

EAU

MAY 2023

PROJECT ID:

1190-01-60

33

COUNTY:

CHIPPEWA

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 = 58



# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

# EAU CLAIRE - CHIPPEWA FALLS

CTH 00 BRIDGE B-09-227

USH 53

CHIPPEWA COUNTY

STATE PROJECT NUMBER  
**1190-01-60**

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1190-01-60		

DESIGN DESIGNATION

A.A.D.T.	2023	=	40,870
A.A.D.T.	2043	=	47,850
D.H.V.		=	5435.5
D.D.		=	50/50
T.		=	9.6%
DESIGN SPEED		=	70 MPH
ESALS		=	N/A

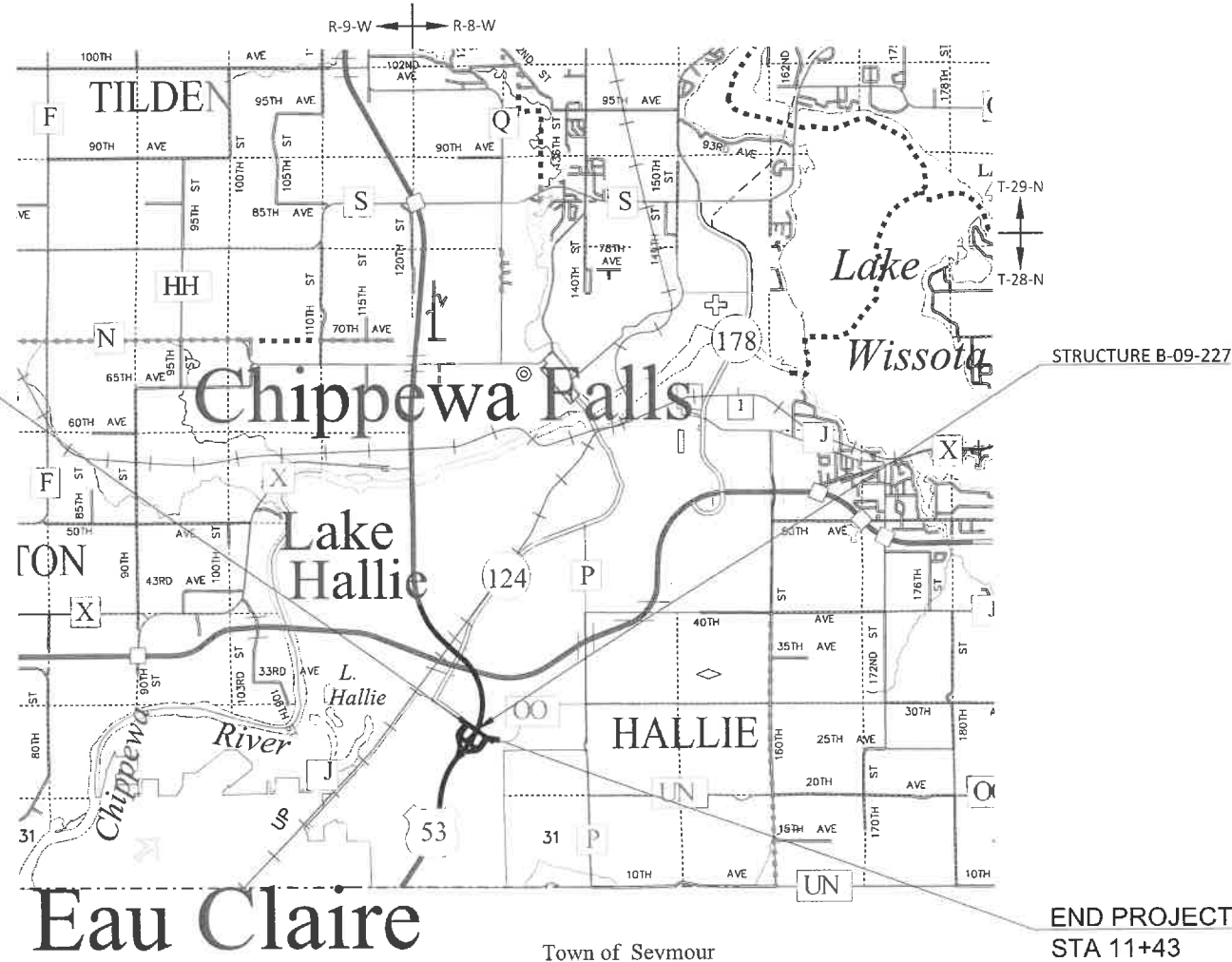
CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

BEGIN PROJECT  
STA 9+99  
Y= 166,100.693  
X= 109,814.852



TOTAL NET LENGTH OF CENTERLINE = 0.00 MI

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

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

ORIGINAL PLANS PREPARED BY

**CORRE**

WISCONSIN PROFESSIONAL ENGINEER

KEVIN L. MEYER  
E-38309-006  
ELK MOUND, WI

DATE: 4/7/23

(Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	CORRE, INC.
Designer	CORRE, INC.
Project Manager	JESSE LARSON
Regional Examiner	TOU YANG
Regional Supervisor	TARA WEISS

APPROVED FOR THE DEPARTMENT

DATE: 4/07/2023

Jesse Larson  
(Signature)

**E**

UTILITIES

AT&T  
COMMUNICATION  
RICK PODOLAK  
304 S DEWEY ST  
EAU CLAIRE, WI 54701  
PHONE: (715) 839-5565  
EMAIL: RP4514@ATT.COM

SPECTRUM  
COMMUNICATION  
SUNNY RICHARDSON  
1201 MCCANN DRIVE  
ALTOONA, WI 54720  
PHONE: (715) 896-6503  
EMAIL: SUNNY.RICHARDSON@CHARTER.COM

WI DOT RWIS  
COMMUNICATION  
JOHN MITTELSTADT  
433 W. ST PAUL AVE, SUITE 300  
MILWAUKEE, WI 53203  
PHONE: (608) 205-7859  
EMAIL: JOHN.MITTELSTADT@DOT.WI.GOV

GENERAL NOTES

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

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS, OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

MATERIALS OR EQUIPMENT SHALL NOT BE STORED IN THE MEDIAN OF USH 53 UNLESS PROTECTED WITH BARRIER WALL.



RUNOFF COEFFICIENT TABLE

LAND USE:	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
MEDIAN STRIPTURF:	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
SIDE SLOPETURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
PAVEMENT:			.25			.27			.28			.30
ASPHALT:			.32			.34			.36			.38
CONCRETE:												
BRICK:												
DRIVES, WALKS:												
ROOFS:												
GRAVEL ROADS, SHOULDERS:												

TOTAL PROJECT AREA =     0     ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES =     0     ACRES

WISCONSIN DNR LIAISON

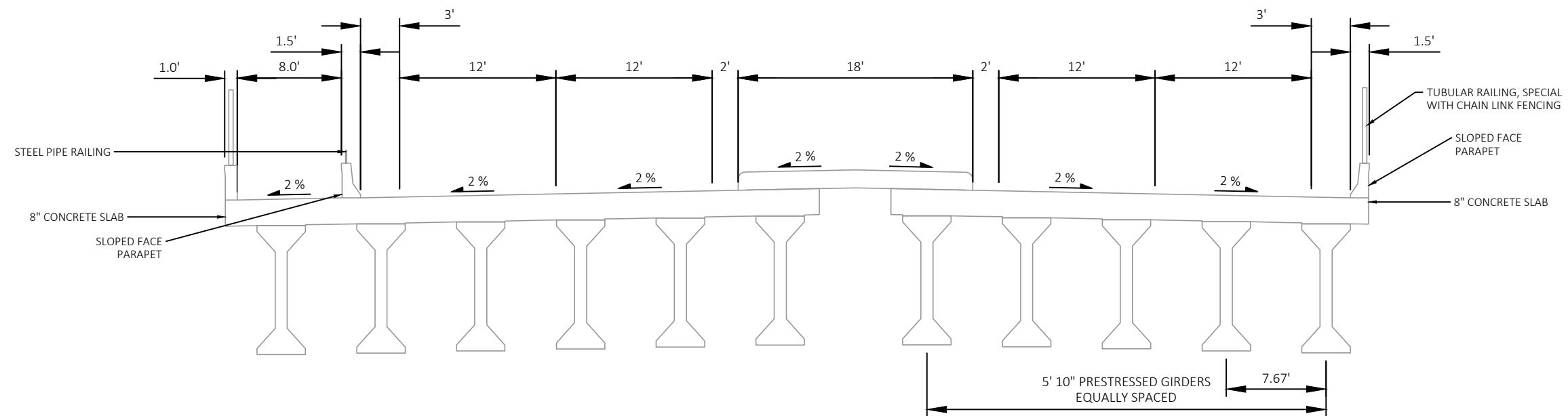
LEAH NICOL  
NORTHWEST  
1300 WEST CLAIREMONT AVE  
EAU CLAIRE, WI 54701  
PHONE: (715) 934-9014  
EMAIL: LEAH.NICOL@WISCONSIN.GOV

DESIGN PROJECT MANAGER

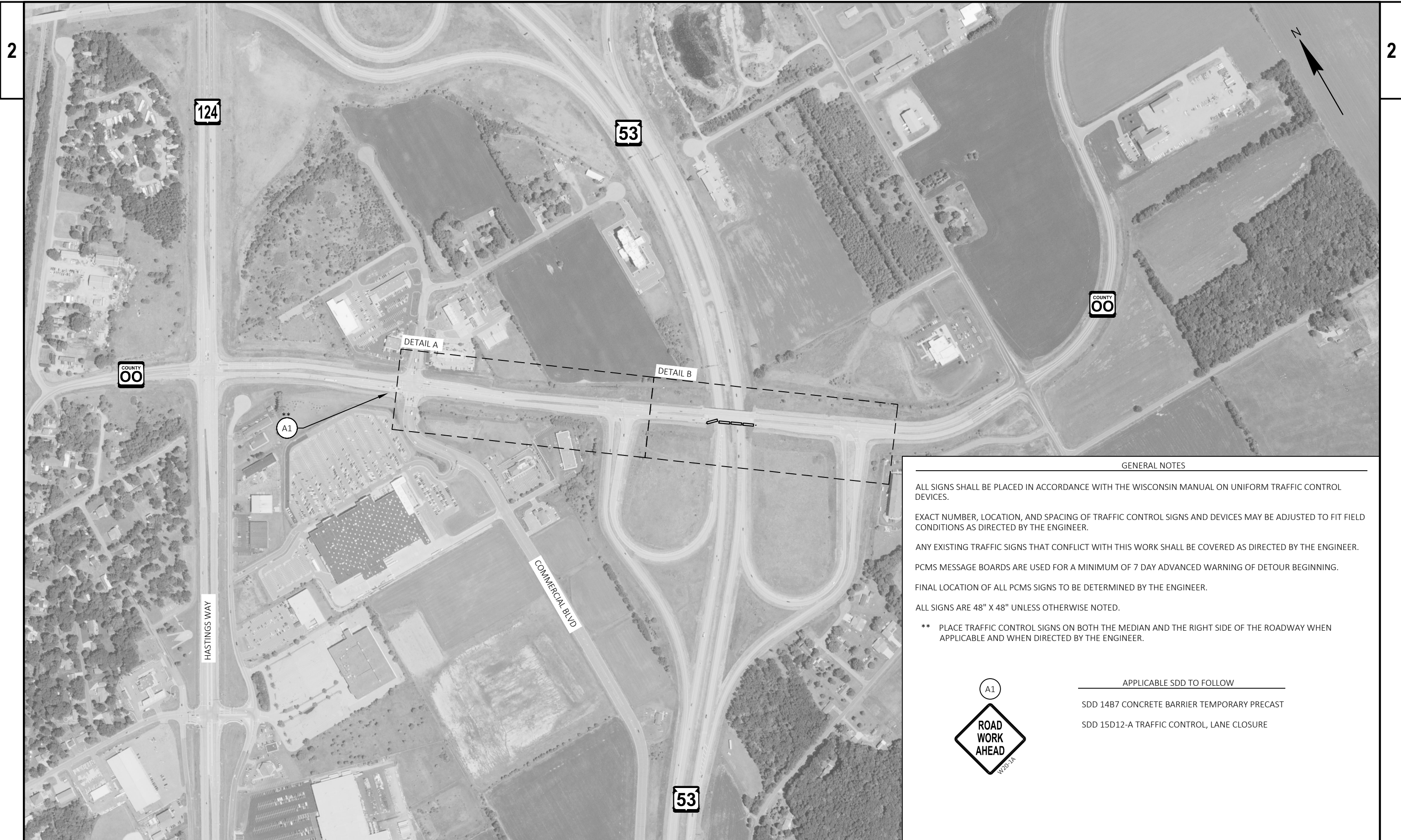
JESSE LARSON  
NORTHWEST  
718 W CLAIREMONT AVE  
EAU CLAIRE, WI 54701  
PHONE: (715) 491-1470  
EMAIL: JESSE.LARSON@DOT.WI.GOV

DESIGN ENGINEER

KEVIN MEYER  
CORRE, INC.  
1802 WARDEN ST  
EAU CLAIRE, WI 54703  
PHONE: (715) 299-1894  
EMAIL: KMEYER@CORREINC.COM



**EXISTING TYPICAL SECTION - CTH 00**  
 STA 9+99 - 11+43



GENERAL NOTES

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

PCMS MESSAGE BOARDS ARE USED FOR A MINIMUM OF 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.

FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.

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

\*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

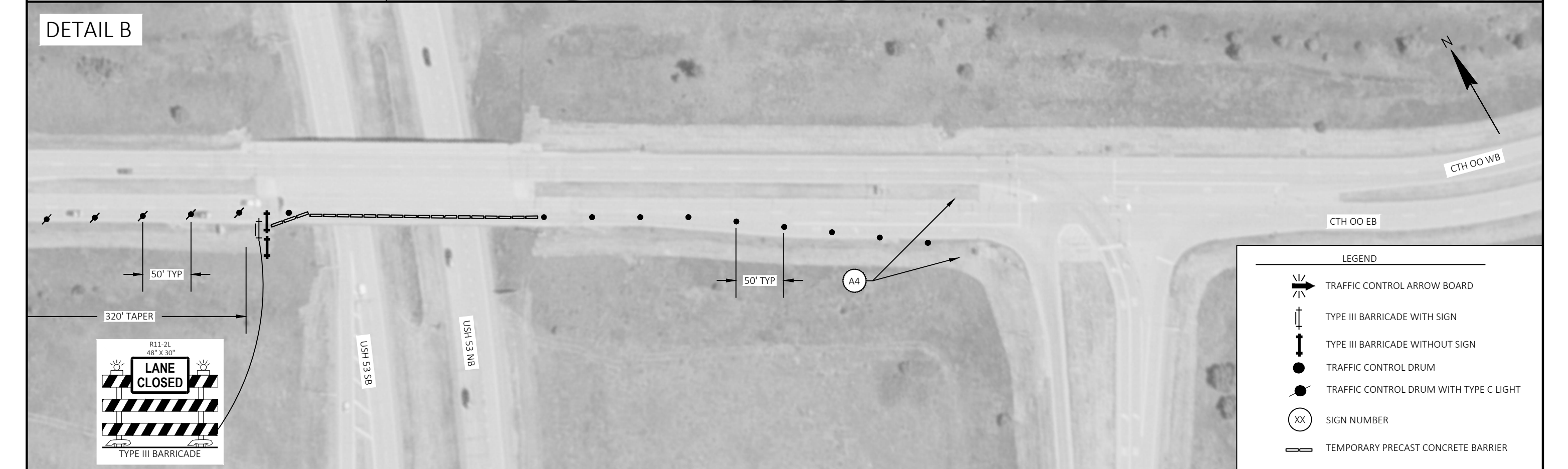
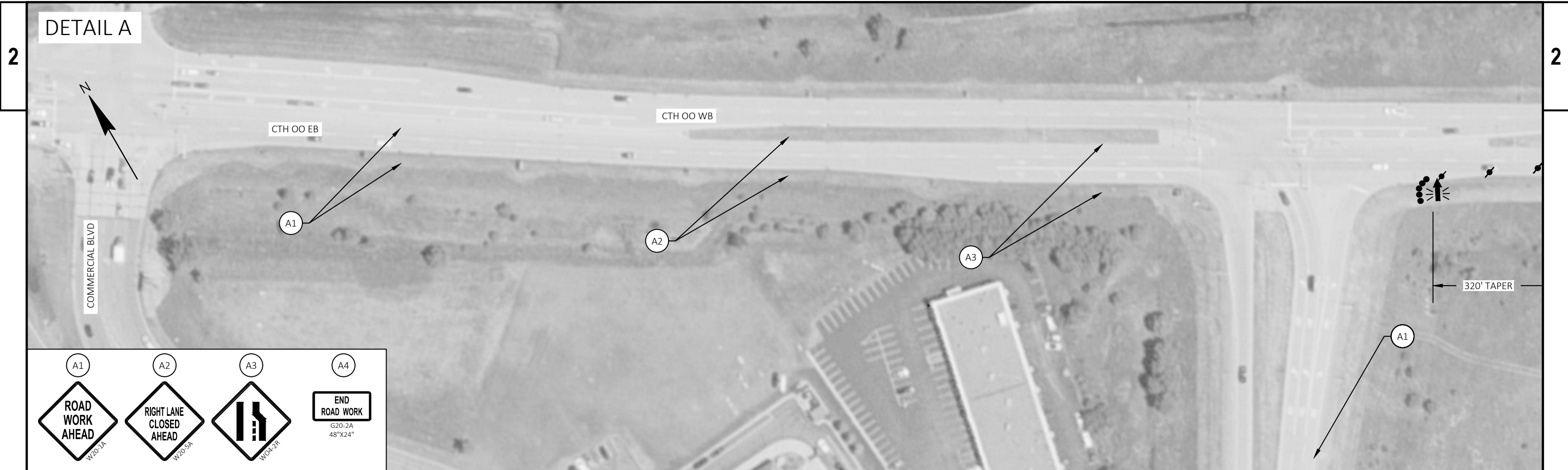


APPLICABLE SDD TO FOLLOW

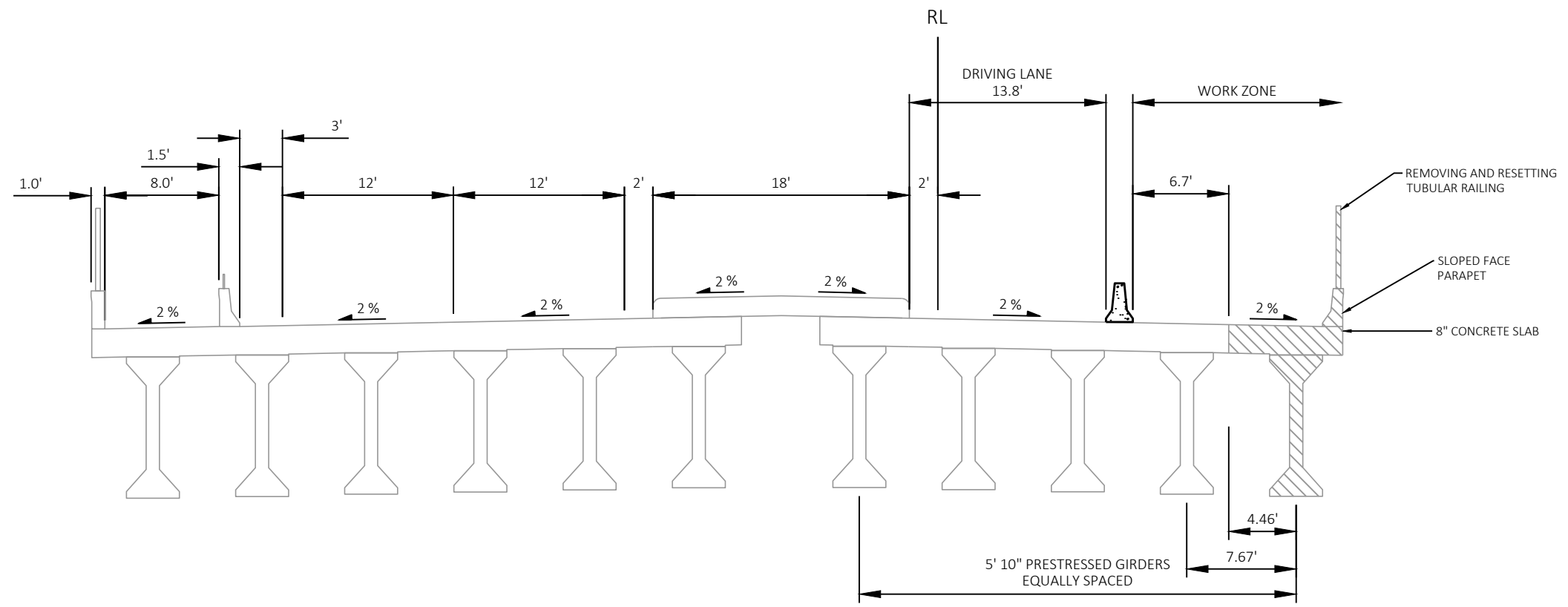
SDD 14B7 CONCRETE BARRIER TEMPORARY PRECAST

SDD 15D12-A TRAFFIC CONTROL, LANE CLOSURE





PROJECT NO: 1190-01-60      HWY: USH 53      COUNTY: CHIPPEWA      TRAFFIC CONTROL - CTH OO SINGLE LANE CLOSURE      SHEET      E



TYPICAL SECTION SINGLE LANE CLOSURE B-09-227  
 STA 9+99 - 11+27

GENERAL NOTES










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 PCMS MESSAGE BOARDS ARE USED FOR 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.  
 FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.  
 COVER OR LOWER ALL TRAFFIC CONTROL SIGNS DURING DAYTIME HOURS WHEN DETOUR IS NOT IN USE.  
 ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED  
 \*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

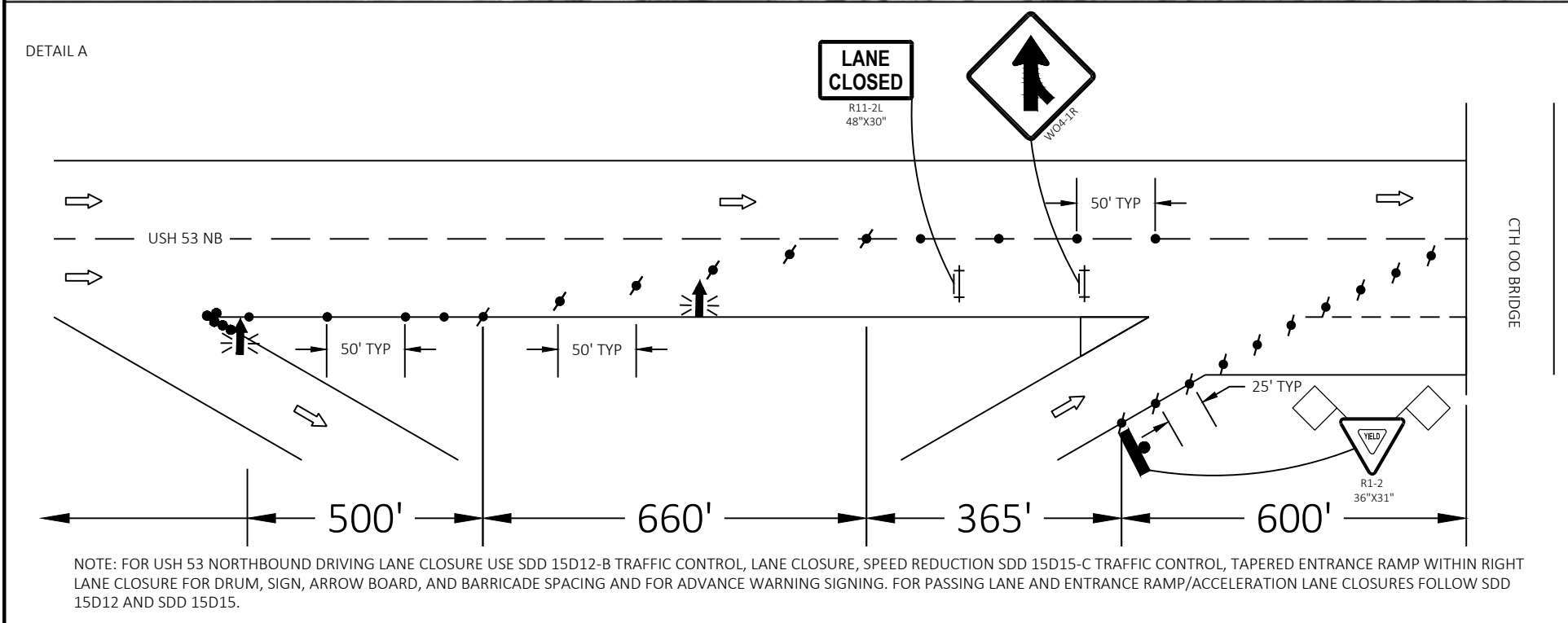
APPLICABLE SDD TO FOLLOW

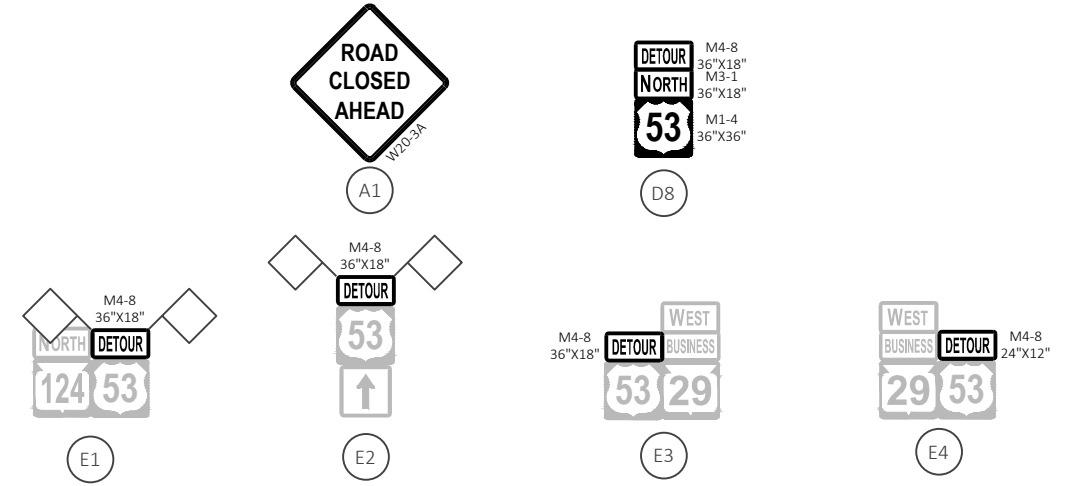
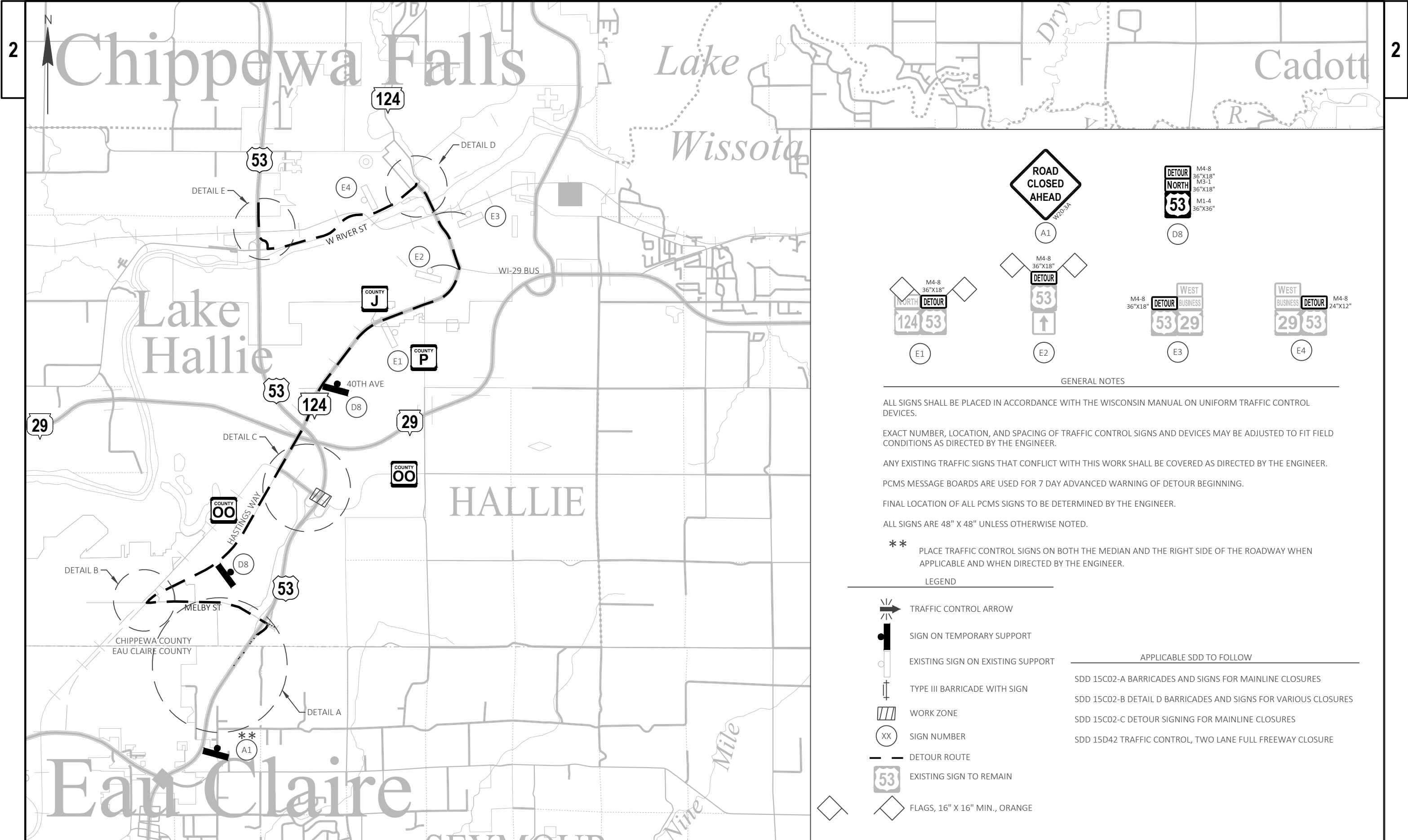
SDD 15D12-B TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

SDD 15D15-C TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN RIGHT LANE CLOSURE

LEGEND

-  TRAFFIC CONTROL ARROW BOARD
-  SIGN ON TEMPORARY SUPPORT
-  TYPE III BARRICADE WITH SIGN
-  WORK ZONE
-  SIGN NUMBER
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
-  DIRECTION OF TRAVEL
-  FLAGS, 16" X 16' MIN., ORANGE





GENERAL NOTES

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER.

PCMS MESSAGE BOARDS ARE USED FOR 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.

FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.

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

\*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

LEGEND

- TRAFFIC CONTROL ARROW
- SIGN ON TEMPORARY SUPPORT
- EXISTING SIGN ON EXISTING SUPPORT
- TYPE III BARRICADE WITH SIGN
- WORK ZONE
- SIGN NUMBER
- DETOUR ROUTE
- EXISTING SIGN TO REMAIN
- FLAGS, 16" X 16" MIN., ORANGE

APPLICABLE SDD TO FOLLOW

- SDD 15C02-A BARRICADES AND SIGNS FOR MAINLINE CLOSURES
- SDD 15C02-B DETAIL D BARRICADES AND SIGNS FOR VARIOUS CLOSURES
- SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES
- SDD 15D42 TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE



GENERAL NOTES

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COVER OR LOWER ALL TRAFFIC CONTROL SIGNS DURING DAYTIME HOURS WHEN DETOUR IS NOT IN USE.

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

\*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

LEGEND

- TRAFFIC CONTROL ARROW BOARD
- SIGN ON TEMPORARY SUPPORT
- EXISTING SIGN ON EXISTING SUPPORT
- TYPE III BARRICADE WITH SIGN
- WORK ZONE
- SIGN NUMBER
- DETOUR ROUTE
- EXISTING SIGN TO REMAIN
- COVERING EXISTING SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT

**MB** USH 53 CLOSED PANEL 1 STARTING XX/XX/XX PANEL 1

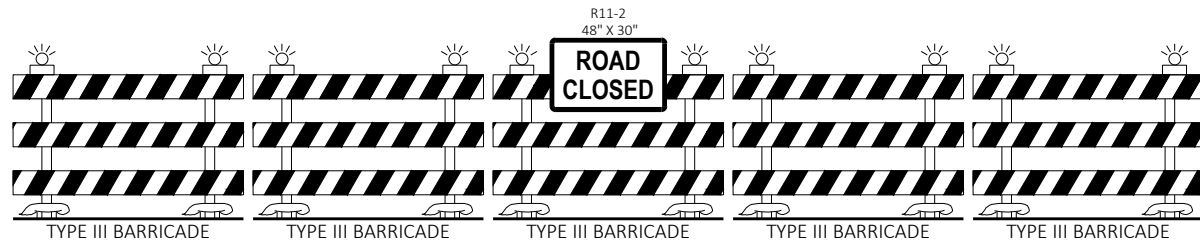
1 PLACE PCMS MESSAGE BOARDS FOR MIN 7 DAYS, PRIOR TO UTILIZING USH 53 DETOUR.

**MB** USH 53 CLOSED PANEL 1 EXIT AHEAD PANEL 1

2 PLACE PCMS MESSAGE BOARDS PRIOR TO PREVIOUS EXIT WHILE UTILIZING USH 53 DETOUR.

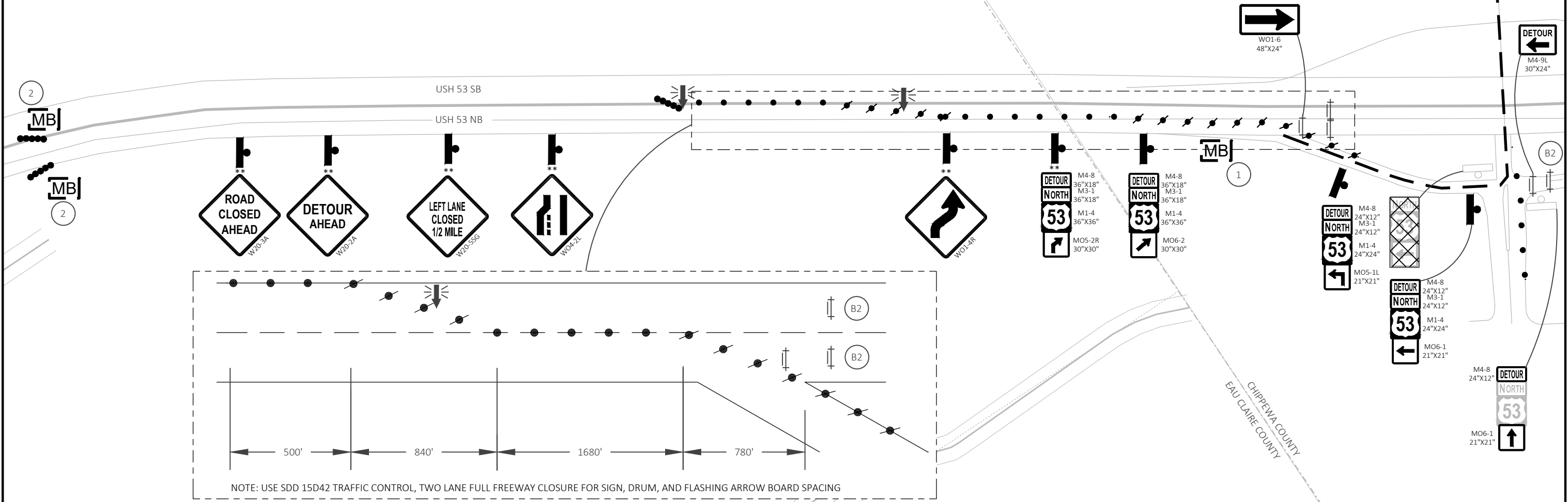
APPLICABLE SDD TO FOLLOW

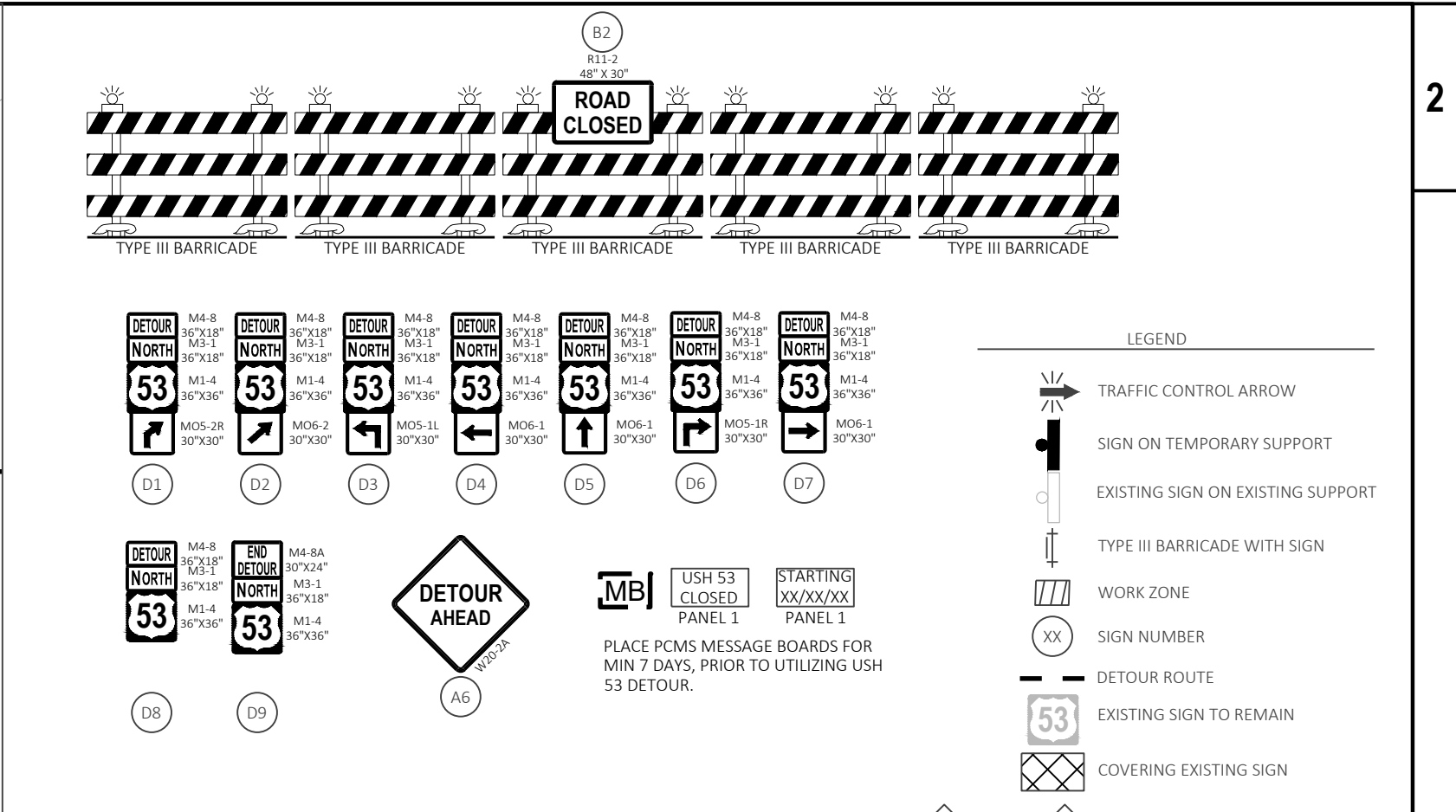
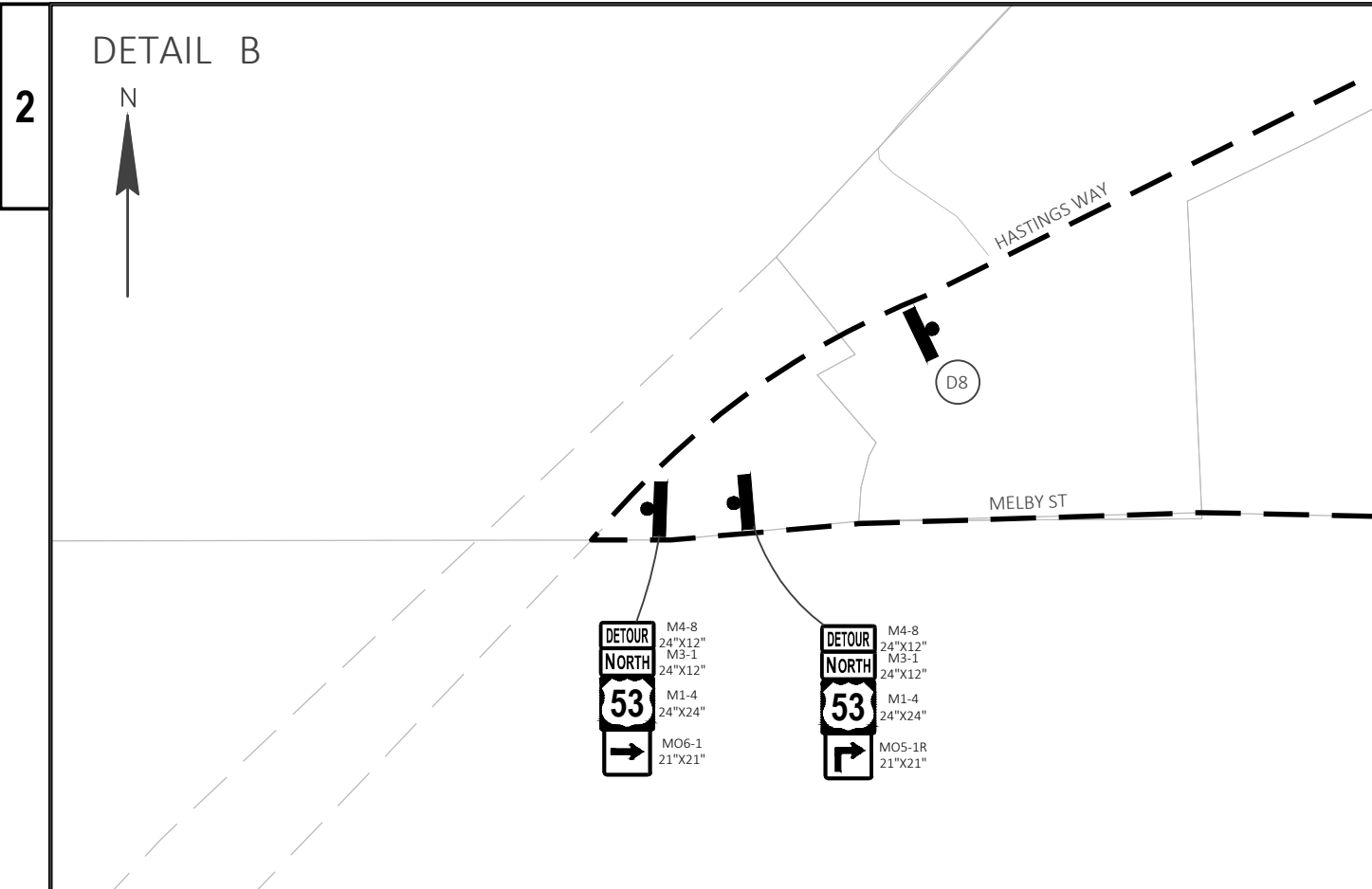
- SDD 15C02-A BARRICADES AND SIGNS FOR MAINLINE CLOSURES
- SDD 15C02-B DETAIL D BARRICADES AND SIGNS FOR VARIOUS CLOSURES
- SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES
- SDD 15D42 TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE



