SUP

PROJECT ID: 8040-01-74

WITH: N/A

COUNTY: BURNETT

SEPTEMBER 2022

ORDER OF SHEETS

TOTAL SHEETS = 124

24

N

DESIGN DESIGNATION

A.A.D.T.	2023	=	4,000
A.A.D.T.	2043	=	4,800
D.H.V.	2043	=	1,100
D.D.		=	61/39
T.		=	13.4%
DESIGN SPEED		=	55 MPH
ESALS		=	1,489,200

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 (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ST CROIX RIVER - GRANTSBURG

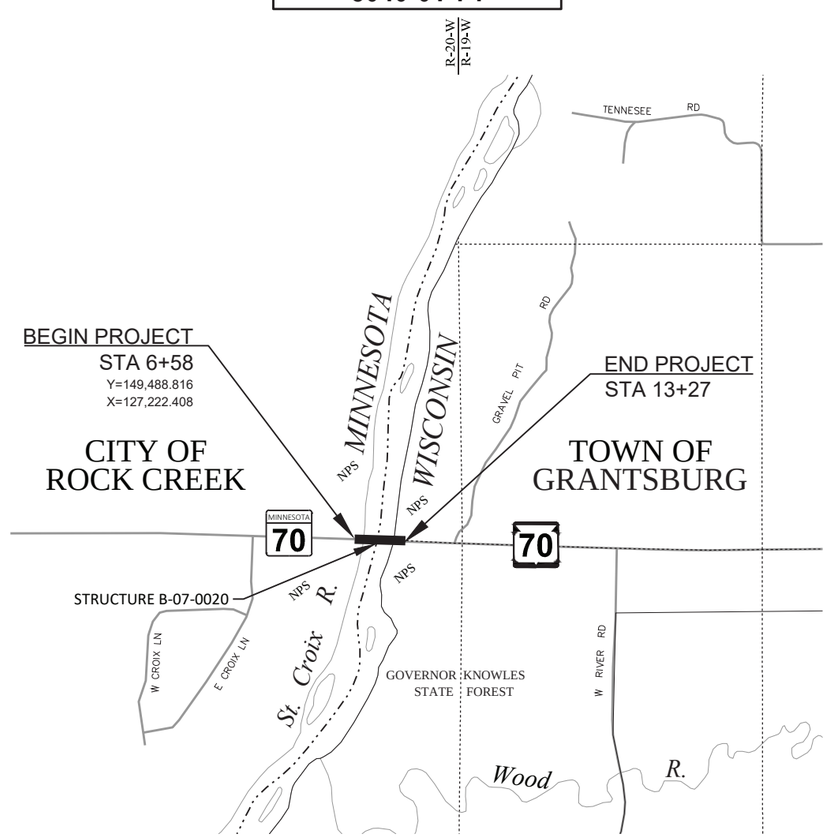
ST CROIX RIVER BRIDGE B-07-0020

STH 70

BURNETT COUNTY

STATE PROJECT NUMBER
8040-01-74

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8040-01-74	———	—



LAYOUT

SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.127 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BURNETT 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).

emcs inc

500 North 17th Avenue
Wausau, WI 54401
715.845.1081 Fax 715.845.1099

WISCONSIN
STEPHANIE G. CHRISTENSEN
E-35808
WAUSAU, WI
PROFESSIONAL ENGINEER

4/11/22 (Date) Stephanie G. Christensen (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	EMCS, INC.
Designer	EMCS, INC.
Project Manager	JEFF SAXBY
Regional Examiner	TOU YANG
Regional Supervisor	JEFF OLSON

APPROVED FOR THE DEPARTMENT

DATE: 4/21/2022 (Signature)

E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 4/11/2022 6:52 AM

PLOT BY : DREW NELSON

PLOT NAME :

2

GENERAL NOTES

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

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER. LIMIT THE AREA OF CLEARING AND GRUBBING TO THE SPOT LOCATIONS DESIGNATED WITHIN THE SLOPE INTERCEPTS ONLY.

EX R/W = EXISTING RIGHT-OF-WAY

HED = HIGHWAY EASEMENT DEED

AS-BUILTS USED FOR PLAN DEVELOPMENT

PROJECT NO: 8040-01-71, CONSTRUCTION YEAR: 1991
PROJECT NO: 8040-01-72, CONSTRUCTION YEAR: 1991
PROJECT NO: 8040-01-73, CONSTRUCTION YEAR: 1991

ORDER OF SECTION 2 SHEETS

TYPICAL SECTIONS

CONSTRUCTION DETAILS

EROSION CONTROL

TRAFFIC CONTROL

UTILITIES

COMMUNICATIONS

LUMEN F/K/A CENTURYLINK
CHUCK DAHER
479 APOLLO DR
CIRCLE PINES, MN 55014
PHONE: (612) 298-2825
CDHAER@TERRATECHLLC,NET

ELECTRIC

NORTHWESTERN WISCONSIN ELECTRIC COMPANY
BILL COOPER
104 S PINE ST
GRANTSBURG, WI 54840
PHONE: (715) 463-1977
BILLCOOPER@NWECO.COM

GAS/PETROLEUM

NORTHERN NATURAL GAS COMPANY
JOE ANDERSON
6579 420TH STREET
HARRIS, MN 55032
PHONE: (402) 530-3156
JOSEPH.ANDERSON@NNGCO.COM

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 3.81 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES (WI) = 0.23 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES (MN) = 0.12 ACRES

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

OTHER CONTACTS

WDNR LIAISON

AMY CRONK
DNR NORTHERN REGION HEADQUARTERS
810 W. MAPLE STREET
SPOONER, WI 54801
(715) 635-4229
(715) 520-3976
AMY.CRONK@WISCONSIN.GOV

MNDNR LIAISON

PATRICIA FOWLER
MNDOT OFFICE OF ENVIRONMENTAL STEWARDSHIP
395 JOHN IRELAND BLVD., MS 620
ST. PAUL, MN 55155
(218 302-3246
PATRICIA.FOWLER@STATE.MN.US

NATIONAL PARK SERVICE

LISA YAGER
CHIEF OF RESOURCE STEWARDSHIP AND EDUCATION
ST. CROIX NATIONAL SCENIC RIVERWAY
401 N. HAMILTON STREET
ST. CROIX FALLS, WI 54024
(715) 483-2290
(715) 501-0495
LISA_YAGER@NPS.GOV

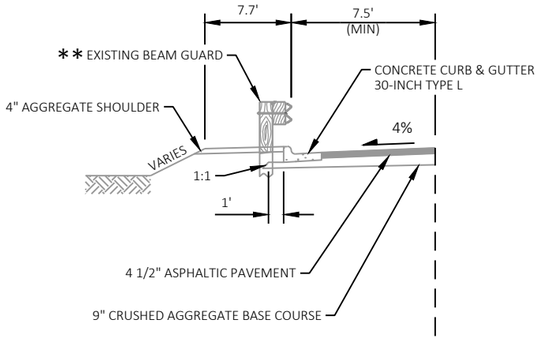
LAURA HOJEM
LANDS PROGRAM MANAGER
ST. CROIX NATIONAL SCENIC RIVERWAY
401 N. HAMILTON STREET
ST. CROIX FALLS, WISCONSIN 54024
(715) 483-2261
(715) 501-8813
LAURA_HOJEM@NPS.GOV

DESIGNER CONTACT

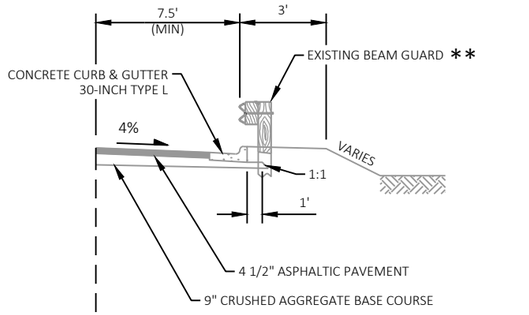
EMCS, INC.
500 NORTH 17TH AVENUE
WAUSAU, WI 54401
(715) 845-1081

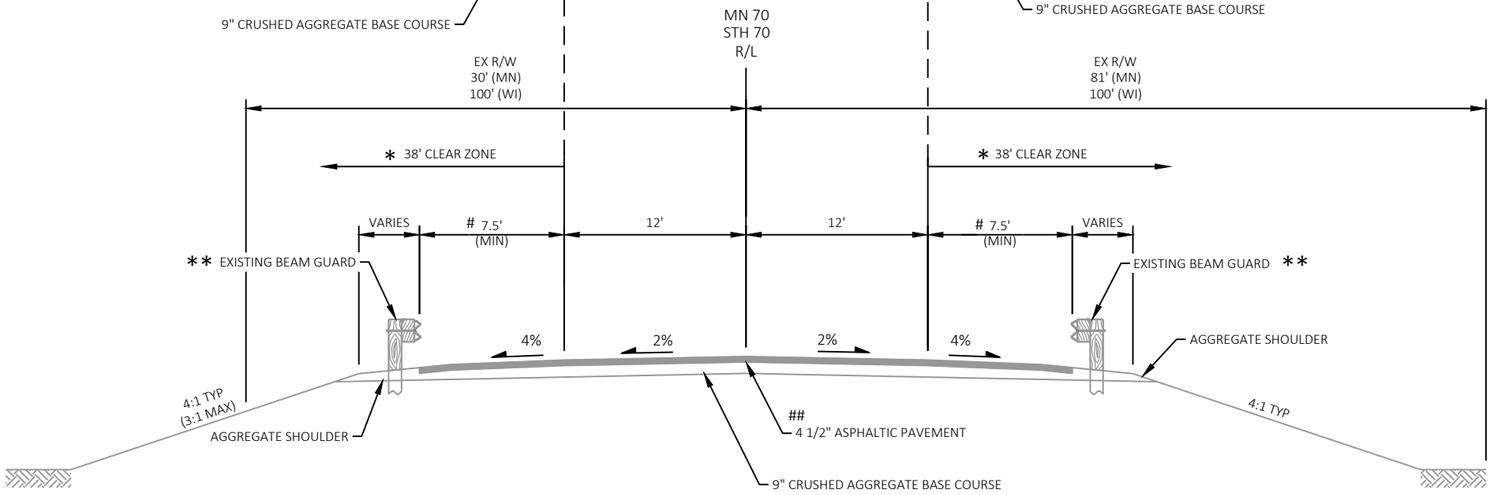
2

STA 6+49 - STA 6+84



STA 6+49 - STA 6+94





EXISTING TYPICAL SECTION

STA 5+41 - STA 7+02 (B-07-0020)
STA 13+06 (B-07-0020) - STA 15+57

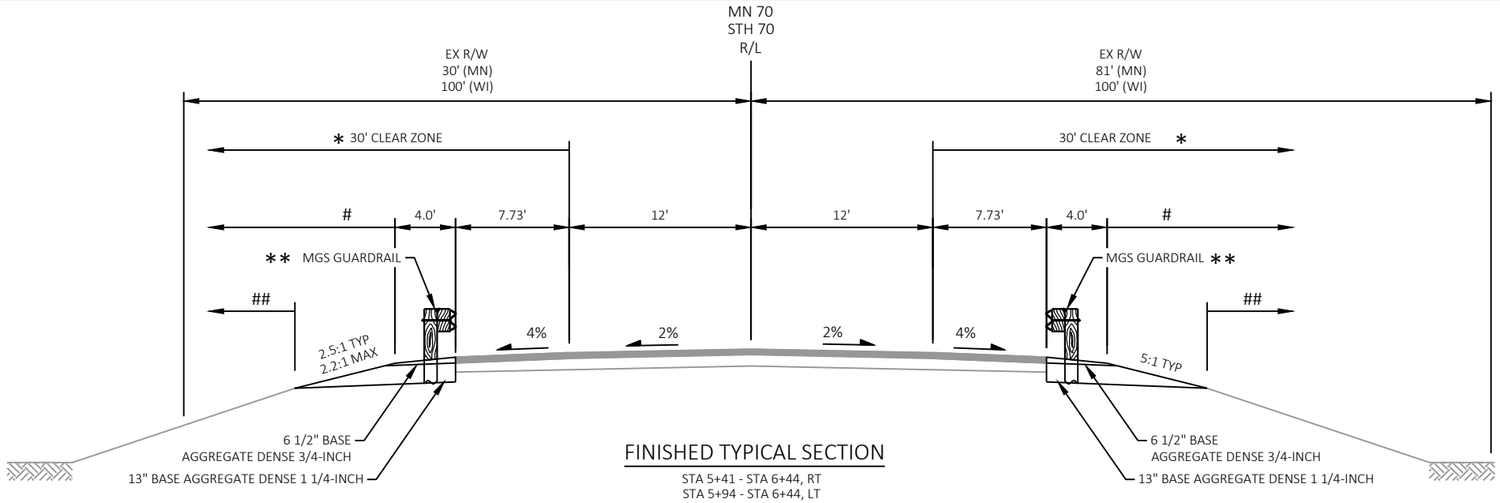
NOTES

* CLEAR ZONE IN LOCATIONS WHERE BEAM GUARD IS NOT PRESENT IS 38' OR EXISTING TOE OF SLOPE.

** SEE SECTION 5 PLAN SHEETS FOR LIMITS OF EXISTING BEAM GUARD.

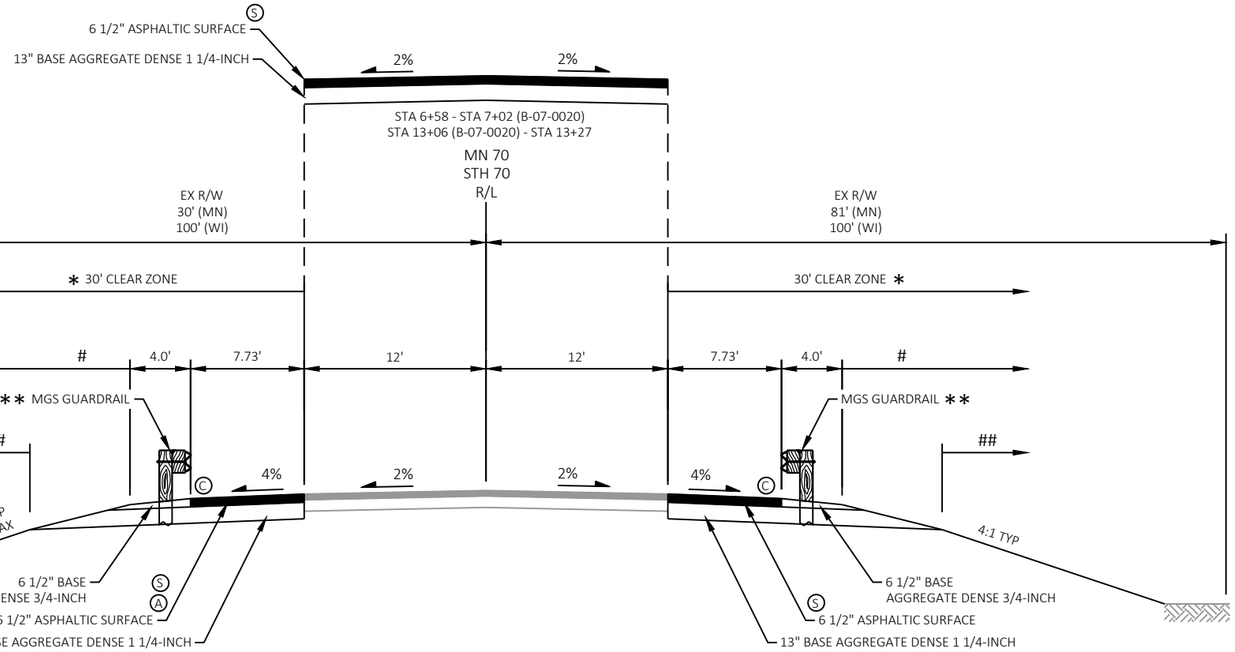
\# THE EDGE OF SHOULDER IS 18' FROM THE REFERENCE LINE WHERE BEAM GUARD IS NOT PRESENT (3' AGGREGATE SHOULDER).

EXISTING CONCRETE APPROACH SLABS ARE PRESENT ADJACENT TO B-07-0020.



FINISHED TYPICAL SECTION

STA 5+41 - STA 6+44, RT
STA 5+94 - STA 6+44, LT



FINISHED TYPICAL SECTION

STA 6+44 - STA 7+02 (B-07-0020)
STA 13+06 (B-07-0020) - STA 15+57, LT
STA 13+06 (B-07-0020) -STA 15+23, RT

NOTES

* A 30' CLEAR ZONE IS PROPOSED IN LOCATIONS WHERE GUARDRAIL IS NOT PRESENT.

** SEE SECTION 5 PLAN SHEETS FOR LOCATIONS OF PROPOSED MGS GUARDRAIL.

(A) ASPHALTIC SURFACE ENDS AT STA 15+41, LT

(C) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT/TBTT FOR CONCRETE SURFACE DRAIN FROM STA 6+44 - STA 6+87, LT AND STA 6+44 - STA 6+94, RT

\# SEEDING AND FERTILIZER

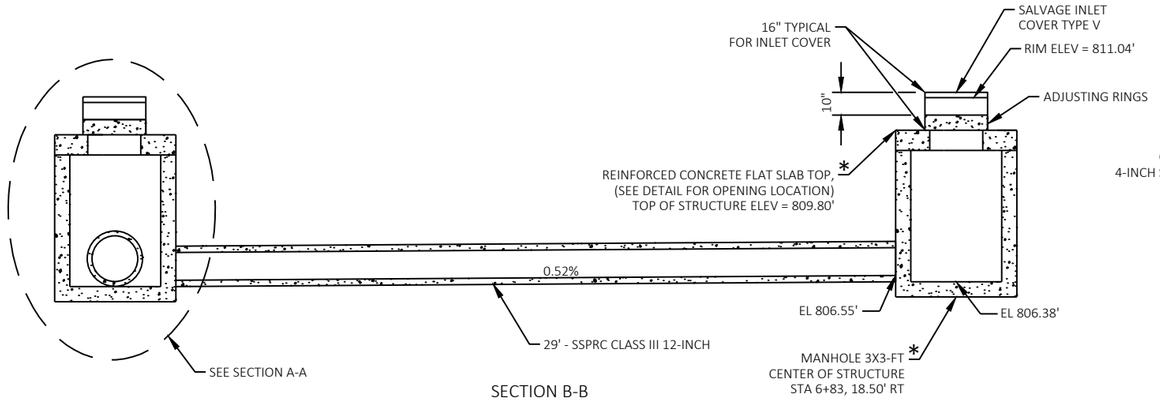
SALVAGED TOPSOIL, SEED, FERTILIZER, AND EROSION MAT.

SEE EROSION CONTROL PLANS FOR ADDITIONAL DETAILS.

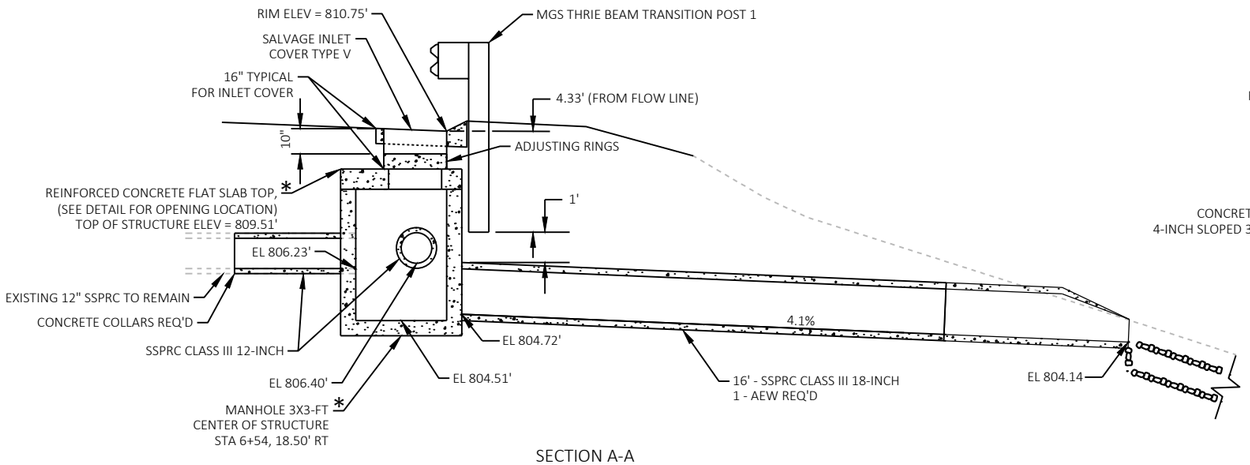
(S) SEE SECTION 5 PLANS AND SDD FOR LIMITS OF CONCRETE APPROACH SLABS.

SEE SDD FOR MGS GUARDRAIL AND SECTION 5 PLANS FOR VARIABLE WIDTH SHOULDER TRANSITIONS.

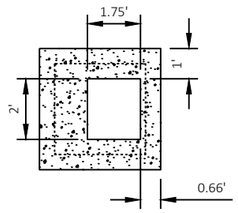
PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TYPICAL SECTIONS	SHEET 4	E



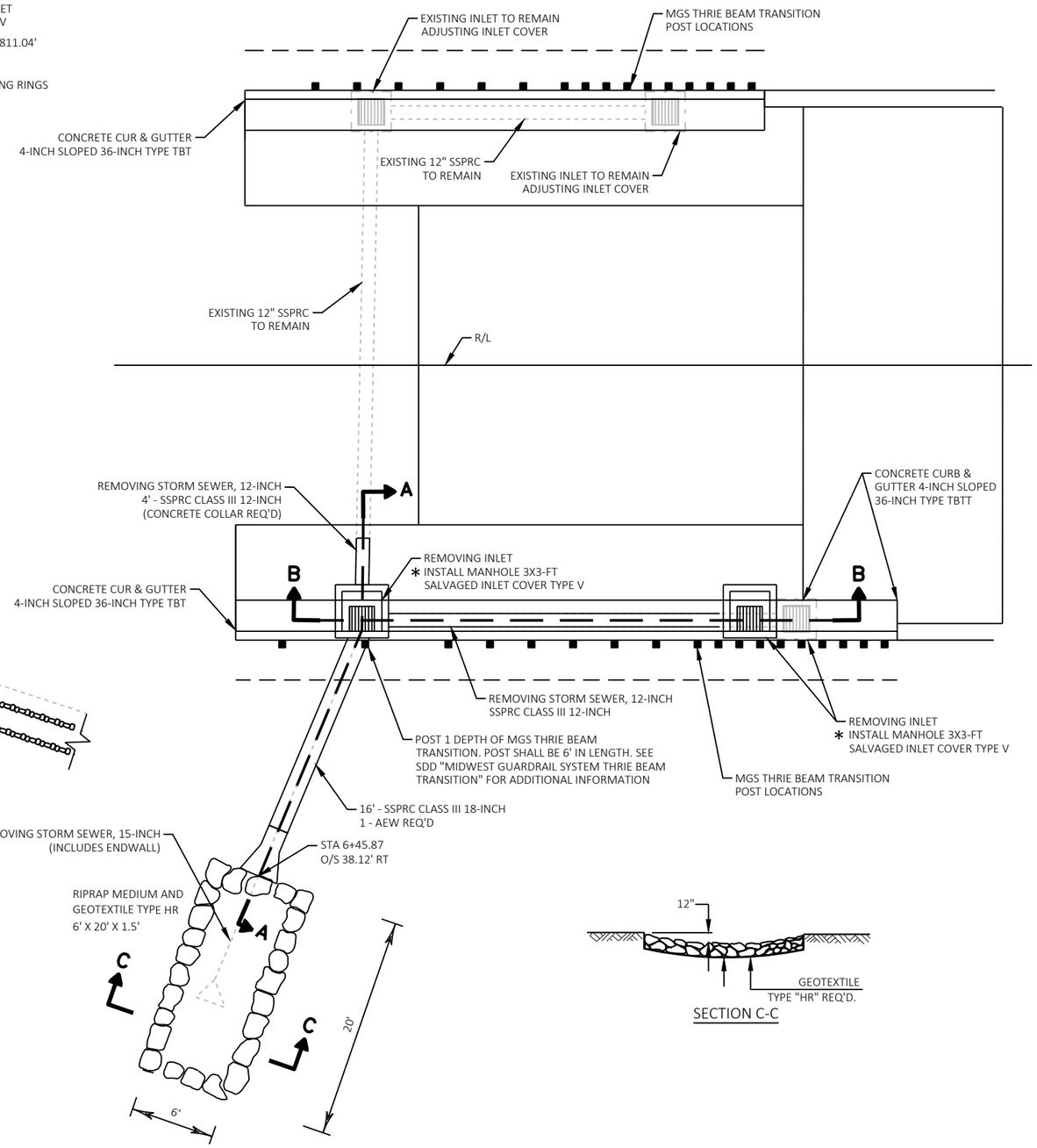
SECTION B-B



SECTION A-A



* FLAT SLAB TOP OPENING



SECTION C-C

NOTES

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION.

VERIFY PROPOSED GUARDRAIL POST LOCATIONS AND DEPTHS PRIOR TO INSTALLING CONCRETE SURFACE DRAIN.

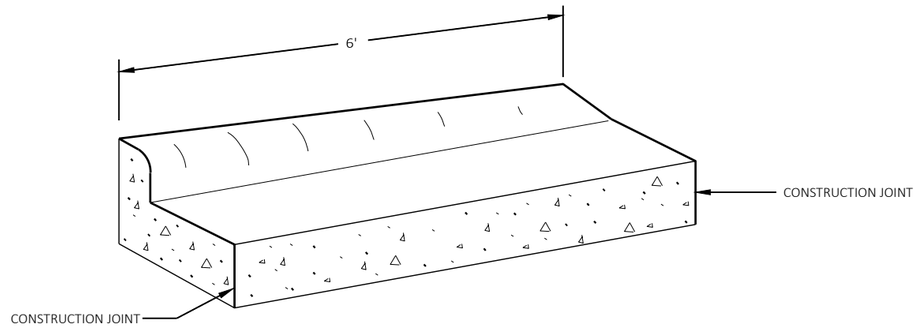
* SEE SDD "MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT" FOR ADDITIONAL INFORMATION.

DETAIL OF STORM SEWER & CONCRETE SURFACE DRAINS

STA 6+54, RT

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CONSTRUCTION DETAILS	SHEET 5	E

2

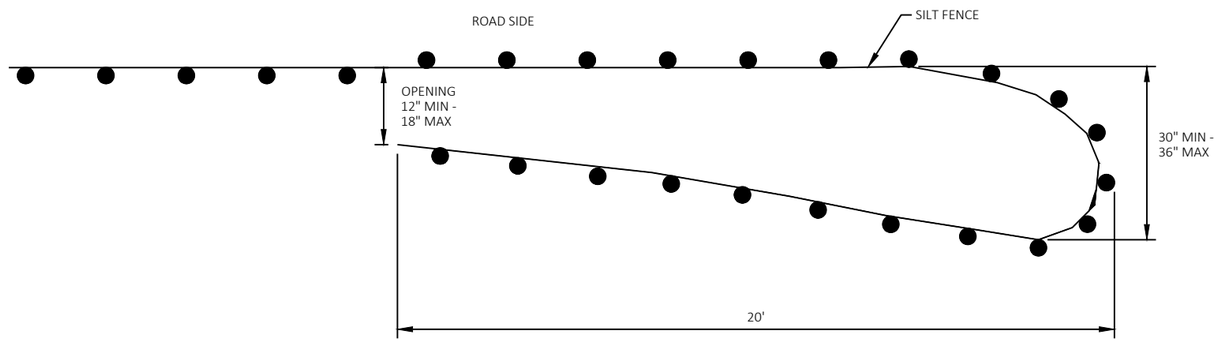


CURB & GUTTER TRANSITION DETAIL

CONCRETE CURB & GUTTER 30-INCH TYPE L (EXISTING) TO CONCRETE
CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT (PROPOSED) WITH NO CURB HEAD
(TO BE MEASURED & PAID FOR AS CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT)

NOTE

FLOWLINE OFFSET TRANSITIONS FROM 9"
TO 8" (MEASURED FROM BACK OF CURB).



PLAN VIEW

TEMPORARY SMALL ANIMAL TURN-AROUND

NOTES

SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND AND TRENCHED IN ACCORDING TO SILT FENCE REQUIREMENTS.

SEE EROSION CONTROL SHEETS FOR LOCATIONS.

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP MEDIUM
- SLOPE INTERCEPT (CONSTRUCTION LIMITS)
- EROSION BALE REINFORCEMENT
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY (ENVIRONMENTALLY SENSITIVE AREA)
- INLET PROTECTION TYPE D (UNLESS OTHERWISE NOTED)
- SMALL ANIMAL TURN AROUND
- TOPSOIL OVER EXISTING RIPRAP (SEE SPECIAL PROVISIONS)
  SEEDING MIXTURE NO. 70
  EROSION MAT CLASS II TYPE B
  (EXISTING TREES TO REMAIN)

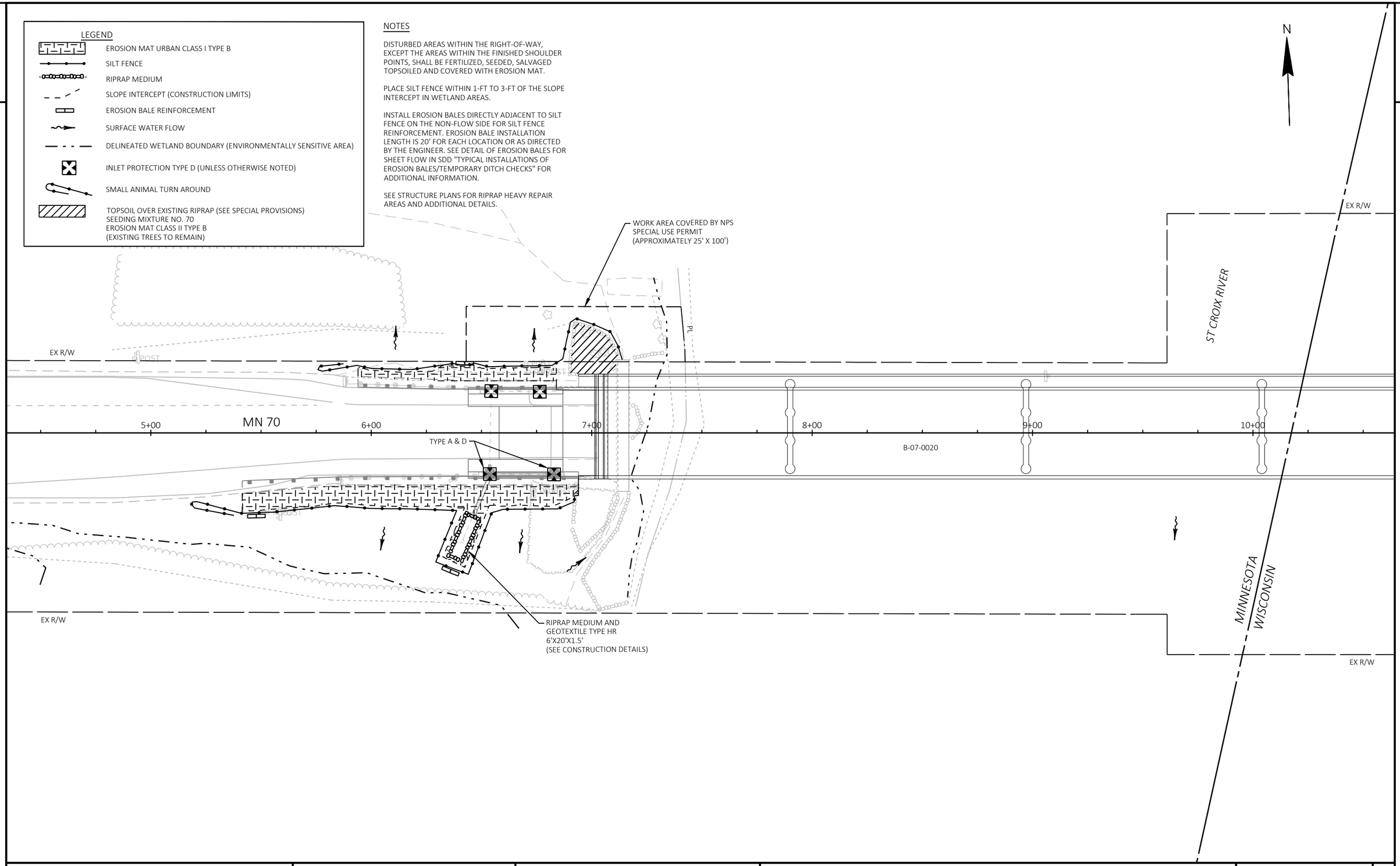
NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, SALVAGED TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

INSTALL EROSION BALES DIRECTLY ADJACENT TO SILT FENCE ON THE NON-FLOW SIDE FOR SILT FENCE REINFORCEMENT. EROSION BALE INSTALLATION LENGTH IS 20' FOR EACH LOCATION OR AS DIRECTED BY THE ENGINEER. SEE DETAIL OF EROSION BALES FOR SHEET FLOW IN SDD "TYPICAL INSTALLATIONS OF EROSION BALES/TEMPORARY DITCH CHECKS" FOR ADDITIONAL INFORMATION.

SEE STRUCTURE PLANS FOR RIPRAP HEAVY REPAIR AREAS AND ADDITIONAL DETAILS.



PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	EROSION CONTROL	SHEET 7	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 01

PLOT DATE : 4/20/2022 8:19 AM PLOT BY : ADMIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- RIPRAP MEDIUM
- SLOPE INTERCEPT (CONSTRUCTION LIMITS)
- EROSION BALE REINFORCEMENT
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY (ENVIRONMENTALLY SENSITIVE AREA)
- INLET PROTECTION TYPE D (UNLESS OTHERWISE NOTED)
- SMALL ANIMAL TURN AROUND
- TOPSOIL OVER EXISTING RIPRAP (SEE SPECIAL PROVISIONS)
  SEEDING MIXTURE NO. 70
  EROSION MAT CLASS II TYPE B
  (EXISTING TREES TO REMAIN)

NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, SALVAGED TOPSOILED AND COVERED WITH EROSION MAT.

PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

INSTALL EROSION BALES DIRECTLY ADJACENT TO SILT FENCE ON THE NON-FLOW SIDE FOR SILT FENCE REINFORCEMENT. EROSION BALE INSTALLATION LENGTH IS 20' FOR EACH LOCATION OR AS DIRECTED BY THE ENGINEER. SEE DETAIL OF EROSION BALES FOR SHEET FLOW IN SDD "TYPICAL INSTALLATIONS OF EROSION BALES/TEMPORARY DITCH CHECKS" FOR ADDITIONAL INFORMATION.

SEE STRUCTURE PLANS FOR RIPRAP HEAVY REPAIR AREAS AND ADDITIONAL DETAILS.

