Special 04. Concrete Curb and Gutter HES 30-Inch Type D	LF	487.000		60.000	427.000

Estimate Of Quantities

					1166-01-84	1166-05-81	1166-05-85
Line	Item	Item Description	Unit	Total	Qty	Qty	Qty
0294	SPV.0090	Special 05. Concrete Curb and Gutter HES 6-Inch Sloped 30-Inch Type J	LF	80.000		80.000	
0296	SPV.0090	Special 06. Concrete Curb and Gutter HES 4-Inch Sloped 30-Inch Type TBT	LF	225.000	121.000	104.000	
0298	SPV.0165	Special 01. Concrete Sidewalk HES 4-Inch	SF	1,763.000		1,333.000	430.000
0300	SPV.0165	Special 02. Concrete Sidewalk HES 6-Inch	SF	783.000		783.000	
0302	SPV.0180	Special 01. Resin Binder High Friction Surface Treatment	SY	2,990.000	2,990.000		
0304	SPV.0180	Special 02. Removing Distressed Asphaltic Surface	SY	7.000			7.000

REMOVING CONCRETE PAVEMENT

STATION TO STATION			ROADWAY	LOCATION	204.0100 SY	COMMENT
PROJECT 1166-05-85						
CATEGORY 0010						
191+49	-	192+26	RAMP AD	ROADWAY	470	INCLUDES ADJACENT CURB AND GUTTER
188+93	-	190+02	RAMP AC	ROADWAY	540	

PROJECT 1166-05-85 TOTAL 1,010

CONTRACT TOTAL 1,010

REMOVING ASPHALTIC SURFACE MILLING

STATION TO STATION		ROADWAY	LOCATION		204.0120 SY	MILL DEPTH
PROJECT 1166-01-84						
CATEGORY 0010						
693+25	-	712+38	IH 39 NB	INSIDE SHOULDER	1,340	2.25"
				LANES	5,200	2.25"
				OUTSIDE SHOULDER	940	2.25"
				RAMP DB GORE	400	2.25"
				RAMP DA LANE	160	2.25"
				RAMP DA OUTSIDE SHOULDER	80	2.25"
716+03	-	727+26	IH 39 NB	INSIDE SHOULDER	1,190	2.25"
				LANES	2,990	2.25"
				OUTSIDE SHOULDER	0	2.25"
				RAMP DA LANE	1,390	2.25"
				RAMP DA OUTSIDE SHOULDER	1,210	2.25"
734+06	-	788+75	IH 39 NB	INSIDE SHOULDER	4,320	2.25"
				LANES	14,570	2.25"
				OUTSIDE SHOULDER	6,060	2.25"
682+00	-	711+92	IH 39 SB	INSIDE SHOULDER	2,340	2.25"
				LANES	7,780	2.25"
				OUTSIDE SHOULDER	1,110	2.25"
				RAMP DD LANE	2,850	2.25"
				RAMP DD GORE	460	2.25"
				RAMP DD OUTSIDE SHOULDER	1,040	2.25"
				RAMP DC INSIDE SHOULDER	50	2.25"
				RAMP DC LANE	160	2.25"
				RAMP DC OUTSIDE SHOULDER	100	2.25"
715+50	-	727+42	IH 39 SB	INSIDE SHOULDER	880	2.25"
				LANES	3,180	2.25"
				OUTSIDE SHOULDER	610	2.25"
				RAMP DC LANE	980	2.25"
				RAMP DC GORE	630	2.25"
				RAMP DC OUTSIDE SHOULDER	760	2.25"
734+17	-	788+50	IH 39 SB	INSIDE SHOULDER	3,670	2.25"
				LANES	14,650	2.25"
				OUTSIDE SHOULDER	6,110	2.25"
761+66		IH 39 NB	CROSSOVER	190	2.25"	

PROJECT 1166-01-84 TOTAL 87,400

REMOVING ASPHALTIC SURFACE MILLING - CONTINUED

STATION TO STATION			ROADWAY	LOCATION	204.0120 SY	MILL DEPTH
PROJECT 1166-05-81						
CATEGORY 0010						
450+28	-	480+96	IH 39 NB	INSIDE SHOULDER	1,500	2.25"
				LANES	8,170	2.25"
				OUTSIDE SHOULDER	3,090	2.25"
482+17	-	693+25	IH 39 NB	INSIDE SHOULDER	9,450	2.25"
				LANES	56,310	2.25"
				OUTSIDE SHOULDER	21,950	2.25"
450+28	-	480+96	IH 39 SB	INSIDE SHOULDER	1,390	2.25"
				LANES	8,270	2.25"
				OUTSIDE SHOULDER	2,040	2.25"
482+17	-	682+00	IH 39 SB	INSIDE SHOULDER	9,050	2.25"
				LANES	53,280	2.25"
				OUTSIDE SHOULDER	21,220	2.25"
478+16	-	496+75	RAMP CB	INSIDE SHOULDER / GORE	790	2.25"
				LANE	2,820	2.25"
				OUTSIDE SHOULDER	1,180	2.25"
498+26	-	516+79	RAMP CA	INSIDE SHOULDER / GORE	670	2.25"
				LANE	2,670	2.25"
				OUTSIDE SHOULDER	990	2.25"
468+60	-	493+65	RAMP CD	INSIDE SHOULDER / GORE	1,070	2.25"
				LANE	3,580	2.25"
				OUTSIDE SHOULDER	1,370	2.25"
494+49	-	511+55	RAMP CC	INSIDE SHOULDER / GORE	1,040	2.25"
				LANE	3,200	2.25"
				OUTSIDE SHOULDER	760	2.25"
23+98	-	26+65	MAPLE RIDGE	ROADWAY	1,970	2.25"
29+68	-	32+67	MAPLE RIDGE	ROADWAY	1,910	2.25"
476+50			IH 39 NB	CROSSOVER	200	2.25"
512+84			IH 39 NB	CROSSOVER	200	2.25"
577+52			IH 39 NB	CROSSOVER	200	2.25"
615+38			IH 39 NB	CROSSOVER	200	2.25"
682+13			IH 39 NB	CROSSOVER	200	2.25"

PROJECT 1166-05-81 TOTAL 220,740

REMOVING ASPHALTIC SURFACE MILLING - CONTINUED

STATION TO STATION			ROADWAY	LOCATION	204.0120 SY	MILL DEPTH
PROJECT 1166-05-85						
CATEGORY 0010						
153+55	-	398+87	IH 39 SB	INSIDE SHOULDER	10,980	2.25"
				LANES	65,630	2.25"
				OUTSIDE SHOULDER	23,840	2.25"
401+07	-	450+28	IH 39 SB	INSIDE SHOULDER	2,210	2.25"
				LANES	13,160	2.25"
				OUTSIDE SHOULDER	4,740	2.25"
170+32	-	191+25	RAMP AD	INSIDE SHOULDER / GORE	590	2.25"
				LANE	2,920	2.25"
				OUTSIDE SHOULDER	1,860	2.25"
192+51	-	201+03	RAMP AC	INSIDE SHOULDER	280	2.25"
				LANE	1,420	2.25"
				OUTSIDE SHOULDER	760	2.25"
203+89	-	205+50	RAMP AC	GORE	180	2.25"
205+50	-	212+16	RAMP AC	LANE	520	2.25"
				OUTSIDE SHOULDER	600	2.25"
377+60	-	399+65	RAMP BD	INSIDE SHOULDER / GORE	690	2.25"
				LANE	3,070	2.25"
				OUTSIDE SHOULDER	1,970	2.25"
401+86	-	416+13	RAMP BC	INSIDE SHOULDER / GORE	690	2.25"
				LANE	2,250	2.25"
				OUTSIDE SHOULDER	1,280	2.25"
16+07	-	17+48	STH 34	ROADWAY	700	5"

PROJECT 1166-05-85 TOTAL 140,340
CONTRACT TOTAL 448,480

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

LOCATION / STATION TO STATION				ROADWAY	211.0400 STA
PROJECT 1166-05-81					
CATEGORY 0010					
477+50	-	480+12	LT	IH-39 NB	3
478+80	-	480+11	RT	IH-39 NB	2
483+17	-	485+52	RT	IH-39 SB	3
483+18	-	483+77	LT	IH-39 SB	1

PROJECT 1166-05-81 TOTAL 9
CONTRACT TOTAL 9

REMOVING GUARDRAIL

STATION TO STATION	DIR	ROADWAY	204.0165 REMOVING GUARDRAIL LF	COMMENT
PROJECT 1166-01-84				
CATEGORY 0010				
716+15 - 727+33	RT	IH 39 NB	1,118	B-37-396 TO B-37-75
755+56 - 757+17	RT	IH 39 NB	161	OVERHEAD SIGN
PROJECT 1166-01-84 TOTAL			1,279	
PROJECT 1166-05-81				
CATEGORY 0010				
480+14 - 480+98	LT	IH 39 NB	83	B-37-417
480+16 - 480+98	RT	IH 39 NB	82	
482+10 - 482+93	LT	IH 39 SB	82	
482+10 - 482+93	RT	IH 39 SB	83	
494+61 - 496+80	LT	IH 39 NB	447	MAPLE RIDGE RD OVERPASS
629+30 - 633+68	LT	IH 39 NB	438	KOWALSKI RD OVERPASS
632+48 - 636+87	RT	IH 39 SB	438	

PROJECT 1166-05-81 TOTAL 1,653
CONTRACT TOTAL 2,932

REMOVALS								
LOCATION / STATION TO STATION			ROADWAY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0150 REMOVING CURB AND GUTTER LF	204.0155 REMOVING CONCRETE SIDEWALK SY	SPV.0180.02 REMOVING DISTRESSED ASPHALTIC SURFACE SY
PROJECT 1166-01-84								
CATEGORY 0010								
710+59	-	711+70	RAMP DC	---	66	---	---	---
715+13	-	715+23	RAMP DC	---	32	---	---	---
711+60	-	711+92	IH-39 SB	---	66	---	---	---
712+28	-	712+65	IH-39 NB	---	70	---	---	---
716+10	-	716+20	IH-39 NB	---	72	10	---	---
715+50	-	715+85	IH-39 SB	---	62	---	---	---
727+25	-	727+35	IH-39 NB	---	68	---	---	---
727+25	-	727+35	IH-39 SB	---	52	10	---	---
734+06	-	734+16	IH-39 NB	---	68	---	---	---
734+17	-	734+41	IH-39 SB	---	52	---	---	---
788+65	-	788+75	IH-39 NB	---	46	---	---	---
788+40	-	788+50	IH-39 SB	---	46	---	---	---
PROJECT 1166-01-84 TOTALS				0	700	20	0	0
PROJECT 1166-05-81								
CATEGORY 0010								
450+28	-	450+38	IH-39 NB	---	44	---	---	---
480+86	-	480+96	IH-39 NB	---	82	---	---	---
480+86	-	480+96	IH-39 SB	---	76	---	---	---
482+14	-	482+24	IH-39 NB	---	84	---	---	---
482+14	-	482+24	IH-39 SB	---	72	---	---	---
482+65	-	483+18 LT	IH-39 SB	14	---	---	---	---
628+33	-	633+71 LT	IH-39 NB	260	---	---	---	---
632+47	-	638+01 RT	IH-39 SB	312	---	---	---	---
497+00	-	497+80	RAMP CB	124	---	155	32	---
497+70	-	498+39	RAMP CA	42	---	---	---	---
493+50	-	494+15	RAMP CD	108	---	44	38	---
494+35	-	494+60	RAMP CC	28	---	---	---	---
23+98	-	24+35	MAPLE RIDGE RD	---	62	---	---	---
26+37	-	26+65	MAPLE RIDGE RD	---	54	---	---	---
29+68	-	29+96	MAPLE RIDGE RD	---	54	---	---	---
32+41	-	32+67	MAPLE RIDGE RD	---	58	---	---	---
PROJECT 1166-05-81 TOTALS				888	586	199	70	0
PROJECT 1166-05-85								
CATEGORY 0010								
153+55	-	153+64	IH-39 SB	---	44	---	---	---
191+25	-	191+47	RAMP AD	26	---	18	---	---
189+76	-	190+37	RAMP AC	24	---	26	---	---
398+77	-	398+87	IH-39 SB	---	44			
399+54	-	399+60	RAMP BD	---	---	---	---	7
401+07	-	401+17	IH-39 SB	---	44	---	---	---
15+97	-	16+07	STH 34	---	50	---	---	---
399+55	-	399+65	RAMP BD	---	30	---	---	---
401+86	-	401+96	RAMP BC	---	46	---	---	---
PROJECT 1166-05-85 TOTALS				50	258	44	0	7
CONTRACT TOTALS				938	1,544	263	70	7

EXCAVATION

STATION TO STATION			ROADWAY	LOCATION	PROPOSED PAVEMENT SECTION DEPTH IN	205.0100 EXCAVATION COMMON CY	SPV.0035.01 EXCAVATION SPECIAL CY	COMMENT
PROJECT 1166-05-81								
CATEGORY 0010								
496+75	-	497+80	RAMP CB	ROADWAY	---	216	---	
6+08	-	6+58	RAMP CB	MAPLE RIDGE TRAIL	---	9	---	
PROJECT 1166-05-81 TOTALS						225	0	
PROJECT 1166-05-85								
CATEGORY 0010								
191+26	-	192+00	RAMP AD	ROADWAY	---	200	---	
189+25		190+28	RAMP AC	ROADWAY	---	245	---	
190+28	-	192+51	RAMP AC	ROADWAY	35.75"	---	650	INCLUDES EXIST 9" OF RUBBLIZED CONC PAVT
201+03	-	205+50	RAMP AC	ROADWAY	35.75"	---	1,230	
396+00	-	399+65	RAMP BD	ROADWAY	6"	30	---	COMPACTED MILLED MATERIAL
13+33	-	16+08	STH 34	ROADWAY	---	1,120	---	
PROJECT 1166-05-85 TOTALS						1,595	1,880	
CONTRACT TOTALS						1,820	1,880	

BASE AGGREGATE DENSE

STATION TO STATION			ROADWAY	AREA	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	312.0110 SELECT CRUSHED MATERIAL TON	624.0100 WATER MGAL	645.0140 GEOTEXTILE TYPE SAS SY
PROJECT 1166-01-84									
CATEGORY 0010									
693+25	-	712+38	IH 39 NB	SHOULDER	125	---	---	1.3	---
716+03	-	727+26	IH 39 NB	SHOULDER	85	---	---	0.9	---
734+06	-	788+75	IH 39 NB	SHOULDER	285	---	---	2.9	---
682+00	-	711+92	IH 39 SB	SHOULDER	225	---	---	2.3	---
715+50	-	727+42	IH 39 SB	SHOULDER	95	---	---	1.0	---
734+17	-	788+50	IH 39 SB	SHOULDER	285	---	---	2.9	---
761+66			IH 39 NB	CROSSOVER SHLD	5	---	---	0.1	---
PROJECT 1166-01-84 TOTALS					1,105	0	0	11.1	0
PROJECT 1166-05-81									
CATEGORY 0010									
450+28	-	480+96	IH 39 NB	SHOULDER	230	---	---	2.3	---
482+17	-	693+25	IH 39 NB	SHOULDER	1,605	725	---	23.3	---
450+28		480+96	IH 39 SB	SHOULDER	210	---	---	2.1	---
482+17		682+00	IH 39 SB	SHOULDER	1,530	870	---	24.0	---
478+16	-	496+75	RAMP CB	SHOULDER	95	---	---	1.0	---
498+26	-	516+79	RAMP CA	SHOULDER	70	---	---	0.7	---
468+60	-	493+65	RAMP CD	SHOULDER	95	---	---	1.0	---
494+49	-	511+55	RAMP CC	SHOULDER	80	---	---	0.8	---
RAMP CB TERMINAL PAVT			RAMP CB	RECONSTRUCT	---	485	---	4.9	---
RAMP CB TRAIL AND CURB RAMPS			RAMP CB	RECONSTRUCT	---	35	---	0.4	---
RAMP CD CURB RAMPS			RAMP CD	RECONSTRUCT	---	25	---	0.3	---
476+50			IH 39 NB	CROSSOVER SHLD	5	---	---	---	---
512+84			IH 39 NB	CROSSOVER SHLD	5	---	---	---	---
577+52			IH 39 NB	CROSSOVER SHLD	5	---	---	---	---
615+38			IH 39 NB	CROSSOVER SHLD	5	---	---	---	---
682+13			IH 39 NB	CROSSOVER SHLD	5	---	---	---	---
PROJECT 1166-05-81 TOTALS					3,940	2,140	0	60.6	0
PROJECT 1166-05-85									
CATEGORY 0010									
153+55	-	398+87	IH 39 SB	SHOULDER	1,830	---	---	18.3	---
401+07	-	450+28	IH 39 SB	SHOULDER	365	---	---	3.7	---
170+32	-	191+25	RAMP AD	SHOULDER	90	---	---	0.9	---
190+28	-	192+51	RAMP AC	RECONSTRUCT	35	495	550	5.3	630
192+51	-	201+03	RAMP AC	SHOULDER	55	---	---	0.6	---
201+03	-	205+50	RAMP AC	RECONSTRUCT	50	940	1,045	9.9	1,260
205+50	-	211+21	RAMP AC	SHOULDER	15	---	---	0.2	---
377+60	-	399+65	RAMP BD	SHOULDER	155	---	---	1.6	---
401+86	-	416+13	RAMP BC	SHOULDER	65	---	---	0.7	---
16+06	-	17+48	STH 34	SHOULDER	15	---	---	0.2	---
STH 34 AND RAMP TERMINALS				RECONSTRUCT	---	1,990	---	19.9	---
PROJECT 1166-05-85 TOTALS					2,675	3,425	1,595	61.0	1,890
CONTRACT TOTALS					7,720	5,565	1,595	132.6	1,890

ASPHALTIC ITEMS												
STATION TO STATION		ROADWAY	LOCATION	PAVEMENT TOTAL DEPTH	TACK COAT	455.0605 HMA PAVEMENT 4 LT 58-28 S	460.5224 HMA PAVEMENT 3 MT 58-28 S	460.6223 HMA PAVEMENT 4 MT 58-28 H	460.6424 HMA PAVEMENT 4 SMA 58-28 H	460.8424 ASPHALTIC SURFACE PATCHING	465.0110 ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY	
				IN	GAL	TON	TON	TON	TON	TON	LF	
PROJECT 1166-01-84												
CATEGORY 0010												
693+25	-	712+38	IH 39 NB	INSIDE SHOULDER	2.25	80	---	---	---	173	---	1,890
				LANES	2.25	310	---	---	---	672	---	---
				OUTSIDE SHOULDER	2.25	55	122	---	---	---	---	900
				RAMP DB GORE	2.25	25	---	---	52	---	---	---
				RAMP DA LANE	2.25	10	---	---	21	---	---	---
				RAMP DA OUTSIDE SHOULDER	2.25	5	---	---	11	---	---	---
716+03	-	727+26	IH 39 NB	INSIDE SHOULDER	2.25	70	---	---	---	154	---	1,075
				LANES	2.25	180	---	---	---	387	---	---
				OUTSIDE SHOULDER	2.25	0	---	---	---	---	---	555
				RAMP DA LANE	2.25	85	---	---	180	---	---	---
				RAMP DA OUTSIDE SHOULDER	2.25	75	---	---	157	---	---	---
734+06	-	788+75	IH 39 NB	INSIDE SHOULDER	2.25	260	---	---	---	559	---	5,445
				LANES	2.25	875	---	---	---	1,885	---	---
				OUTSIDE SHOULDER	2.25	365	784	---	---	---	---	5,430
682+00	-	711+92	IH 39 SB	INSIDE SHOULDER	2.25	140	---	---	---	302	---	2,900
				LANES	2.25	465	---	---	---	1,006	---	---
				OUTSIDE SHOULDER	2.25	65	144	---	---	---	---	1,600
				RAMP DD LANE	2.25	170	---	---	369	---	---	---
				RAMP DD GORE	2.25	30	---	---	60	---	---	---
				RAMP DD OUTSIDE SHOULDER	2.25	65	---	---	135	---	---	---
				RAMP DC INSIDE SHOULDER	2.25	5	---	---	6	---	---	---
				RAMP DC LANE	2.25	10	---	---	21	---	---	---
				RAMP DC OUTSIDE SHOULDER	2.25	5	---	---	12	---	---	---
715+50	-	727+42	IH 39 SB	INSIDE SHOULDER	2.25	55	---	---	---	114	---	1,135
				LANES	2.25	190	---	---	---	412	---	---
				OUTSIDE SHOULDER	2.25	35	78	---	---	---	---	615
				RAMP DC LANE	2.25	60	---	---	126	---	---	---
				RAMP DC GORE	2.25	40	---	---	81	---	---	---
				RAMP DC OUTSIDE SHOULDER	2.25	45	---	---	98	---	---	---
734+17	-	788+50	IH 39 SB	INSIDE SHOULDER	2.25	220	---	---	---	475	---	5,445
				LANES	2.25	880	---	---	---	1,895	---	---
				OUTSIDE SHOULDER	2.25	365	791	---	---	---	---	5,460
761+66			IH 39 NB	CROSSOVER	2.25	10	24	---	---	---	---	
PROJECT 1166-01-84 TOTALS						5,250	1,943	0	1,329	8,033	0	32,450

ASPHALTIC ITEMS - CONTINUED

STATION TO STATION			ROADWAY	LOCATION	PAVEMENT TOTAL DEPTH	TACK COAT	455.0605	460.5224	460.6223	460.6424	460.8424	465.0110	465.0510
					IN	GAL		HMA PAVEMENT 4 LT 58-28 S	HMA PAVEMENT 3 MT 58-28 S	HMA PAVEMENT 4 MT 58-28 H	HMA PAVEMENT 4 SMA 58-28 H	ASPHALTIC SURFACE PATCHING	ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY
							TON	TON	TON	TON	TON	TON	LF
PROJECT 1166-05-81													
CATEGORY 0010													
450+28	-	480+96	IH 39 NB	INSIDE SHOULDER	2.25	80	---	---	---	---	172	---	3,045
				LANES	2.25	490	---	---	---	1,057	---	---	
				OUTSIDE SHOULDER	2.25	185	399	---	---	---	---	2,680	
482+17	-	693+25	IH 39 NB	INSIDE SHOULDER	2.25	565	---	---	---	1,223	---	21,080	
				LANES	2.25	3,380	---	---	---	7,286	---	---	
				OUTSIDE SHOULDER	2.25	1,315	2,840	---	---	---	---	20,355	
450+28	-	480+96	IH 39 SB	INSIDE SHOULDER	2.25	85	---	---	---	180	---	3,070	
				LANES	2.25	495	---	---	---	1,070	---	---	
				OUTSIDE SHOULDER	2.25	125	264	---	---	---	---	2,440	
482+17	-	682+00	IH 39 SB	INSIDE SHOULDER	2.25	535	---	---	---	1,152	---	19,965	
				LANES	2.25	3,195	---	---	---	6,894	---	---	
				OUTSIDE SHOULDER	2.25	1,275	2,746	---	---	---	---	19,000	
478+16	-	496+75	RAMP CB	INSIDE SHOULDER / GORE	2.25	45	---	---	102	---	---	---	
				LANE	2.25	170	---	---	365	---	---	---	
				OUTSIDE SHOULDER	2.25	70	153	---	---	---	---	---	
498+26	-	516+79	RAMP CA	INSIDE SHOULDER / GORE	2.25	40	---	---	87	---	---	---	
				LANE	2.25	160	---	---	346	---	---	---	
				OUTSIDE SHOULDER	2.25	60	128	---	---	---	---	---	
468+60	-	493+65	RAMP CD	INSIDE SHOULDER / GORE	2.25	65	---	---	139	---	---	---	
				LANE	2.25	215	---	---	463	---	---	---	
				OUTSIDE SHOULDER	2.25	80	177	---	---	---	---	---	
494+49	-	511+55	RAMP CC	INSIDE SHOULDER / GORE	2.25	60	---	---	135	---	---	---	
				LANE	2.25	190	---	---	414	---	---	---	
				OUTSIDE SHOULDER	2.25	45	98	---	---	---	---	---	
23+98	-	26+65	MAPLE RIDGE	ROADWAY	2.25	120	---	---	255	---	---	---	
					2.25	0	4	---	---	---	4	---	
29+68	-	32+67	MAPLE RIDGE	ROADWAY	2.25	115	---	---	247	---	---	---	
497+00	-	497+80	RAMP CB	RECONSTRUCT	6.75	30	---	129	65	---	---	---	
477+50	-	485+50	BULL JR CREEK	FULL DEPTH SHOULDER AT EATs	4	25	97	---	---	---	---	---	
				MILLED INSIDE SHOULDER AT EATs	2.25	20	41	---	---	---	---	---	
476+50			IH 39 NB	CROSSOVER	2.25	10	26	---	---	---	---	---	
512+84			IH 39 NB	CROSSOVER	2.25	10	26	---	---	---	---	---	
577+52			IH 39 NB	CROSSOVER	2.25	10	26	---	---	---	---	---	
615+38			IH 39 NB	CROSSOVER	2.25	10	26	---	---	---	---	---	
682+13			IH 39 NB	CROSSOVER	2.25	10	26	---	---	---	---	---	

PROJECT 1166-05-81 TOTALS 13,285 7,076 129 2,616 19,033 4 91,635

ASPHALTIC ITEMS - CONTINUED

STATION TO STATION			ROADWAY	LOCATION	PAVEMENT TOTAL DEPTH	450.4000 HMA COLD WEATHER PAVING	455.0605 TACK COAT	460.5224 HMA PAVEMENT 4 LT 58-28 S	460.6223 HMA PAVEMENT 3 MT 58-28 S	460.6424 HMA PAVEMENT 4 MT 58-28 H	460.8424 HMA PAVEMENT 4 SMA 58-28 H	465.0110 ASPHALTIC SURFACE PATCHING	465.0510 ASPHALTIC RUMBLE STRIPS, SHOULDER DIVIDED ROADWAY
					IN	TON	GAL	TON	TON	TON	TON	TON	LF
PROJECT 1166-05-85													
CATEGORY 0010													
153+55	-	398+87	IH 39 SB	INSIDE SHOULDER	2.25	360	660	---	---	---	1,421	---	24,575
				LANES	2.25	2120	3,940	---	---	---	8,491	---	---
				OUTSIDE SHOULDER	2.25	770	1,430	3,084	---	---	---	---	22,530
401+07	-	450+28	IH 39 SB	INSIDE SHOULDER	2.25	70	130	---	---	---	285	---	4,910
				LANES	2.25	430	790	---	---	---	1,703	---	---
				OUTSIDE SHOULDER	2.25	150	285	613	---	---	---	---	4,140
170+32	-	191+26	RAMP AD	INSIDE SHOULDER / GORE	2.25	20	35	---	---	76	---	---	---
				LANE	2.25	90	175	---	---	378	---	---	---
				OUTSIDE SHOULDER	2.25	60	110	---	---	241	---	---	---
190+02	-	192+51	RAMP AC	INSIDE SHOULDER	6.75	10	10	---	20	10	---	---	---
				LANE	6.75	40	50	---	109	54	---	---	---
				OUTSIDE SHOULDER	6.75	20	25	---	55	28	---	---	---
192+51	-	201+03	RAMP AC	INSIDE SHOULDER	2.25	10	15	---	---	36	---	---	---
				LANE	2.25	50	85	---	---	183	---	---	---
				OUTSIDE SHOULDER	2.25	20	45	---	---	98	---	---	---
201+03	-	205+50	RAMP AC	INSIDE SHOULDER	6.75	10	10	---	25	12	---	---	---
				LANE	6.75	70	90	---	193	97	---	---	---
				OUTSIDE SHOULDER	6.75	40	50	---	103	51	---	---	---
203+89	-	205+50	RAMP AC	GORE	2.25	10	10	---	---	24	---	---	---
205+50	-	212+15	RAMP AC	LANE	2.25	20	30	---	---	68	---	---	---
				OUTSIDE SHOULDER	2.25	20	35	---	---	78	---	---	---
377+60	-	399+65	RAMP BD	INSIDE SHOULDER / GORE	2.25	20	40	---	---	89	---	---	---
				LANE	2.25	100	185	---	---	397	---	1	---
				OUTSIDE SHOULDER	2.25	70	130	---	---	276	---	---	---
401+86	-	416+13	RAMP BC	INSIDE SHOULDER / GORE	2.25	20	40	---	---	89	---	---	---
				LANE	2.25	70	135	---	---	291	---	---	---
				OUTSIDE SHOULDER	2.25	40	75	---	---	165	---	---	---
16+07	-	17+48	STH 34	ROADWAY	2.25	20	40	---	---	90	---	---	---
RAMP TERMINALS AND STH 34 RECONSTRUCTION					6.75	200	245	---	529	264	---	---	---
PROJECT 1166-05-85 TOTALS						4,930	8,900	3,697	1,033	3,097	11,900	1	56,155
CONTRACT TOTALS						4,930	27,435	12,716	1,162	7,042	38,966	5	180,240

DRAINAGE IMPROVEMENTS

STATION	LOCATION	DIR	STRUCTURE / CULVERT NUMBER	204.9060.S.01 REMOVING APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EA	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EA	520.8700 CLEANING CULVERT PIPES EA	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EA	522.0118 CULVERT PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EA	524.0618 APRON ENDWALLS FOR CULVERT PIPE SALVAGED 18-INCH EA	530.0112 CULVERT PIPE CORRUGATED POLYETHYLENE 12-INCH LF	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	611.0654 INLET COVER TYPE V EA	611.0666 INLET COVER TYPE Z EA	611.3003 INLETS 3-FT DIAMETER EA	611.3220 INLETS 2X2-FT EA	633.5200 MARKERS CULVERT END EA	650.4000 CONSTRUCTION STAKING STORM SEWER EA	COMMENT
PROJECT 1166-01-84																			
CATEGORY 0010																			
726+75	IH 39 NB	RT	103	---	---	---	1	---	---	---	30	---	1	---	---	1	---	---	
PROJECT 1166-01-84 TOTALS				0	0	0	1	0	0	0	30	0	1	0	0	1	0	0	
PROJECT 1166-05-81																			
CATEGORY 0010																			
455+90	IH 39 NB	---	37039002452	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	21" DIA, 60% FULL
599+42	IH 39 SB	LT	37039002470	---	---	---	---	---	---	---	---	---	---	---	---	---	1	---	
605+40	IH 39 NB	---	37039002472	---	---	1	---	---	---	---	---	---	---	---	---	---	---	---	18" DIA, 50% FULL
635+44	IH 39 SB	LT	37039063494	---	---	---	---	6	---	1	---	---	---	---	---	---	1	---	
497+36	RAMP CB	LT	100	---	---	---	---	---	---	---	---	---	---	1	1	---	---	1	
497+36	RAMP CB	RT	101	---	---	---	---	---	---	---	---	---	---	1	1	---	---	1	
497+25	RAMP CB	RT	102	---	1	---	---	---	---	---	---	---	---	---	---	---	1	1	
---	RAMP CB	RT	100 - 101	---	---	---	---	---	---	---	---	6	---	---	---	---	---	---	
---	RAMP CB	RT	101 - 102	---	---	---	---	---	---	---	---	32	---	---	---	---	---	---	
PROJECT 1166-05-81 TOTALS				0	1	2	0	6	0	1	0	38	0	2	2	0	3	3	
PROJECT 1166-05-85																			
CATEGORY 0010																			
243+20	IH 39 SB	RT	37039063279	1	---	---	---	---	1	---	---	---	---	---	---	---	---	---	WEST ENDWALL
PROJECT 1166-05-85 TOTALS				1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	
CONTRACT TOTAL!				1	1	2	1	6	1	1	30	38	1	2	2	1	3	3	

CURB AND GUTTER, SIDEWALK, AND FLUMES

LOCATION / STATION TO STATION				465.0315 ASPHALTIC FLUMES SY	620.0300		SPV.0090.03	SPV.0090.04	SPV.0090.05	SPV.0090.06	SPV.0165.01	SPV.0165.02	602.0515	602.0615	650.5500	650.9000
					CONCRETE MEDIAN SLOPED NOSE		CONCRETE CURB AND GUTTER HES				CONCRETE SIDEWALK HES		CURB RAMP DETECTABLE WARNING FIELD		CONSTRUCTION STAKING	
					TYPE 1	TYPE 2	18-INCH TYPE D	30-INCH TYPE D	6-INCH SLOPED 30-INCH TYPE J	CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE TBT	CONCRETE SIDEWALK 4-INCH	CONCRETE SIDEWALK 6-INCH	NATURAL PATINA	RADIAL NATURAL PATINA	CURB AND GUTTER	CURB RAMPS
ROADWAY				SY	SF	SF	LF	LF	LF	LF	SF	SF	SF	SF	LF	EA
PROJECT 1166-01-84																
CATEGORY 0010																
716+10	-	716+76	IH 39 NB	---	---	---	---	---	---	66	---	---	---	---	---	---
726+75	-	727+30	IH 39 NB	---	---	---	---	---	---	55	---	---	---	---	---	---
PROJECT 1166-01-84 TOTALS				0	0	0	0	0	0	121	0	0	0	0	0	0
PROJECT 1166-05-81																
CATEGORY 0010																
482+14	-	482+65	IH 39 SB	---	---	---	---	---	---	104	---	---	---	---	---	---
497+00	-	497+80	RAMP CB	16	18	13	93	60	37	---	724	540	80	---	190	4
497+70	-	498+39	RAMP CA	15	---	---	---	---	---	---	---	---	---	---	0	---
493+50	-	494+15	RAMP CD	17	---	---	---	---	43	---	609	243	---	55	43	2
494+35	-	494+60	RAMP CC	26	---	---	---	---	---	---	---	---	---	---	0	---
PROJECT 1166-05-81 TOTALS				74	18	13	93	60	80	104	1,333	783	80	55	233	6
PROJECT 1166-05-85																
CATEGORY 0010																
191+25	-	192+37	RAMP AD	20	---	---	---	197	---	---	---	---	---	---	197	---
189+15	-	190+36	RAMP AC	20	---	20	88	230	---	---	430	---	---	---	318	---
PROJECT 1166-05-85 TOTALS				40	0	20	88	427	0	0	430	0	0	0	515	0
CONTRACT TOTALS				114	18	33	181	487	80	225	1,763	783	80	55	748	6

CONCRETE SURFACE DRAINS

CONCRETE SURFACE DRAINS

STATION	DIR	LOCATION	204.0190 REMOVING SURFACE DRAINS EA	602.3010 CONCRETE SURFACE DRAINS CY	606.0200 MEDIUM RIPRAP CY	645.0120 GEOTEXTILE TYPE HR SY
PROJECT 1166-01-84						
CATEGORY 0010						
716+60	RT	IH 39 NB	1	1	2	3
PROJECT 1166-01-84 TOTALS			1	1	2	3
PROJECT 1166-05-81						
CATEGORY 0010						
482+55	RT	IH 39 SB	1	1	2	3
482+55	LT	IH 39 SB	1	1	2	3
494+03	RT	ENTRANCE RAMP 'CD' IH 39 SB	1	---	---	---
497+28	LT	EXIT RAMP 'CD' IH 39 NB	1	---	---	---
497+40	RT	EXIT RAMP 'CD' IH 39 NB	1	---	---	---
32+10	RT	NB EXIT RAMP MAPLE RIDGE RD	---	---	2	3
PROJECT 1166-05-81 TOTALS			5	2	5	10

STATION	DIR	LOCATION	204.0190 REMOVING SURFACE DRAINS EA	602.3010 CONCRETE SURFACE DRAINS CY	606.0200 MEDIUM RIPRAP CY	645.0120 GEOTEXTILE TYPE HR SY
PROJECT 1166-05-85						
CATEGORY 0010						
191+33	RT	SB ENTRANCE RAMP STH 34	1	---	---	---
189+91	RT	SB EXIT RAMP STH 34	1	---	---	---
190+33	LT	SB EXIT RAMP STH 34	1	---	---	---
PROJECT 1166-05-85 TOTALS			3	0	0	0
CONTRACT TOTALS			9	3	7	13

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION TO STATION	DIR	ROADWAY	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EA	FOR INFORMATION ONLY									
				CONSTRUCTION STAKING SLOPE STAKES LF	EXCAVATION COMMON CY	BORROW CY	SEED WATER MGAL	TOPSOIL SY	EROSION MAT CLASS I TYPE A SY	EROSION MAT URBAN CLASS 1 TYPE A SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE #30 LB	
PROJECT 1166-01-84													
CATEGORY 0010													
754+07 - 757+20	RT	IH 39 NB	1	313	---	10	8	360	360	---	0.2	6	
774+43 - 779+25	LT	IH 39 NB	1	482	0	130	38	1,700	1,700	---	1.1	31	
PROJECT 1166-01-84 TOTAL			2										
PROJECT 1166-05-81													
CATEGORY 0010													
477+18 - 480+98	LT	IH 39 NB	1	380	---	25	13	580	---	580	0.4	11	
478+80 - 480+98	RT	IH 39 NB	1	218	---	---	3	140	---	140	0.1	3	
482+10 - 485+62	RT	IH 39 SB	1	352	---	5	8	350	---	350	0.2	6	
482+10 - 483+62	LT	IH 39 SB	1	152	---	5	2	80	---	80	0.0	1	
493+52 - 494+53	LT	IH 39 NB	1	101	---	10	5	220	220	---	0.1	4	
629+80 - 636+95	LT	IH 39 NB	1	715	---	---	50	2,220	2,220	---	1.4	40	

PROJECT 1166-05-81 TOTAL 6

CONTRACT TOTAL 8

GENERAL NOTE: EXCAVATION / BORROW FOR SIDE SLOPES, CONSTRUCTION STAKING, TOPSOIL, SEED, WATER, FERTILIZER, AND E-MAT ITEMS FOR RESTORATION OF DISTURBED AREAS ADJACENT TO BEAM GUARD AND EAT APPROACHES PAID UNDER "BARRIER SYSTEM GRADING SHAPING FINISHING" ITEM. EXCAVATION FOR PAVED SHOULDER WIDENING IN EAT APPROACHES PAID UNDER PREPARING FOUNDATION FOR ASPHALTIC SHOULDERS.

GUARDRAIL											
STATION TO STATION	DIR	ROADWAY	614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EA	614.0230 STEEL THRIE BEAM LF	614.0950 REPLACING GUARDRAIL POSTS AND BLOCKS EA	614.0951 REPLACING GUARDRAIL RAIL AND HARDWARE LF	614.2300 MGS GUARDRAIL 3 LF	614.2310 MGS GUARDRAIL 3 HS LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EA	614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EA
PROJECT 1166-01-84											
CATEGORY 0010											
716+05	LT	IH 39 NB	---	---	1	---	---	---	---	---	---
717+39	LT	IH 39 NB	---	---	1	---	---	---	---	---	---
718+07	LT	IH 39 NB	---	---	1	---	---	---	---	---	---
718+23 - 719+48	LT	IH 39 NB	---	---	---	125.0	---	---	---	---	---
720+23 - 720+48	LT	IH 39 NB	---	---	---	25.0	---	---	---	---	---
691+95 - 692+20	RT	IH 39 SB	---	---	---	25.0	---	---	---	---	---
703+62 - 704+37	RT	IH 39 SB	---	---	---	75.0	---	---	---	---	---
708+12 - 708+62	RT	IH 39 SB	---	---	---	50.0	---	---	---	---	---
710+87 - 711+37	RT	IH 39 SB	---	---	---	50.0	---	---	---	---	---
718+35 - 718+85	RT	IH 39 SB	---	---	---	50.0	---	---	---	---	---
719+33 - 720+83	RT	IH 39 SB	---	---	---	150.0	---	---	---	---	---
721+60 - 726+35	RT	IH 39 SB	---	---	---	475.0	---	---	---	---	---
736+25 - 737+00	RT	IH 39 SB	---	---	---	75.0	---	---	---	---	---
718+86 - 719+11	LT	IH 39 SB	---	---	---	25.0	---	---	---	---	---
719+14	LT	IH 39 SB	---	---	1	---	---	---	---	---	---
719+20	LT	IH 39 SB	---	---	1	---	---	---	---	---	---
720+36 - 720+86	LT	IH 39 SB	---	---	1	50.0	---	---	---	---	---
721+35 - 721+85	LT	IH 39 SB	---	---	---	50.0	---	---	---	---	---
725+80 - 726+80	LT	IH 39 SB	---	---	---	100.0	---	---	---	---	---
737+16 - 737+41	LT	IH 39 SB	---	---	---	25.0	---	---	---	---	---
738+40 - 738+90	LT	IH 39 SB	---	---	---	50.0	---	---	---	---	---
699+40 - 699+90	RT	RAMP DB	---	---	---	50.0	---	---	---	---	---
705+18 - 705+56	RT	RAMP DB	---	---	---	37.5	---	---	---	---	---
710+50 - 710+88	RT	RAMP DA	---	---	---	37.5	---	---	---	---	---
711+15 - 711+65	RT	RAMP DA	---	---	---	50.0	---	---	---	---	---
717+11 - 717+61	LT	RAMP DC	---	---	---	50.0	---	---	---	---	---
716+15 - 727+33	RT	IH 39 NB	---	---	---	---	1,039.0	---	78.8	---	---
755+27 - 757+18	RT	IH 39 NB	---	---	---	---	75.0	62.5	---	1	1
776+26 - 778+08	LT	IH 39 NB	2	380	---	---	---	---	---	---	---
UNDISTRIBUTED	---	IH 39	---	---	4	150.0	---	---	---	---	---
PROJECT 1166-01-84 TOTALS			2	380	10	1,775.0	1,114.0	62.5	78.8	1	1
PROJECT 1166-05-81											
CATEGORY 0010											
478+55 - 480+98	LT	IH 39 NB	---	---	---	---	150.0	---	39.4	1	---
479+93 - 480+98	RT	IH 39 NB	---	---	---	---	12.5	---	39.4	1	---
482+10 - 484+52	RT	IH 39 SB	---	---	---	---	150.0	---	39.4	1	---
482+10 - 483+52	LT	IH 39 SB	---	---	---	---	50.0	---	39.4	1	---
494+61 - 496+81	LT	IH 39 NB	2	225.0	---	---	---	---	---	---	---
631+90 - 634+22	LT	IH 39 NB	2	250.0	---	---	---	---	---	---	---
PROJECT 1166-05-81 TOTALS			4	475.0	0	0.0	362.5	0.0	157.6	4	0
CONTRACT TOTALS			6	855.0	10	1,775.0	1,476.5	62.5	236.4	5	1

EROSION CONTROL

STATION TO STATION		DIR	ROADWAY	DISTURBANCE	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EA	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EA	628.7015 INLET PROTECTION TYPE C EA	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EA	628.7570 ROCK BAGS EA
PROJECT 1166-01-84												
CATEGORY 0010												
754+00	-	757+20	RT	IH-39 NB	BEAM GUARD	338	338	1	1	---	---	---
774+36	-	779+39	RT	IH-39 SB	BEAM GUARD	519	519	1	1	---	---	---
UNDISTRIBUTED					210	210	---	---	---	---	---	---
PROJECT 1166-01-84 TOTALS					1,067	1,067	2	2	0	0	0	0
PROJECT 1166-05-81												
CATEGORY 0010												
477+00	-	485+75	LT/RT	IH-39 NB /SB	BEAM GUARD	1,146	1,146	1	1	---	25	5
493+55	-	494+50	LT	IH-39 NB	BEAM GUARD	131	131			---	25	---
629+80	-	636+95	LT/RT	IH-39 NB /SB	BEAM GUARD	668	668	1	1	---	25	5
23+65	-	25+30	RT	MAPLE RIDGE	TRAIL	150	150	1	1	---	---	---
31+25	-	32+75	RT	MAPLE RIDGE	TRAIL/TERMINAL	250	250			2	---	---
UNDISTRIBUTED					590	590	---	1	---	20	5	15
PROJECT 1166-05-81 TOTALS					2,935	2,935	3	4	2	95	15	75
PROJECT 1166-05-85												
CATEGORY 0010												
13+25	-	16+20	LT/RT	STH 34	PAVT REPLACE	727	727	1	1	---	100	---
190+00	-	192+50	LT/RT	RAMP AC	PAVT REPLACE	546	546			---	---	---
201+00	-	205+50	LT/RT	RAMP AC	PAVT REPLACE	927	927			---	---	---
UNDISTRIBUTED					550	550	---	---	---	25	---	---
PROJECT 1166-05-85 TOTALS					2,750	2,750	1	1	0	125	0	0
CONTRACT TOTALS					6,752	6,752	6	7	2	220	15	75

RESTORATION

STATION TO STATION						630.0500	625.0100	628.2002	629.0210	630.0130
DIR						SEED WATER	TOPSOIL	EROSION MAT CLASS I TYPE A	FERTILIZER TYPE B	SEEDING MIXTURE #30
ROADWAY						MGAL	SY	SY	CWT	LB
LOCATION										
PROJECT 1166-05-81										
CATEGORY 0010										
23+65	-	25+30	RT	MAPLE RIDGE	TRAIL	3	150	150	0.1	3
31+25	-	32+75	RT	MAPLE RIDGE	TRAIL/TERMINAL	5	240	240	0.1	4
UNDISTRIBUTED						2	100	100	0.1	2
PROJECT 1166-05-81 TOTALS						10	490	490	0.3	9
PROJECT 1166-05-85										
CATEGORY 0010										
13+25	-	16+20	LT/RT	STH 34	PAVT REPLACE	22	990	990	0.6	22
190+00	-	192+50	LT/RT	RAMP AC	PAVT REPLACE	19	870	870	0.5	11
201+00	-	205+50	LT/RT	RAMP AC	PAVT REPLACE	28	1,260	1,260	0.8	22
UNDISTRIBUTED						17	780	780	0.5	11
PROJECT 1166-05-85 TOTALS						86	3,900	3,900	2.4	66
CONTRACT TOTALS						96	4,390	4,390	2.7	75

3

3

PERMANENT SIGNS TYPE II AND SIGN SUPPORTS

									634.0612		634.0616		634.0803		637.2210		637.2230		
									POSTS WOOD 4 X 6-INCH		POSTS TUBULAR STEEL 2X2-INCH 3-FT EACH		SIGNS TYPE II REFLECTIVE H		SIGNS TYPE II REFLECTIVE F				
SIGN NO.	STATION	REFERENCE LINE	LOCATION	FACE DIR.	SIGN CODE	DESCRIPTION	SIGN W X H IN X IN	12-FT EACH	16 FT EACH										
PROJECT 1166-05-81																			
CATEGORY 0010																			
120	497+33	RT	RAMP CB	NB	W12-1D	DOUBLE DIAGONAL ARROW	24 X 24	---	---	1		---		4.00		2' MOUNTING HEIGHT			
PROJECT 1166-05-81 TOTALS									0	0	1		0.00		4.00				
PROJECT 1166-05-85																			
CATEGORY 0010																			
100	189+10	RT	RAMP AC	SB	R1-1	STOP	30 X 30	---	1	---		5.18		---					
101	189+34	LT	RAMP AC	SB	W12-1D	DOUBLE DIAGONAL ARROW	24 X 24	1	---	---		---		4.00		2' MOUNTING HEIGHT			
102	189+08	RT	RAMP AC	SB	EB	R6-2R	ONE WAY ARROW RT	24 X 30	---	1	---		5.00		---				
103					NB	R5-1	DO NOT ENTER	30 X 30			---		6.25		---				
104					WB	R6-2L	ONE WAY ARROW LT	24 X 30			---		5.00		---				
105	189+10	LT	RAMP AC	SB	R1-1	STOP	30 X 30	---	1	---		5.18		---					
106	189+08	LT	RAMP AC	SB	R5-1	DO NOT ENTER	30 X 30	---	1	---		6.25		---					
107	189+33	RT	RAMP AC	SB	R1-1	STOP	30 X 30	---	1	---		5.18		---					
108	189+33	RT	RAMP AC	SB	R5-1	DO NOT ENTER	30 X 30	---	1	---		6.25		---					
PROJECT 1166-05-85 TOTALS									1	6	0		44.29		4.00				
CONTRACT TOTALS									1	6	1		44.29		8.00				

REMOVING SIGNS TYPE II AND REMOVING SMALL SIGN SUPPORTS

SIGN NO.	STATION	REFERENCE LINE	LOCATION	DESCRIPTION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH
PROJECT 1166-05-81						
CATEGORY 0010						
R120	497+53, 2' LT	RAMP CB	NB EXIT RAMP AT MAPLE RIDGE	SPLITTER NOSE	1	1
PROJECT 1166-05-81 TOT,					1	1
PROJECT 1166-05-85						
CATEGORY 0010						
R100	189+11, 8' RT	RAMP AC	SB EXIT RAMP AT STH 34	STOP	1	1
R101	189+34, 1' LT	RAMP AC	SB EXIT RAMP AT STH 34	SPLITTER NOSE	1	1
R102	189+08, 3' RT	RAMP AC	SB EXIT RAMP AT STH 34	ONE WAY ARROW RT	1	1
R103				DO NOT ENTER	1	
R104				ONE WAY ARROW LT	1	
R105	189+09, 34' LT	RAMP AC	SB EXIT RAMP AT STH 34	STOP	1	1
R106	189+08, 35' LT	RAMP AC	SB EXIT RAMP AT STH 34	DO NOT ENTER	1	1
R107	189+33, 32' RT	RAMP AC	SB EXIT RAMP AT STH 34	STOP	1	1
R108	189+33, 35' RT	RAMP AC	SB EXIT RAMP AT STH 34	DO NOT ENTER	1	1
PROJECT TOTALS 1166-05-85 TOTALS					9	7
CONTRACT TOTALS					10	8

MOVING SIGNS TYPE II AND MOVING SMALL SIGN SUPPORTS

SIGN NO.	FROM STATION	TO STATION	REFERENCE LINE	LOCATION	DESCRIPTION	638.2102 MOVING SIGNS TYPE II EACH
PROJECT 1166-05-81						
CATEGORY 0010						
M120	497+53 LT	497+41 LT	RAMP CB	NB EXIT RAMP AT MAPLE RIDGE	STOP	1
M121	497+68 LT	497+55 RT	RAMP CB	NB EXIT RAMP AT MAPLE RIDGE	STOP	1
M122	497+75 RT	497+55 RT	RAMP CB	NB EXIT RAMP AT MAPLE RIDGE	STOP	1
M130	404+10 LT	404+10 LT	RAMP CD	SB ENTRANCE RAMP AT MAPLE RIDGE	ASSEMBLY	1
M131	404+10 LT	404+10 LT	RAMP CD	SB ENTRANCE RAMP AT MAPLE RIDGE	DO NOT ENTER	1

PROJECT 1166-05-81 TOTAL 5

CONTRACT TOTAL 5

PAVEMENT MARKING

STATION TO STATION	LOCATION	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (YELLOW)		646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH (BLACK)	646.2050 MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE)	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	646.5020 MARKING ARROW EPOXY (WHITE)	646.7220 MARKING CHEVRON EPOXY (WHITE)
		LF	LF	LF	LF	LF	EACH	LF
		PROJECT 1166-01-84						
		CATEGORY 0010						
682+00 - 693+50	IH 39 NB	1,084	1,096	273	273	671	--	--
693+25 - 693+50	IH 39 NB	8	25	6	6	4	--	--
693+50 - 708+00	IH 39 NB/SB	1,807	2,885	757	757	3,280	--	544
708+00 - 722+50	IH 39 NB/SB	3,089	3,212	725	725	1,118	2	180
722+50 - 737+00	IH 39 NB/SB	2,923	2,924	731	731	--	--	--
737+00 - 751+50	IH 39 NB/SB	2,925	2,925	731	731	--	--	--
751+50 - 766+00	IH 39 NB/SB	2,906	2,903	726	726	--	--	--
766+00 - 780+50	IH 39 NB/SB	2,900	2,900	725	725	--	--	--
780+50 - 785+80	IH 39 NB	530	530	133	133	--	--	--
780+50 - 788+75	IH 39 SB	825	825	206	206	--	--	--
PROJECT SUBTOTALS		18,997	20,225	5,013	5,013	5,073	2	724
PROJECT TOTALS		39,222		5,013	5,013	5,073	2	724

PAVEMENT MARKING

STATION TO STATION	LOCATION	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (YELLOW)		646.2020 MARKING LINE EPOXY 6-INCH (WHITE) (YELLOW)		646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH (BLACK)	646.2050 MARKING LINE GROOVED PERMANENT TAPE EPOXY 6-INCH (WHITE)	646.4020 MARKING LINE EPOXY 10-INCH (WHITE)	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	646.5020 MARKING ARROW EPOXY (WHITE) EACH	646.5220 MARKING SYMBOL EPOXY (WHITE) EACH	646.6120 MARKING STOP LINE EPOXY 18-INCH (WHITE) LF	646.7220 MARKING CHEVRON EPOXY 24-INCH (WHITE) LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) LF	NOTES		
		LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF	LF				
		PROJECT 1166-05-81															
		CATEGORY 0010															
450+28 - 464+50	IH 39 NB/SB	2,854	2,855	--	--	713	713	--	--	--	--	--	--	--			
464+50 - 479+00	IH 39 NB/SB	2,920	2,919	--	--	730	730	--	835	--	--	--	--	--			
479+00 - 493+00	IH 39 NB/SB	4,460	4,458	--	--	728	728	--	2,142	--	--	--	256	--			
493+00 - 508+00	IH 39 NB/SB	5,180	5,127	--	--	750	750	--	1,531	--	--	--	251	--	INCLUDES RAMPS EDGELINES		
24+00 - 32+75	MAPLE RIDGE RD	--	--	444	667	--	--	356	515	3	1	72	--	188			
508+00 - 522+50	IH 39 NB/SB	2,901	2,900	--	--	771	771	--	612	--	--	--	54	--			
522+50 - 537+00	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
537+00 - 551+50	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
551+50 - 566+00	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
566+00 - 580+50	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
580+50 - 595+00	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
595+00 - 609+50	IH 39 NB/SB	2,903	2,903	--	--	726	726	--	--	--	--	--	--	--			
609+50 - 624+00	IH 39 NB/SB	2,901	2,901	--	--	725	725	--	--	--	--	--	--	--			
624+00 - 638+50	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
638+50 - 653+00	IH 39 NB/SB	2,900	2,900	--	--	725	725	--	--	--	--	--	--	--			
653+00 - 667+50	IH 39 NB/SB	2,894	2,894	--	--	724	724	--	--	--	--	--	--	--			
667+50 - 682+00	IH 39 NB/SB	2,873	2,873	--	--	733	733	--	--	--	--	--	--	--			
682+00 - 682+50	IH 39 SB	32	32	--	--	8	8	--	--	--	--	--	--	--			
682+00 - 693+25	IH 39 NB	1,133	1,125	--	--	282	282	--	--	--	--	--	--	--			
PROJECT SUBTOTALS		51,351	51,287	444	667	11,965	11,965	356	5,635	3	1	72	561	188			
PROJECT TOTALS		102,638		1,111		11,965	11,965	356	5,635	3	1	72	561	188			

PAVEMENT MARKING

STATION TO STATION	LOCATION	646.2040 MARKING LINE GROOVED WET REF EPOXY 6-INCH (WHITE) (YELLOW)		646.2020 MARKING LINE EPOXY 6-INCH (WHITE) (YELLOW)		646.2025 MARKING LINE GROOVED BLACK EPOXY 6-INCH (BLACK)	646.2050 MARKING LINE GROOVED PERMANENT TAPE 6-INCH (WHITE)	646.4040 MARKING LINE GROOVED WET REF EPOXY 10-INCH (WHITE)	646.5020 MARKING ARROW EPOXY (WHITE)	646.5220 MARKING SYMBOL EPOXY (WHITE)	646.6120 MARKING STOP LINE EPOXY 18-INCH (WHITE)	646.7220 MARKING CHEVRON EPOXY 24-INCH (WHITE)	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE)	NOTES	
		LF	LF	LF	LF	LF	LF	LF	EACH	EACH	LF	LF	LF		
		PROJECT 1166-05-85													
		CATEGORY 0010													
153+55 - 165+50	IH 39 SB	1,195	1,195	--	--	299	299	--	--	--	--	--	--		
165+50 - 180+00	IH 39 SB	1,450	1,450	--	--	363	363	537	--	--	--	--	--		
180+00 - 194+50	IH 39 SB	2,630	2,687	--	--	364	364	429	--	--	--	--	--	INCLUDES RAMP EDGELINES	
13+33 - 16+07	STH 34	308	423	--	--	--	--	124	--	--	42	--	--		
194+50 - 208+30	IH 39 SB	2,521	2,505	--	--	363	363	506	--	--	--	106	--	INCLUDES RAMP EDGELINES	
208+30 - 222+80	IH 39 SB	1,450	1,450	--	--	363	363	96	--	--	--	--	--		
222+80 - 237+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
237+30 - 251+80	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
251+80 - 266+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
266+30 - 280+80	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
280+80 - 295+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
295+30 - 309+80	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
309+80 - 324+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
324+30 - 338+80	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
338+80 - 353+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
353+30 - 367+80	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
367+80 - 382+30	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
382+30 - 396+80	IH 39 SB	2,152	1,450	--	--	363	363	1,063	--	--	--	--	--		
396+80 - 411+30	IH 39 SB	2,401	2,159	--	--	363	363	541	--	--	--	122	--		
411+30 - 425+68	IH 39 SB	1,453	1,450	--	--	472	472	85	--	--	--	--	--		
425+68 - 440+18	IH 39 SB	1,450	1,450	--	--	363	363	--	--	--	--	--	--		
440+18 - 450+28	IH 39 SB	1,010	1,010	--	--	253	253	--	--	--	--	--	--		
PROJECT SUBTOTALS		33,970	33,179	0	0	7,559	7,559	3,381	0	0	42	228	0		
PROJECT TOTALS		67,149		0		7,559	7,559	3,381	0	0	42	228	--		
CONTRACT TOTALS		209,009		1,111		24,537	24,537	14,089	5	1	114	1,513	188		

CONSTRUCTION STAKING

STATION TO STATION			LOCATION		650.4500		650.5000		650.8000		650.9911.01	650.9911.02	650.9911.03	650.9920		SPV.0090.01	
					SUBGRADE		BASE		RESURFACING REFERENCE		SUPPLEMENTAL CONTROL			SLOPE STAKES		PAVEMENT REPLACEMENT REFERENCE	
											1166-01-84	1166-05-81	1166-05-85				
					LF		LF		LF		EACH	EACH	EACH	LF		LF	
PROJECT 1166-01-84																	
CATEGORY 0010																	
693+25			-	788+75		IH 39 NB		---		---		---		---		---	
682+00			-	788+50		IH 39 SB		---		---		---		---		---	
710+59			-	717+99		RAMP DC		---		---		---		---		---	
UNDISTRIBUTED						---		---		---		1		---		---	
PROJECT 1166-01-84 SUBTOTALS						0		0		18,489		1		0		0	
PROJECT 1166-05-81																	
CATEGORY 0010																	
450+28			-	693+25		IH 39 NB		---		---		---		---		---	
450+28			-	682+00		IH 39 SB		---		---		---		---		---	
23+98			-	32+67		MAPLE RIDGE RD		---		---		---		---		---	
497+70			-	508+90		RAMP CA		---		---		---		---		---	
478+16			-	496+75		RAMP CB		---		---		---		---		---	
496+75			-	497+80		RAMP CB		---		---		---		105		105	
494+00			-	509+70		RAMP CC		---		---		---		---		---	
475+68			-	497+37		RAMP CD		---		---		---		---		---	
UNDISTRIBUTED						---		---		---		1		---		---	
PROJECT 1166-05-81 SUBTOTALS						0		0		54,014		0		1		0	
PROJECT 1166-05-85																	
CATEGORY 0010																	
153+55			-	450+28		IH 39 SB		---		---		---		---		---	
189+03			-	192+51		RAMP AC		157		157		---		---		348	
192+51			-	201+03		RAMP AC		---		---		---		---		---	
201+03			-	205+50		RAMP AC		---		---		---		---		447	
177+31			-	191+25		RAMP AD		---		---		---		---		---	
191+25			-	192+10		RAMP AD		85		85		---		---		85	
401+86			-	411+75		RAMP BC		---		---		---		---		---	
384+89			-	399+04		RAMP BD		---		---		---		---		---	
13+34			-	16+07		STH 34		273		273		---		---		273	
UNDISTRIBUTED						---		---		---		---		1		---	
PROJECT 1166-05-85 SUBTOTALS						515		515		34,185		0		0		1	
CONTRACT TOTALS						515		515		106,688		1		1		1	

NOTE: CONSTRUCTION STAKING CURB AND GUTTER, CURB RAMPS, AND STORM SEWER LOCATED IN RESPECTIVE ITEM TABLES.

SAWING

LOCATION / STATION TO STATION		ROADWAY	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
PROJECT 1166-05-81				
CATEGORY 0010				
477+50	-	480+12 LT	IH-39 NB	263
478+80	-	480+11 RT	IH-39 NB	135
482+65	-	483+77 LT	IH-39 SB	170
483+17	-	485+52 RT	IH-39 SB	293
628+33	-	633+71 LT	IH-39 NB	538
632+47	-	638+01 RT	IH-39 SB	554
496+75	-	497+80	RAMP CB	163
498+10	-	498+18 RT	RAMP CA	15
23+98	-	32+67	MAPLE RIDGE	200
493+89	-	494+37	RAMP CD	117
PROJECT 1166-05-81 TOTAL			2,448	21
PROJECT 1166-05-85				
CATEGORY 0010				
191+26		RAMP AD	28	---
192+51		RAMP AC	26	---
201+03		RAMP AC	26	---
209+89	-	205+50	RAMP AC	185
396+00	-	399+65 LT	RAMP BD	365
13+34		STH 34	47	---
16+07		STH 34	44	---

PROJECT 1166-05-85 TOTAL7210

CONTRACT TOTAL3,16921

RESIN BINDER HIGH FRICTION SURFACE TREATMENT

STATION TO STATION		ROADWAY	LOCATION	SPV.0180.01 SY
PROJECT 1166-01-84				
CATEGORY 0020				
716+03	-	727+25	IH 39 NB	TRAVEL LANES2,990

PROJECT 1166-01-84 TOTAL2,990

CONTRACT TOTAL2,990

LOCATE & CLEAN EXISTING UNDERDRAIN OUTFALLS

STATION TO STATION		LOCATION	SPV.0060.02 LOCATE & CLEAN EXISTING UNDERDRAIN EACH
PROJECT 1166-01-84			
CATEGORY 0010			
693+25	-	788+75	IH 39 NB80
682+00	-	788+50	IH 39 SB90
710+59	-	717+99	RAMP DC10
UNDISTRIBUTED			---
PROJECT 1166-01-84 SUBTOTALS			180
PROJECT 1166-05-81			
CATEGORY 0010			
450+28	-	693+25	IH 39 NB190
450+28	-	682+00	IH 39 SB190
23+98	-	32+67	MAPLE RIDGE RD10
497+70	-	508+90	RAMP CA10
478+16	-	496+75	RAMP CB10
496+75	-	497+80	RAMP CB0
494+00	-	509+70	RAMP CC10
475+68	-	497+37	RAMP CD20
UNDISTRIBUTED			---
PROJECT 1166-05-81 SUBTOTALS			440
PROJECT 1166-05-85			
CATEGORY 0010			
153+55	-	450+28	IH 39 SB240
189+03	-	192+51	RAMP AC0
192+51	-	201+03	RAMP AC10
201+03	-	205+50	RAMP AC0
177+31	-	191+25	RAMP AD10
191+25	-	192+10	RAMP AD0
401+86	-	411+75	RAMP BC10
384+89	-	399+04	RAMP BD10
13+34	-	16+07	STH 340
UNDISTRIBUTED			---

PROJECT 1166-05-85 SUBTOTALS280

CONTRACT TOTALS900

GRADING SHAPING AND FINISHING CULVERT PIPE STA 635+44 LT

STATION TO STATION	DIR	ROADWAY	SPV.0060.01 GRADING SHAPING AND FINISHING CULVERT PIPE STA 635+44 LT EA							
				EXCAVATION COMMON	BORROW	SEED WATER	TOPSOIL	EROSION MAT CLASS I TYPE A	FERTILIZER TYPE B	SEEDING MIXTURE #30
				CY	CY	MGAL	SY	SY	CWT	LB
PROJECT 1166-05-81										
CATEGORY 0010										
635+44	LT	IH 39 SB	1	20	---	0.50	22	22	0.001	0.40

PROJECT 1166-05-81 TOTAL1

CONTRACT TOTAL1

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-01-84

TRAFFIC CONTROL

STAGE	LOCATION	ESTIMATED SERVICE PERIOD	DAYS PER SEGMENTS	TRAFFIC CONTROL	643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1070		643.0910			643.0920		
					TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL WARNING LIGHTS TYPE C	TRAFFIC CONTROL ARROW BOARDS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL CONES 42-INCH	COVERING SIGNS TYPE I	COVERING SIGNS TYPE II											
														NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	CYCLES
PROJECT 1166-01-84																								
CATEGORY 0010																								
	PROJECT			0.2																				
1	SB RESTRICTED WIDTH SIGNING	1	14		0	0	0	0	0	0	0	0	0	0	24	336	0	0	0	0	0	4	24	96
2	NB RESTRICTED WIDTH SIGNING	1	14		0	0	0	0	0	0	0	0	0	0	28	392	0	0	0	0	0	3	28	84
1A	SB INSIDE LANE CLOSURE, STA 640+00 - STA 788+50	1	14		183	2,562	25	350	50	700	30	420	4	56	53	742	304	4,256	1	2	2	1	6	6
1B	SB OUTSIDE LANE CLOSURE, STA 640+00 - STA 788+50	1	14		344	4,816	26	364	52	728	80	1,120	4	56	56	784	276	3,864	0	0	0	1	0	0
1B	SB IH 39 EXIT RAMP CLOSURE TO BUS 51	1	7		40	280	4	28	8	56	0	0	0	0	19	133	0	0	1	2	2	1	1	1
1B	BUS 51 ENTRANCE RAMP CLOSURE TO SB IH 39	1	7		20	140	7	49	14	98	0	0	0	0	63	441	0	0	0	0	0	1	5	5
2	BUS 51 ENTRANCE RAMP CLOSURE TO NB IH 39	1	28		20	560	7	196	14	392	0	0	0	0	56	1,568	0	0	1	1	1	1	6	6
2A	NB INSIDE LANE CLOSURE, STA 664+00 - STA 788+75	1	14		27	378	11	154	22	308	17	238	2	28	22	308	268	3,752	0	0	0	1	5	5
2B	NB OUTSIDE LANE CLOSURE, STA 664+00 - STA 788+75	1	14		51	714	11	154	22	308	25	350	2	28	23	322	248	3,472	0	0	0	1	0	0
2B	NB IH 39 EXIT RAMP CLOSURE TO IH 39	1	7		40	280	4	28	8	56	0	0	0	0	27	189	0	0	1	2	2	1	1	1
5	BUS 51 ENTRANCE RAMP CLOSURE TO NB IH 39	1	6		20	120	7	42	14	84	0	0	0	0	56	336	0	0	0	0	0	1	5	5
5A	NB INSIDE LANE CLOSURE, STA 664+00 - STA 727+30	1	3		27	81	8	24	16	48	17	51	2	6	19	57	160	480	0	0	0	1	0	0
5B	SB OUTSIDE LANE CLOSURE, STA 664+00 - STA 727+30	1	3		51	153	8	24	16	48	25	75	2	6	20	60	248	744	0	0	0	1	0	0
PROJECT 1166-01-84 TOTALS				0.2	10,084		1,413		2,826		2,254		180		5,668		16,568		7			209		

DIGITAL SPEED REDUCTION SYSTEM

				SPV.0045.01
Portable Changeable Digital Message Sign Speed Limit Trailers				DIGITAL SPEED REDUCTION SYSTEM DAY
Location	Stage	(PCMS)		
PROJECT 1166-01-84				
CATEGORY 0010				
USH 51 SB	1A	3	8	14
USH 51 SB	1B	3	8	14
USH 51 NB	2A	1	5	14
USH 51 NB	2B	1	5	14
USH 51 NB	5A	1	5	4
USH 51 NB	5B	1	5	4
PROJECT 1166-01-84 TOTALS				64

BASIC TRAFFIC QUEUE WARNING SYSTEM

				643.1205.S
Flashing Beacon Portable Traffic Signs (FBS) Sensors				BASIC TRAFFIC QUEUE WARNING SYSTEM DAY
Location	Stage			
PROJECT 1166-01-84 TOTALS				
CATEGORY 0010				
USH 51 SB	1	5	3	14
USH 51 NB	2	3	3	14
USH 51 NB	5	3	3	8
PROJECT 1166-01-84 TOTALS				36

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-01-84 CONTNUED

TRAFFIC CONTROL PAVEMENT MARKING

STAGE	LOCATION	643.3170		643.3180		643.3280	643.3960
		TEMPORARY MARKING LINE EPOXY 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
		(WHITE) LF	(YELLOW) LF	(WHITE) LF	(YELLOW) LF	(WHITE) LF	(BLACK) LF
PROJECT 1166-01-84							
CATEGORY 0010							
1A	SB INSIDE LANE CLOSURE, STA 640+00 - STA 788+50	14,900	0	700	800	0	375
1B	SB OUTSIDE LANE CLOSURE, STA 640+00 - STA 788+50	3,725	14,900	4,400	1,600	1,800	1,225
1B	SB IH 39 EXIT RAMP CLOSURE TO BUS 51	0	0	600	0	0	0
1B	BUS 51 ENTRANCE RAMP CLOSURE TO SB IH 39	0	0	0	0	0	0
2	BUS 51 ENTRANCE RAMP CLOSURE TO NB IH 39	0	0	0	0	0	0
2A	NB INSIDE LANE CLOSURE, STA 664+00 - STA 788+75	12,500	0	0	850	0	213
2B	NB OUTSIDE LANE CLOSURE, STA 664+00 - STA 788+75	3,125	12,500	1,250	0	200	200
2B	NB IH 39 EXIT RAMP CLOSURE TO IH 39	0	0	600	0	0	0
5	BUS 51 ENTRANCE RAMP CLOSURE TO NB IH 39	0	0	0	0	0	0
5A	NB INSIDE LANE CLOSURE, STA 664+00 - STA 727+30	0	0	0	0	0	0
5B	SB OUTSIDE LANE CLOSURE, STA 664+00 - STA 727+30	0	0	0	0	0	0

SUBTOTALS34,25027,4007,5503,2502,0002,013

PROJECT 1166-01-84 TOTALS61,65010,800

TRAFFIC CONTROL PCMS

		643.1050
		TRAFFIC CONTROL SIGNS PCMS
STAGE	SITE	DAY
PROJECT 1166-01-84		
CATEGORY 0010		
1	SITE S1	7
1B	SITE B1	7
1B	SITE B2	4
1B	SITE B3	7
2	SITE N1	7
2	SITE B4	7
2B	SITE B5	7
1A, 2A	STRADDLE	28

PROJECT 1166-01-84 TOTALS74

TRAFFIC CONTROL SIGNS FIXED MESSAGE

LOCATION	SIGN MESSAGE	Size			643.1000	
					TRAFFIC CONTROL SIGNS FIXED MESSAGE	
		IN	X	IN	SF	Notes
PROJECT 1166-01-84						
CATEGORY 0010						
SB USH 51 @ STH 29E	WIDE LOADS EXCEEDING 13 FT	114	X	42	33.25	INSTALL STAGE 1; TTO REMAIN THRU STAGE 4
NB USH 51 @ STH 153	WIDE LOADS EXCEEDING 13 FT	114	X	42	33.25	INSTALL STAGE 2; TO REMAIN THRU STAGE 3

PROJECT 1166-01-84 TOTAL66.50

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-05-81

TRAFFIC CONTROL

STAGE	LOCATION	ESTIMATED SERVICE PERIOD	DAYS PER SEGMENTS	SEGMENT	643.5000		643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1070		643.0910			643.0920		
					TRAFFIC CONTROL	TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL CONES 42-INCH		COVERING SIGNS TYPE I			COVERING SIGNS TYPE II			
						NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	CYCLES	#	EACH	CYCLES	#	EACH	
PROJECT 1166-05-81																										
CATEGORY 0010																										
	PROJECT				0.5																					
3	SB RESTRICTED WIDTH SIGNING	1	21			0	0	0	0	0	0	0	0	0	38	798	0	0	0	0	0	6	38	228		
3	NB RESTRICTED WIDTH SIGNING	1	21			0	0	0	0	0	0	0	0	0	24	504	0	0	0	0	0	6	24	144		
3A	SB INSIDE LANE CLOSURE, STA 450+28 - STA 640+00	1	21			28	588	14	294	28	588	28	588	2	42	26	546	394	8,274	0	0	0	1	2	2	
3A	NB INSIDE LANE CLOSURE, STA 450+28 - STA 664+00	1	21			105	2,205	23	483	46	966	17	357	2	42	41	861	430	9,030	0	0	0	1	2	2	
3B	SB OUTSIDE LANE CLOSURE, STA 450+28 - STA 640+00	1	21			103	2,163	16	336	32	672	50	1,050	2	42	28	588	353	7,413	0	0	0	1	0	0	
3B	NB OUTSIDE LANE CLOSURE, STA 450+28 - STA 664+00	1	21			264	5,544	20	420	40	840	65	1,365	2	42	36	756	394	8,274	0	0	0	1	0	0	
3	NB IH 39 EXIT RAMP CLOSURE TO MAPLE RIDGE RD	1	14			40	560	4	56	8	112	0	0	0	0	8	112	0	0	1	2	2	1	1	1	
3	MAPLE RIDGE RD ENTRANCE RAMP CLOSURE TO NB IH 39	1	1			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3	SB IH 39 EXIT RAMP CLOSURE TO MAPLE RIDGE RD	1	1			40	40	4	4	8	8	0	0	0	0	6	6	0	0	0	0	0	0	0		
3	MAPLE RIDGE RD ENTRANCE RAMP CLOSURE TO SB IH 39	1	10			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
3	SB IH 39 EXIT RAMP CLOSURE TO STH 153	1	2			40	80	4	8	8	16	0	0	0	0	6	12	0	0	1	1	1	0	0	0	
3	STH 153 ENTRANCE RAMP CLOSURE TO SB IH 39	1	1			20	20	7	7	14	14	0	0	0	0	36	36	0	0	0	0	0	0	0	0	
3	MAPLE RIDGE RAMP TERMINAL CONSTRUCTION	1	14			50	700	7	98	14	196	4	56	0	0	24	336	0	0	0	0	0	1	4	4	
3	MAPLE RIDGE ROAD CLOSED TO TRAFFIC	1	1			25	25	12	12	24	24	0	0	0	0	17	17	0	0	0	0	0	0	0	0	
PROJECT 1166-05-81 TOTALS					0.5	11,925		1,718		3,436		3,416		168		4,572		32,991		3			381			

DIGITAL SPEED REDUCTION SYSTEM

				SPV.0045.01
Portable Changeable Digital Message Sign Speed Limit (PCMS) Trailers				DIGITAL SPEED REDUCTION SYSTEM DAY
Location	Stage			
PROJECT 1166-05-81				
CATEGORY 0010				
USH 51 SB	3A	1	8	21
USH 51 SB	3B	1	8	21
USH 51 NB	3A	1	8	21
USH 51 NB	3B	1	8	21
PROJECT 1166-05-81 TOTALS				84

BASIC TRAFFIC QUEUE WARNING SYSTEM

				643.1205.S
Flashing Beacon Signs (FBS) Portable Traffic Sensors				BASIC TRAFFIC QUEUE WARNING SYSTEM DAY
Location	Stage			
PROJECT 1166-05-81				
CATEGORY 0010				
USH 51 SB	3	3	3	21
USH 51 NB	3	3	3	21
PROJECT 1166-05-81 TOTALS				42

3

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-05-81 CONTINUED

TRAFFIC CONTROL PAVEMENT MARKING

STAGE	LOCATION	643.3170		643.3180		643.3280	643.3960
		TEMPORARY MARKING LINE EPOXY 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
		(WHITE) LF	(YELLOW) LF	(WHITE) LF	(YELLOW) LF	(WHITE) LF	(BLACK) LF
PROJECT 1166-05-81							
CATEGORY 0010							
3A	SB INSIDE LANE CLOSURE, STA 450+28 - STA 640+00	18,972	0	0	800	0	350
3A	NB INSIDE LANE CLOSURE, STA 450+28 - STA 664+00	21,372	0	0	850	0	213
3B	SB OUTSIDE LANE CLOSURE, STA 450+28 - STA 640+00	4,743	18,972	1,850	0	1,100	663
3B	NB OUTSIDE LANE CLOSURE, STA 450+28 - STA 664+00	26,715	21,372	3,050	0	2,400	1,050
3	NB IH 39 EXIT RAMP CLOSURE TO MAPLE RIDGE RD	0	0	600	0	0	0
SUBTOTALS		71,802	40,344	5,500	1,650		
PROJECT 1166-05-81 TOTALS		112,146		7,150		3,500	2,275

3

TRAFFIC CONTROL PCMS

STAGE	SITE	643.1050
		TRAFFIC CONTROL SIGNS PCMS
STAGE	SITE	DAY
PROJECT 1166-05-81		
CATEGORY 0010		
3	SITE M1	8
3	SITE M2	7
3	SITE M3	7
3	SITE M4	7
3	SITE M5	7
3	SITE M6	7
3	SITE R1	9
3	SITE R2	7
3B	NB STRADDLE	42
3B	SB STRADDLE	42
PROJECT 1166-05-81 TOTALS		143

PEDESTRIAN TRAFFIC CONTROL

			644.1440	644.1601		644.1605	644.1810
			TEMPORARY PEDESTRIAN SURFACE MATTING	TEMPORARY PEDESTRIAN CURB RAMP		TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD	TEMPORARY PEDESTRIAN BARRICADE
LOCATION			STAGE	DAYS	SF	#REQD	DAYS
					SF		
PROJECT 1166-05-81							
CATEGORY 0010							
MAPLE RIDGE RAMP TERMINAL CONSTRUCTION			3	14	145	4	56
PROJECT 1166-05-81 TOTALS					145	56	40

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-05-85

TRAFFIC CONTROL

STAGE	LOCATION	ESTIMATED SERVICE PERIOD DAYS PER SEGMENTS	TRAFFIC CONTROL	643.5000		643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1070		643.0910			643.0920		
				TRAFFIC CONTROL	TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL CONES 42-INCH		COVERING SIGNS TYPE I			COVERING SIGNS TYPE II			
					NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	NO	DAYS	CYCLES	#	EACH	CYCLES	#
PROJECT 1166-05-85																									
CATEGORY 0010																									
	PROJECT			0.3																					
4	SB RESTRICTED WIDTH SIGNING	1	30		0	0	0	0	0	0	0	0	0	0	38	1,140	0	0	0	0	0	8	38	304	
3A	SB INSIDE LANE CLOSURE, STA 335+00 - STA 450+28	1	21		0	0	8	168	16	336	0	0	0	0	17	357	231	4,851	0	0	0	1	1	1	
3B	SB OUTSIDE LANE CLOSURE, STA 335+00 - STA 450+28	1	21		75	1,575	8	168	16	336	22	462	0	0	17	357	190	3,990	0	0	0	1	0	0	
4A	SB INSIDE LANE CLOSURE, STA 153+55 - STA 335+00	1	30		58	1,740	15	450	30	900	26	780	2	60	30	900	364	10,920	1	0	0	1	3	3	
4B	SB OUTSIDE LANE CLOSURE, STA 153+55 - STA 335+00	1	30		136	4,080	15	450	30	900	50	1,500	2	60	30	900	329	9,870	0	0	0	1	0	0	
4	STH 34 AND RAMP CLOSURE	1	39		0	0	14	546	28	1,092	0	0	0	0	131	5,109	0	0	1	8	8	1	13	13	
PROJECT 1166-05-85 TOTALS				0.3	7,395		1,782		3,564		2,742		120		8,763		29,631		8			321			

DIGITAL SPEED REDUCTION SYSTEM

				SPV.0045.01
				DIGITAL SPEED REDUCTION SYSTEM DAY
Location	Stage	Portable Changeable Message Sign (PCMS)	Digital Speed Limit Trailers	
PROJECT 1166-05-85				
CATEGORY 0010				
USH 51 NB	4A	1	5	30
USH 51 NB	4B	1	5	30
PROJECT 1166-05-85 TOTALS				60

BASIC TRAFFIC QUEUE WARNING SYSTEM

				643.1205.S
				BASIC TRAFFIC QUEUE WARNING SYSTEM DAY
Location	Stage	Flashing Beacon Signs (FBS)	Portable Traffic Sensors	
PROJECT 1166-05-85 TOTALS				
CATEGORY 0010				
USH 51 SB	4	3	3	30
PROJECT 1166-05-85 TOTALS				30

3

3

TRAFFIC CONTROL DEVICES, PROJECT 1166-05-85 CONTINUED

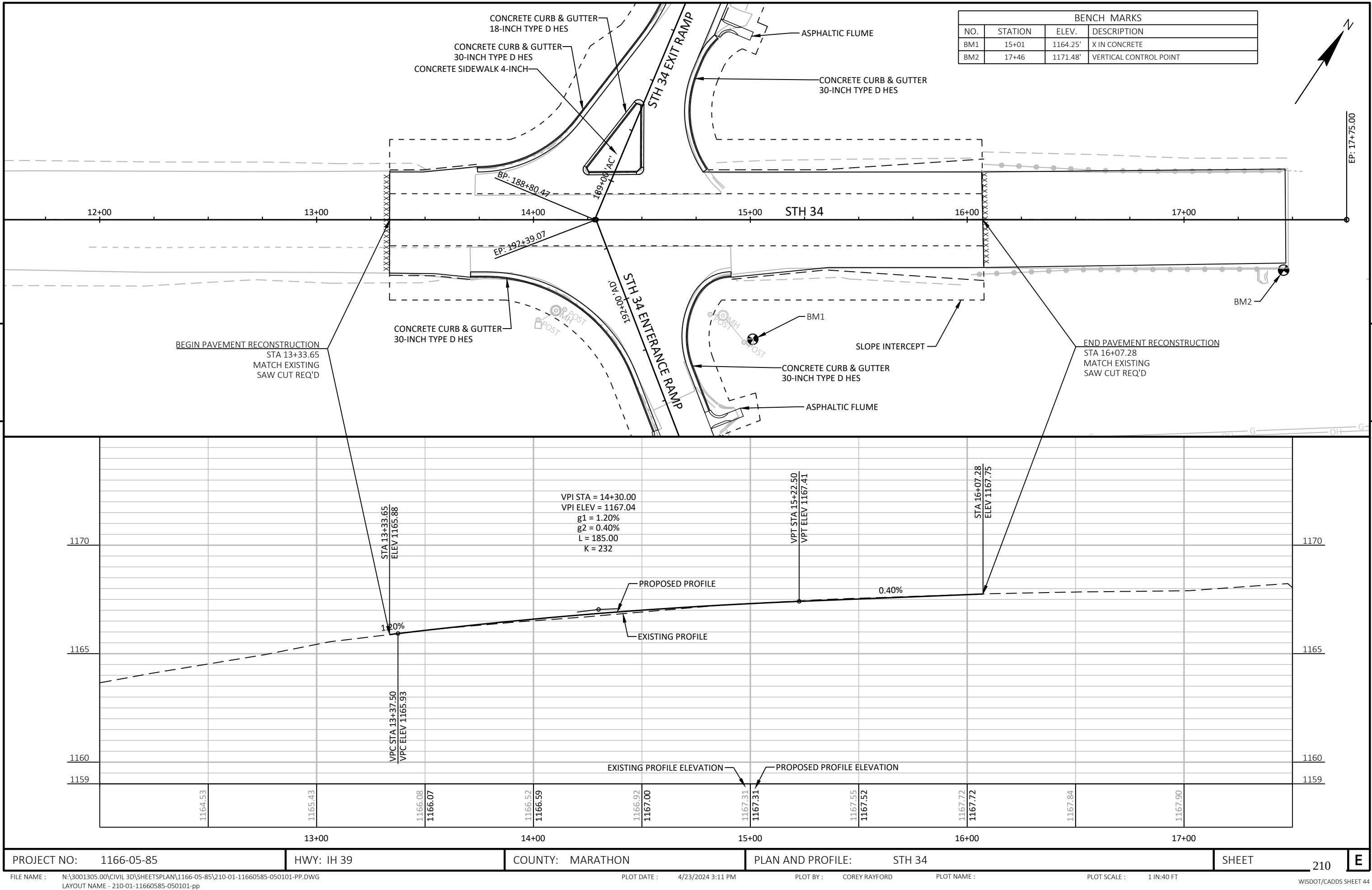
TRAFFIC CONTROL PAVEMENT MARKING

STAGE	LOCATION	643.3170		643.3180		643.3280	643.3960
		TEMPORARY MARKING LINE EPOXY 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 6-INCH		TEMPORARY MARKING LINE REMOVABLE TAPE 10-INCH	TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
		(WHITE) LF	(YELLOW) LF	(WHITE) LF	(YELLOW) LF	(WHITE) LF	(BLACK) LF
PROJECT 1166-05-85							
3A	SB INSIDE LANE CLOSURE, STA 335+00 - STA 450+28	11,528	0	0	0	0	0
3B	SB OUTSIDE LANE CLOSURE, STA 335+00 - STA 450+28	2,882	11,528	1,050	0	1,100	513
4A	SB INSIDE LANE CLOSURE, STA 153+55 - STA 335+00	18,200	0	400	700	0	175
4B	SB OUTSIDE LANE CLOSURE, STA 153+55 - STA 335+00	4,550	18,200	1,850	0	1,300	575
4	STH 34 AND RAMP CLOSURE	0	0	0	0	0	0
PROJECT 1166-05-85 SUBTOTALS		37,160	29,728	3,300	700		
PROJECT TOTALS		66,888		4,000		2,400	1,263

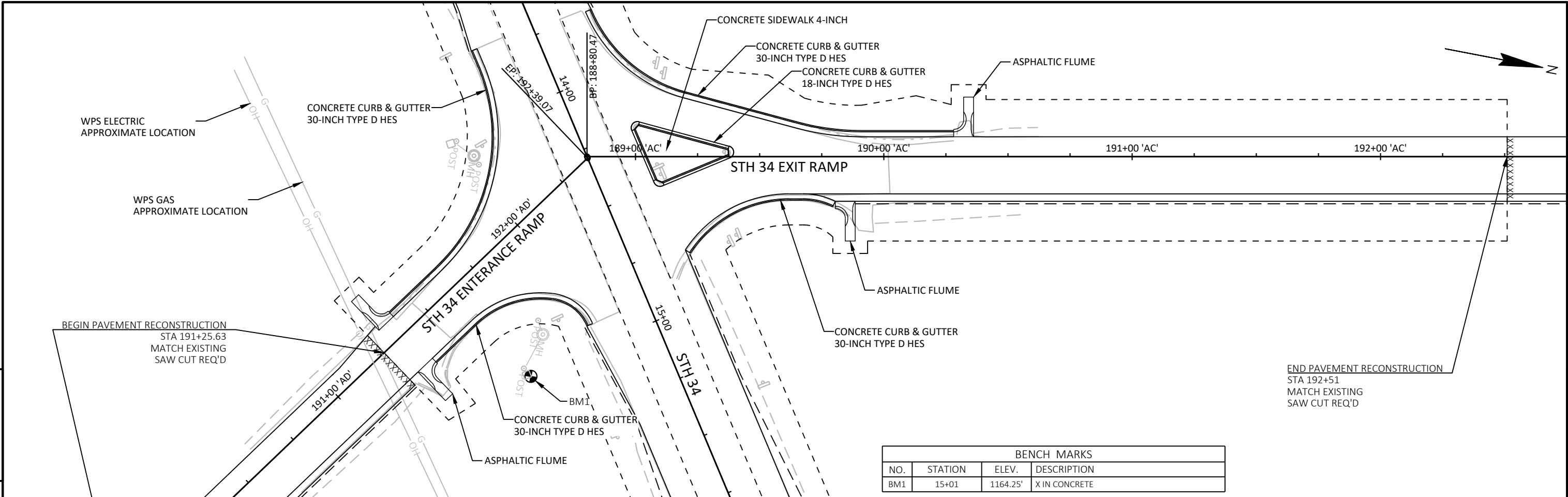
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TRAFFIC CONTROL PCMS

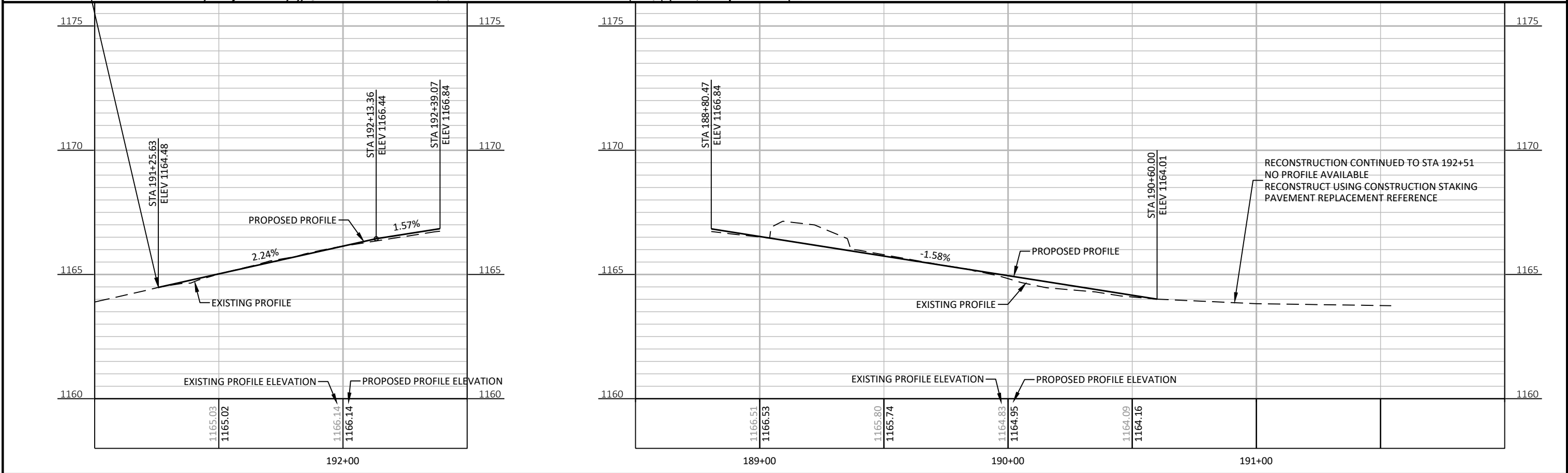
STAGE	SITE	643.1050
		TRAFFIC CONTROL SIGNS PCMS
STAGE	SITE	DAY
PROJECT 1166-05-85		
CATEGORY 0010		
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4	D2	7
4	D3	7
3B, 4B	STRADDLE	102
PROJECT 1166-05-85 TOTALS		123

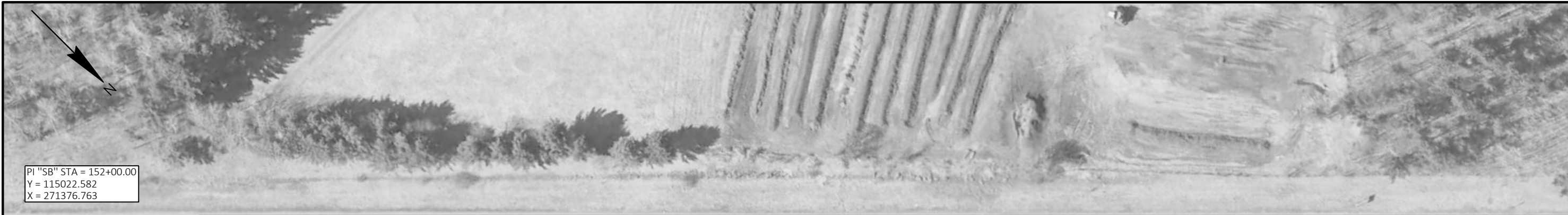


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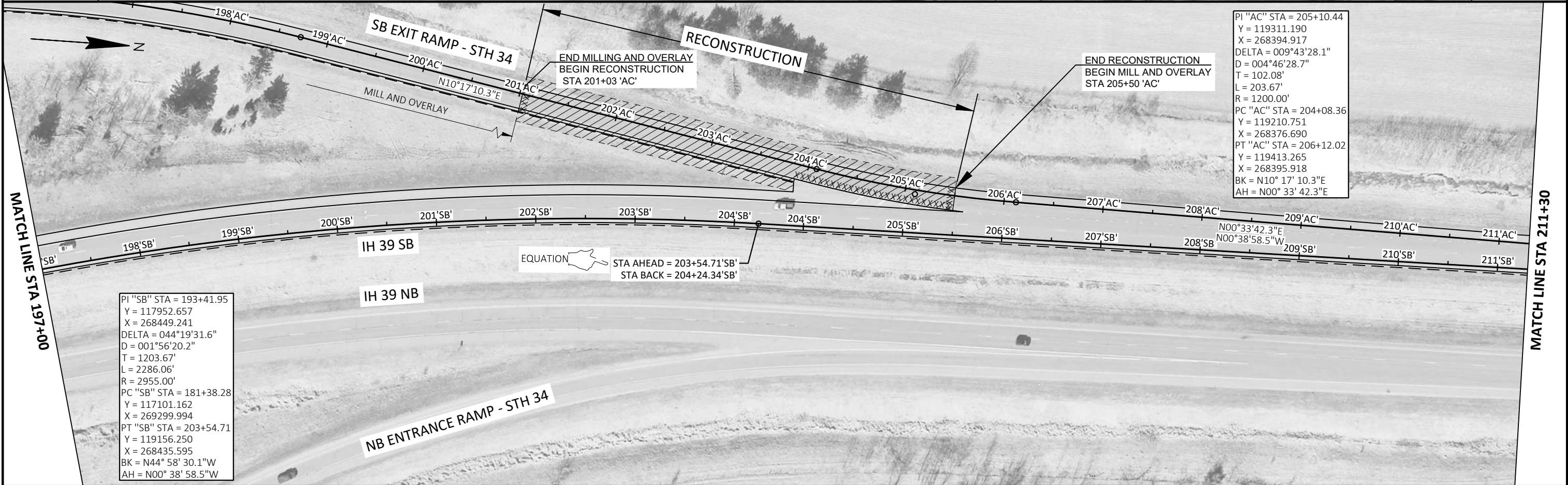


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PROJECT NO: 1166-05-85	HWY: IH 39	COUNTY: MARATHON	PLAN	SHEET 212	E
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PROJECT NO: 1166-05-85	HWY: IH 39	COUNTY: MARATHON	PLAN	SHEET 215	E
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PROJECT NO: 1166-05-85	HWY: IH 39	COUNTY: MARATHON	PLAN	SHEET 216	E
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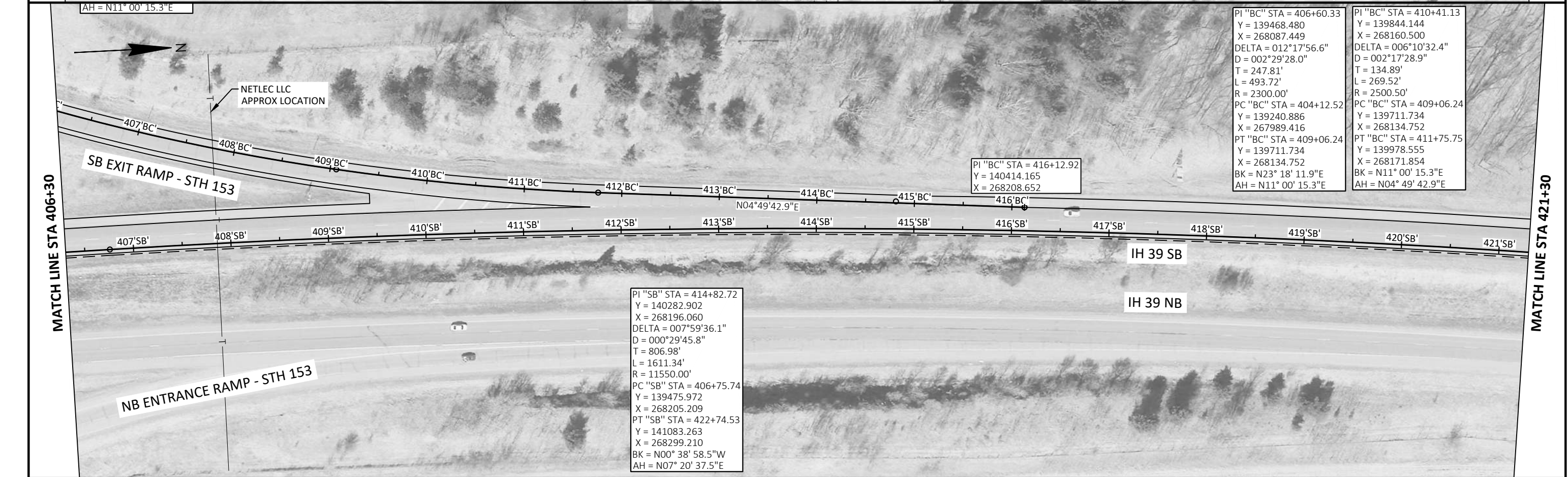
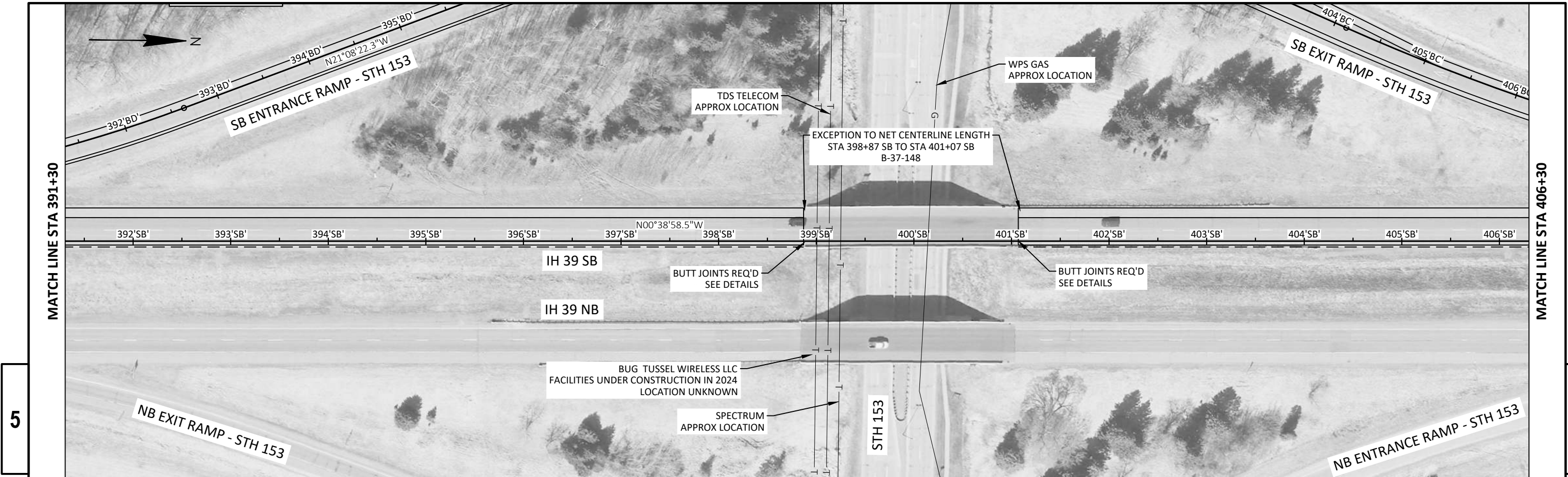
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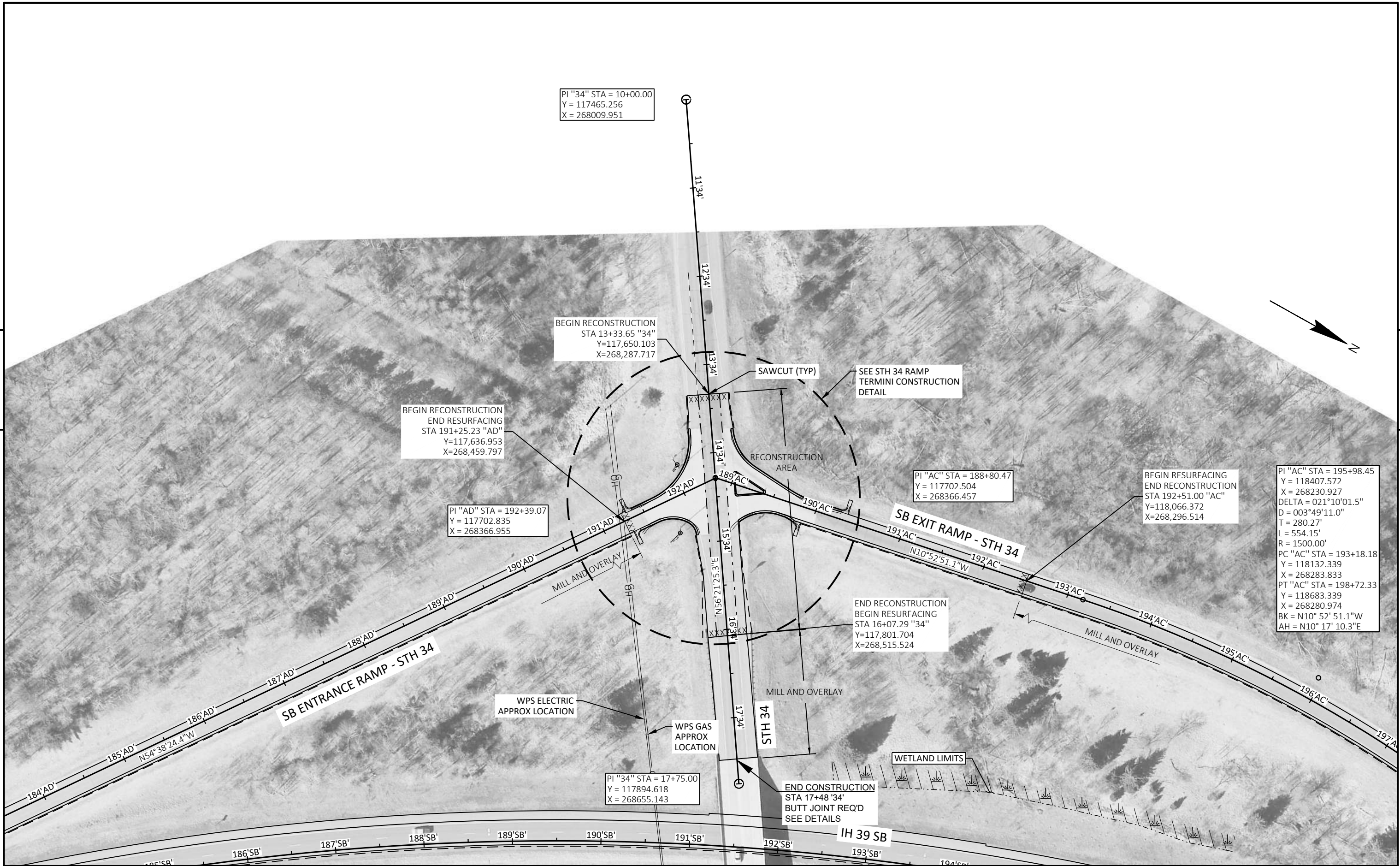
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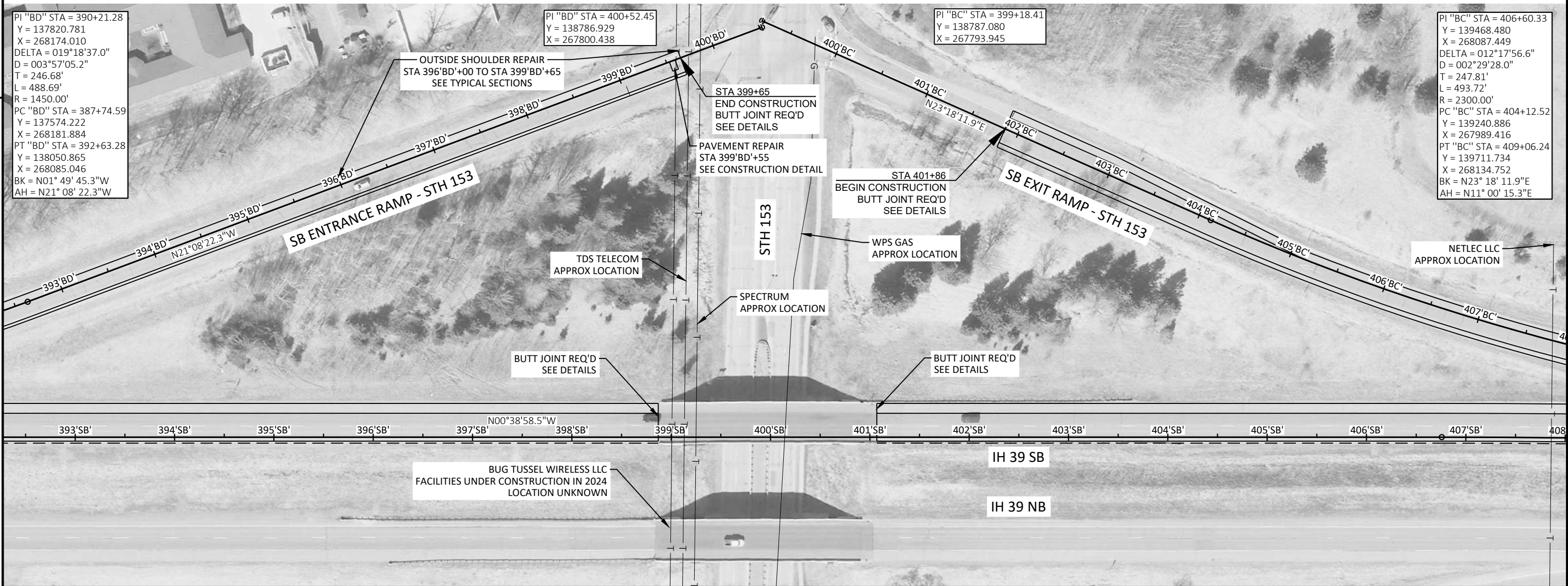




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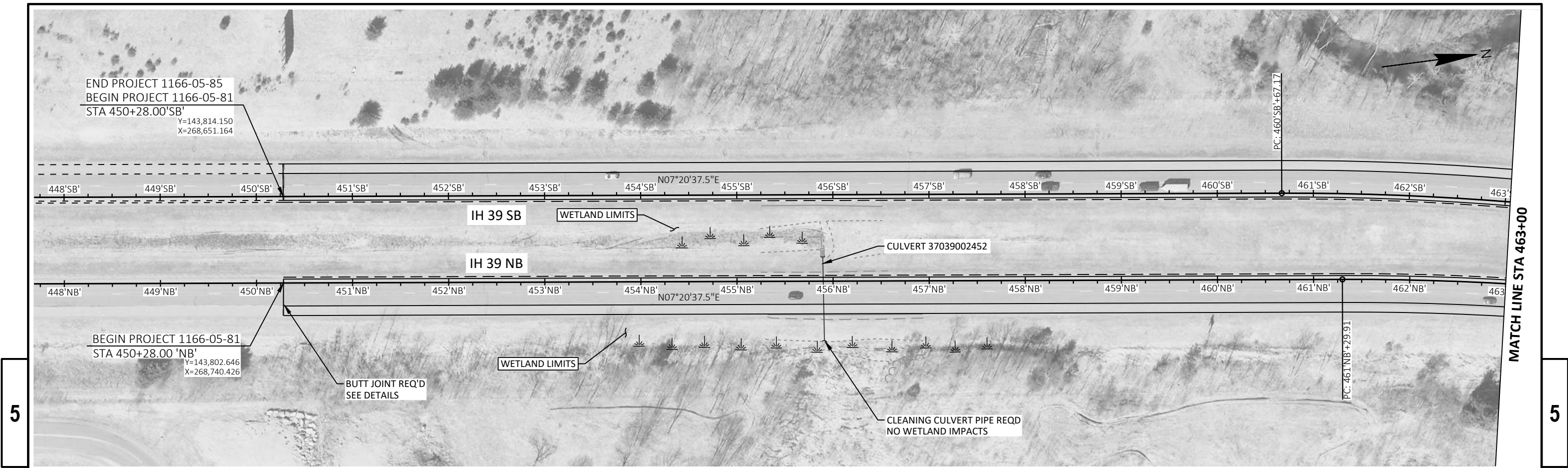


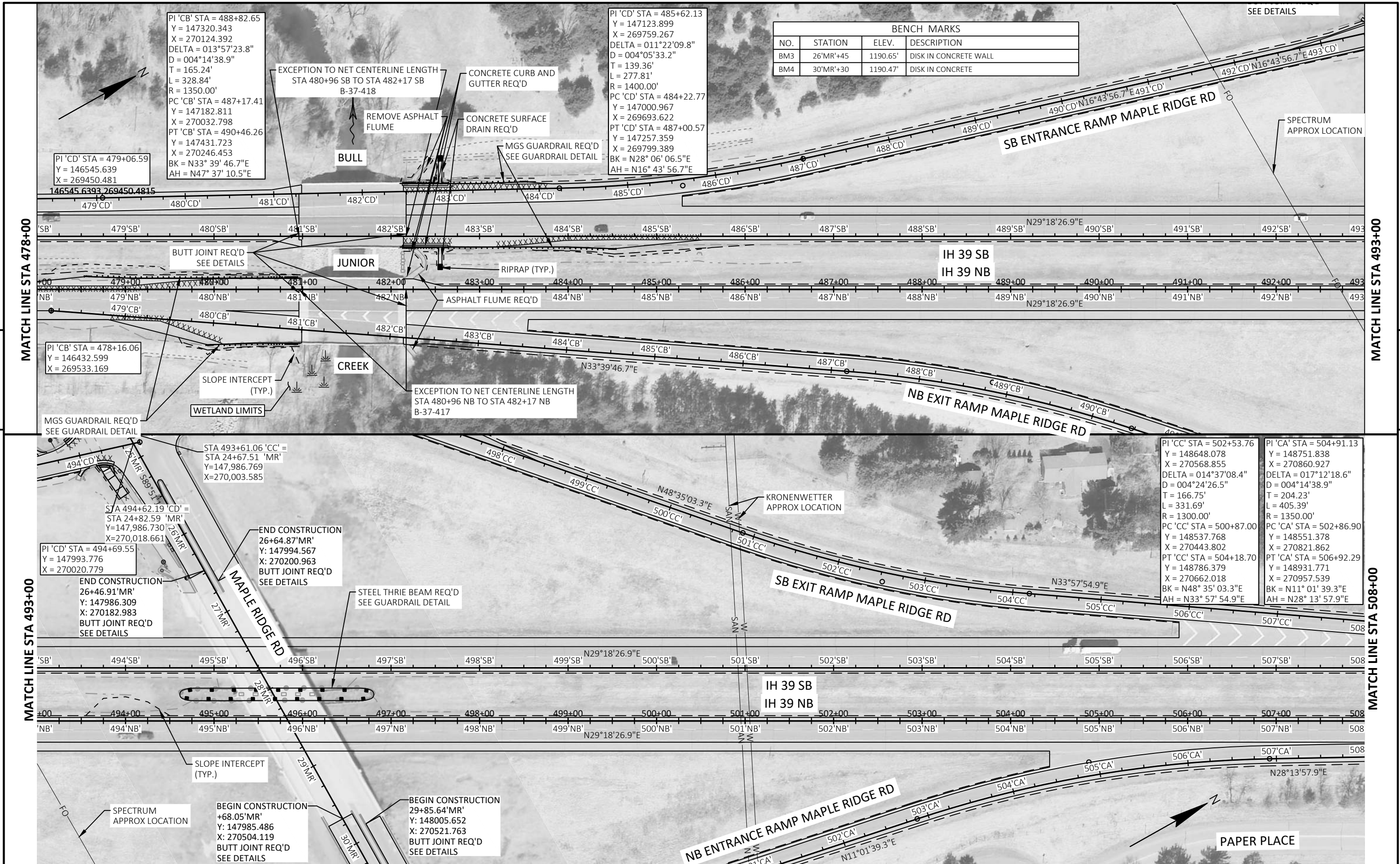
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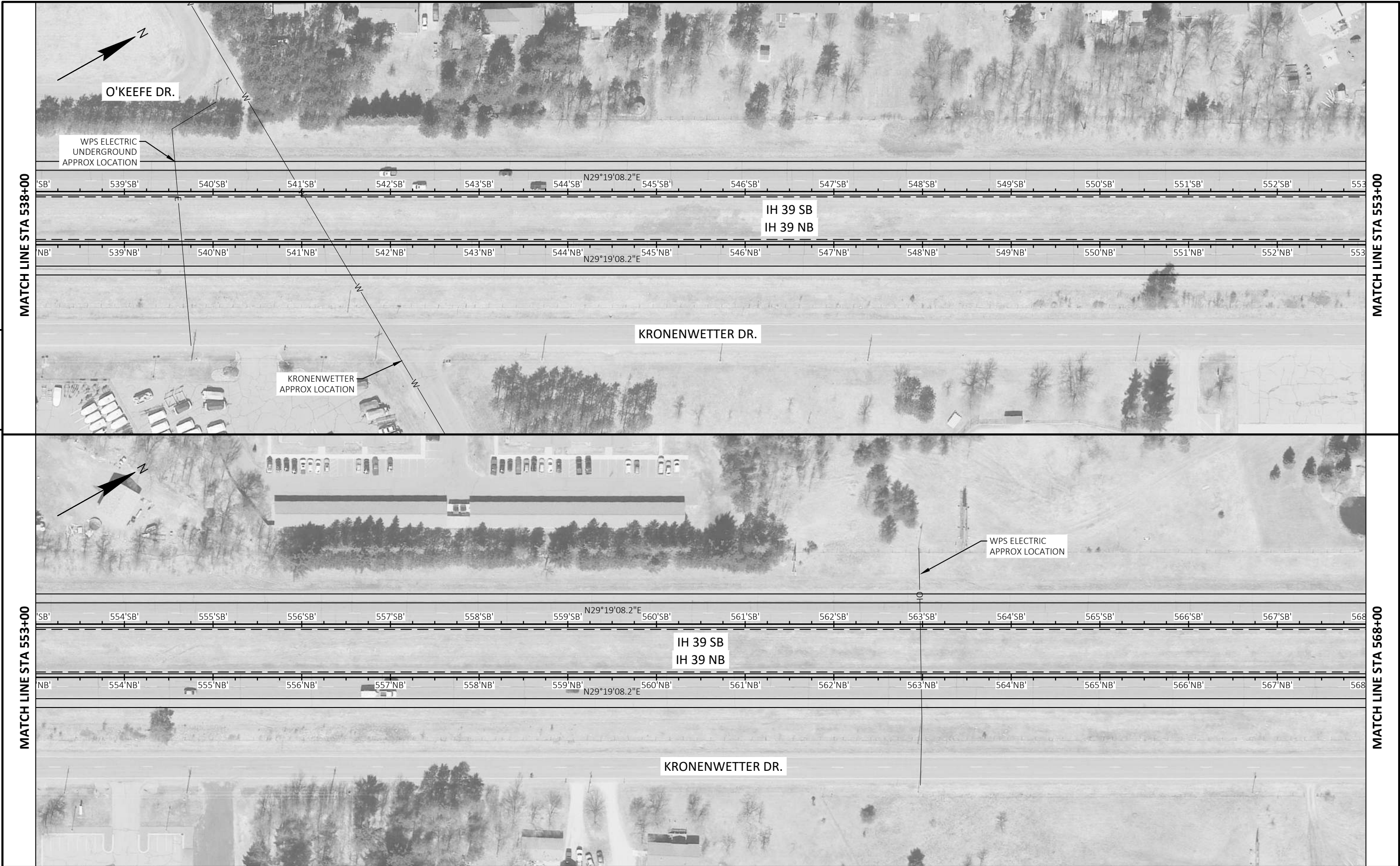
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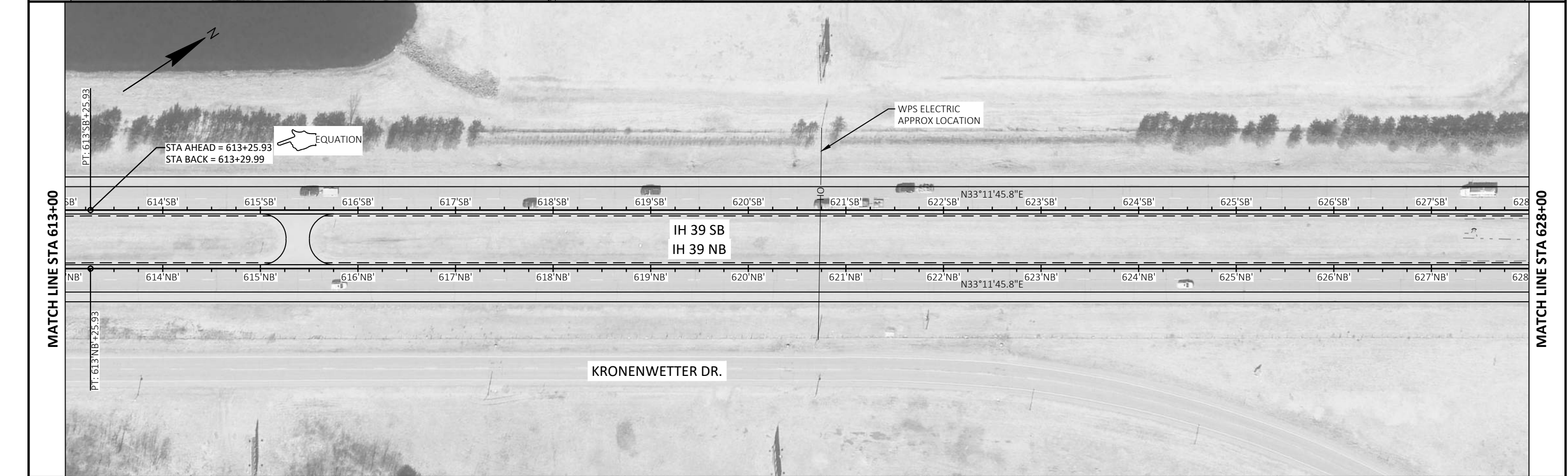
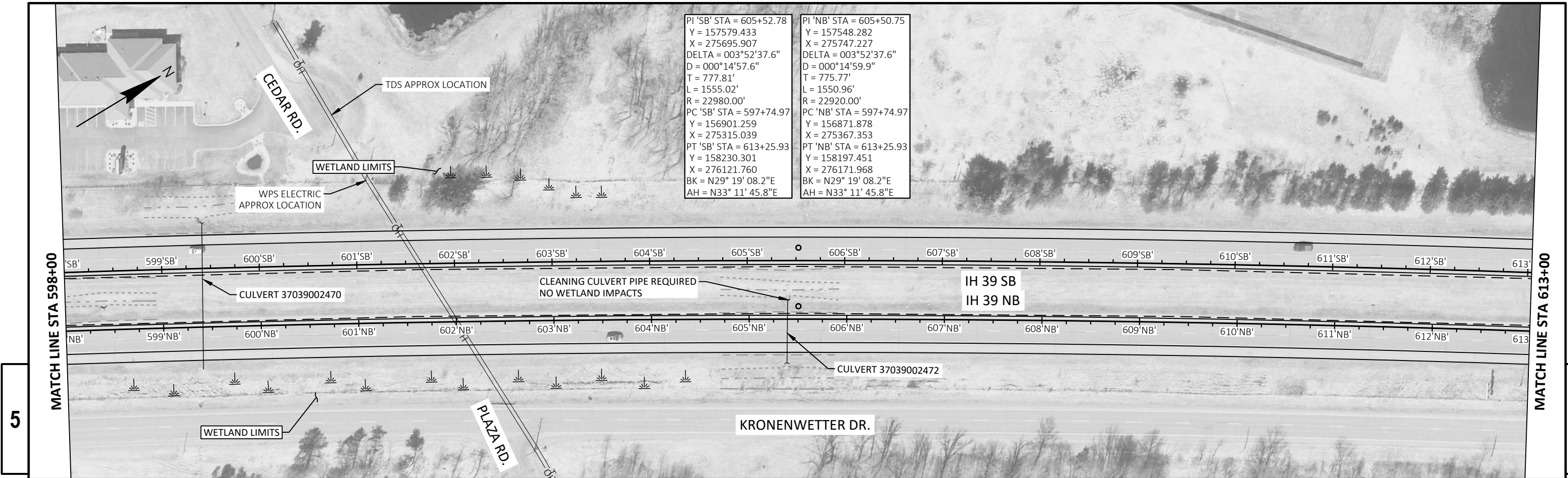


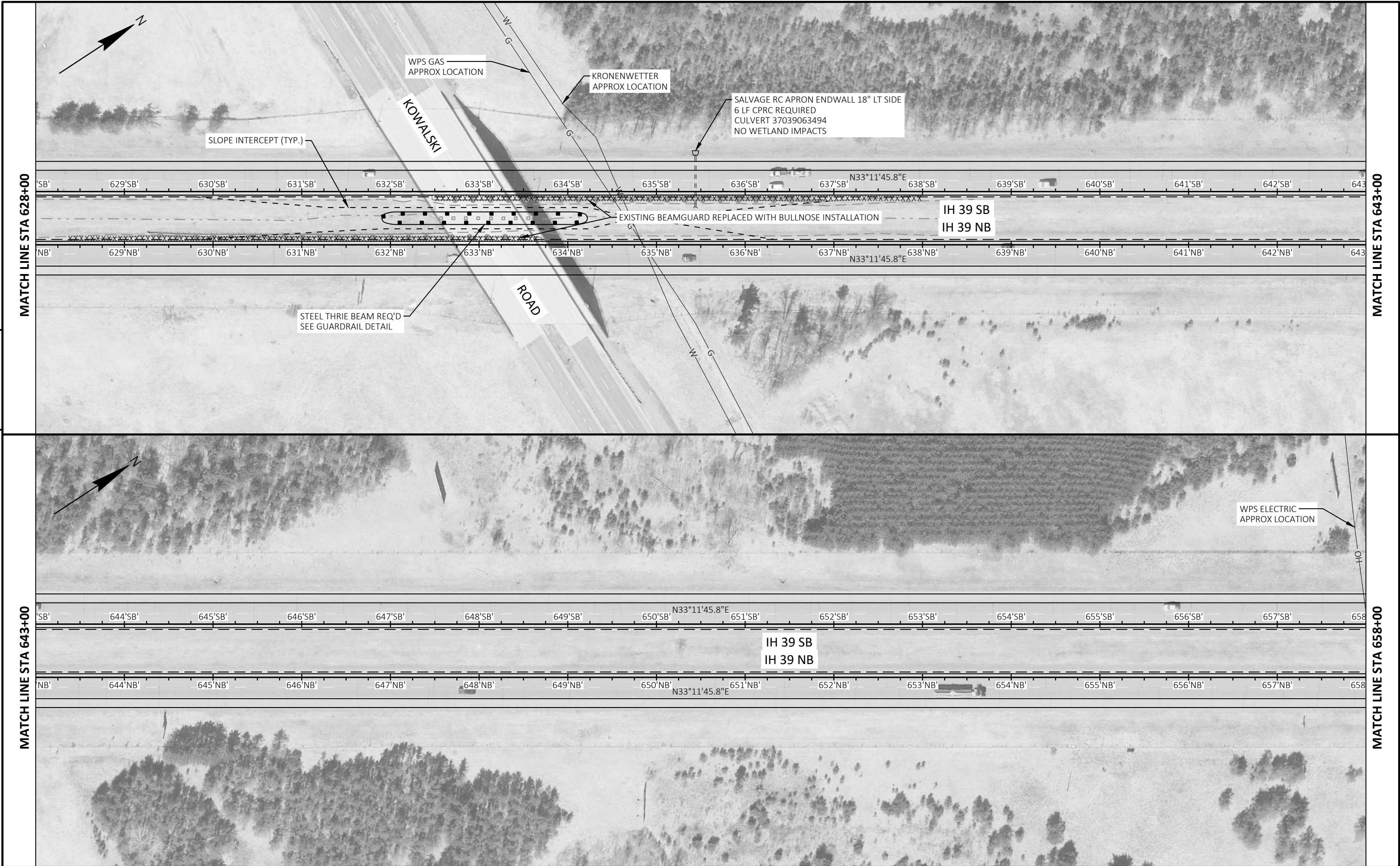


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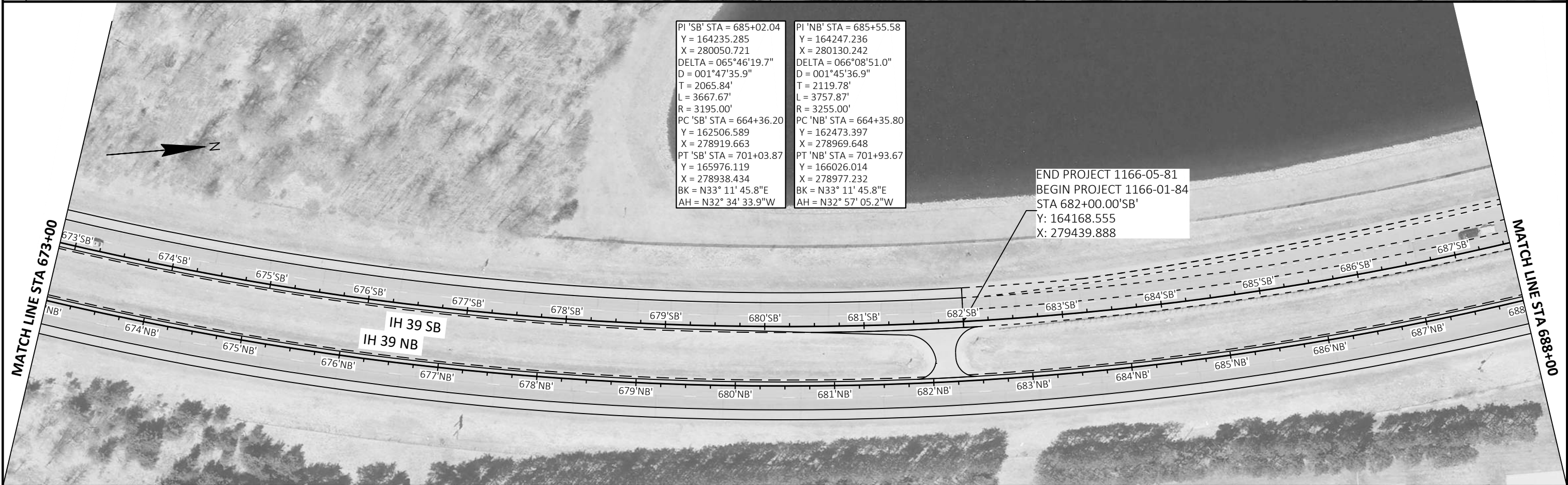
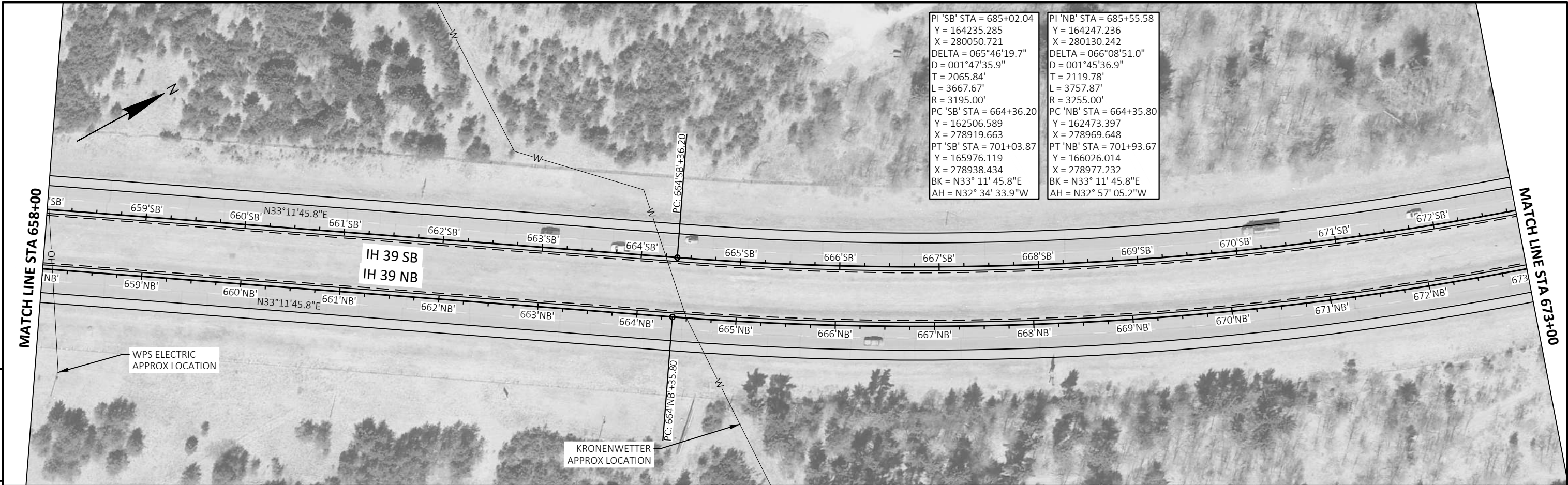
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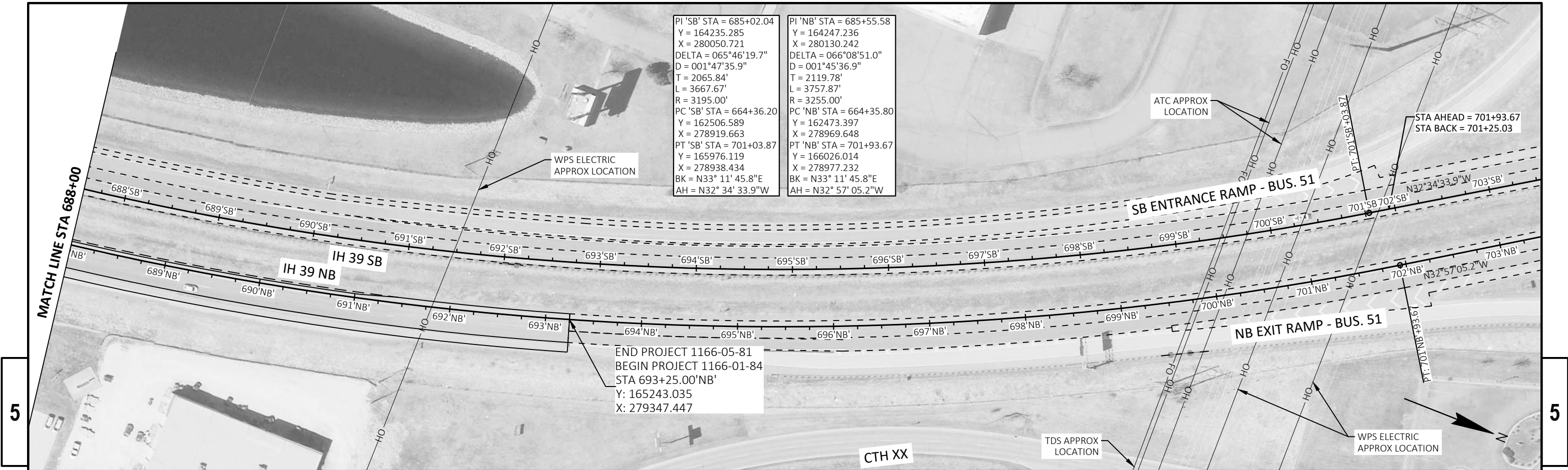