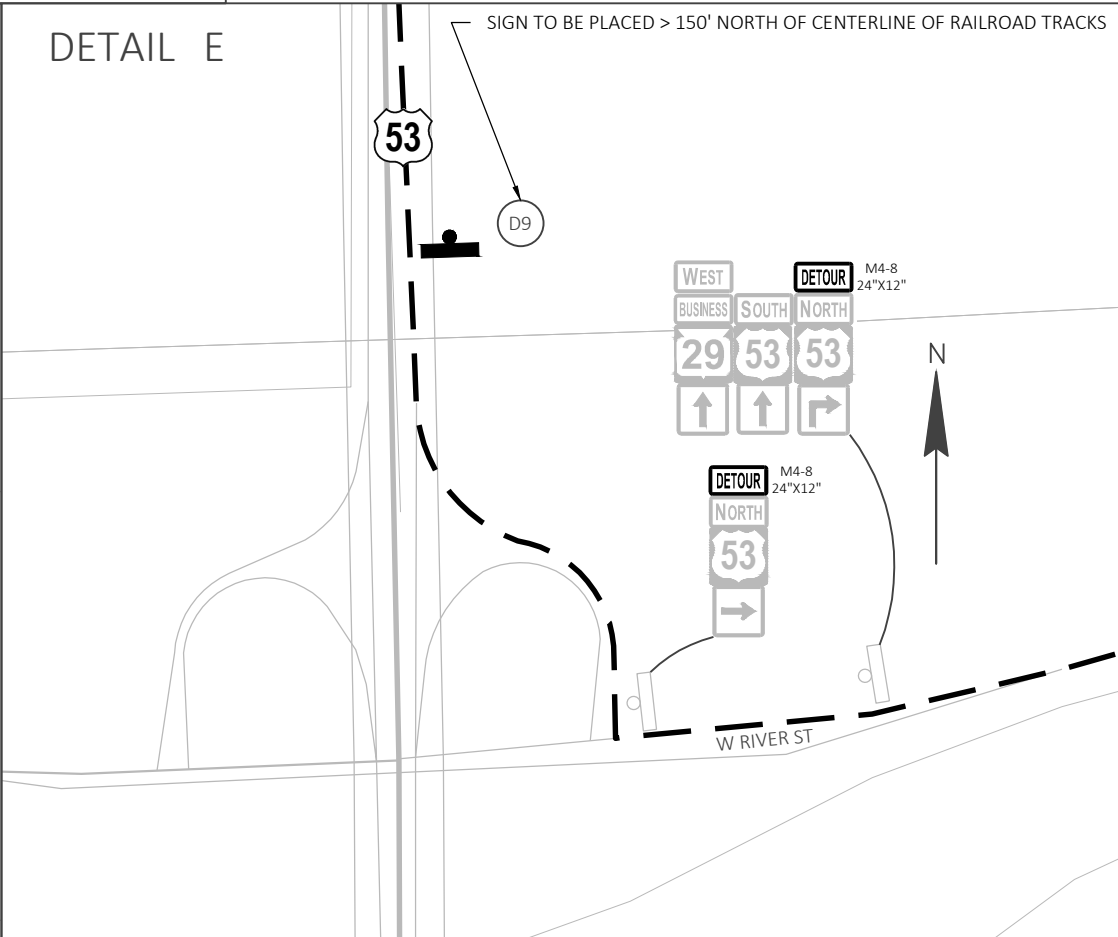
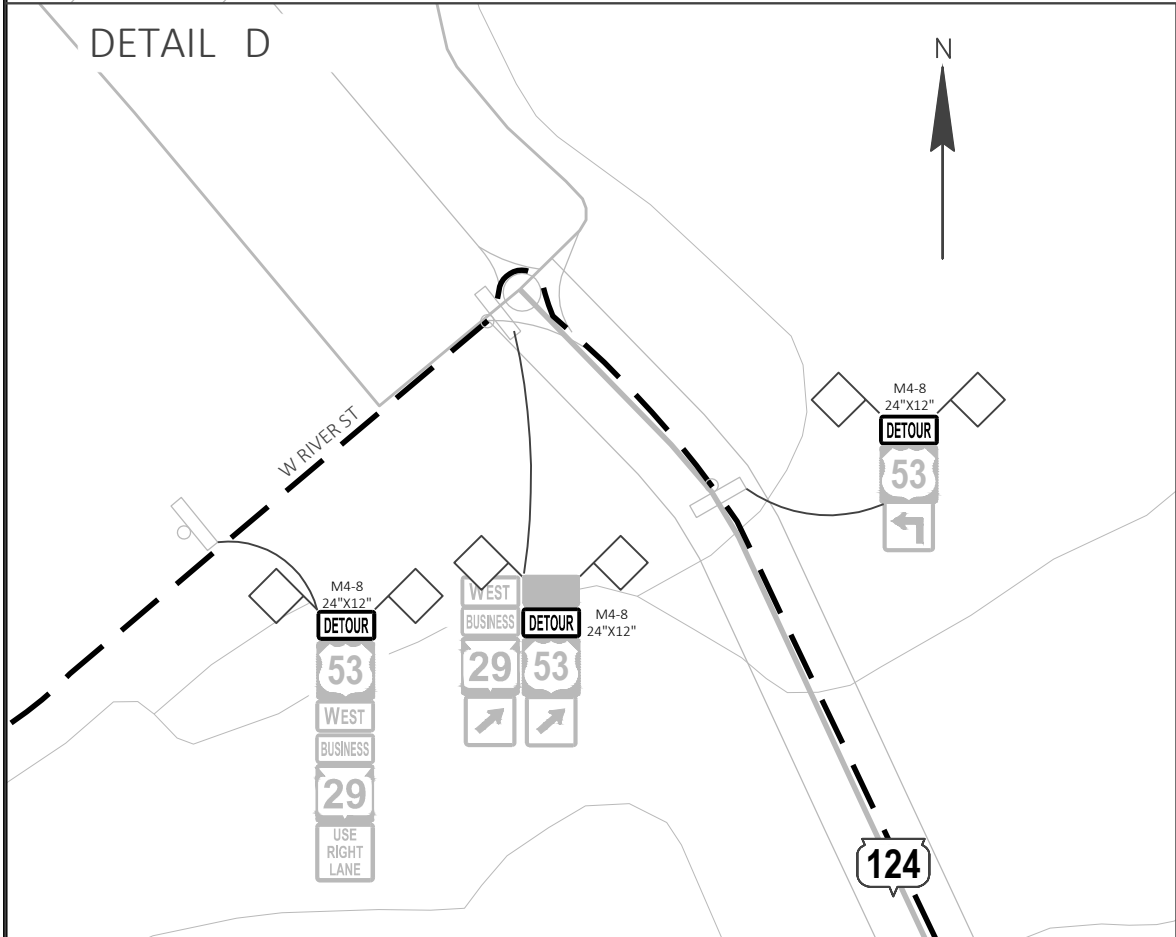
B2

DETAIL A





- #### LEGEND
- TRAFFIC CONTROL ARROW
  - SIGN ON TEMPORARY SUPPORT
  - EXISTING SIGN ON EXISTING SUPPORT
  - TYPE III BARRICADE WITH SIGN
  - WORK ZONE
  - SIGN NUMBER
  - DETOUR ROUTE
  - EXISTING SIGN TO REMAIN
  - COVERING EXISTING SIGN
  - FLAGS, 16" X 16" MIN., ORANGE

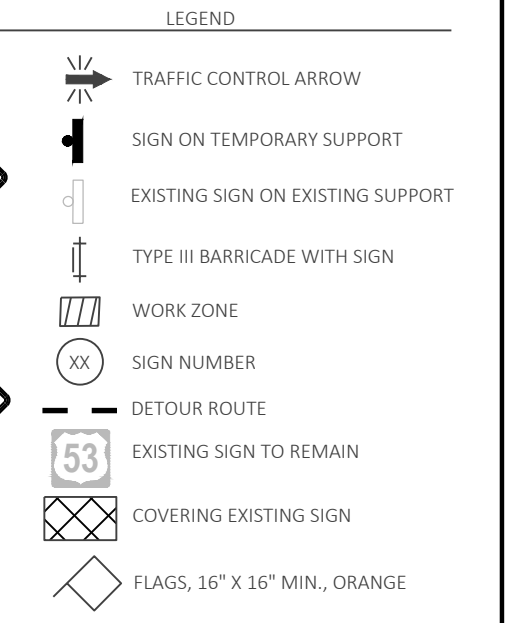
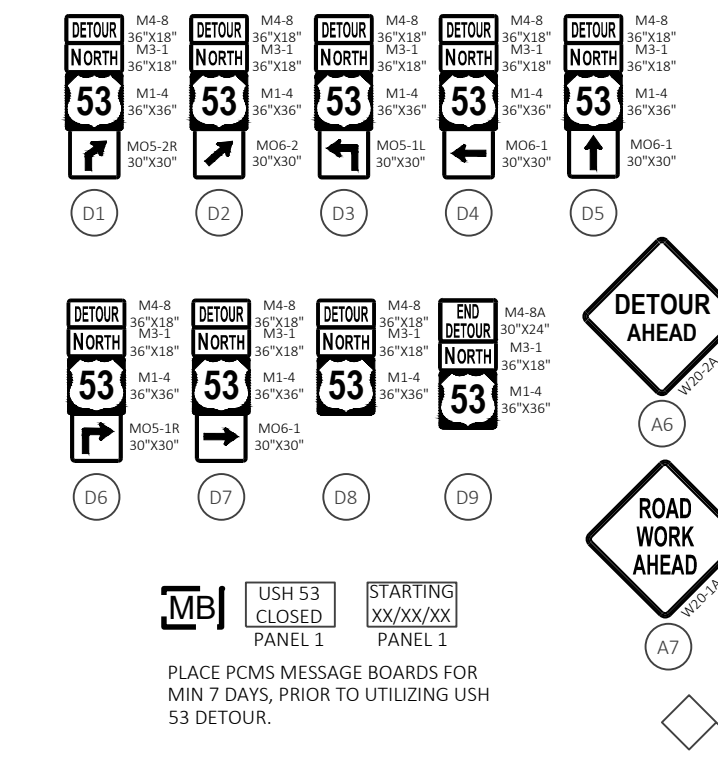
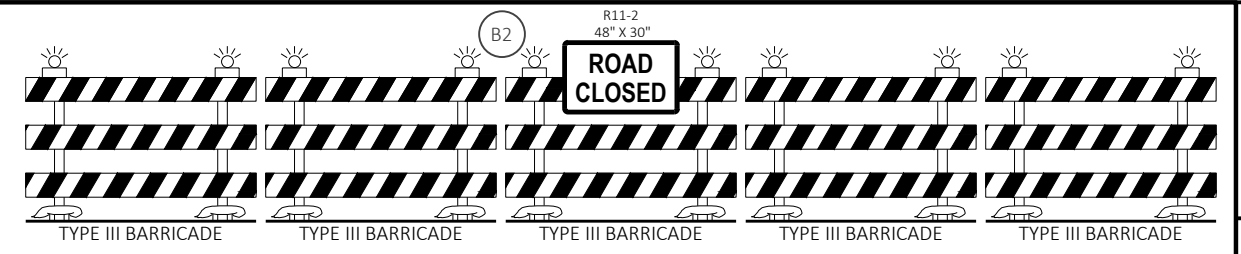
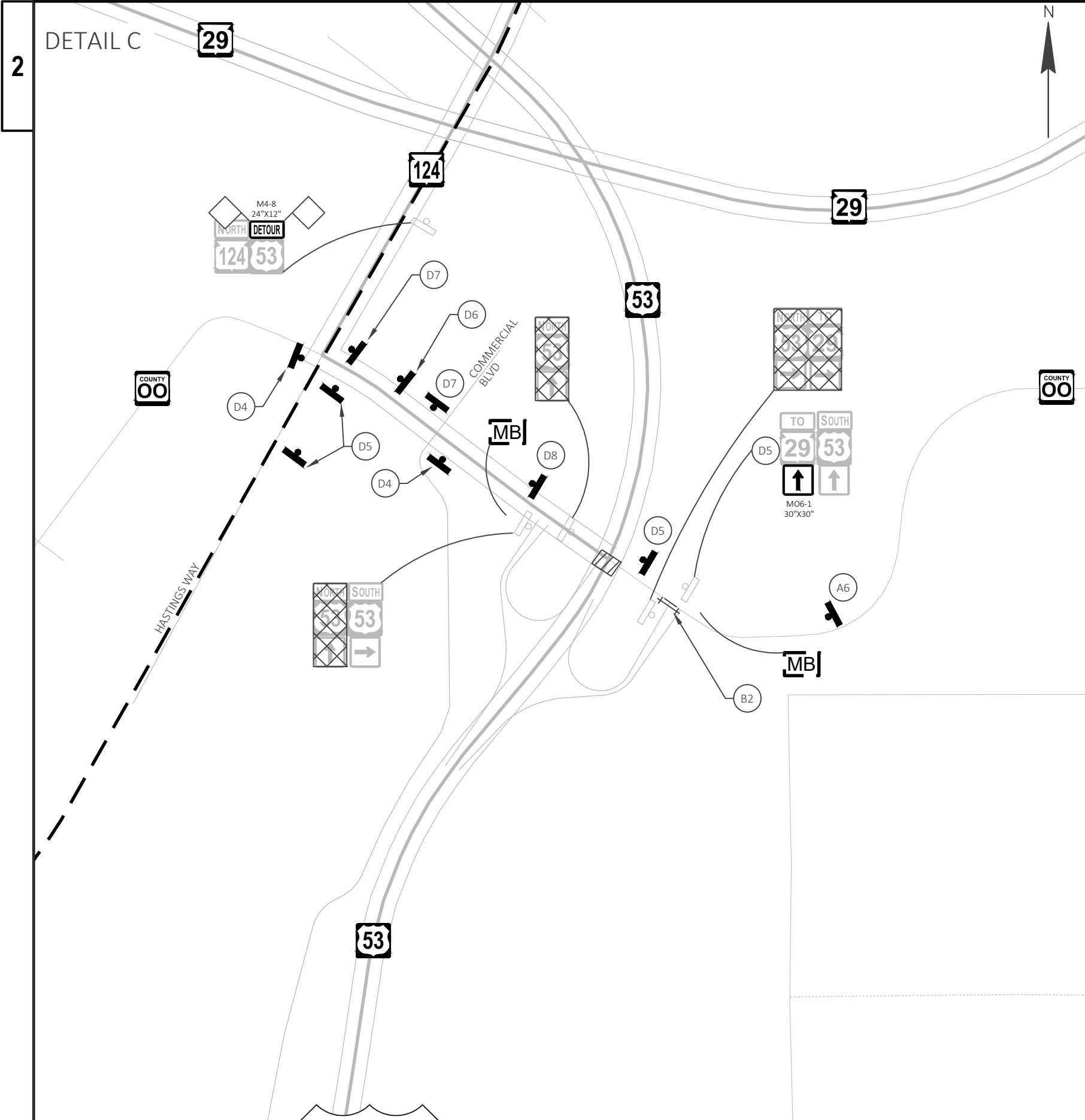


#### GENERAL NOTES

- ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- EXACT NUMBER, LOCATION, AND SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
- PCMS MESSAGE BOARDS ARE USED FOR 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.
- FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- \*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

#### APPLICABLE SDD TO FOLLOW

- SDD 15C02-A BARRICADES AND SIGNS FOR MAINLINE CLOSURES
- SDD 15C02-B DETAIL D BARRICADES AND SIGNS FOR VARIOUS CLOSURES
- SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES
- SDD 15D12-B TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION



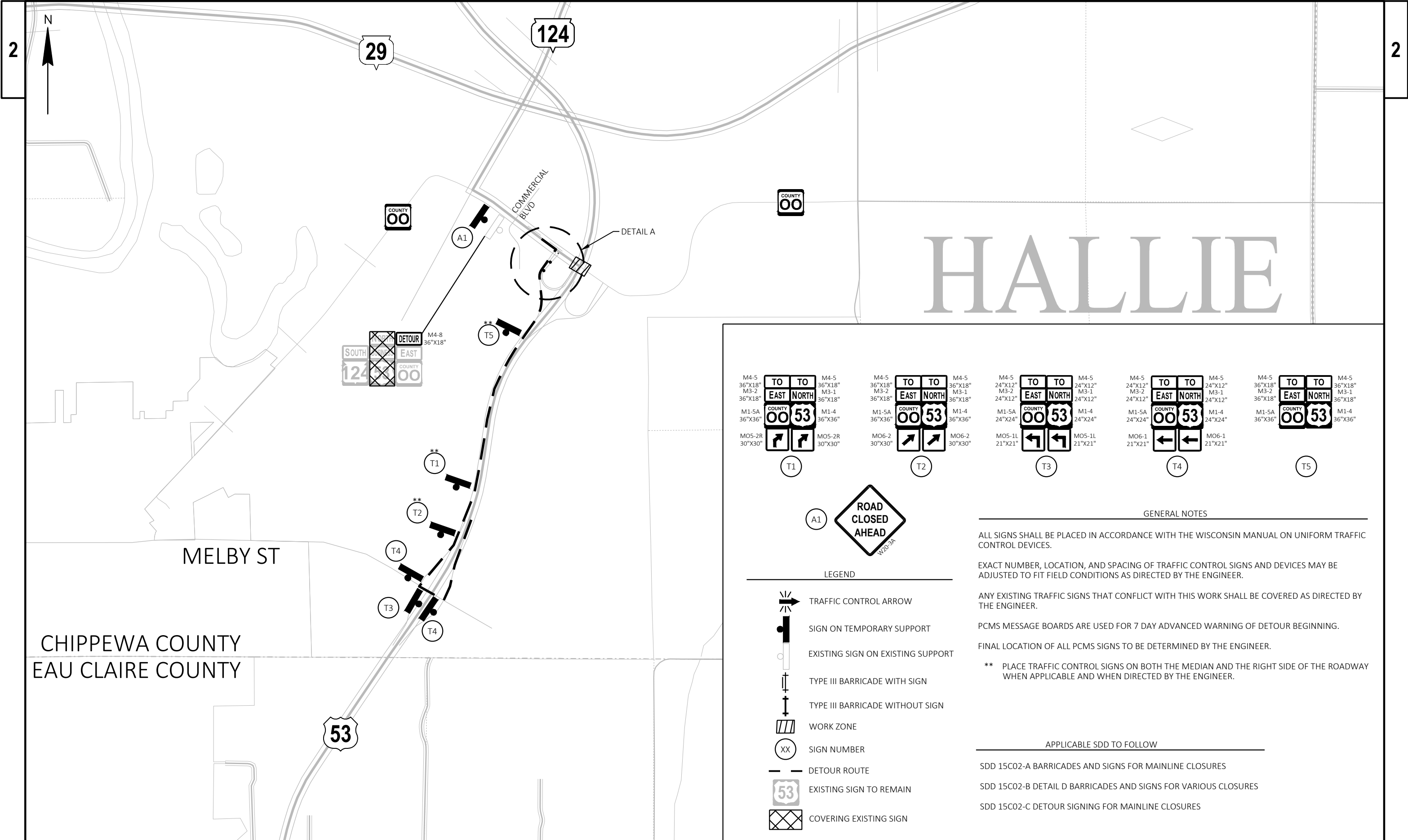
PLACE PCMS MESSAGE BOARDS FOR MIN 7 DAYS, PRIOR TO UTILIZING USH 53 DETOUR.

GENERAL NOTES

- ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
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APPLICABLE SDD TO FOLLOW

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- SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES
- SDD 15D12-B TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION



# HALLIE

M4-5 36"x18" M3-2 36"x18"	TO EAST	TO NORTH	M4-5 36"x18" M3-1 36"x18"	M4-5 36"x18" M3-2 36"x18"	TO EAST	TO NORTH	M4-5 36"x18" M3-1 36"x18"	M4-5 24"x12" M3-2 24"x12"	TO EAST	TO NORTH	M4-5 24"x12" M3-1 24"x12"	M4-5 24"x12" M3-2 24"x12"	TO EAST	TO NORTH	M4-5 36"x18" M3-2 36"x18"	TO EAST	TO NORTH	M4-5 36"x18" M3-1 36"x18"
M1-5A 36"x36"	COUNTY 00 53		M1-4 36"x36"	M1-5A 36"x36"	COUNTY 00 53		M1-4 36"x36"	M1-5A 24"x24"	COUNTY 00 53		M1-4 24"x24"	M1-5A 24"x24"	COUNTY 00 53		M1-4 36"x36"	COUNTY 00 53		M1-4 36"x36"
M05-2R 30"x30"	↗ ↘		M05-2R 30"x30"	M06-2 30"x30"	↗ ↘		M06-2 30"x30"	M05-1L 21"x21"	← →		M05-1L 21"x21"	M06-1 21"x21"	← →		M06-1 21"x21"	← →		M06-1 21"x21"
T1			T2			T3			T4			T5						



LEGEND

- TRAFFIC CONTROL ARROW
- SIGN ON TEMPORARY SUPPORT
- EXISTING SIGN ON EXISTING SUPPORT
- TYPE III BARRICADE WITH SIGN
- TYPE III BARRICADE WITHOUT SIGN
- WORK ZONE
- SIGN NUMBER
- DETOUR ROUTE
- EXISTING SIGN TO REMAIN
- COVERING EXISTING SIGN

GENERAL NOTES

ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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PCMS MESSAGE BOARDS ARE USED FOR 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.

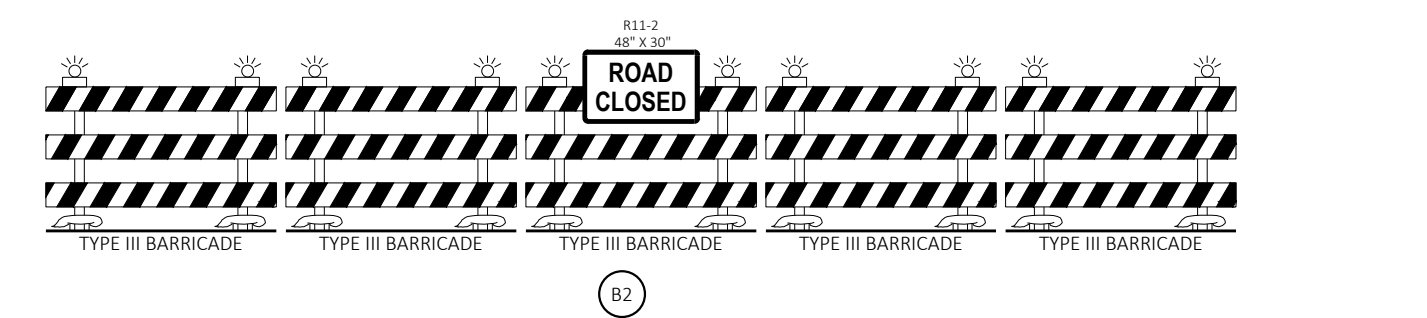
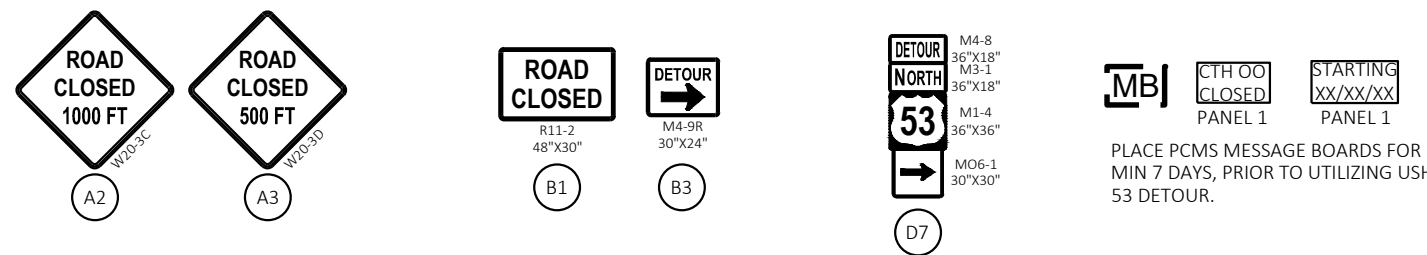
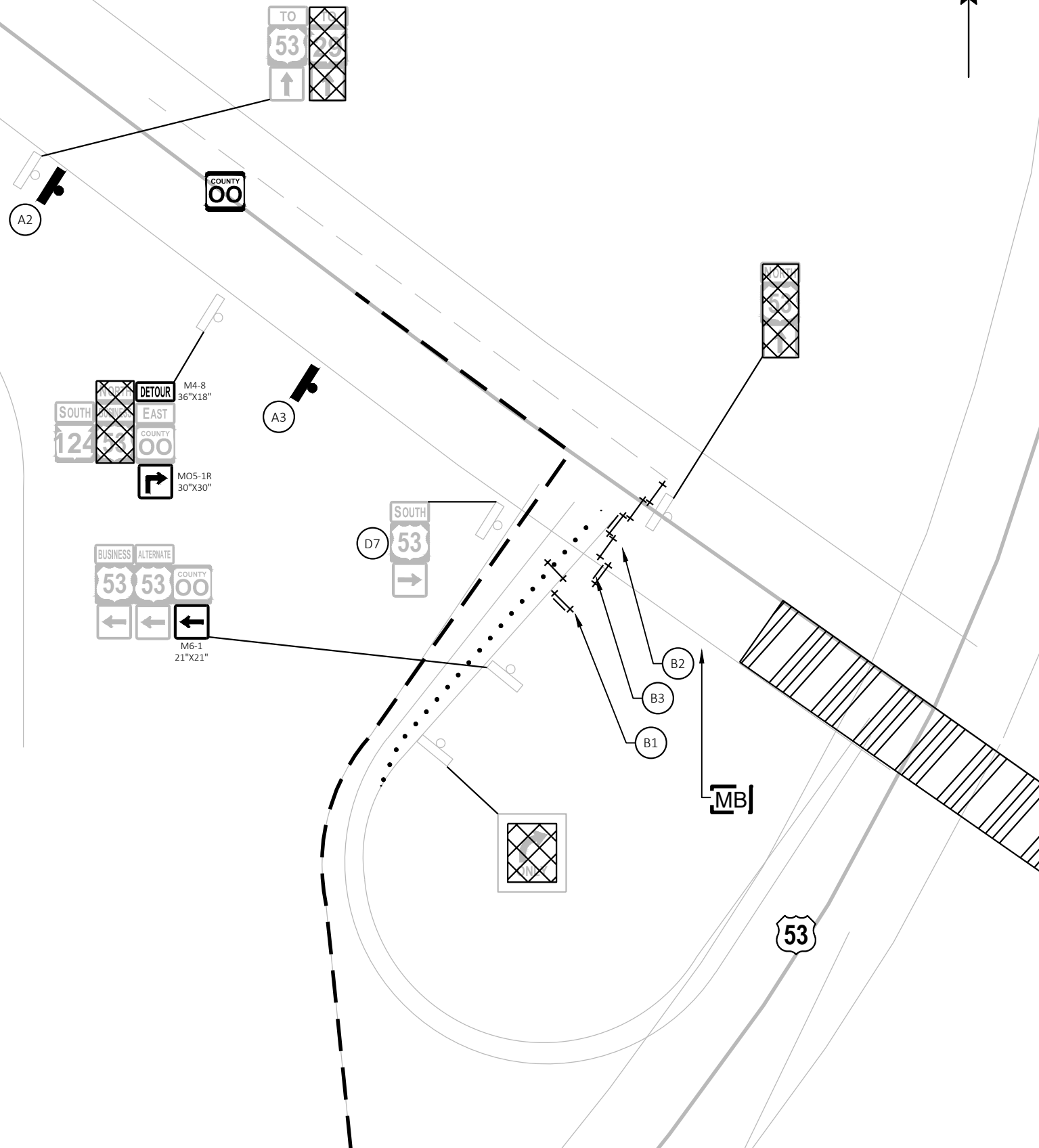
FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.

\*\* PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.

APPLICABLE SDD TO FOLLOW

- SDD 15C02-A BARRICADES AND SIGNS FOR MAINLINE CLOSURES
- SDD 15C02-B DETAIL D BARRICADES AND SIGNS FOR VARIOUS CLOSURES
- SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES





LEGEND	GENERAL NOTES
TRAFFIC CONTROL ARROW	ALL SIGNS SHALL BE PLACED IN ACCORDANCE WITH THE WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
SIGN ON TEMPORARY SUPPORT	EXACT NUMBER, LOCATION, AND SPACING OF TRAFFIC CONTROL SIGNS AND DEVICES MAY BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
EXISTING SIGN ON EXISTING SUPPORT	ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER.
TYPE III BARRICADE WITH SIGN	PCMS MESSAGE BOARDS ARE USED FOR 7 DAY ADVANCED WARNING OF DETOUR BEGINNING.
TYPE III BARRICADE WITHOUT SIGN	FINAL LOCATION OF ALL PCMS SIGNS TO BE DETERMINED BY THE ENGINEER.
WORK ZONE	ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
SIGN NUMBER	PLACE TRAFFIC CONTROL SIGNS ON BOTH THE MEDIAN AND THE RIGHT SIDE OF THE ROADWAY WHEN APPLICABLE AND WHEN DIRECTED BY THE ENGINEER.
DETOUR ROUTE	
EXISTING SIGN TO REMAIN	
COVERING EXISTING SIGN	
TRAFFIC CONTROL DRUM, 25' SPACING TYP	
	APPLICABLE SDD TO FOLLOW
	SDD 15C02-A BARRICADES AND SIGNS FOR MAINLINE CLOSURES
	SDD 15C02-B DETAIL D BARRICADES AND SIGNS FOR VARIOUS CLOSURES
	SDD 15C02-C DETOUR SIGNING FOR MAINLINE CLOSURES

Estimate Of Quantities

1190-01-60

Line	Item	Item Description	Unit	Total	Qty
0002	203.0220	Removing Structure (structure) 01. B-9-227	EACH	1.000	1.000
0004	206.1001	Excavation for Structures Bridges (structure) 01. B-9-227	EACH	1.000	1.000
0006	210.1500	Backfill Structure Type A	TON	29.000	29.000
0008	213.0100	Finishing Roadway (project) 01. 1190-01-60	EACH	1.000	1.000
0010	415.0410	Concrete Pavement Approach Slab	SY	23.000	23.000
0012	416.0610	Drilled Tie Bars	EACH	8.000	8.000
0014	416.1010	Concrete Surface Drains	CY	1.000	1.000
0016	502.0100	Concrete Masonry Bridges	CY	45.000	45.000
0018	502.3200	Protective Surface Treatment	SY	88.000	88.000
0020	502.3210	Pigmented Surface Sealer	SY	52.000	52.000
0022	503.0170	Prestressed Girder Type I 70-Inch	LF	120.000	120.000
0024	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	11,140.000	11,140.000
0026	506.4000	Steel Diaphragms (structure) 01. B-9-227	EACH	2.000	2.000
0028	509.1500	Concrete Surface Repair	SF	50.000	50.000
0030	511.1200	Temporary Shoring (structure) 01. B-9-227	SF	60.000	60.000
0032	513.9006.S	Removing and Resetting Tubular Railing (structure) 01. B-9-227	EACH	1.000	1.000
0034	516.0500	Rubberized Membrane Waterproofing	SY	3.000	3.000
0036	517.1010.S	Concrete Staining (structure) 01. B-9-227	SF	1,570.000	1,570.000
0038	603.8000	Concrete Barrier Temporary Precast Delivered	LF	300.000	300.000
0040	603.8125	Concrete Barrier Temporary Precast Installed	LF	300.000	300.000
0042	619.1000	Mobilization	EACH	1.000	1.000
0044	642.5001	Field Office Type B	EACH	1.000	1.000
0046	643.0300	Traffic Control Drums	DAY	1,687.000	1,687.000
0048	643.0420	Traffic Control Barricades Type III	DAY	255.000	255.000
0050	643.0705	Traffic Control Warning Lights Type A	DAY	504.000	504.000
0052	643.0715	Traffic Control Warning Lights Type C	DAY	621.000	621.000
0054	643.0800	Traffic Control Arrow Boards	DAY	36.000	36.000
0056	643.0900	Traffic Control Signs	DAY	1,596.000	1,596.000
0058	643.0910	Traffic Control Covering Signs Type I	EACH	1.000	1.000
0060	643.0920	Traffic Control Covering Signs Type II	EACH	20.000	20.000
0062	643.1050	Traffic Control Signs PCMS	DAY	34.000	34.000
0064	643.5000	Traffic Control	EACH	1.000	1.000
0066	650.6501	Construction Staking Structure Layout (structure) 01. B-9-227	EACH	1.000	1.000
0068	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	250.000	250.000
0070	653.0222	Junction Boxes 18x12x6-Inch	EACH	1.000	1.000
0072	690.0250	Sawing Concrete	LF	60.000	60.000
0074	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000

3

STATION TO	STATION	LOCATION	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610 DRILLED TIE BARS EACH	416.1010 CONCRETE SURFACE DRAINS CY	REMARKS
11+25	- 11+43	RT	23	8	1	CTH OO EB
TOTAL 0010			23	8	1	

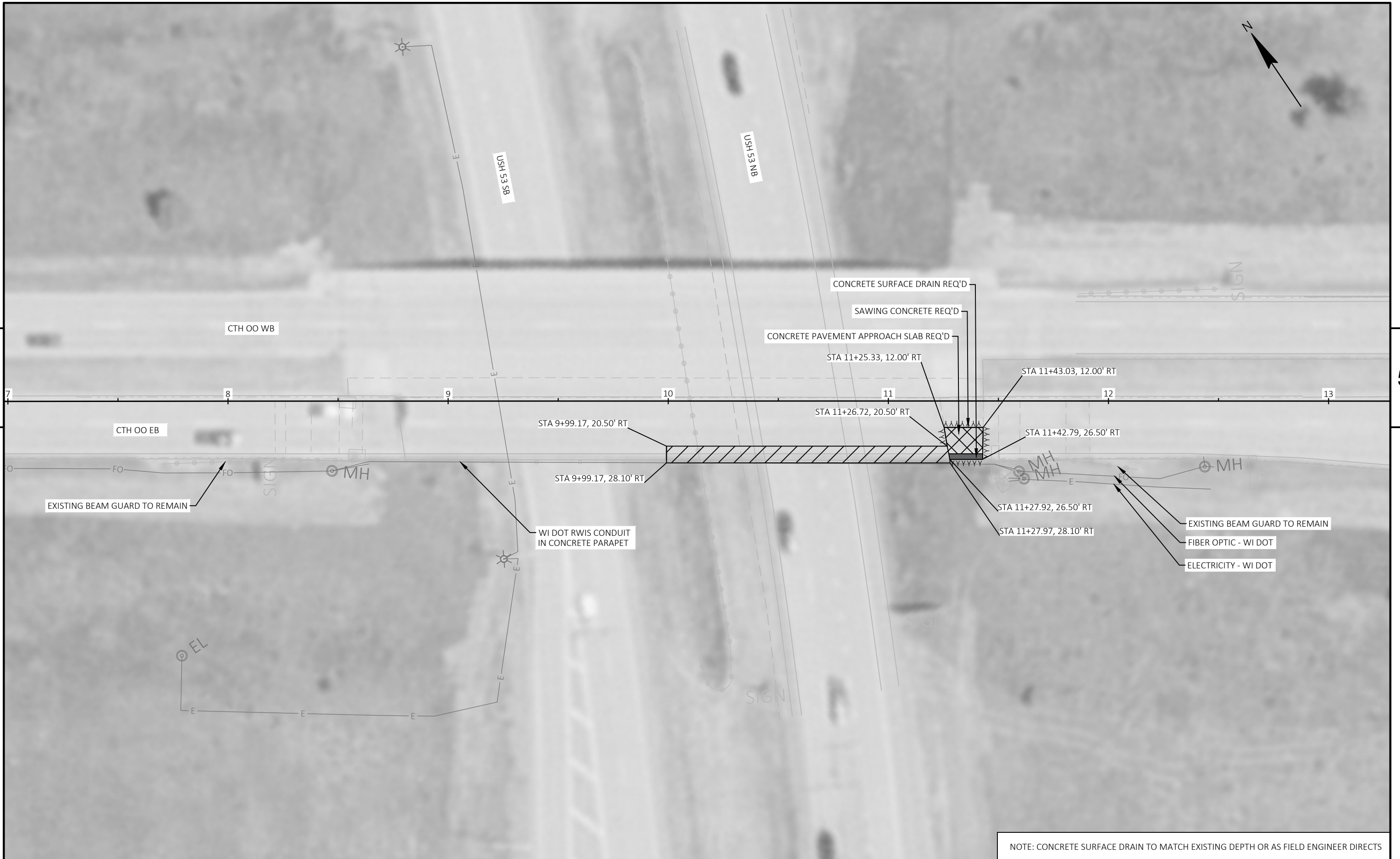
STATION TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	REMARKS
8+68	- 11+50	RT	300	300	CTH OO EB
TOTAL 0010			300	300	

LOCATION	DEVICES	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	REMARKS													
CTH OO	28	18	504	3	18	54	6	18	108	10	18	180	1	18	18	16	18	288	-	-	-	CTH OO, LANE CLOSURE	
USH 53	75	6	450	4	6	24	8	6	48	47	6	282	2	6	12	22	6	132	-	-	-	USH 53, LANE CLOSURE	
USH 53	131	3	393	29	3	87	56	3	168	53	3	159	2	3	6	142	3	426	2	3	6	USH 53 NB DETOUR	
USH 53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	7	21	USH 53 NB DETOUR ADV WARNING
CTH OO & USH 53	34	10	340	9	10	90	18	10	180	-	-	-	-	-	-	75	10	750	1	7	7	CTH OO EB & USH 53 NB DETOUR	
TOTAL 0010			1,687	255			504			621			36			1,596			34				

LOCATION	643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	NUMBER OF CYCLES	NUMBER OF SIGNS	REMARKS
USH 53	-	15	3	5	USH 53 NB DETOUR
CTH OO & USH 53	1	5	1	5	CTH OO EB & USH 53 NB DETOUR
TOTAL 0010		1	20		

NOTE: TRAFFIC CONTROL COVERING SIGNS TYPE I OUTLINED IN TABLE IS FOR ONE CYCLE

STATION TO	STATION	LOCATION	690.0250 SAWING CONCRETE LF
11+25	- 11+43	RT	60
TOTAL 0010			60



NOTE: CONCRETE SURFACE DRAIN TO MATCH EXISTING DEPTH OR AS FIELD ENGINEER DIRECTS

PROJECT NO: 1190-01-60	HWY: USH 53	COUNTY: CHIPPEWA	PLAN SHEETS	SHEET	<b>E</b>
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## Standard Detail Drawing List

08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
14B07-16A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16I	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16J	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16K	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16L	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16M	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-16N	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-08D	ON RAMP LANE CLOSURE
15C02-08E	OFF RAMP LANE CLOSURE
15D04-01	TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING
15D07-05	TRAFFIC CONTROL, TEMPORARY EXIT RAMP CROSSOVER
15D12-10A	TRAFFIC CONTROL, LANE CLOSURE
15D12-10B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-06C	TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE
15D40-04B	TRAFFIC CONTROL, FULL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER
15D42-01	TRAFFIC CONTROL, TWO LANE FULL FREEWAY CLOSURE

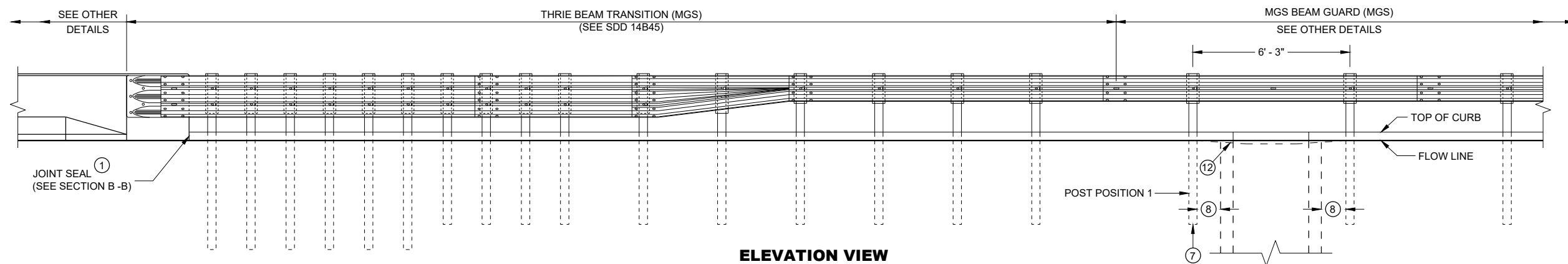
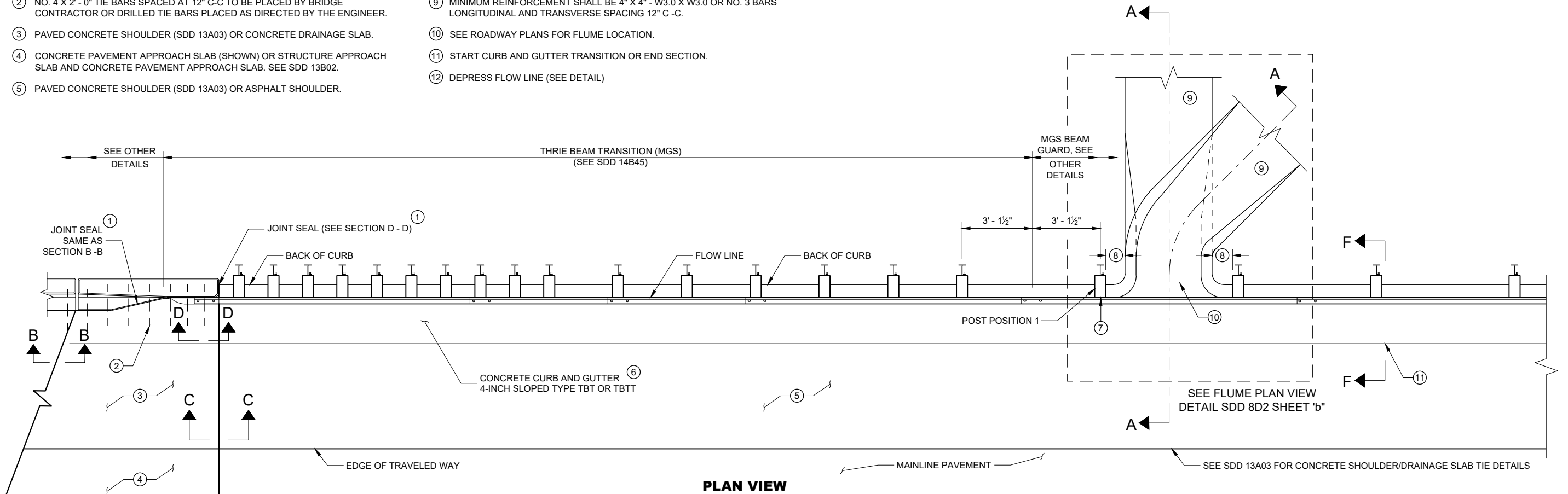
**GENERAL NOTES**