N

2

MINNESOTA
WISCONSIN

EX R/W

ST CROIX RIVER

POST

SAND ROCK CLIFF TRAIL

B-07-0020

11+00 12+00 13+00 14+00 STH 70 15+00 16+00

SAND ROCK CLIFF TRAIL

EX R/W

EX R/W

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	EROSION CONTROL	SHEET 8	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 02

PLOT DATE : 4/20/2022 8:19 AM PLOT BY : ADMIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

TRAFFIC CONTROL GENERAL NOTES

1. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
2. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
3. ALL TYPE III BARRICADES SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS PER SDDS.
4. SEE SDD "TRAFFIC CONTROL - WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" TO CLOSE SHOULDERS DURING NON-WORKING HOURS.

LEGEND

MB — TRAFFIC CONTROL SIGN PCMS

WORK ZONE

NOTES

POST THE WIDTH RESTRICTION ADVANCED WARNING SIGNS AT THE LOCATIONS PROVIDED DURING ALL STAGES.

* PLACE SIGN M1-6 OR M1-5M AND M3-2 OR M3-4 WHEN ASSEMBLY IS MOUNTED ON ALL ROADWAYS OTHER THAN MN 70/STH 70 AND SIGN 14.

** PLACE SIGN MB3-2 ON THE FOLLOWING ASSEMBLIES. (1) (2) (4) (5) (7) (8)

*** PLACE SIGN M3-4 ON THE FOLLOWING ASSEMBLIES. (11) (13) (14) (15) (16) (17)

ADJUST TRAFFIC CONTROL PCMS MESSAGES AS NEEDED BASED ON CONSTRUCTION SCHEDULE.

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1,000 FEET IN FRONT OF THE MESSAGE BOARD. PLACE MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.

PLACE TRAFFIC CONTROL SIGNS PCMS AND DISPLAY THE MESSAGE 7 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK.

MN SEE MINNESOTA DEPARTMENT OF TRANSPORTATION SIGN STANDARDS FOR ROUTE MARKER SIGN DETAILS IN MINNESOTA: HTTP://WWW.DOT.STATE.MN.US/TRAFFICENG/PUBL/SIGNSMANUAL/

TRAFFIC CONTROL SIGNS PCMS MESSAGES		
	7 DAYS PRIOR TO CONSTRUCTION	
PCMS SIGN LOCATION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
MN 70 0.3 MILES WEST OF B-07-0020	BRIDGE WORK STARTS	WEEK DAY STARTING DATE
STH 70 0.2 MILES EAST OF B-07-0020	BRIDGE WORK STARTS	WEEK DAY STARTING DATE

ADVANCED WARNING FOR LANE WIDTH RESTRICTIONS

IN ADDITION TO THE W12-52 SIGNS SHOWN ON SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" PLACE THE FOLLOWING ADVANCED WARNING SIGNS AT THE FOLLOWING LOCATIONS DURING ALL STAGES.

** EAST — MB3-2 36"X18"

MN * MINNESOTA 70 — M1-5M 36" X 36"

(1) (2) I-35 SB - 11 MILES

(4) (5) I-35 NB - 11 MILES

MAX. 11' WIDTH — W12-52 48"X48"

OR

MAX. 14' WIDTH — W12-52 48"X48"

XX MILES AHEAD — WO57-52 48"X36"

** EAST — MB3-2 24"X12"

MN * MINNESOTA 70 — M1-5M 24" X 24"

(3) MN 70 EB - 11 MILES

(6) MN 70 EB - 3 3/4 MILES

(7) COUNTY 3 NB - 3 3/4 MILES

(8) COUNTY 3 SB - 3 3/4 MILES

(9) MN 70 EB (NO WO57-52)

MAX. 11' WIDTH — W12-52 48"X48"

OR

MAX. 14' WIDTH — W12-52 48"X48"

XX MILES AHEAD — WO57-52 48"X36"

*** WEST — M3-4 24"X12"

* 70 — M1-6 24"X24"

(10) STH 70 WB (NO WO57-52)

(11) CTH F SB - 4 3/4 MILES

(12) STH 70 WB - 4 3/4 MILES

(13) STH 48 NB- 4 3/4 MILES

(14) STH 70 WB/STH 35 SB - 19 3/4 MILES

(15) CTH B WB - 19 3/4 MILES

(16) STH 35 NB - 19 3/4 MILES

(17) STH 35 SB - 22 1/4 MILES

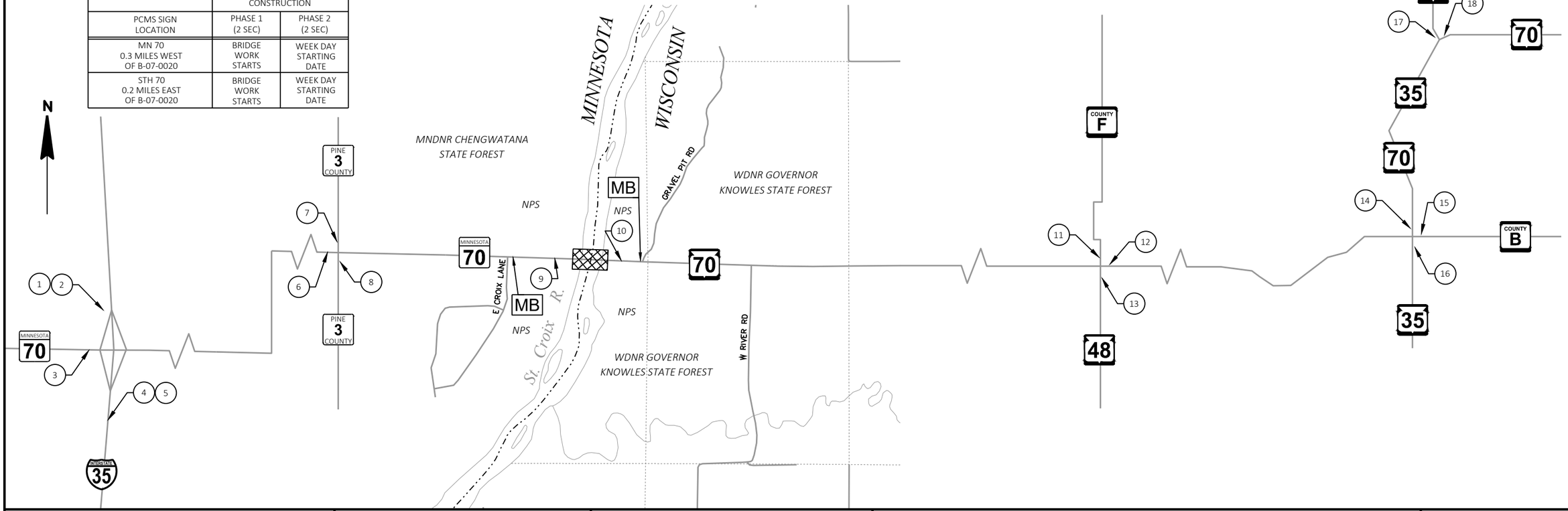
(18) STH 70 WB - 22 1/4 MILES

MAX. 11' WIDTH — W12-52 48"X48"

OR

MAX. 14' WIDTH — W12-52 48"X48"

XX MILES AHEAD — WO57-52 48"X36"



PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - PCMS OVERVIEW AND WIDTH RESTRICTIONS	SHEET 9	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\025001-TC.DWG
LAYOUT NAME - 01

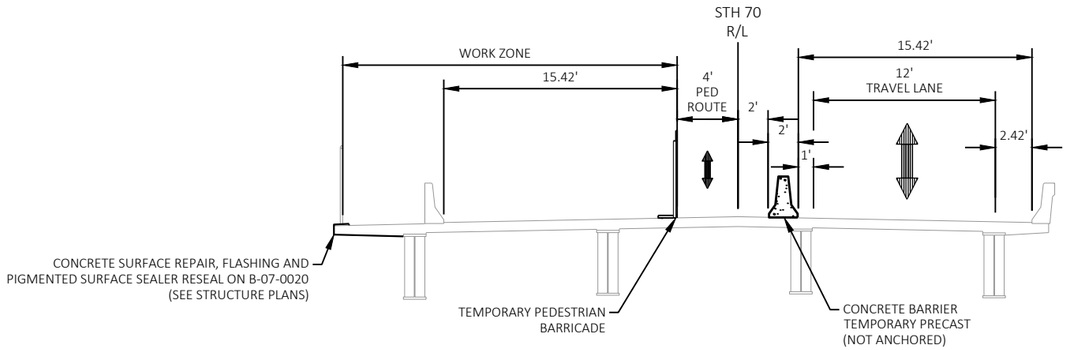
PLOT DATE : 2/21/2022 11:38 AM PLOT BY : DREW NELSON PLOT NAME : PLOT SCALE : 1 IN:0.5 MI

2

LEGEND

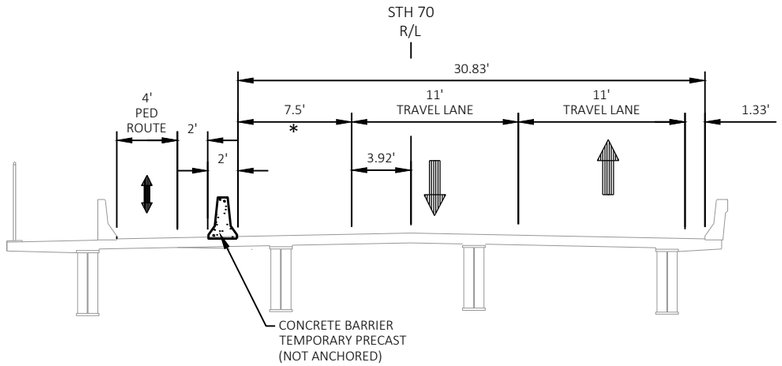
PEDESTRIAN WALKWAY, 4' (MIN) CLEAR WIDTH

TRAFFIC FLOW ARROW



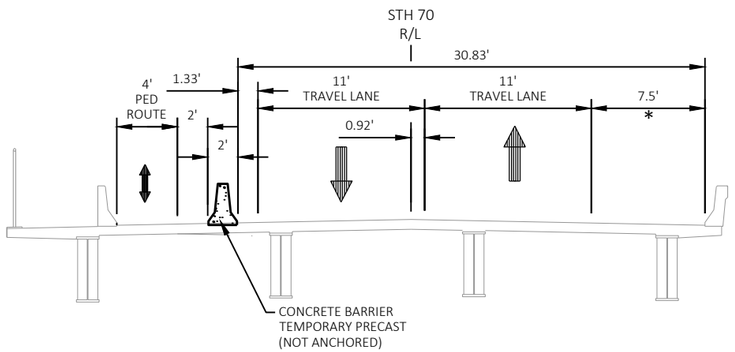
TRAFFIC CONTROL TYPICAL SECTION STAGE 1 & 2

STAGE 1: STA 7+02 - STA 10+92
STAGE 2: STA 8+92 - STA 13+06



TRAFFIC CONTROL TYPICAL SECTION STAGE 1

STA 10+92 - STA 13+06



TRAFFIC CONTROL TYPICAL SECTION STAGE 2

STA 7+02 - STA 8+92

NOTES

SEE TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL INFORMATION.

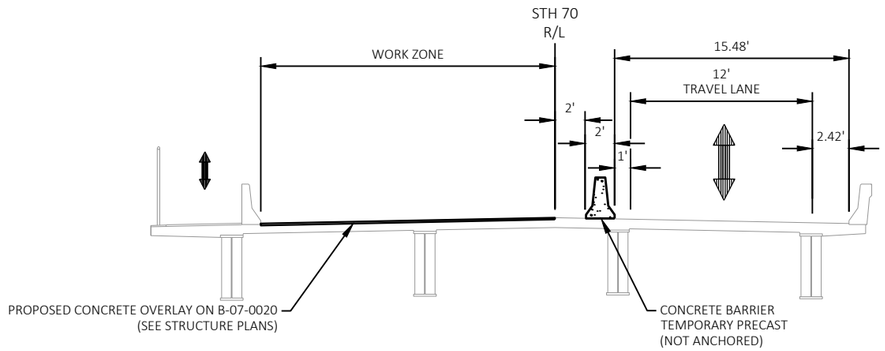
SEE STRUCTURE PLANS FOR ALL STRUCTURE WORK.

* THIS AREA IS FOR PLACEMENT OF TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL, TRAFFIC CONTROL DRUMS, AND TRAFFIC CONTROL SIGNS.

LEGEND

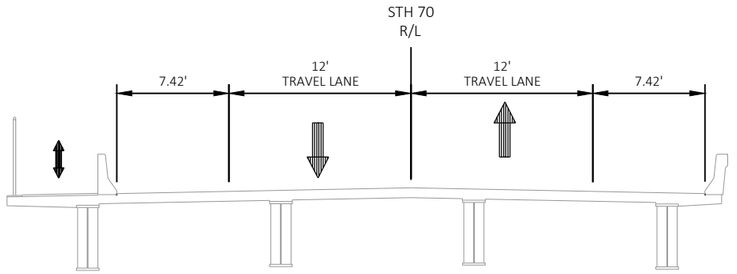
PEDESTRIAN WALKWAY, 4' (MIN) CLEAR WIDTH

TRAFFIC FLOW ARROW



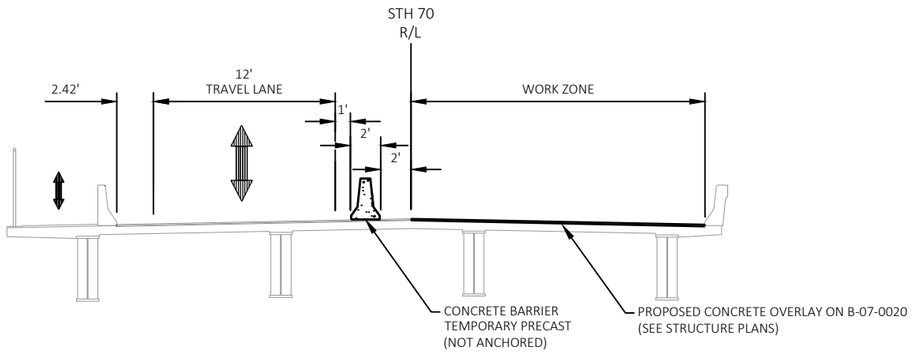
TRAFFIC CONTROL TYPICAL SECTION STAGE 3 & 6

STAGE 3: STA 8+92 - STA 13+06
STAGE 6: STA 7+02 - STA 10+92



TRAFFIC CONTROL TYPICAL SECTION STAGE 3, 4, 5 & 6

STAGE 3: STA 7+02 - STA 8+92
STAGE 4: STA 7+02 - STA 8+92
STAGE 5: STA 10+92 - STA 13+06
STAGE 6: STA 10+92 - STA 13+06



TRAFFIC CONTROL TYPICAL SECTION STAGE 4 & 5

STAGE 4: STA 8+92 - STA 13+06
STAGE 5: STA 7+02 - STA 10+92

NOTES

SEE TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL INFORMATION.

SEE STRUCTURE PLANS FOR ALL STRUCTURE WORK.

LEGEND

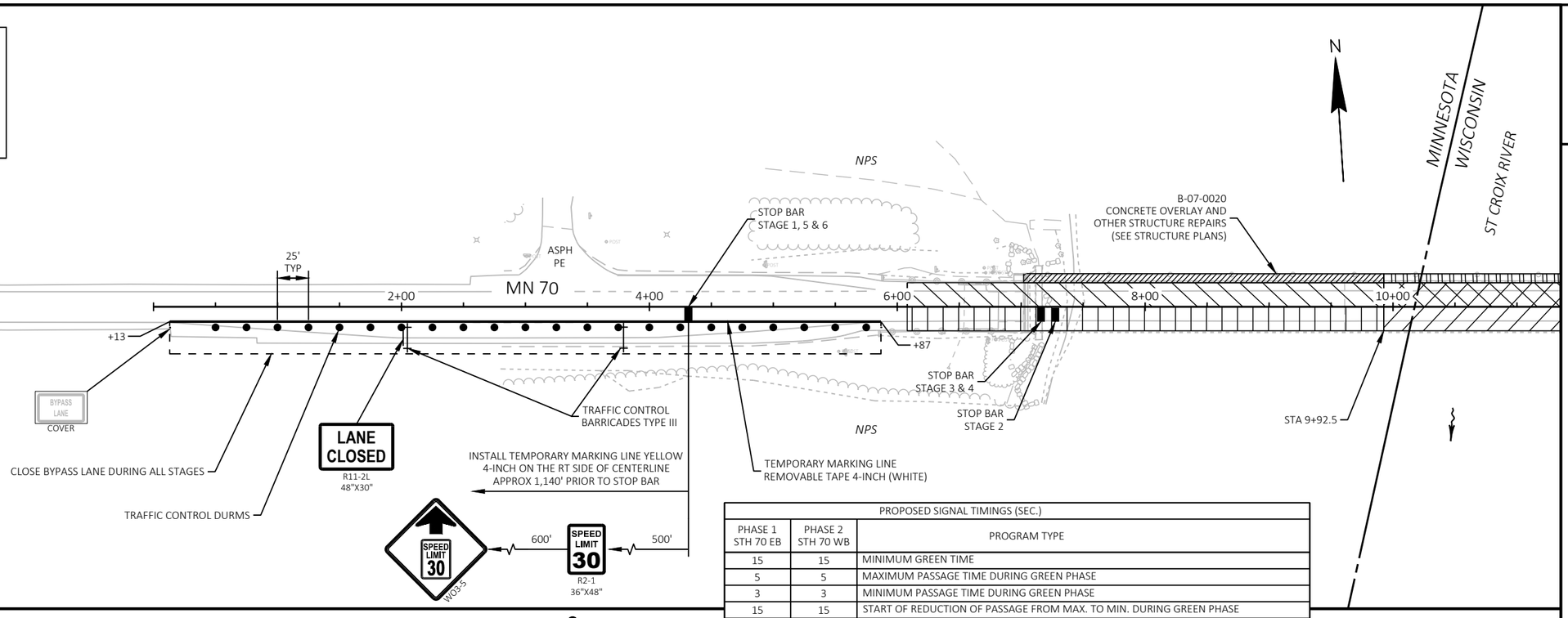
STAGE 1
STAGE 2
STAGE 3
STAGE 4
STAGE 5
STAGE 6

NOTES

IMPLEMENT SPEED REDUCTION TO 30MPH DURING ALL STAGES

SEE TRAFFIC CONTROL PLAN SHEETS FOR ADDITIONAL INFORMATION AND LAYOUT DETAILS

TEMPORARY SIGNAL TIMING FOR ALL STAGES IS SHOWN ON THIS SHEET



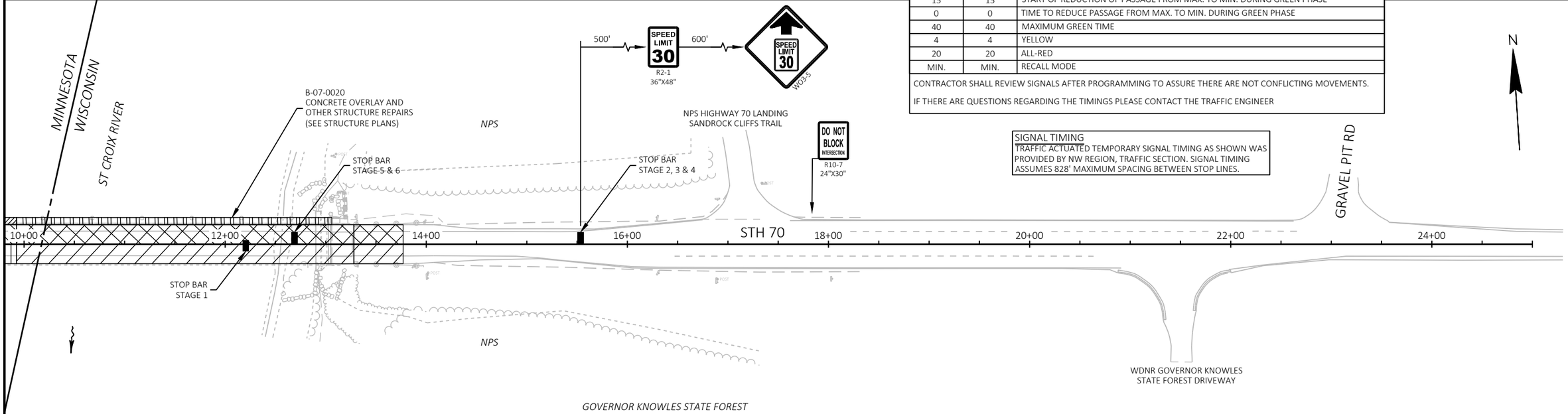
PROPOSED SIGNAL TIMINGS (SEC.)		
PHASE 1 STH 70 EB	PHASE 2 STH 70 WB	PROGRAM TYPE
15	15	MINIMUM GREEN TIME
5	5	MAXIMUM PASSAGE TIME DURING GREEN PHASE
3	3	MINIMUM PASSAGE TIME DURING GREEN PHASE
15	15	START OF REDUCTION OF PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
0	0	TIME TO REDUCE PASSAGE FROM MAX. TO MIN. DURING GREEN PHASE
40	40	MAXIMUM GREEN TIME
4	4	YELLOW
20	20	ALL-RED
MIN.	MIN.	RECALL MODE

CONTRACTOR SHALL REVIEW SIGNALS AFTER PROGRAMMING TO ASSURE THERE ARE NOT CONFLICTING MOVEMENTS.

IF THERE ARE QUESTIONS REGARDING THE TIMINGS PLEASE CONTACT THE TRAFFIC ENGINEER

SIGNAL TIMING

TRAFFIC ACTUATED TEMPORARY SIGNAL TIMING AS SHOWN WAS PROVIDED BY NW REGION, TRAFFIC SECTION. SIGNAL TIMING ASSUMES 828' MAXIMUM SPACING BETWEEN STOP LINES.



PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGING OVERVIEW	SHEET 12	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

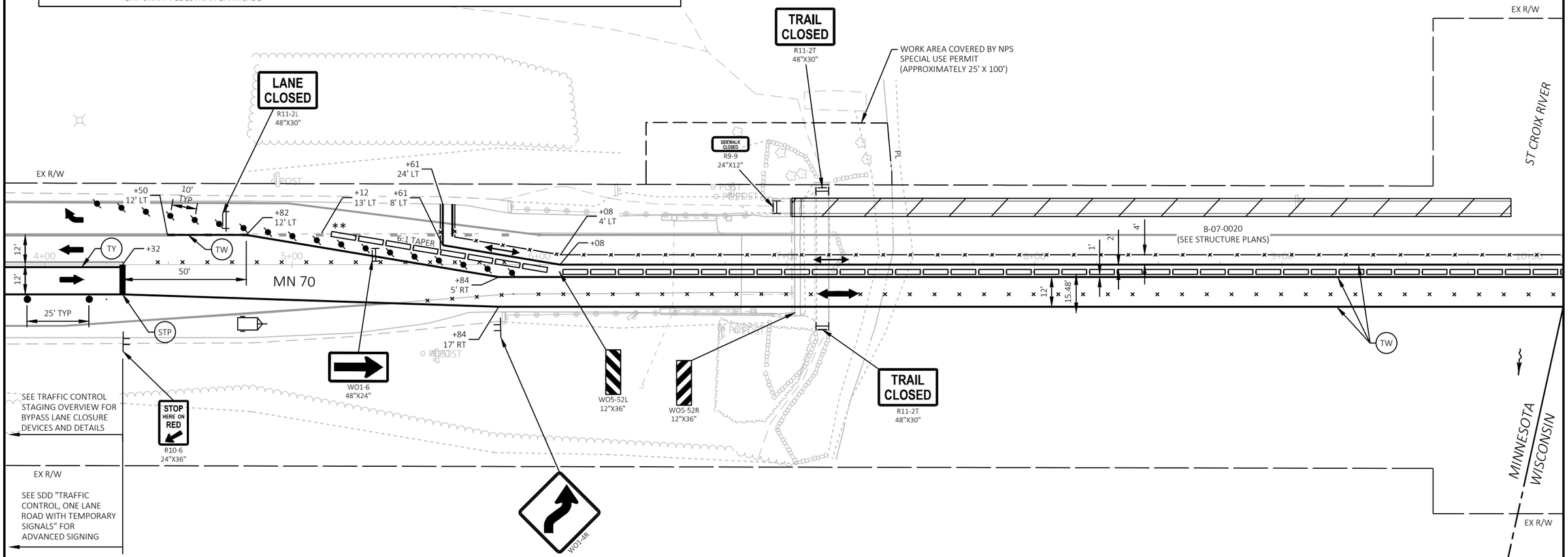
TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2



WORK IN STAGE 1

COMPLETE STRUCTURE WORK ON PEDESTRIAN SIDE OF LT PARAPET (WEST HALF). SEE STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 1 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 1	SHEET 13	E

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP — TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

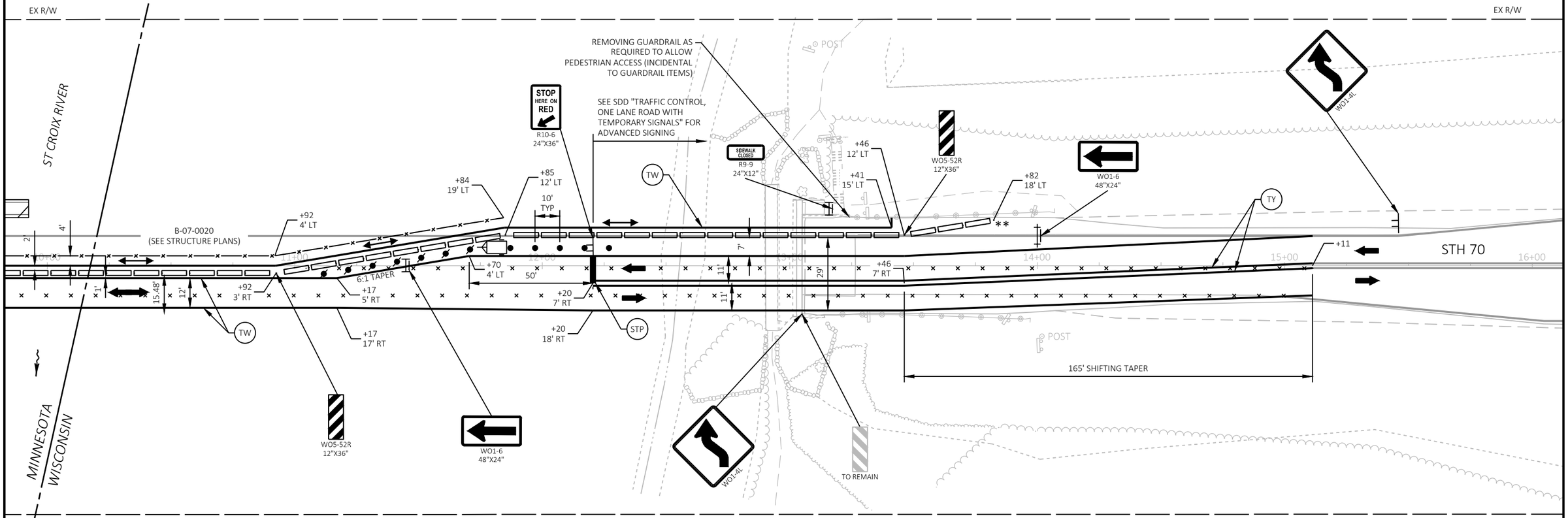
NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N



WORK IN STAGE 1

COMPLETE STRUCTURE WORK ON PEDESTRIAN SIDE OF LT PARAPET (WEST HALF). SEE STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 1 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 1	SHEET 14	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

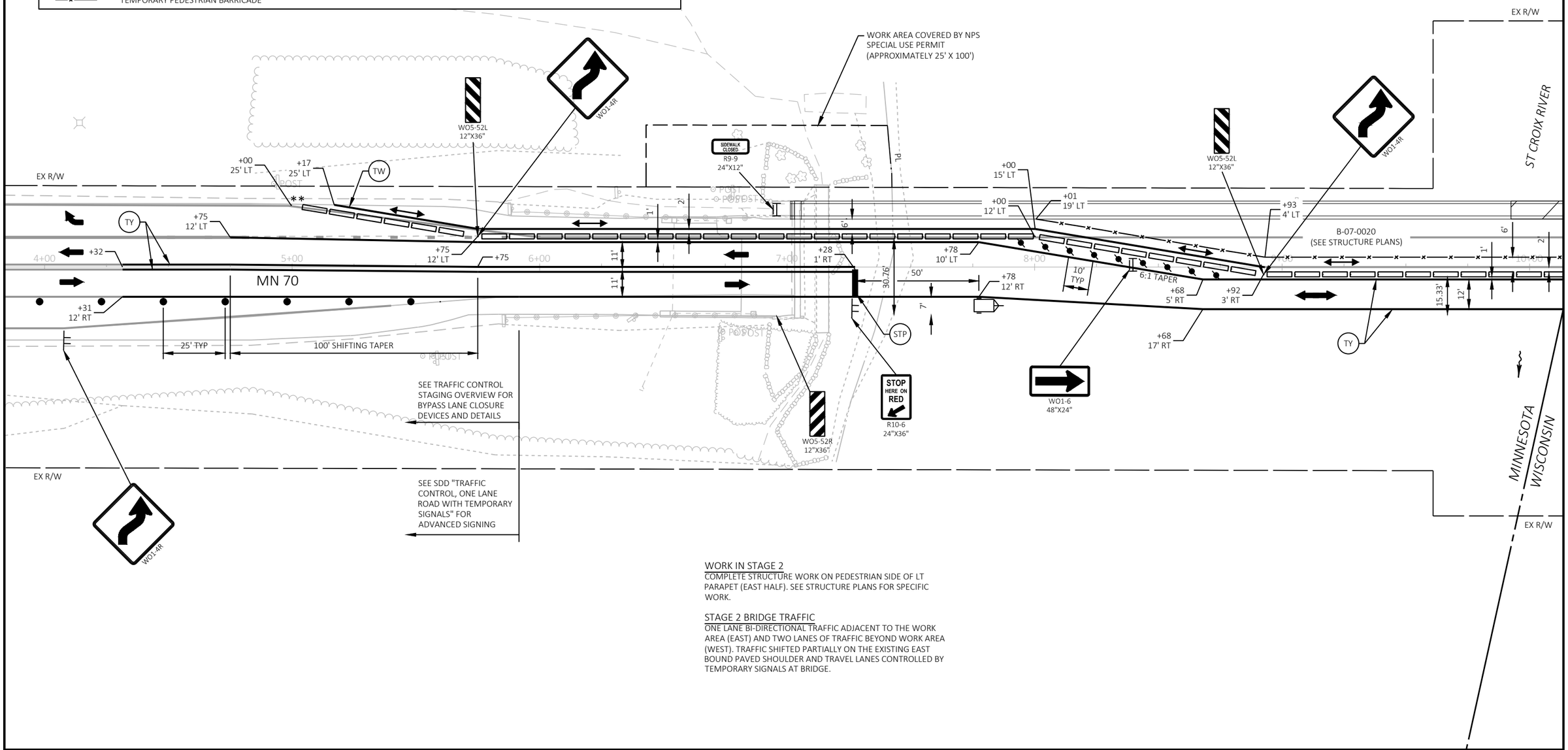
TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2



WORK IN STAGE 2

COMPLETE STRUCTURE WORK ON PEDESTRIAN SIDE OF LT PARAPET (EAST HALF). SEE STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 2 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 2	SHEET 15	E

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP — TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

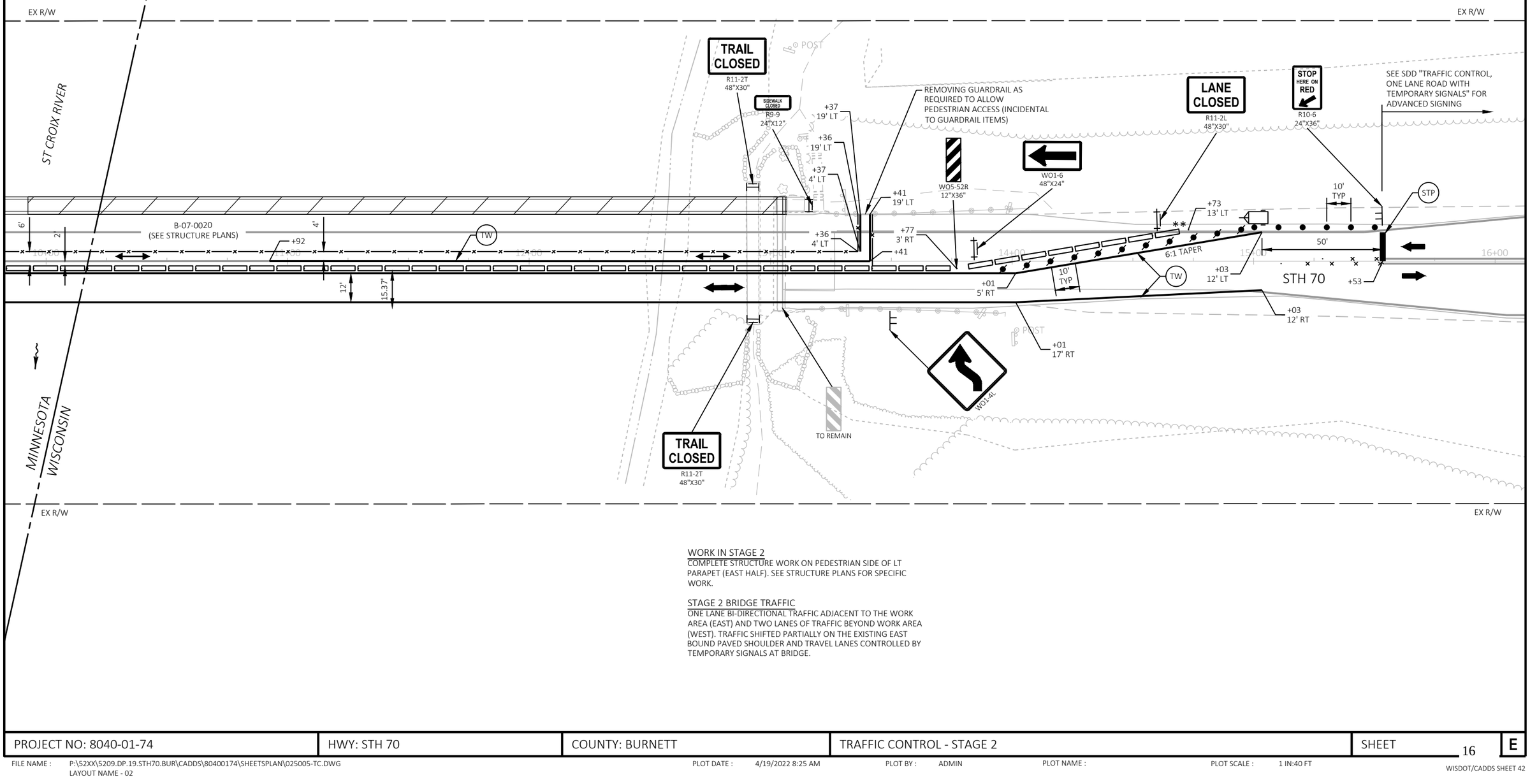
NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N