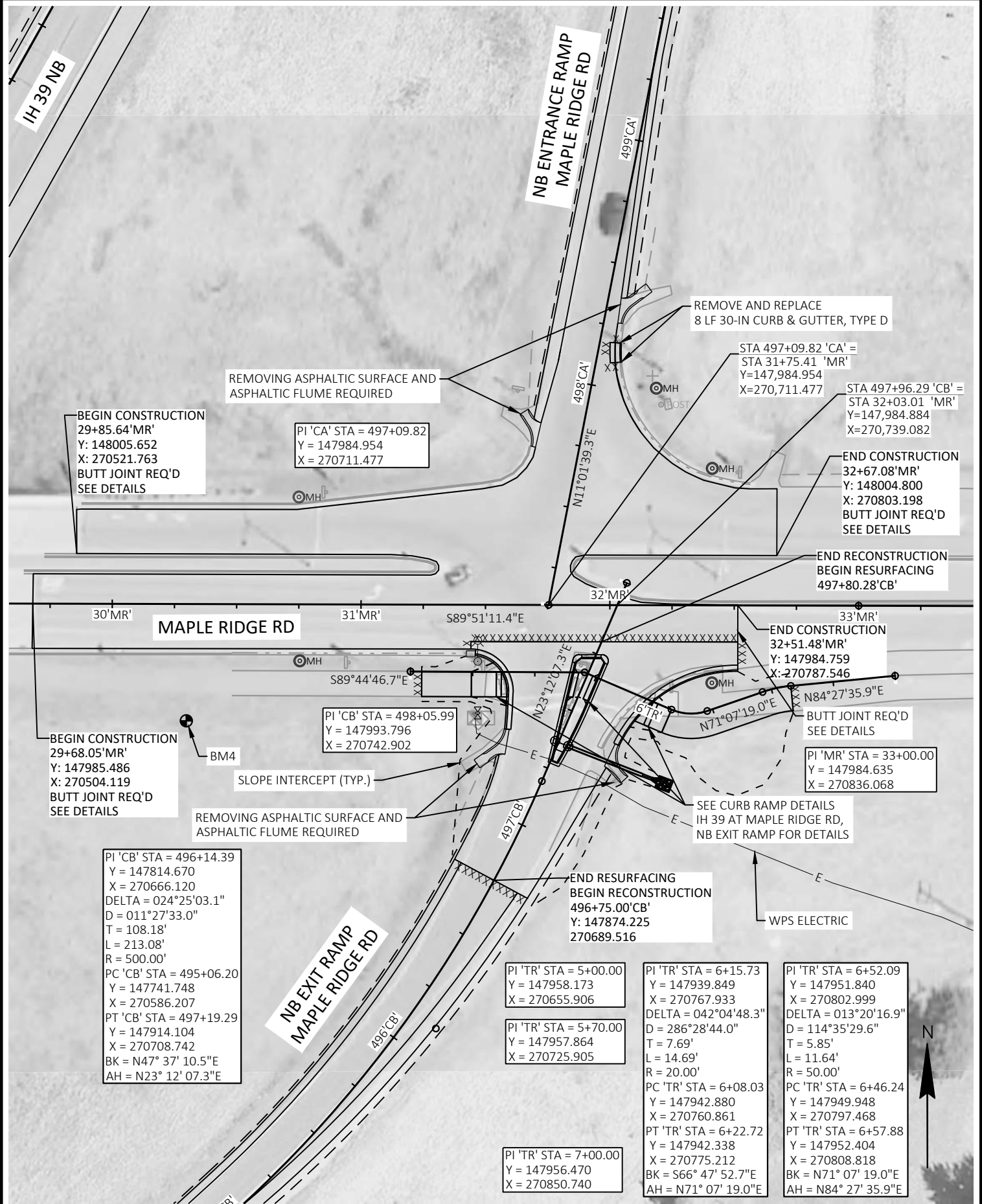
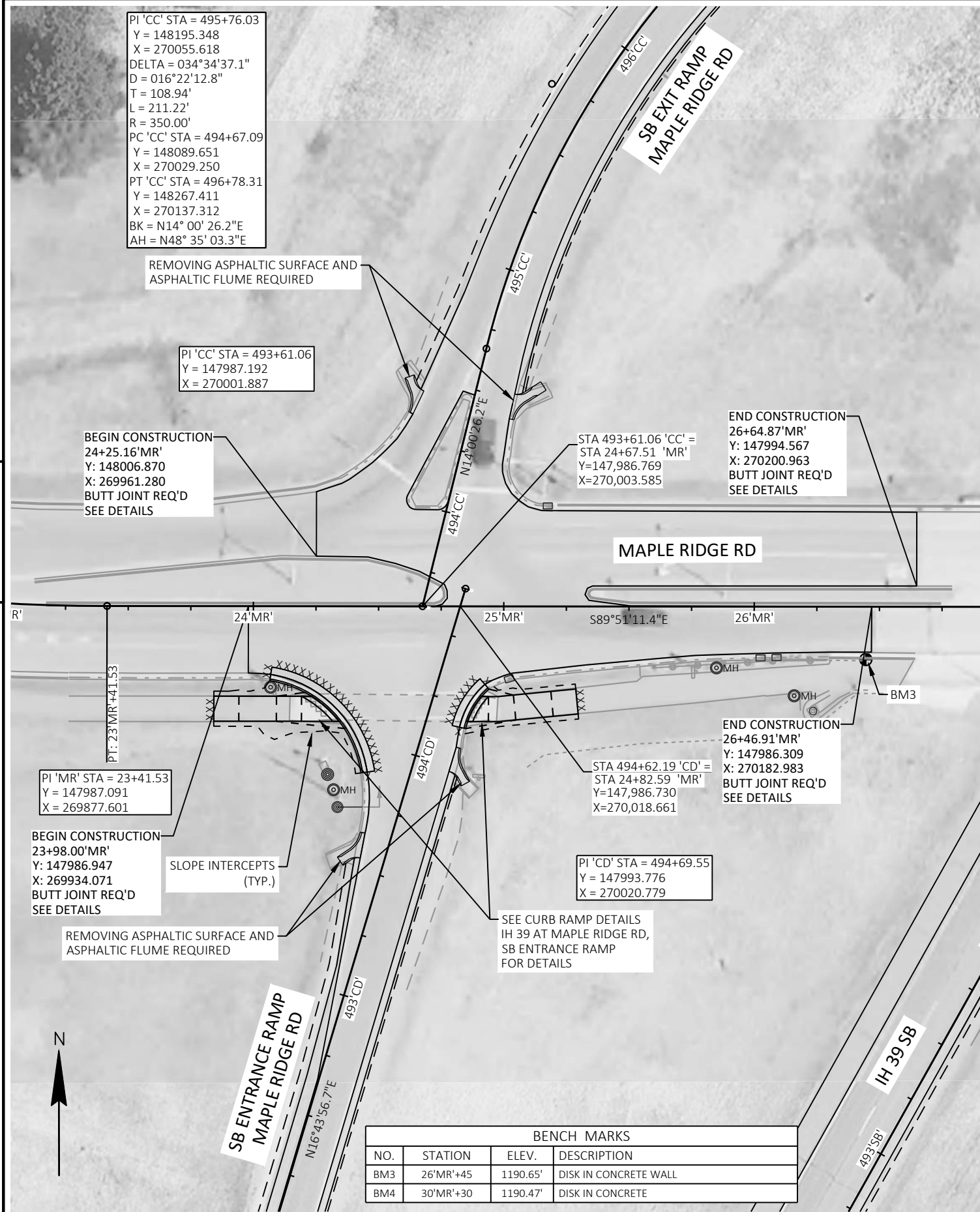
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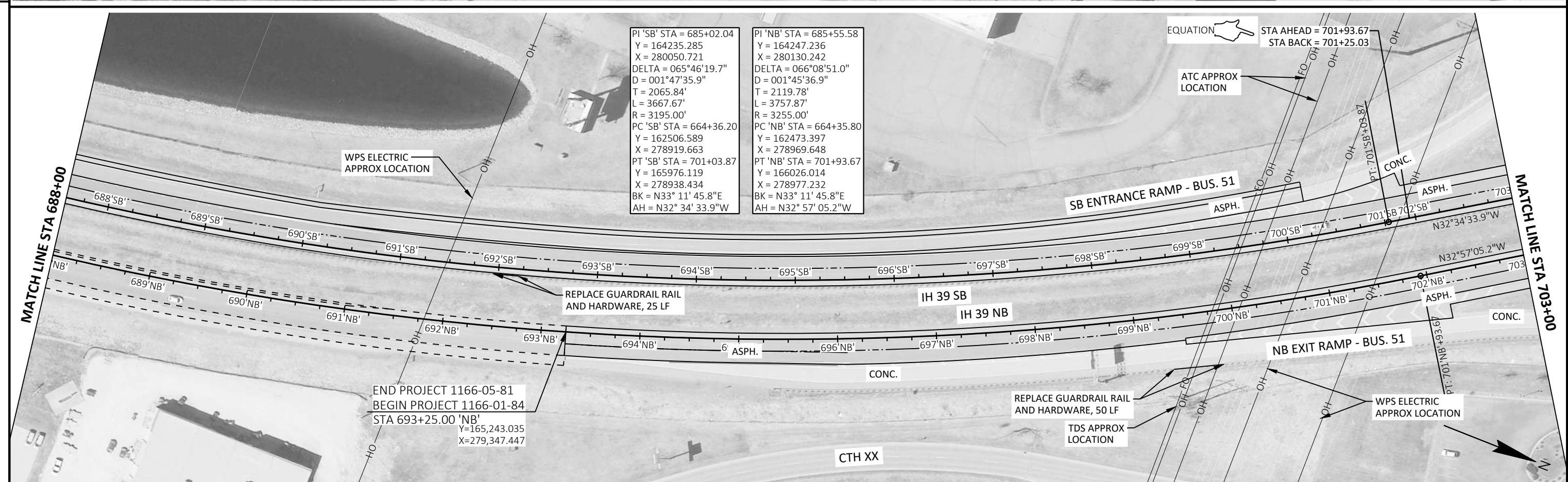
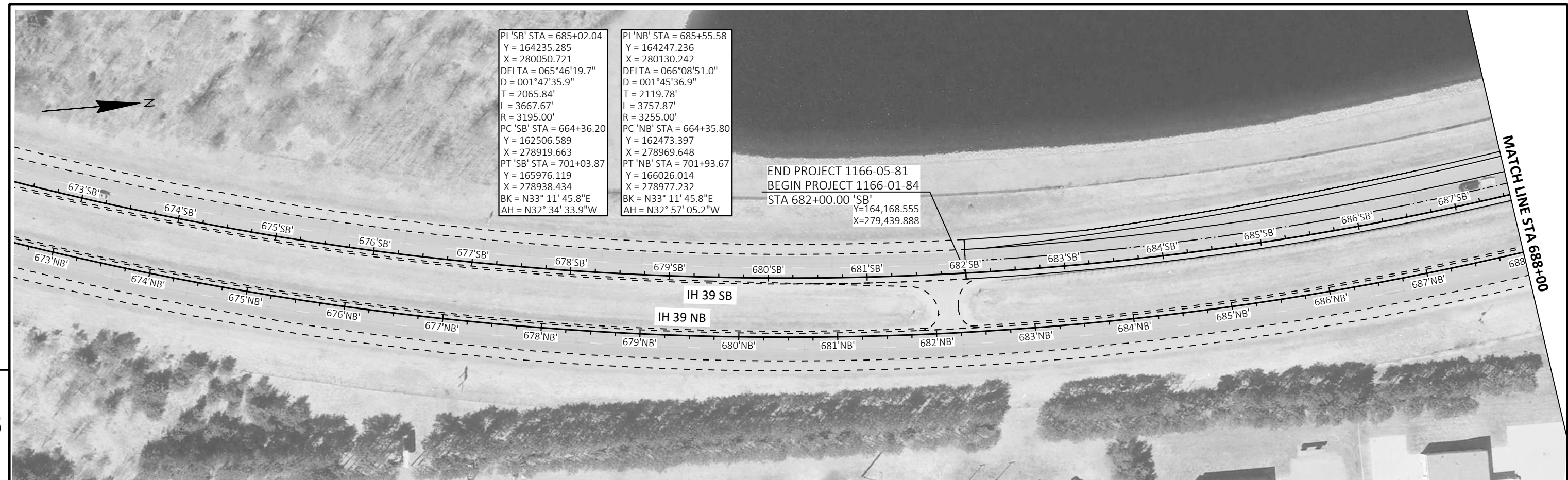
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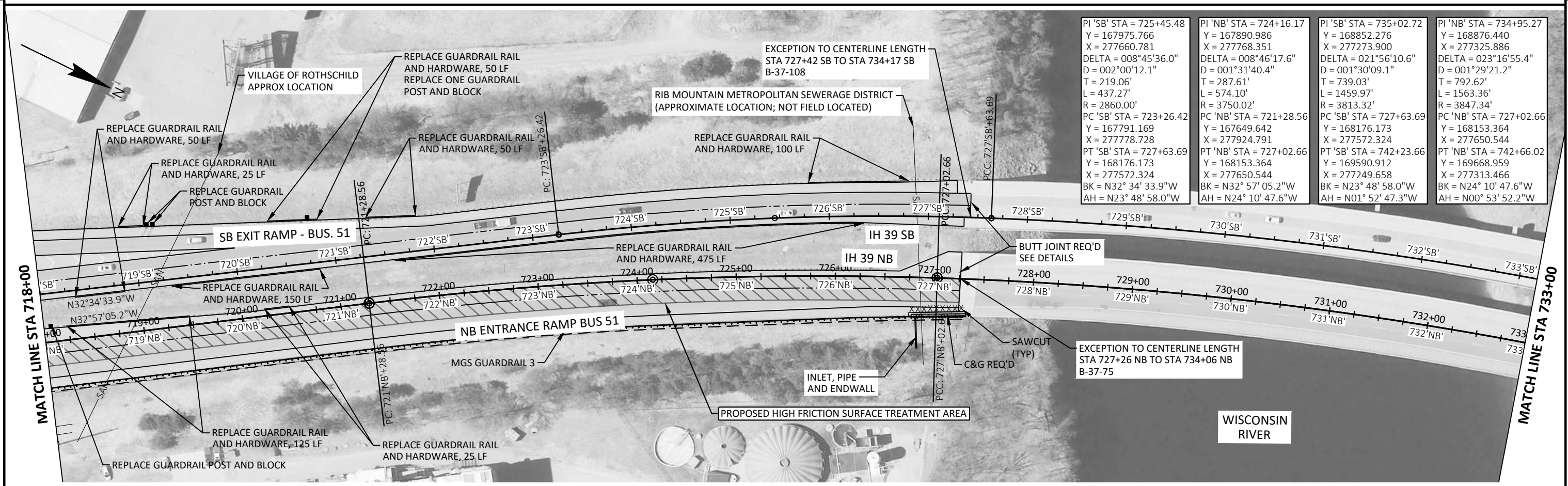
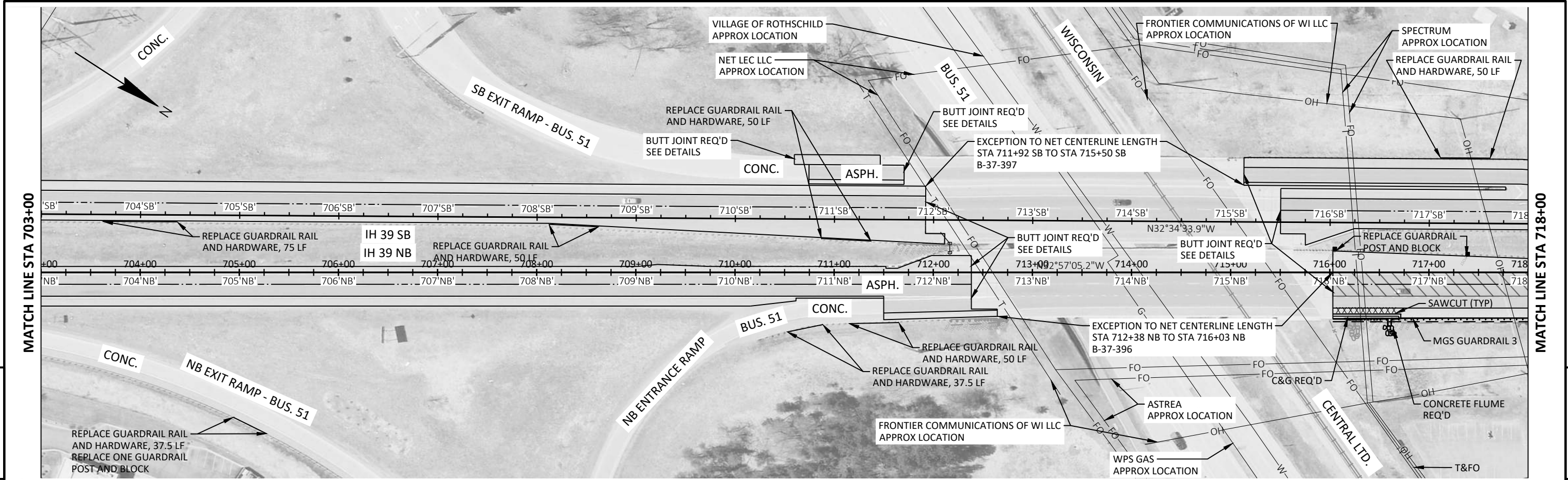


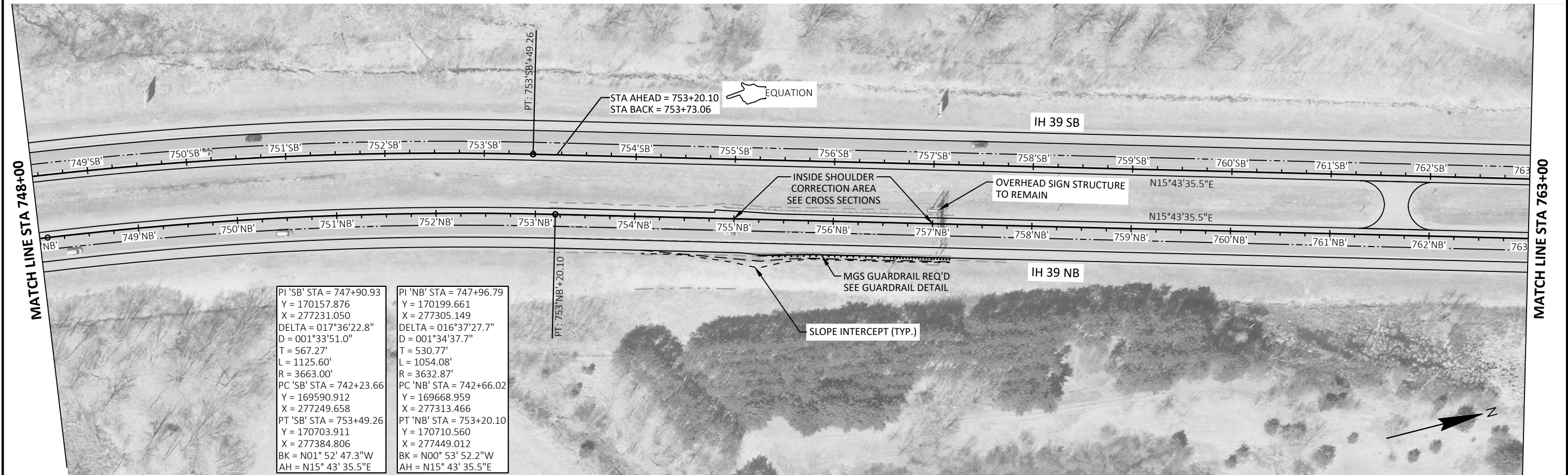
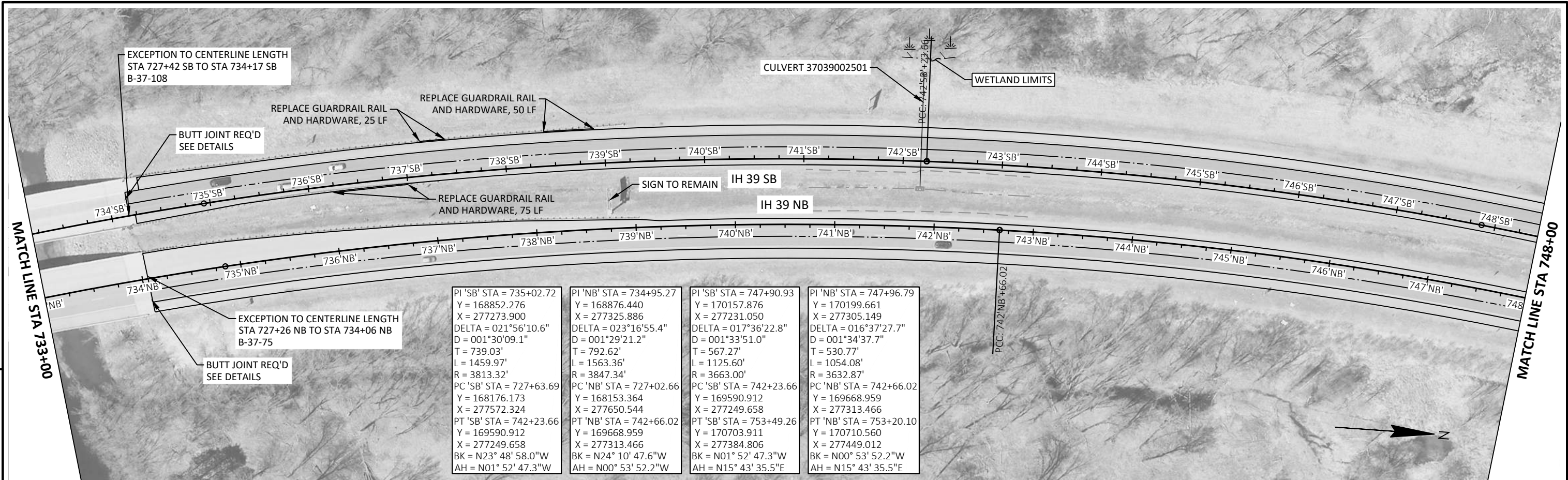


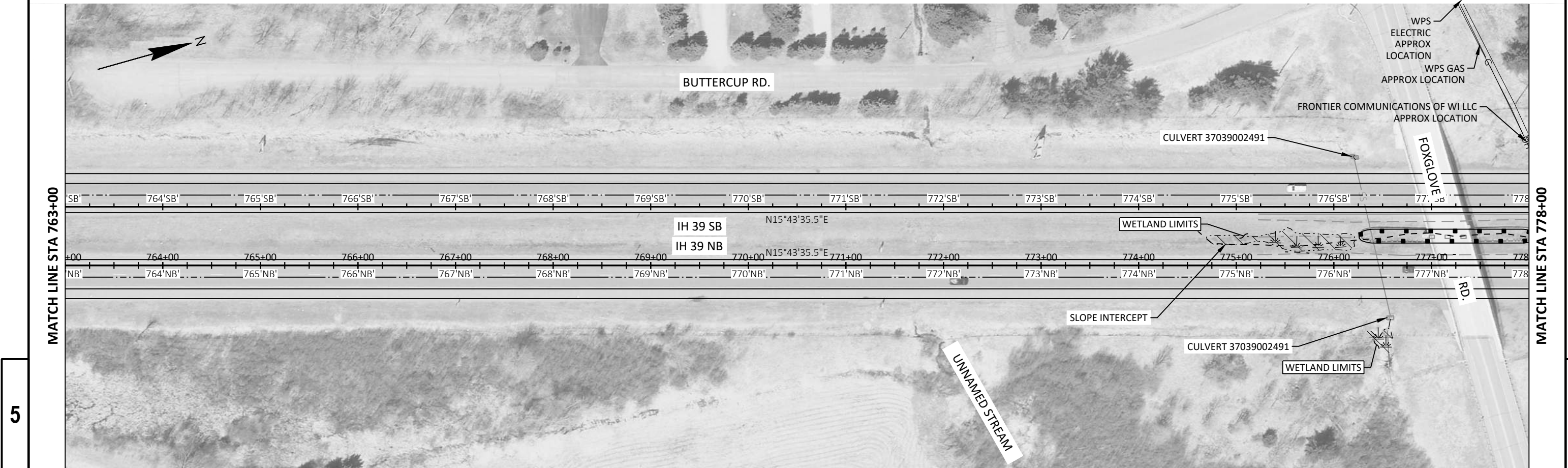
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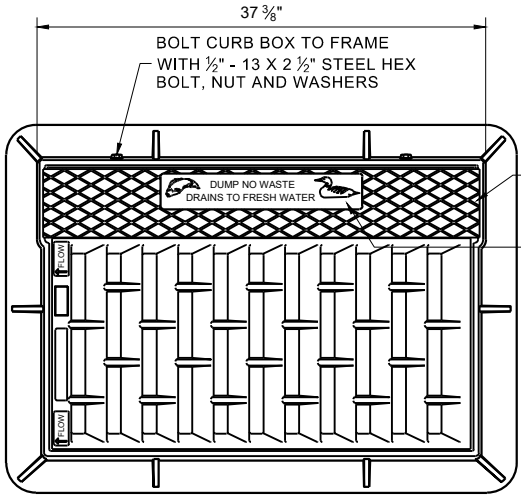


Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
08C06-03	INLETS 3-FT AND 4-FT DIAMETER
08C07-03	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT, 2.5X3-FT & 2X3.5-FT
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
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
13C19-03	HMA LONGITUDINAL JOINTS
14B26-05A	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
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)
14B47-05A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05B	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05D	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05E	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05F	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-05G	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09D	ON RAMP LANE CLOSURE
15C02-09E	OFF RAMP LANE CLOSURE
15C02-09F	ADVANCED WIDTH RESTRICTION SIGNING
15C02-09G	TRAFFIC CONTROL FOR ENTRANCE RAMP CLOSURE
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15C	PAVEMENT MARKING ARROWS

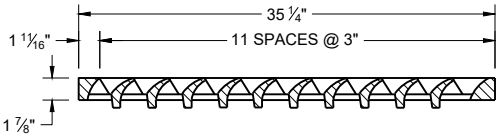
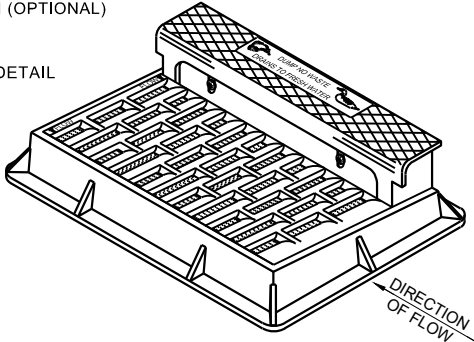
Standard Detail Drawing List

15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C18-08A	MEDIAN ISLAND MARKING PAVEMENT MARKINGS
15C18-08B	MEDIAN ISLAND MARKING MEDIAN ISLAND NOSE
15C18-08C	MEDIAN PAVEMENT MARKINGS DOUBLE ARROW WARNING SIGN PLACEMENT
15C19-08C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C29-08A	BICYCLE LANE MARKING
15C31-06A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-06C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15C31-06D	PAVEMENT MARKING LANE DROP AND LANE REDUCTION
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D12-12D	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07A	TRAFFIC CONTROL, PARALLEL ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07D	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D15-07E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-06	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D30-09A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09D	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09H	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING
15D40-05B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND OVER
15D40-05D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D51-01	TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY

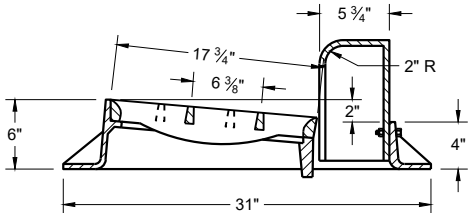
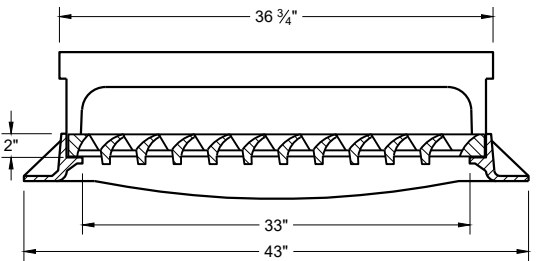
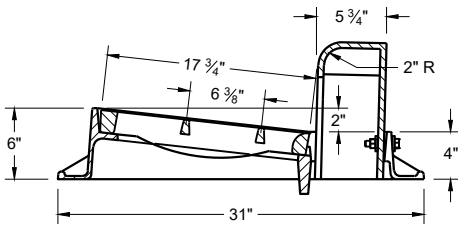
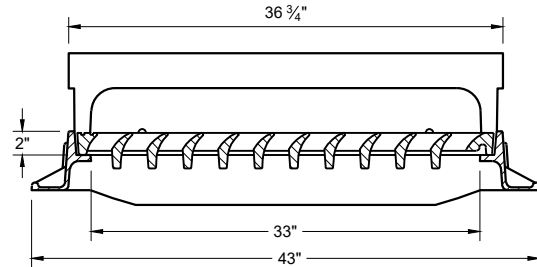


NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "C" CHECKERED TOP DESIGN (OPTIONAL)
SEE LOGO DETAIL

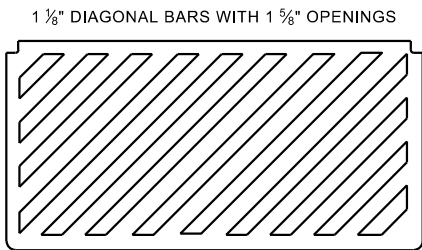


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

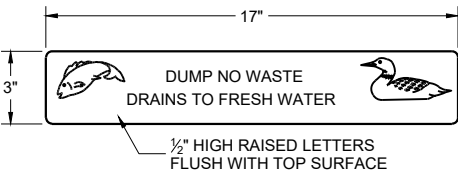


TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE



SPECIAL GRATE FOR TYPE "H" COVER
(MEASURES 35" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



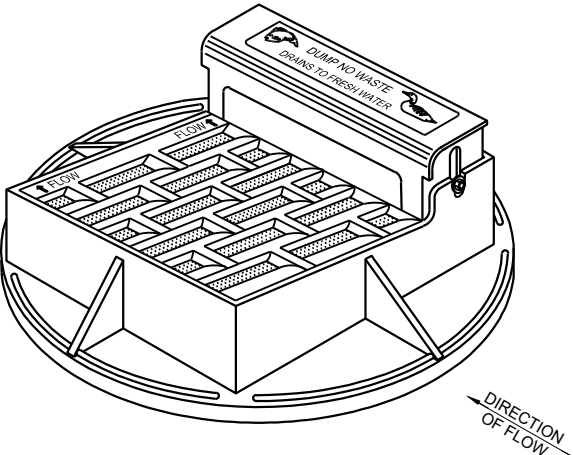
LOGO DETAIL

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.

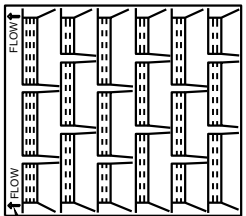
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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

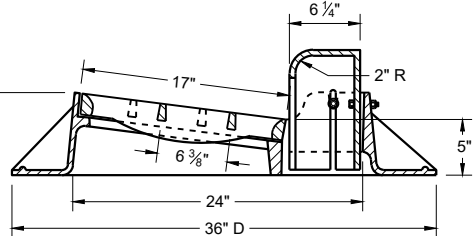
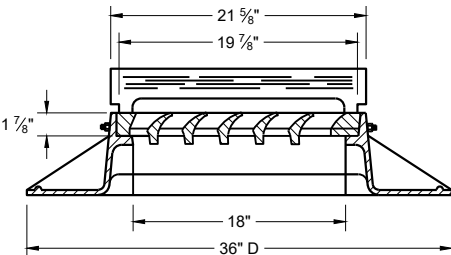
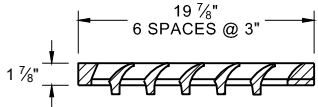


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

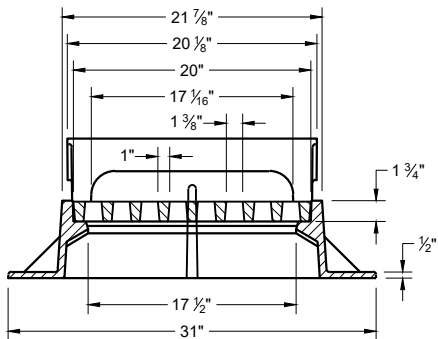
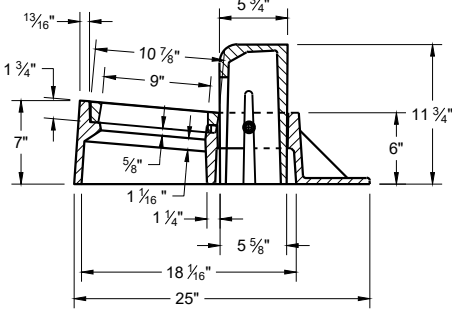
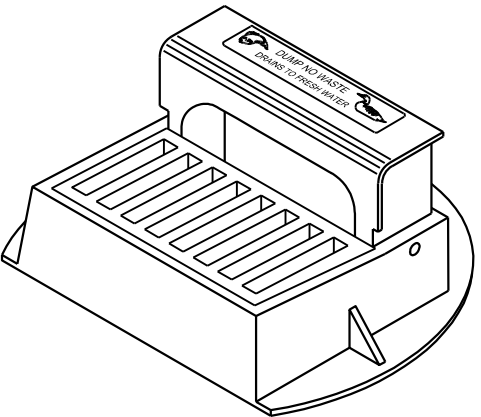
NOTE: EITHER CASTING IS ACCEPTABLE



DIRECTION OF FLOW ARROWS



TYPE "A"



TYPE "Z"

**INLET COVERS
TYPES A, H, A-S, H-S AND Z**

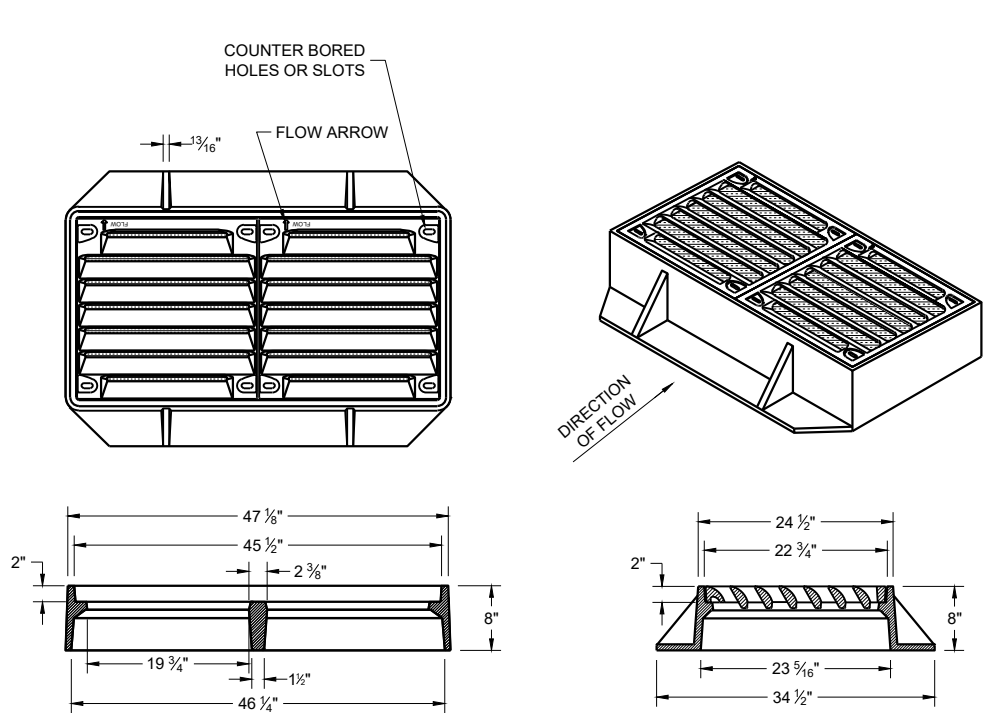
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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.

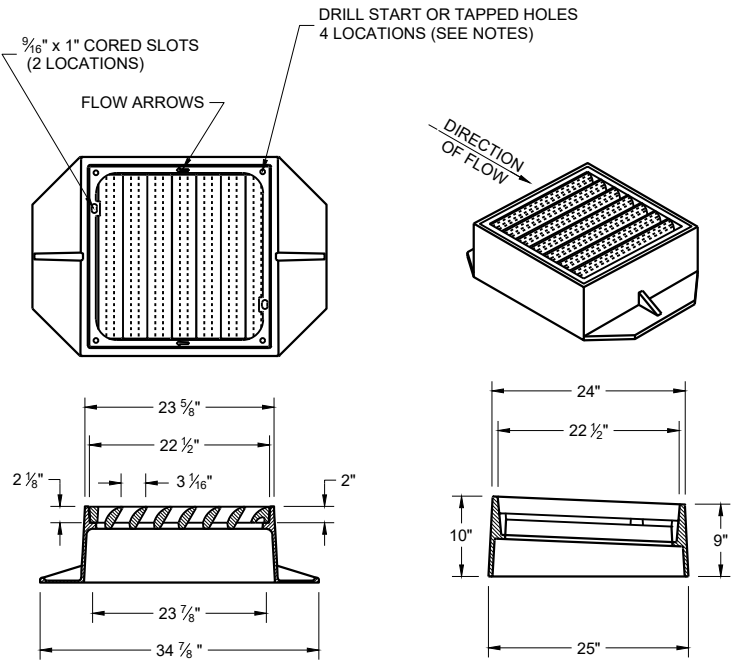
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

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

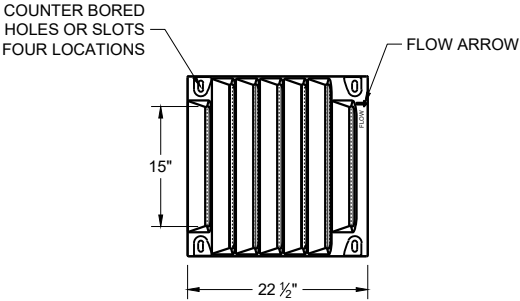
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
3/8" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



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
3/8" 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

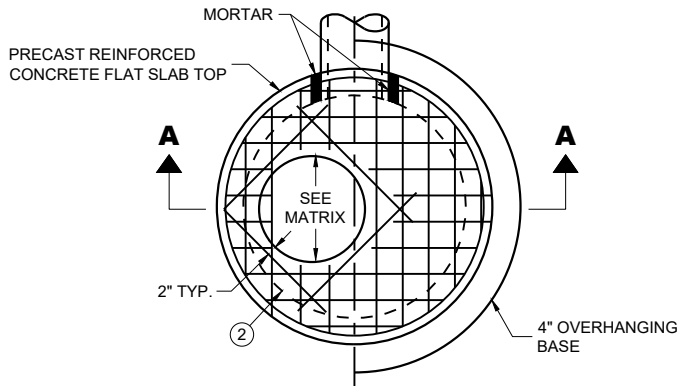
TAP 1/2" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO
BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - 1/2" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT
OVERTIGHTEN.

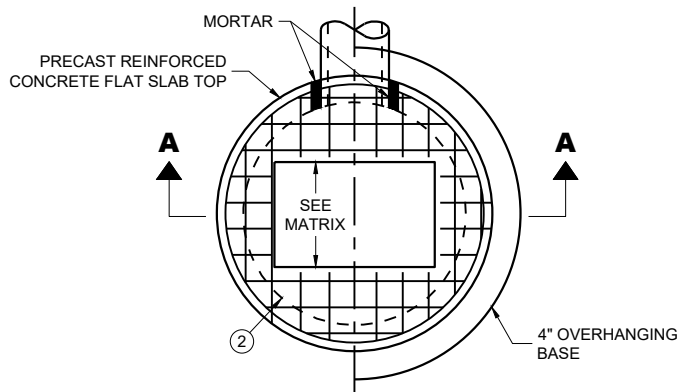
INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

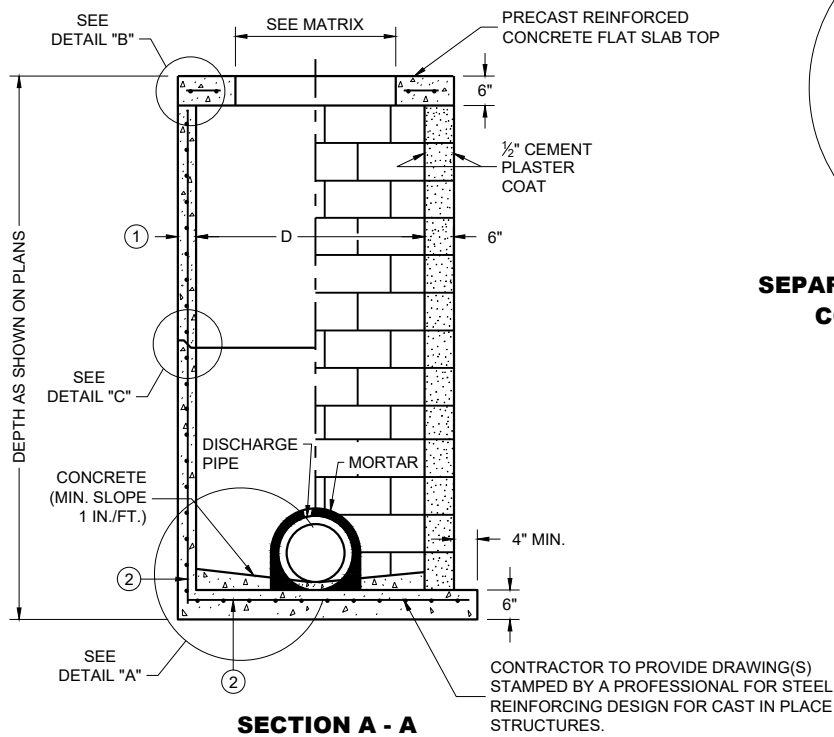
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



PLAN VIEW CIRCULAR OPENING



PLAN VIEW RECTANGULAR OPENING



SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ②

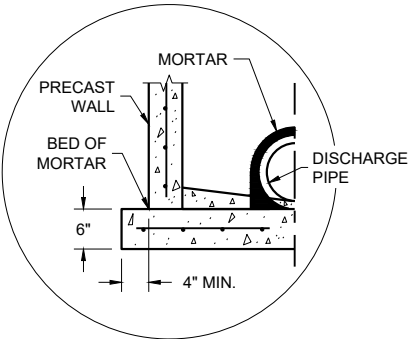
CIRCULAR INLETS WITH FLAT TOP

CATCH BASIN COVER OPENING MATRIX

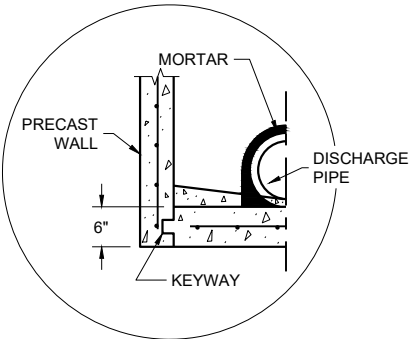
INLET SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT.)											
3-FT	2 DIA.				X							X
	2 X 2	X	X					X		X		
4-FT	2 DIA.				X							X
	2 X 2	X	X					X		X		
	2 X 2.5			X				X	X	X	X	
	2 X 3						X					
	2.5 X 3					X						

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

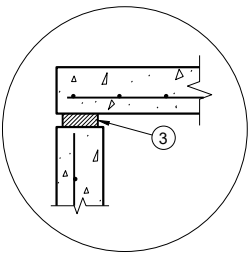


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

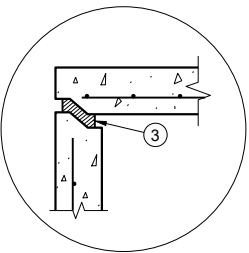


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

DETAIL "A"

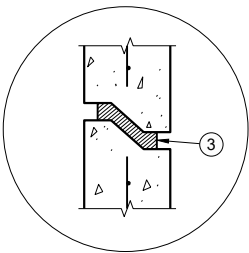


TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "C"

INLETS 3-FT AND 4-FT DIAMETER

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 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 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.

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

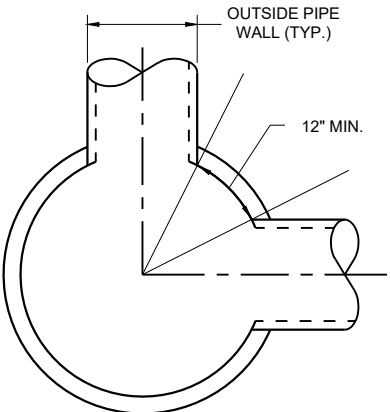
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

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

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 MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT DIAMETER AND 5 INCHES FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ 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.

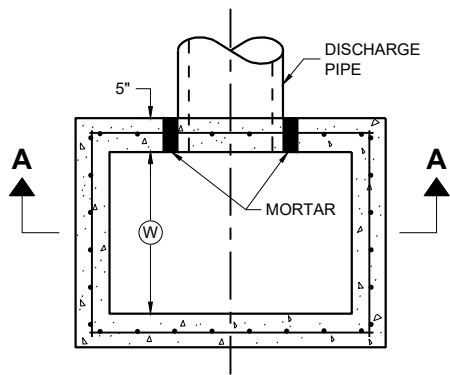


MINIMUM HORIZONTAL PIPE SEPARATION
DETAIL "D"

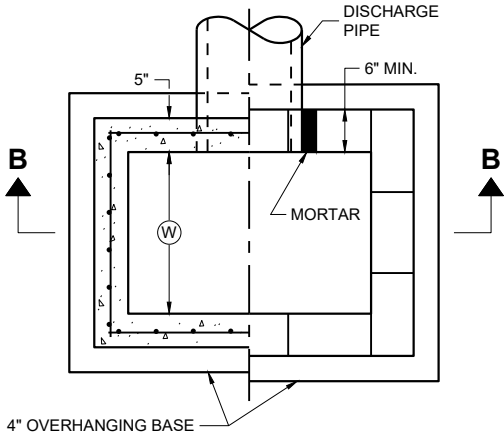
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

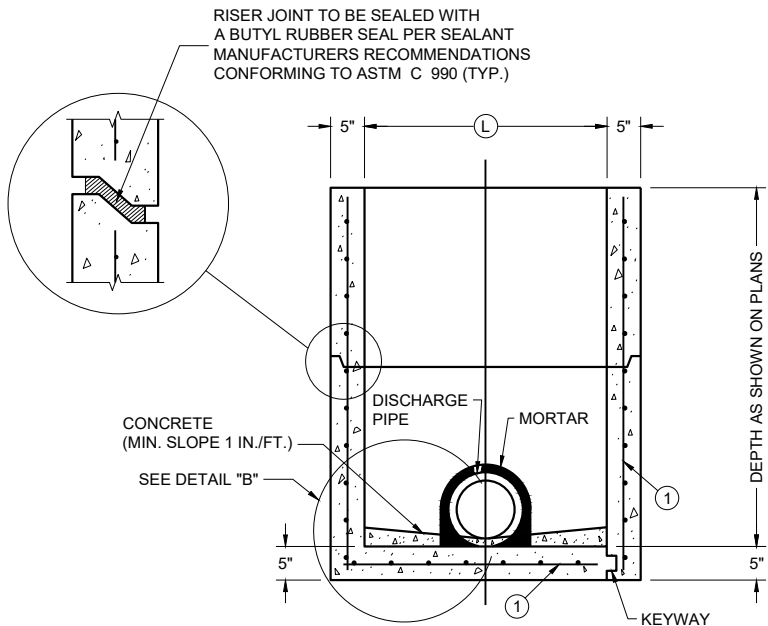
APPROVED
December 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



PLAN VIEW



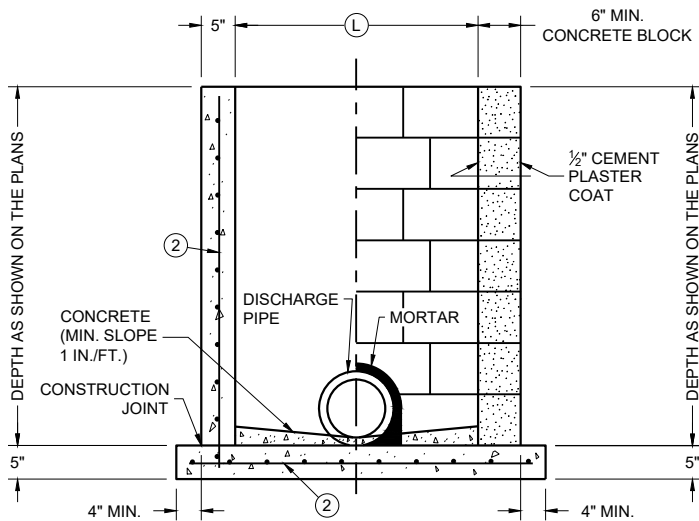
PLAN VIEW



PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE

PRECAST REINFORCED
CONCRETE WITH
INTEGRAL BASE

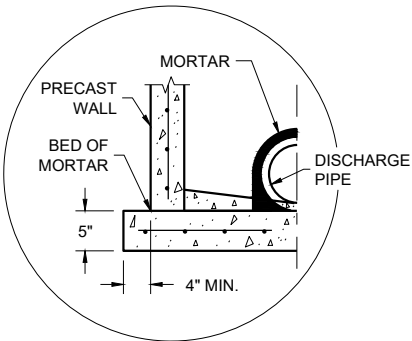
SECTION A - A



CAST IN PLACE
REINFORCED
CONCRETE

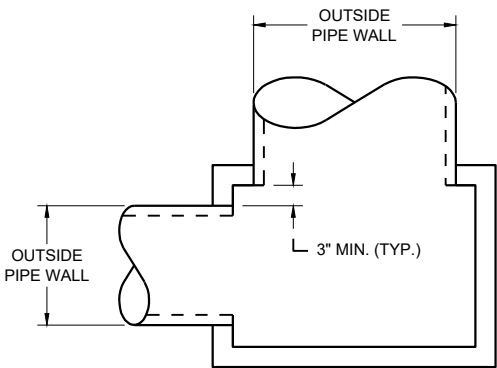
CONCRETE BLOCK WITH
CAST IN PLACE OR
PRECAST REINFORCED
CONCRETE BASE ①

SECTION B - B



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

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 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 (W) (FT.)	LENGTH (L) (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

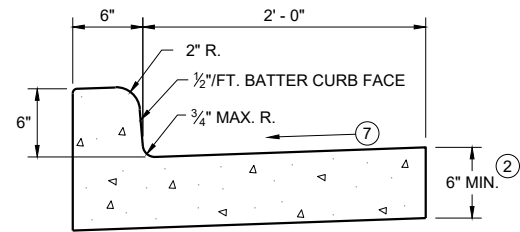
PIPE MATRIX

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

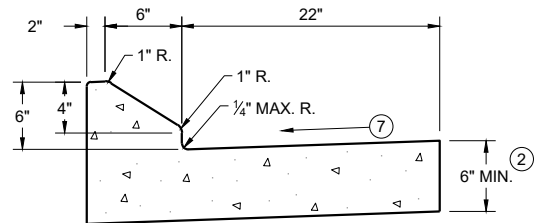
INLETS 2 X 2-FT, 2 X 2.5-FT,
2 X 3-FT, 2.5 X 3-FT
AND 2 X 3.5-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

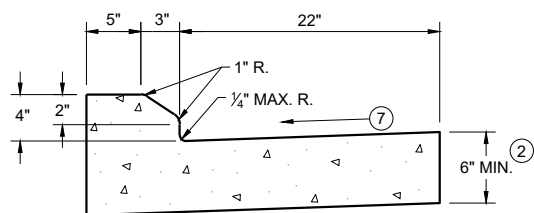
APPROVED
December 2023 /S/ Rodney Taylor
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FHWA UNIT SUPERVISOR



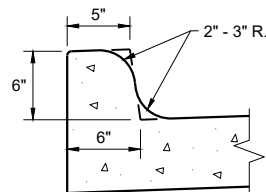
TYPES A^① & D



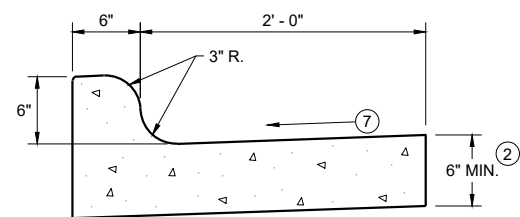
6" SLOPED CURB TYPES G^① & J



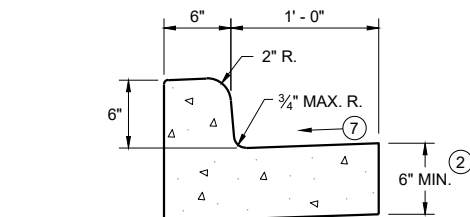
4" SLOPED CURB TYPES G^① & J



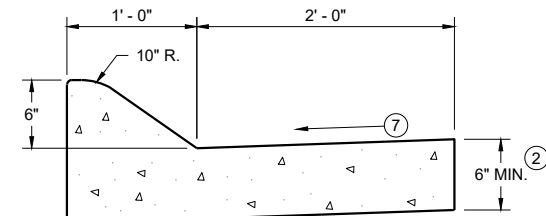
TYPES K^① & L
(OPTIONAL CURB SHAPE)



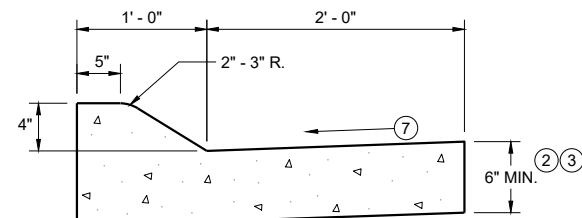
TYPES K^① & L
CONCRETE CURB AND GUTTER 30"



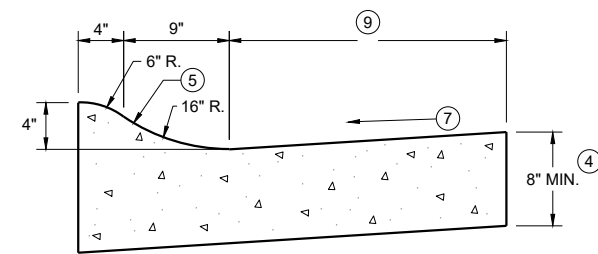
TYPES A^① & D
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A^① & D

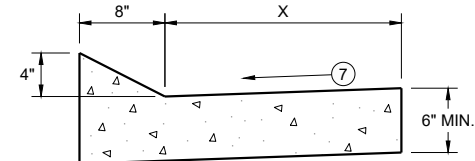


4" SLOPED CURB TYPES A^① & D
CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R^① & T

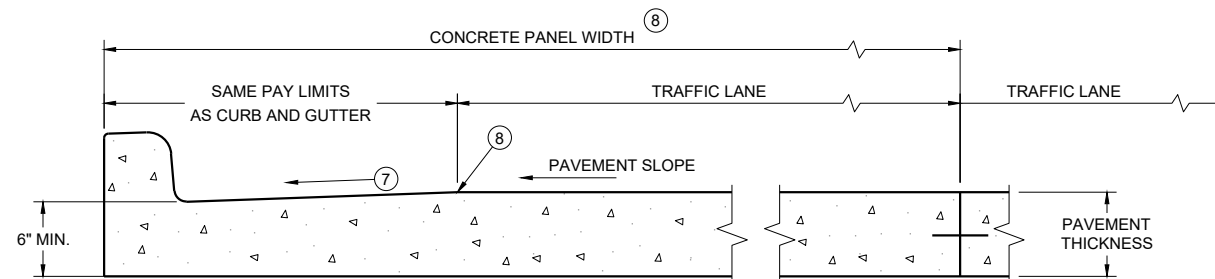
TBT & TBTT	X
30"	22"
36"	28"



TYPES TBT & TBTT^①
CONCRETE CURB AND GUTTER

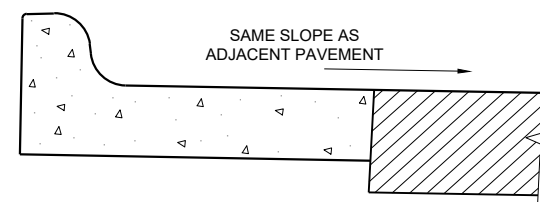
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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)

GENERAL NOTES

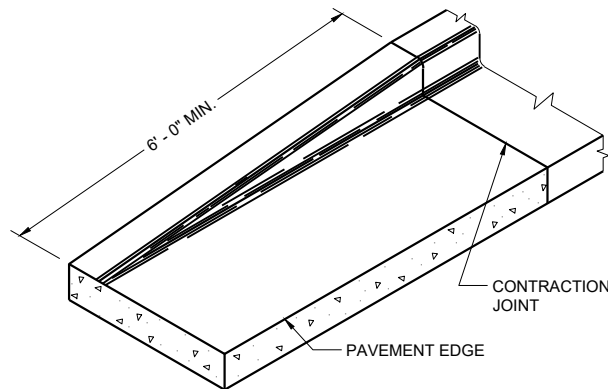
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

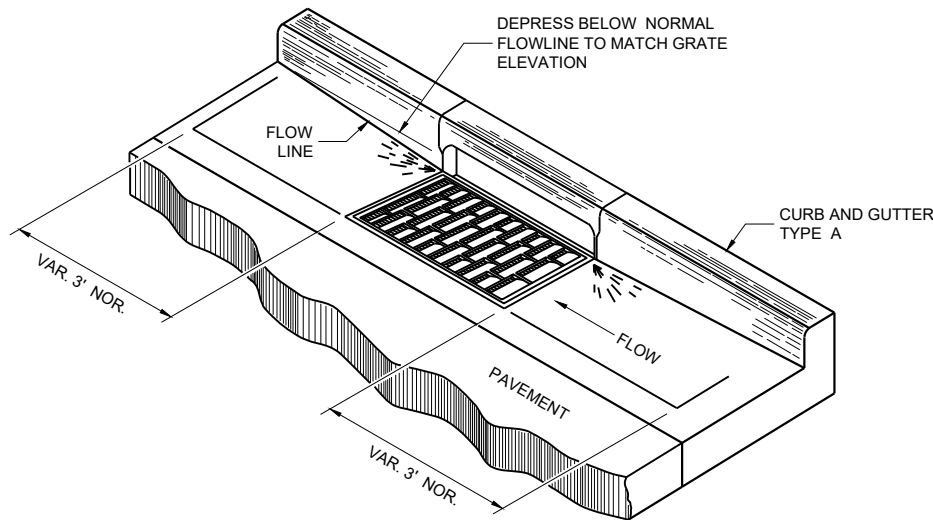
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

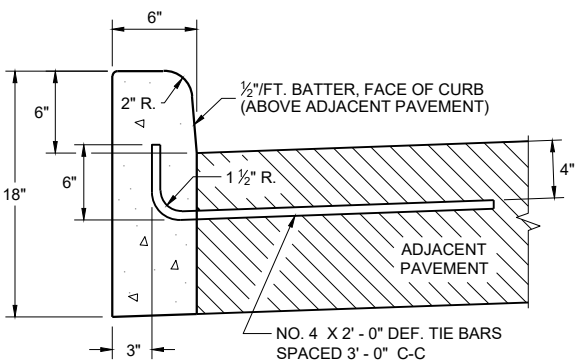


END SECTION CURB AND GUTTER

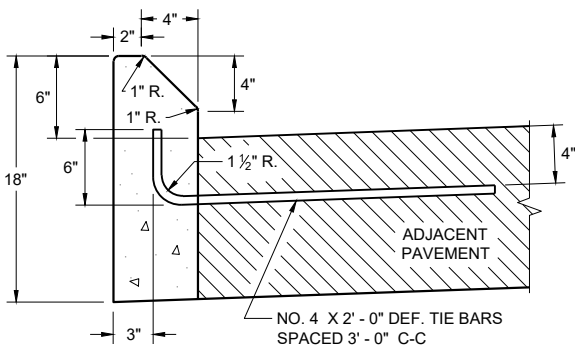


DETAIL OF CURB AND GUTTER AT INLETS

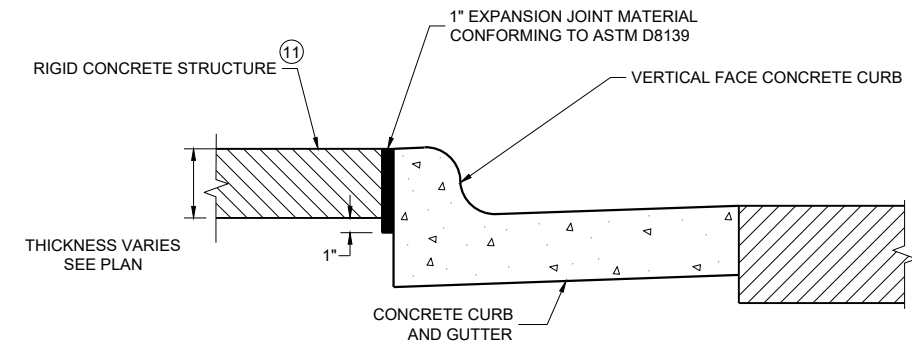
(TYPICAL H INLET COVER SHOWN)



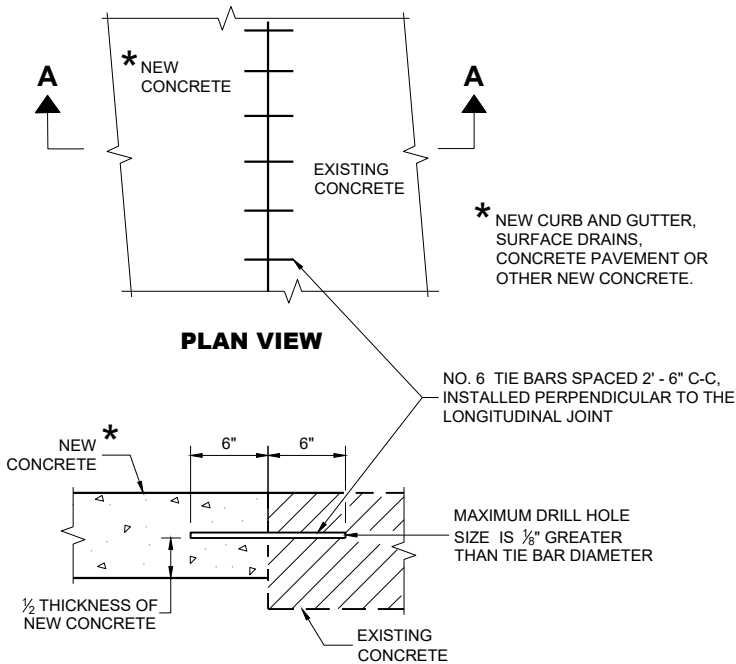
TYPES A ^① & D



TYPES G ^① & J
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE ^⑪



SECTION A - A
TIE BARS DRILLED INTO EXISTING PAVEMENT

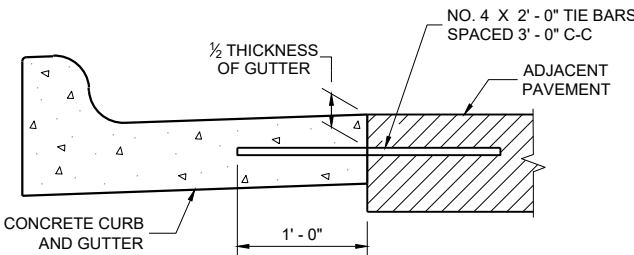
GENERAL NOTES

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

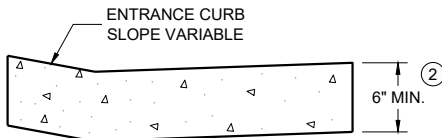
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

- ^① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ^② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ^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



DRIVEWAY ENTRANCE CURB ^⑩
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES
AND CURB AND GUTTER
APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

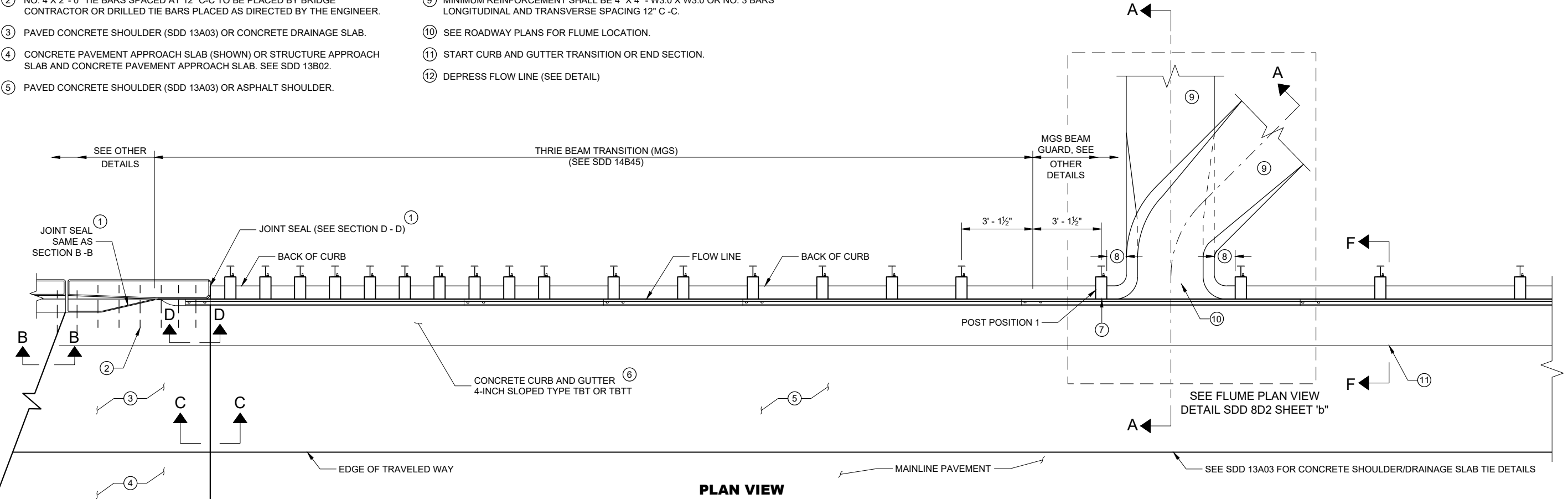
GENERAL NOTES

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.

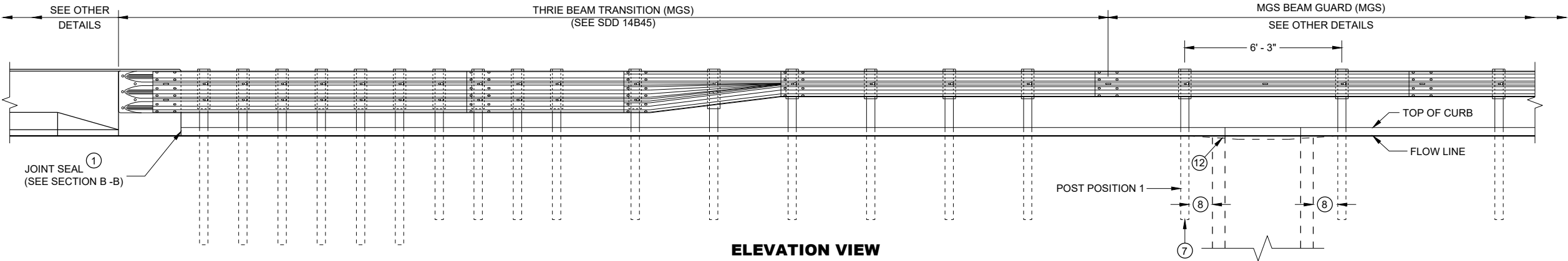
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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)



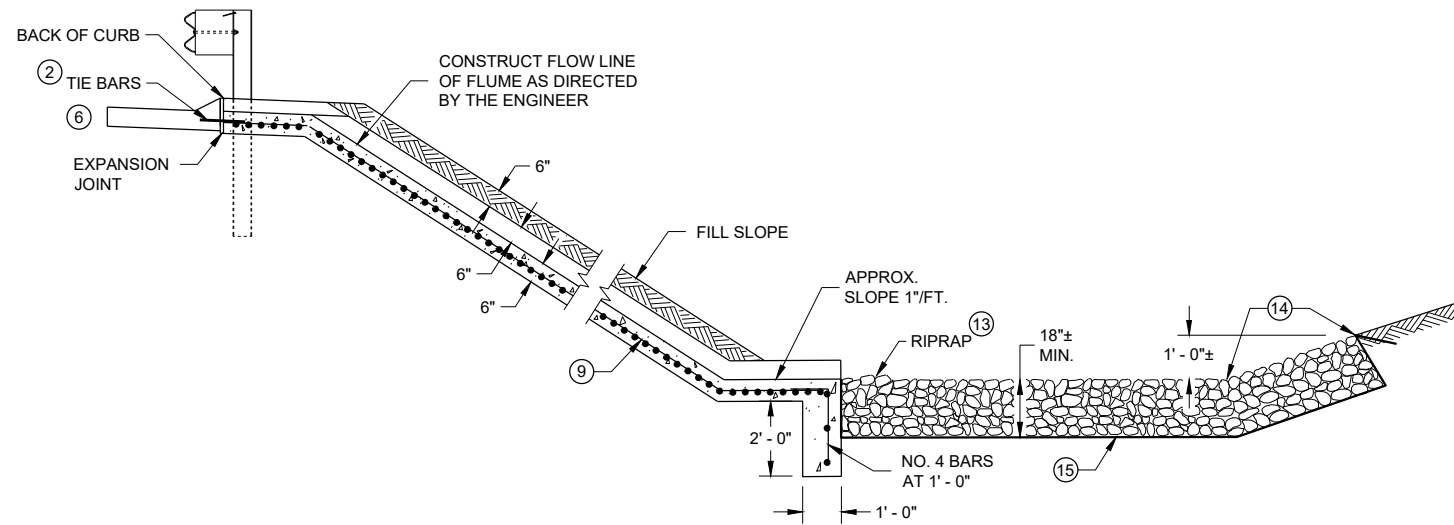
PLAN VIEW



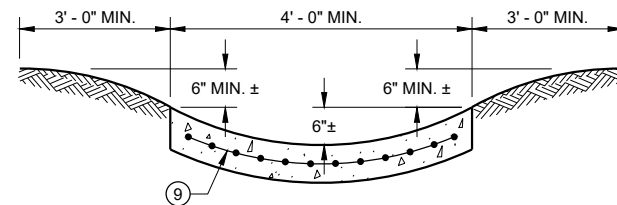
ELEVATION VIEW

CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES

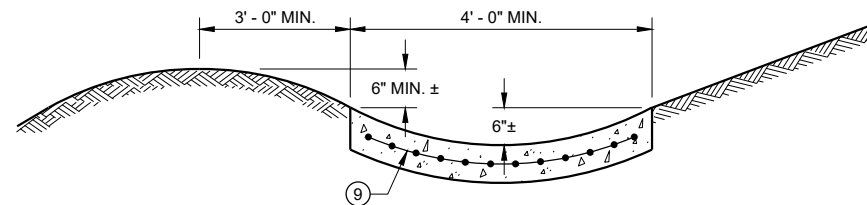
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



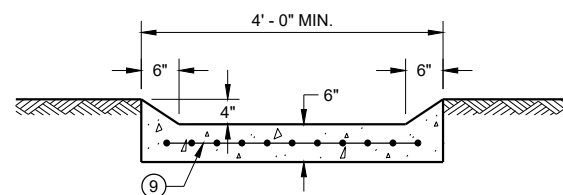
SECTION A - A



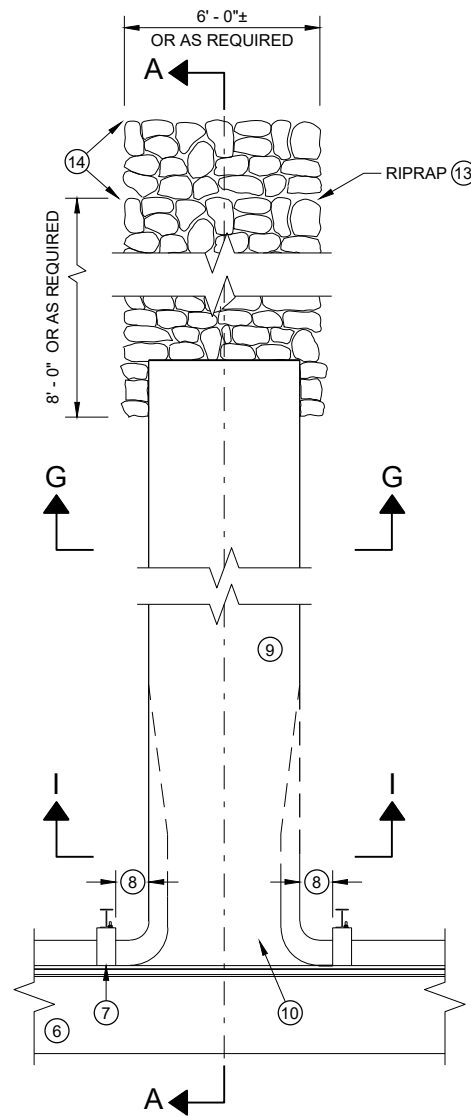
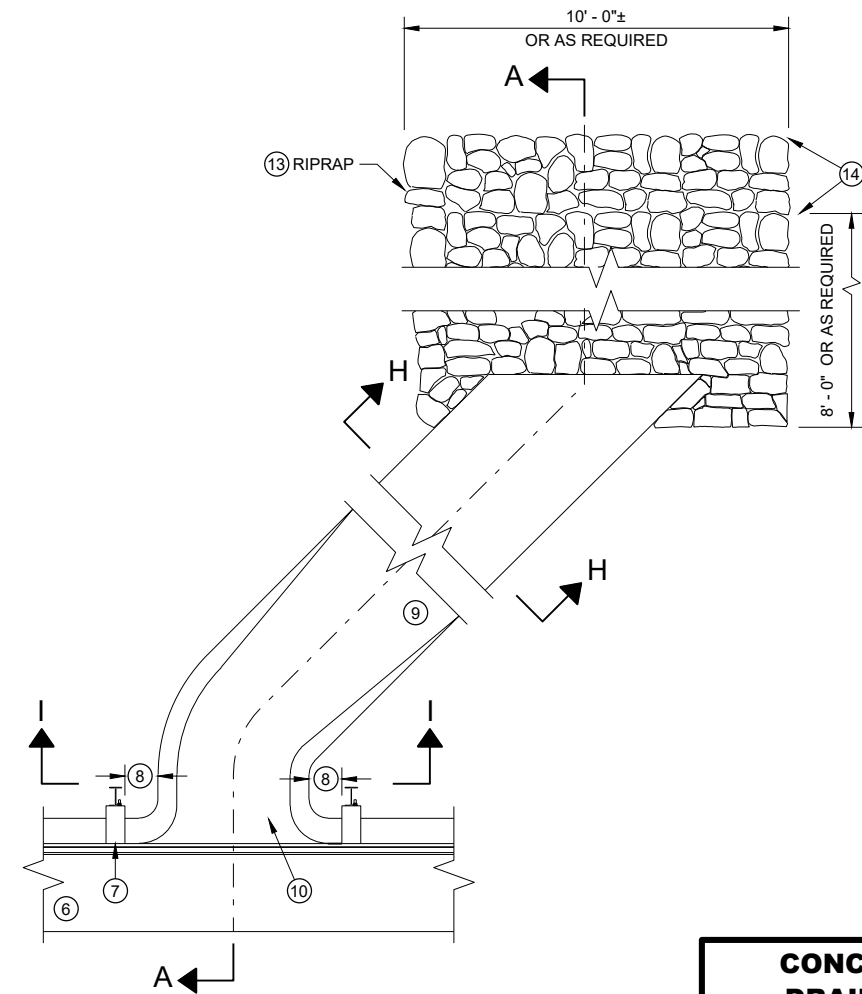
SECTION G - G



SECTION H - H



SECTION I - I

PLAN VIEW
PERPENDICULAR FLUMEPLAN VIEW
SKEWED FLUME

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.

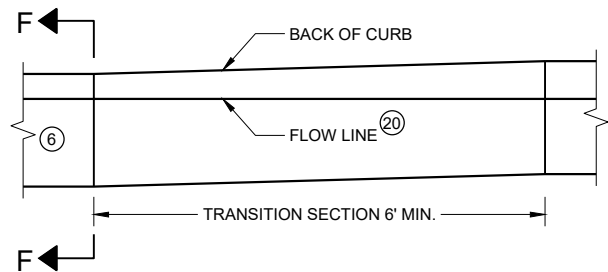
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

- 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 TBT. USE TYPE TBT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

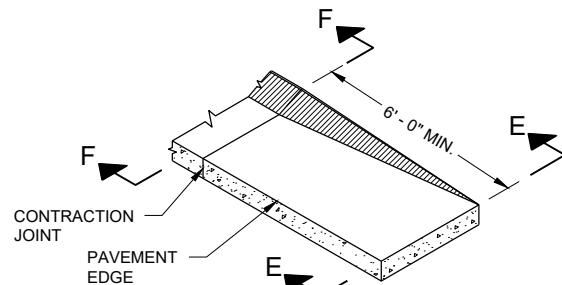
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.
- ⑩ SEE ROADWAY 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.

**CONCRETE SURFACE
DRAINS FLUME TYPE
AT STRUCTURES**

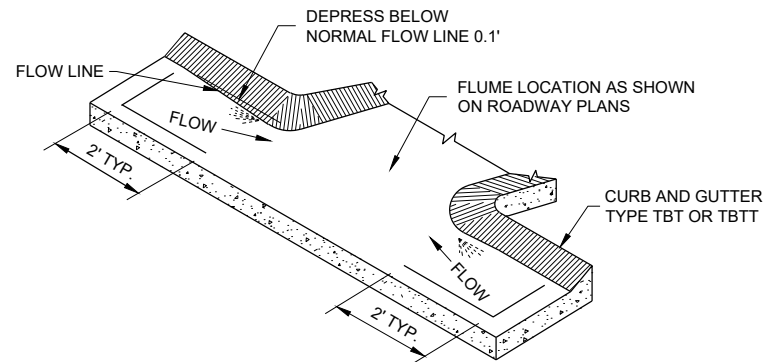
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 247



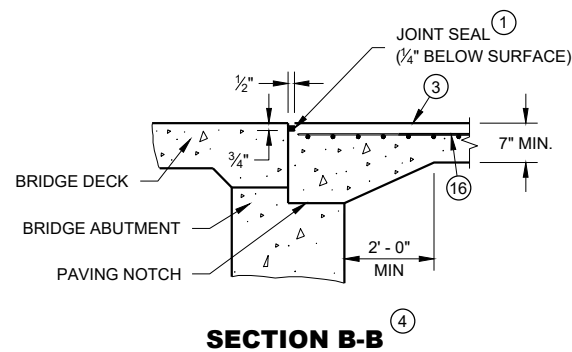
**CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



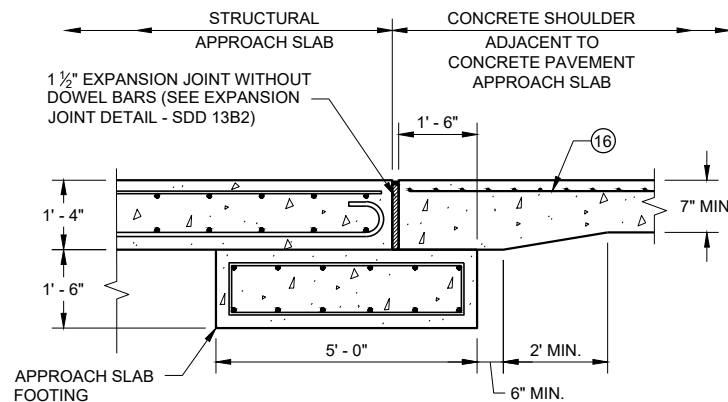
**CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT**



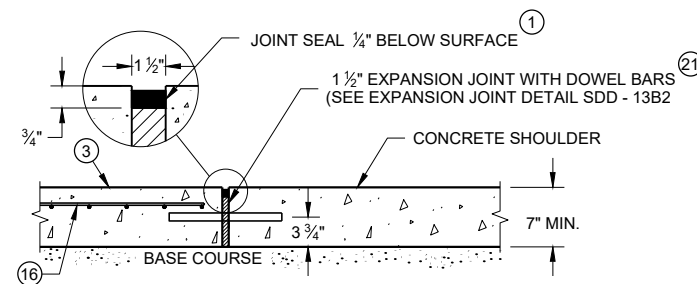
**CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**



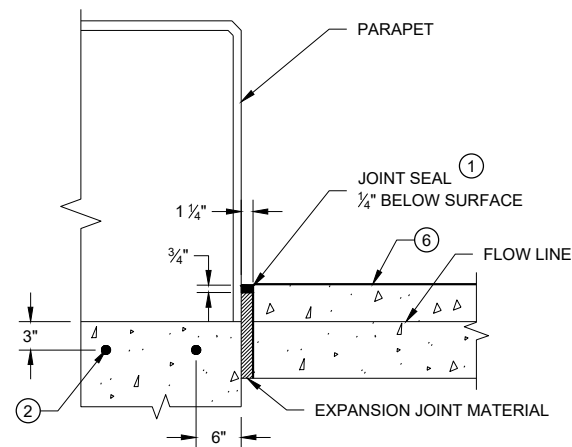
SECTION B-B



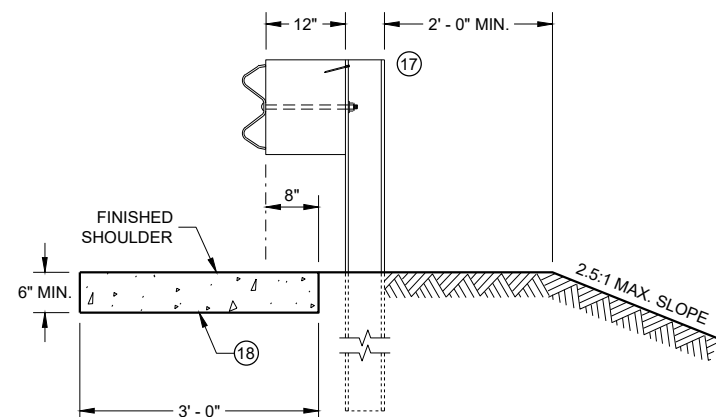
**SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL
APPROACH SLAB AND CONCRETE APPROACH SLAB**



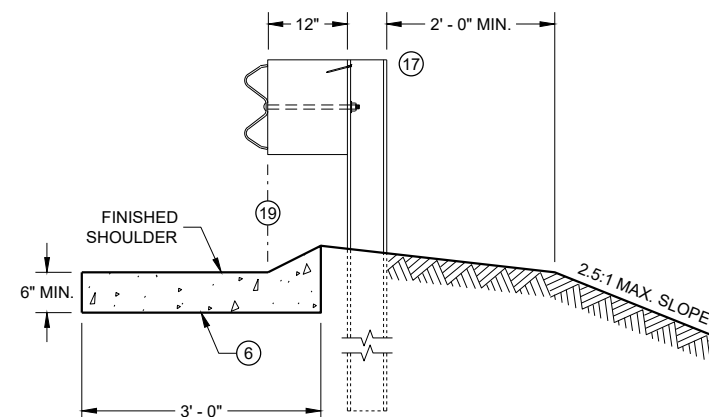
**SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH
WITH CONCRETE SHOULDERS**



SECTION D - D



SECTION E - E



SECTION F - F

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.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

May 2023

DATE

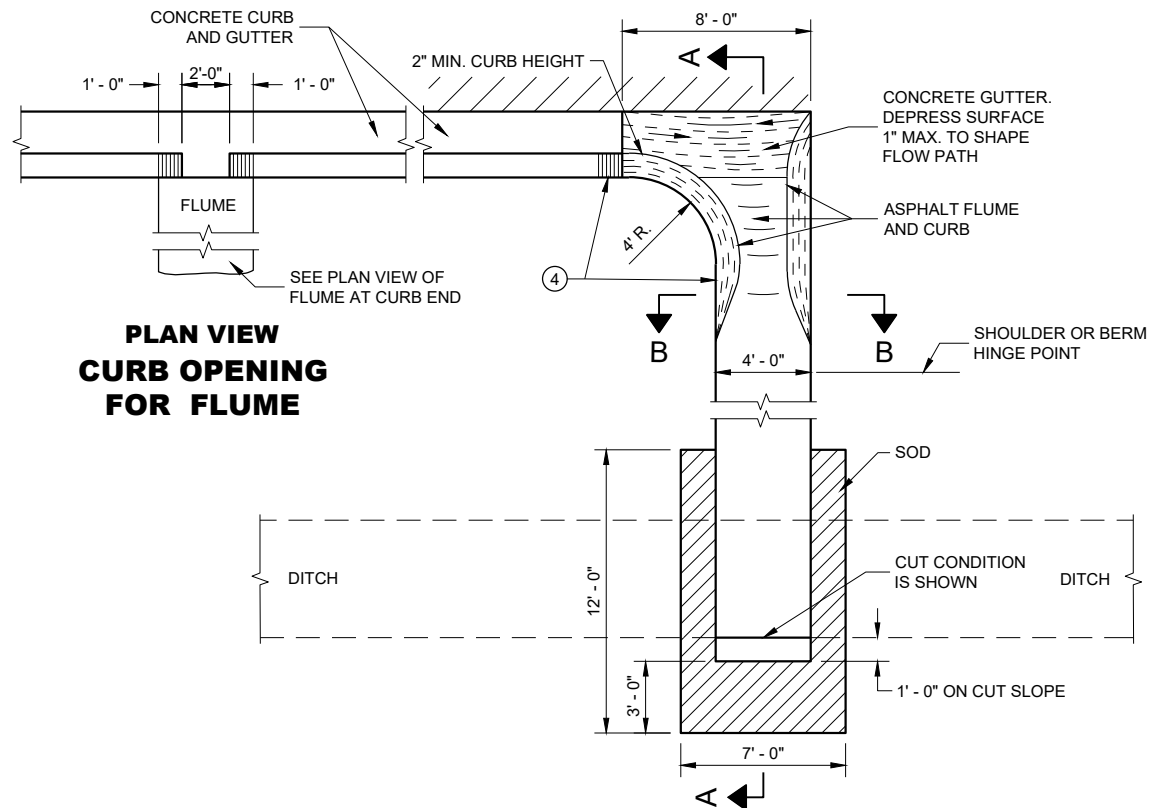
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

248

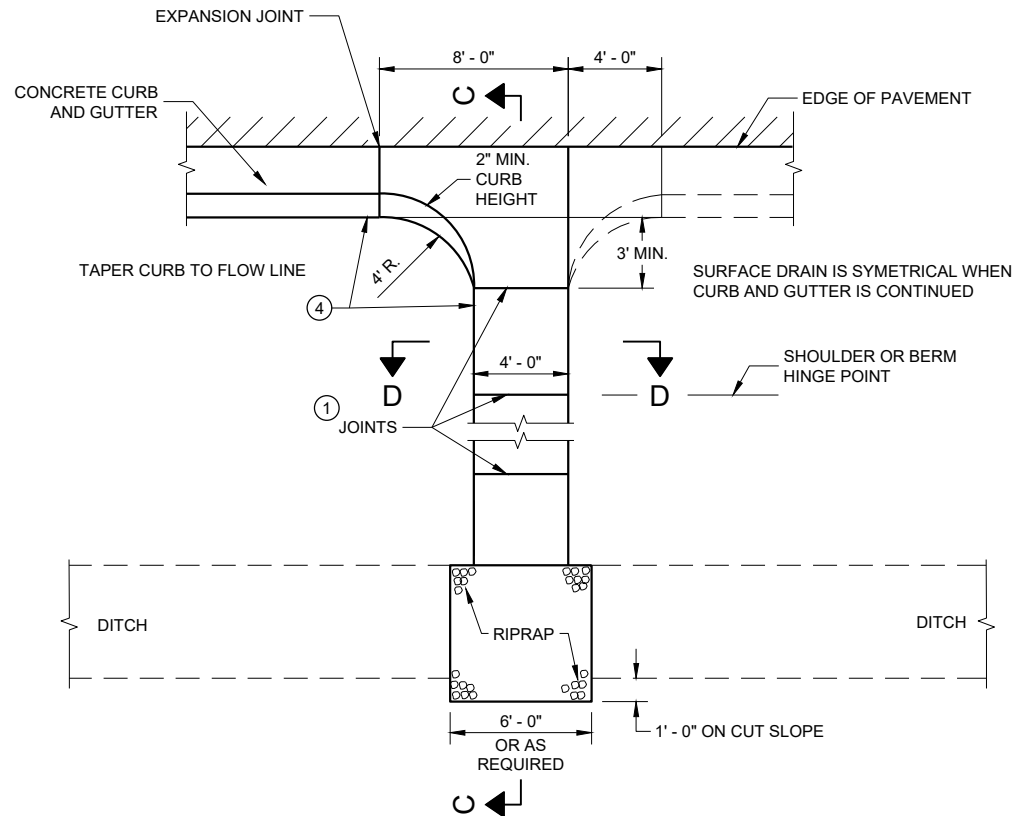
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW
CURB OPENING
FOR FLUME

PLAN VIEW
FLUME AT CURB END



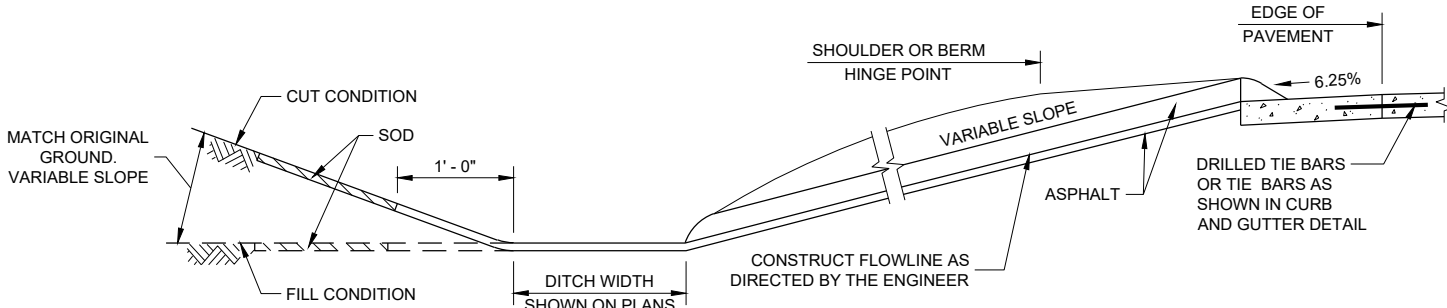
PLAN VIEW
CONCRETE SURFACE DRAIN

GENERAL NOTES

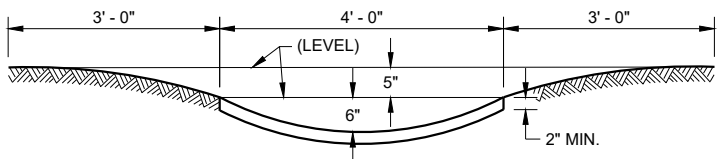
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

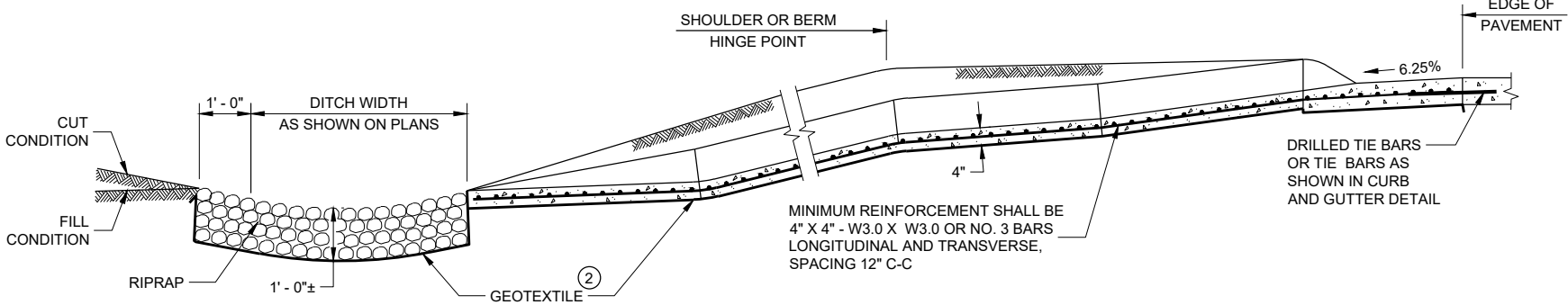
- JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- 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.



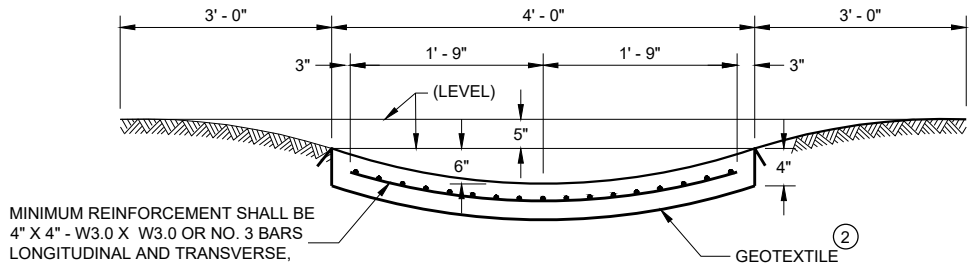
SECTION A - A



SECTION B - B



SECTION C - C



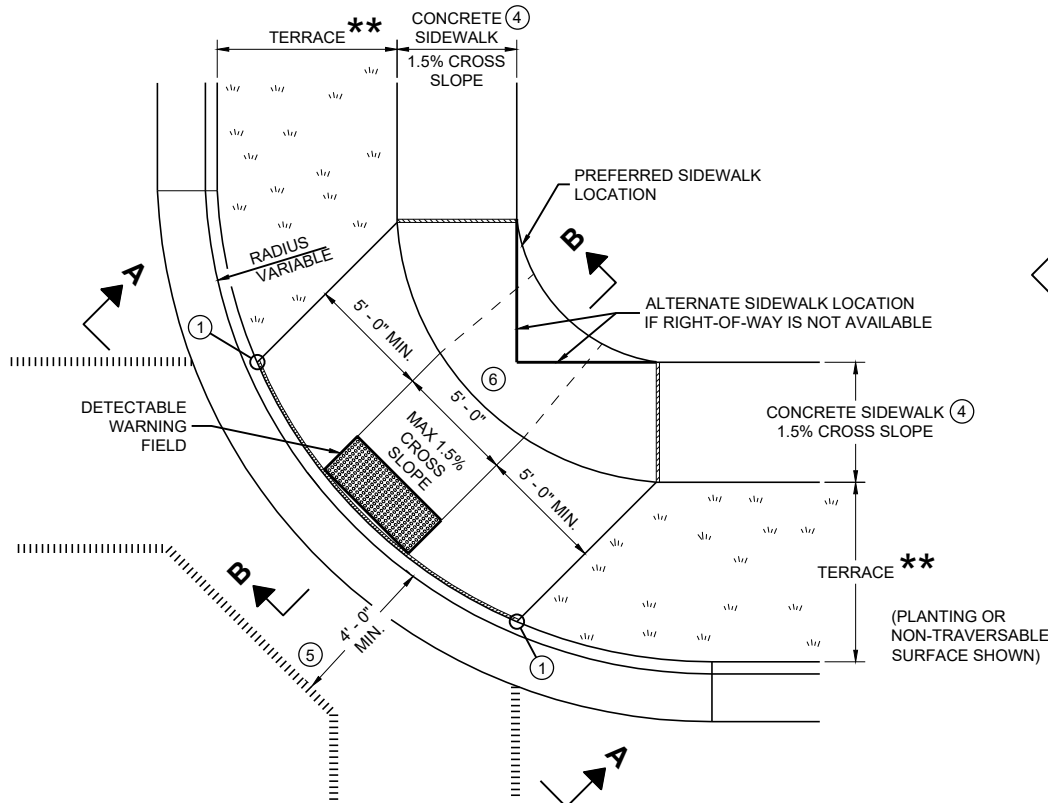
SECTION D - D

CONCRETE SURFACE
DRAINS AND
ASPHALTIC FLUMES

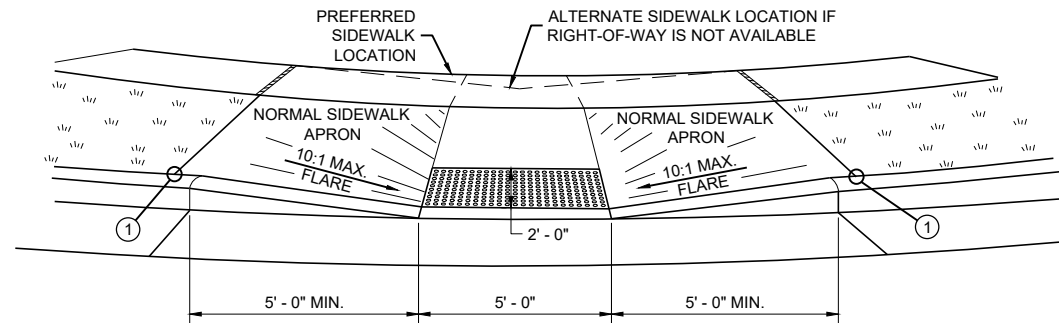
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER
249

FHWA

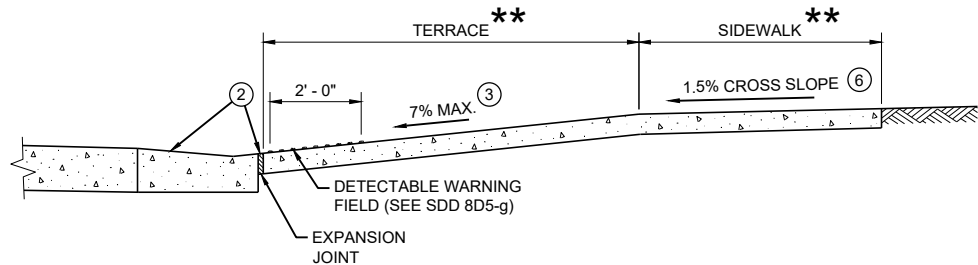


PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)

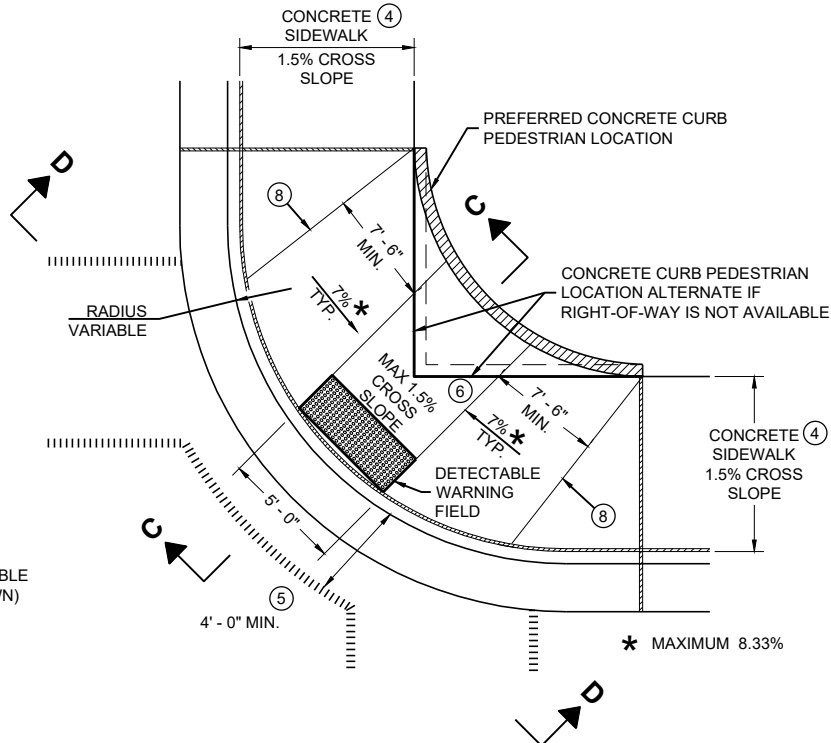


VIEW A - A FOR TYPE 1

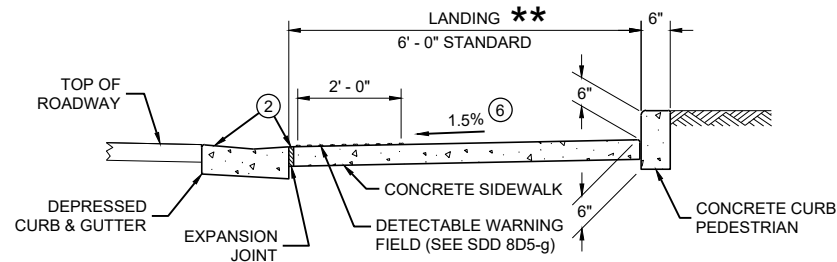
** WIDTH SHOWN ELSEWHERE
IN THE PLANS



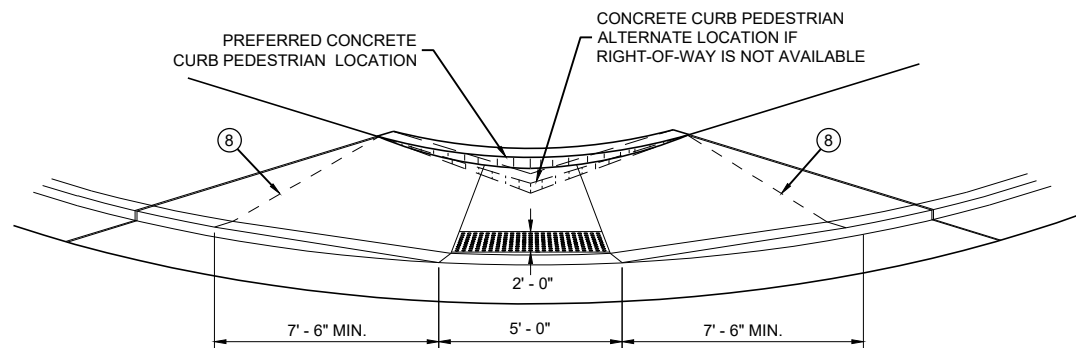
SECTION B - B FOR TYPE 1



PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)



SECTION C - C FOR TYPE 1 - A



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 FIELD 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.

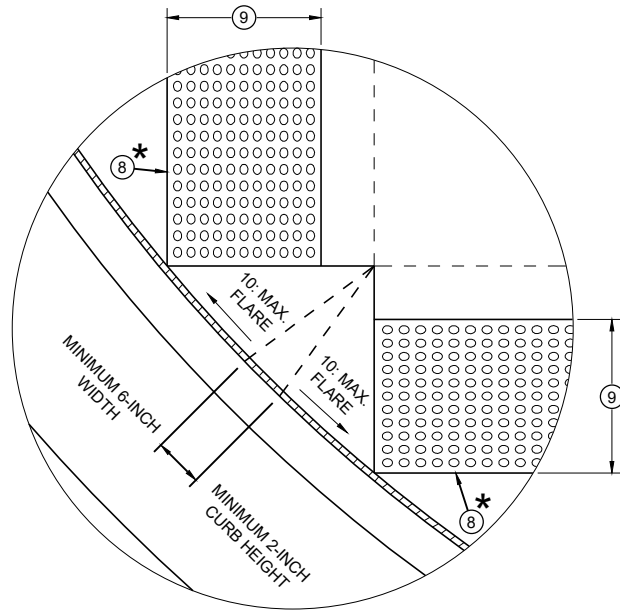
- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - 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

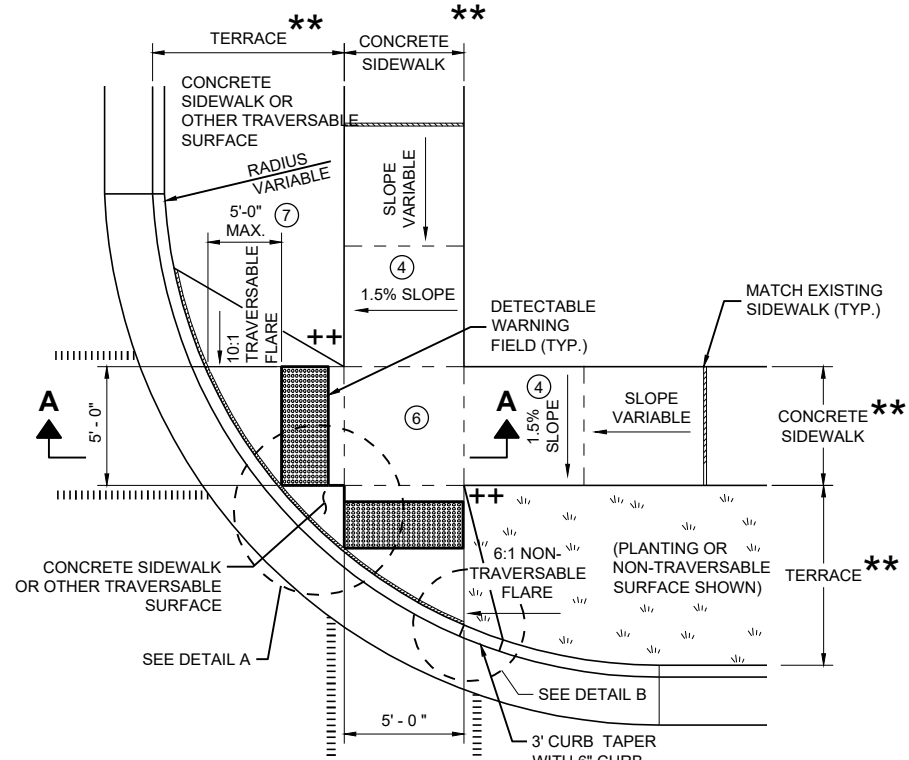
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 1 AND 1-A

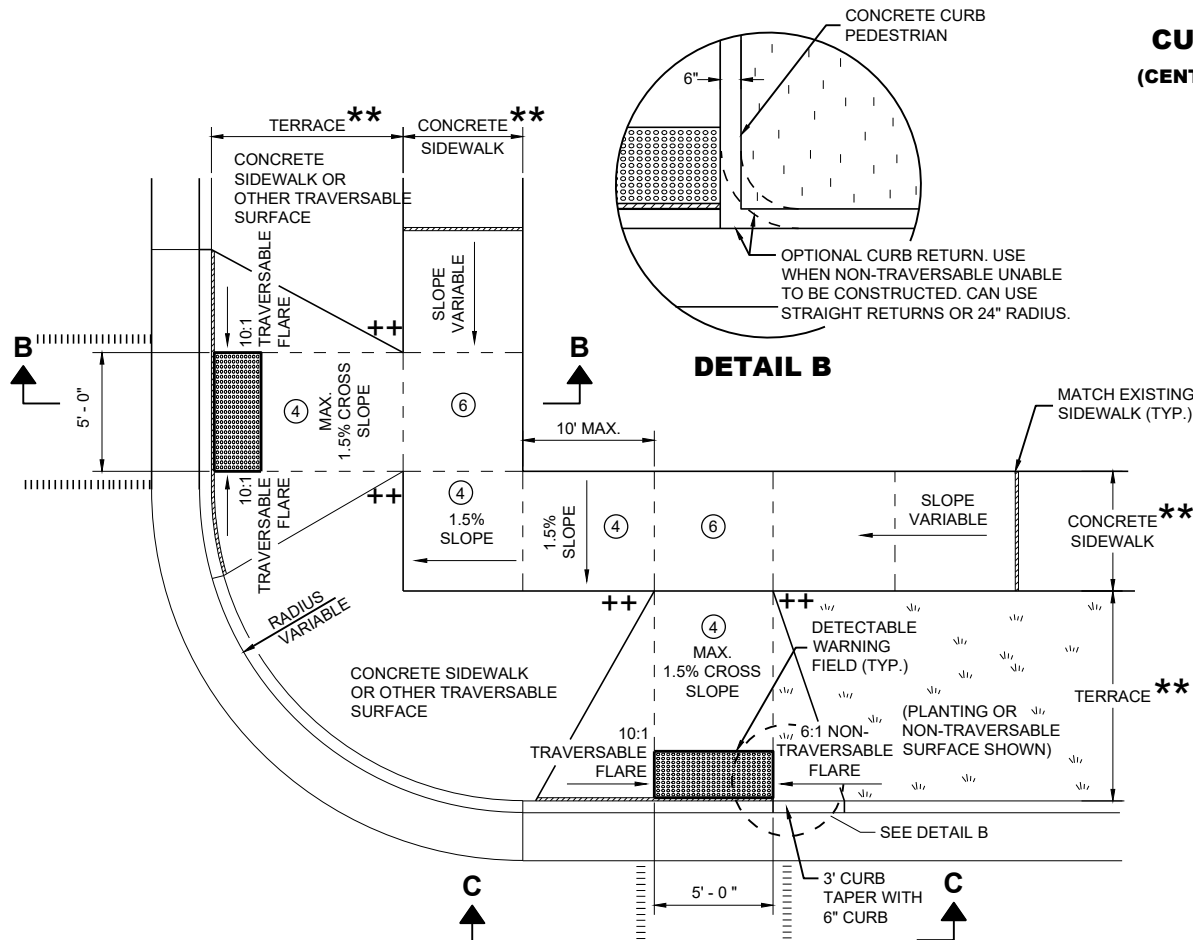
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
250



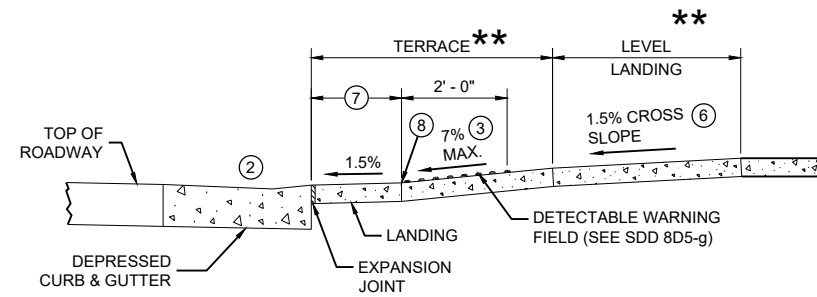
DETAIL A



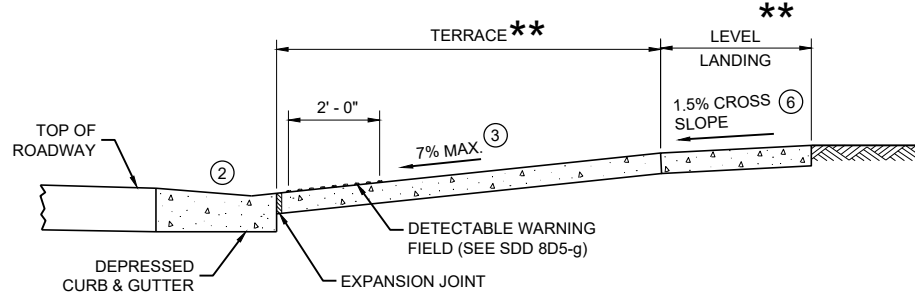
PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)



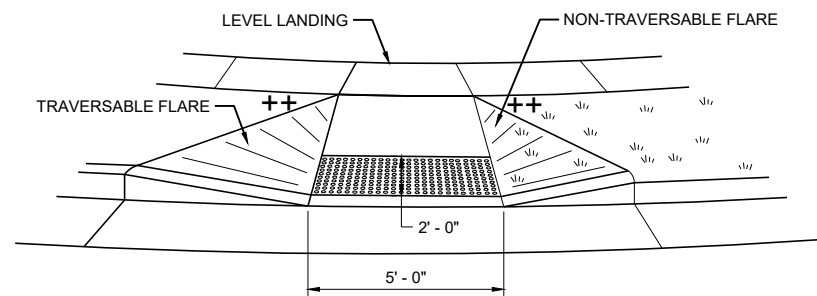
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

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.
- 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 1/4 - 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.
 - AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
 - ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 - PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
 - WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
 - PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
 - 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.

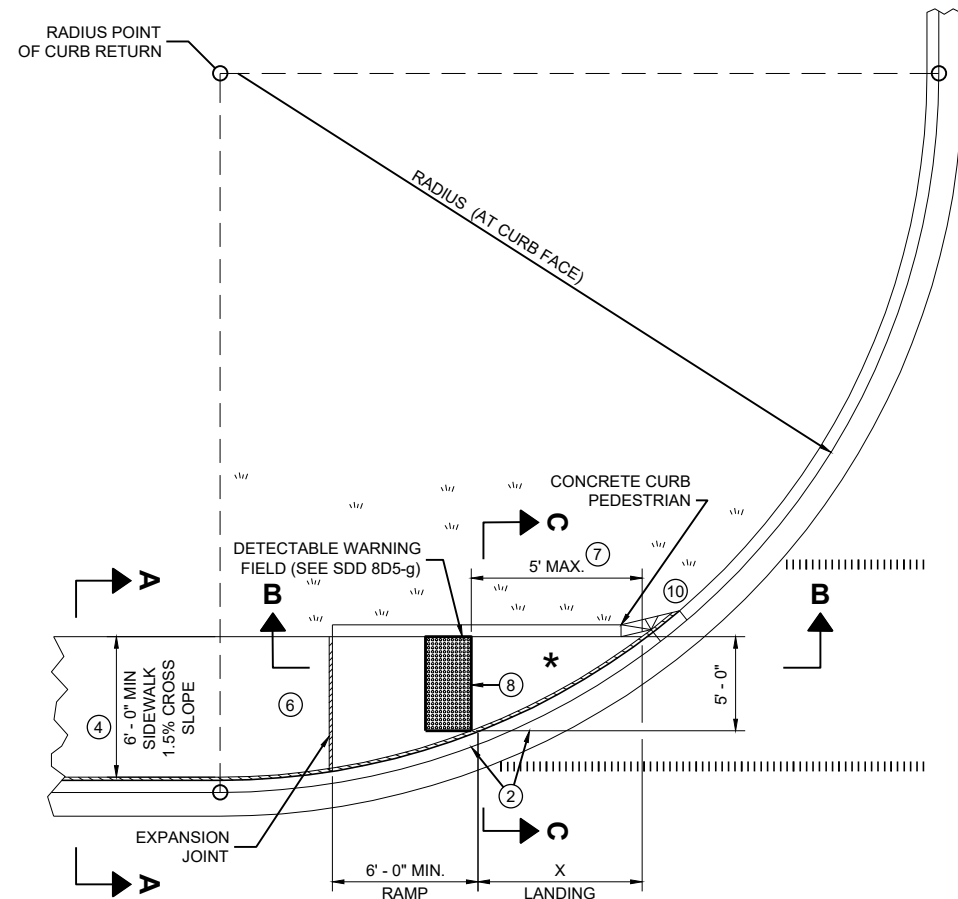
- ★ MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- ★★ WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

LEGEND

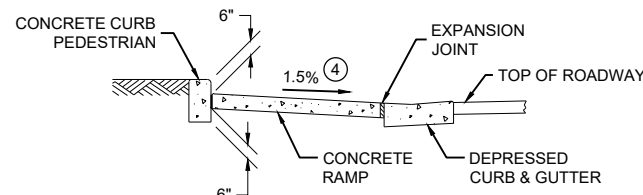
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPE 2 AND 3

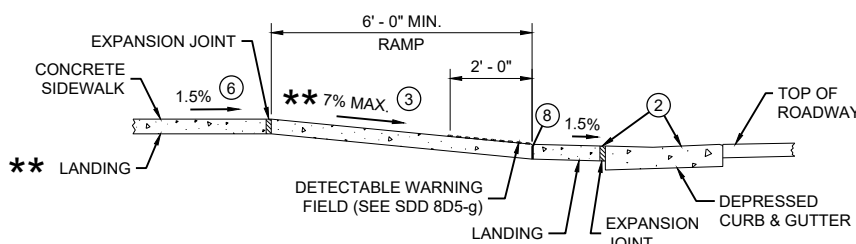
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PLAN VIEW
CURB RAMP TYPE 4A



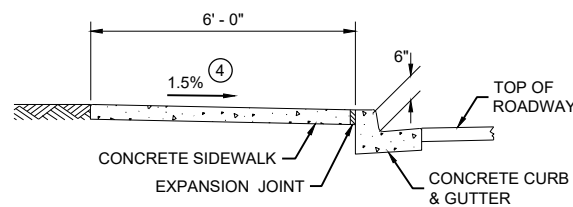
SECTION C - C FOR TYPE 4A



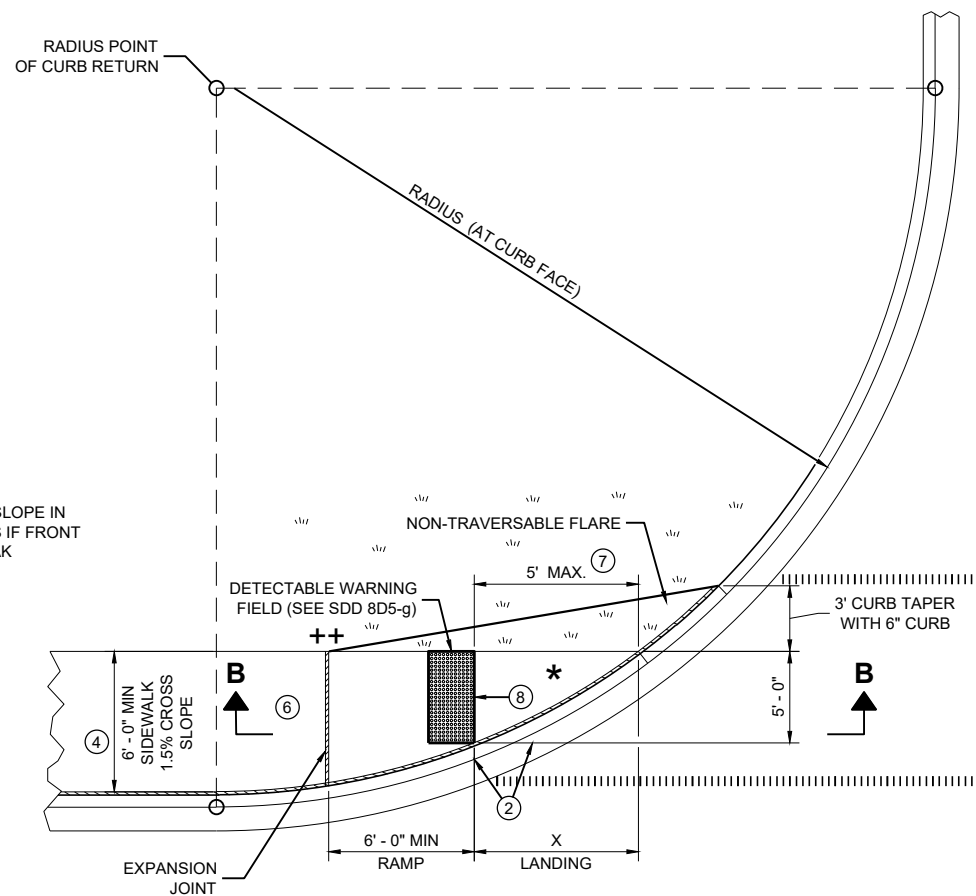
SECTION B - B FOR
TYPE 4A AND TYPE 4A1

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

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A



PLAN VIEW
CURB RAMP TYPE 4A1

GENERAL NOTES

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

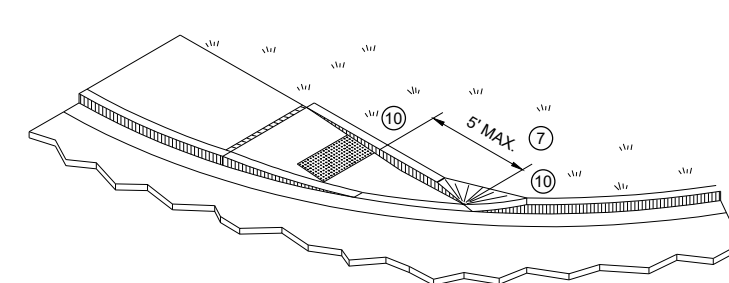
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

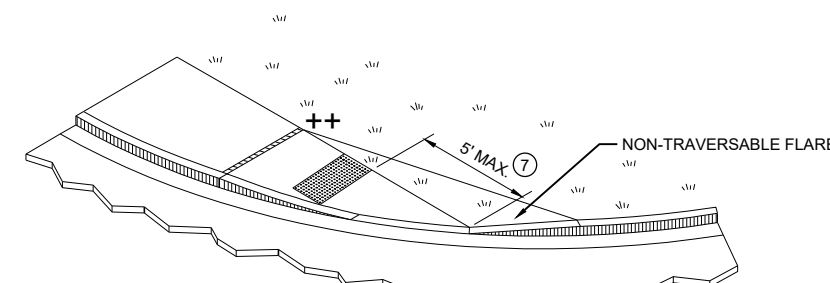
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE 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.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



ISOMETRIC VIEW FOR TYPE 4A

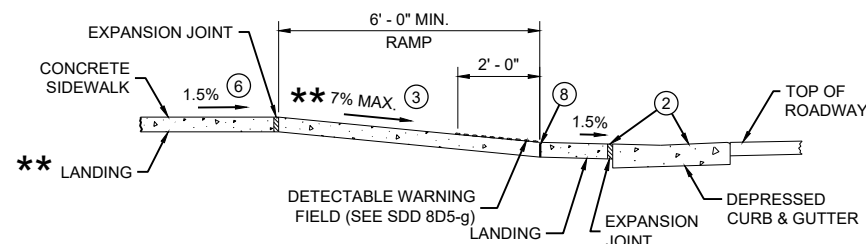
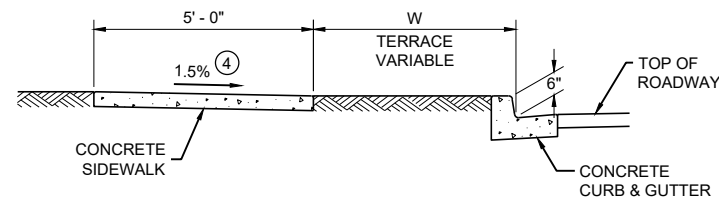
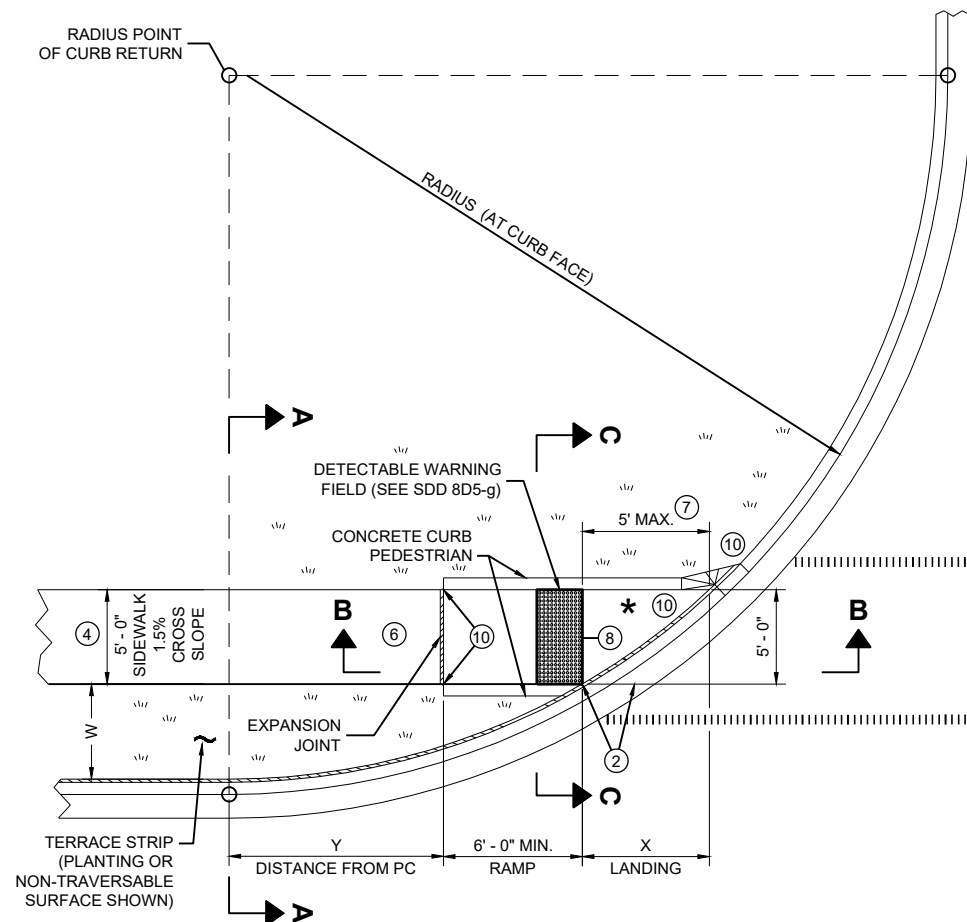


ISOMETRIC VIEW FOR TYPE 4A1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

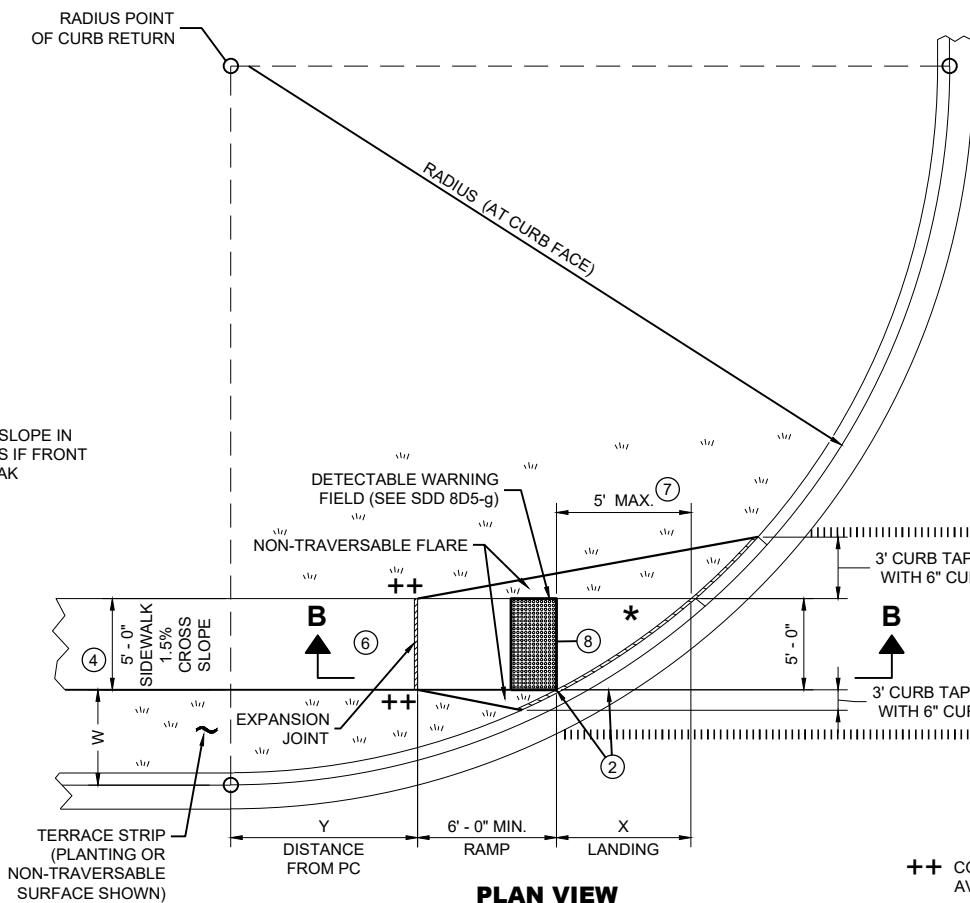
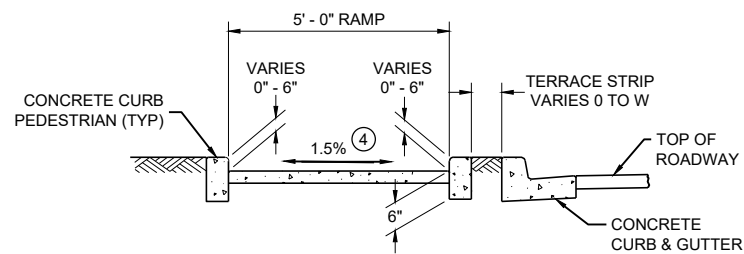


** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

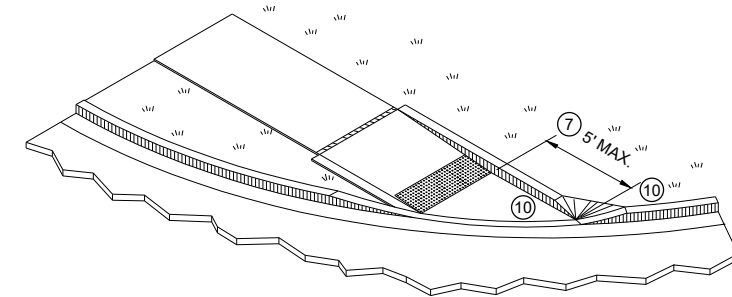
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

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 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET			4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET									4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET															4' - 10 3/4"	19' - 8 1/4"

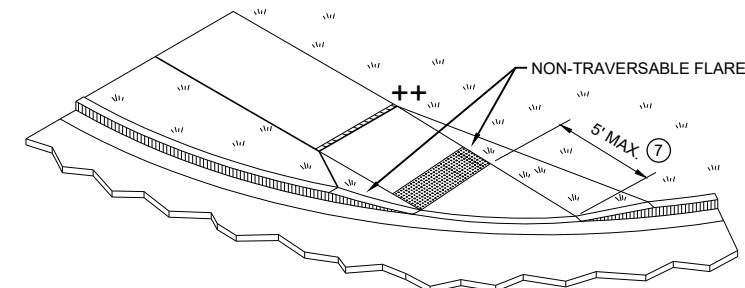
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



++ 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

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)

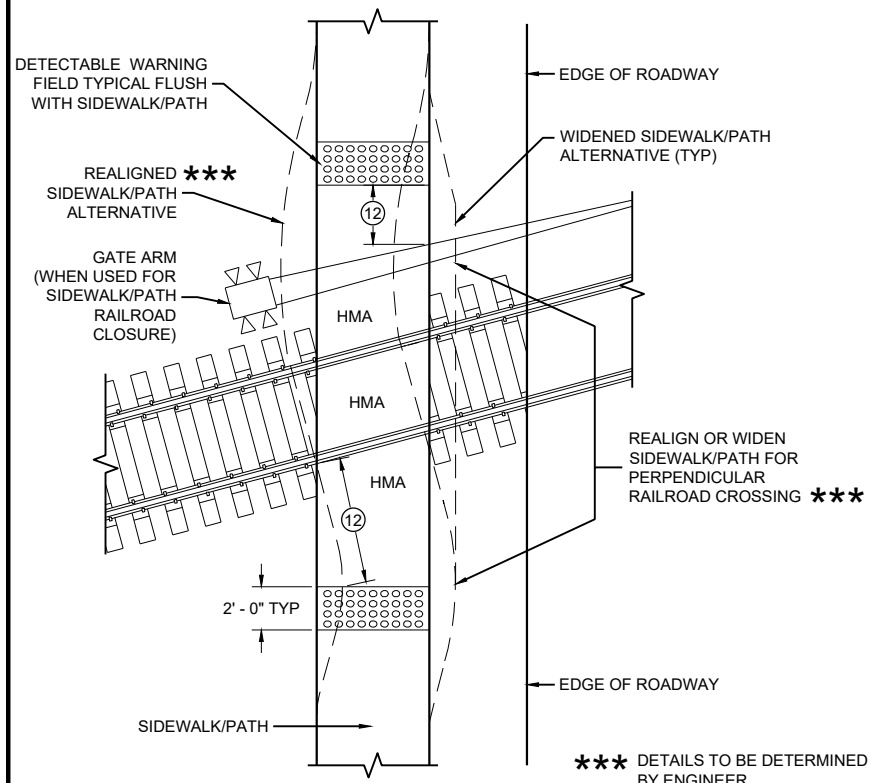
GENERAL NOTES

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.

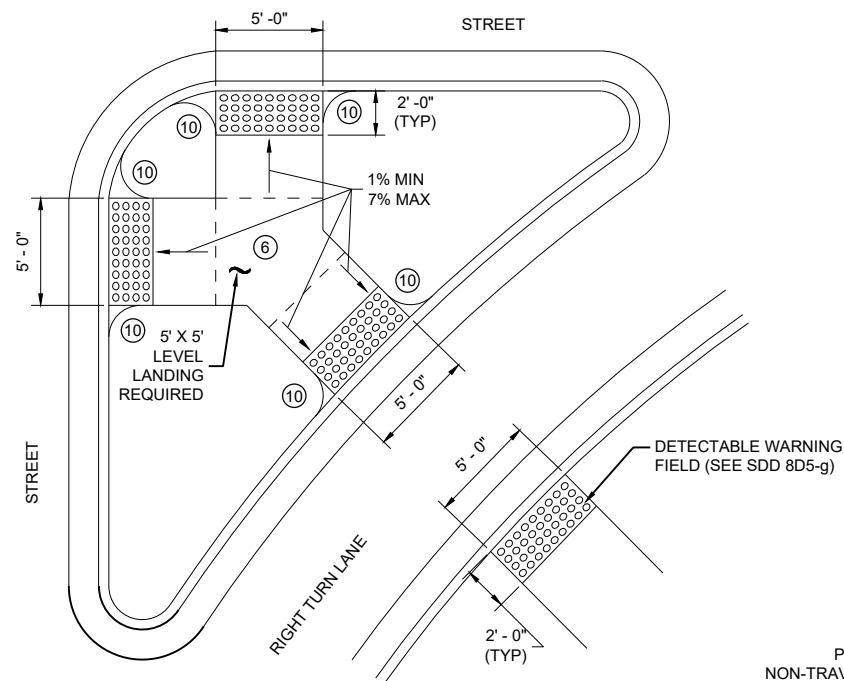
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- (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 1/4" 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.



CURB RAMP TYPE 8

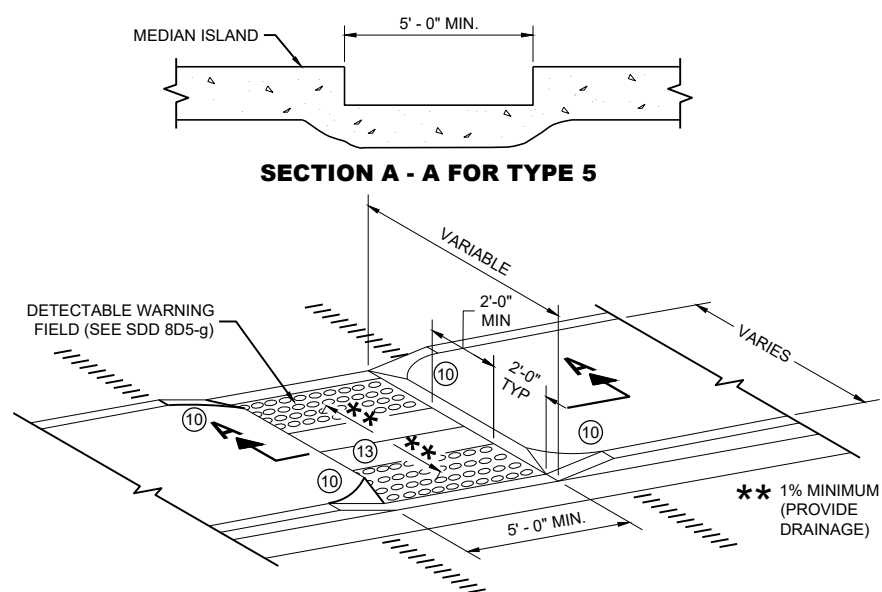
DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

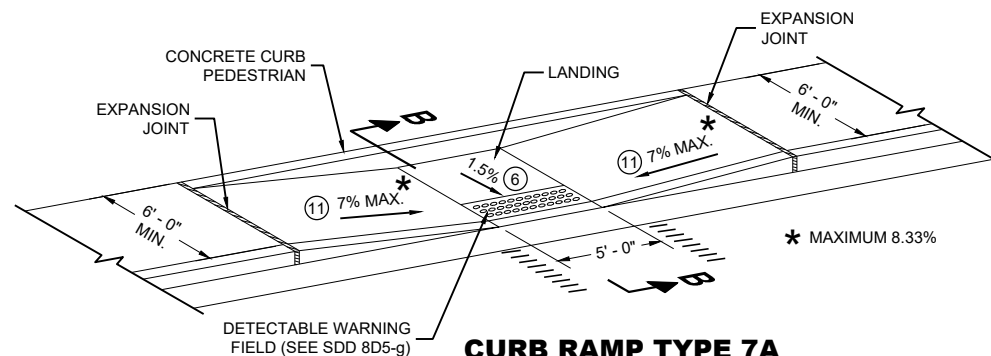
REFER TO GENERAL NOTES (2) AND (3)
FOR ALL ISLAND CURB RAMPS



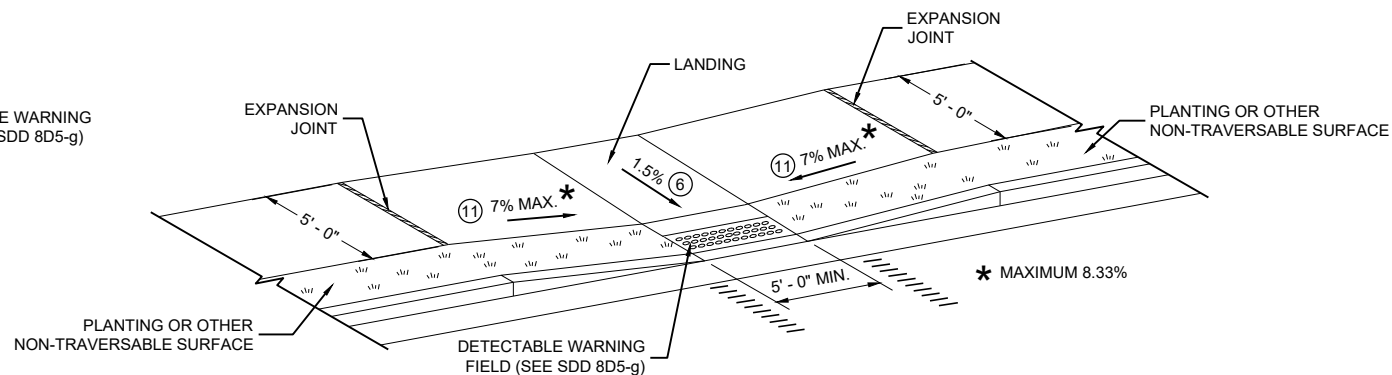
SECTION A - A FOR TYPE 5

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.