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)



**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

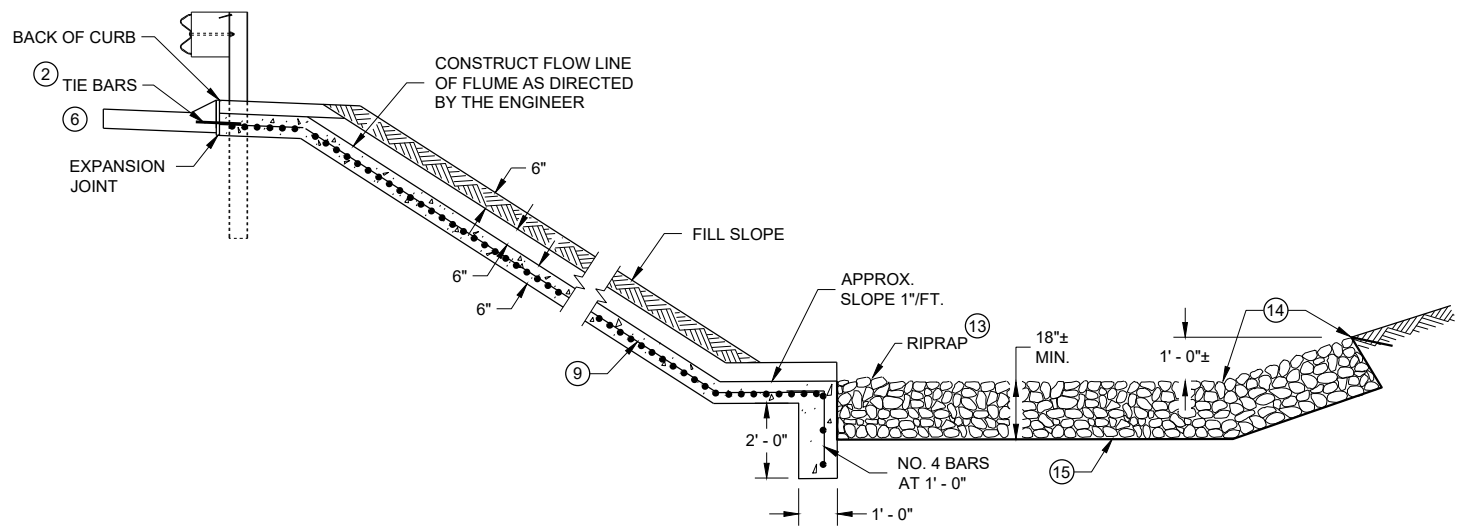
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

6

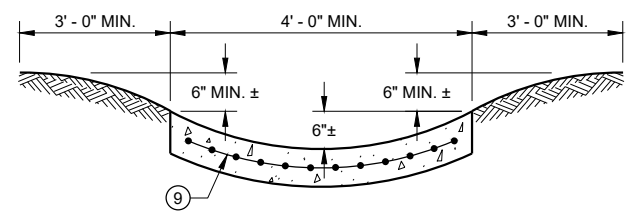
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SDD 08D02 - 07a

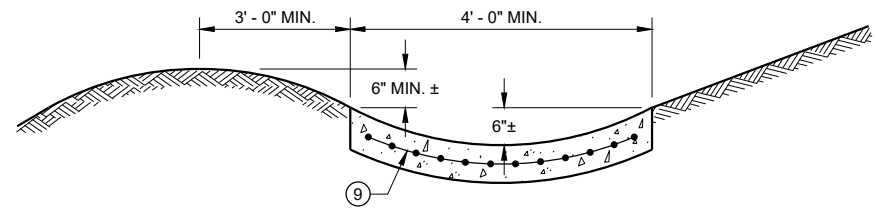
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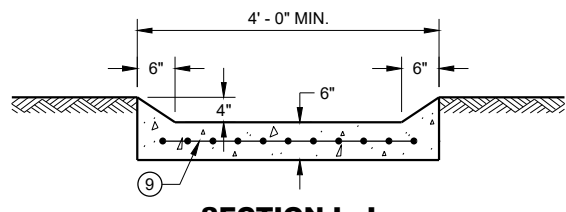
**SECTION A - A**



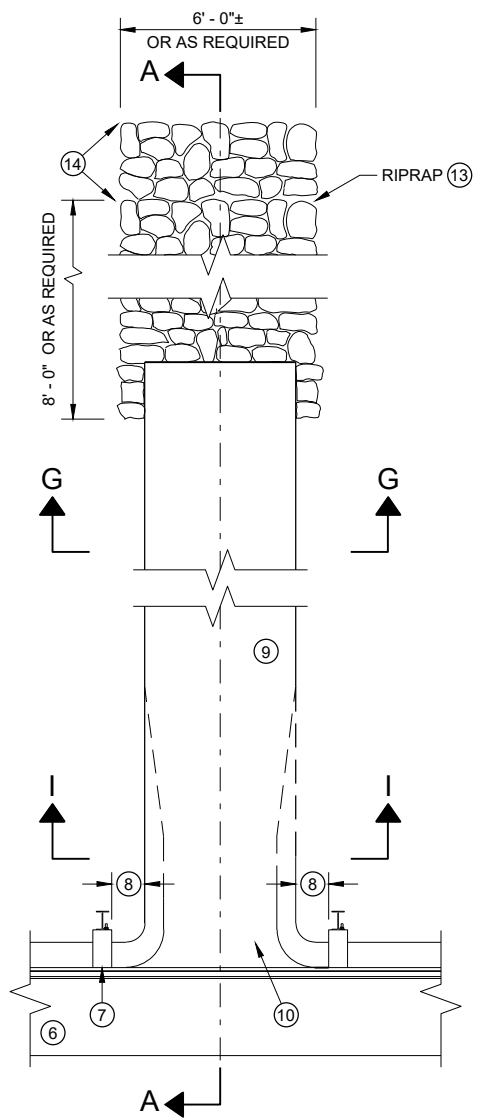
**SECTION G - G**



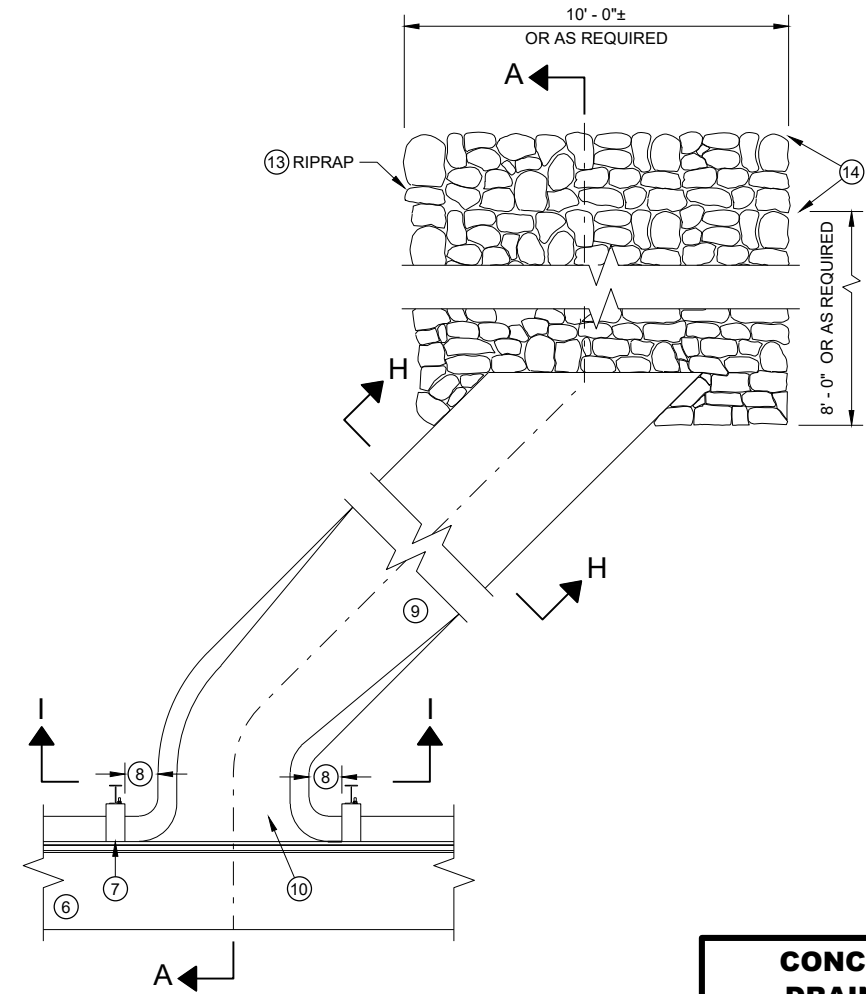
**SECTION H - H**



**SECTION I - I**



**PLAN VIEW PERPENDICULAR FLUME**



**PLAN 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.

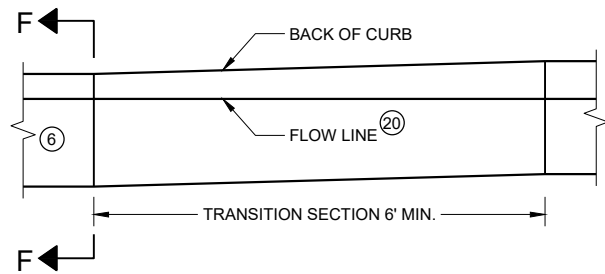
ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

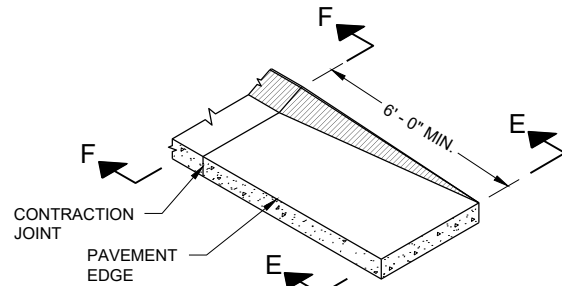
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
- ⑮ GEOTEXTILE FABRIC TYPE HR.

**CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

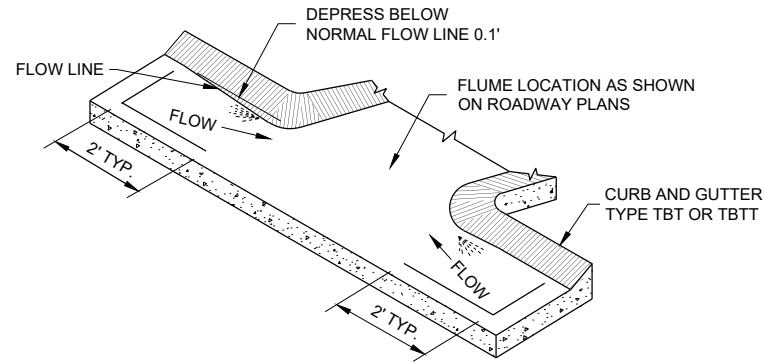
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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



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



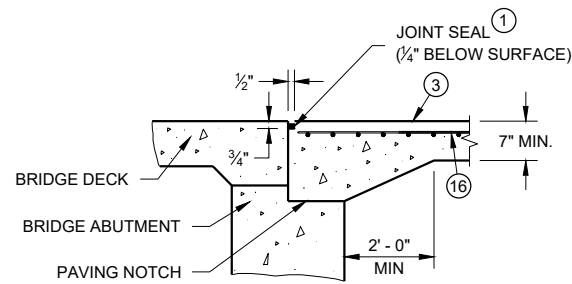
**CURB AND GUTTER FLOW LINE DEPRESSION  
AT FLUMES CONCRETE CURB AND GUTTER  
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT**

**GENERAL NOTES**

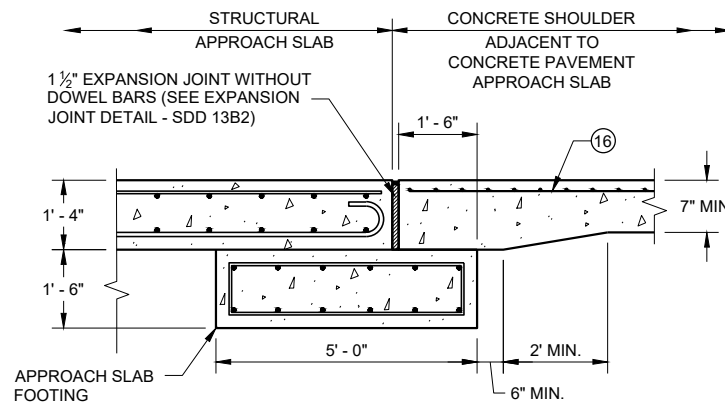
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

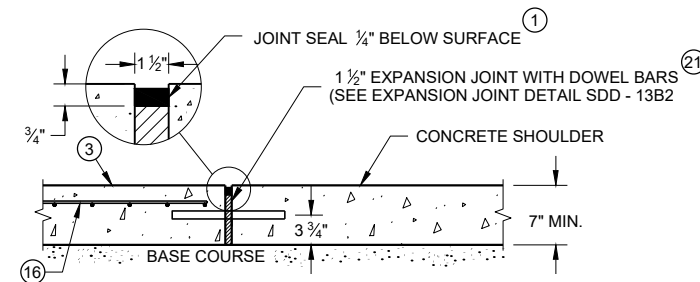
- ① USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ② NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
- ④ CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
- ⑤ PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
- ⑥ CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' - 0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
- ⑦ PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
- ⑧ CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
- ⑨ MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑩ SEE ROADWAY PLANS FOR FLUME LOCATION.
- ⑪ START CURB AND GUTTER TRANSITION OR END SECTION.
- ⑫ DEPRESS FLOW LINE (SEE DETAIL)
- ⑬ MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
- ⑭ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑮ GEOTEXTILE FABRIC TYPE HR.
- ⑯ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑰ MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.
- ⑱ MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.
- ⑲ ALIGN FACE OF POST BLOCK WITH FLOW LINE.
- ⑳ MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.
- ㉑ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



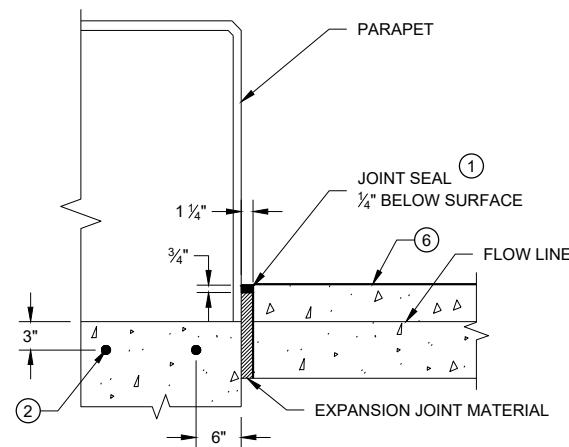
**SECTION B-B**



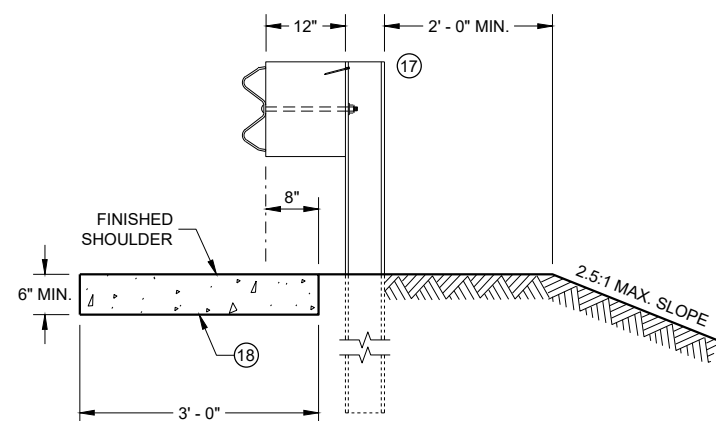
**SECTION C - C  
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL  
APPROACH SLAB AND CONCRETE APPROACH SLAB**



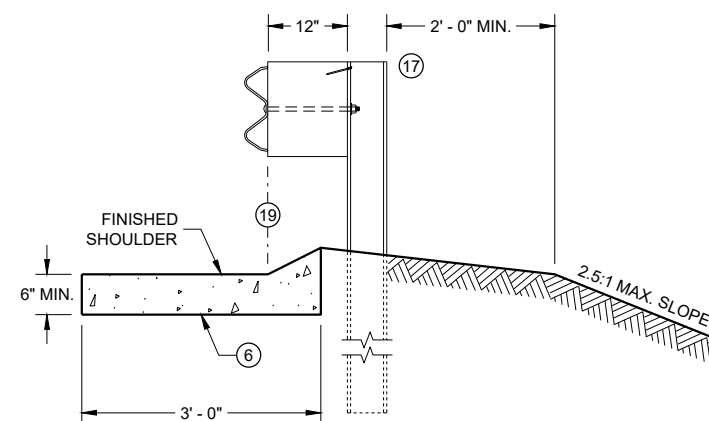
**SECTION C - C  
JOINT DETAIL FOR BRIDGE APPROACH  
WITH CONCRETE SHOULDERS**



**SECTION D - D**



**SECTION E - E**



**SECTION F - F**

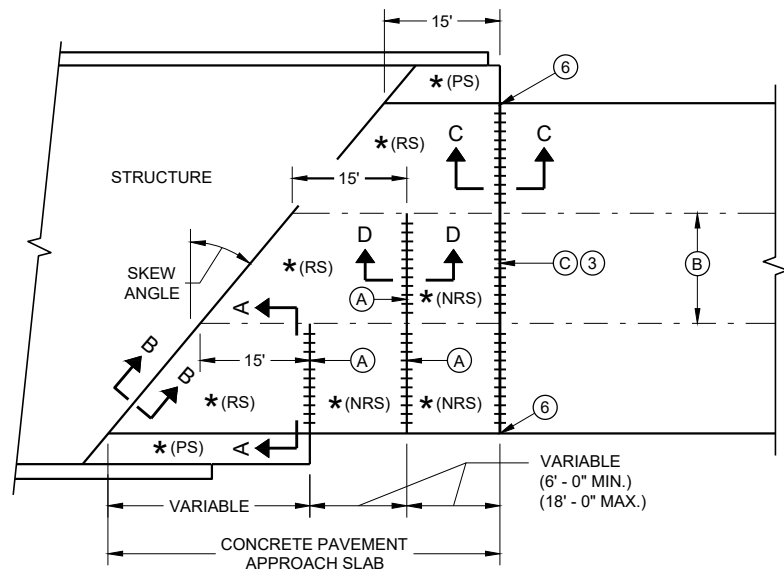
**CONCRETE SURFACE  
DRAINS FLUME TYPE  
AT STRUCTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

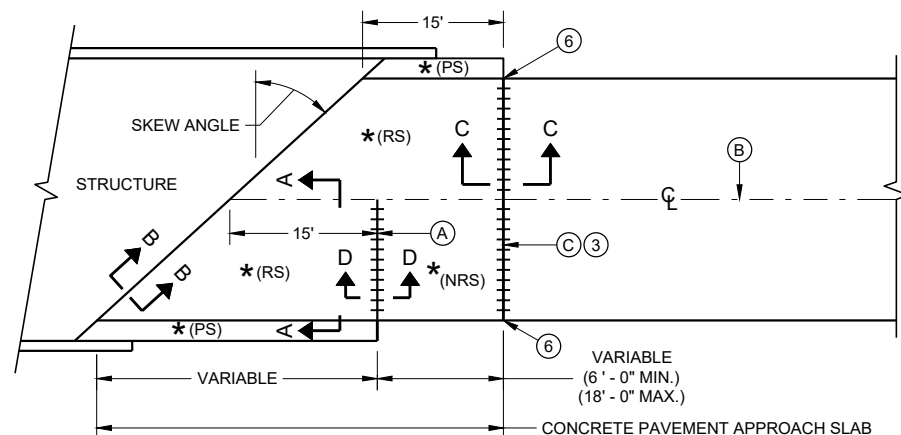
APPROVED  
February 2020 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

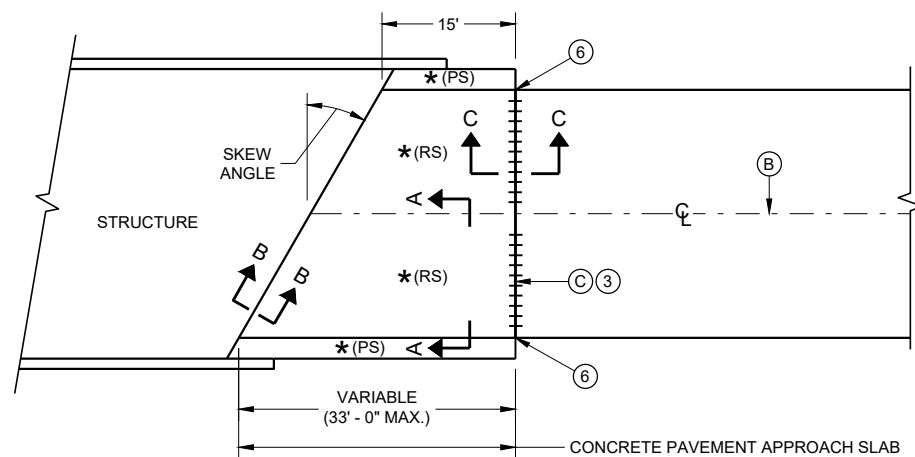




**SKewed APPROACH  
(PAVEMENT MORE THAN TWO LANES)**

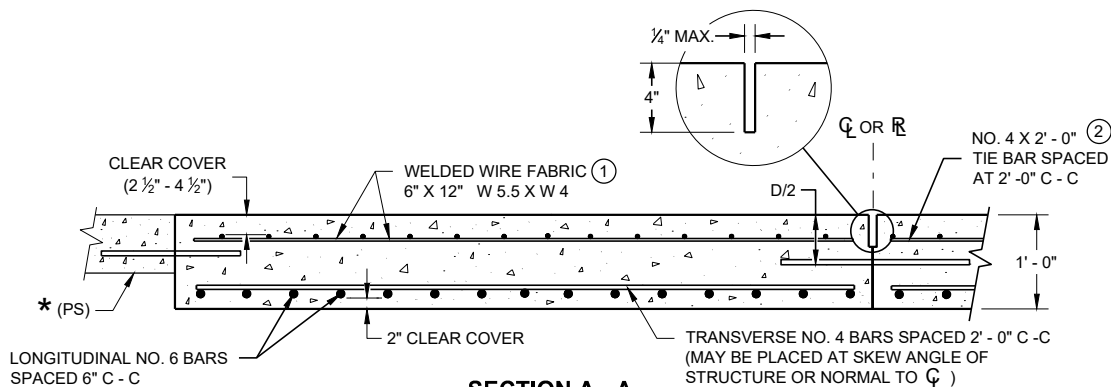


**SKews > 20°  
(PAVEMENT WIDTH ≤ 30')**

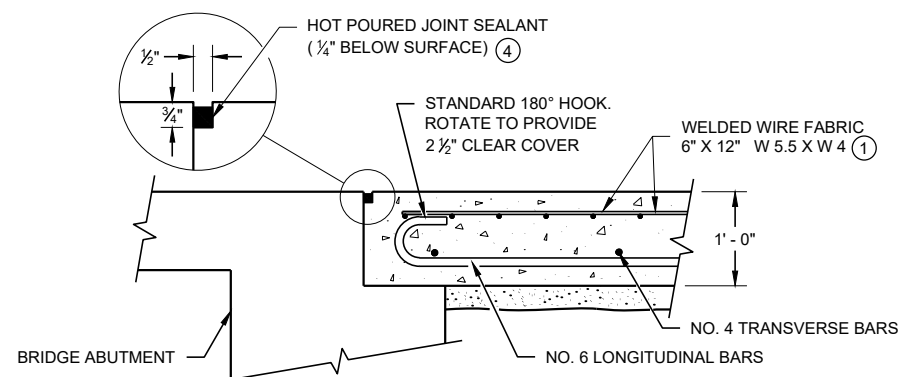


**SKews ≤ 20°  
(PAVEMENT WIDTH ≤ 30')**  
**APPROACH SLAB AND ADJACENT PAVEMENT**

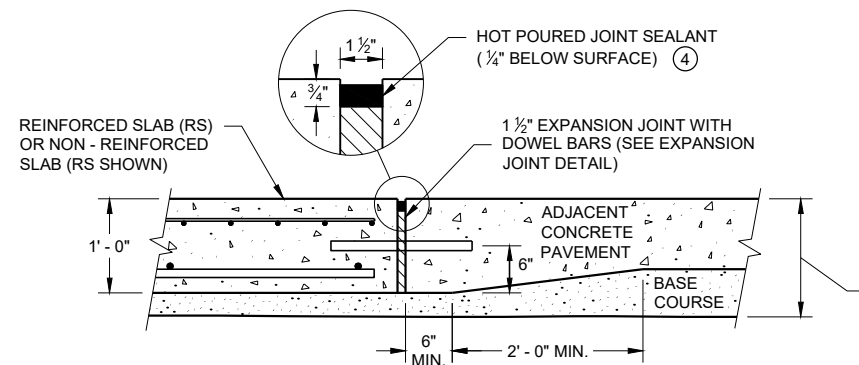
- \* (RS) = REINFORCED CONCRETE SLAB
- \* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- \* (NRS) = NON - REINFORCED CONCRETE SLAB
- \*\*\* STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A  
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B  
BEND DETAIL  
BOTTOM REINFORCEMENT**



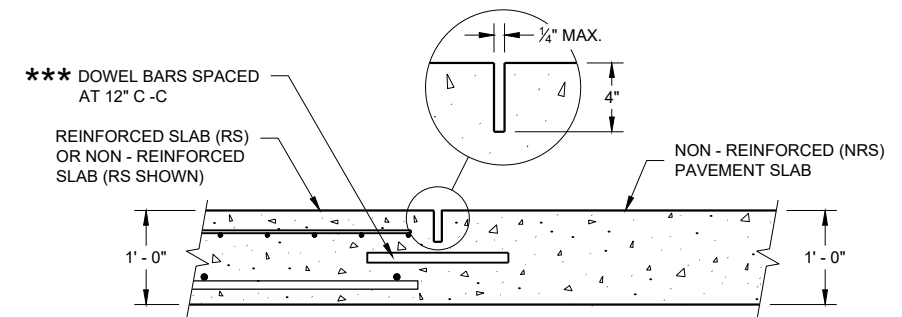
**SECTION C - C  
TRANSITION DETAIL  
APPROACH SLAB TO ADJACENT PAVEMENT**

**GENERAL NOTES**

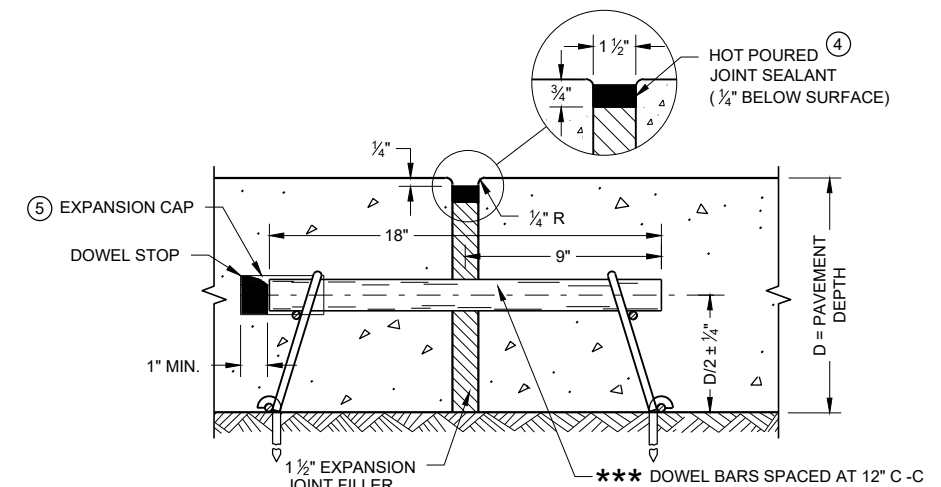
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- (A) STANDARD CONTRACTION JOINT NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO  $\bar{C}$  OR  $\bar{R}$ .



**SECTION D - D  
CONTRACTION JOINT**



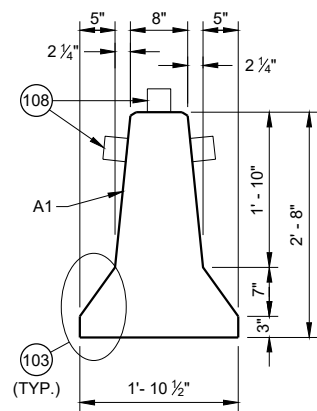
**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT  
APPROACH SLAB**

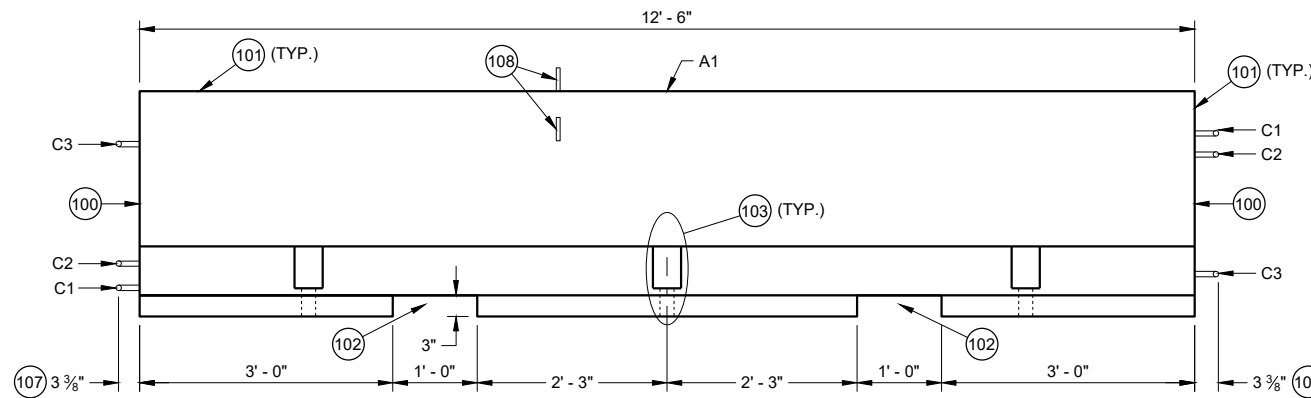
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



**CROSS SECTION**



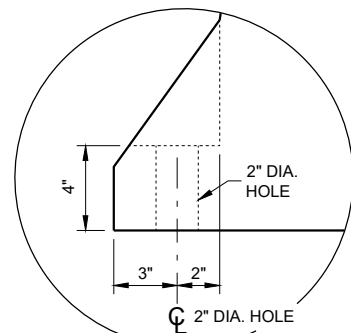
**PROFILE VIEW**

**GENERAL NOTES**

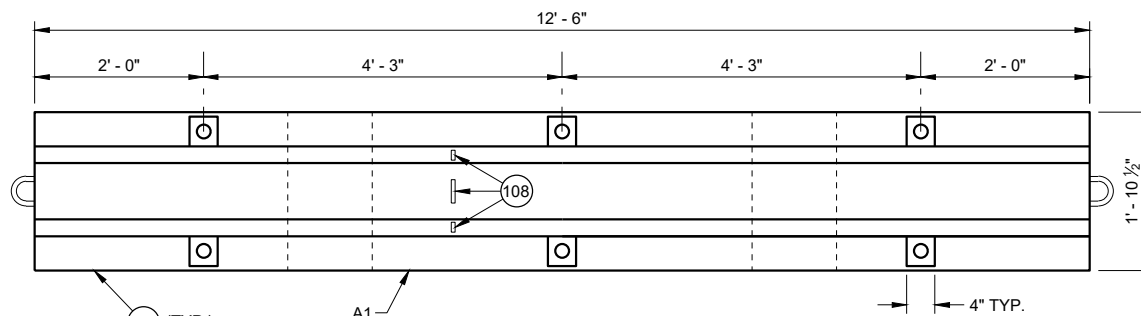
PLACE BARRIER ON PAVED SURFACE. BEFORE PLACEMENT OF TEMPORARY BARRIER, REMOVE ALL LOOSE MATERIAL FROM PAVED SURFACE.

LOOP BARS C1, C2 AND C3 ARE NOT FOR PLACEMENT OR MOVEMENT OF BARRIER.

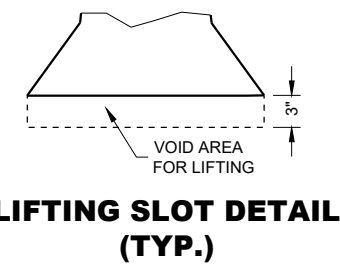
- (100) PERMANENTLY FORM INTO ONE END OF BARRIER THE FOLLOWING INFORMATION:  
A. TYPE OF BARRIER: WI-CBTP  
B. MANUFACTURER  
C. DATE OF MANUFACTURE (MONTH AND YEAR)
- (101) 1" OPTIONAL CHAMFER
- (102) SEE LIFTING SLOT DETAIL
- (103) SEE ANCHOR BLOCK DETAIL
- (104) 1 3/4" MIN. CLEAR COVER
- (105) 2" MIN. CLEAR COVER
- (106) 1" MIN. CLEAR COVER
- (107) ± 1/8" MEASURED FROM FACE OF CONCRETE BARRIER TO OUTSIDE OF LOOP BAR (TYP.)
- (108) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURERS INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED LEFT OF TRAFFIC AND WHITE WHEN BARRIER IS LOCATED RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART, PROVIDE TO MOUNTED DELINEATORS IN ADDITION TO SIDE MOUNTED DELINEATORS ON BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAT 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.



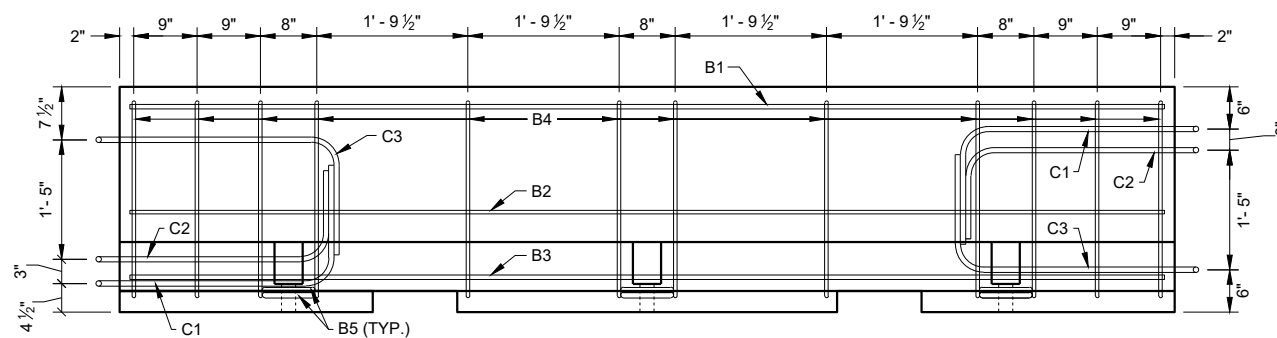
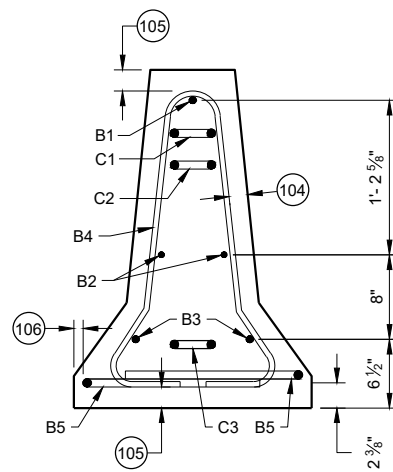
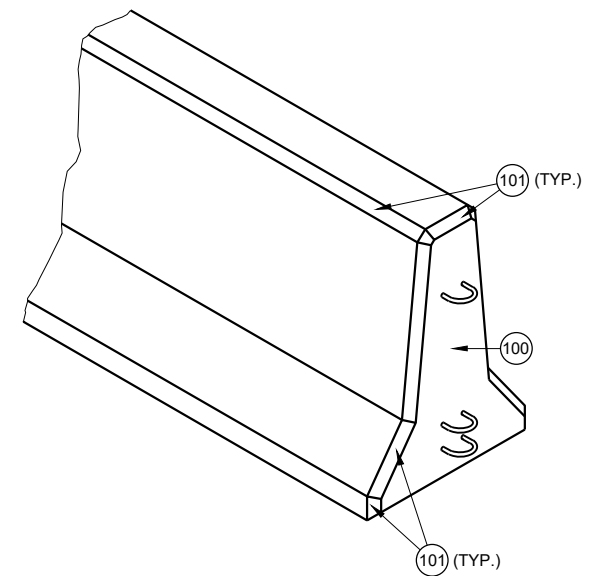
**ANCHOR BLOCK DETAIL**



**PLAN VIEW  
TEMPORARY BARRIER**



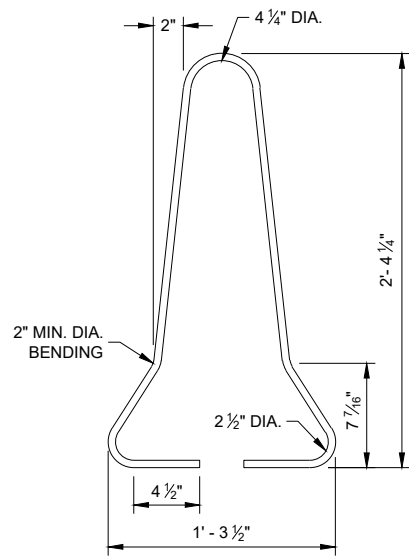
**LIFTING SLOT DETAIL  
(TYP.)**



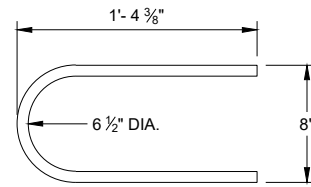
**PROFILE VIEW  
TEMPORARY BARRIER REINFORCEMENT**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

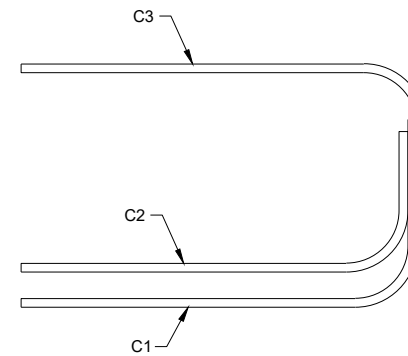
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



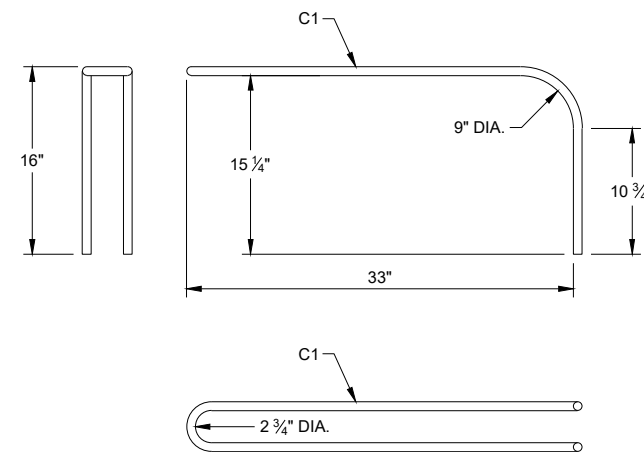
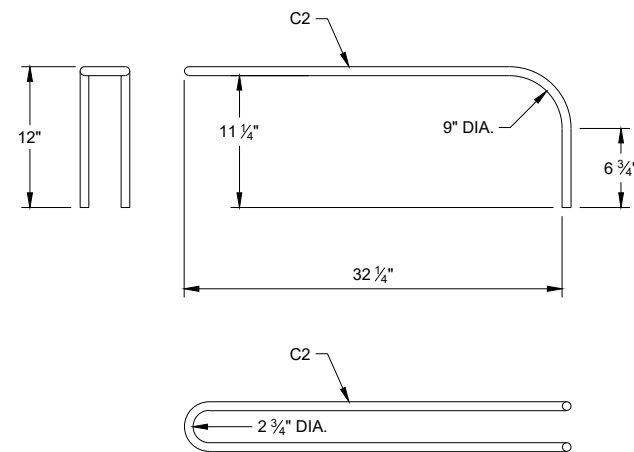
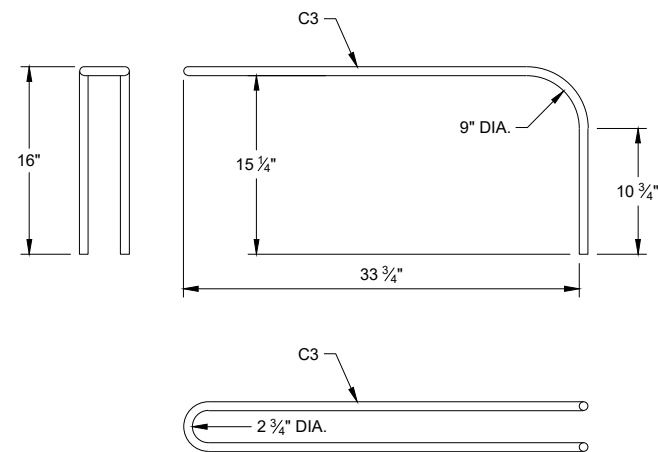
**B4 BAR DETAIL**