WORK IN STAGE 2

COMPLETE STRUCTURE WORK ON PEDESTRIAN SIDE OF LT PARAPET (EAST HALF). SEE STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 2 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 2	SHEET 16	E

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

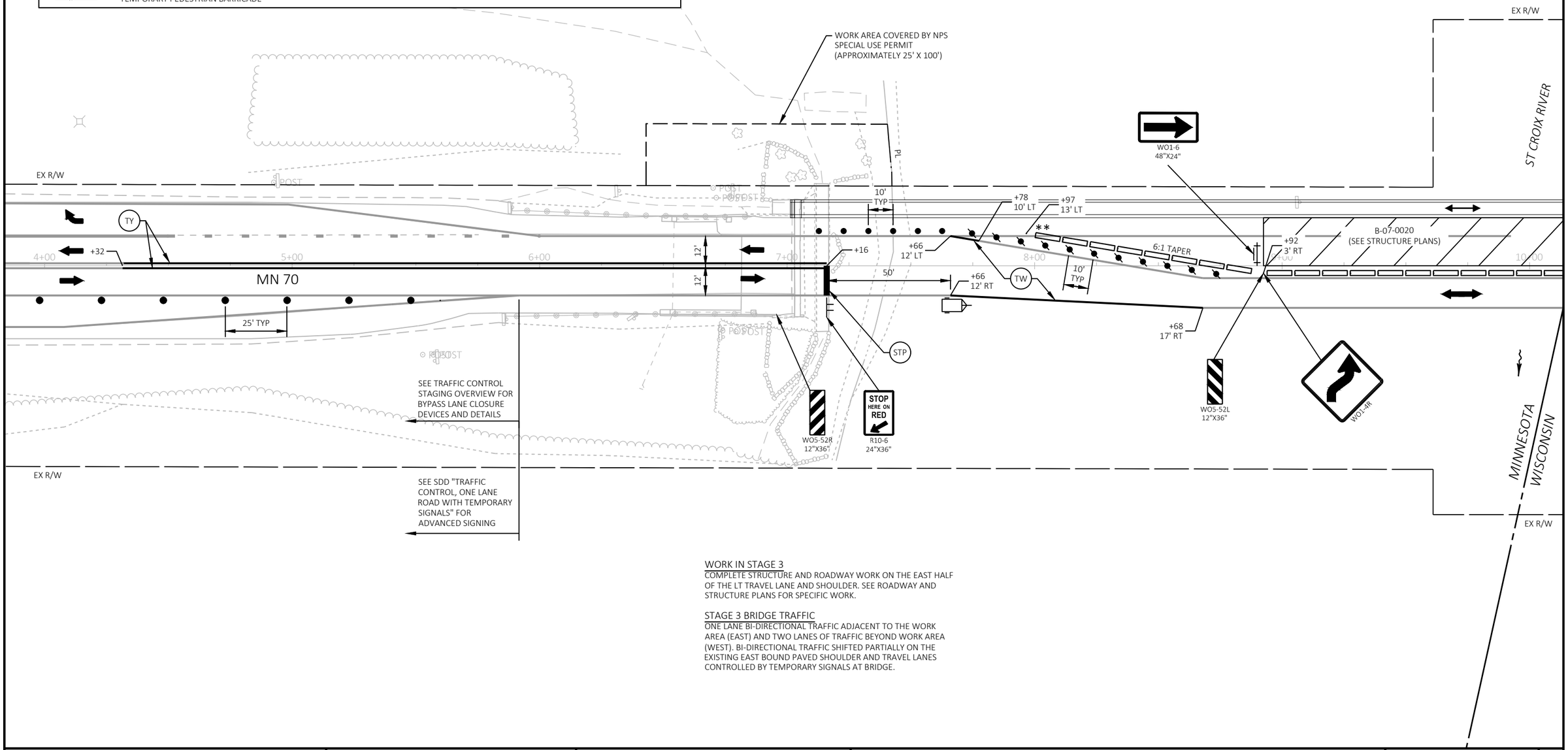
NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N



WORK IN STAGE 3

COMPLETE STRUCTURE AND ROADWAY WORK ON THE EAST HALF OF THE LT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 3 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 3	SHEET 17	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP — TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

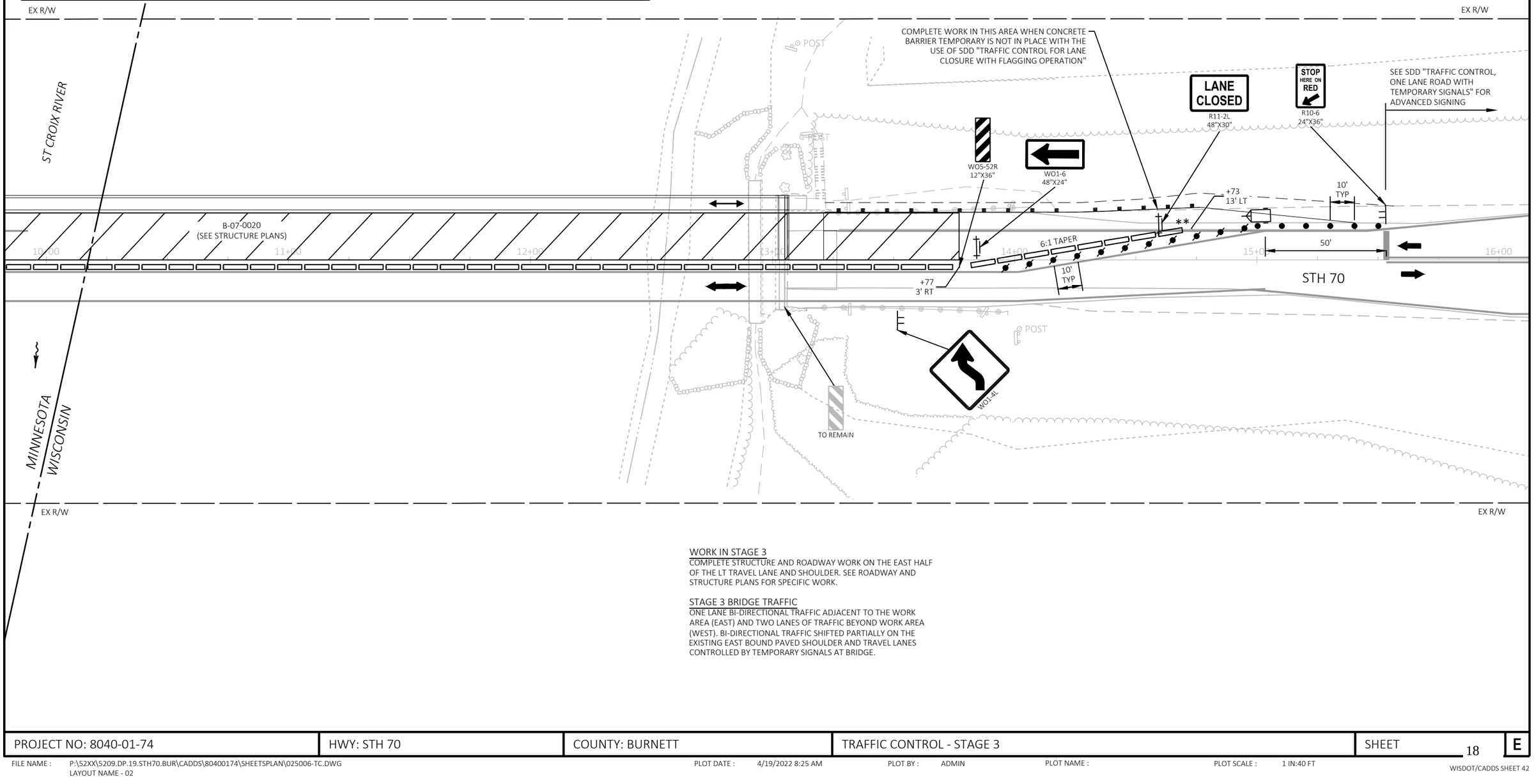
NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N



WORK IN STAGE 3

COMPLETE STRUCTURE AND ROADWAY WORK ON THE EAST HALF OF THE LT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 3 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 3	SHEET 18	E

LEGEND

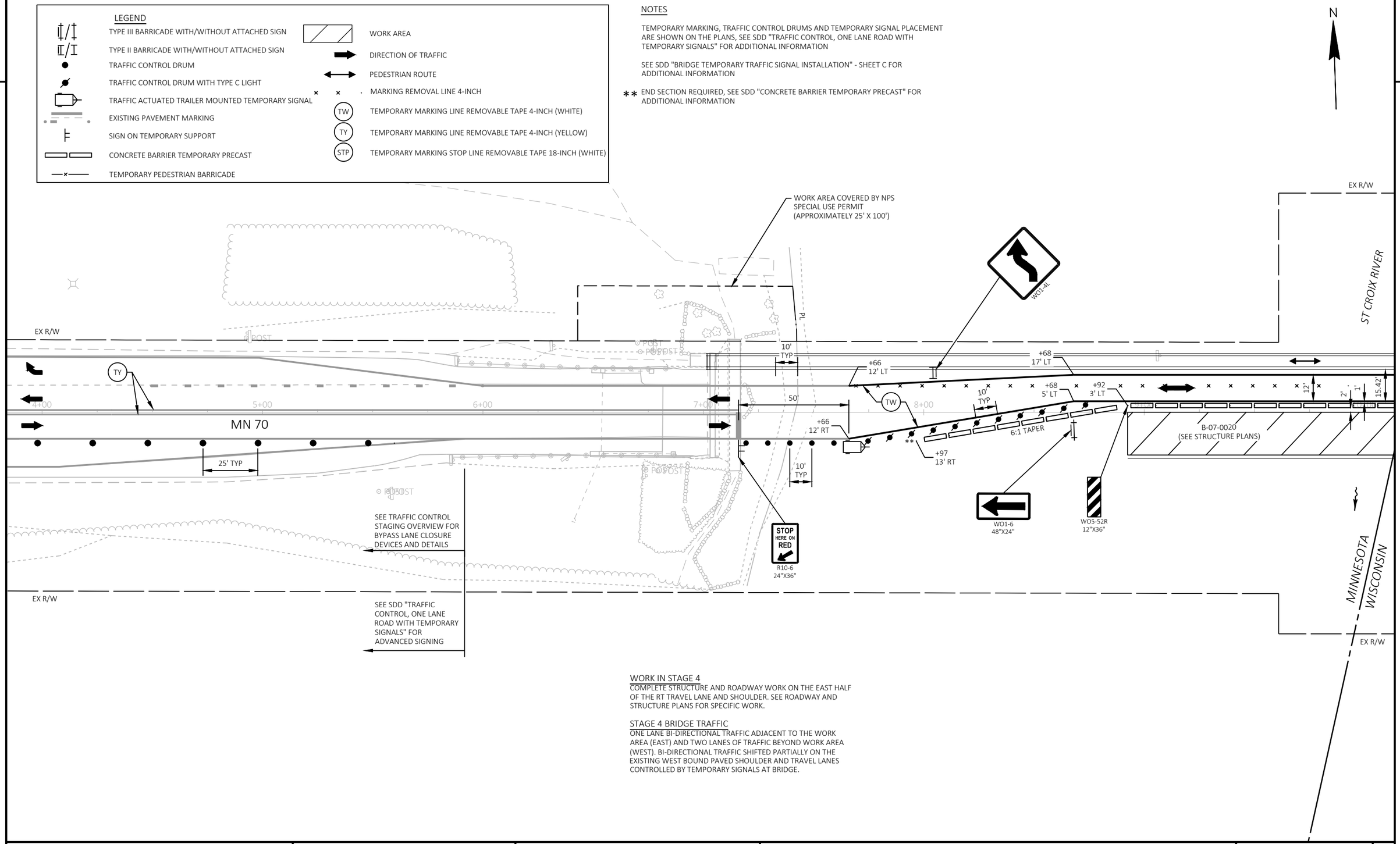
- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION



WORK IN STAGE 4

COMPLETE STRUCTURE AND ROADWAY WORK ON THE EAST HALF OF THE RT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 4 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING WEST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 4	SHEET 19	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP — TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2

EX R/W

EX R/W

ST CROIX RIVER

MINNESOTA

WISCONSIN

B-07-0020
(SEE STRUCTURE PLANS)

2'

1'

15.42'

12'

WO5-52L
12"X36"

WO1-4R

+01
17' LT

+77
3' LT

+01
5' LT

10'
TYP

6:1 TAPER

+03
12' LT

50'

15+00

16+00

STH 70

10'
TYP

**

STOP
HERE ON
RED
R10-6
24"X36"

SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED SIGNING

WO1-6
48"X24"

+73
13' RT

+15
14' RT

COMPLETE WORK IN THIS AREA WHEN CONCRETE BARRIER TEMPORARY IS NOT IN PLACE WITH THE USE OF SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION"

EX R/W

EX R/W

WORK IN STAGE 4

COMPLETE STRUCTURE AND ROADWAY WORK ON THE EAST HALF OF THE RT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 4 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (EAST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (WEST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING WEST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 4	SHEET 20	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

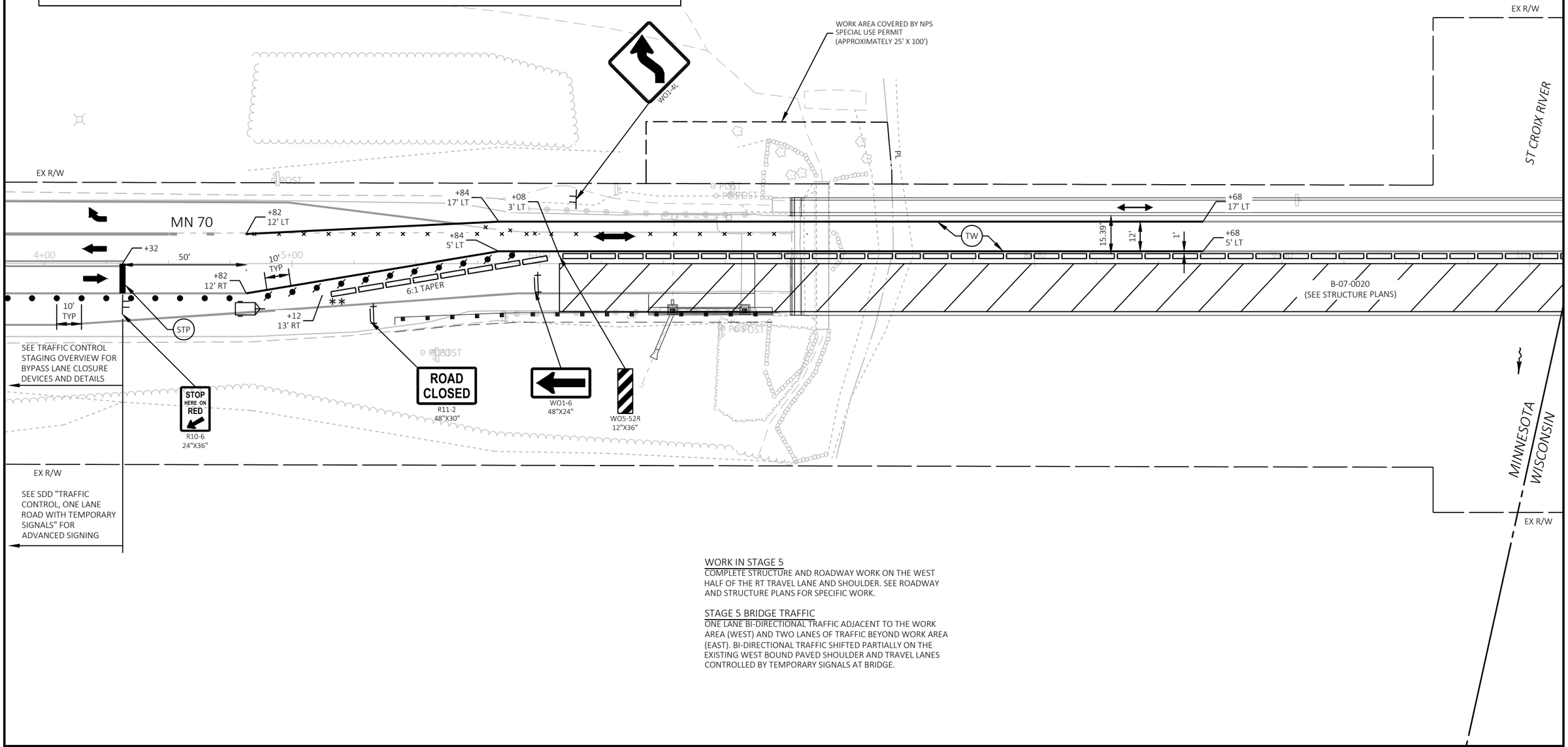
TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2



WORK IN STAGE 5

COMPLETE STRUCTURE AND ROADWAY WORK ON THE WEST HALF OF THE RT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 5 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING WEST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 5	SHEET 21	E

2

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2

EX R/W

EX R/W

ST CROIX RIVER

WO5-52L
12"X36"

WO1-4R

STOP HERE ON RED
R10-6
24"X36"

SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADVANCED SIGNING

STP

TW

+17
17' LT

+93
3' LT

+17
5' LT

10'
TYP

6:1 TAPER

+19
12' LT

50'

+19
12' RT

+69

+88
13' RT

10'
TYP

B-07-0020
(SEE STRUCTURE PLANS)

WO1-6
48"X24"

7'

12'

12'

7'

12+00

13+00

14+00

15+00

16+00

STH 70

+03
12' LT

+53

+03
12' RT

TW

TY

POST

POST

MINNESOTA
WISCONSIN

EX R/W

EX R/W

WORK IN STAGE 5

COMPLETE STRUCTURE AND ROADWAY WORK ON THE WEST HALF OF THE RT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 5 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING WEST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 5	SHEET 22	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\025008-TC.DWG
LAYOUT NAME - 02

PLOT DATE : 4/19/2022 8:27 AM PLOT BY : ADMIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- TW — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- TY — TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- STP — TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

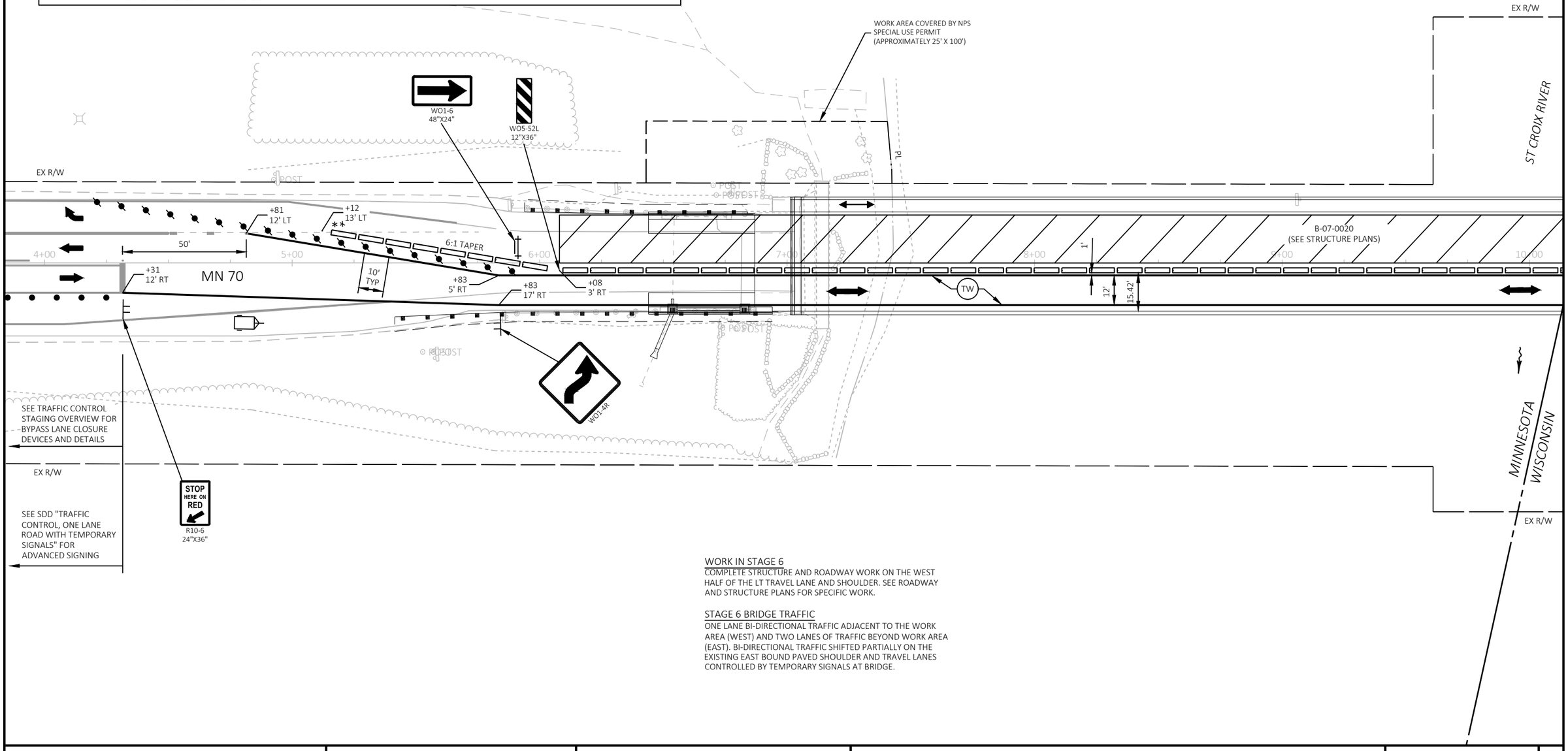
NOTES

TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N



WORK IN STAGE 6

COMPLETE STRUCTURE AND ROADWAY WORK ON THE WEST HALF OF THE LT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 6 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 6	SHEET 23	E

LEGEND

- TYPE III BARRICADE WITH/WITHOUT ATTACHED SIGN
- TYPE II BARRICADE WITH/WITHOUT ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C LIGHT
- TRAFFIC ACTUATED TRAILER MOUNTED TEMPORARY SIGNAL
- EXISTING PAVEMENT MARKING
- SIGN ON TEMPORARY SUPPORT
- CONCRETE BARRIER TEMPORARY PRECAST
- TEMPORARY PEDESTRIAN BARRICADE
- WORK AREA
- DIRECTION OF TRAFFIC
- PEDESTRIAN ROUTE
- MARKING REMOVAL LINE 4-INCH
- (TW) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (TY) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (STP) TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH (WHITE)

NOTES

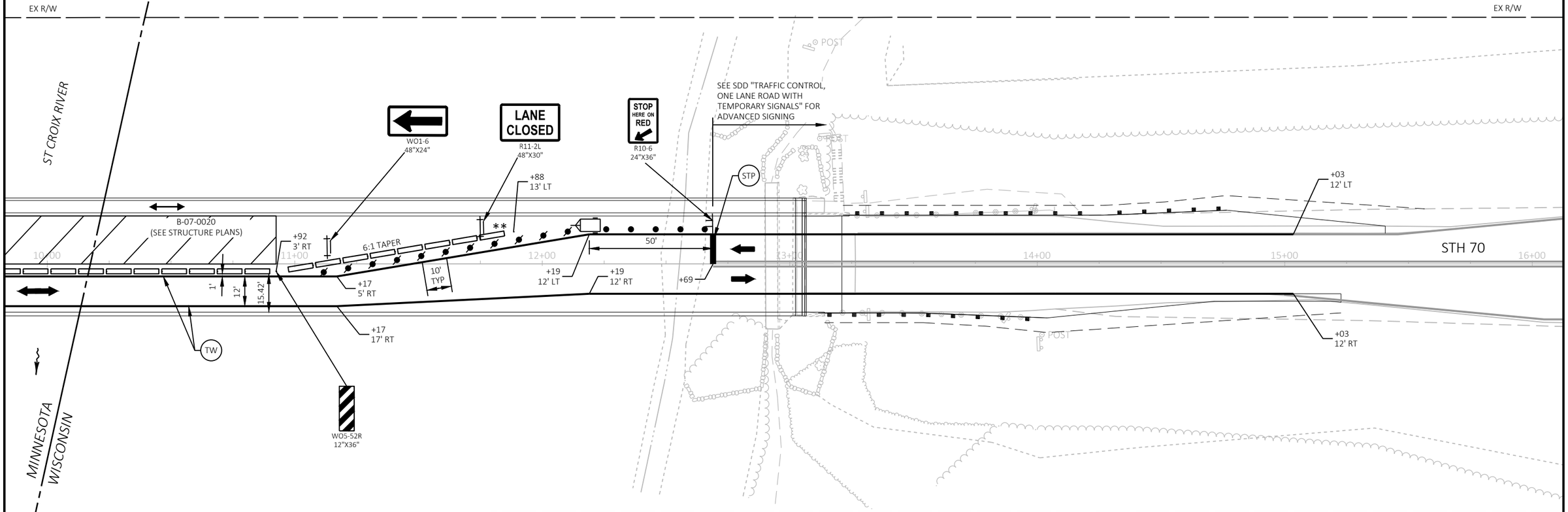
TEMPORARY MARKING, TRAFFIC CONTROL DRUMS AND TEMPORARY SIGNAL PLACEMENT ARE SHOWN ON THE PLANS, SEE SDD "TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS" FOR ADDITIONAL INFORMATION

SEE SDD "BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION" - SHEET C FOR ADDITIONAL INFORMATION

** END SECTION REQUIRED, SEE SDD "CONCRETE BARRIER TEMPORARY PRECAST" FOR ADDITIONAL INFORMATION

N

2



WORK IN STAGE 6

COMPLETE STRUCTURE AND ROADWAY WORK ON THE WEST HALF OF THE LT TRAVEL LANE AND SHOULDER. SEE ROADWAY AND STRUCTURE PLANS FOR SPECIFIC WORK.

STAGE 6 BRIDGE TRAFFIC

ONE LANE BI-DIRECTIONAL TRAFFIC ADJACENT TO THE WORK AREA (WEST) AND TWO LANES OF TRAFFIC BEYOND WORK AREA (EAST). BI-DIRECTIONAL TRAFFIC SHIFTED PARTIALLY ON THE EXISTING EAST BOUND PAVED SHOULDER AND TRAVEL LANES CONTROLLED BY TEMPORARY SIGNALS AT BRIDGE.

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	TRAFFIC CONTROL - STAGE 6	SHEET 24	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\025009-TC.DWG
LAYOUT NAME - 02
PLOT DATE : 4/19/2022 8:28 AM
PLOT BY : ADMIN
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

Estimate Of Quantities

8040-01-74

Line	Item	Item Description	Unit	Total	Qty
0002	201.0110	Clearing	SY	25.000	25.000
0004	201.0210	Grubbing	SY	25.000	25.000
0006	203.0335	Debris Containment Over Waterway (structure) 01. B-07-0020	EACH	1.000	1.000
0008	204.0100	Removing Concrete Pavement	SY	160.000	160.000
0010	204.0150	Removing Curb & Gutter	LF	55.000	55.000
0012	204.0165	Removing Guardrail	LF	380.000	380.000
0014	204.0220	Removing Inlets	EACH	2.000	2.000
0016	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	36.000	36.000
0018	204.0245	Removing Storm Sewer (size) 02. 15-Inch	LF	32.000	32.000
0020	205.0100	Excavation Common	CY	626.000	626.000
0022	213.0100	Finishing Roadway (project) 01. 8040-01-74	EACH	1.000	1.000
0024	305.0110	Base Aggregate Dense 3/4-Inch	TON	175.000	175.000
0026	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	925.000	925.000
0028	415.0070	Concrete Pavement 7-Inch	SY	50.000	50.000
0030	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0032	455.0605	Tack Coat	GAL	30.000	30.000
0034	465.0105	Asphaltic Surface	TON	180.000	180.000
0036	502.3101	Expansion Device 01. B-07-0020	LF	96.000	96.000
0038	502.3200	Protective Surface Treatment	SY	2,621.000	2,621.000
0040	502.3205	Pigmented Surface Sealer Reseal	SY	679.000	679.000
0042	502.3215	Protective Surface Treatment Reseal	SY	767.000	767.000
0044	502.4205	Adhesive Anchors No. 5 Bar	EACH	96.000	96.000
0046	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	3,360.000	3,360.000
0048	509.0301	Preparation Decks Type 1	SY	151.000	151.000
0050	509.0302	Preparation Decks Type 2	SY	31.000	31.000
0052	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	68.000	68.000
0054	509.0500	Cleaning Decks	SY	2,607.000	2,607.000
0056	509.1000	Joint Repair	SY	42.000	42.000
0058	509.1500	Concrete Surface Repair	SF	304.000	304.000
0060	509.2000	Full-Depth Deck Repair	SY	16.000	16.000
0062	509.2100.S	Concrete Masonry Deck Repair	CY	15.000	15.000
0064	509.2500	Concrete Masonry Overlay Decks	CY	157.000	157.000
0066	520.8000	Concrete Collars for Pipe	EACH	1.000	1.000
0068	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	1.000	1.000
0070	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	86.000	86.000
0072	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	7.000	7.000
0074	603.8000	Concrete Barrier Temporary Precast Delivered	LF	1,660.000	1,660.000
0076	603.8125	Concrete Barrier Temporary Precast Installed	LF	3,515.000	3,515.000
0078	606.0200	Riprap Medium	CY	7.000	7.000
0080	606.0300	Riprap Heavy	CY	46.000	46.000
0082	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	33.000	33.000
0084	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	16.000	16.000
0086	611.2033	Manholes 3x3-FT	EACH	2.000	2.000
0088	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0090	611.9710	Salvaged Inlet Covers	EACH	2.000	2.000
0092	614.2300	MGS Guardrail 3	LF	125.000	125.000
0094	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0096	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0098	616.0405	Fence Chain Link Salvaged 5-FT	LF	8.000	8.000

8040-01-74

Line	Item	Item Description	Unit	Total	Qty
0100	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8040-01-74	EACH	1.000	1.000
0102	619.1000	Mobilization	EACH	1.000	1.000
0104	624.0100	Water	MGAL	10.000	10.000
0106	625.0500	Salvaged Topsoil	SY	840.000	840.000
0108	628.1104	Erosion Bales	EACH	50.000	50.000
0110	628.1504	Silt Fence	LF	1,270.000	1,270.000
0112	628.1520	Silt Fence Maintenance	LF	1,270.000	1,270.000
0114	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0116	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0118	628.2008	Erosion Mat Urban Class I Type B	SY	840.000	840.000
0120	628.2023	Erosion Mat Class II Type B	SY	55.000	55.000
0122	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0124	628.7020	Inlet Protection Type D	EACH	4.000	4.000
0126	629.0210	Fertilizer Type B	CWT	0.600	0.600
0128	630.0170	Seeding Mixture No. 70	LB	5.000	5.000
0130	630.0500	Seed Water	MGAL	20.000	20.000
0132	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	1.000	1.000
0134	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	1.000	1.000
0136	637.2210	Signs Type II Reflective H	SF	32.000	32.000
0138	638.2102	Moving Signs Type II	EACH	7.000	7.000
0140	638.2602	Removing Signs Type II	EACH	1.000	1.000
0142	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0144	638.4000	Moving Small Sign Supports	EACH	8.000	8.000
0146	642.5001	Field Office Type B	EACH	1.000	1.000
0148	643.0300	Traffic Control Drums	DAY	7,325.000	7,325.000
0150	643.0410	Traffic Control Barricades Type II	DAY	84.000	84.000
0152	643.0420	Traffic Control Barricades Type III	DAY	736.000	736.000
0154	643.0705	Traffic Control Warning Lights Type A	DAY	1,472.000	1,472.000
0156	643.0715	Traffic Control Warning Lights Type C	DAY	3,340.000	3,340.000
0158	643.0900	Traffic Control Signs	DAY	15,000.000	15,000.000
0160	643.0920	Traffic Control Covering Signs Type II	EACH	1.000	1.000
0162	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0164	643.5000	Traffic Control	EACH	1.000	1.000
0166	644.1810	Temporary Pedestrian Barricade	LF	1,235.000	1,235.000
0168	645.0120	Geotextile Type HR	SY	22.000	22.000
0170	646.1020	Marking Line Epoxy 4-Inch	LF	3,600.000	3,600.000
0172	646.9000	Marking Removal Line 4-Inch	LF	2,420.000	2,420.000
0174	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	13,620.000	13,620.000
0176	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	84.000	84.000
0178	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0180	650.4500	Construction Staking Subgrade	LF	412.000	412.000
0182	650.5000	Construction Staking Base	LF	356.000	356.000
0184	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	86.000	86.000
0186	650.6500	Construction Staking Structure Layout (structure) 01. B-07-0020	LS	1.000	1.000
0188	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0190	650.9910	Construction Staking Supplemental Control (project) 01. 8040-01-74	LS	1.000	1.000
0192	650.9920	Construction Staking Slope Stakes	LF	412.000	412.000
0194	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-07-0020	LS	1.000	1.000
0196	690.0150	Sawing Asphalt	LF	600.000	600.000

Estimate Of Quantities

8040-01-74

Line	Item	Item Description	Unit	Total	Qty
0198	690.0250	Sawing Concrete	LF	40.000	40.000
0200	715.0502	Incentive Strength Concrete Structures	DOL	1,032.000	1,032.000
0202	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0204	SPV.0060	Special 01. Moving Delineators and Markers	EACH	2.000	2.000
0206	SPV.0090	Special 01. Concrete Curb & Gutter Cure and Seal Treatment	LF	93.000	93.000
0208	SPV.0090	Special 02. Flashing Stainless Steel	LF	605.000	605.000
0210	SPV.0180	Special 01. Topsoil Over Existing Riprap	SY	55.000	55.000
0212	SPV.0180	Special 02. Abutment Seat Cleaning and Sealing	SY	24.000	24.000

3

CLEARING AND GRUBBING ITEMS

STAGE	STATION	OFFSET	201.0110 CLEARING SY	201.0210 GRUBBING SY
5	6+82	RT	25	25
TOTALS			25	25

REMOVAL ITEMS

STAGE	STATION	TO	STATION	OFFSET	204.0100 REMOVING CONCRETE PAVEMENT SY	204.0150 REMOVING CURB & GUTTER LF
3	13+06	-	13+26	LT	28	--
4	13+06	-	13+26	RT	28	--
5	6+49	-	7+02	RT	48	33
6	6+49	-	7+02	LT	56	22
TOTALS					160	55

DRAINAGE REMOVAL ITEMS

STAGE	STATION	TO	STATION	OFFSET	204.0220 REMOVING INLETS EACH	204.0245.01 REMOVING STORM SEWER (12-INCH) LF	204.0245.02 REMOVING STORM SEWER (15-INCH) LF
5	6+54	-	6+86	RT	2	36	32
TOTALS					2	36	32