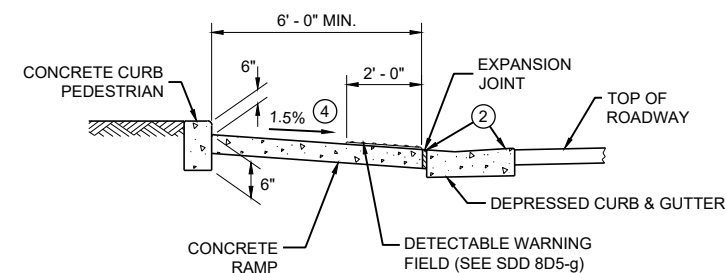
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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 1/8 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) $\pm 0.5\%$ 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 $\pm 0.1'$ 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 STREET-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

- ===== 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)

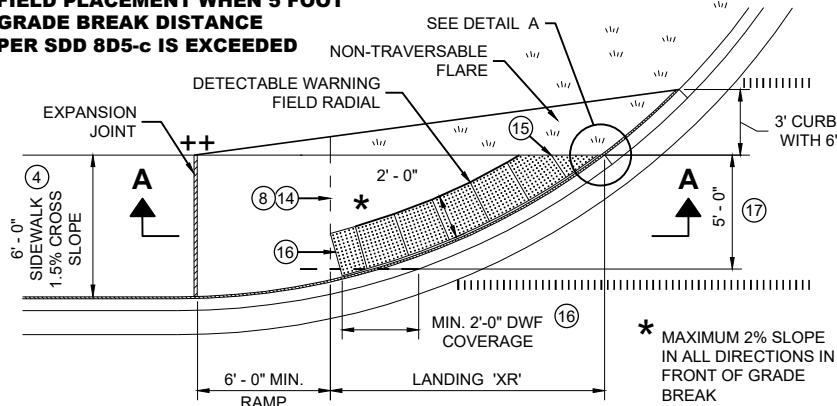


SECTION B - B FOR TYPE 7A

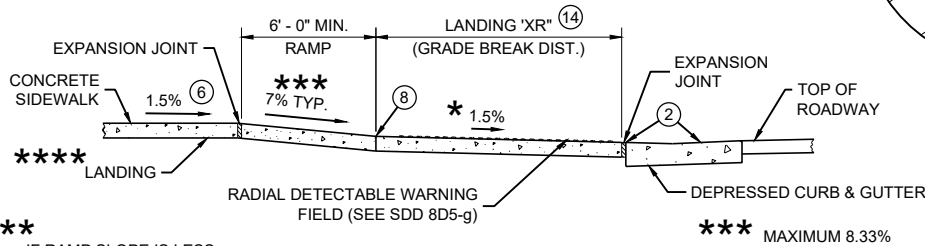
CURB RAMPS TYPE 5, 6, 7A, 7B & 8

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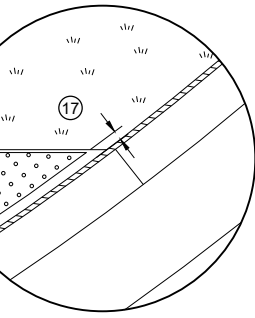
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-c IS EXCEEDED**



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

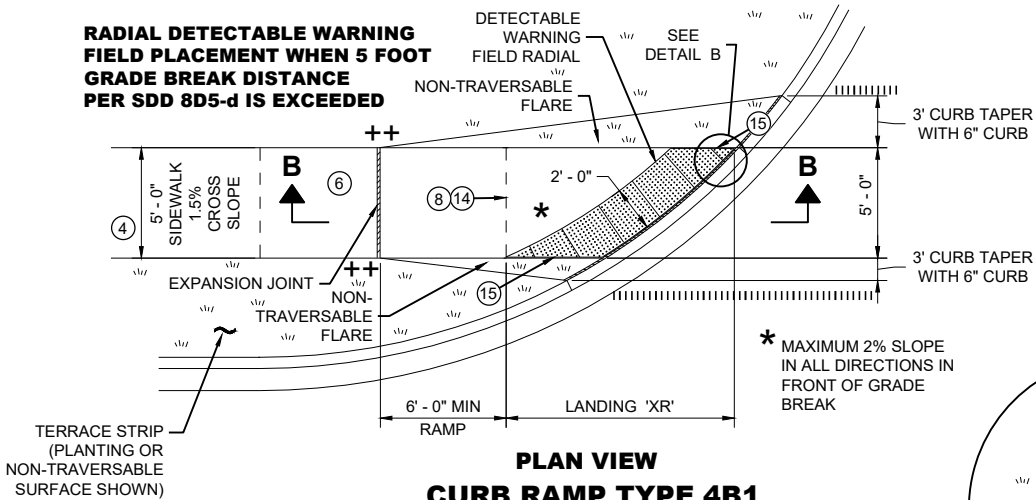


SECTION A - A FOR TYPE 4A1

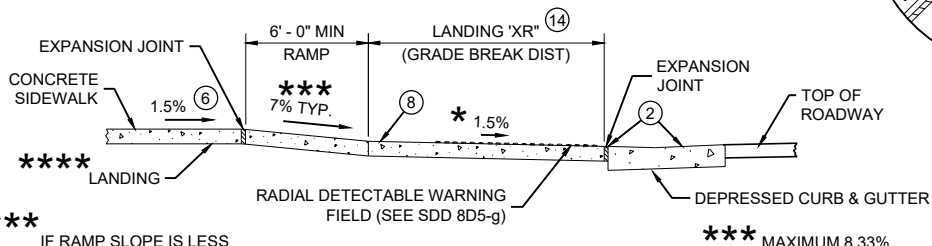


DETAIL A

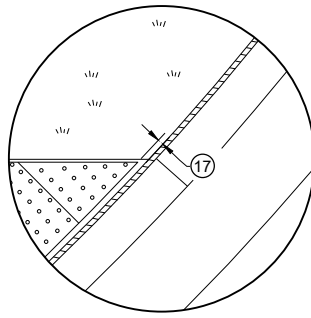
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-d IS EXCEEDED**



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



SECTION B - B FOR TYPE 4B1



DETAIL B

LEGEND

- 1/2" 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.

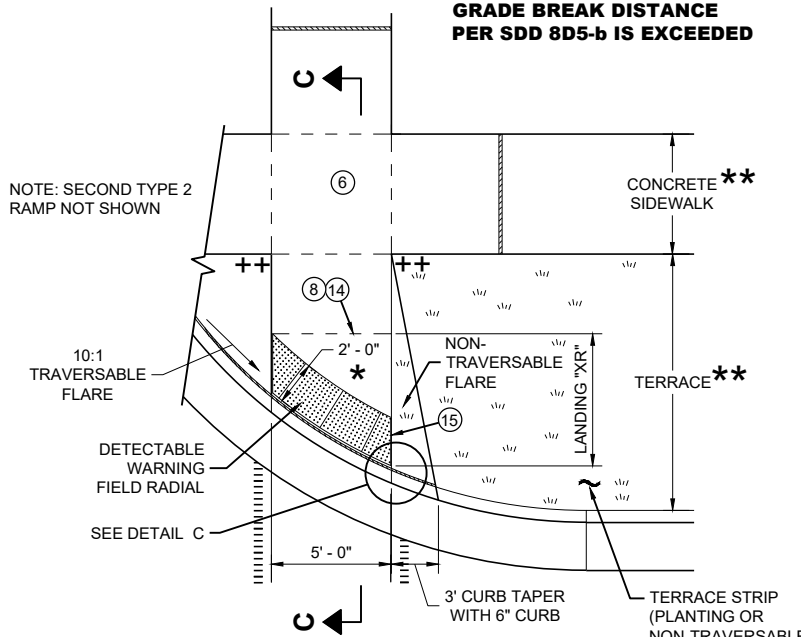
REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

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

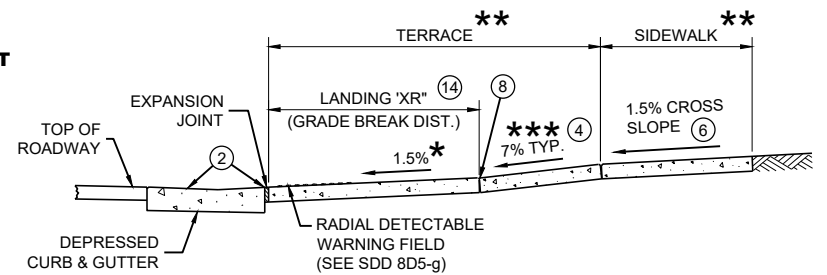
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

- 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 1/4" 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 1/2" 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.

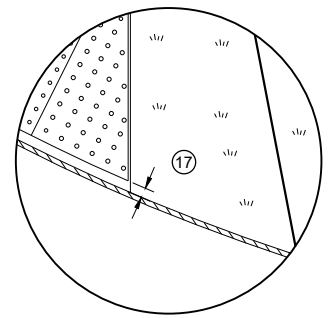
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-b IS EXCEEDED**



**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%

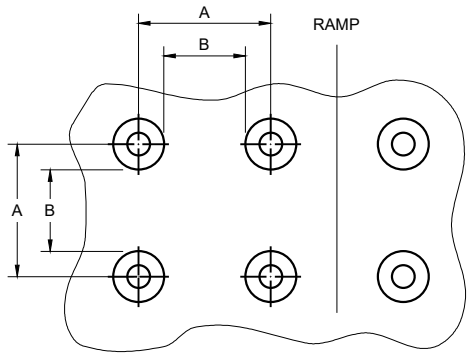
++ CONSTRUCT 6" WEDGE TO
AVOID CONCRETE BREAKAGE

**CURB RAMPS
RADIAL DETECTABLE WARNING**

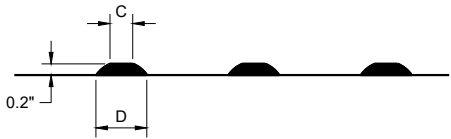
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

	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.

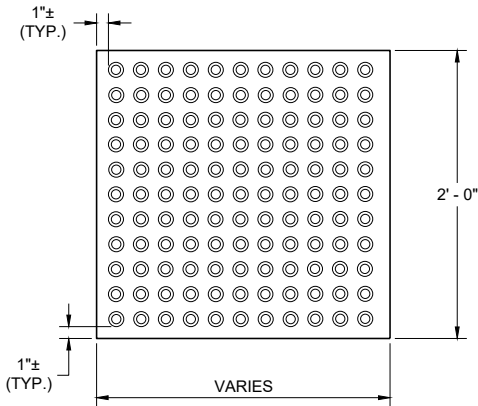


PLAN VIEW

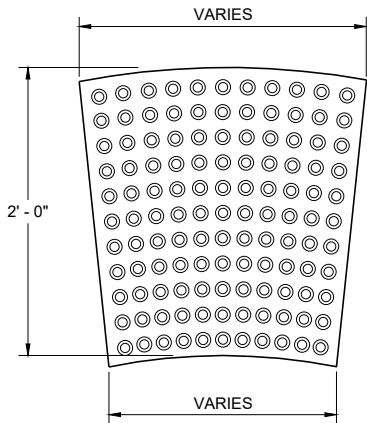


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

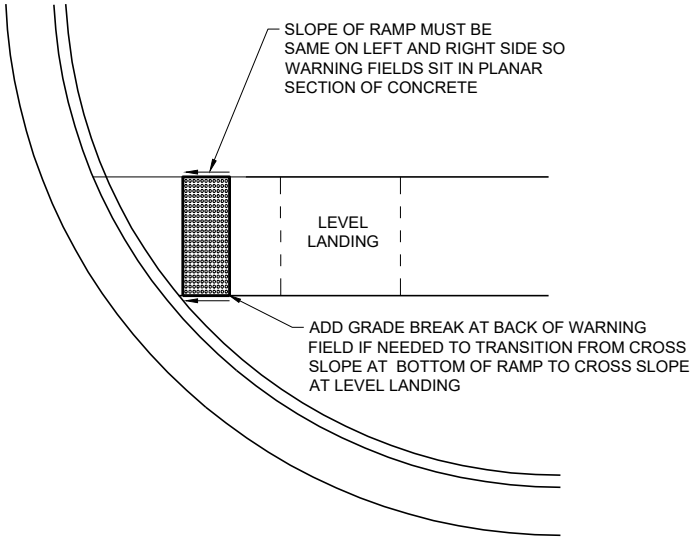


RECTANGULAR
PLATES

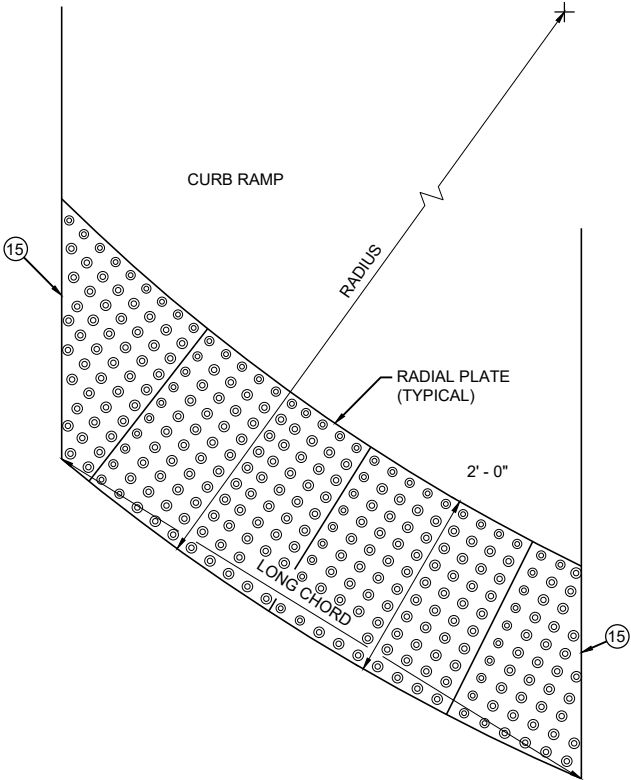


RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



DETECTABLE WARNING FIELD
PLANAR INSTALLATION



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

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.

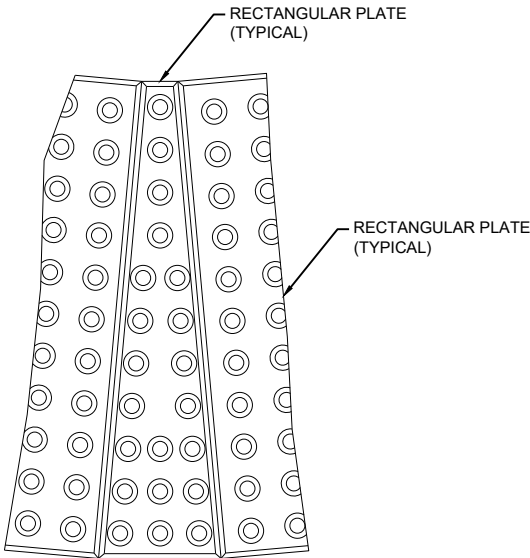
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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 1/8\"/>

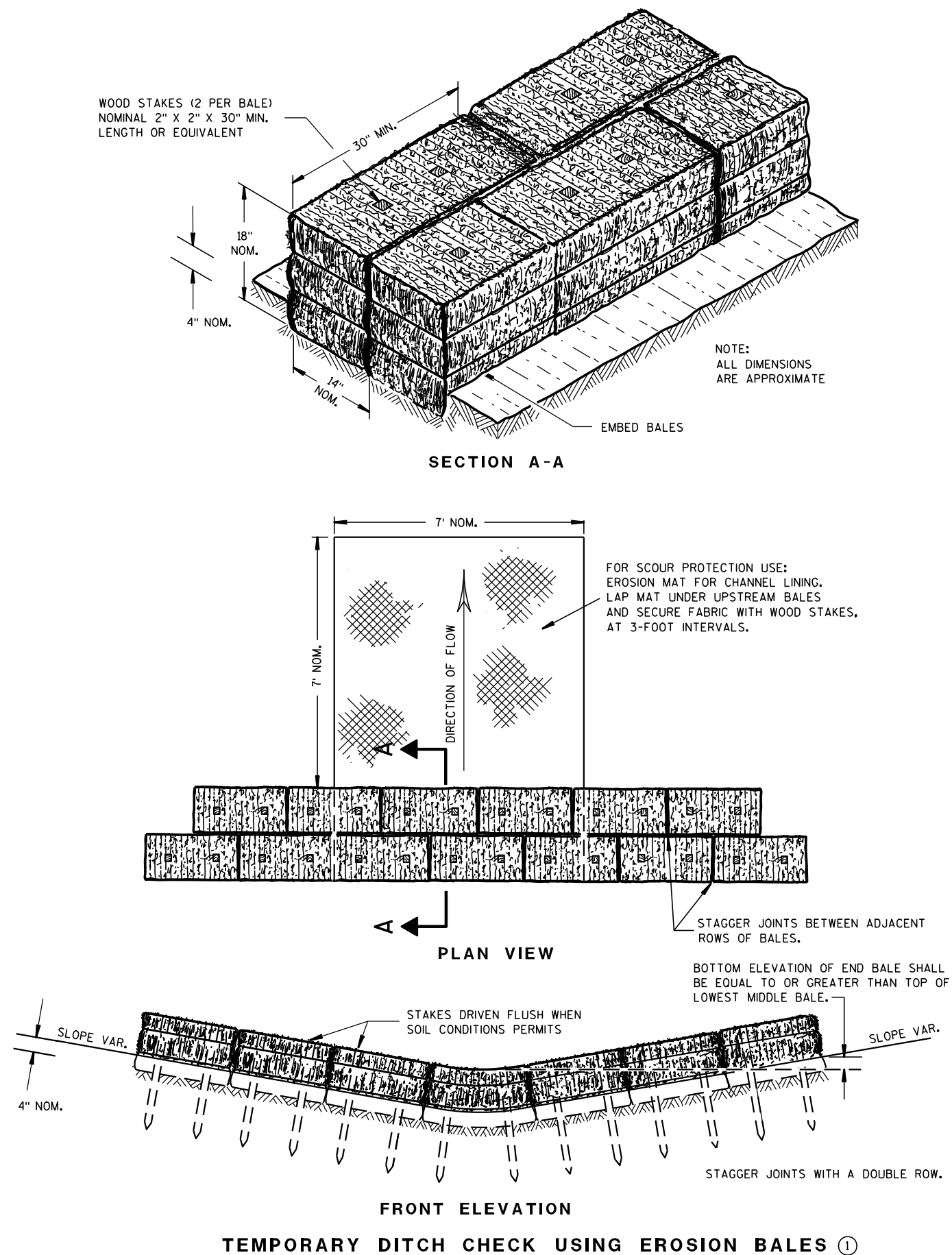


PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

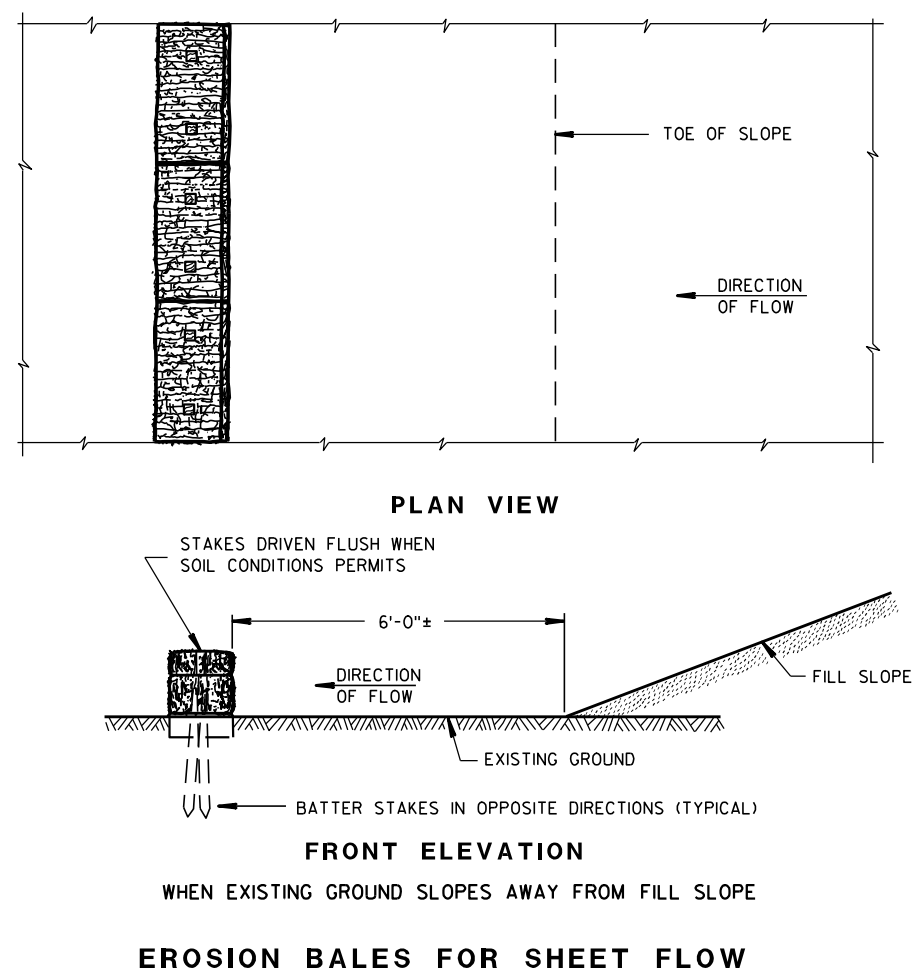
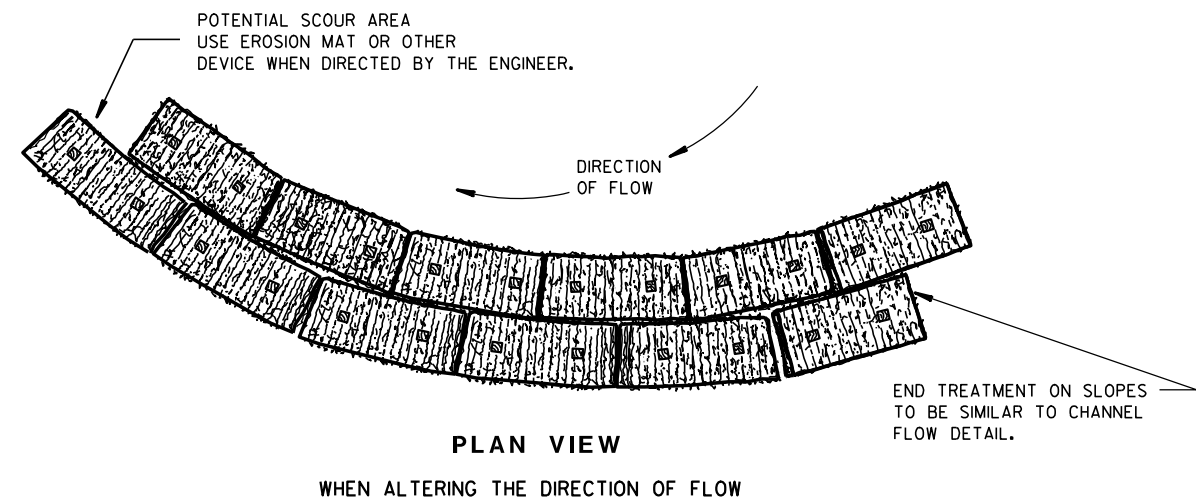
APPROVED
July 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



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.



TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

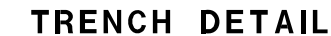
6/04/02
DATE

/S/ Beth Conn-----
CHIEF ROADWAY DEVELOP 257 ENGINEER

FHWA



- 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 1½" X 1½" 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.

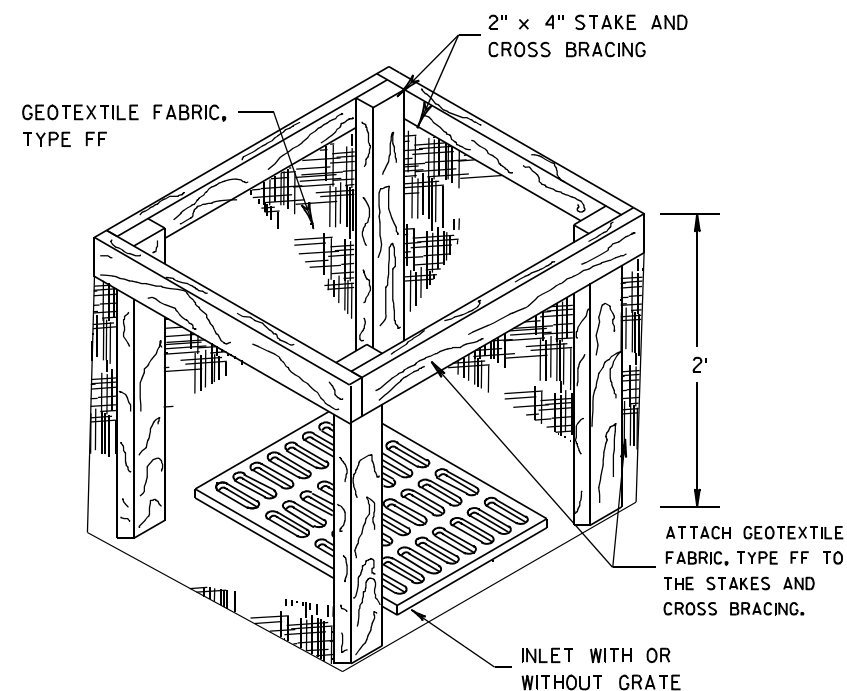
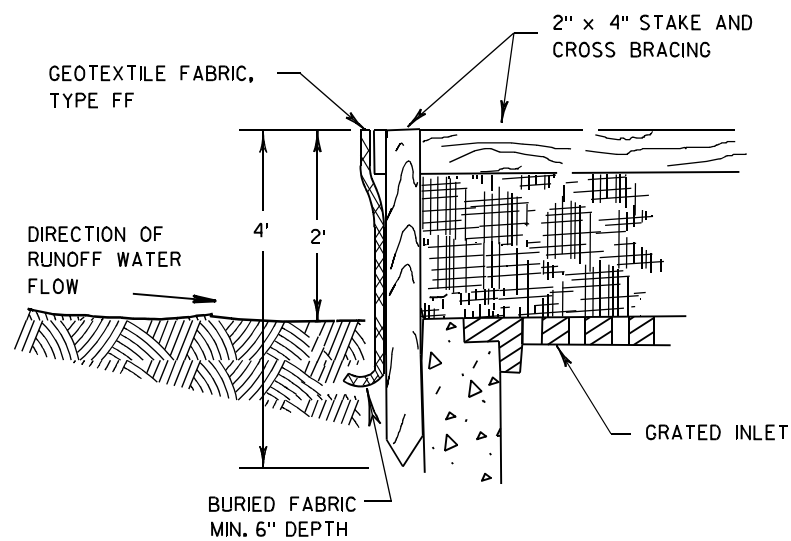


SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 /S/ Beth Connolly
DATE CHIEF ROADWAY DEVELOPMENT 258 JINEER

FHWA



INLET PROTECTION, TYPE A

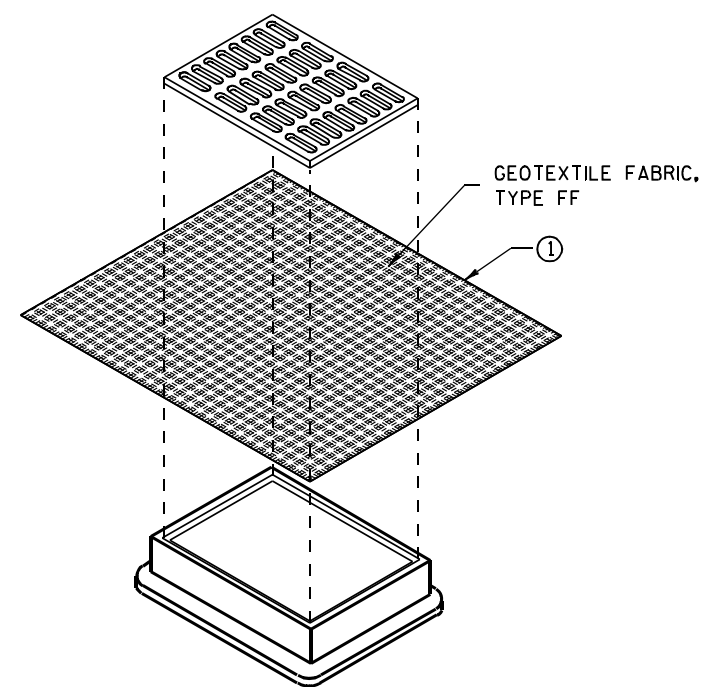
GENERAL NOTES

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

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

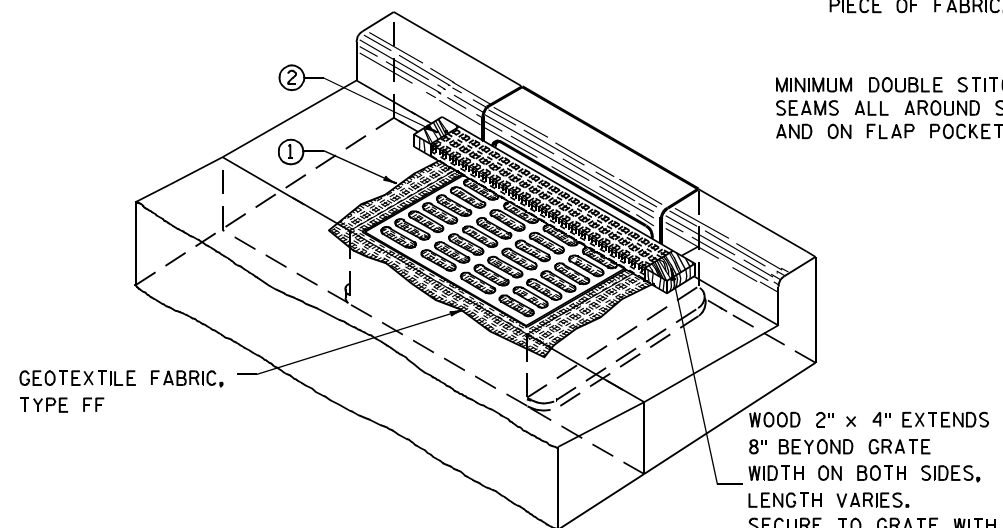
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

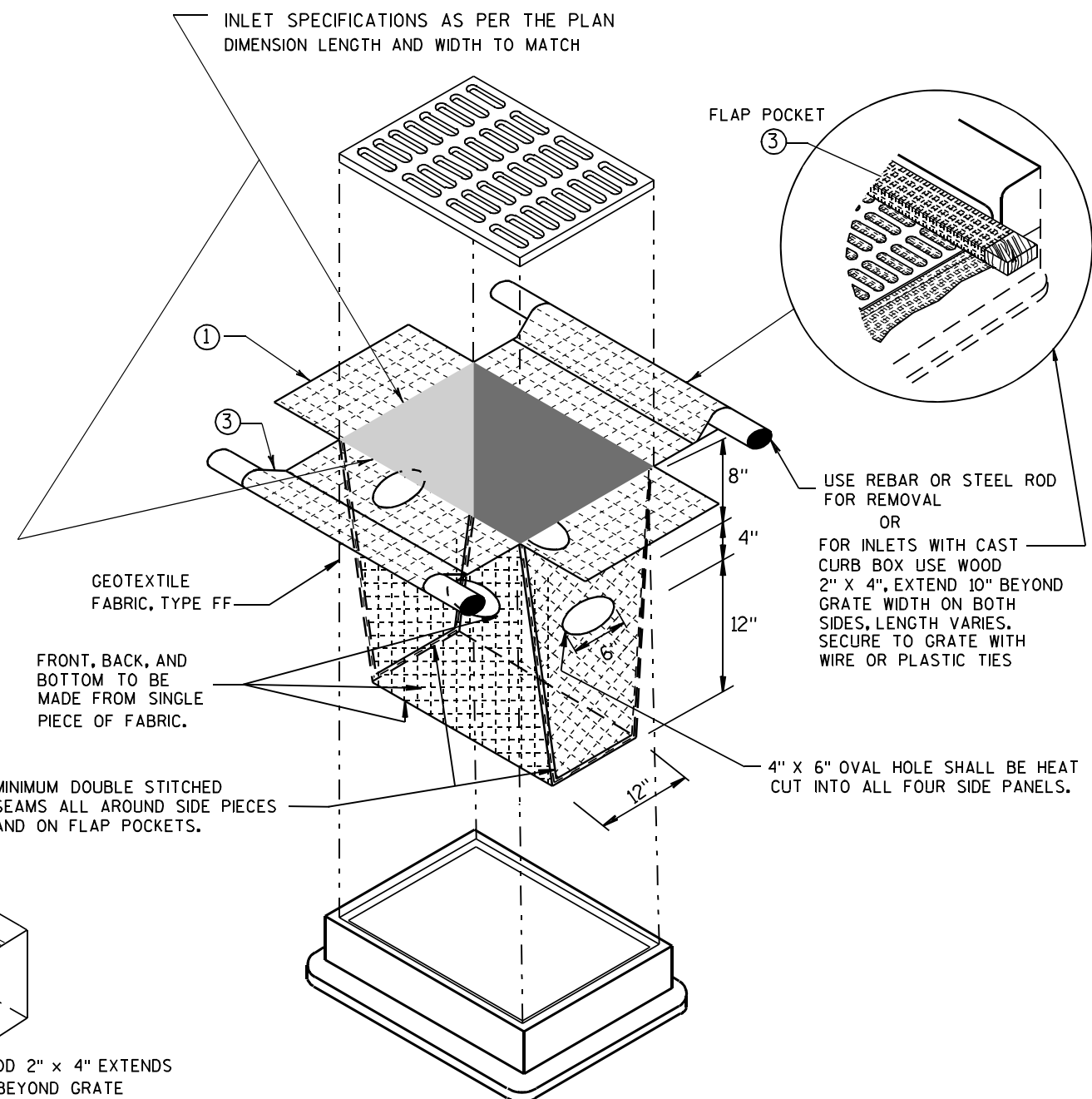
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

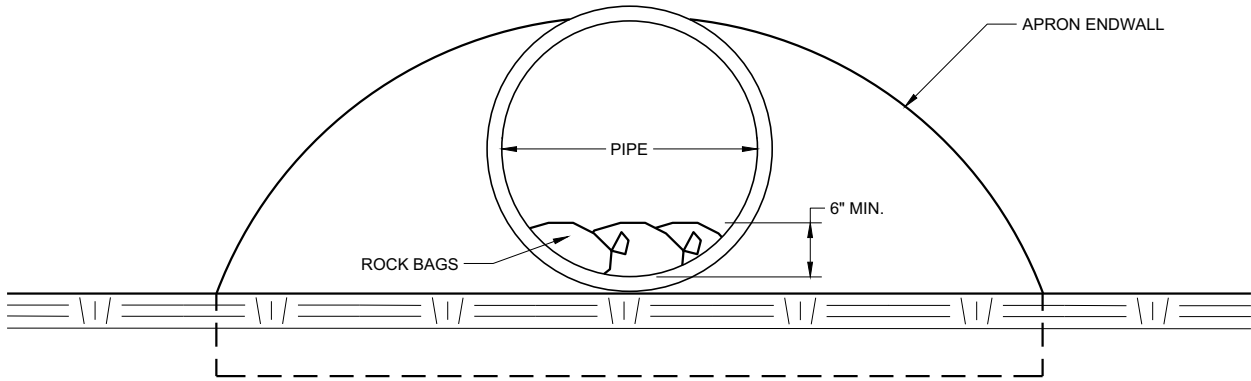
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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



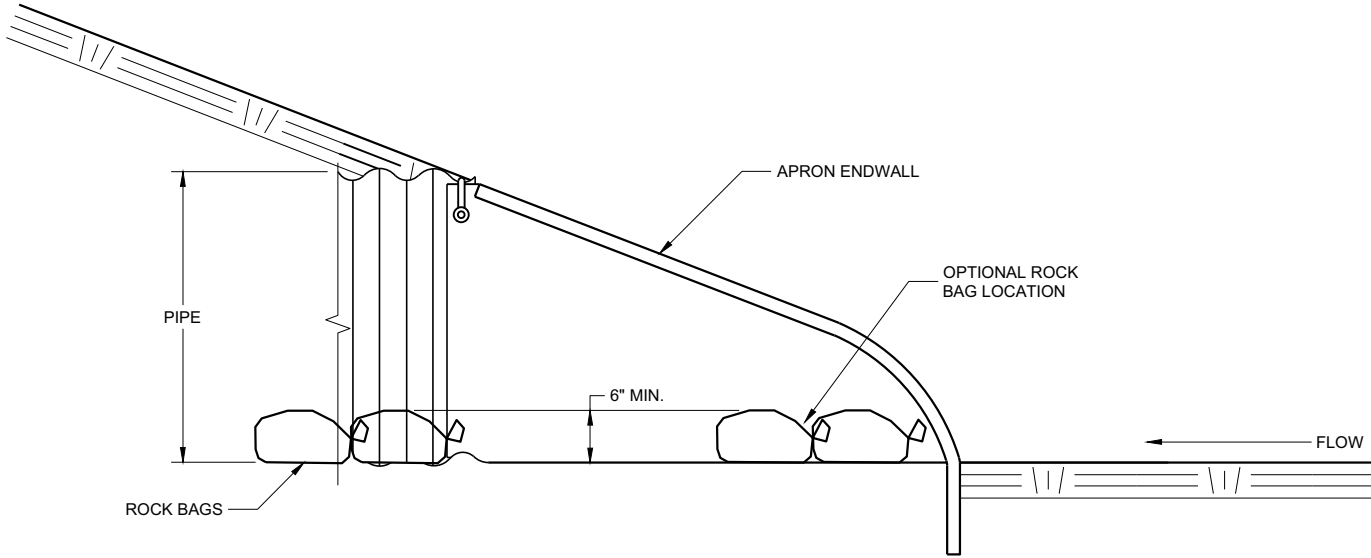
INLET PROTECTION, TYPE D

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

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/S/ Beth Connolly 259 CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



END VIEW



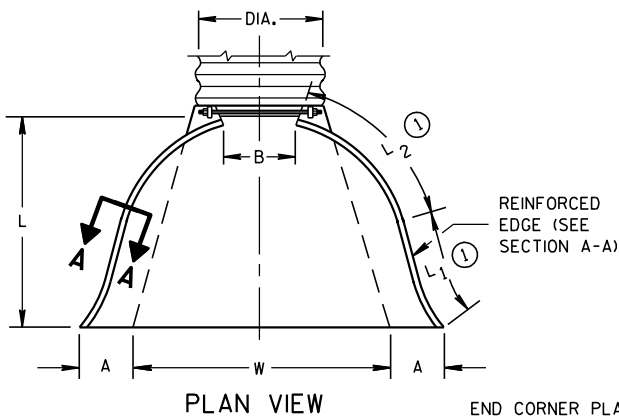
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
May 2019	/S/ Daniel Schave		
DATE	EROSION CONTROL ENGI	260	
FHWA			

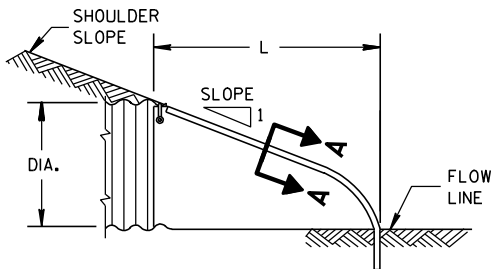
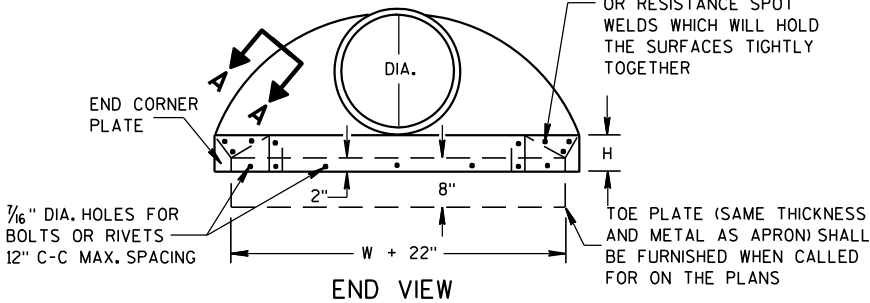
METAL APRON ENDWALLS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)						APPROX. SLOPE	BODY	
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①			W (±2")
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	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	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

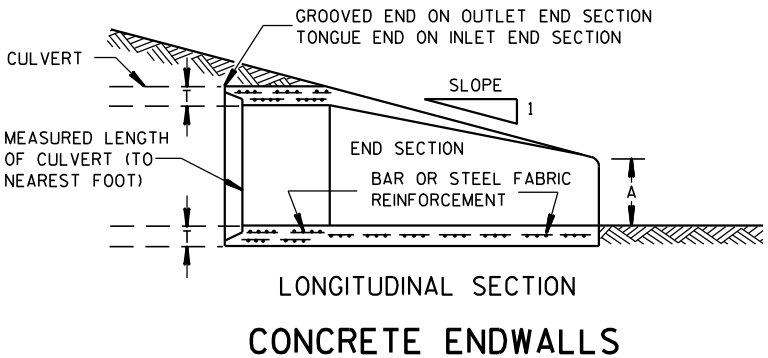
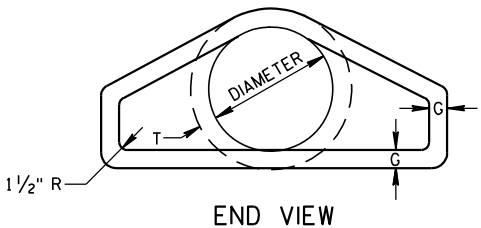
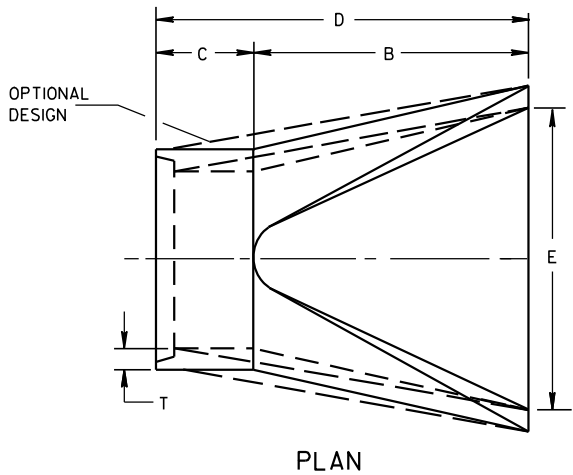
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS

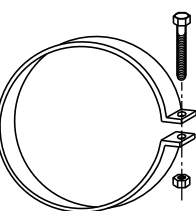
REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ¹ / ₂	9	27	46	73	36	2 ¹ / ₂	3 to 1
21	2 ³ / ₄	9	36	37 ¹ / ₂	73 ¹ / ₂	42	2 ³ / ₄	3 to 1
24	3	9 ¹ / ₂	43 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 ¹ / ₂ 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

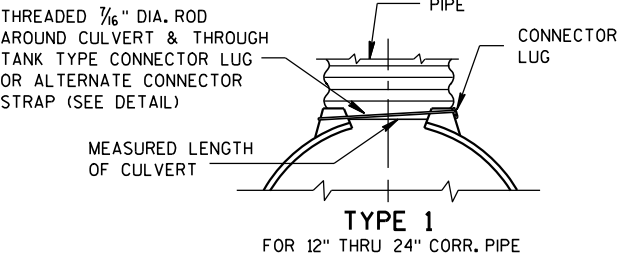


LONGITUDINAL SECTION
CONCRETE ENDWALLS

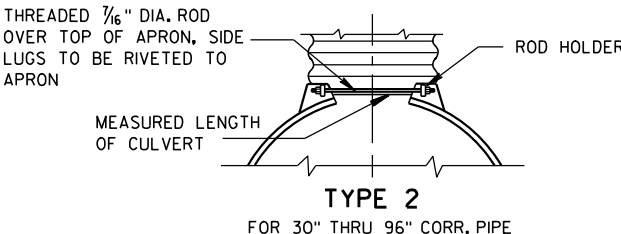
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



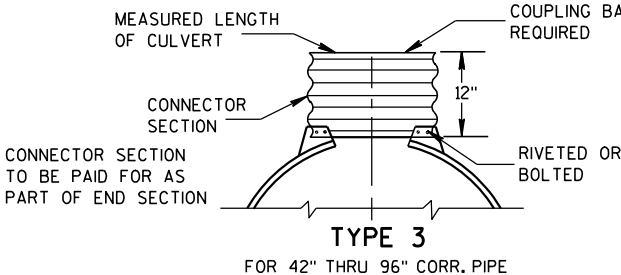
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



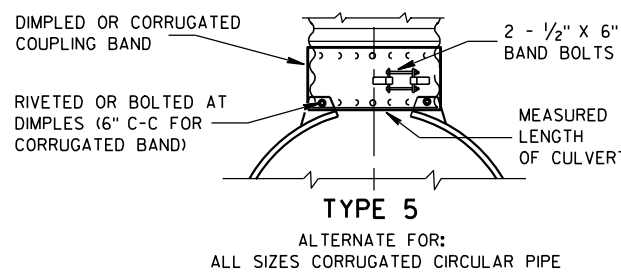
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

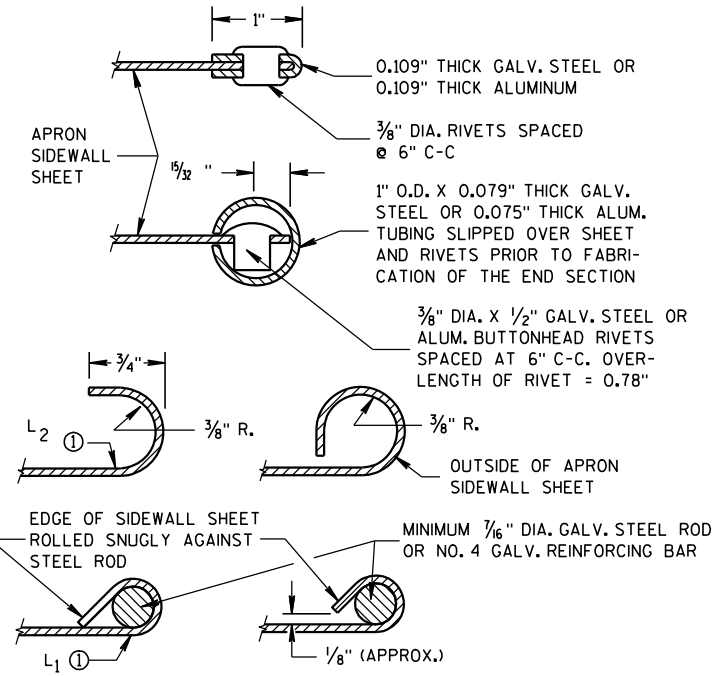
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

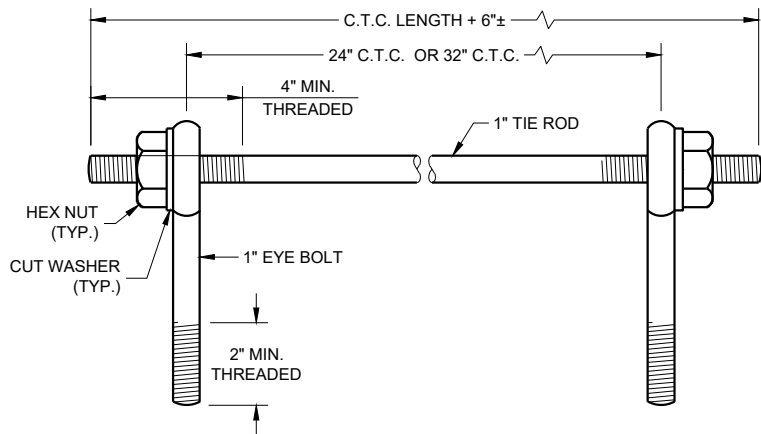
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

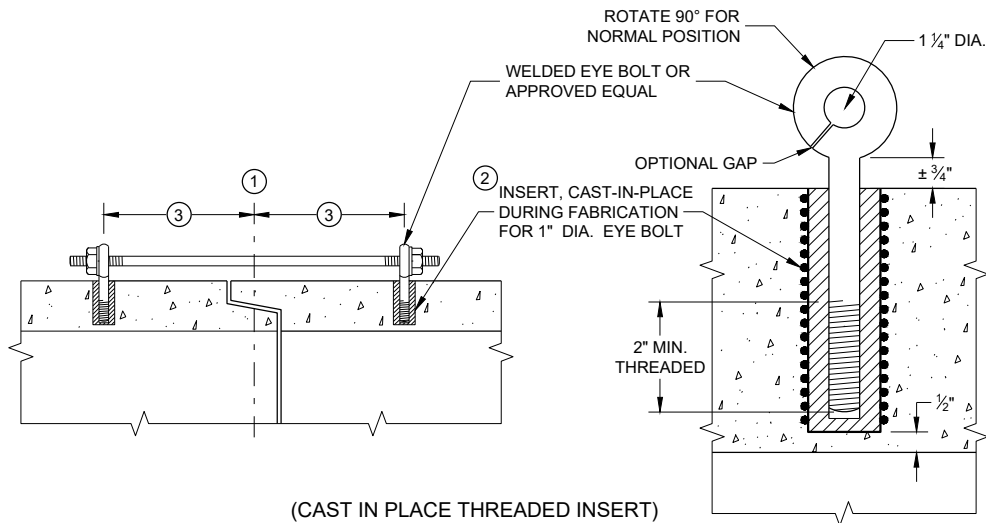
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 11/30/94 DATE	/S/ Rory L. Rhinehart CHIEF ROADWAY DEVELOP	261	NEER
FHWA			



EYE BOLTS AND TIE ROD

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



(CAST IN PLACE THREADED INSERT)
LONGITUDINAL SECTIONS

GENERAL NOTES

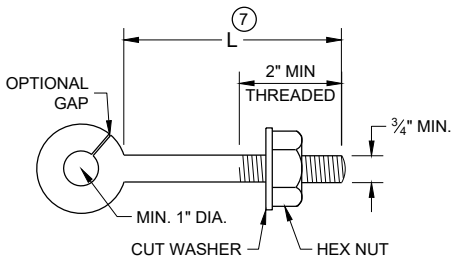
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

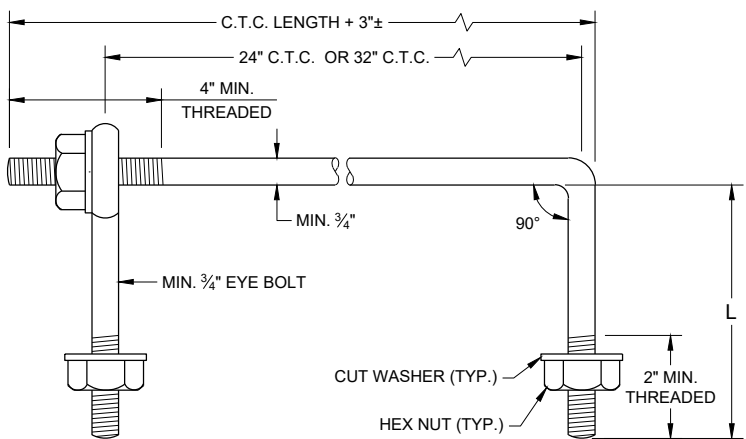
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 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 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

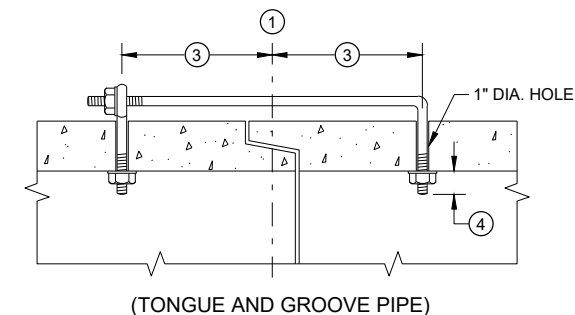


EYE BOLT 7

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



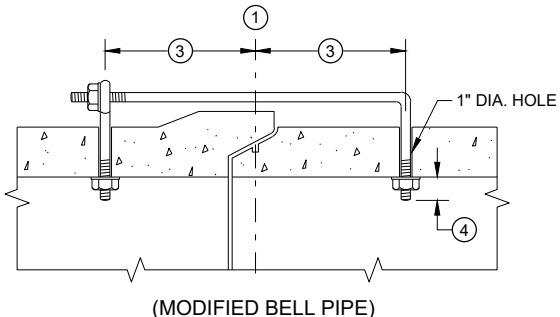
EYE BOLT AND TIE ROD



LONGITUDINAL SECTION

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

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

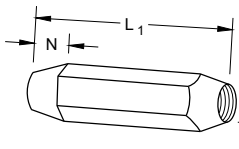


(MODIFIED BELL PIPE)

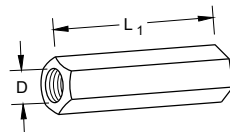
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L ₁	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 1/16

DIMENSIONS SHOWN ARE IN INCHES

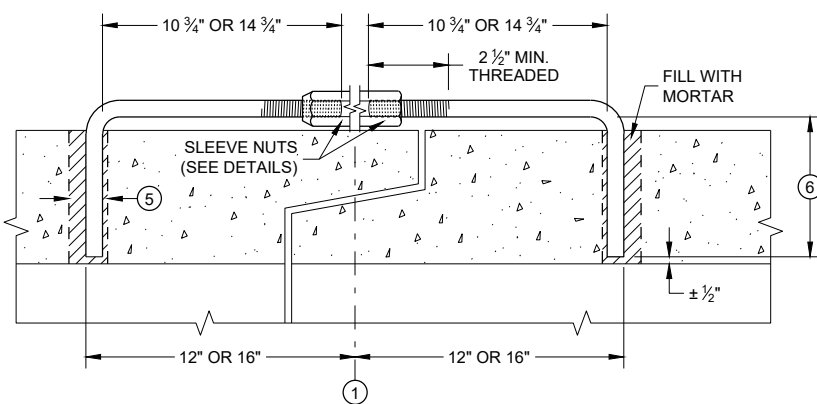


TAPERED



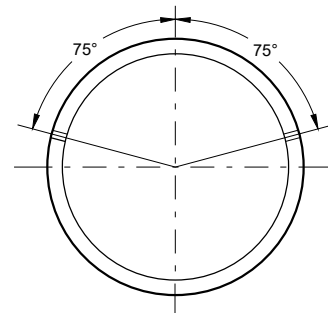
PLAIN

RIGHT AND LEFT THREADS
SLEEVE NUTS



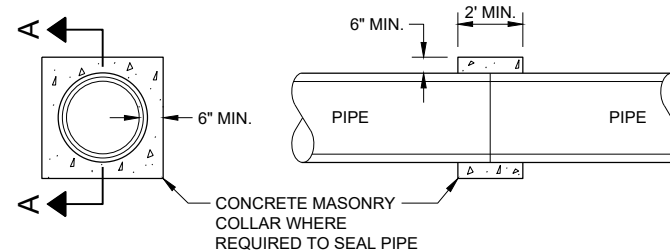
LONGITUDINAL SECTION

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



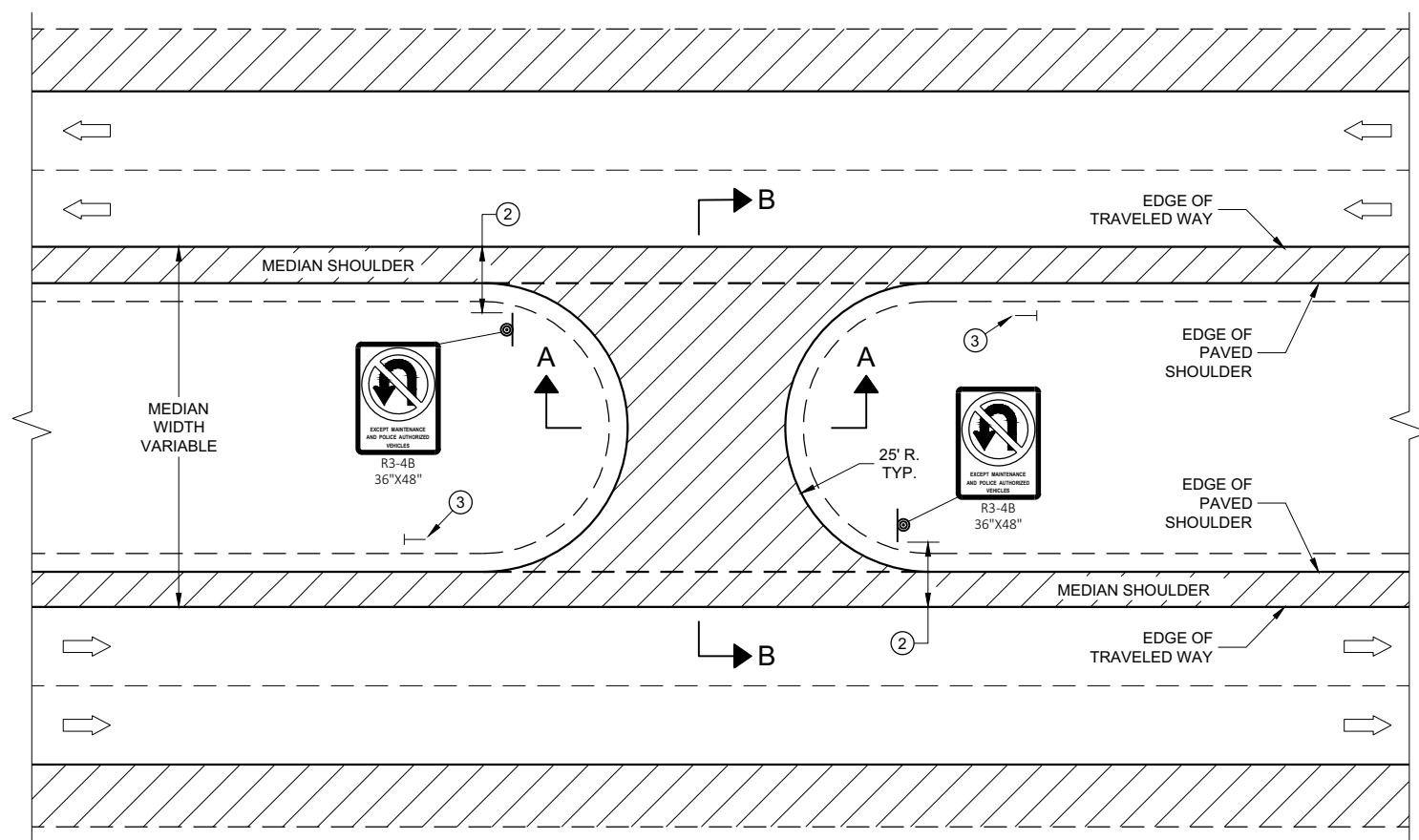
SECTION A - A

CONCRETE COLLAR DETAIL

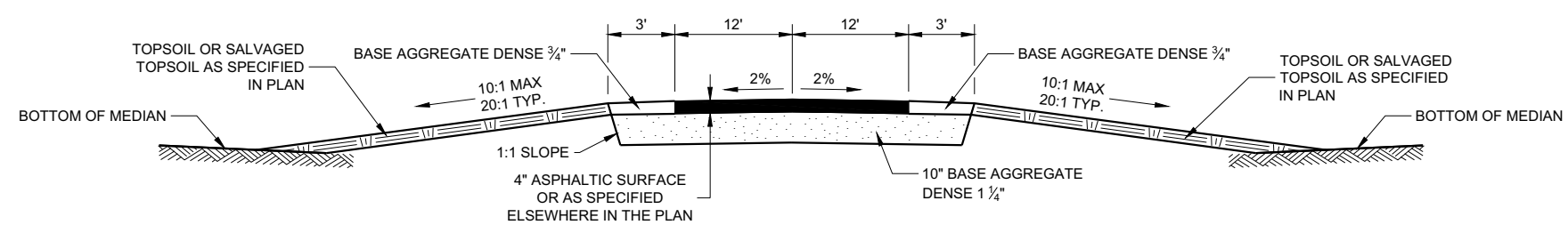
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

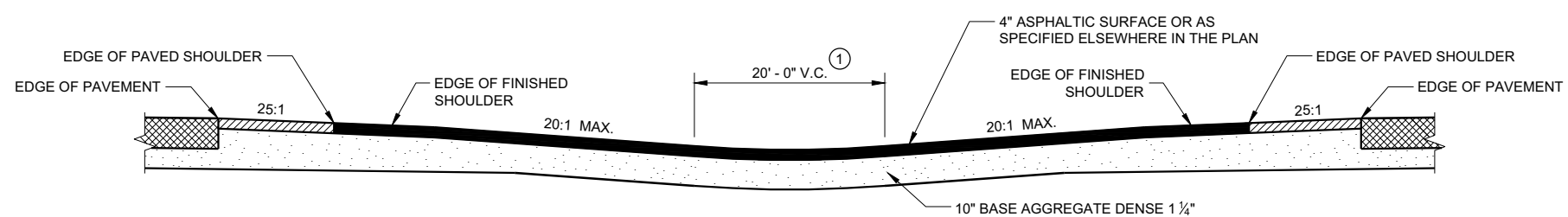
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 262
FHWA



PLAN VIEW



SECTION A-A



SECTION B-B

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.

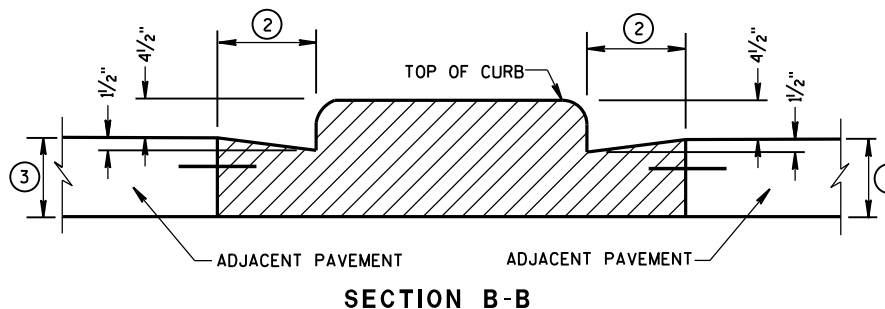
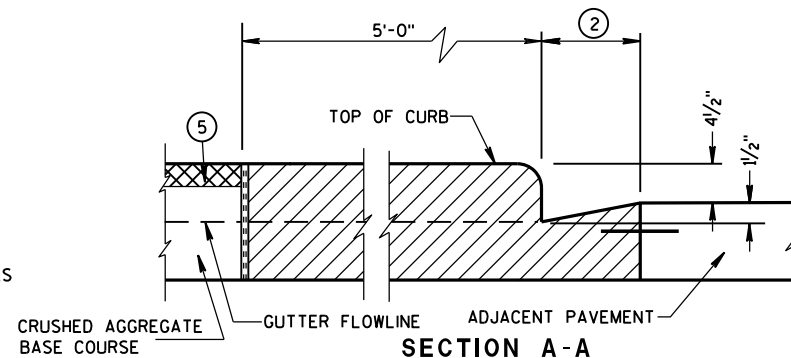
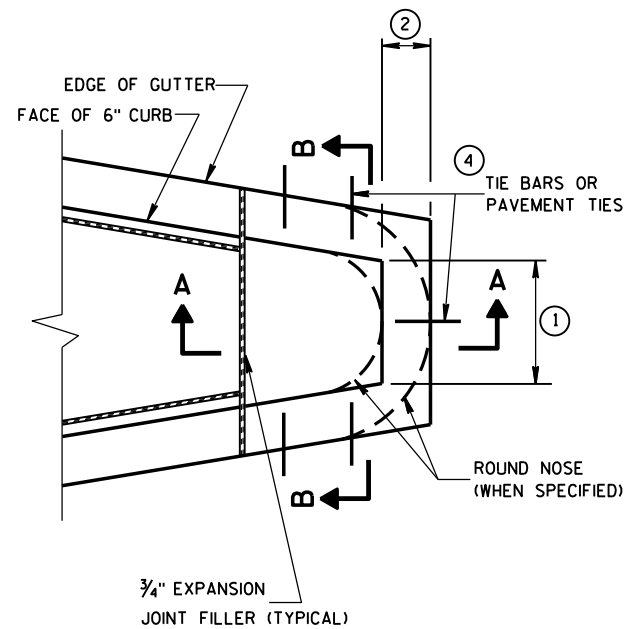
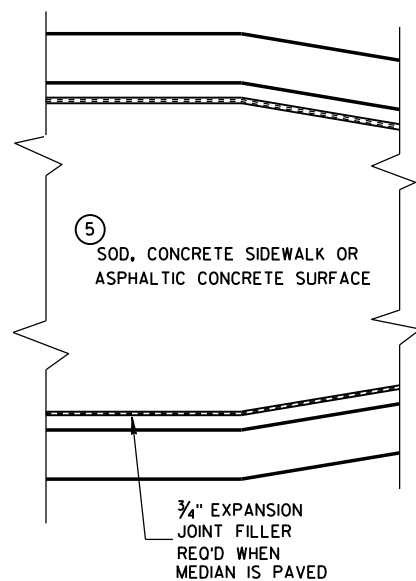
LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DELINEATOR
-  DIRECTION OF TRAFFIC

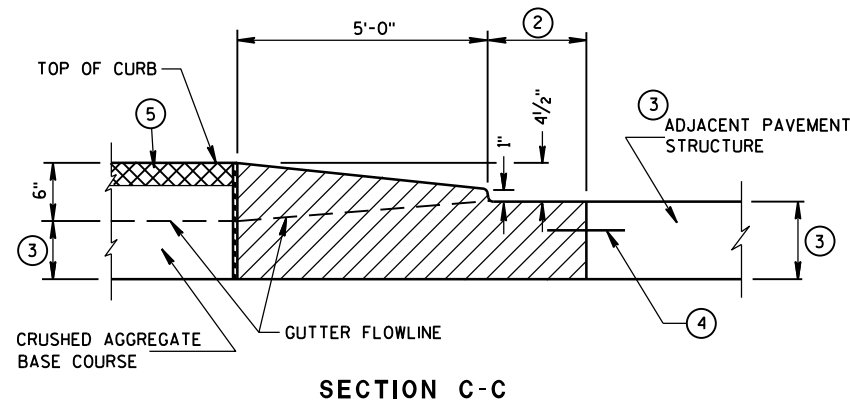
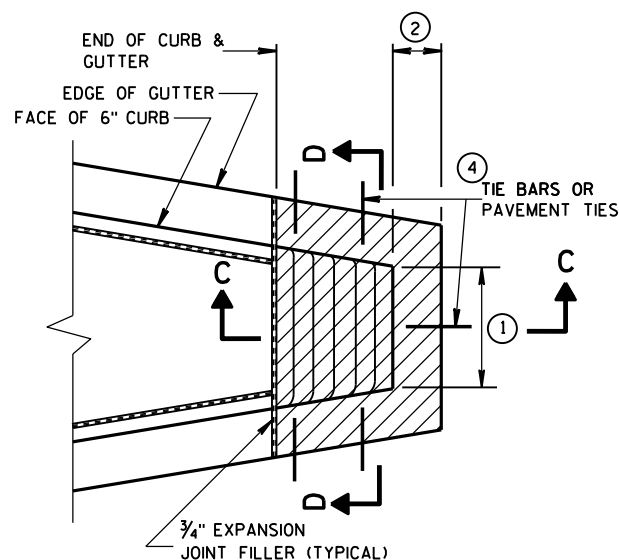
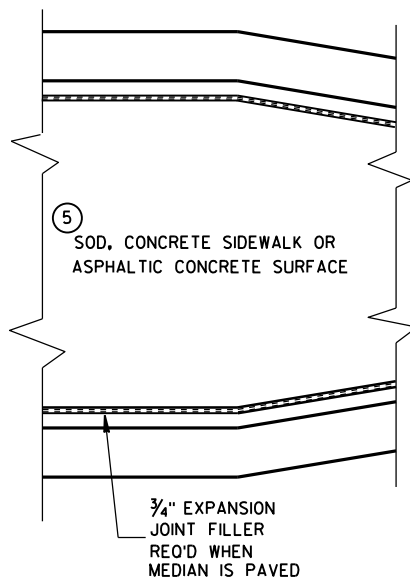
MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

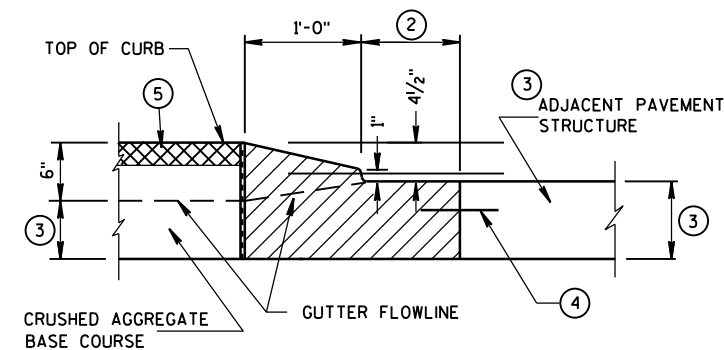
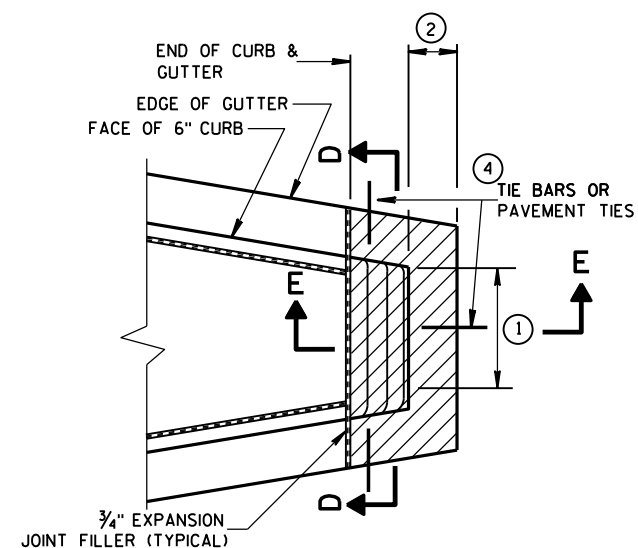
APPROVED
November 2019 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER 263



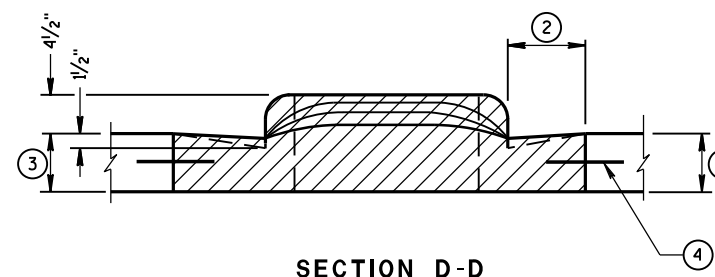
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

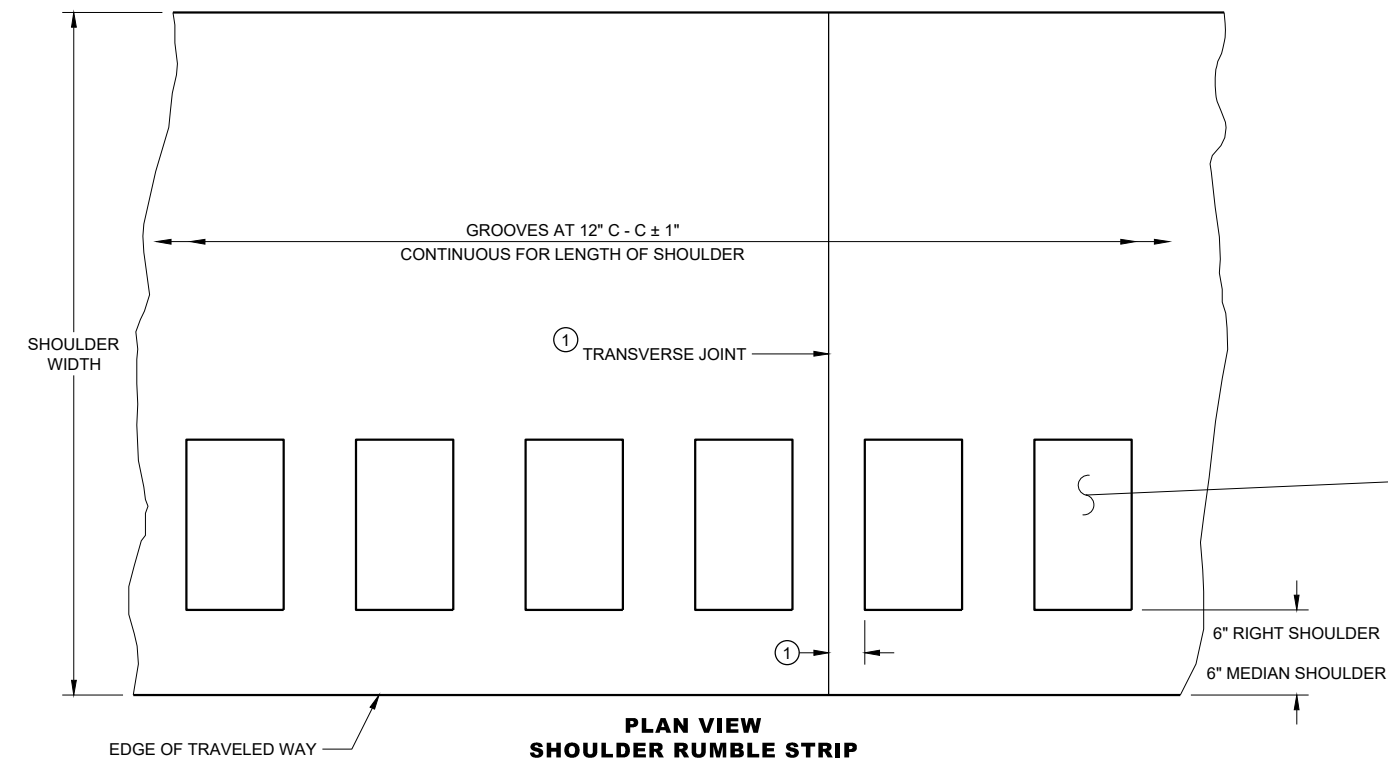
6/8/2006

DATE

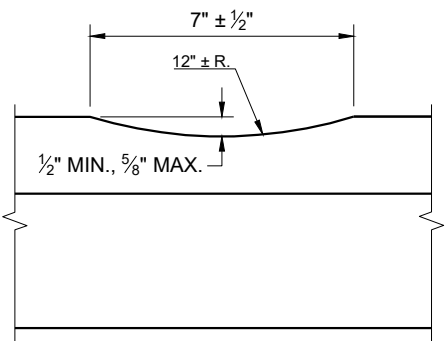
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS D 264
ENGINEER

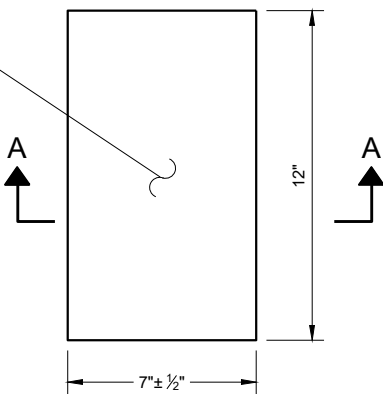
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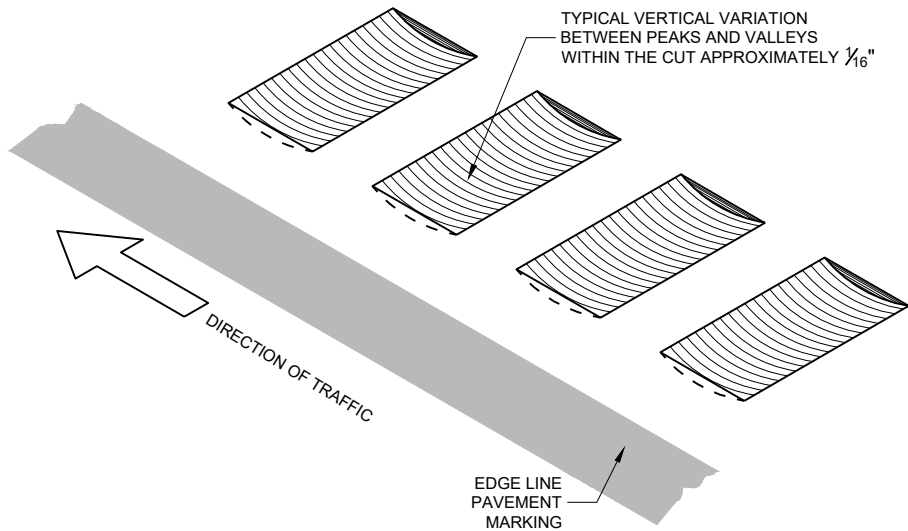
PLACEMENT DETAIL FOR RUMBLE STRIP



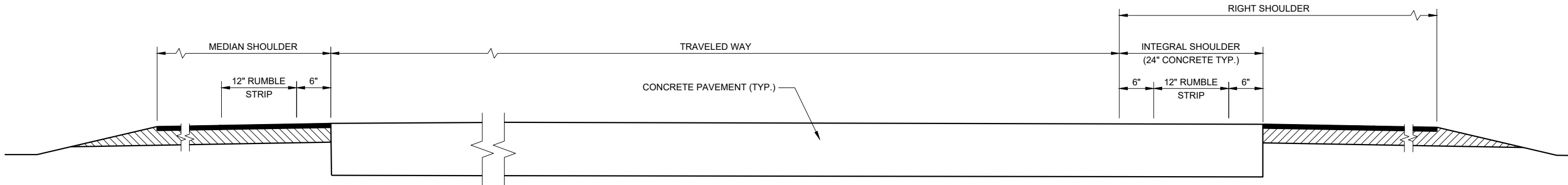
SECTION A - A



**PLAN VIEW
(SINGLE GROOVE)**



ISOMETRIC



SECTION VIEW

**TYPICAL SHOULDER RUMBLE STRIPS
(ONE ROADWAY IS SHOWN)**

GENERAL NOTES

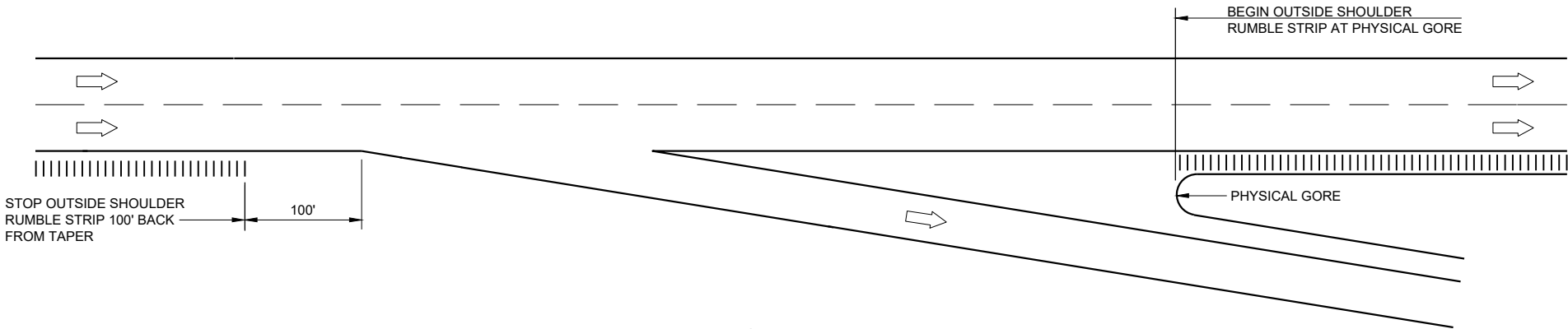
SDD 13A5, SHEET "b" SHOWS THE LOCATION OF THE RUMBLE STRIPS AT RAMP AND GORE LOCATIONS.

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.

**SHOULDER RUMBLE STRIPS,
DIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



TYPICAL EXIT RAMP

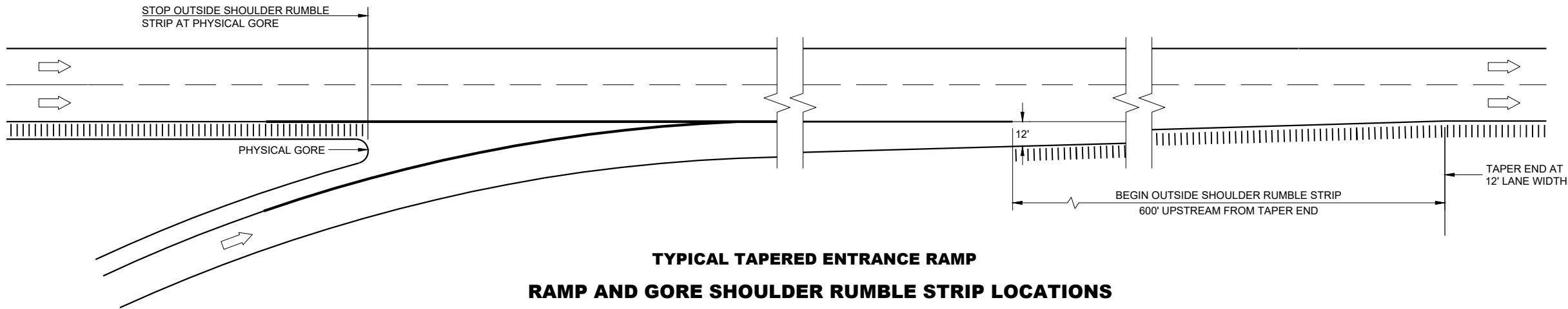
GENERAL NOTES

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

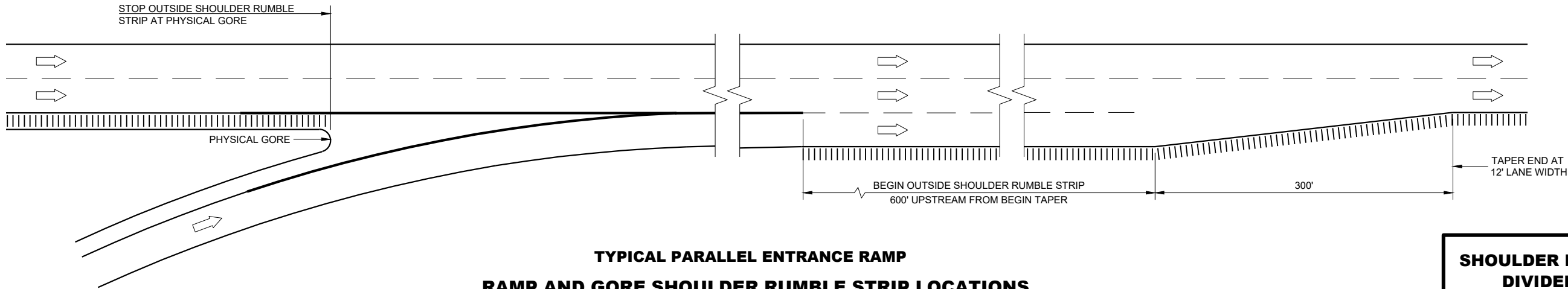
RUMBLE STRIPS ON EXPRESSWAYS:
DO NOT INSTALL SHOULDER RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL AND PRIVATE DRIVEWAYS, ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, 25' IN ADVANCE OF BRIDGE DECKS, 25' IN ADVANCE OF BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD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

LEGEND

➡ DIRECTION OF TRAFFIC



TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

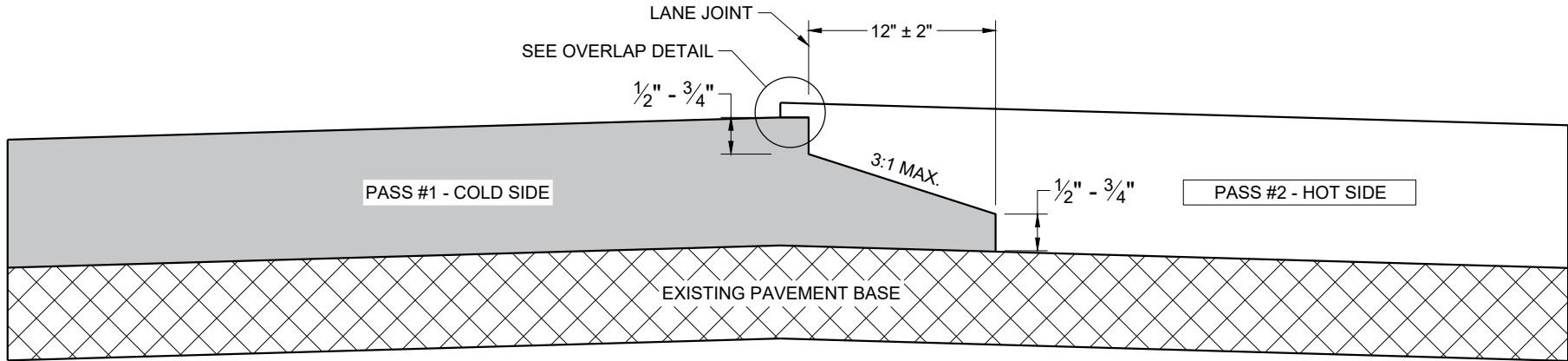


TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE SHOULDER RUMBLE STRIP LOCATIONS

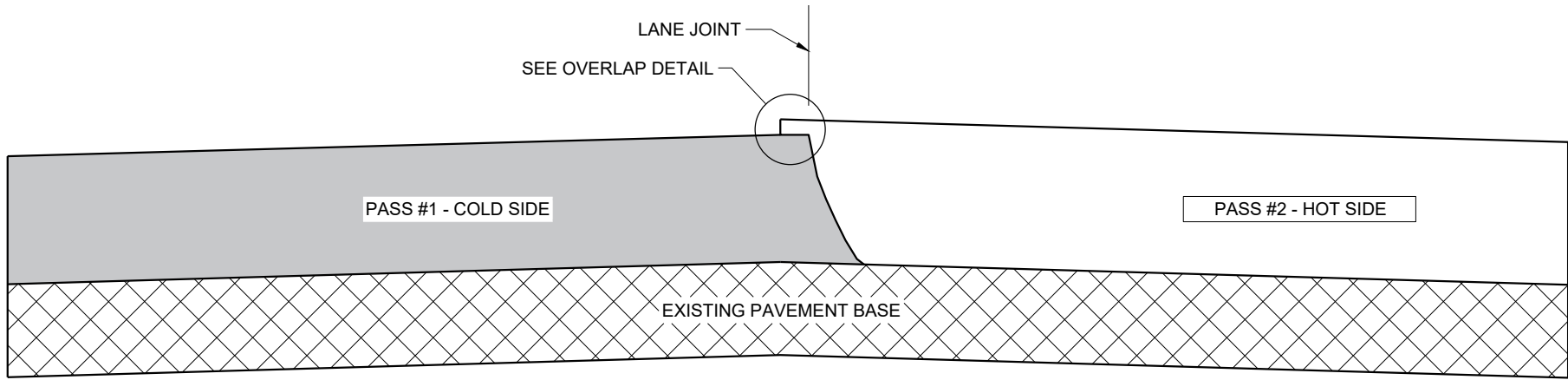
SHOULDER RUMBLE STRIPS,
DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

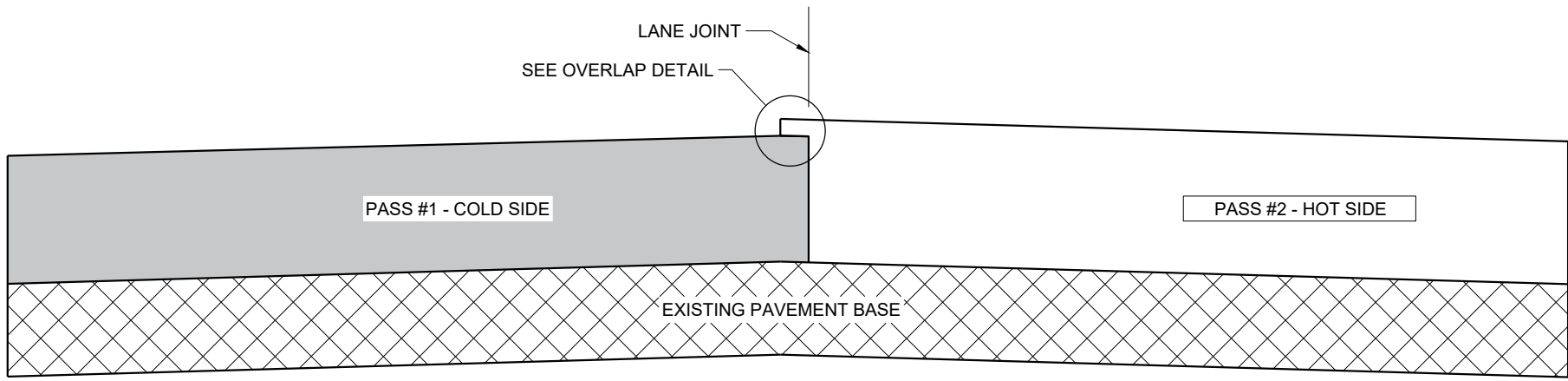
APPROVED
May 2023
DATE
/S/ Rodney Taylor
ROADWAY DESIGN STAFF
UNIT SUPERVISOR
266
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

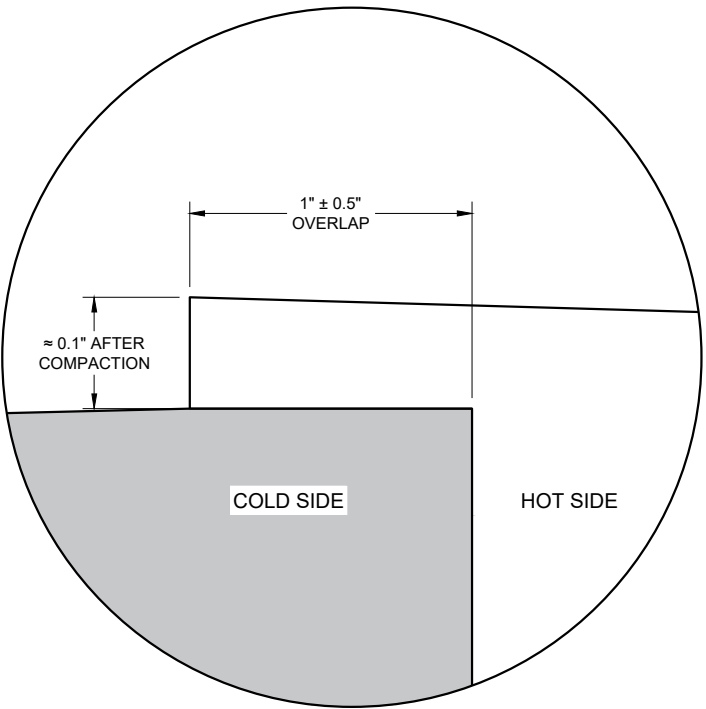
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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.



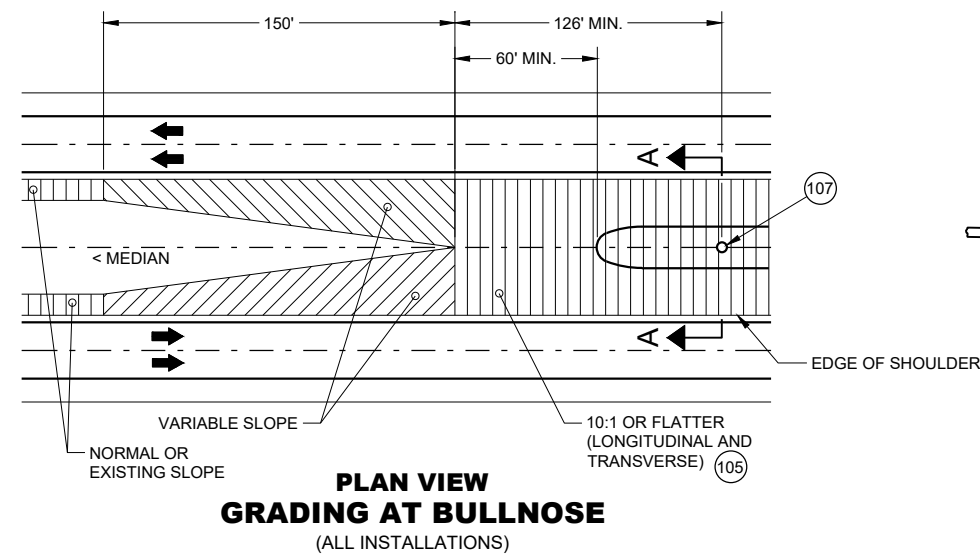
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

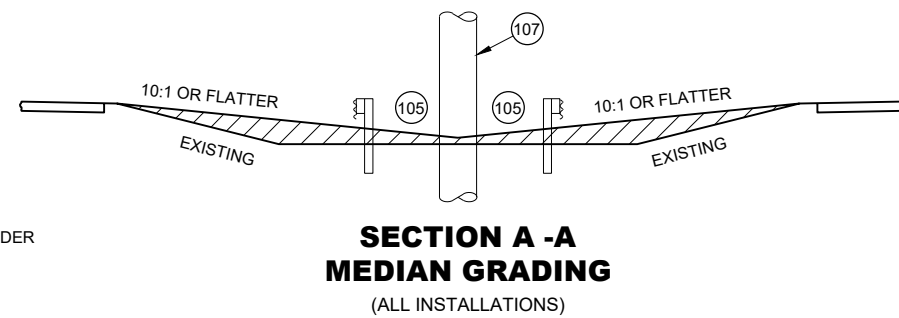
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 267

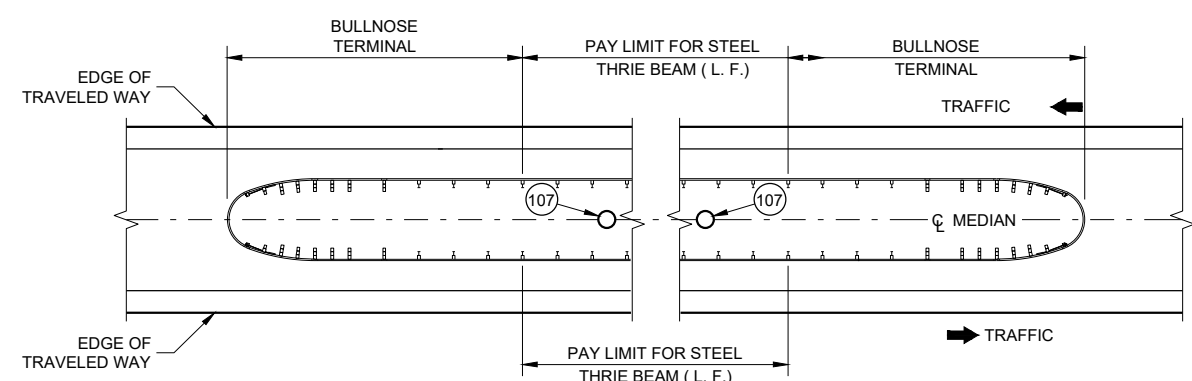
FHWA



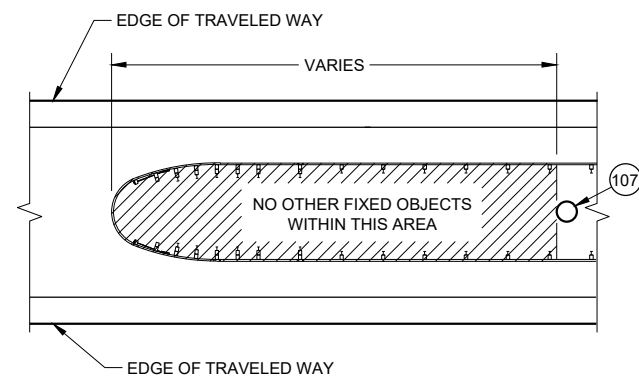
**PLAN VIEW
GRADING AT BULLNOSE**
(ALL INSTALLATIONS)



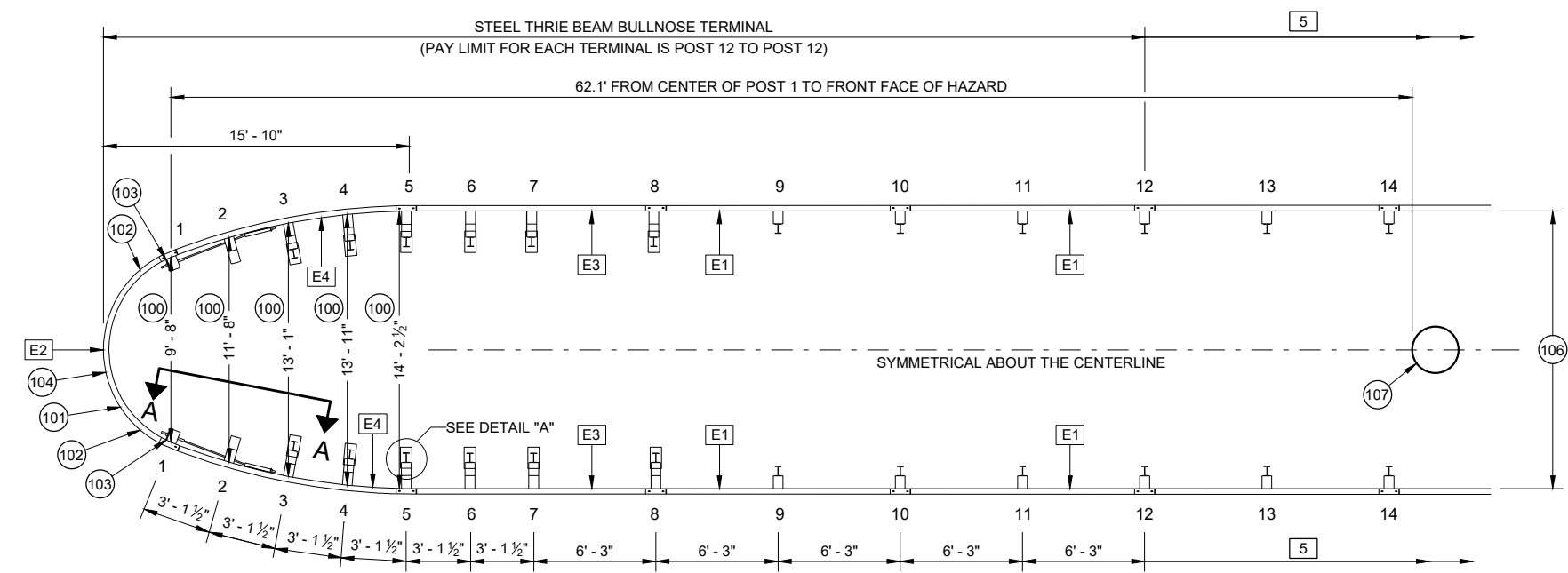
**SECTION A-A
MEDIAN GRADING**
(ALL INSTALLATIONS)



MEDIAN HAZARD PROTECTION PAY LIMITS



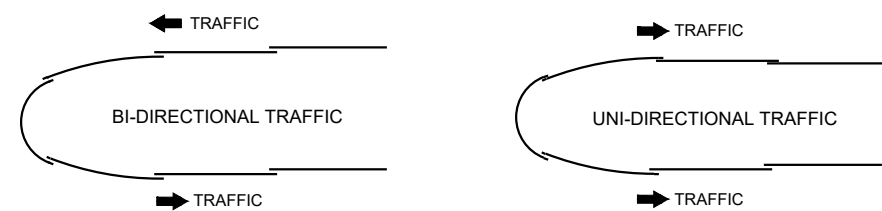
**HAZARD FREE AREA
INSIDE BULLNOSE**



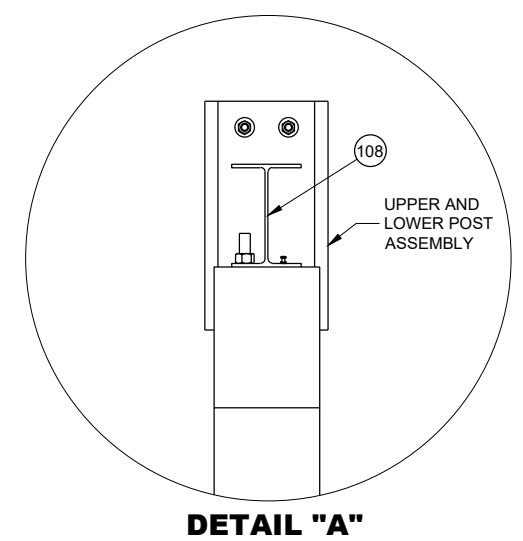
**PLAN VIEW
TYPICAL BULLNOSE LAYOUT**

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 1/2". 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 1/2" 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.

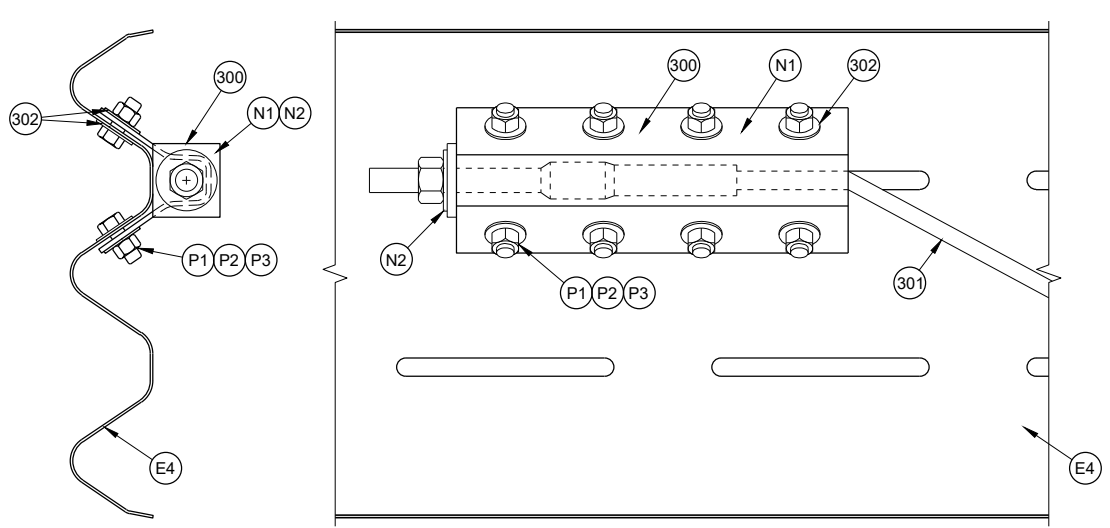


LAPPING DETAIL



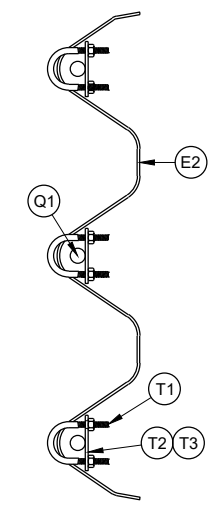
**STEEL THRIE BEAM
BULLNOSE TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

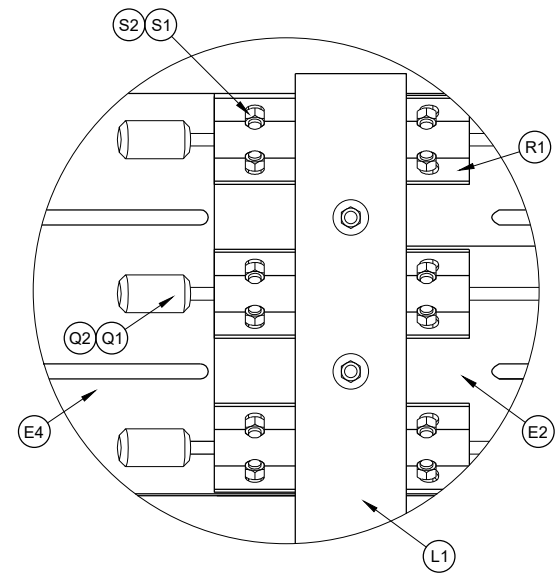


**PROFILE VIEW
CABLE ANCHOR
ASSEMBLY CONNECTION**

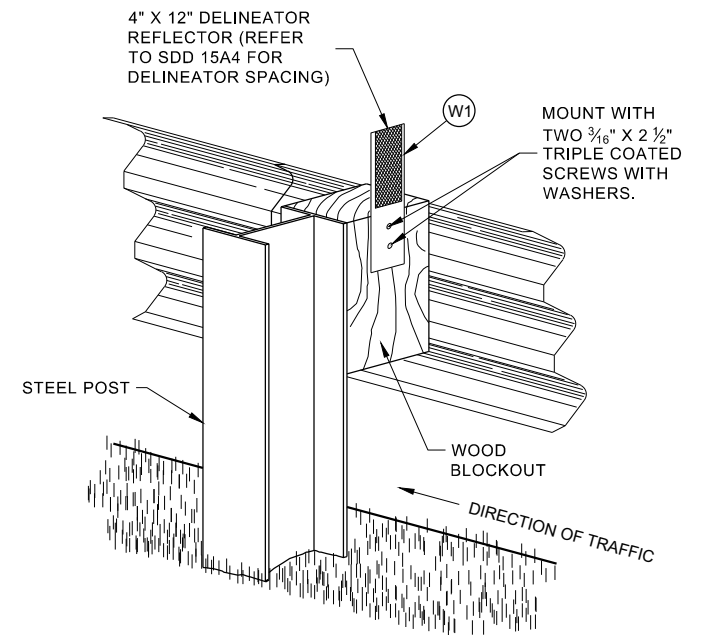
CABLE ANCHOR ASSEMBLY



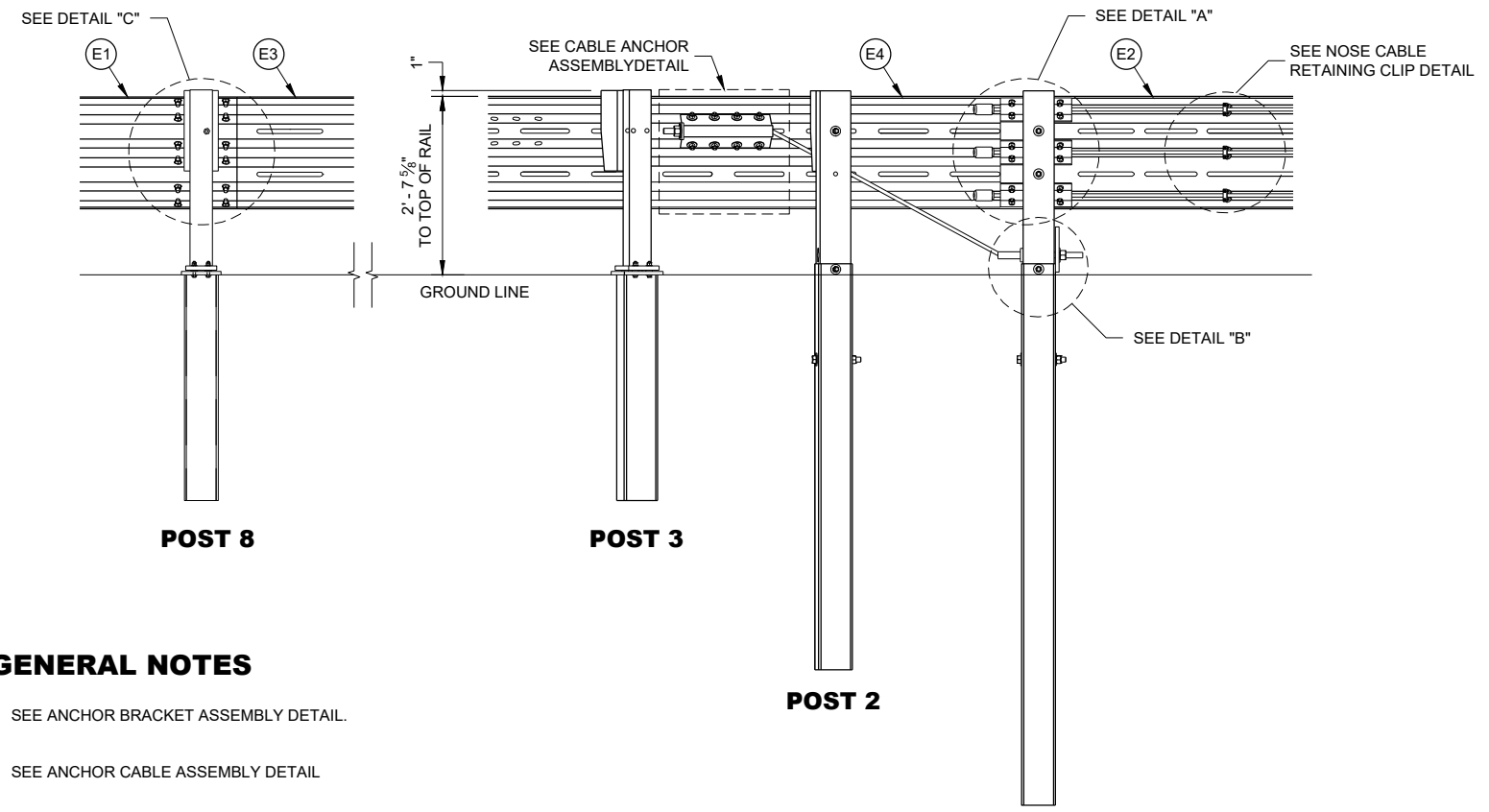
**NOSE CABLE
RETAINING CLIP**



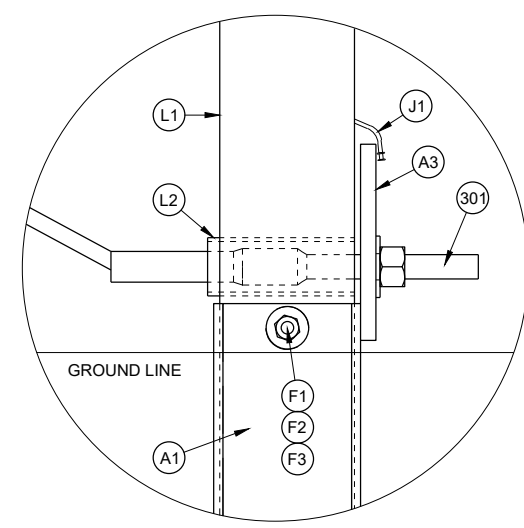
DETAIL "A"



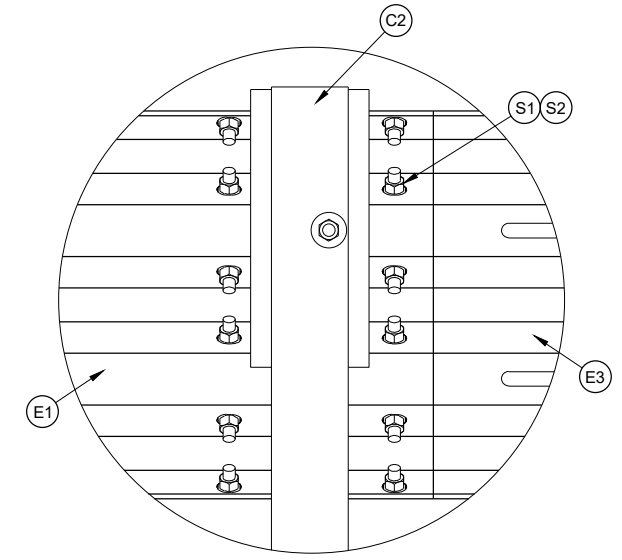
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**



CROSS SECTION A - A



DETAIL "B"



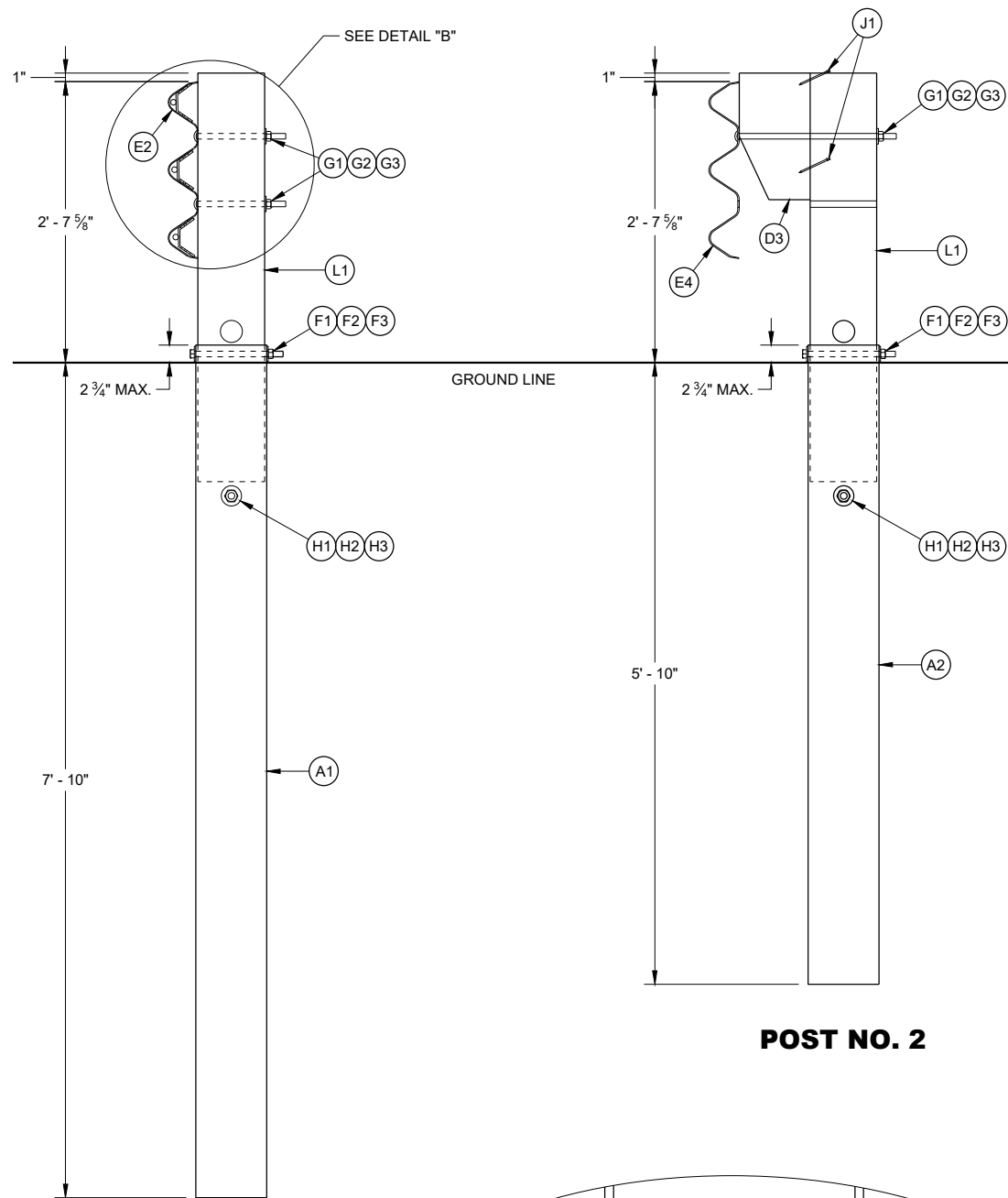
**DETAIL "C"
THRIE BEAM SPLICE**

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 BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

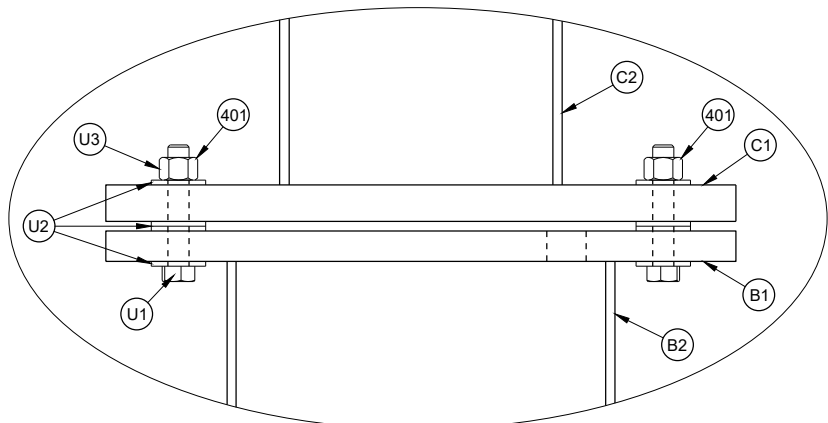
**STEEL THRIE BEAM
BULLNOSE TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 269

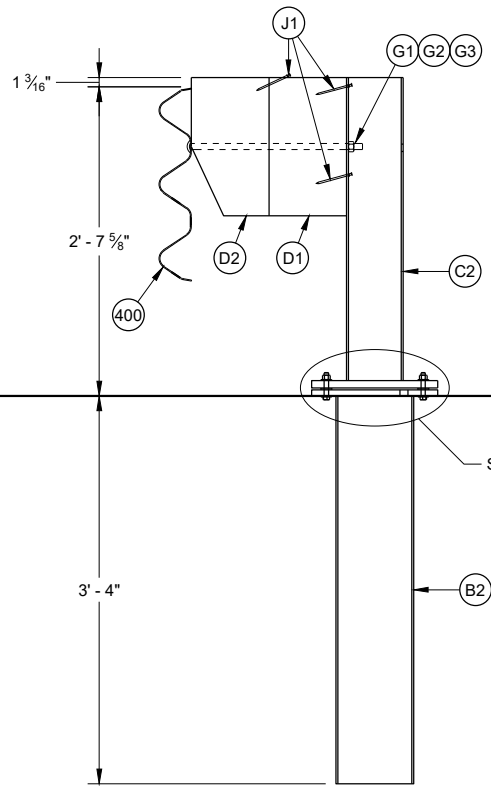


POST NO. 1

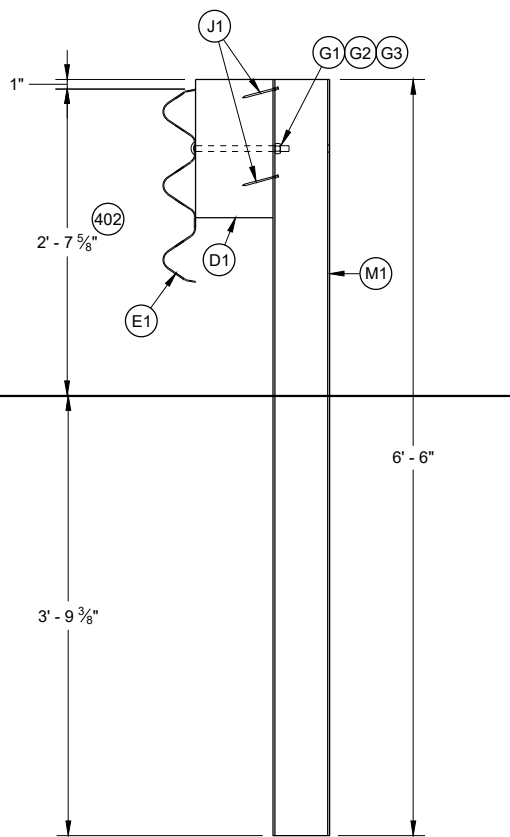
POST NO. 2



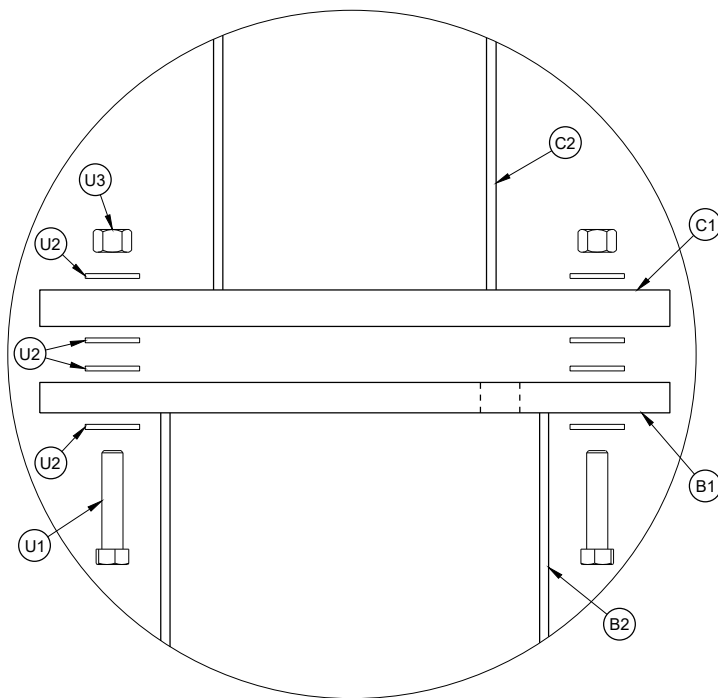
DETAIL "A"



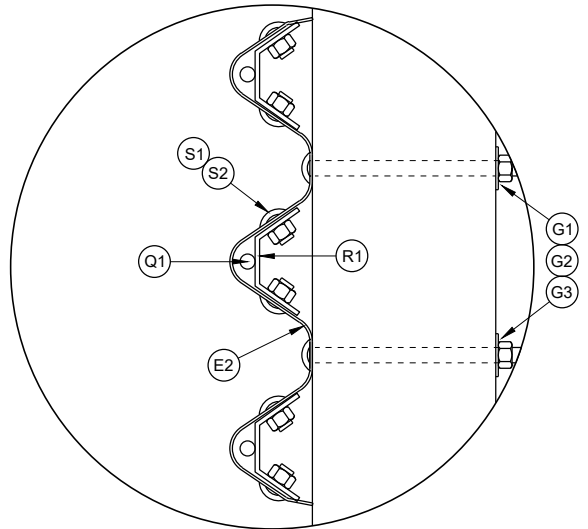
POST NOS. 3-8



POST NOS. 9 AND ALL STEEL
THRIE BEAM POSTS BEYOND



EXPLODED VIEW
DETAIL "A"



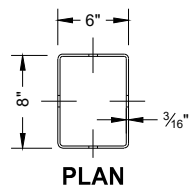
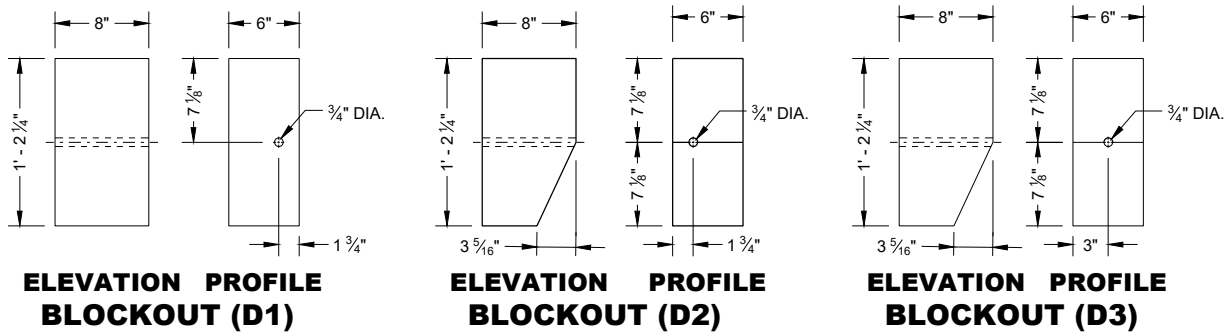
DETAIL "B"

GENERAL NOTES

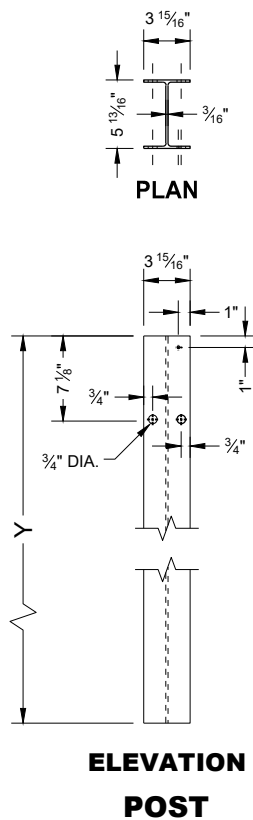
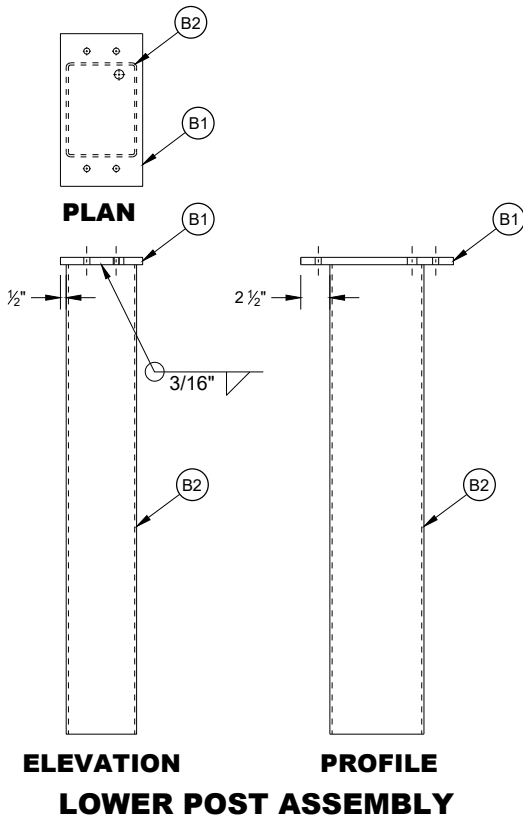
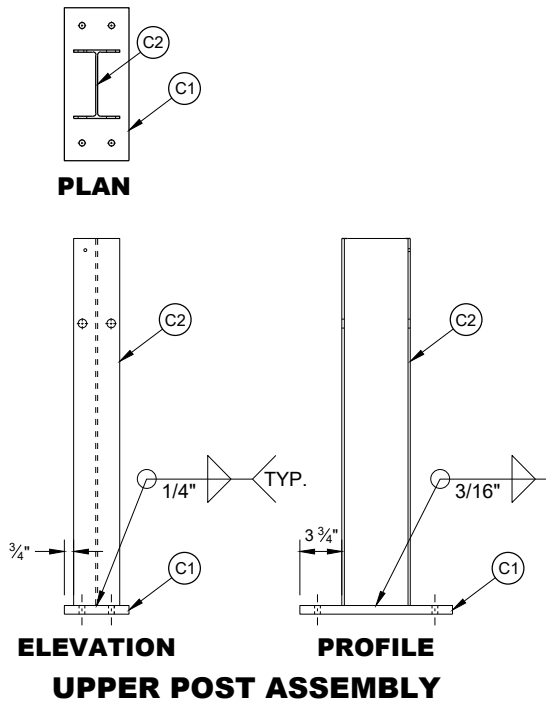
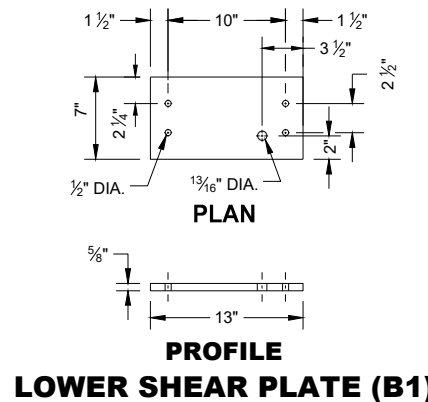
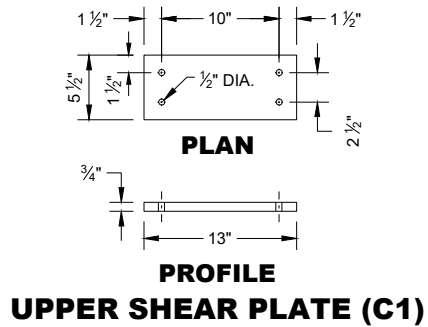
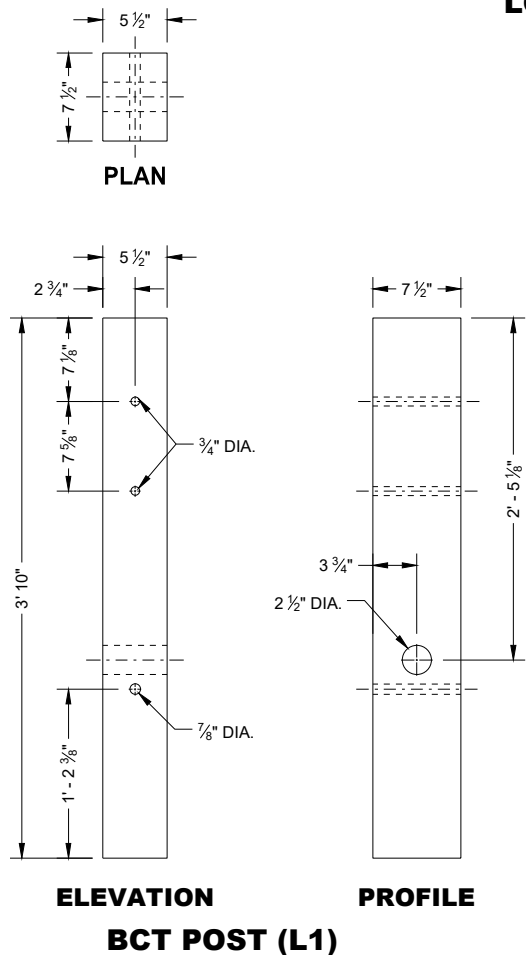
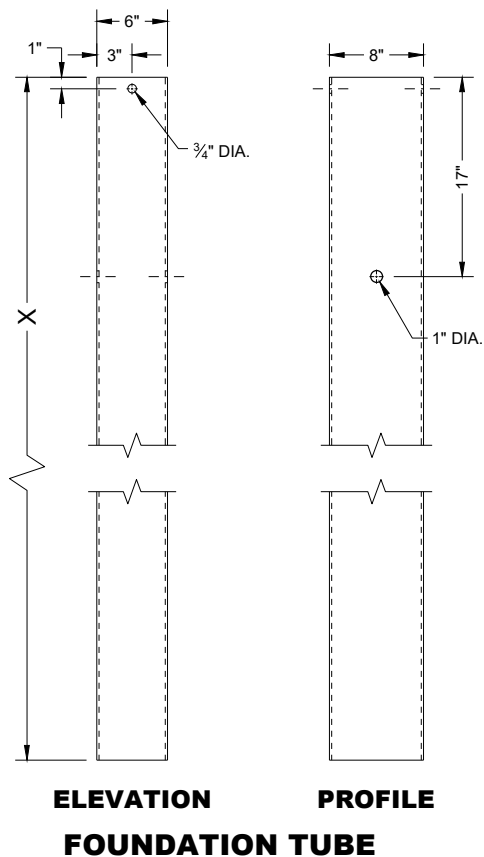
- 400 RAIL CAN BE E3 OR E4 DEPENDING ON POST LOCATION.
- 401 TORQUE BOLD BETWEEN 60-75 FT-LB
- 402 HEIGHT WILL VARY WITHIN HEIGHT TRANSITION TO OTHER HARDWARE. SEE NOTE 213, SHEET "b".