**B5 BAR DETAIL**



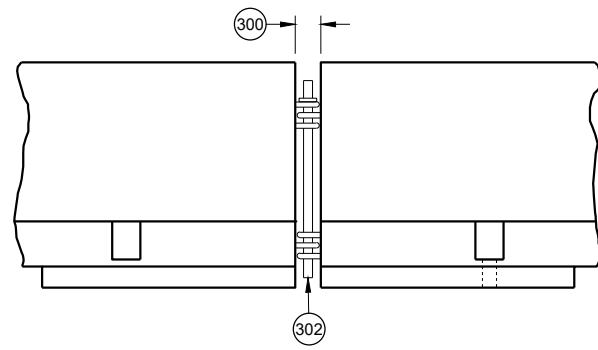
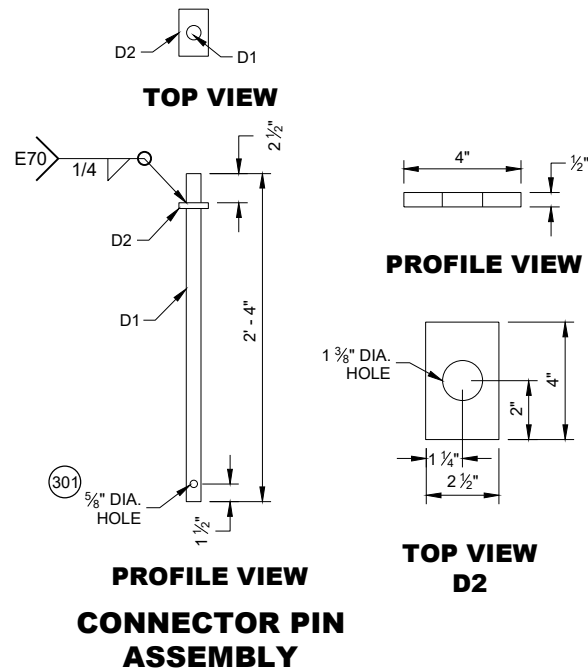
**PROFILE VIEW  
LOOP BAR ASSEMBLY**



**C BAR DETAILS**

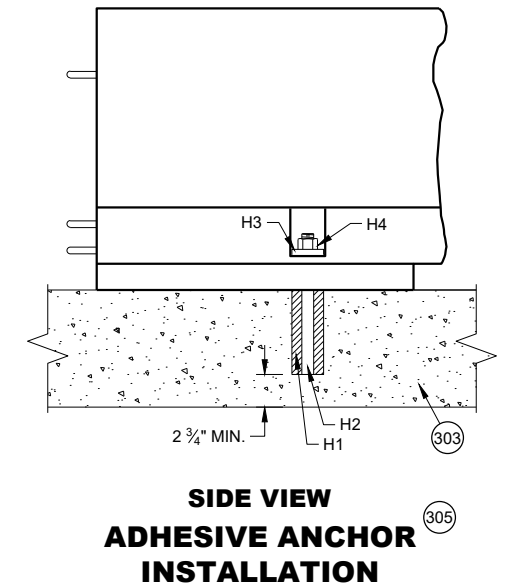
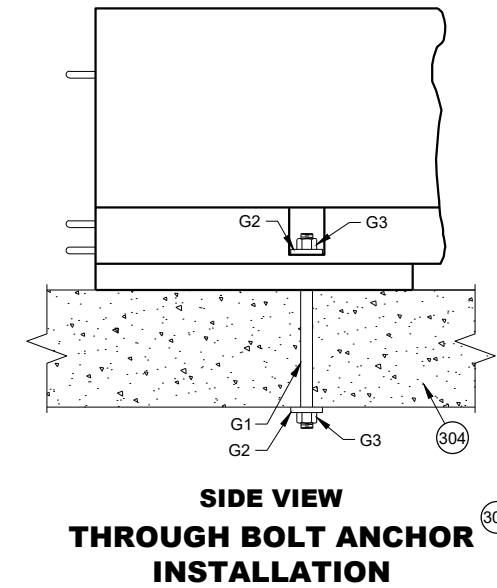
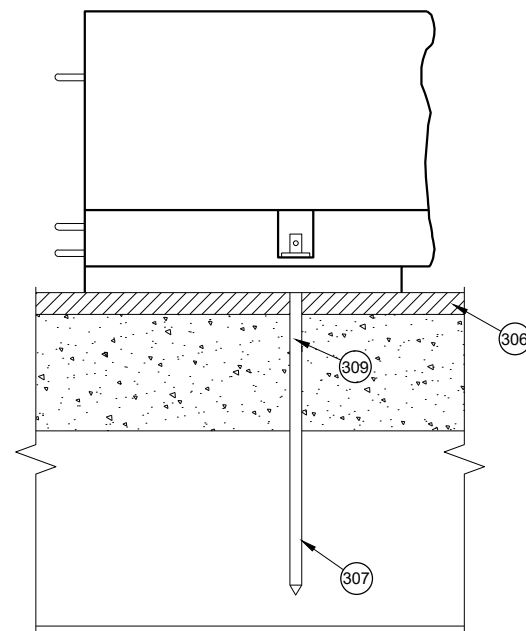
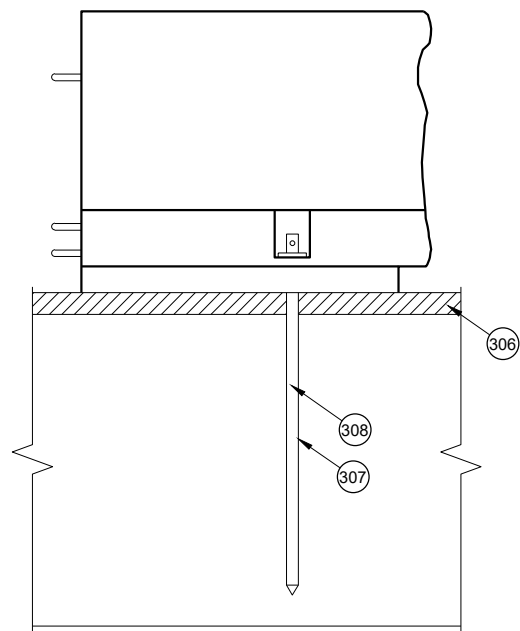
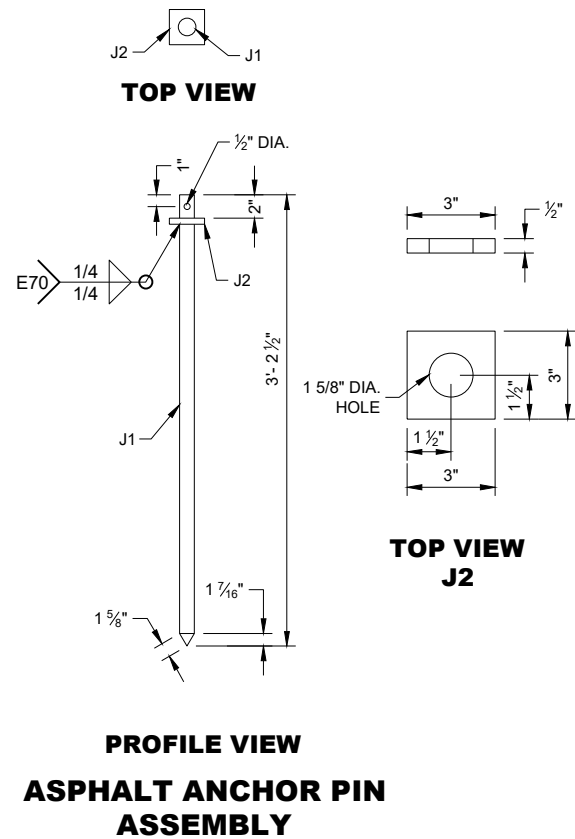
**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



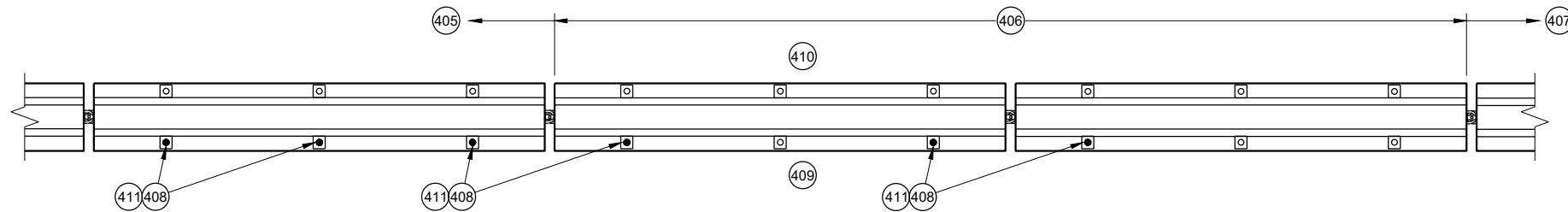
**GENERAL NOTES**

- (300) SET WITH 3 5/8" WOOD BLOCK.
- (301) HOLE IS OPTIONAL.
- (302) CONNECTOR PIN ASSEMBLY.
- (303) CONCRETE PAVEMENT, APPROACH SLAB, OR DECK.
- (304) CONCRETE DECK.
- (305) DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY OR CONCRETE PAVEMENT WITH ASPHALT OVERLAY.
- (306) MINIMUM OF 2" OF ASPHALT.
- (307) ASPHALT ANCHOR PIN ASSEMBLY
- (308) IF DRILLING A PILOT HOLE, THE MAX. DIA. OF THE HOLE IS 3/4"
- (309) WHEN THERE IS ASPHALT OVERLAYING CONCRETE PAVEMENT, A 1 5/8" DIA. PILOT HOLE CAN BE DRILLED INTO THE OVERLAY AND CONCRETE. IF NEEDED DRILL A 3/4" PILOT HOLE IN BASE COURSE.

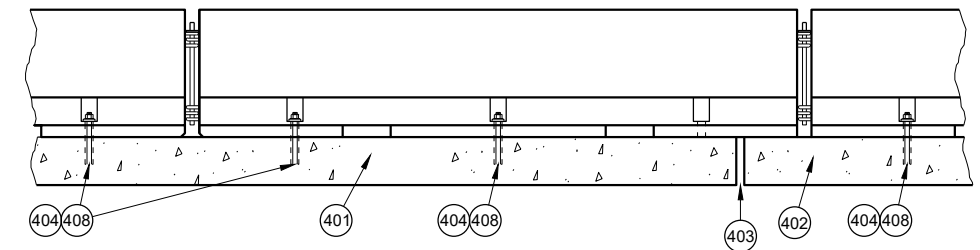


**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

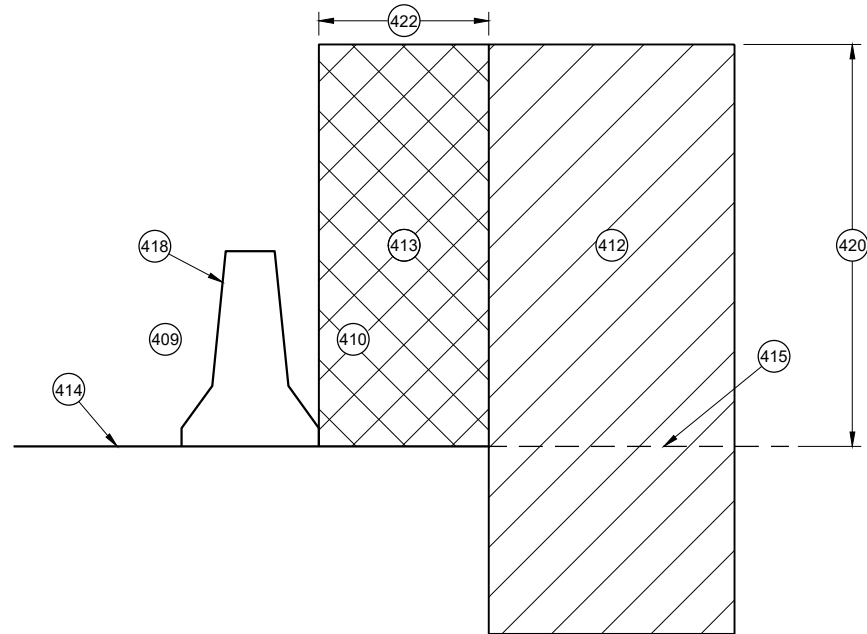
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



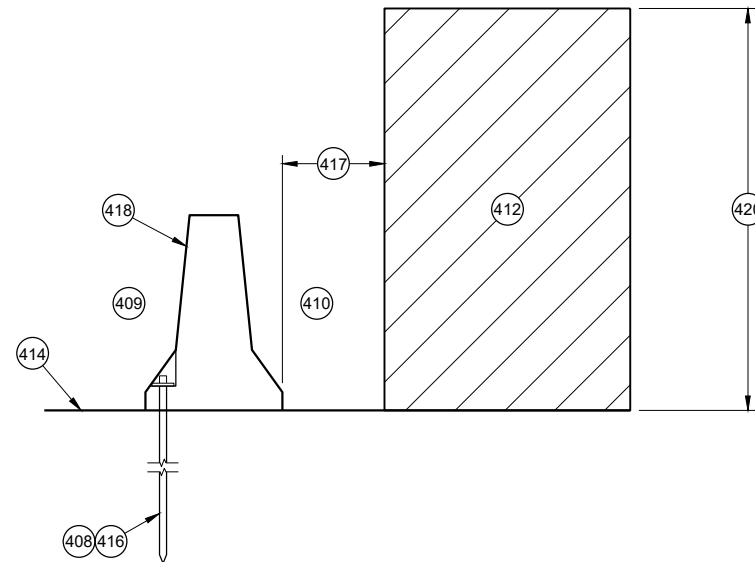
**PLAN VIEW**  
**TRANSITION FROM FREE STANDING TO ANCHORED BARRIER**



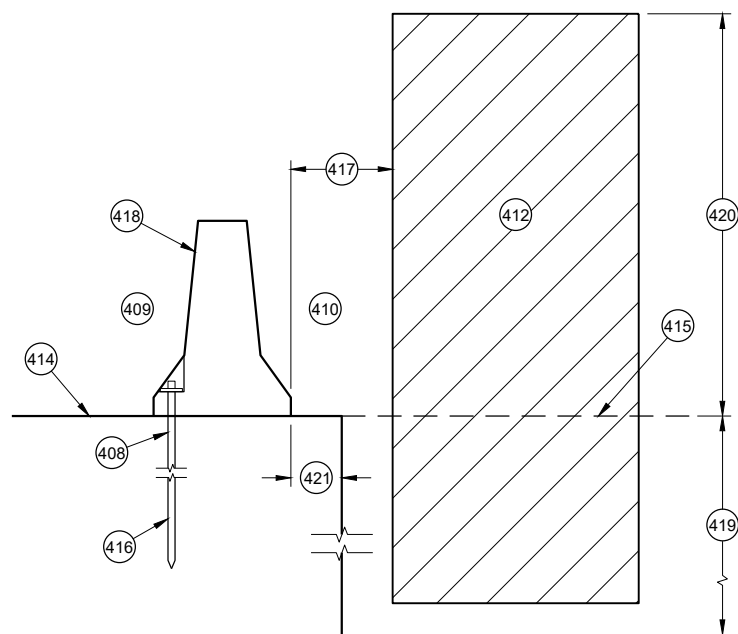
**PROFILE VIEW**  
**ANCHORED BARRIER NEAR EXPANSION JOINT**



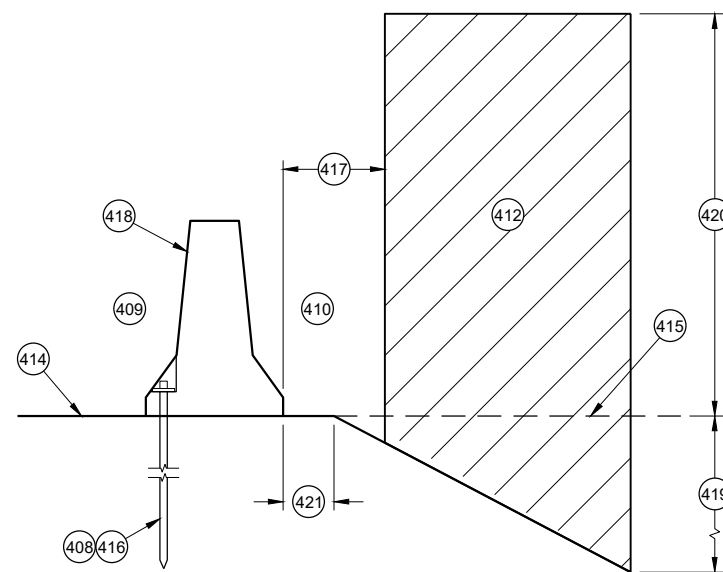
**CROSS SECTION**  
**FREE STANDING BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER FOR OBJECTS ABOVE THE GRADE LINE AND NEAR THE BARRIER**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR VERTICAL DROP OFF**



**CROSS SECTION**  
**ANCHORED BARRIER NEAR A SLOPE**

**GENERAL NOTES**

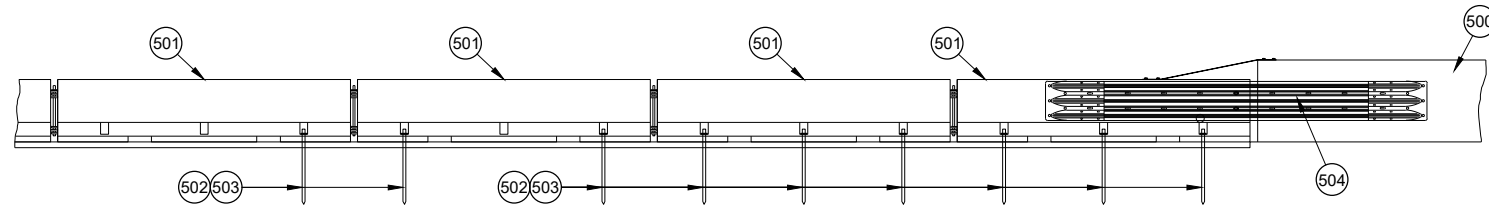
- (400) NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.
- (401) CONCRETE DECK
- (402) CONCRETE DECK OR APPROACH SLAB.
- (403) EXPANSION JOINT
- (404) ADHESIVE ANCHOR SHOWN. SEE ANCHOR DETAILS.
- (405) ANCHORED TEMPORARY BARRIER
- (406) TRANSITION FROM ANCHORED TEMPORARY BARRIER TO FREE STANDING
- (407) FREE STANDING BARRIER
- (408) REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERCIAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.
- (409) TRAFFIC SIDE
- (410) NON-TRAFFIC SIDE
- (411) ANCHOR LOCATION. SEE ANCHORING DETAILS.
- (412) WORK AREA
- (413) AREA FREE OF OBJECTS AND WORKERS
- (414) GRADE LINE
- (415) EXTENDED GRADE LINE
- (416) ANCHORED TEMPORARY BARRIER. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR AN ASPHALT ANCHOR ROD DETAILS FOR MORE INFORMATION. ASPHALT ANCHOR ROD SHOWN.
- (417) WHEN OBJECTS EXTEND ABOVE THE GRADE. A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT.
- (418) OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR ALLOWED TO LEAN AGAINST THE BARRIER WITHOUT WRITTEN PERMISSION OF THE PROJECT ENGINEER.
- (419) DEPTHS OF 3 FEET OR MORE.
- (420) Y = 6.5'
- (421) OFFSET FROM BACK OF BARRIER EDGE:  
 CONCRETE PAVEMENT 0.5'  
 ASPHALT 0.5'
- (422) POSTED SPEED (MPH):  
 45 OR GREATER 4.0'  
 40 OR LOWER 2.0'

**CONCRETE BARRIER**  
**TEMPORARY PRECAST,**  
**12' - 6"**

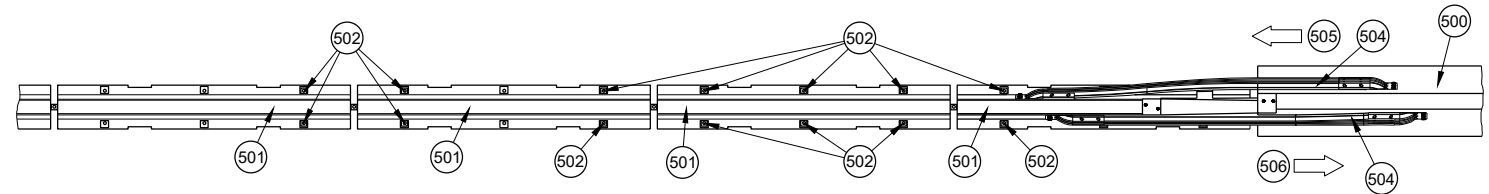
STATE OF WISCONSIN  
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**GENERAL NOTES**

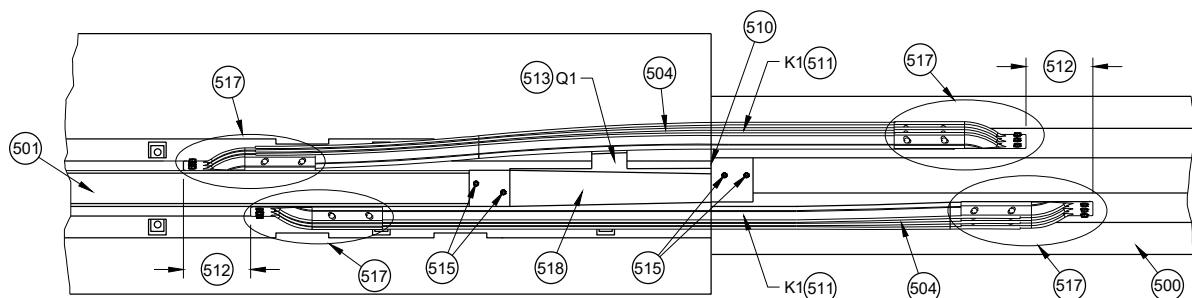
- (500) EXISTING RIGID BARRIERS (VARIES)
- (501) TEMPORARY BARRIER
- (502) SEE OTHER DETAIL ON HOW TO ANCHOR TEMPORARY BARRIER (BARRIER ASPHALT ANCHOR SHOWN).
- (503) ANCHORS ARE REQUIRED ON BOTH SIDE OF THE TEMPORARY BARRIER.
- (504) NESTED RAILS ARE REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.
- (505) TRAFFIC TRAVELS FROM PERMANENT BARRIER TO TEMPORARY BARRIER.
- (506) TRAFFIC TRAVELS FROM TEMPORARY BARRIER TO PERMANENT BARRIER.
- (507) VERTICAL BARRIER
- (508) SAFETY SHAPE BARRIER
- (509) SINGLE SLOPE BARRIER
- (510) CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF RIGID BARRIER.
- (511) BENT THRIE BEAM TO FIT.
- (512) THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
- (513) TWO (2) P1, P2 AND P3 ARE REQUIRED
- (514) FIVE (5) N1, N2 AND N3 ARE REQUIRED
- (515) TWO (2) R1, R2 AND R3 ARE REQUIRED
- (516) CUT WOOD BLOCK TO FIT.
- (517) SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL ASSEMBLY.
- (518) CAP ASSEMBLY
- (519) 4" MAX. GAP BETWEEN TEMPORARY BARRIER AND RIGID BARRIER.
- (520) ALL TWELVE SPLICE HOLES REQUIRE M1 AND M2



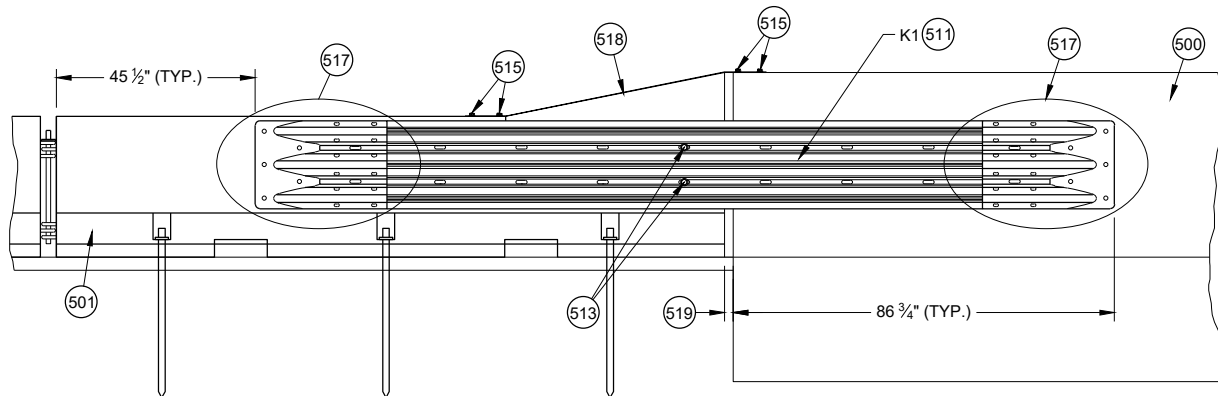
**PROFILE VIEW**



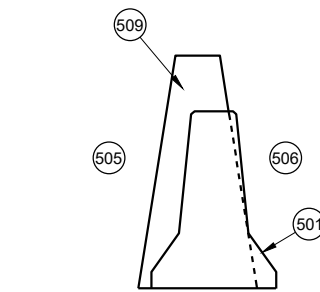
**PLAN VIEW  
TRANSITION TO RIGID BARRIER**



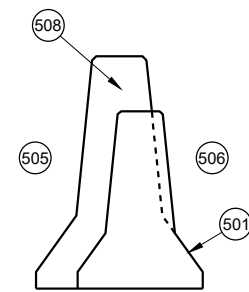
**PLAN DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



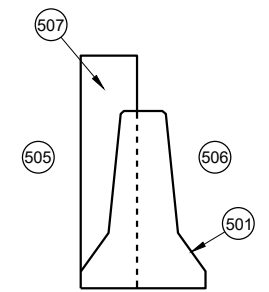
**FRONT DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



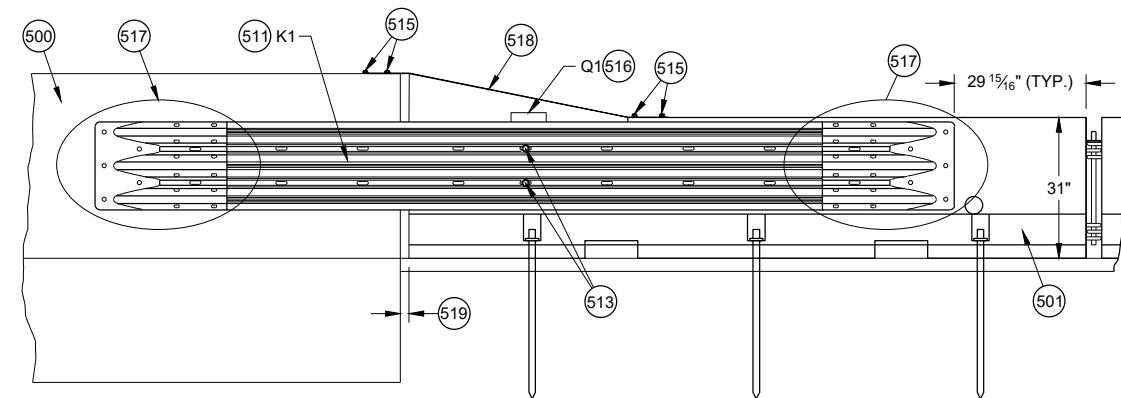
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SINGLE SLOPE**



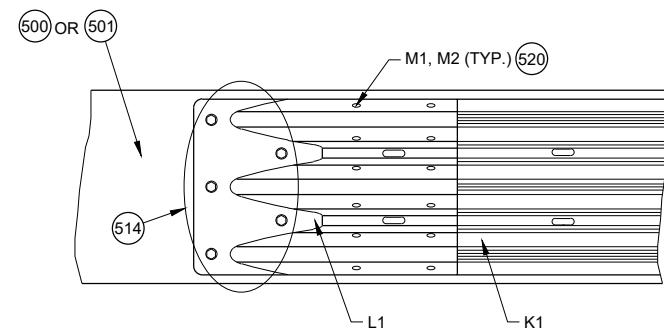
**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT SAFETY SHAPE**



**CROSS SECTION  
TEMPORARY BARRIER  
PLACEMENT VERTICAL**



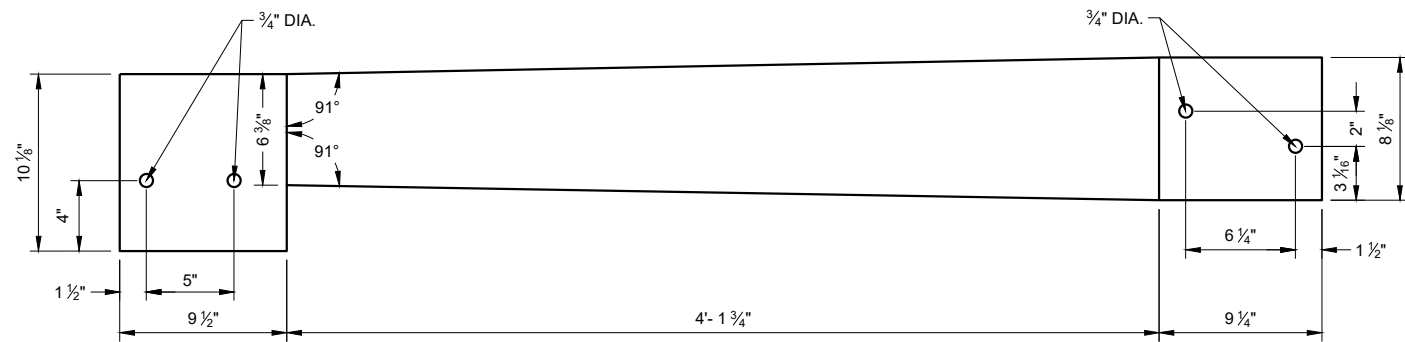
**BACK DETAIL VIEW  
TRANSITION TO RIGID BARRIER**



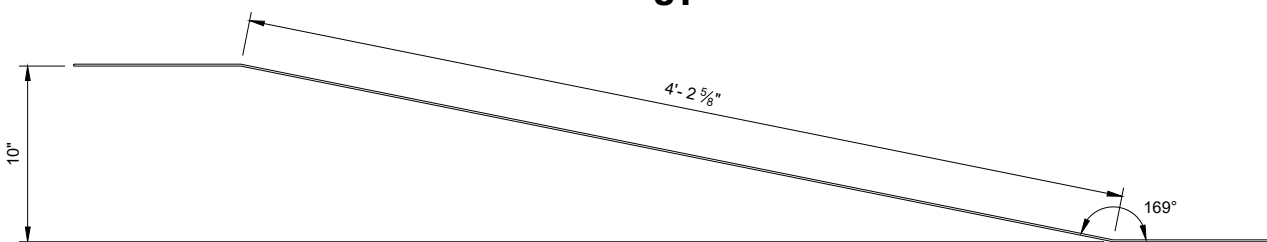
**(517) DETAIL PLAN VIEW  
THRIE BEAM RAIL TERMINAL CONNECTOR ASSEMBLY**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

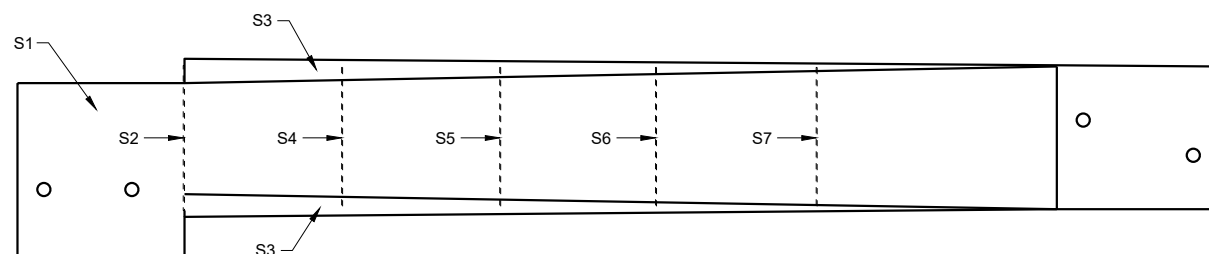
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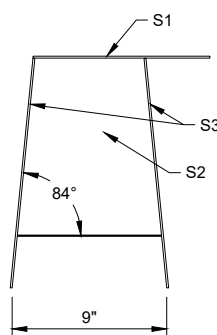
**TOP VIEW  
S1**



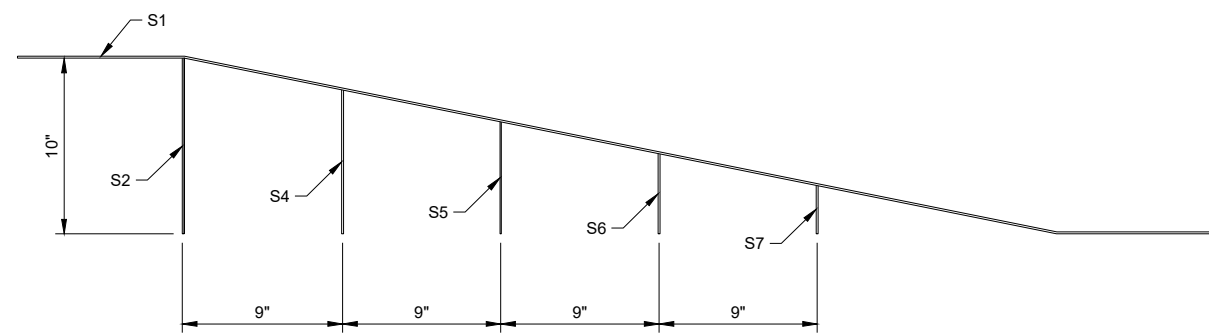
**ELEVATION VIEW  
S1**



**PLAN VIEW**

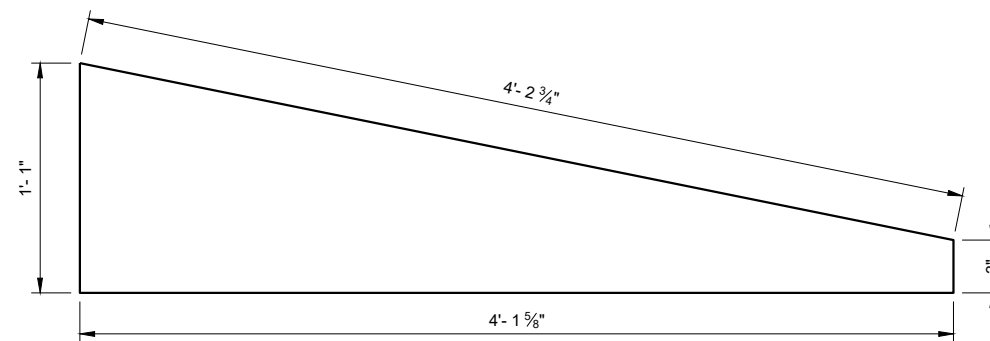


**BACK VIEW**

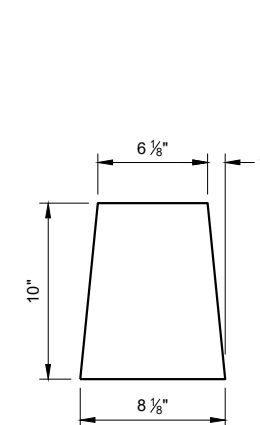


**SIDE VIEW (600)**

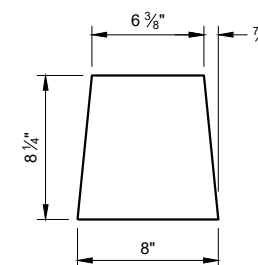
**42\"/>**



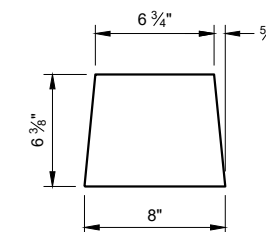
**SIDE VIEW  
S3**



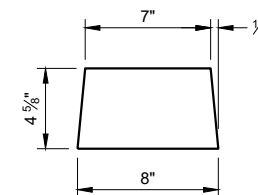
**S2**



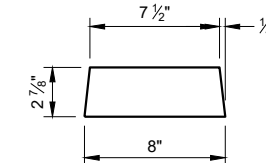
**S4**



**S5**



**S6**



**S7**

**GENERAL NOTES**

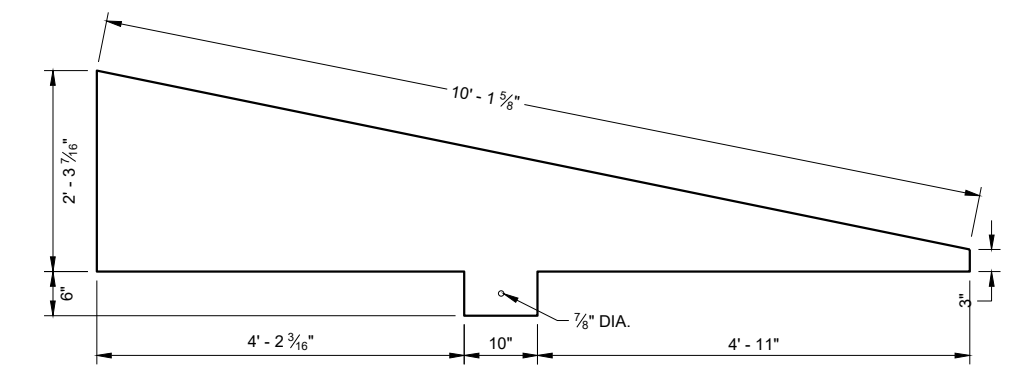
STITCH WELD GUSSET PLATES AND END PLATES ON THREE SIDES

STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.

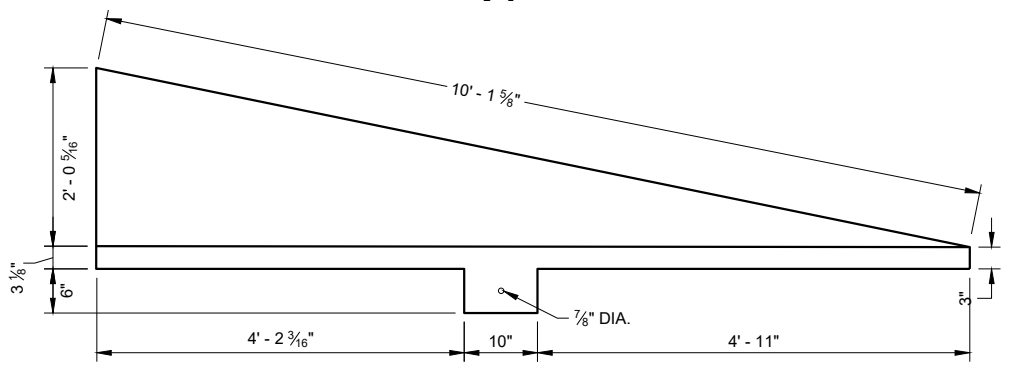
(600) SIDE PLATES (S3) NOT SHOWN FOR CLARITY.

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

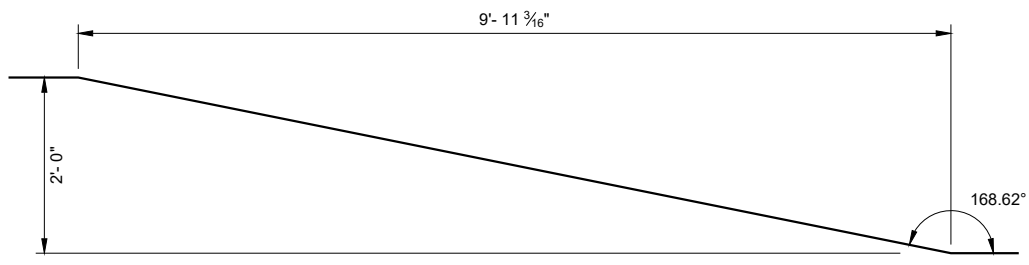
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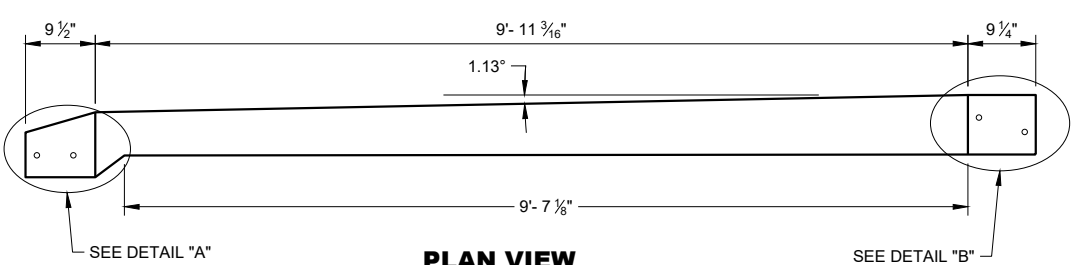
**SIDE VIEW  
T4**



**SIDE VIEW  
T3**



**SIDE VIEW  
TOP PLATE T1**



**PLAN VIEW  
TOP PLATE T1**

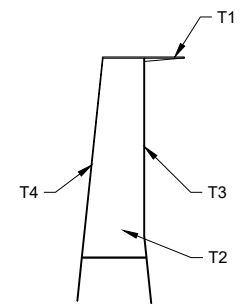
**GENERAL NOTES**

- STITCH WELD GUSSET PLATES AND END PLATES ON THRIE SIDES
- STITCH WELD TWO SIDE PLATES TO TOP PLATE, END PLATE AND GUSSETS.
- SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.
- (700) SIDE PLATES (T3 AND T4) NOT SHOWN FOR CLARITY.