3

EARTHWORK SUMMARY

DIVISION	LOCATION	ITEM 205.0100 EXCAVATION COMMON (CY) (NOTE 1)	SALVAGED / UNUSEABLE PAVEMENT MATERIAL (CY) (NOTE 2)	AVAILABLE MATERIAL (CY) (NOTE 3)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY) (NOTE 4)	MASS ORDINATE +/- (CY) (NOTE 5)
STH 70						FACTOR 1.25	
1	STA 13+06 - STA 15+57 LT (STAGE 3)	221	21	200	--	--	200
2	STA 13+06 - STA 15+23 RT (STAGE 4)	169	20	149	18	24	125
3	STA 5+41 - STA 7+00 RT (STAGE 5)	142	15	127	--	--	127
4	STA 5+94 - STA 7+00 LT (STAGE 6)	94	14	80	--	--	80
TOTALS		626	70	556	18	24	532

1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL = (AREA OF PROJECT PAVEMENT REMOVAL) * (TYPICAL DEPTH)
3) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
4) EXPANDED FILL FACTOR = (UNEXPANDED FILL) * (FILL FACTOR)
5) MASS ORDINATE = AVAILABLE MATERIAL - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL

BASE AGGREGATE ITEMS

STAGE	STATION	TO	STATION	OFFSET	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON
3	13+06	-	15+57	LT	61	288
4	13+06	-	15+23	RT	58	243
5	5+41	-	7+02	RT	42	191
6	5+94	-	7+02	LT	14	108
TOTALS					175	830

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE PAVEMENT ITEMS

STAGE	STATION	TO	STATION	OFFSET	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	415.0070 CONCRETE PAVEMENT 7-INCH SY
3	13+06	-	13+21	LT	9	12
4	13+06	-	13+21	RT	9	13
5	6+87	-	7+02	RT	9	12
6	6+87	-	7+02	LT	9	13
TOTALS					35	50

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

CONCRETE PAVEMENT APPROACH SLAB ITEMS

STAGE	STATION	TO	STATION	OFFSET	305.0120* BASE AGGREGATE DENSE 1 1/4-INCH TON	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
3	13+06	-	13+21	LT	15	20
4	13+06	-	13+21	RT	15	20
5	6+87	-	7+02	RT	15	20
6	6+87	-	7+02	LT	15	20
TOTALS					60	80

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

ASPHALTIC ITEMS

STAGE	STATION	TO	STATION	OFFSET	455.0605 TACK COAT GAL	465.0105 ASPHALTIC SURFACE TON
3	13+06	-	15+57	LT	11	74
4	13+06	-	15+23	RT	9	56
5	5+41	-	7+02	RT	5	25
6	5+94	-	7+02	LT	5	25
TOTALS					30	180

CONCRETE CURB & GUTTER

STAGE	STATION	TO	STATION	OFFSET	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	SPV.0090.01 CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT LF
5	6+44	-	6+94	RT	43	7	50
6	6+44	-	6+87	LT	43	--	43
TOTALS					86	7	93

RIPRAP ITEMS

STAGE	STATION	OFFSET	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
5	6+42	RT	7	22
TOTALS			7	22

3

DRAINAGE ITEMS

STAGE	STATION	TO	STATION	OFFSET	520.8000 CONCRETE COLLARS FOR PIPE EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	611.2033 MANHOLES 3X3-FT EACH	611.8115 ADJUSTING INLET COVERS EACH	611.9710 SALVAGED INLET COVERS EACH	650.4000 CONSTRUCTION STAKING STORM SEWER EACH
5	6+54	-	6+83	RT	1	1	33	16	2	--	2	2
6		6+54		LT	--	--	--	--	--	1	--	--
6		6+76		LT	--	--	--	--	--	1	--	--
TOTALS					1	1	33	16	2	2	2	2

RESTORATION ITEMS

STAGE	STATION	TO	STATION	OFFSET	625.0500 SALVAGED TOPSOIL SY	SPV.0180.01 TOPSOIL OVER EXISTING RIPRAP SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.2023 EROSION MAT CLASS II TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0170 SEEDING MIXTURE NO. 70 LB	630.0500 SEED WATER MGAL
3	13+21	-	15+53	LT	200	--	200	--	0.1	1	5
4	13+14	-	15+22	RT	240	--	240	--	0.2	1	5
5	5+41	-	6+94	RT	170	--	170	--	0.1	1	4
6	5+81	-	7+12	LT	60	45	60	45	0.1	1	2
UNDISTRIBUTED					170	10	170	10	0.1	1	4
TOTALS					840	55	840	55	0.6	5	20

SILT FENCE ITEMS

STAGE	STATION	TO	STATION	OFFSET	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
3	13+21	-	15+53	LT	8	300	300
4	13+14	-	15+22	RT	8	270	270
5	5+41	-	6+94	RT	16	270	270
6	5+81	-	7+12	LT	8	180	180
UNDISTRIBUTED					10	250	250
TOTALS					50	1,270	1,270

INLET PROTECTION

STATION	OFFSET	628.7005 INLET PROTECTION TYPE A EACH	628.7020 INLET PROTECTION TYPE D EACH
6+54	RT	1	1
6+83	RT	1	1
6+54	LT	--	1
6+76	LT	--	1
TOTALS		2	4

EROSION CONTROL MOBILIZATION

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT	4	2
TOTALS	4	2

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	MISCELLANEOUS QUANTITIES	SHEET 29	E

3

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES

LOCATION	661.0100.01 TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (B-07-0020) LS
PROJECT	1
TOTAL	1

TRAFFIC CONTROL ITEMS

STAGE	STAGE DURATION DAYS	643.0300 TRAFFIC CONTROL DRUMS NO.	643.0300 DAY	643.0410 TRAFFIC CONTROL BARRICADES TYPE II NO.	643.0410 DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III NO.	643.0420 DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A NO.	643.0705 DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C NO.	643.0715 DAY	643.0900 TRAFFIC CONTROL SIGNS NO.	643.0900 DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS NO.	643.1050 DAY
PRIOR TO STAGE 1	7	10	70	--	--	--	--	--	--	--	--	--	--	2	14
1	7	45	315	6	42	4	28	8	56	24	168	100	700	--	--
2	7	46	322	6	42	4	28	8	56	20	140	100	700	--	--
3	37	51	1,887	--	--	5	185	10	370	20	740	100	3,700	--	--
4	30	51	1,530	--	--	5	150	10	300	20	600	100	3,000	--	--
5	30	43	1,290	--	--	5	150	10	300	20	600	100	3,000	--	--
6	39	49	1,911	--	--	5	195	10	390	28	1,092	100	3,900	--	--
TOTALS			7,325		84		736		1,472		3,340		15,000		14

3

TEMPORARY PAVEMENT MARKING ITEMS

STAGE	646.9000 MARKING REMOVAL LINE 4-INCH LF	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH YELLOW LF	649.0150 WHITE LF	649.0850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF
1	1,680	1,730	2,880	24
2	150	600	1,530	24
3	--	570	120	12
4	410	--	1,490	--
5	180	570	2,030	24
6	--	--	2,100	--
TOTALS	2,420	3,470	10,150	84
		13,620		

CONCRETE BARRIER TEMPORARY PRECAST ITEMS

STAGE	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF
1	875	875
2	100	785
4	200	685
5	285	485
6	200	685
TOTALS	1,660	3,515

TEMPORARY PEDESTRIAN BARRICADE

STAGE	644.1810 LF
1	660
2	575
TOTAL	1,235

TRAFFIC CONTROL COVERING SIGNS TYPE II

STATION	OFFSET	NUMBER OF CYCLES	643.0920 NO.	643.0920 EACH	COMMENTS
0+15	RT	1	1	1	"BYPASS LANE" SIGN COVERED FOR DURATION OF WORK
TOTAL				1	

MARKING ITEMS

STATION	TO	STATION	OFFSET	646.1020 MARKING LINE EPOXY 4-INCH 12.5' LINE 37.5' SKIP YELLOW LF	SOLID YELLOW LF	3' LINE 9' SKIP WHITE LF	SOLID WHITE LF
4+25	-	15+50	--	300	770	--	--
3+82	-	16+75	LT	--	--	30	1,300
4+07	-	16+05	RT	--	--	--	1,200
TOTAL				300	770	30	2,500
					3,600		

GUARDRAIL ITEMS

STAGE	STATION	TO	STATION	OFFSET	204.0165 REMOVING GUARDRAIL LF	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
3	13+21	-	14+77	LT	86	62.5	39.4	1
4	13+11	-	14+04	RT	86	--	39.4	1
5	5+41	-	6+97	RT	110	62.5	39.4	1
6	5+94	-	6+87	LT	98	--	39.4	1
TOTALS					380	125	157.6	4

WATER

LOCATION	624.0100 MGAL
PROJECT	10
TOTAL	10

SIGNING ITEMS

STAGE	SIGN NUMBER	DESCRIPTION	SIGN CODE	SIGN DIMENSION W X H IN X IN	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH X 18-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	COMMENTS
3	2-1	ST CROIX NATIONAL SCENIC RIVERWAY	SP	84 X 24	1	1	16.00	--	1	1	--	
3	2-2	BRIDGE HASH MARKS	--	-- X --	--	--	--	1	--	--	1	
3	2-6	NO PARKING ANY TIME	--	-- X --	--	--	--	1	--	--	1	
4	2-3	BRIDGE HASH MARKS	--	-- X --	--	--	--	1	--	--	1	
4	2-4	NO PARKING ANY TIME	--	-- X --	--	--	--	1	--	--	1	
4	2-5	WELCOME TO WISCONSIN	--	-- X --	--	--	--	1	--	--	2	
5	1-2	GEODETIC MARKER	--	-- X --	--	--	--	1	--	--	1	
5	1-3	ST CROIX NATIONAL SCENIC RIVERWAY	SP	84 X 24	--	--	16.00	--	--	--	--	INSTALLED BY MNDOT
6	1-1	TRAIL MARKER	--	-- X --	--	--	--	1	--	--	1	
TOTALS					1	1	32.00	7	1	1	8	

CONSTRUCTION STAKING ITEMS

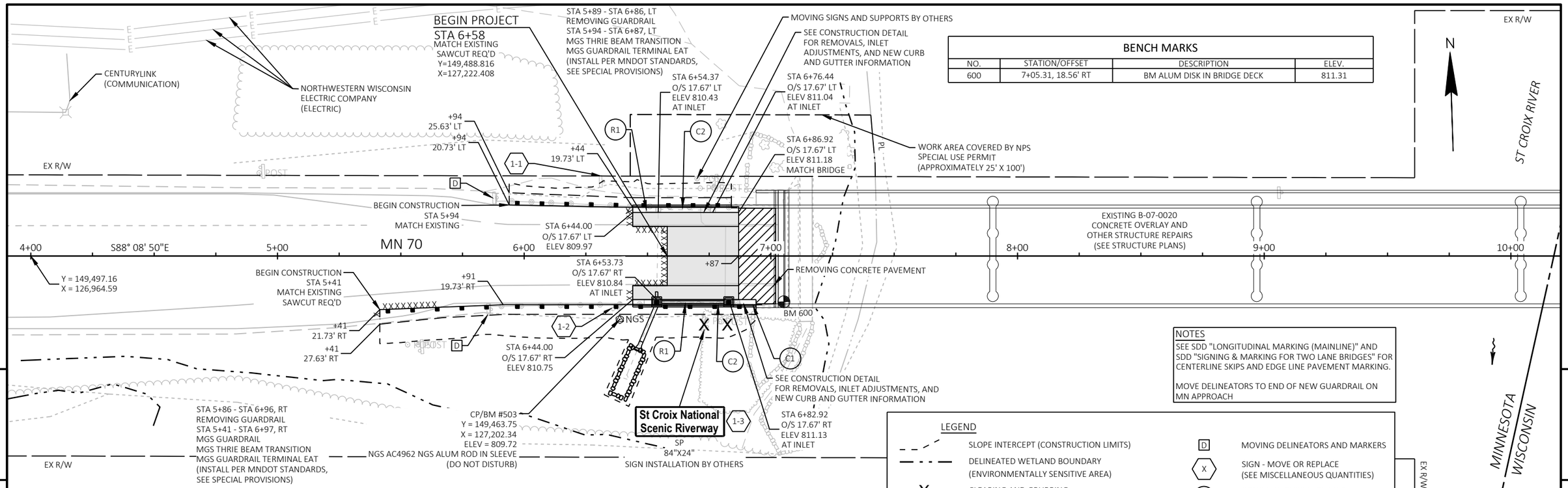
STAGE	STATION	TO	STATION	OFFSET	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6500.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (B-07-0020) LS	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.9910.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (8040-01-74) LS	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
3 & 4	13+06	-	15+57	LT & RT	251	231	--	--	15	--	251
5 & 6	5+41	-	7+02	LT & RT	161	141	--	--	15	--	161
5	5+41	-	7+02	RT	--		43	--	--	--	--
6	5+94	-	7+02	LT	--	--	43	--	--	--	--
--		PROJECT		--	--	--	--	1	--	1	--
TOTALS					412	356	86	1	30	1	412

SAWING

STAGE	STATION	TO	STATION	OFFSET	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
3	13+06	-	15+41	LT	230	20
4	13+06	-	15+23	RT	220	--
5	5+41	-	7+02	RT	90	20
6	6+44	-	7+02	LT	60	--
TOTALS					600	40

MOVING DELINEATORS AND MARKERS

STAGE	STATION	OFFSET	SPV.0060.01 EACH
5	5+87	RT	1
6	5+89	LT	1
TOTAL			2



BENCH MARKS			
NO.	STATION/OFFSET	DESCRIPTION	ELEV.
600	7+05.31, 18.56' RT	BM ALUM DISK IN BRIDGE DECK	811.31

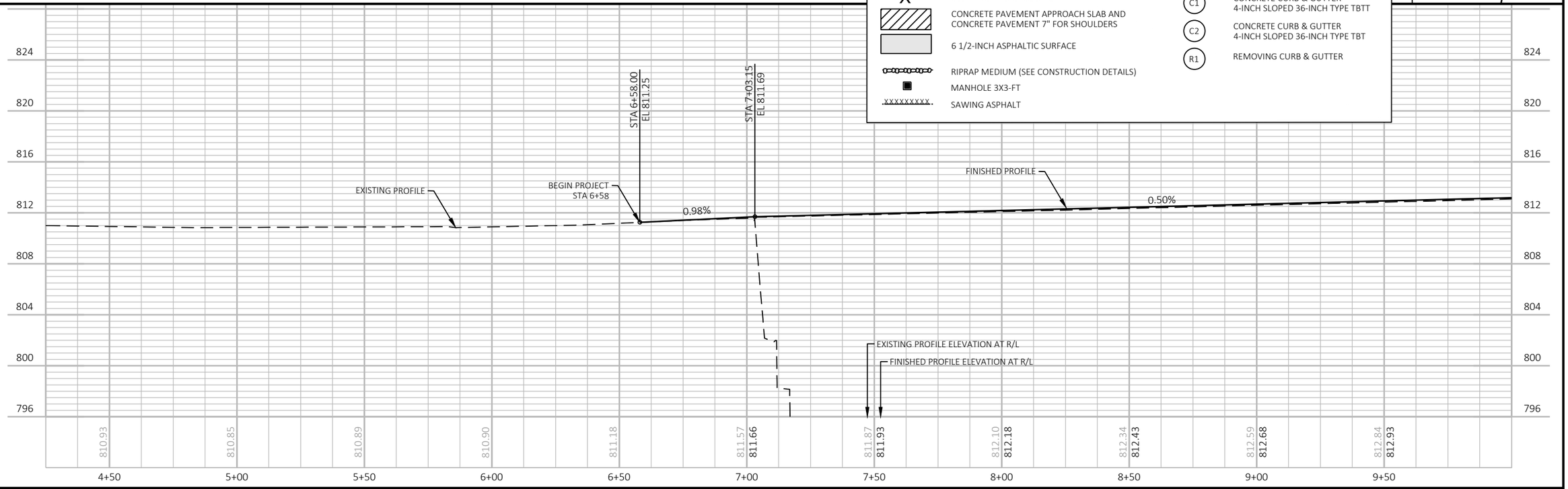
NOTES

SEE SDD "LONGITUDINAL MARKING (MAINLINE)" AND SDD "SIGNING & MARKING FOR TWO LANE BRIDGES" FOR CENTERLINE SKIPS AND EDGE LINE PAVEMENT MARKING.

MOVE DELINEATORS TO END OF NEW GUARDRAIL ON MN APPROACH

LEGEND

- SLOPE INTERCEPT (CONSTRUCTION LIMITS)
- DELINEATED WETLAND BOUNDARY (ENVIRONMENTALLY SENSITIVE AREA)
- X — CLEARING AND GRUBBING
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT 7" FOR SHOULDERS
- 6 1/2-INCH ASPHALTIC SURFACE
- RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)
- MANHOLE 3X3-FT
- XXXXXXXXX — SAWING ASPHALT
- D — MOVING DELINEATORS AND MARKERS
- X — SIGN - MOVE OR REPLACE (SEE MISCELLANEOUS QUANTITIES)
- C1 — CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
- C2 — CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- R1 — REMOVING CURB & GUTTER



PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	PLAN AND PROFILE	SHEET 32	E

EX R/W

EX R/W

ST CROIX RIVER

MINNESOTA
WISCONSIN

SANDROCK CLIFF TRAIL

REMOVING CONCRETE PAVEMENT

St Croix National Scenic Riverway

2-1

SP
84"X24"

STA 13+22 - STA 14+07, LT
REMOVING GUARDRAIL
STA 13+22 - STA 14+77, LT
MGS GUARDRAIL
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL TERMINAL EAT

N

END PROJECT
STA 13+27
MATCH EXISTING
SAWCUT REQ'D

2-2

2-6

+77
27.63' LT

+77
21.73' LT

END CONSTRUCTION
STA 15+57
MATCH EXISTING

+27
19.73' LT

10:1 TAPER

+41

EXISTING B-07-0020
CONCRETE OVERLAY AND
OTHER STRUCTURE REPAIRS
(SEE STRUCTURE PLANS)

10+00 11+00 12+00 13+00 S88° 08' 50"E 14+00 15+00 16+00

STH 70

12'

+21

12'

Y = 149,458.36
X = 128,163.87

BM 601

10:1 TAPER

END CONSTRUCTION
STA 15+23
MATCH EXISTING

2-3

+54
19.73' RT

+04
21.73' RT

+04
27.63' RT

2-4

2-5

STA 13+12 - STA 13+97, RT
REMOVING GUARDRAIL
STA 13+12 - STA 14+04, RT
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL TERMINAL EAT

CP/BM #507
Y = 149,419.41
X = 128,299.21
ELEV = 814.23
FENO 1000 W/ALUMINUM CAP SET

SANDROCK CLIFF TRAIL

NORTHERN NATURAL GAS COMPANY
(GAS)

G G G

5

5

NOTES

SEE SDD "LONGITUDINAL MARKING (MAINLINE)" AND SDD "SIGNING & MARKING FOR TWO LANE BRIDGES" FOR CENTERLINE SKIPS AND EDGE LINE PAVEMENT MARKING.

MOVE DELINEATORS TO END OF NEW GUARDRAIL ON MN APPROACH

LEGEND

- SLOPE INTERCEPT (CONSTRUCTION LIMITS)
- DELINEATED WETLAND BOUNDARY (ENVIRONMENTALLY SENSITIVE AREA)
- X — CLEARING AND GRUBBING
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT 7" FOR SHOULDERS
- 6 1/2-INCH ASPHALTIC SURFACE
- RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)
- MANHOLE 3X3-FT
- .xxxxxxxxx. — SAWING ASPHALT
- D — MOVING DELINEATORS AND MARKERS
- X — SIGN - MOVE OR REPLACE (SEE MISCELLANEOUS QUANTITIES)
- C1 — CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
- C2 — CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
- R1 — REMOVING CURB & GUTTER

BENCH MARKS

NO.	STATION/OFFSET	DESCRIPTION	ELEV.
601	13+12.55, 20.46' RT	BM CHISLED "X"	817.14

824 820 816 812 808 804 800 796

STA 13+04.78
EL 814.72

STA 13+27.00
EL 814.82

EXISTING PROFILE

FINISHED PROFILE

0.50%

0.46%

END PROJECT
STA 13+27

EXISTING PROFILE ELEVATION AT R/L

FINISHED PROFILE ELEVATION AT R/L

813.34 813.44 | 813.60 813.69 | 813.87 813.94 | 814.14 814.19 | 814.40 814.44 | 814.66 814.70 | 814.94 | 815.07 | 815.21 | 815.55 | 815.86

10+50 11+00 11+50 12+00 12+50 13+00 13+50 14+00 14+50 15+00 15+50

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	PLAN AND PROFILE	SHEET 33	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 02

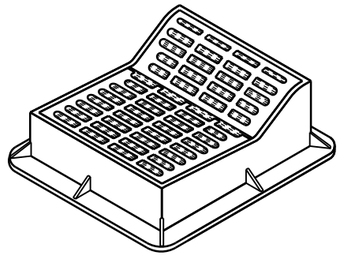
PLOT DATE : 4/19/2022 8:29 AM PLOT BY : ADMIN PLOT NAME : PLOT SCALE : 1 IN:40 FT

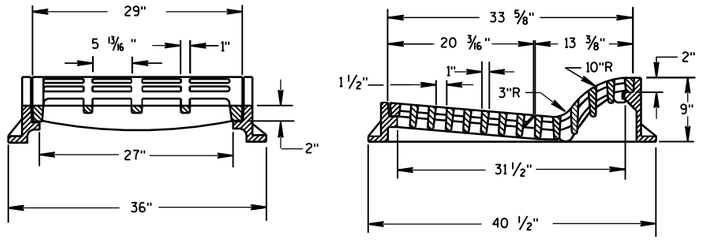
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08B10-02	MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT
08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
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
08D03-08A	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D03-08B	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-05A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-05C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C19-03	HMA LONGITUDINAL JOINTS
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-08	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C19-06A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D33-07	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

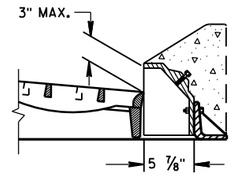
6





TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

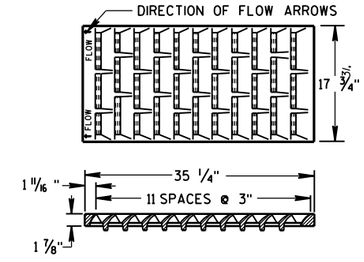
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

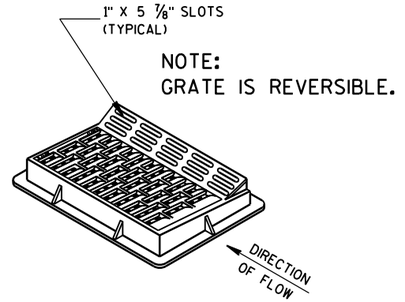
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

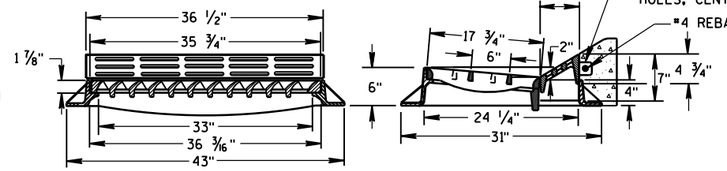
GENERAL NOTES

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

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



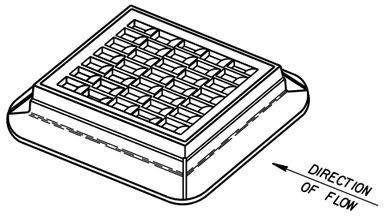


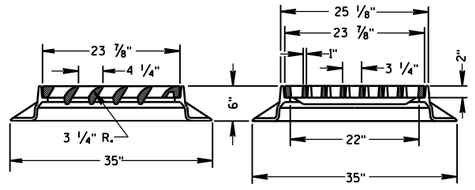


TYPE "HM"

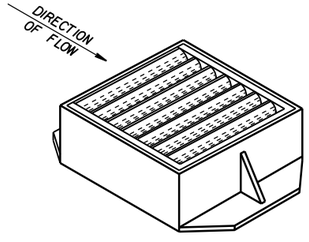
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

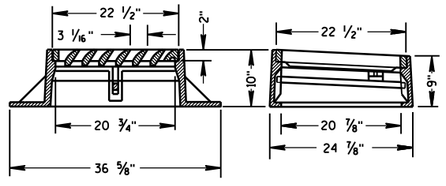
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



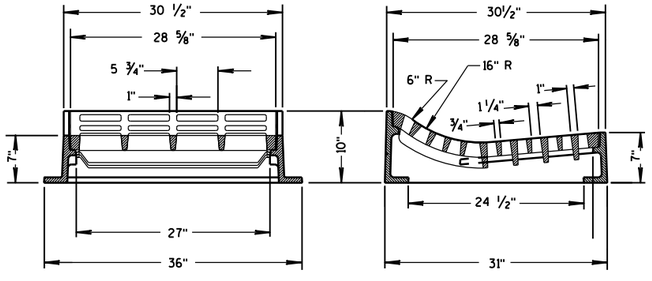


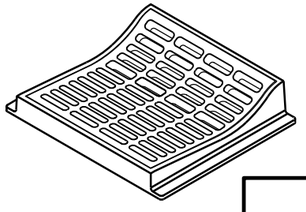
TYPE "S"





TYPE "V"





TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

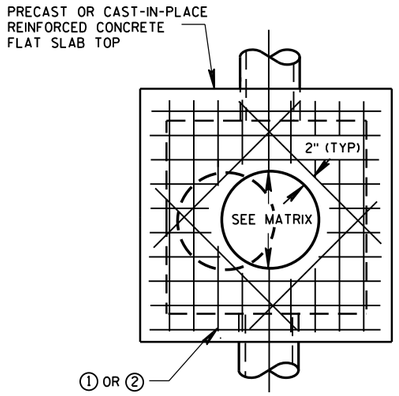
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

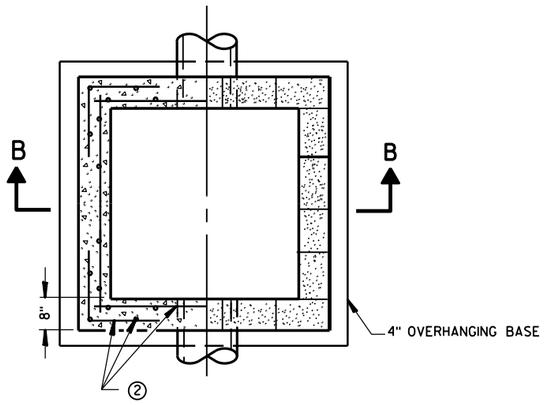
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

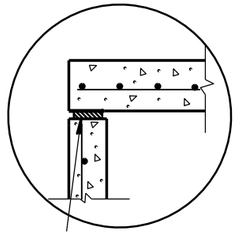
6
S.D.D. 8 A 5-19c



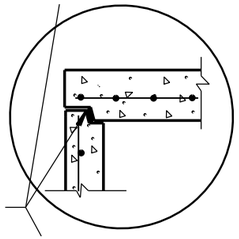
PLAN VIEW
CIRCULAR OPENING



SECTION A-A
PLAN VIEW

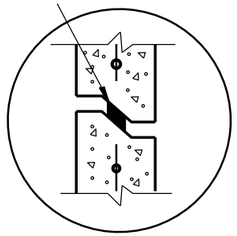


TOP WITH PLAIN END JOINT



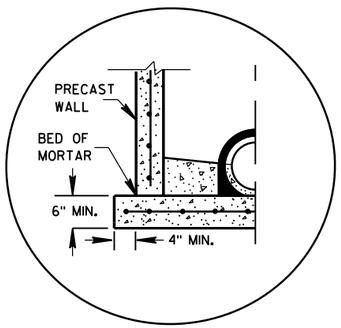
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



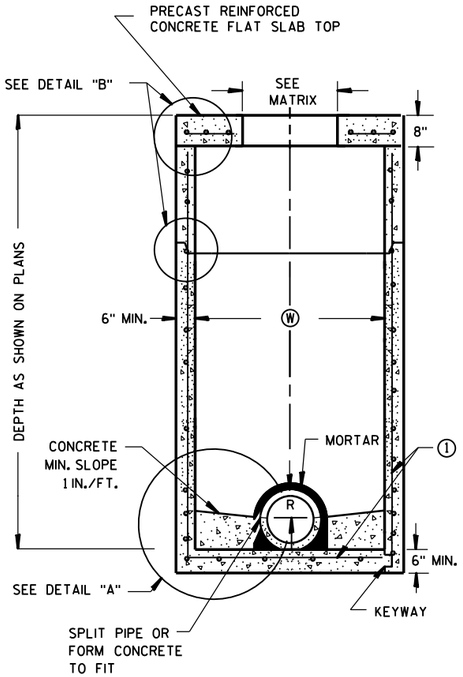
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

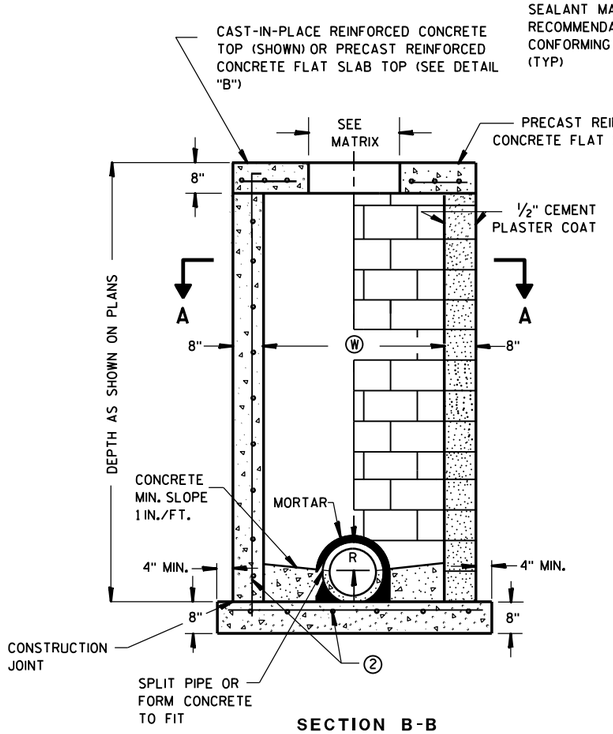


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE



PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE

CAST-IN-PLACE REINFORCED CONCRETE

SECTION B-B

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

GENERAL NOTES

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

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

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

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

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

PRECAST REINFORCED FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

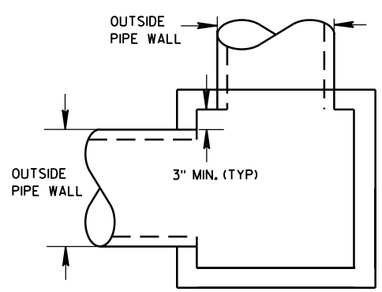
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (W) (IN)	LENGTH (L) (IN)
3X3-FT	24	24
4X4-FT	30	30
5X5-FT	42	42
6X6-FT	54	54



DETAIL "C"

SQUARE MANHOLES W/ FLAT TOP

MANHOLES 3X3-FT, 4X4-FT, 5X5-FT AND 6X6-FT

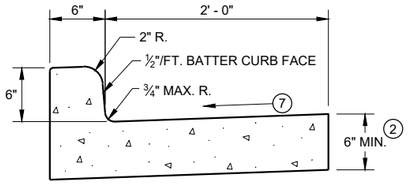
MANHOLES 3X3-FT, 4X4-FT 5X5-FT AND 6X6-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

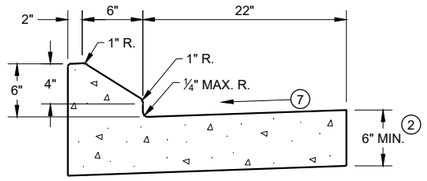
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

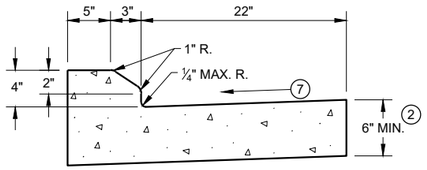
S.D.D. 8 B 10-2



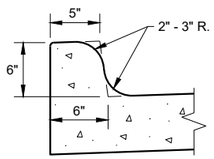
TYPES A[1] & D



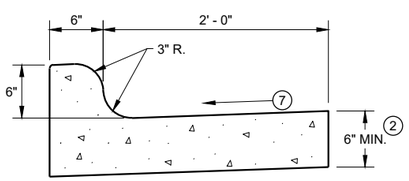
6" SLOPED CURB TYPES G[1] & J



4" SLOPED CURB TYPES G[1] & J

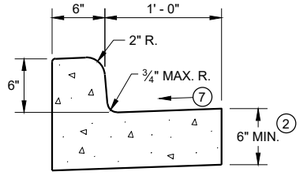


TYPES K[1] & L
(OPTIONAL CURB SHAPE)



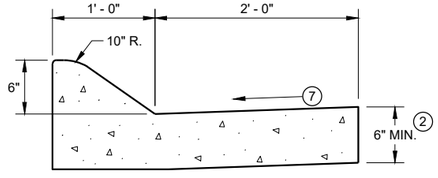
TYPES K[1] & L

CONCRETE CURB AND GUTTER 30"



TYPES A[1] & D

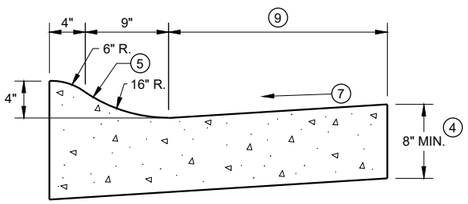
CONCRETE CURB AND GUTTER 18"



6" SLOPED CURB TYPES A[1] & D

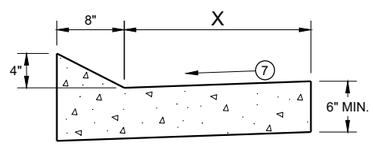
4" SLOPED CURB TYPES A[1] & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R[1] & T

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

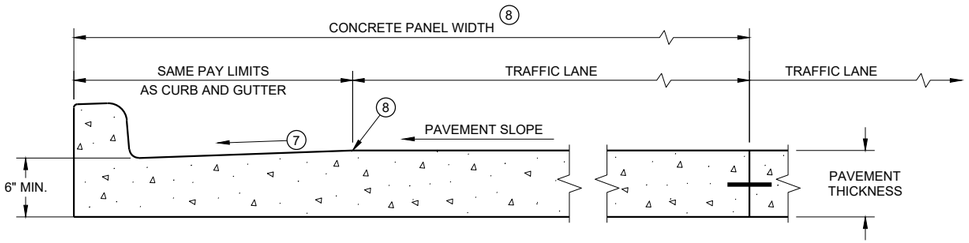


TYPES TBT & TBTT[1]

CONCRETE CURB AND GUTTER

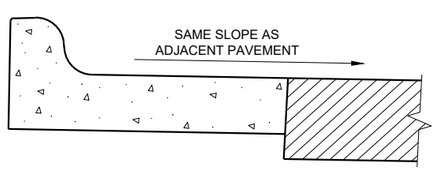
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



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

GENERAL NOTES

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

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

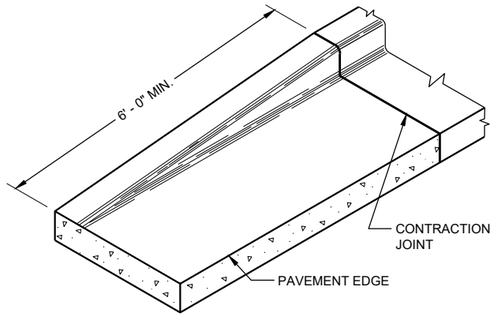
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

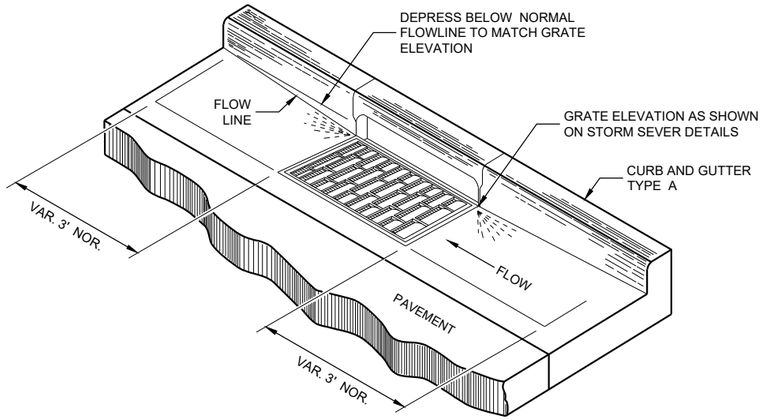
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
9. CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
   CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES

CONCRETE CURB AND GUTTER

SDD 08D01 - 22a
6



END SECTIONCURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

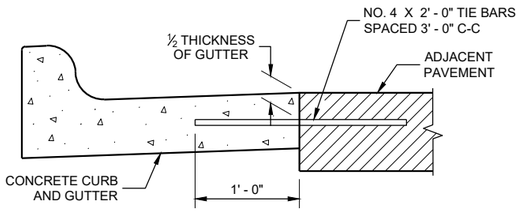
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

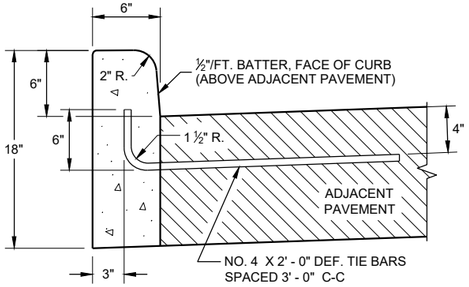
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.