STEEL THRIE BEAM
BULLNOSE TERMINAL

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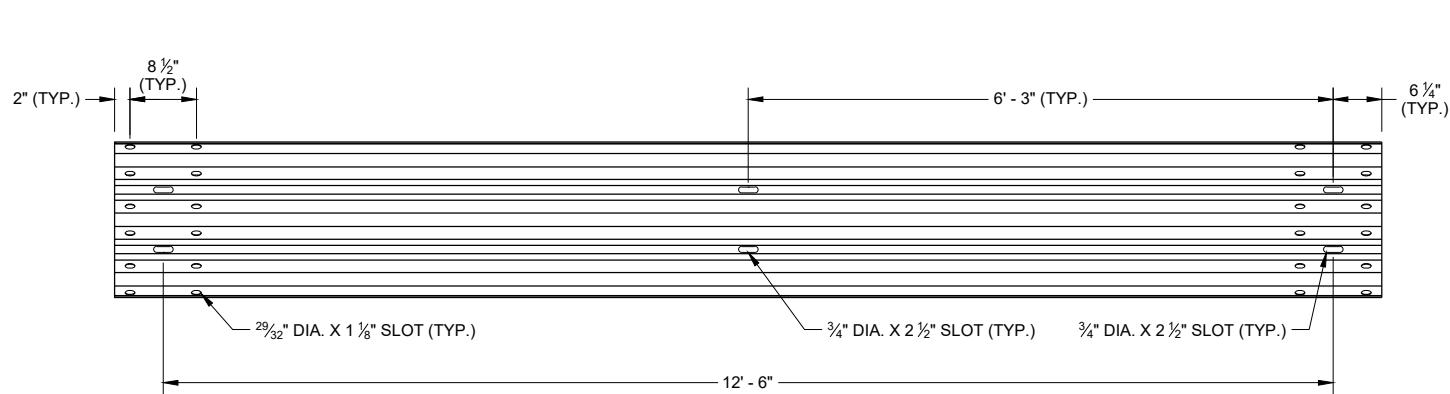
PART	LENGTH "X"
A1	8' - 0"
A2	6' - 0"
B2	3' - 4"



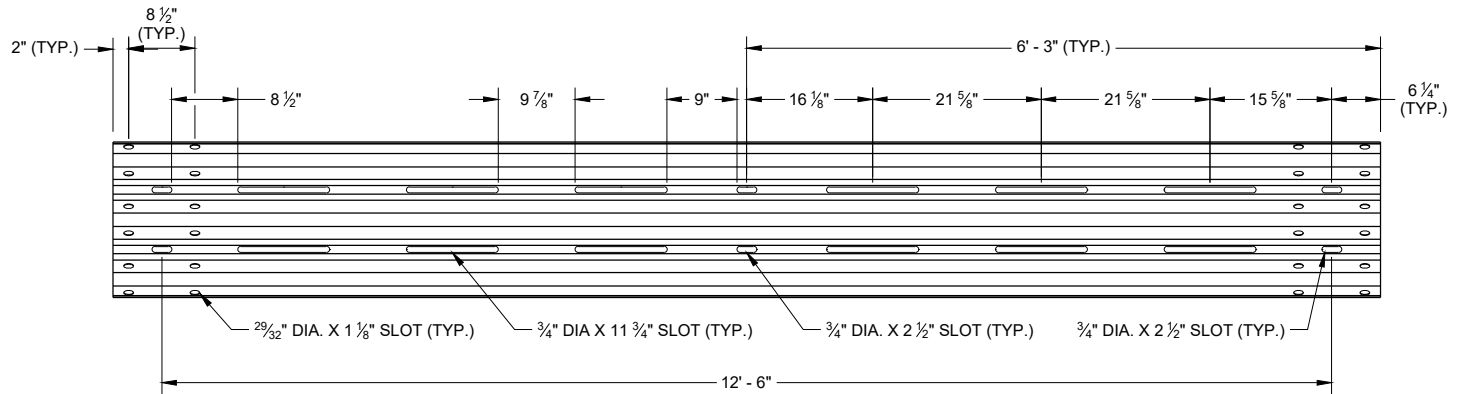
PART	LENGTH "Y"
M1	6' - 6"
M2	5' - 8 5/8"
C2	2' - 7 5/8"

**STEEL THRIE BEAM
BULLNOSE TERMINAL**

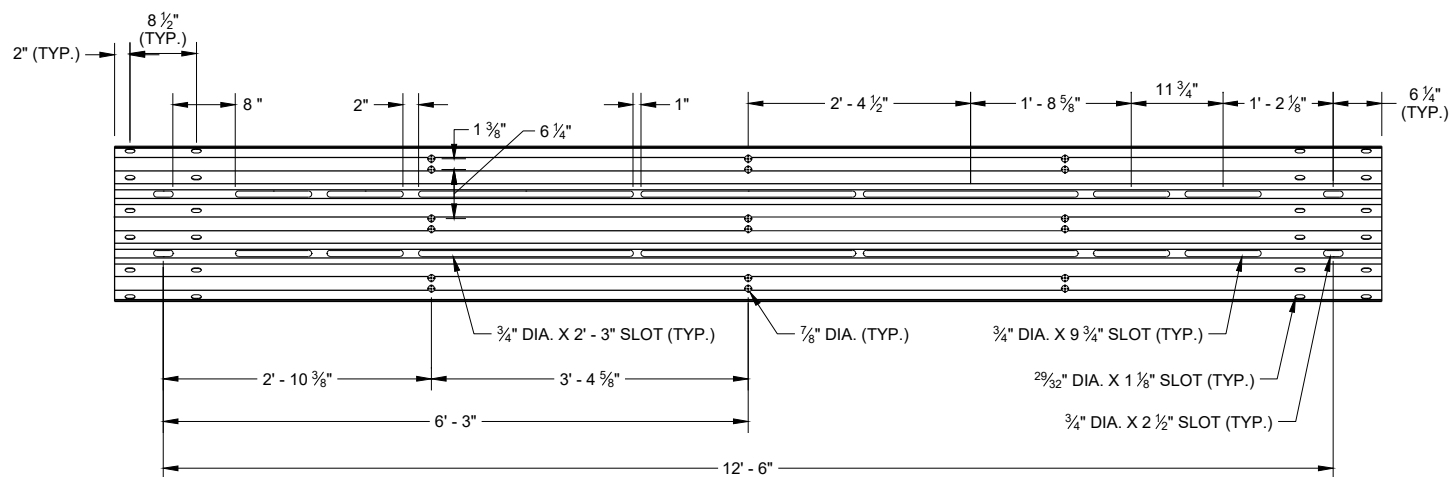
STATE OF WISCONSIN
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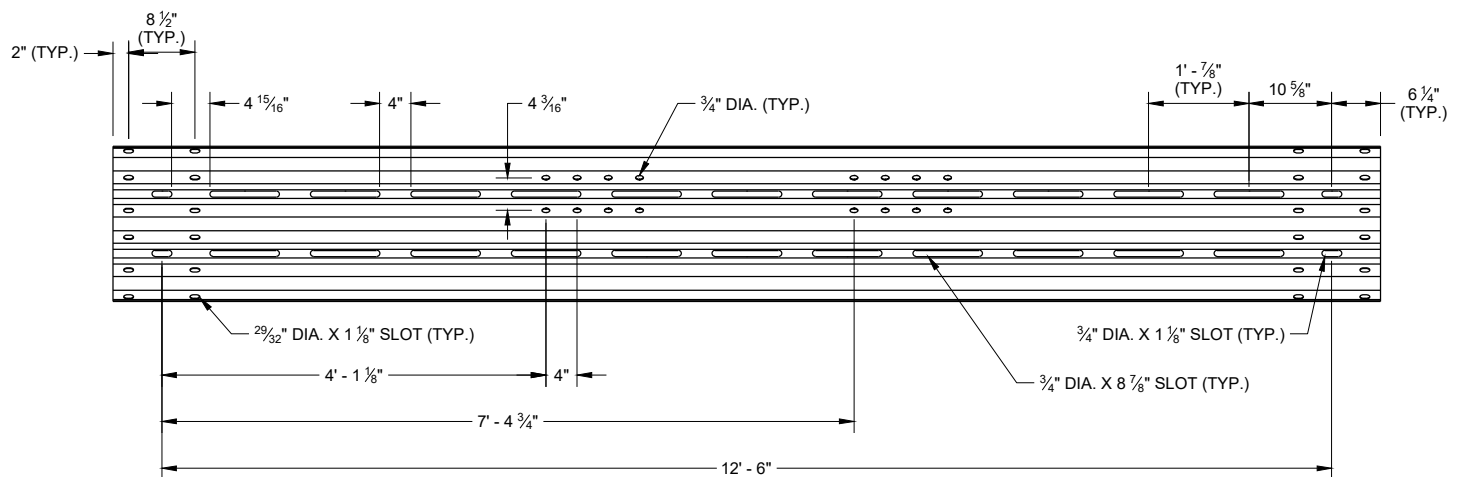
SLOTTED THRIE BEAM RAIL E1



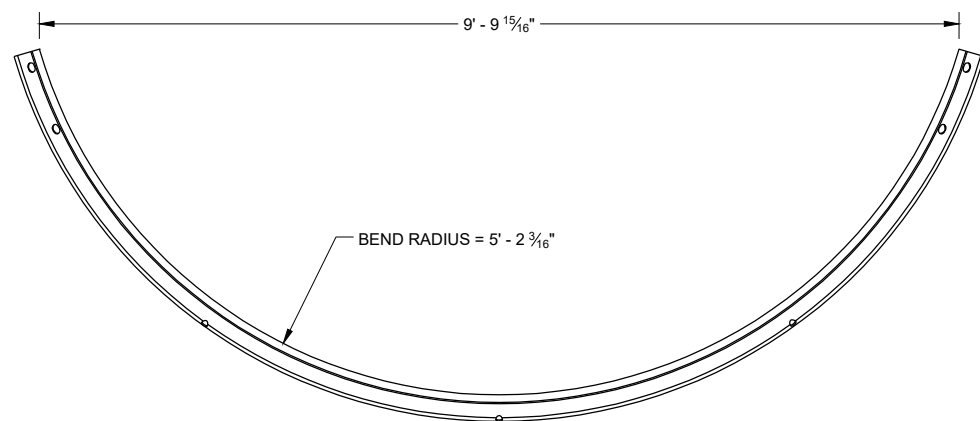
SLOTTED THRIE BEAM RAIL E3



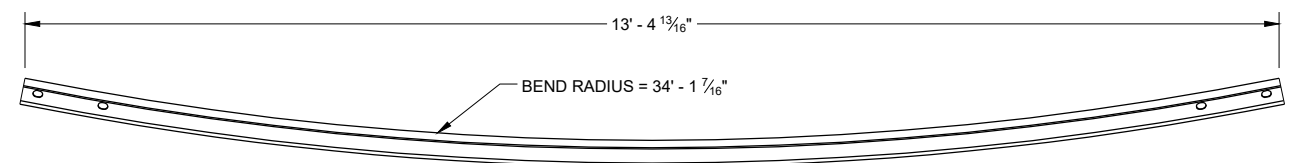
**ELEVATION VIEW NON - RADIUS
SLOTTED THRIE BEAM RAIL E2**



**ELEVATION VIEW NON - RADIUS
SLOTTED THRIE BEAM RAIL E4**



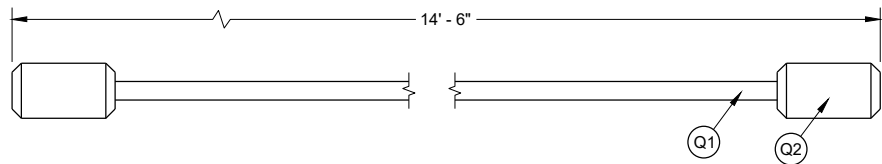
**PLAN VIEW
SLOTTED THRIE BEAM RAIL E2**



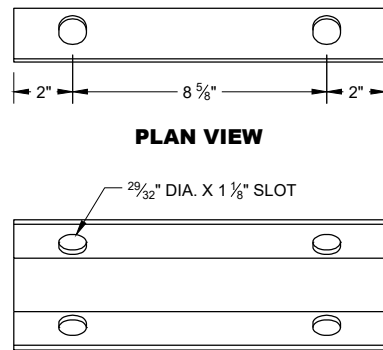
**PLAN VIEW
SLOTTED THRIE BEAM RAIL E4**

**STEEL THRIE BEAM
BULLNOSE TERMINAL**

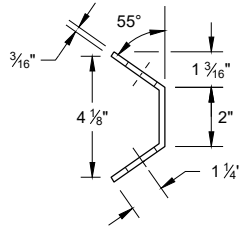
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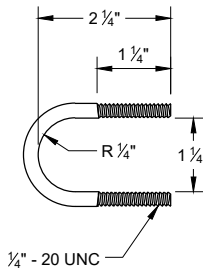
NOSE CABLE AND SWAGE BUTTON



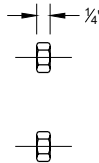
**ELEVATION VIEW
NOSE CABLE ANCHOR (R1)**



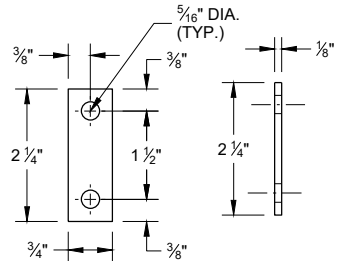
PROFILE VIEW



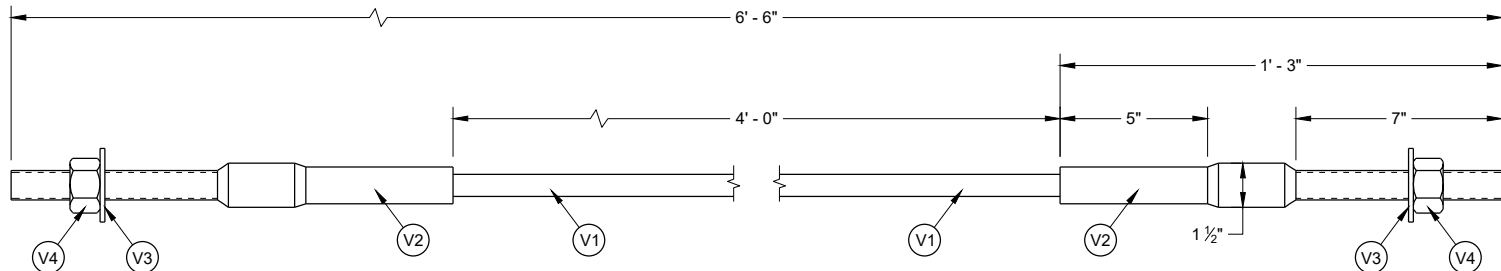
**U - BOLT
(T1)**



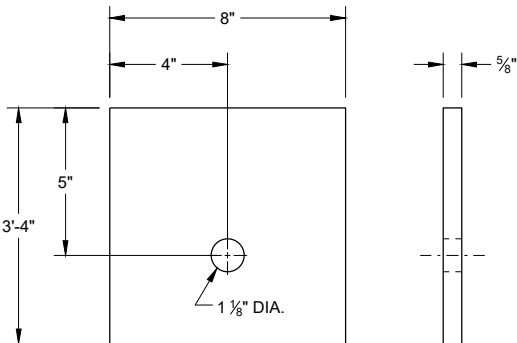
**U - BOLT
NUT (T3)**



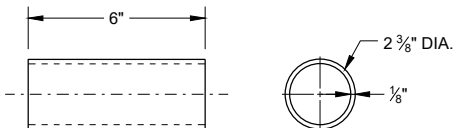
**ELEVATION VIEW PROFILE VIEW
U - BOLT
PLATE WASHER (T2)**



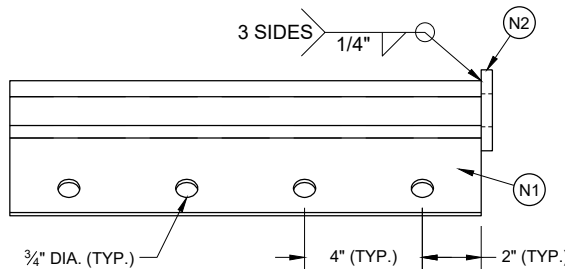
ANCHOR CABLE ASSEMBLY



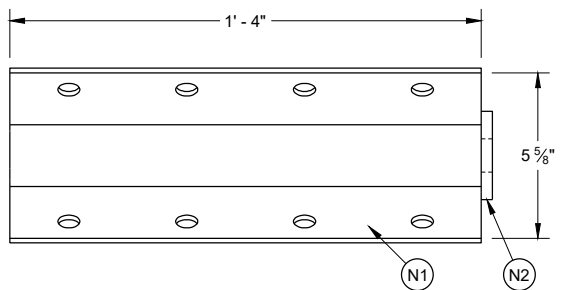
**ELEVATION VIEW PROFILE VIEW
BCT BEARING PLATE (A3)**



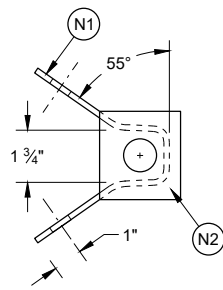
**ELEVATION VIEW PROFILE VIEW
BCT POST SLEEVE (L2)**



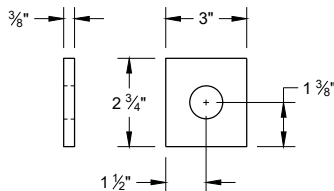
PLAN VIEW



**ELEVATION VIEW
ANCHOR BRACKET ASSEMBLY (N1)**



PROFILE VIEW



**ANCHOR BRACKET
END PLATE (N2)**

**STEEL THRIE BEAM
BULLNOSE TERMINAL**

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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

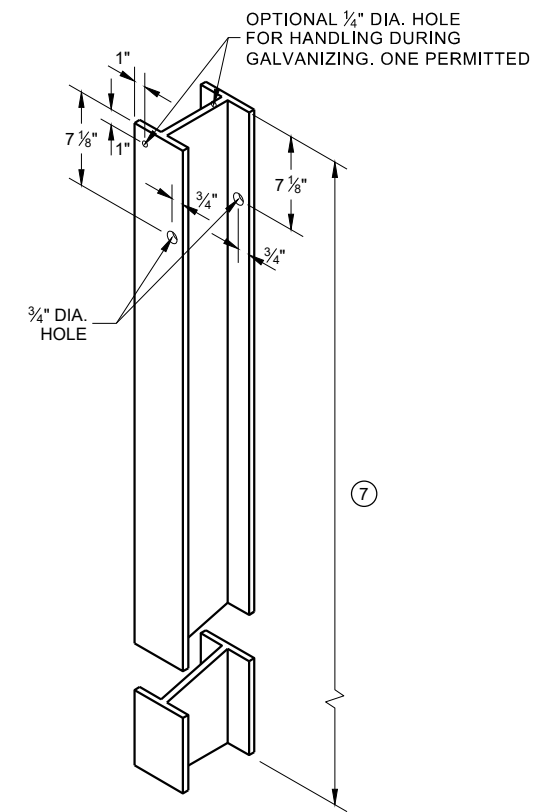
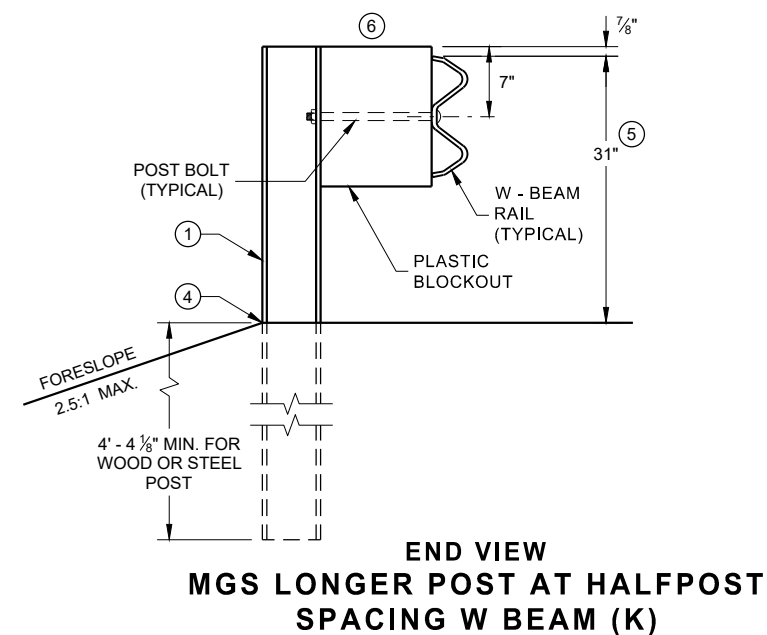
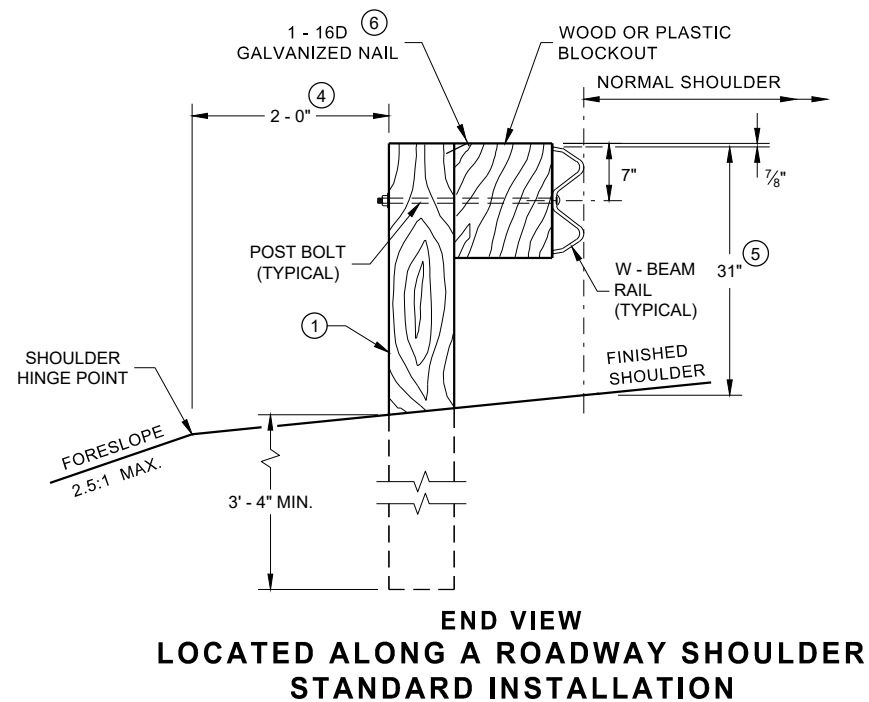
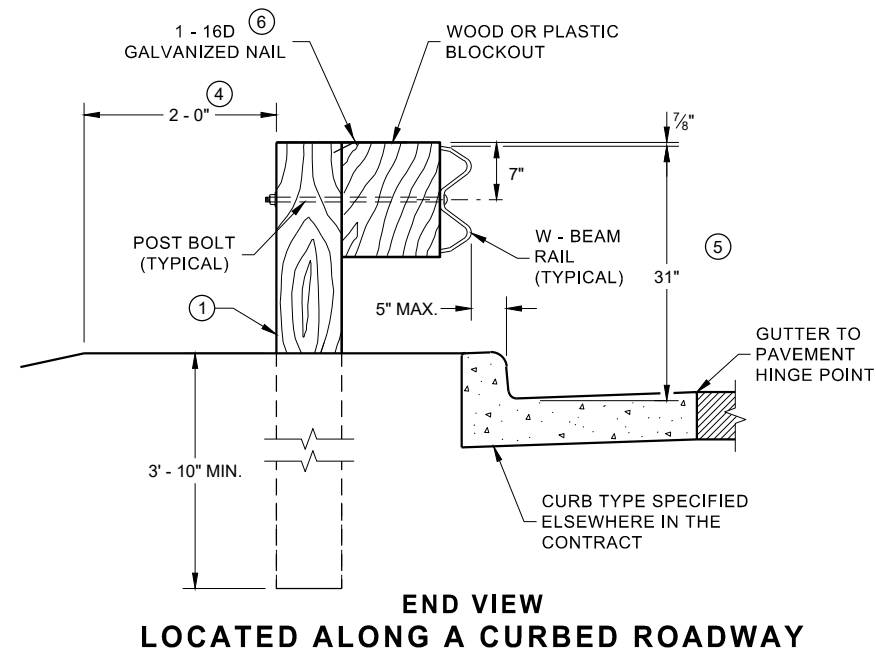
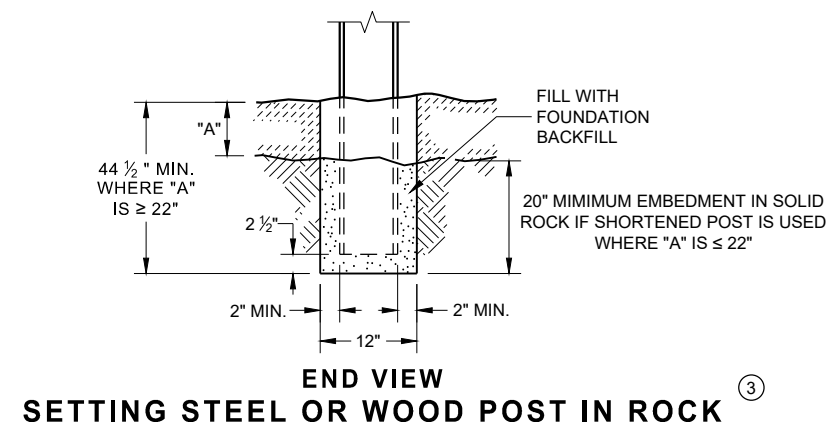
PART NUMBER	DESCRIPTION	MATERIAL SPECIFICATION
P1	5/8" DIA. ANCHOR BRACKET BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1/ ASTM B695 CLASS 50 TYPE 1 UNC HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36
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 ASSEMBLY - 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 ASSEMBLY - 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

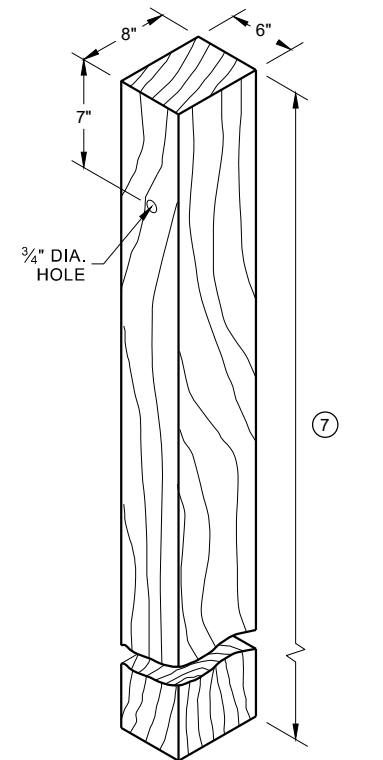
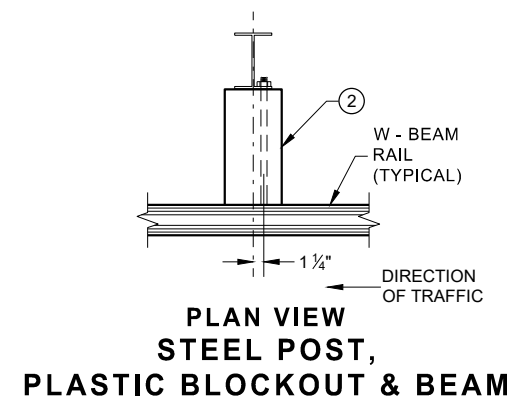
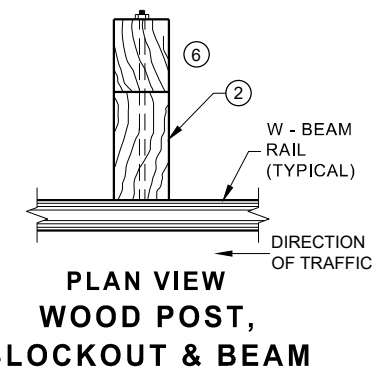
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 274
FHWA

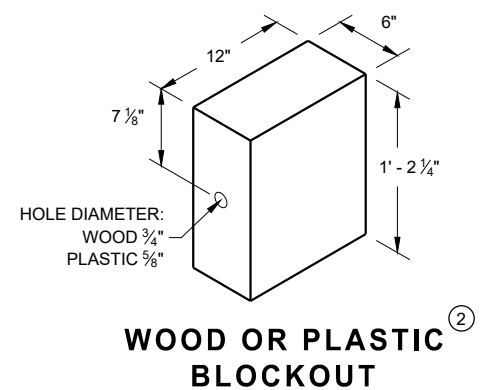
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. 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 AND 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 $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



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



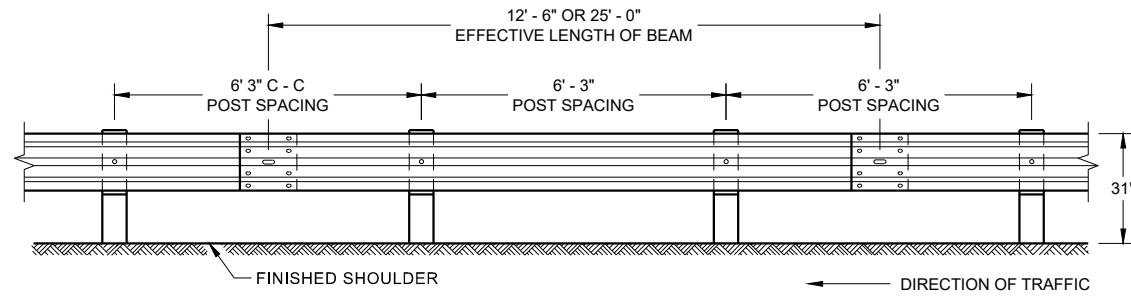
WOOD POST (6" X 8") NOMINAL ⁽¹⁾



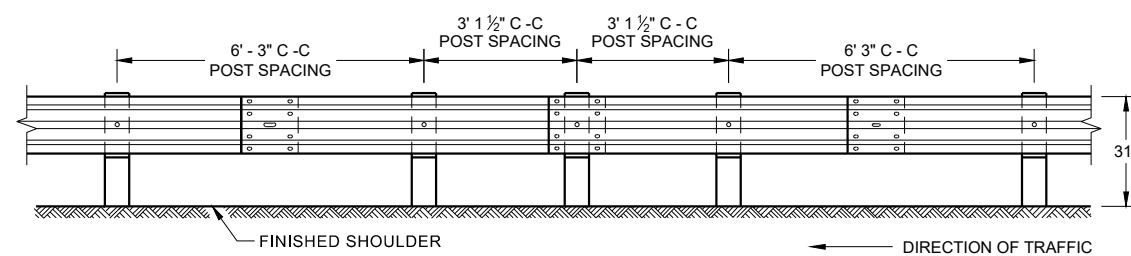
**WOOD OR PLASTIC
BLOCKOUT**

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

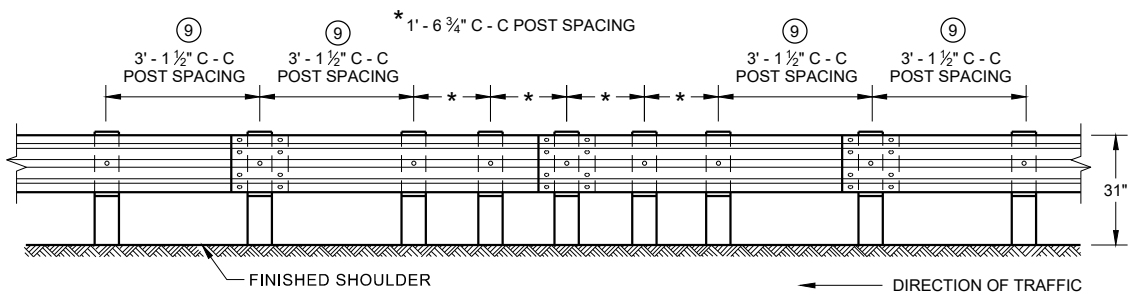
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 275



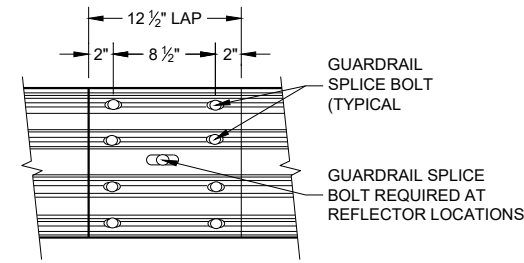
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



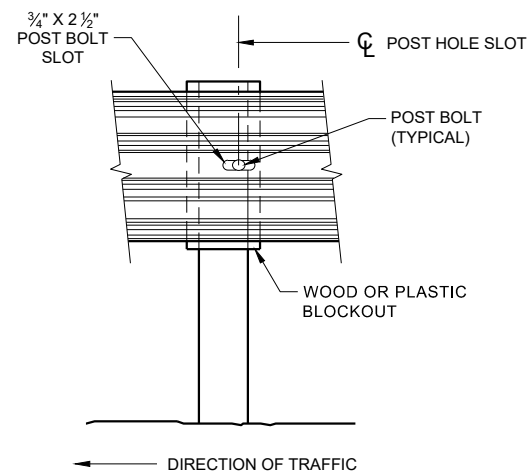
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



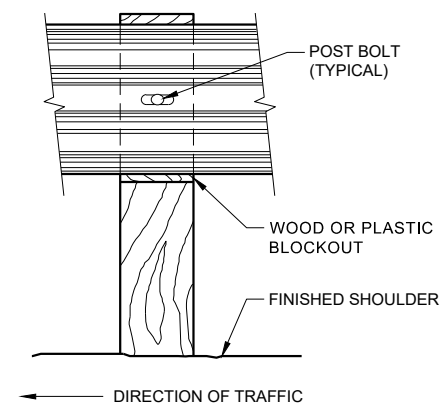
**FRONT VIEW
QUARTER POST SPACING (QS)**



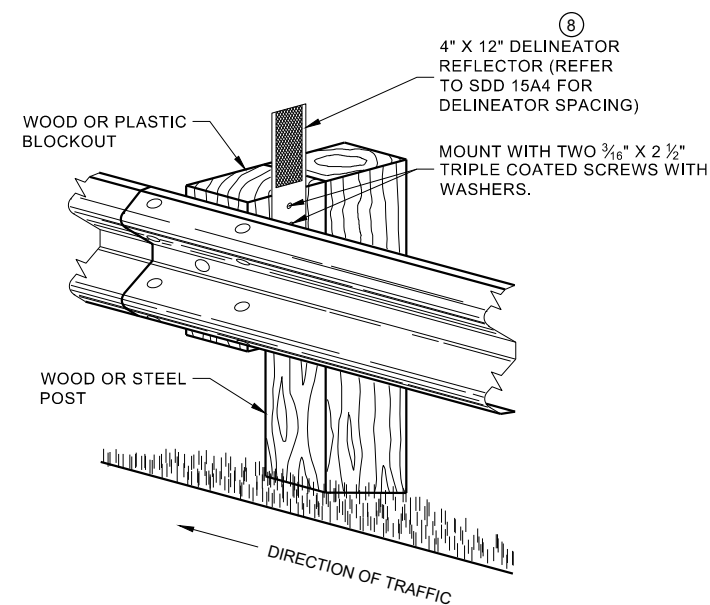
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



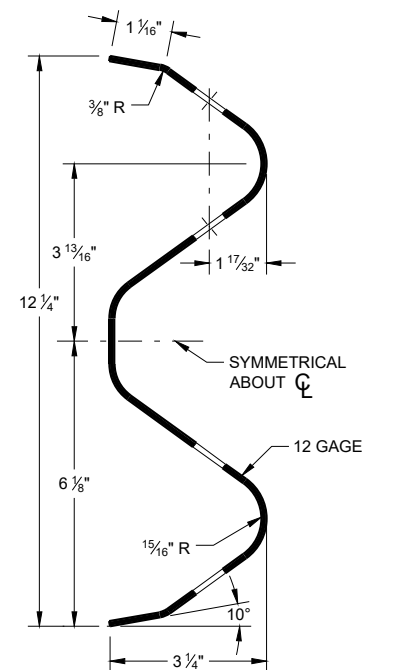
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

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 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

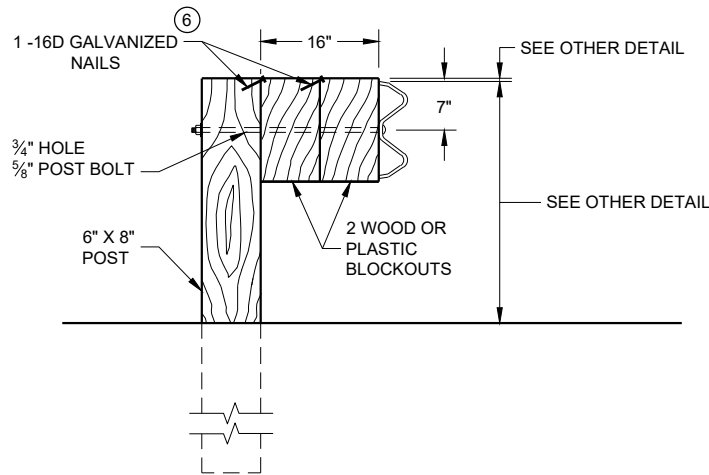
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

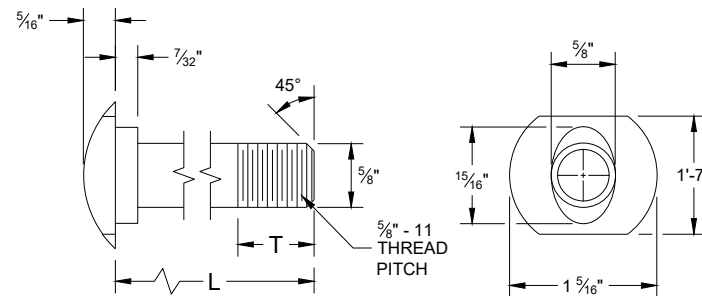
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 276



DETAIL FOR 16" BLOCKOUT DEPTH

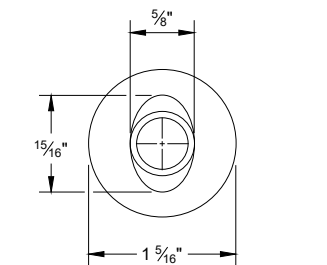
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF $\frac{3}{16}$ ".
 2. IF THE BOLT EXTENDS MORE THAN $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

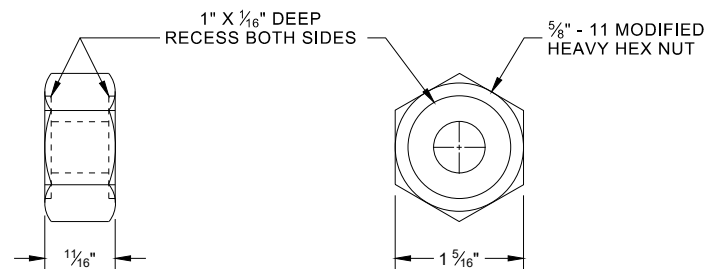


POST BOLT TABLE

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"

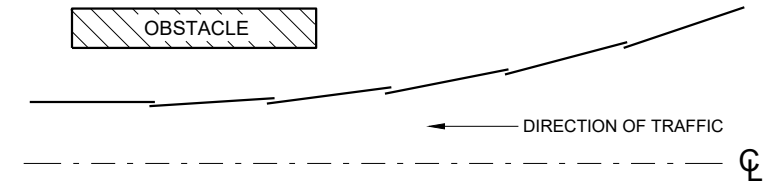


ALTERNATE BOLT HEAD

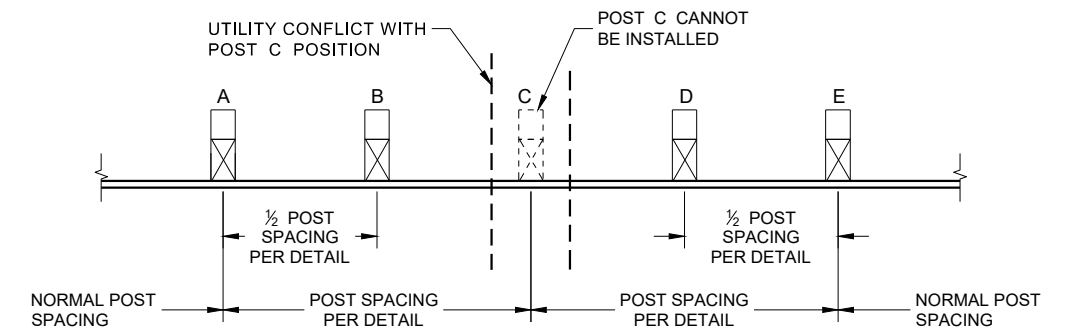


POST BOLT, SPLICE BOLT
AND RECESS NUT

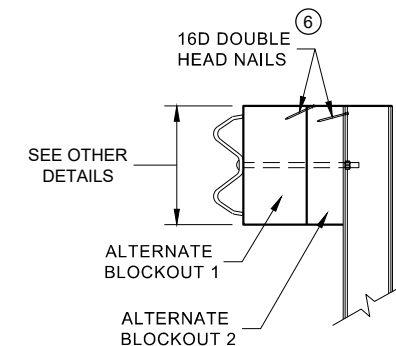
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



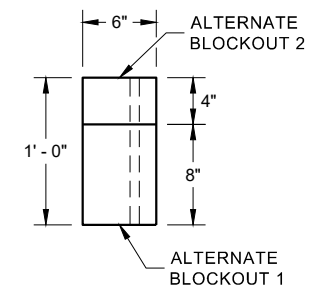
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



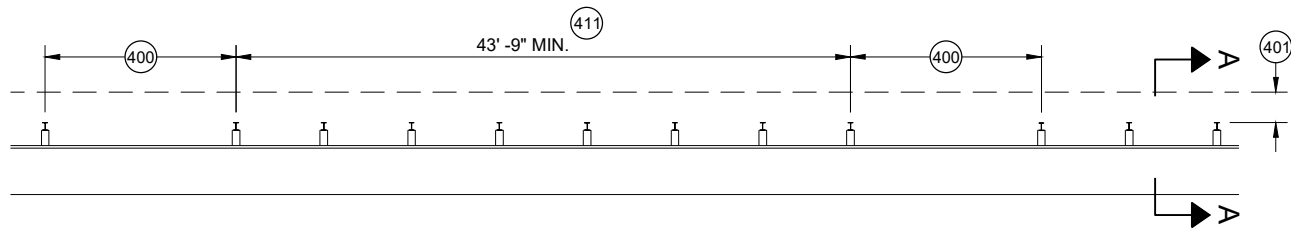
PLAN VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

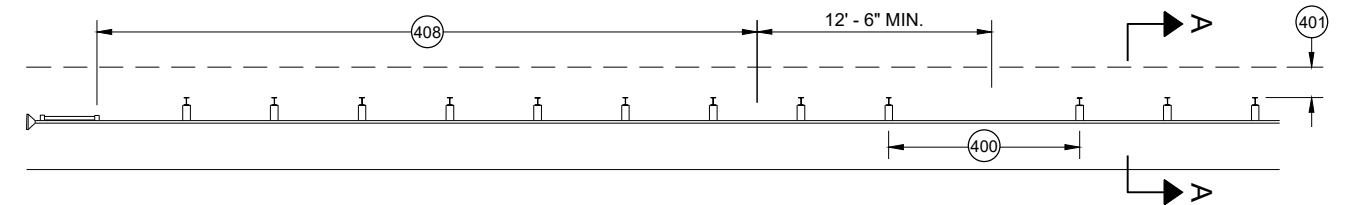
- NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
- DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

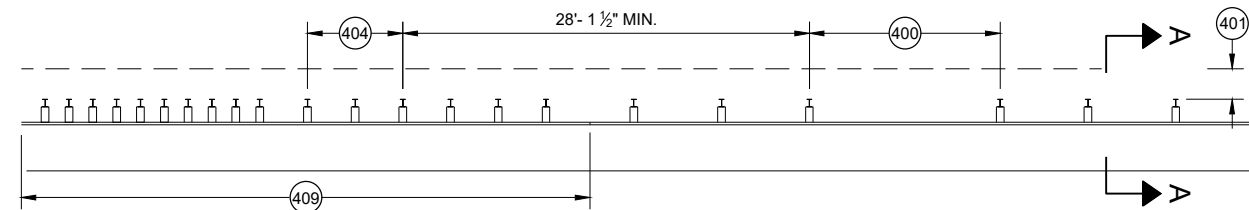
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 277



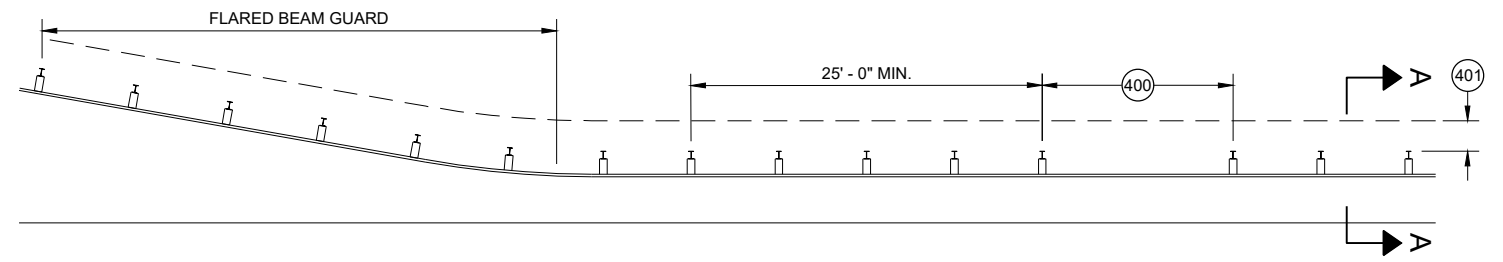
MISSING POST IN MGS GUARDRAIL



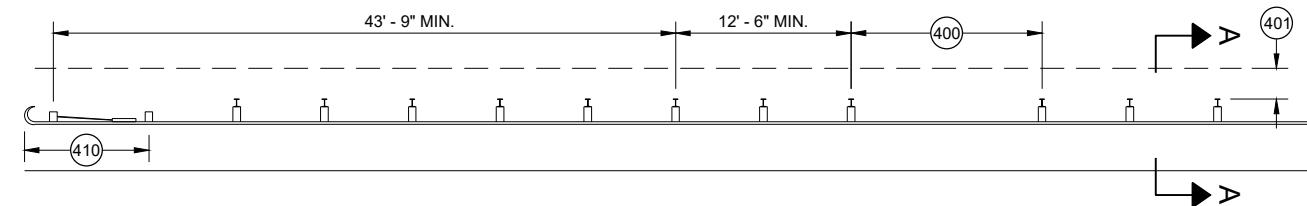
MISSING POST IN MGS GUARDRAIL NEAR EAT



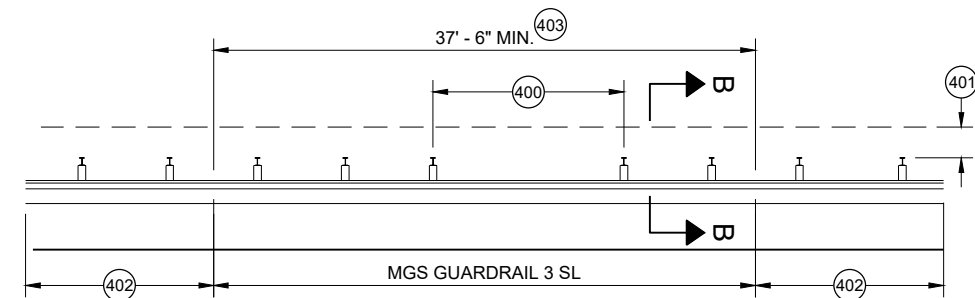
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

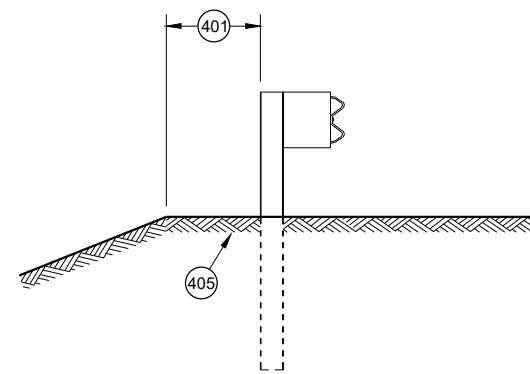


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

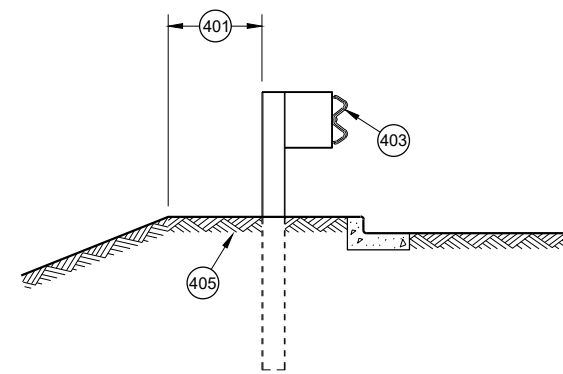


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)

- (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



SECTION B - B

**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

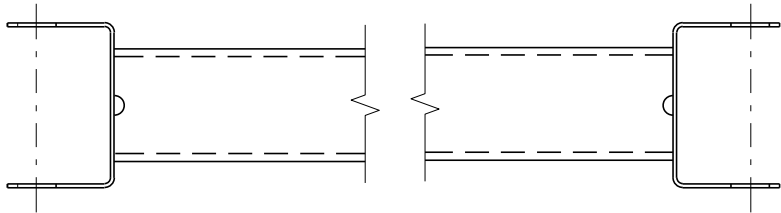
FHWA

- A) 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.
- B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED
- C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
- D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
- E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

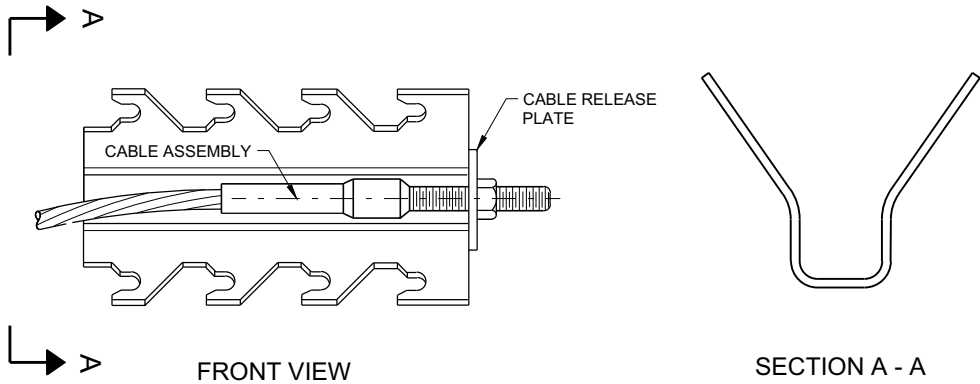
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 279

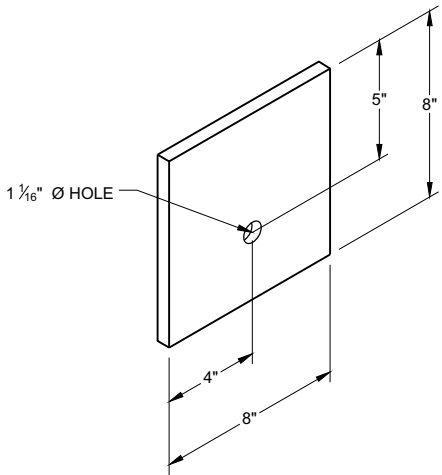


GENERIC GROUND STRUT ⁹ ^E

BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'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



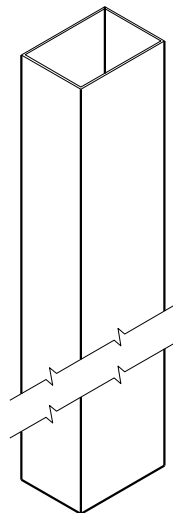
GENERIC ANCHOR CABLE BOX ⁹ ^E



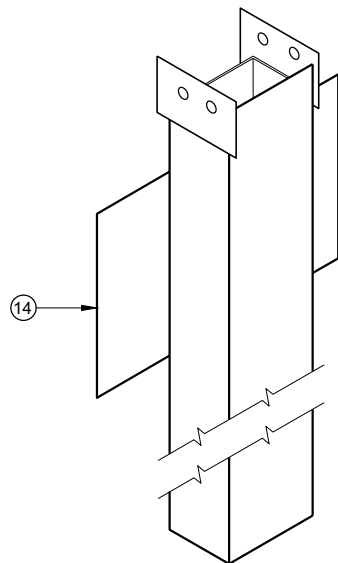
BEARING PLATE ⁶ ^E

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

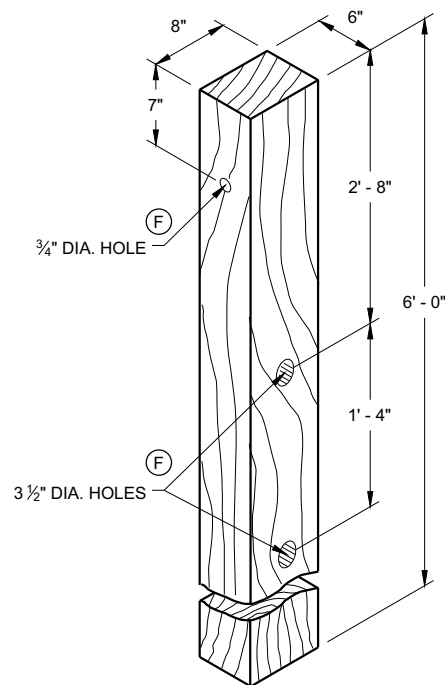
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 280



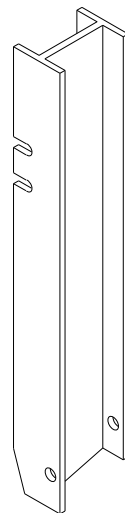
UPPER POST NO. 1 ⁽¹⁾ (E)



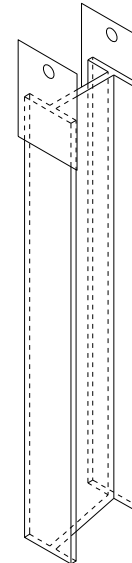
LOWER POST NO. 1 ⁽²⁾ (E)



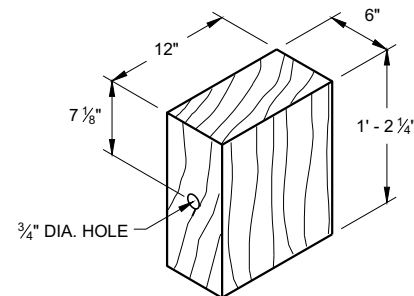
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



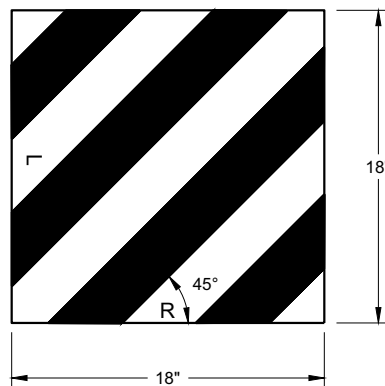
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



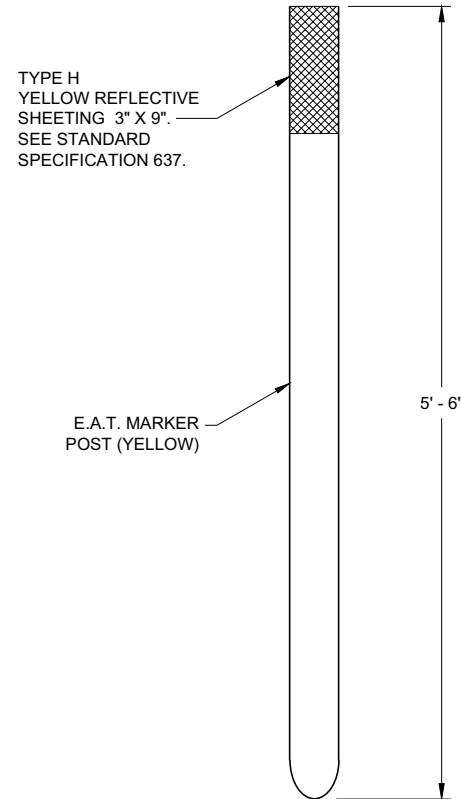
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



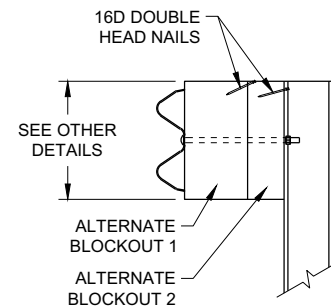
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



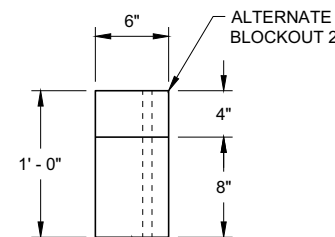
W5 - 59
REFLECTIVE SHEETING DETAIL ^(E)



FRONT VIEW
SIDE VIEW
E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



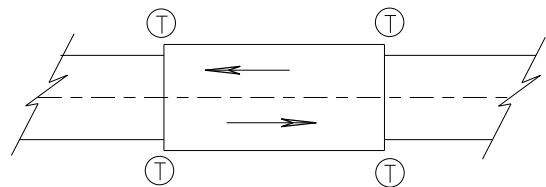
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

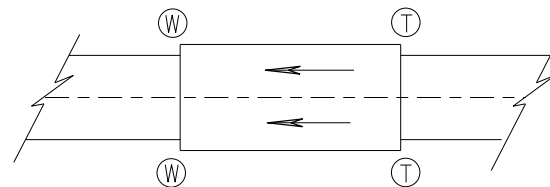
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR 281
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

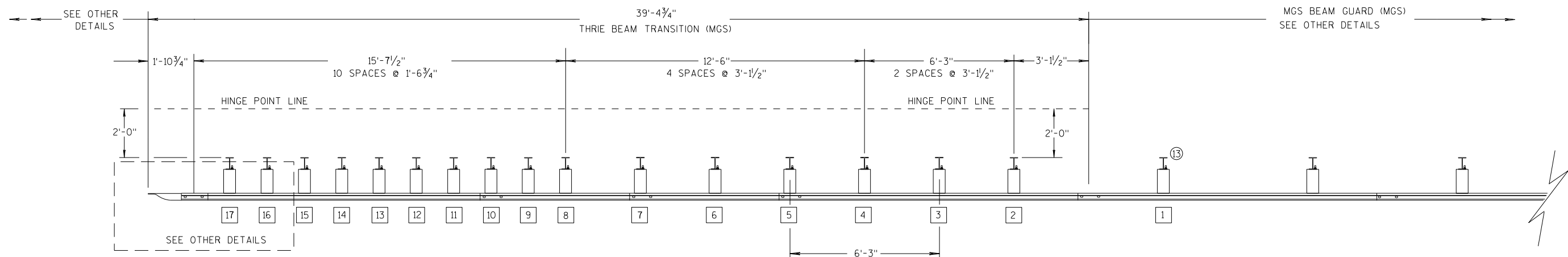
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

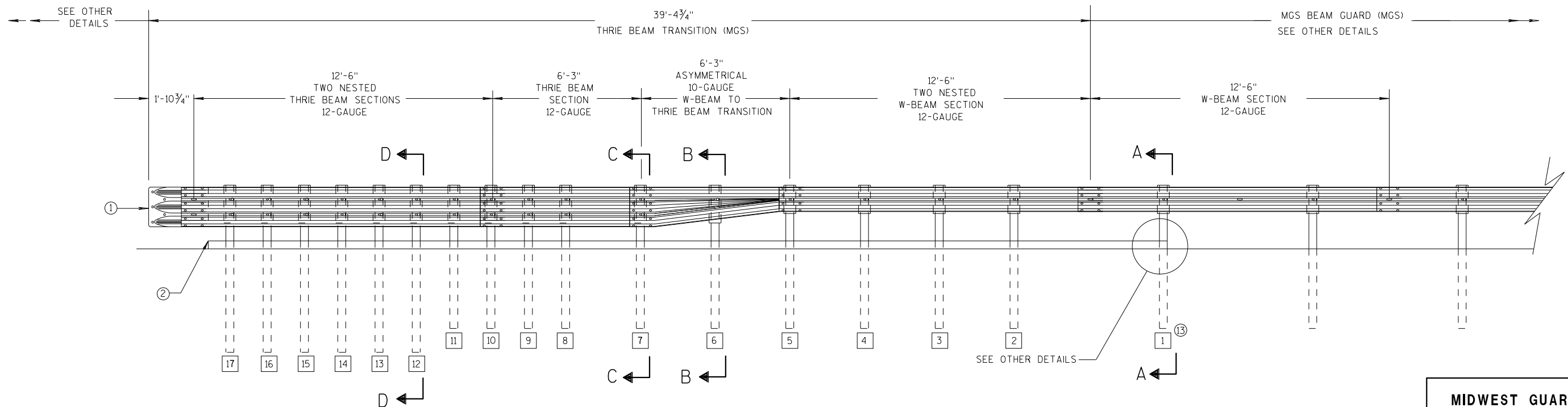
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

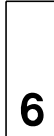
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

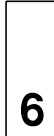
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 282

6

- S.D.D. 14 B 45-5b**



6

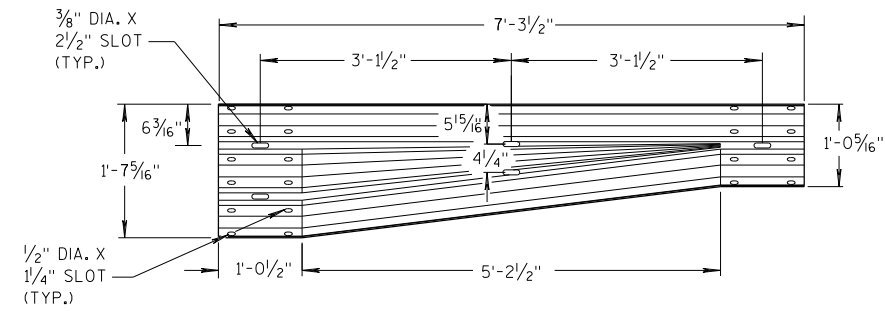


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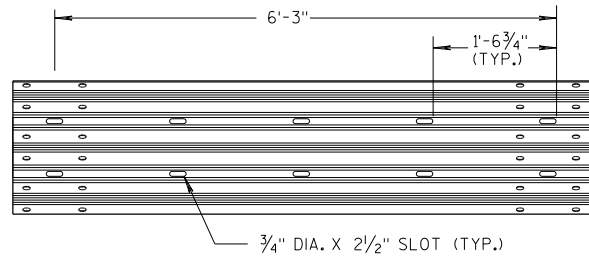


MIDWEST GUARDRAIL SYSTEM THREE BEAM TRANSITION (MGS)

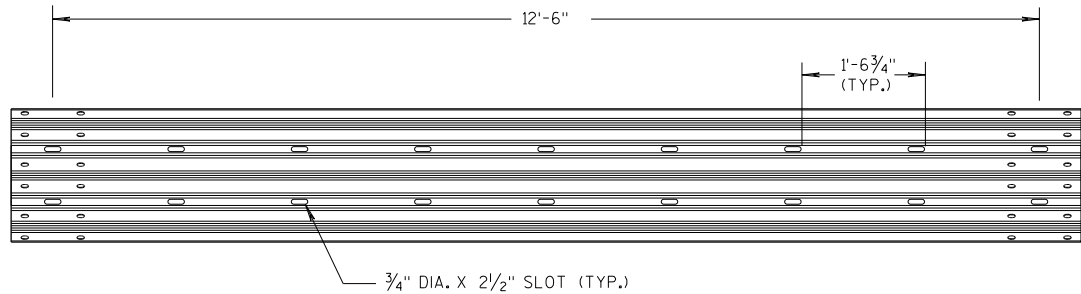
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 283



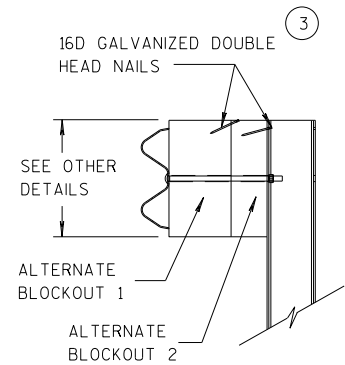
W-BEAM TO THRIE BEAM TRANSITION SECTION



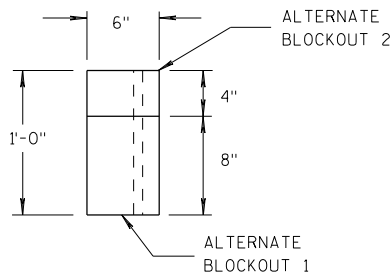
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

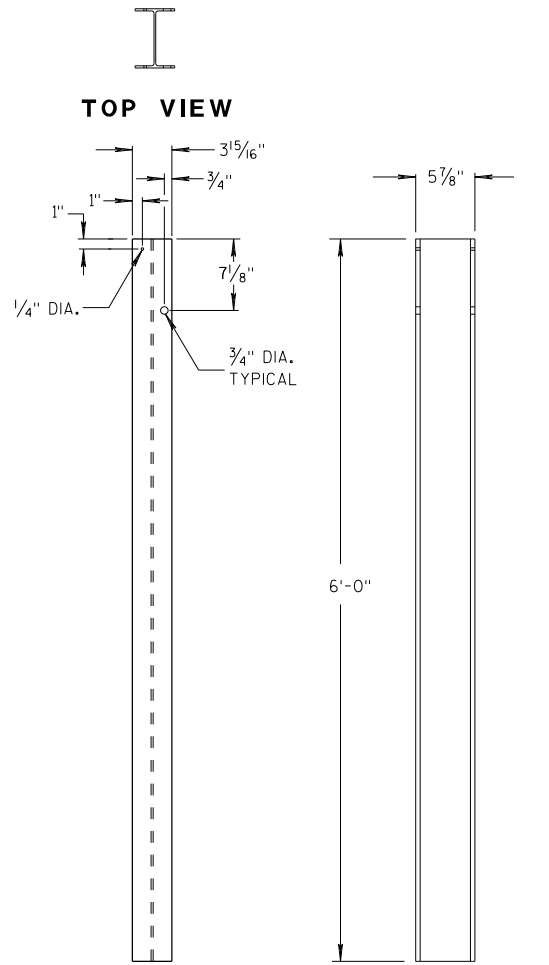


SIDE VIEW



TOP VIEW

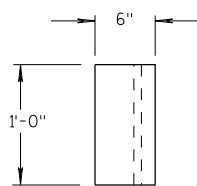
ALTERNATE WOOD BLOCKOUT DETAIL



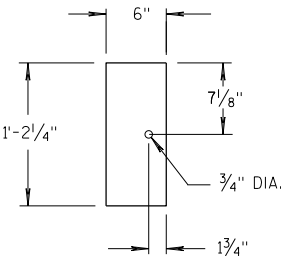
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

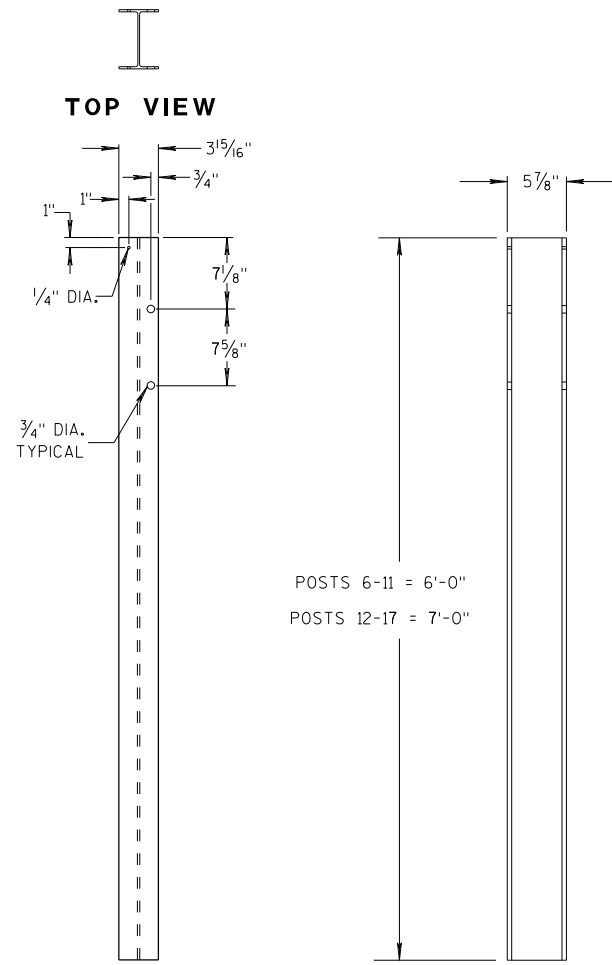


TOP VIEW



FRONT VIEW

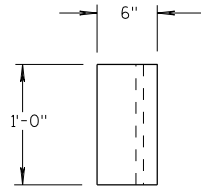
BLOCKOUT POSTS 1-5



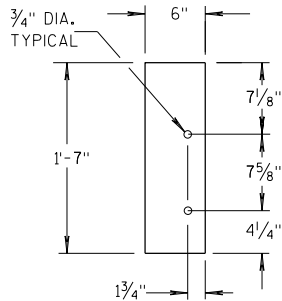
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



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.

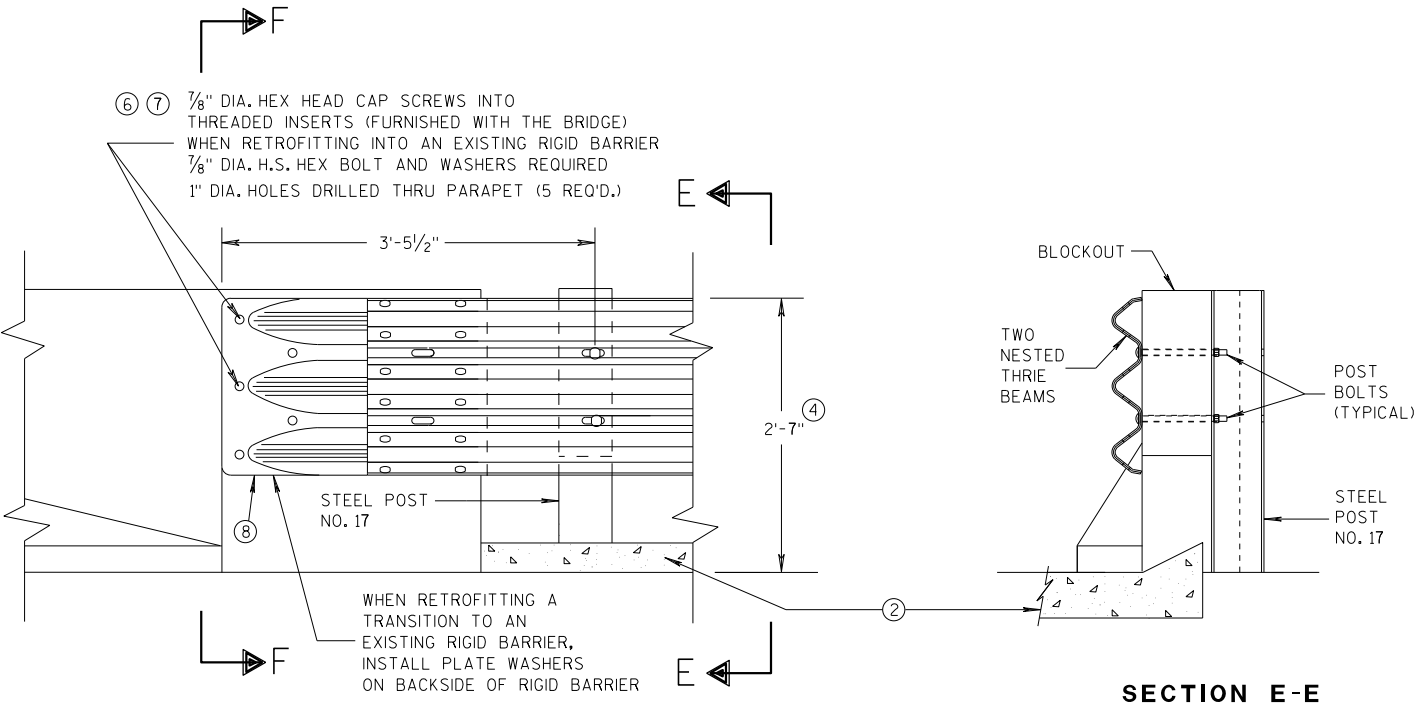
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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.

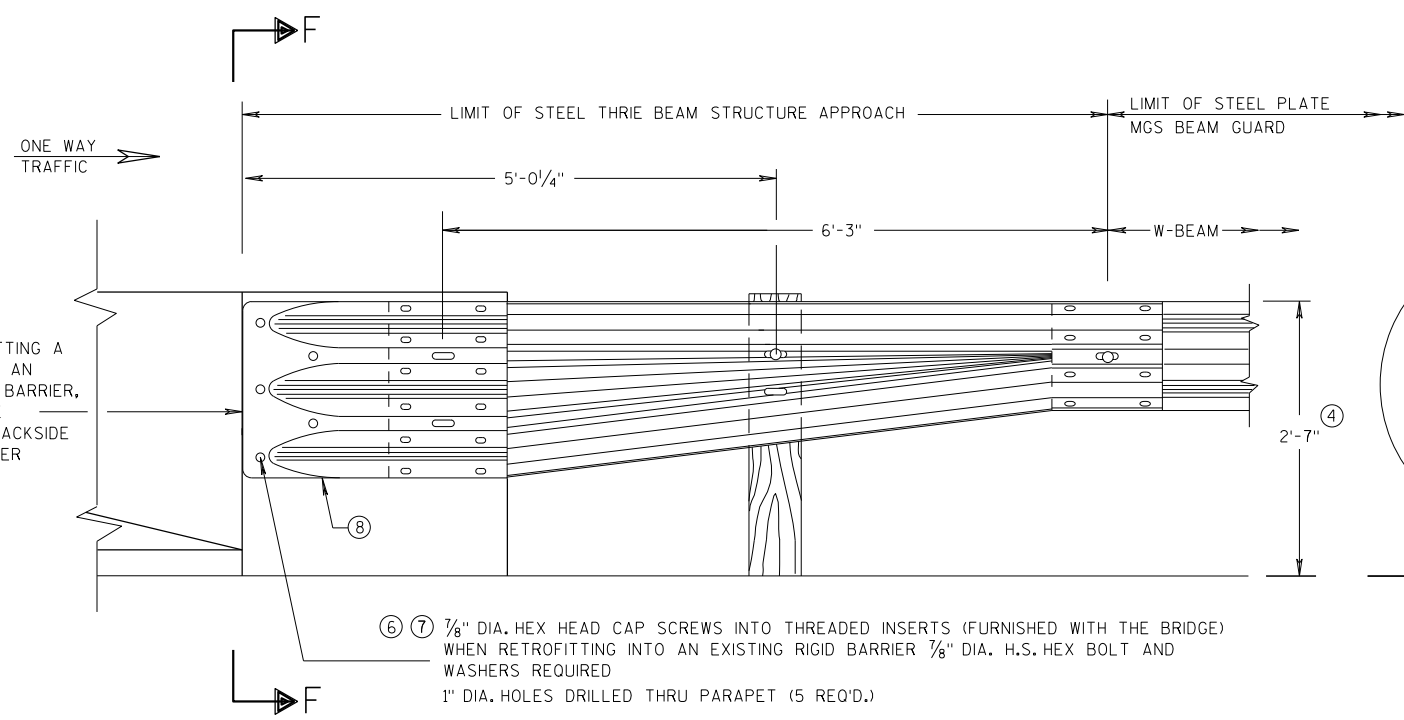
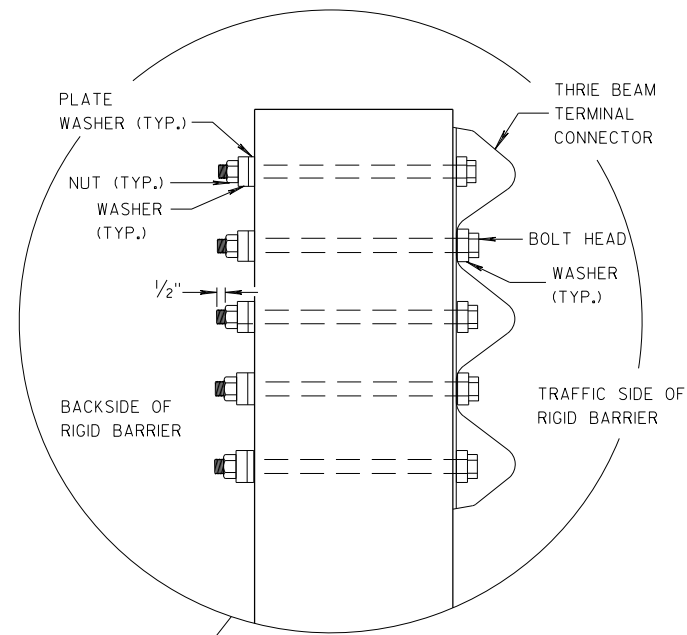
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

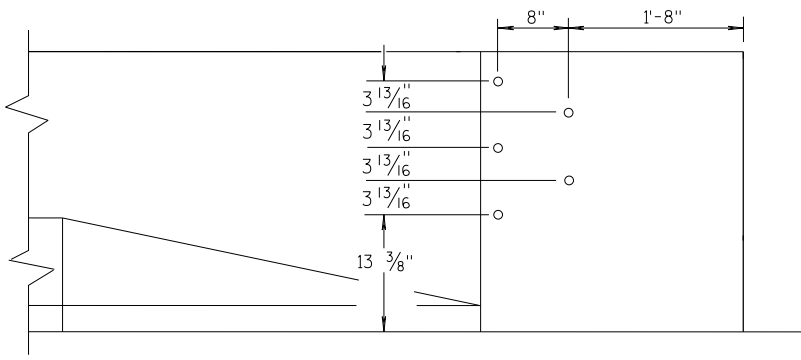


GENERAL NOTES

- 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 $\pm 1"$.
- 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".

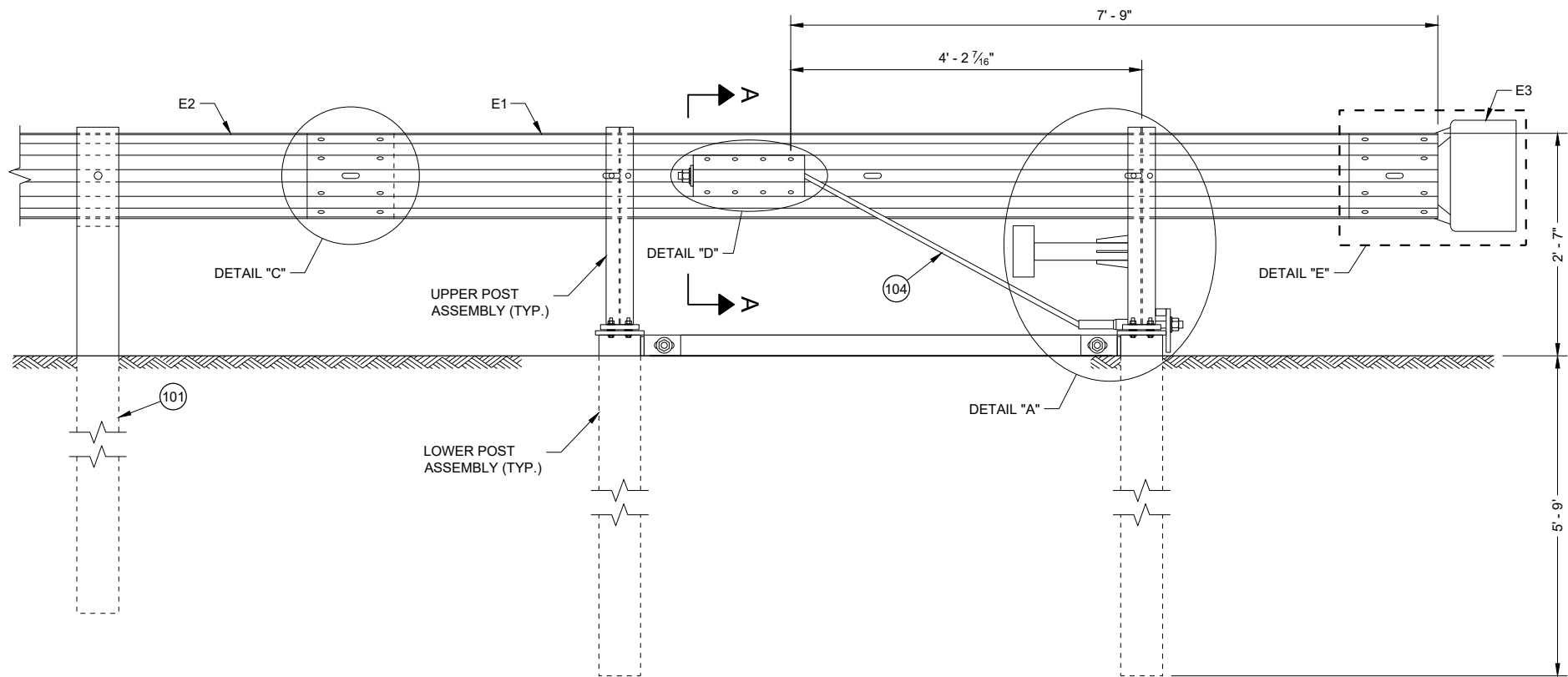


SECTION F-F

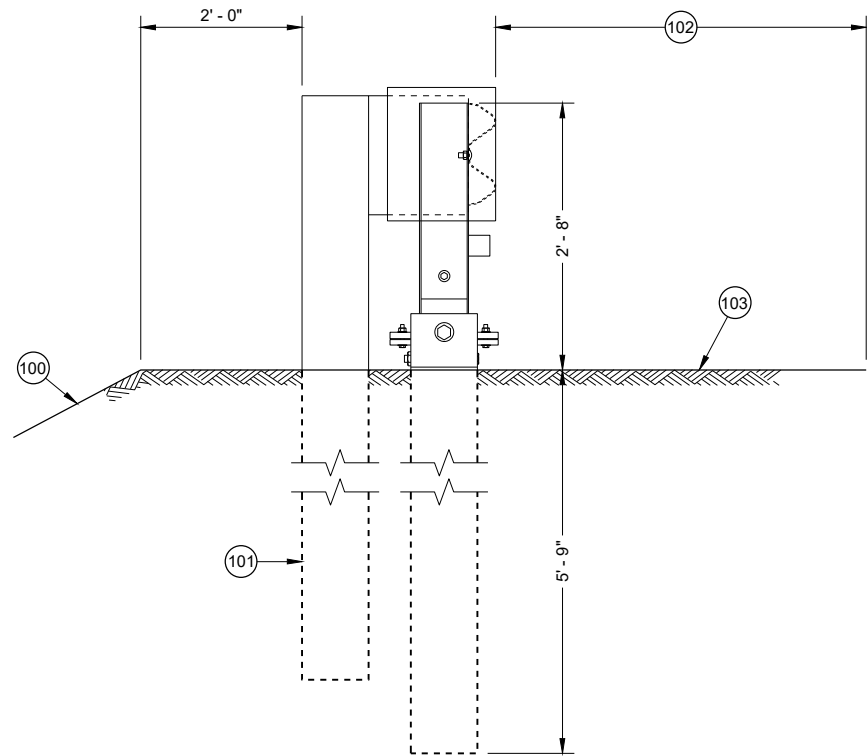


DRILL HOLE LOCATION

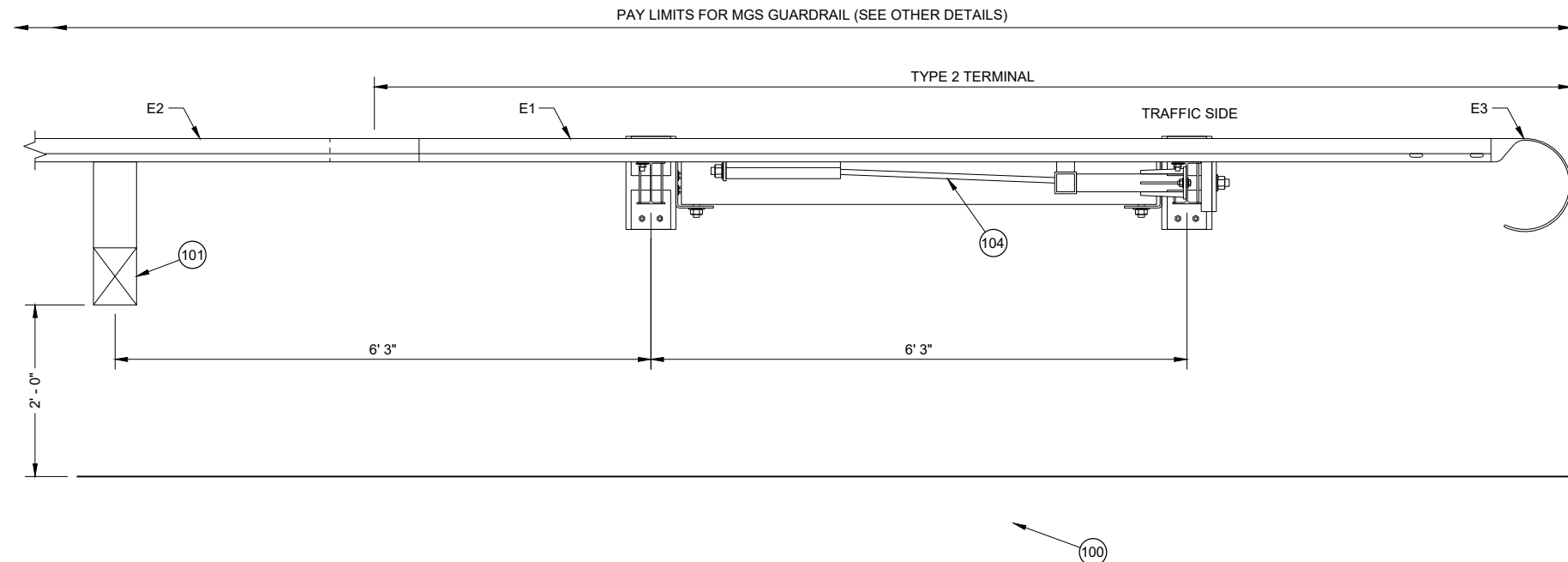
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED 07/2018	/S/ Rodney Taylor		
DATE	ROADWAY STANDARDS	285	INT
FHWA	UNIT SUPERVISOR		



**BACK VIEW
TYPE 2 TERMINAL**



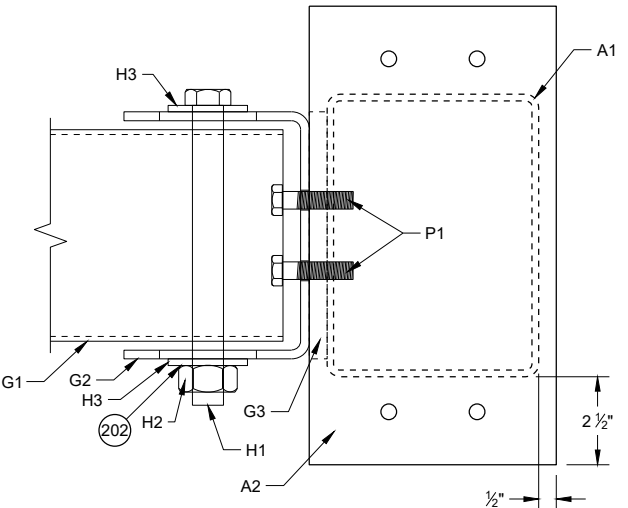
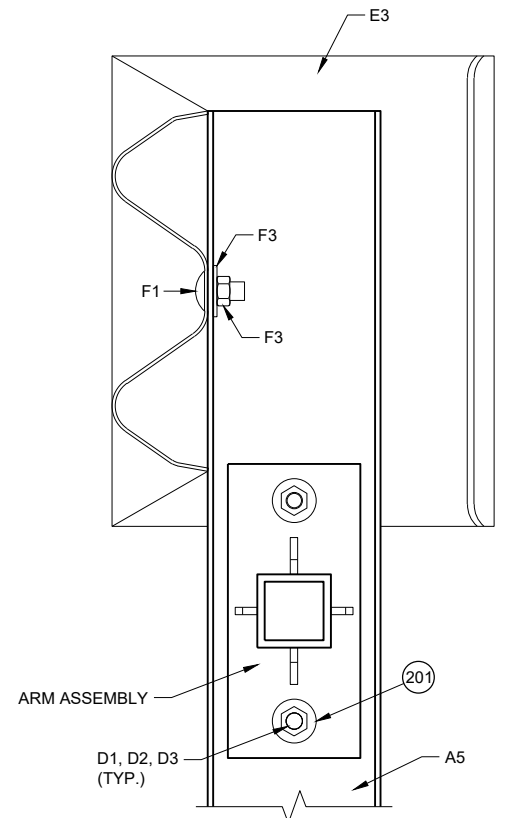
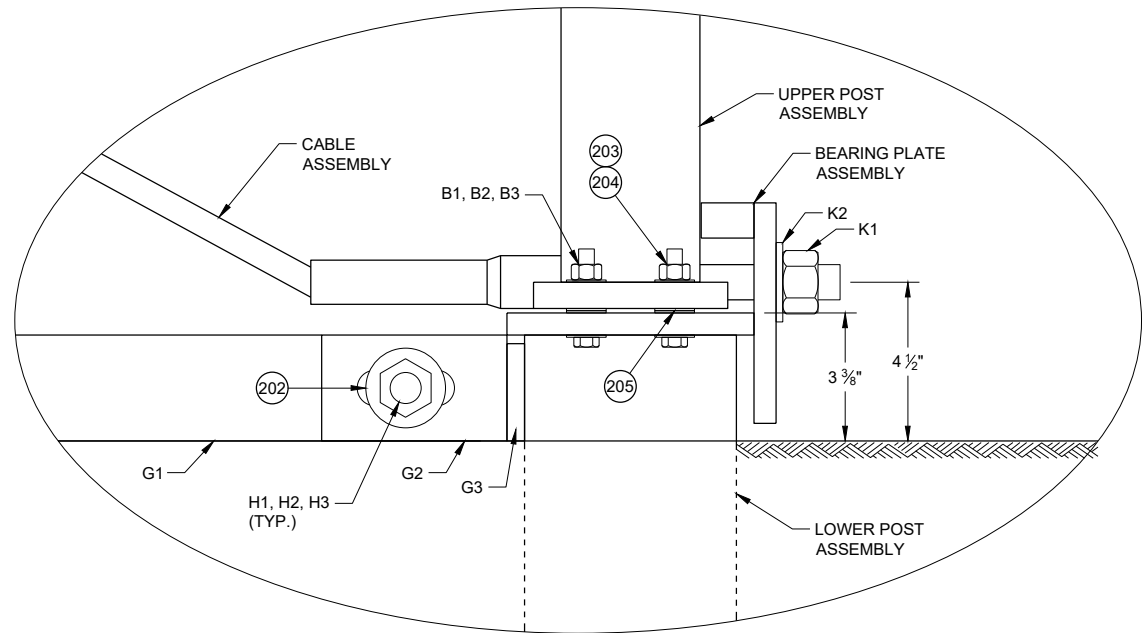
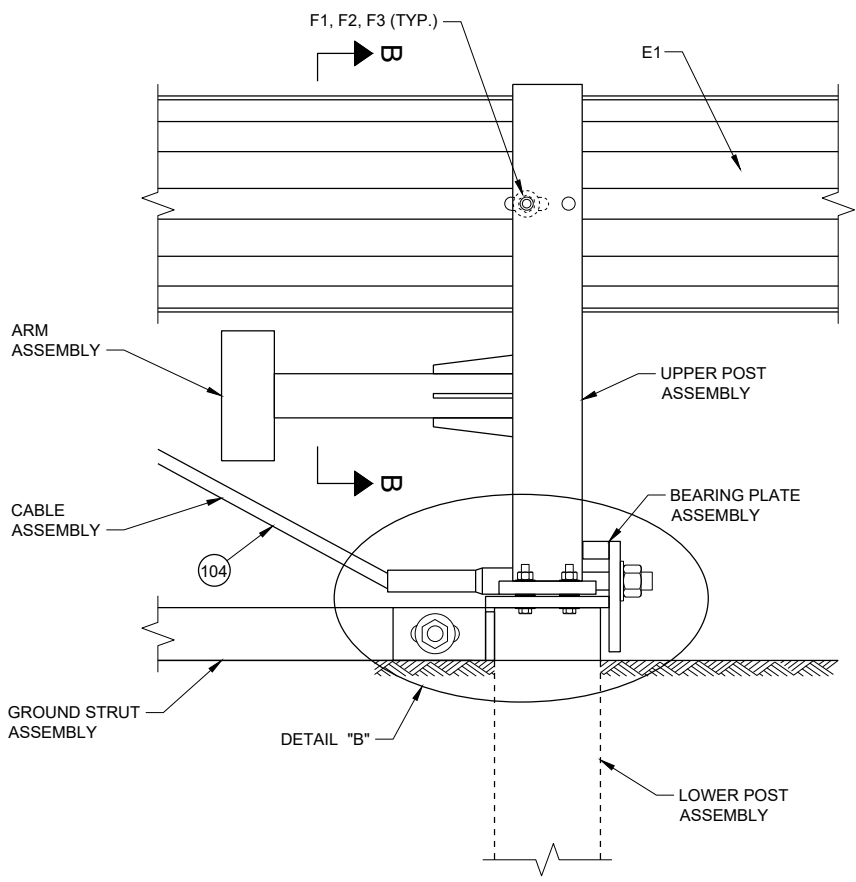
**SIDE VIEW
TYPE 2 TERMINAL**



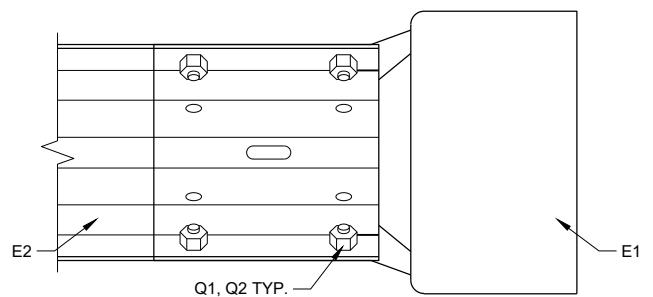
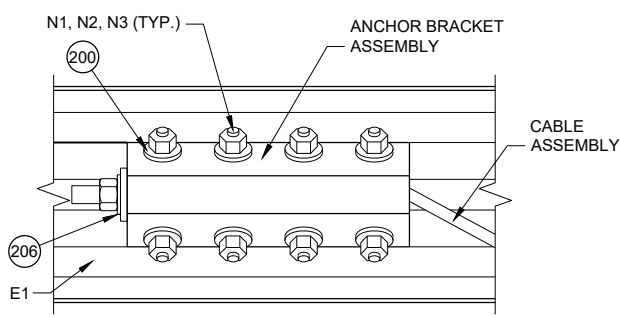
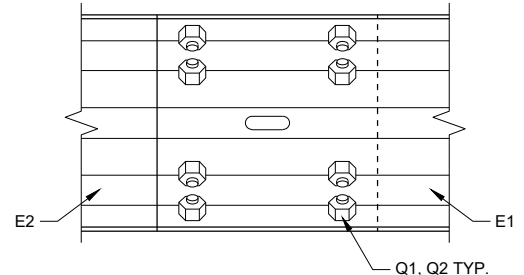
**TOP VIEW
TYPE 2 TERMINAL**

- GENERAL NOTES**
- 100 MAXIMUM SLOPE IS 2.5:1.
 - 101 SEE SDD 14B42 FOR MORE INFORMATION.
 - 102 SHOULDER
 - 103 MAXIMUM SLOPE IS 10:1.
 - 104 AFTER ASSEMBLY, CABLE IS TO BE TIGHTENED WITHOUT TWISTING THE CABLE.

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 286



**TOP VIEW
GROUND STRUT
CONNECTION DETAIL**

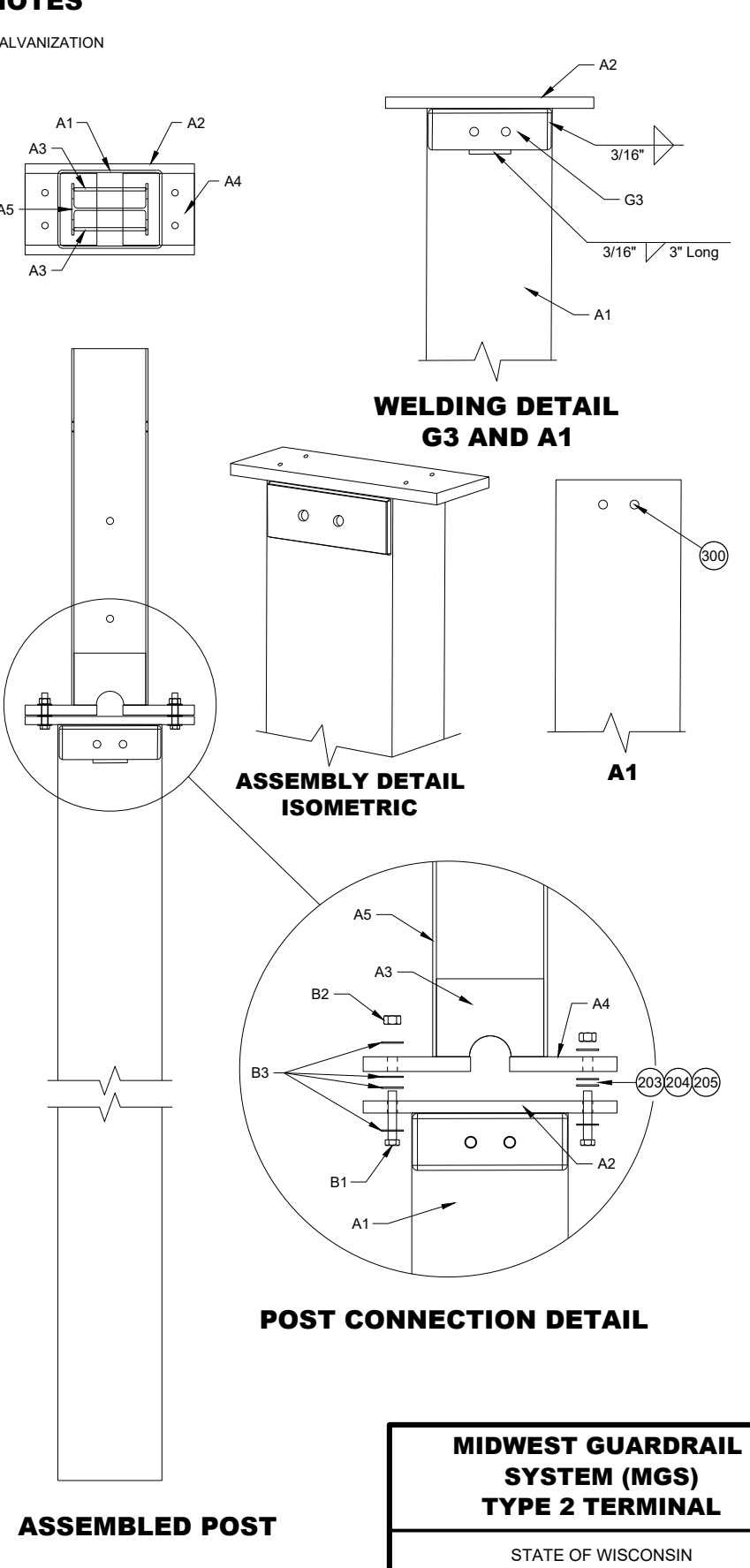
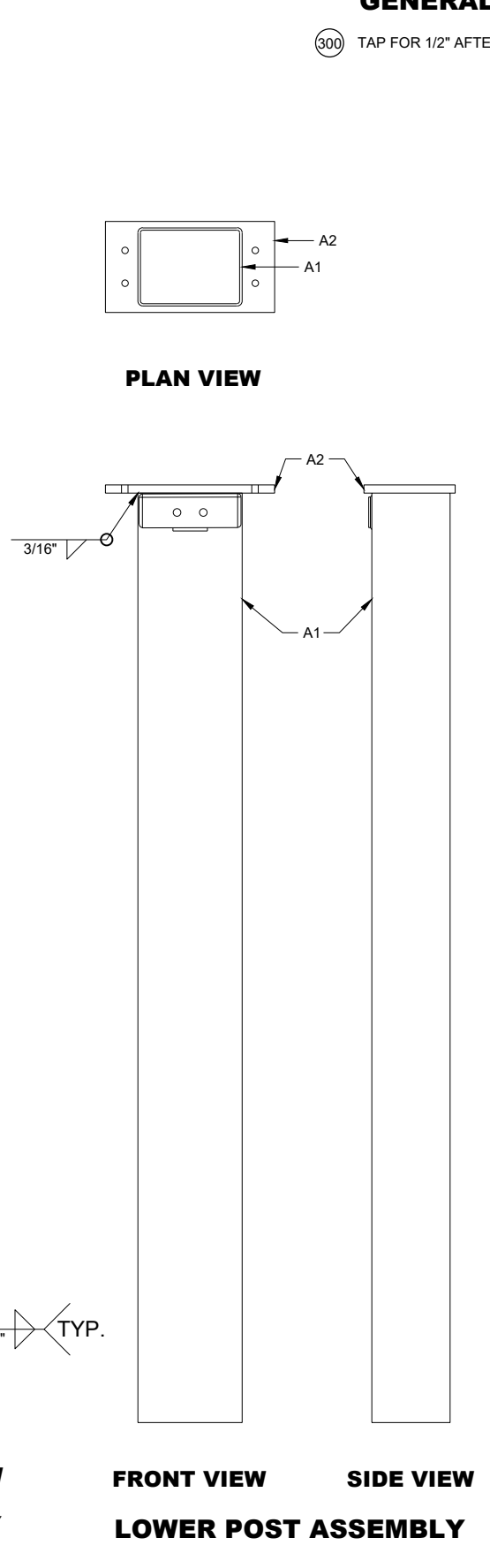
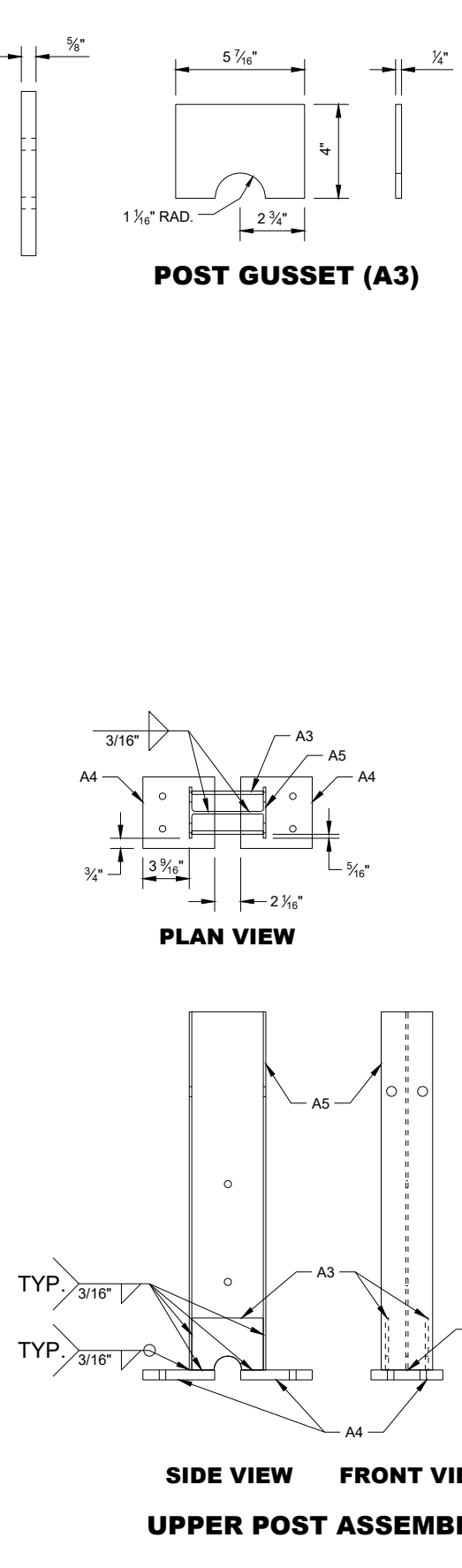
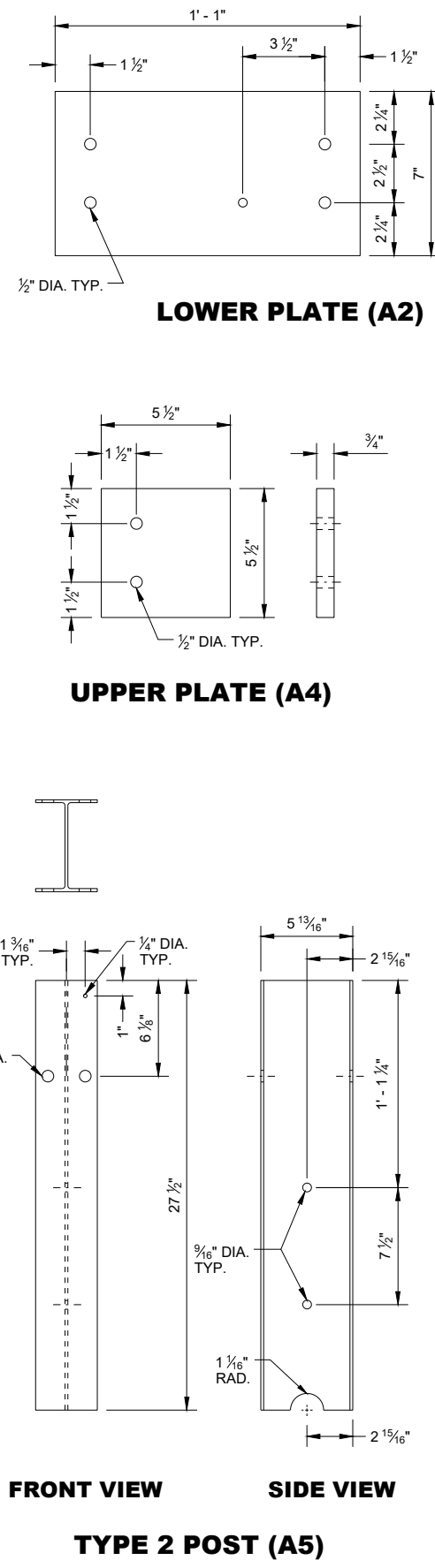
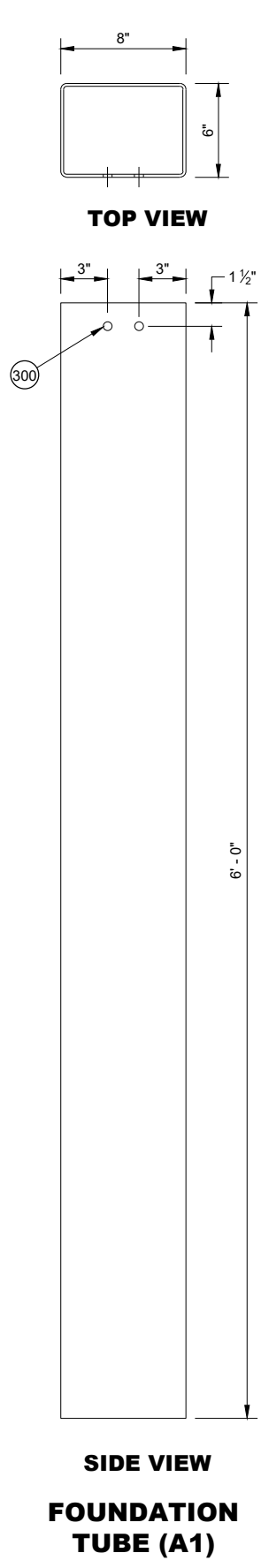


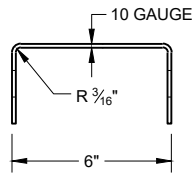
GENERAL NOTES

- 200 INSTALL ONE WASHER UNDER BOLT HEAD AND RAIL AND ON WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.
- 201 INSTALL ONE WASHER UNDER BOLT HEAD AND UPPER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND ARM PLATE.
- 202 INSTALL ONE WASHER UNDER BOLT HEAD AND GROUND STRUT CONNECTOR AND ONE WASHER BETWEEN NUT AND GROUND STRUT CONNECTOR.
- 203 INSTALL ONE WASHER UNDER BOLT HEAD AND LOWER POST ASSEMBLY AND ONE WASHER BETWEEN NUT AND UPPER POST ASSEMBLY.
- 204 TORQUE VALUE IS BETWEEN 60 - 75 FT-LB.
- 205 TWO WASHERS BETWEEN UPPER AND LOWER POST ASSEMBLY.
- 206 INSTALL ONE WASHER BETWEEN NUT AND ANCHOR BRACKET ASSEMBLY.

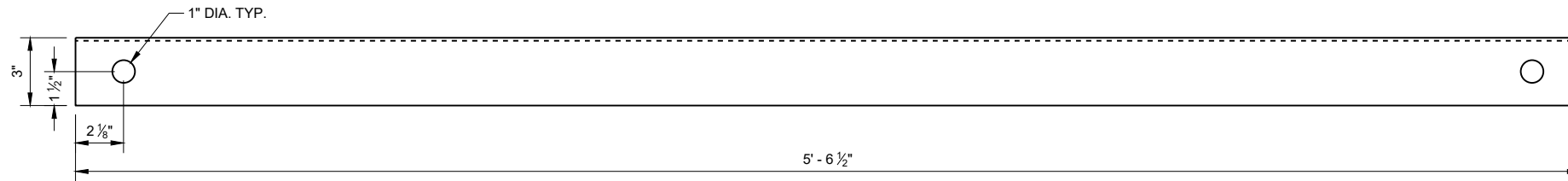
**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 287



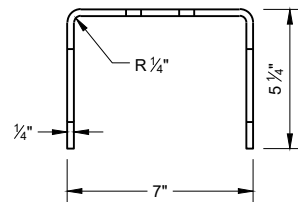


SIDE VIEW

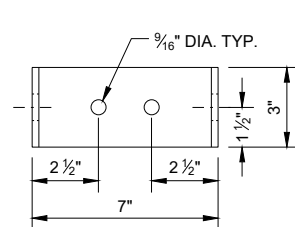


FRONT VIEW

GROUND STRUT CHANNEL (G1)

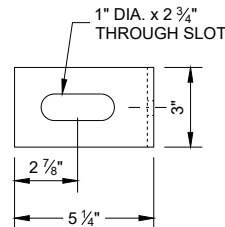


TOP VIEW



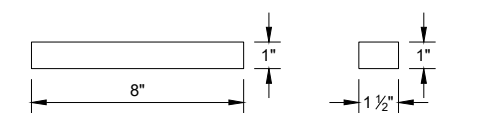
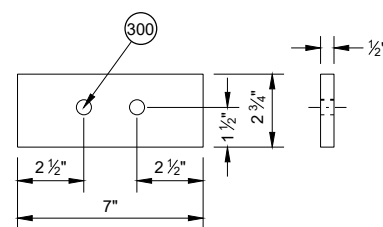
FRONT VIEW

GROUND STRUT CONNECTOR (G2)

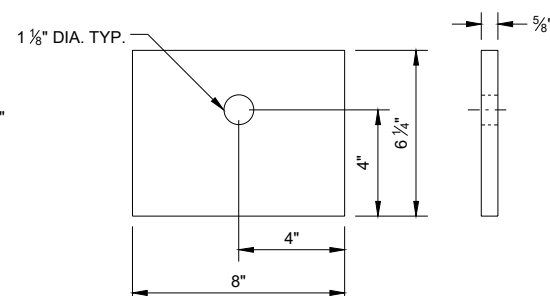


SIDE VIEW

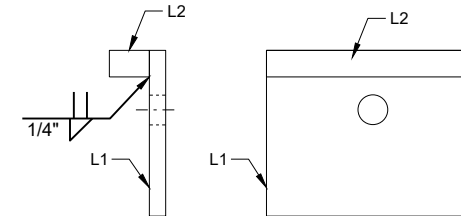
GROUND STRUT PLATE (G3)



BEARING PLATE FLANGE (L2)



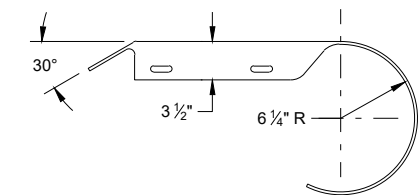
BEARING PLATE (L1)



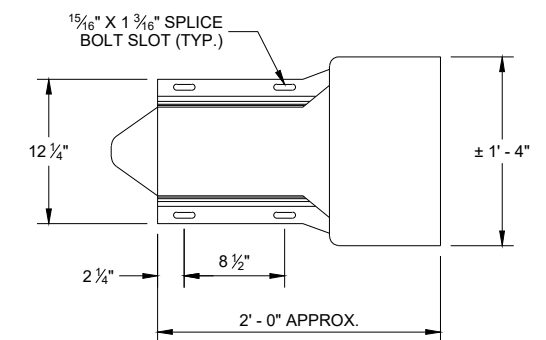
SIDE VIEW

FRONT VIEW

BEARING PLATE ASSEMBLY

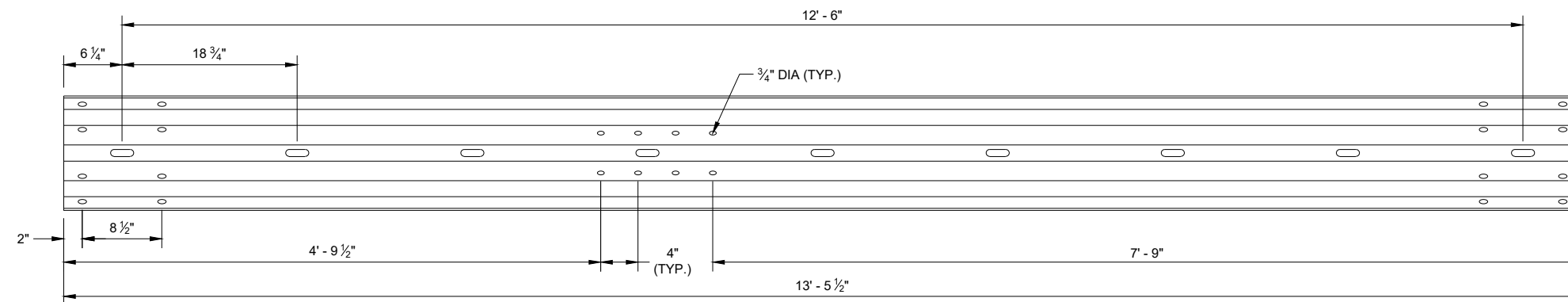


PLAN VIEW

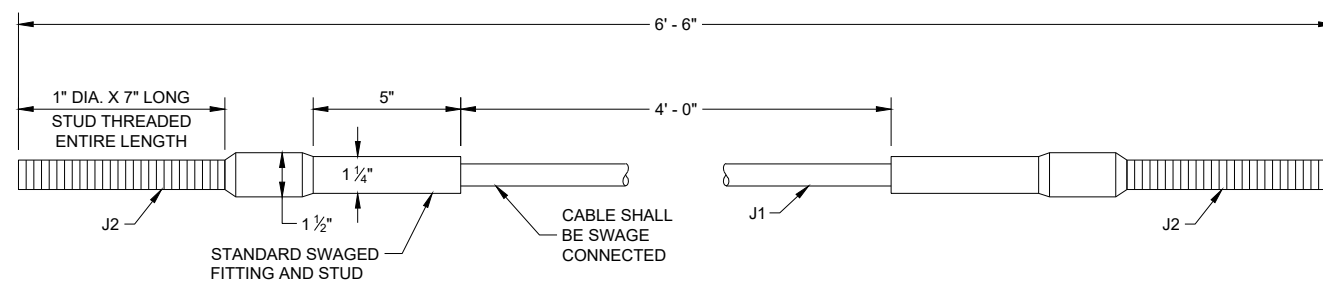


ELEVATION VIEW

ROUNDED BUFFER END (E3)



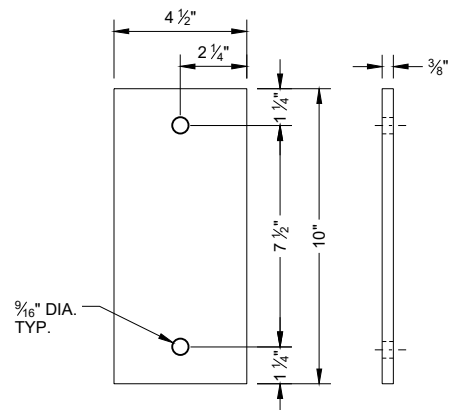
TYPE 2 GUARDRAIL (E1)



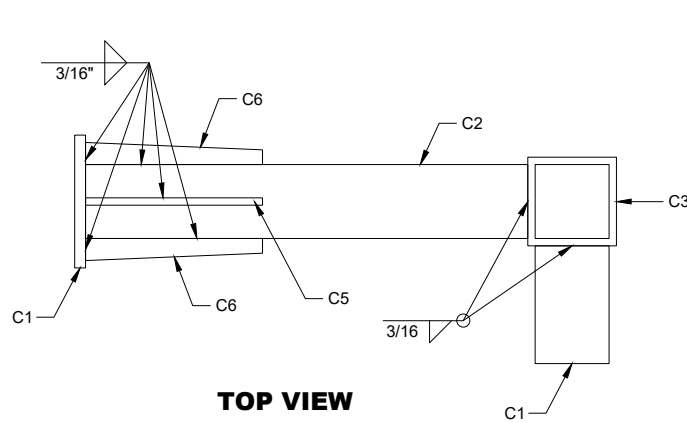
CABLE ASSEMBLY

MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL

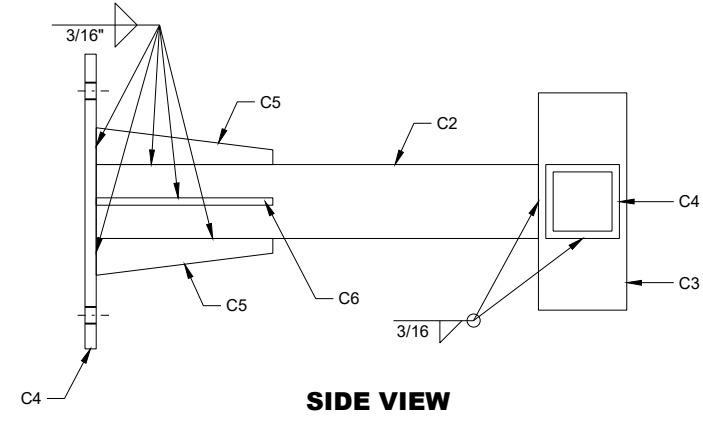
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 289



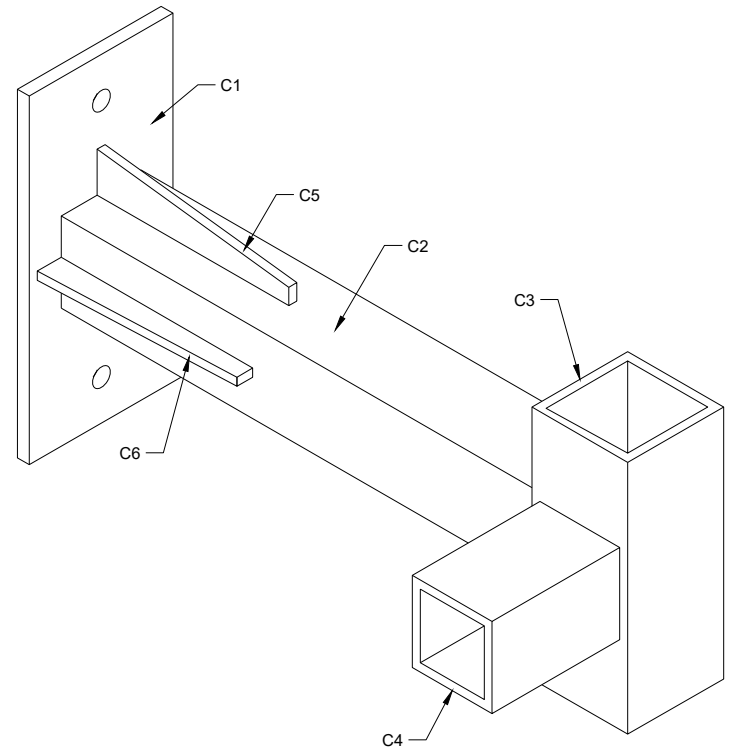
ARM PLATE (C1)



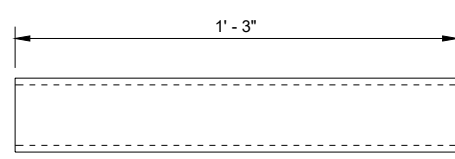
TOP VIEW
ARM ASSEMBLY



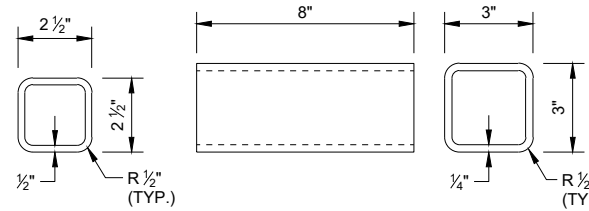
SIDE VIEW
ARM ASSEMBLY



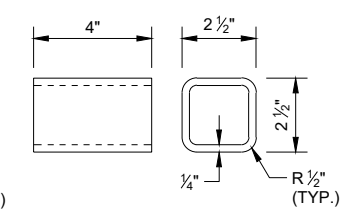
ISOMETRIC VIEW
ARM ASSEMBLY



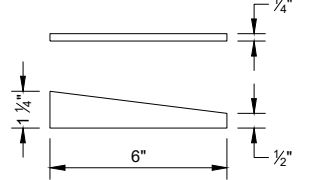
ARM TUBE 1 (C2)



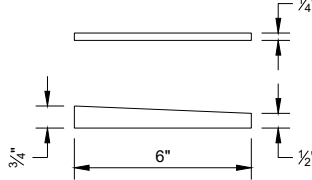
ARM TUBE 2 (C3)



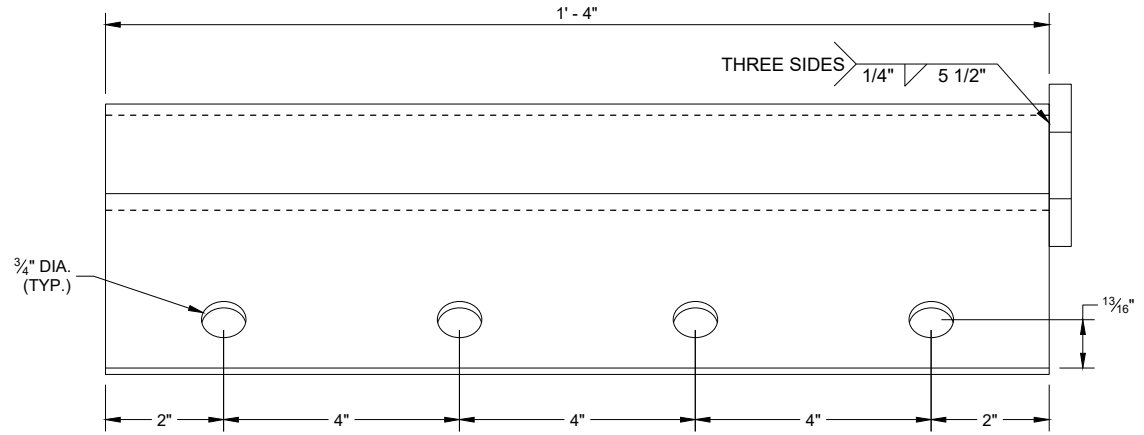
ARM TUBE 3 (C4)



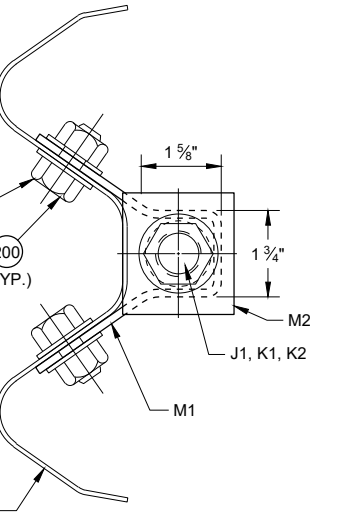
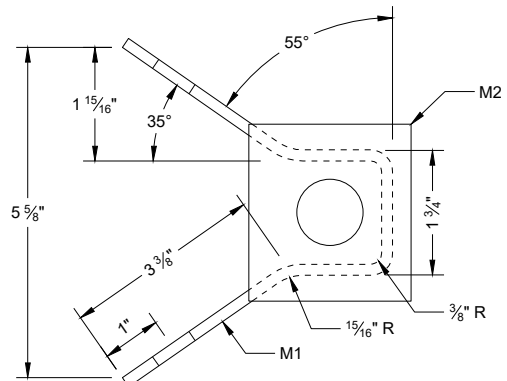
ARM GUSSET
PLATE 1 (C5)



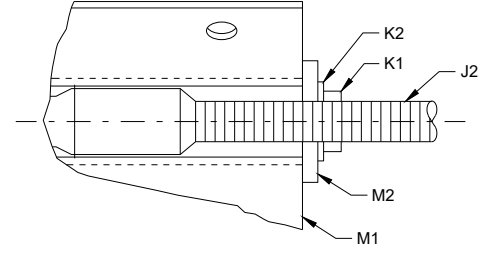
ARM GUSSET
PLATE 2 (C6)



ANCHOR BRACKET (M1, M2)



ANCHOR BRACKET BEARING PLATE (M2)



SECTION A - A

**MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 290

BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	TYPE 2 FOUNDATION TUBE	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3⁄16"
A2	LOWER 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	5⁄8" THICKNESS
A3	POST GUSSET	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	1⁄4" THICKNESS
A4	UPPER 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	3⁄4" THICKNESS
A5	TYPE 2 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, w6x9 or w6x8.5	
B1	BREAKAWAY 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 F3125 GRADE A325 TYPE 1 HEAVY HEX HEAD OR SAE J429 GRADE 5 HEAVY HEX HEAD / ASTM A449 TYPE 1 HEAVY HEX HEAD. BOLTS MAY BE FULLY THREADED . PROVIDE ENOUGH THREADING FOR PROPER TIGHTENING OF BOLT.	7⁄16" DIA.
B2	BREAKAWAY 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)	7⁄16" DIA.
B3	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 / 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	
C1	ARM 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	5⁄8" THICKNESS
C2	ARM ASSEMBLY TUBE 1	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 8" x 6" x 3⁄16"
C3	ARM ASSEMBLY TUBE 2	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 3" x 3" x 1⁄4"
C4	ARM ASSEMBLY TUBE 3	AASHTO M111 / ASTM A123 ASTM A500 GRADE B OR ASTM A-501	TS 2 1⁄2" x 2 1⁄2" X 1⁄4"
C5	ARM ASSEMBLY GUSSET PLATE 1	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	1⁄4" THICKNESS
C6	ARM ASSEMBLY GUSSET PLATE 2	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	1⁄4" THICKNESS
D1	ARM ASSEMBLY 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	1⁄2" DIA.
D2	ARM ASSEMBLY 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)	1⁄2" DIA.
D3	ARM ASSEMBLY 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	1⁄2" DIA.
E1	TYPE 2 GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E2	BEAM GUARD RAIL	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
E3	BEAM GUARD ROUNDED BUFFER END	AASHTO M180 CLASS A TYPE 2 12 GAUGE APPROVED PRODUCER	
F1	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 UNC HEAVY HEX HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5⁄8" DIA.
F2	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 ONLY)	5⁄8" DIA.
F3	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	
G1	GROUND STRUT CHANNEL	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	1⁄2" x 11 3⁄4" x 10 GAUGE
G2	GROUND STRUT CONNECTOR	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	1⁄4" THICKNESS
G3	GROUND STRUT 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	1⁄2" THICKNESS

MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 291

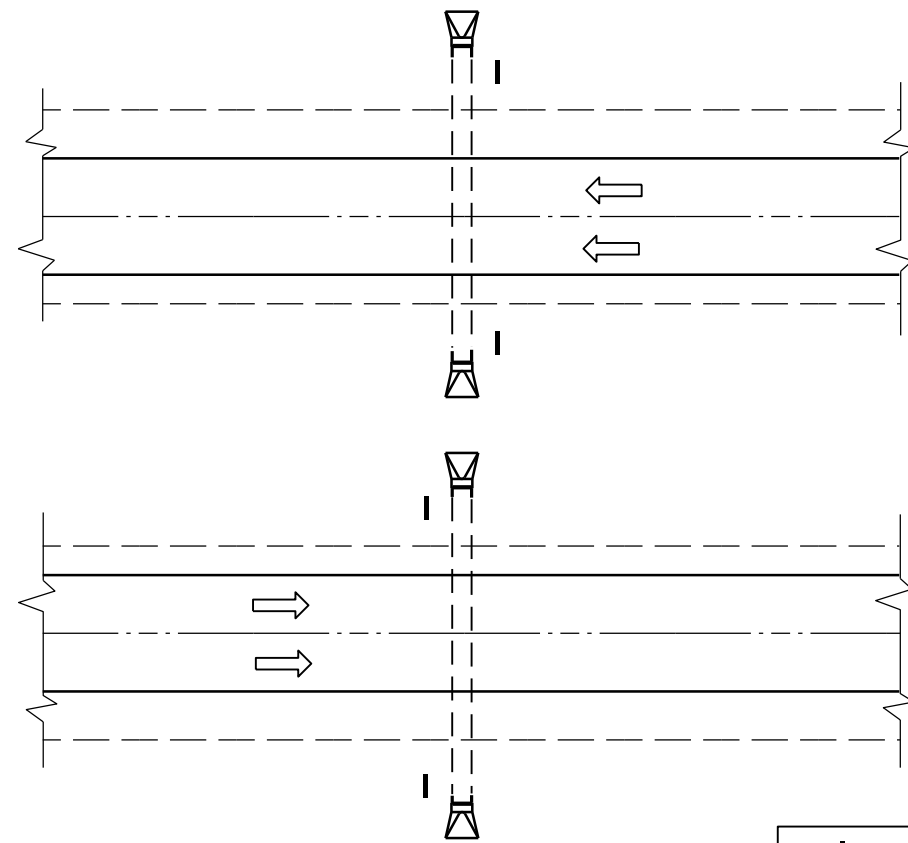
BILL OF MATERIALS - TYPE 2 TERMINAL (MGS)

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
H1	GROUND STRUT 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	7/8" DIA.
H2	GROUND STRUT 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)	7/8" DIA.
H3	GROUND STRUT 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 HEAVY HEX HEAD 5/8" ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	
J1	BCT CABLE	AASHTO M30 / ASTM A741 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS), 6 x 19 INDEPENDENT WIRE CORE (IWRC) IMPROVED PLOW STEEL (IPS) TYPE II OR IIC, CLASS C ZINC COATED MIN. BREAKING STRENGTH OF 42.7 KIPS	3/4" DIA.
J2	BCT CABLE	UNC 1" ASTM A576 GRADE 1035 SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. 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."	
K1	CABLE ASSEMBLY 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	1" DIA.
K2	CABLE ASSEMBLY WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 50 TYPE 1	1" DIA.
L1	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	5/8" THICKNESS
L2	BEARING PLATE FLANGE	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	1" THICKNESS
M1	BEAM GUARD 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	
M2	BEAM GUARD ANCHOR END 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	3/8" THICKNESS
N1	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 AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	5/8" DIA.
N2	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)	5/8" DIA.
N3	ANCHOR BRACKET 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	
P1	FOUNDATION 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 ASTM A563DH OR SAE J995 GRADE 5	1/2" DIA.
Q1	SPLICE 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	
Q2	SPLICE 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	5/8" DIA.

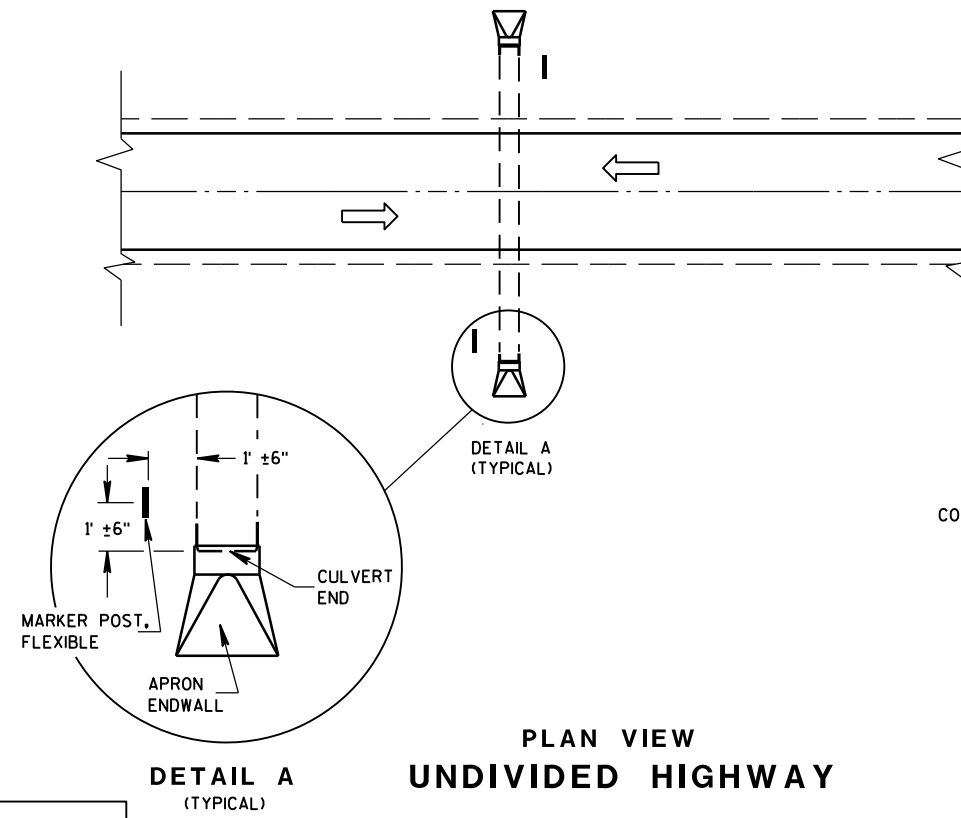
MIDWEST GUARDRAIL
SYSTEM (MGS)
TYPE 2 TERMINAL

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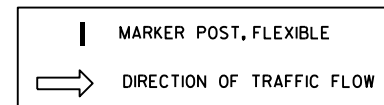
APPROVED
May 2023 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 292
FHWA



PLAN VIEW
DIVIDED HIGHWAY



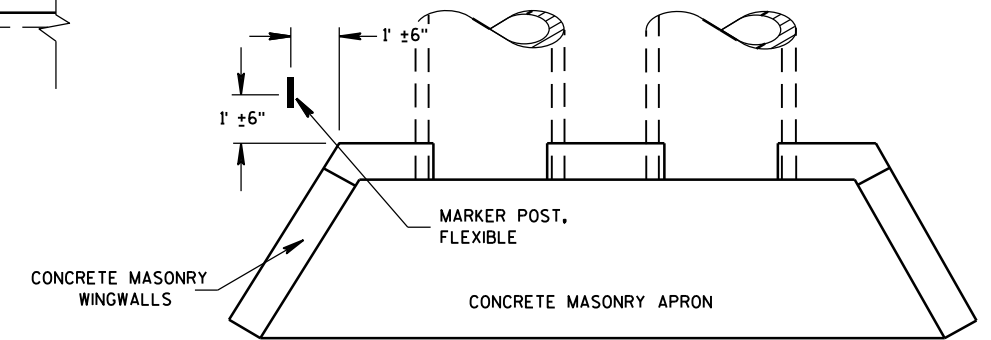
PLAN VIEW
UNDIVIDED HIGHWAY



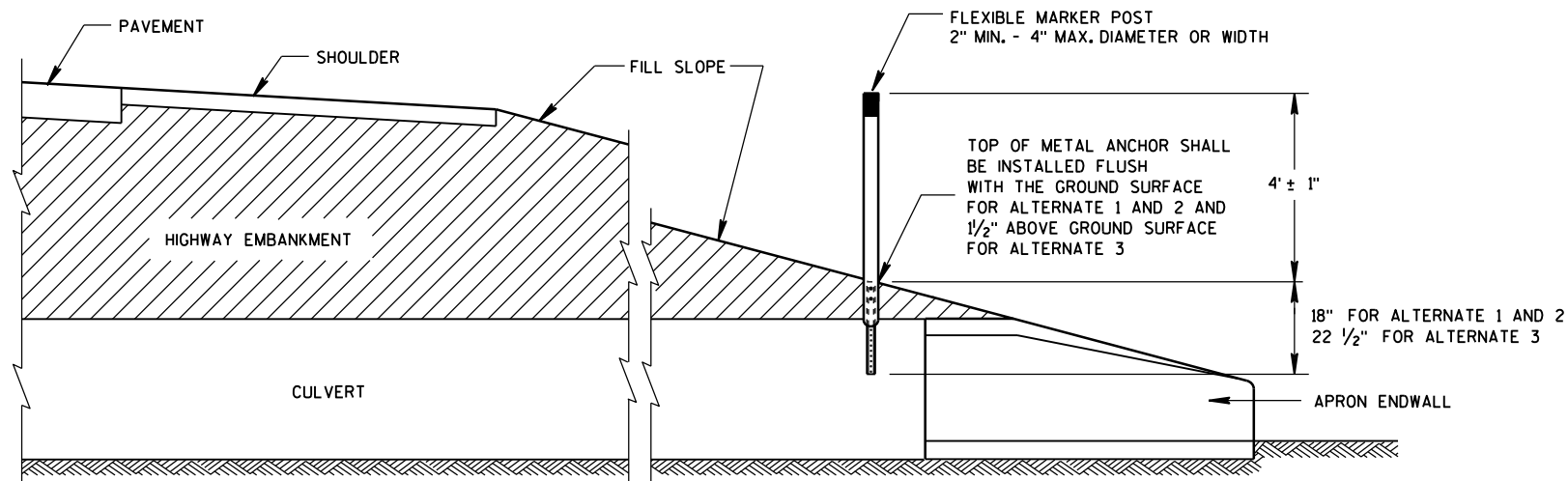
FLEXIBLE MARKER POST LOCATION

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.