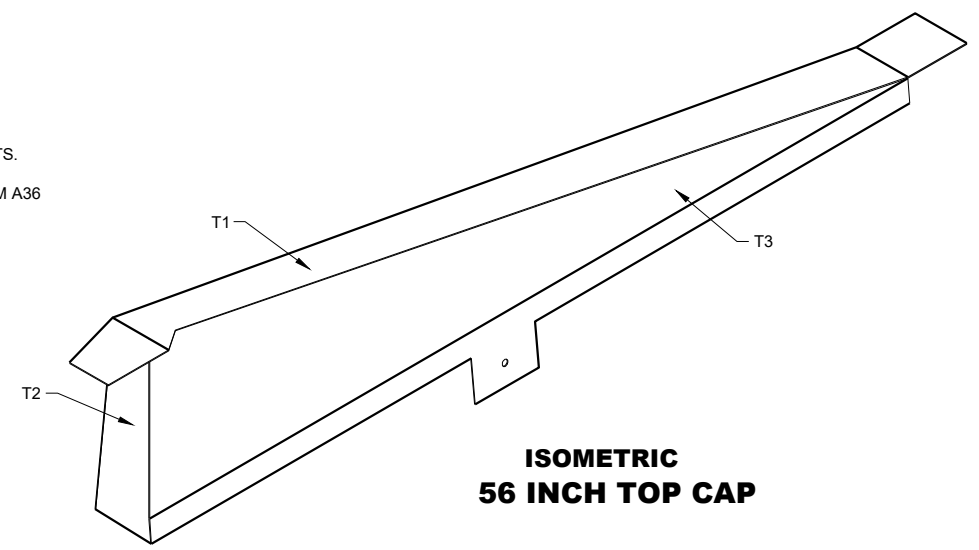
**END  
VIEW**

**END  
VIEW**

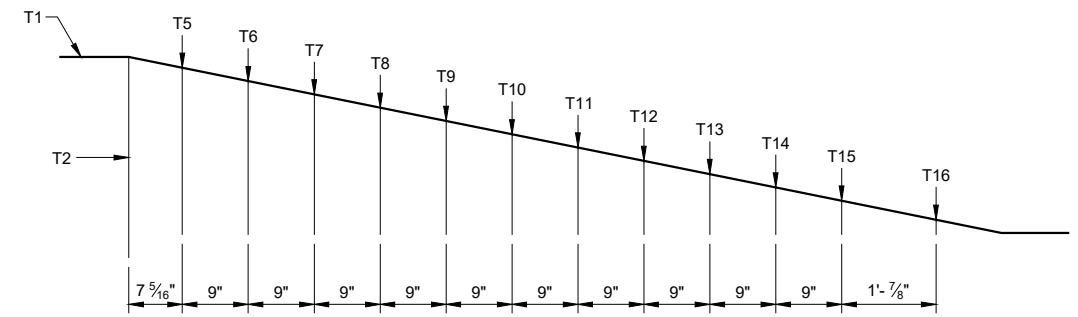
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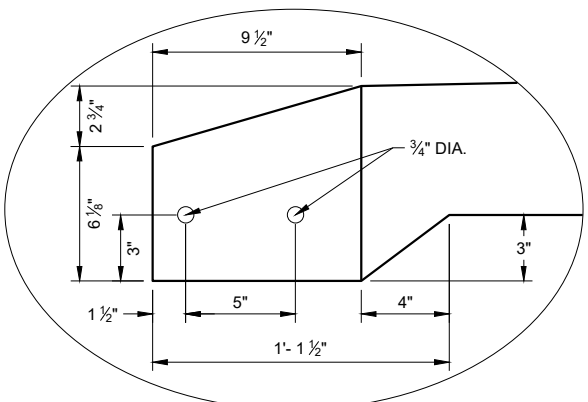
**END VIEW  
56 INCH TOP CAP**



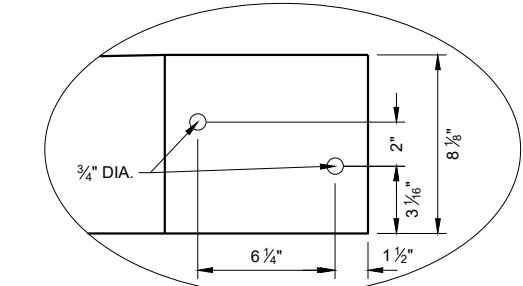
**ISOMETRIC  
56 INCH TOP CAP**



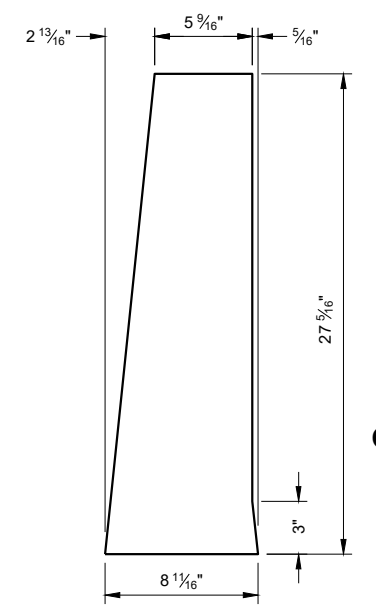
**SIDE VIEW  
56 INCH TOP CAP (700)**



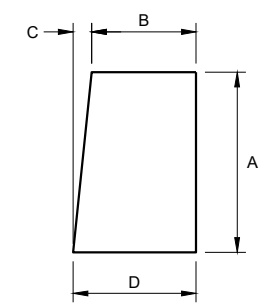
**DETAIL "A"**



**DETAIL "B"**



**END PLATE T2**



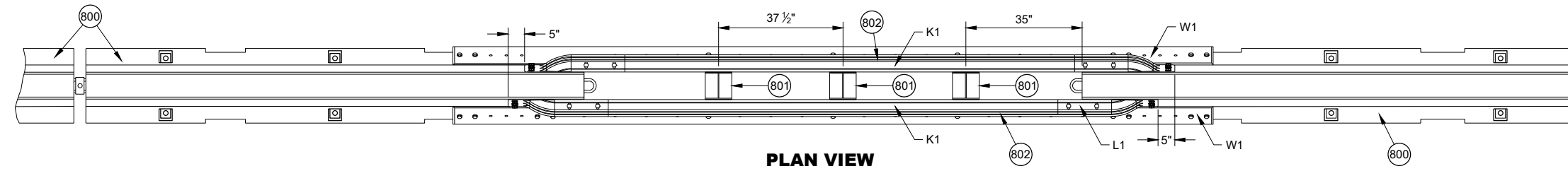
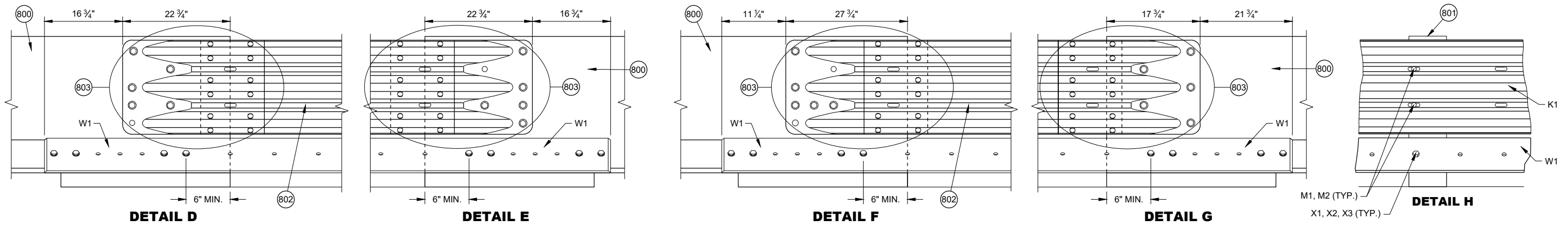
**GUSSET PLATES  
T5 - T16**

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
T5	22 13/16"	5 1/16"	2 5/16"	8 1/16"
T6	21"	5 7/8"	2 3/16"	8 1/16"
T7	19 3/16"	6 1/8"	1 13/16"	8 1/16"
T8	17 3/8"	6 1/4"	1 13/16"	8 1/16"
T9	15 9/16"	6 7/16"	1 1/16"	8 1/16"
T10	13 3/4"	6 5/8"	1 7/16"	8 1/16"
T11	11 15/16"	6 13/16"	1 1/4"	8 1/16"
T12	10 1/8"	7"	1 1/16"	8 1/16"
T13	8 5/16"	7 3/16"	7/8"	8 1/16"
T14	6 1/2"	7 3/8"	1 1/16"	8 1/16"
T15	4 1/16"	7 1/16"	1/2"	8"
T16	2 7/8"	7 3/4"	1/4"	8"

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

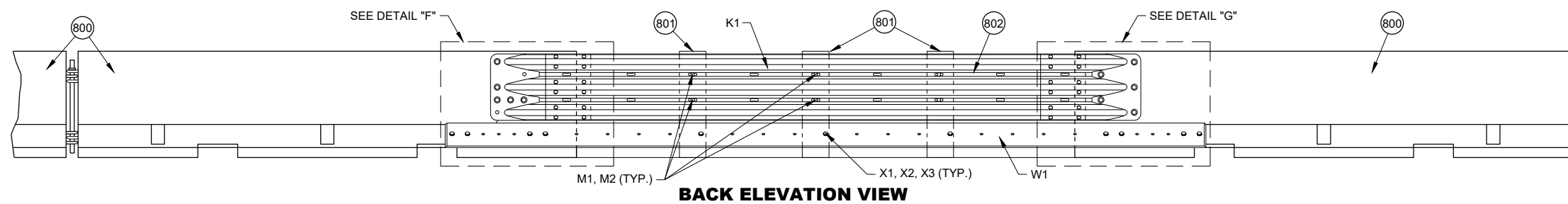
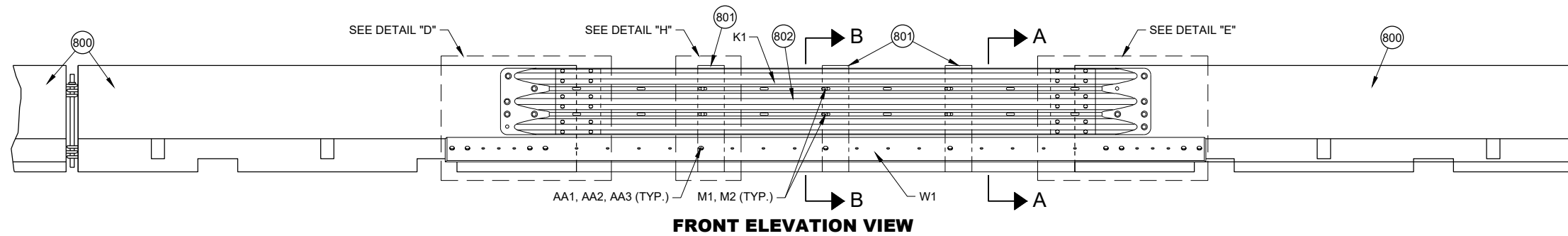
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





**GENERAL NOTES**

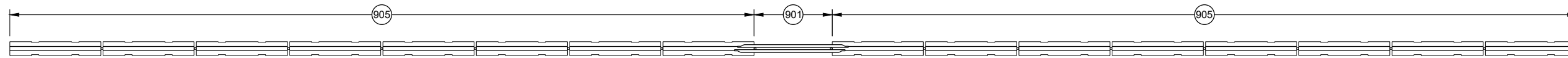
- 800 FREE STANDING TEMPORARY BARRIER
- 801 GAP STIFFENER ASSEMBLY
- 802 THRIE BEAMS ARE NESTED ON BOTH SIDES OF THE TEMPORARY BARRIER.
- 803 SEE THRIE BEAM RAIL TERMINAL CONNECTOR DETAIL



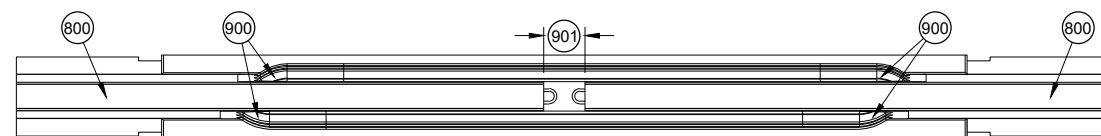
**PORTABLE CONCRETE BARRIER GAP THRIE BEAM COVER**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

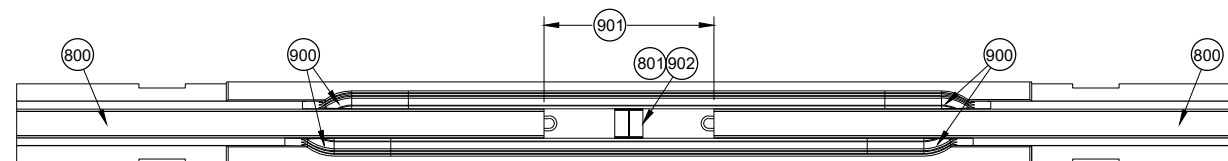
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



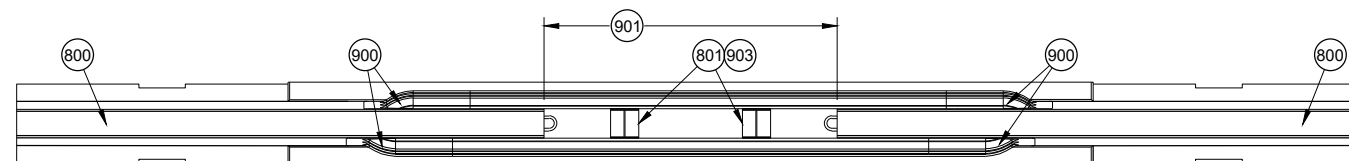
**PLAN VIEW  
GAP WITHIN SPACING**



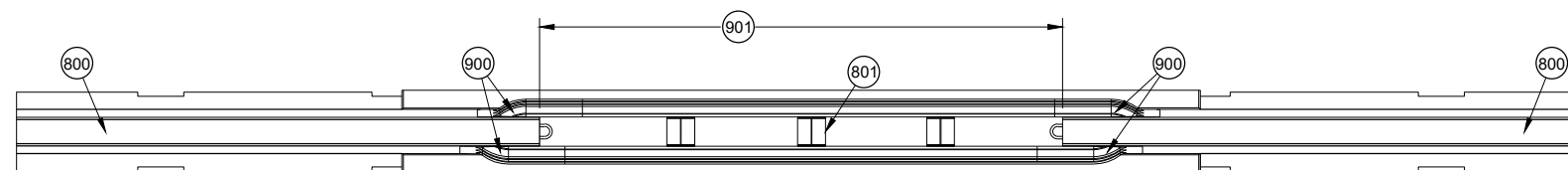
**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4" TO 1' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 1' TO 4' MAX. 904**



**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 4' TO 7' MAX. 904**



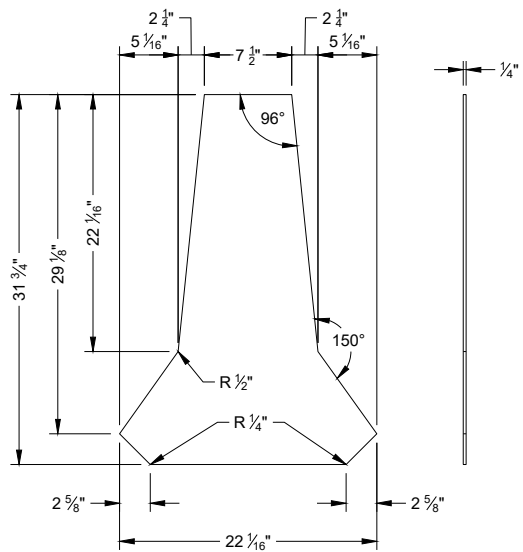
**PLAN VIEW  
TEMPORARY BARRIER GAP OVER 7' TO 12.5' MAX. 904**

**GENERAL NOTES**

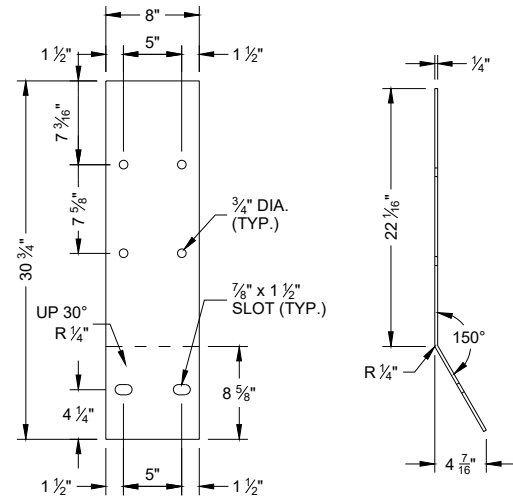
- 900 SEE OTHER DETAILS FOR TEMPORARY GAP HARDWARE (TYP.)
- 901 TEMPORARY BARRIER GAP
- 902 GAP STIFFENER ASSEMBLY CENTERED IN THE GAP.
- 903 GAP STIFFENER ASSEMBLY IS OFFSET 18 3/4" FROM CENTER
- 904 MINIMUM NUMBER OF GAP STIFFENERS SHOWN FOR THE GAP RANGE SHOWN.
- 905 MINIMUM OF 8 CONTINUOUS FREE STANDING TEMPORARY BARRIERS

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

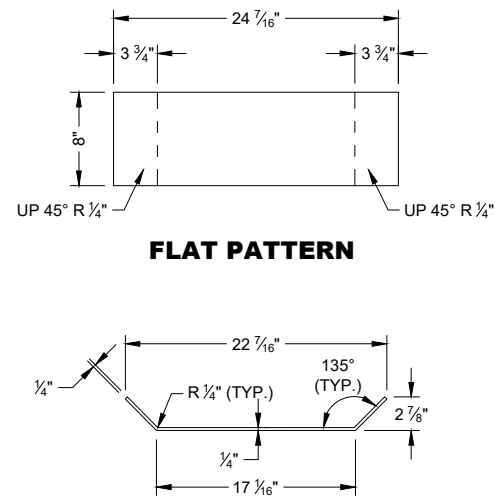
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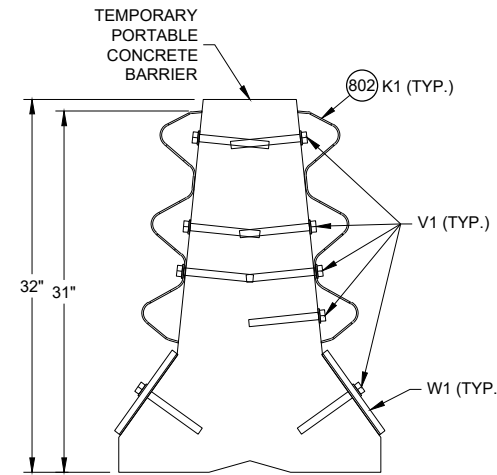
**PROFILE VIEW** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**CENTER PANEL U1**



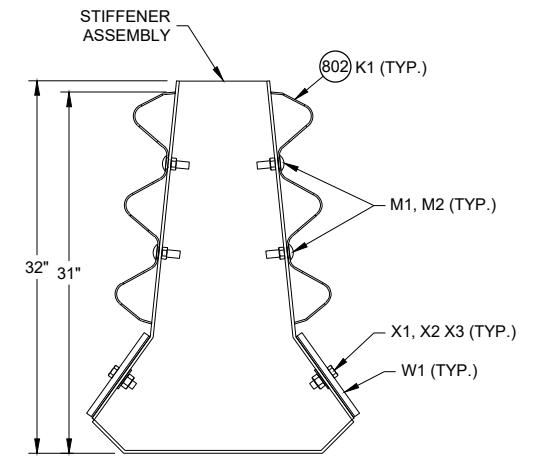
**FLAT PATTERN** **SIDE VIEW**  
**STIFFENER ASSEMBLY**  
**SIDE PANEL U2**



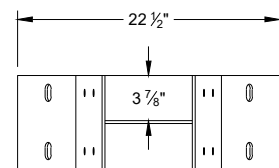
**PROFILE VIEW**  
**STIFFENER ASSEMBLY**  
**BOTTOM PANEL U3**



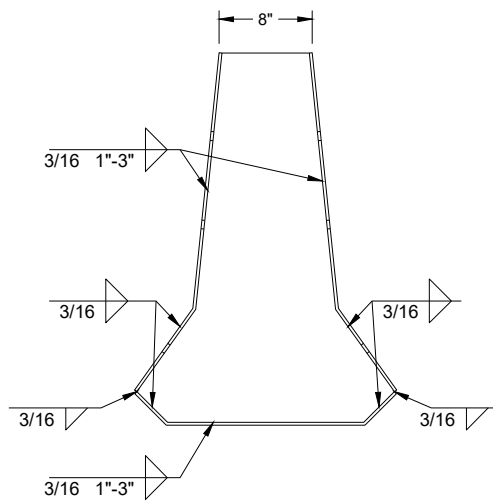
**SECTION A - A**



**SECTION B - B**

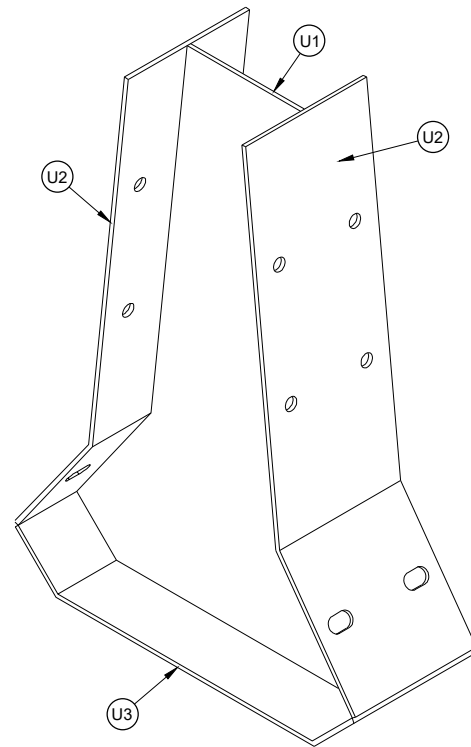


**PLAN VIEW**

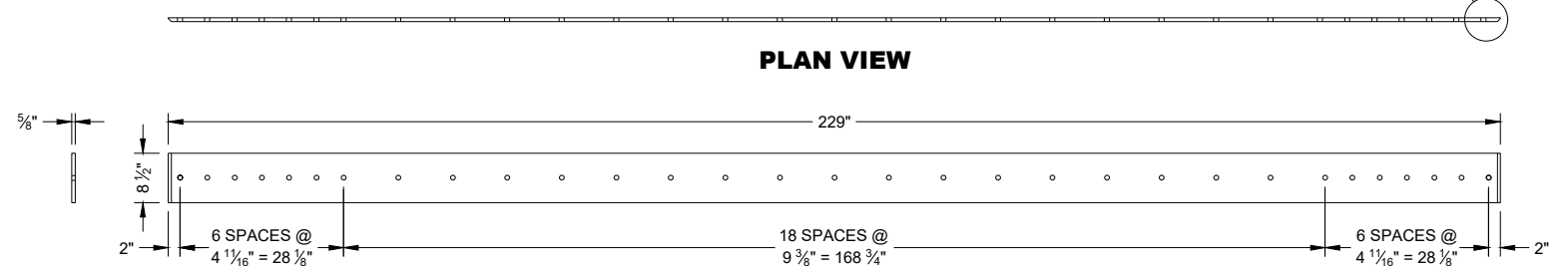


**PROFILE VIEW** **SIDE VIEW**

**GAP STIFFENER ASSEMBLY**

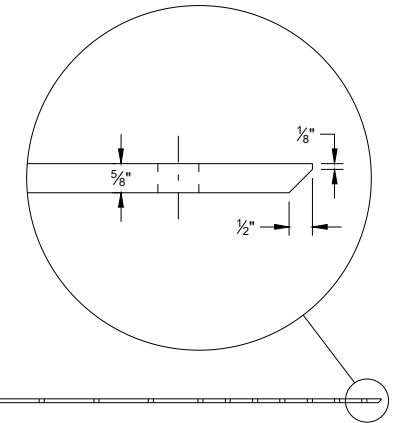


**ISOMETRIC**



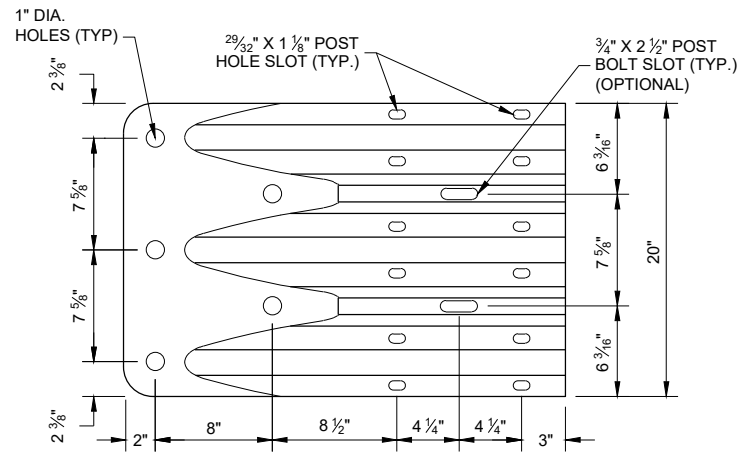
**SIDE VIEW**

**PLAN VIEW**  
**ELEVATION VIEW**  
**W1 TOE PLATE**



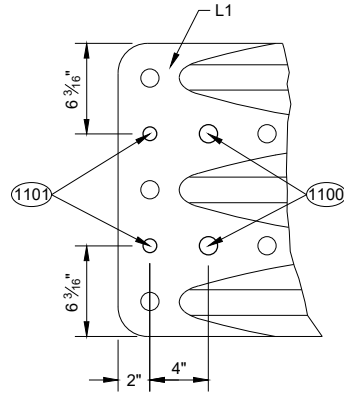
**CONCRETE BARRIER**  
**TEMPORARY PRECAST,**  
**12' - 6"**

STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION



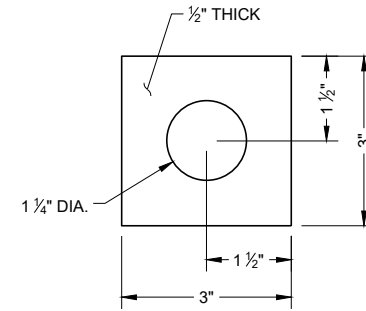
**ELEVATION VIEW**

**THRIE BEAM  
TERMINAL CONNECTOR**



**ELEVATION VIEW**

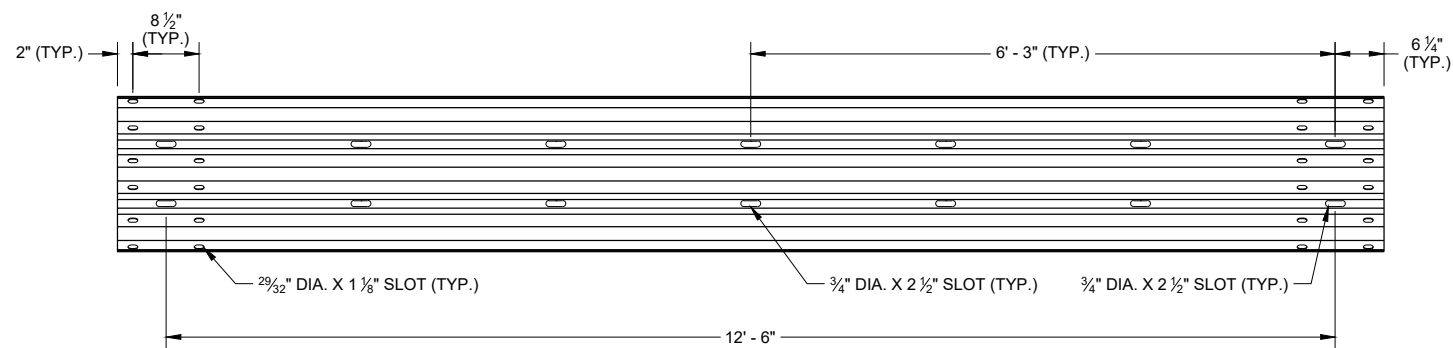
**ADDITIONAL THRIE BEAM  
TERMINAL CONNECTOR HOLE DETAIL**



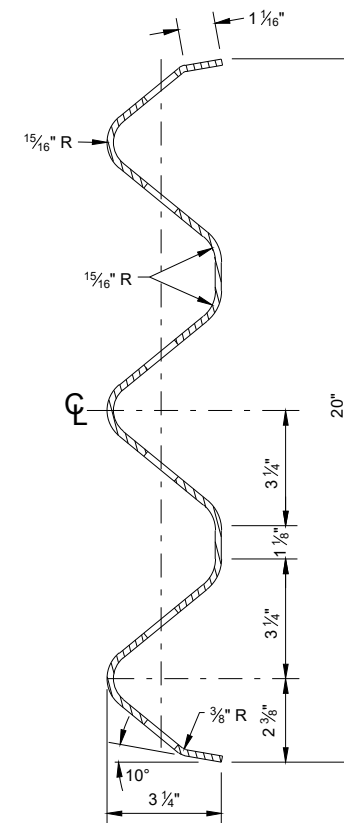
**PLATE WASHER DETAIL  
G2, H3**

**GENERAL NOTES**

- (1100) 1" DIA. HOLE
- (1101) 3/4" DIA. HOLE
- (1102) PROVIDE HOLES IN THRIE BEAM TERMINAL CONNECTOR TO LIMIT STEEL REINFORCEMENT OR LOOP BAR CONFLICT. CONTRACTOR MAY FIELD DRILL ADDITIONAL HOLE OR PROVIDE THRIE BEAM TERMINAL CONNECTOR WITH ADDITIONAL HOLES FROM SUPPLIER.



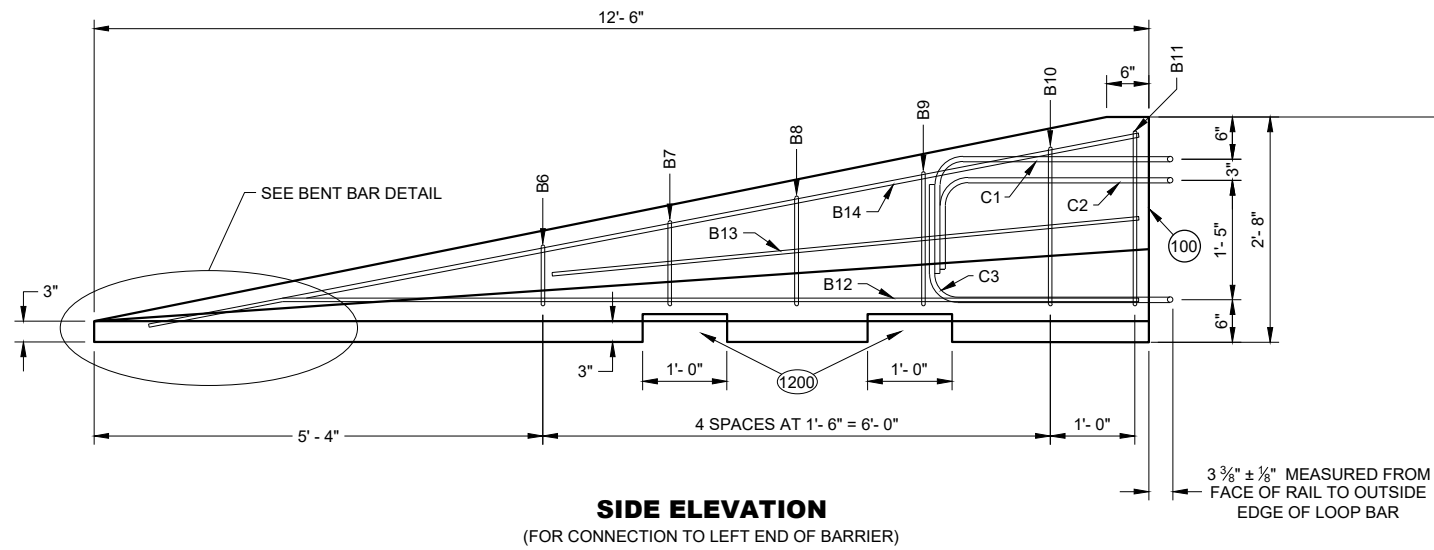
**SLOTTED THRIE BEAM RAIL K1**



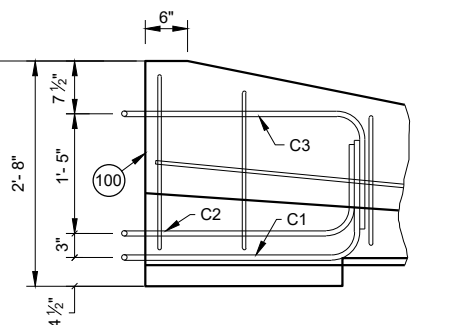
**SECTION THROUGH  
BEAM K1**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



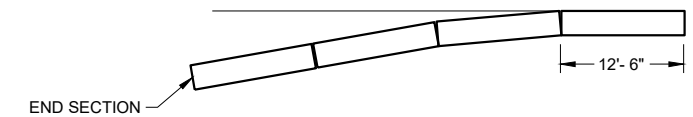
**SIDE ELEVATION**  
(FOR CONNECTION TO LEFT END OF BARRIER)



**SIDE ELEVATION**  
LOOP BAR ASSEMBLY INVERTED FOR OPPOSITE END  
(FOR CONNECTION TO RIGHT END OF BARRIER)

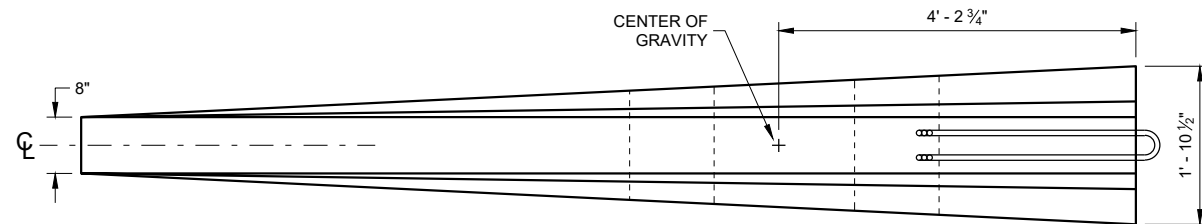
**GENERAL NOTES**

(1200) SEE LIFTING SLOT DETAIL. LOCATION OF LIFTING SLOTS DETERMINED BY CONTRACTOR.

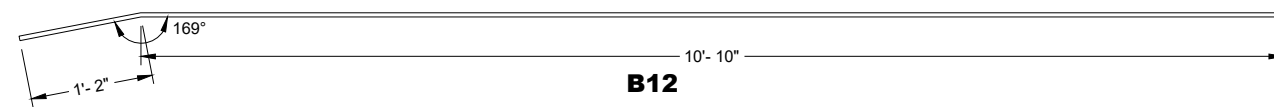


**FLARE AT BARRIER END**

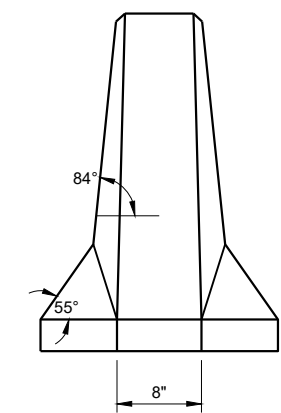
POSTED SPEED, (MPH)	FLARE RATE
40 OR LESS	6:1
45 OR GREATER	8:1



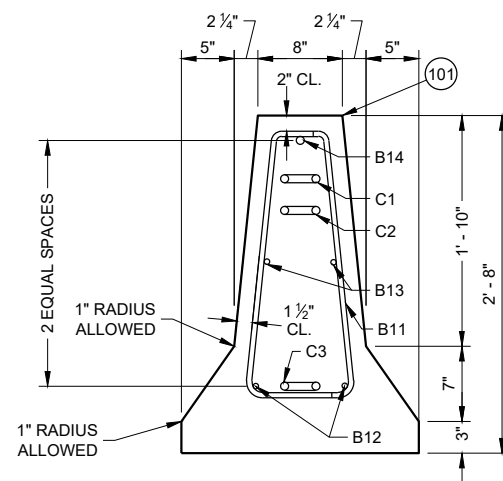
**PLAN VIEW**



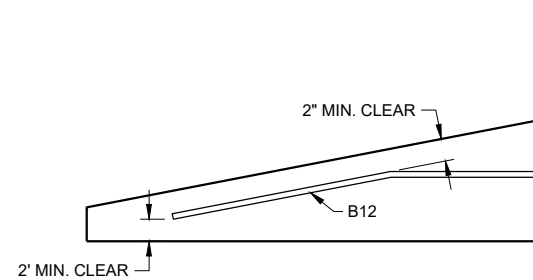
**B12**



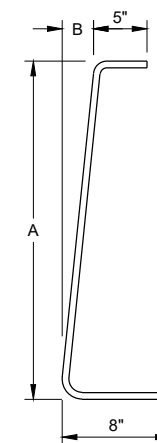
**FRONT ELEVATION**



**END SECTION**



**BENT BAR DETAIL**



BAR	A	B
B6	10"	1"
B7	1'- 1"	1 1/4"
B8	1'- 5"	1 5/8"
B9	1'- 8"	1 7/8"
B10	2'- 0 1/2"	2 3/8"
B11	2'- 3"	2 3/4"

**B BARS**

2 OF EACH SIZE REQUIRED FOR STIRRUP ASSEMBLY

**DETAILS OF BARRIER TAPER SECTION**

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
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**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
A1	PRECAST TEMPORARY BARRIER - CONCRETE	MIN. = f <sub>c</sub> 5000 PSI	
B1	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B2	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-2"
B3	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 12'-2"
B4	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 6'-0"
B5	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#6 REBAR, LENGTH 2'-11"
B6	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 1'-11"
B7	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-2"
B8	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-6"
B9	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 2'-9"
B10	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-2"
B11	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 3'-4"
B12	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 12'-0"
B13	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#4 REBAR, LENGTH 7'-9"
B14	REBAR	STANDARD SPEC. 505.2 GRADE 60 UNCOATED REBAR	#5 REBAR, LENGTH 11'-9"
C1	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C2	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
C3	LOOP BAR	ASTM A709 GRADE 70 SMOOTH BAR OR ASTM A706 GRADE 60 REBAR UNCOATED	¾" DIA.
D1	CONNECTION PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
D2	CONNECTION PIN - TOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G1	BOLT THROUGH ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A OR SAE J429 GRADE 2 UNC	1 ½" DIA.
G2	BOLT THROUGH ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
G3	BOLT THROUGH ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
H1	ADHESIVE ANCHOR - ADHESIVE	ICC-ES-AC308 5 ¼" EMBEDMENT WITH A MIN. BOND STRENGTH OF 1,650 PSI. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
H2	ADHESIVE ANCHOR - THREADED ROD	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 A307 GRADE A / SAE J429 GRADE 2 UNC	1 ½" DIA.
H3	ADHESIVE ANCHOR - WASHER, SQUARE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
H4	ADHESIVE ANCHOR - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	
J1	ASPHALT ANCHOR PIN - ROD	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	1 ½" DIA.
J2	ASPHALT ANCHOR PIN - STOP PLATE	ASTM A36 MIN. STRENGTH 36 KSI / ASTM A529 MAX. STRENGTH 50 KSI / ASTM A572 MAX STRENGTH 50 KSI / ASTM A709 MAX STRENGTH 50 KSI / ASTM A992 MAX STRENGTH 50 KSI	
K1	THRIE BEAM RAIL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE
L1	THRIE BEAM RAIL - TERMINAL	AASHTO M180 CLASS A TYPE 2 APPROVED PRODUCER	12 GAUGE

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
M1	SPLICE BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC AASHTO M180 HEAD ASTM A307 GRADE B OR SAE J429 GRADE 2 OR ASTM F1554 GRADE 36	¾" DIA.
M2	SPLICE BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 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	
N1	THRIE BEAM RAIL TERMINAL - MECHANICAL ANCHOR	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 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	¾" DIA. LENGTH 6"
N2	THRIE BEAM RAIL TERMINAL - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
N3	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
P1	THRIE BEAM RAIL CONNECTION 1-BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 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	¾" DIA.
P2	THRIE BEAM RAIL CONNECTION 1-WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
P3	THRIE BEAM RAIL CONNETION 1- MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	
Q1	BLOCK WOOD	SEE STANDARD SPEC. 614	
R1	CAP - BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 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	¾" DIA.
R2	CAP - BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GAL. TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1	
R3	CAP - BOLT - MECHANICAL ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	12 GAUGE
S1	CAP 42-INCH TOP 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	12 GAUGE
S2	CAP 42-INCH 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	12 GAUGE
S3	CAP 42-INCH SIDE 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	12 GAUGE
S4	CAP 42-INCH GUSSET 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	12 GAUGE
S5	CAP 42-INCH GUSSET 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	12 GAUGE
S6	CAP 42-INCH GUSSET 3	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	12 GAUGE
S7	CAP 42-INCH GUSSET 4	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	12 GAUGE

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SDD 14B07-16m

SDD 14B07-16m

**CONCRETE BARRIER  
TEMPORARY PRECAST,  
12' - 6"**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**BILL OF MATERIALS - CONCRETE BARRIER PRECAST**

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
T1	CAP 56-INCH TOP 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	12 GAUGE
T2	CAP 56-INCH 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	12 GAUGE
T3	CAP 56-INCH SIDE 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	12 GAUGE
T4	CAP 56-INCH SIDE 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	12 GAUGE
T5	CAP 56-INCH GUSSET 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	12 GAUGE
T6	CAP 56-INCH GUSSET 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	12 GAUGE
T7	CAP 56-INCH GUSSET 3	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	12 GAUGE
T8	CAP 42-INCH GUSSET 4	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	12 GAUGE
T9	CAP 42-INCH GUSSET 5	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	12 GAUGE
T10	CAP 42-INCH GUSSET 6	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	12 GAUGE
T11	CAP 42-INCH GUSSET 7	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	12 GAUGE
T12	CAP 42-INCH GUSSET 8	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	12 GAUGE
T13	CAP 42-INCH GUSSET 9	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	12 GAUGE
T14	CAP 42-INCH GUSSET 10	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	12 GAUGE
T15	CAP 42-INCH GUSSET 11	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	12 GAUGE
T16	CAP 42-INCH GUSSET 12	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	12 GAUGE
U1	GAP STIFFENER	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	
U2	GAP STIFFENER - CONNECTOR 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	
U3	GAP STIFFENER - CONNECTOR 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	

PART	DESCRIPTION	MATERIALS SPECIFICATIONS	NOTES
V1	THRIE BEAM RAIL TERMINAL MECHANICAL OR ADHESIVE ANCHOR	MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS ULTIMATE TENSILE LOAD 24.0 KIPS AND ULTIMATE SHEAR LOAD 21.5 KIPS. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.	¾" DIA.
V2	GAP STIFFENER - BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C O R MECHANICAL GALVANIZE 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	TOE 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	
X1	TOE PLATE - CONNECTION BOLT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 UNC HEAVY HEX HEAD OR AASTHO M180 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.	¾" DIA.
X2	TOE PLATE - CONNECTION BOLT - WASHER	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 TYPE 2 F436 TYPE 1 (HARDEN WASHER ONLY)	
X3	TOE PLATE - CONNECTION BOLT - NUT	HOT DIP AASHTO M232 CLASS / ASTM A153 CLASS C / ASTM F2329 C OR MECHANICAL GALVANIZE TO AASHTO M298 CLASS 55 TYPE 2 / ASTM B695 CLASS 55 UNC OVER TAP NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563 HEAVY HEX HEAD ASTM A563DH OR SAE J995 GRADE 5	