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

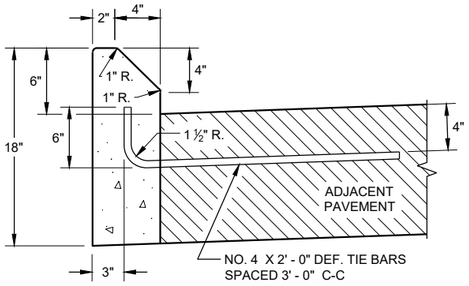
(9) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION (1)

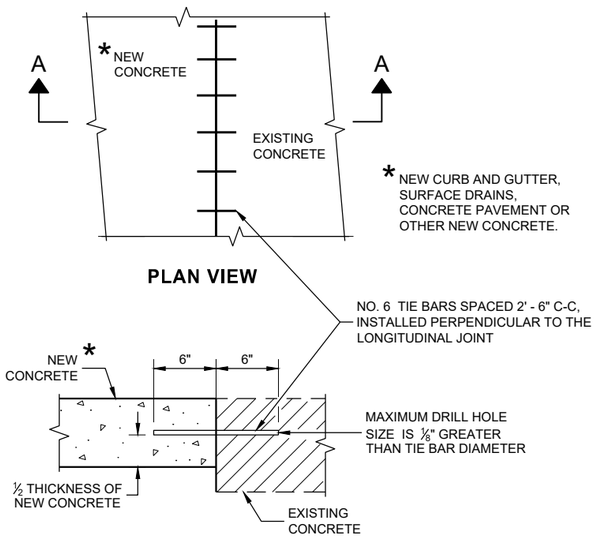


TYPES A (1) & D



TYPES G (1) & J

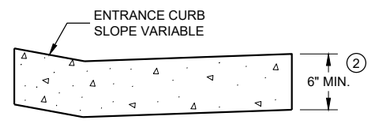
CONCRETE CURB



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB (9)
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

6

SDD08D01 - 22b

SDD08D01 - 22b

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

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

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

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

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

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

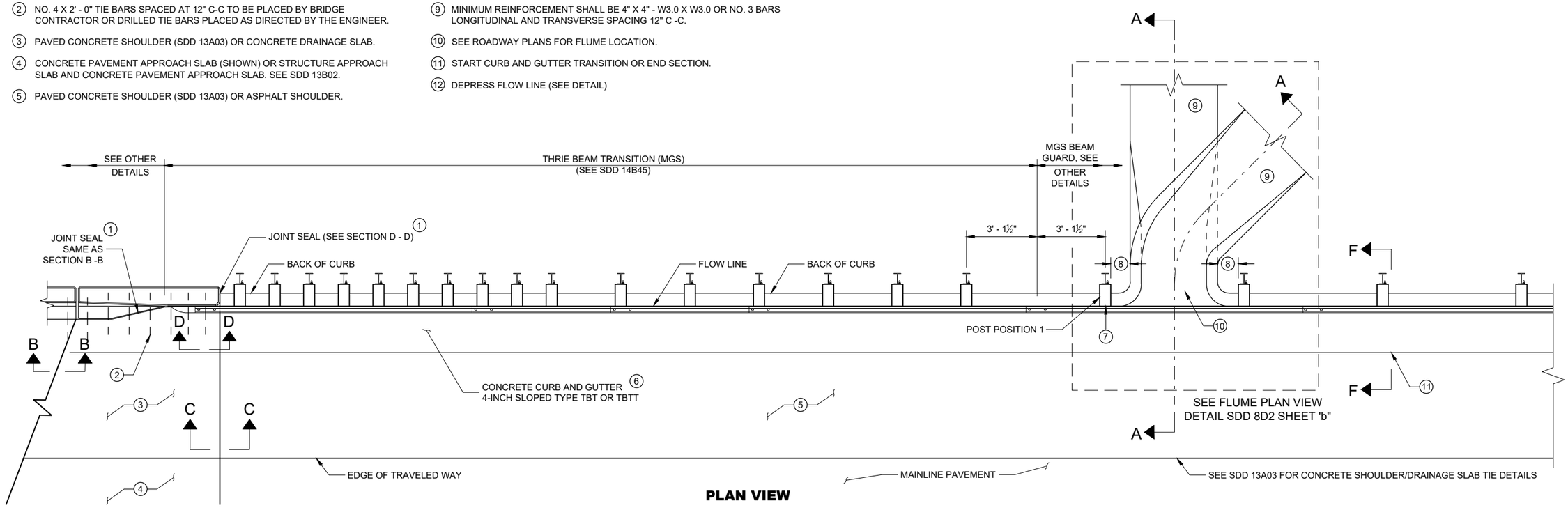
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

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

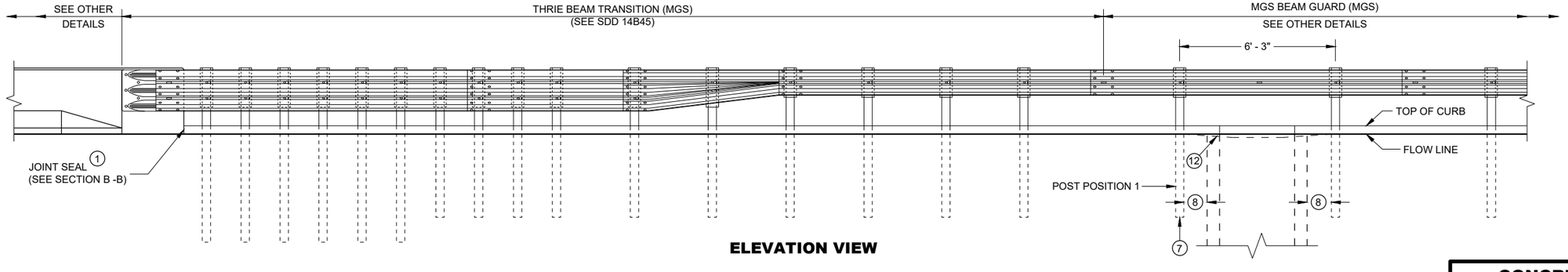
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



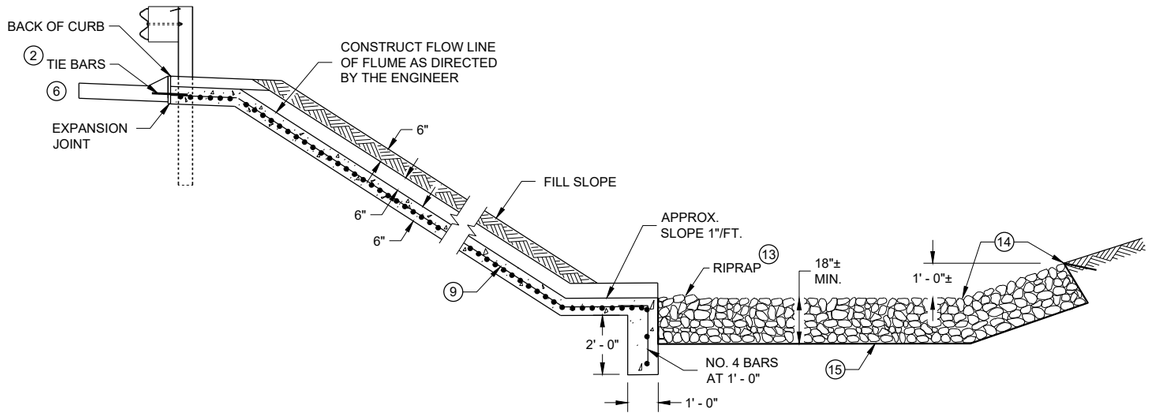
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

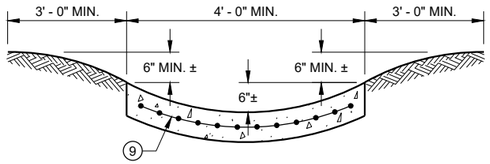
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D02 - 07a

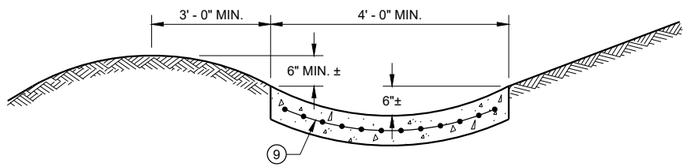
SDD 08D02 - 07a



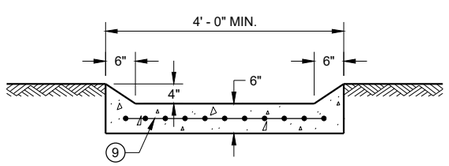
SECTION A - A



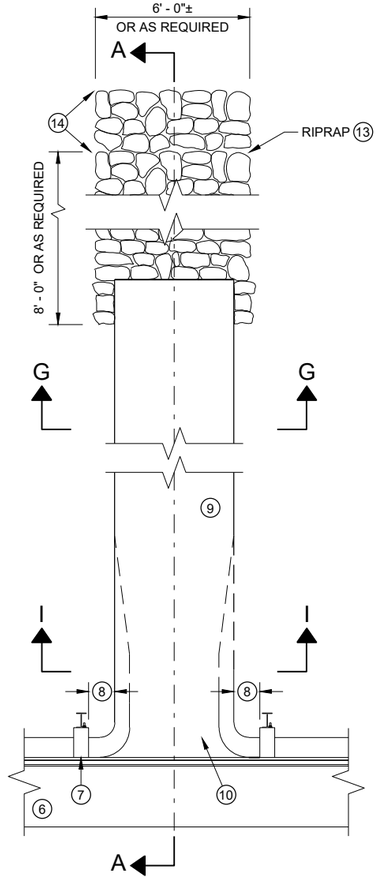
SECTION G - G



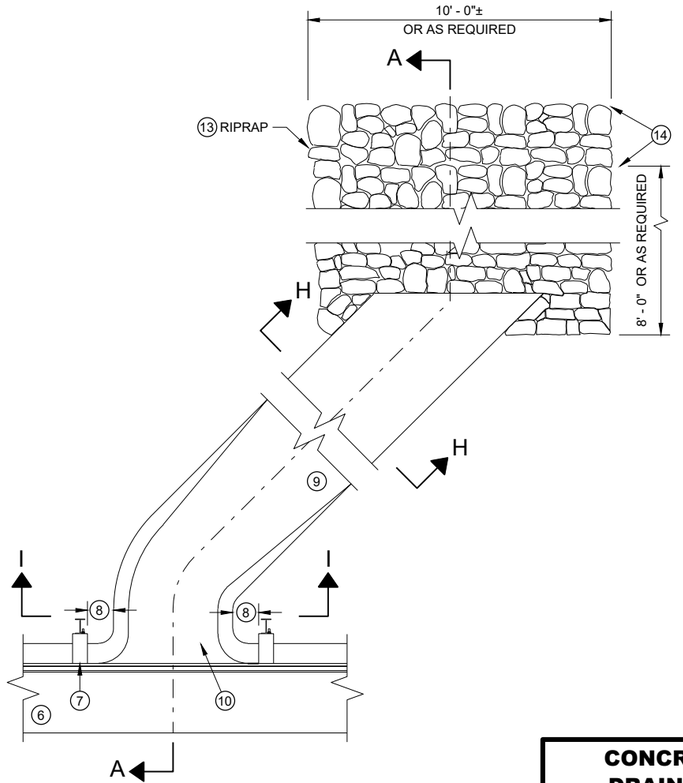
SECTION H - H



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.

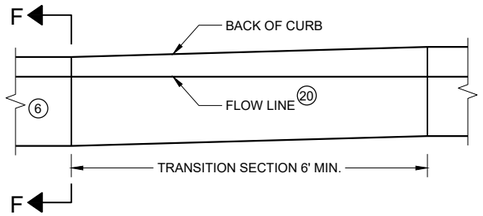
1. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH 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.

6

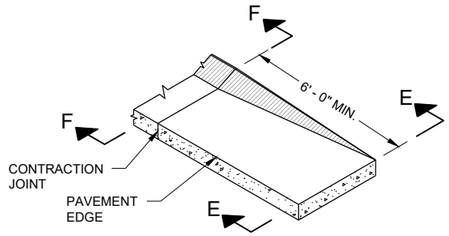
CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

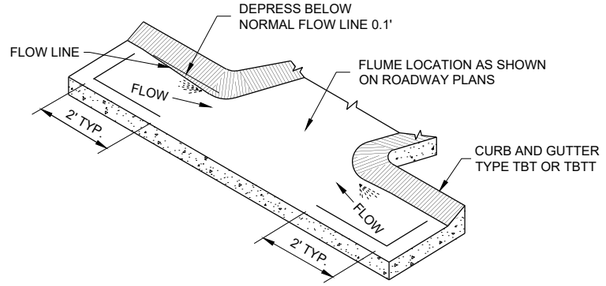
SDD 08D02 - 07b



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.

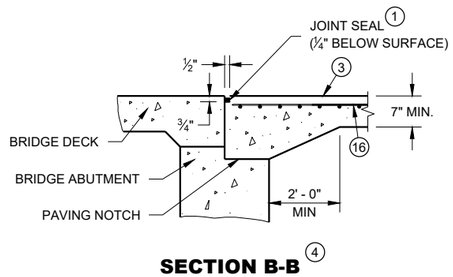
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

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

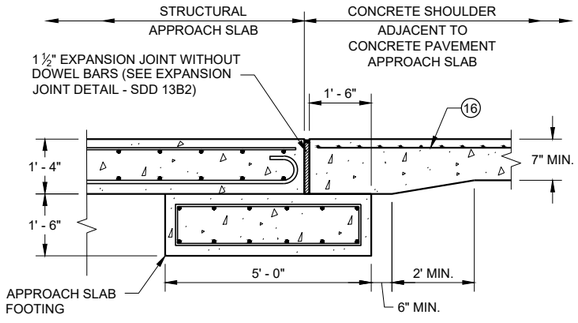
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

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

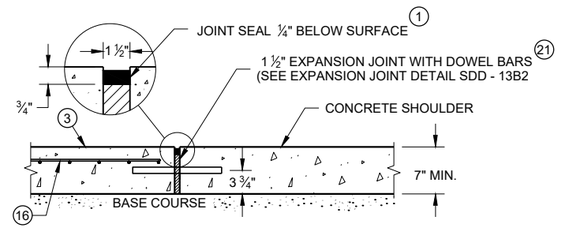
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



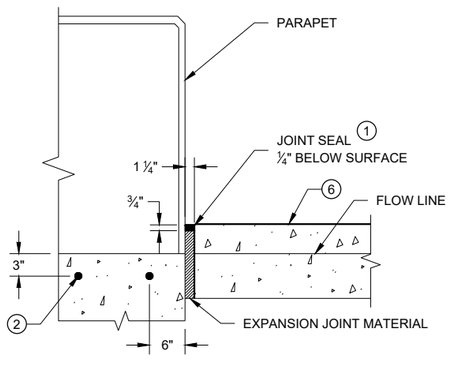
SECTION B-B (4)



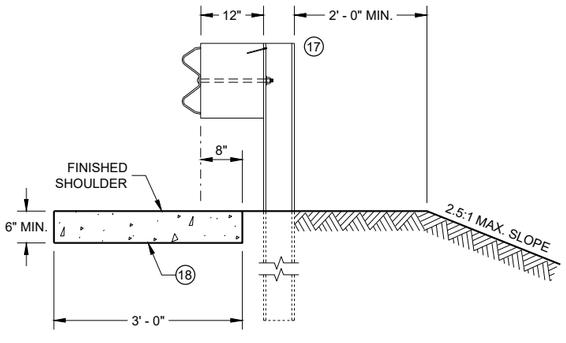
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



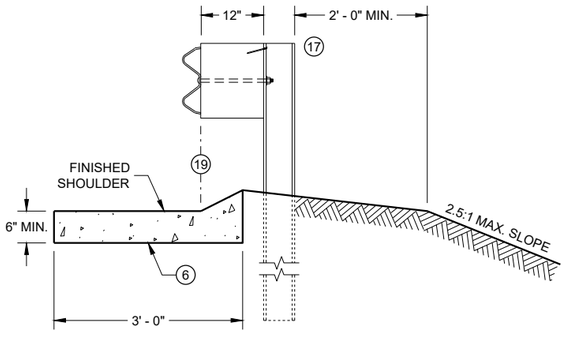
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

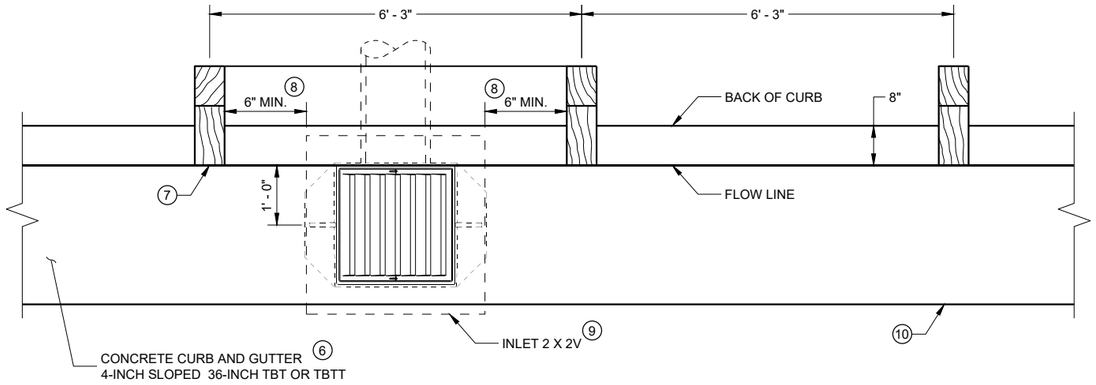
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

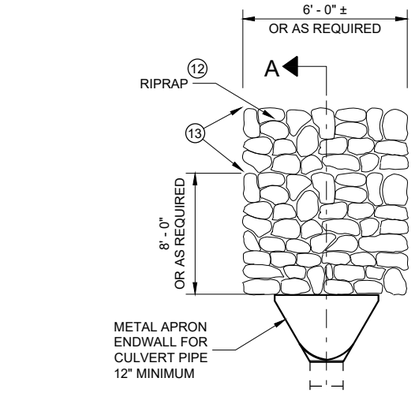
SDD 08D02 - 07c

SDD 08D02 - 07c



INLET PLAN VIEW

(NOTE: RAIL NOT SHOWN FOR CLARITY)



GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

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

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

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

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

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

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

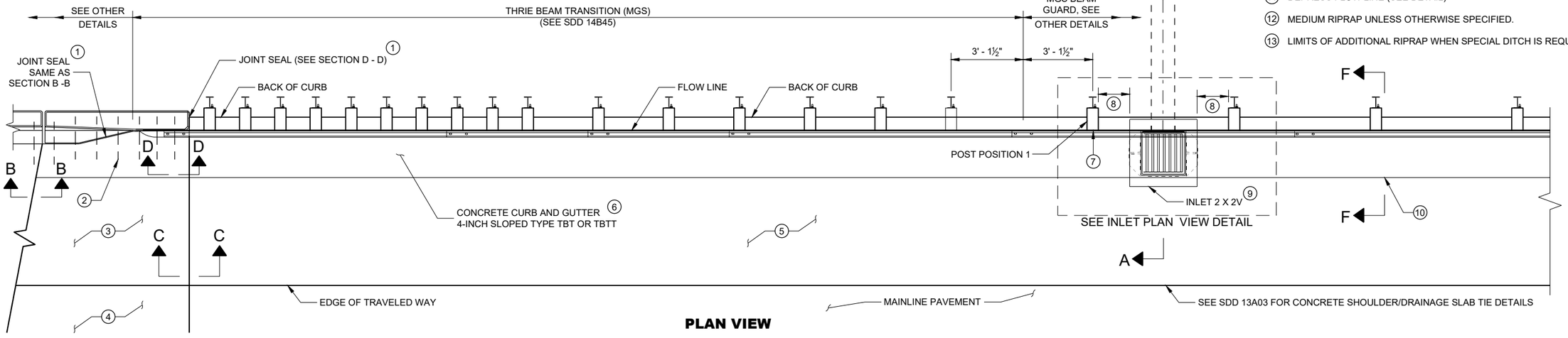
(9) SEE SDD 08A05 AND 08C07 FOR DETAILS. SEE ROADWAY PLANS FOR LOCATION.

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

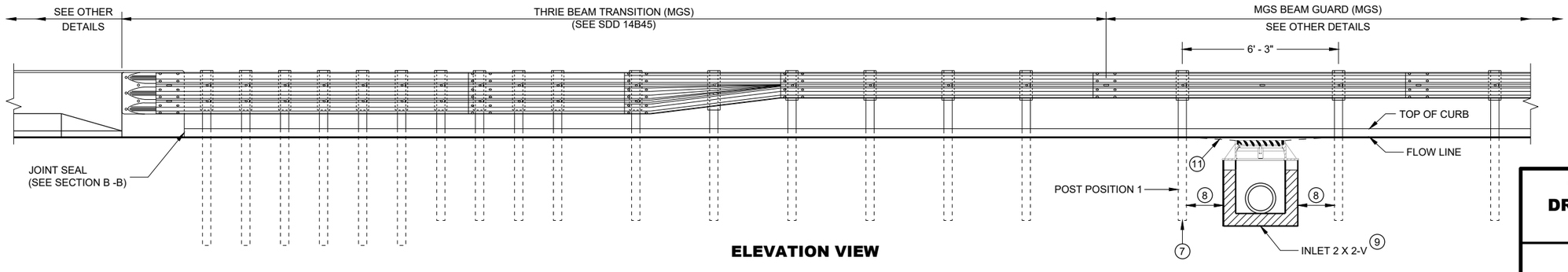
(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.



PLAN VIEW



ELEVATION VIEW

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

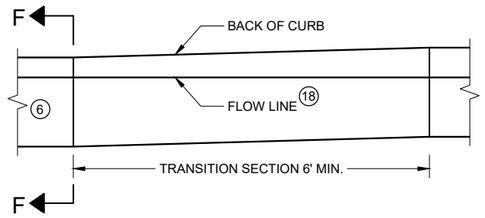
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

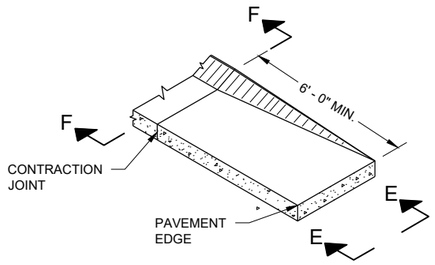
6

SDD 08D03 - 08a

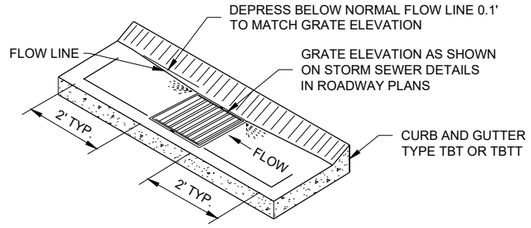
SDD 08D03 - 08a



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



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



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

GENERAL NOTES

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

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

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

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

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

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

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

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

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

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

(10) START CURB AND GUTTER TRANSITION OR END SECTION.

(11) DEPRESS FLOW LINE (SEE DETAIL)

(12) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(13) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(14) GEOTEXTILE FABRIC TYPE HR.

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

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

(17) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

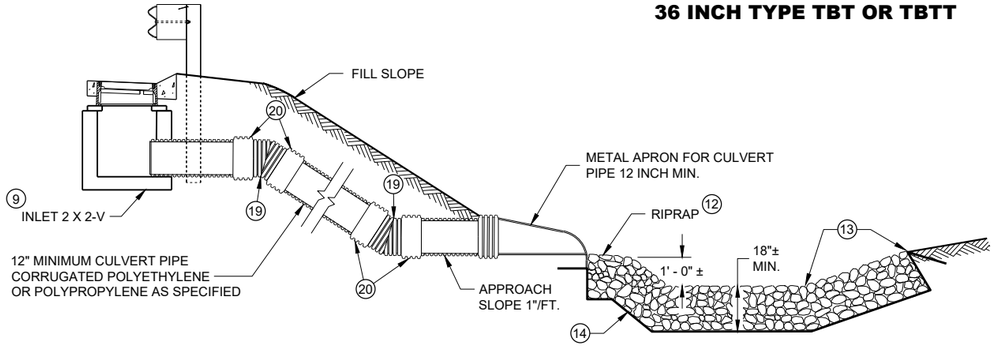
(18) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(19) MANUFACTURER SUPPLIED BEND.

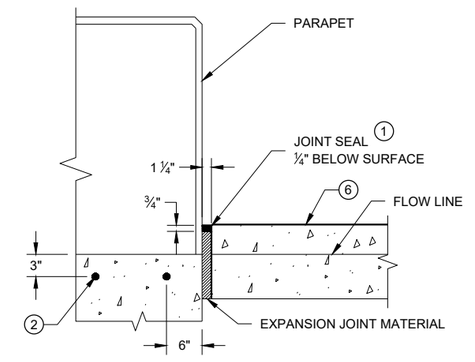
(20) MANUFACTURER SUPPLIED EXTERNAL MECHANICAL COUPLING OR A MANUFACTURER RECOMMENDED COUPLING WITH A MASTIC IMPREGNATED GEOTEXTILE WRAP AND MECHANICAL FASTENING BANDS.

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

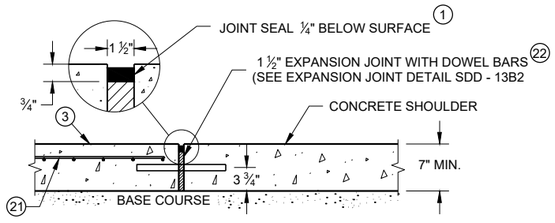
(22) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



SECTION A - A

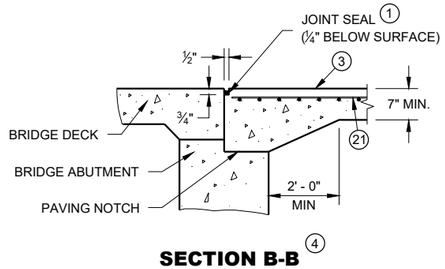


SECTION D - D

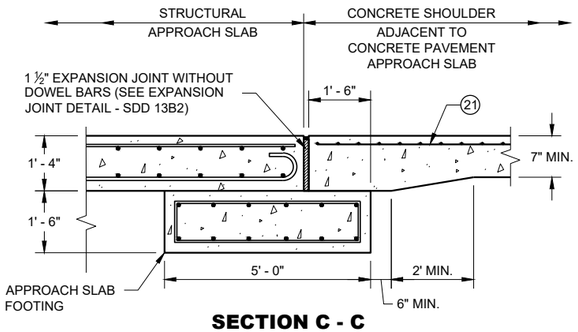


SECTION C - C

JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

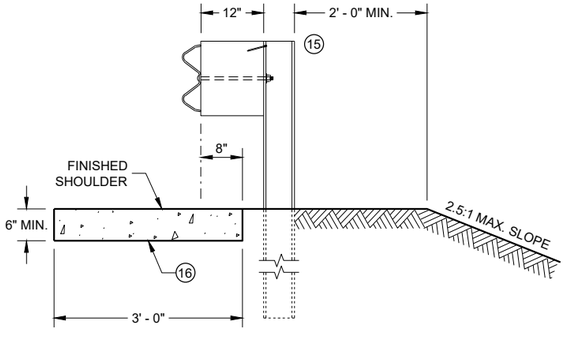


SECTION B-B (4)

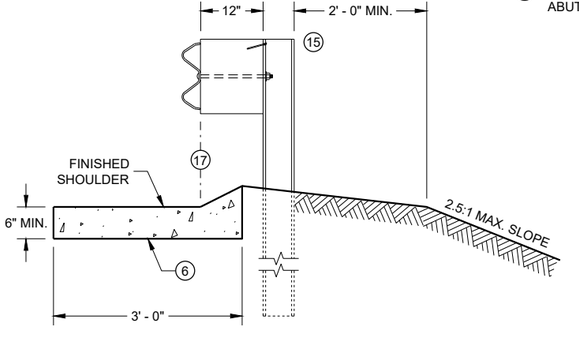


SECTION C - C

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



SECTION E - E



SECTION F - F

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

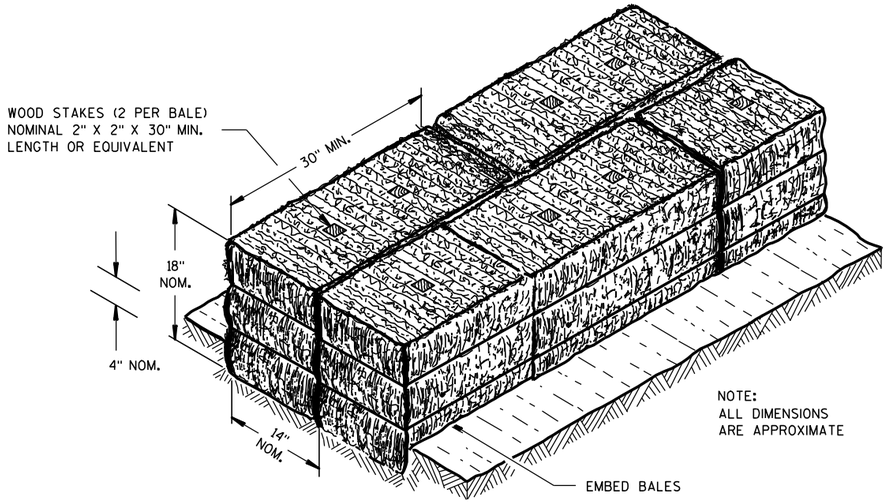
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

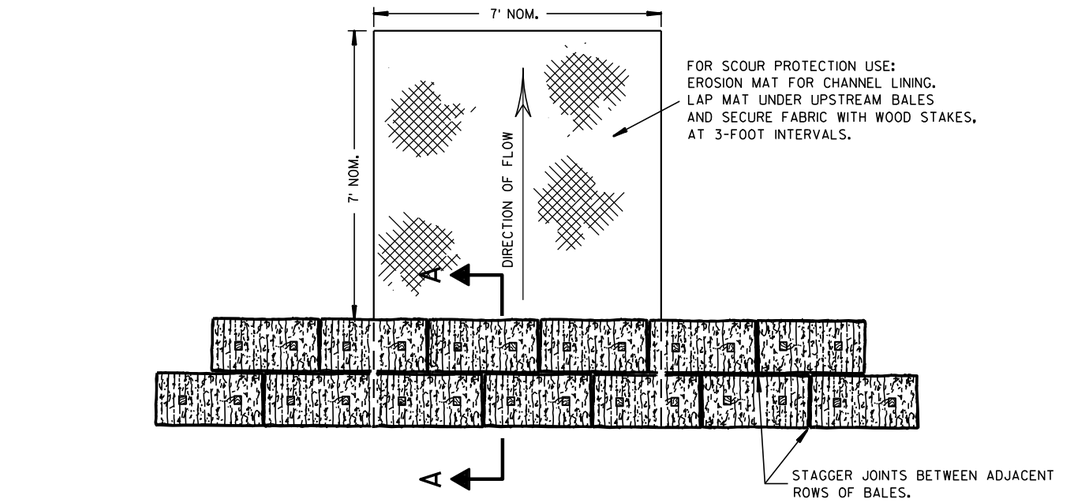
FHWA

6

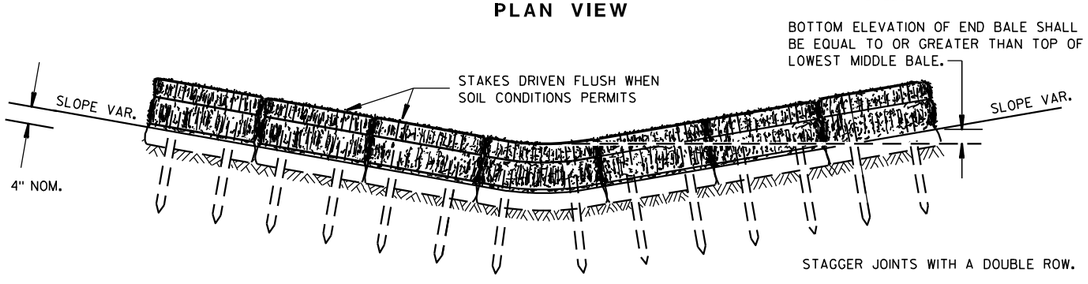
SDD 08D03 - 08b
SDD 08D03 - 08b



SECTION A-A



PLAN VIEW



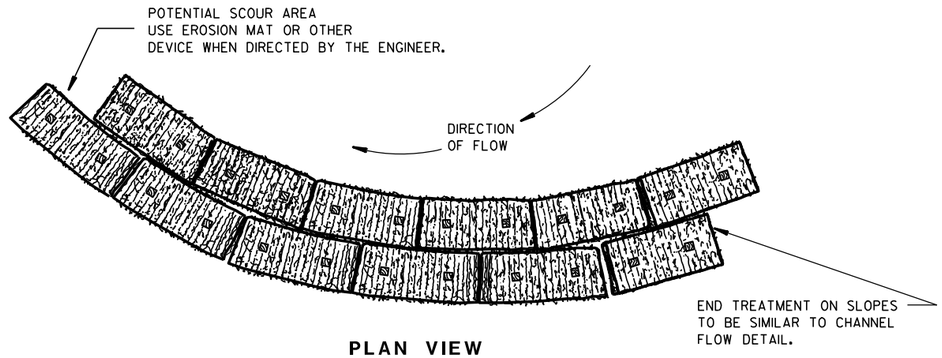
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