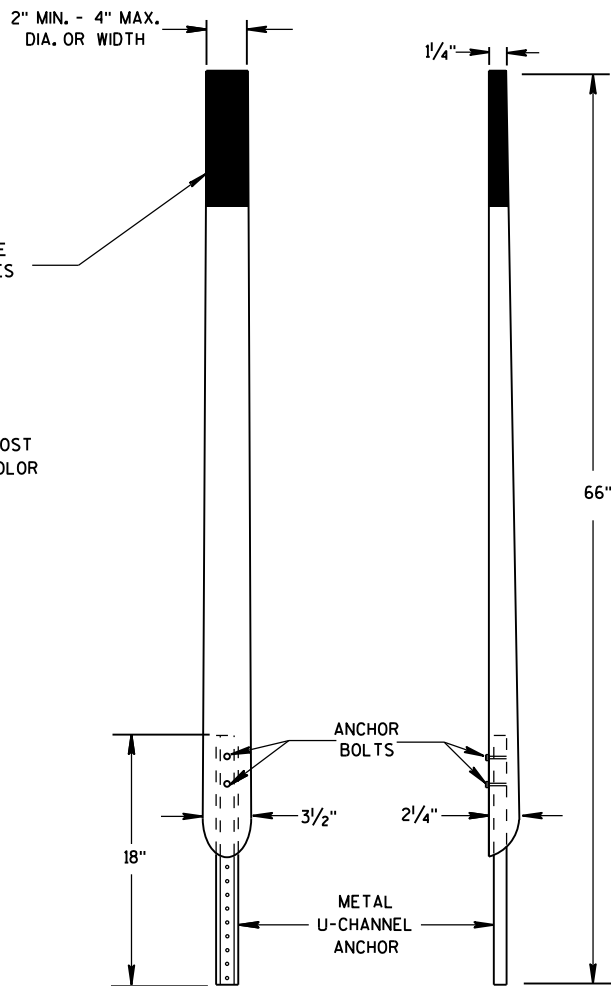
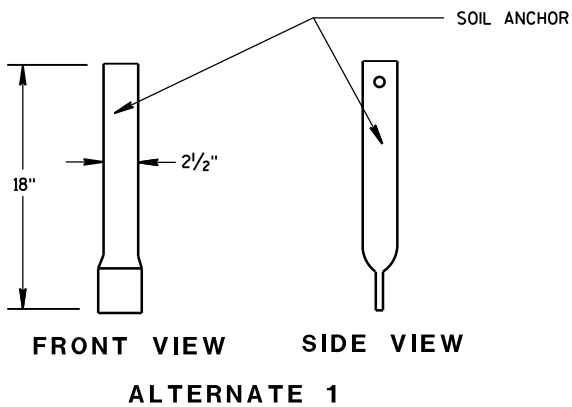
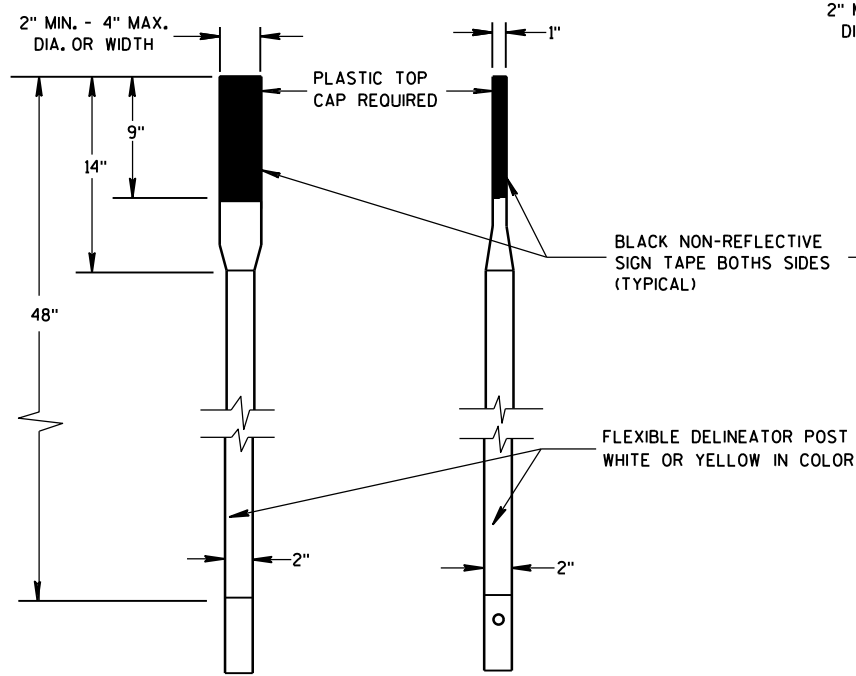
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



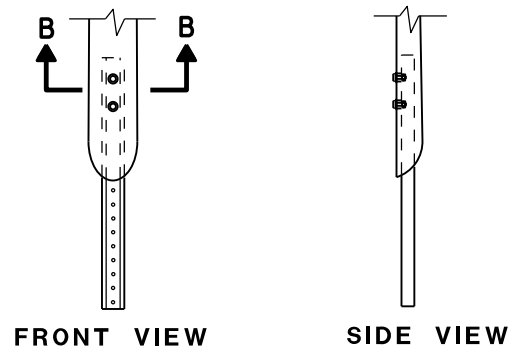
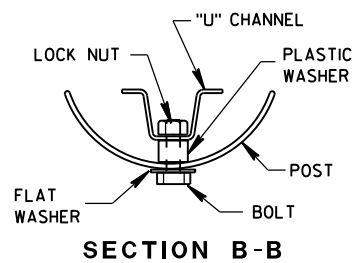
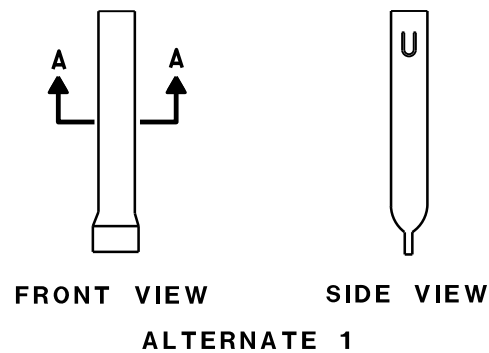
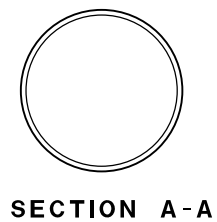
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

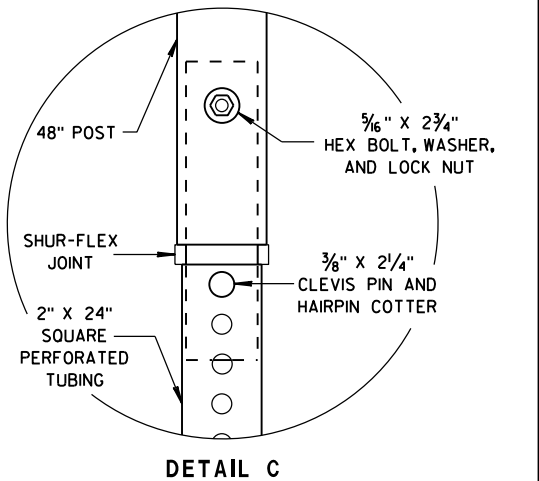
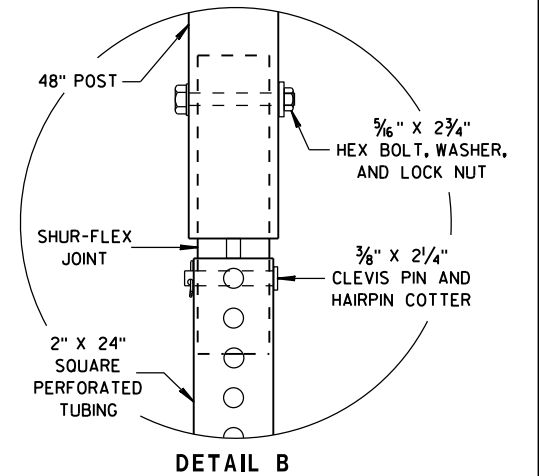
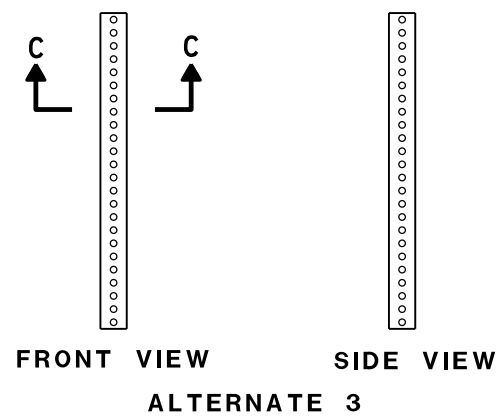
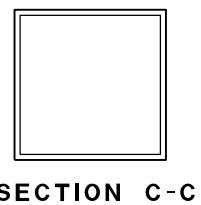
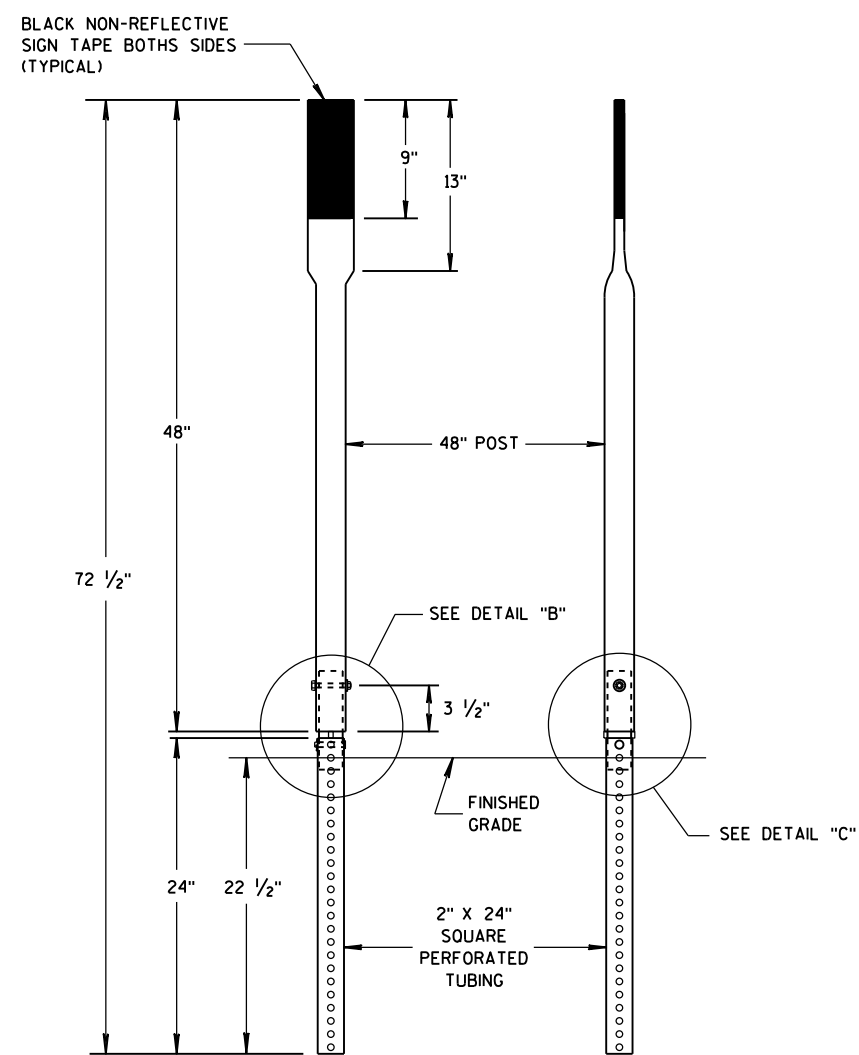
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 293



FLEXIBLE MARKER POSTS



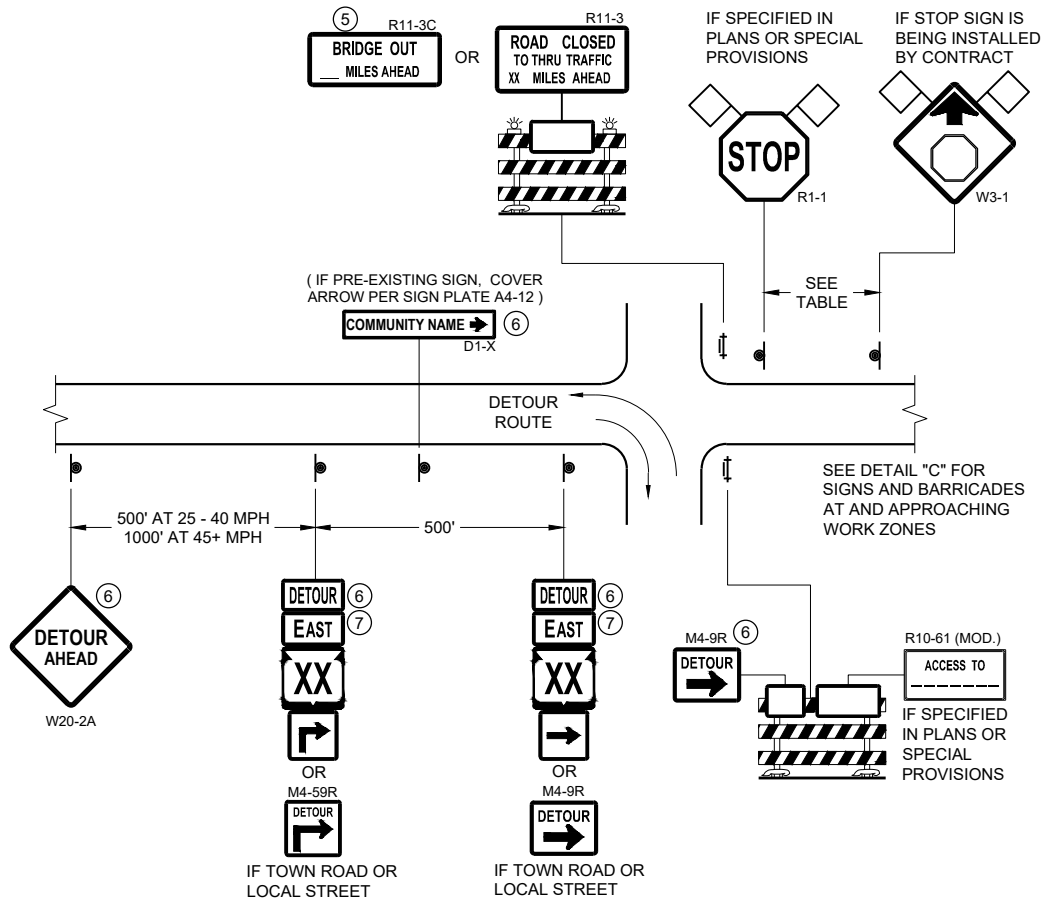
FLEXIBLE MARKER POST ANCHORS



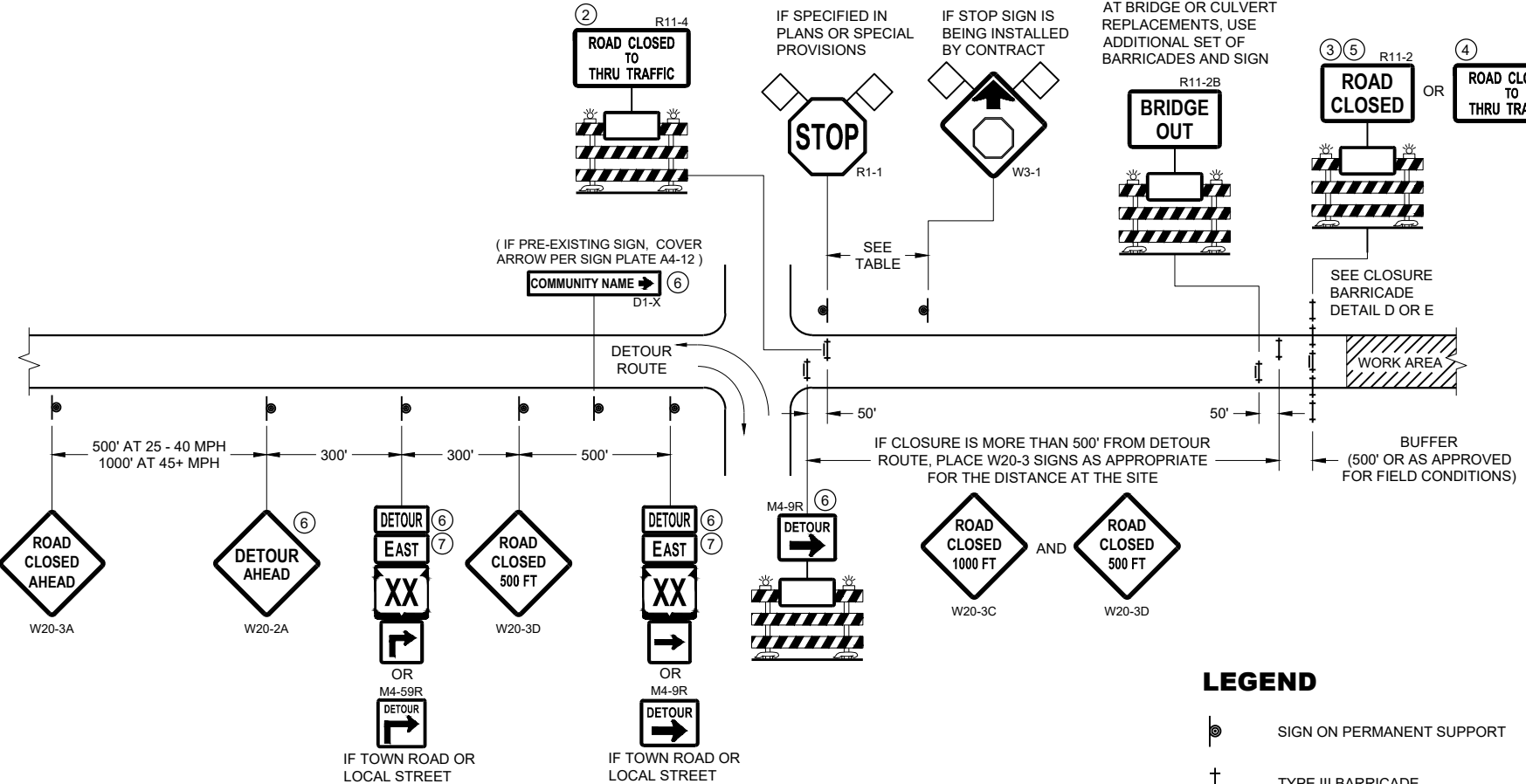
**FLEXIBLE MARKER POST
FOR CULVERT END**

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DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER 294 IGN
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



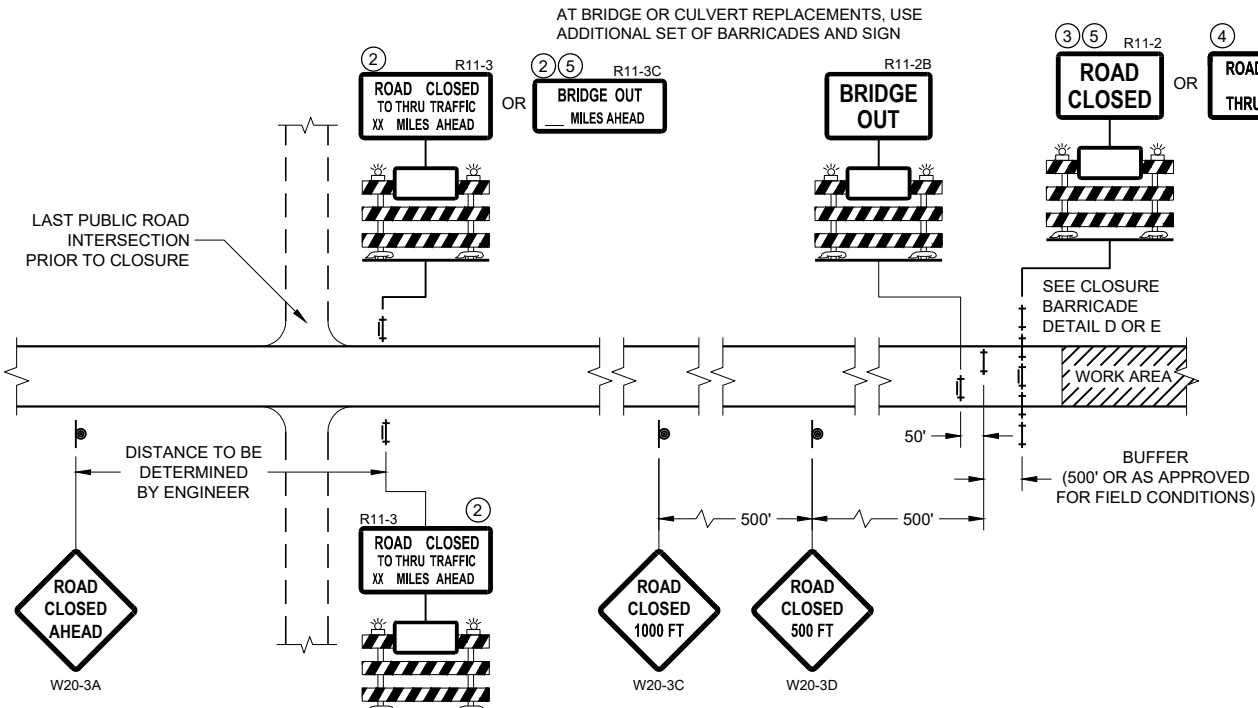
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 M1 - 5A
- OR M05 - 1 OR M06 - 1

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 295

FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

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.

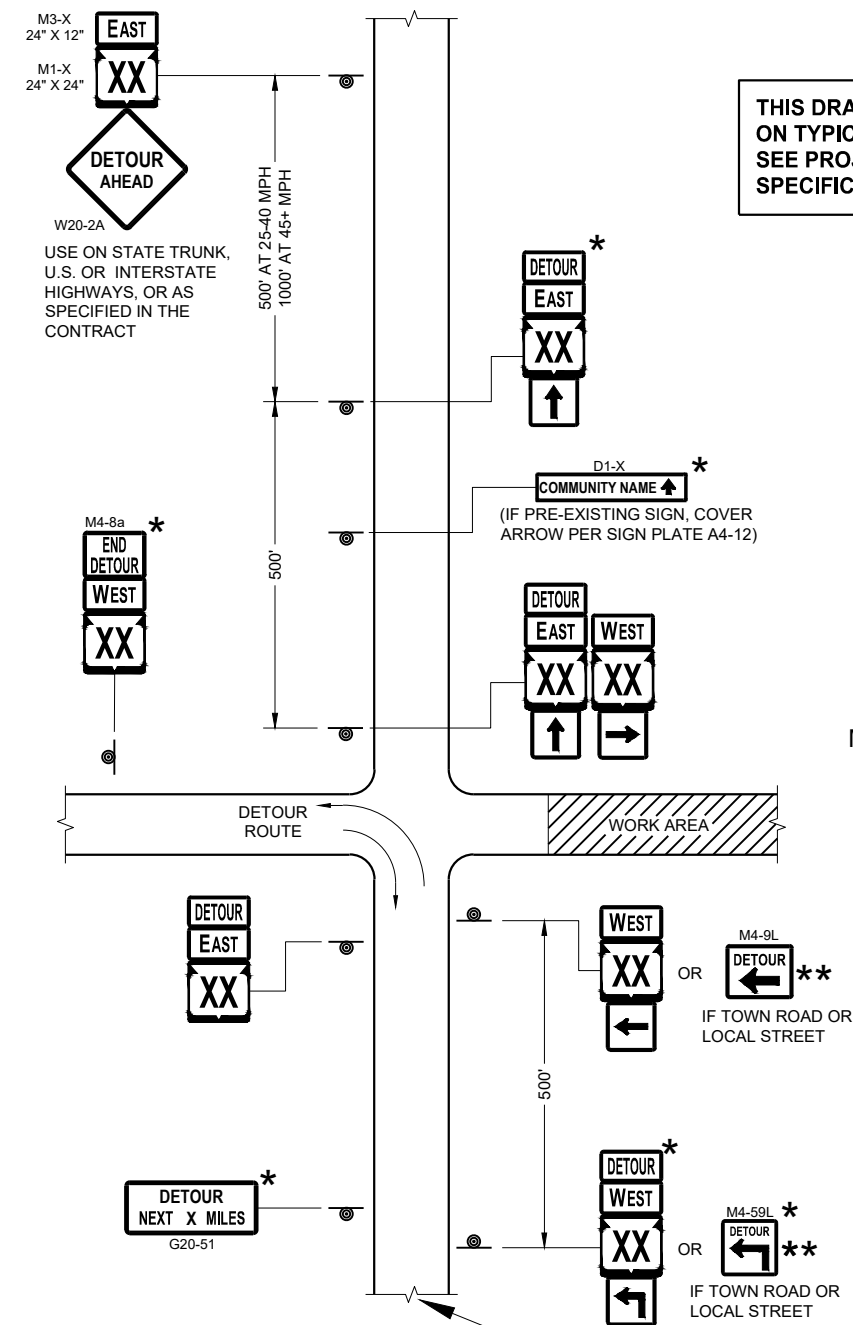
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

LESS 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"

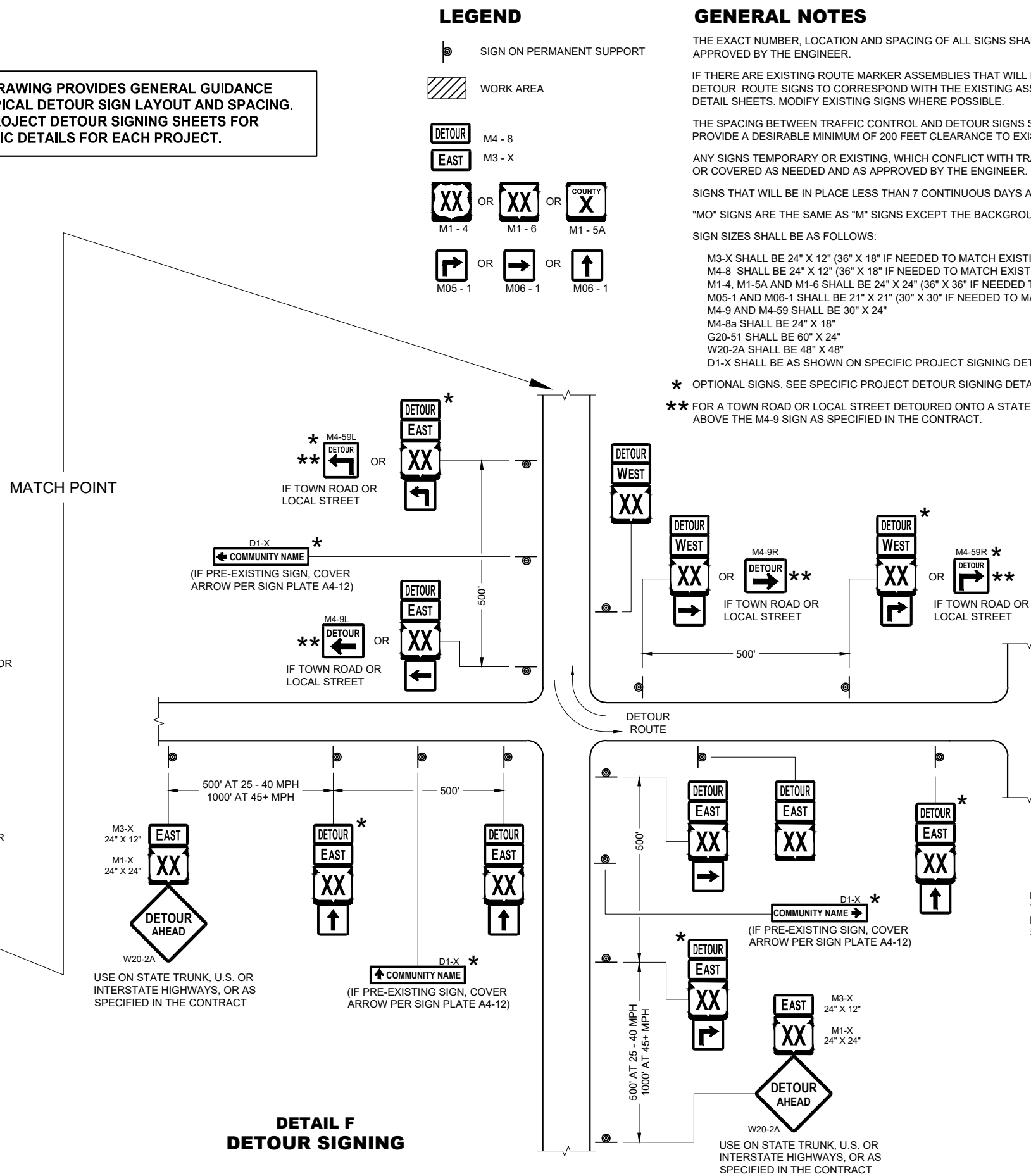
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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.



**THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.**

SEE SPECIFIC PROJECT DETOUR
SIGNING DETAIL SHEETS AND
DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

SDD 15C02 - 09c



DETAIL F DETOUR SIGNING

GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR 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.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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)
M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
M4-9 AND M4-59 SHALL BE 30" X 24"
M4-8a SHALL BE 24" X 18"
G20-51 SHALL BE 60" X 24"
W20-2A SHALL BE 48" X 48"
D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

**** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.**

PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
 DATE WORK ZONE ENGINEER 297

FHWA

SDD15C02 - 09c

THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL "TO" MO-4 SIGN LAYOUT AND SPACING. SEE PROJECT TO SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.

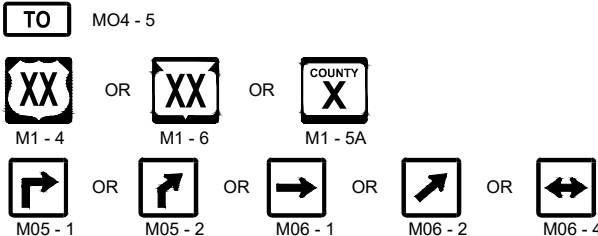
LEGEND



SIGN ON PERMANENT SUPPORT



PORTABLE CHANGEABLE MESSAGE SIGN



GENERAL NOTES

SEE SDD 15D16 "TRAFFIC CONTROL, EXIT RAMP CLOSURE" DETAIL FOR TRAFFIC CONTROL AT EXIT RAMP CLOSURE.

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

IF THERE ARE ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE "TO" MO-4 ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT TO SIGNING DETAIL SHEETS MODIFY EXISTING SIGNS WHERE POSSIBLE.

THE SPACING BETWEEN TRAFFIC CONTROL AND "TO" MO-4 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.

SIGNS THAT SHALL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOW:
MO4 - 5 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, MO5 - 2, AND MO6 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).

① ONLY ADD IF THERE ARE NO EXISTING ROUTE MARKERS FOR THE INTERSECTING ROADWAY.

OFF RAMP LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE

FHWA

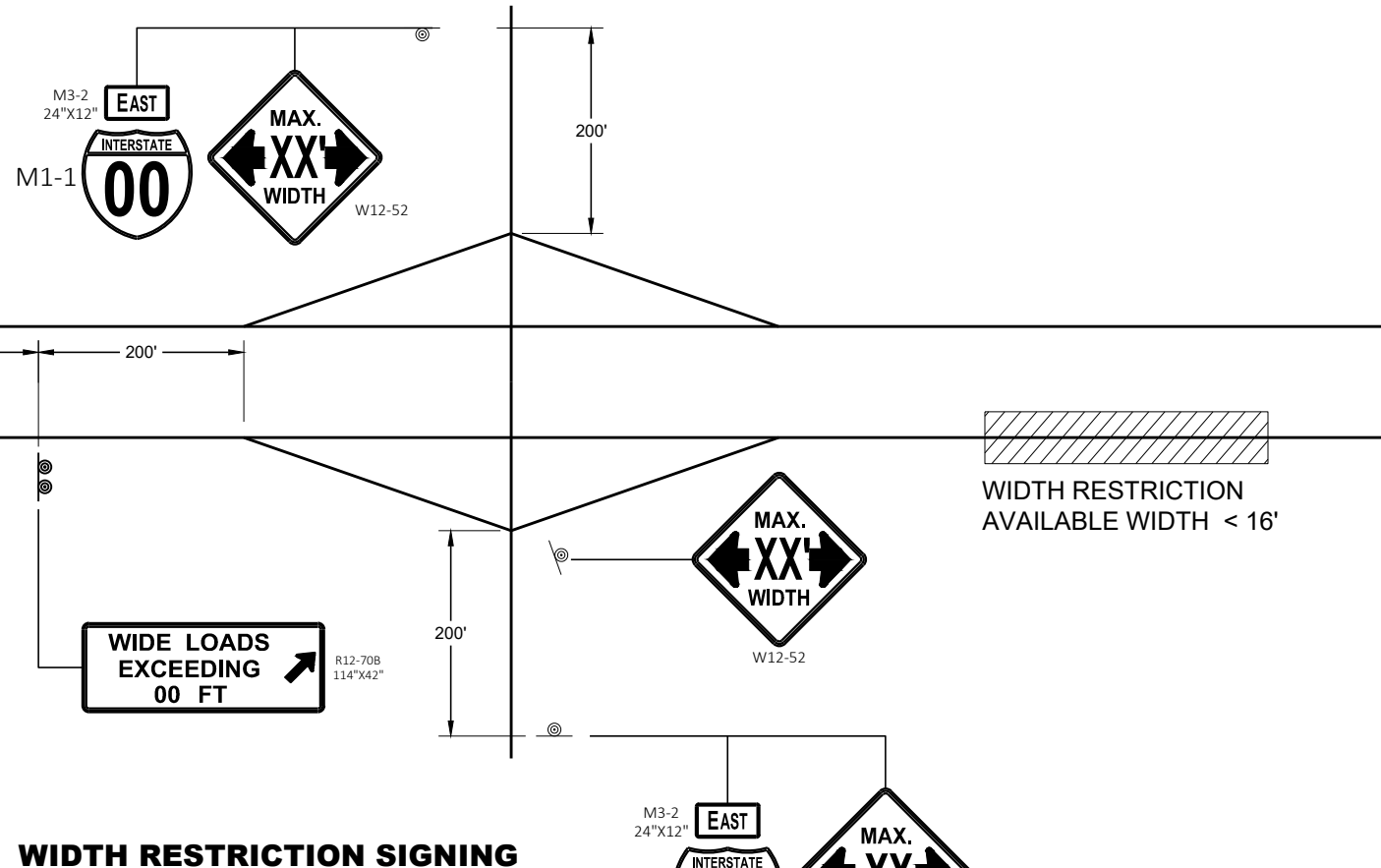
WORK ZONE ENGINEERING 299

SDD15C02 - 09e

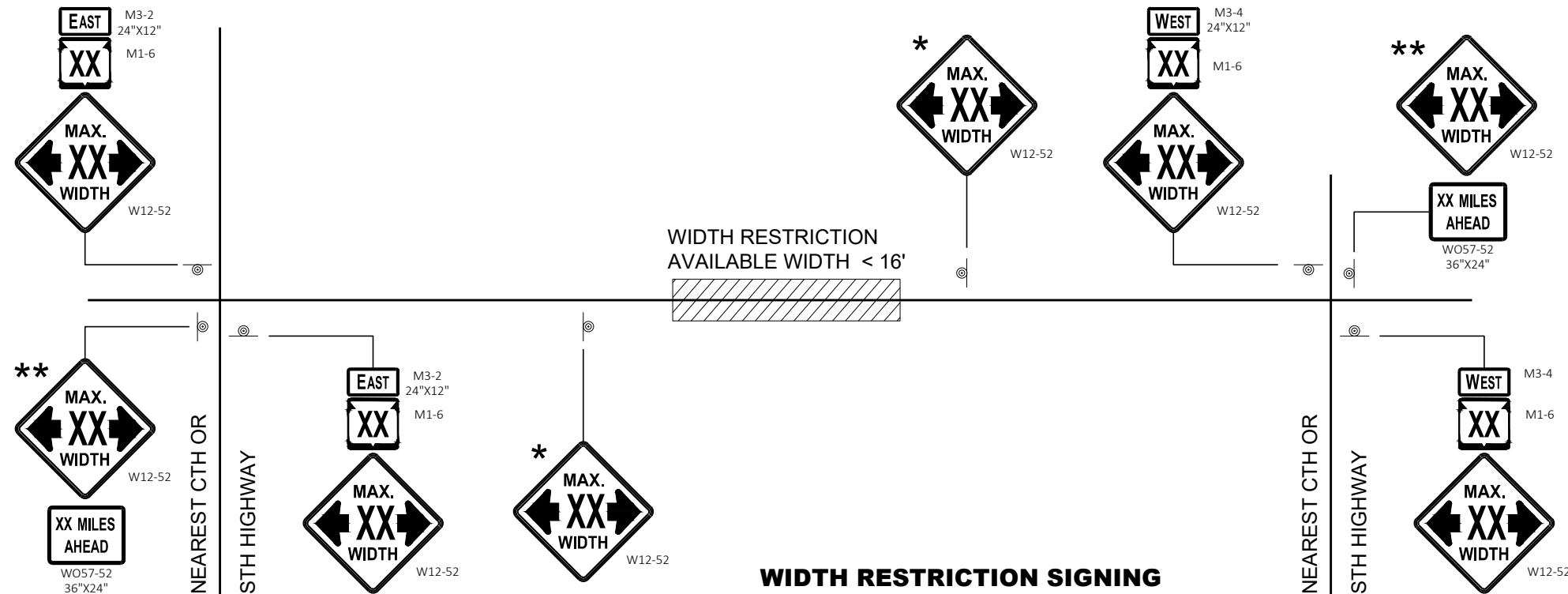
SDD 15C02 - 09e

6

6



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.

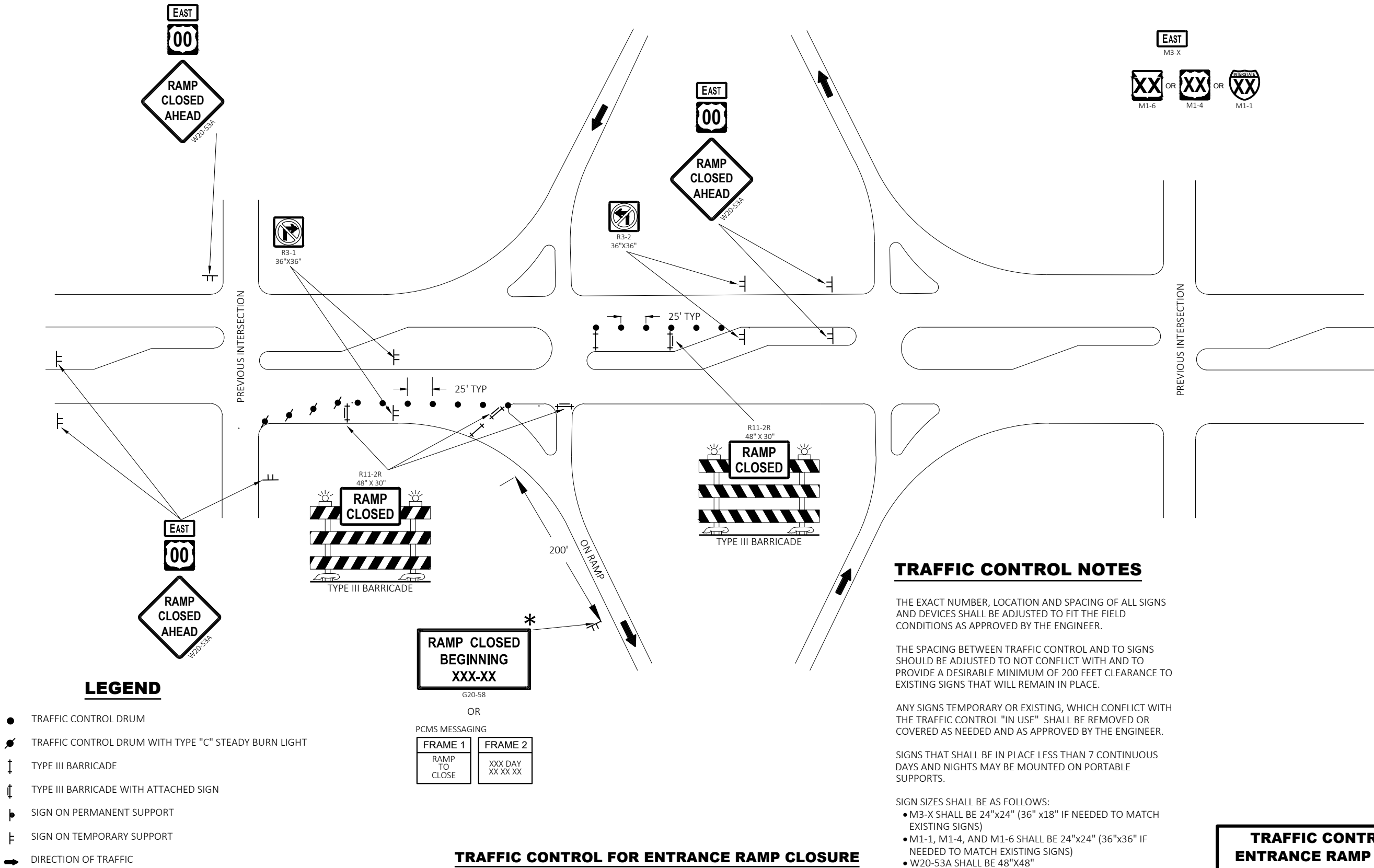


WIDTH ON SIGN TO BE APPROX. 1 - FOOT LESS THAN AVAILABLE WIDTH

ADVANCED WIDTH
RESTRICTION SIGNING

STATE OF WISCONSIN
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May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 300
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**TRAFFIC CONTROL FOR
ENTRANCE RAMP CLOSURE**

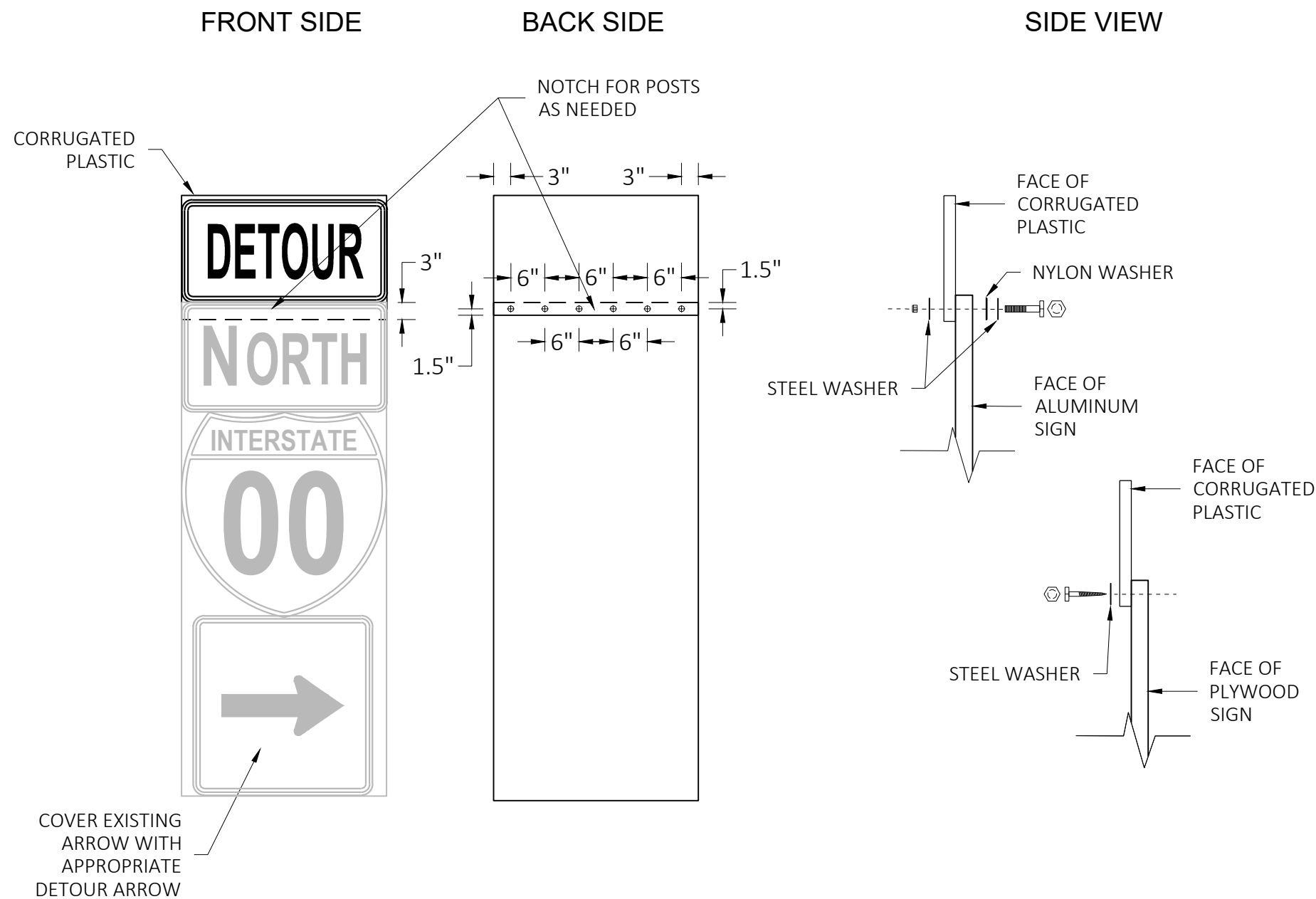
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

301

FHWA



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

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

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

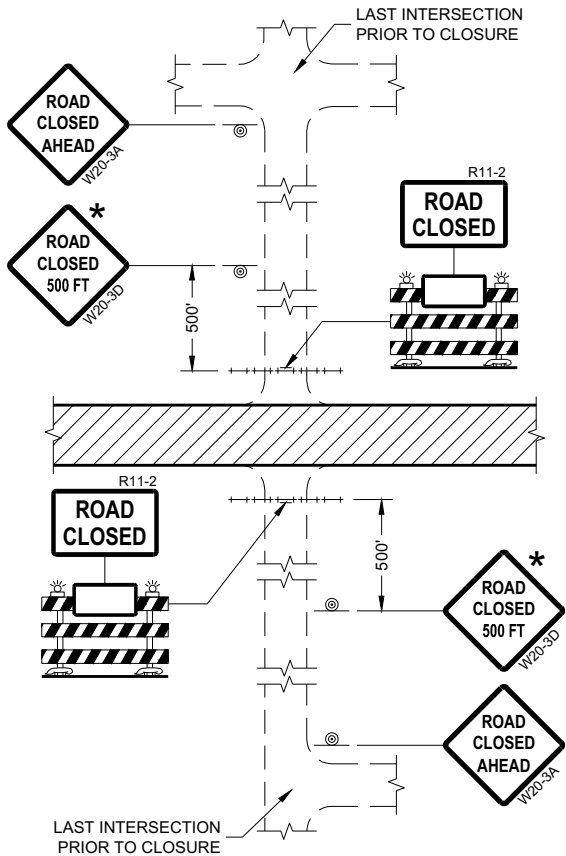
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

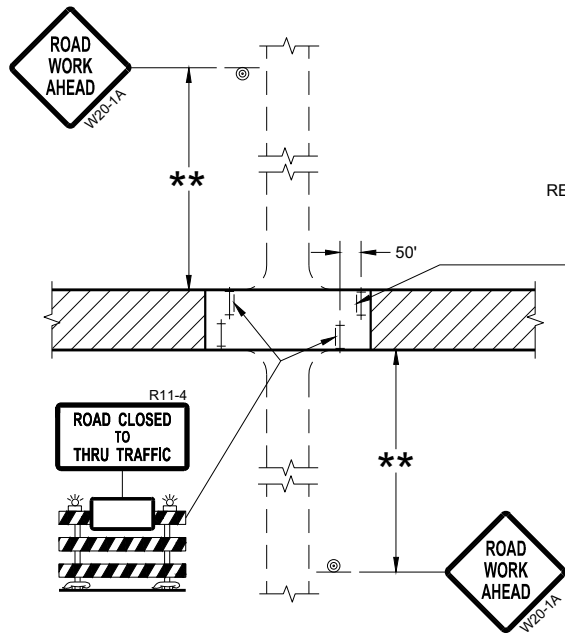
May 2023
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

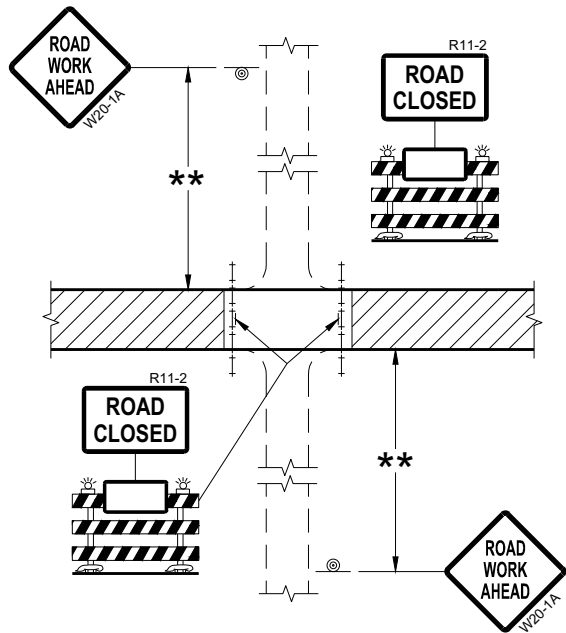
FHWA



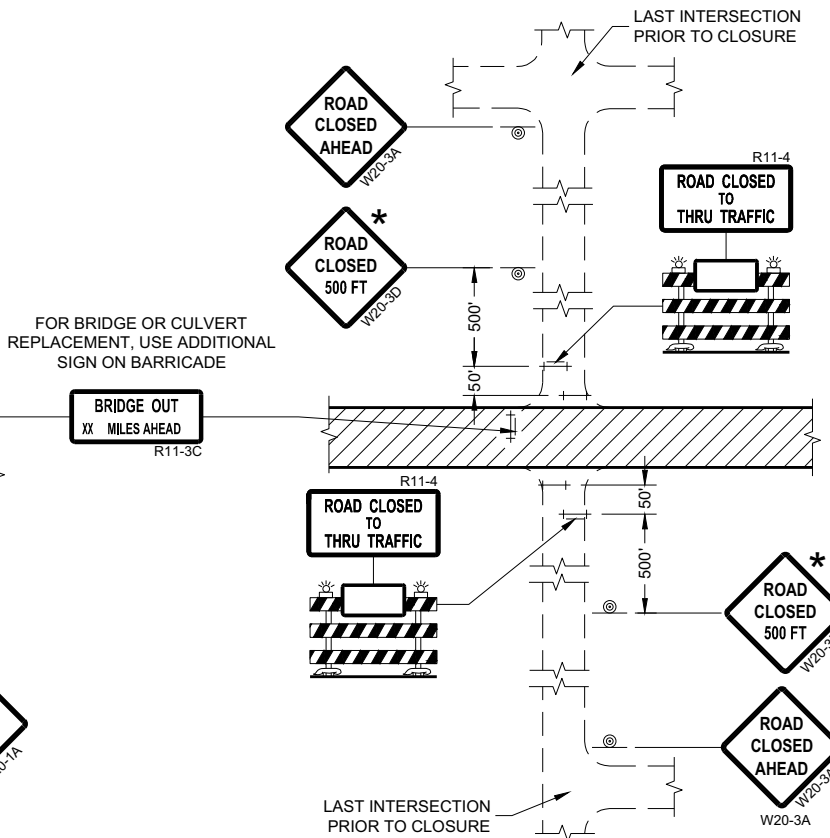
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT 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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 303

FHWA

GENERAL NOTES

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

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.

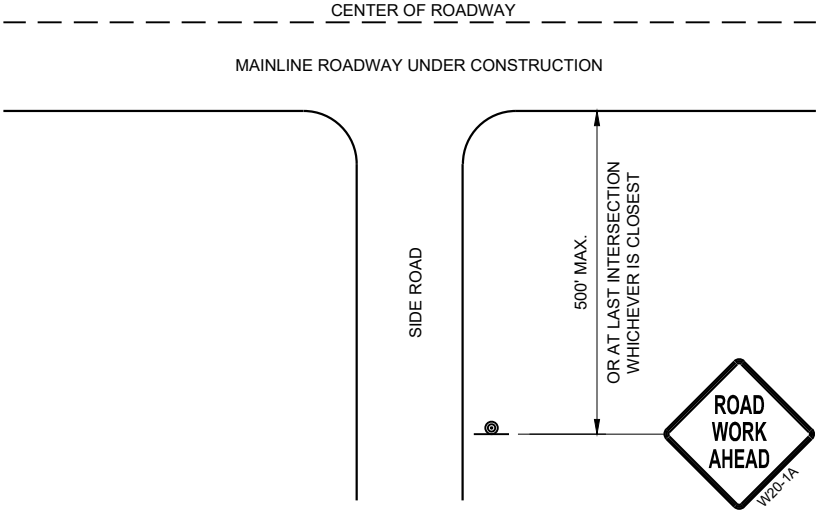
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

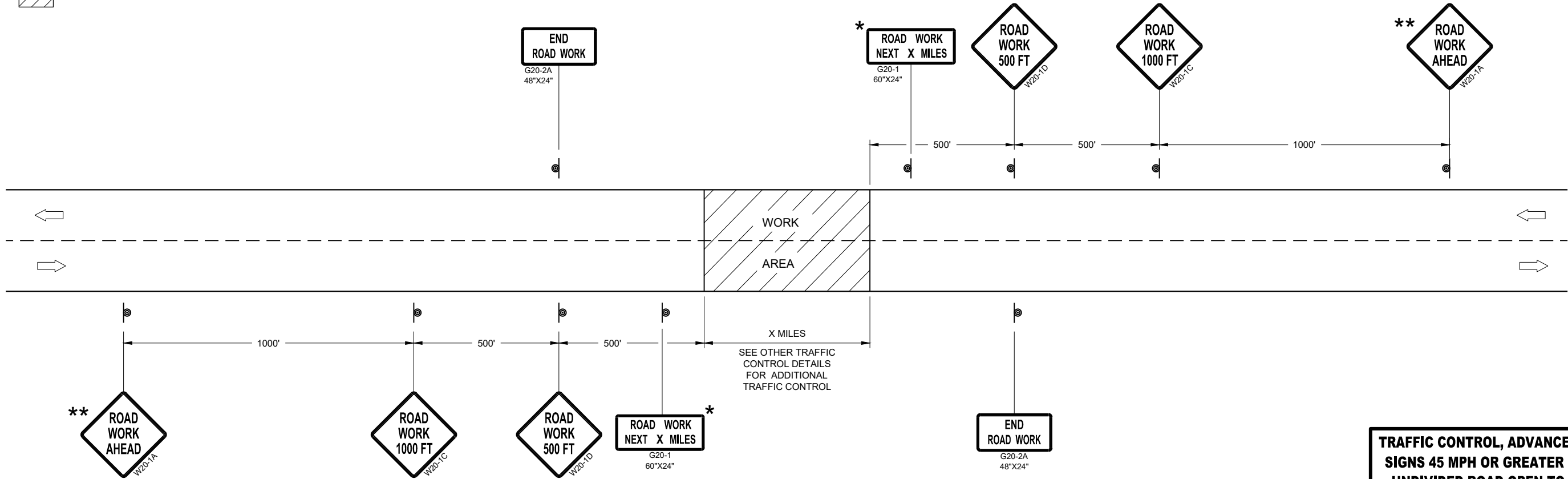
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 45 MPH OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 304

FHWA

GENERAL NOTES

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

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. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

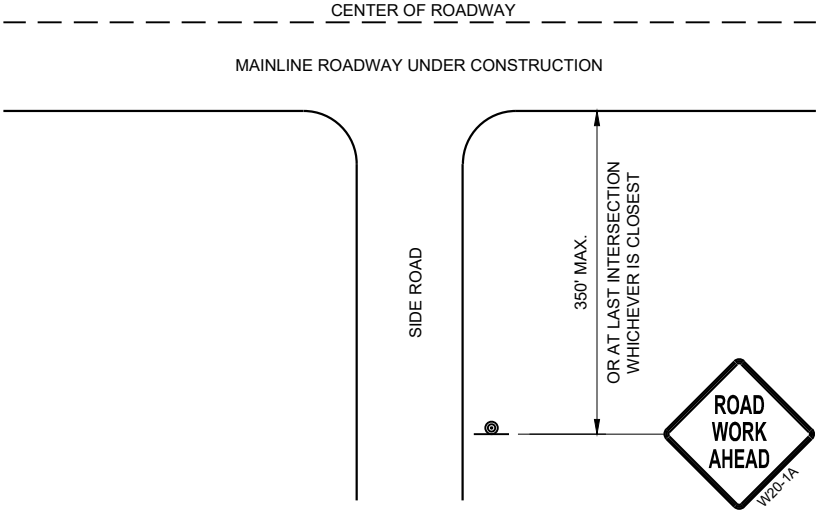
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

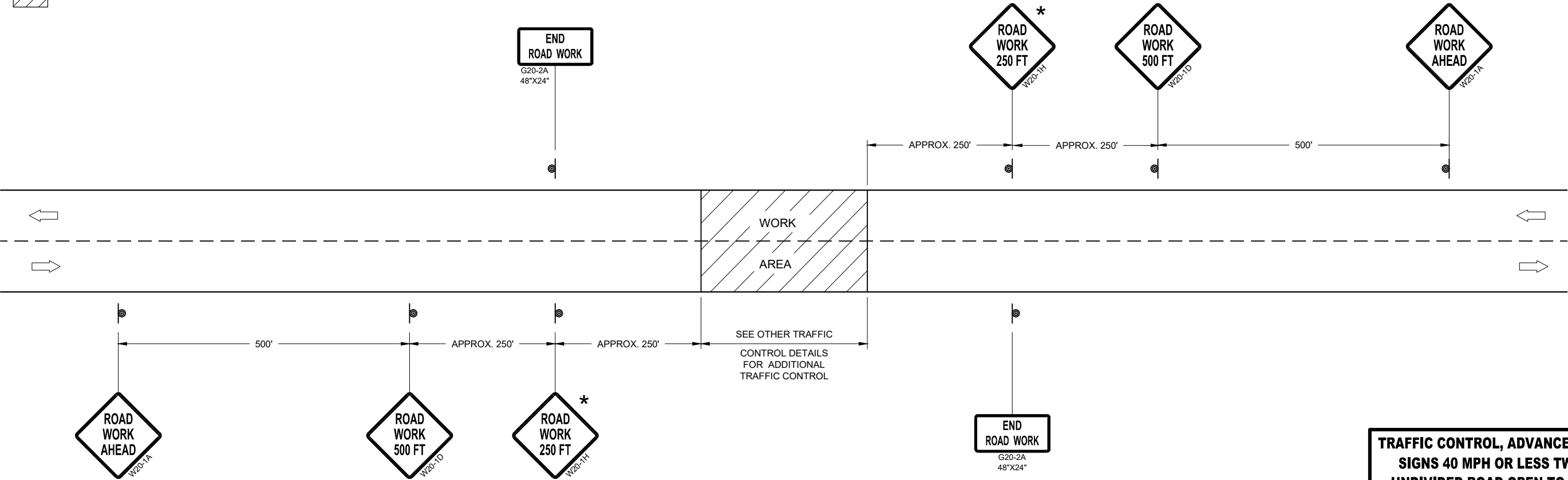
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL



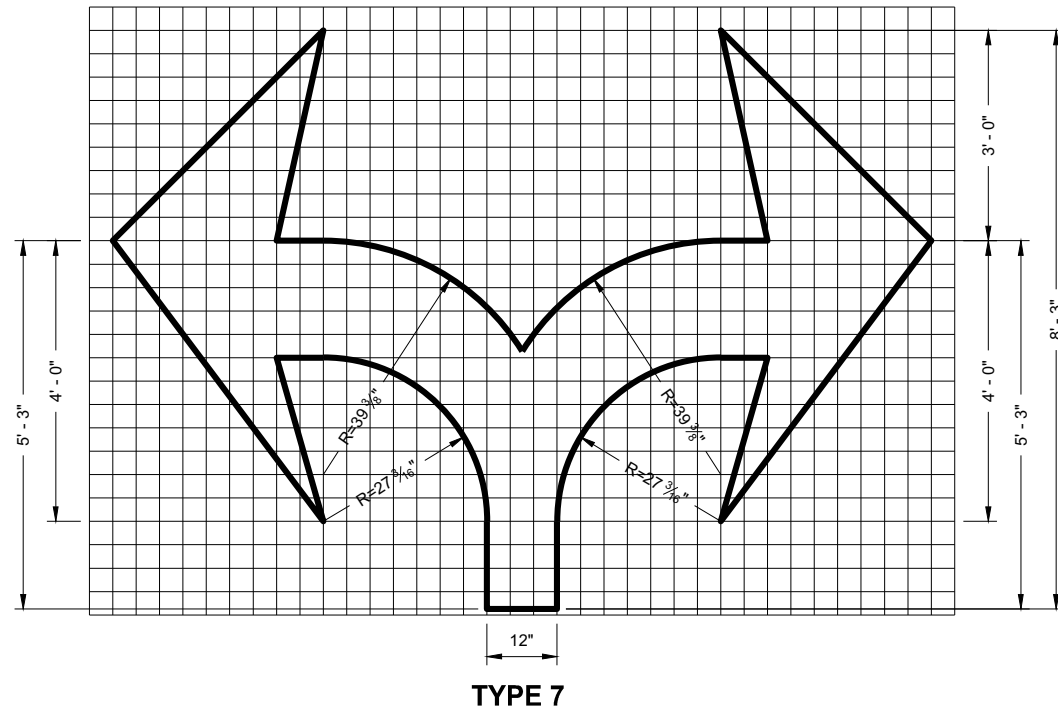
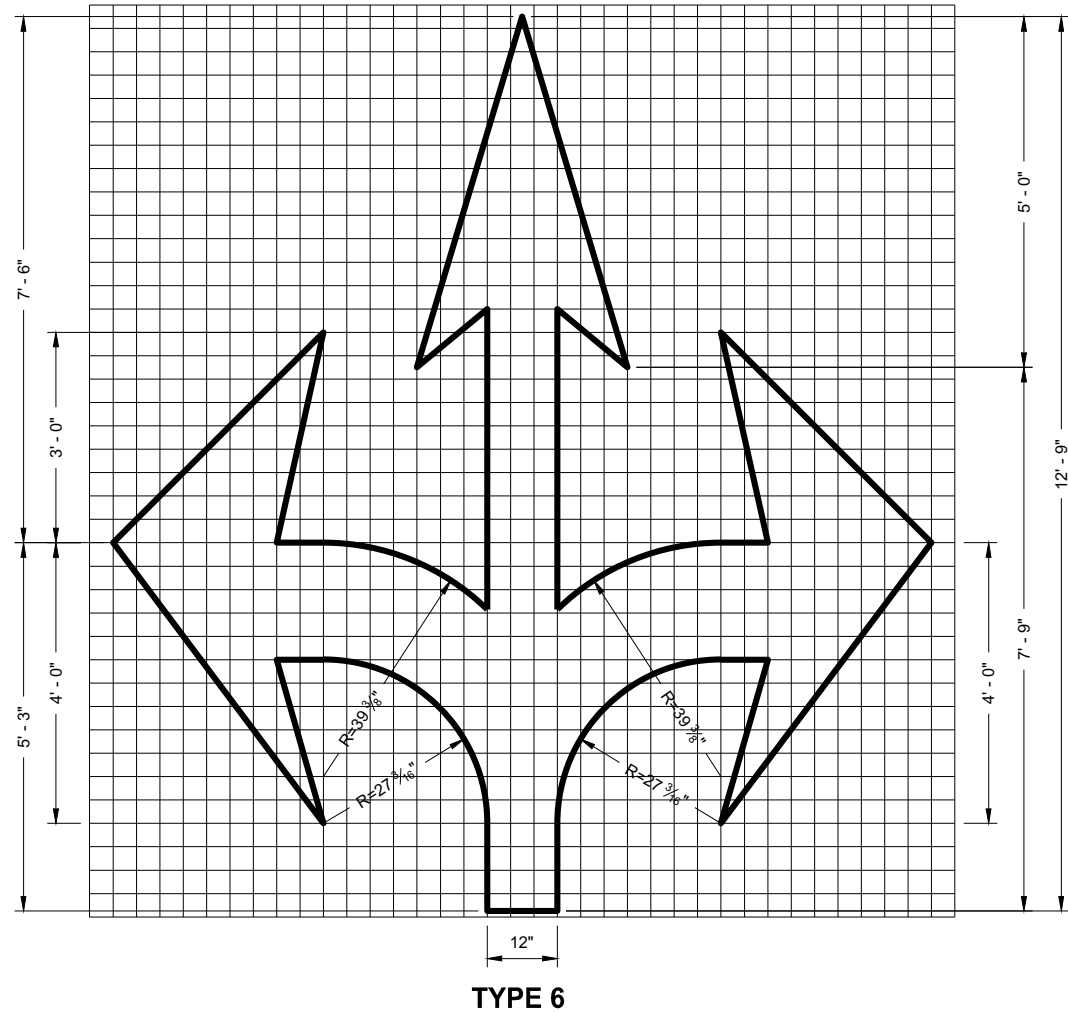
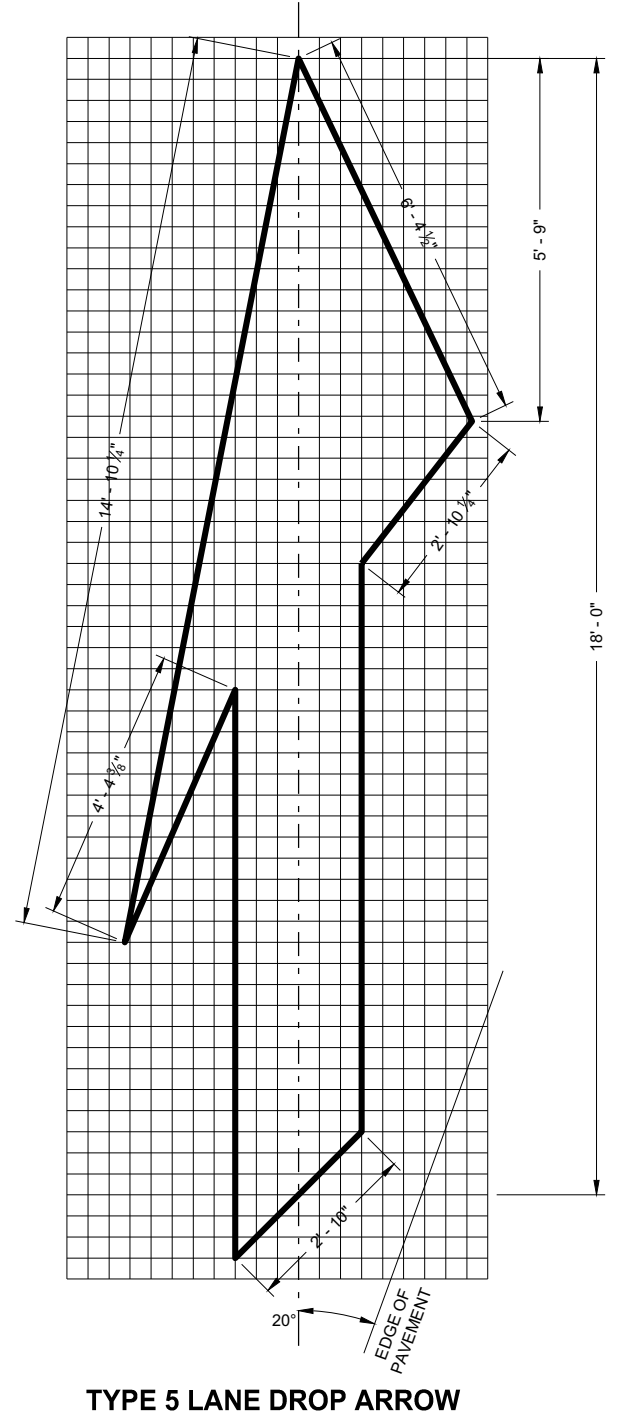
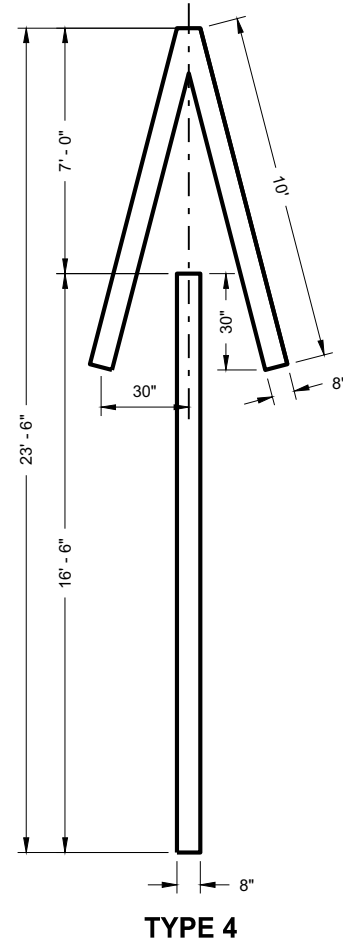
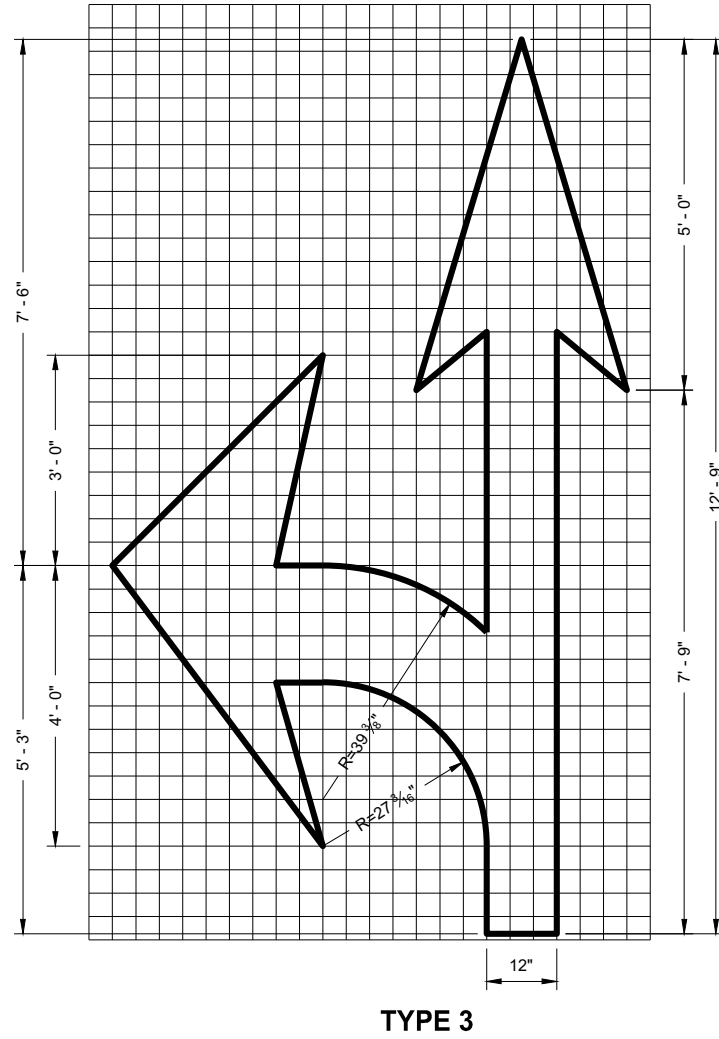
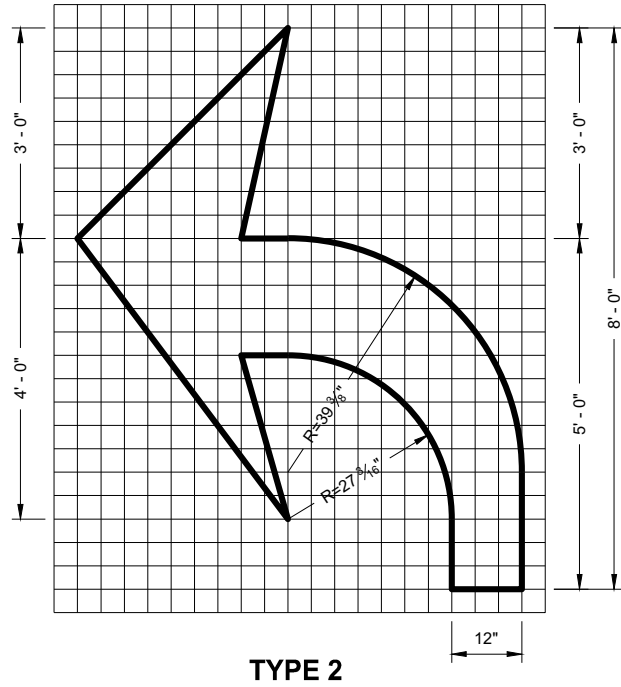
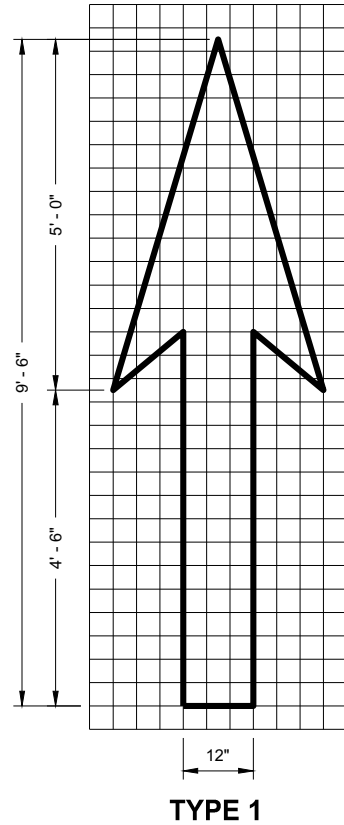
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING
SIGNS 40 MPH OR LESS TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 305

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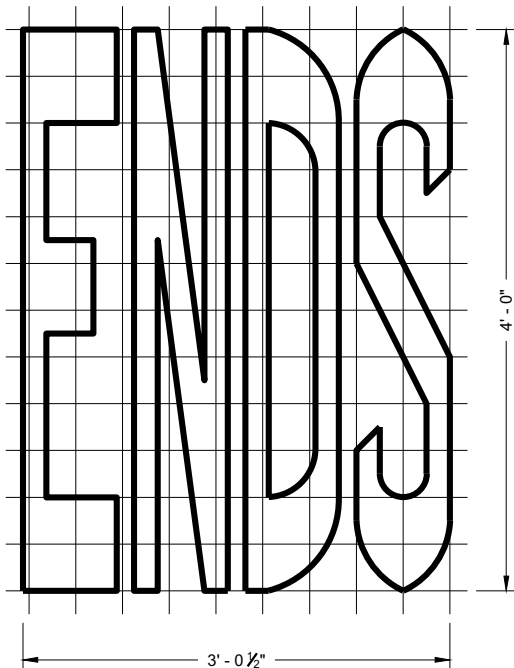
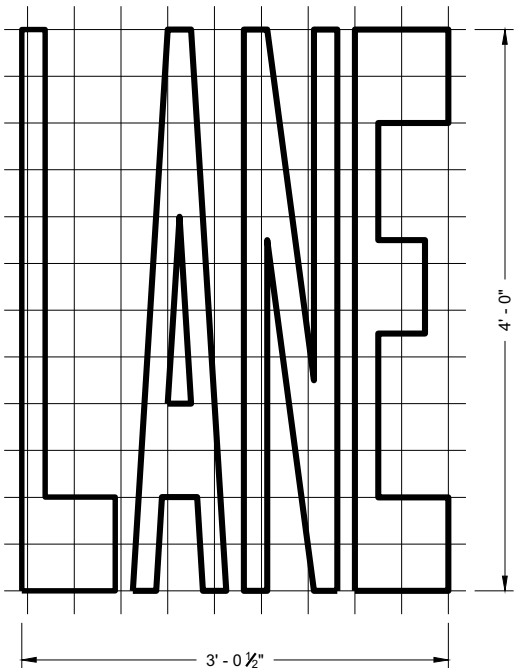
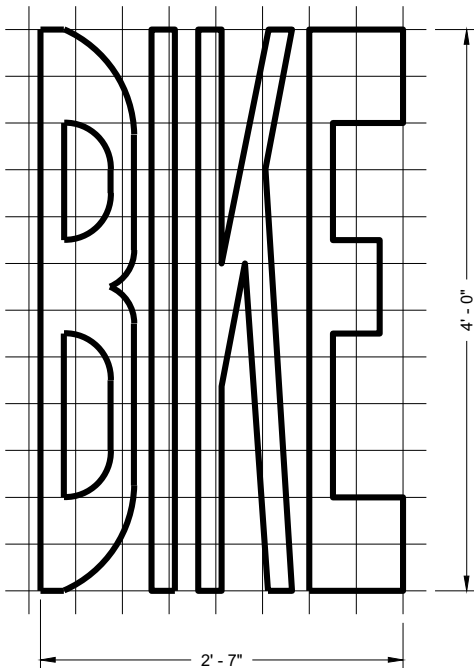
GENERAL NOTES

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 ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

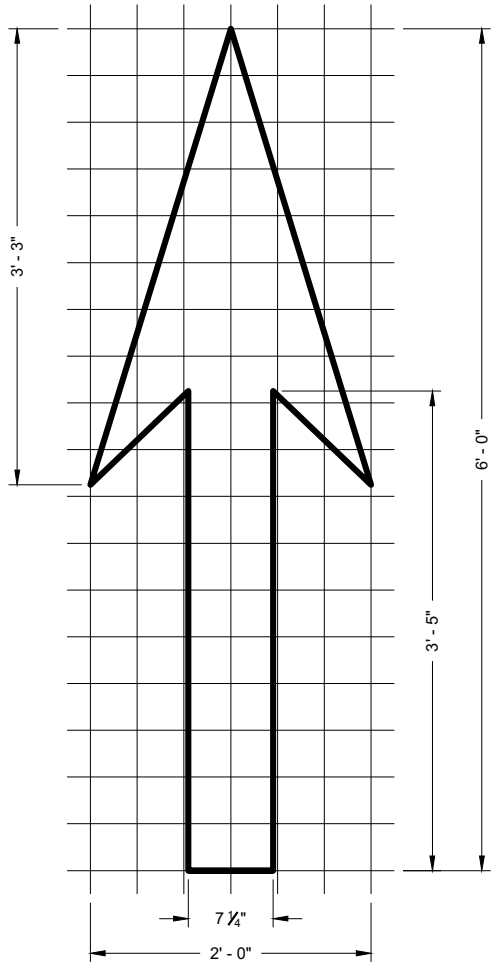
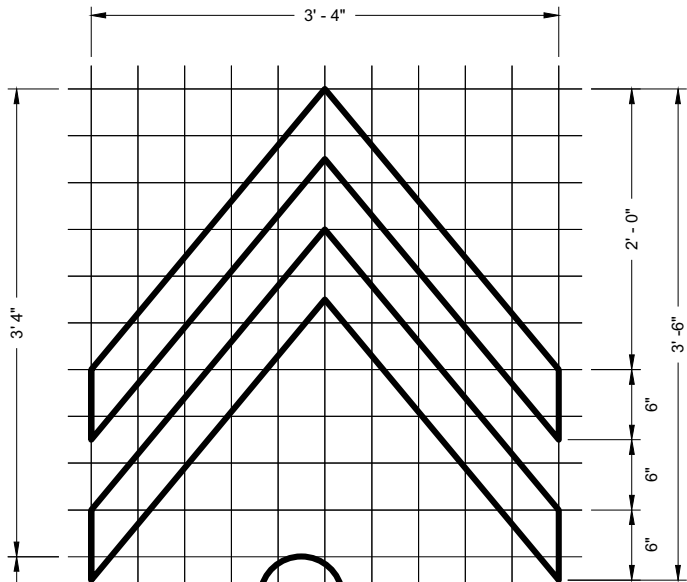
APPROVED
November 2019
DATE
/S/ Matthew Rauch
STATE SIGNING AND MAF
ENGINEER 306
FHWA



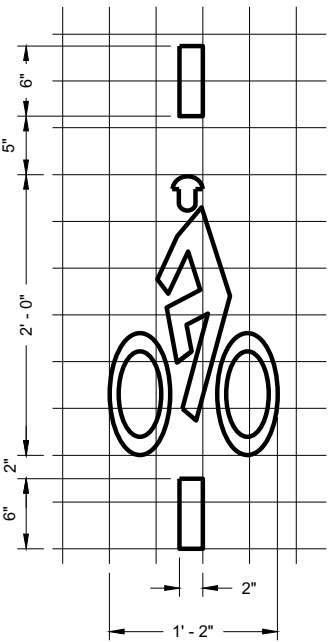
BIKE LANE WORDS

GENERAL NOTES

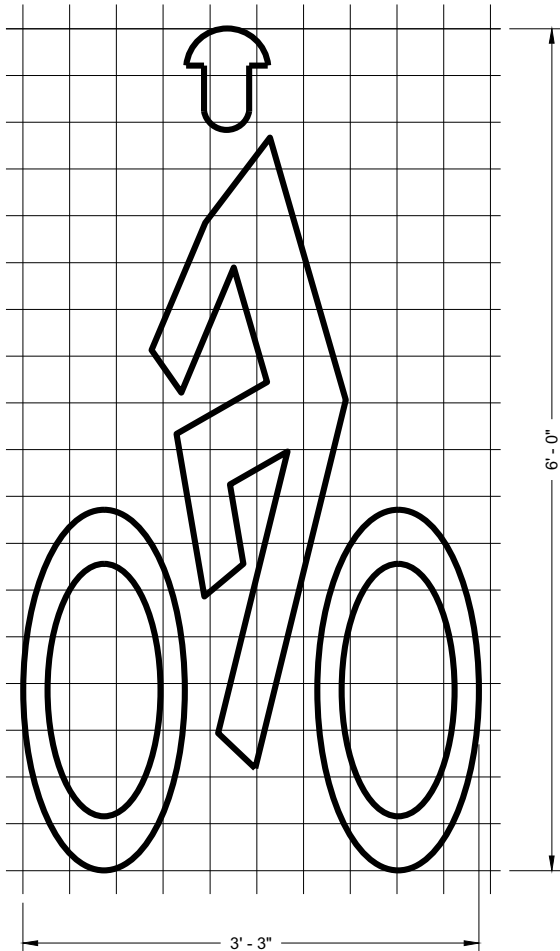
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



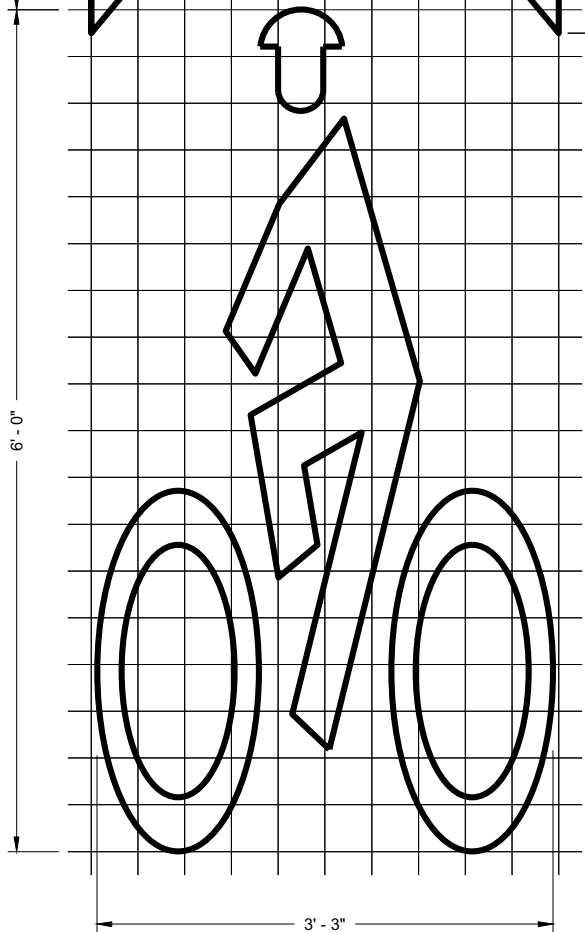
BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL

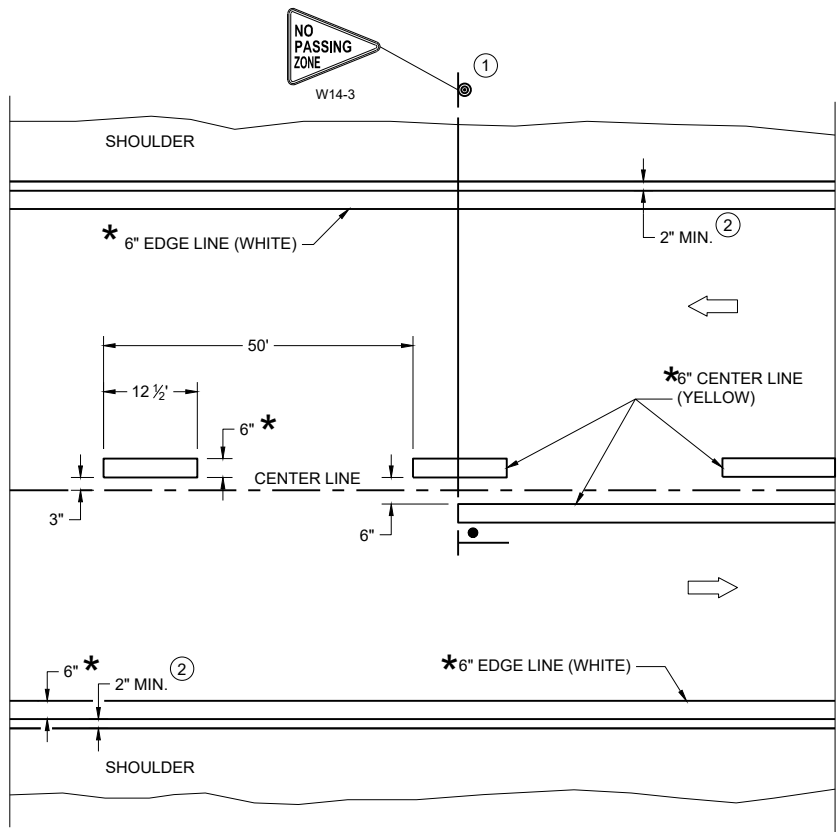


BIKE LANE SYMBOL FOR SHARED LANE

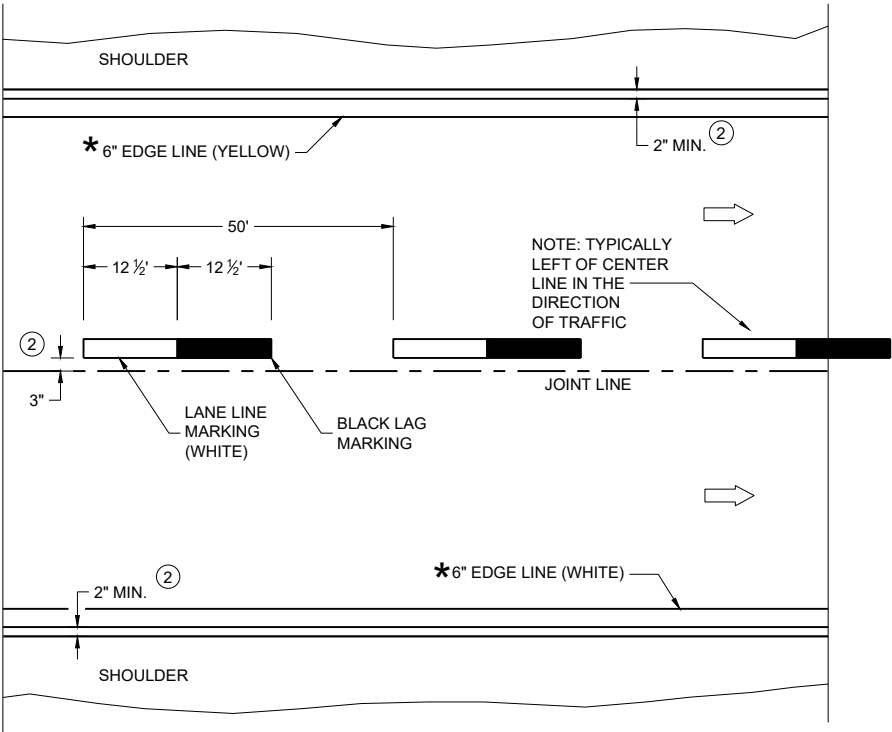
PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 307
FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

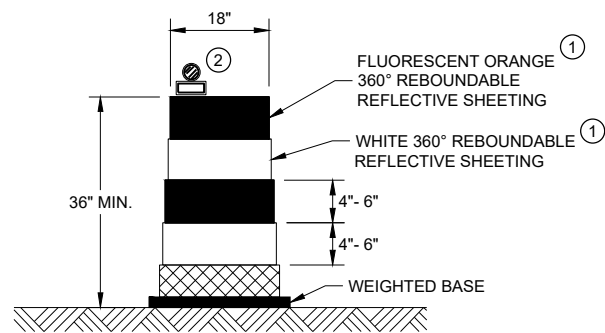
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- 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.

LEGEND

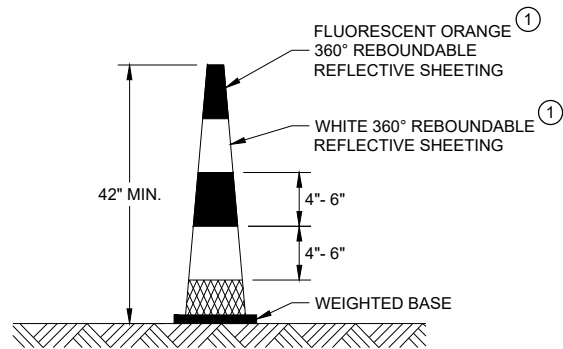
- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA 308	



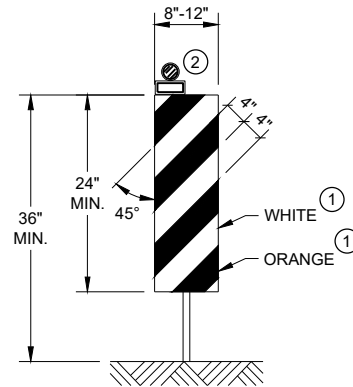
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



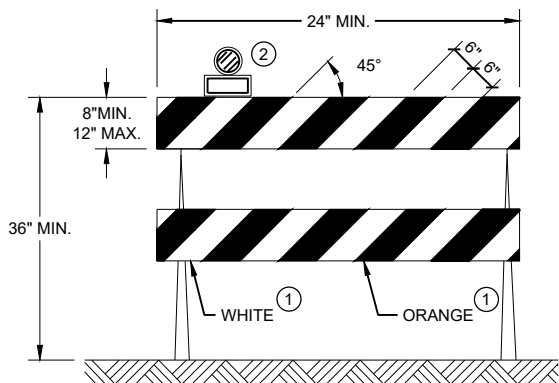
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



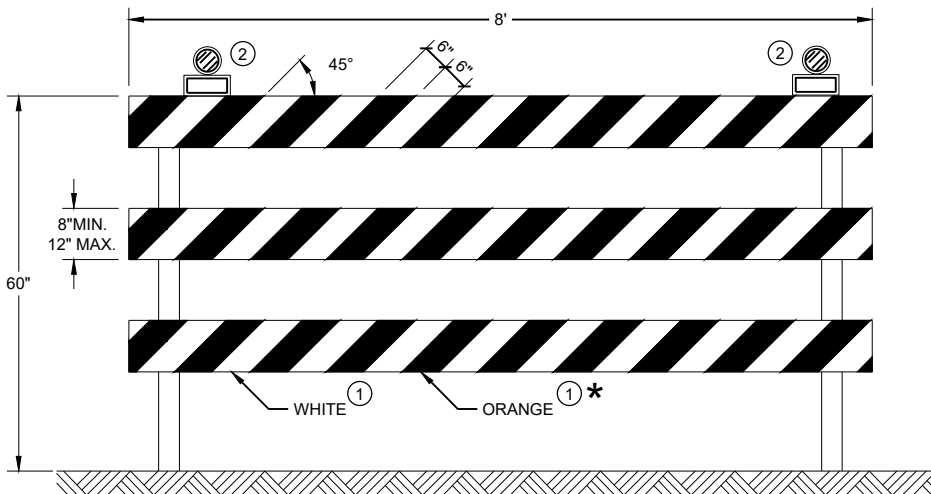
VERTICAL PANEL

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.

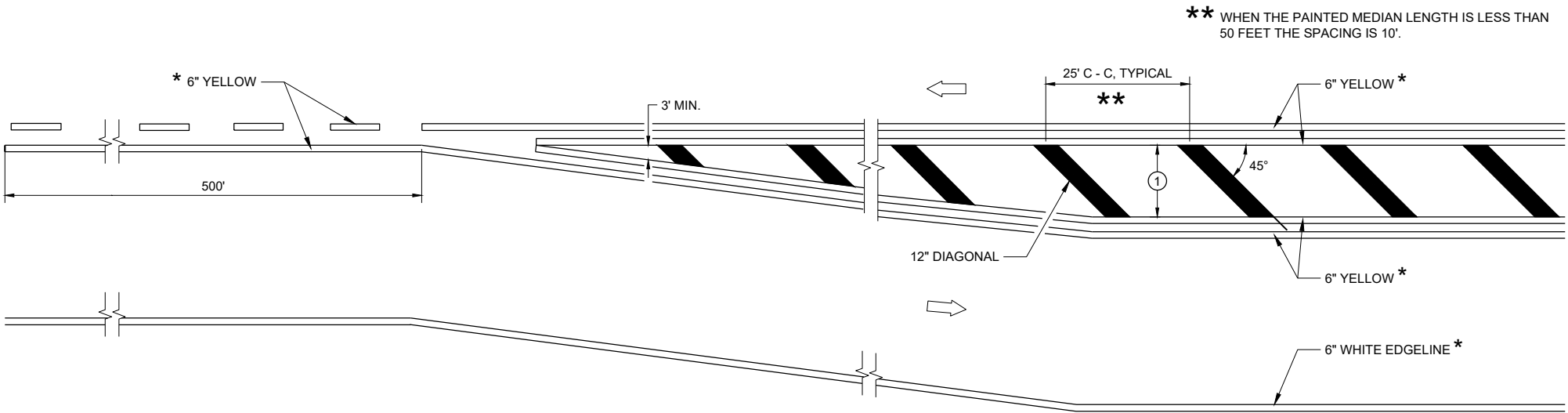
GENERAL NOTES

- 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.

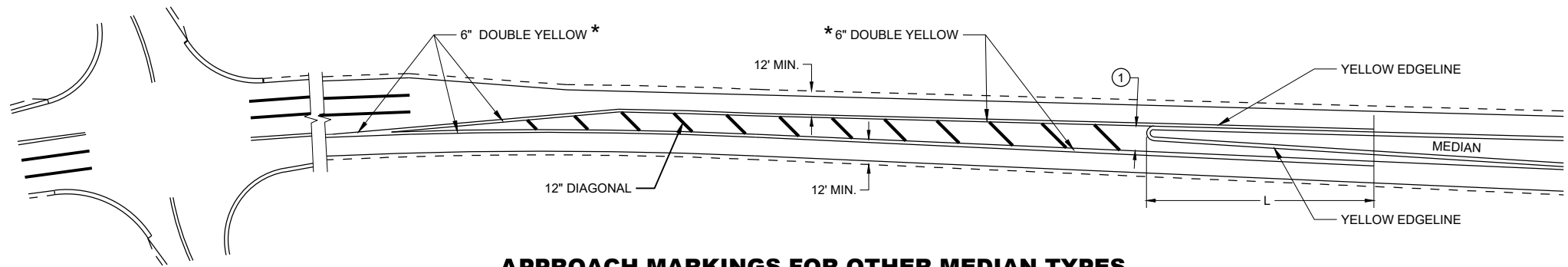
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

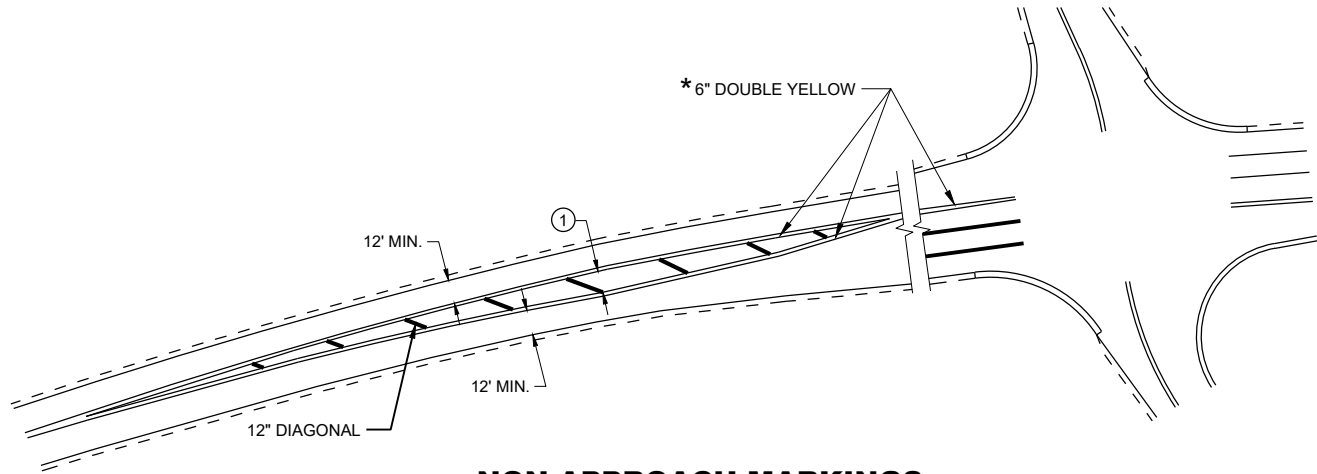
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 309
FHWA



MEDIAN ISLAND DETAIL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON-APPROACH MARKINGS

GENERAL NOTES

① DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT THE WIDEST POINT. OMIT DIAGONALS IF WIDTH IS LESS THAN 4 FEET.

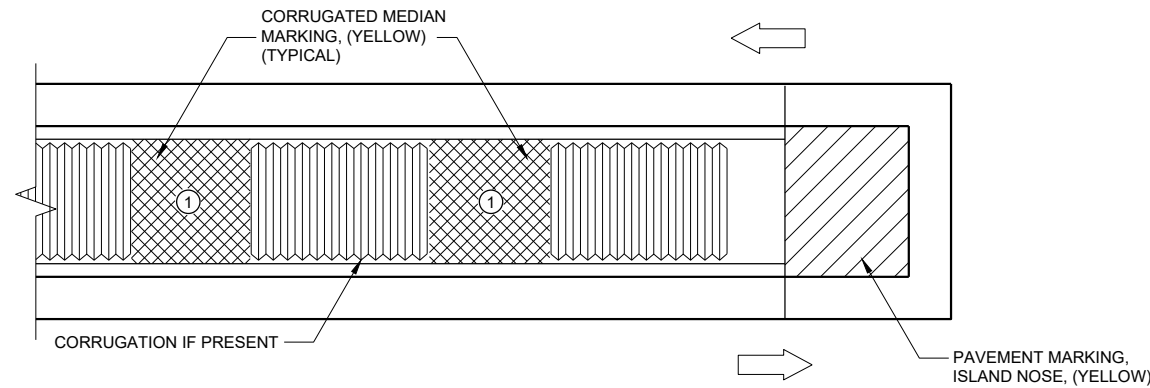
➡ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

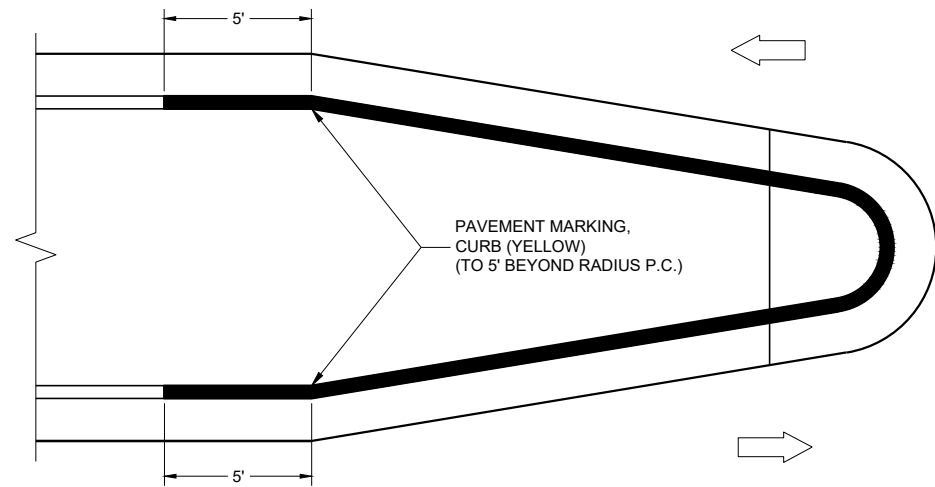
SPEED LIMIT	L
<35 MPH	5'
35> MPH	50'

MEDIAN ISLAND PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

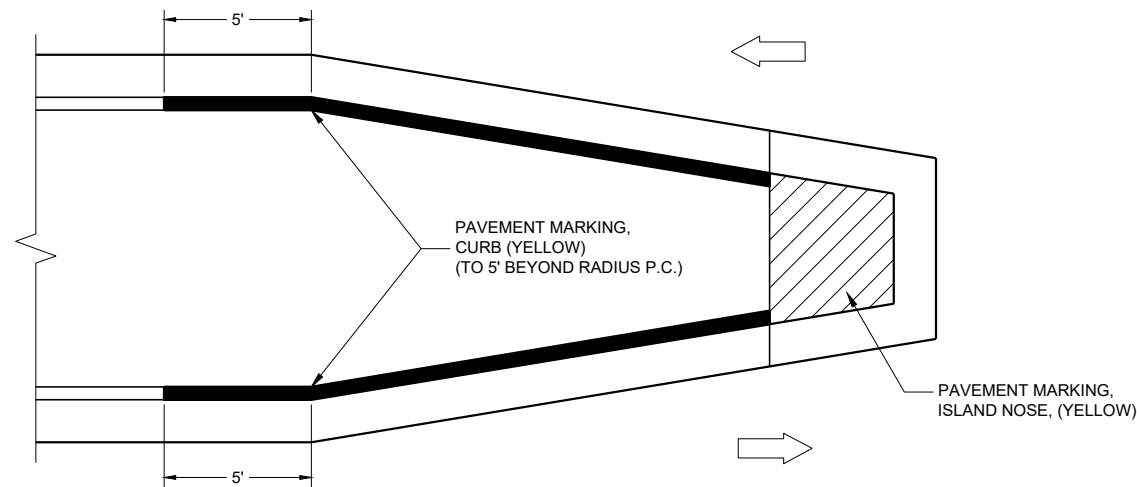
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MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

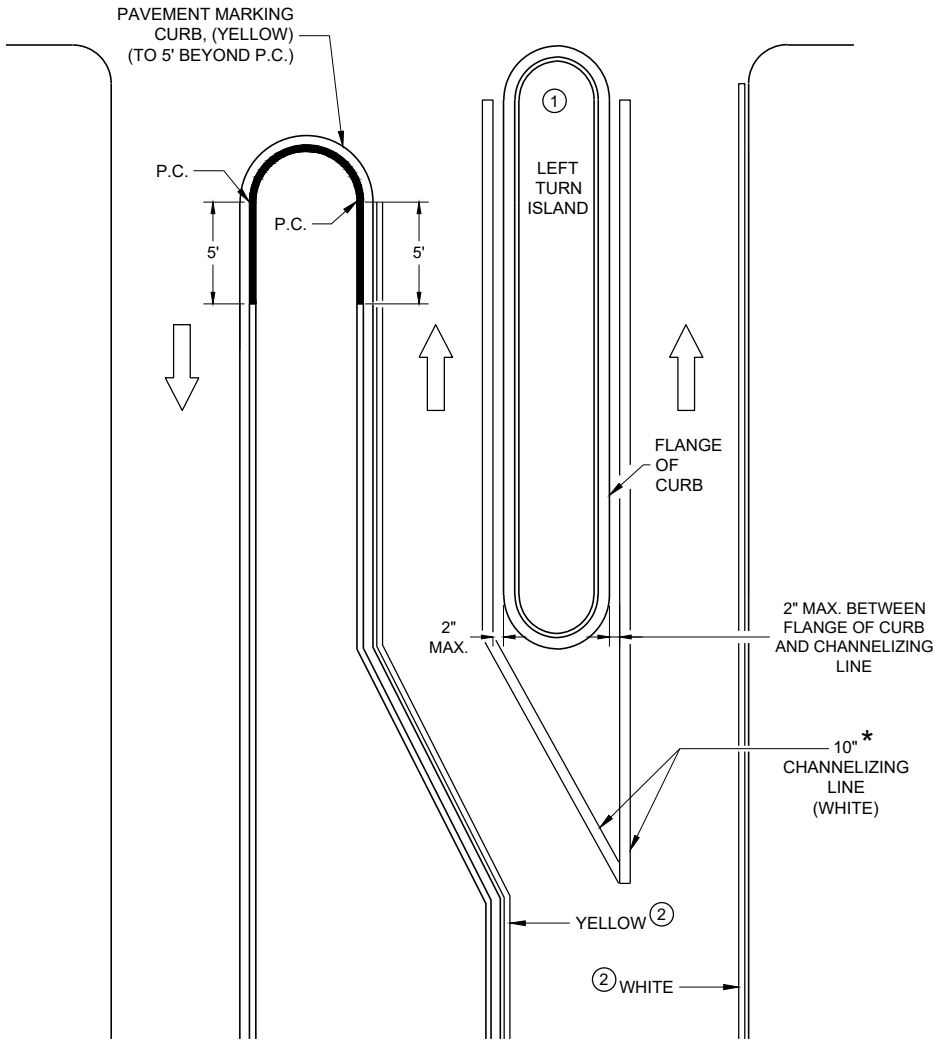
WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION, YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND ACCEPTED IN ACCORDANCE 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

PAVEMENT MARKINGS, MEDIAN ISLAND NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 311	

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

LEFT TURN & MEDIAN ISLAND

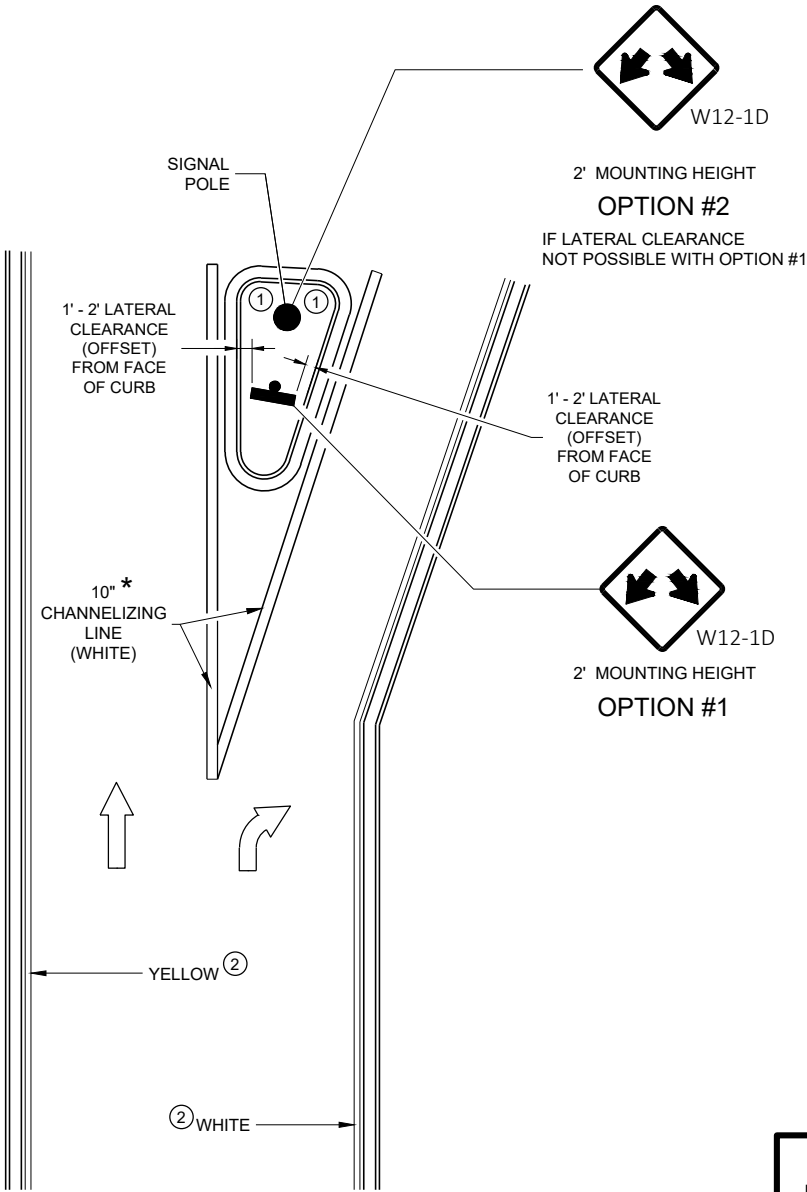
GENERAL NOTES

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.

➡ DIRECTION OF TRAVEL



RIGHT TURN ISLAND

MEDIAN PAVEMENT MARKINGS, DOUBLE ARROW WARNING SIGN PLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

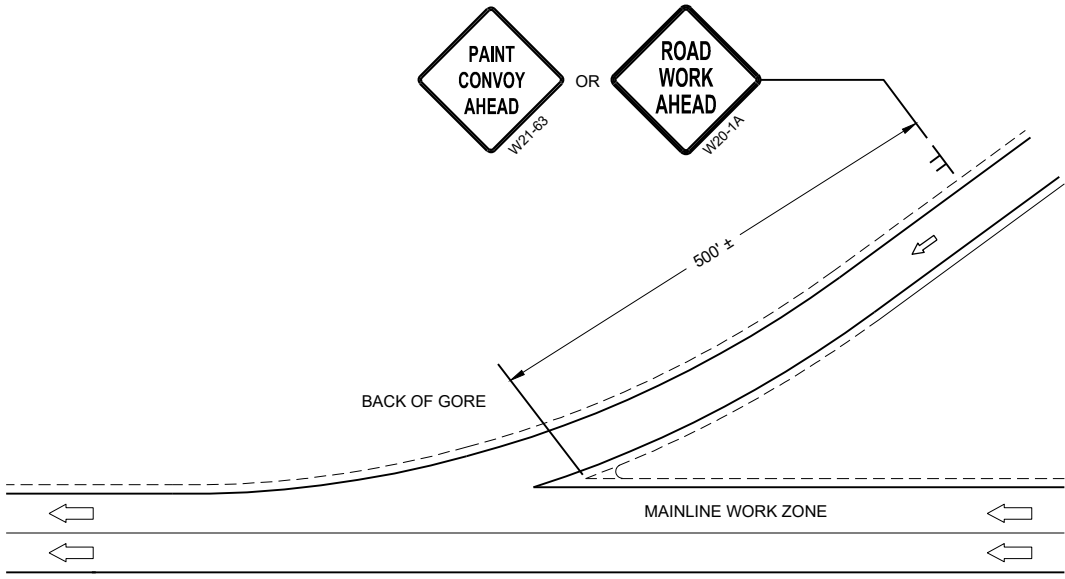
APPROVED
May 2023
DATE

/S/ Jeannie Silver
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

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)
- FLASHING ARROW PANEL (CAUTION)



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.

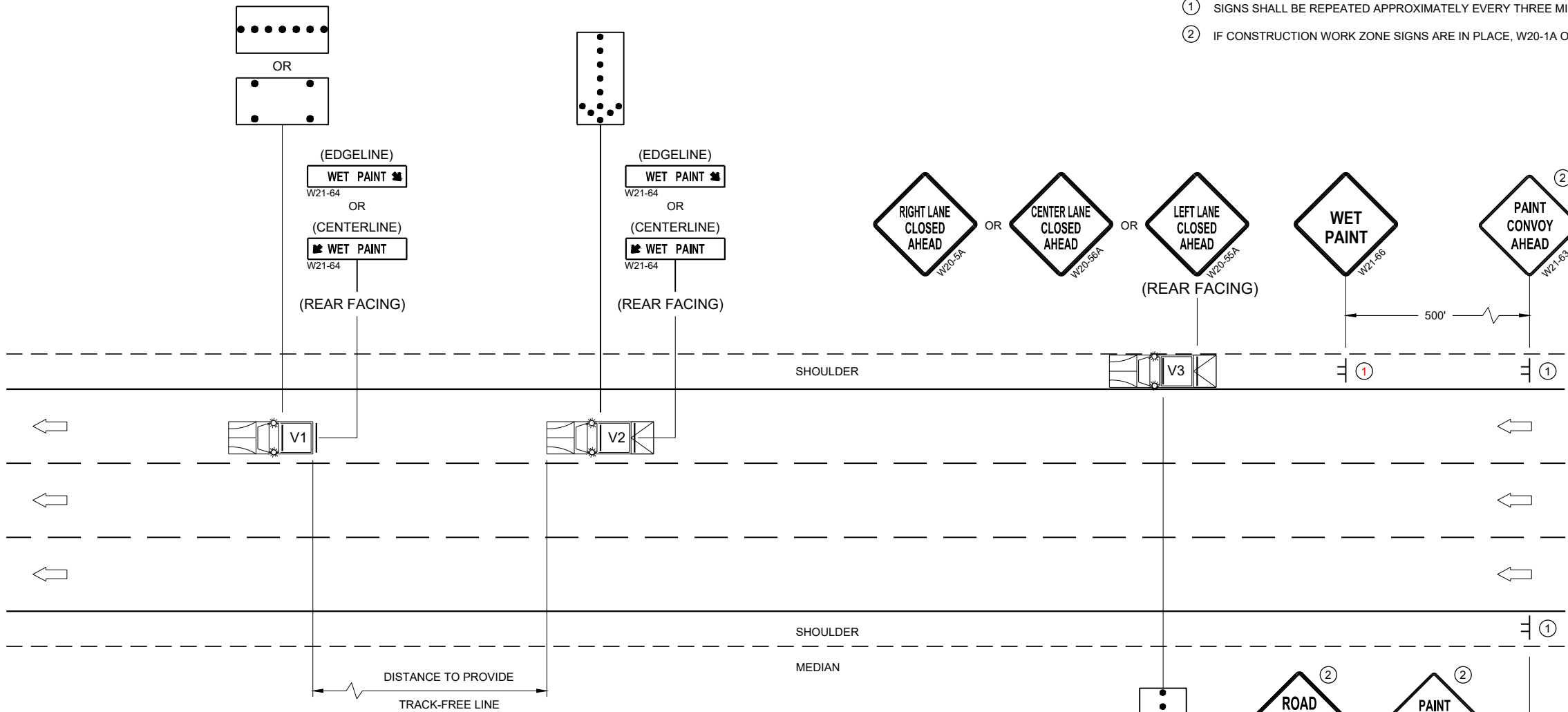
IF THE SHOULDER IS TOO NARROW TO ACCOMMODATE THE LAST TRAILING VEHICLE, THE VEHICLE SHOULD STRADDLE THE EDGE LINE.

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.

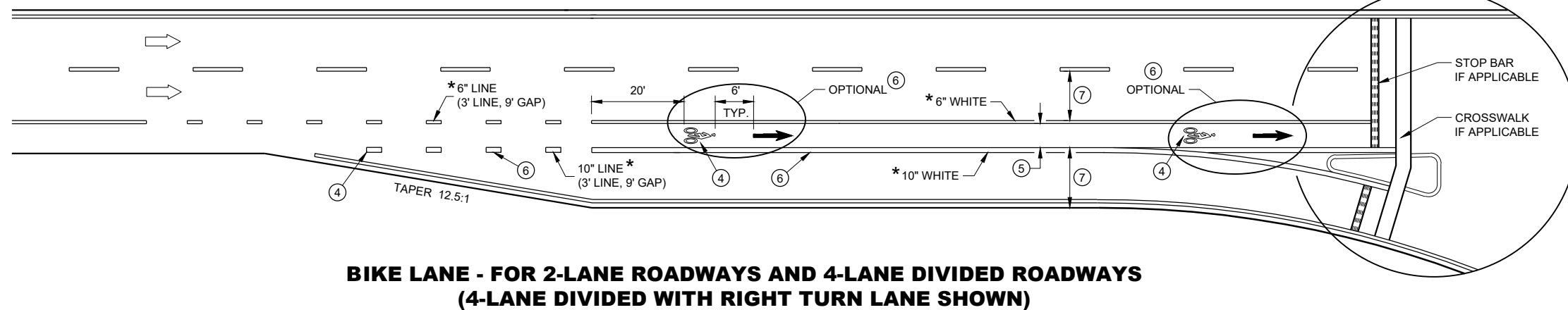
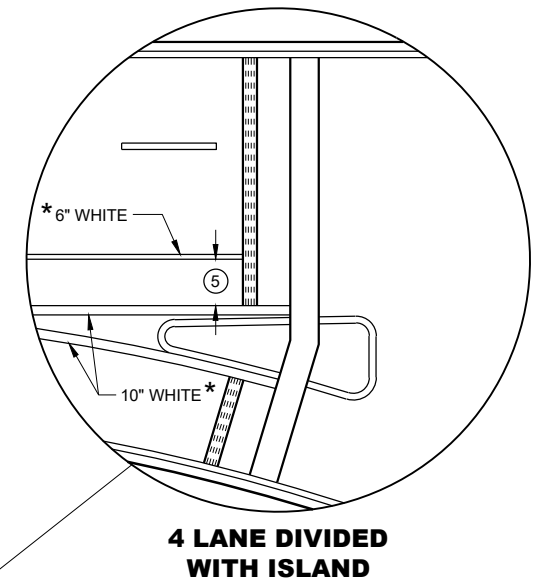
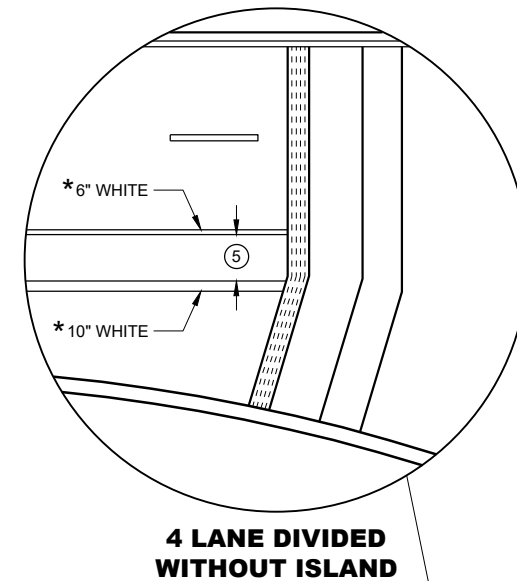
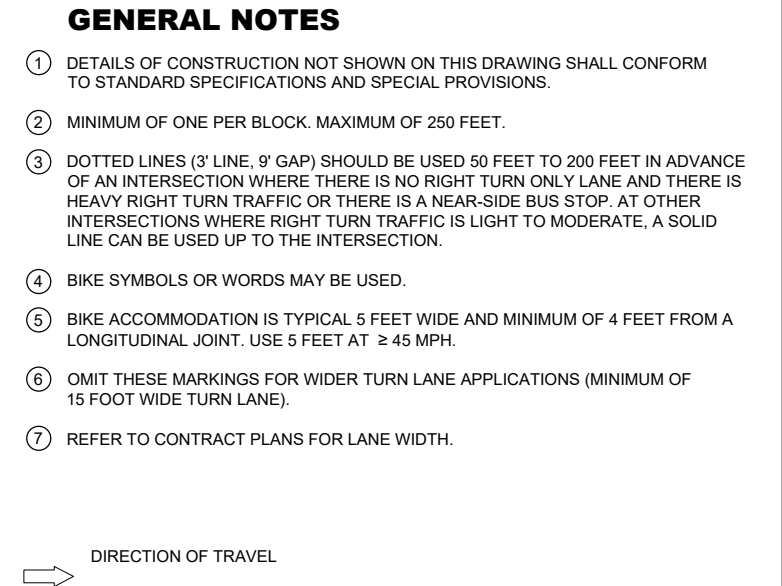
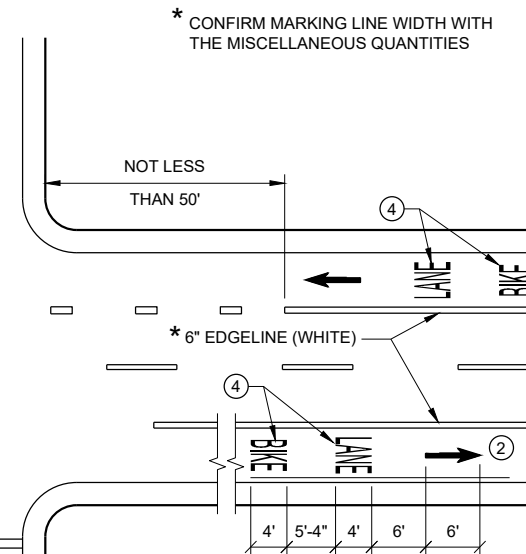
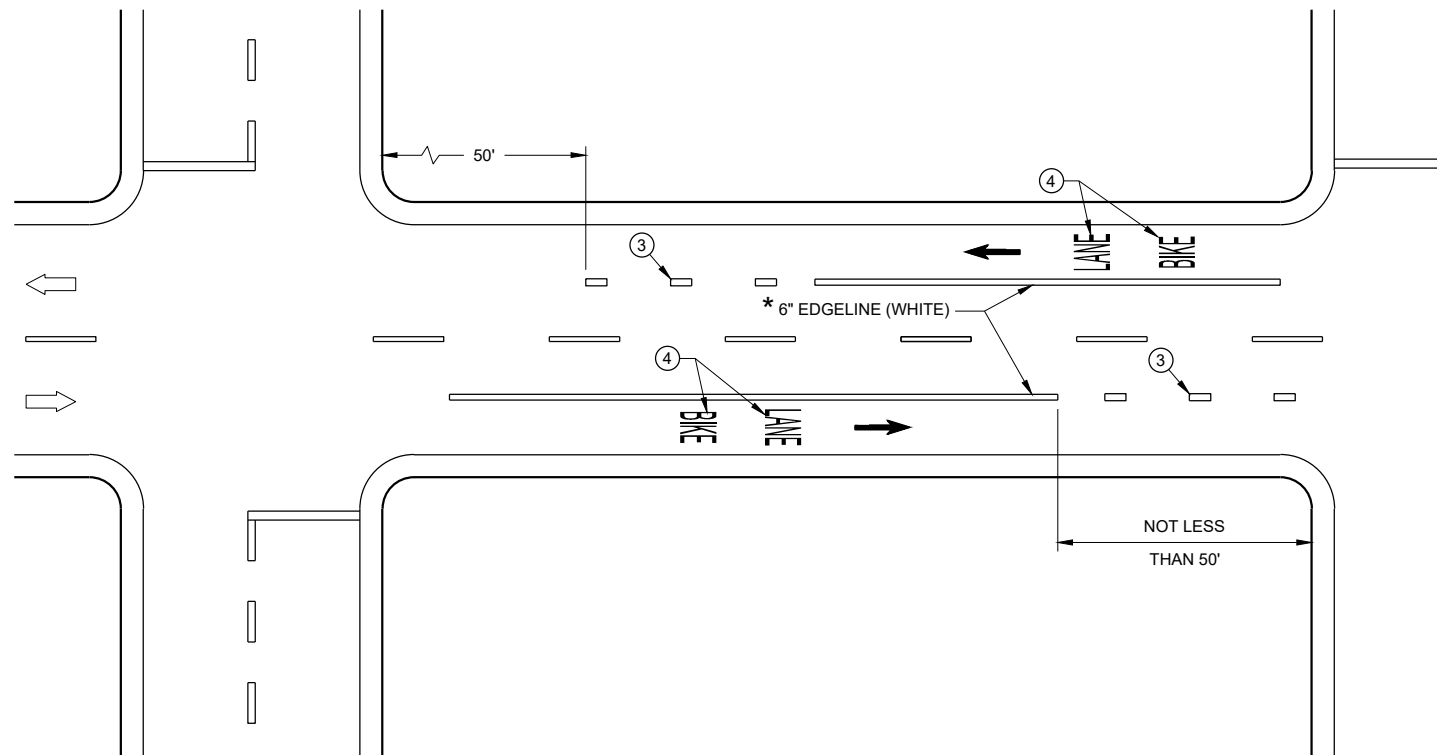


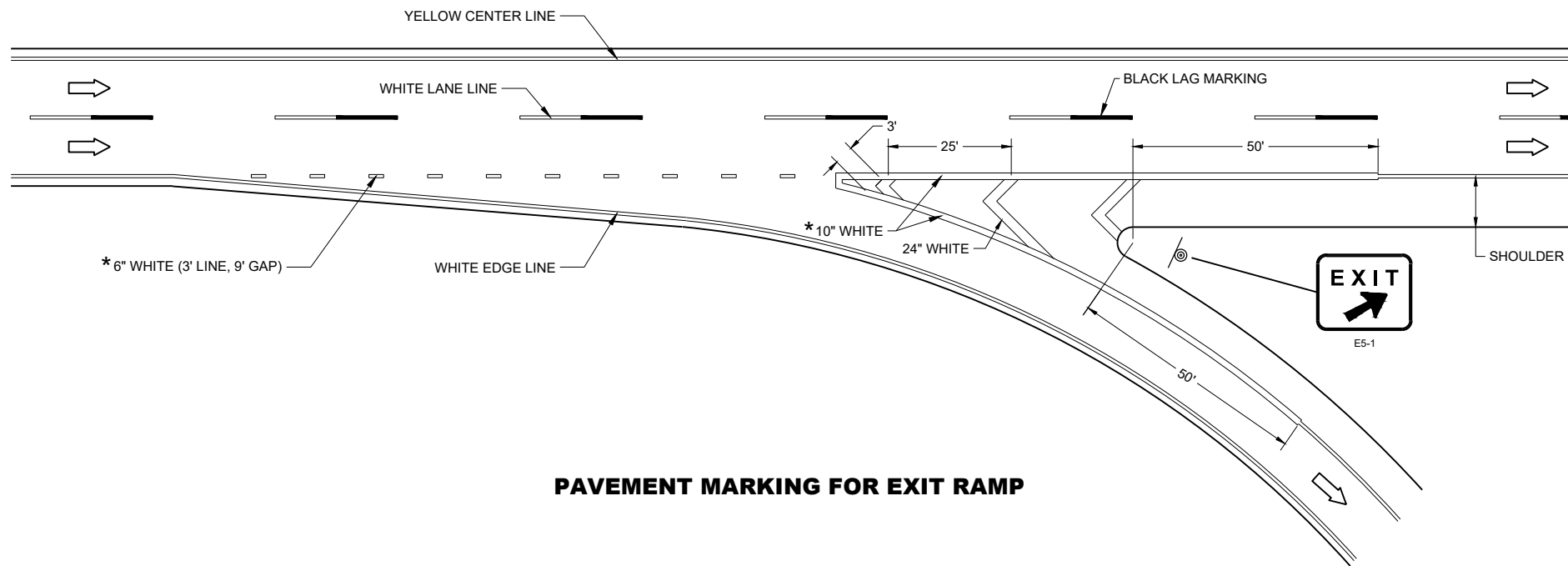
MOVING PAVEMENT MARKING OPERATIONS
MULTILANE DIVIDED ROADWAY

MOVING PAVEMENT MARKING
OPERATION MULTI-LANE
DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2023 /S/ Andrew J. ...
DATE WORK ZONE EN 313
FHWA





PAVEMENT MARKING FOR EXIT RAMP

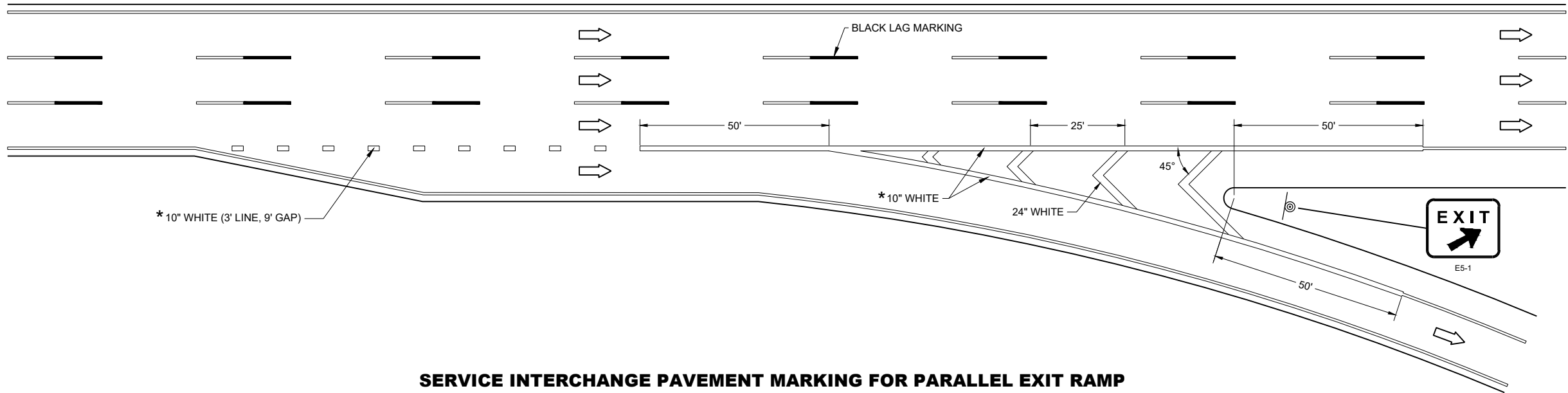
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.

LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAVEL

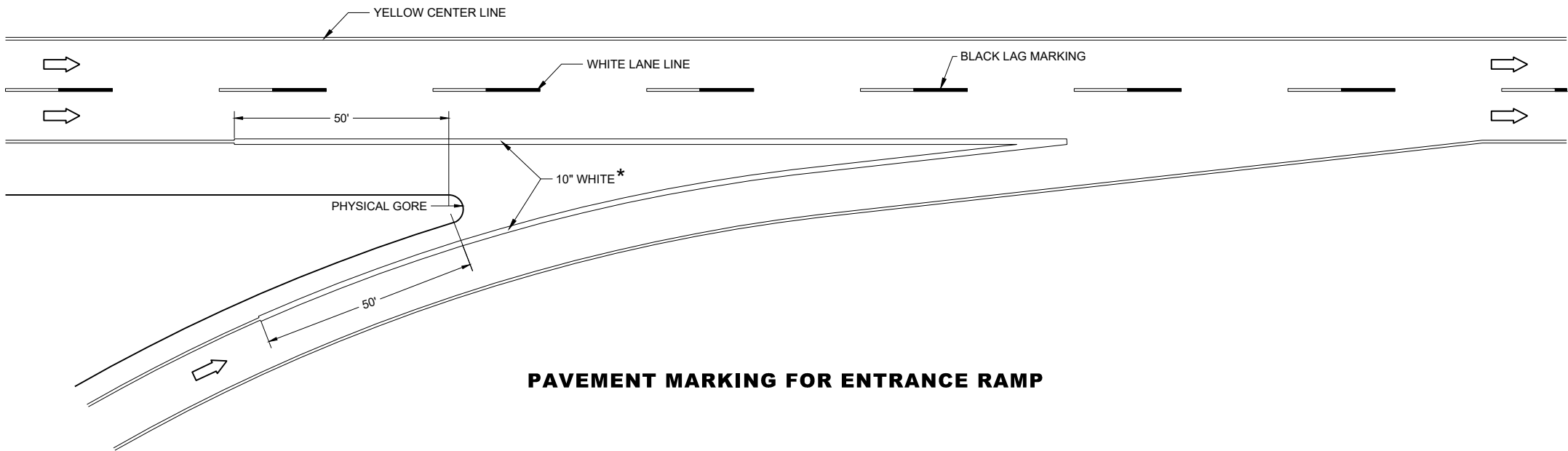
* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



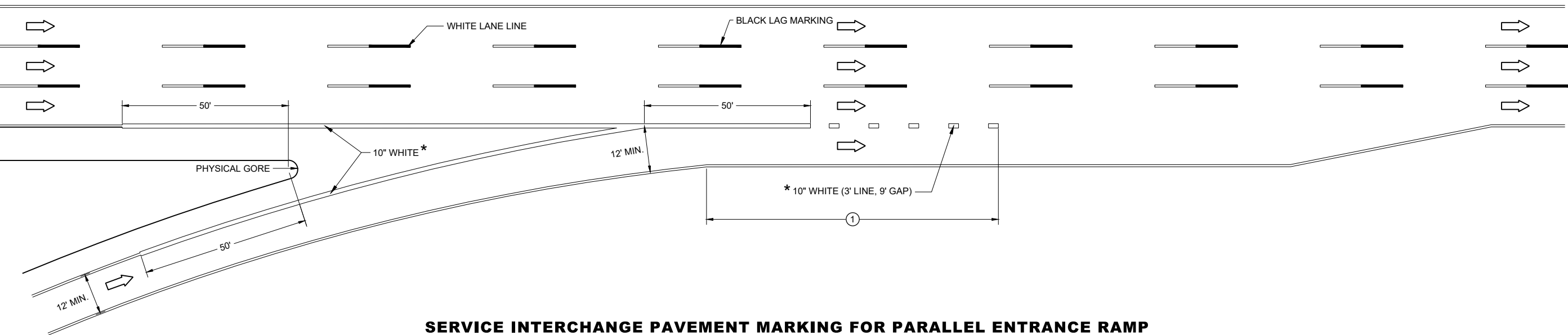
SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL EXIT RAMP

PAVEMENT MARKING,
EXIT RAMP AND
PARALLEL EXIT RAMP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PAVEMENT MARKING FOR ENTRANCE RAMP



SERVICE INTERCHANGE PAVEMENT MARKING FOR PARALLEL ENTRANCE RAMP

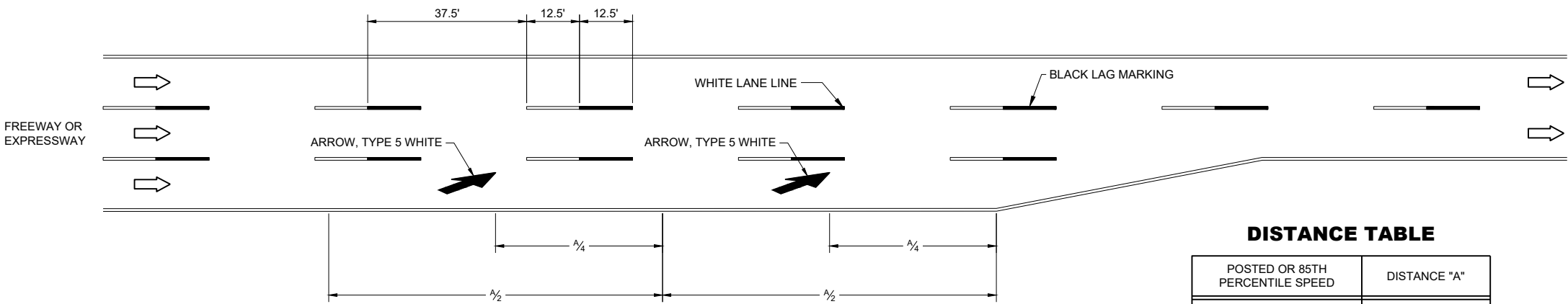
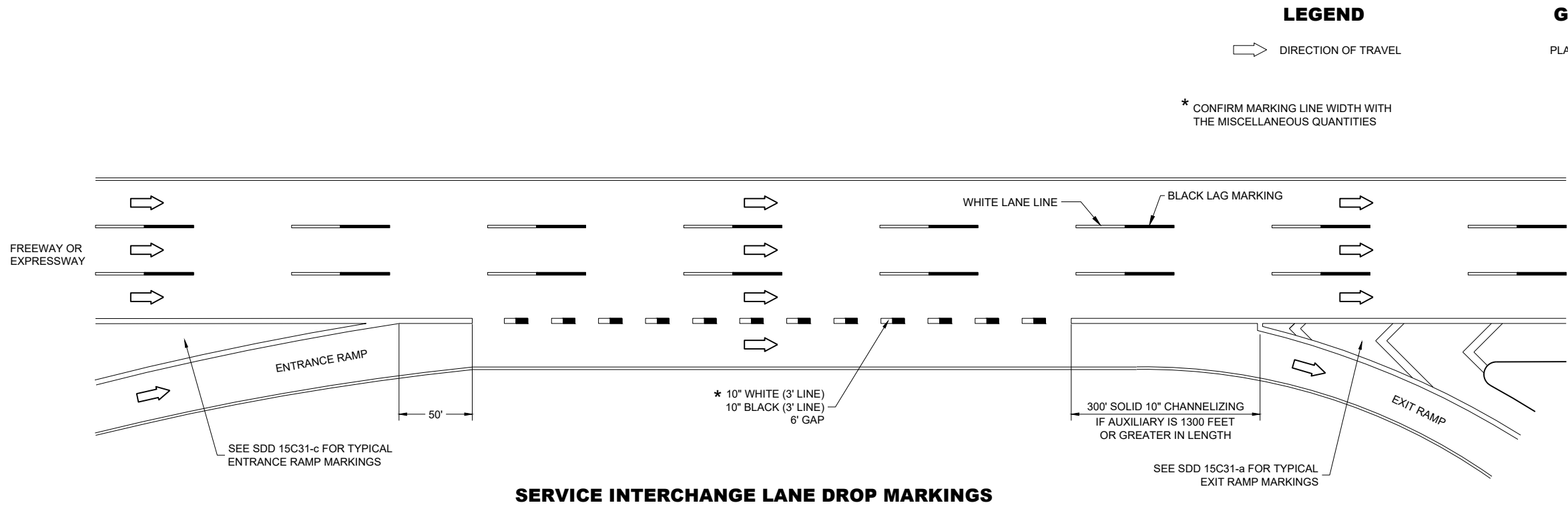
GENERAL NOTES

PLACE GROOVE 3 INCHES LEFT OF JOINT.
① ½ LENGTH OF FULL WIDTH ACCELERATION LANE.

LEGEND

➡ DIRECTION OF TRAVEL

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



DISTANCE TABLE	
POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
40	670'
45	775'
50	885'
55	990'
60	1100'
65	1200'
70	1250'

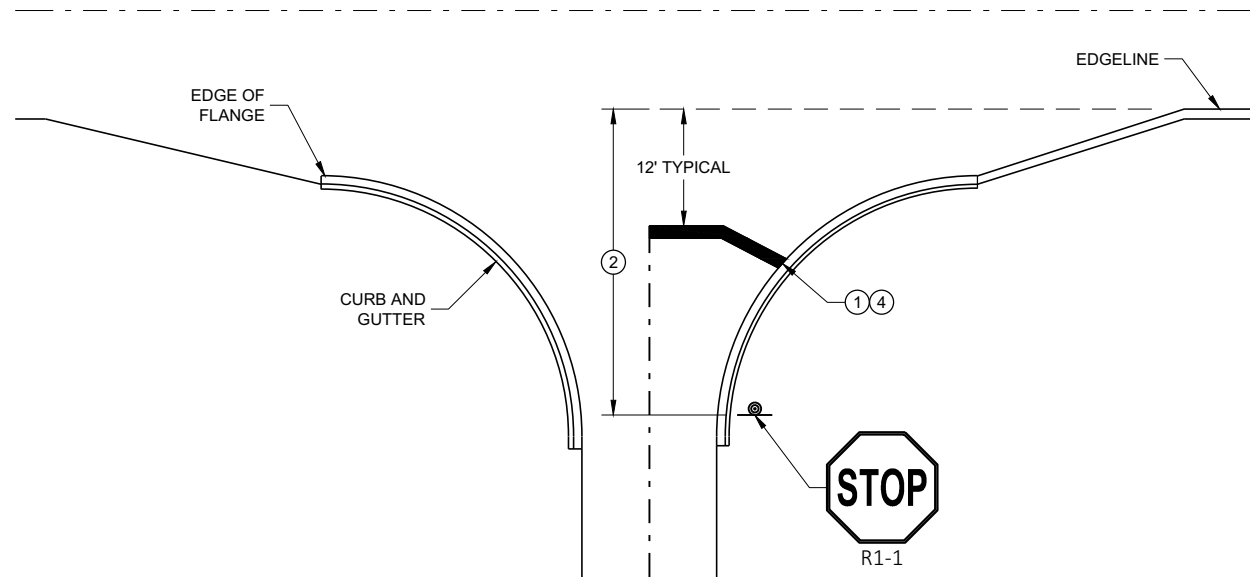
**PAVEMENT MARKING,
LANE DROP AND
LANE REDUCTION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

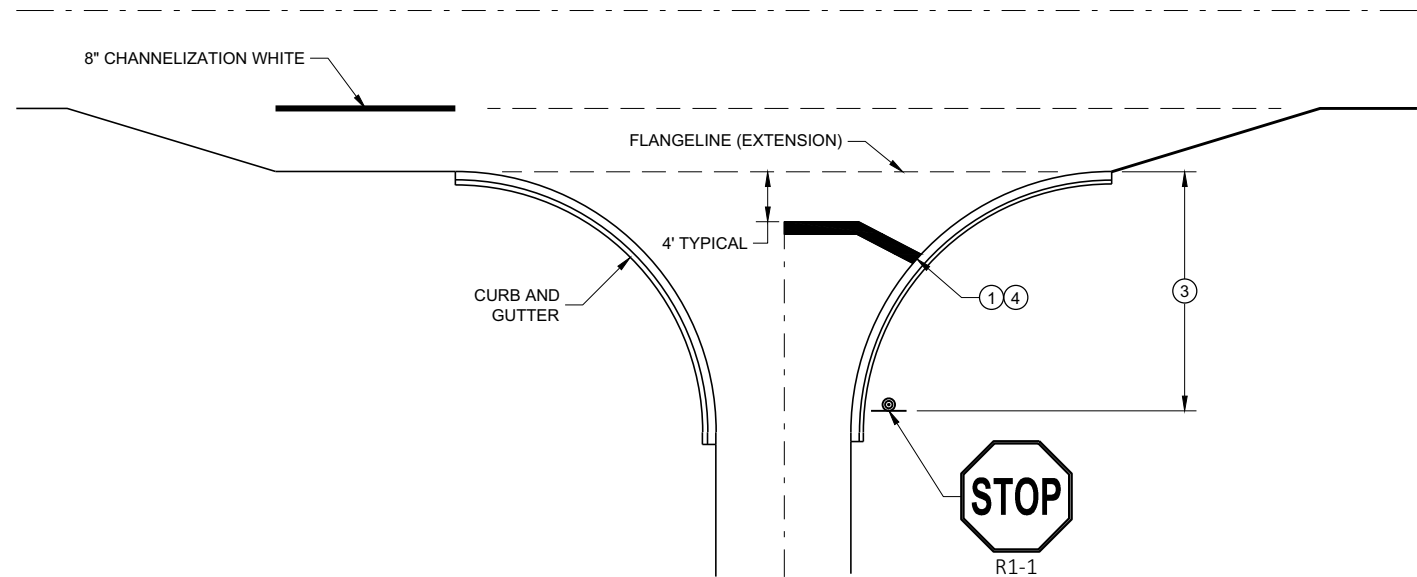
APPROVED
September 2023
DATE

/S/ Matthew Rauch
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR

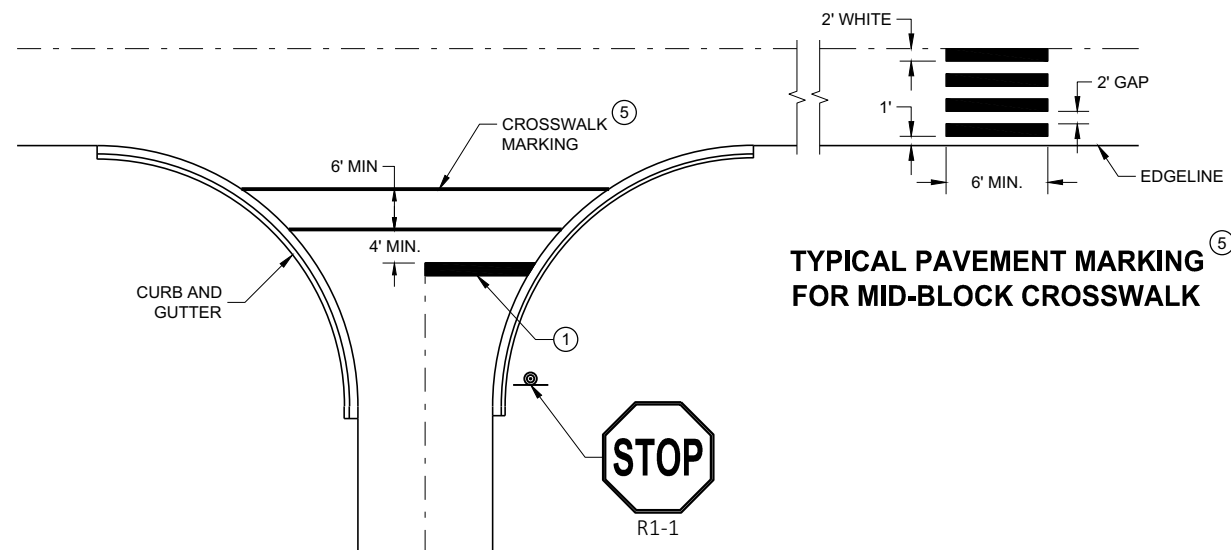
FHWA



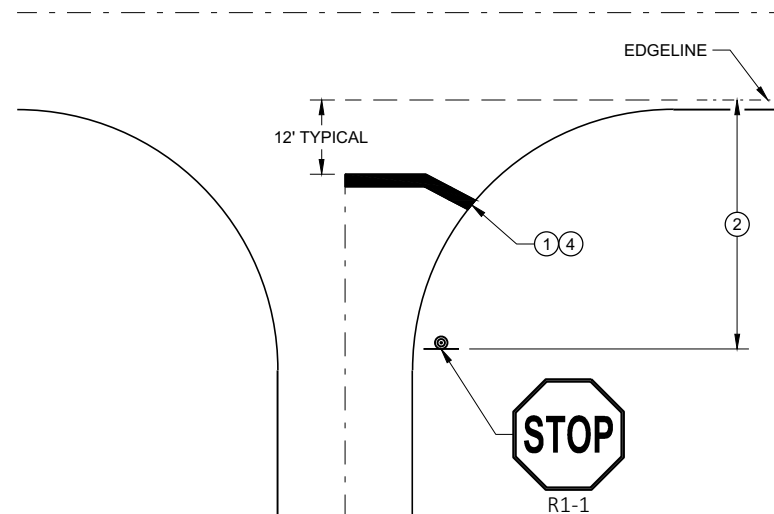
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR
SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

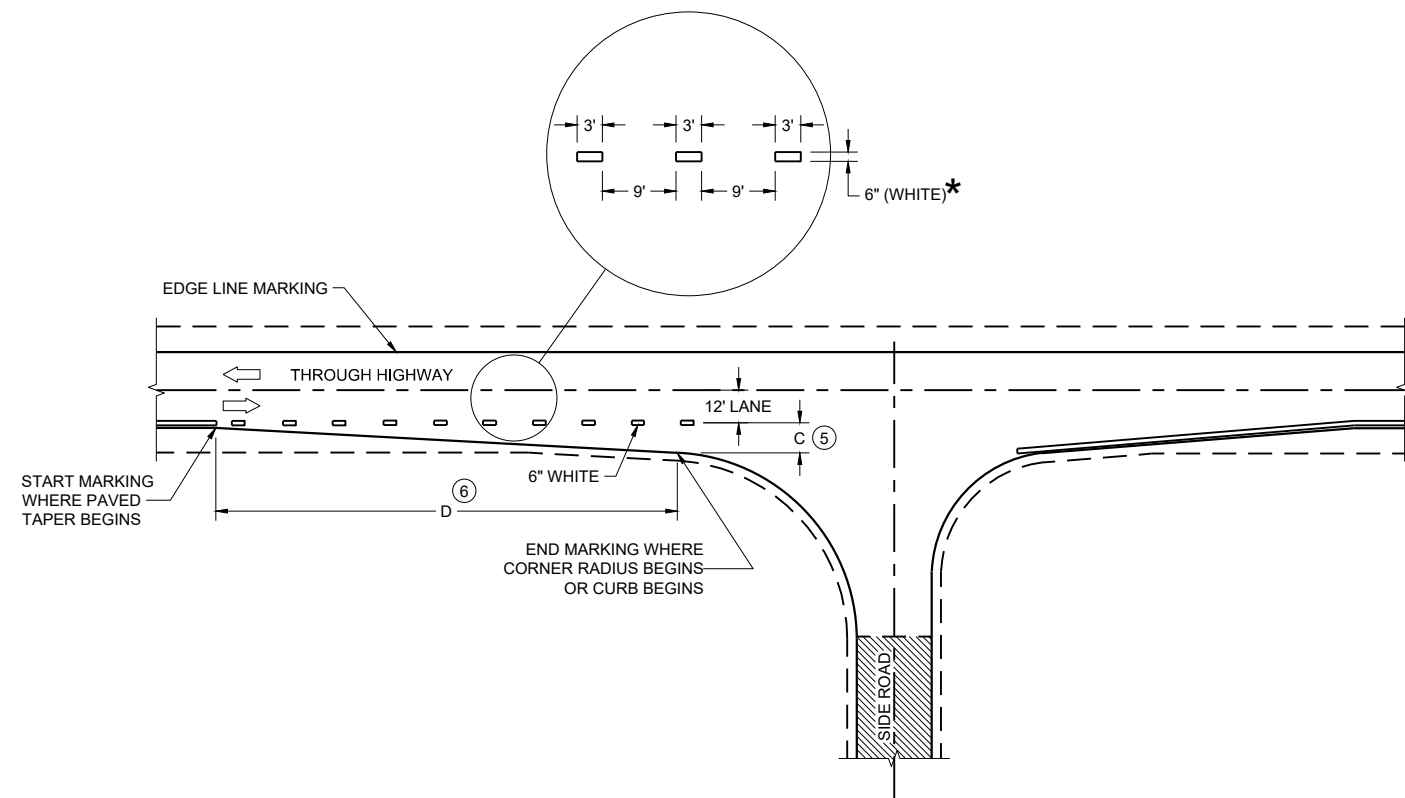
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

- 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 EDGE LINE.
- 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 INSTEAD.

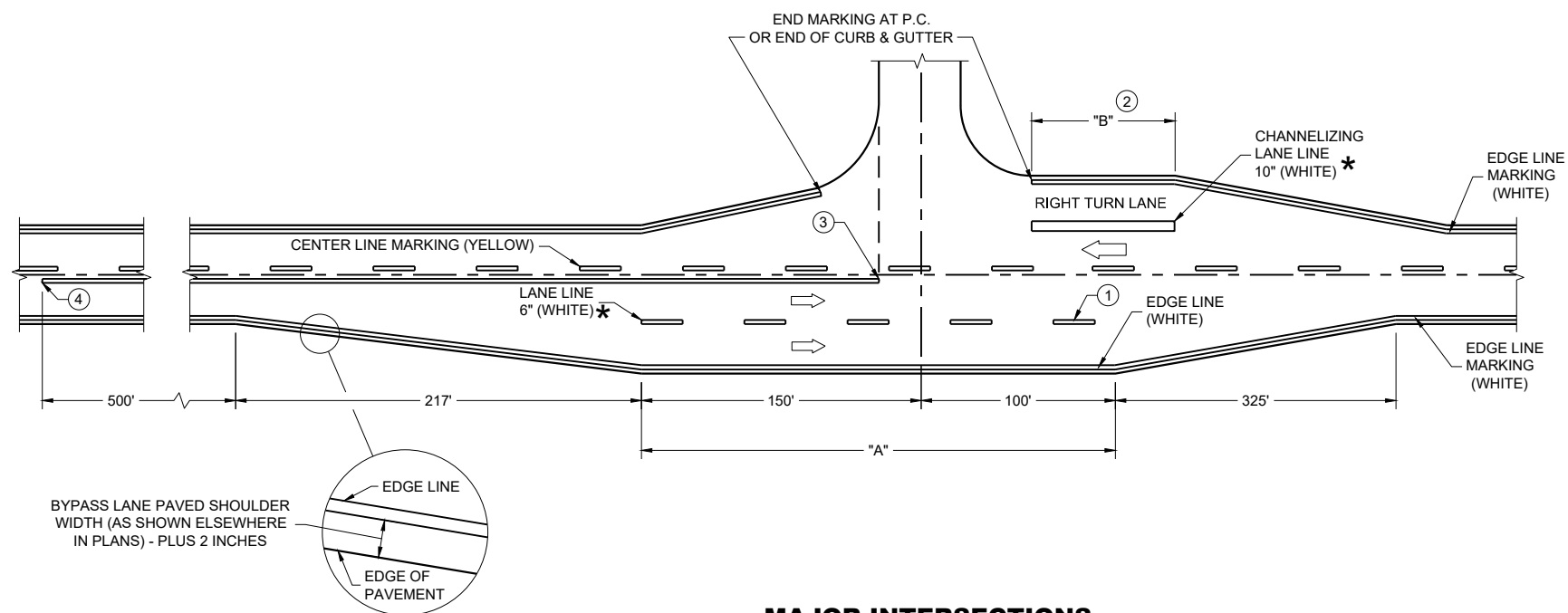
STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019 /S/ Matthew Rauch
DATE STATE SIGNING AND MAP ENGINEER 318
FHWA



MINOR INTERSECTION



MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

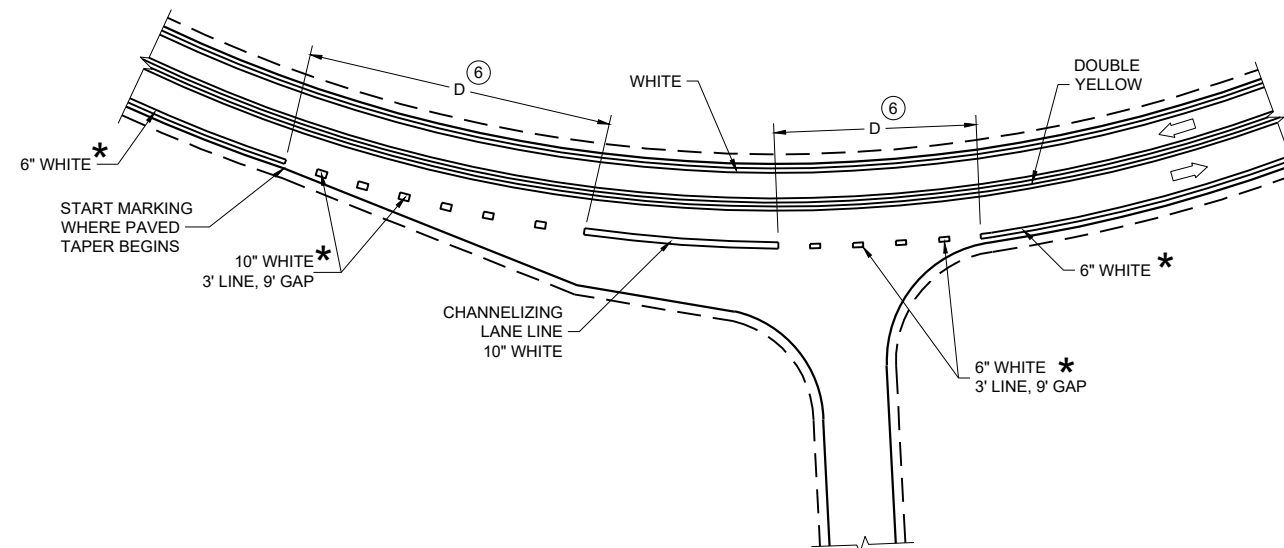
GENERAL NOTES

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



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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)
- REMOVING PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC
- WORK AREA
- FLASHING ARROW BOARD
- PORTABLE TRAFFIC SENSOR (PTS)
- FLASHING BEACON SIGN

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS, INCLUDING FBS 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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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.

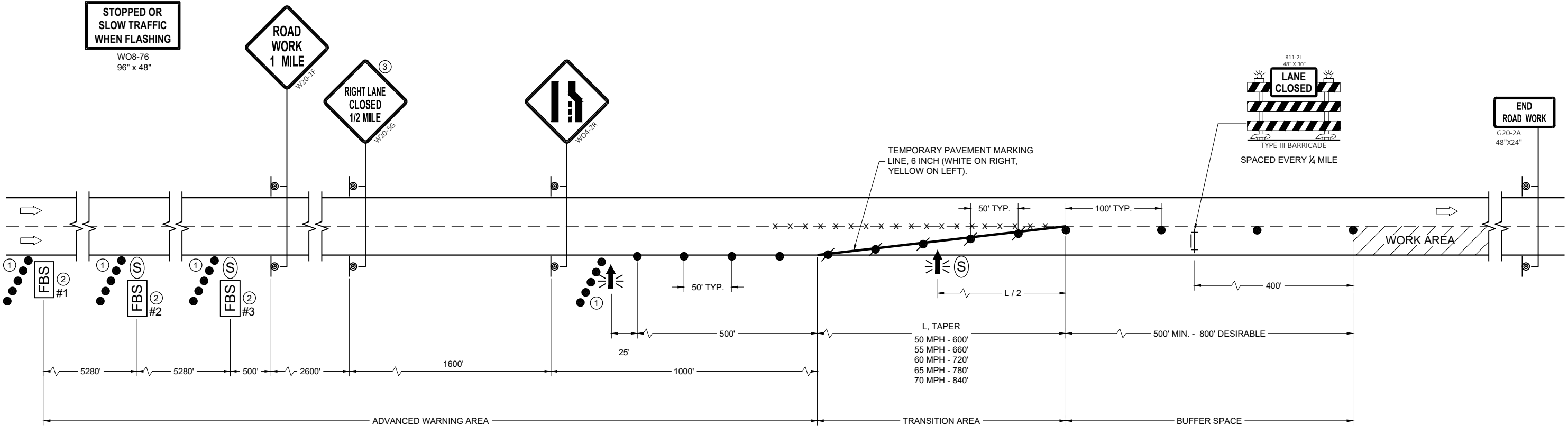
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

PORTABLE TRAFFIC SENSOR (PTS) MAY BE MOUNTED ON THE FBS, ARROW BOARD OR OTHER TRAILER DEVICES.

- 5 DRUMS SPACED AT 10 FOOT INTERVALS AS NEEDED.
- IF THERE ARE MORE THAN TWO LANES OR IF SPECIFIED IN THE PLANS, PLACE FBS ON BOTH SIDES OF THE ROADWAY.
- IF THERE IS AN APPROVED TEMPORARY SPEED DECLARATION, ADD WO-3-5 SIGNS 400 FEET AFTER THE W20-5G SIGNS AND ADD R2-1 SIGNS (48"x60") 700 FEET AFTER THE WO3-5 SIGNS. 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 (800 FEET DESIRABLE) BEYOND THE G30-3A "END ROAD WORK" SIGN.



TRAFFIC CONTROL, LANE CLOSURE, BASIC TRAFFIC QUEUE WARNING SYSTEM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
September 2023 /S/ Erin Schwark
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  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.

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.

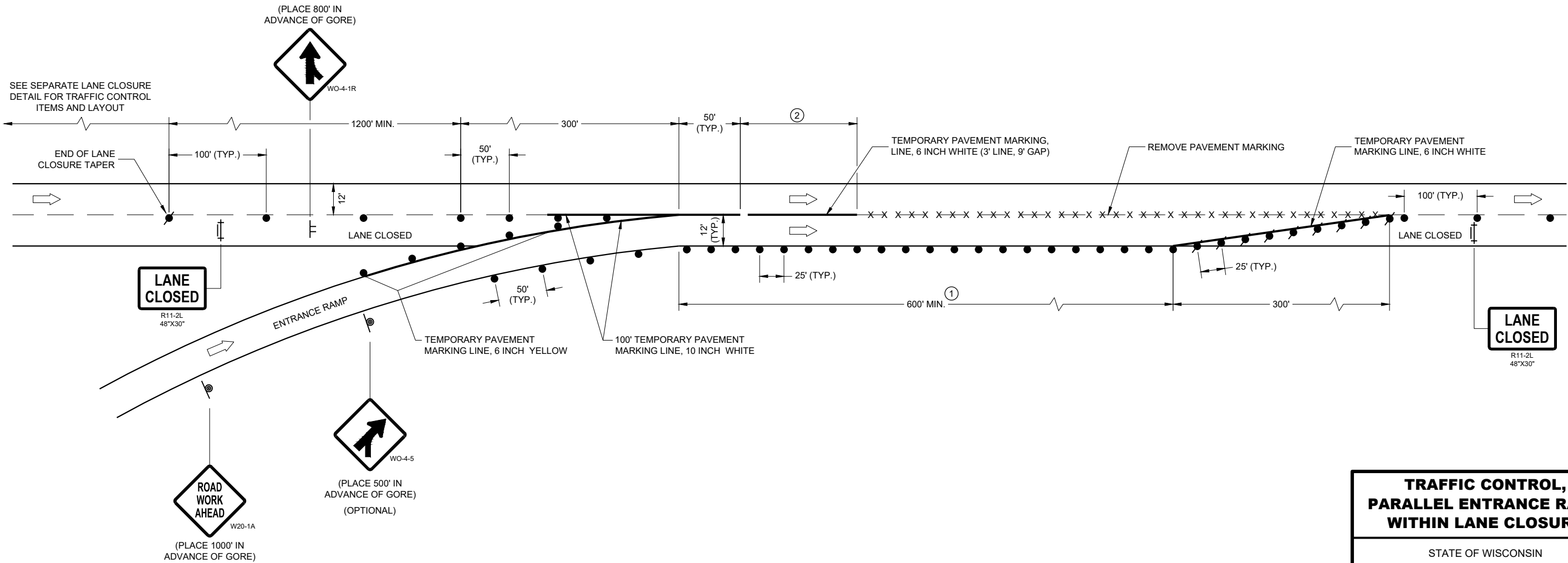
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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 EXTEND THE LENGTH OF THE MERGE ARE IF THE ENTERING (DESIGN) SPEED IS LESS THAN 50MPH OR IF THE MAINLINE GRADE EXCEEDS ±2.2%.
- ② END TEMPORARY PAVEMENT MARKING LINE AT ½ THE LENGTH OF FULL WIDTH OF THE ACCELERATION LANE.



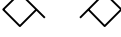
**TRAFFIC CONTROL,
PARALLEL ENTRANCE RAMP
WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 321

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.

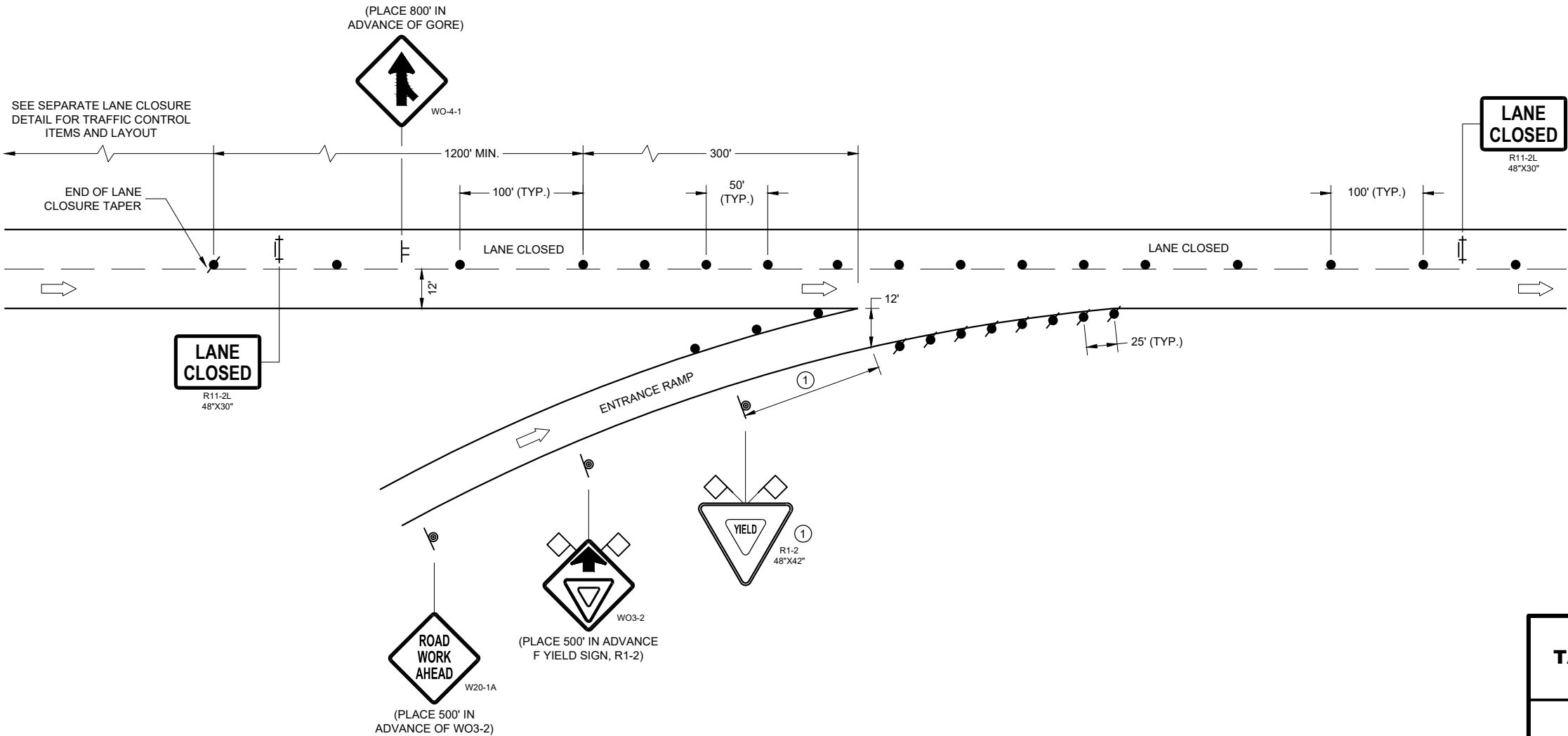
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS. USE SUPPORTS THAT PROVIDE A MINIMUM OF 5 FEET FROM THE BOTTOM OF THE SIGN TO THE PAVEMENT.

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.



TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER 322
FHWA	

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  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.

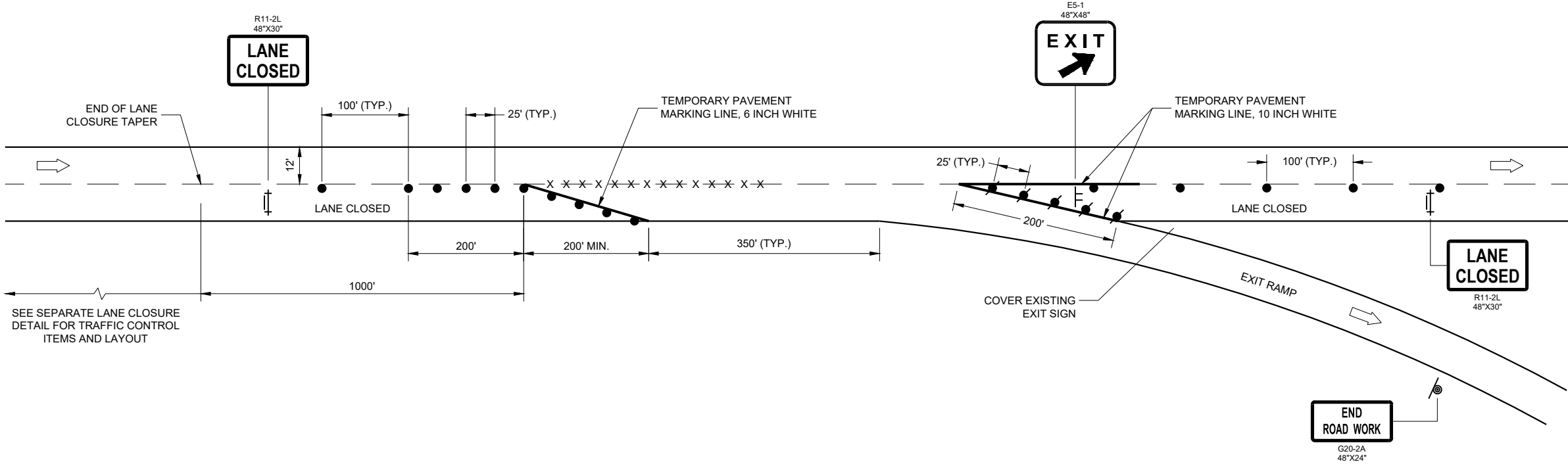
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONSECUTIVE DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE EXIT 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.



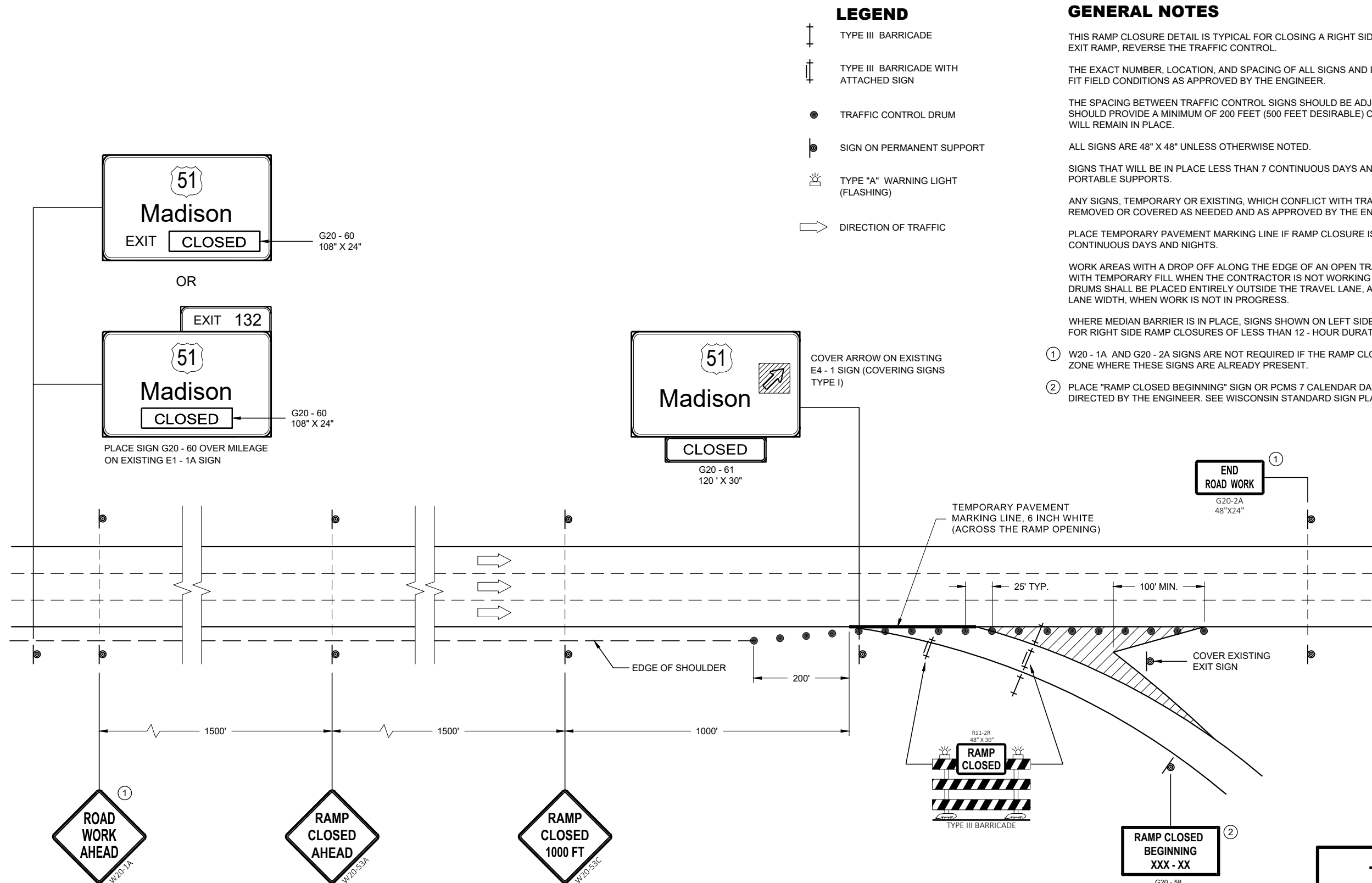
**TRAFFIC CONTROL,
PARALLEL EXIT RAMP
WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER 323

FHWA



TRAFFIC CONTROL,
EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPER
ENGINEER

324

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.

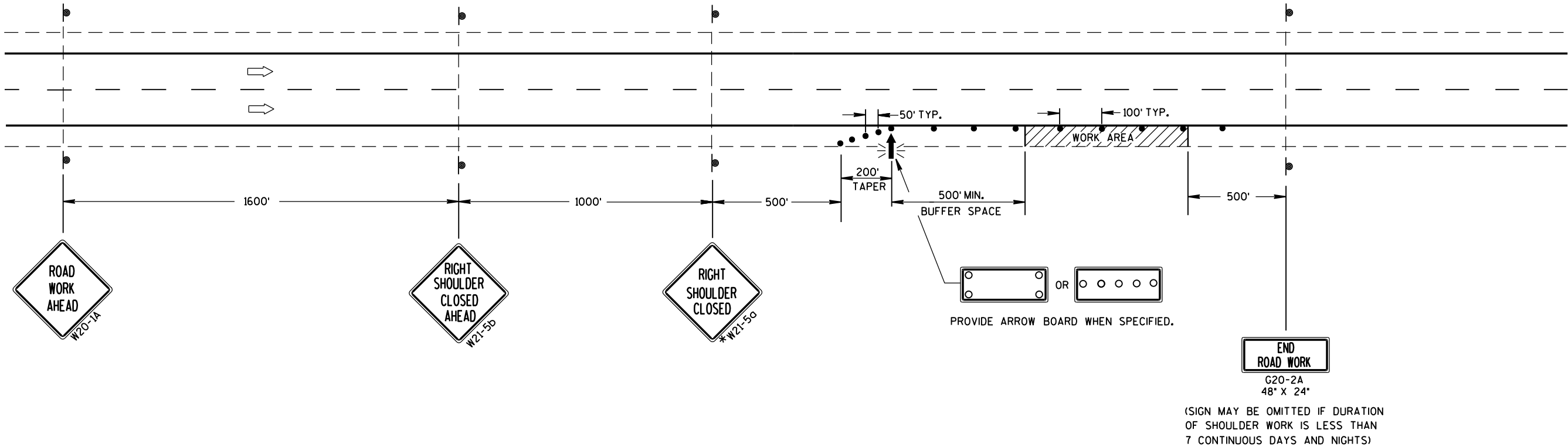
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

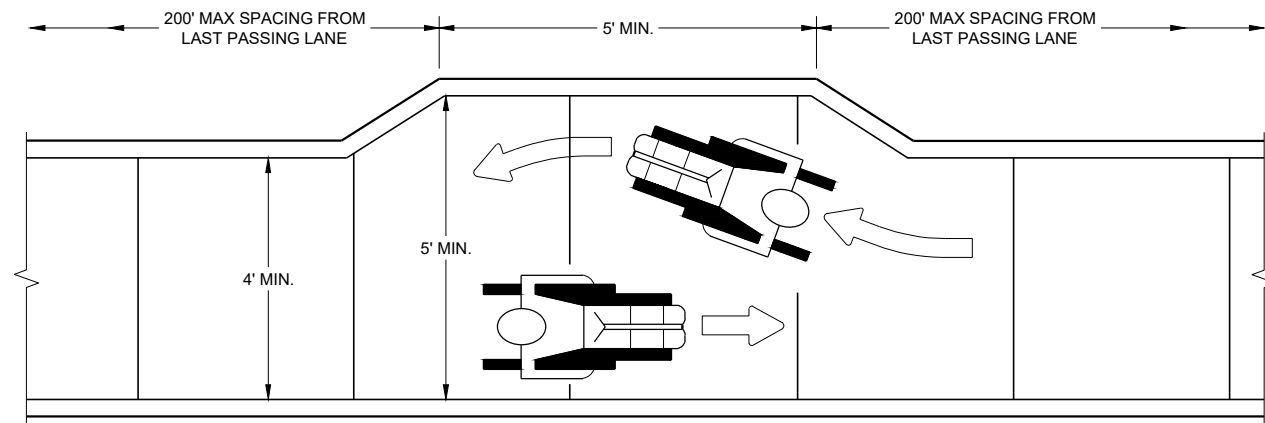
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

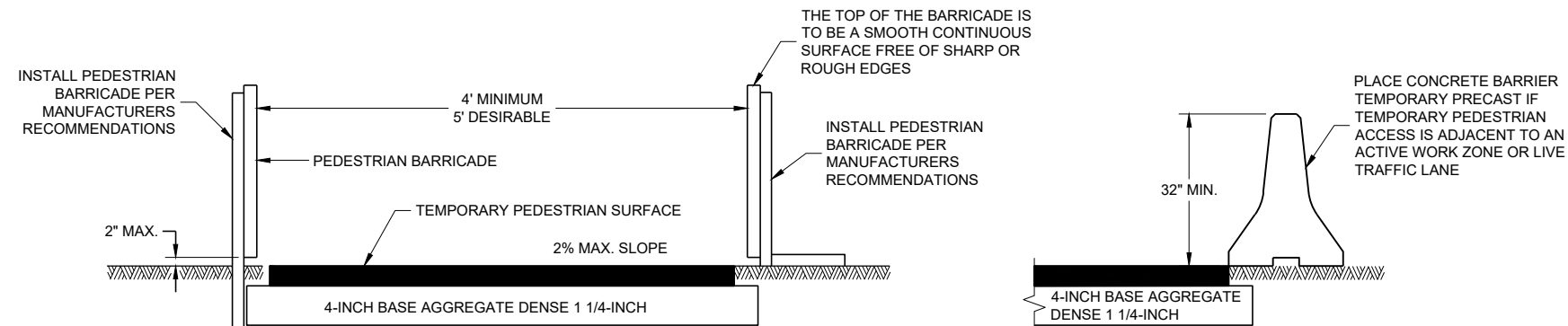
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED		/S/ Peter Amakobe Atepe	
June 2016	DATE	STATEWIDE WORK ZONE	325
FHWA		SAFETY ENGINEER	



NARROW SIDEWALK PASSING DETAIL



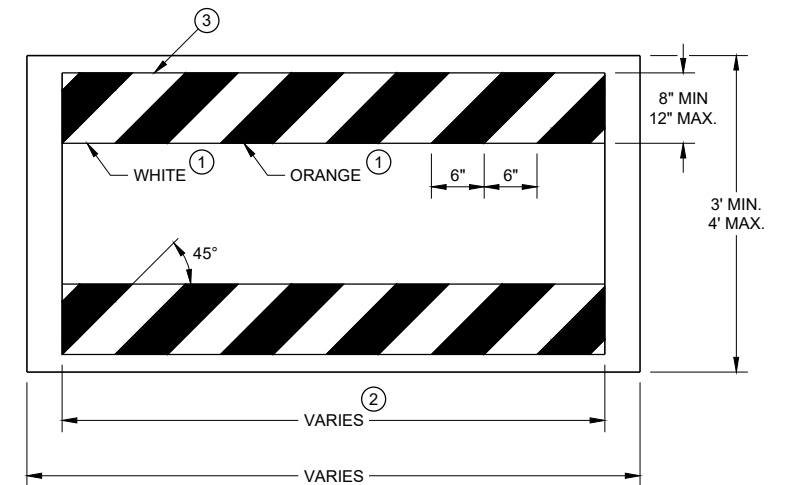
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

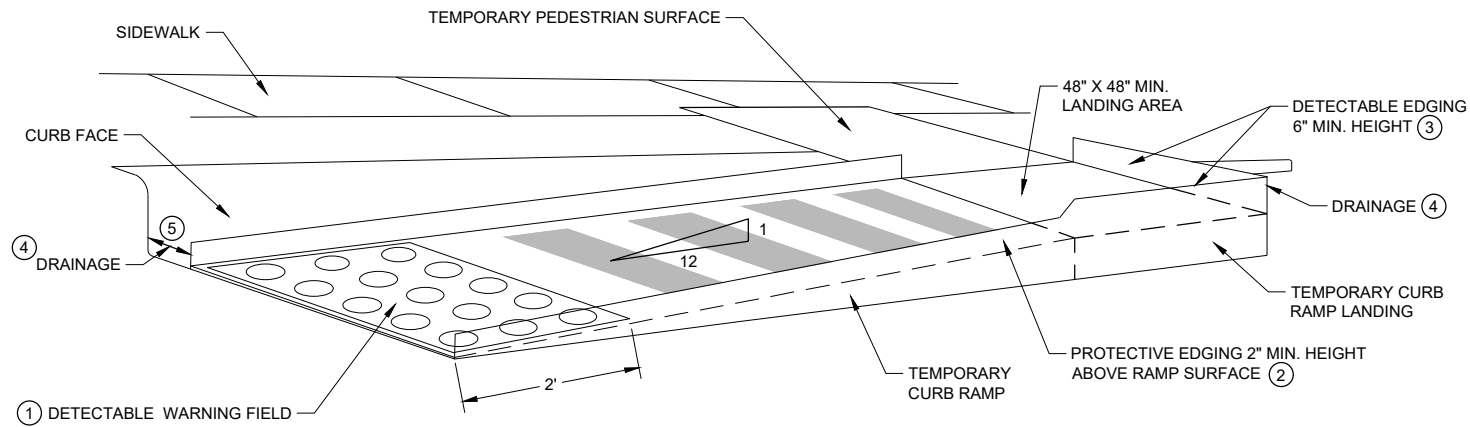
BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
- ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

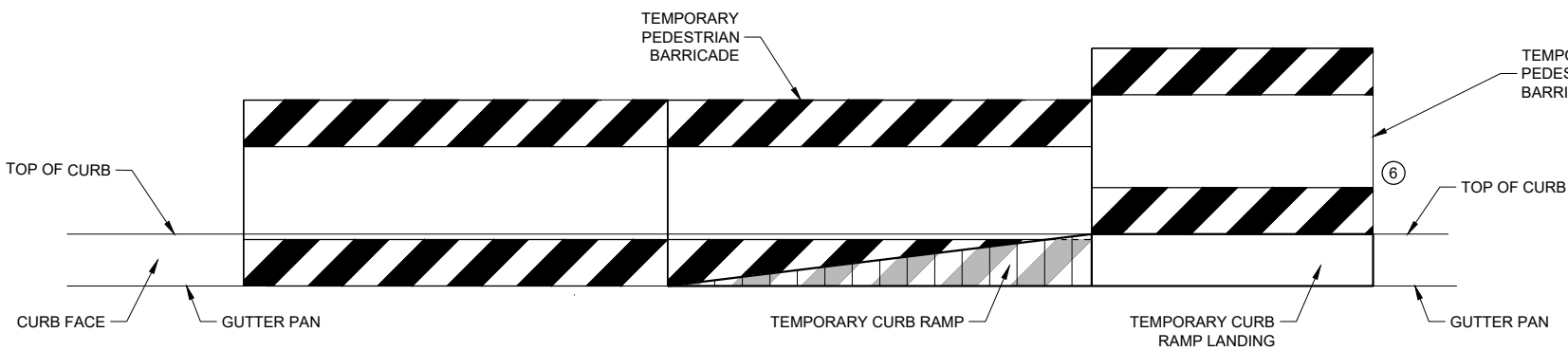
★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.



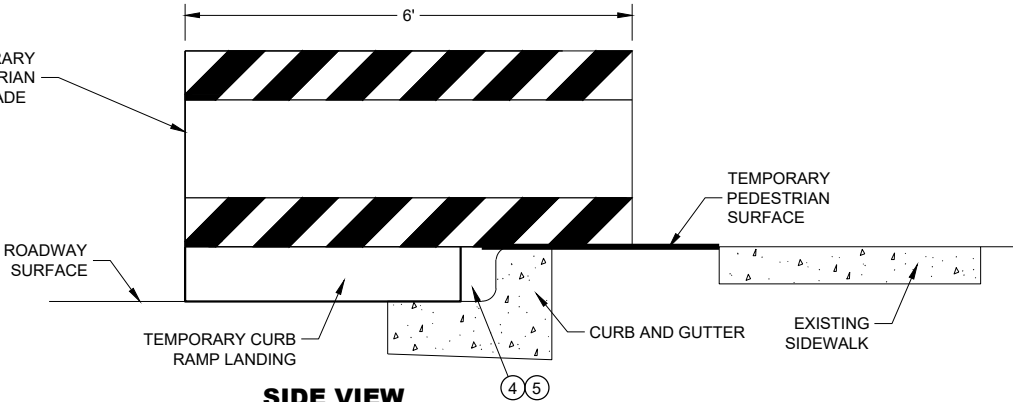
TEMPORARY PEDESTRIAN BARRICADE*



PERSPECTIVE VIEW



FRONT VIEW



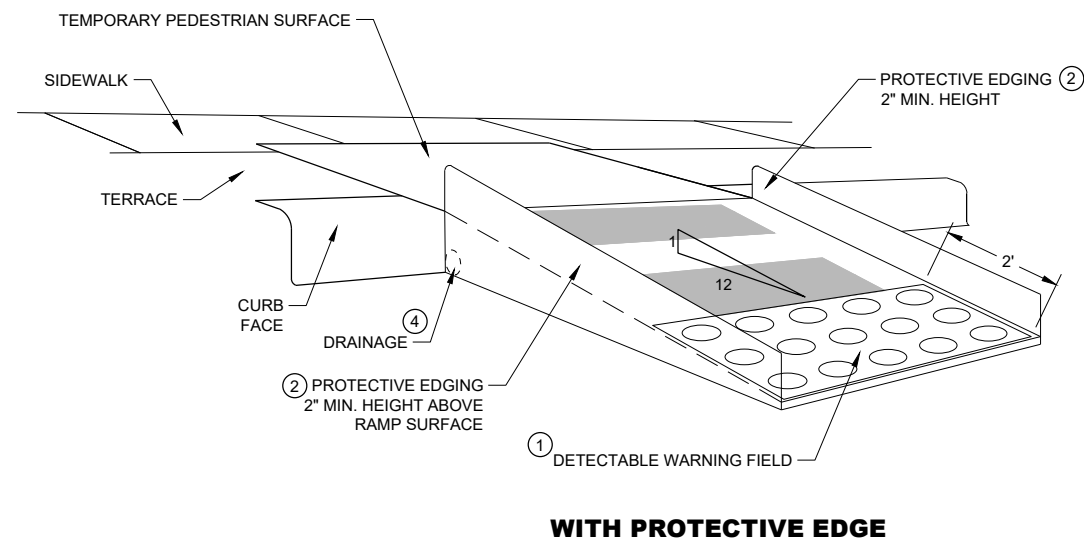
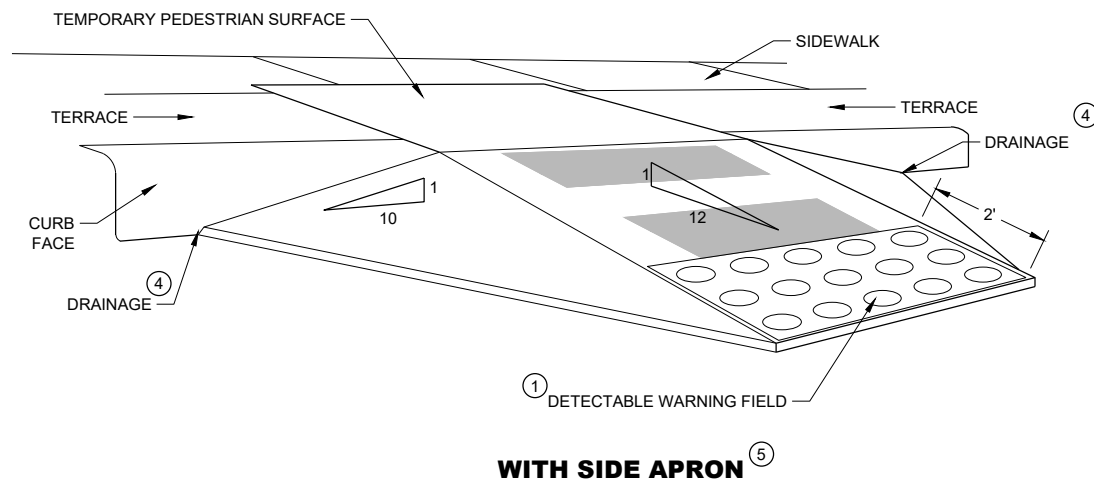
SIDE VIEW

TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

- CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.
- CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.
- CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES MAY BE VERTICAL UP TO 1/4" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

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

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

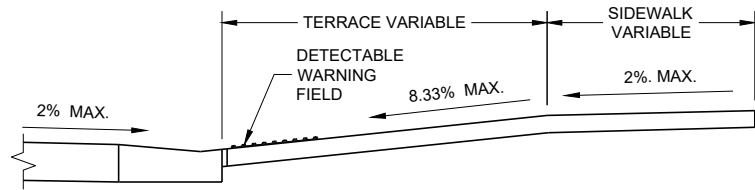
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

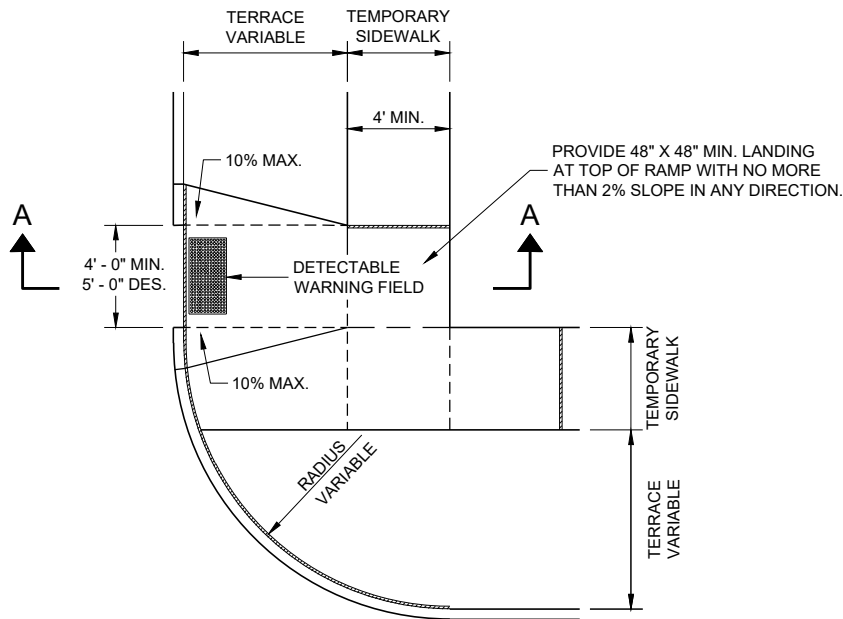
- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 328



SECTION A - A



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

GENERAL NOTES

- BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST
- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
 - ② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.
 - ③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.
- ★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

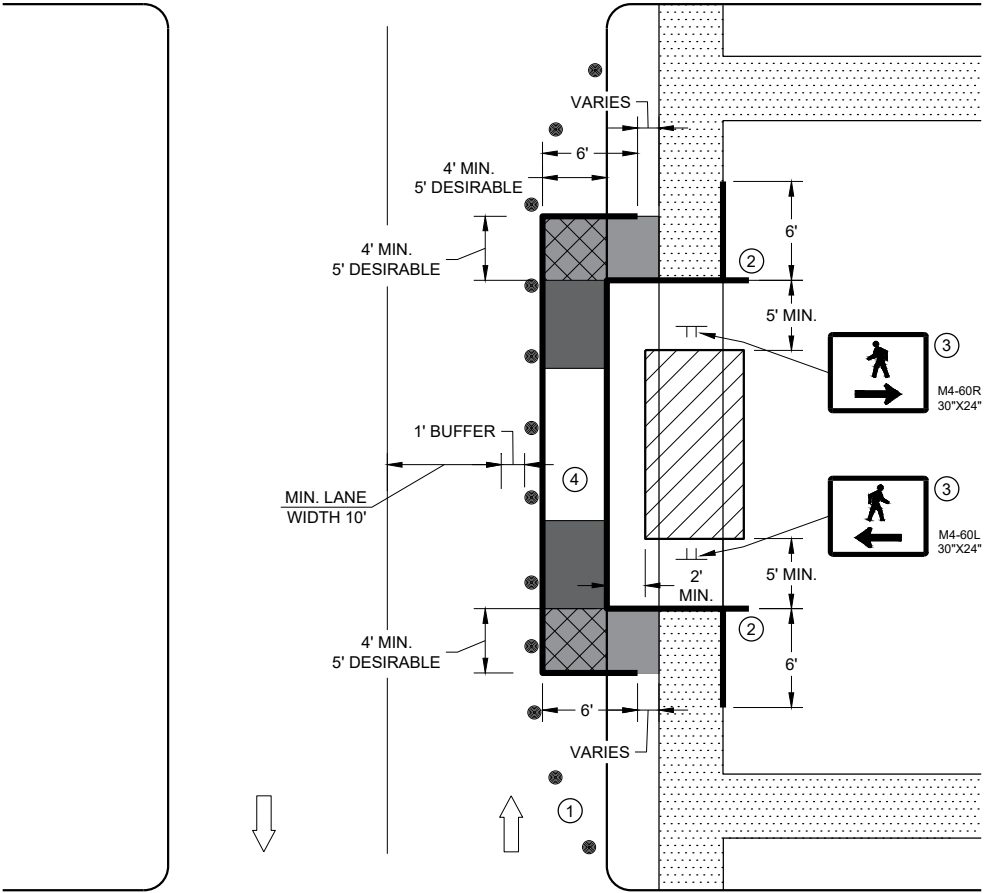
APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 329
FHWA

LEGEND

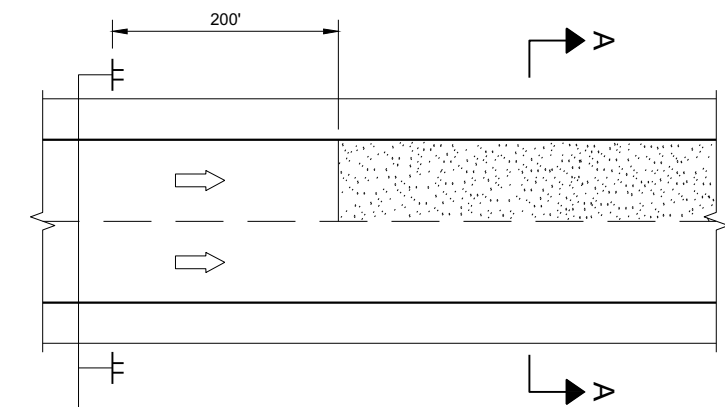
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

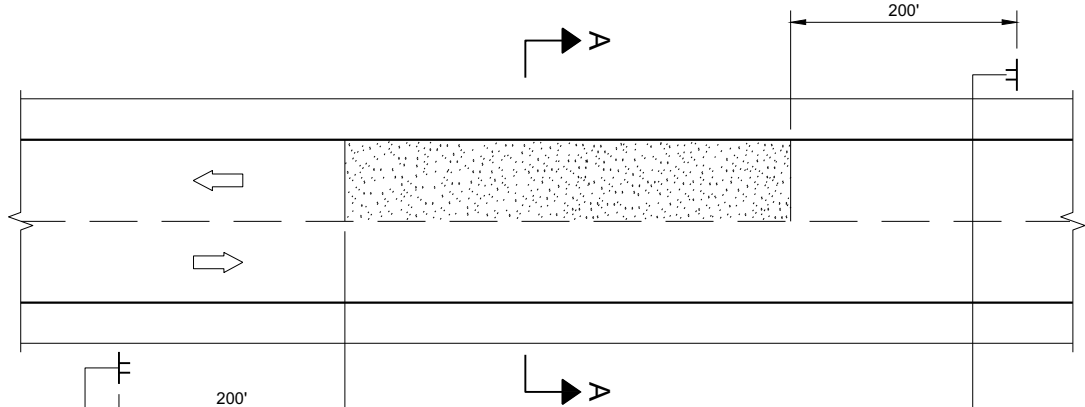
- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
 - ② PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
 - ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
 - ④ USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE.



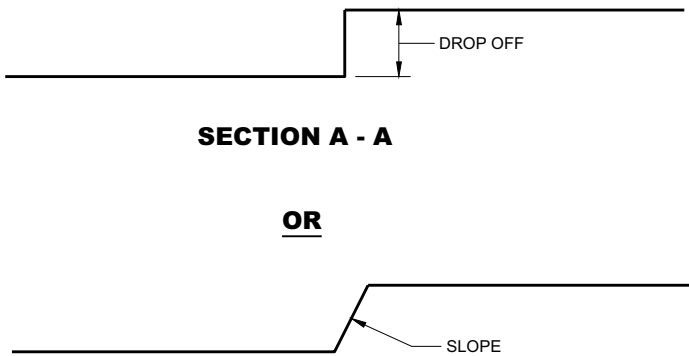
SIDEWALK DIVERSION, SINGLE SIDE



MULTI-LANE



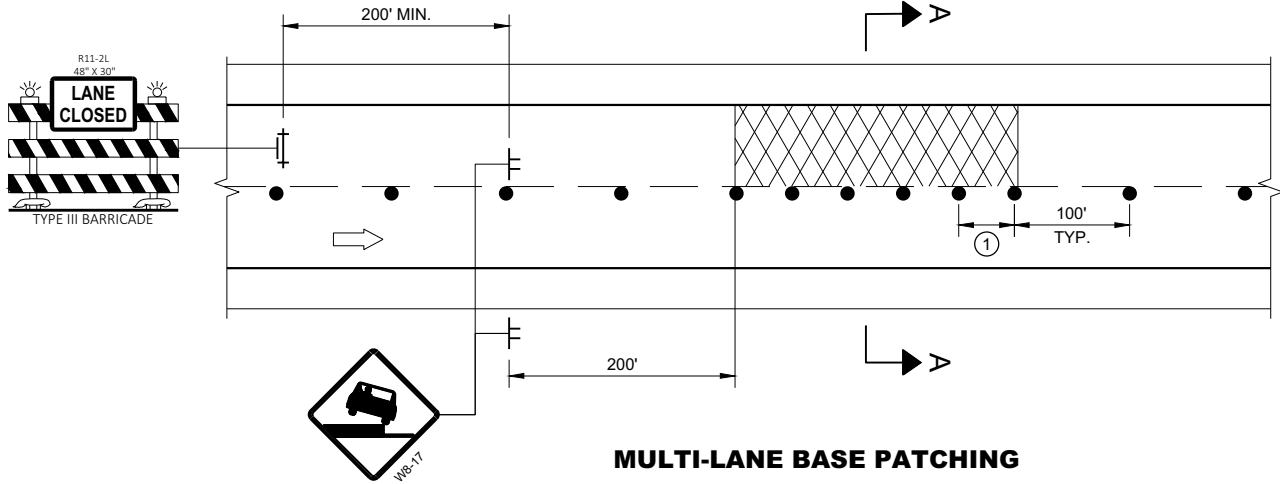
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

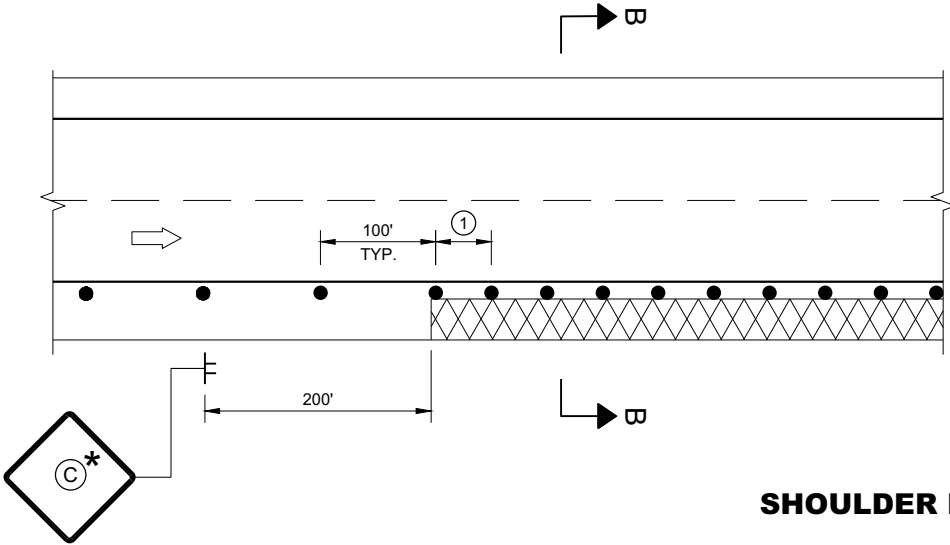
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

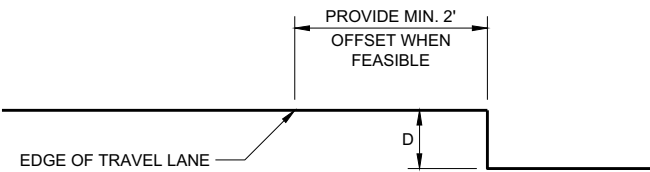
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

TRAFFIC CONTROL,
DROP-OFF SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER 331

FHWA

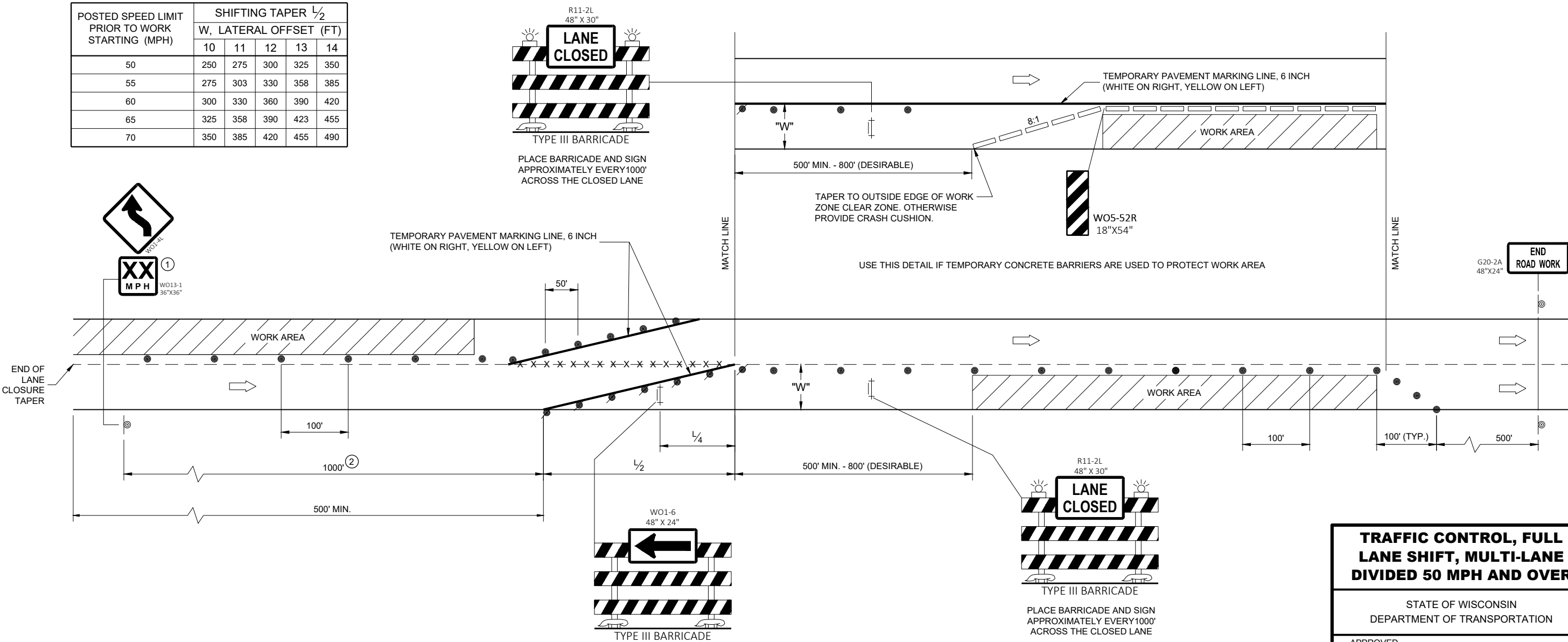
LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER $\frac{L}{2}$ W, LATERAL OFFSET (FT)				
	10	11	12	13	14
50	250	275	300	325	350
55	275	303	330	358	385
60	300	330	360	390	420
65	325	358	390	423	455
70	350	385	420	455	490

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) DISTANCE TO EXISTING SIGNS.
- THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT RIGHT - REVERSE FOR SHIFTING LEFT.
- 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 AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.
- CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF 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 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.
- 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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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 $\frac{1}{2}$ 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 USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- 2 IF BEGINNING OF LANE SHIFT IS 1200' OF LESS FROM THE END OF THE LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.



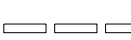
TRAFFIC CONTROL, FULL LANE SHIFT, MULTI-LANE DIVIDED 50 MPH AND OVER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 332

FHWA

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
-  CONCRETE BARRIER TEMPORARY PRECAST

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER $\frac{L}{2}$								
	W, LATERAL OFFSET (FT)								
	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315

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) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

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 AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON ANY "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF 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.

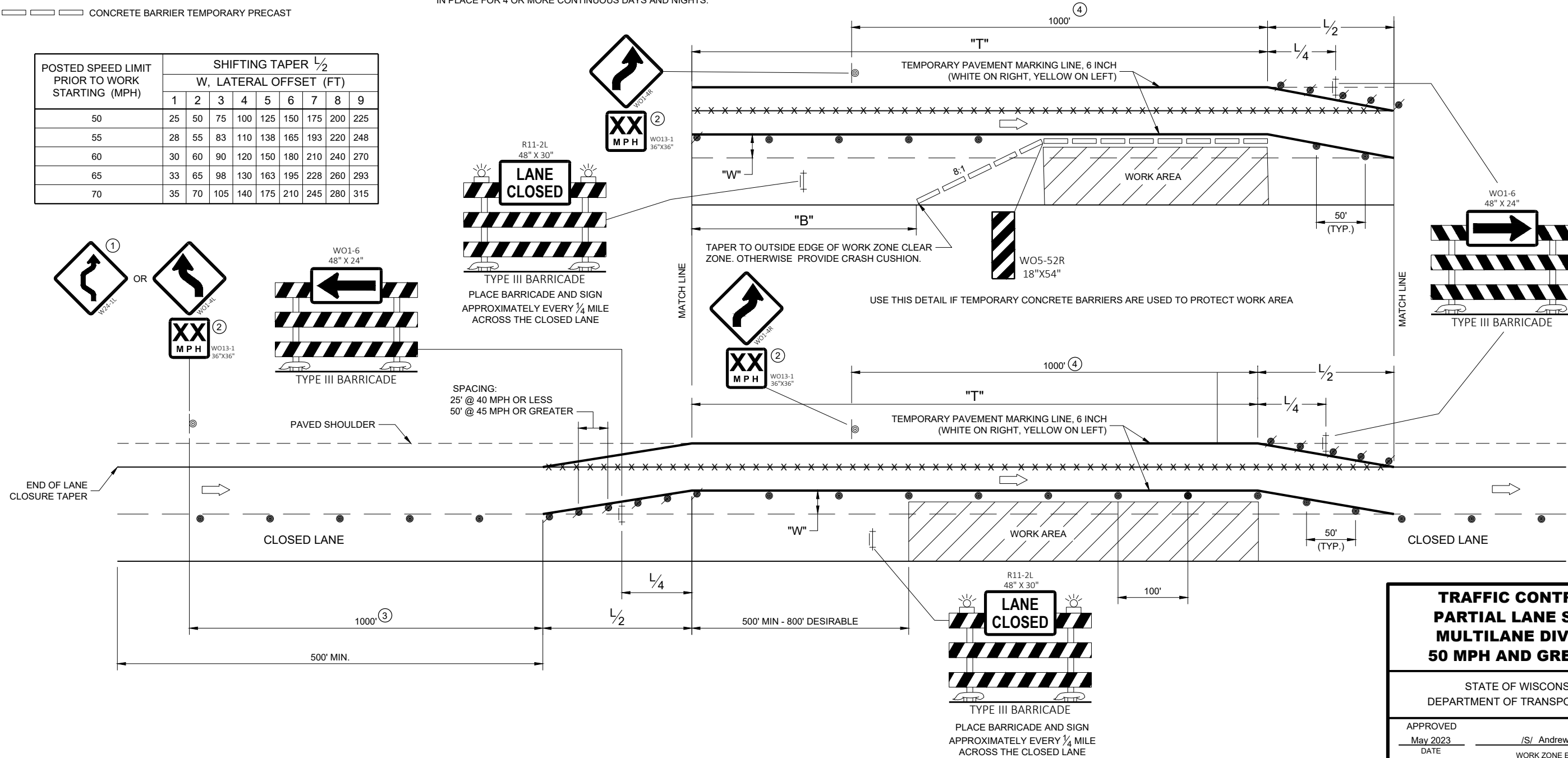
REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 SHIFT OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT 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 1/2 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 USE ONLY WHEN T<600', OMIT WO1-4R.
- ② IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.
- ③ IF THE BEGINNING OF LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE LANE CLOSURE TAPER.
- ④ IF THE BEGINNING OF THE SECOND LANE SHIFT TAPER IS 1200 FEET OR LESS FROM END OF THE FIRST LANE CLOSURE TAPER, PLACE THE WO1-4L SIGN 200 FEET AFTER THE END OF THE FIRST LANE CLOSURE TAPER.



**TRAFFIC CONTROL,
PARTIAL LANE SHIFT
MULTILANE DIVIDED
50 MPH AND GREATER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 333
FHWA

GENERAL NOTES

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

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

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

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

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

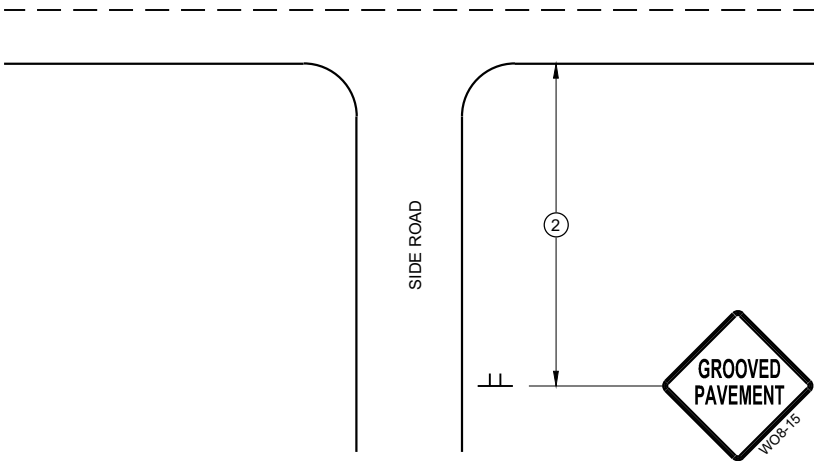
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

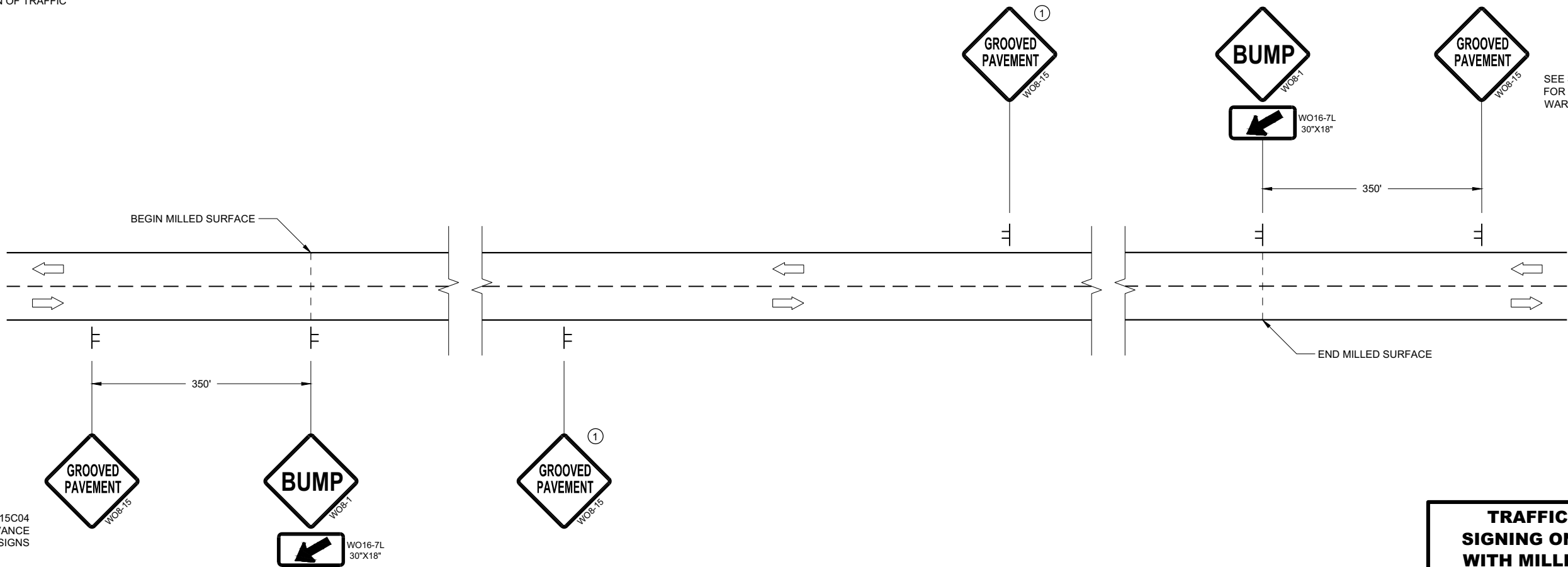
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH
SIGN DETAIL



DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,
SIGNING ON ROADWAYS
WITH MILLED SURFACES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 334

FHWA

LEGEND

- V1
WORK VEHICLE
- V2
SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  FLASHING ARROW PANEL (CAUTION)
-  WORK AREA
-  DIRECTION OF TRAFFIC

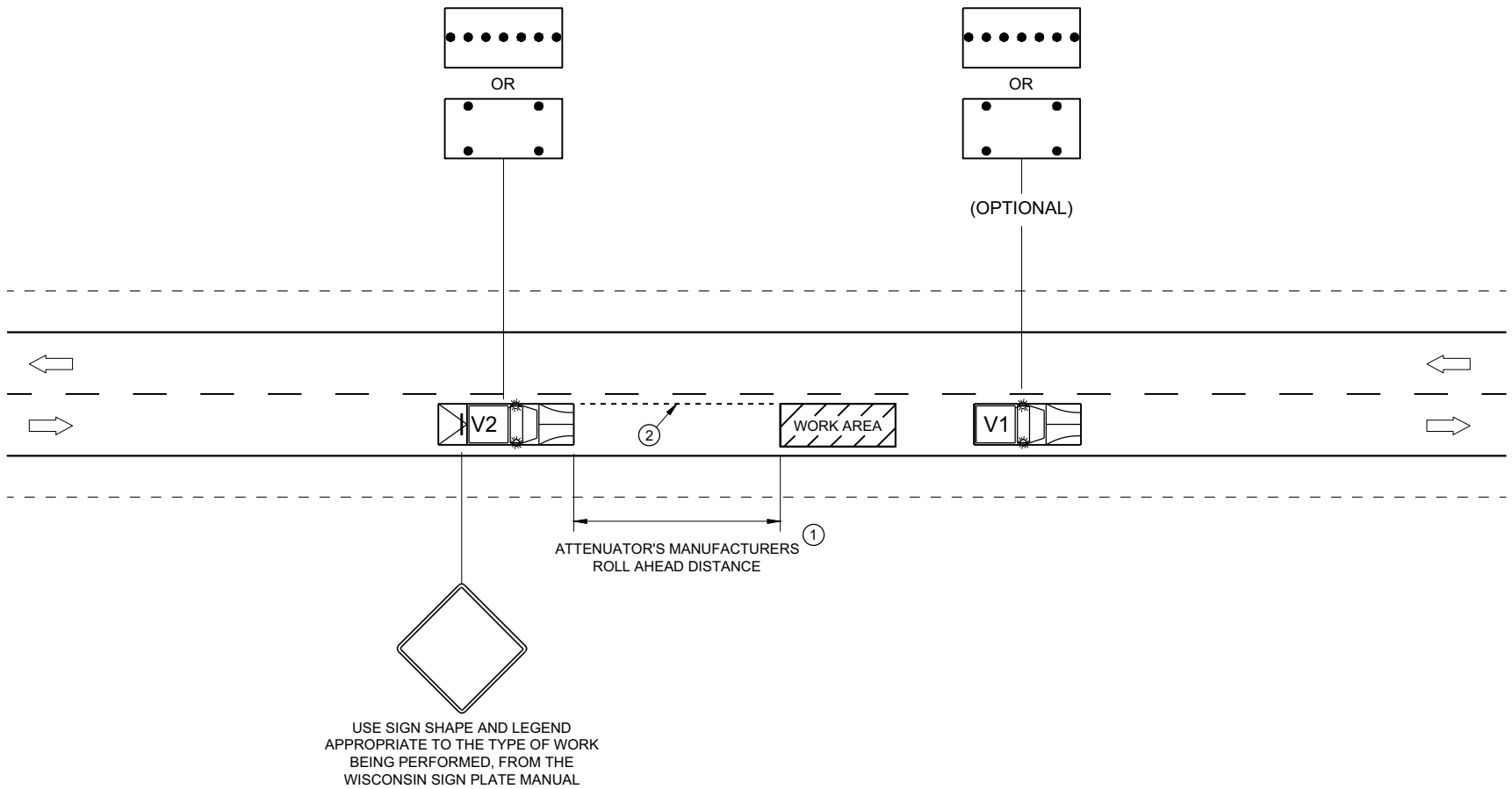
POSTED SPEED PRIOR TO WORK STARTING (MPH)	DECISION SIGHT DISTANCE (D)
0 - 25	550'
30	550'
35	700'
40	700'
45	900'
50	900'
55	1200'

GENERAL NOTES

- ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.
- MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.
- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.
- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON 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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.

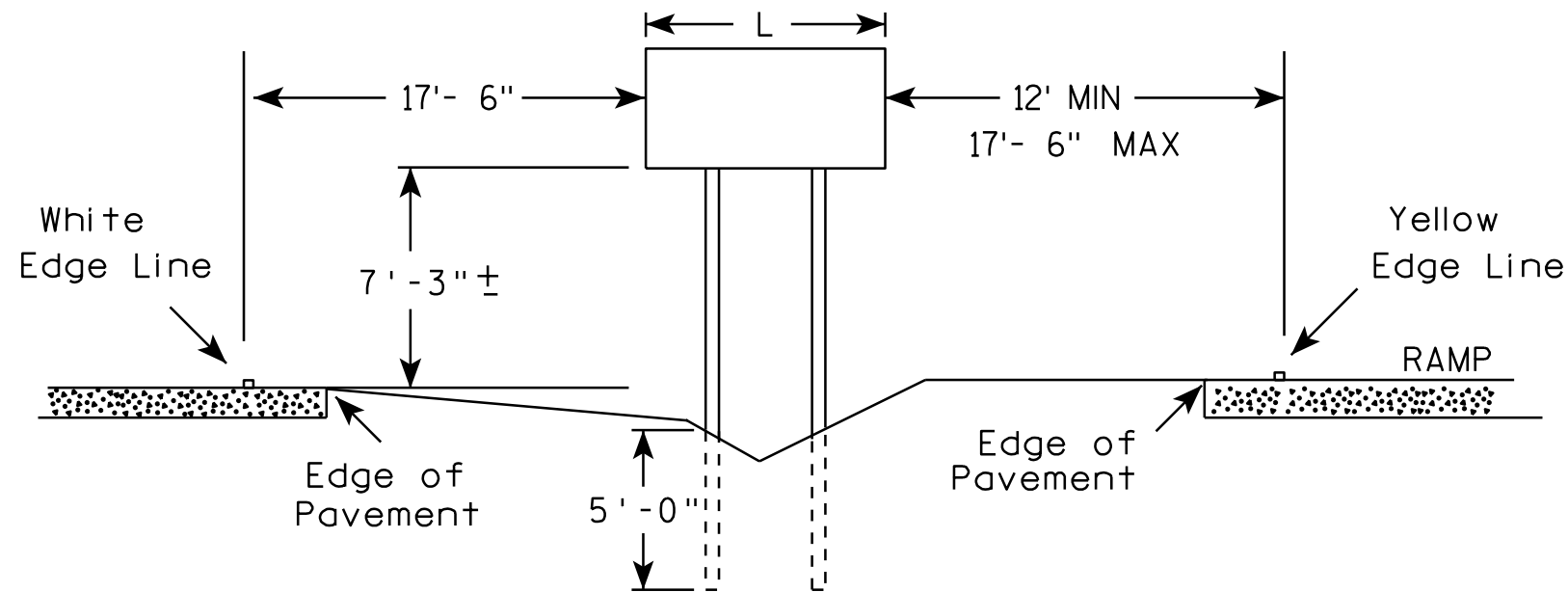


**TRAFFIC CONTROL,
MOBILE OPERATIONS ON
AN UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

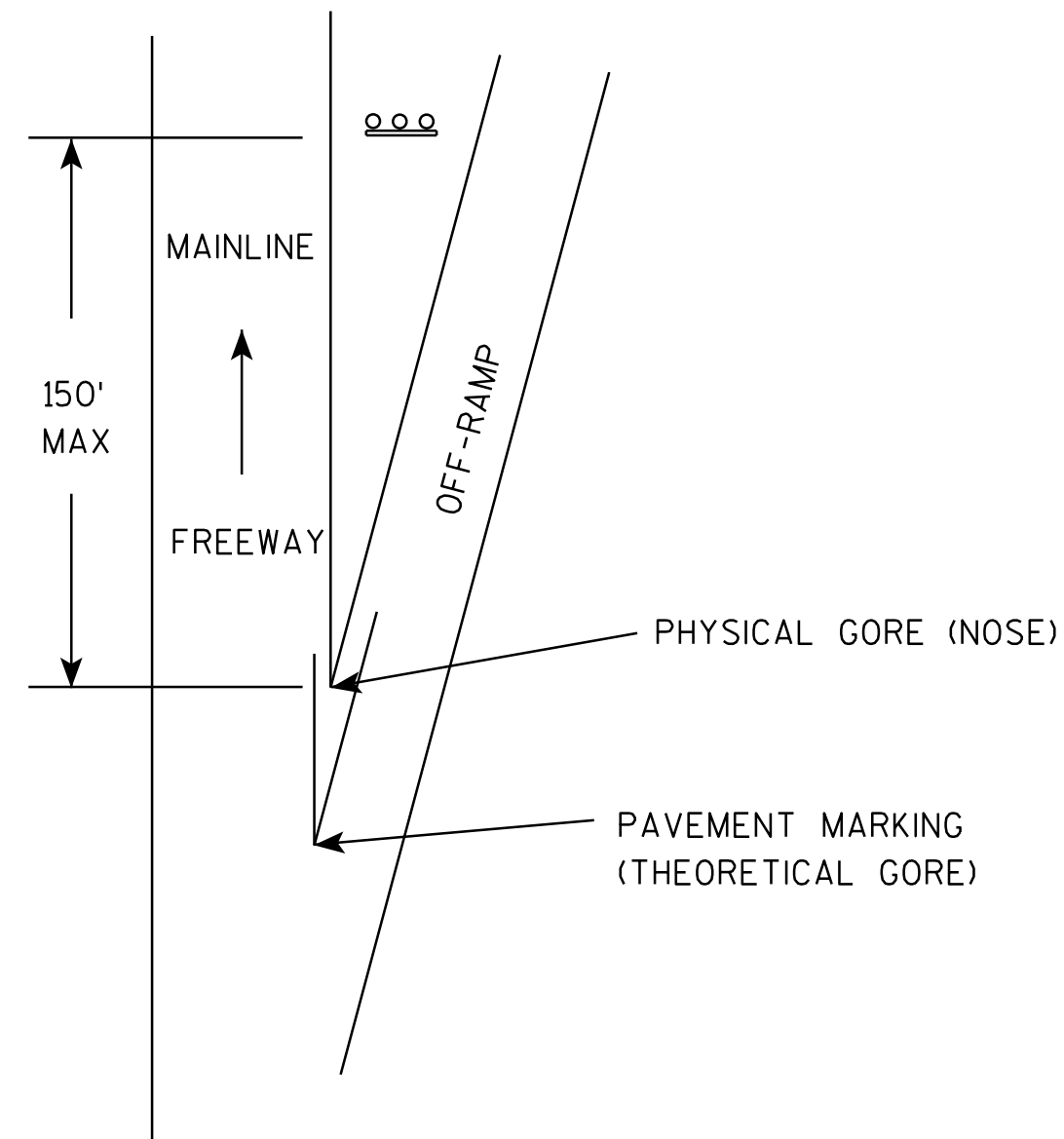
APPROVED
February 2021 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE T SAFETY ENGINEER 335

FHWA



GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The ($\pm$) tolerance for the mounting height is 3 inches.



TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

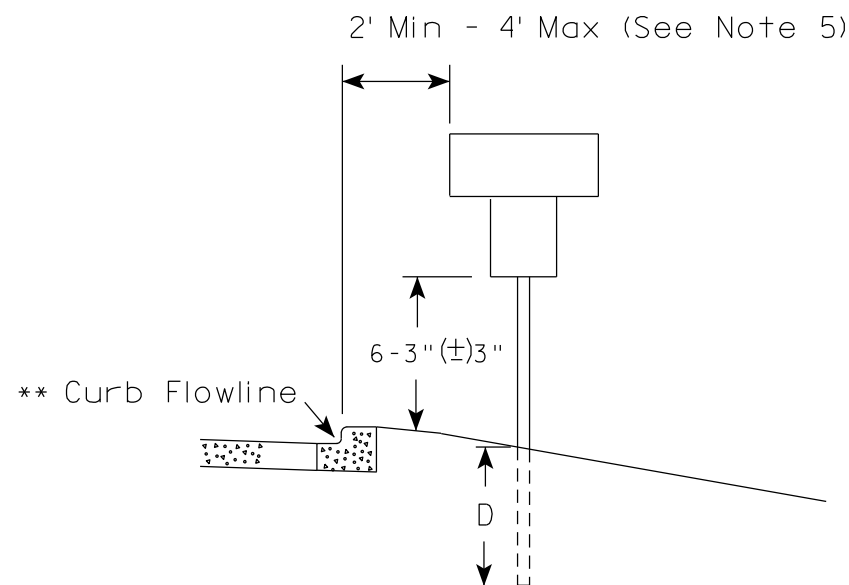
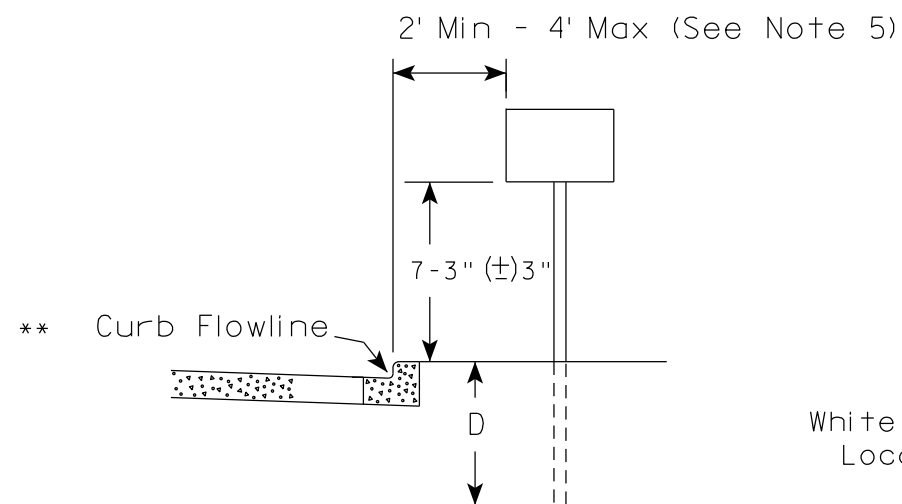
DATE 2/06/14 PLA 336 A4-2.3

PROJECT NO:

SHEET NO:

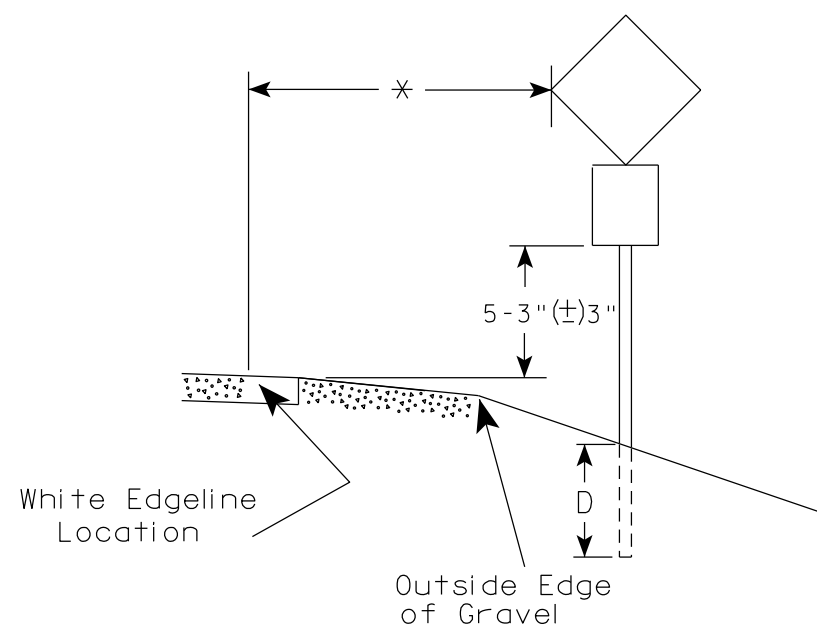
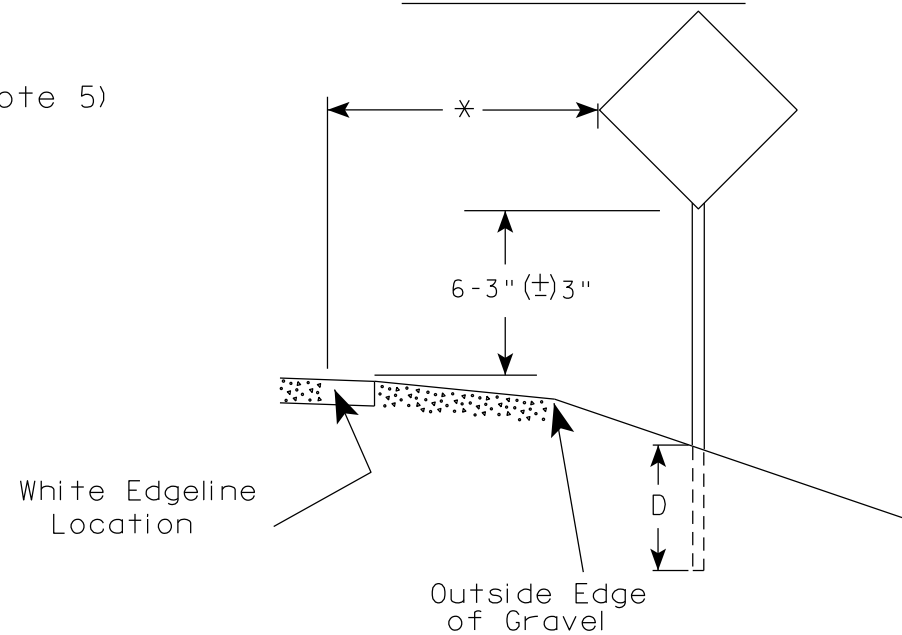
E

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the 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

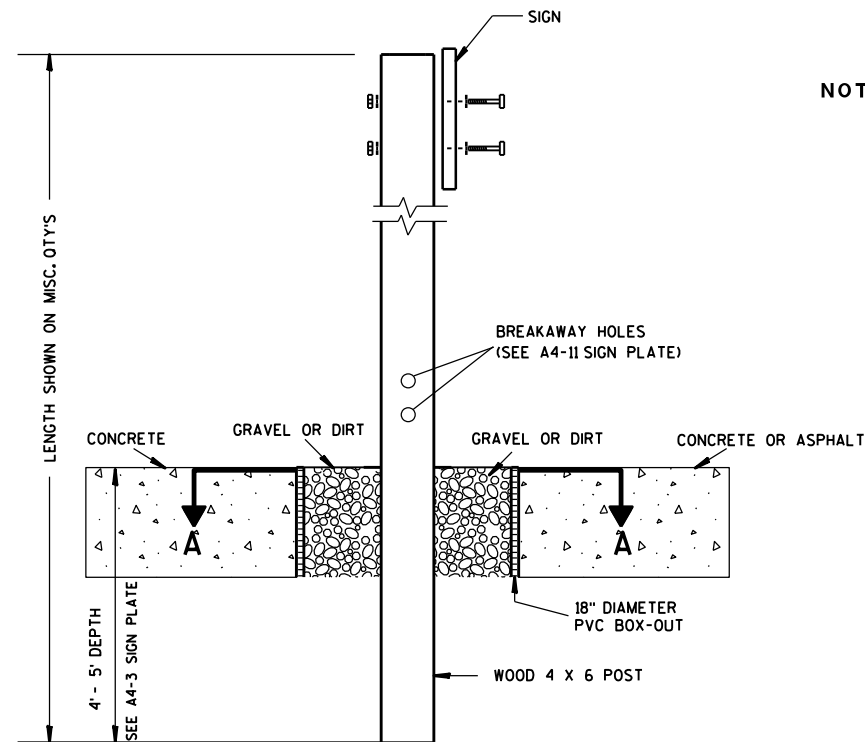
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 337

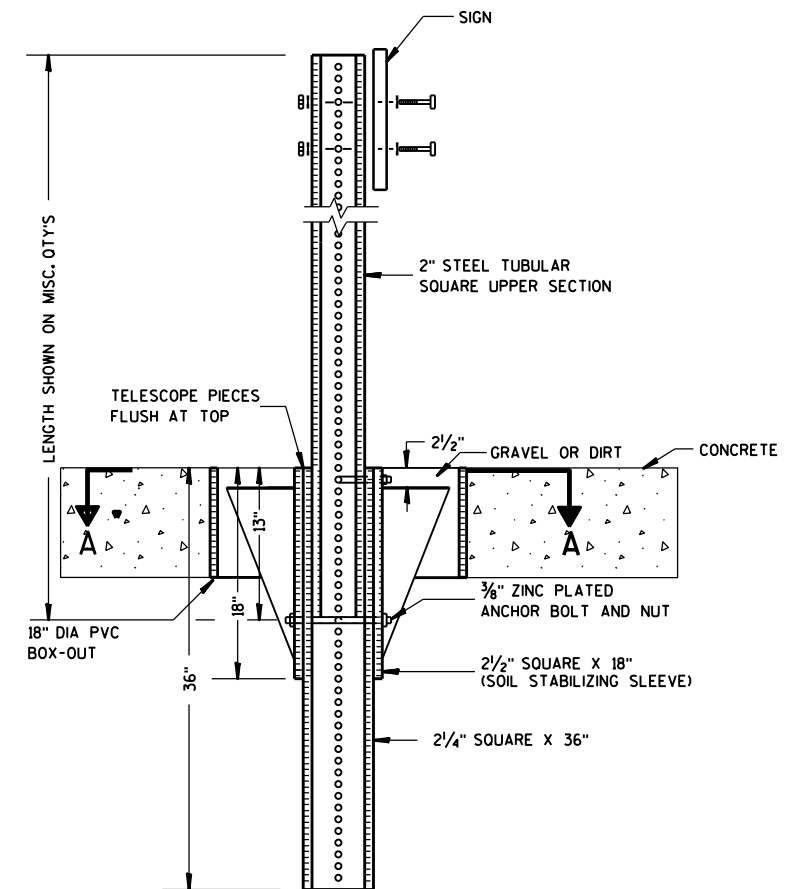
E



ELEVATION VIEW

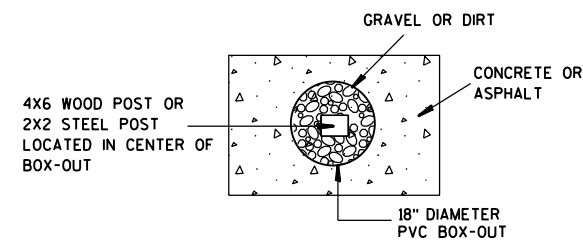
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 338 A4-3B.1

PROJECT NO:

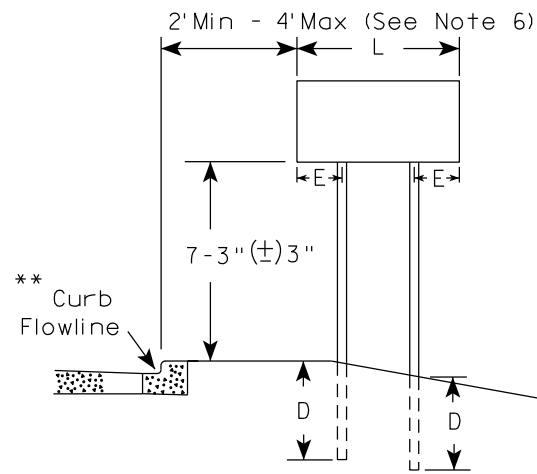
HWY:

COUNTY:

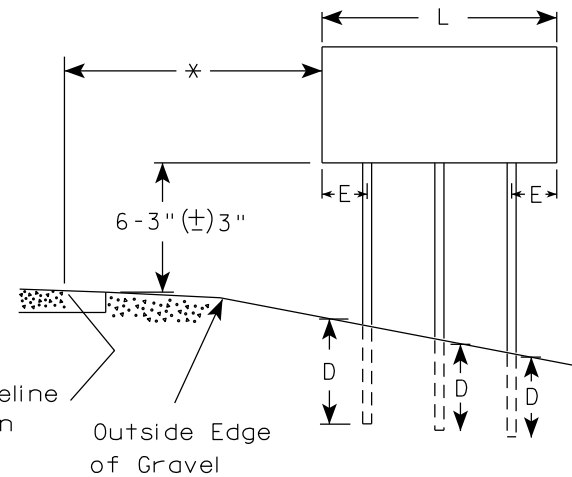
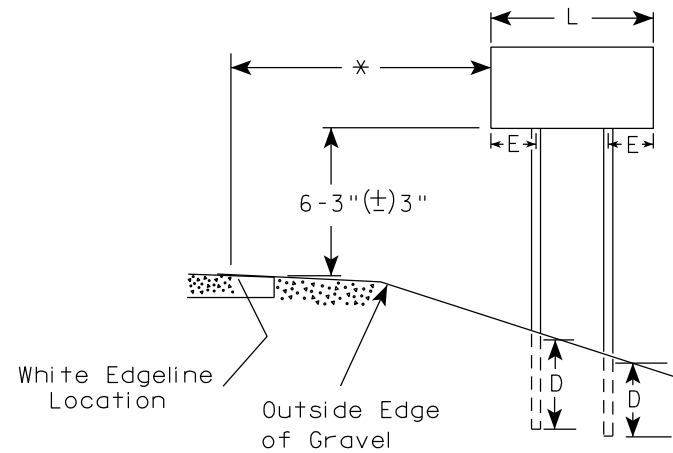
SHEET NO:

E

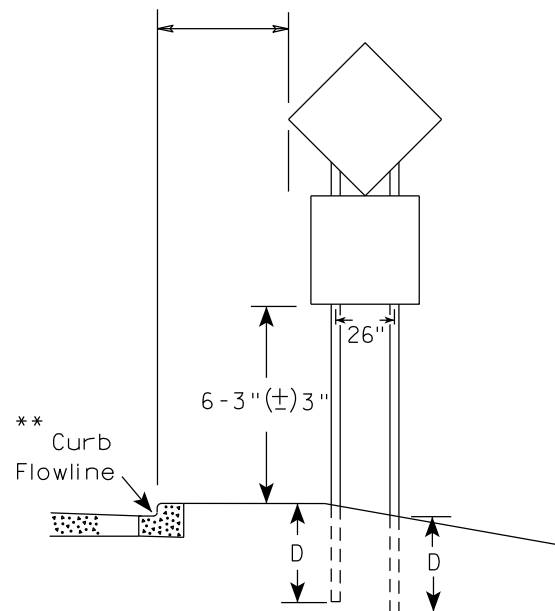
URBAN AREA



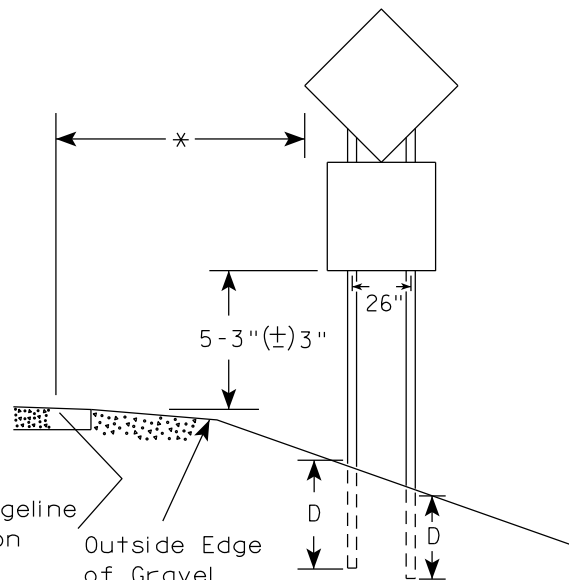
RURAL AREA (See Note 3)



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



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

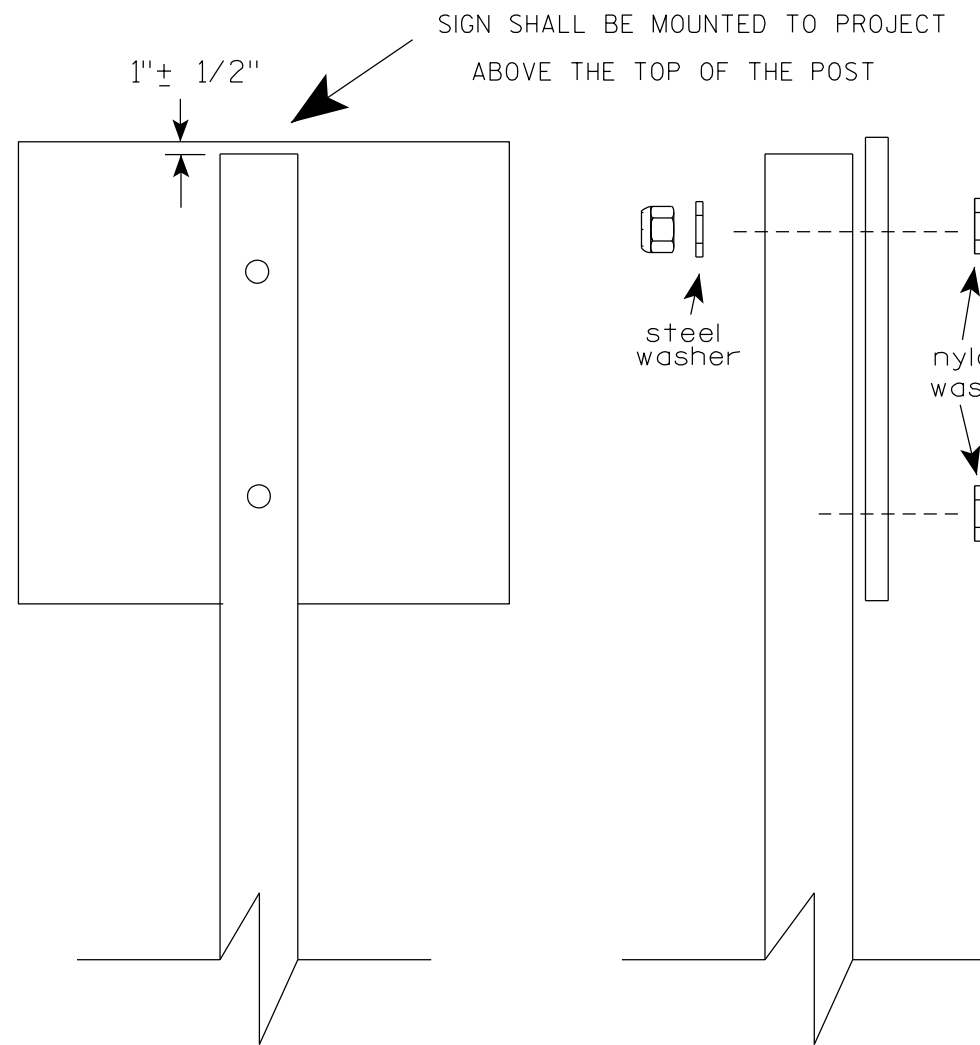
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 339

E



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.

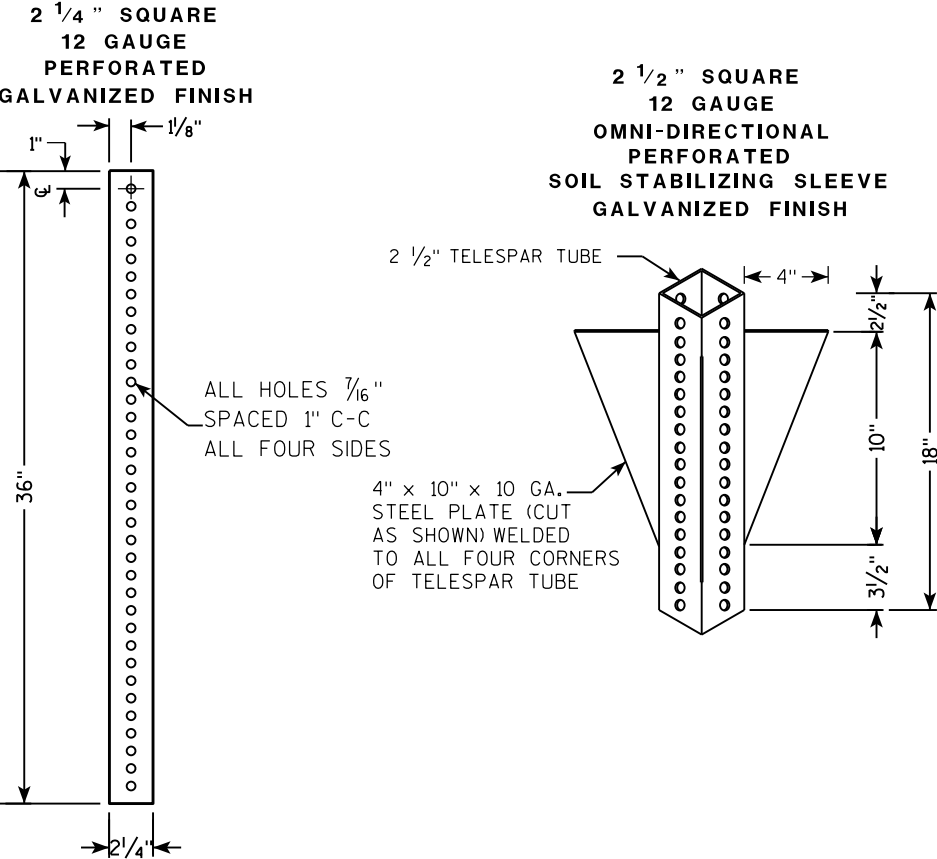
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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

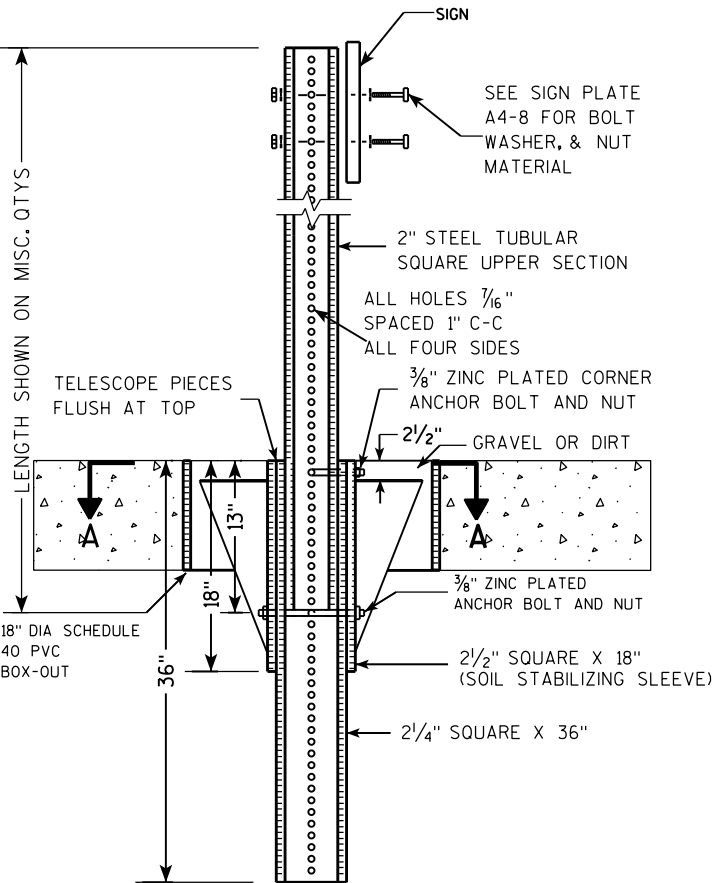
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

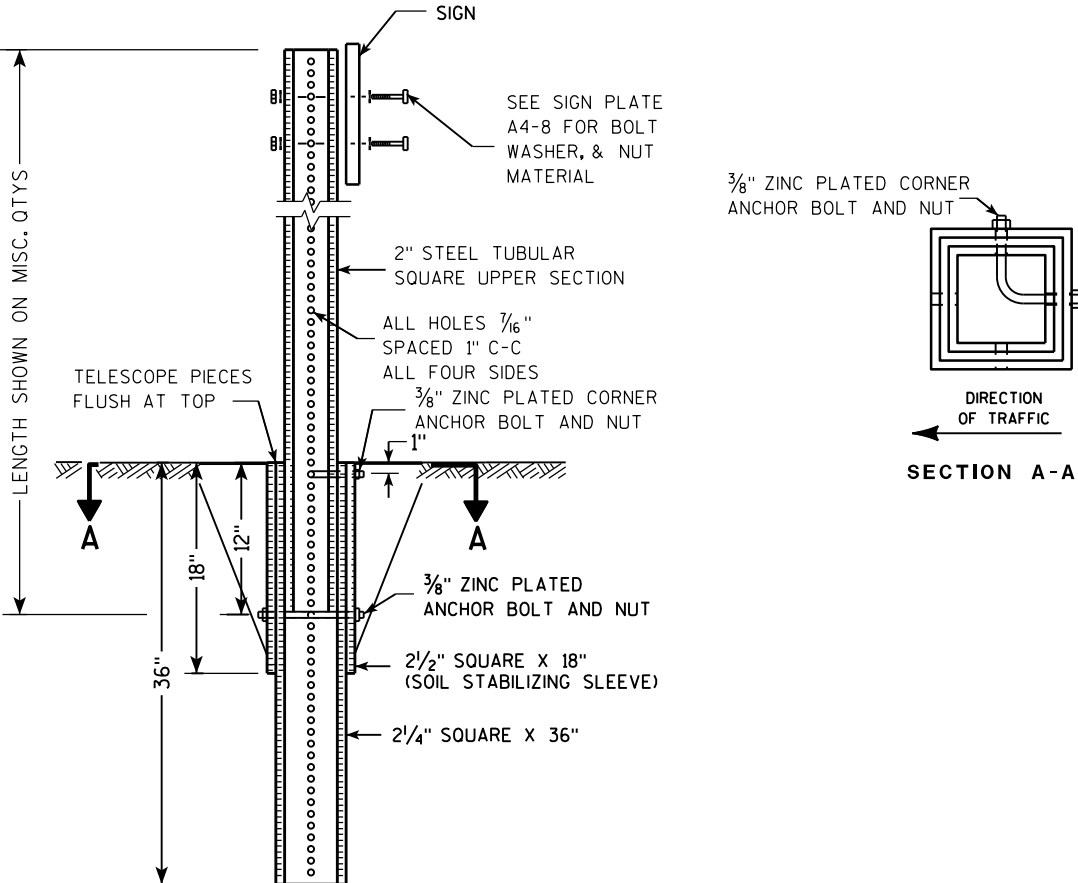
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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)



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).

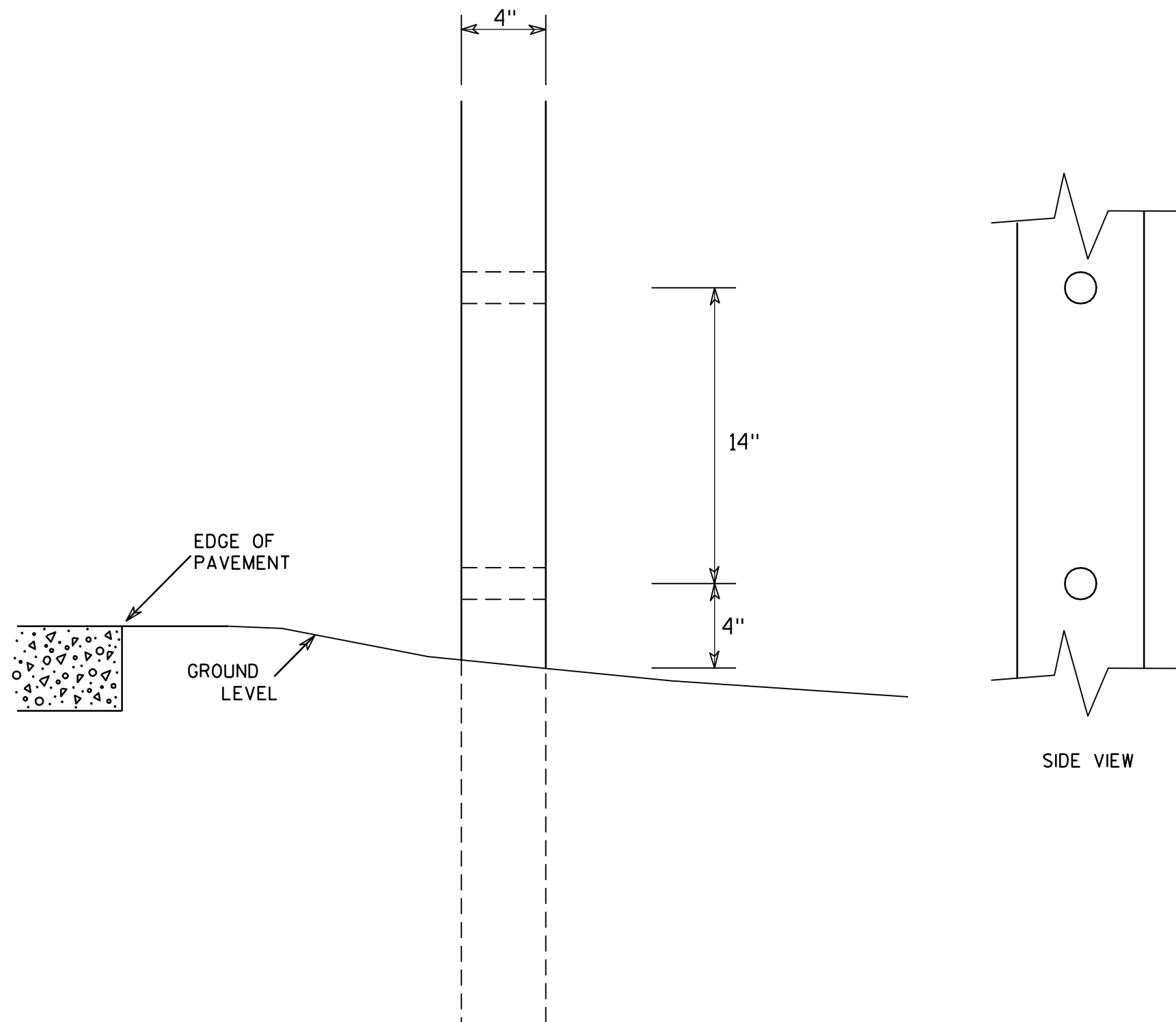
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 341 14-9.9

7



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

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:

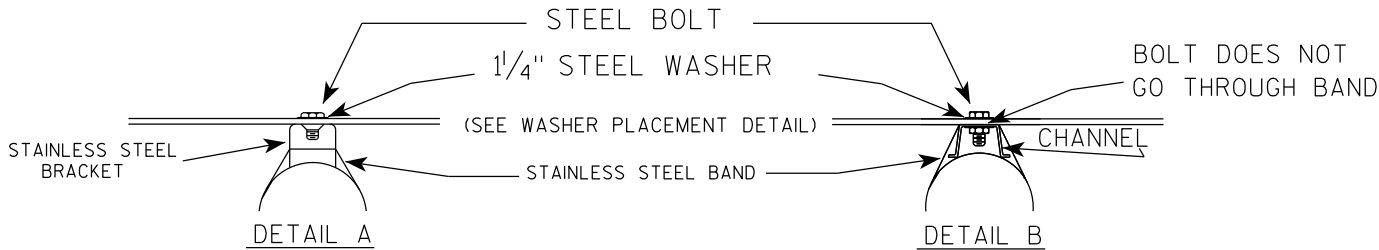
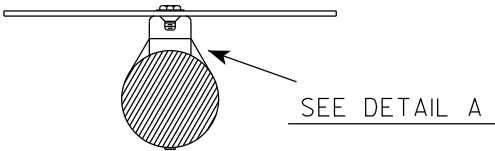
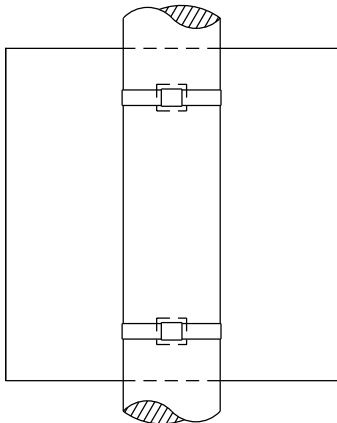
COUNTY:

SHEET NO: 342

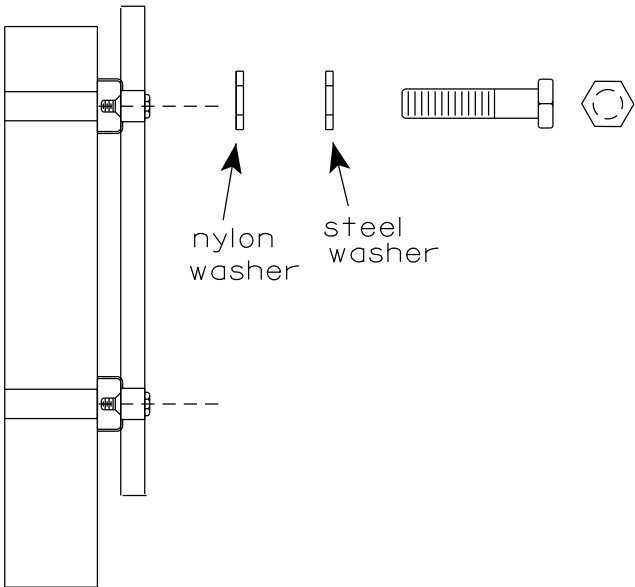
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

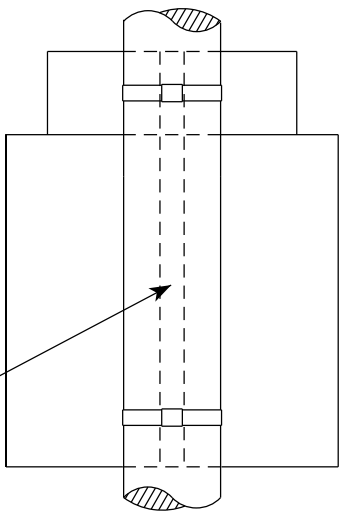


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

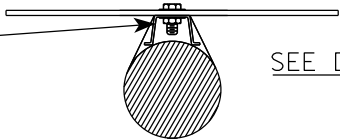
GENERAL NOTES

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



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

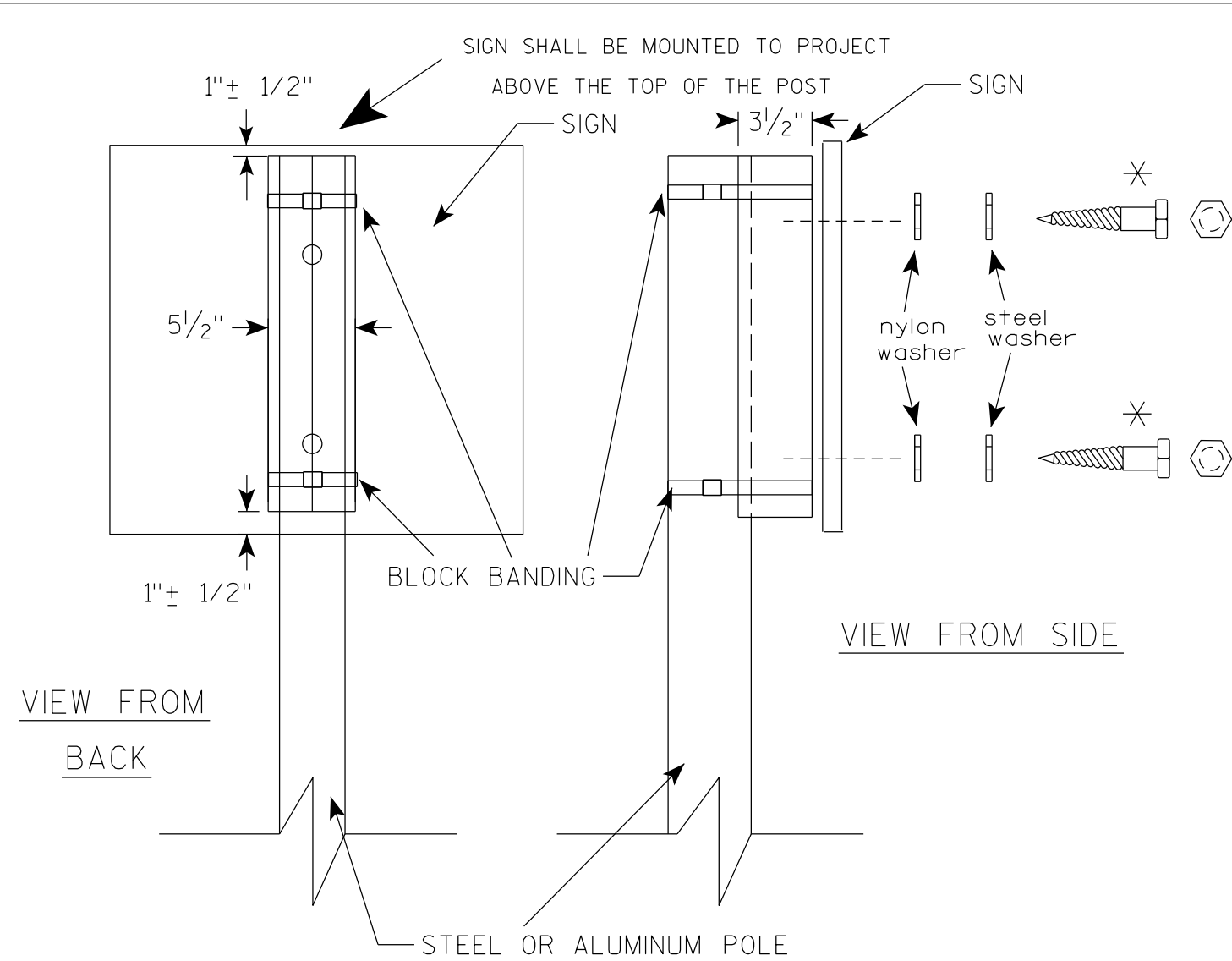


STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

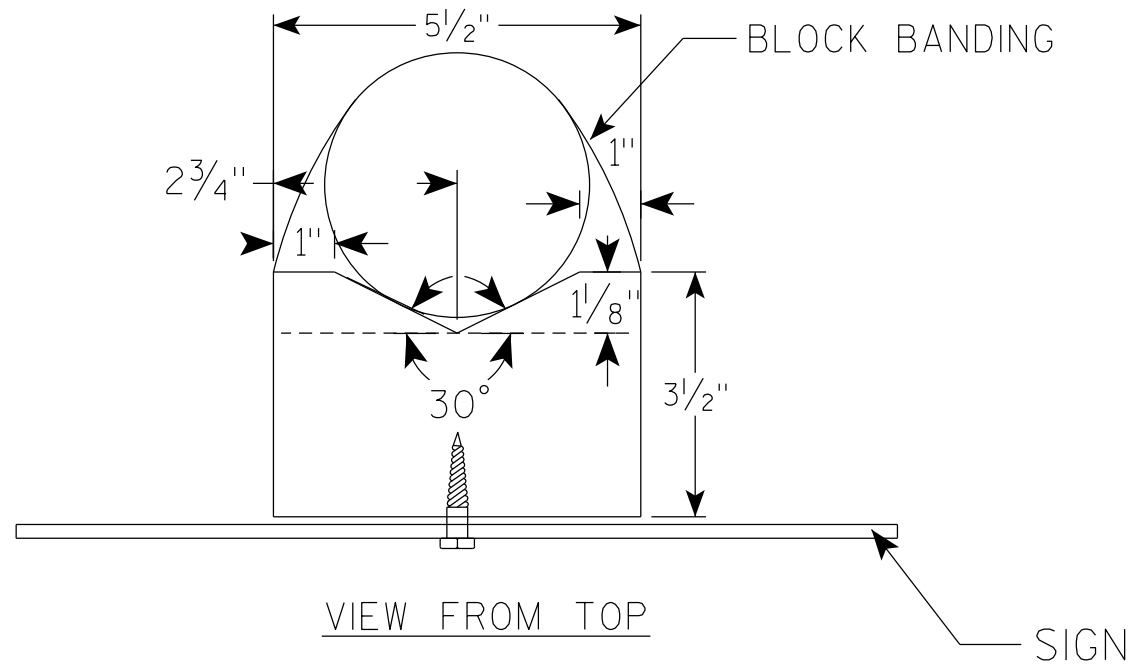
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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 NORMALLY 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 $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " 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

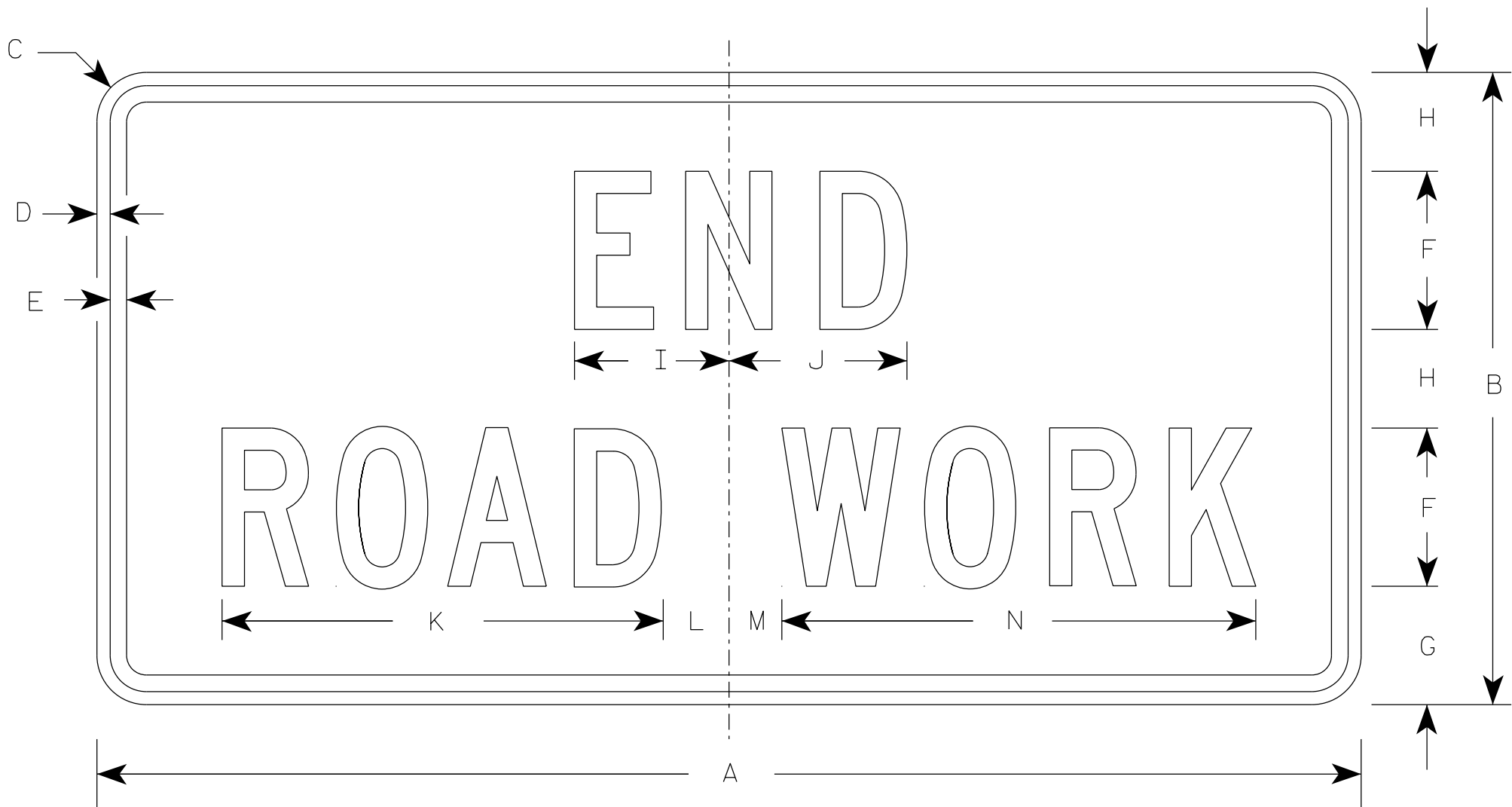
PROJECT NO:

SHEET NO: 344

E

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.