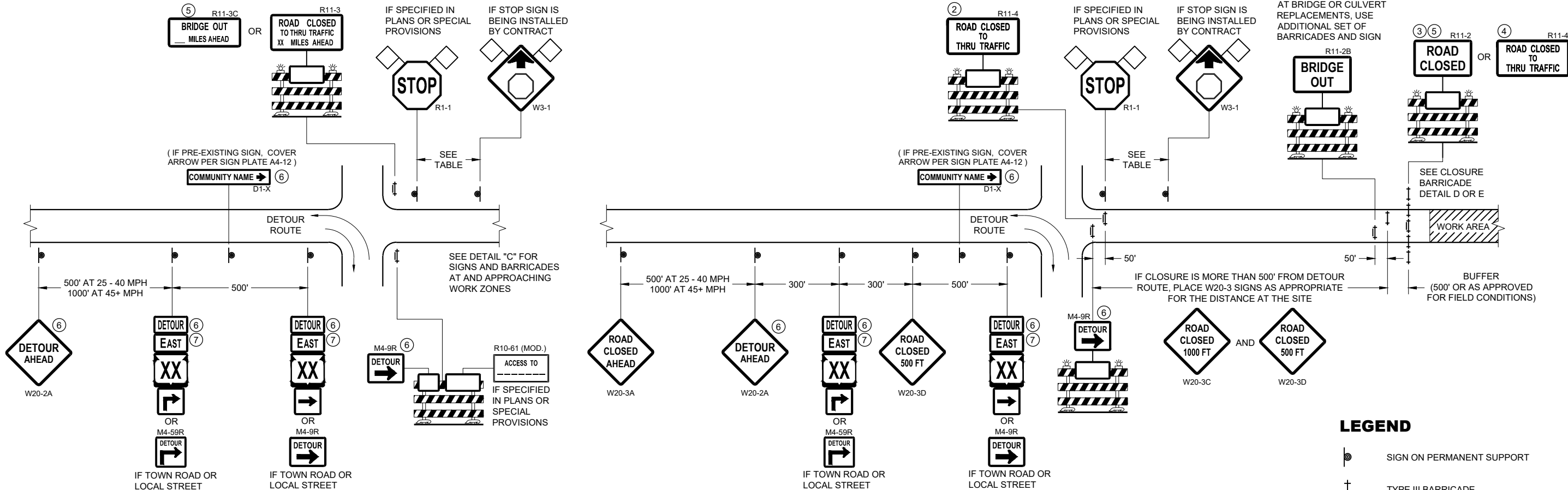
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SDD 14B07-16n

SDD 14B07-16n

<b>CONCRETE BARRIER TEMPORARY PRECAST, 12' - 6"</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

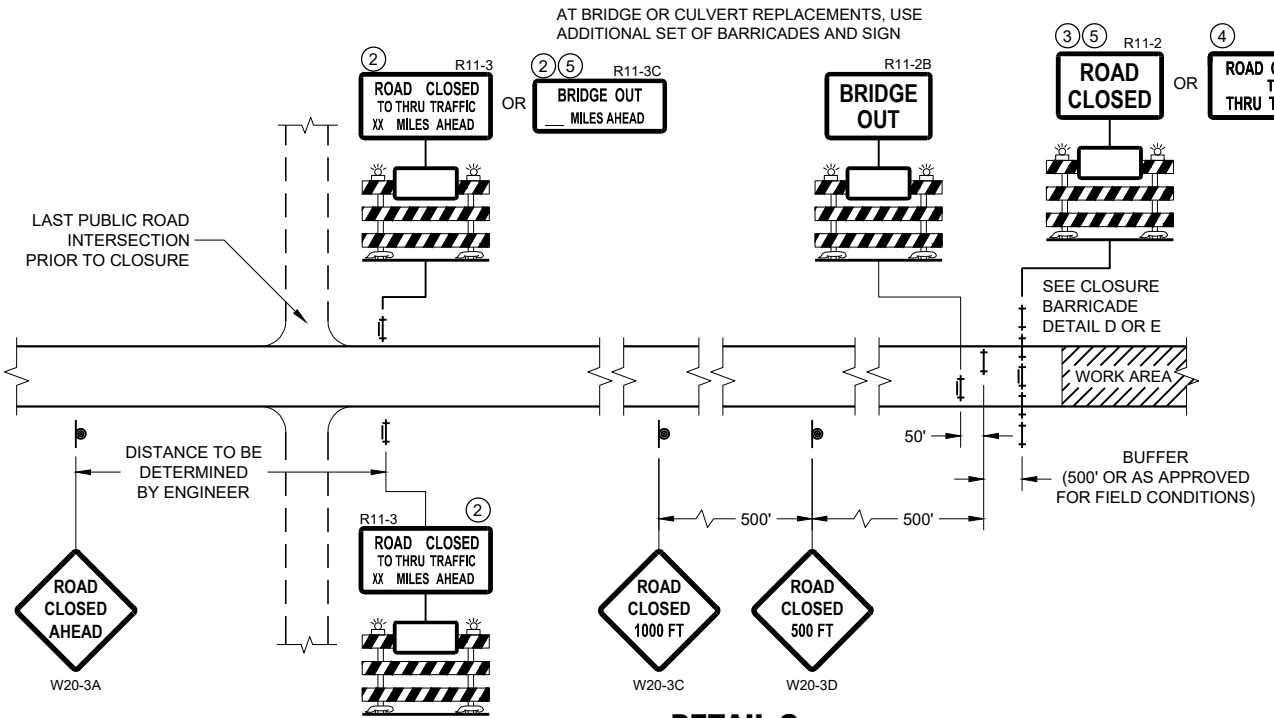
WORK ZONE LESS THAN 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**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)

SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



**DETAIL C  
MAINLINE CLOSURE, NO POSTED DETOUR**

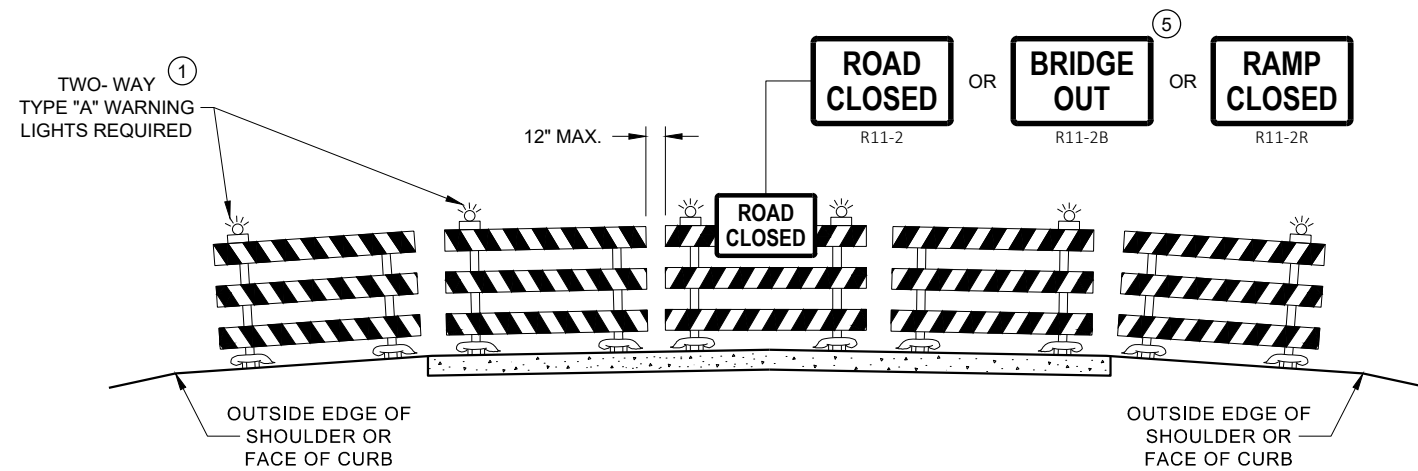
SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

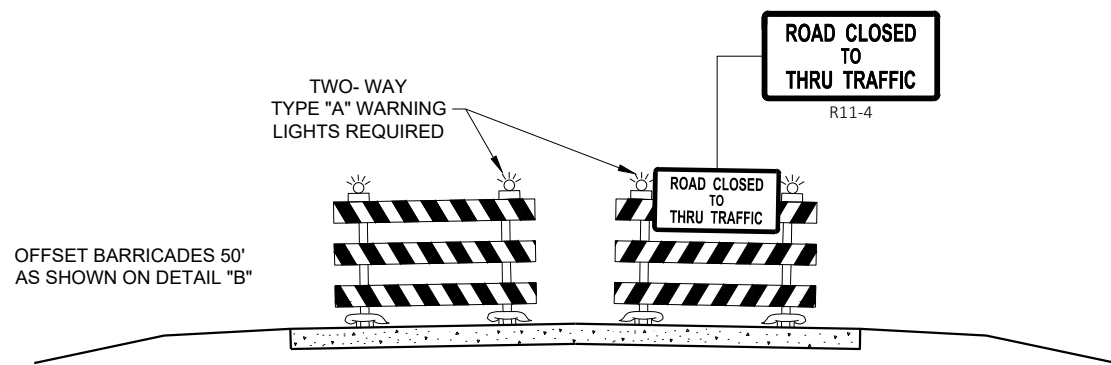
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW - INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

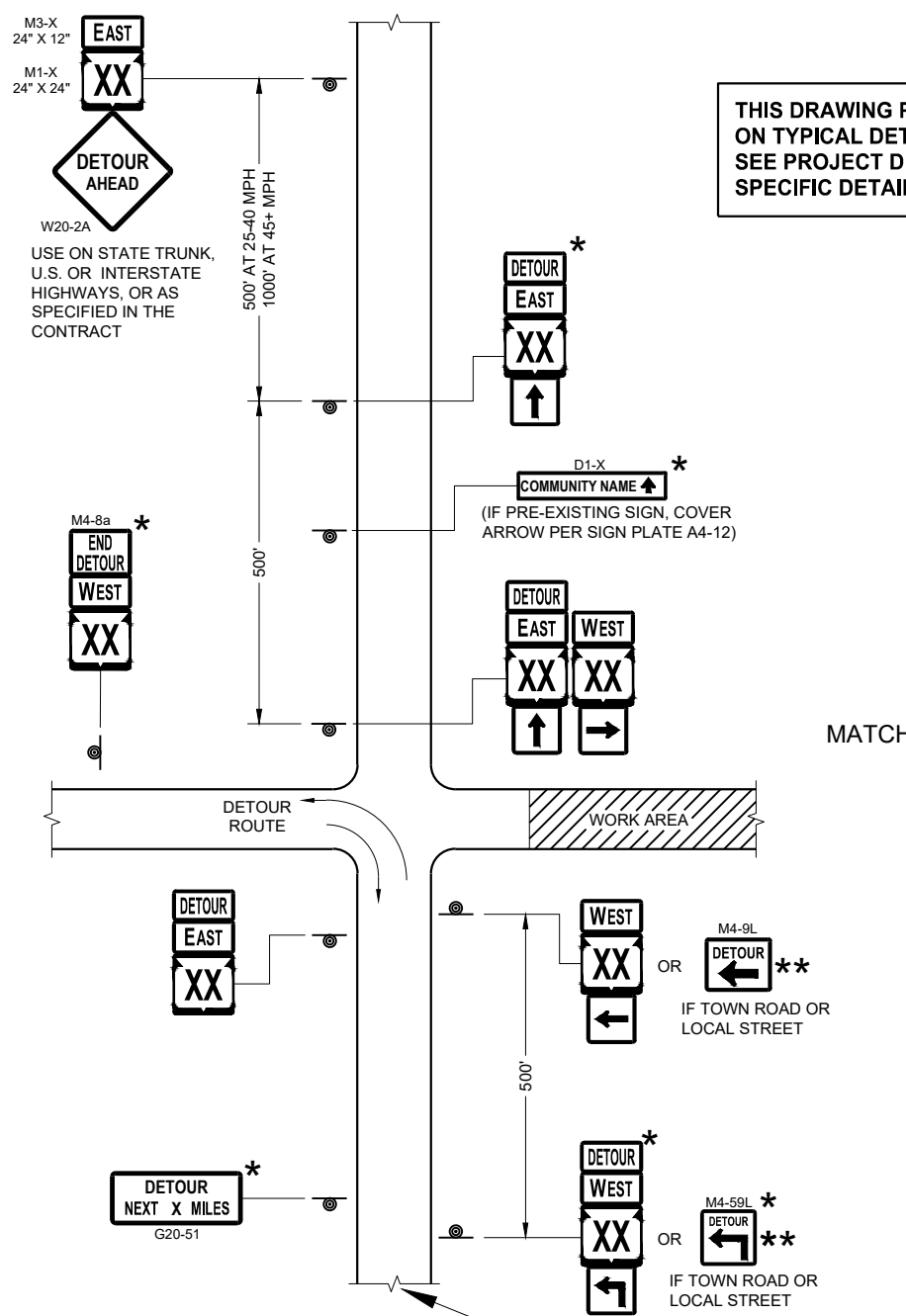
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



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

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

**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.

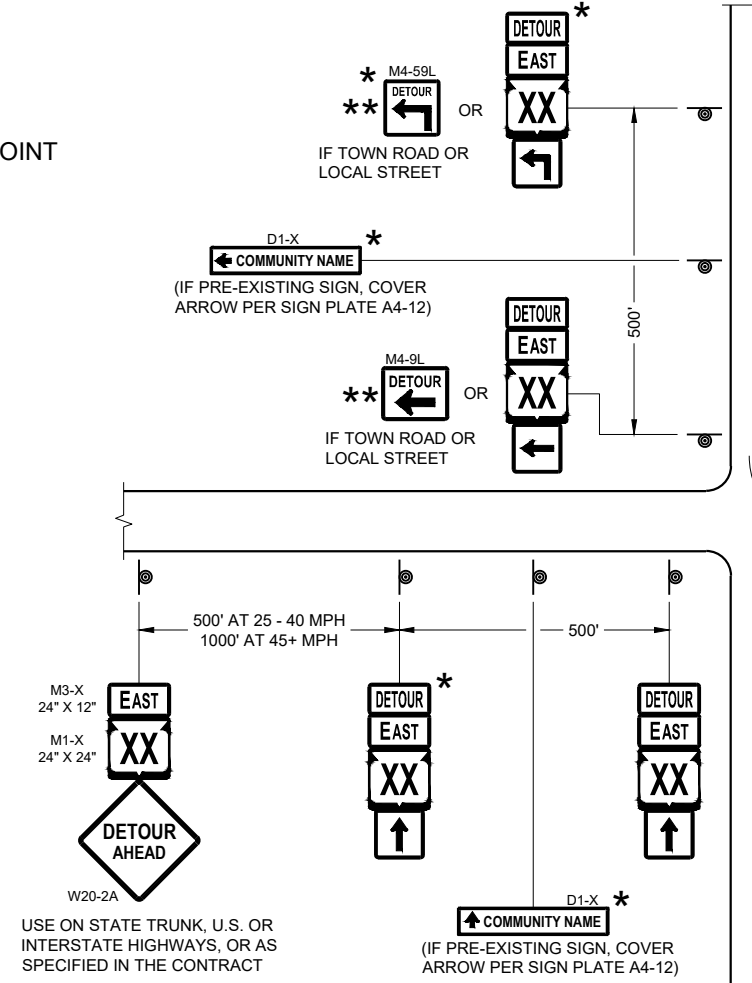
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

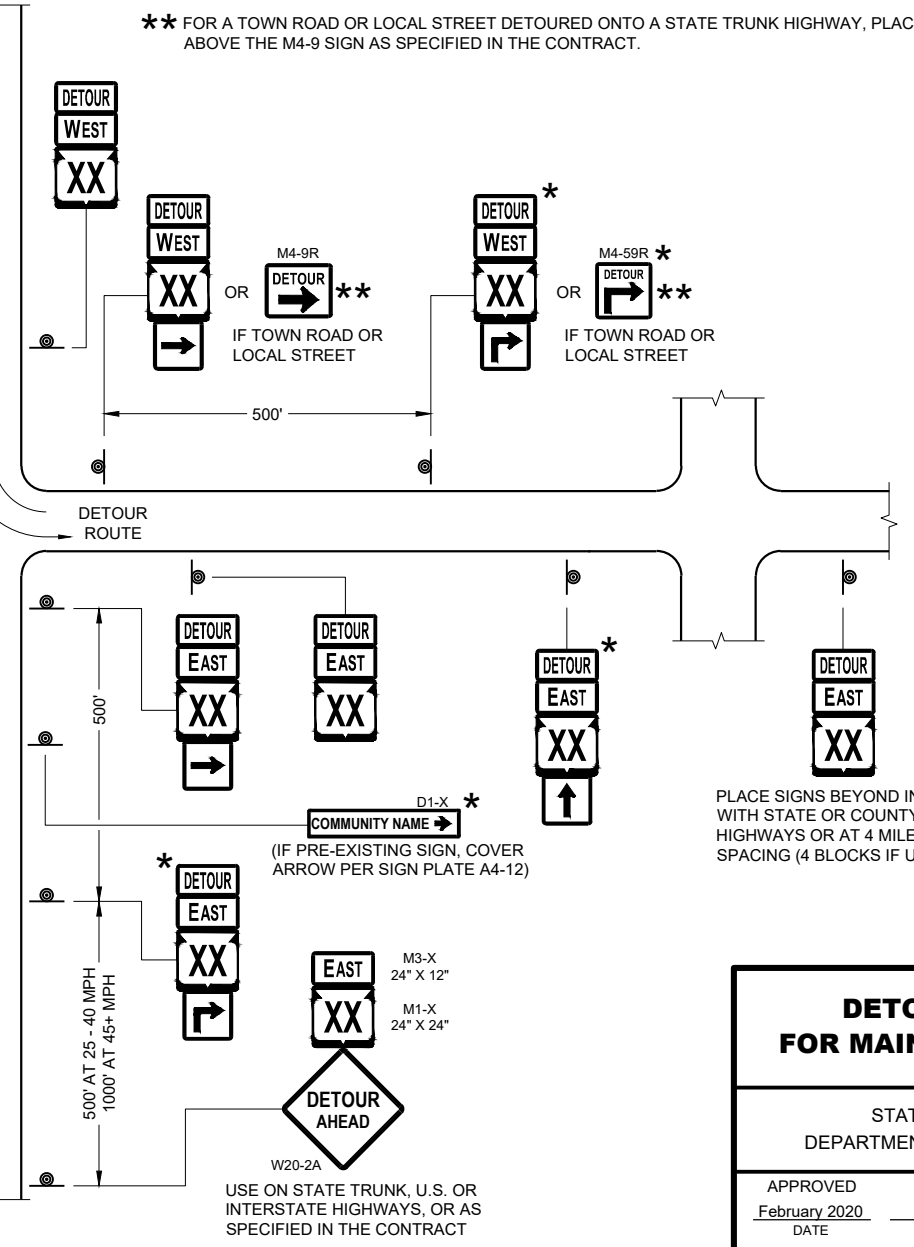
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING 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.

MATCH POINT



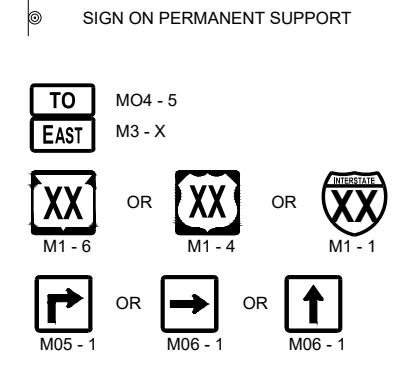
**DETAIL F  
DETOUR SIGNING**



<b>DETOUR SIGNING FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2020 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

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

**LEGEND**



**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 ANY ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE TO 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 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:  
M3 - X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).  
M04 - 5 SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS).  
M1 - 1, M1 - 4, AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS).  
M05 - 1, M05 - 2, AND M06 - 1, SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS).  
W20 - 53A SHALL BE 48" X 48"
- \* PLACE "RAMP CLOSED BEGINNING" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR LAYOUT.

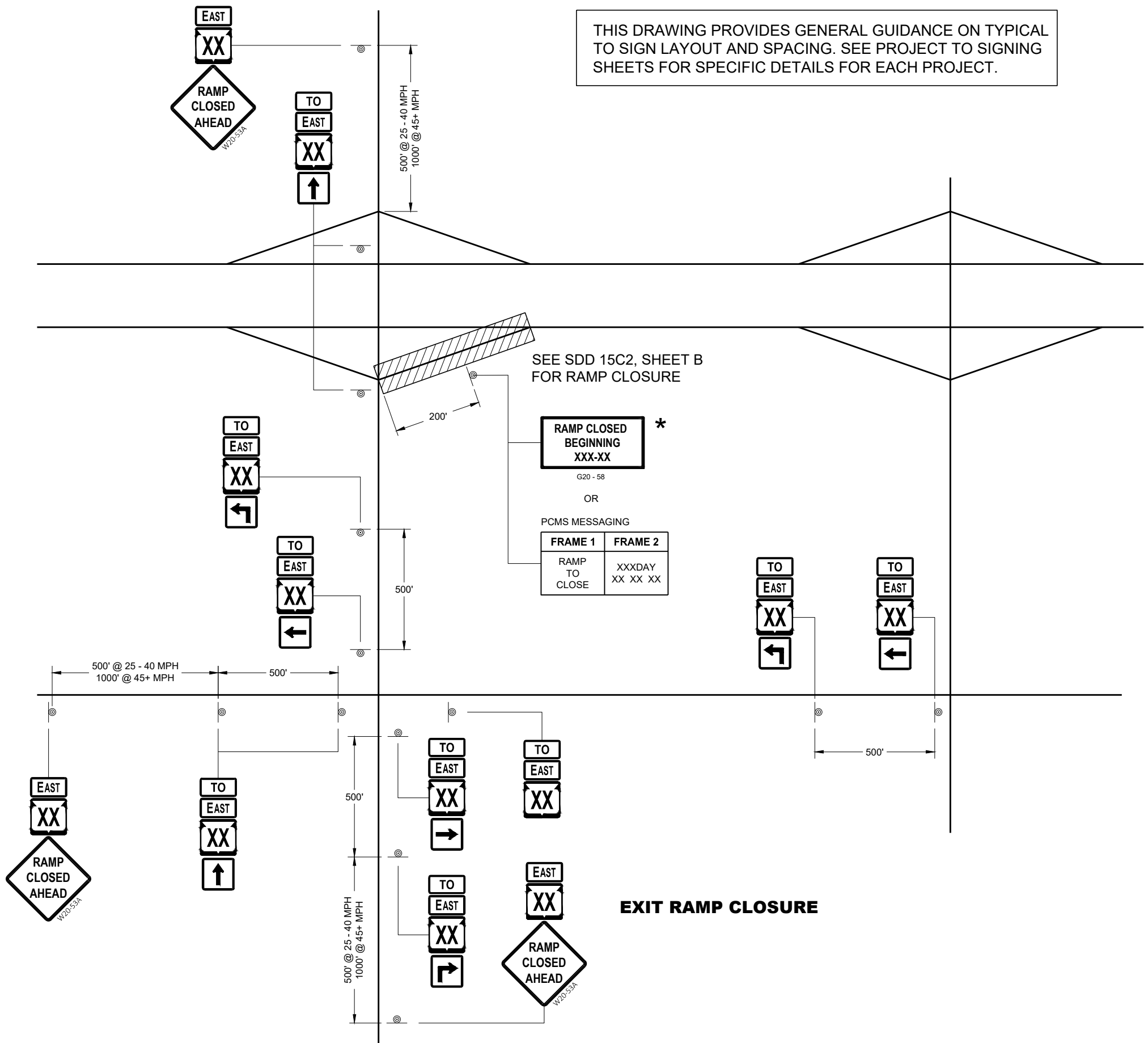
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SDD 15C02 - 08d

SDD 15C02 - 08d

**EXIT RAMP CLOSURE**



**ON RAMP  
LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

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
- PCMS PORTABLE CHANGEABLE MESSAGE SIGN
- TO MO4 - 5
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M05 - 2 OR M06 - 1 OR M06 - 2 OR M06 - 4

**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.

SEE SDD 15D16 FOR RAMP CLOSURE

**EXIT RAMP CLOSURE**

6

6

SDD 15C02 - 08e

SDD 15C02 - 08e

PCMS MESSAGING

FRAME 1	FRAME 2
EXIT XX CLOSED	USE EXIT XX

OR

FIXED MESSAGE SIGN

HWY XX  
RAMP CLOSED  
USE EXIT XX

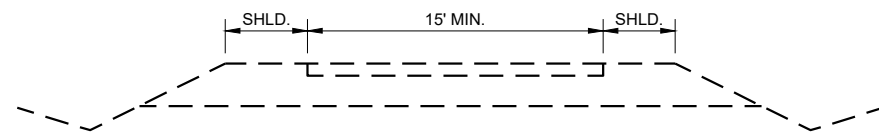
G20 - 56

**OFF RAMP  
LANE CLOSURE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

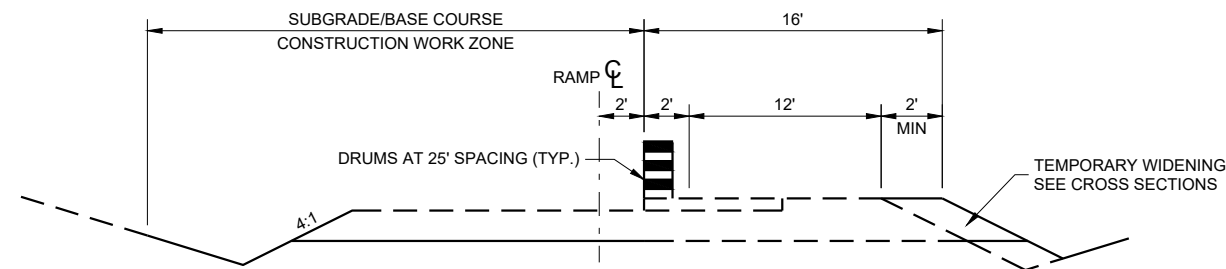


**INITIAL RAMP - TYPICAL**

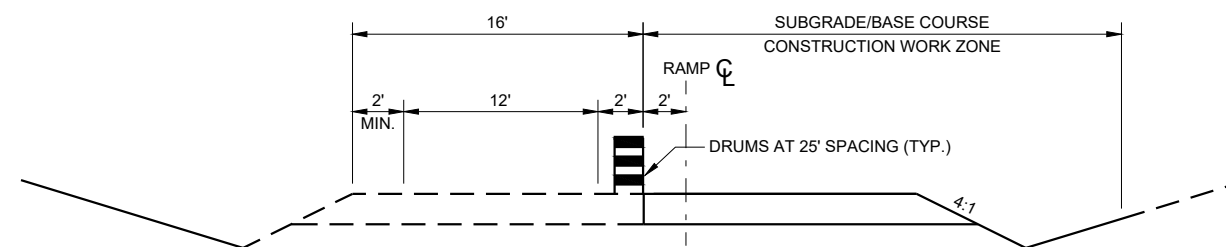
**GENERAL NOTES**

WORK SHALL BE SCHEDULED FOR ALL STAGES TO MINIMIZE INCONVENIENCE TO THE TRAFFIC USING THE RAMP WHILE IT IS ONLY BASE COURSE.

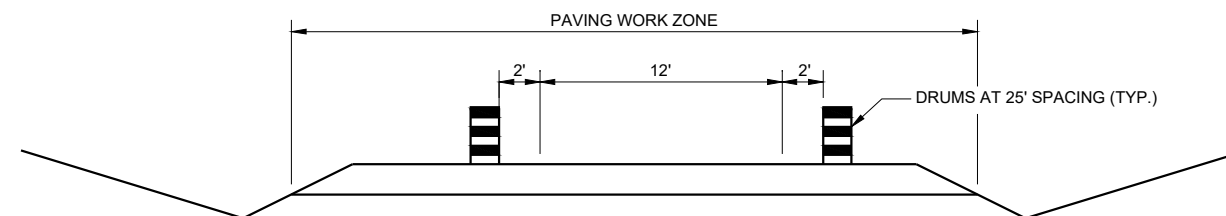
IN STATE III, A MINIMUM 12' LANE WIDTH SHALL BE DELINEATED WITH DRUMS ALONG BOTH EDGES AT ALL TIMES UNTIL PAVED AND PAVEMENT MARKINGS ARE PLACED.



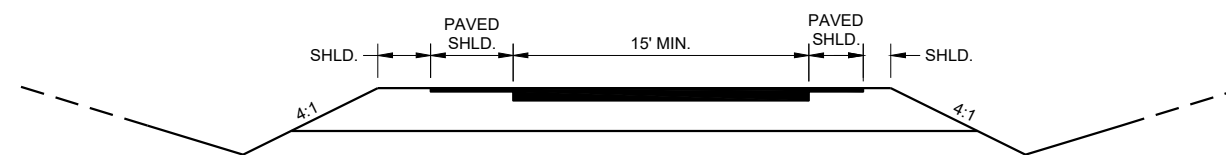
**STAGE I - CONSTRUCTION TO SUBGRADE, LEFT**



**STAGE II - CONSTRUCTION TO SUBGRADE, RIGHT**



**STAGE III - TRAFFIC ON BASE COURSE**



**STAGE IV - PAVING**

6














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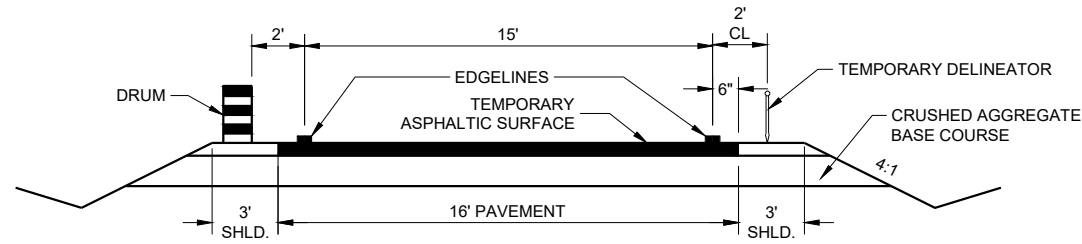
SDD 15D04 - 01

SDD 15D04 - 01

<b>TRAFFIC CONTROL, RAMP CONSTRUCTION STAGING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 1994 DATE	/s/ Chester J. Spang DIRECTOR, OFFICE OF TRAFFIC
FHWA	

**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  DELINEATOR FLEXIBLE / TUBULAR MARKER
-  TEMPORARY DELINEATOR - WHITE (STEEL POST WITH SINGLE DELINEATOR)
-  TYPE "A" WARNING LIGHT (FLASHING)
-  TYPE III BARRICADE
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  FLAGS, 16" X 16" MIN., ORANGE
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKINGS
-  WORK AREA
-  TEMPORARY CROSSOVER ASPHALTIC PAVEMENT



**TYPICAL RAMP CROSSOVER ROADWAY DIMENSIONS**

\*\* ADJUST RAMP SPEED AS NEEDED IN THE FIELD. DISTANCE TO SIGN LOCATION SHALL ALSO BE PLACED ACCORDING TO TABLE.

\*\* TABLE FOR ADVANCE WARNING SIGN DISTANCE (FT)

POSTED SPEED LIMIT (MPH)	DESIRED EXIT RAMP SPEED (MPH)					
	10	20	30	40	50	60
45	350	300	250			
50	425	400	325	225		
55	500	475	400	300		
60	575	550	500	400	300	
65	650	625	575	500	375	100
70	650	625	575	500	375	375

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

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

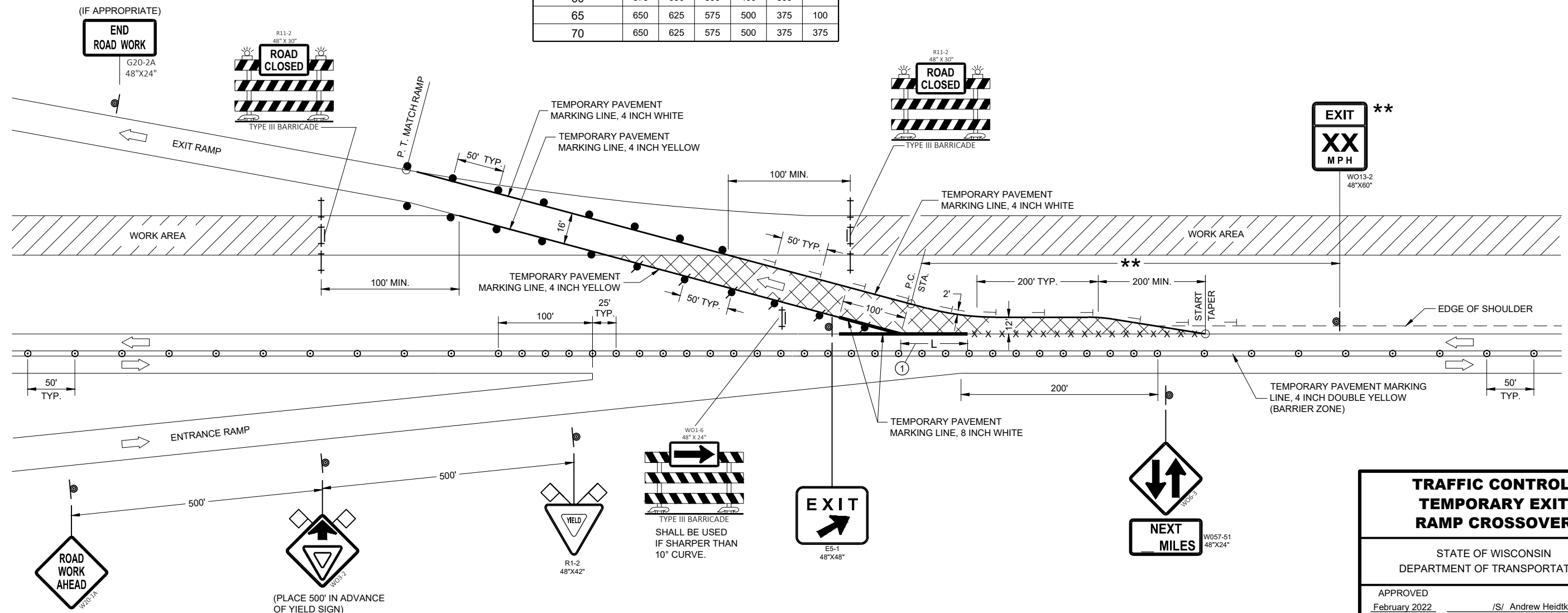
THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

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

WORK ALONG EDGES OF RAMP SHALL MAINTAIN A 10 FOOT AREA CLEAR OF PHYSICAL OBSTRUCTIONS SUCH AS DROP OFFS FROM PAVEMENT REMOVAL OR BROKEN CONCRETE CHUNKS DURING PAVEMENT REMOVAL. THESE AREAS SHALL BE LEVELED WITH TEMPORARY FILL TO PROTECT THE TRAVELING PUBLIC WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE CROSSOVER.

TRAFFIC CONTROL FOR RAMP CROSSOVERS ARE TYPICAL FOR ALL CONSTRUCTION PHASES.

① LENGTH "L" SHALL BE REQUIRED WHEN TANGENT LENGTH OF EXIT RAMP PARALLEL TO MAINLINE EXCEEDS 300 FEET. LENGTH SHALL BE EQUAL TO THE EXIT RAMP TANGENT LENGTH MINUS 300 FEET OR AS APPROVED BY THE ENGINEER AND SHALL CHANGE TO ACCOMMODATE PAVING GAPS.



**TRAFFIC CONTROL,  
TEMPORARY EXIT  
RAMP CROSSOVER**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

## GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

"WO" 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 OR AS APPROVED BY THE ENGINEER.

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.

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










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

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.

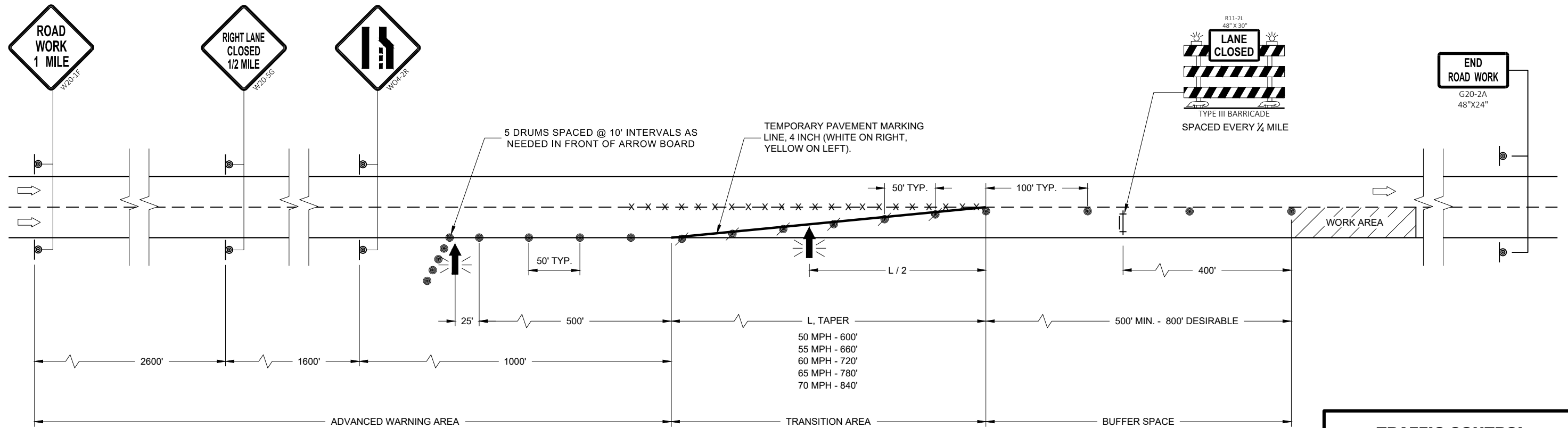
CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## 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

6

SDD 15D12 - 10a



6

SDD 15D12 - 10a

<b>TRAFFIC CONTROL LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	



### GENERAL NOTES

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

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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










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

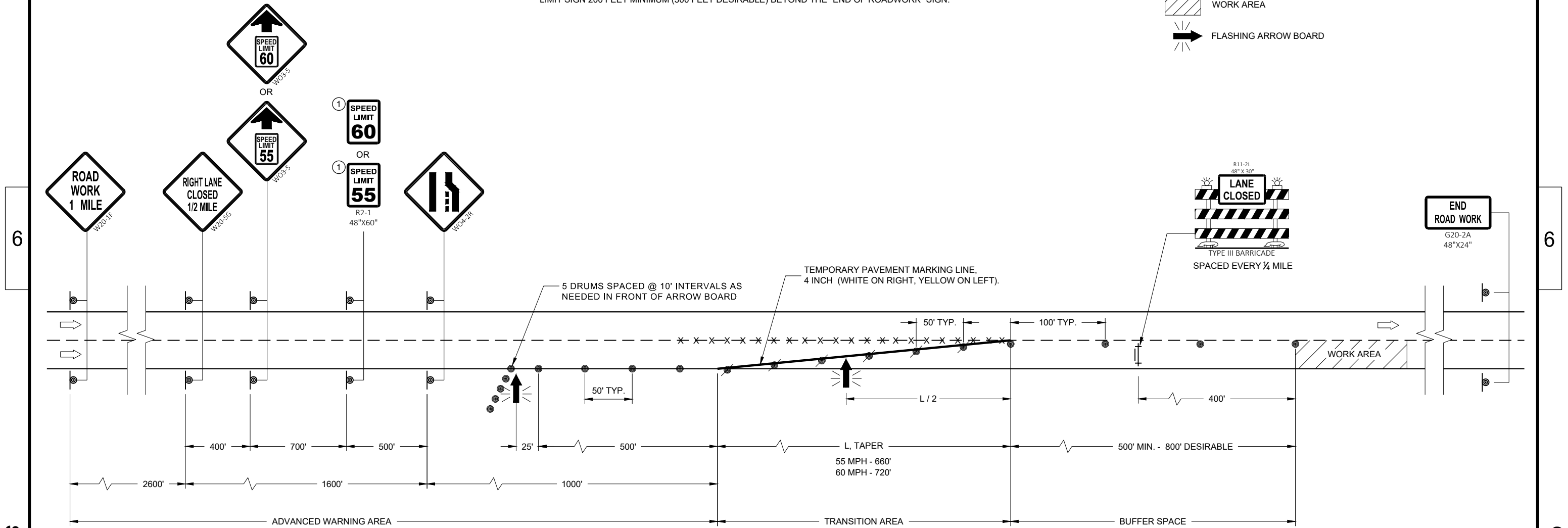
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

### LEGEND

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











<b>TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15D12 - 10b

SDD 15D12 - 10b

**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
-  FLAGS, 16" X 16" MIN., ORANGE
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

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

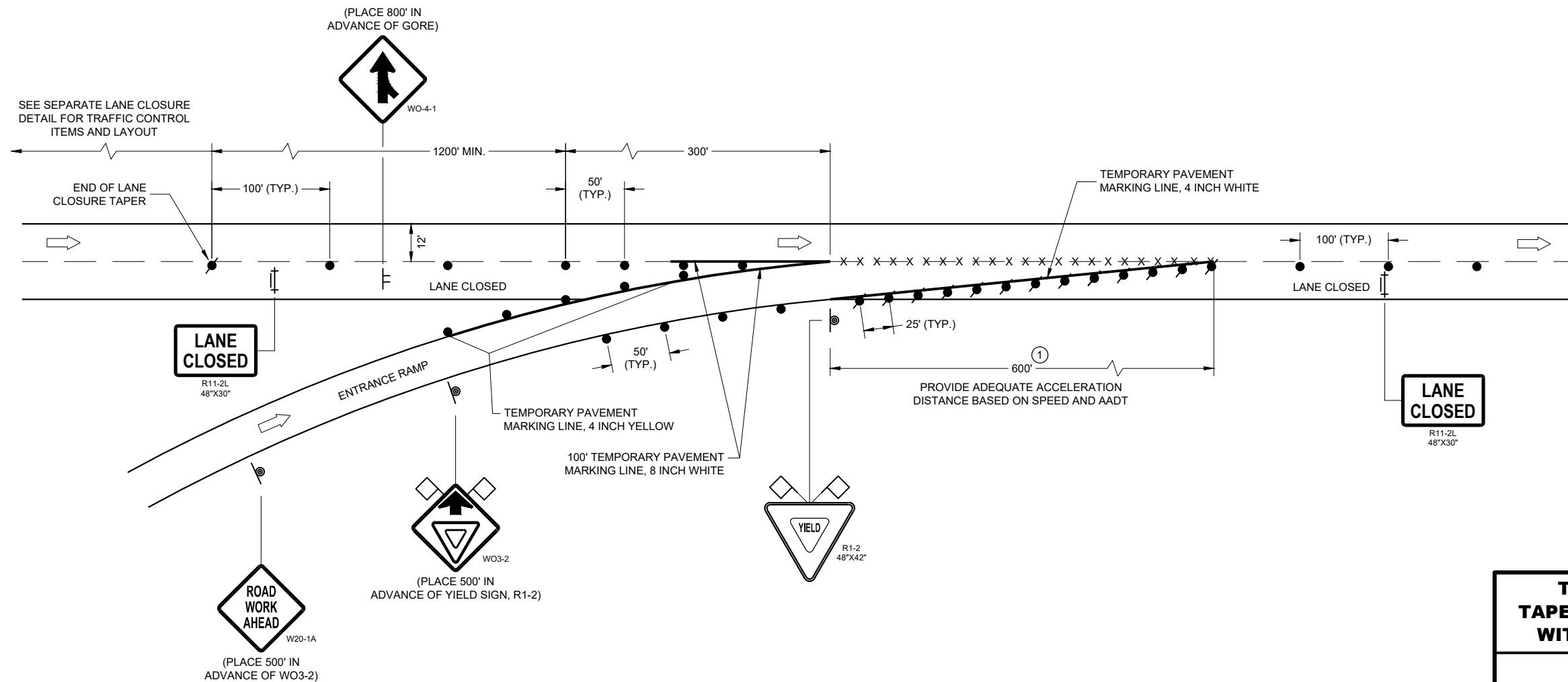
IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

① CONSULT WITH REGIONAL WORK ZONE ENGINEER IF NEED TO REDUCE LENGTH EXISTS.