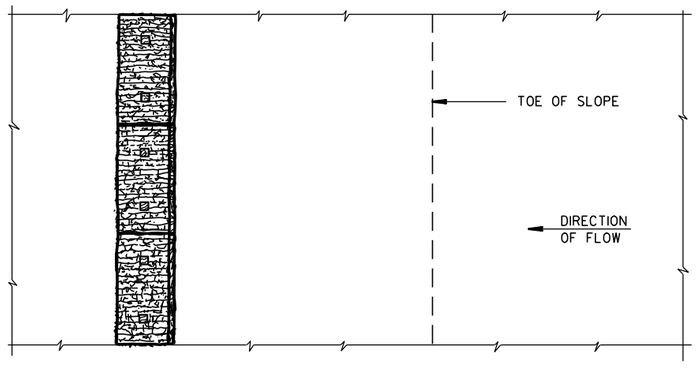
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

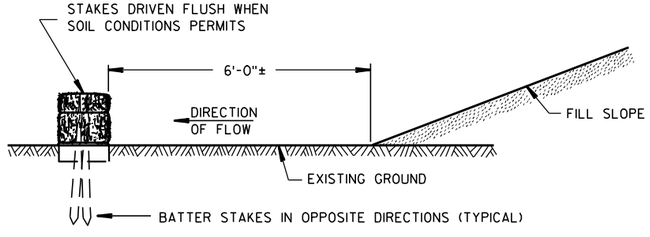


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

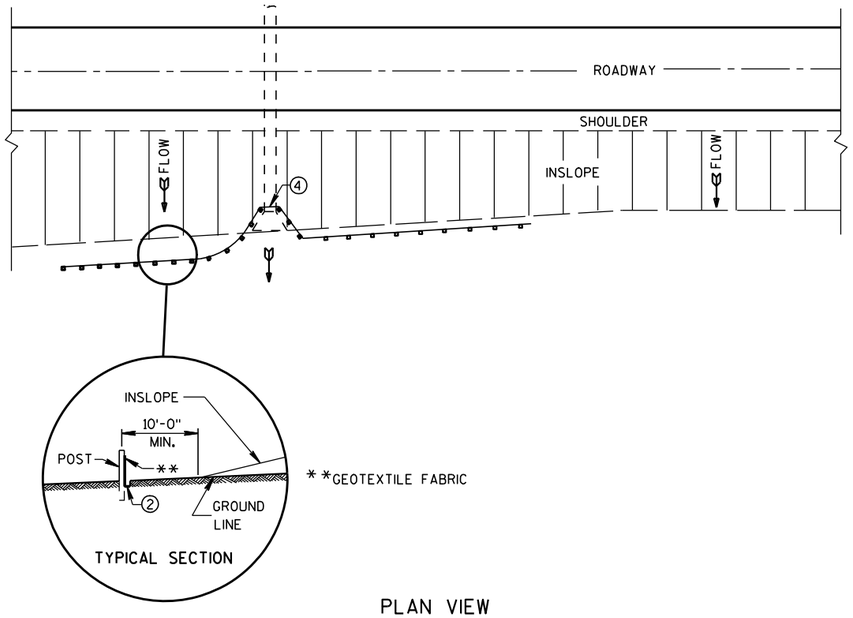
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

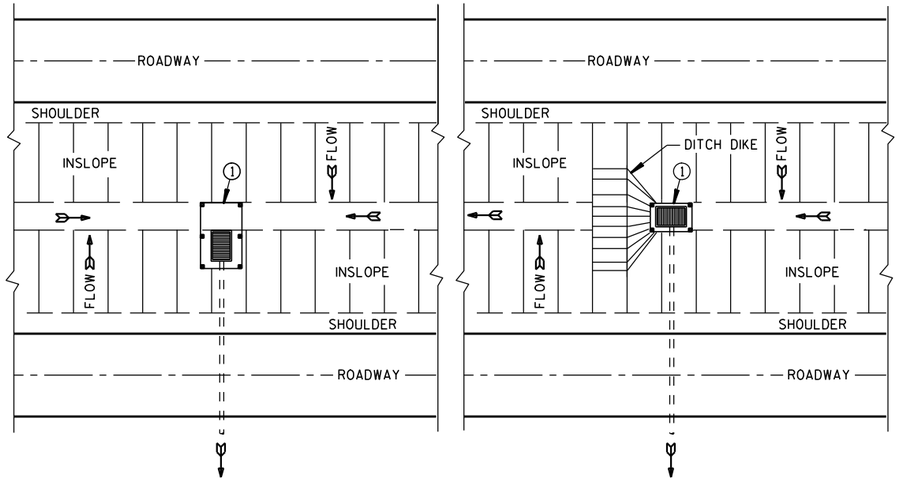
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



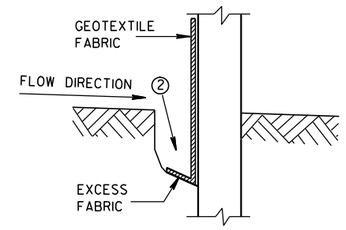
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

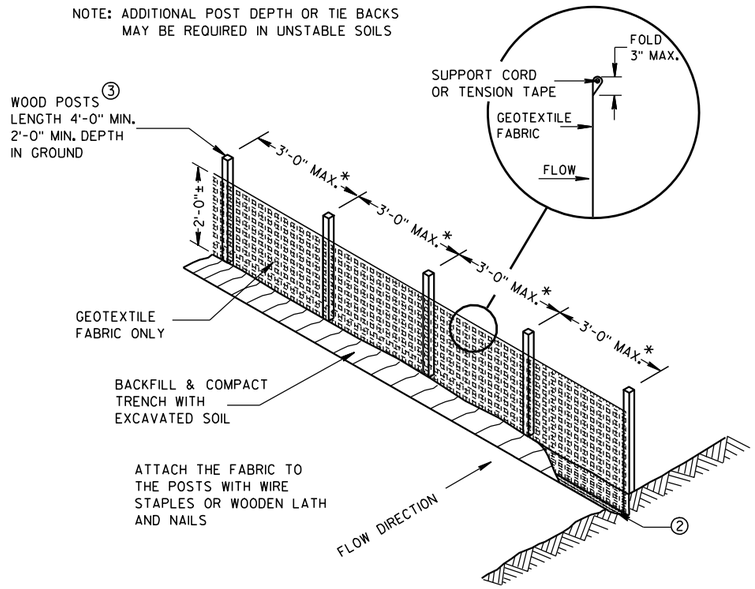
GENERAL NOTES

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

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

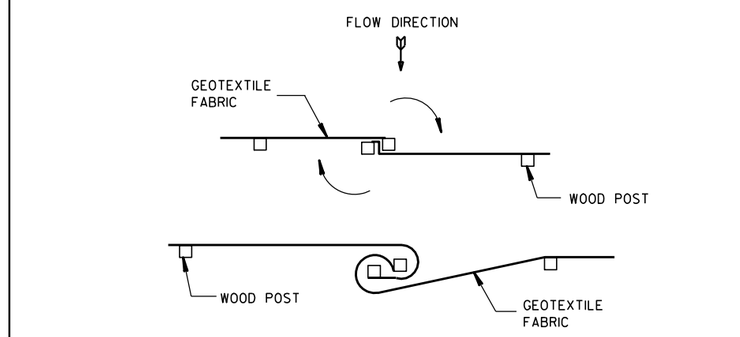


TRENCH DETAIL

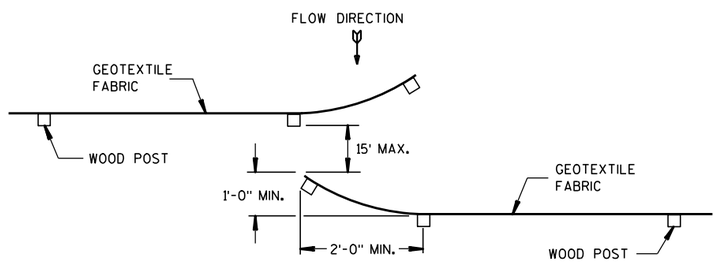


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

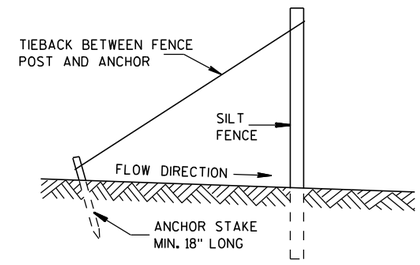


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

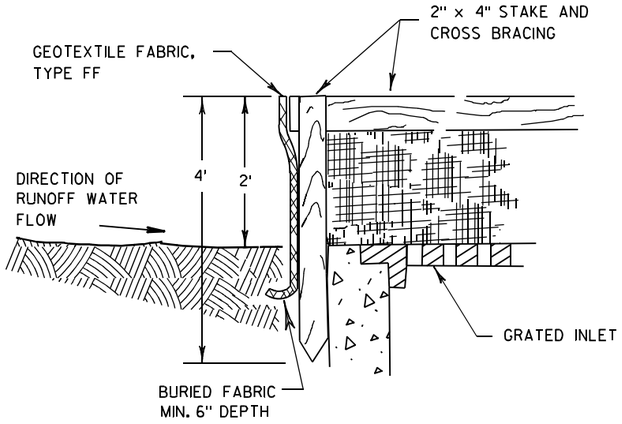
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

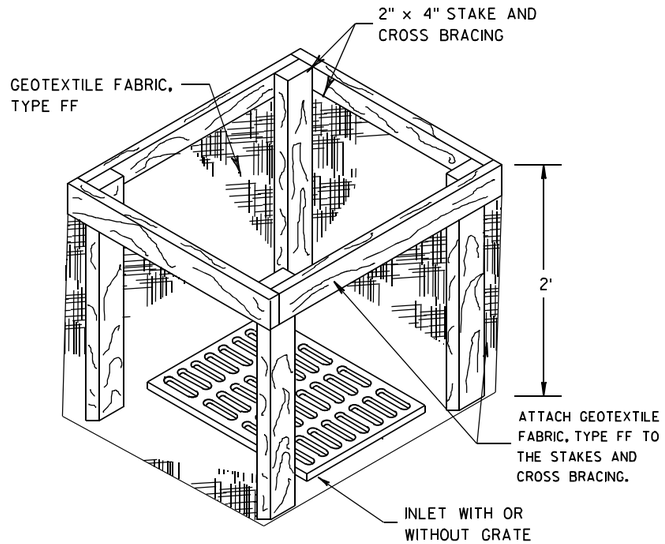
6

S.D.D. 8 E 9-6

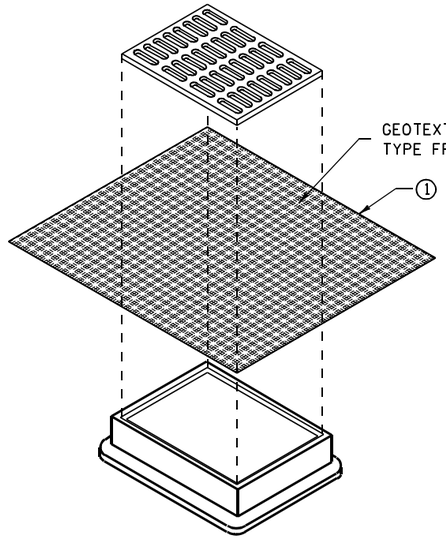
6

S.D.D. 8 E 9-6



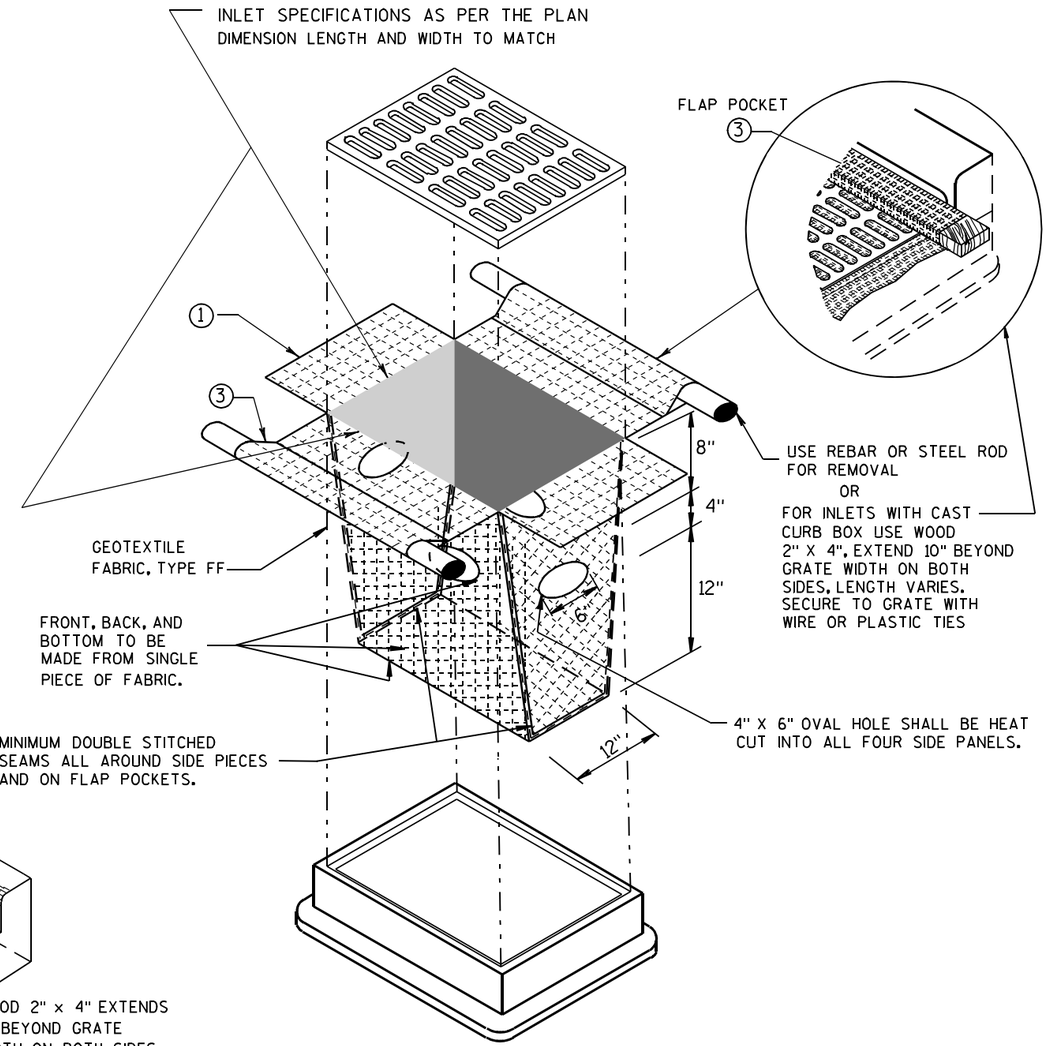


INLET PROTECTION, TYPE A



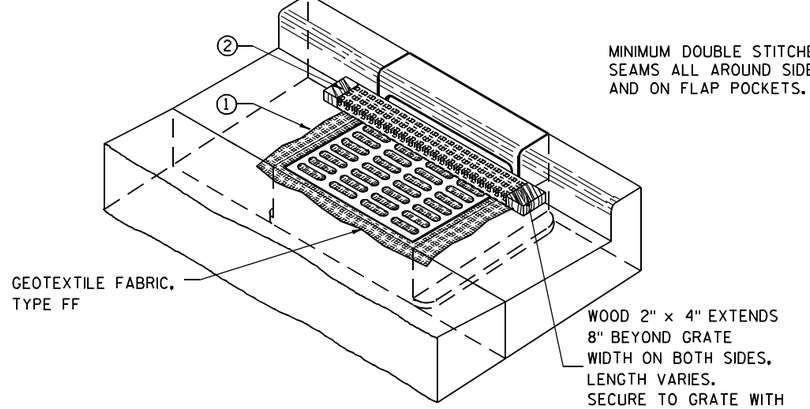
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2

METAL APRON ENDWALLS

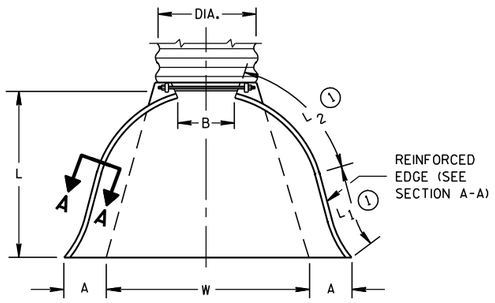
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

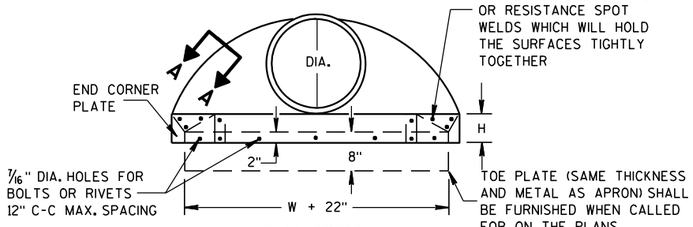
REINFORCED CONCRETE APRON ENDWALLS

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

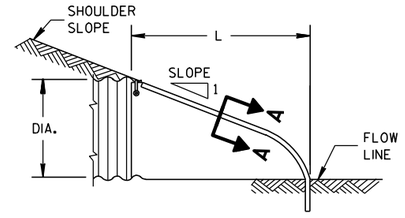
*MINIMUM
**MAXIMUM



PLAN VIEW

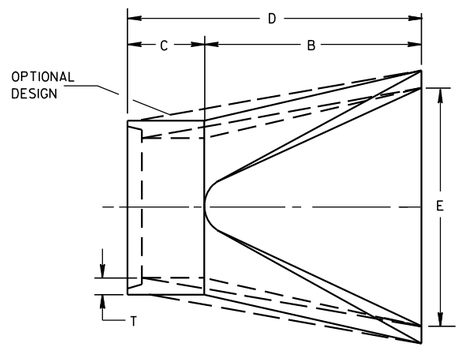


END VIEW

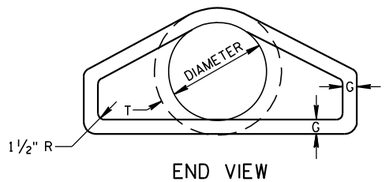


SIDE ELEVATION

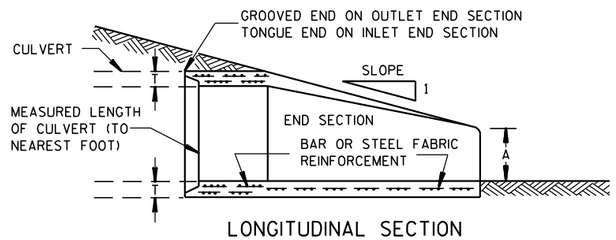
METAL ENDWALLS



PLAN

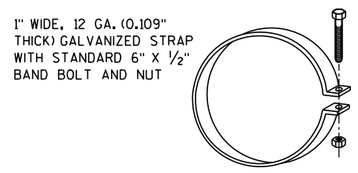


END VIEW



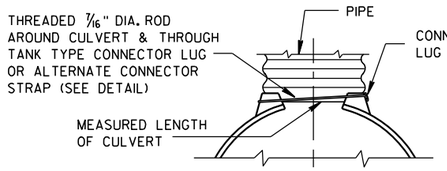
LONGITUDINAL SECTION

CONCRETE ENDWALLS

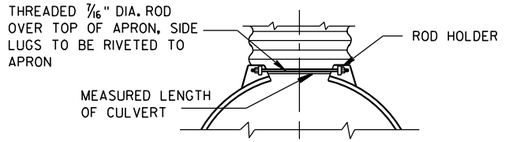


ALTERNATE FOR TYPE 1 CONNECTION

END SECTION CONNECTOR STRAP

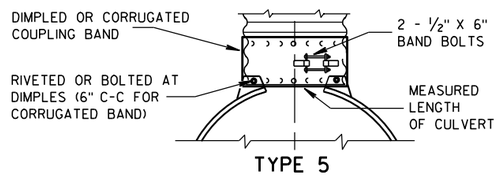


TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE

TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

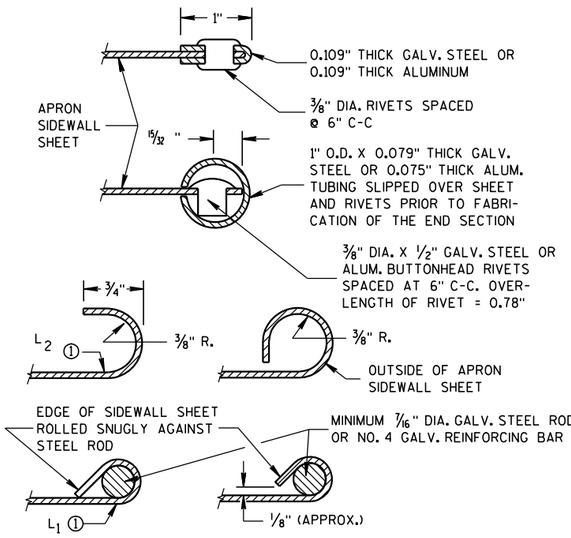
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

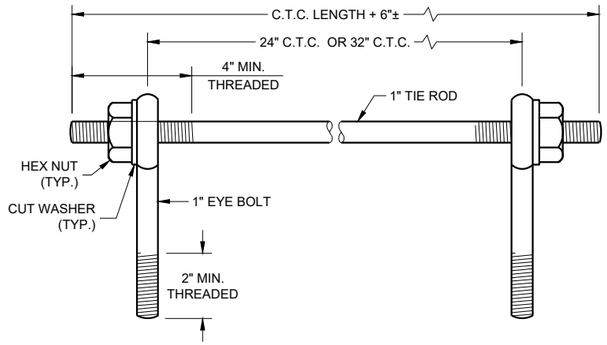
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

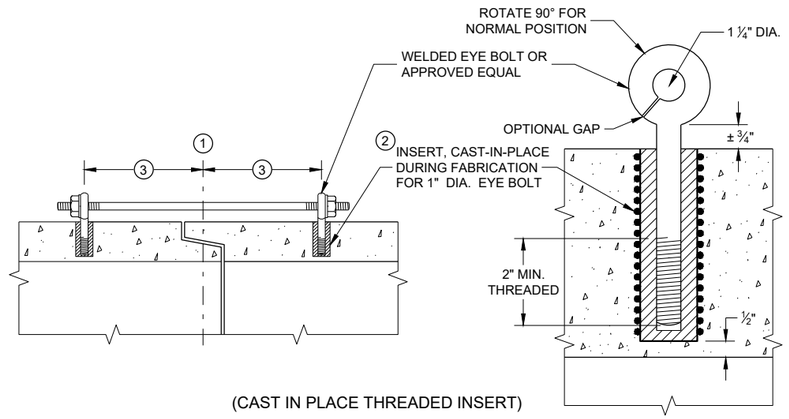
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 F 1-11



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

(1) CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

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

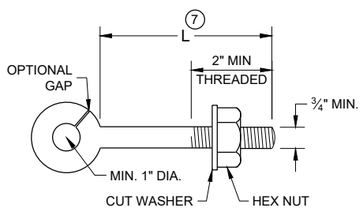
(3) HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.

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

(5) OPENING TO BE ROD DIAMETER PLUS 1 INCH.

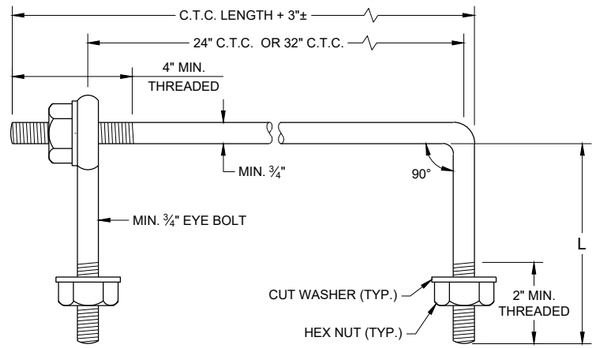
(6) LENGTH ADEQUATE TO EXTEND TO WITHIN ½ INCH OF THE INNER SURFACE OF THE PIPE.

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

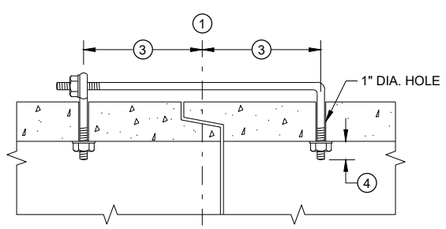


EYE BOLT (7)

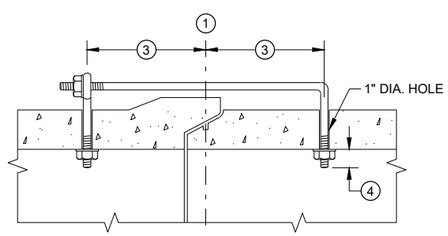
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

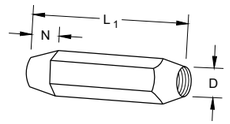
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

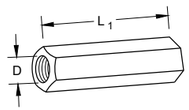
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



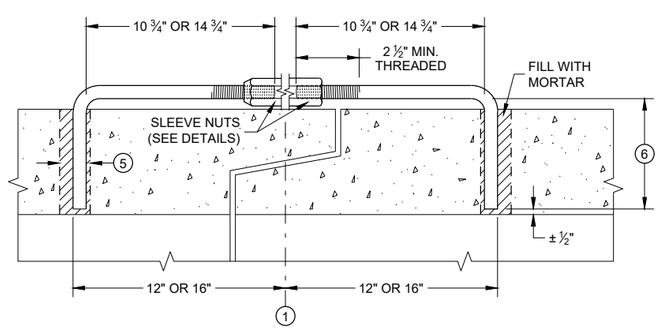
TAPERED



PLAIN

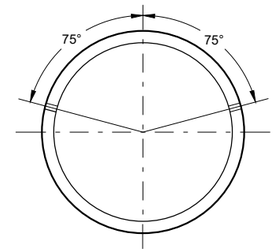
RIGHT AND LEFT THREADS

SLEEVE NUTS



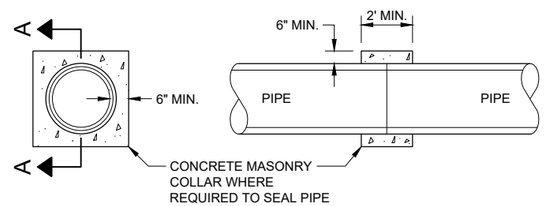
LONGITUDINAL SECTION

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A - A

CONCRETE COLLAR DETAIL

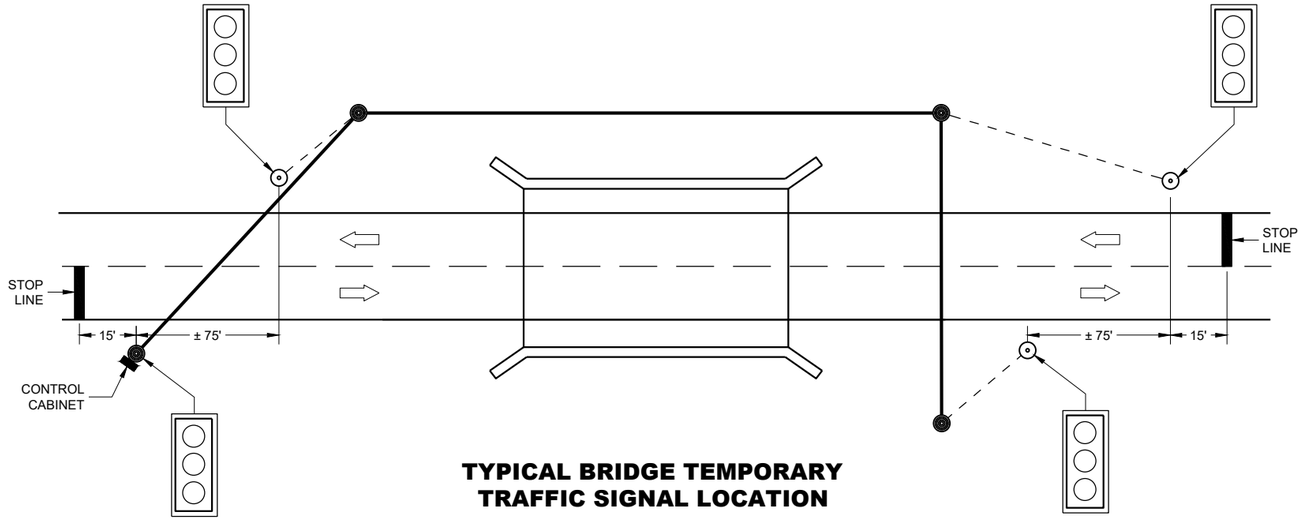
JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

SDD 08F04 - 08

SDD 08F04 - 08



TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREADAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- DIRECTION OF TRAFFIC
- LED TRAFFIC SIGNAL WITH BACKPLATE (3-12")

GENERAL NOTES

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

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAY BE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

WOOD POLES (NON-BREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

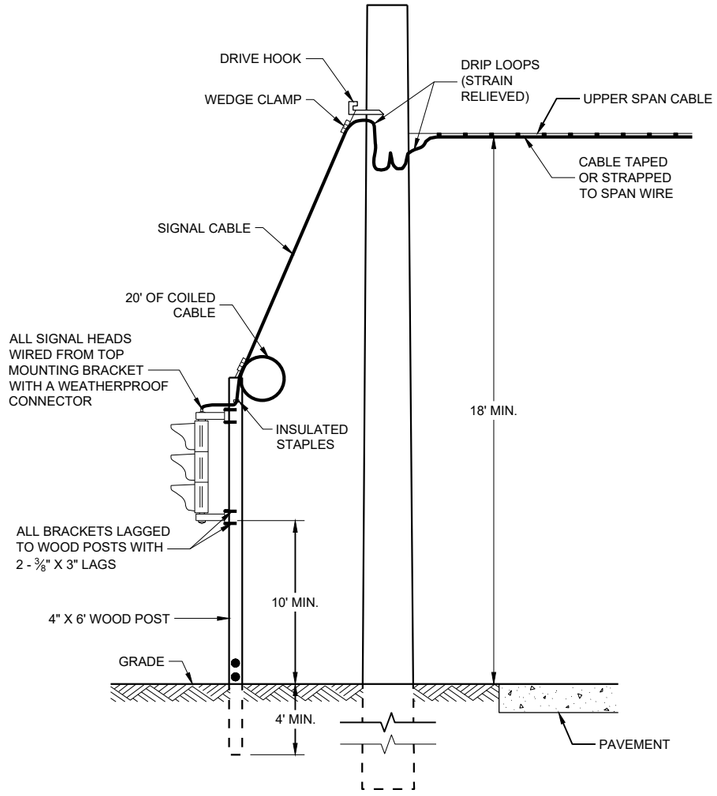
WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

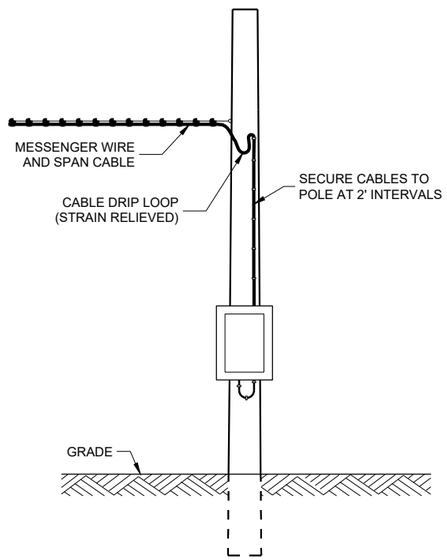
TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL SHALL HAVE A BACKPLATE.

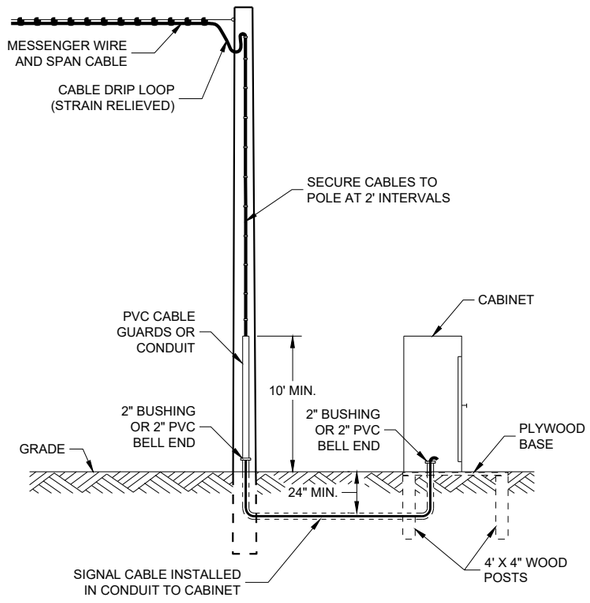
SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE*
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/CURBS	2 FT

* NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE.