G20-2A

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 - E



G20-61

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																											
4	120	30	6		2	12	9	21	78 1/4	20 3/4																	25.0
5																											

STANDARD SIGN

G20-61

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch

for State Traffic Engineer

DATE 5/07/15

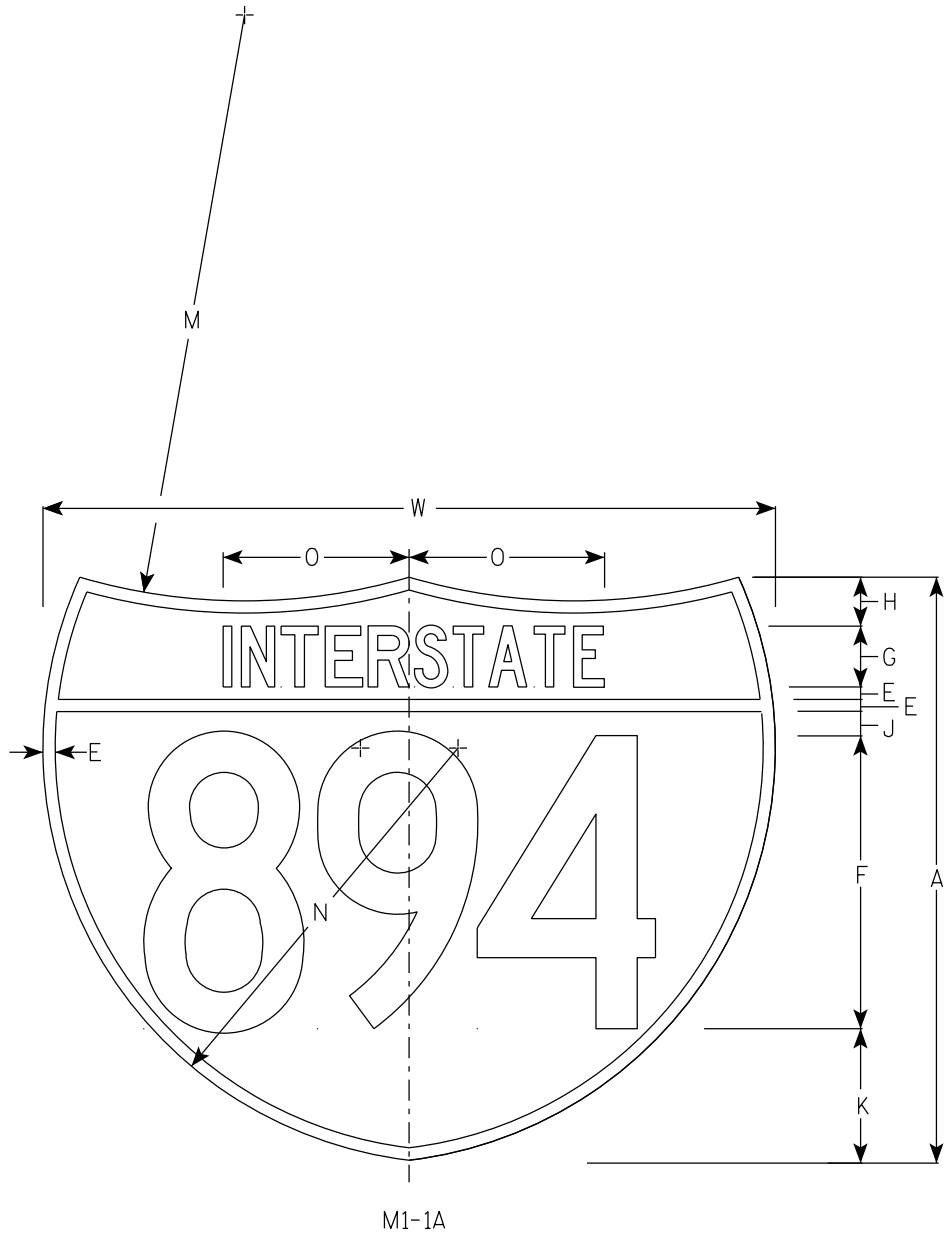
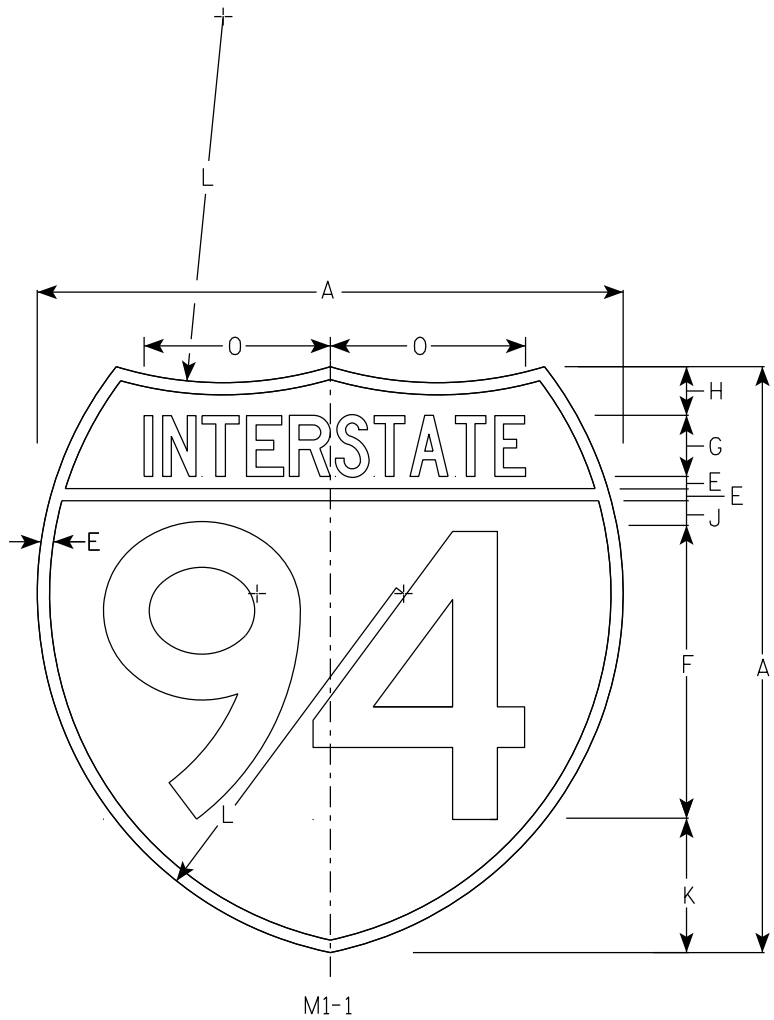
PLATE NO. 346

G20-61.1

SHEET NO:

E

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - Top Red - Bottom Blue
Message - White
3. Message Series - See note 5
4. Substitute appropriate numerals & adjust spacing as per plate A10-1.
5. M1-1 - Numerals - D
Interstate - C
M1-1A - All copy - C

7

																										M1-1	M1-1A
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	Area sq. ft.	Area sq. ft.
1																											
2	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
2M	24				1/2	12	2 1/2	2		1	5 1/2	15	24	17	7 7/8								30			3.13	3.91
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 3/4								45			7.03	8.79

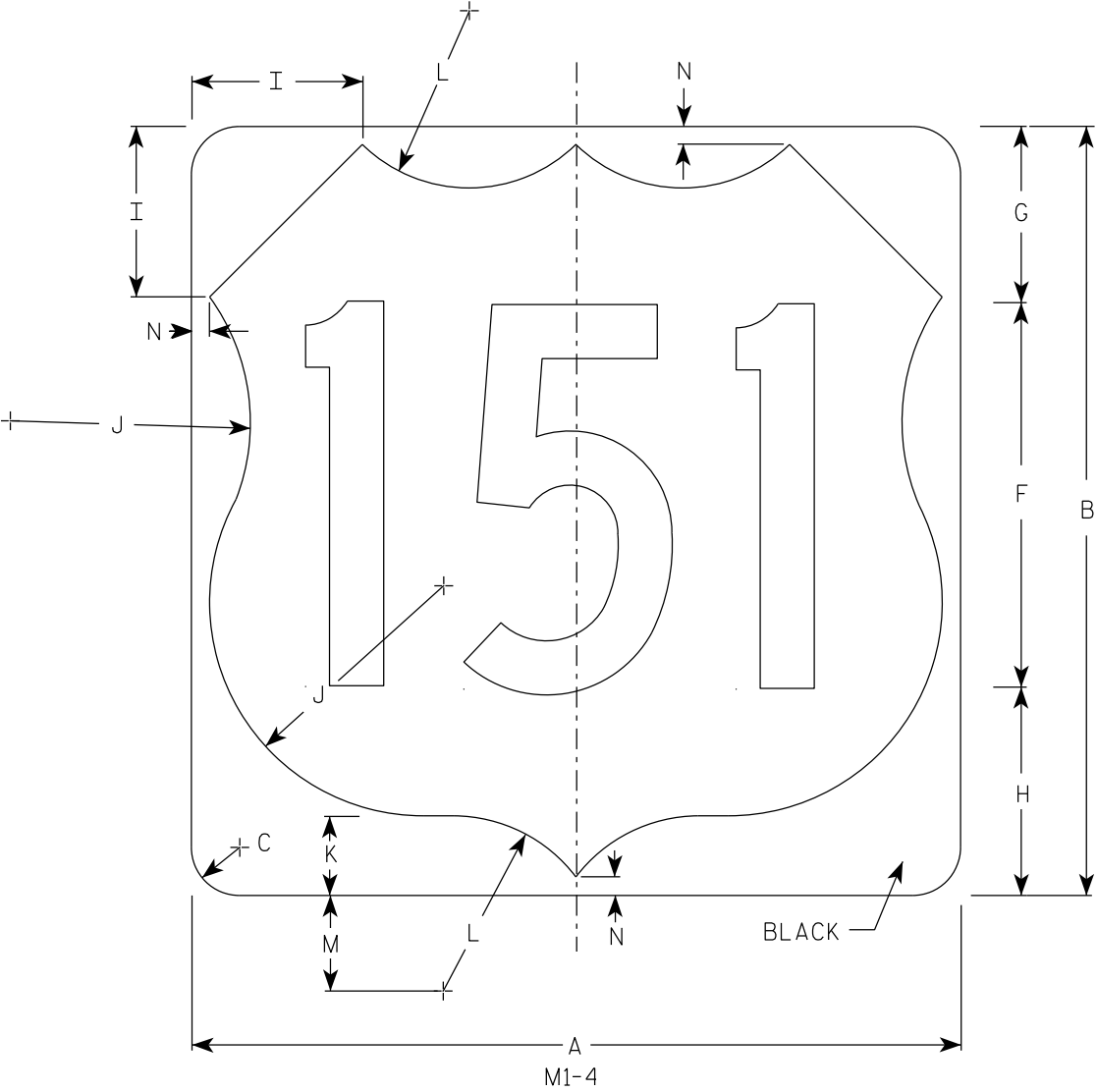
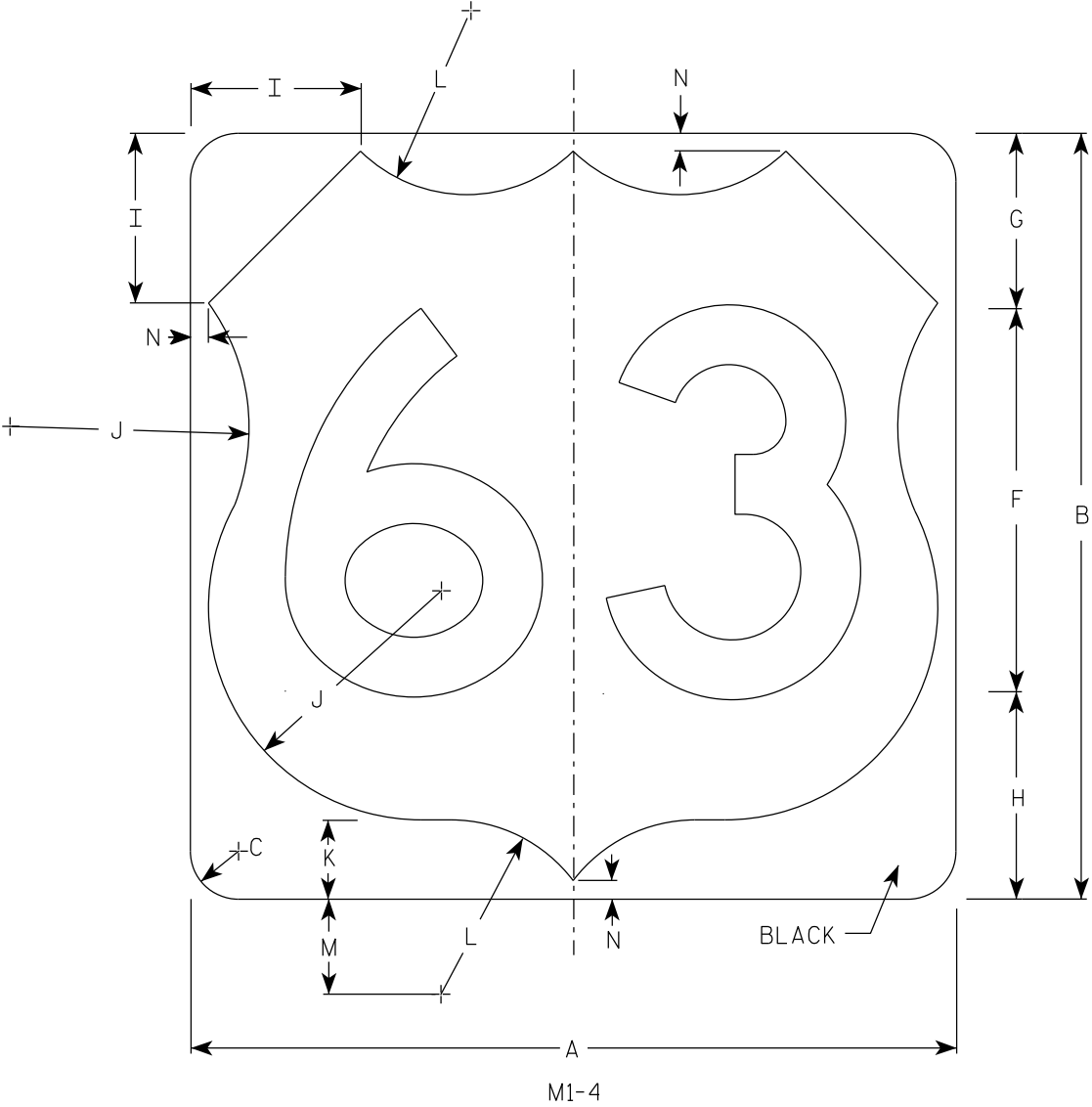
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/7/2022 PLATE NO. M1-1.9

7



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	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
2M	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0

USH MARKER
M1-4 FOR ASSEMBLIES

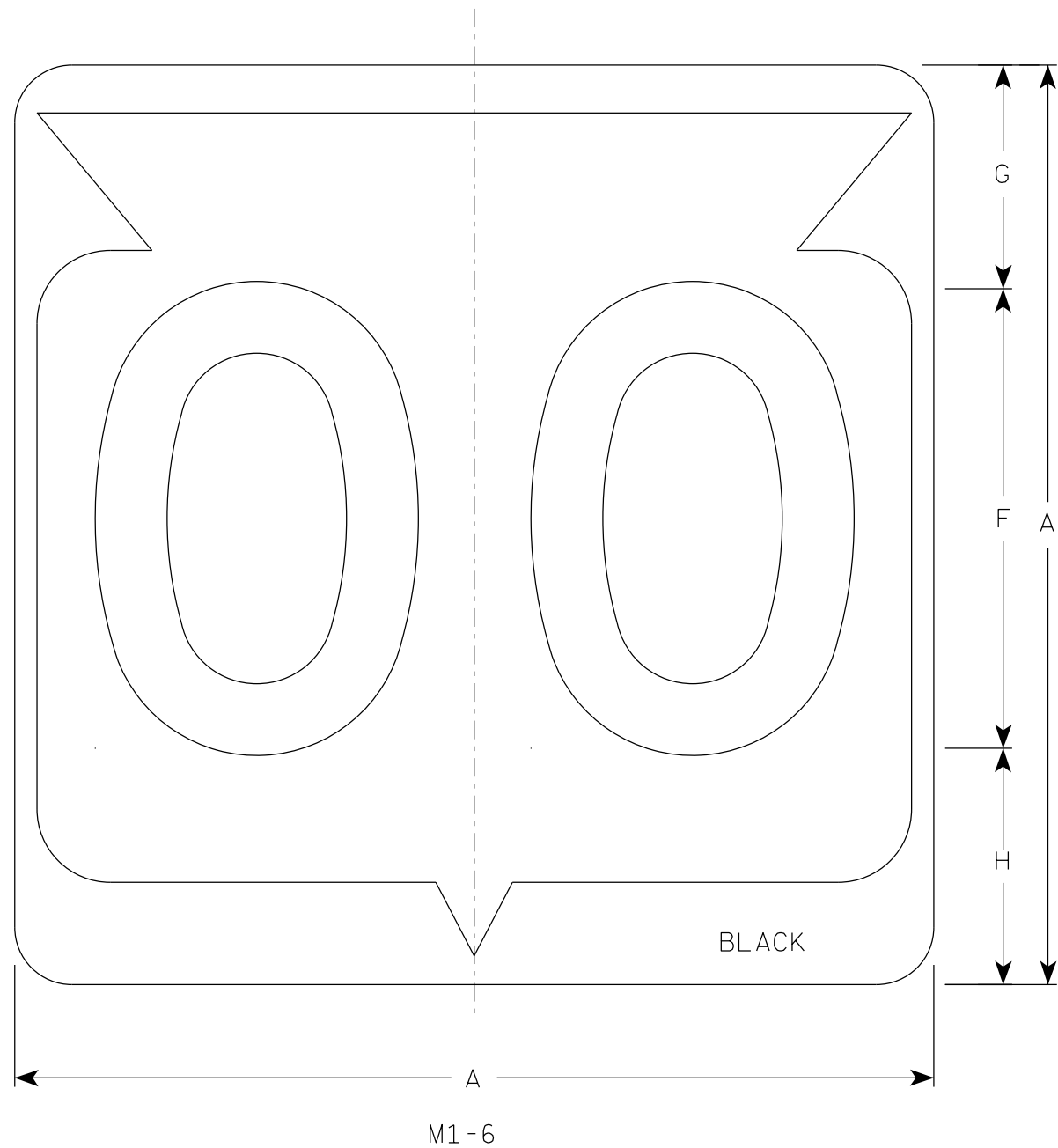
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 12/20/22 PLATE NO. M1-4.11

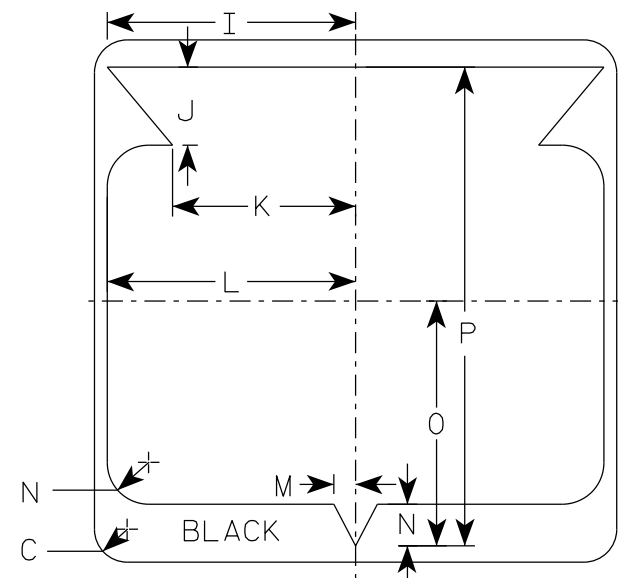
7

7



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



7

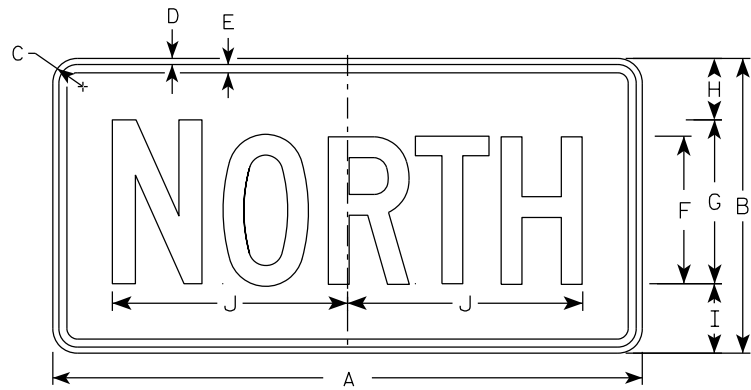
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
2M	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 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

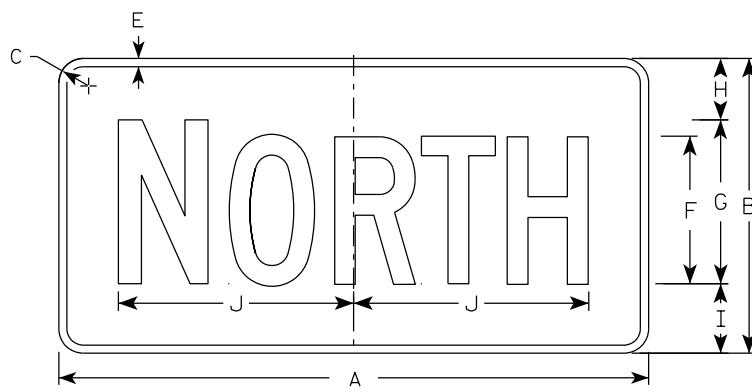
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

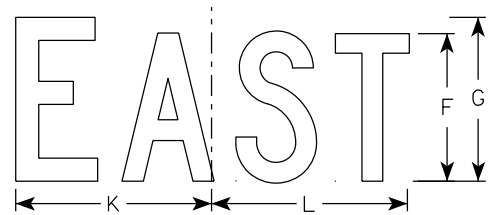
DATE 11/8/2022 PLATE NO. M1-6.11



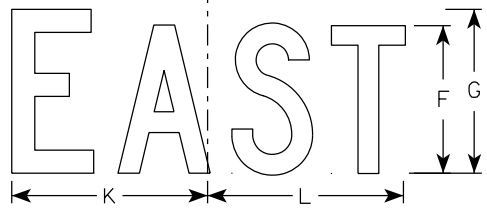
M3-1
MM3-1
MP3-1



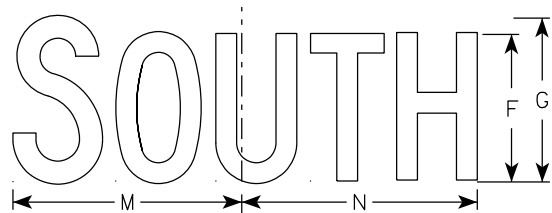
MB3-1
MK3-1
MN3-1



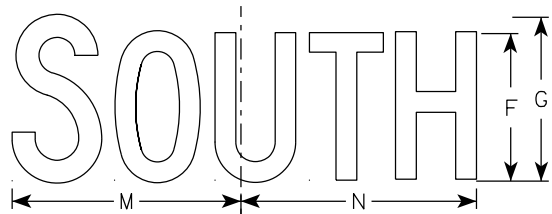
M3-2
MM3-2
MP3-2



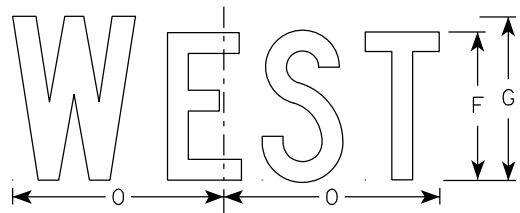
MB3-2
MK3-2
MN3-2



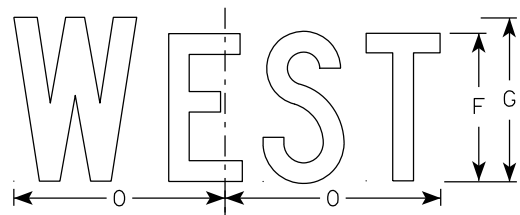
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

- All Signs Type II - Type H Reflective
- Color:
 - Background - See note 5
 - Message - See note 5
- Message Series - C
- 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.
- 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
- Note the first letter of each direction is larger than the remainder of the message.

7

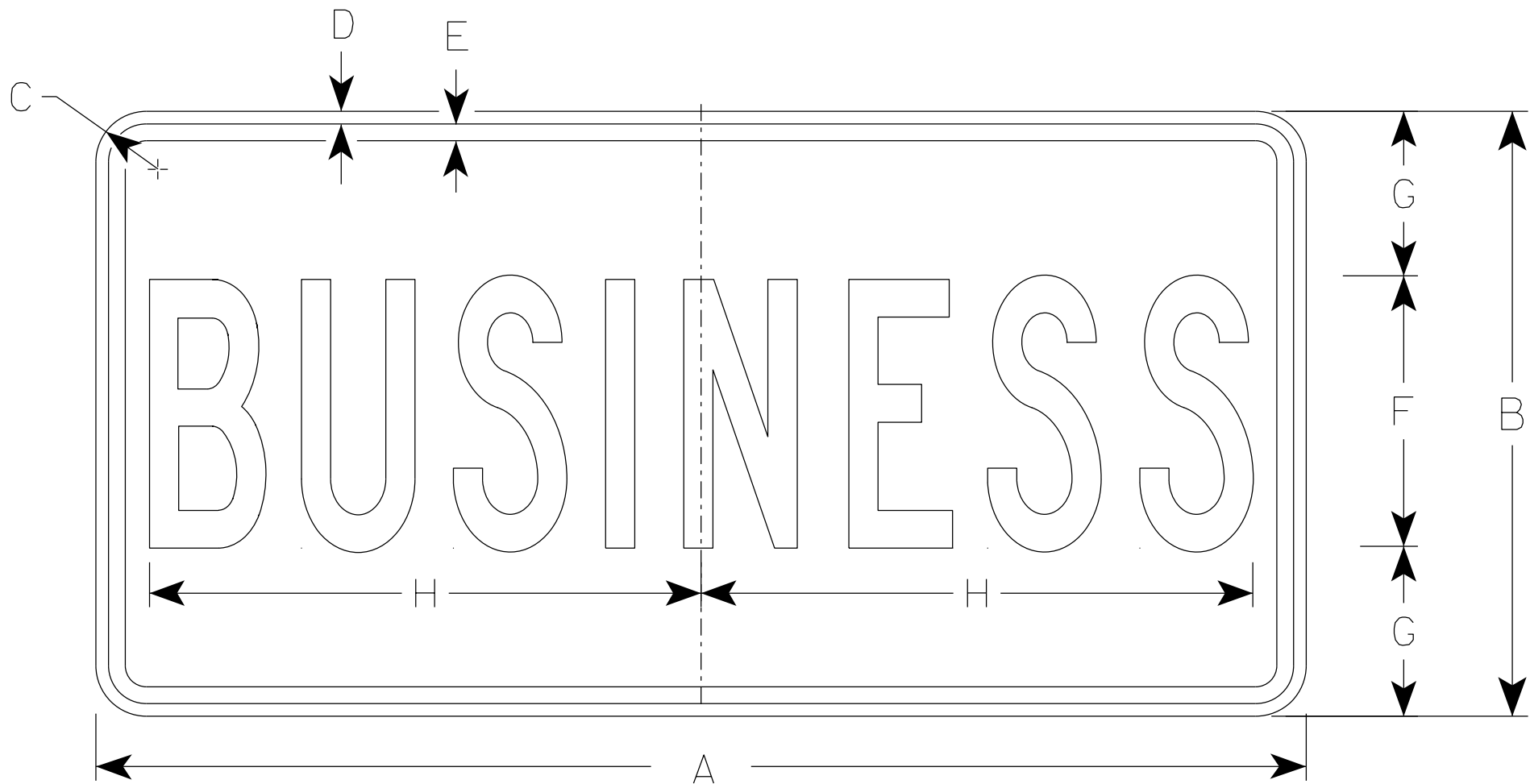
7

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	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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 350	E
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NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - B



M4 - 3

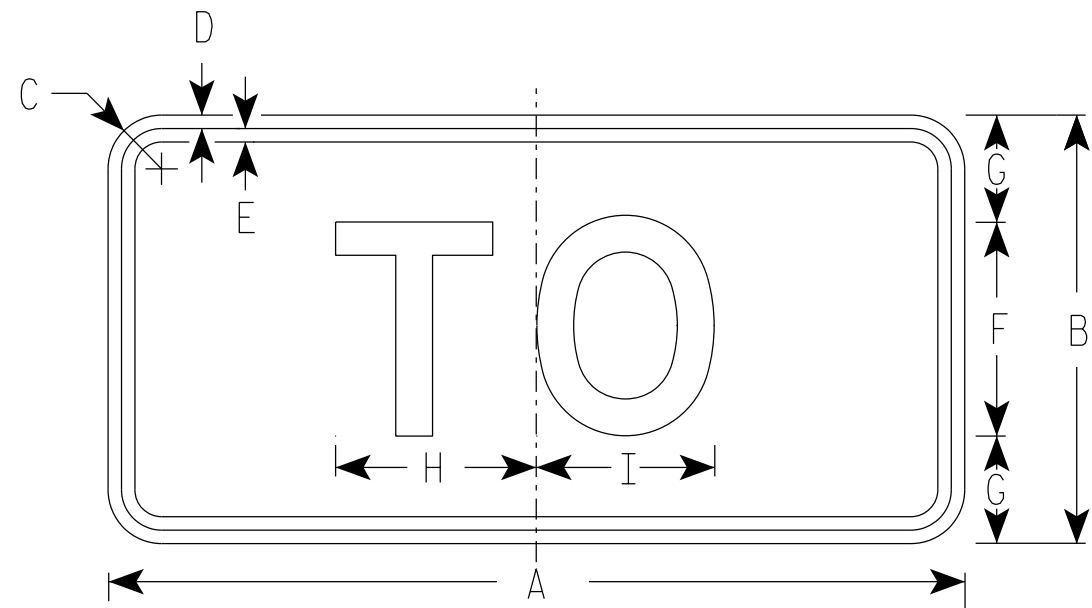
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/2	3/8	3/8	5	3 1/2	9 5/8																			2.0
2M	24	12	1 1/2	3/8	3/8	5	3 1/2	9 5/8																			2.0
3	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5
4	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5
5	36	18	1 1/2	3/8	1/2	8	5	16 3/8																			4.5

STANDARD SIGN
M4 - 3

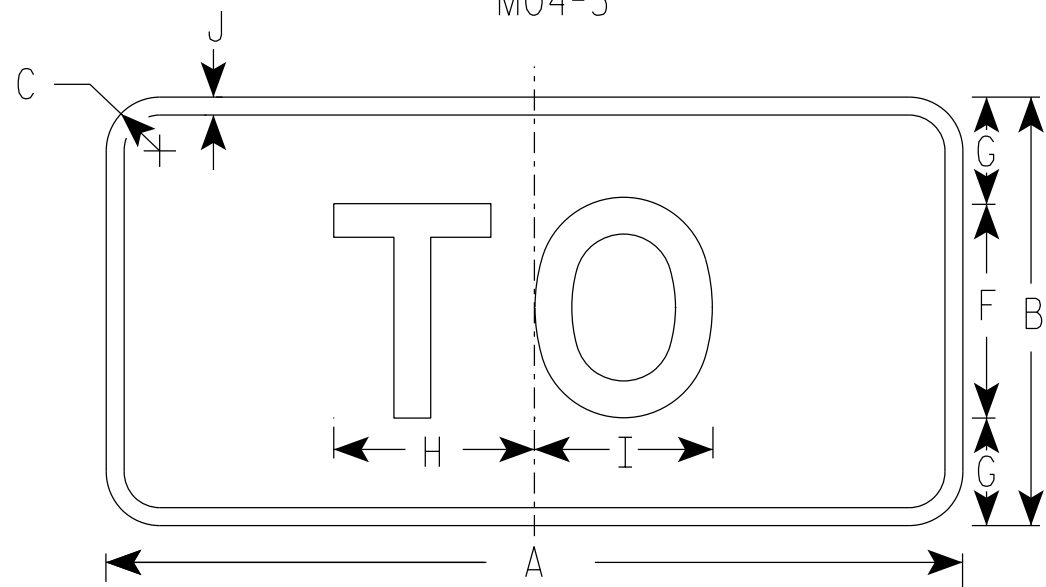
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/8/2023 PLATE NO. M4-3.7



M4-5
MM4-5
MP4-5
M04-5



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - E
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. M4-5 Background - White
Message - Black
MB4-5 Background - Blue
Message - White
MK4-5 Background - Green
Message - White
MM4-5 Background - White
Message - Green
MN4-5 Background - Brown
Message - White
MP4-5 Background - White
Message - Blue
M04-5 Background - Orange Type F Reflective
Message - Black

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	3	5 3/8	5 1/4	1/2																	2.00
2M	24	12	1 1/2	3/8	3/8	6	3	5 3/8	5 1/4	1/2																	2.00
3	36	18	1 1/2	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2																	4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2																	4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2																	4.5

PROJECT NO:		HWY:		COUNTY:		SHEET NO: 352										E
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STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

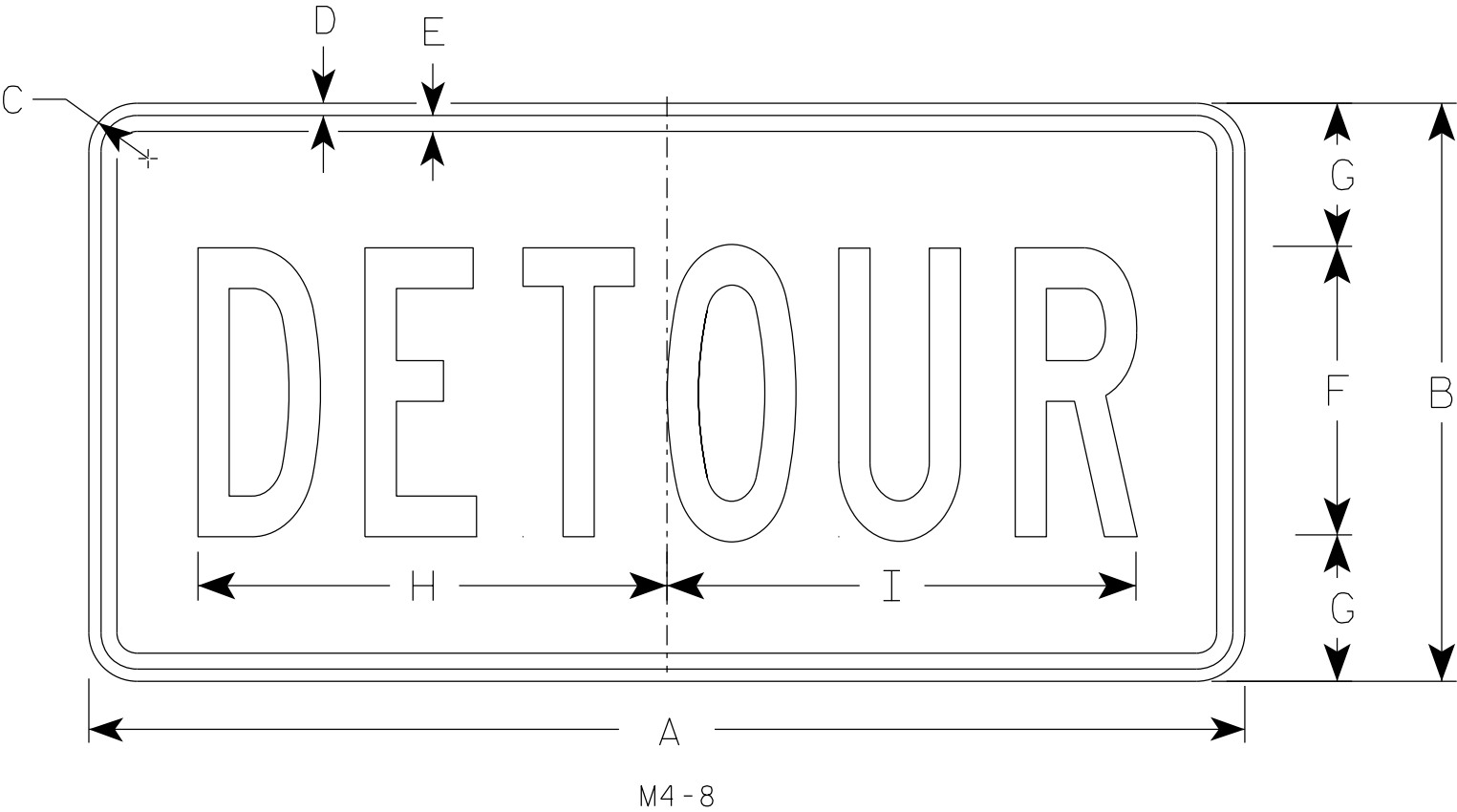
DATE 2/8/2023 PLATE NO. M4-5.11

7

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - B
- 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																											
2	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

STANDARD SIGN

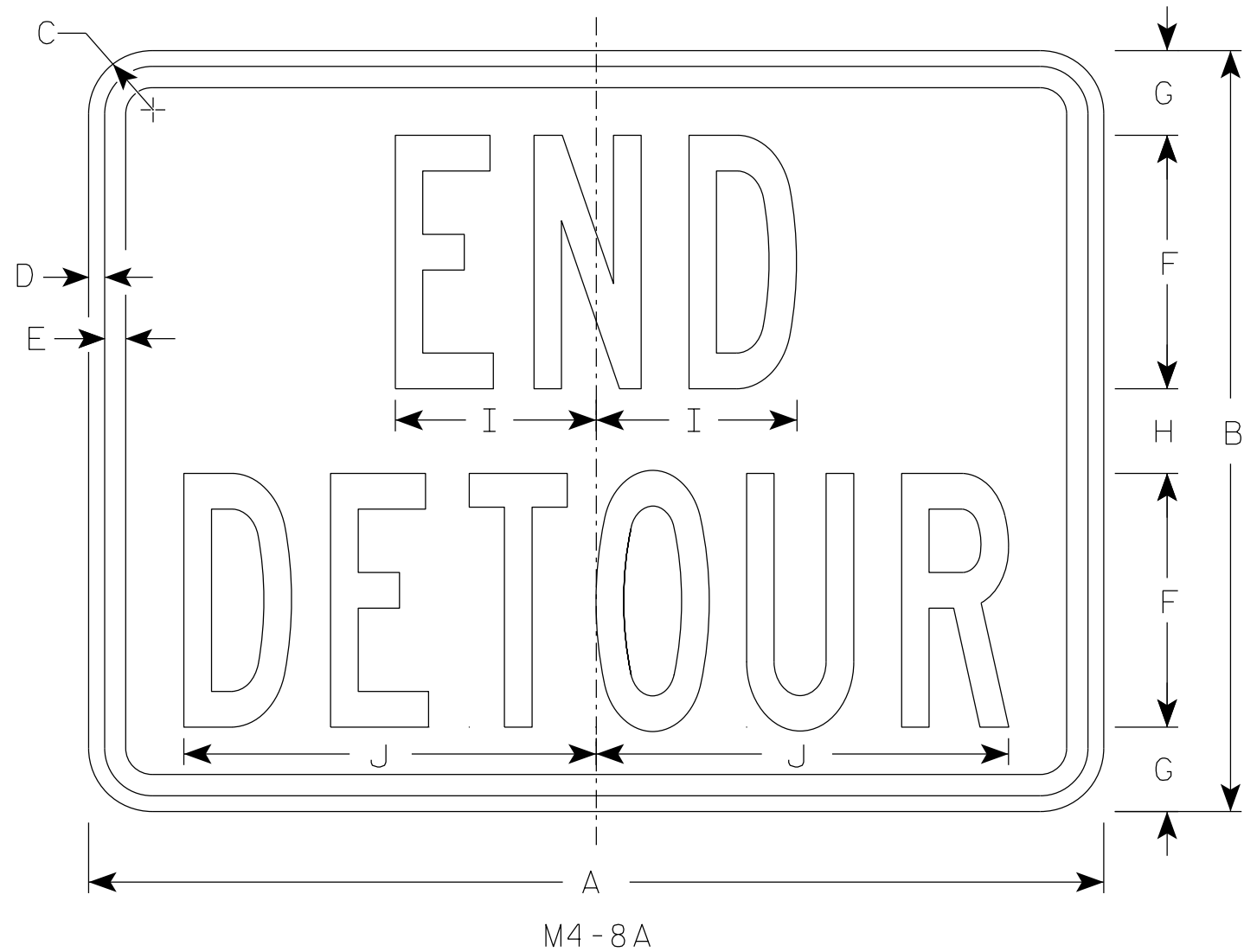
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

7



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Orange
Message - Black
3. Message Series - B
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.

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																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

STANDARD SIGN

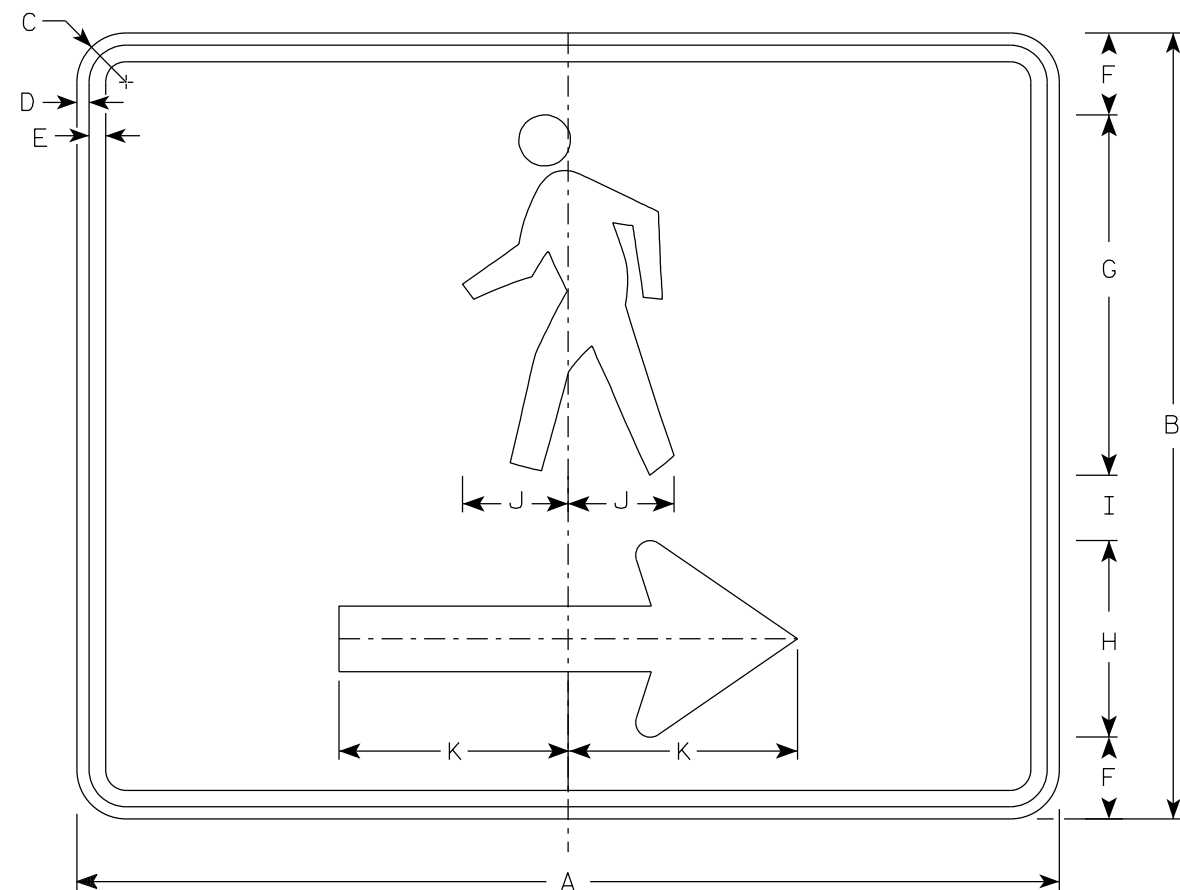
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

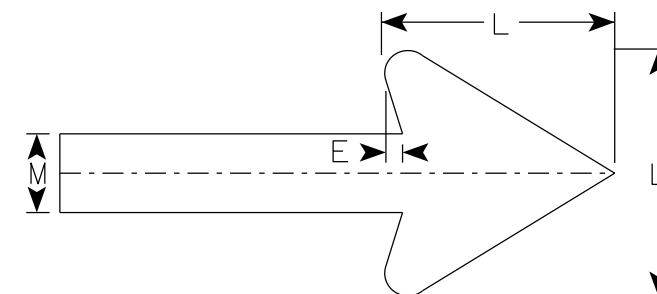
7



M4-60R

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. M4-60L is the same as M4-60R except the arrow is reversed.

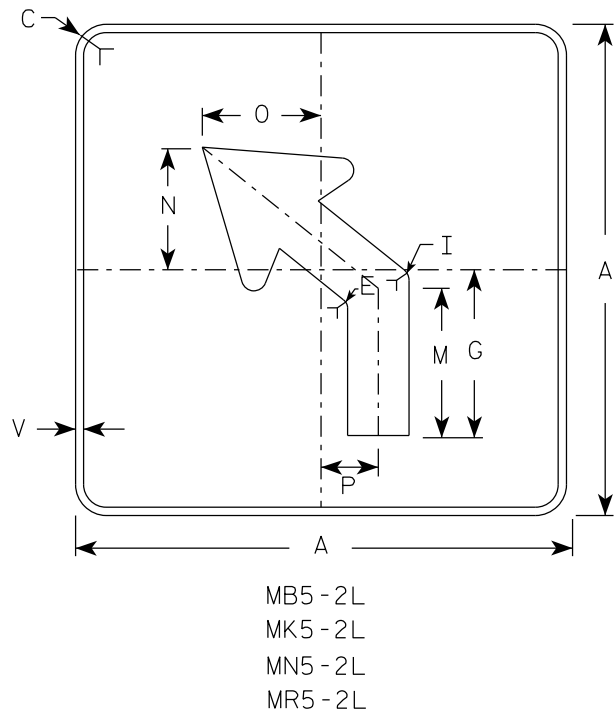
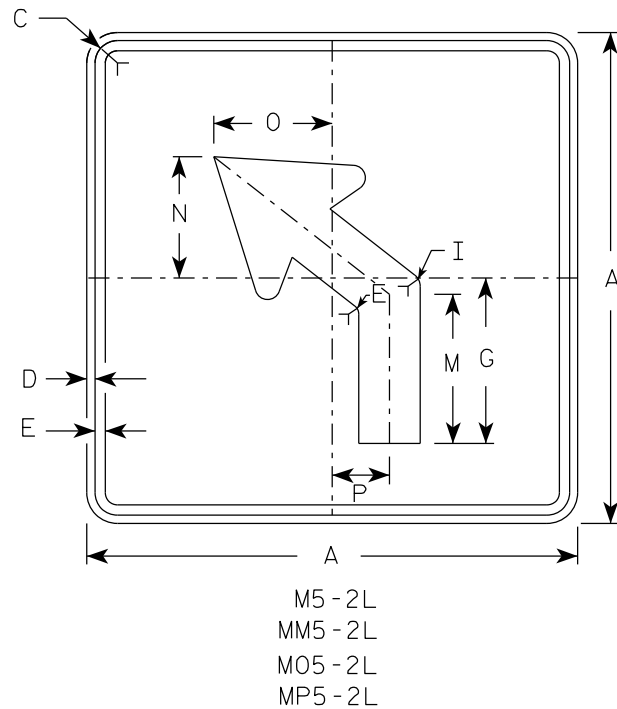
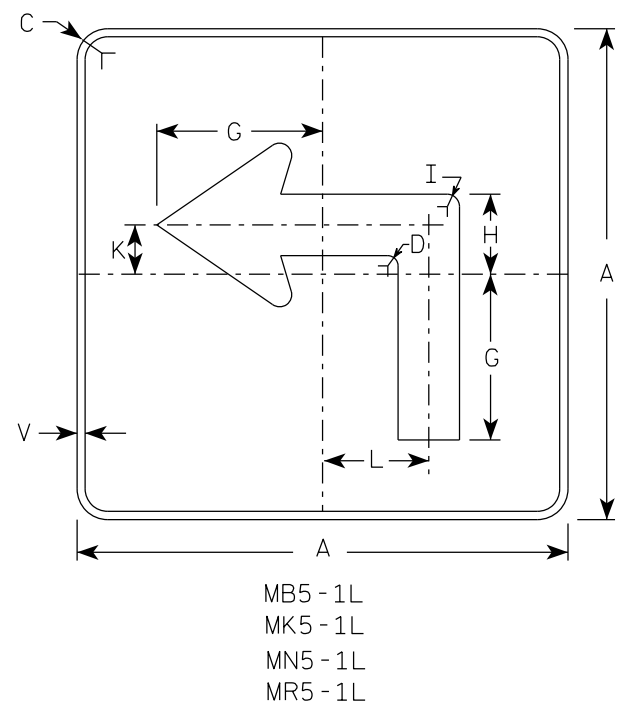
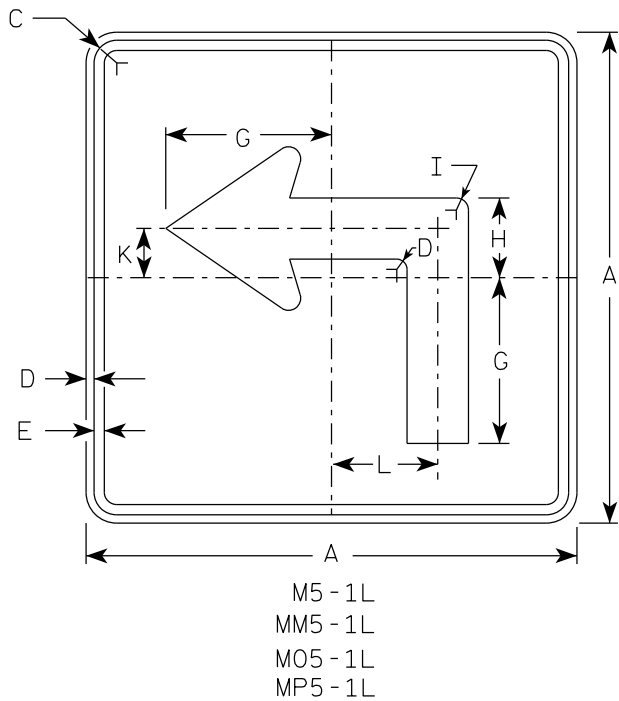


Arrow Detail

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																											
2S	30	24	1 1/2	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
2M	30	24	1 1/2	3/8	1/2	2 1/2	11	6	2	3 1/4	7	6	2														5.00
3																											
4																											
5																											

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 355	E
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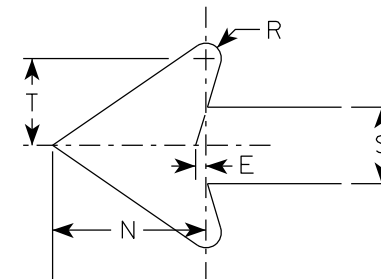
7



NOTES

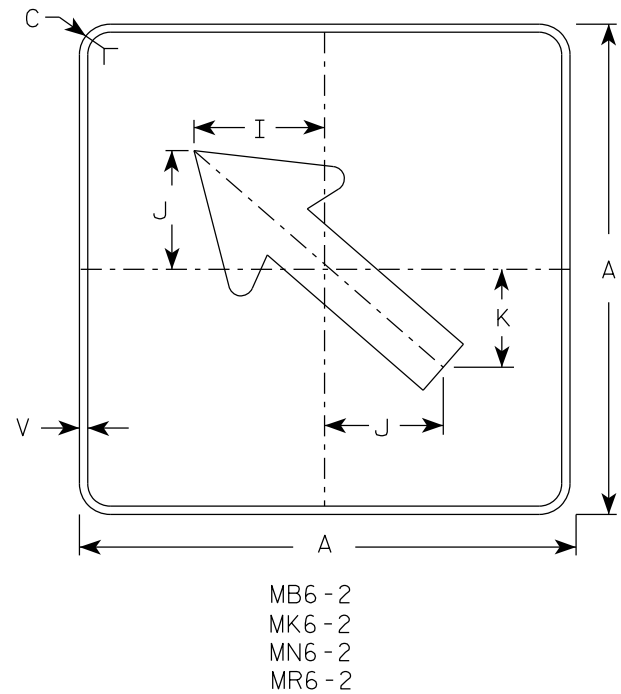
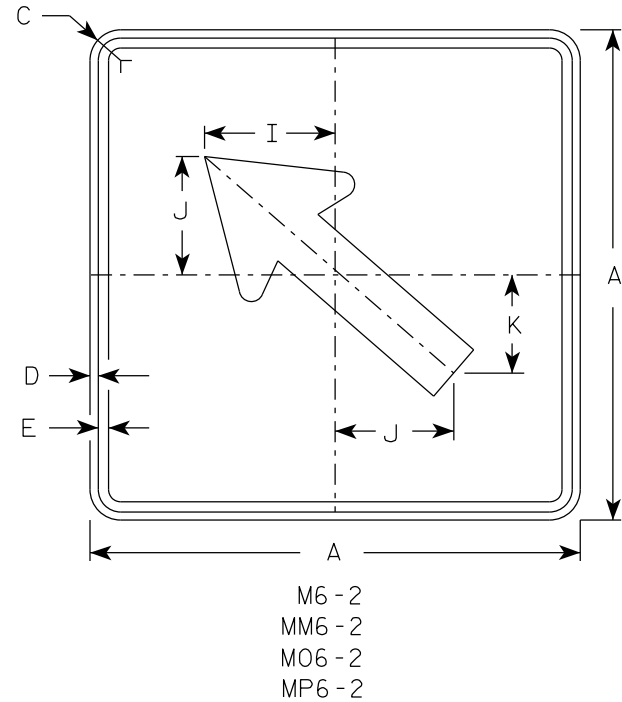
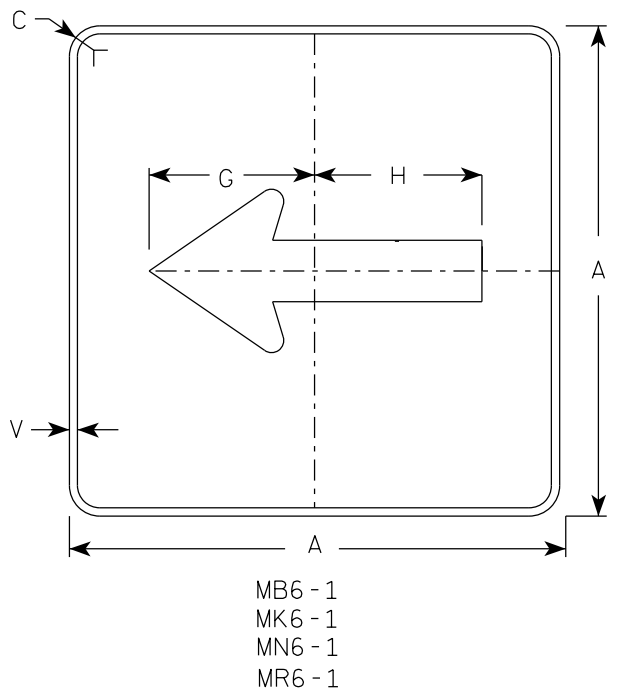
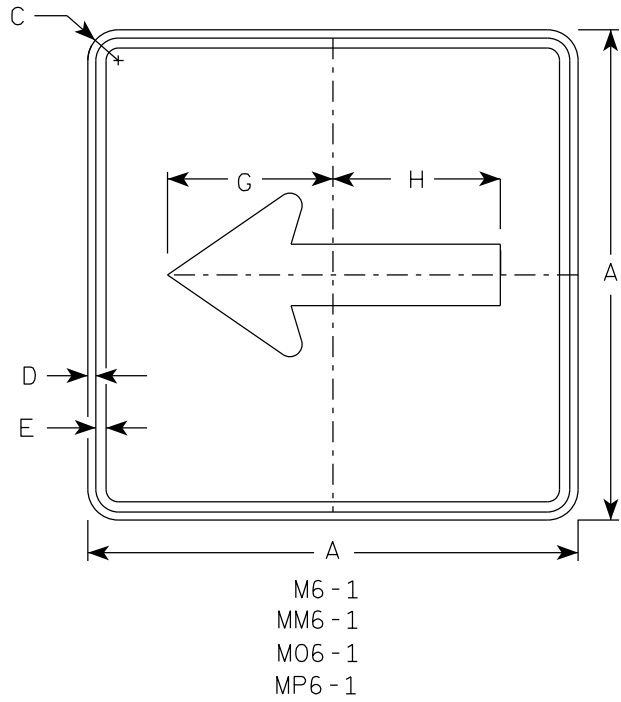
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| M5-1 and | M5-2 | Background - White |
| | | Message - Black |
| MB5-1 and | MB5-2 | Background - Blue |
| | | Message - White |
| MK5-1 and | MK5-2 | Background - Green |
| | | Message - White |
| MM5-1 and | MM5-2 | Background - White |
| | | Message - Green |
| MN5-1 and | MN5-2 | Background - Brown |
| | | Message - White |
| M05-1 and | M05-2 | Background - Orange - Type F Reflective |
| | | Message - Black |
| MP5-1 and | MP5-2 | Background - White |
| | | Message - Blue |
| MR5-1 and | MR5-2 | Background - Brown |
| | | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL



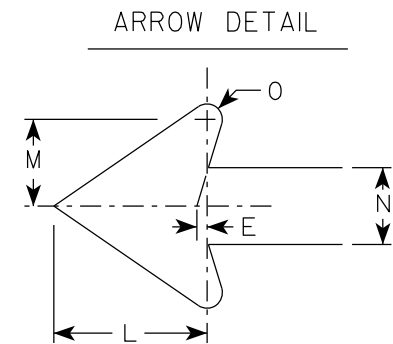
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 356	E
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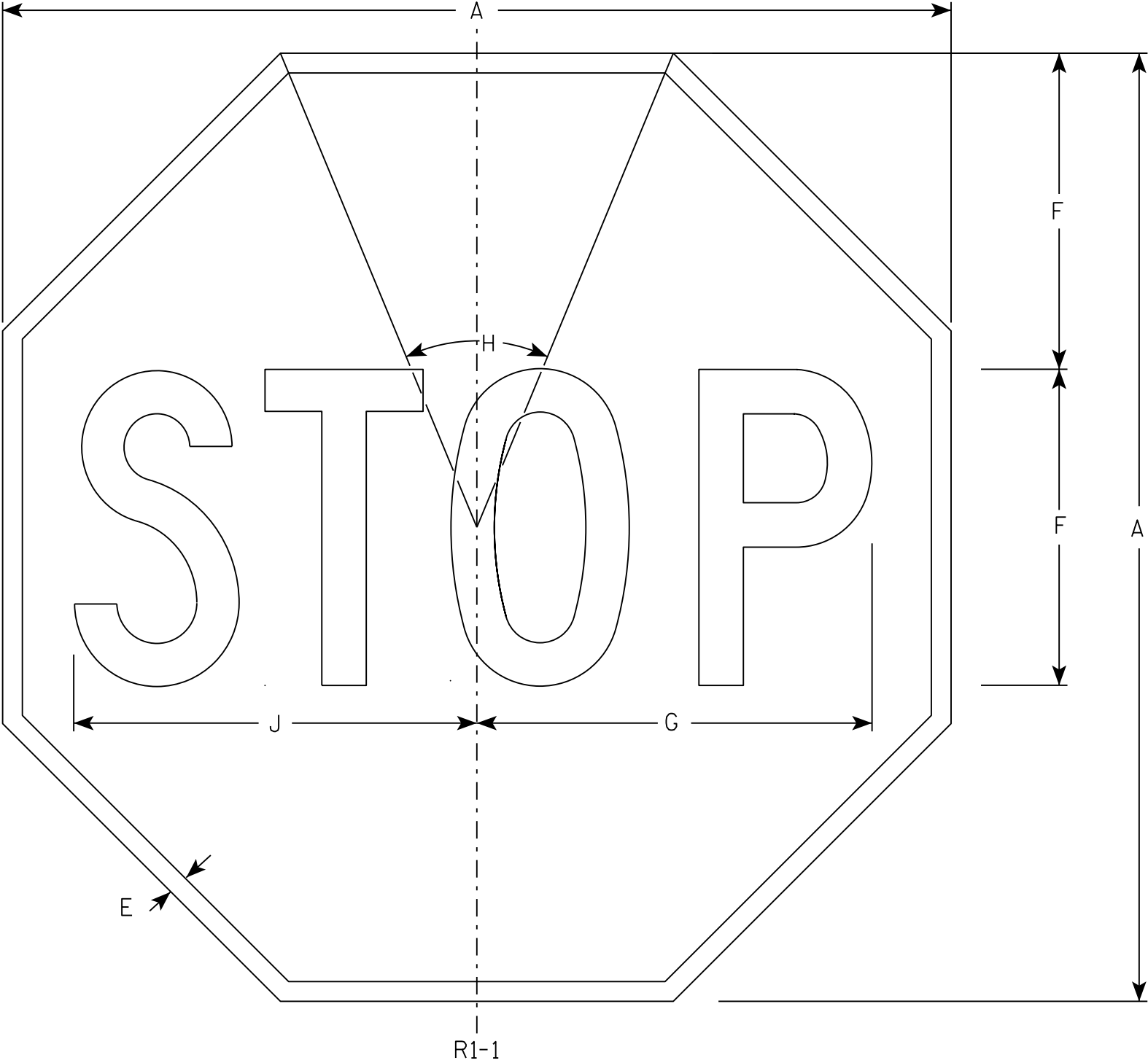
NOTES

- Signs are Type II - Type H Reflective except as Shown
- Color:
Background - See note 4
Message - See note 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.
- M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow



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	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

7



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

7

R1-1

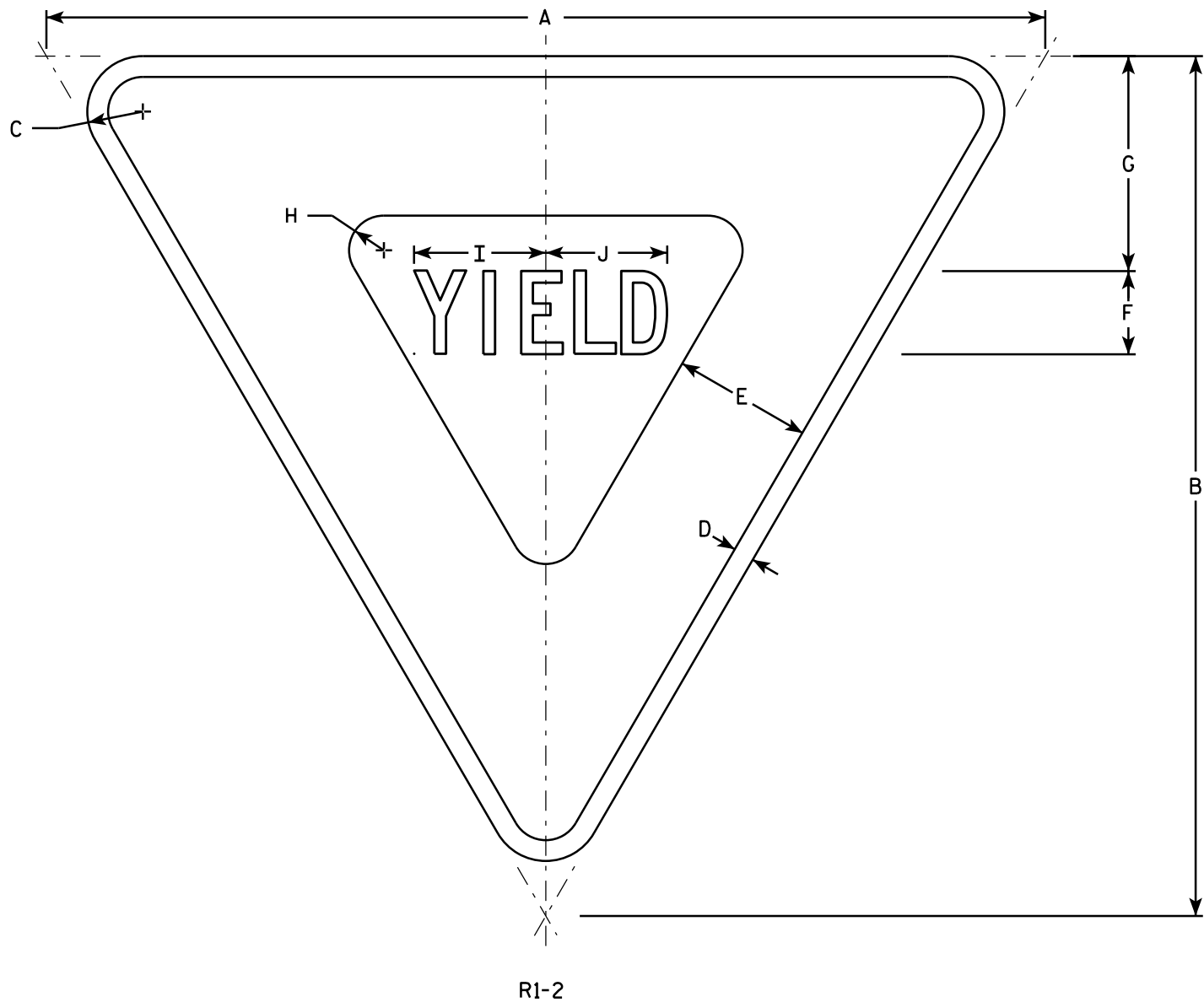
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

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



NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
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. 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	1 1/2	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

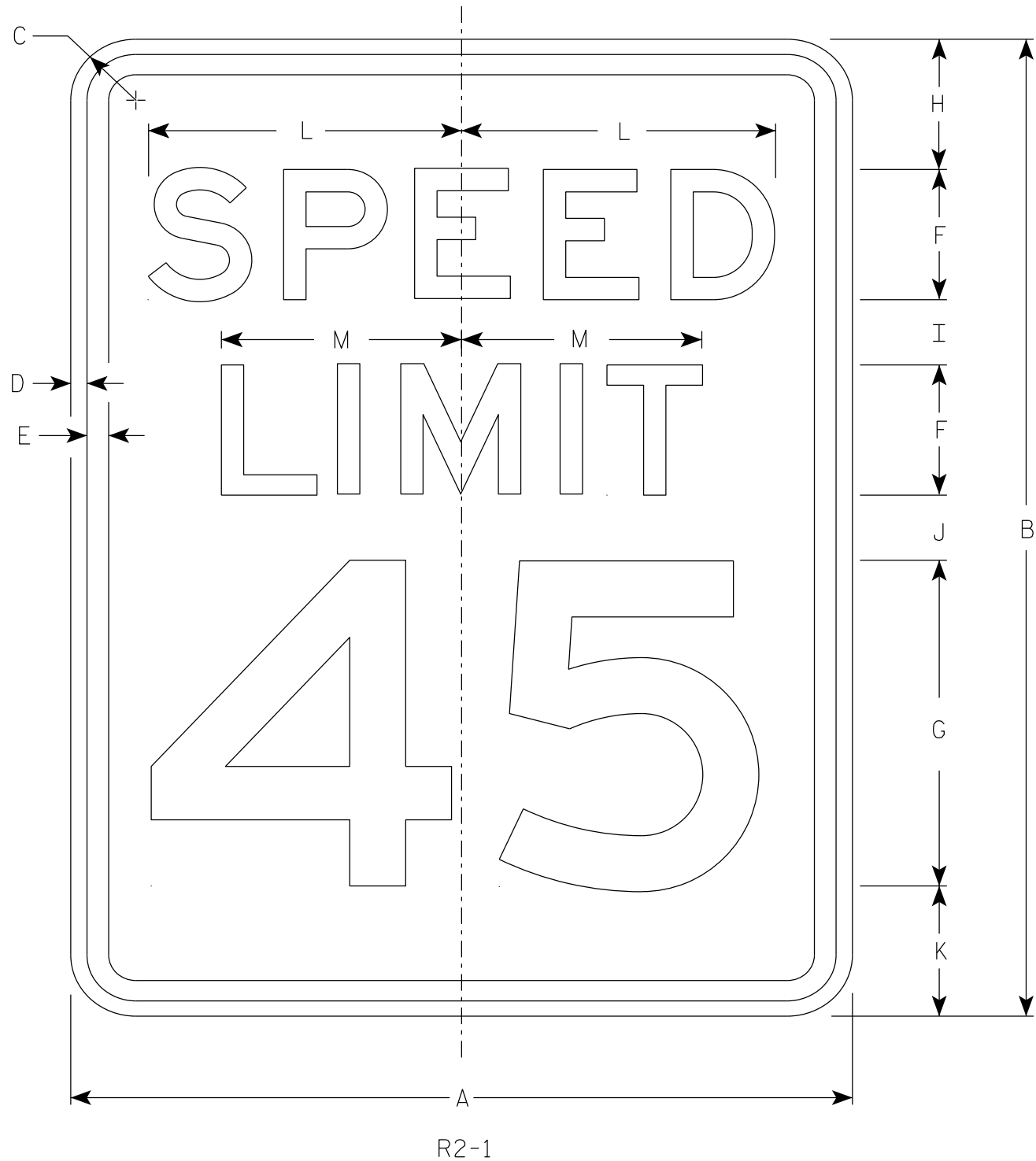
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/13/14 PLATE 359 P1-2.12

7



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.

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	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

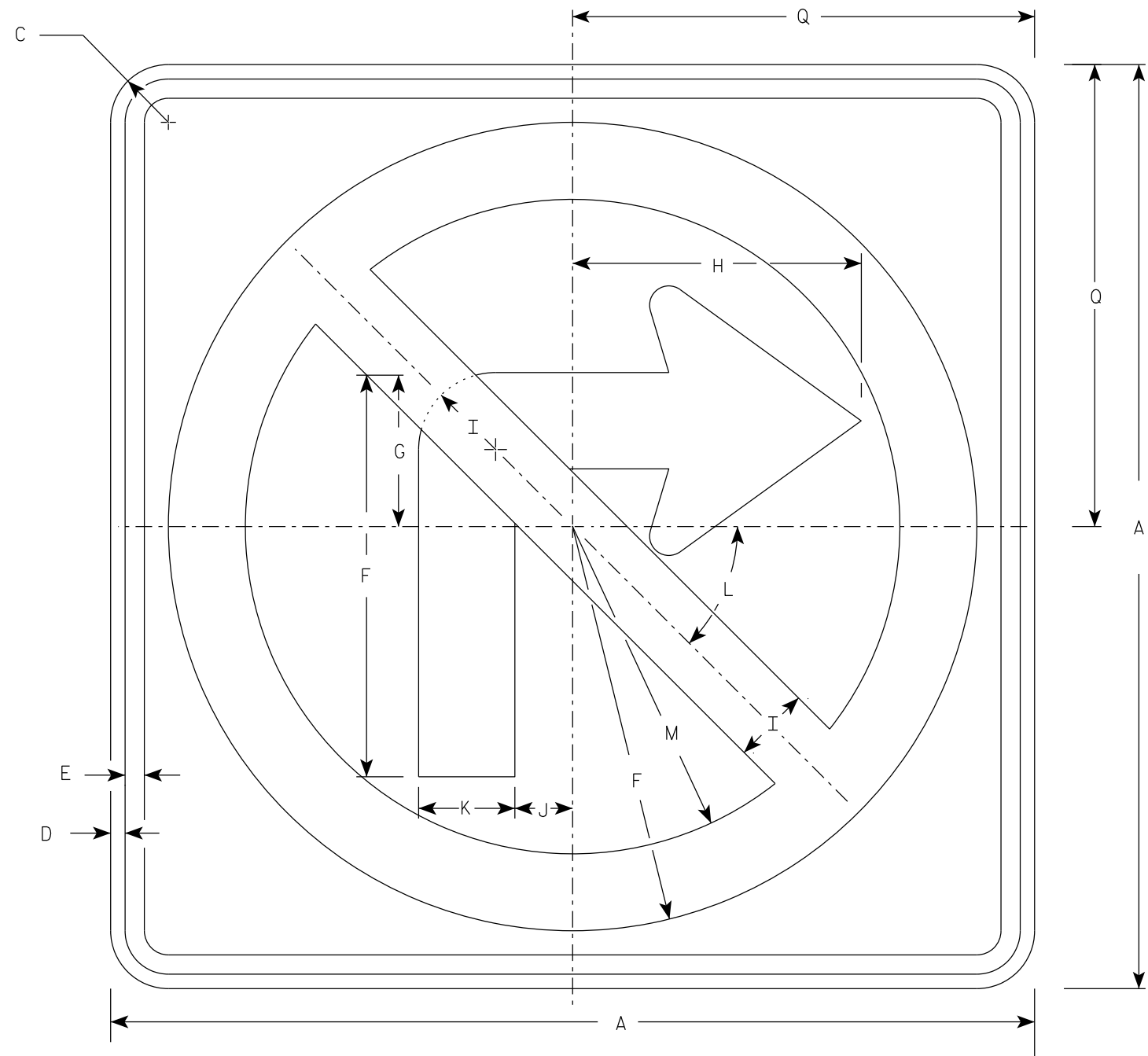
R2 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/23 PLATE NO. R2-1.14

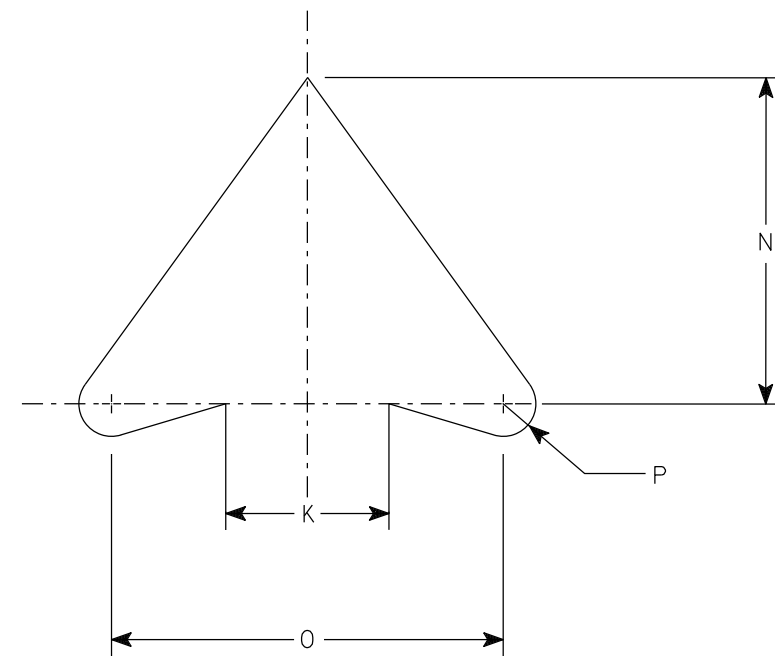
7



R3-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45	8 1/2	5	6	1/2	12										4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2	12										4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45	12 3/4	7 1/2	9	3/4	18										9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

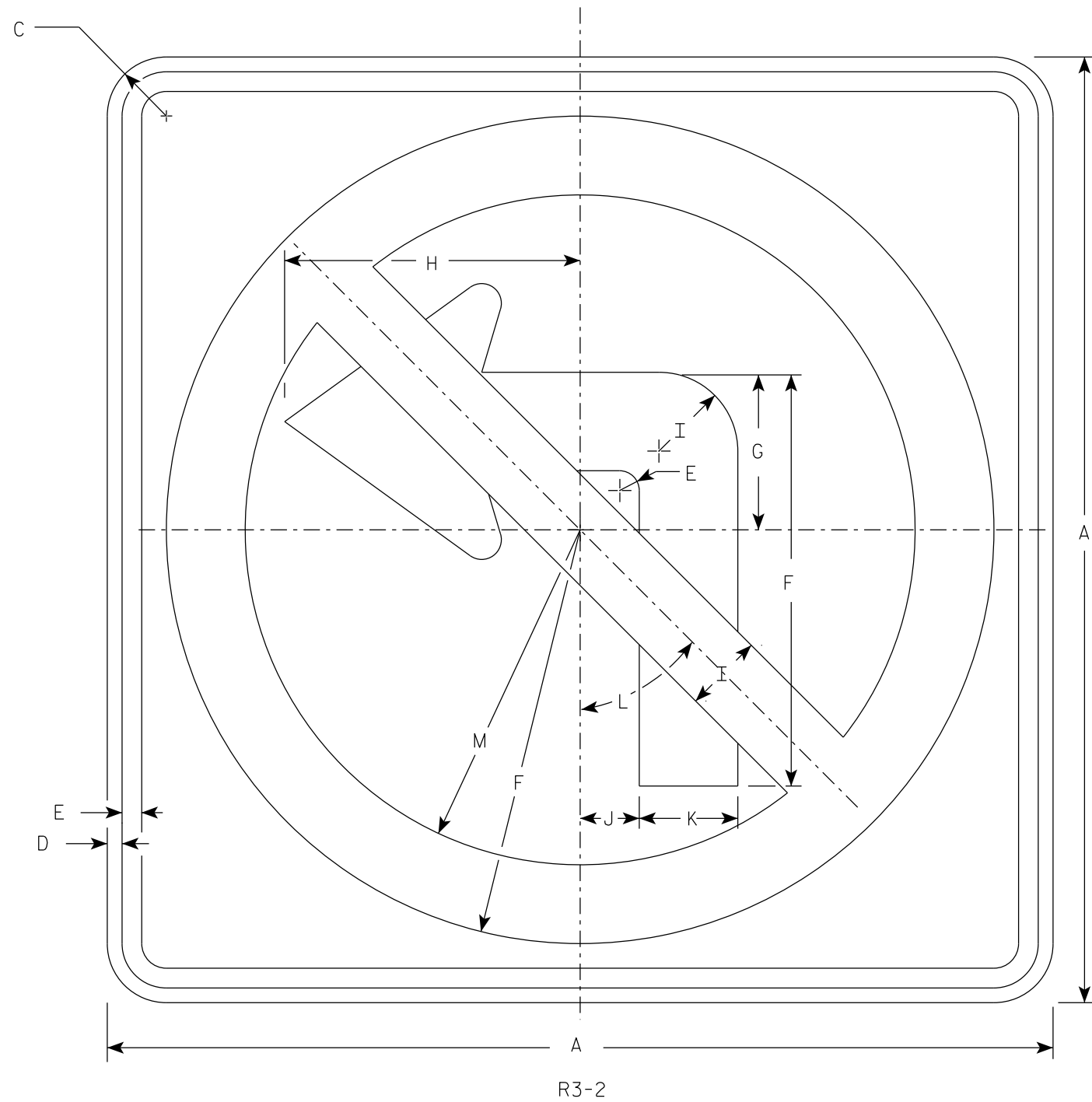
STANDARD SIGN
R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P. Rauch
for State Traffic Engineer

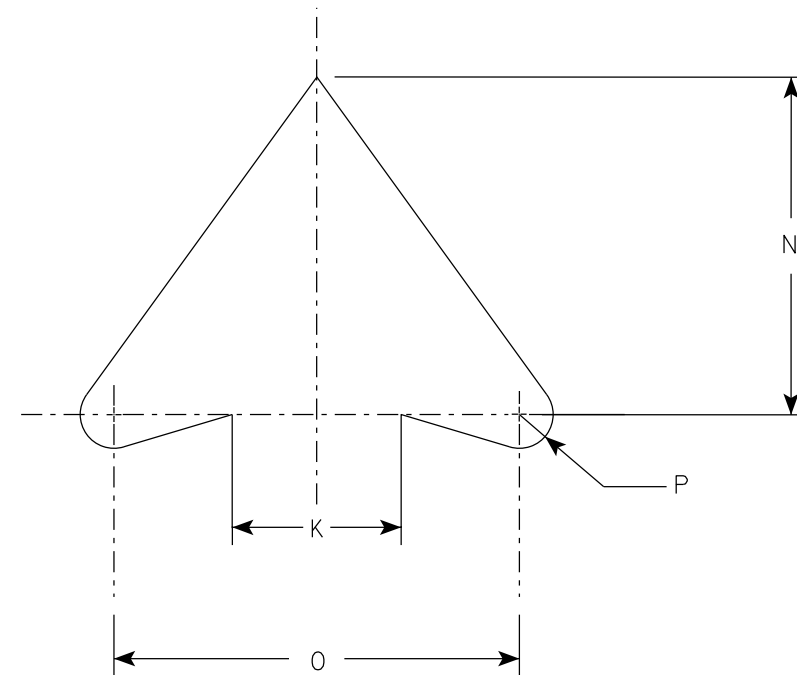
DATE 2/2/23 PLATE NO. R3-1.6

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - See note 3
3. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



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	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/2	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		2 1/4	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

PROJECT NO:

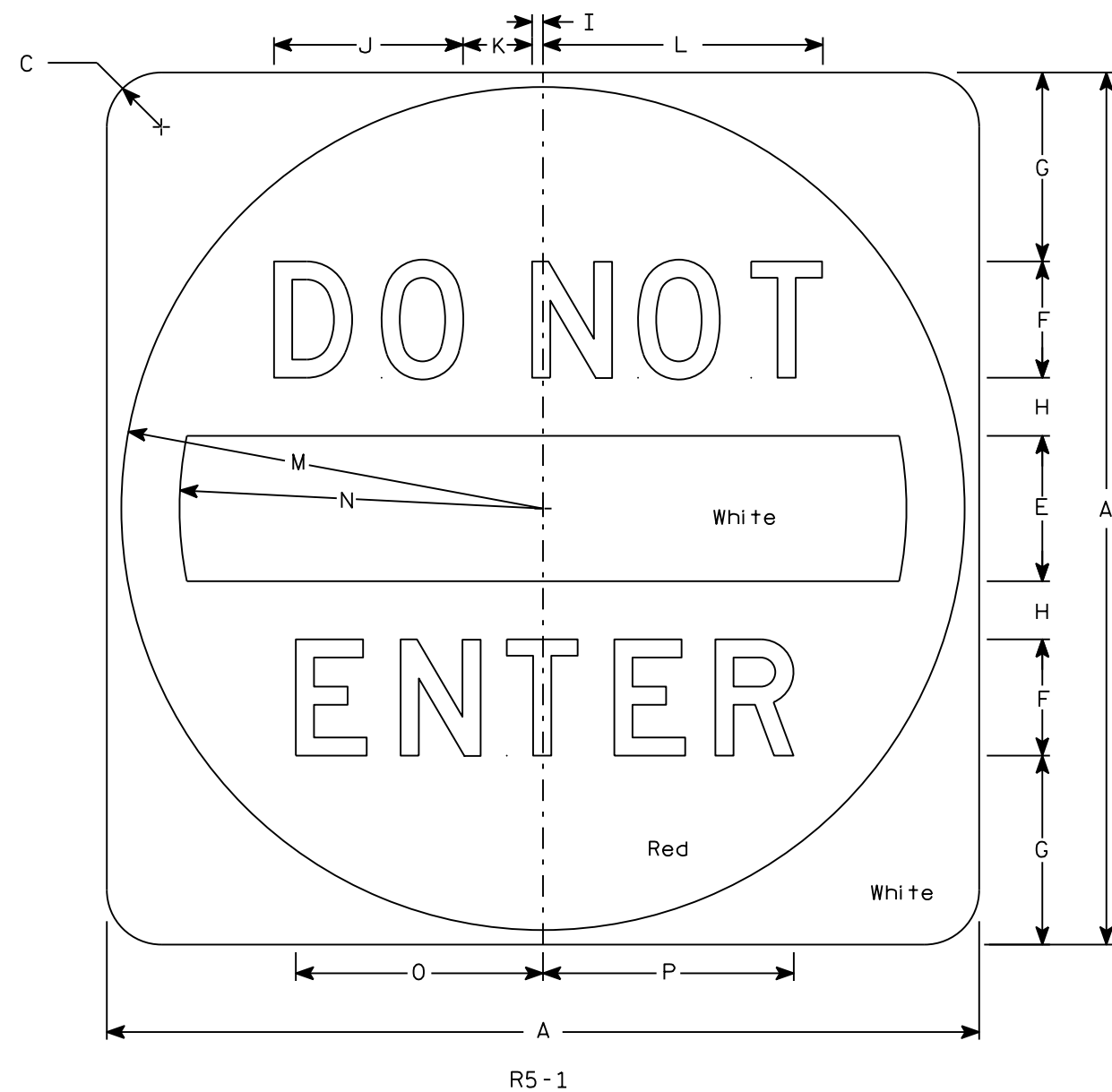
HWY:

COUNTY:

SHEET NO: 362

E

7



NOTES

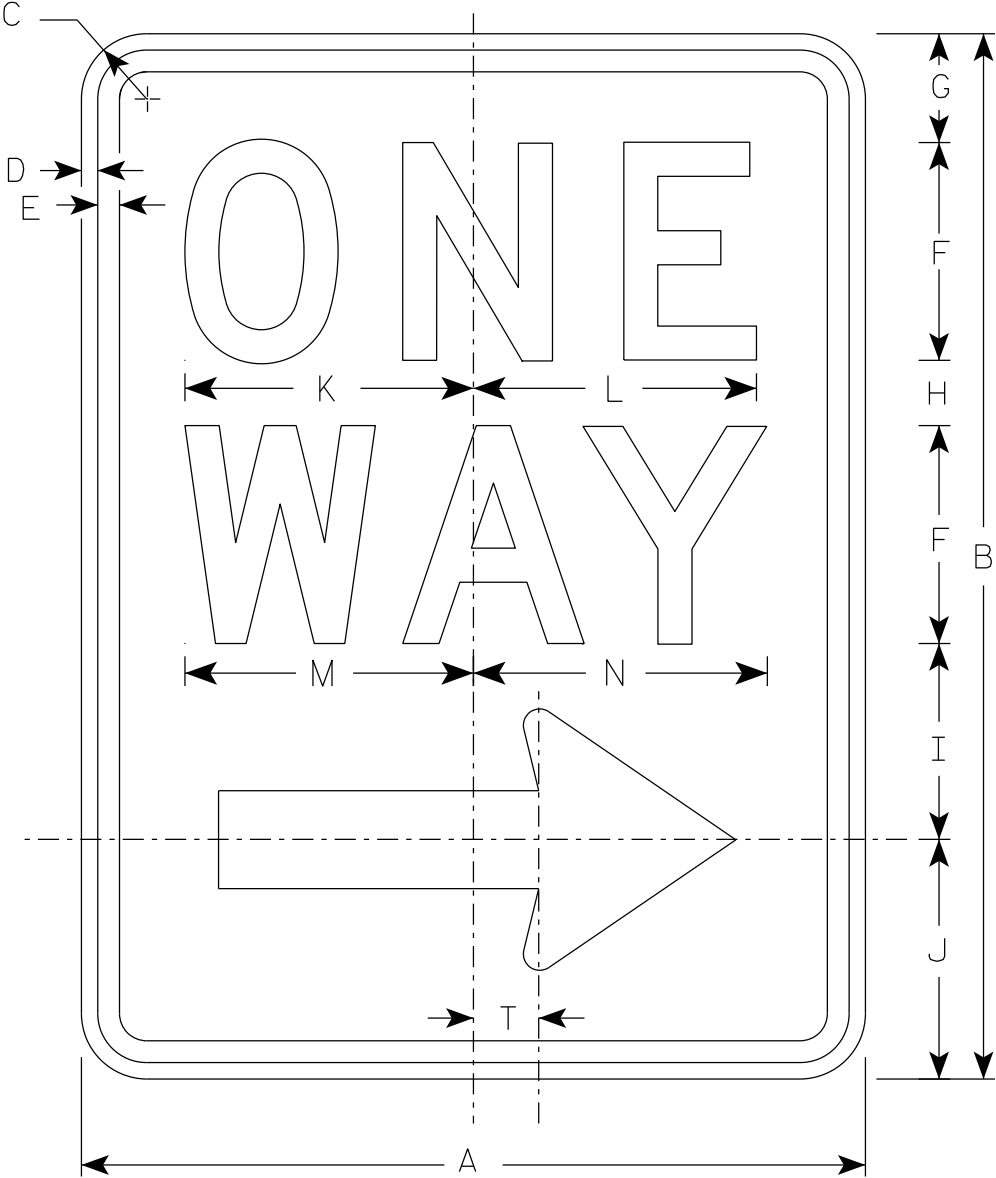
1. Sign is Type II - Type H Reflective
2. Color:
Background - See detail
Message - White
3. Message Series - D

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	30		1 7⁄8		5	4	6 1⁄2	2	3⁄8	6 1⁄2	2 3⁄8	9 5⁄8	14 1⁄2	12 1⁄2	8 1⁄2	8 5⁄8											6.25
2M	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
3	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
4	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
5	48		3		8	6	11	3	5⁄8	9 3⁄4	3 5⁄8	14 1⁄2	23 1⁄2	20	12 3⁄4	12 7⁄8											16.0

STANDARD SIGN R5-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/15/18	PLATE NO. R5-1.16

7

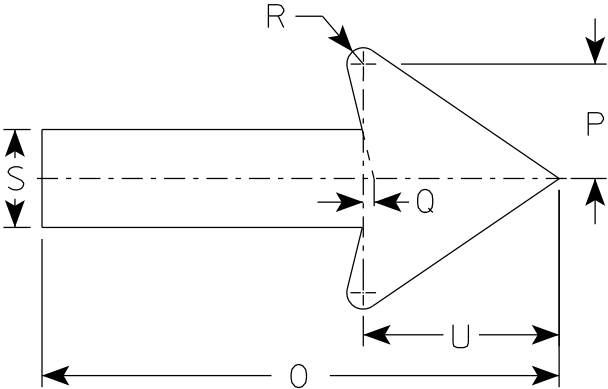


R6 - 2R

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. R6-2L same as R6-2R except arrow points to the left.

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
1	18	24	1 1/2	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	36	1 1/2	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 7/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

PROJECT NO:

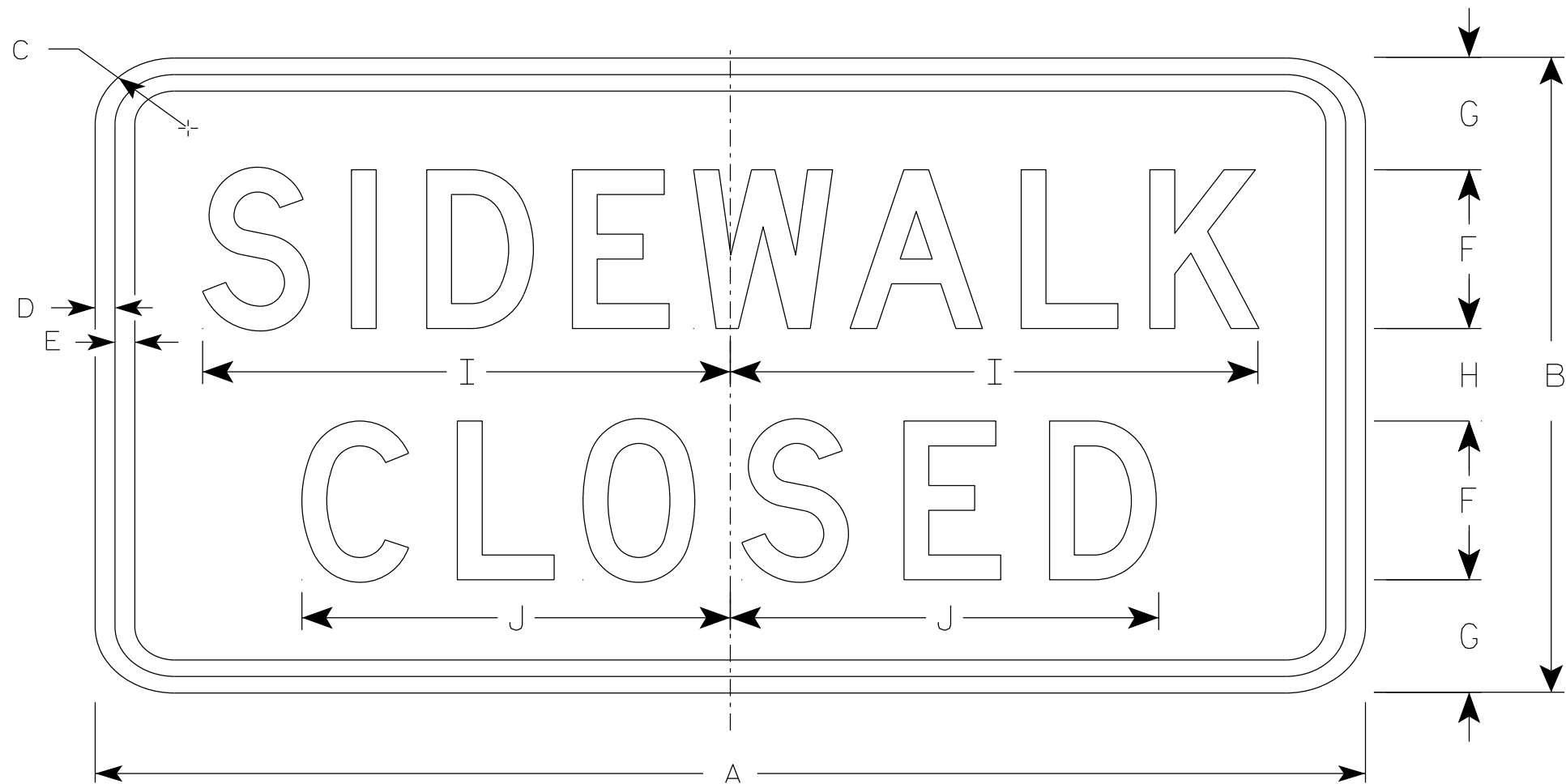
HWY:

COUNTY:

SHEET NO: 364

E

7



R9-9

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - C
- 4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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	24	12	1 1/2	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 1/2	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 1/2	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

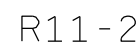
PROJECT NO:

HWY:

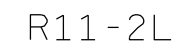
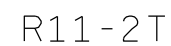
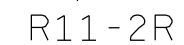
COUNTY:

SHEET NO: 365

E



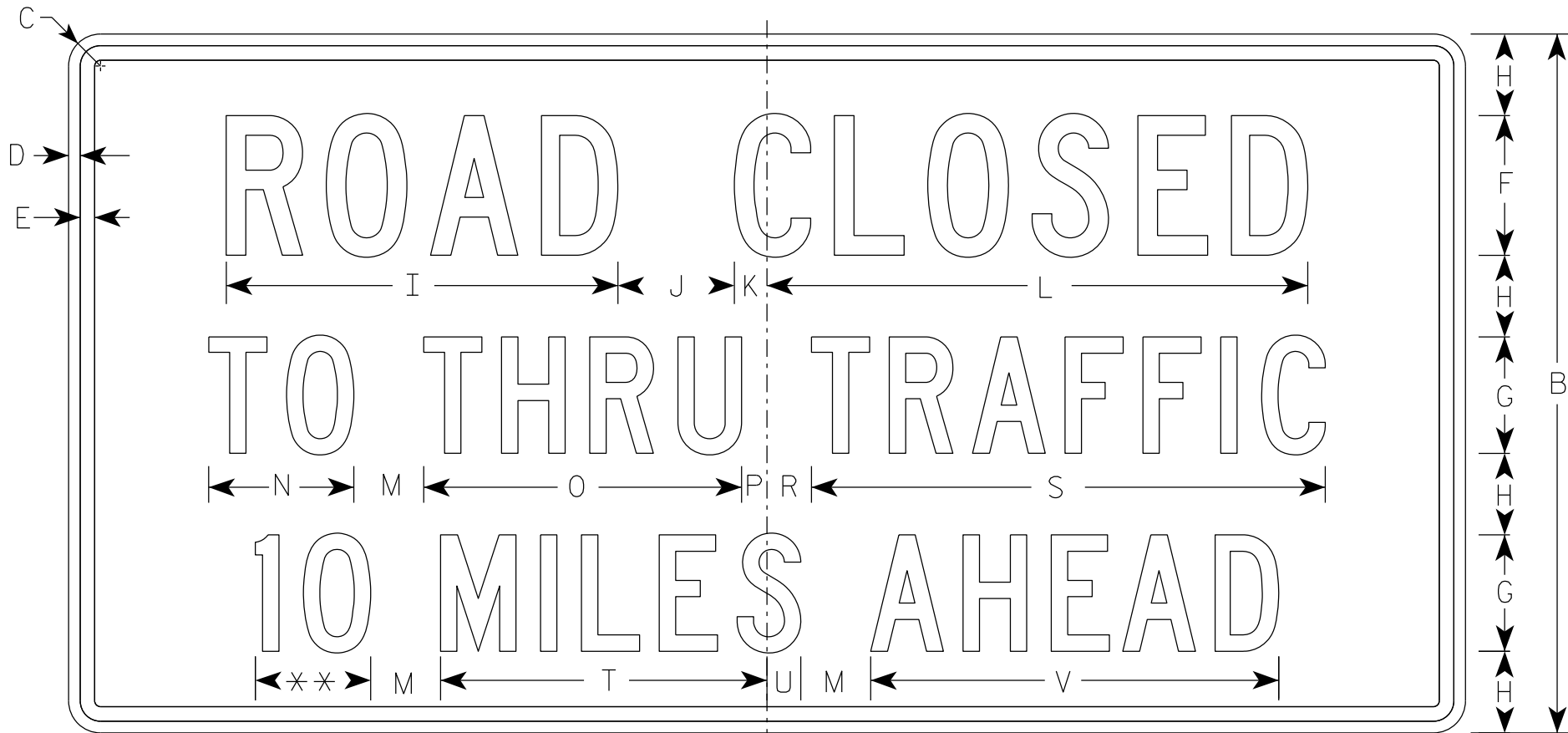
1. Sign is Type II - Type H Reflective
2. Color:
 - Background - White
 - Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



STANDARD SIGN	
R11-2	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<u>Matthew R. Rauch</u> for State Traffic Engineer
DATE <u>2/5/24</u>	PLATE NO. <u>R11-2.12</u>

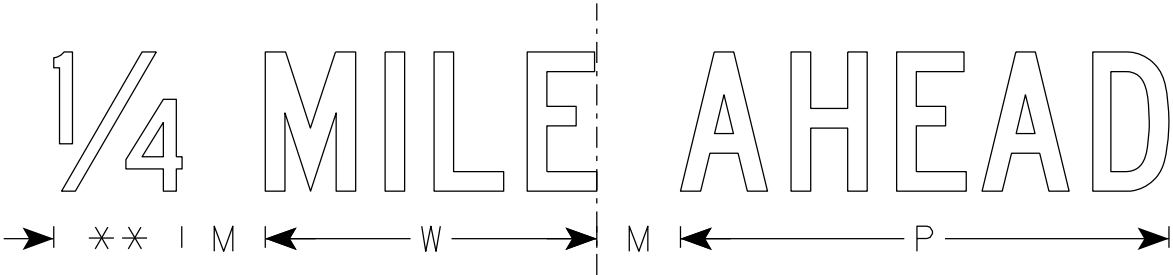
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 5-FEB 2024 2:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : \$\$.plot\$scale\$. 366 WISDOT/CAPDS SHEET 42

7



R11-3

** See Note 5



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
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 nearest quarter mile and optically adjust spacing to achieve proper balance.

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	36	18	1 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

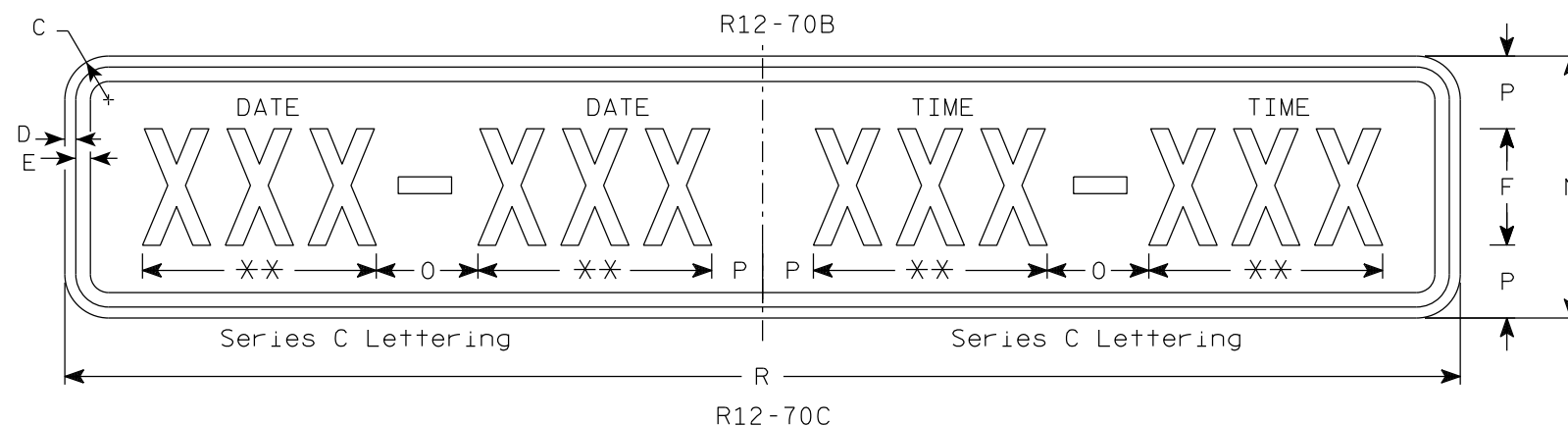
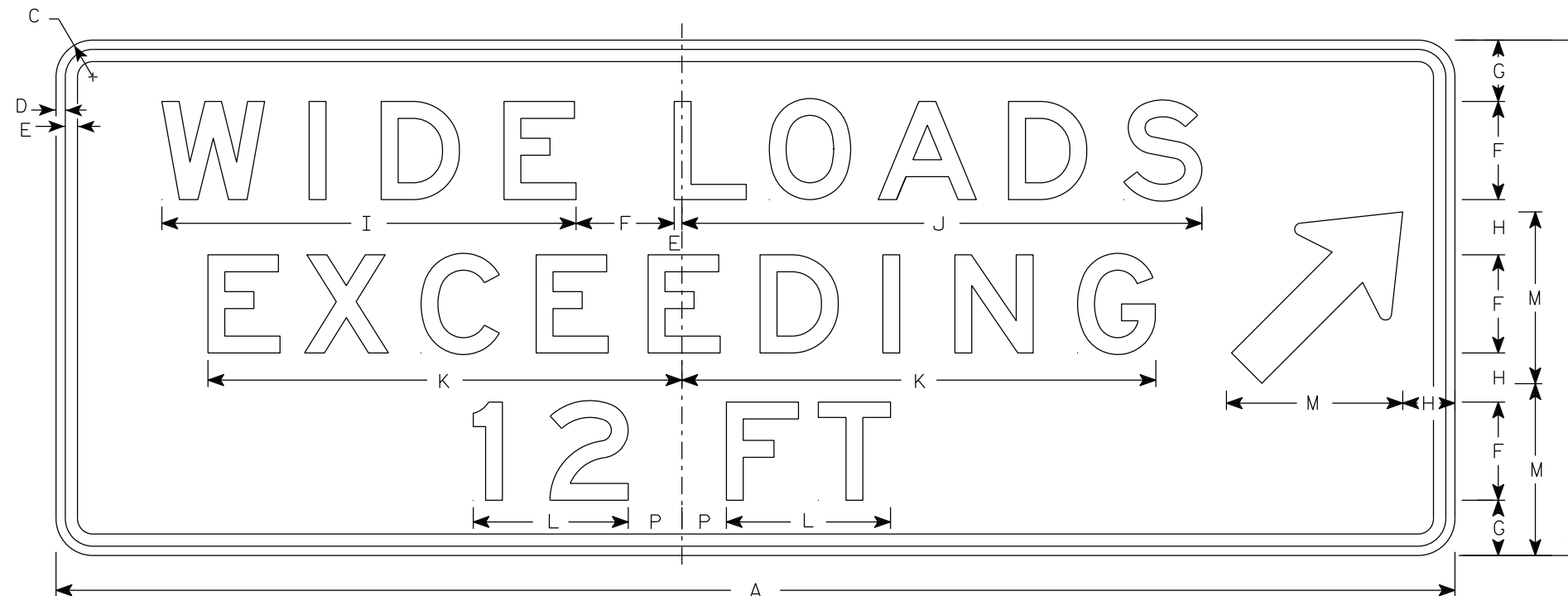
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

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



R12-70C																											R12-70	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	Area sq. ft.	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

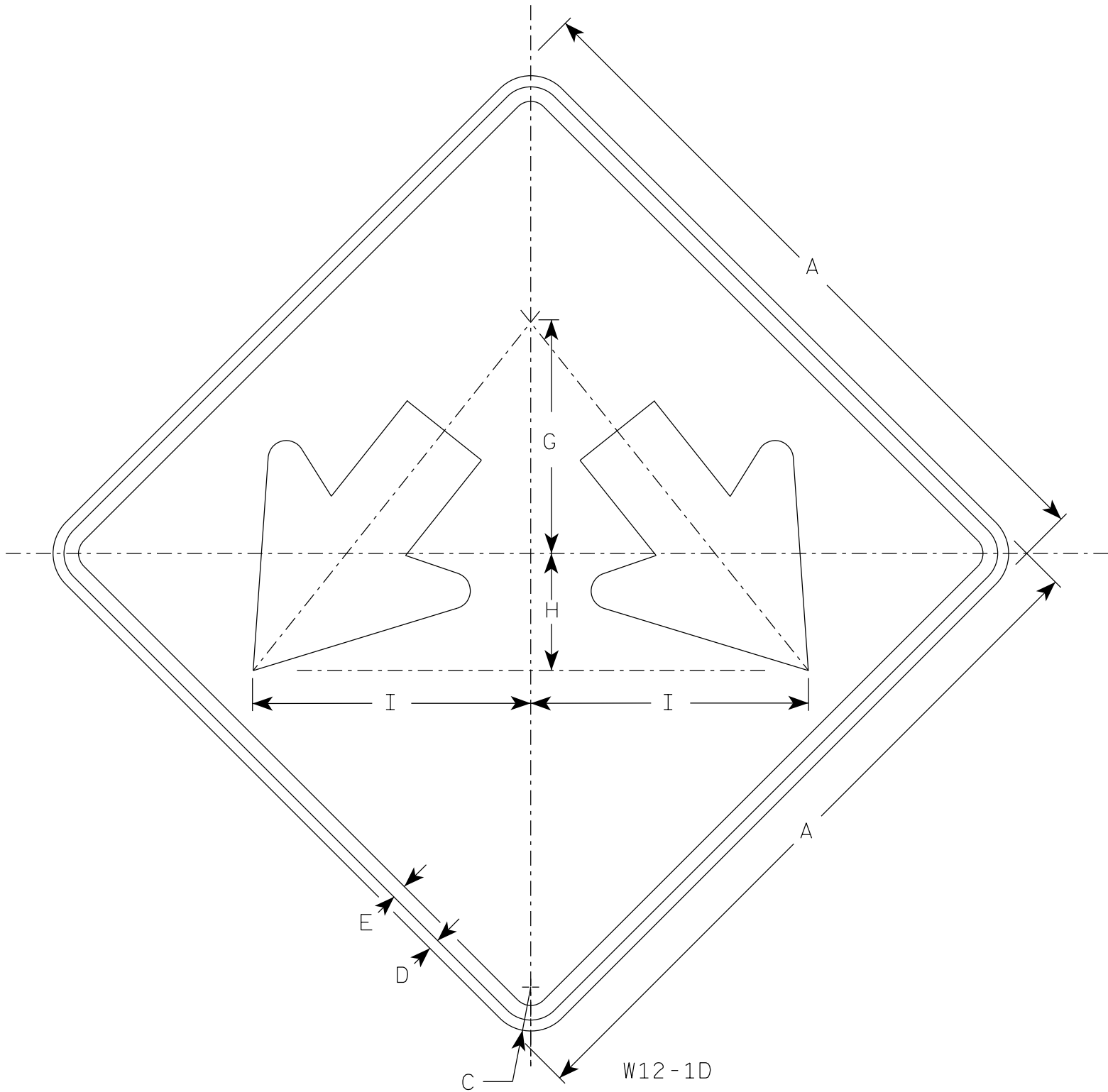
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/9/24 PLATE NO. R12-70B.4

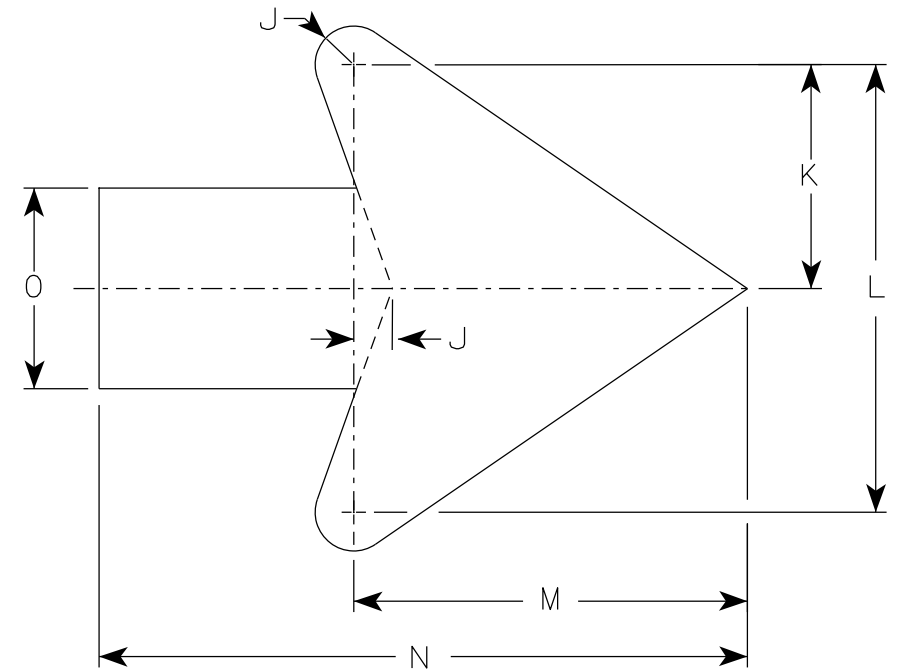
PROJECT NO: HWY: COUNTY: SHEET NO: 368 E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R1270B.dgn PLOT DATE : 9-FEB 2024 9:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDs SHEET 42



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
Background - Yellow
Message - Black

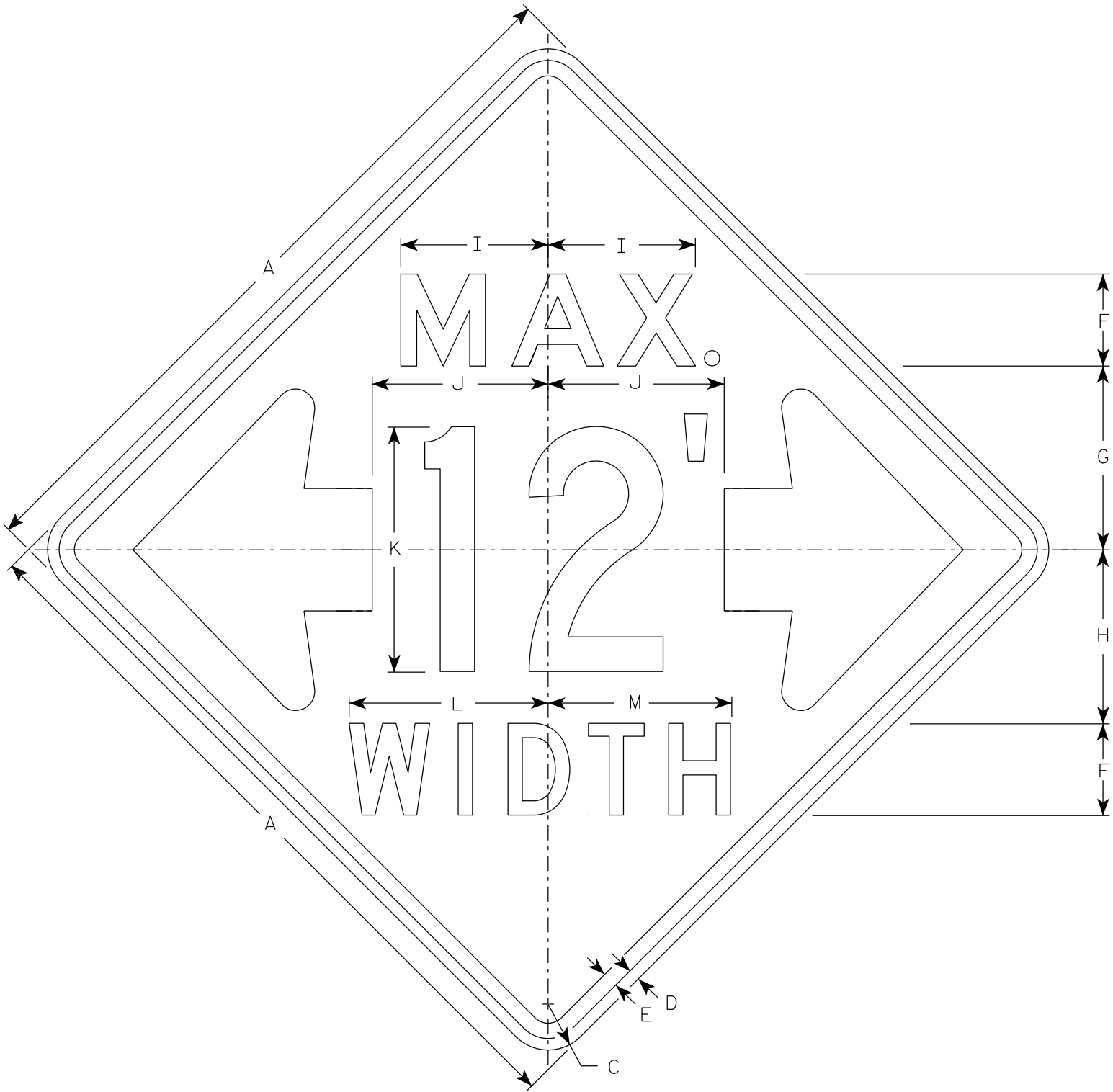


Arrow Detail

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																											
2S	24		1 1/2	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/2	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 7/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		2 1/4	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		3	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN W12-1D	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/30/2023	PLATE NO. W12-1D.16

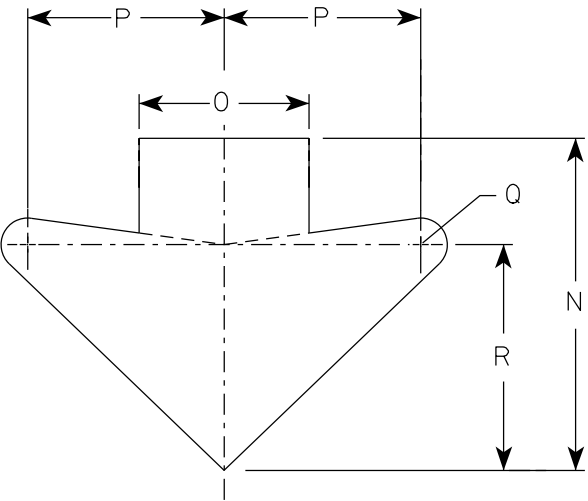
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 369	E
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W12-52

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

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	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
2M	48		3	¾	1	6	12	11 ⅜	9 ⅝	11 ½	16	13	12	15 ⅝	8	9 ¼	1 ¼	10 ⅝									16.0
3																											
4																											
5																											

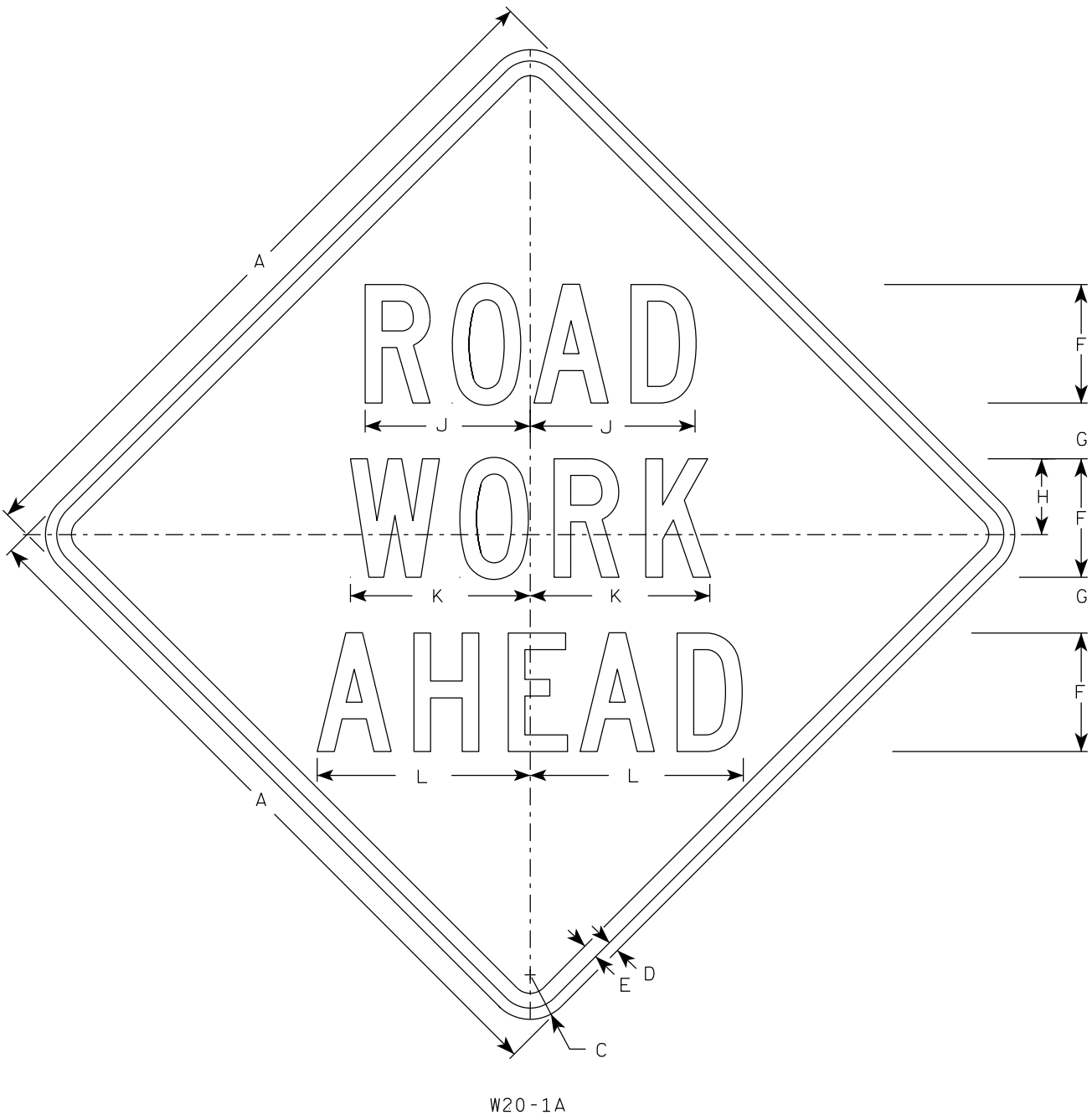
STANDARD SIGN

W12-52

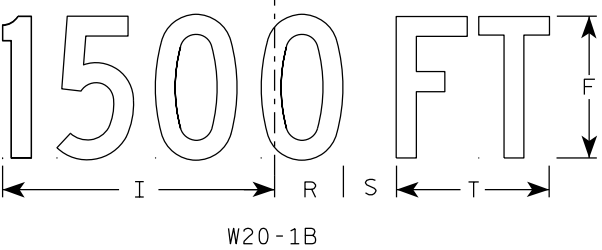
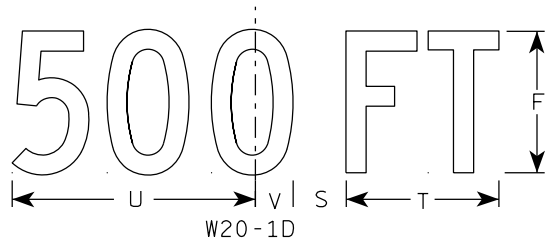
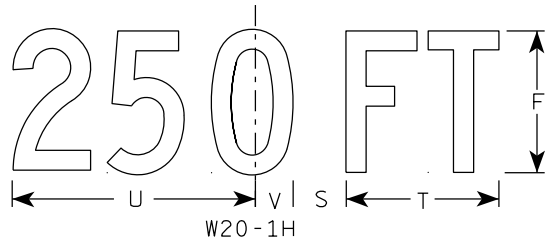
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8

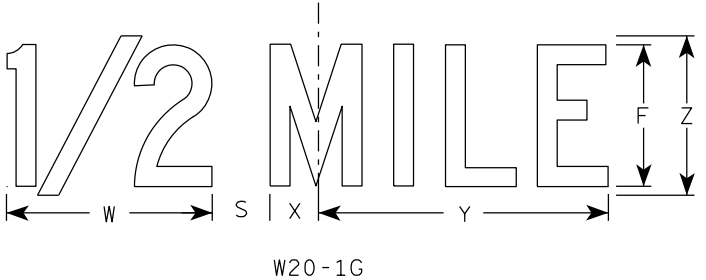


W20-1A

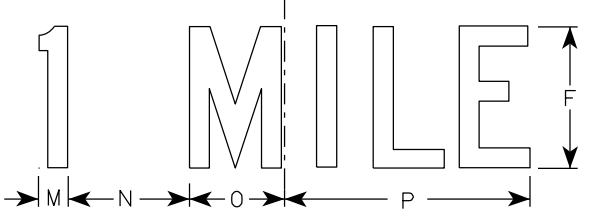


W20-1B

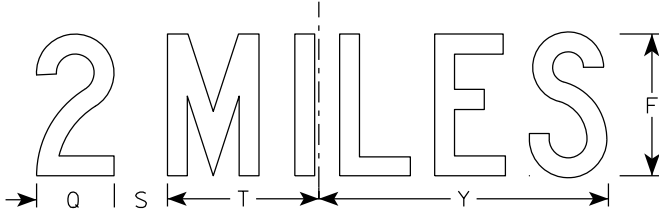
- NOTES
1. Sign is Type II - Type F Reflective
 2. Color:
Background - Orange
Message - Black
 3. Message Series - C
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



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

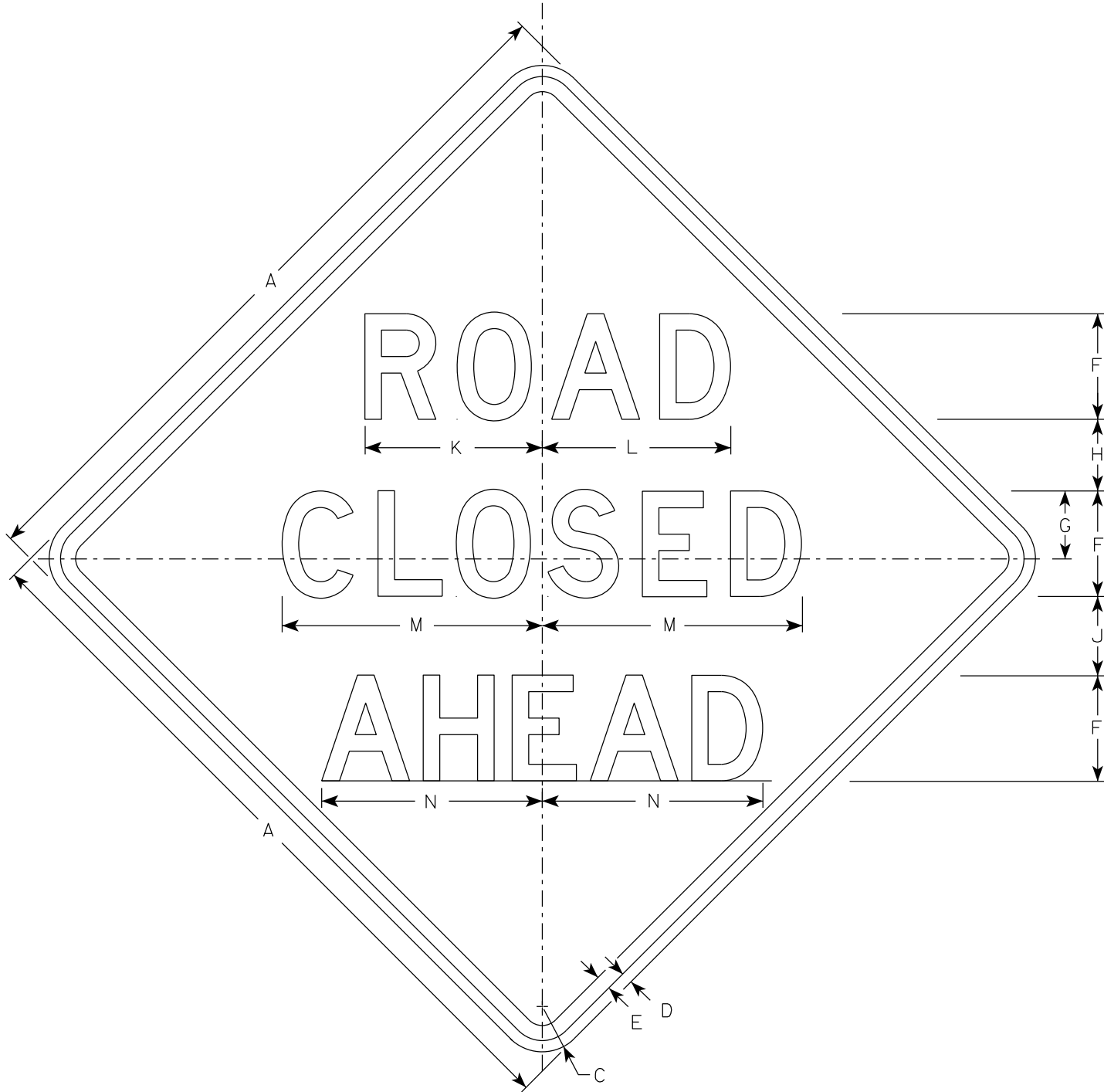
STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

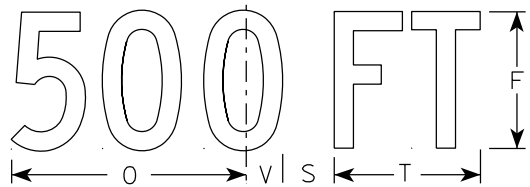
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-1.12

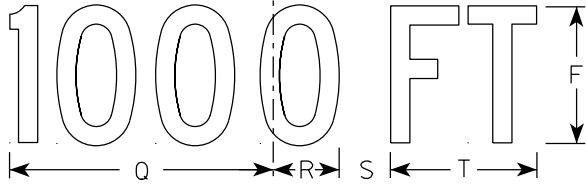
7



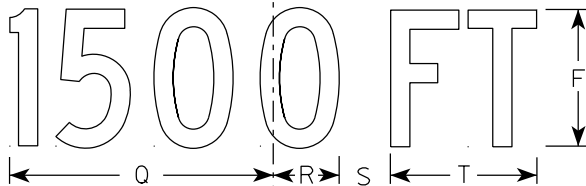
W20-3A



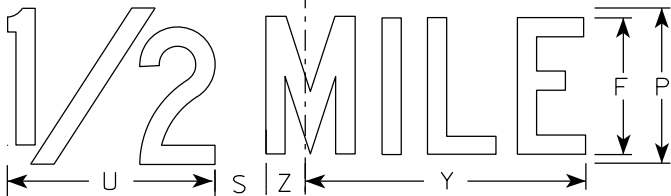
W20-3D



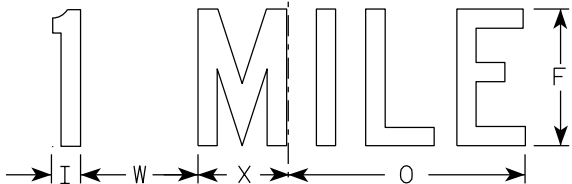
W20-3C



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.