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
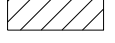


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SDD 15D15 - 06C

SDD 15D15 - 06C

<b>TRAFFIC CONTROL, TAPERED ENTRANCE RAMP WITHIN LANE CLOSURE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2022 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
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

**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.

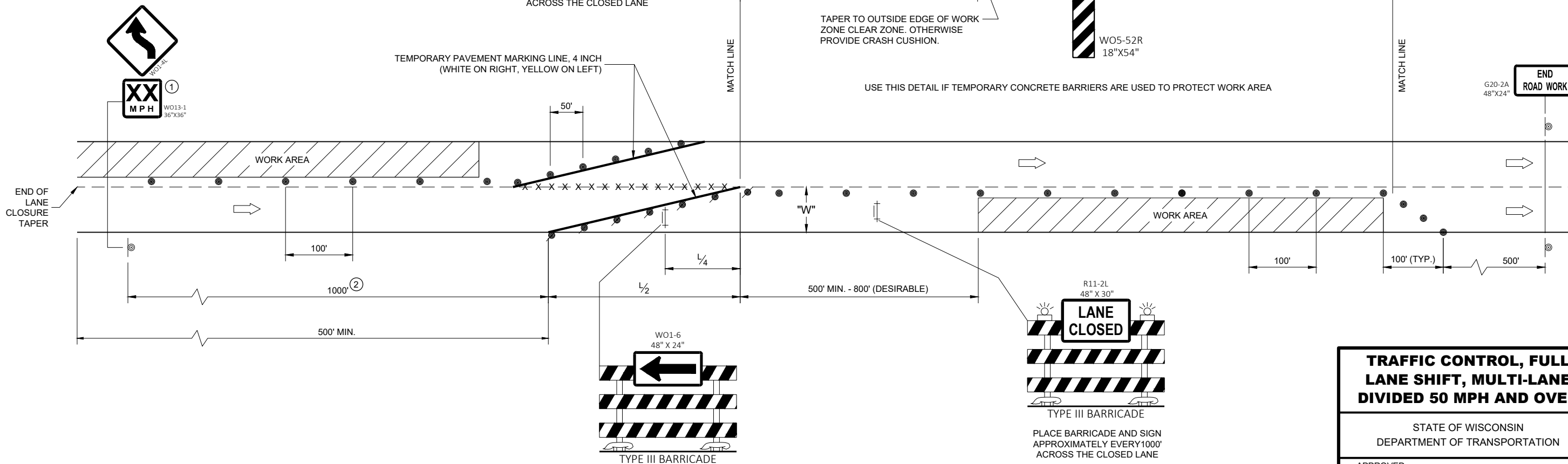
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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 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.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	SHIFTING TAPER 1/2				
	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



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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE: May 2022 /S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

6

6

SDD 15D40 - 04b

SDD 15D40 - 04b



DESIGN DATA

LIVE LOAD:
DESIGN LOADING HS20
INVENTORY RATING HS25
OPERATING RATING HS47
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) 250 KIPS
RATING TAKEN FROM HSI 4/10/2023

MATERIAL PROPERTIES

CONCRETE MASONRY: SUPERSTRUCTURE f'c = 4,000 PSI
ALL OTHER f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL REINFORCEMENT: GRADE 60 fy = 60,000 PSI
70" PRESTRESSED GIRDER CONCRETE MASONRY f'c = 6,000 PSI
1/2" DIA. STRANDS WITH AN ULTIMATE TENSILE STRENGTH OF 270,000 PSI

TRAFFIC VOLUME

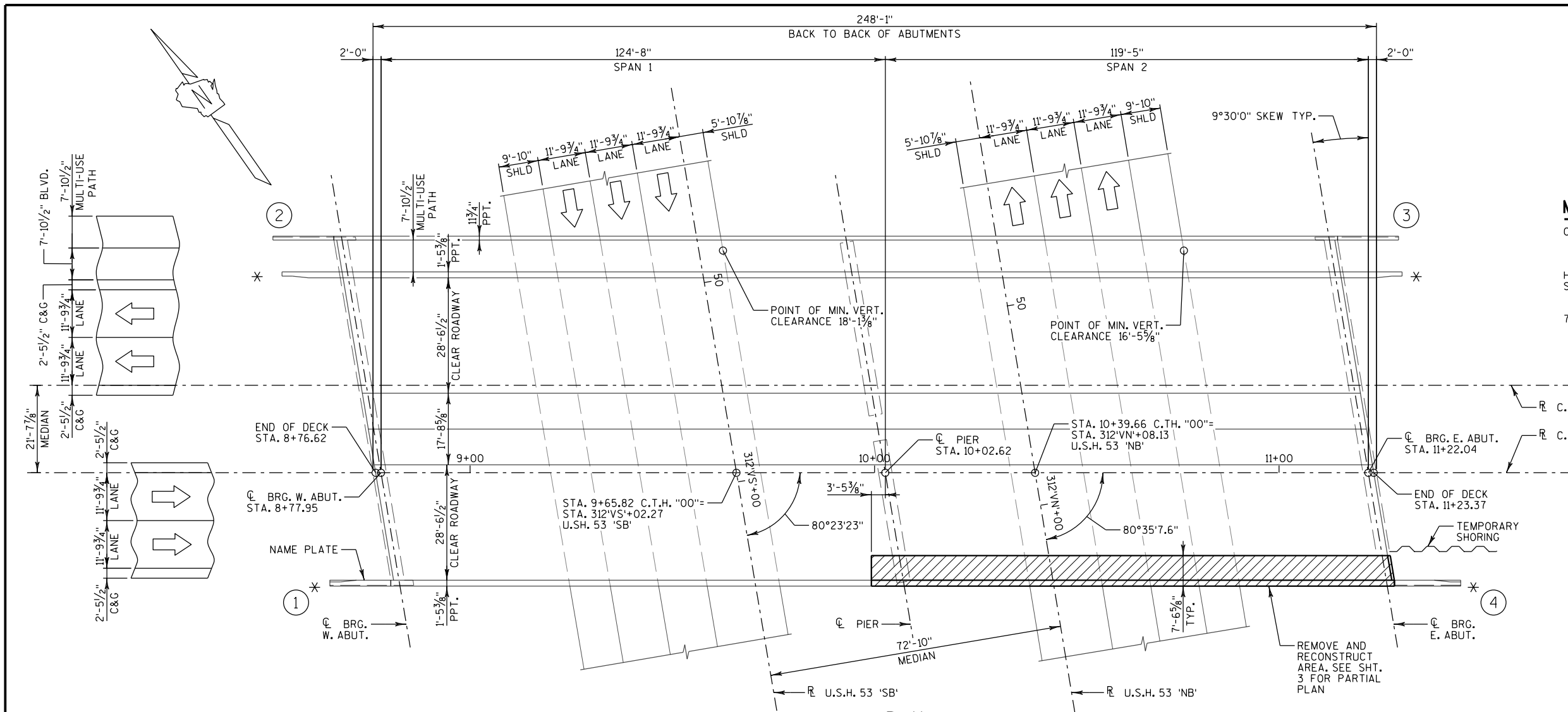
C.T.H. "00" WEST BOUND
ADT 15,070 (2023)
ADT 17,650 (2043)
R.D.S. 40 M.P.H.

SCOPE OF WORK

- 1. REMOVAL OF PORTIONS OF PARAPET AND TUBULAR RAILING, PORTIONS OF DECK, PORTIONS OF CONCRETE END DIAPHRAGM (AT ABUTMENT AND PIER), INTERMEDIATE STEEL DIAPHRAGMS ADJACENT TO GIRDER 11 IN SPAN 2.
2. INSTALL GIRDER AND INTERMEDIATE STEEL DIAPHRAGMS.
3. RECONSTRUCT PORTIONS OF DECK AND CONCRETE END DIAPHRAGMS (AT ABUT. AND PIER)
4. RECONSTRUCT PORTIONS OF PARAPET.
5. REINSTALL PORTIONS OF TUBULAR RAILING WITH CHAIN LINK FENCING.

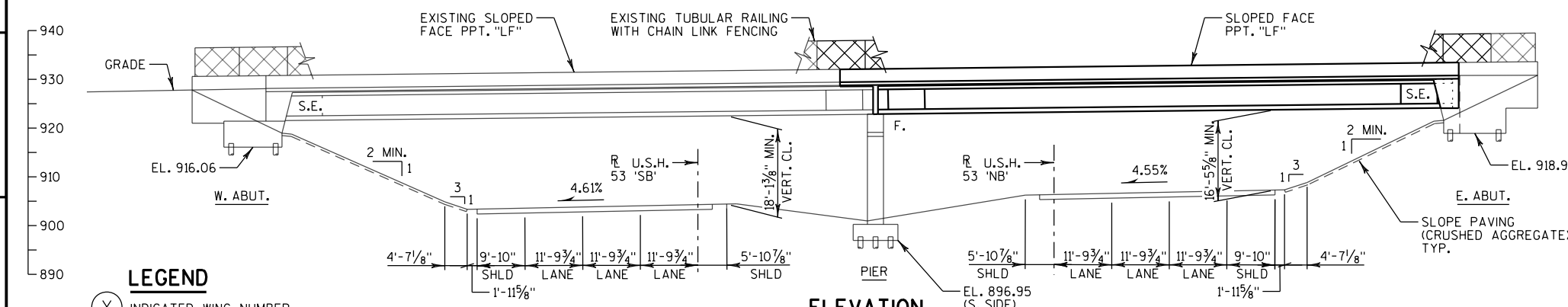
LIST OF DRAWINGS

- 1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES
3. REMOVAL DETAILS
4. 70" PRESTRESSED GIRDER DETAILS
5. STEEL DIAPHRAGM
6. SUPERSTRUCTURE-1
7. SUPERSTRUCTURE-2
8. SUPERSTRUCTURE-3
9. SUPERSTRUCTURE-4



PLAN

GIRDER REPAIR 2 SPAN 70-INCH PRESTRESSED GIRDER BRIDGE

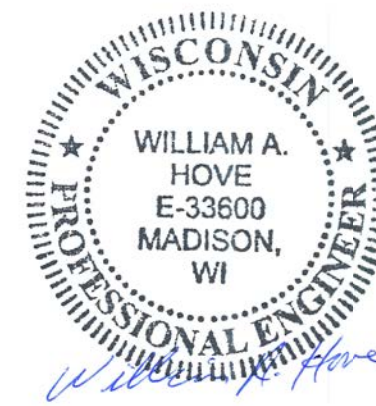


ELEVATION

LOOKING NORTH NORMAL TO U.S.H. 53

LEGEND

- (X) INDICATED WING NUMBER.
\* EXISTING ANCHORAGE FOR THRIE BEAM ATTACHMENT.
[ ] AREA TO REMOVE AND RECONSTRUCT.
[1-01] ELEVATIONS AND VERTICAL CLEARANCES FROM EXISTING PLAN.



4/12/2023

BUREAU OF STRUCTURES CONTACT:

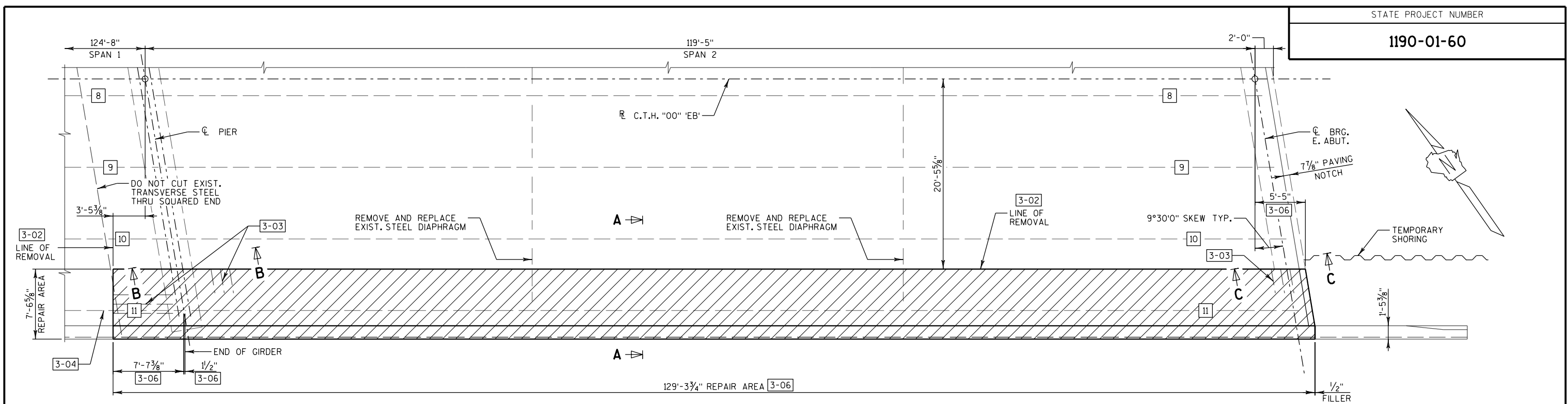
AARON BONK, P.E. (608) 261-0261

CONSULTANT CONTACT

BILL HOVE (262) 393-1260

Table with columns: NO., DATE, REVISION, BY. Includes project details like 'CORRE', 'STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION', 'ACCEPTED 04/12/23', 'STRUCTURE B-9-227', 'C.T.H. '00' OVER U.S.H. 53', 'COUNTY CHIPPEWA TOWN/GFFR/VILLAGES HALLIE', 'DESIGN SPEC. REHABILITATION N/A', 'GENERAL PLAN & ELEVATION', 'SHEET 1 OF 9'.





**PARTIAL PLAN**

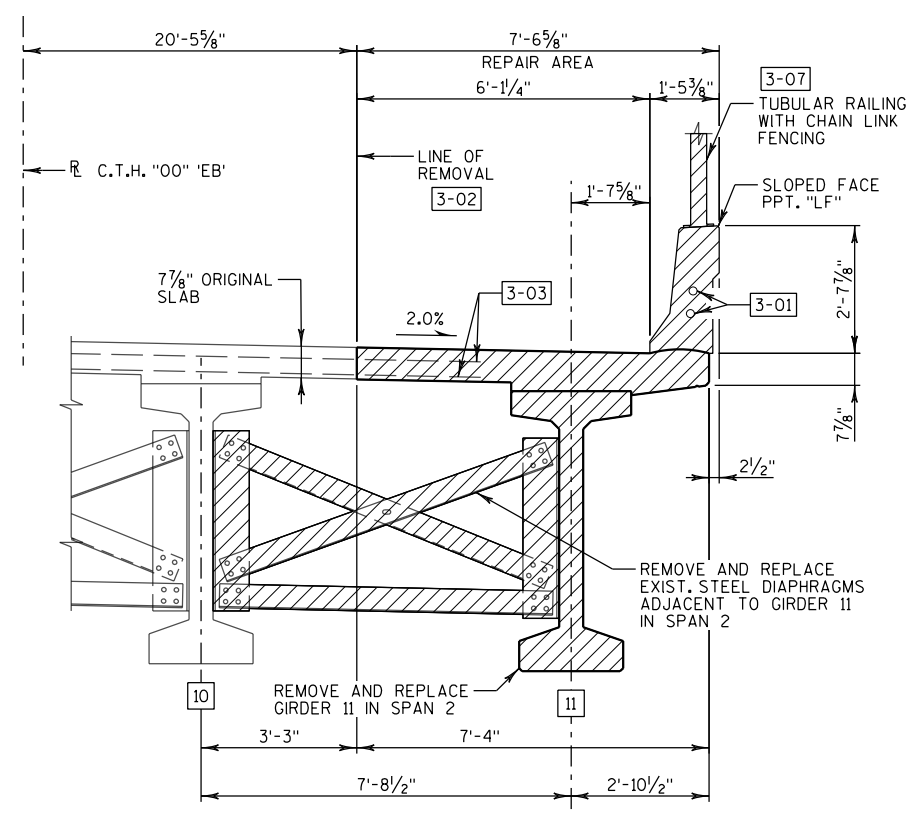
GIRDER REPLACEMENT - SPAN 2

**NOTES**

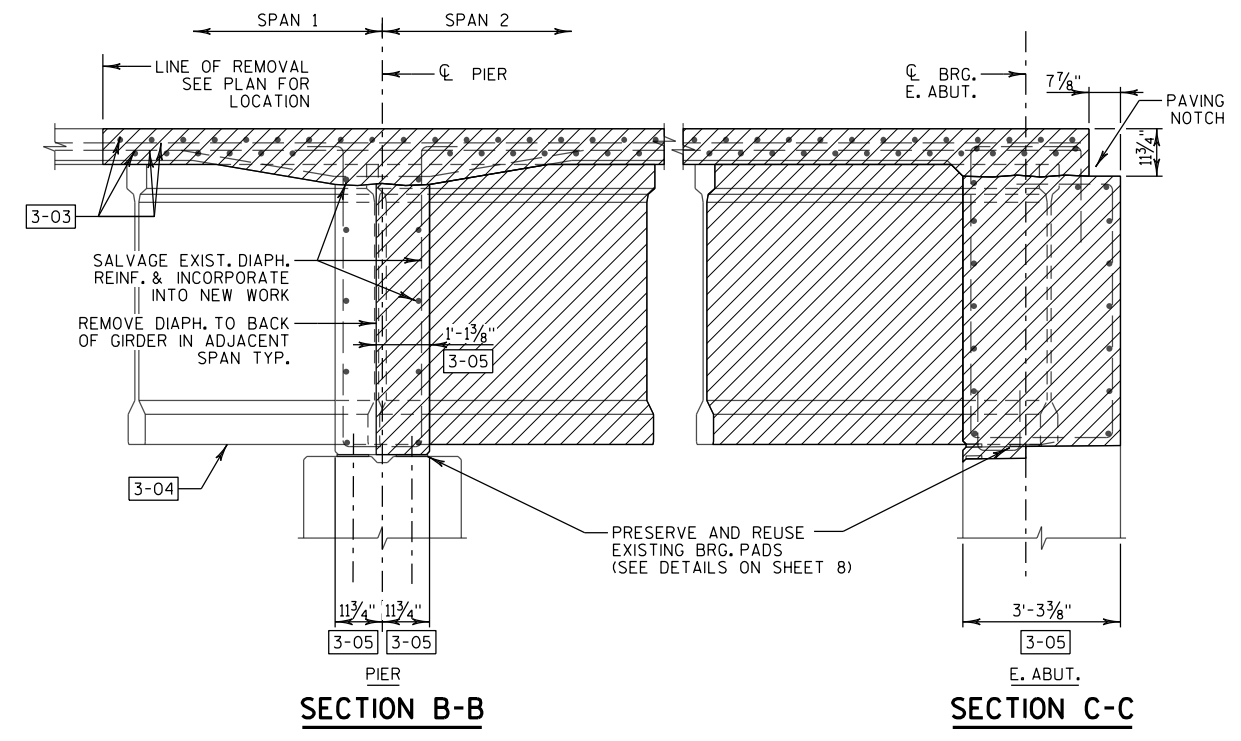
PLAN DIMENSIONS WERE CONVERTED FROM ORIGINAL METRIC PLANS AND ROUNDED TO NEAREST 1/8".

**LEGEND**

- DENOTES REMOVAL AREA
- DENOTES GIRDER NUMBER
- 3-01** EXISTING 2" PVC CONDUIT AND JUNCTION BOX TO BE REMOVED AND REPLACED. REMOVE CONDUIT FROM EXISTING EXPANSION COUPLINGS AT ABUTMENT TO JUNCTION BOX NEAR PIER. SALVAGE REMAINING CONDUIT. SALVAGE EXISTING EXPANSION COUPLINGS AT ABUTMENT. REPLACEMENT OF DAMAGED COUPLINGS SHALL BE INCIDENTAL TO THE CONDUIT ITEM. ANY DAMAGED WIRING SHALL BE REPLACED AT NO COST TO THE DEPARTMENT.
- 3-02** REMOVAL LINES DEFINED BY A 1" DEEP SAW CUT. FOR REMOVAL OF CONCRETE ADJACENT TO THE SAW CUT LINES, FOLLOW SECTION 509.3.4 OF THE STANDARD SPECIFICATIONS FOR REMOVAL METHODS AND EXPOSURE OF LONGITUDINAL BAR STEEL THAT MAY BE ENCOUNTERED.
- 3-03** SALVAGE BOTTOM LONGITUDINAL REINFORCEMENT OVER PIER AND EXTEND 2'-6" MIN. INTO NEW WORK.  
SALVAGE TOP LONGITUDINAL REINFORCEMENT AND EXTEND 7'-6" MIN. INTO NEW WORK AT PIER.  
SALVAGE TOP AND BOTTOM TRANSVERSE DECK REINFORCEMENT AND EXTEND 2'-9" MIN. INTO NEW WORK.  
SALVAGE LONGITUDINAL REINFORCEMENT IN PARAPET AND EXTEND 1'-11" MIN. INTO NEW WORK.
- 3-04** TAKE CARE TO PREVENT DAMAGE TO EXISTING GIRDERS REMAINING IN SPAN 1 DURING DECK REMOVAL.
- 3-05** DIMENSION IS TAKEN NORMAL TO CL SUBSTRUCTURE UNITS.
- 3-06** DIMENSION IS TAKEN PARALLEL TO CL OF GIRDER.
- 3-07** SALVAGE AND RE-ATTACH AFTER WORK IS COMPLETED. SURVEY LOCATIONS OF EXISTING POSTS PRIOR TO REMOVAL TO DETERMINE RE-ATTACHMENT LOCATIONS.



**SECTION A-A**



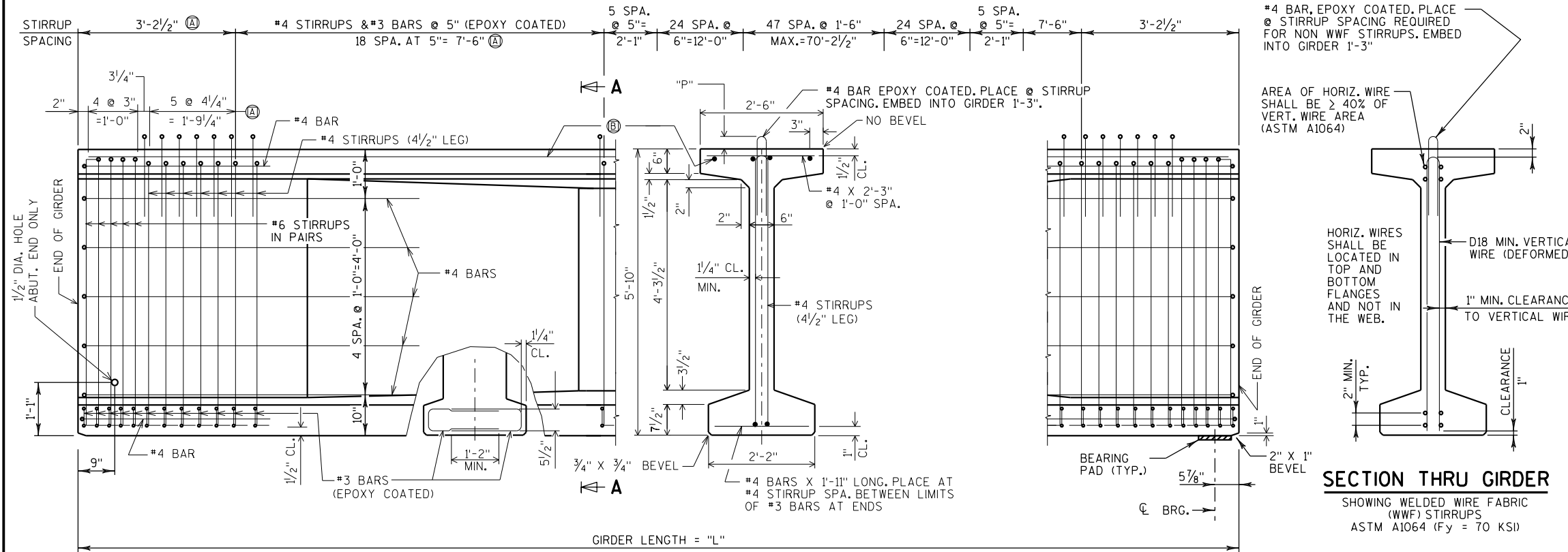
**SECTION B-B**

**SECTION C-C**

**PARTIAL LONGITUDINAL SECTION**

SHOWN PERPENDICULAR TO SUBSTRUCTURE UNITS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-9-227</b>			
DRAWN BY TKB		PLANS CK'D. BH	
<b>REMOVAL DETAILS</b>			SHEET 3 OF 9



**NOTES**

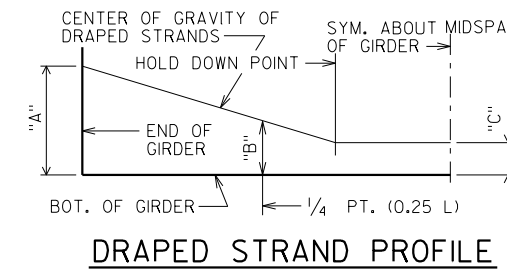
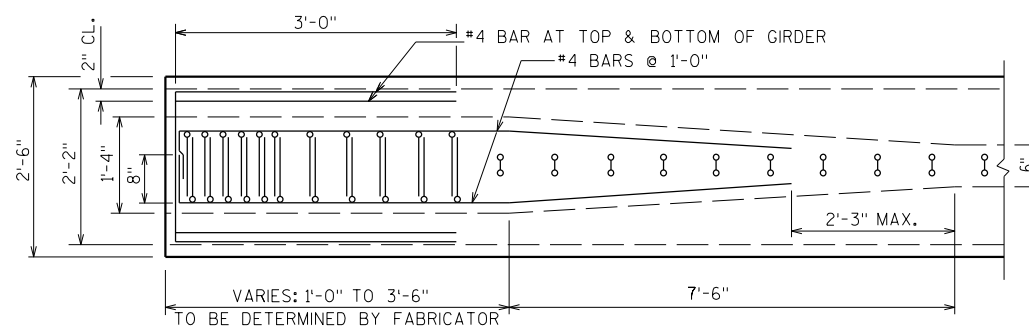
- TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.
- DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.
- THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.
- ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.
- STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.
- SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.
- AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.
- PRESTRESSING STRANDS SHALL BE 0.5" DIA. 7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.
- BEND EACH END OF #4 STIRRUPS 4/2", #6 STIRRUP 12".
- FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.

**SECTION THRU GIRDER**

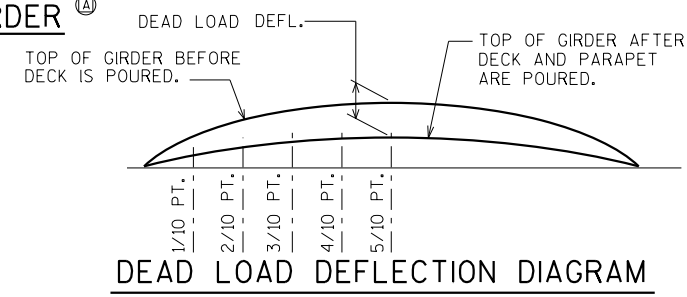
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS  
ASTM A1064 (Fy = 70 KSI)

**SIDE VIEW & TYPICAL SECTION IN SPAN**

- (A) DETAIL TYP. AT EACH END.
- (B) 4 #4 BARS, FULL LENGTH, MIN. LAP = 2'-4"



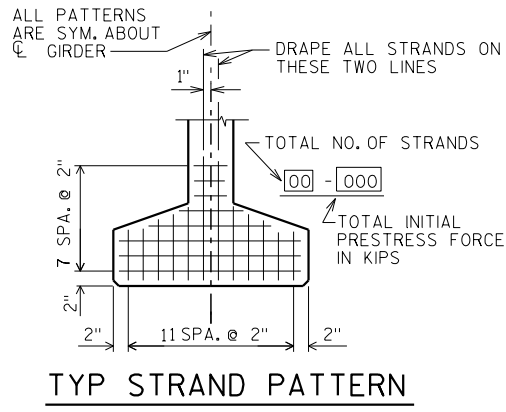
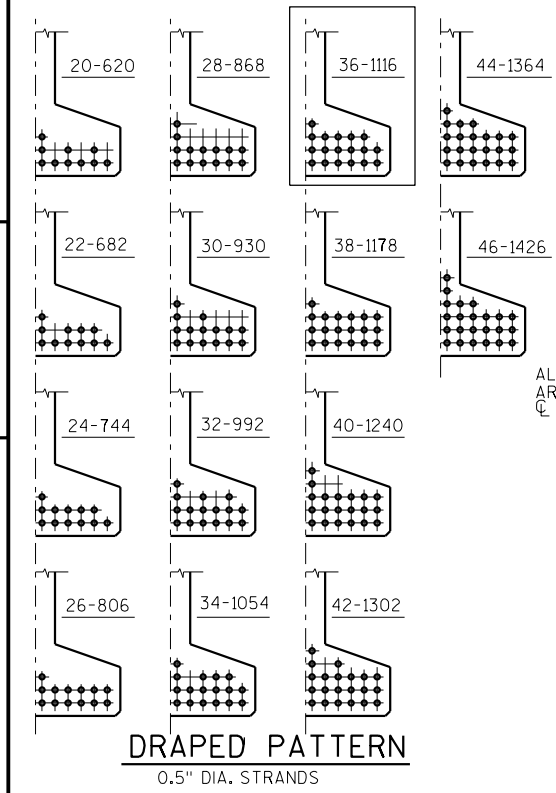
**TOP VIEW OF GIRDER**



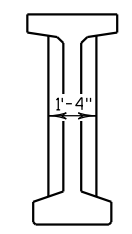
\*\* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.)**
2	2.6

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'. USE ACTUAL GIRDER SHOTS.  
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



**SECTION A-A**



\* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

SPAN	GIRDER LENGTH "L" (FEET)	DEAD LOAD DEFL. (IN.)					CONC. STRGTH. F'c (P.S.I.)	"P" (IN.)	DIA. OF STRAND (IN.)	DRAPED PATTERN (IN.)				UNDRAPED PATTERN			
		1/10	2/10	3/10	4/10	5/10				TOTAL NO. OF STRANDS	F'ci (P.S.I.) *	"A"	"B" MIN.	"C" MAX.	TOTAL NO. OF STRANDS	F'ci (P.S.I.) *	
2	119'-9 1/2"	0.4	0.8	1.1	1.3	1.4	6,000	7	1/2	36	4,800	62	19 1/4	22 1/4	5	-	-

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-9-227			
DRAWN BY TKB		PLANS CK'D. BH	
70" PRESTRESSED GIRDER DETAILS			SHEET 4 OF 9



**NOTES**

REMOVE AND REPLACE BOTH DIAPHRAGMS AND SUPPORT ANGLES IN SPAN 2 ADJACENT TO GIRDER 11. REUSE EXISTING HOLES AT GIRDER 10 TO ATTACH NEW DIAPHRAGMS. LOCATE HOLES IN NEW GIRDER TO ALIGN WITH EXISTING HOLES IN GIRDER 10.

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-9-227", EACH.

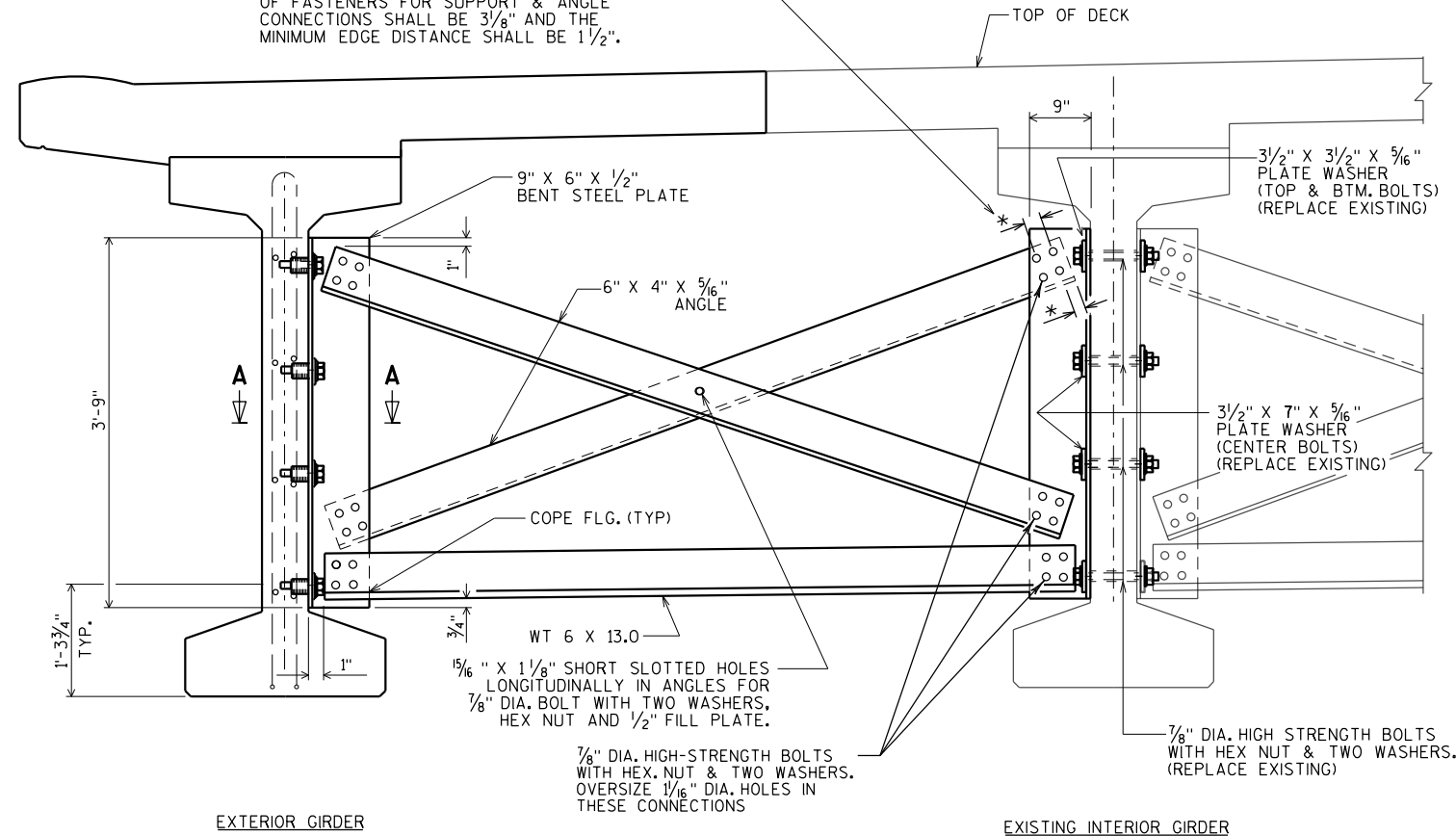
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

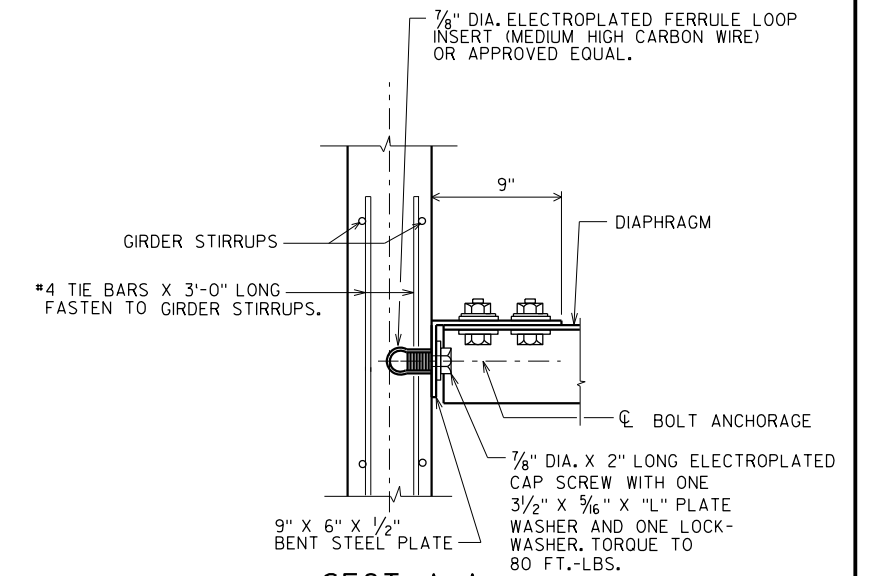
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

\* THE MINIMUM DISTANCE BETWEEN CENTERS OF FASTENERS FOR SUPPORT & ANGLE CONNECTIONS SHALL BE 3 1/8" AND THE MINIMUM EDGE DISTANCE SHALL BE 1 1/2".



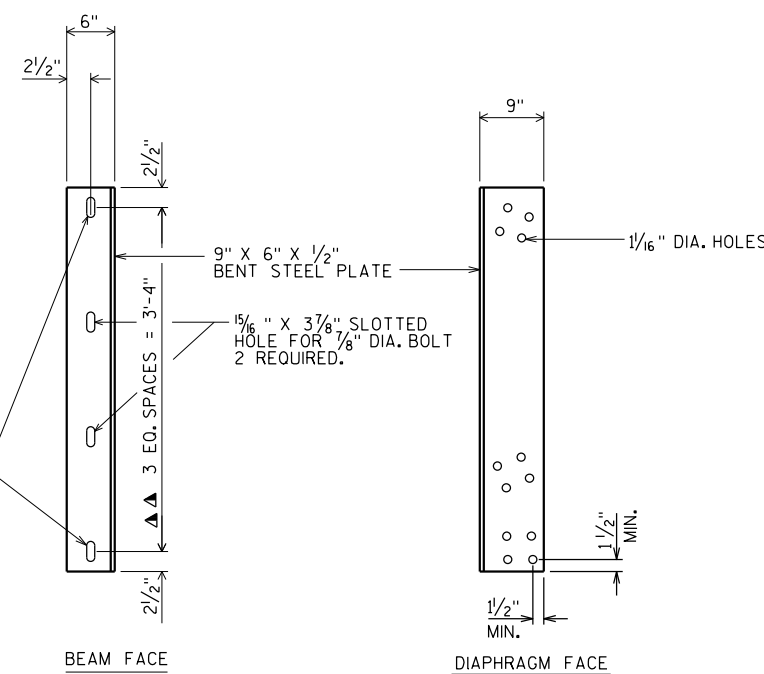
**PART TRANSVERSE SECTION AT DIAPHRAGM**  
(70" PRESTRESSED GIRDER)



**SECT. A-A**

(FOR EXTERIOR ATTACHMENT)

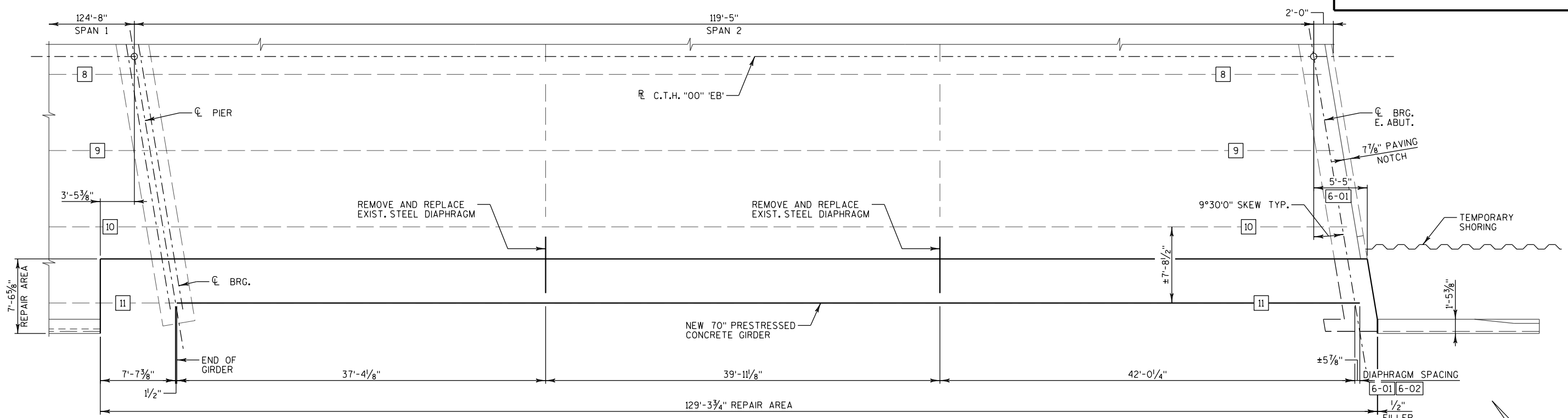
"L" = 3 1/2"; TOP AND BOTTOM BOLTS  
"L" = 7"; CENTER BOLTS



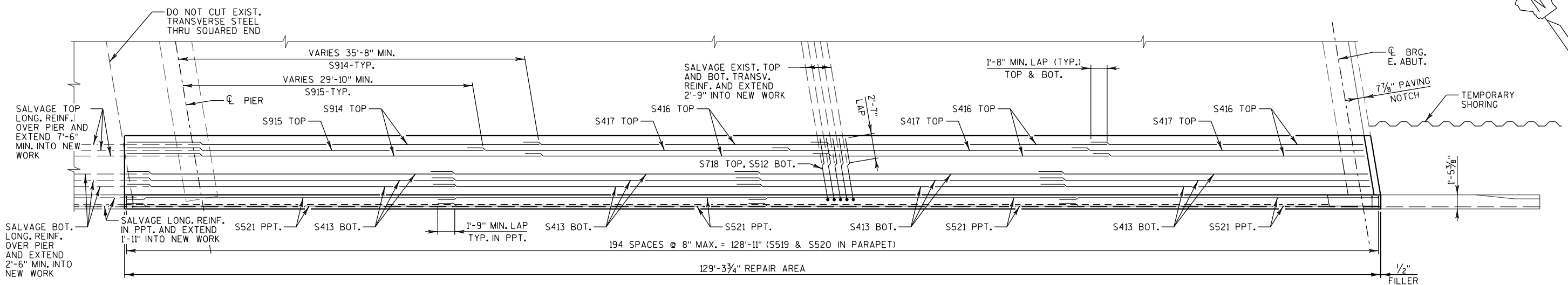
**DIAPHRAGM SUPPORT**

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

NO.	DATE	REVISION	BY
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<b>STRUCTURE B-9-227</b>			
DRAWN BY TKB		PLANS CK'D. BH	
<b>STEEL DIAPHRAGM</b>			SHEET 5 OF 9



**PARTIAL FRAMING PLAN**  
GIRDER REPLACEMENT - SPAN 2



**PARTIAL REINFORCEMENT PLAN**  
GIRDER REPLACEMENT - SPAN 2

**LEGEND**

- [X] DENOTES GIRDER NUMBER
- [6-01] DIMENSION IS TAKEN PARALLEL TO C. OF GIRDER.
- [6-02] DIAPHRAGM SPACING PER ORIGINAL PLANS. MATCH EXISTING SPACING IN FIELD.
- [6-03] DIMENSION IS TAKEN NORMAL TO C. SUBSTRUCTURE UNITS.
- [6-04] SALVAGE EXISTING REINFORCEMENT. DO NOT CUT.
- [6-05] 3/4" V-GROOVE REQUIRED FULL LENGTH OF NEW WORK. ENSURE THAT V-GROOVE ALIGNS WITH EXISTING GROOVE. TERMINATE 2' FROM ABUTMENT.
- [6-06] CONSTRUCTION JOINT STRIKE OFF AS SHOWN.
- [6-07] 2" PVC CONDUIT FOR TRAFFIC SIGNALS AND LIGHTING.
- [6-08] SEAL VERTICAL AND HORIZONTAL JOINTS ON BACK FACE OF ABUTMENT DIAPHRAGM WITH 18" RUBBERIZED MEMBRANE WATERPROOFING.
- [6-09] LOCATE FRONT FACE OF PARAPET TO MATCH EXISTING FLOW LINE LOCATION. PARAPET OFFSET FROM EDGE OF DECK MAY VARY SLIGHTLY FROM DIMENSIONS SHOWN DUE TO ROUNDING FROM CONVERSION OF EXISTING METRIC PLAN.