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Ahmet Demirbilek — ROADWAY STANDARDS DEVE ENGINEER

FHWA

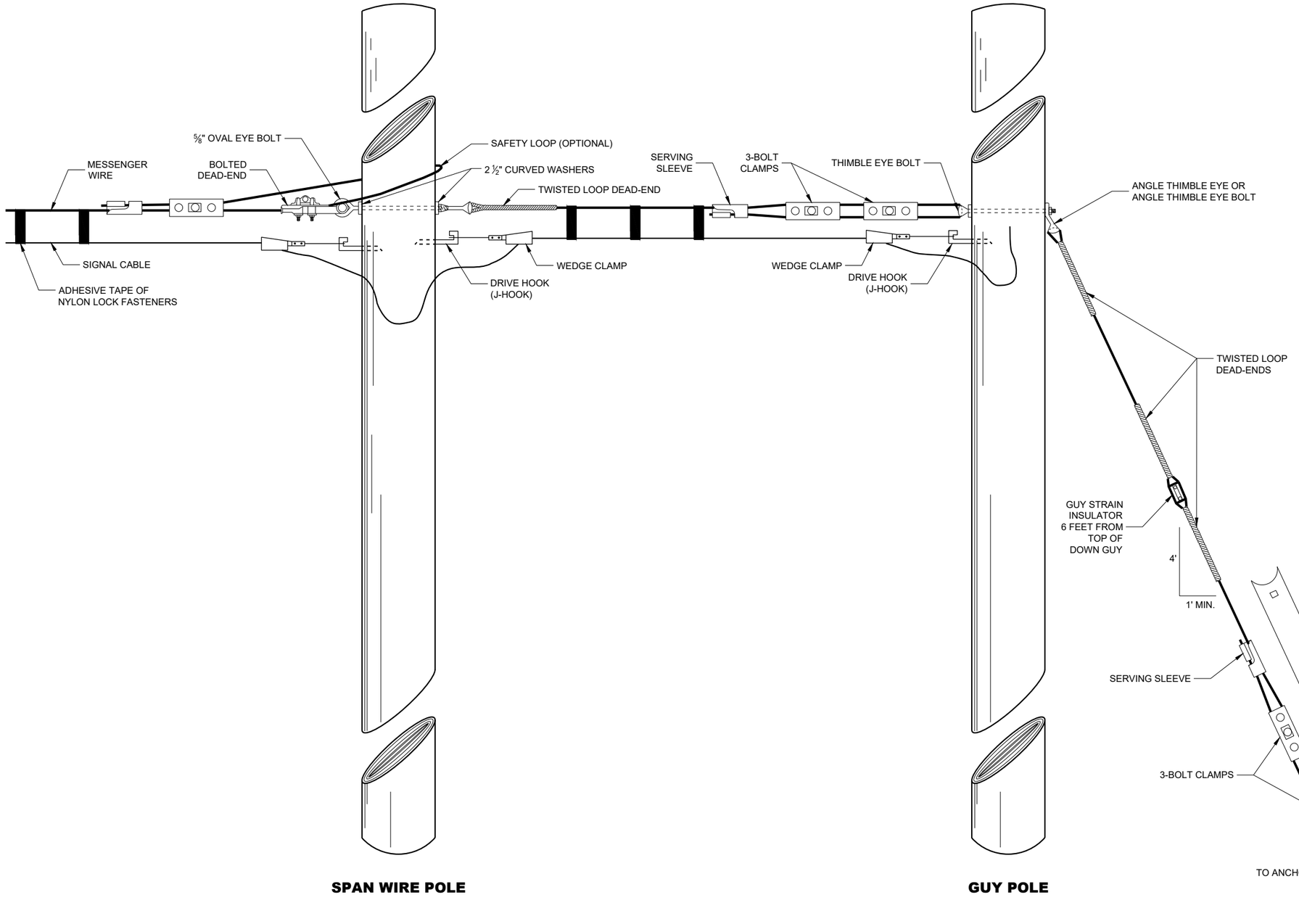
6

SDD09G02 - 05a

SDD09G02 - 05a

GENERAL NOTES

USE ¾" DRILL IN WOOD POLE TO PROVIDE FOR ⅝" BOLTS.



SPAN WIRE POLE

GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

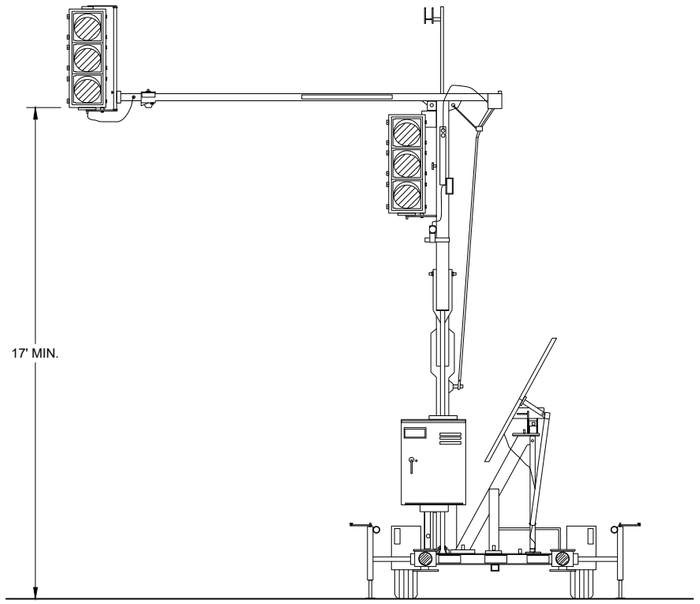
FHWA

6

SDD09G02 - 05b

6

SDD09G02 - 05b

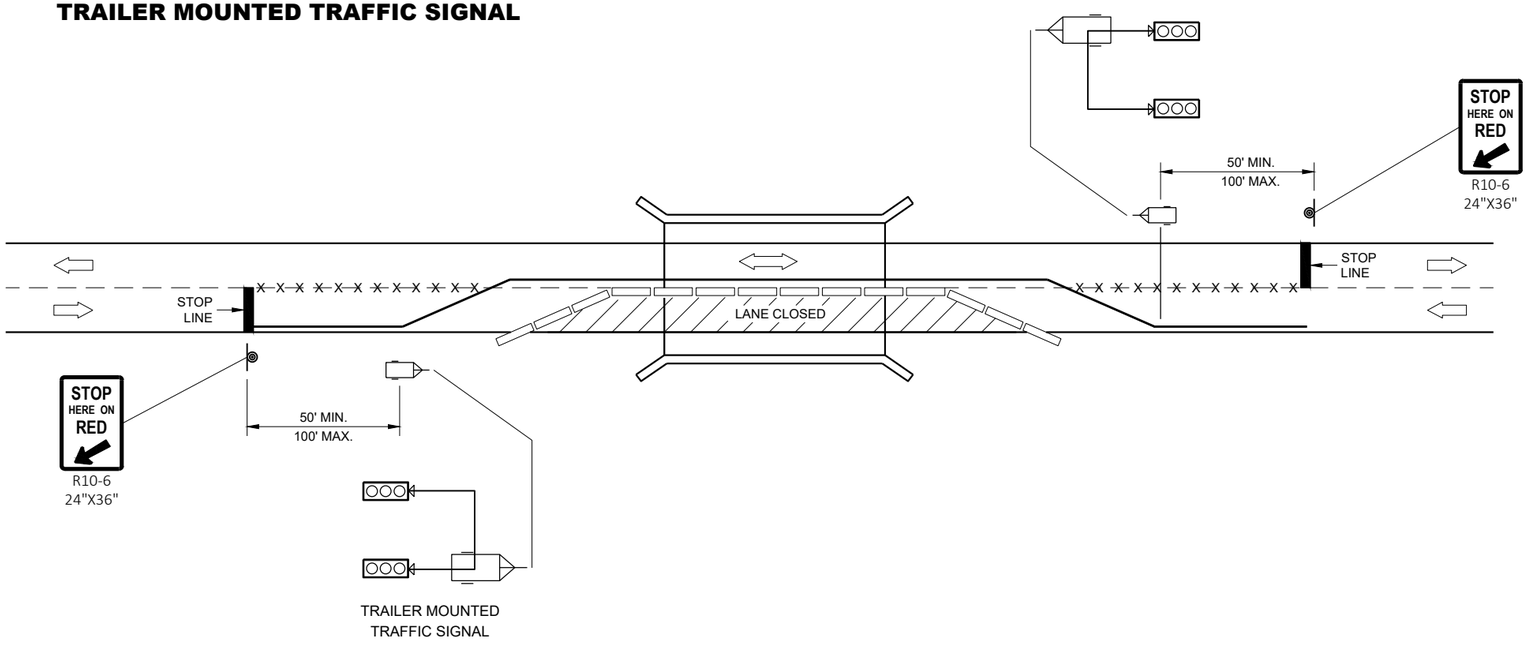


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15D33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- REMOVE PAVEMENT MARKINGS
- DIRECTION OF TRAFFIC

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2015
DATE

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVE ENGINEER

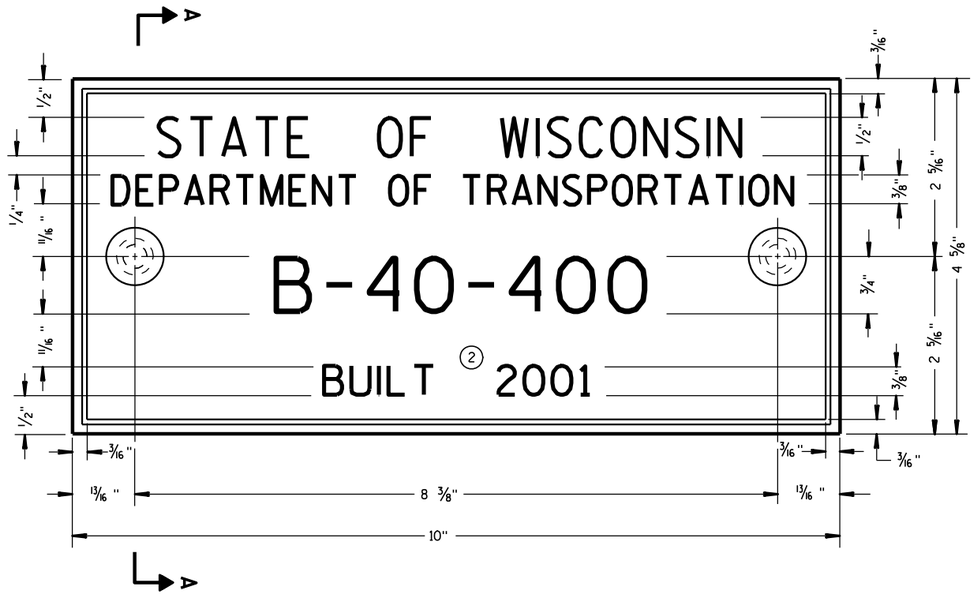
FHWA

6

SDD09G02 - 05c

6

SDD09G02 - 05c



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

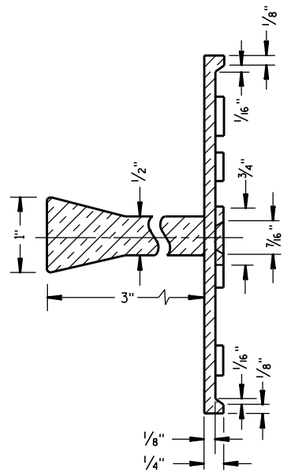
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

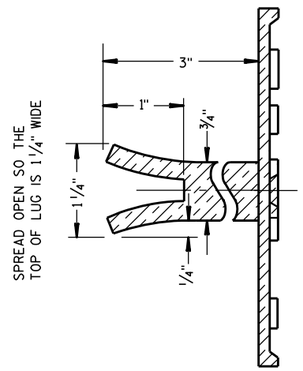
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

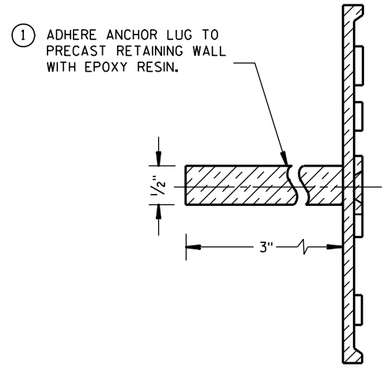
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

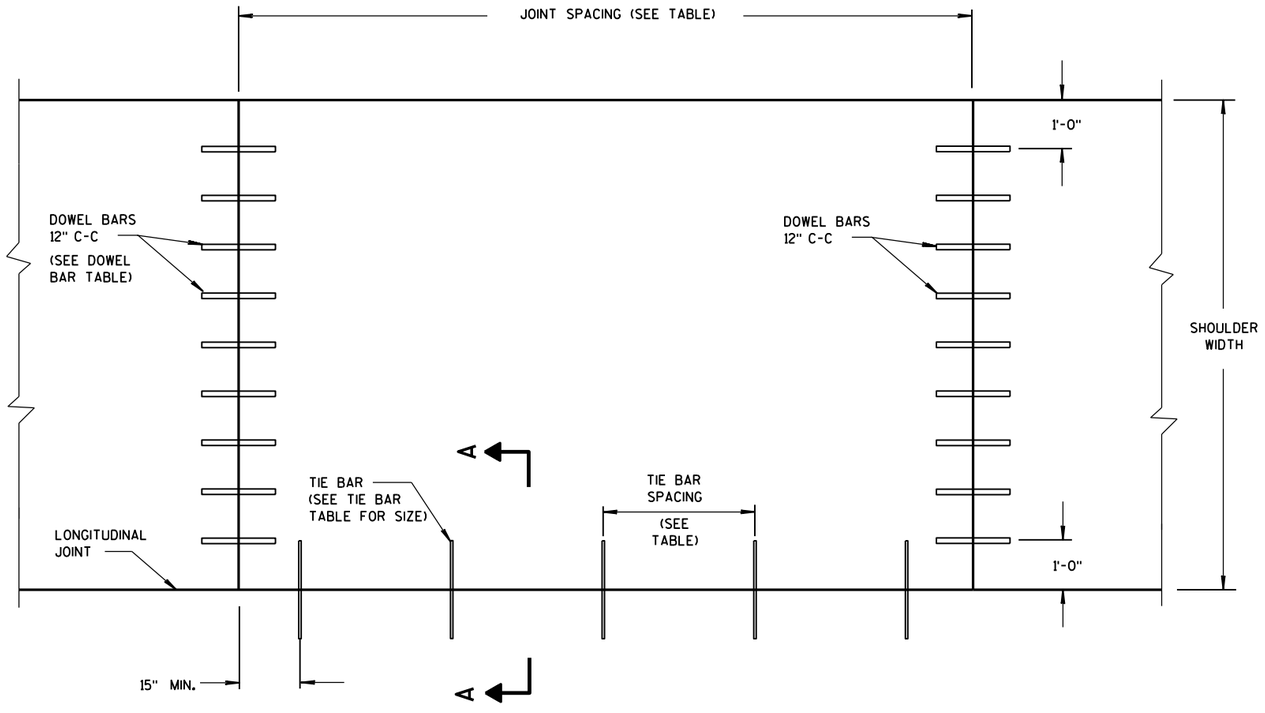
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

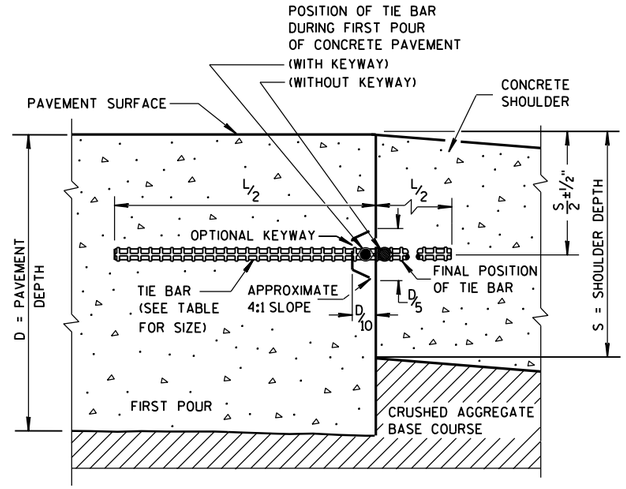
GENERAL NOTES

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.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER ***	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

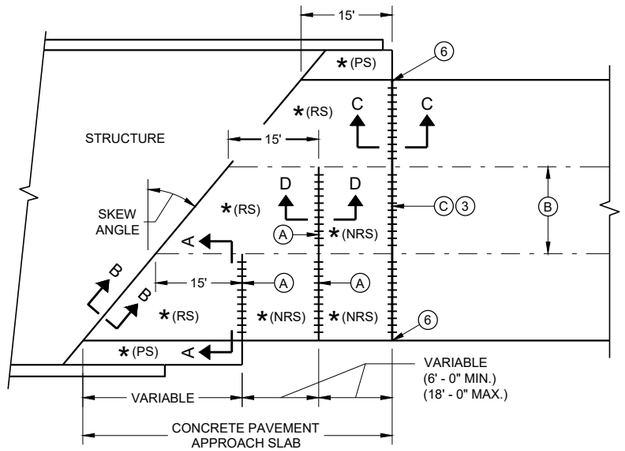
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

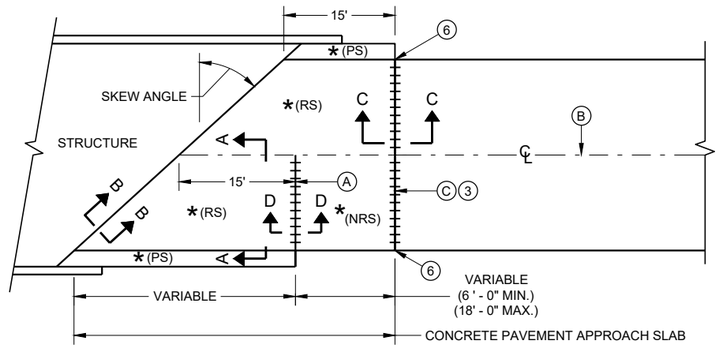
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

6

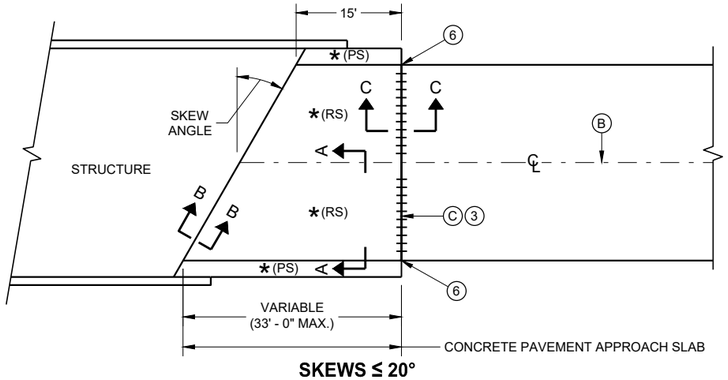
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

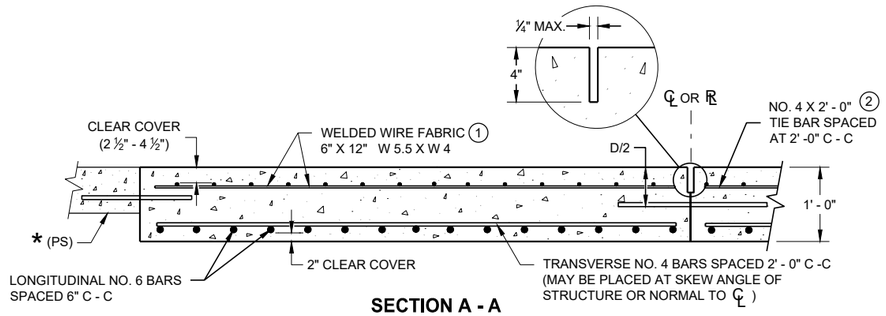
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

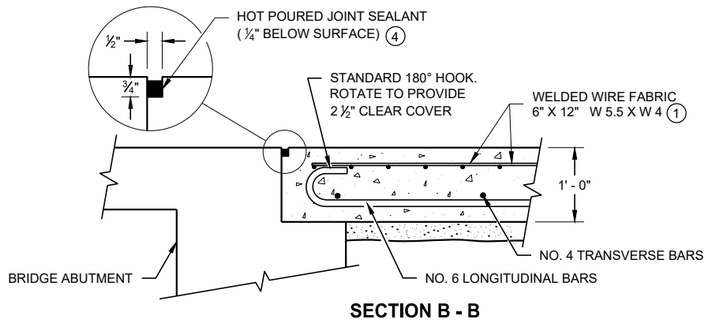
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

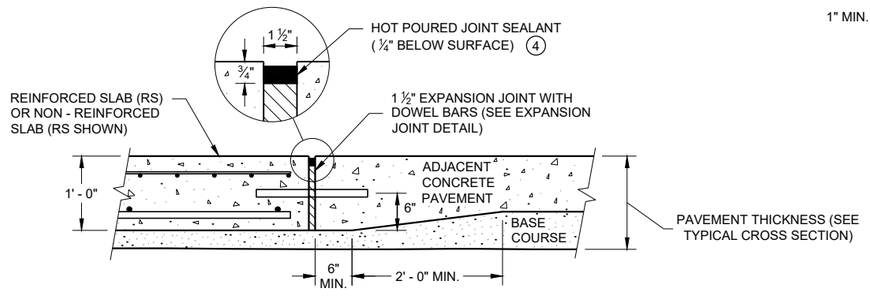
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



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.

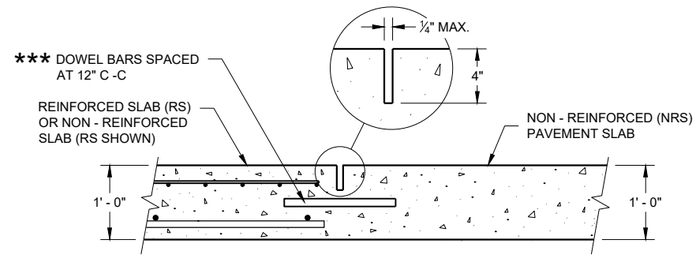
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

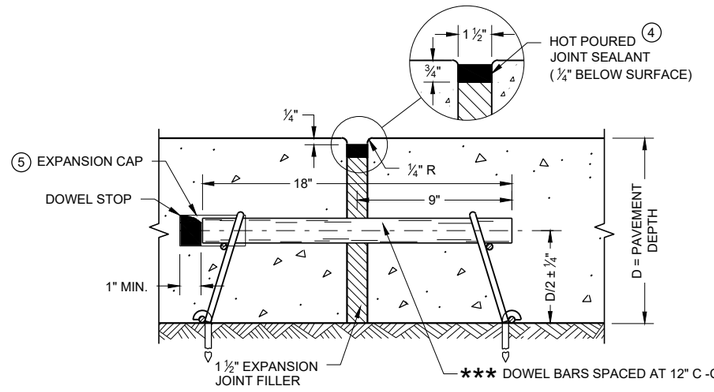
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

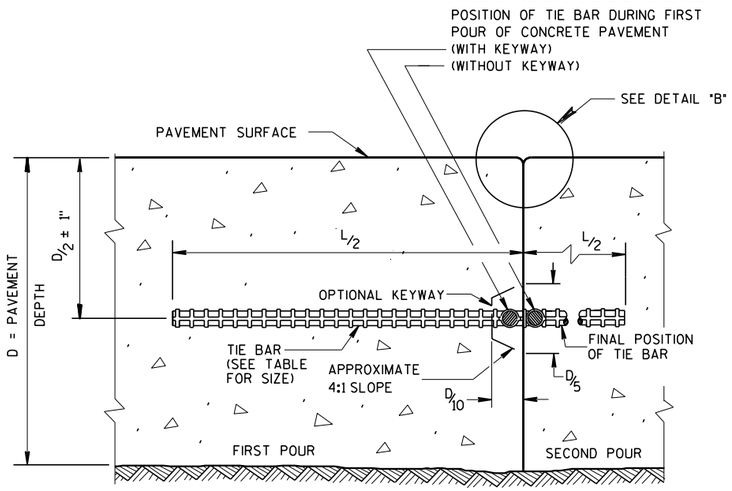
APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

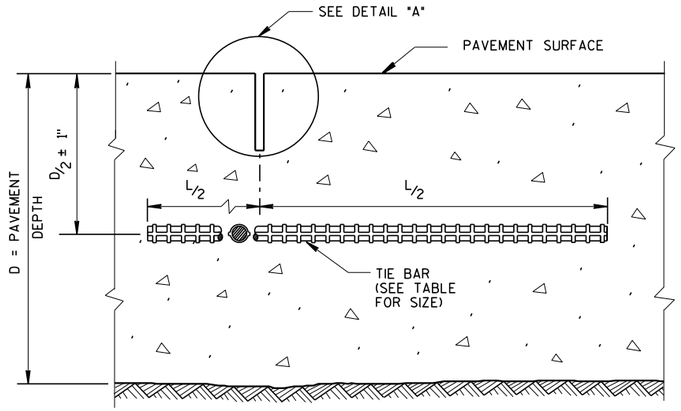
FHWA

6

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

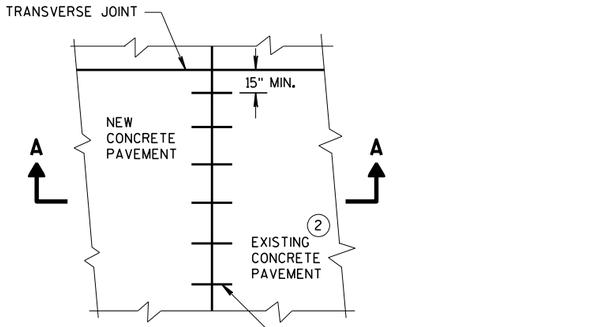
GENERAL NOTES

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

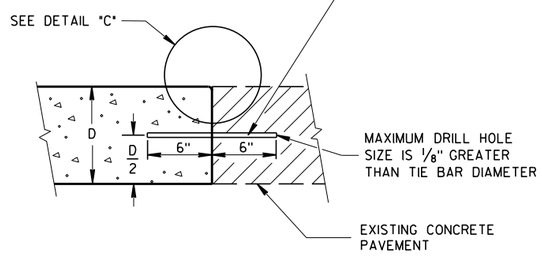
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

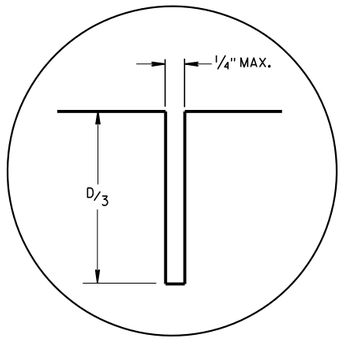


PLAN VIEW

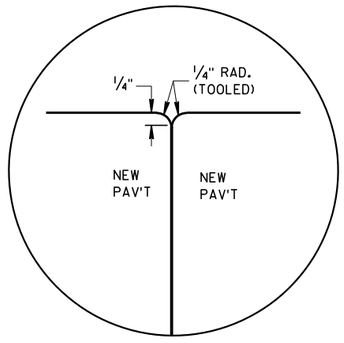


SECTION A-A

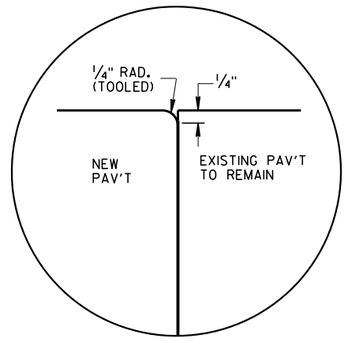
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



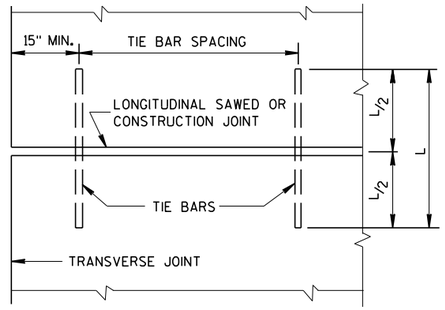
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24" **

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

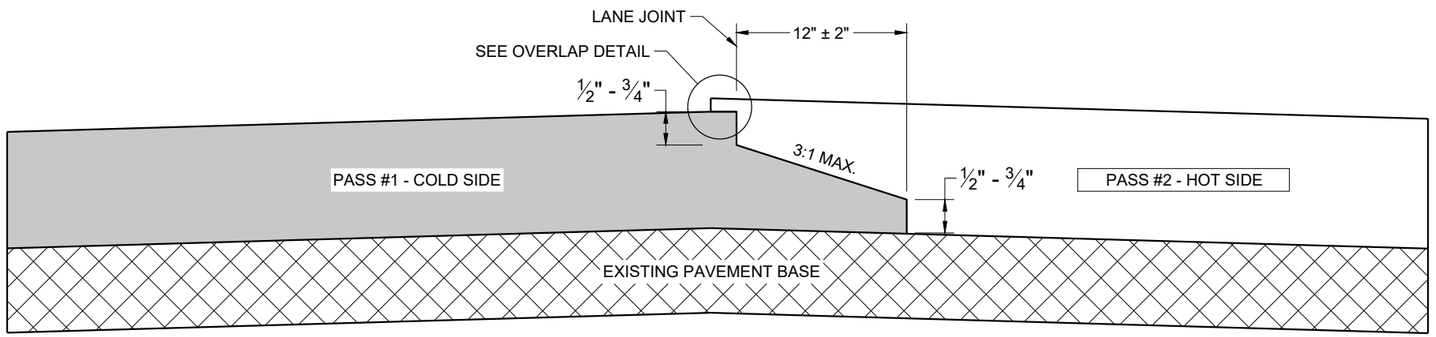
APPROVED
March 2018 — DATE
/S/ Peter Kemp — PAVEMENT SUPE
FHWA

6

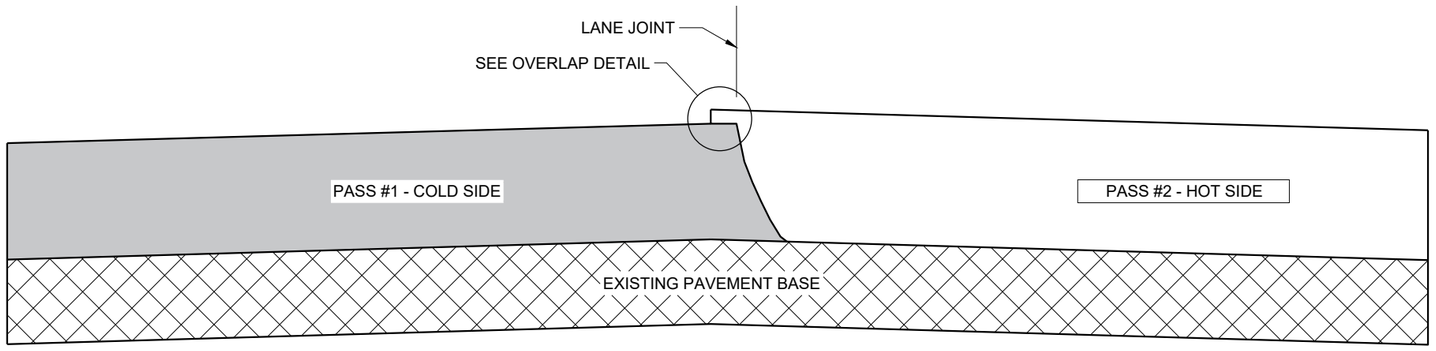
S.D.D. 13 C 1-19

6

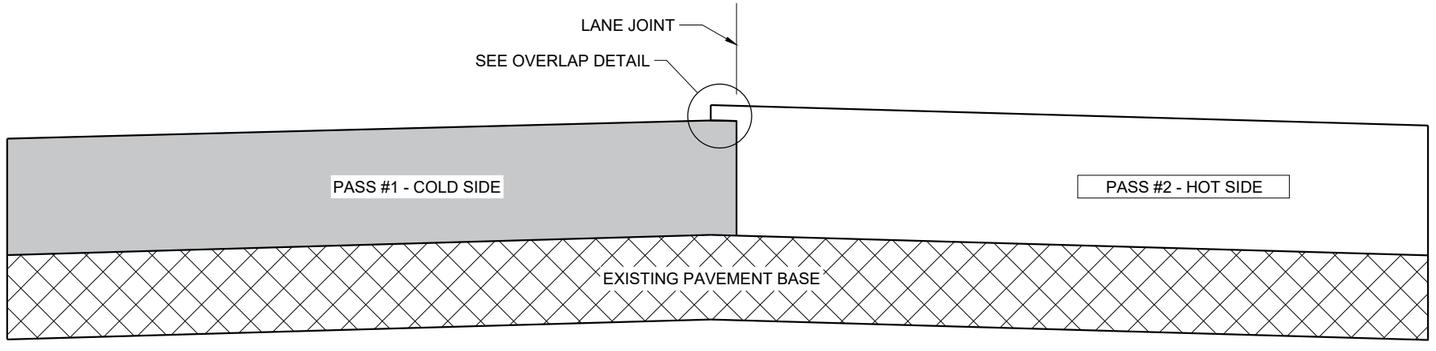
S.D.D. 13 C 1-19



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

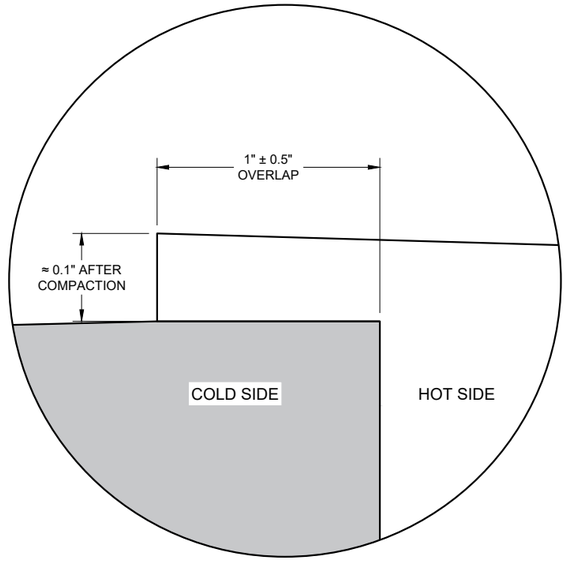
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

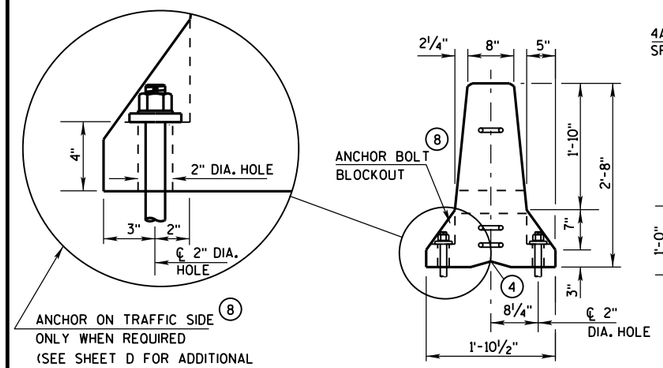
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

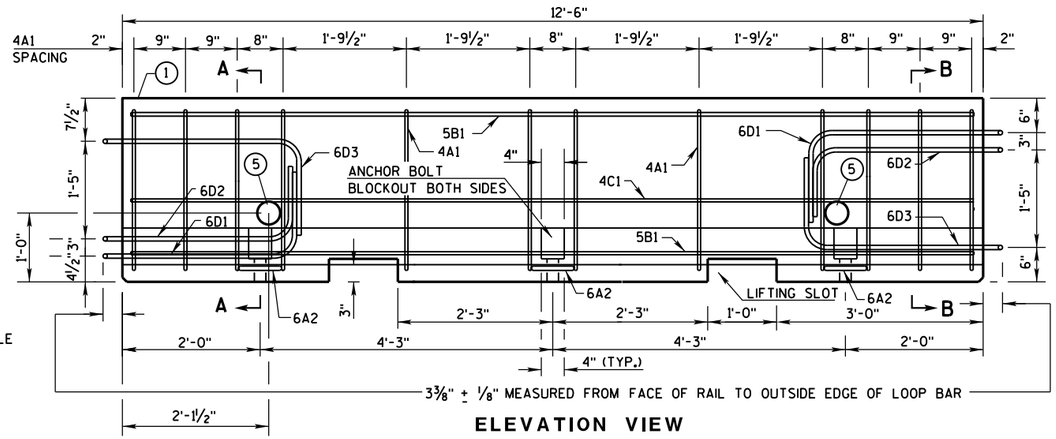
APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

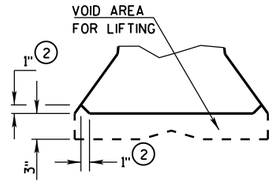
FHWA



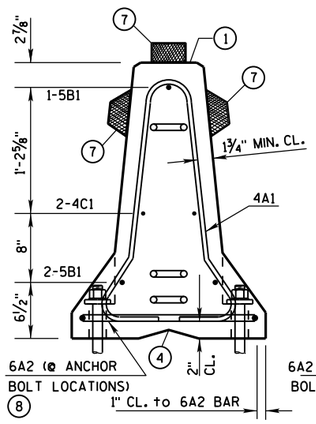
END VIEW



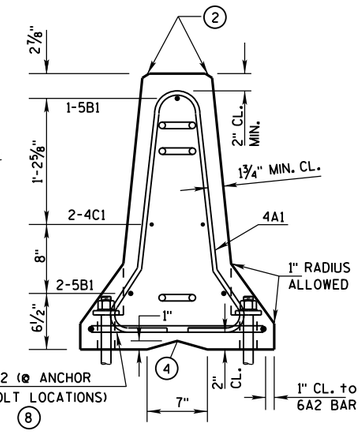
ELEVATION VIEW



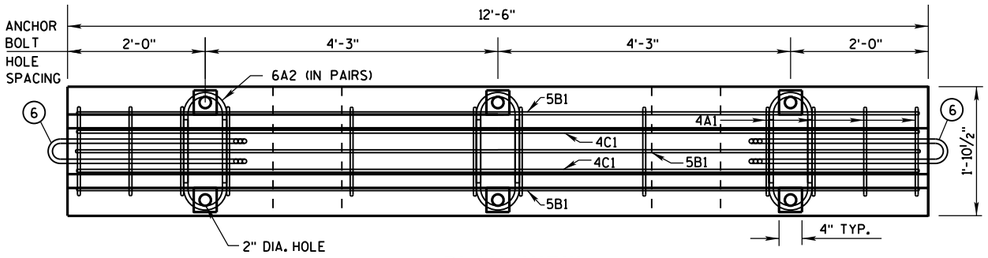
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

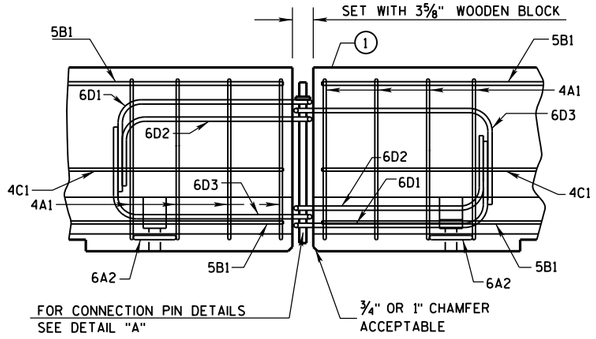


SECTION B-B
(STIRRUP PLACEMENT)

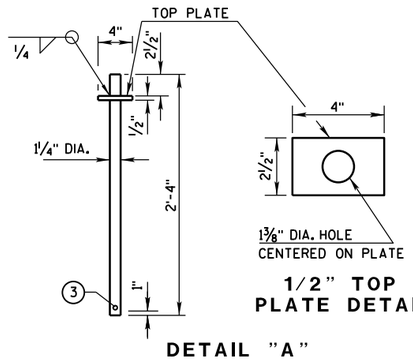


PLAN VIEW

DETAILS OF BARRIER SECTION

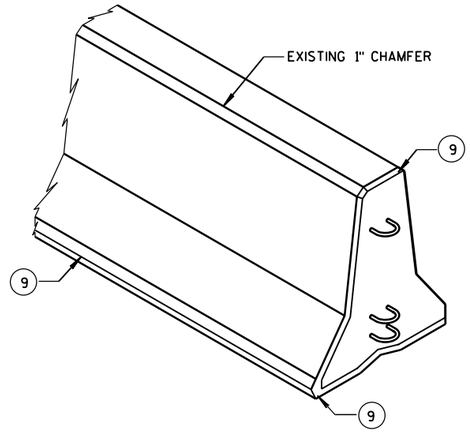


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-15(a) THRU 14B7-15(i).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE ¾" SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

(1) MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
- a. TYPE: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..