7

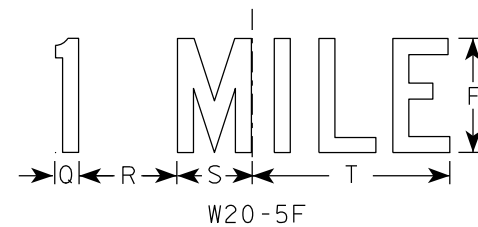
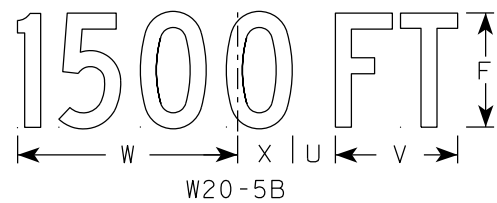
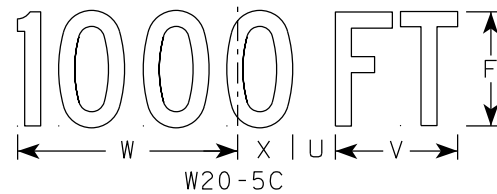
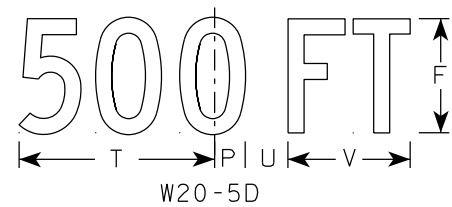
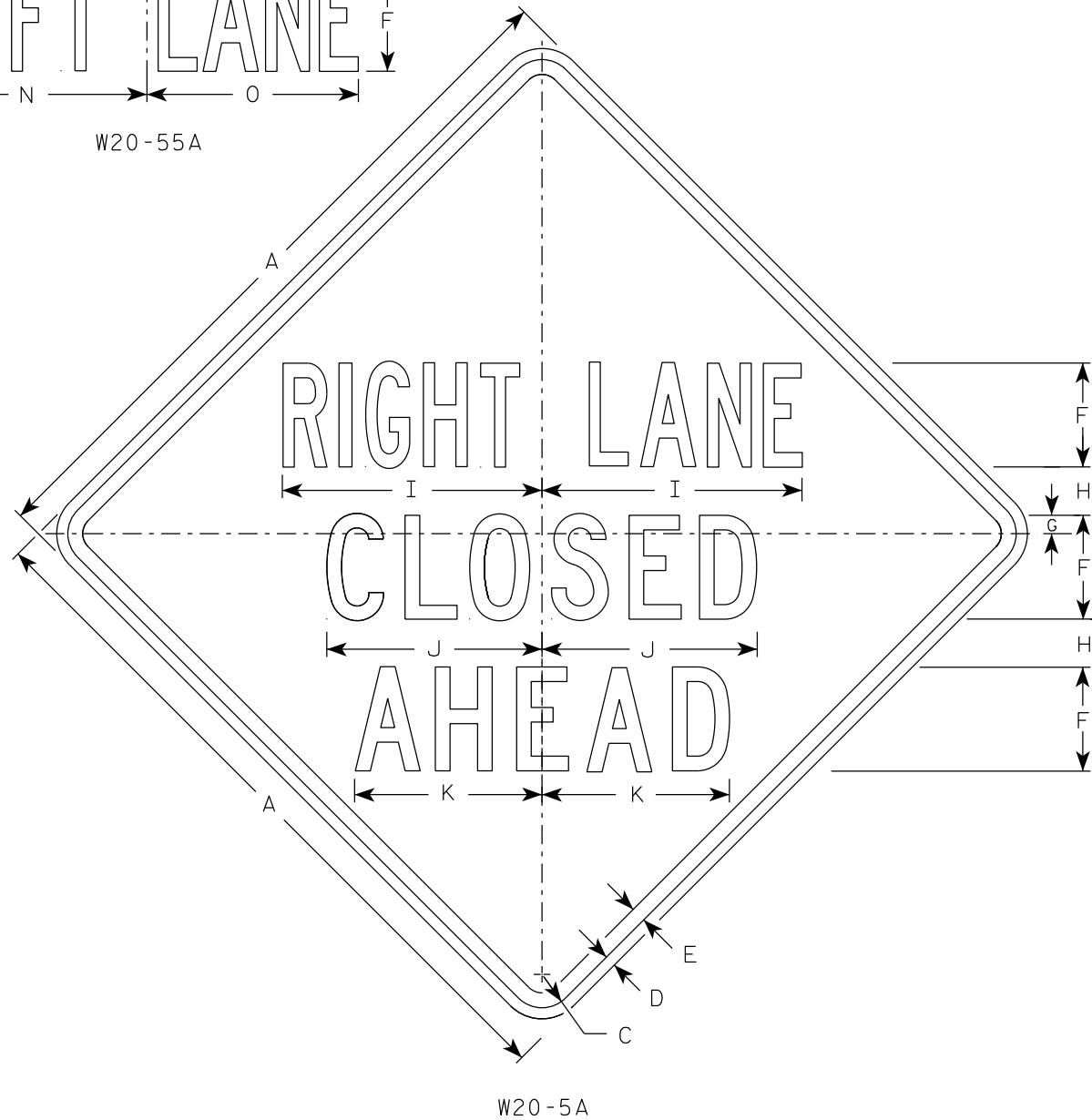
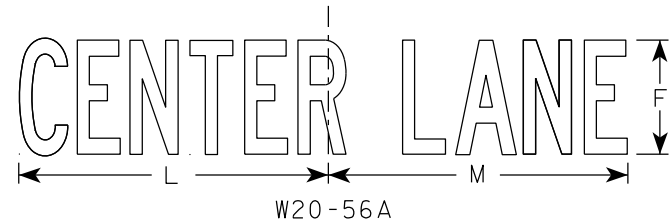
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 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



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. " _____ LANE" is Series B. All other copy is Series C.

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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	6	2 1/4	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 7/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	3	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

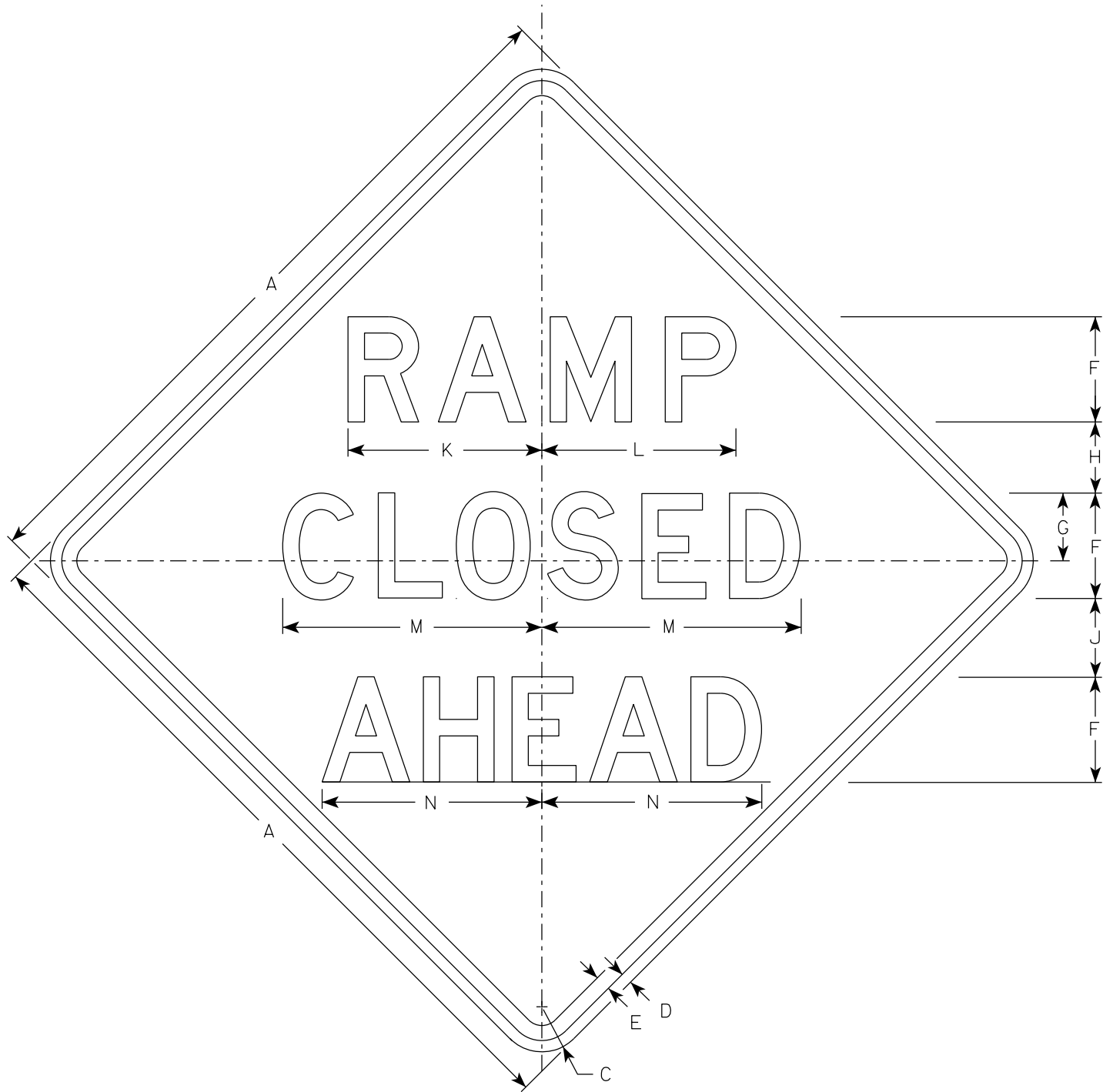
PROJECT NO:

HWY:

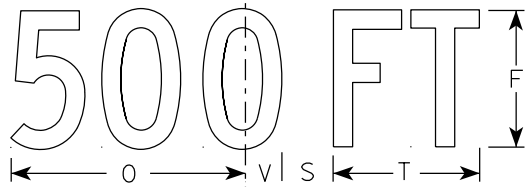
COUNTY:

SHEET NO: 373

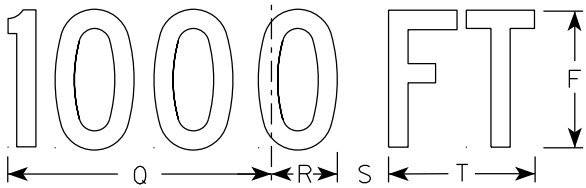
E



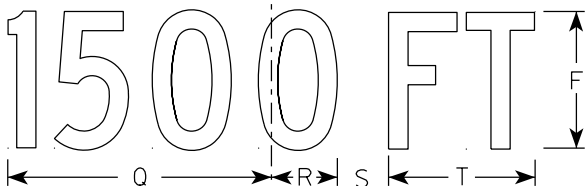
W20-53A



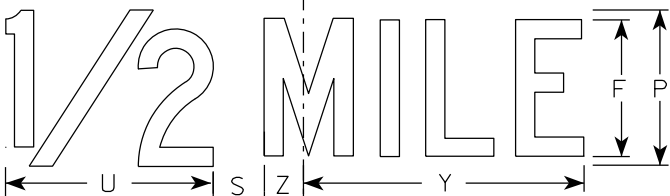
W20-53D



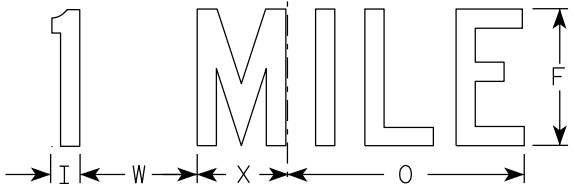
W20-53C



W20-53B



W20-53G



W20-53F

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.

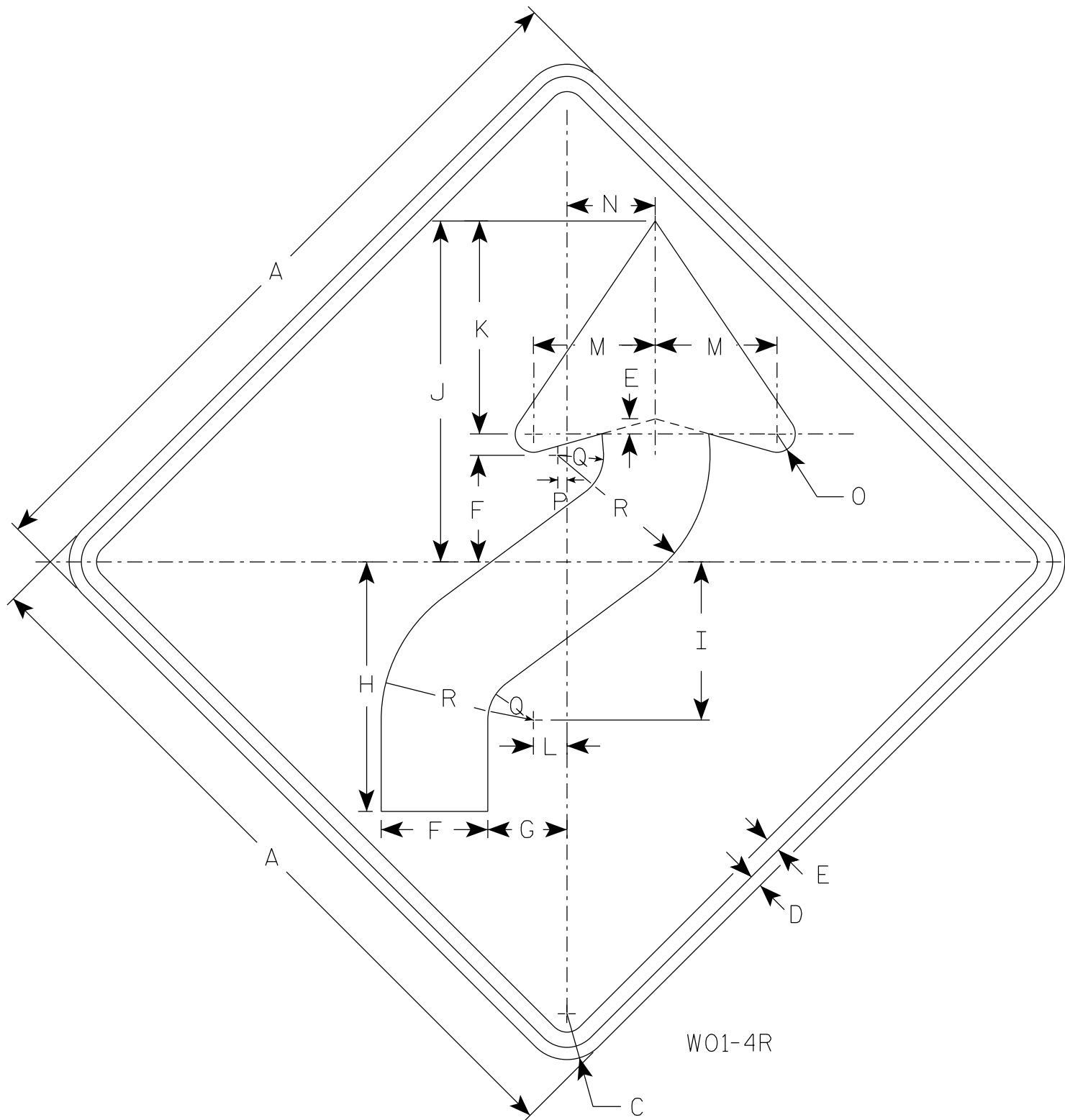
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 7/8	12 7/8	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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	12 7/8	12 7/8	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
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-53.2



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. W01-4L is the same as W01-4R 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	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		3	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

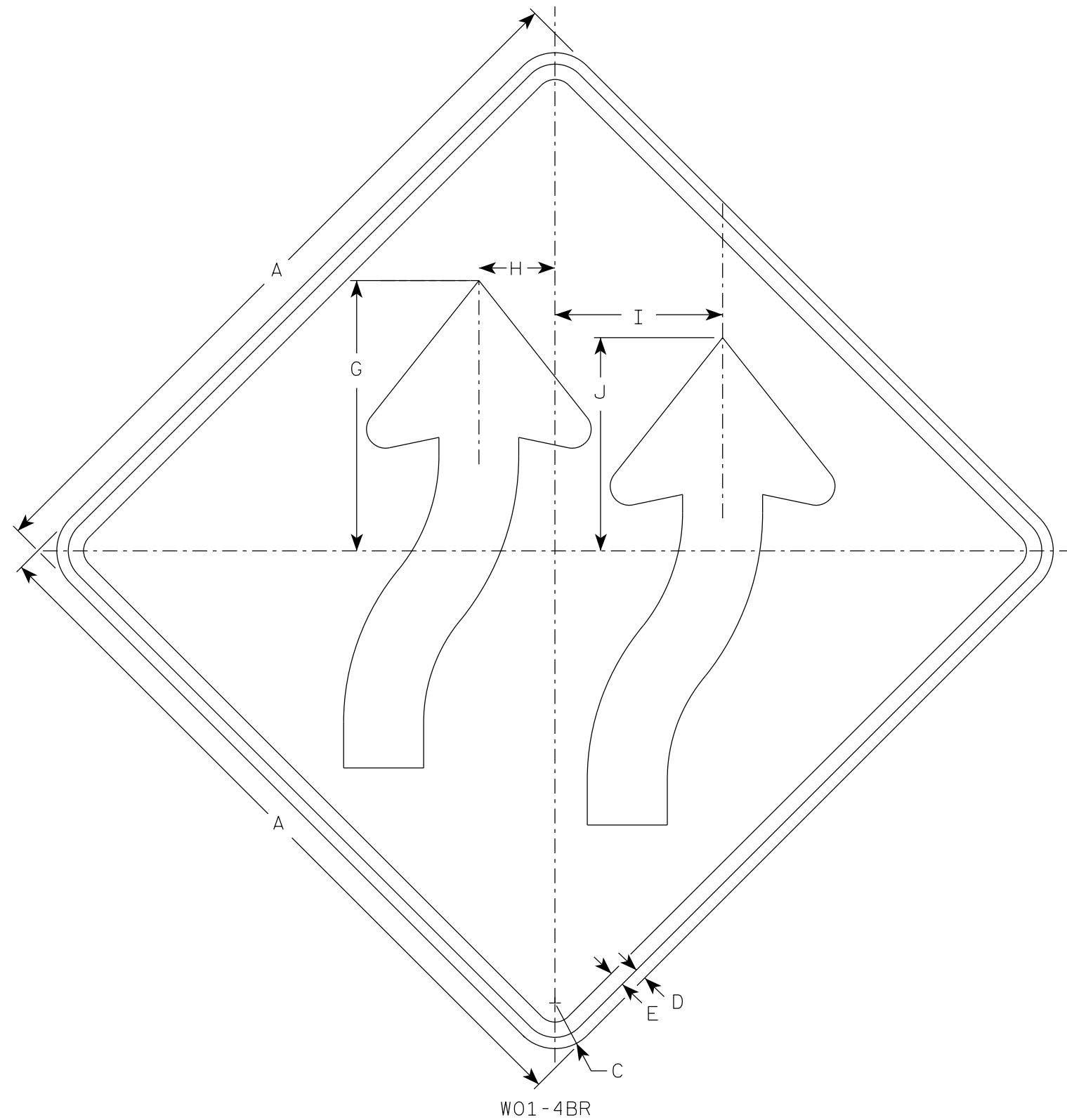
STANDARD SIGN
W01-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

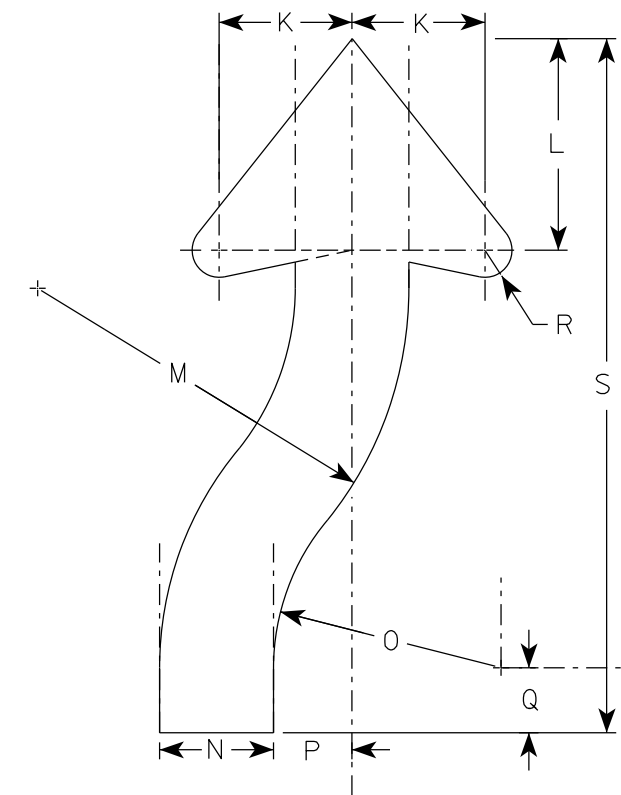
DATE 1/24/2024 PLATE NO. W01-4.2

7



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. W01-4BL is the same as W014-BR exsept arrows are reversed along the vertical centerline



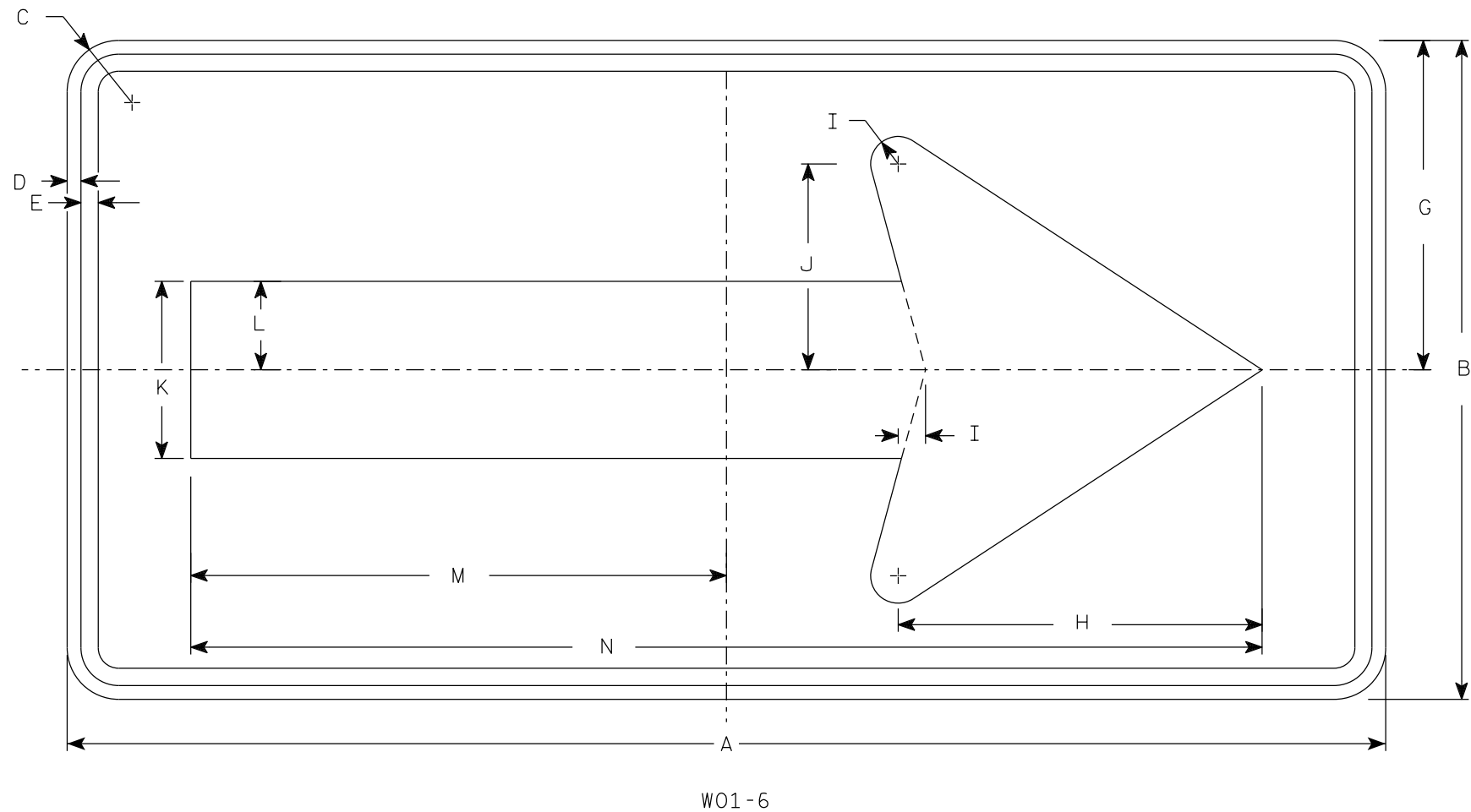
ARROW DETAIL

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		13 3/8	3 3/4	8 1/4	10 1/2	4 5/8	7 3/8	12 7/8	3 7/8	7 7/8	2 3/4	2 1/4	7/8	24								9.0
2S	48		3	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
2M	48		3	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
3	48		3	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
4	48		3	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0
5	48		3	3/4	1		17 3/4	5	11	14	6 1/8	9 3/4	17 1/8	5 1/4	10 1/2	3 5/8	3	1 1/4	32								16.0

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 376	E
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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.

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	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

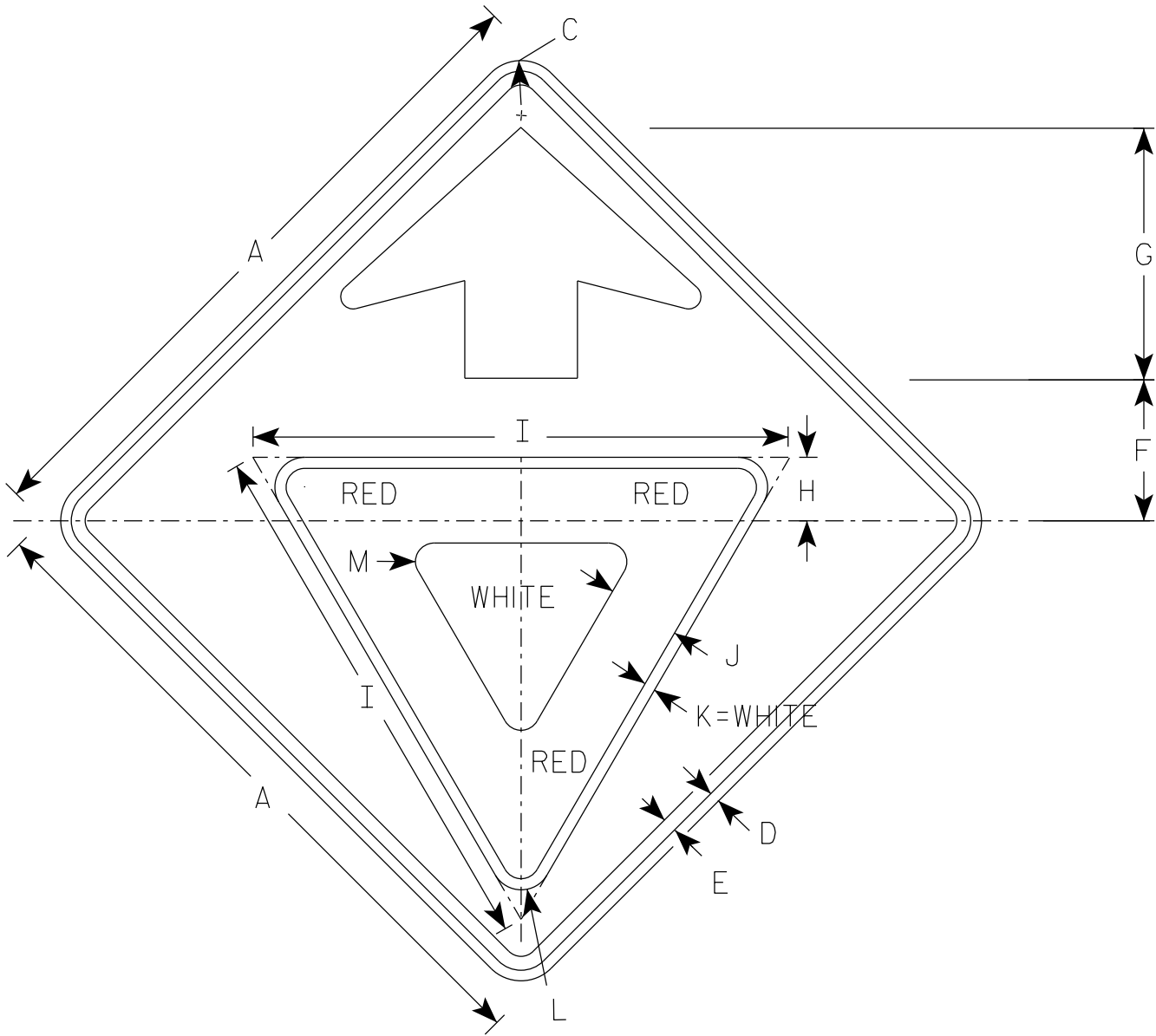
STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

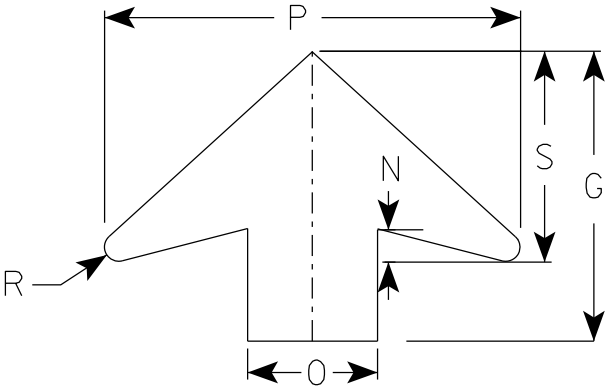
DATE 1/24/2024 PLATE NO. W01-6.2



W03-2

NOTES

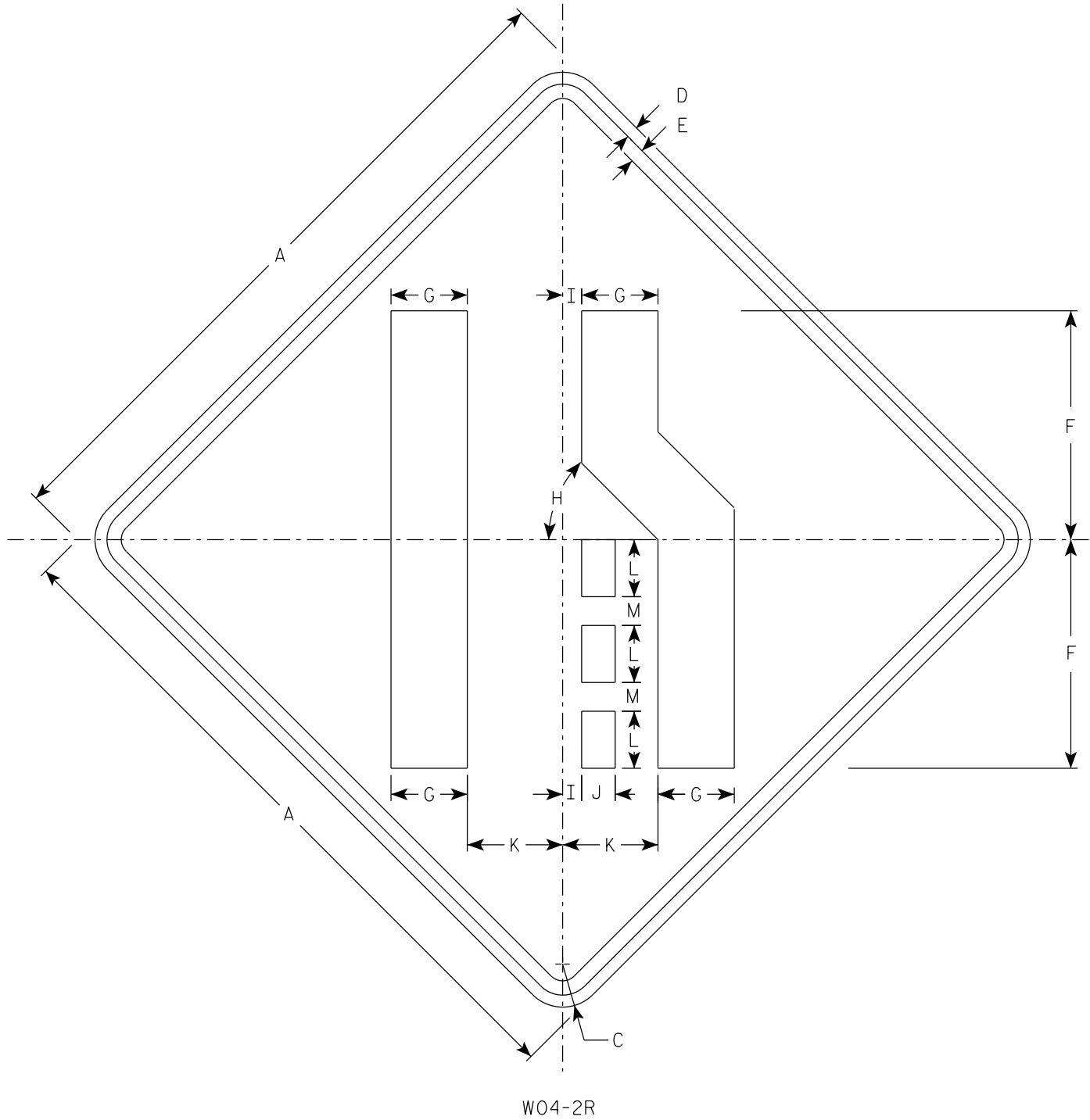
- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - ORANGE
 - Arrow & Border - BLACK
 - Yield Symbol - WHITE BORDER ON RED BACKGROUND



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

7

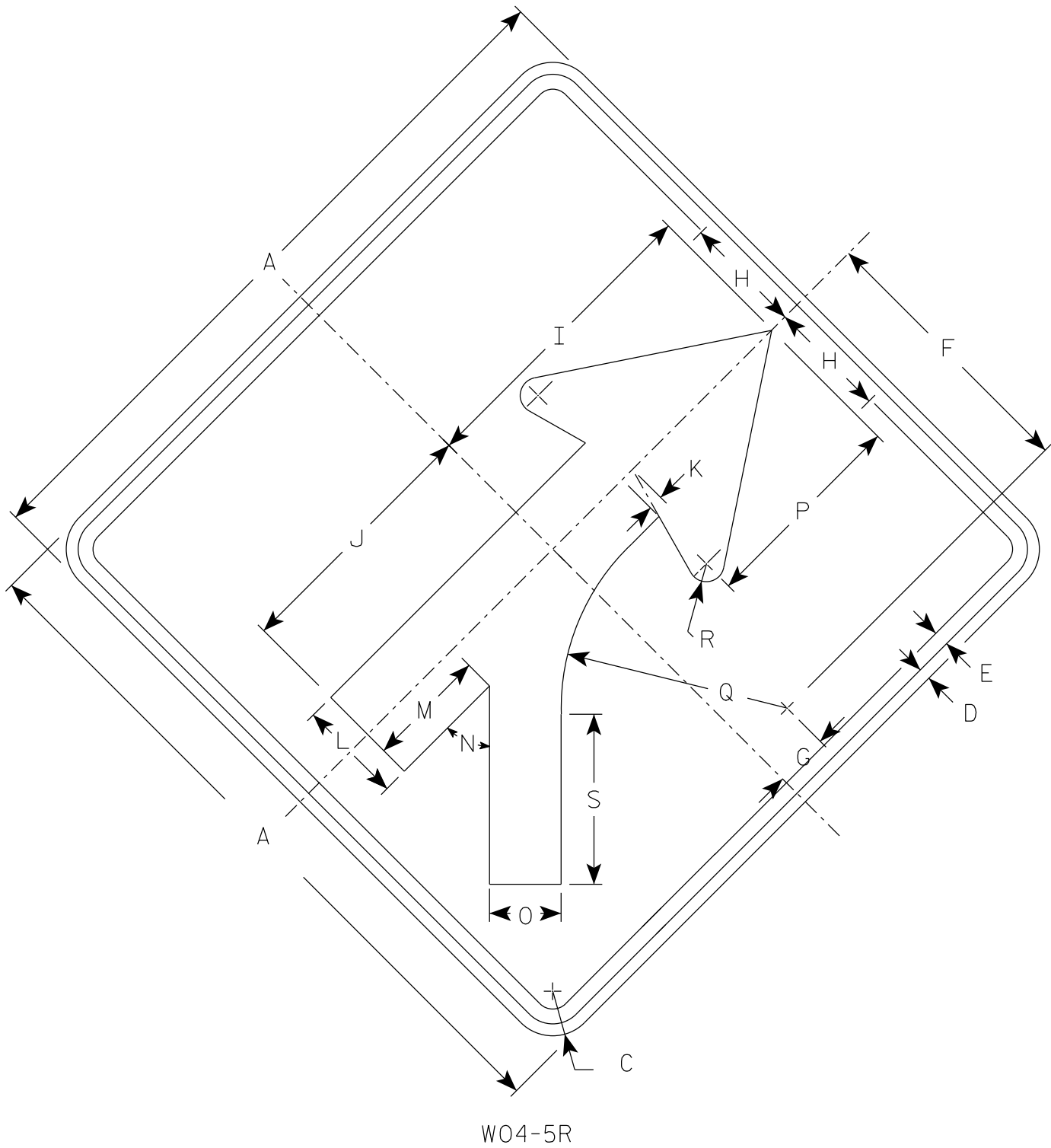


NOTES

- 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. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

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	36		2 1/4	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		3	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0



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. W04-5L is the same as W04-5R 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	3/4	5 1/4	6 1/8	45°	3 5/8	10 5/8	11 3/8	7/8	8 1/2								9.0
2S	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	1	7	8 1/8	45°	4 3/4	14 1/4	15 1/4	1 1/4	11 3/8								16.0
2M	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	1	7	8 1/8	45°	4 3/4	14 1/4	15 1/4	1 1/4	11 3/8								16.0
3	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	1	7	8 1/8	45°	4 3/4	14 1/4	15 1/4	1 1/4	11 3/8								16.0
4	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	1	7	8 1/8	45°	4 3/4	14 1/4	15 1/4	1 1/4	11 3/8								16.0
5	48		3	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	1	7	8 1/8	45°	4 3/4	14 1/4	15 1/4	1 1/4	11 3/8								16.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 380

E

STANDARD SIGN

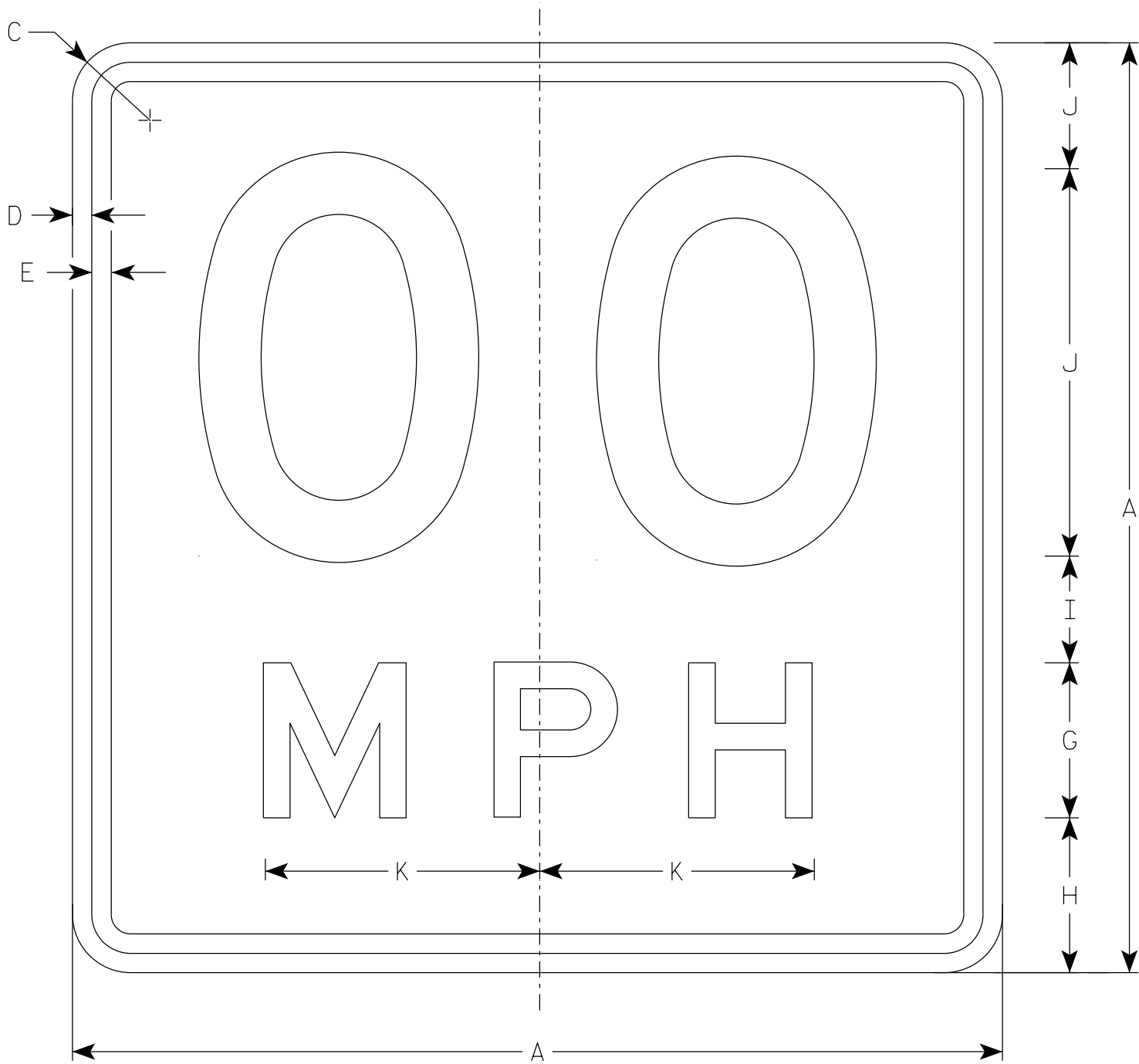
W04-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/25/2024 PLATE NO. W04-5.3

7



W013-1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - See Note 6
- 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 and optically space about centerline to achieve proper balance.
- 6. Line 1 is Series D
Line 2 is Series E

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	24		1 1/2	3/8	1/2	10	4	4	2 3/4	3 1/4	7 1/8																4.0
2S	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
2M	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
3	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
4	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0
5	36		2 1/4	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.0

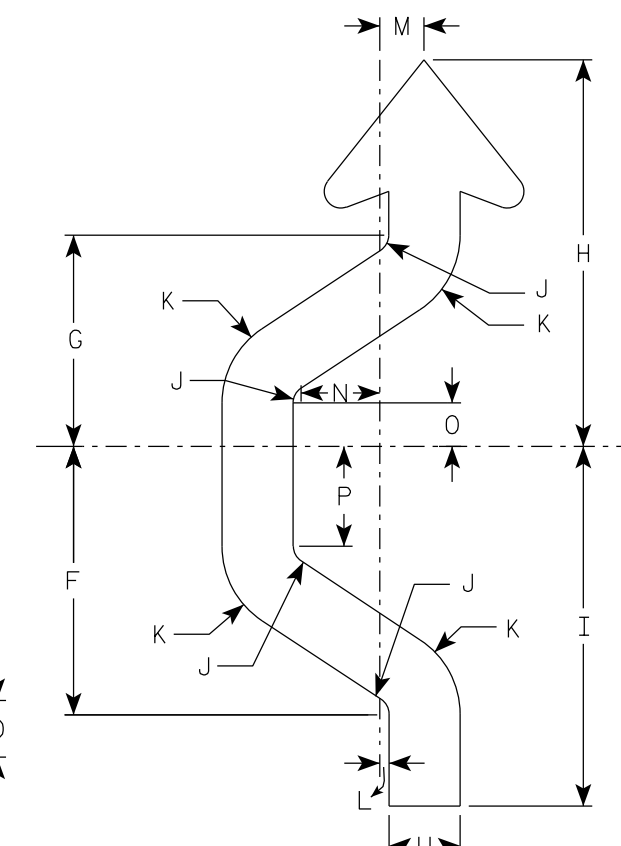
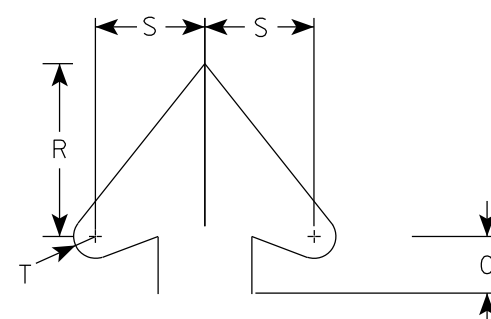
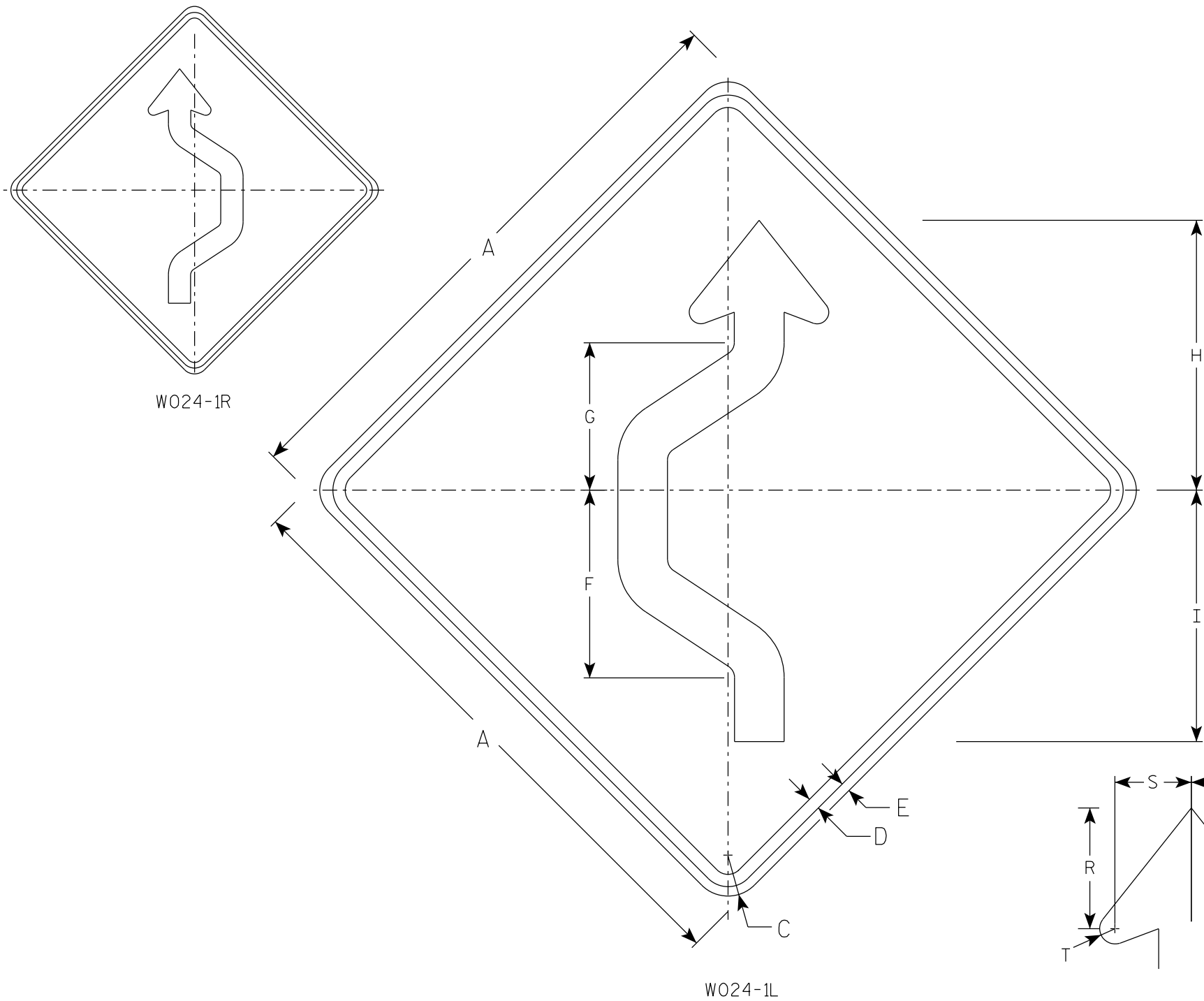
STANDARD SIGN

W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W013-1.2



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. W024-1R is the same as W024-1L except 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	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9.0
2S	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
2M	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
3	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
4	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0
5	48		3	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16.0

STANDARD SIGN

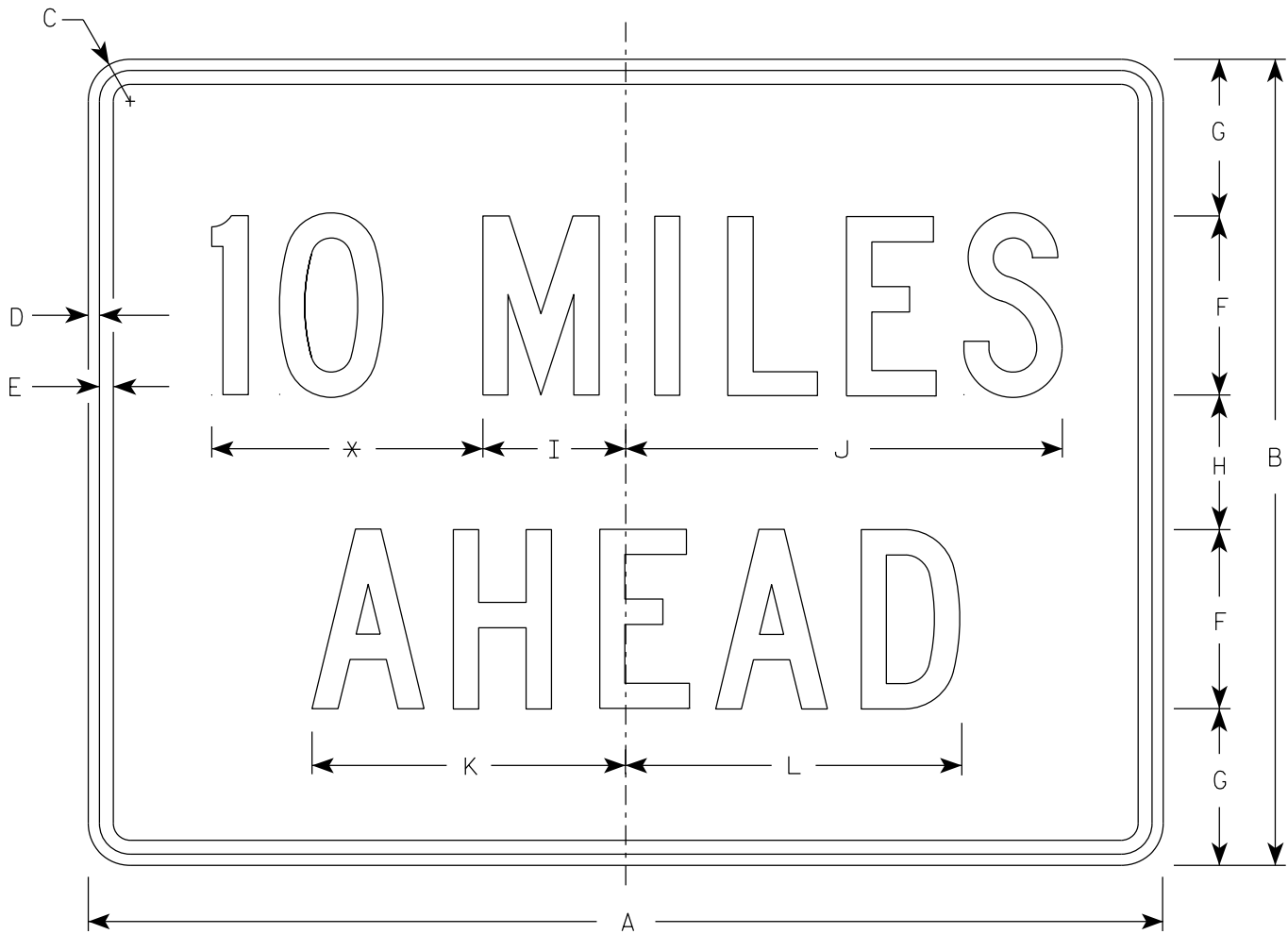
W024-1 L & R

WISCONSIN DEPT OF TRANSPORTATION

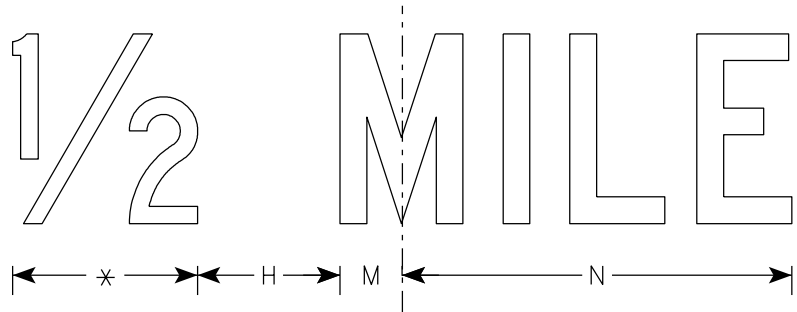
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W024-1.2

7



W057-52



* See note 5

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.

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	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

EARTHWORK DETAIL - RAMP AD

STATION	AREA (SF)		INCREM VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
	NOTE 1		NOTE 1		NOTE 1		NOTE 2
191+26	112.00	0.00	0	0	0	0	0
191+50	57.00	0.00	75	0	75	0	75
191+75	62.00	0.00	55	0	130	0	130
192+00	90.00	0.00	70	0	200	0	200

EARTHWORK DETAIL - RAMP AC

STATION	AREA (SF)		INCREM VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
	NOTE 1		NOTE 1		NOTE 1		NOTE 2
189+25	89.00	1.00	0	0	0	0	0
189+50	69.00	1.00	73	1	73	1	72
189+75	56.00	0.00	58	0	131	1	130
190+00	63.00	5.00	55	2	186	4	182
190+25	64.00	8.00	59	6	245	11	234

EARTHWORK DETAIL - STH 34

STATION	AREA (SF)		INCREM VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
	NOTE 1		NOTE 1		NOTE 1		NOTE 2
13+34	100.00	0.00	0	0	0	0	0
13+50	102.00	0.00	60	0	60	0	60
13+75	81.00	7.00	85	3	145	4	141
14+00	105.00	1.00	86	4	231	9	222
14+25	146.00	0.00	116	0	347	9	338
14+50	115.00	0.00	121	0	468	9	459
14+75	151.00	0.00	123	0	591	9	582
15+00	118.00	0.00	125	0	716	9	707
15+25	102.00	0.00	102	0	818	9	809
15+50	98.00	0.00	93	0	911	9	902
15+75	99.00	0.00	91	0	1,002	9	993
16+00	100.00	0.00	92	0	1,094	9	1,085
16+07	103.00	0.00	26	0	1,120	9	1,111

NOTES:	
1 - CUT	CUT INCLUDES UNUSABLE CONCRETE PAVEMENT MATERIAL
2 - MASS	EARTHWORK DETAIL MASS ORDINATE DOES NOT ACCOUNT FOR UNUSABLE CONCRETE PAVEMENT MATERIAL. EQUALS: CUT - EXPANDED FILL

EARTHWORK DETAIL - RAMP CB

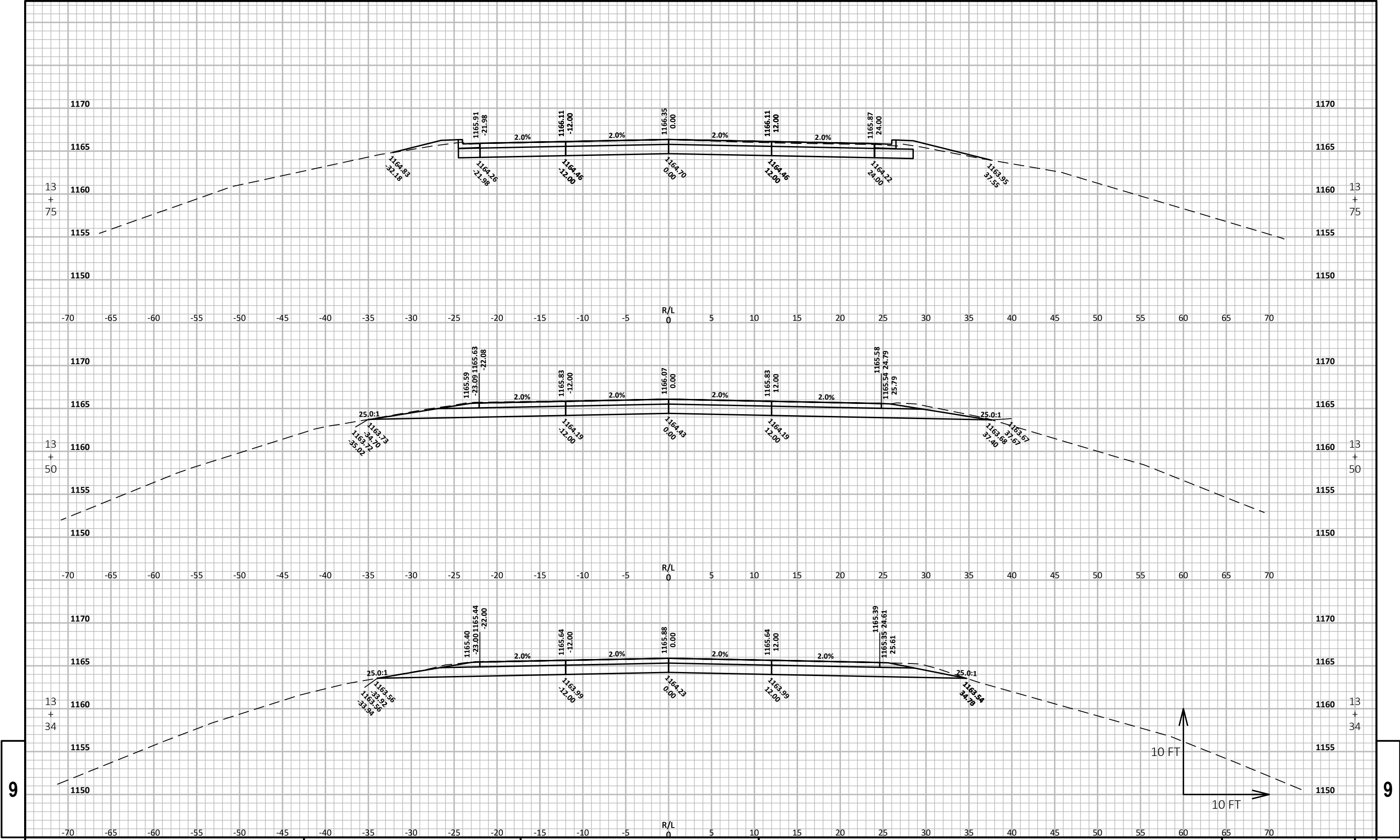
STATION	AREA (SF)		INCREM VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
	NOTE 1		NOTE 1		NOTE 1		NOTE 2
496+75	56.00	0.00	0	0	0	0	0
497+00	56.00	3.00	52	1	52	1	51
497+25	54.00	3.00	51	3	103	5	98
497+50	56.00	1.00	51	2	154	8	147
497+80	56.00	1.00	62	1	216	9	207

EARTHWORK DETAIL - MAPLE RIDGE TRAIL

STATION	AREA (SF)		INCREM VOL (CY) (UNADJ)		CUMULATIVE VOL (CY)		
	CUT	FILL	CUT	FILL	CUT 1.00	EXPANDED FILL 1.25	MASS ORDINATE
	NOTE 1		NOTE 1		NOTE 1		NOTE 2
6+08	7.00	1.00	0	0	0	0	0
6+25	3.00	23.00	3	8	3	10	-7
6+50	6.00	3.00	4	12	7	25	-18
6+58	7.00	0.00	2	0	9	25	-16

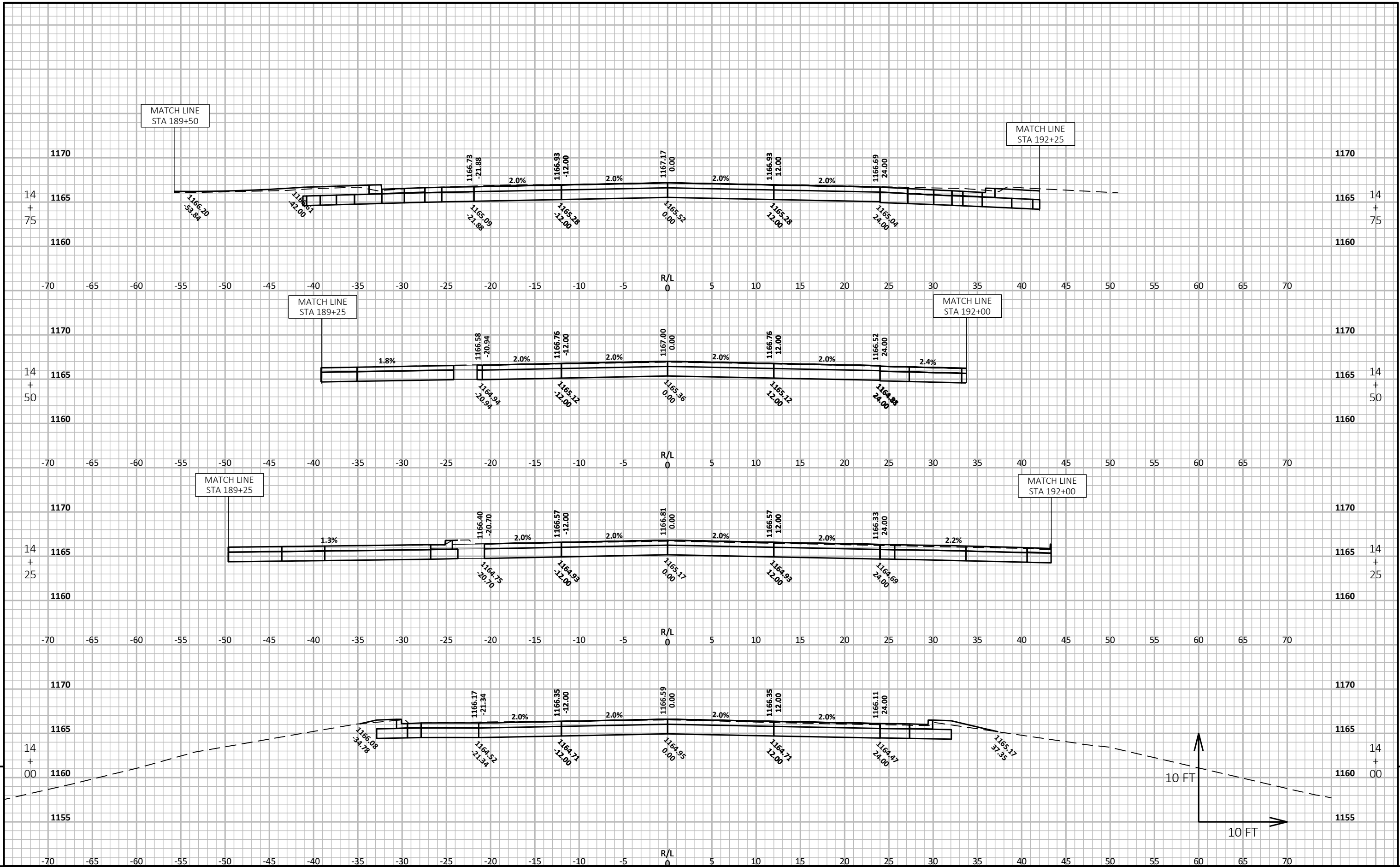
NOTE: USE WASTE FROM RAMP CB EXCAVATION FOR BORROW

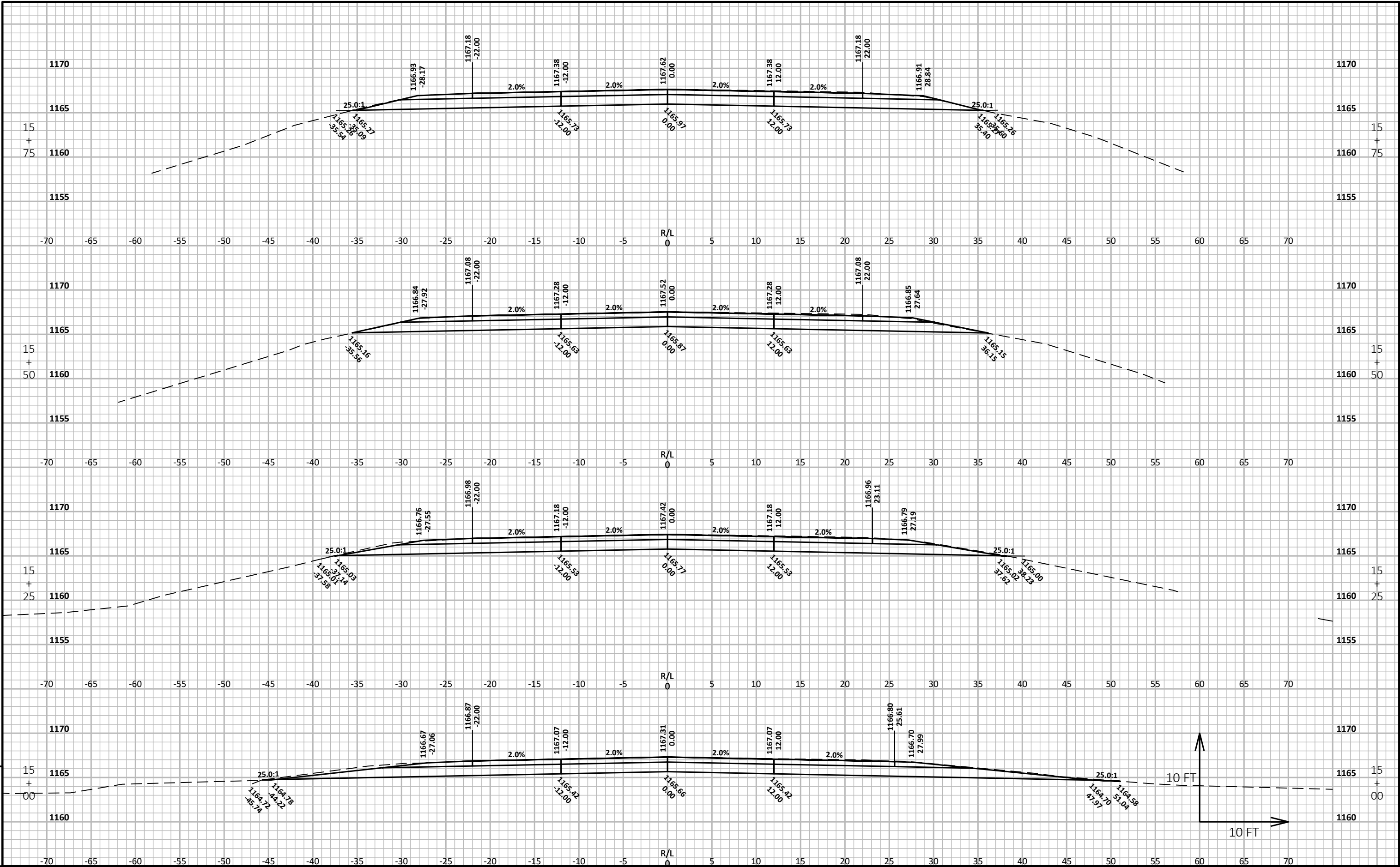
NOTES:	
1 - CUT	CUT INCLUDES UNUSABLE CONCRETE PAVEMENT MATERIAL
2 - MASS	EARTHWORK DETAIL MASS ORDINATE DOES NOT ACCOUNT FOR UNUSABLE CONCRETE PAVEMENT MATERIAL. EQUALS: CUT - EXPANDED FILL

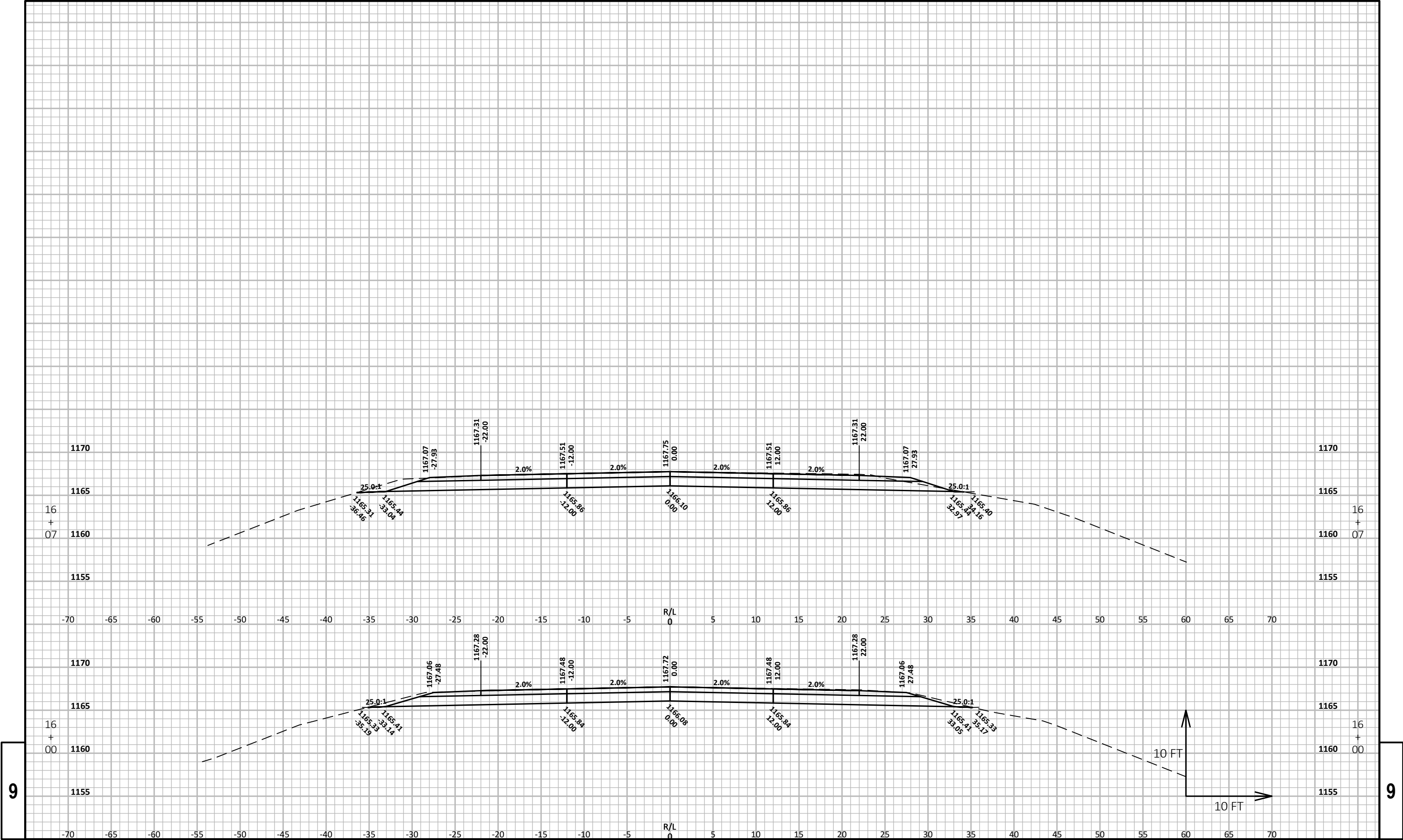


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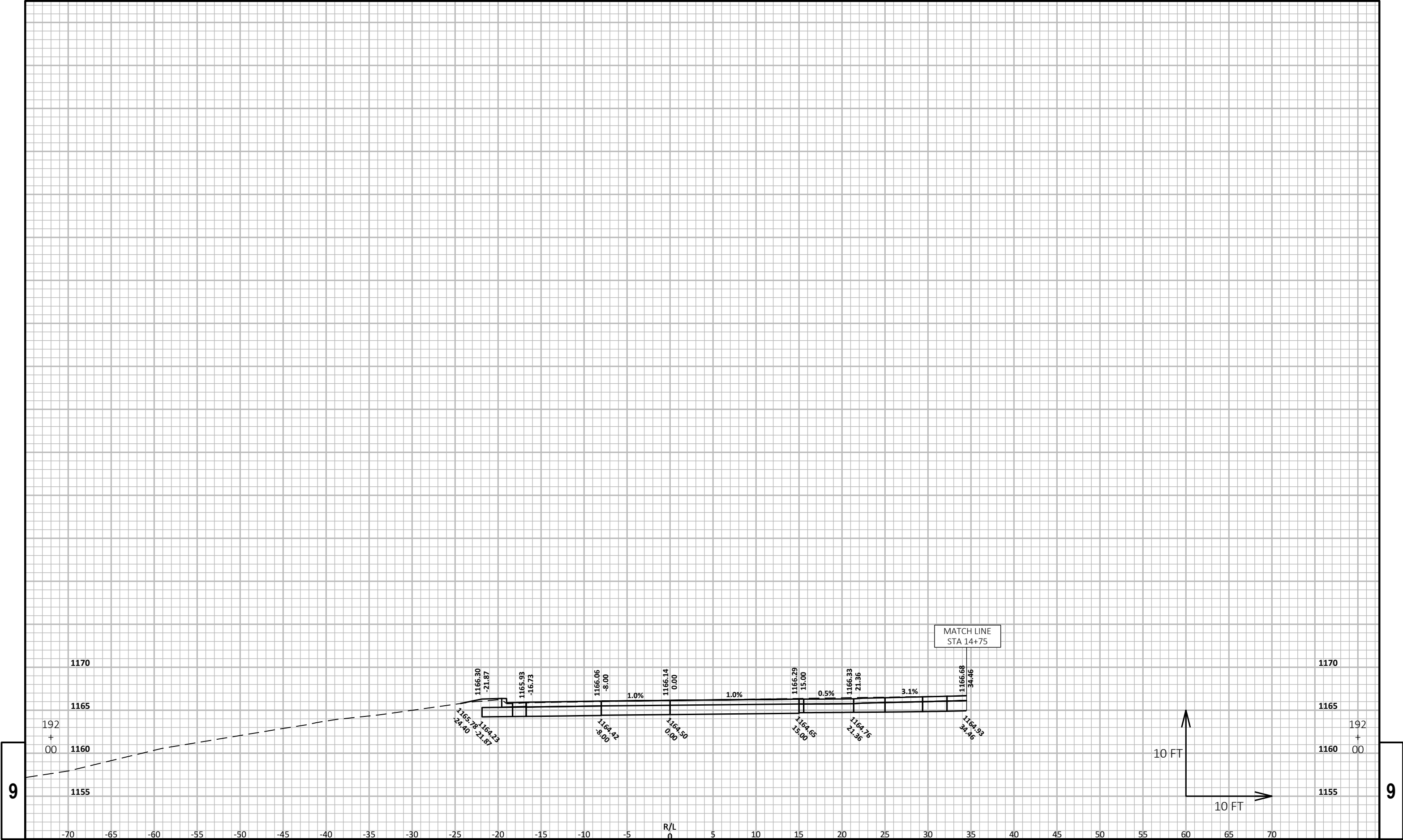


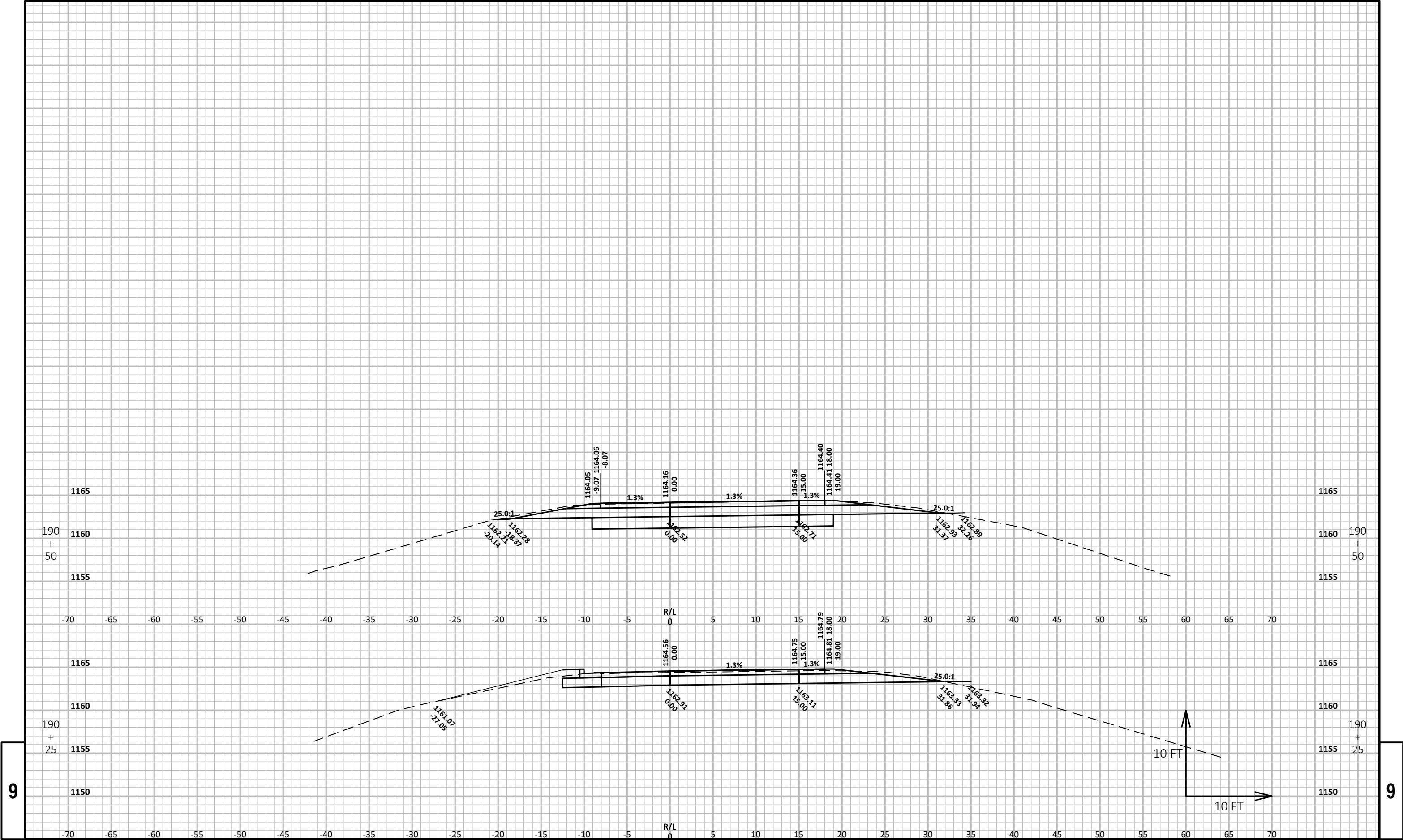




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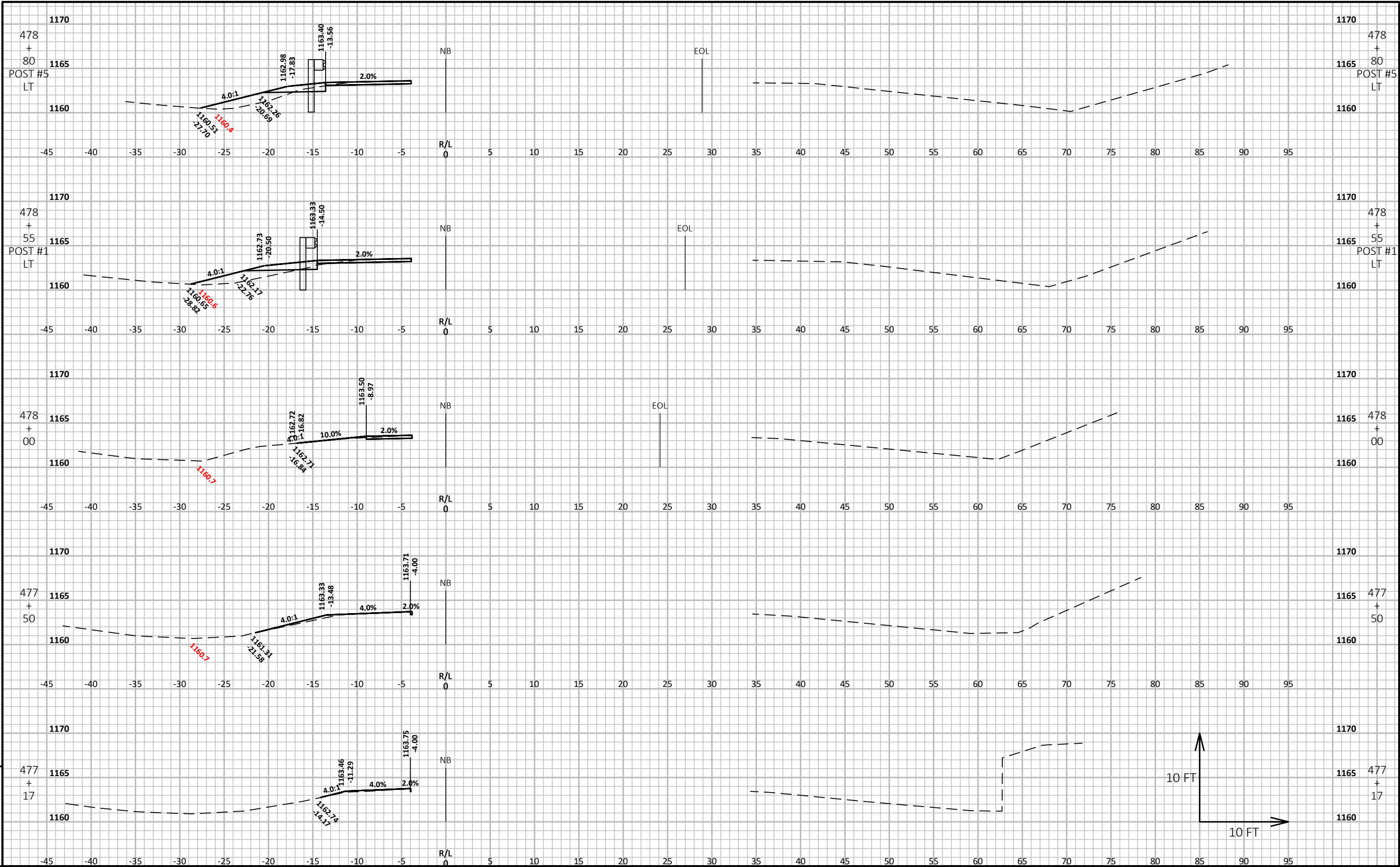
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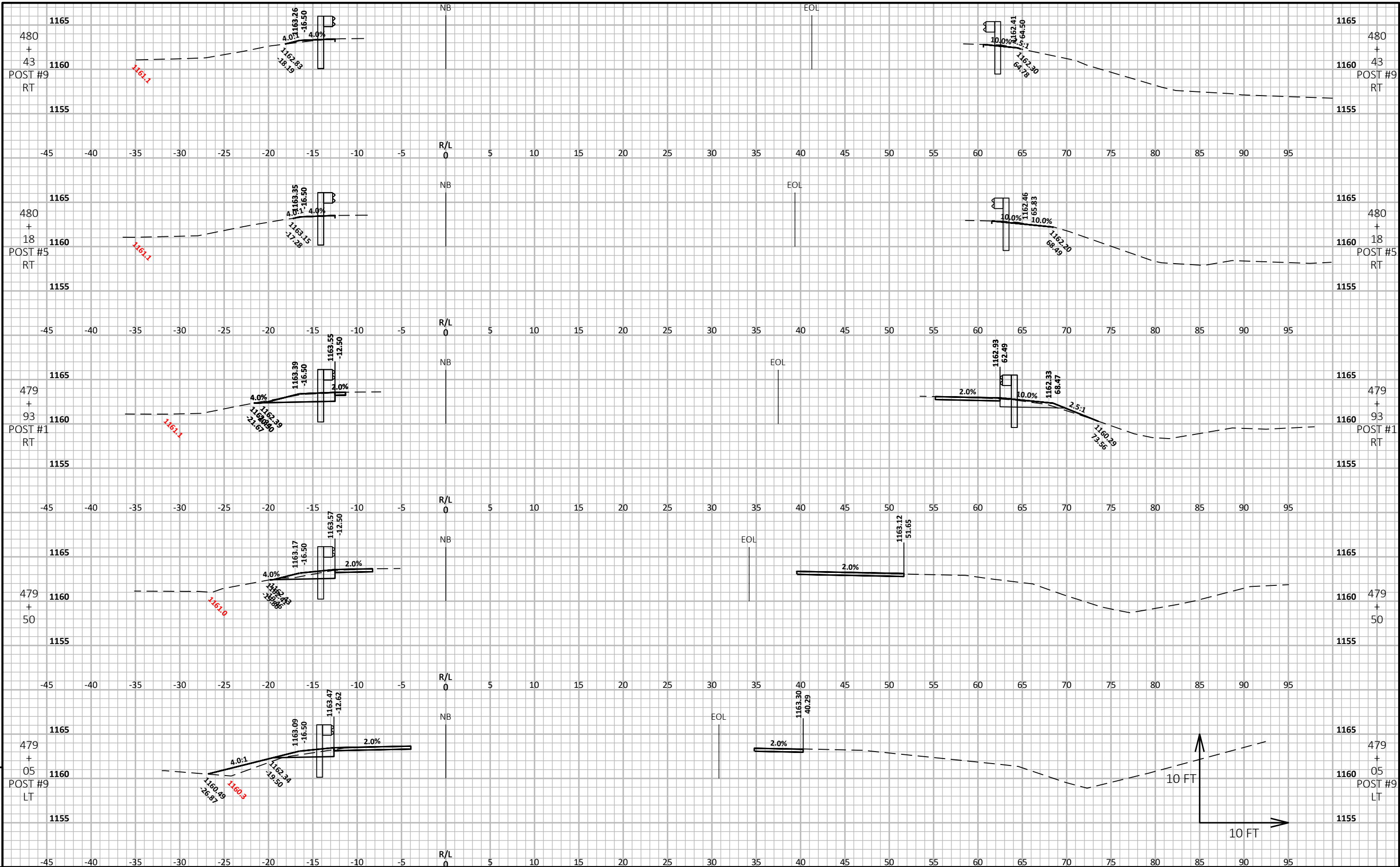


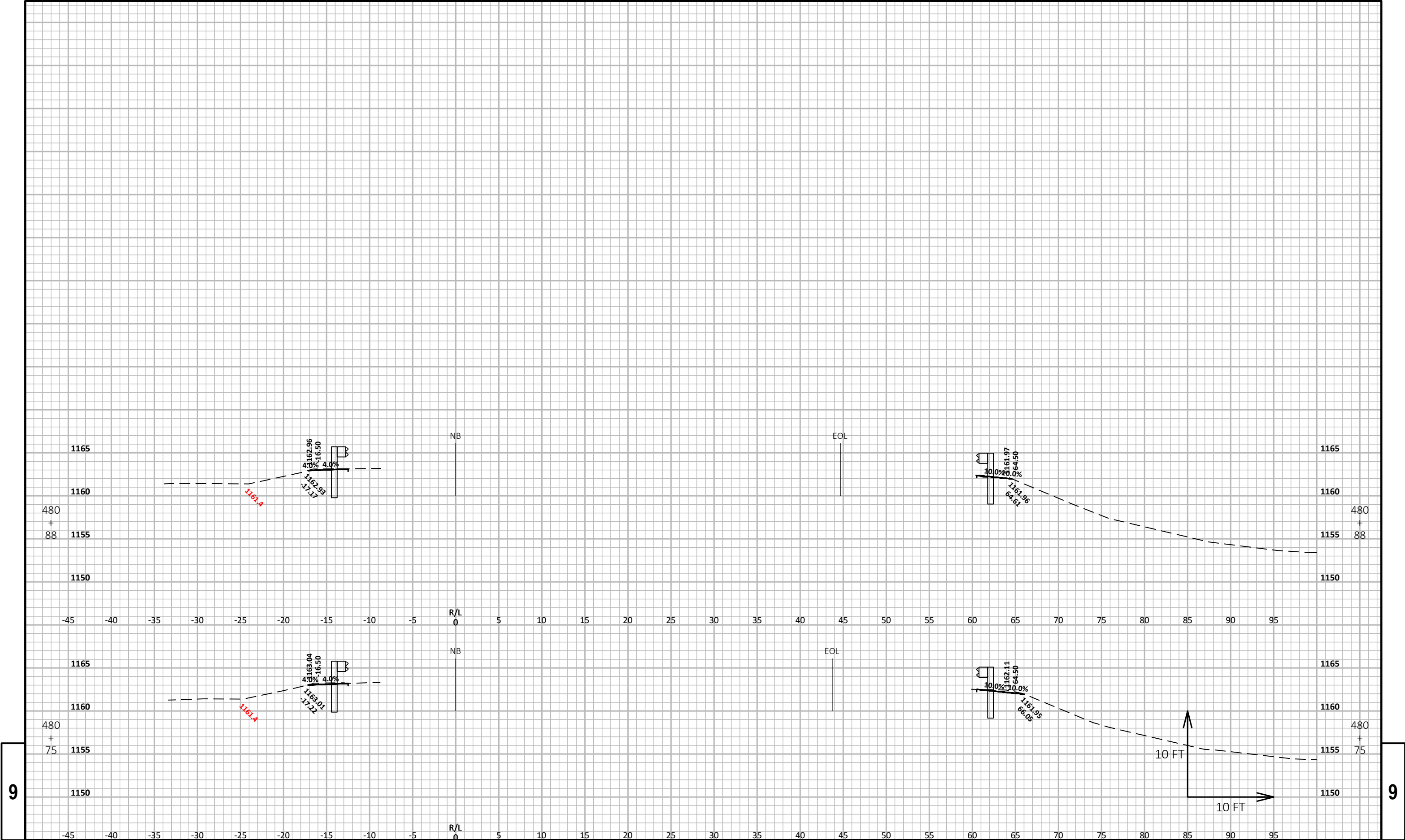


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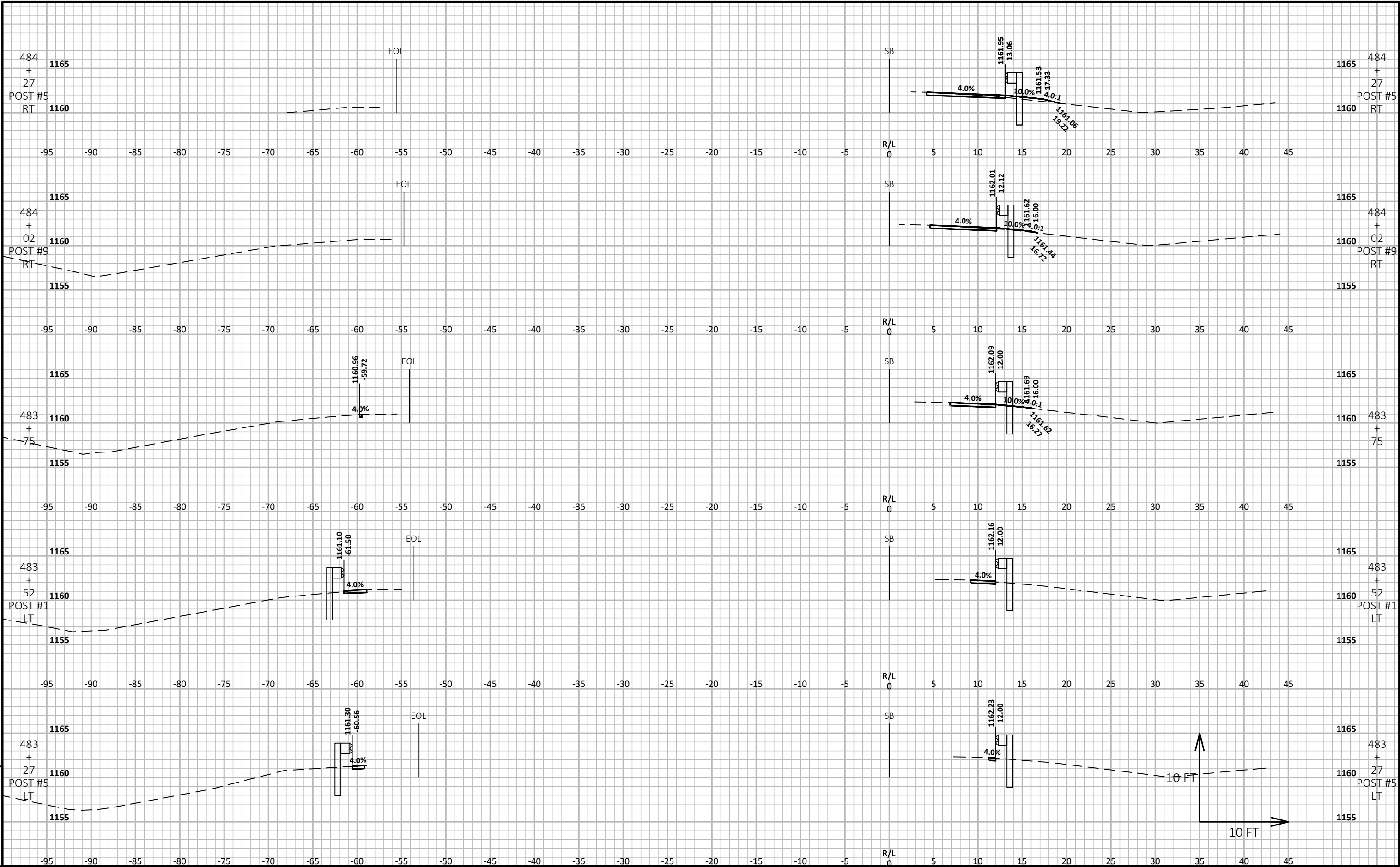


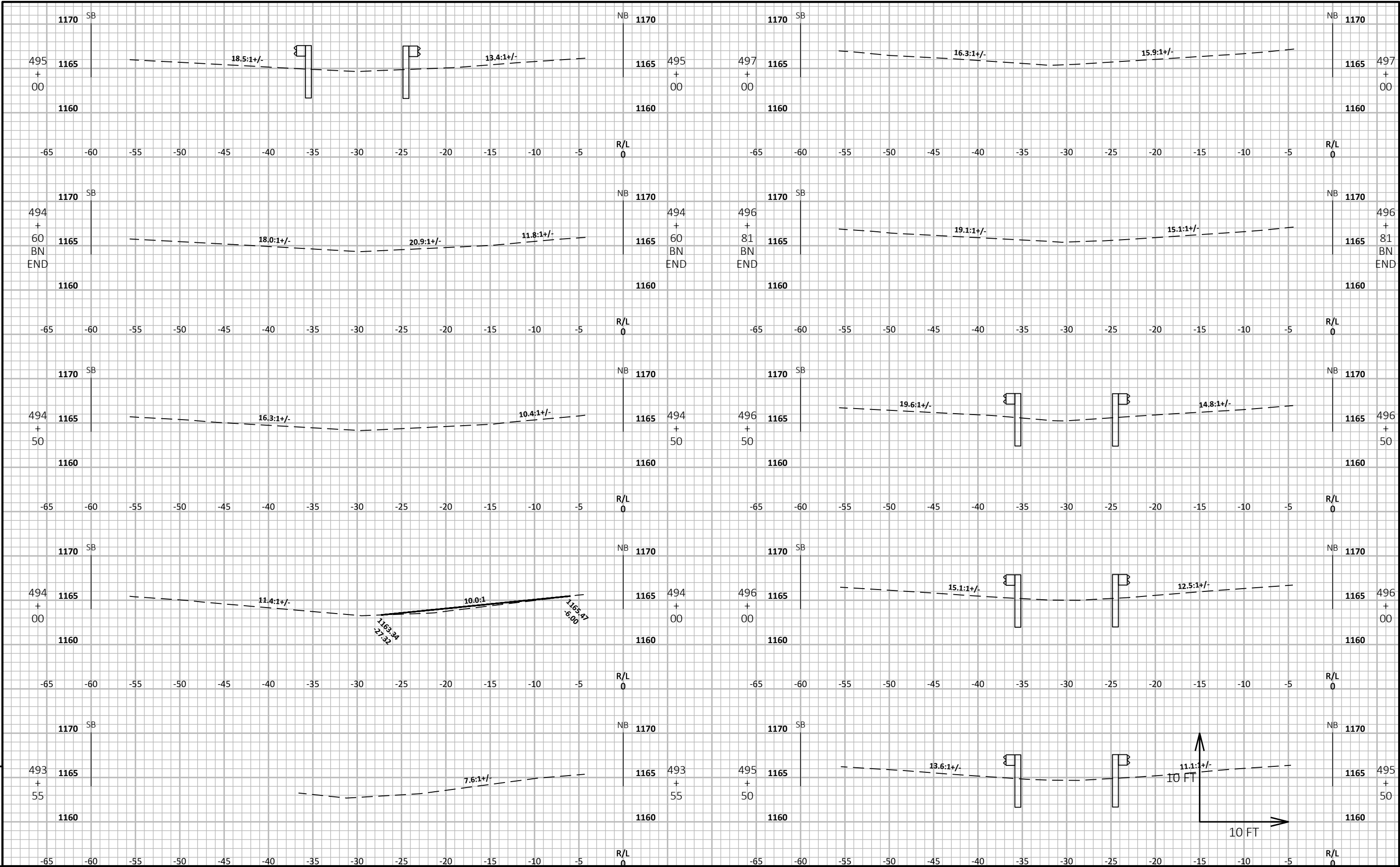




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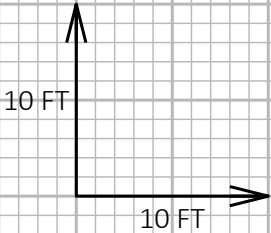
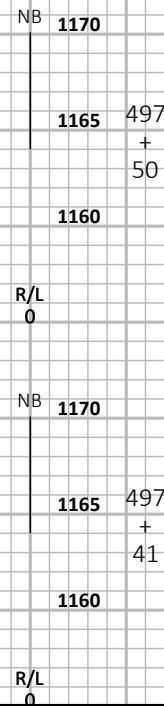
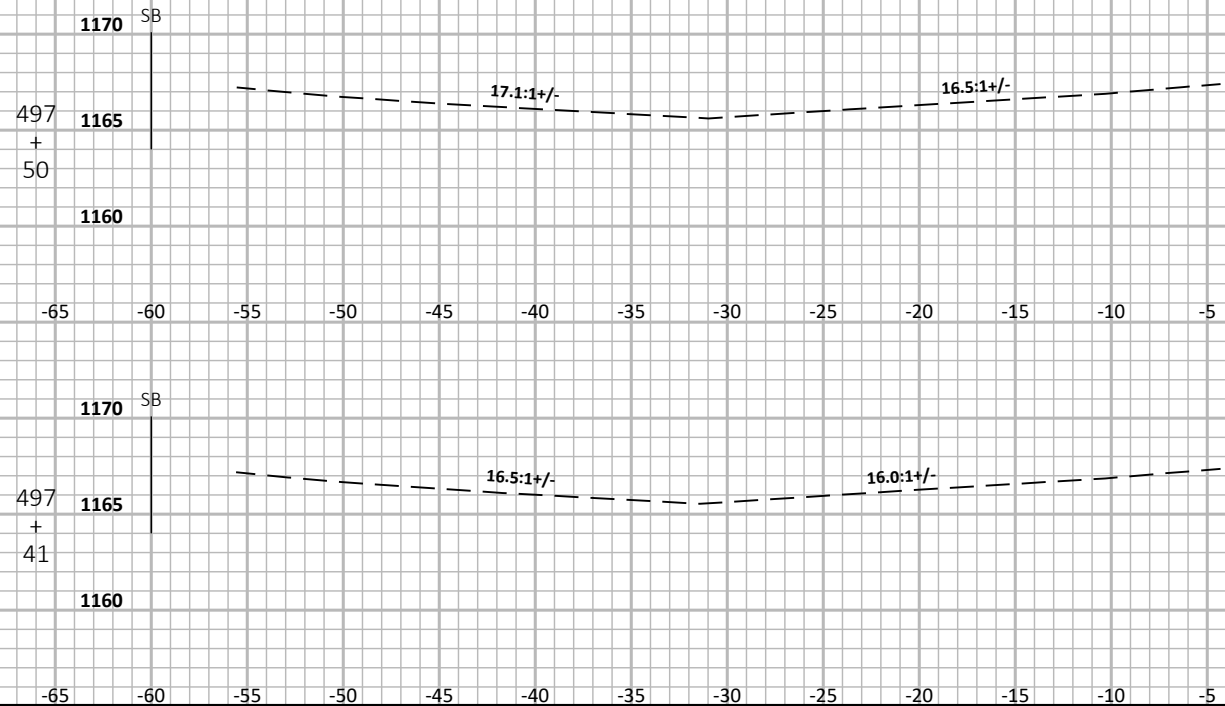




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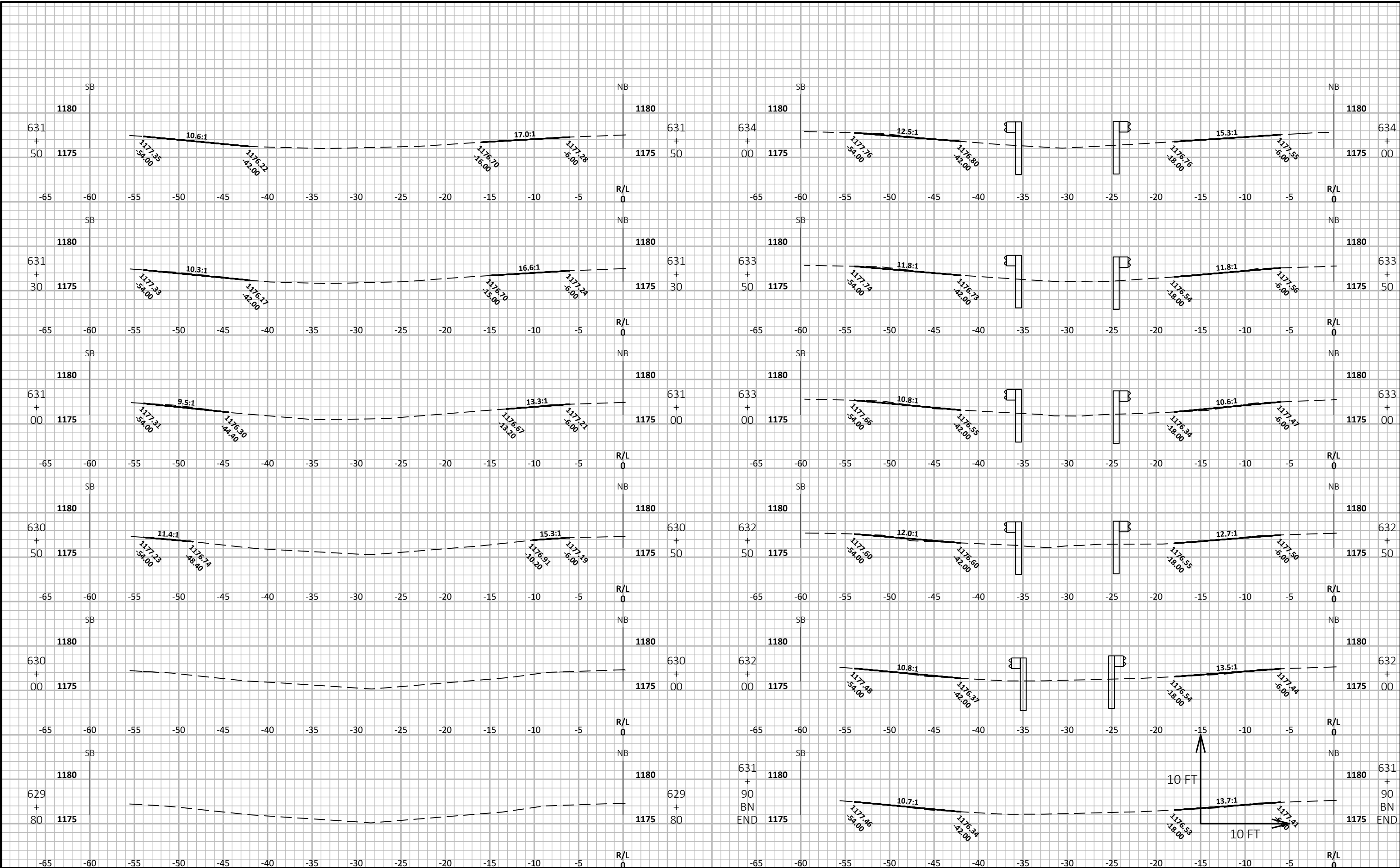
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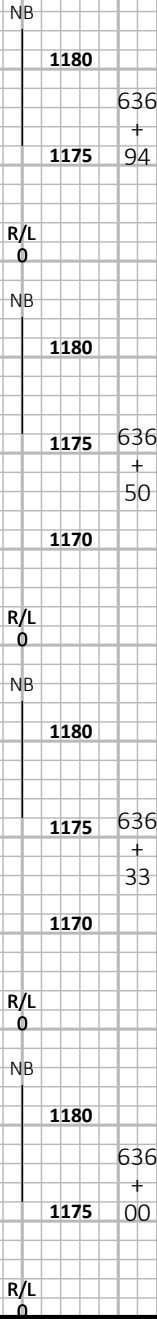
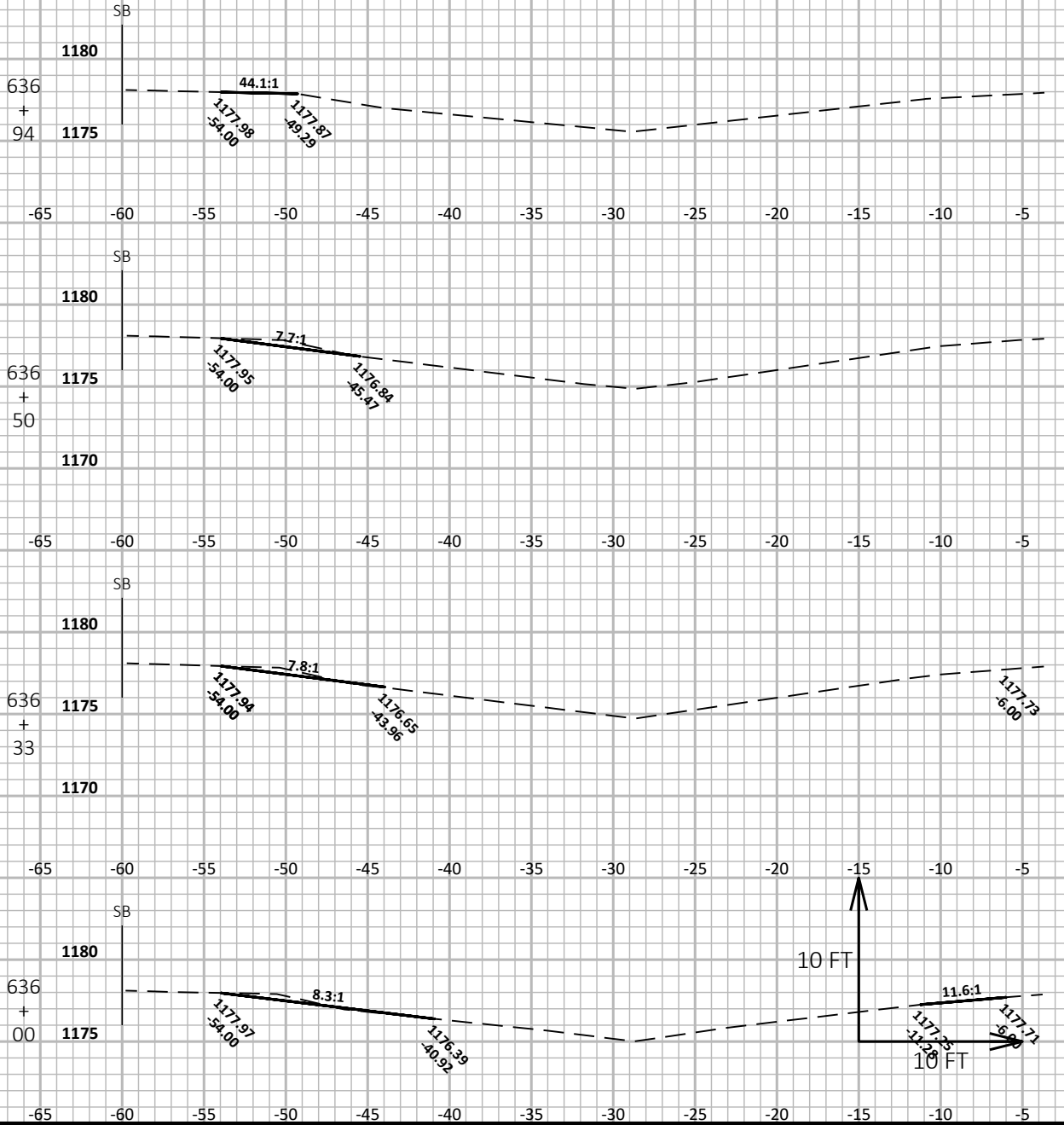
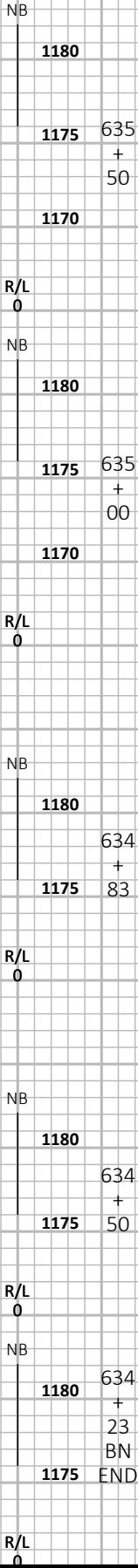
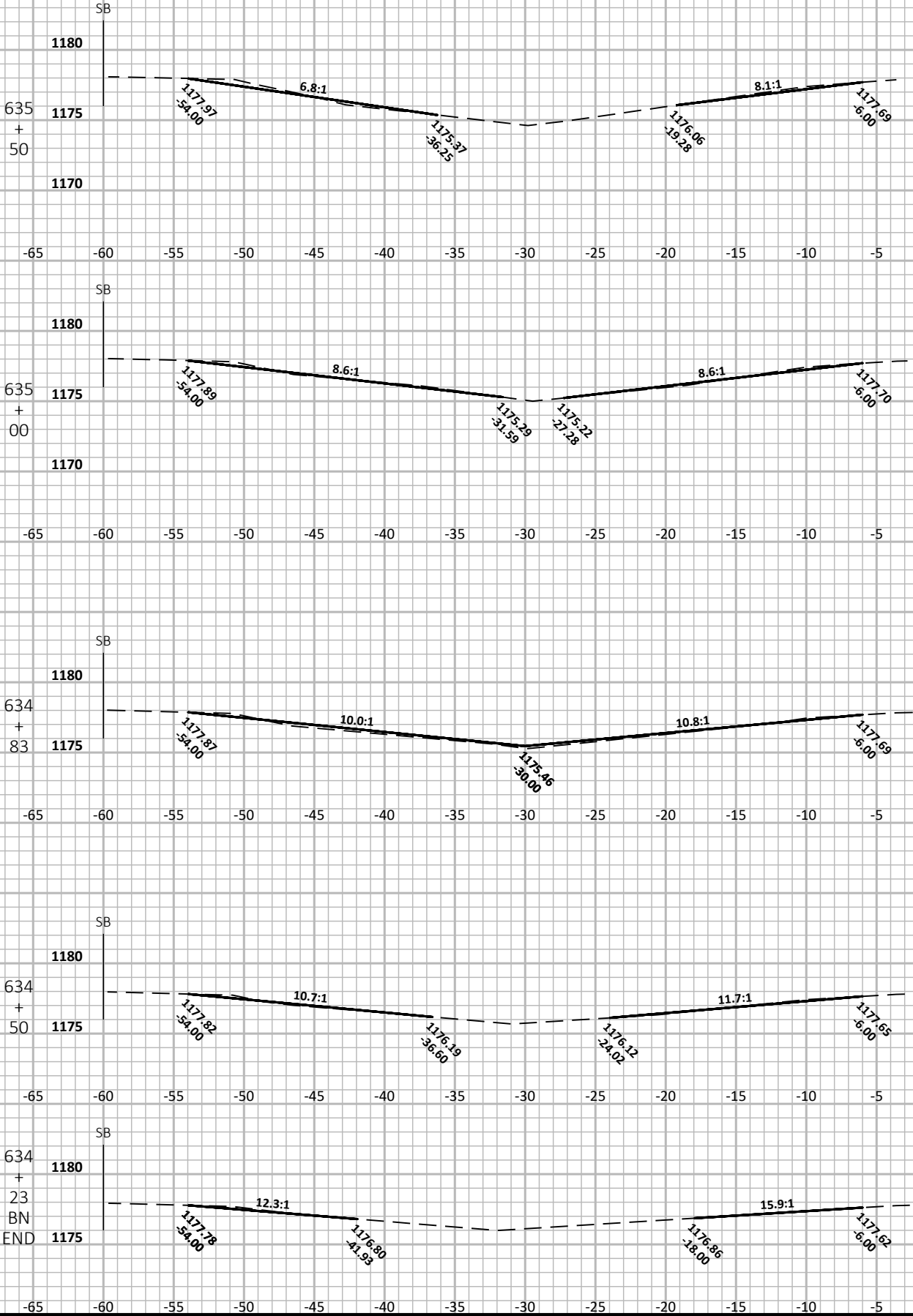
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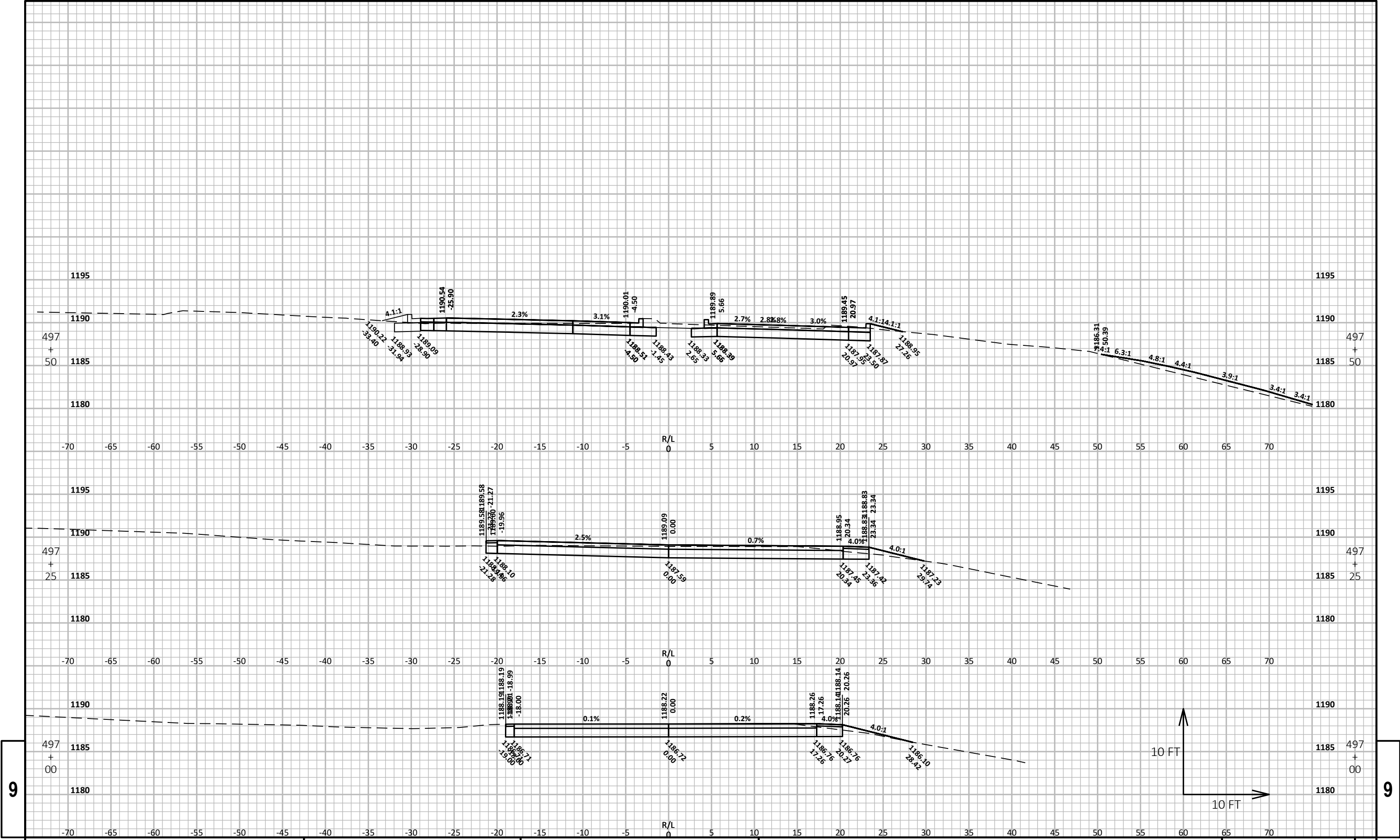


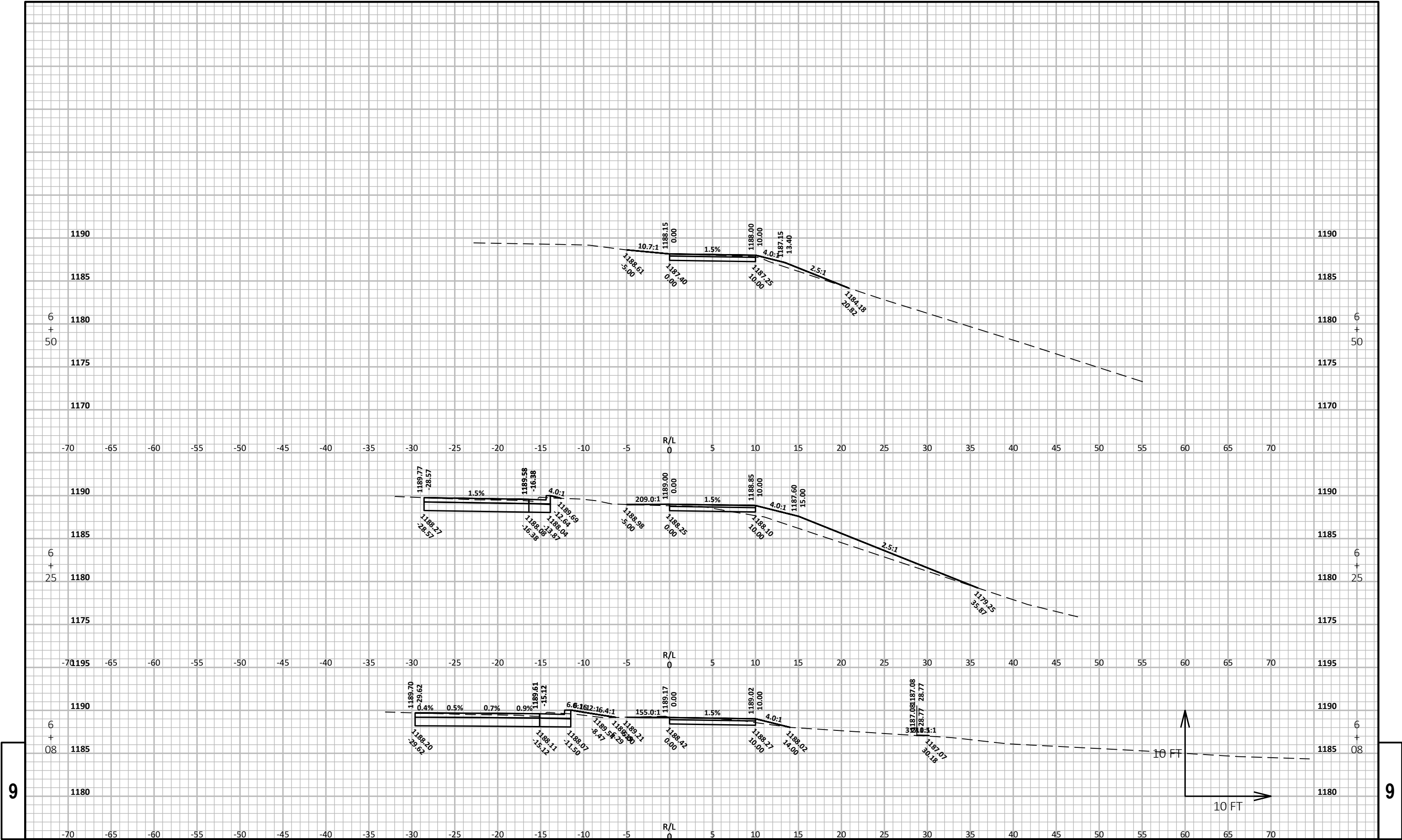
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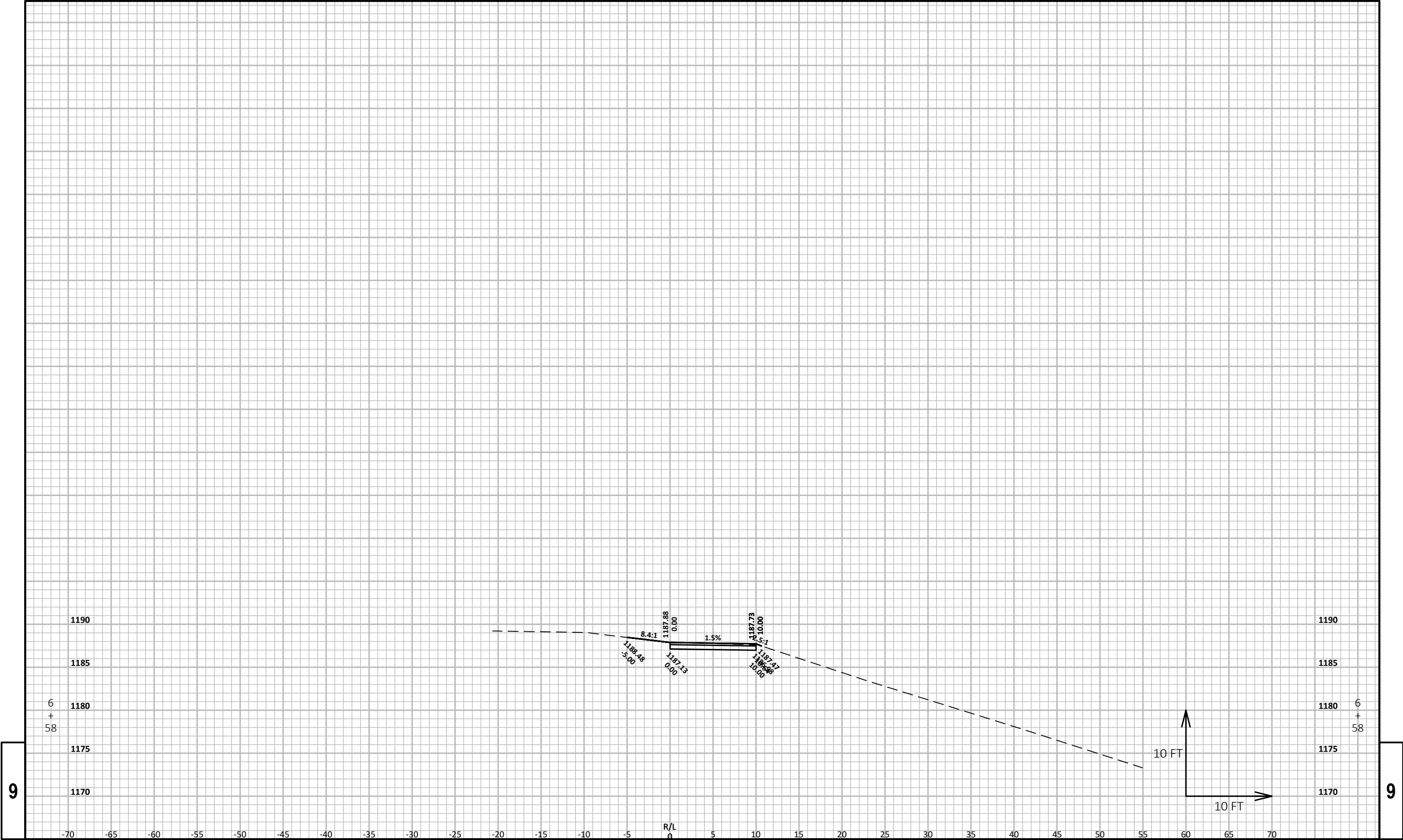
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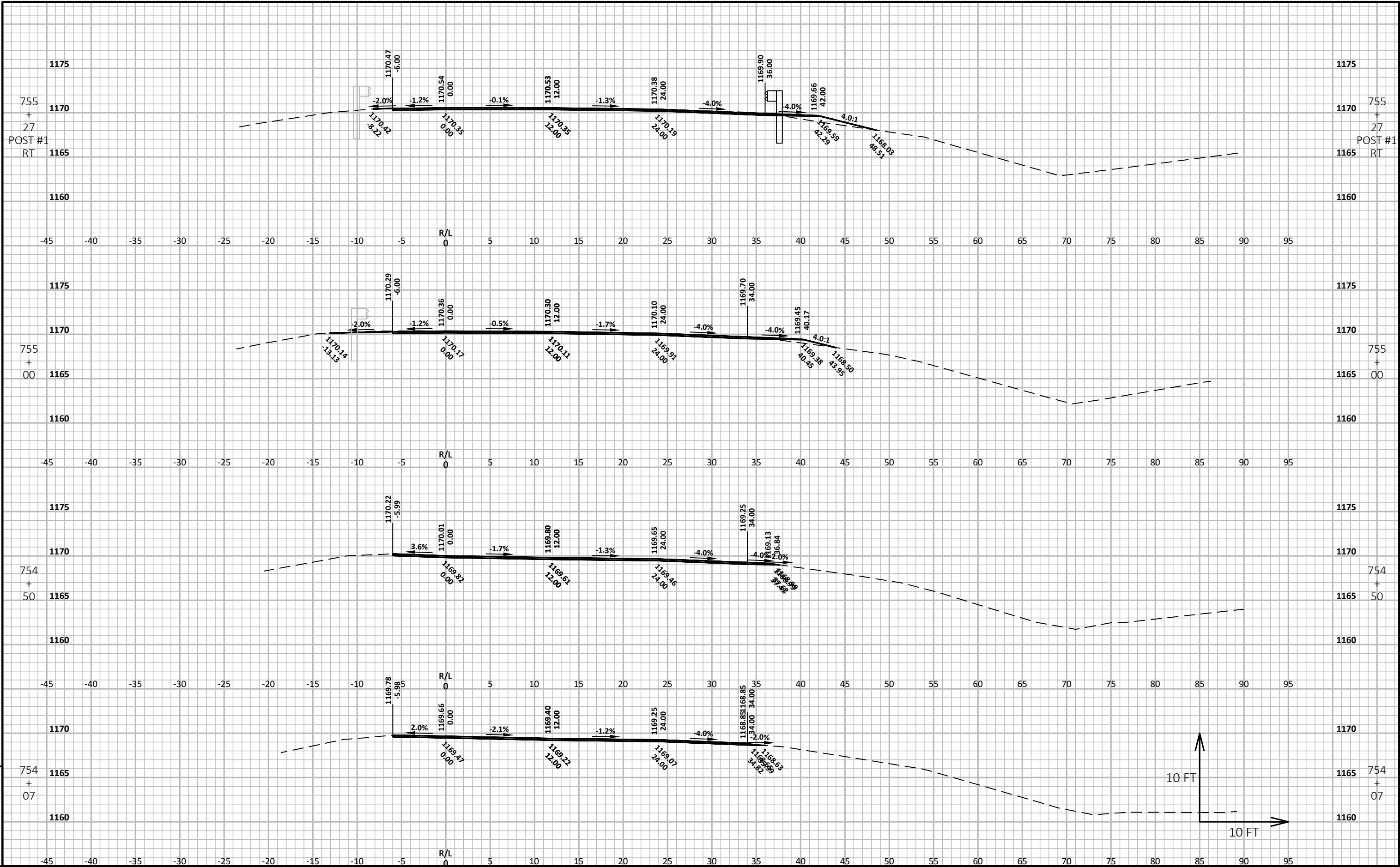
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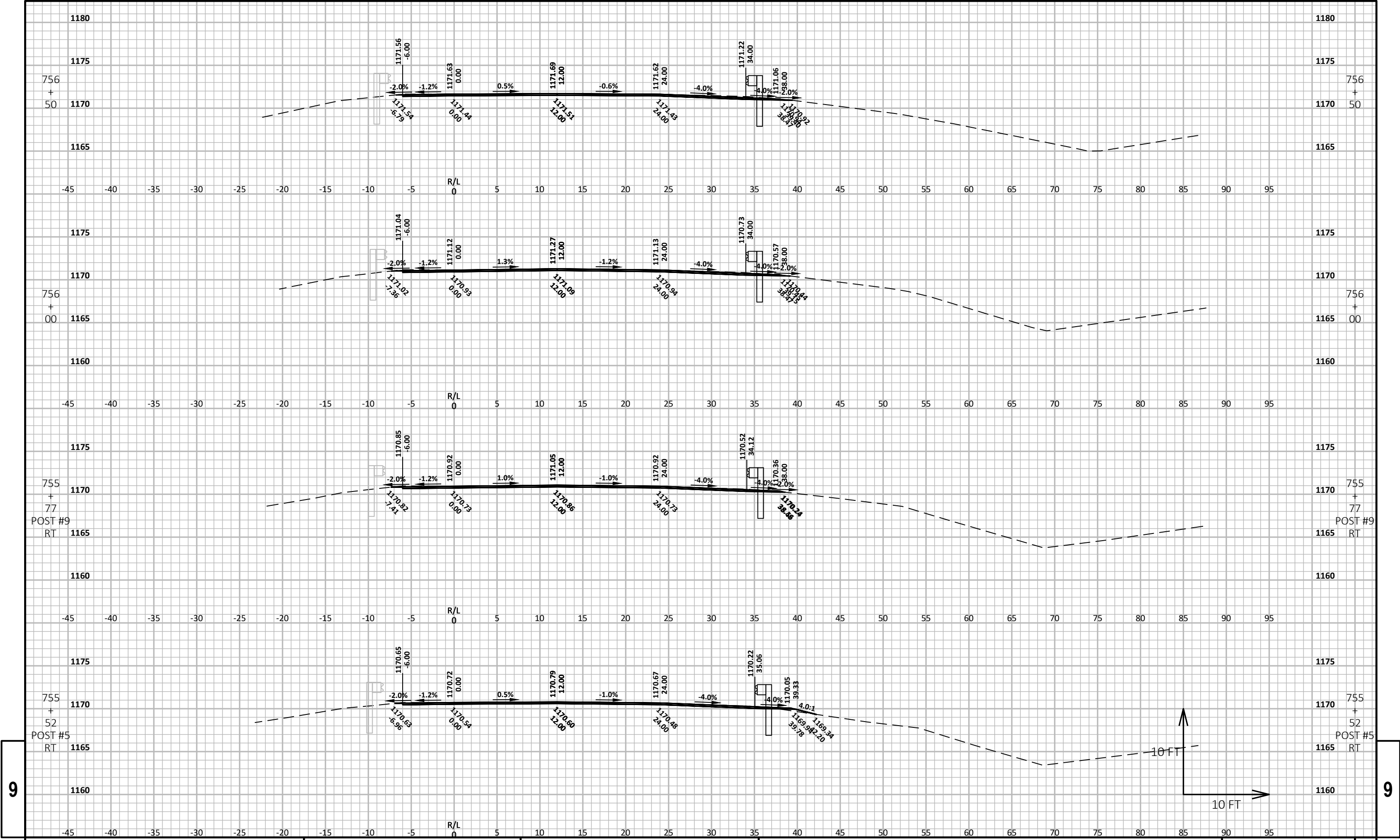
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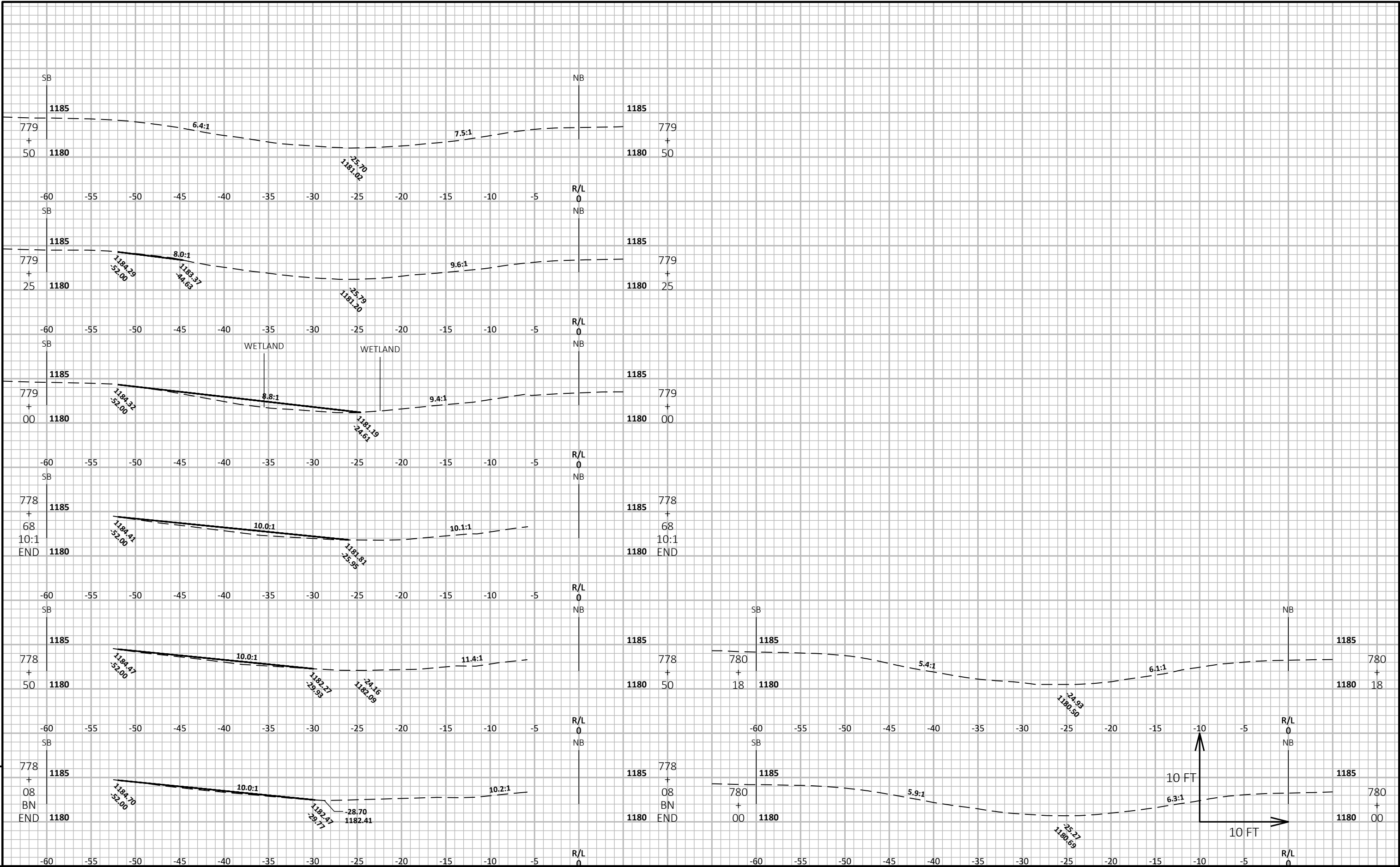
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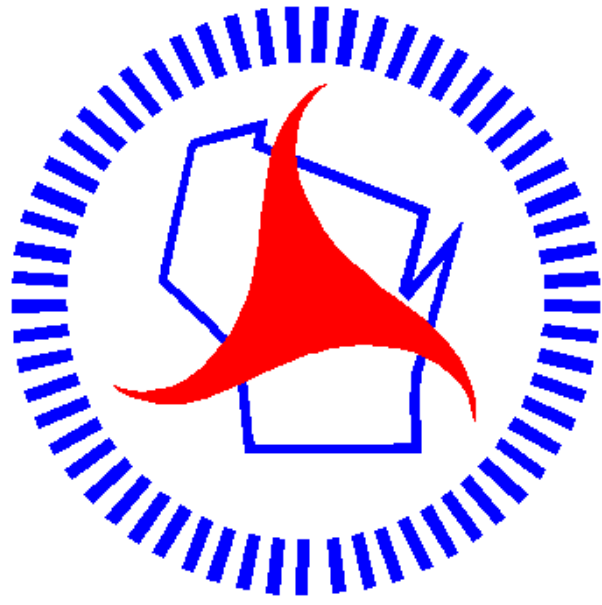


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Notes



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