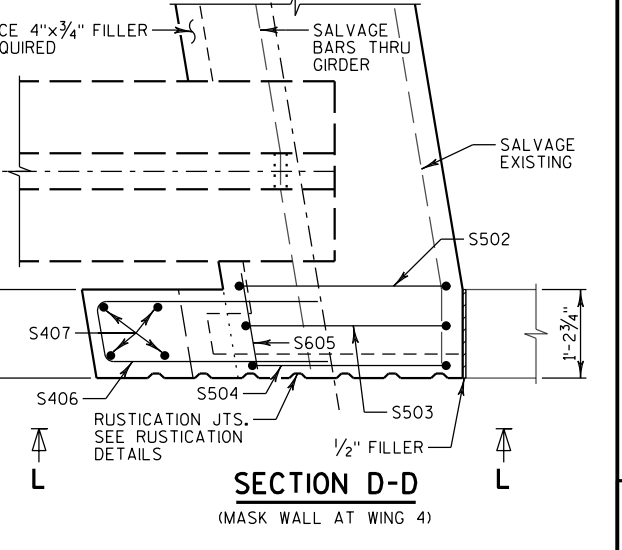
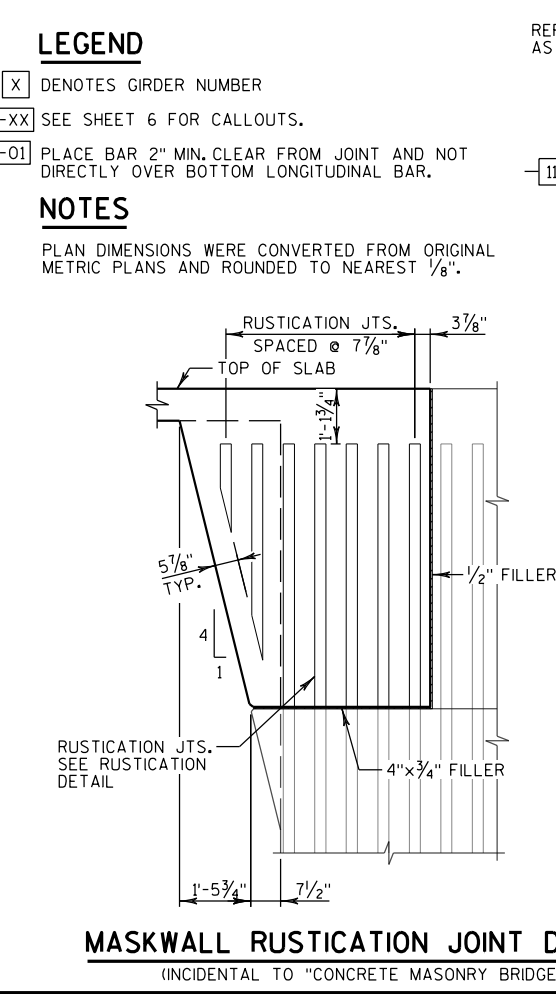
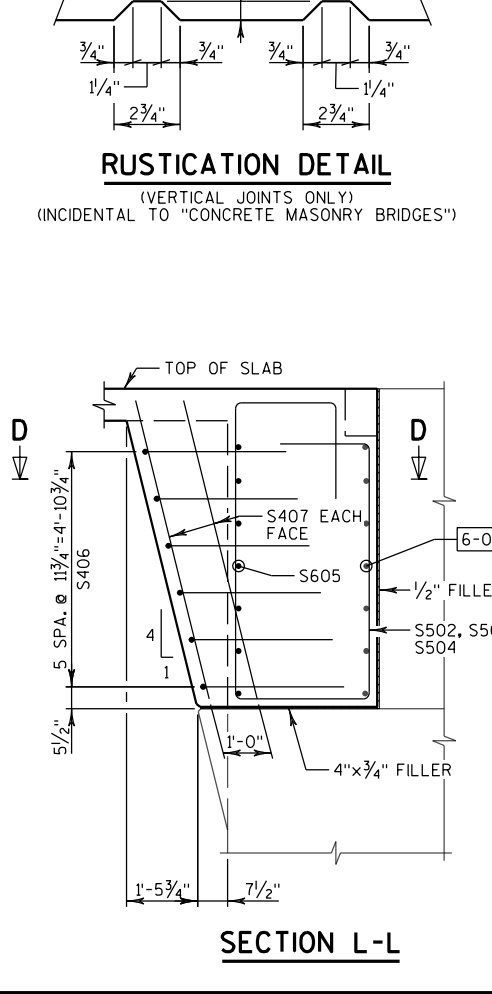
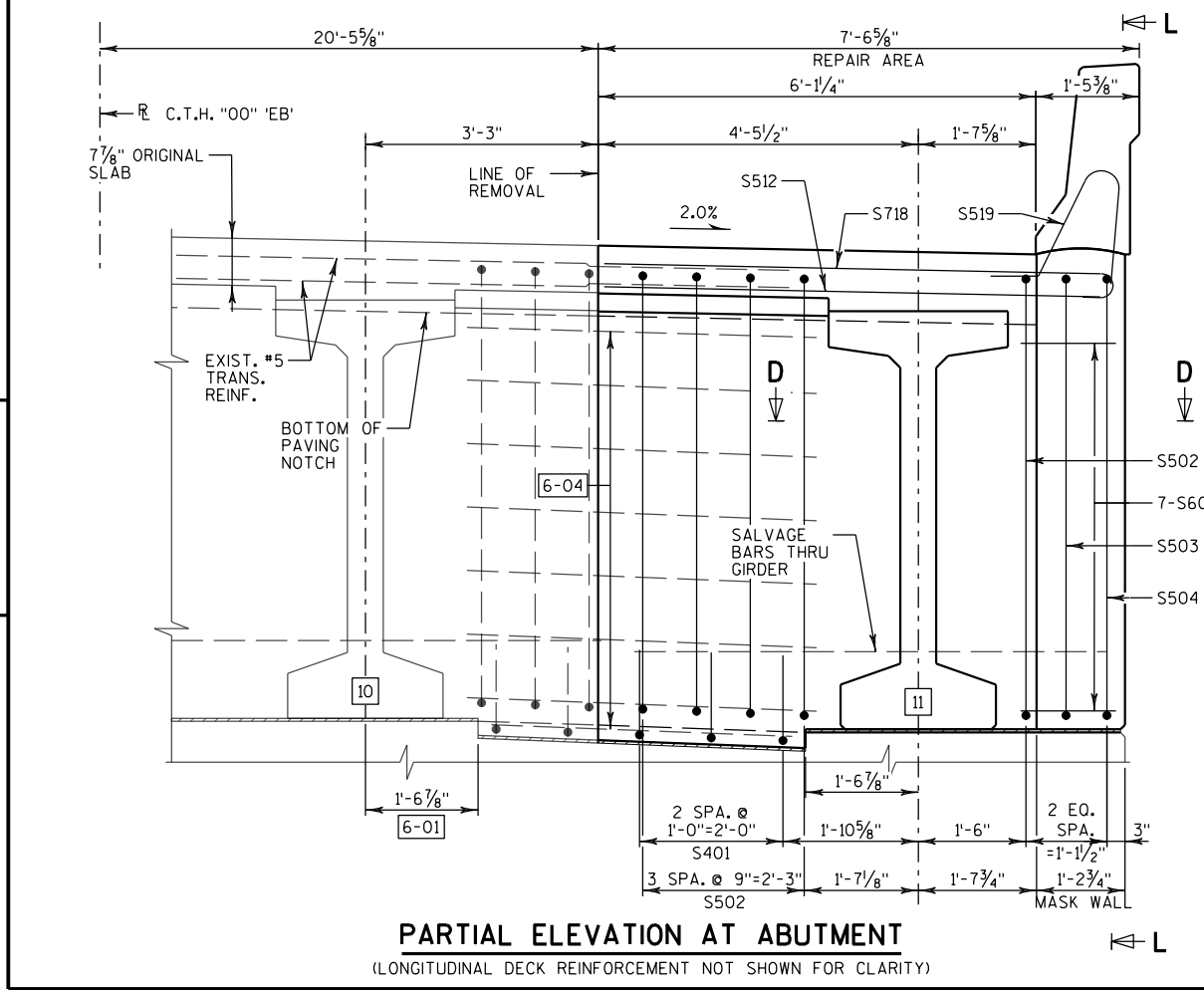
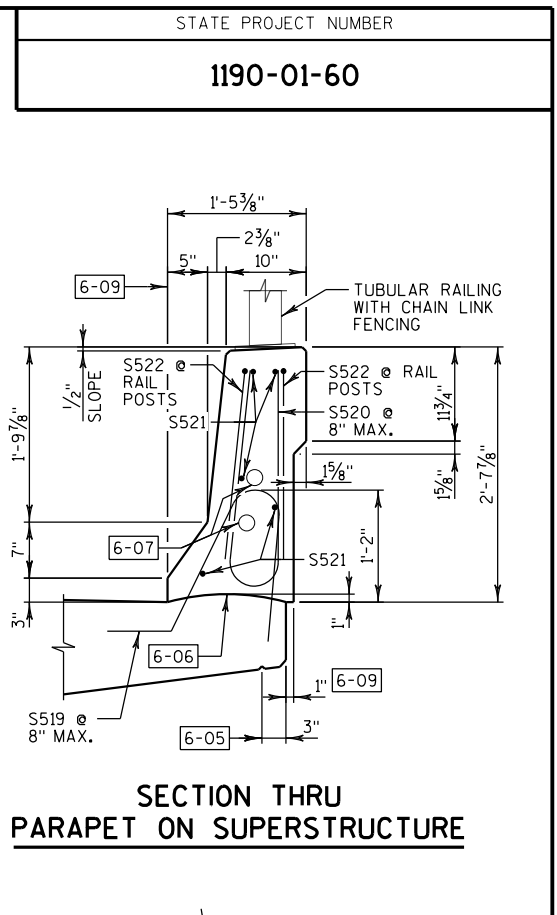
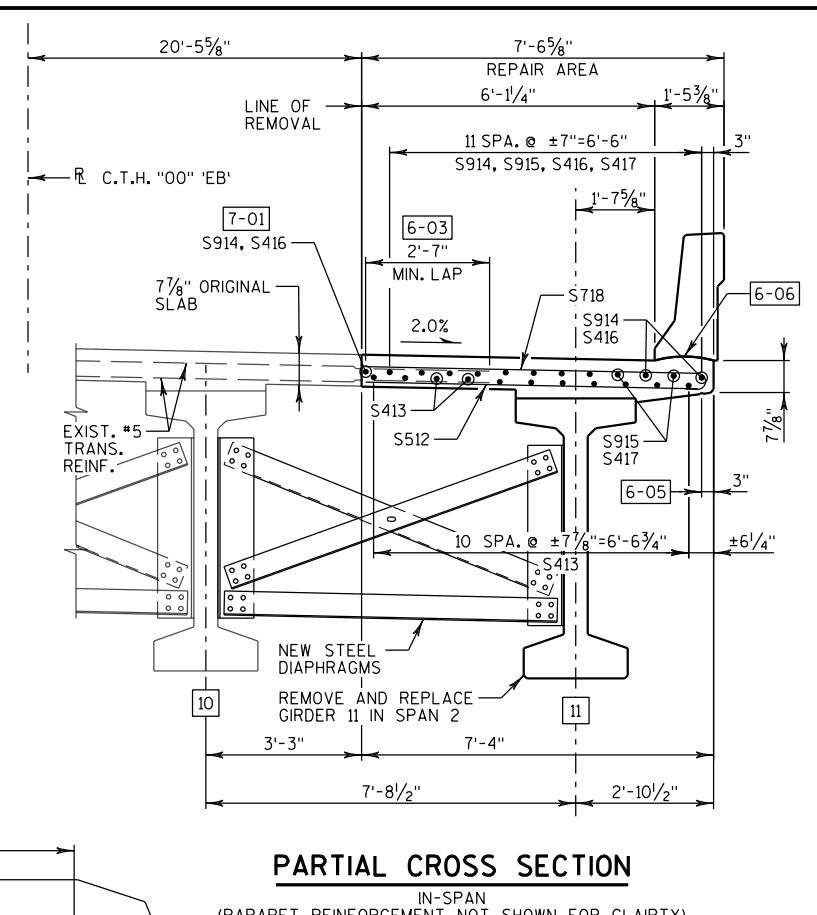
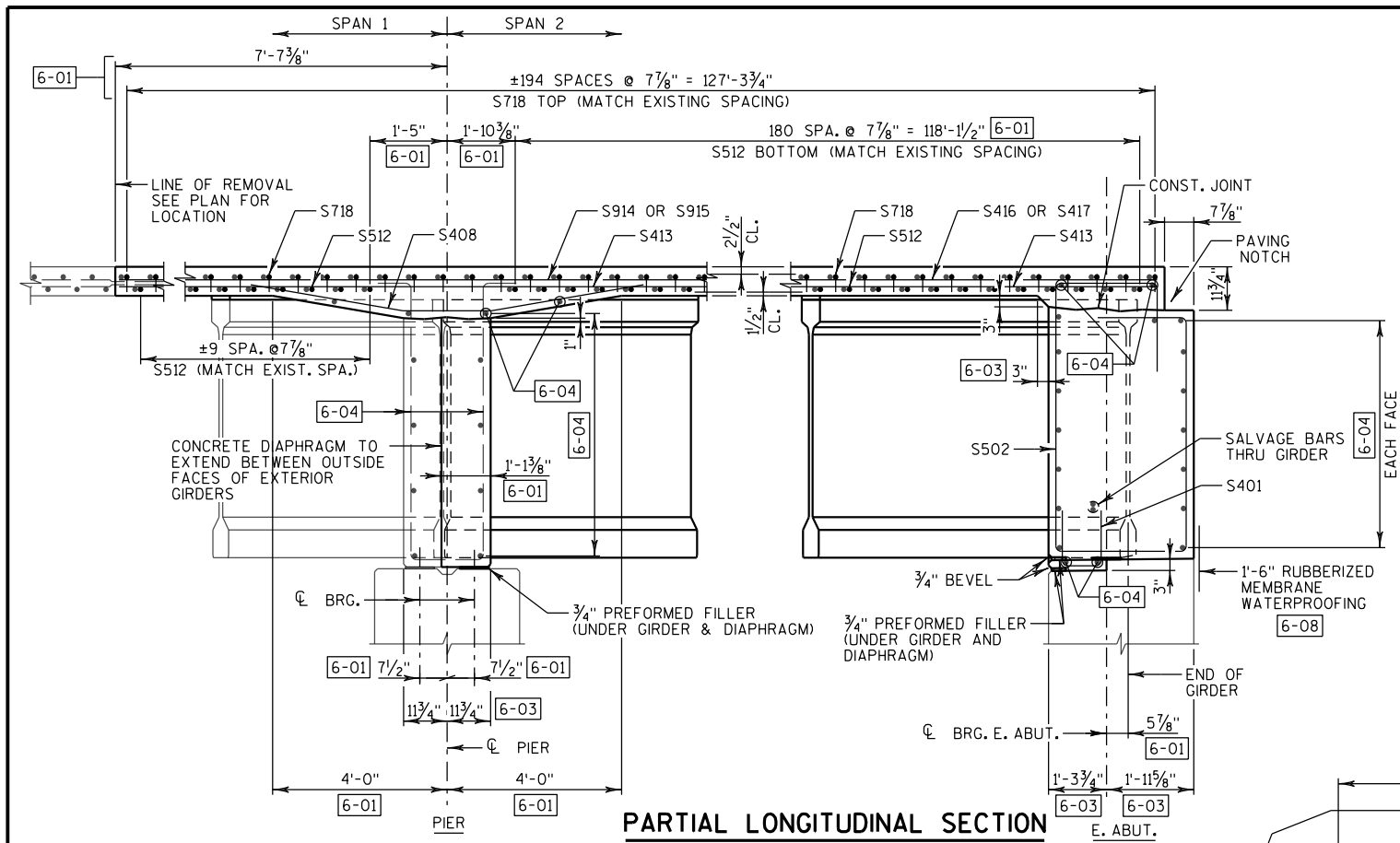
**NOTES**

PLAN DIMENSIONS WERE CONVERTED FROM ORIGINAL METRIC PLANS AND ROUNDED TO NEAREST 1/8".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-9-227</b>			
DRAWN BY TKB		PLANS CK'D. BH	
<b>SUPERSTRUCTURE-1</b>			SHEET 6 OF 9

8

8



- LEGEND**
- [X] DENOTES GIRDER NUMBER
  - [6-XX] SEE SHEET 6 FOR CALLOUTS.
  - [7-01] PLACE BAR 2" MIN. CLEAR FROM JOINT AND NOT DIRECTLY OVER BOTTOM LONGITUDINAL BAR.
- NOTES**
- PLAN DIMENSIONS WERE CONVERTED FROM ORIGINAL METRIC PLANS AND ROUNDED TO NEAREST 1/8".

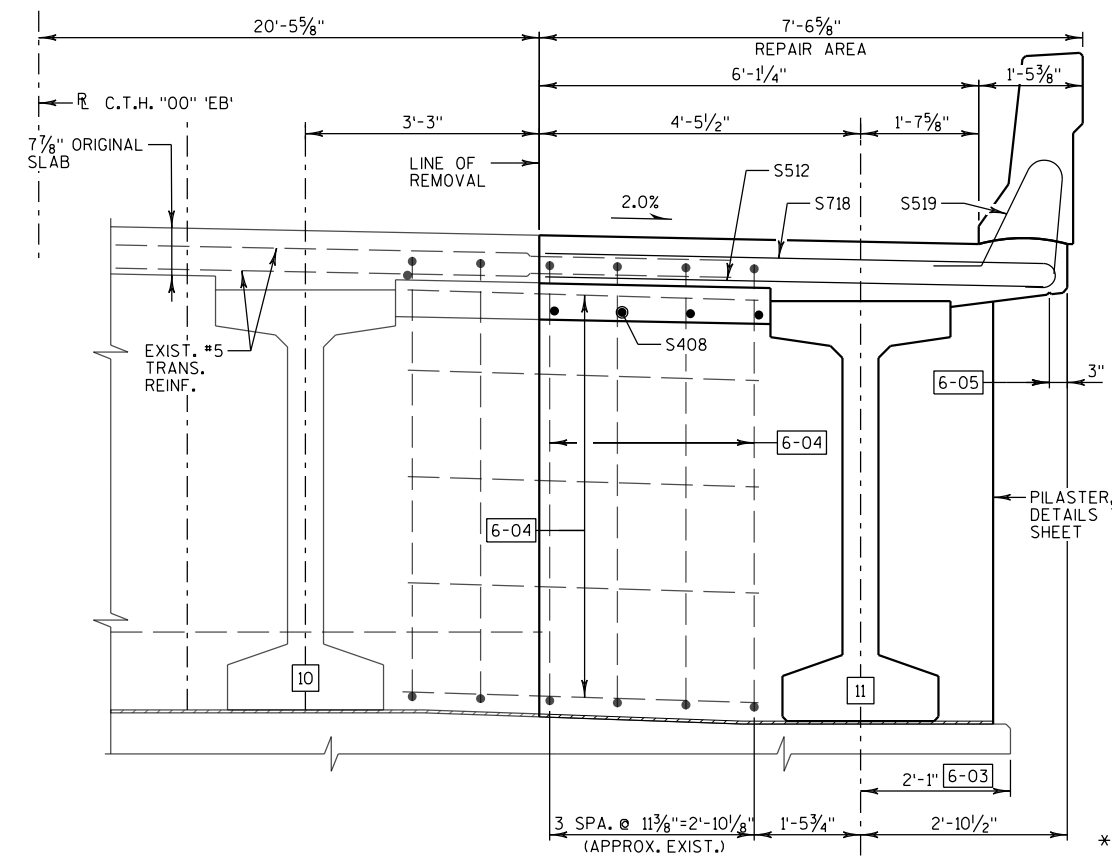
STATE PROJECT NUMBER  
**1190-01-60**

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-9-227</b>			
DRAWN BY: TKB		PLANS CK'D: BH	
<b>SUPERSTRUCTURE-2</b>			SHEET 7 OF 9

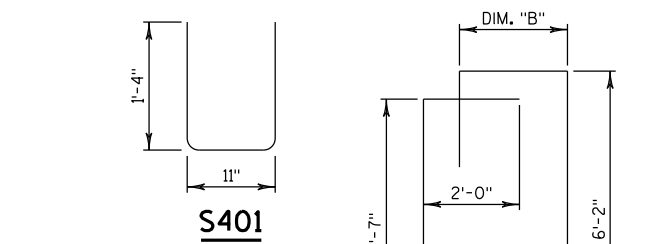
**BILL OF BARS - SUPERSTRUCTURE**

BAR MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					
					TOTAL WEIGHT = 11,140 LBS
S401	3	3'-5"	X		ABUTMENT DIAPHRAGM VERT.
S502	5	18'-5"	X		ABUTMENT DIAPHRAGM VERT.
S503	1	18'-4"	X		ABUTMENT DIAPHRAGM END VERT.
S504	1	18'-2"	X		ABUTMENT DIAPHRAGM END VERT.
S605	7	1'-3"			ABUTMENT DIAPHRAGM END HORIZ.
S406	6	7'-1"	X		ABUTMENT MASK WALL HORIZ.
S407	4	6'-2"			ABUTMENT MASK WALL VERT.
S408	4	9'-9"	X		HAUNCH AT PIER LONG.
S309	6	4'-3"	X		PILASTER AT PIER HORIZ.
S410	2	6'-9"	X		PILASTER AT PIER VERT.
S411	2	6'-8"	X		PILASTER AT PIER VERT.
S512	191	7'-1"			DECK BOTTOM TRANS.
S413	44	33'-9"			DECK BOTTOM LONG.
S914	7	43'-7"			DECK TOP LONG.
S915	6	37'-9"			DECK TOP LONG.
S416	21	30'-3"			DECK TOP LONG.
S417	18	32'-2"			DECK TOP LONG.
S718	195	7'-11"	X		DECK TOP TRANS.
S519	195	4'-5"	X		PARAPET VERT.
S520	195	4'-10"	X		PARAPET VERT.
S521	20	33'-8"			PARAPET LONG.
S522	26	4'-7"	X		PARAPET AT RAIL POSTS VERT.

THE FIRST DIGIT OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
DIMENSIONS IN BENDING DETAILS ARE OUT-TO-OUT OF BAR

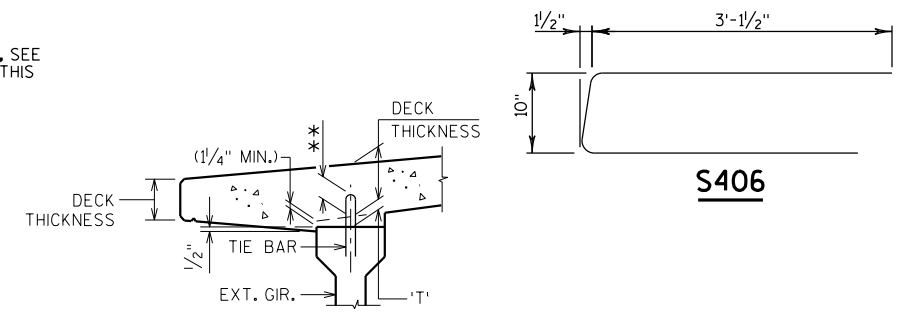


**PARTIAL ELEVATION AT PIER**  
(LONGITUDINAL DECK REINFORCEMENT NOT SHOWN FOR CLARITY)



BAR MARK	DIM. "A"	DIM. "B"
S502	3'-0"	2'-3"
S503	2'-11"	2'-3"
S504	2'-10"	2'-2"

NOTE: S502 BAR MAY REQUIRE PLACEMENT AFTER EXISTING GIRDER IS REMOVED AND BEFORE NEW IS PLACED.



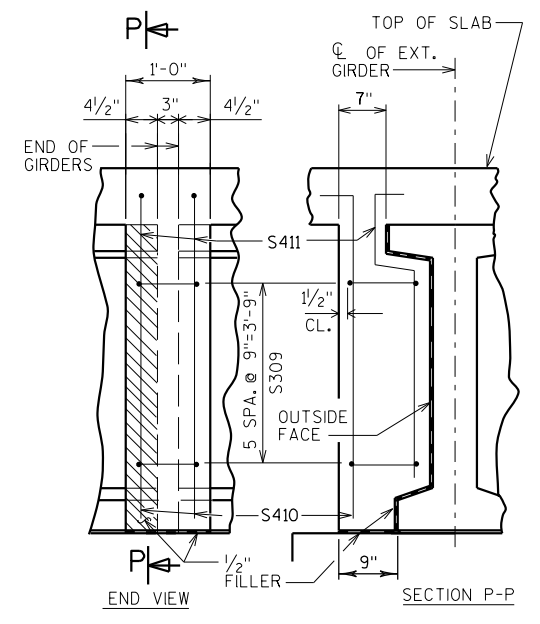
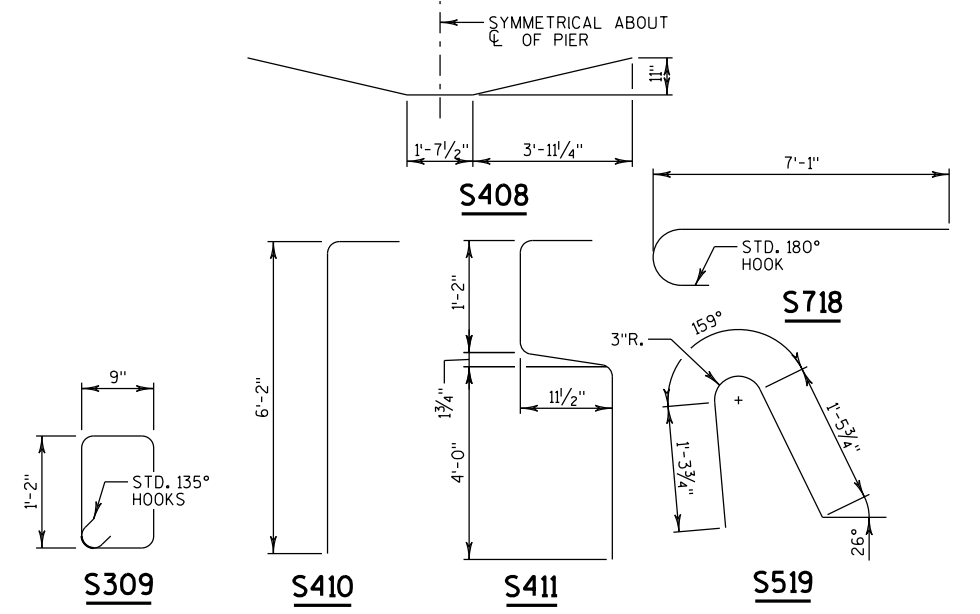
**DECK HAUNCH DETAIL**

\*\* THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL. OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

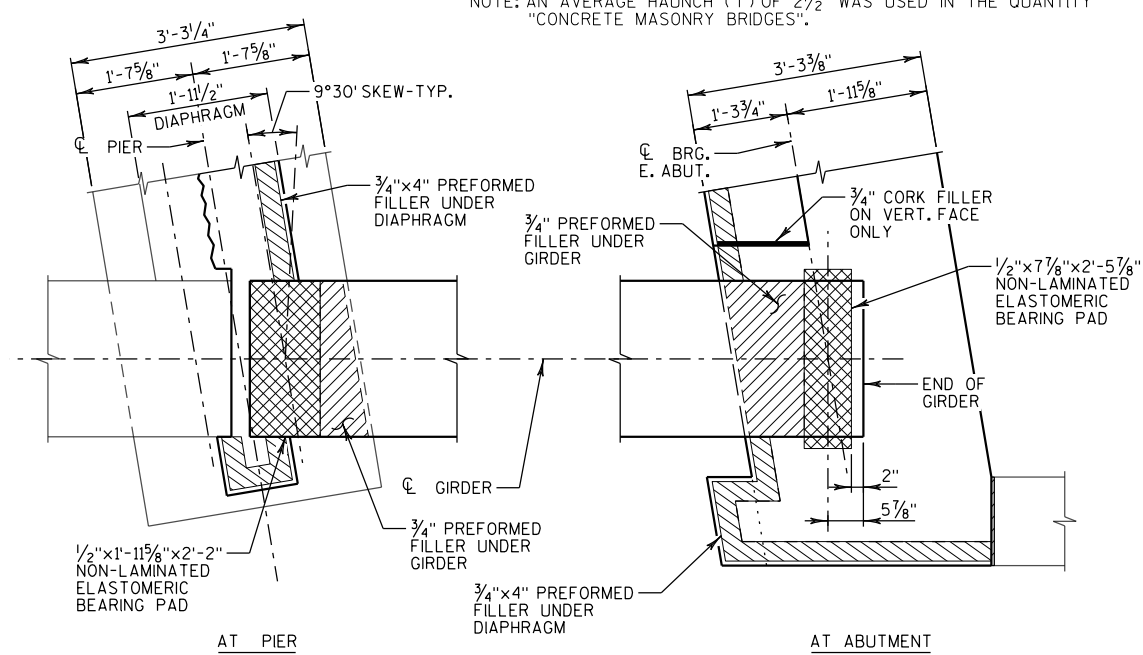
- TOP OF DECK ELEV. FROM SURVEY
- TOP OF GIRDER ELEVATION
- + DEAD LOAD DEFLECTION
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 1/2" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



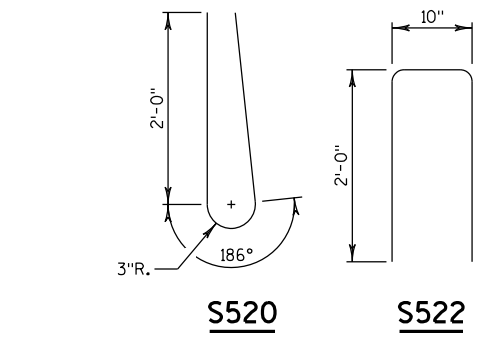
**PILASTER DETAILS AT PIERS**

NOTE: COMPLETELY REMOVE PILASTER AND RECONSTRUCT AS SHOWN DURING PLACEMENT OF DECK.

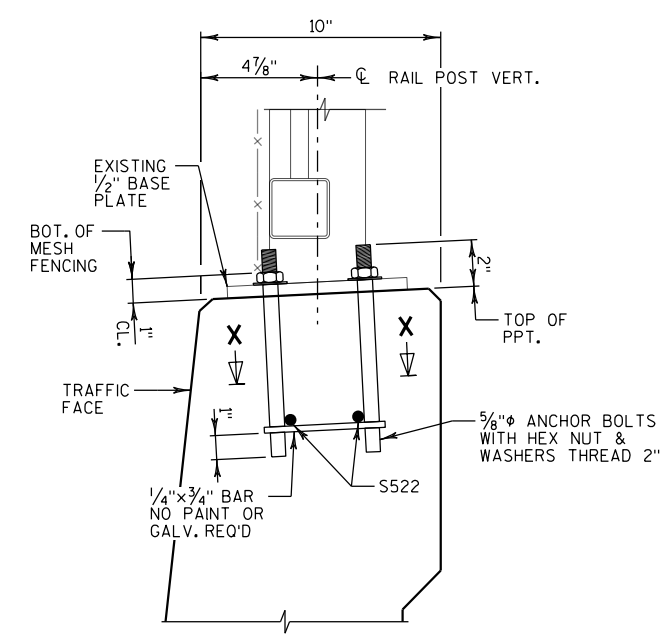


**BEARING PLAN**

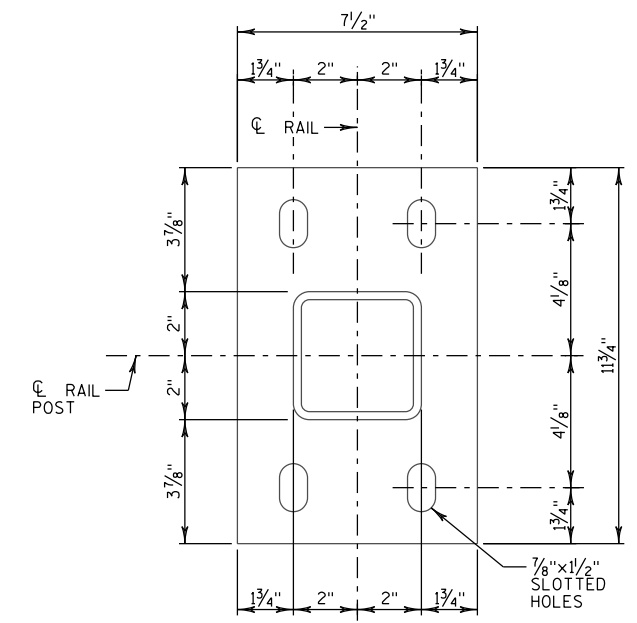
SALVAGE AND REUSE EXISTING BEARING PADS. SALVAGE OR REPLACE FILLER AND CORK FILLER AS DIRECTED BY ENGINEER.



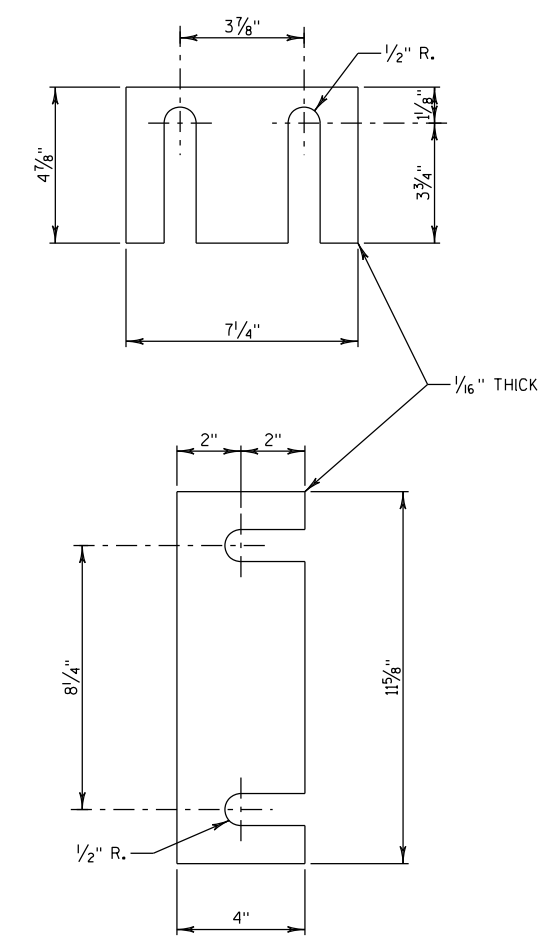
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-9-227			
DRAWN BY TKB		PLANS CK'D. BH	
SUPERSTRUCTURE - 3			SHEET 8 OF 9



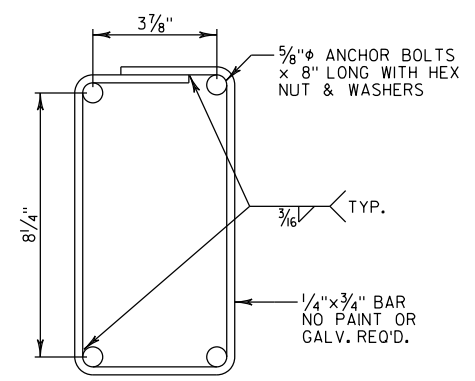
**RAIL POST ANCHORAGE**



**EXISTING BASE PLATE**



**SHIM PLATE DETAILS**  
 (2 SHIMS OF EACH SIZE PER POST REQUIRED)



**SECTION X-X**

**NOTES**

NEW RAIL POST ANCHORAGES ARE INCLUDED IN THE BID ITEM "REMOVING AND RESETTING TUBULAR RAILING B-9-227". IT IS ANTICIPATED THAT 13 POST LOCATIONS REQUIRE REMOVAL AND REPLACEMENT. ADDITIONAL REMOVALS, AT THE DISCRETION OF THE CONTRACTOR, SHALL BE INCLUDED IN THE "EACH" COST SURVEY POST LOCATIONS PRIOR TO REMOVAL TO DETERMINE REATTACHMENT LOCATIONS.

SHIMS TO BE ASTM A709 GRADE 36. ALL GALVANIZED AFTER FABRICATION.

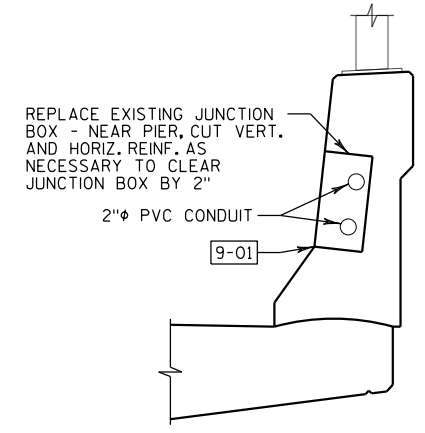
ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING. SET NORMAL TO GRADE.

SHIMS SHALL BE USED UNDER BASE PLATES WHERE REQUIRED FOR ALIGNMENT. CHALK EXPOSED OPENINGS BETWEEN SHIMS.

FILL ANCHOR BOLT HOLES WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.

ANCHOR BOLTS, NUTS AND WASHER SHALL BE EITHER STAINLESS STEEL OR ASTM 307. IF 307 IS USED, NUTS, WASHERS AND TOP 3" OF ANCHOR BOLTS SHALL BE GALVANIZED.

ALTERNATIVE ANCHORAGE: ADHESIVE ANCHORS 5/8-INCH. EMBED 7" IN CONCRETE. ADHESIVE ANCHORS SHALL CONFORM TO SECTIONS 502.2.12 AND 502.3.14 OF THE STANDARD SPECIFICATIONS. ANCHOR BAR NOT REQUIRED WHERE ADHESIVE ANCHOR ARE USED.

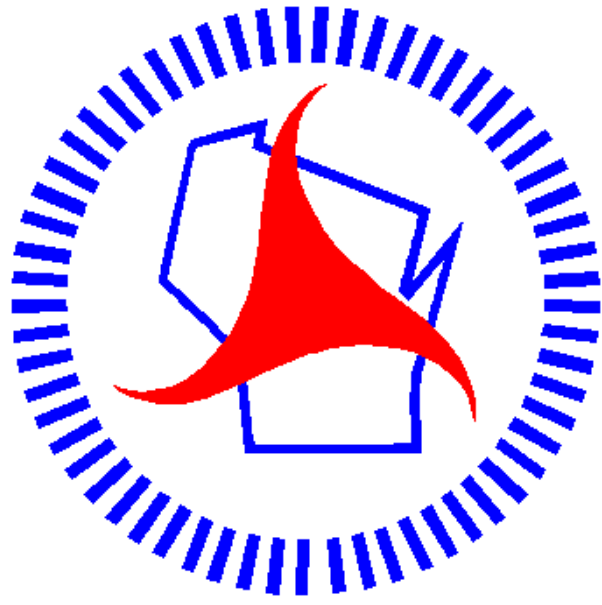


**CONDUIT JUNCTION BOX DETAIL**

9-01 CUT OUT ±1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
<b>STRUCTURE B-9-227</b>			
DRAWN BY TKB		PLANS CK'D. BH	
<b>SUPERSTRUCTURE-4</b>			SHEET 9 OF 9

Notes



## ***Wisconsin Department of Transportation***

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