(4) "V" NOTCH IS OPTIONAL.

(5) THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).

(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

(7) USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.

(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

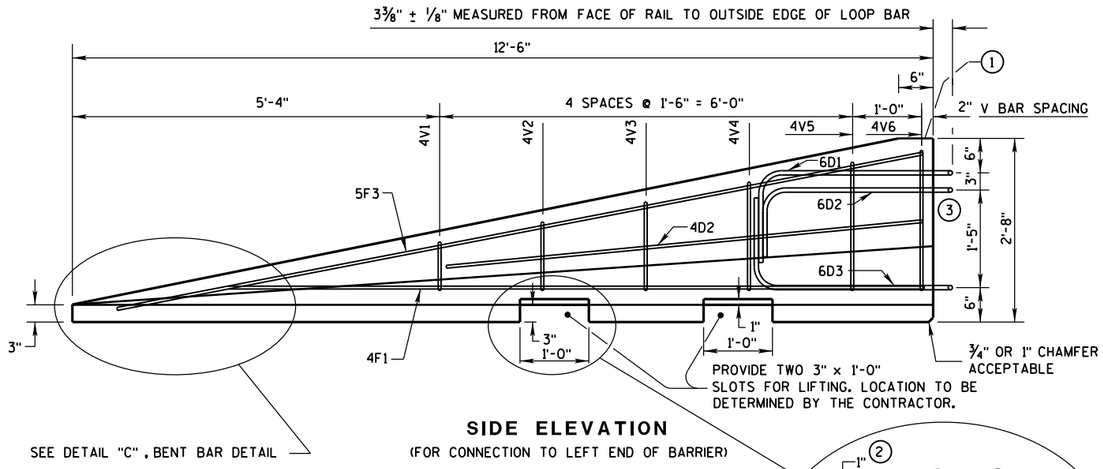
f'c = 4,000 psi

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

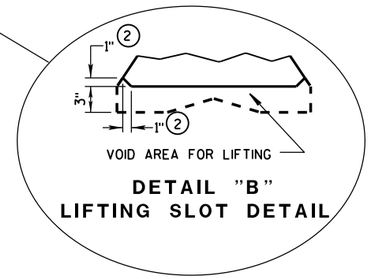
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

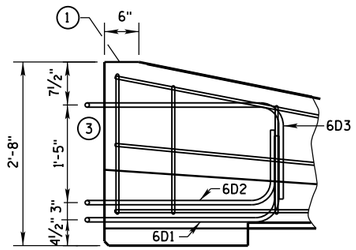
S.D.D. 14 B 7-15a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



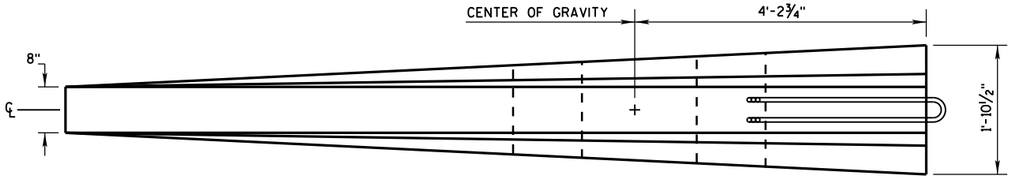
DETAIL "B"
LIFTING SLOT DETAIL



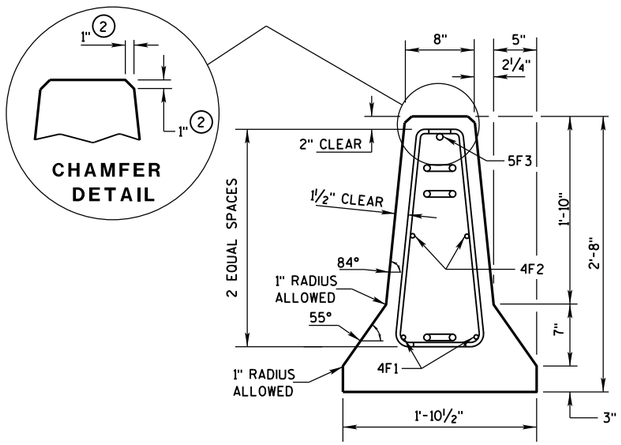
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

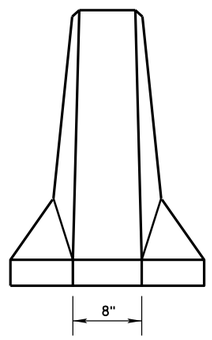
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



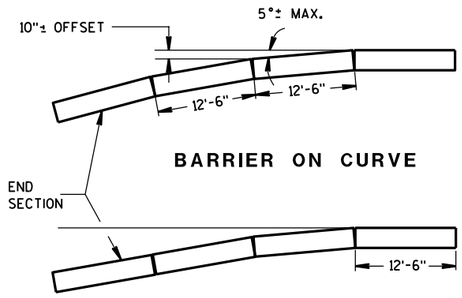
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

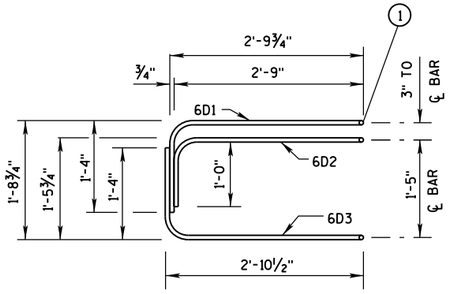
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15b

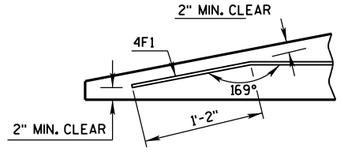
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

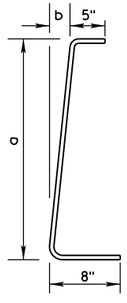
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



BAR	a	b
V1	10"	1"
V2	1'-1"	1¼"
V3	1'-5"	1⅝"
V4	1'-8"	1⅞"
V5	2'-0½"	2⅜"
V6	2'-3"	2¾"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

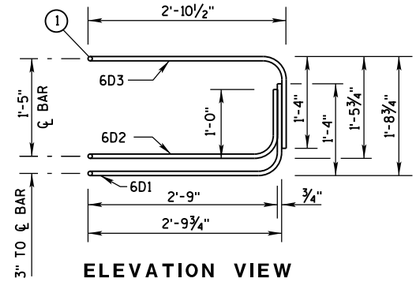
GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

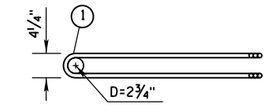
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

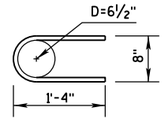
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



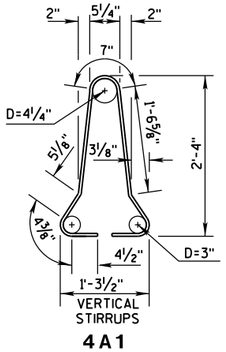
ELEVATION VIEW



PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



4A1

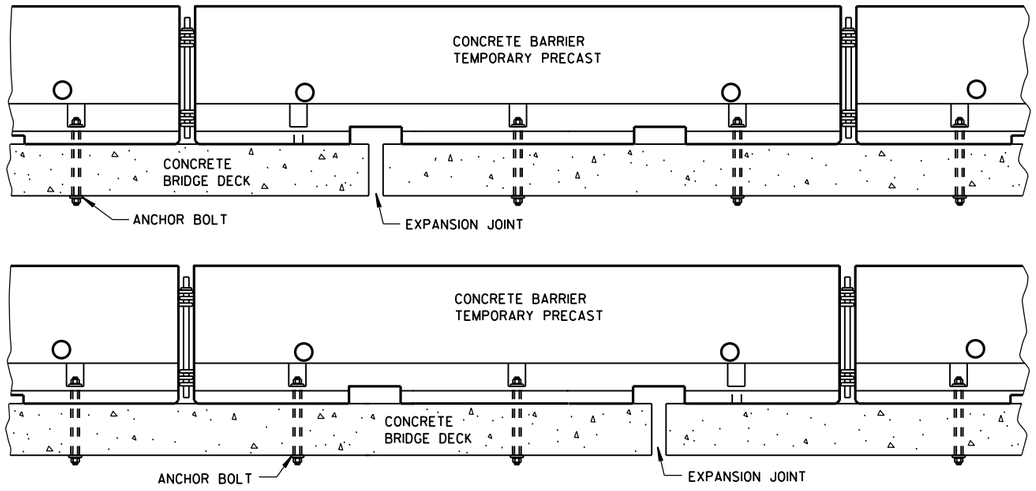
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 7-15c



TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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.)

GENERAL NOTES

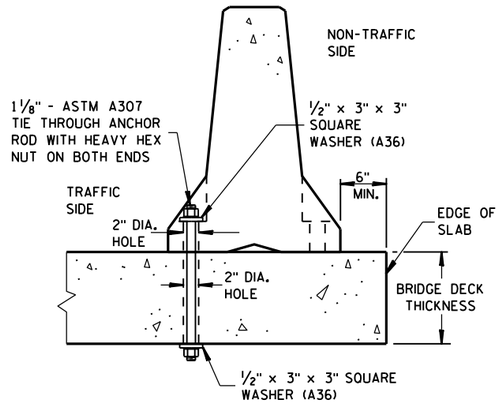
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

(1) 1⅛" DIAMENTER A307 THREADED ROD. ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL. ASTM A563A HEAVY HEX NUT.

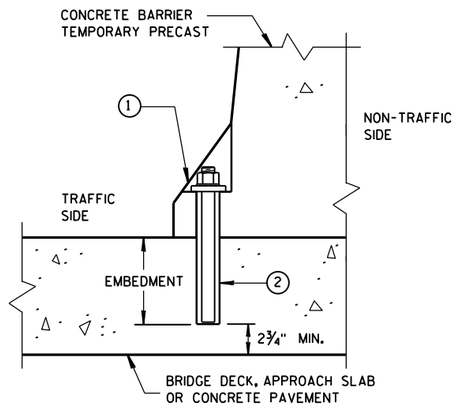
(2) ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

(3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.



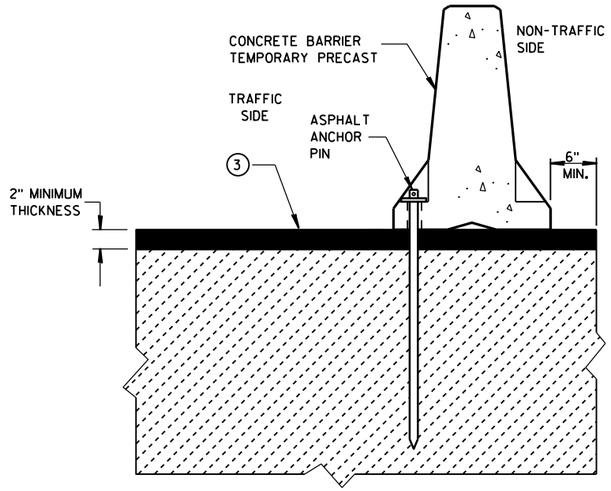
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)

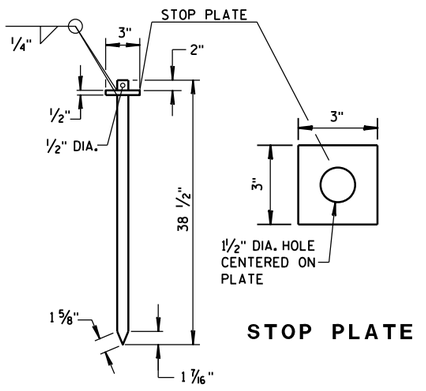


REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



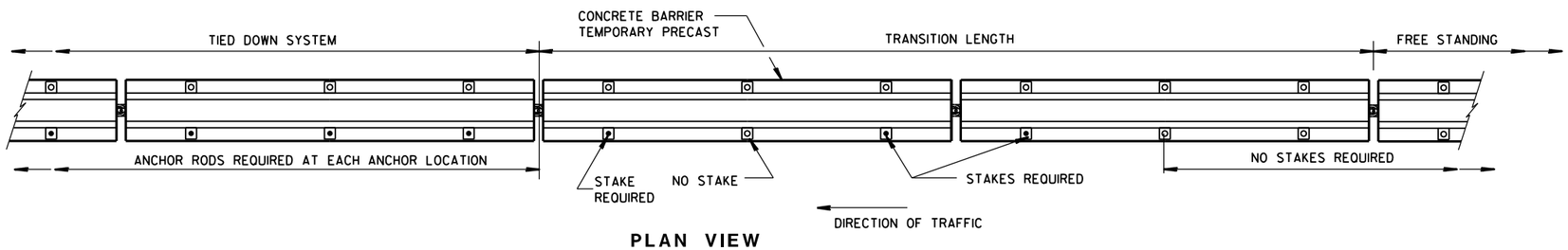
STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

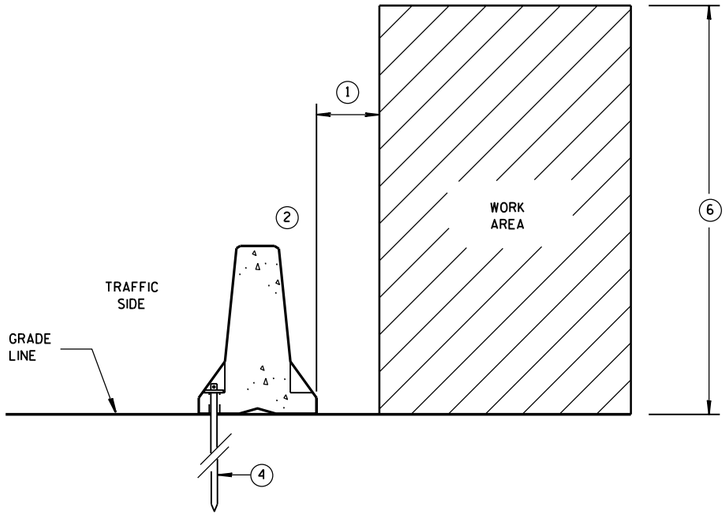
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

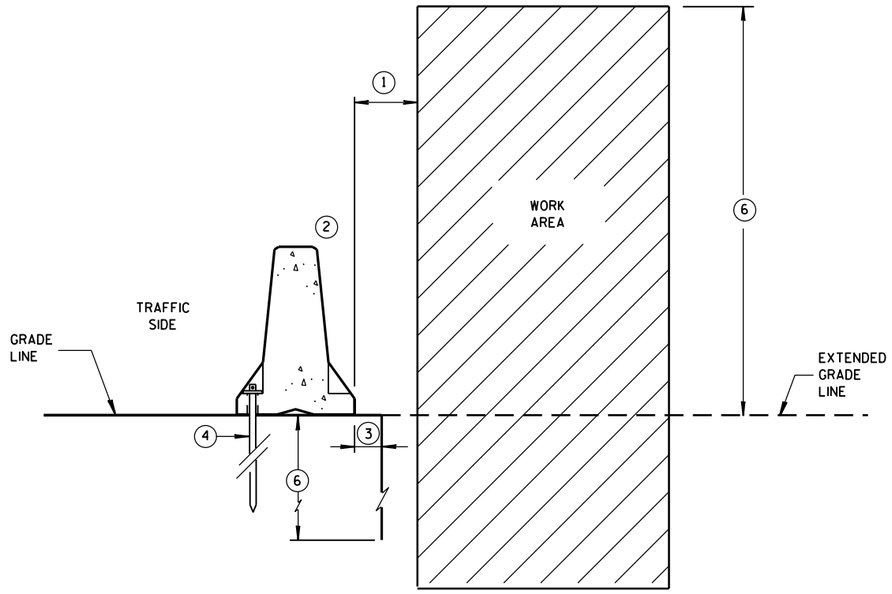
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 14 B 7-15d



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

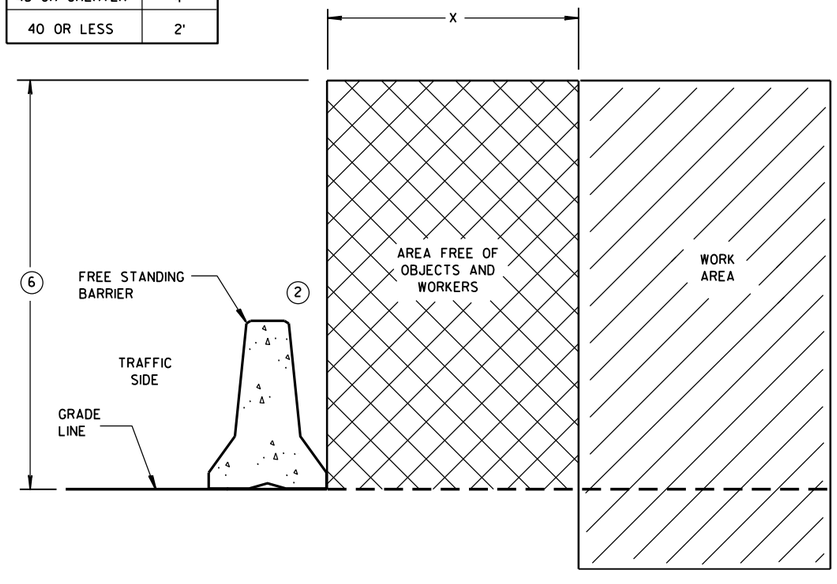


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

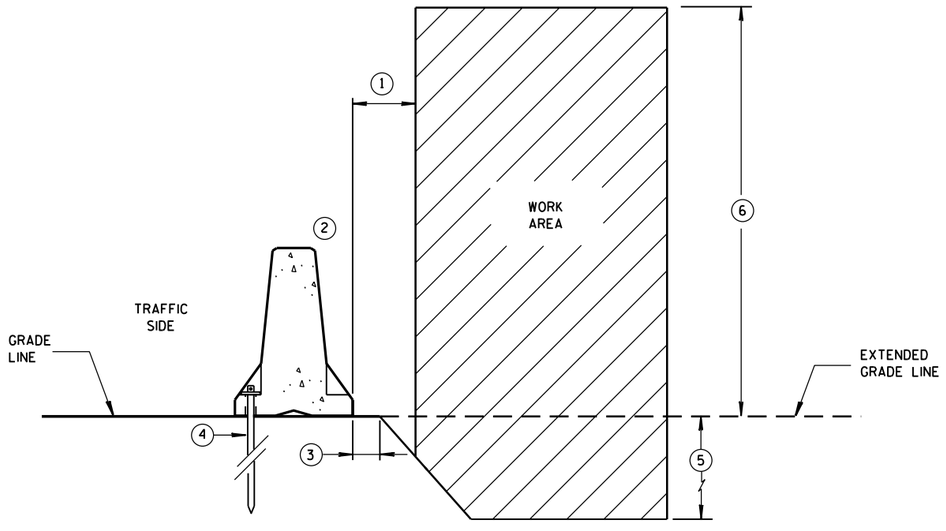
GENERAL NOTES

1. WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR VERTICAL DROPS.
2. OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
3. SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
4. SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
5. DEPTH OF 3 FEET OR MORE.
6. Y = 6'-6".

POSTED SPEED MPH	X
45 OR GREATER	4'
40 OR LESS	2'



FREE STANDING BARRIER SPACE REQUIREMENTS



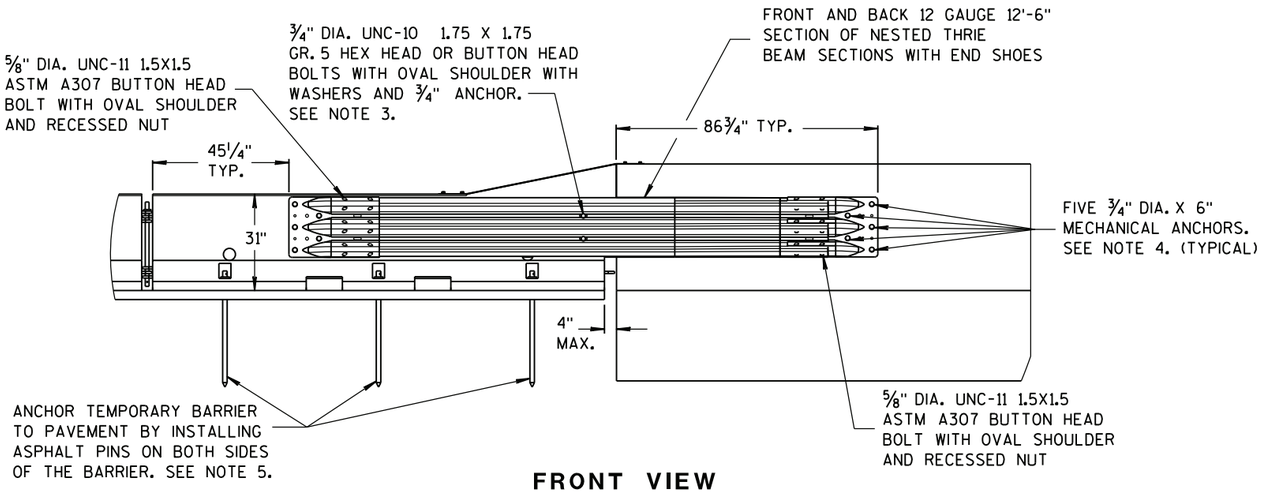
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

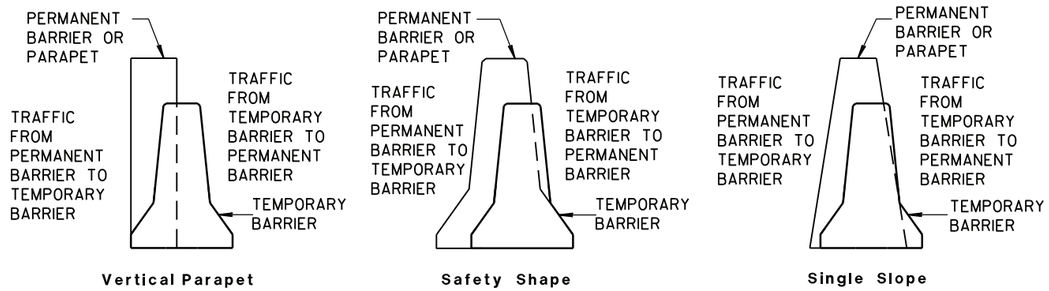
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

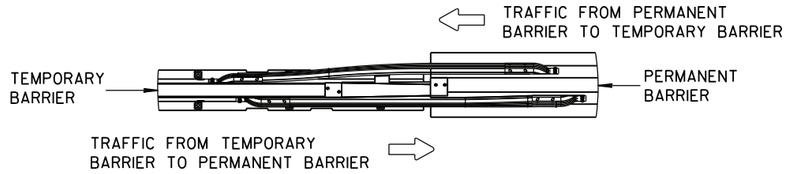
6

S.D.D. 14 B 7-15e



FRONT VIEW



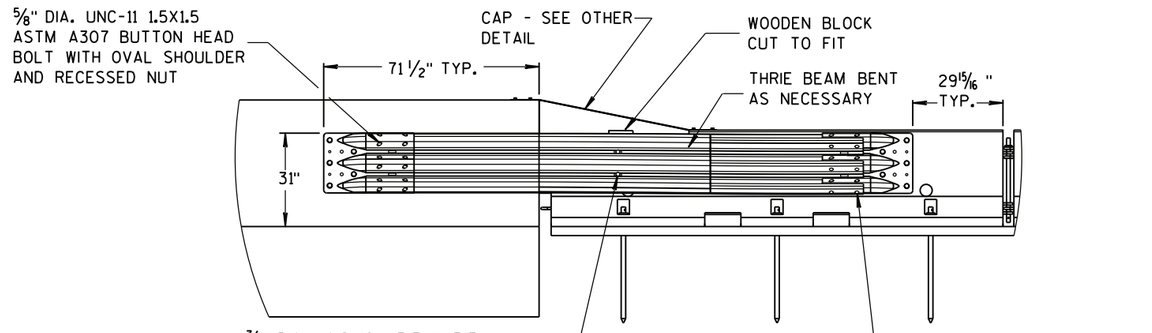


TEMPORARY BARRIER PLACEMENT FOR TRANSITION TO TIED DOWN SYSTEM

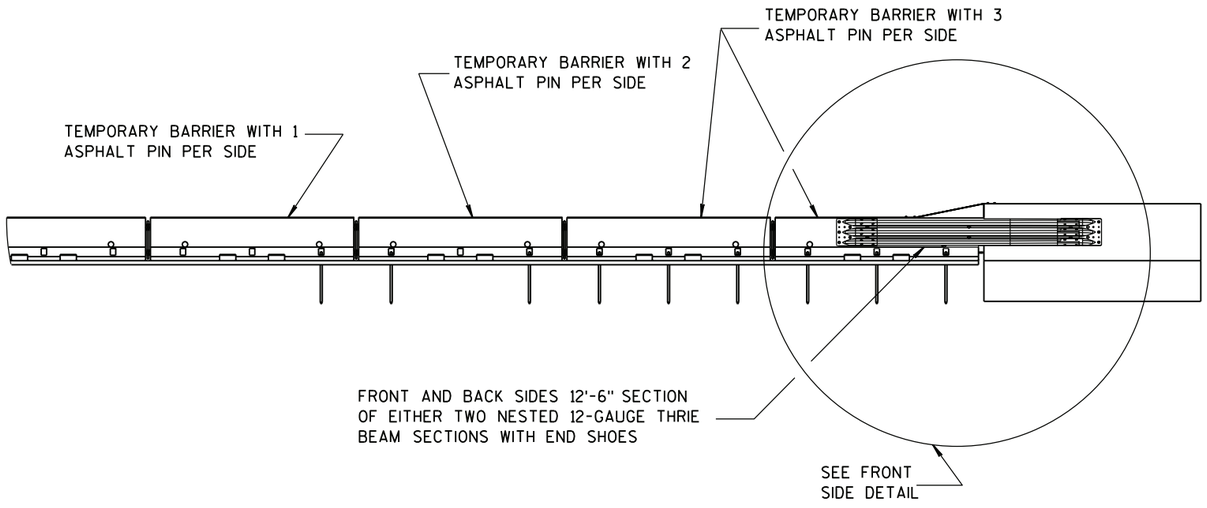
NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS REGARDLESS OF TRAFFIC.

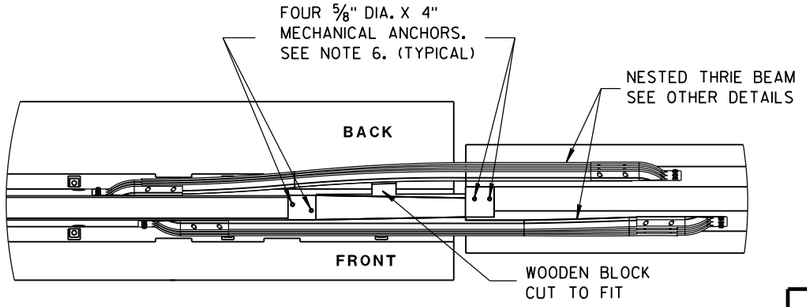
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.



BACK VIEW



FRONT VIEW



PLAN VIEW

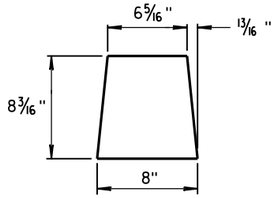
TRANSITION TO TIED DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

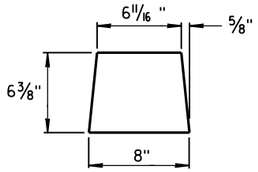
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

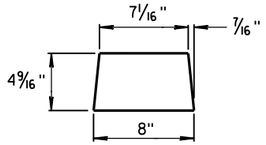
S.D.D. 14 B 7-15f



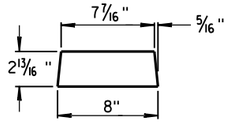
GUSSET 1



GUSSET 2

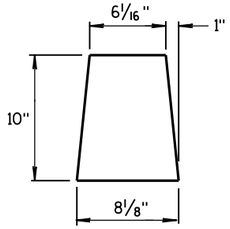


GUSSET 3

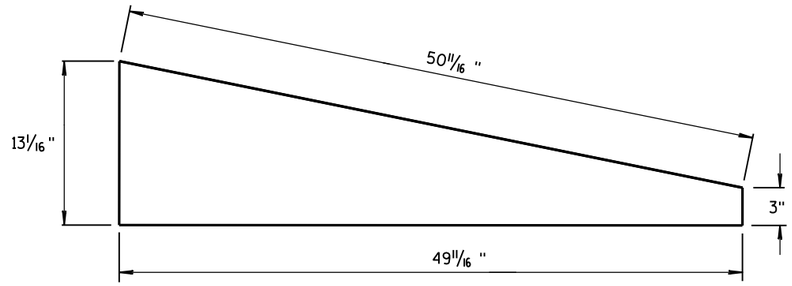


GUSSET 4

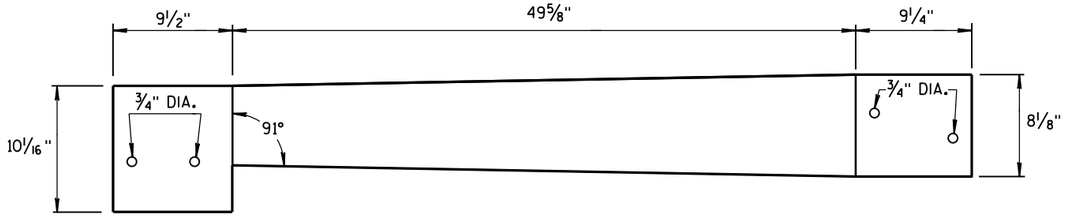
GUSSETS

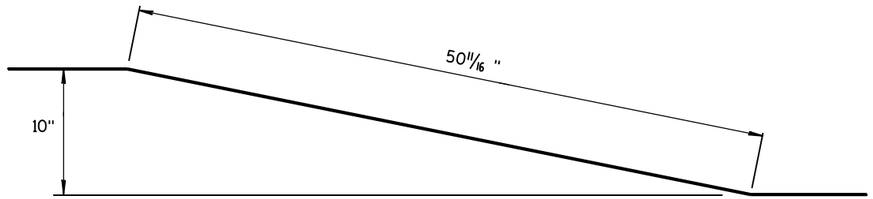


END PLATE



SIDE PLATE

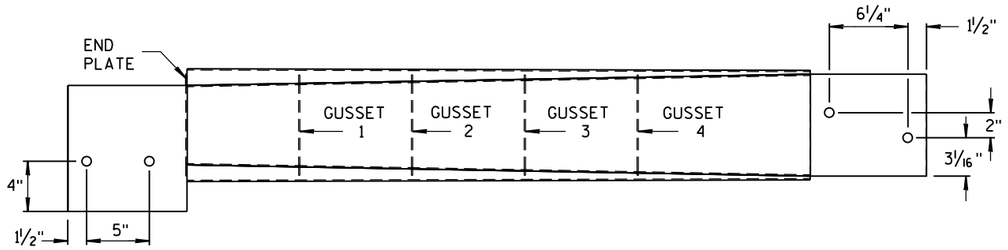


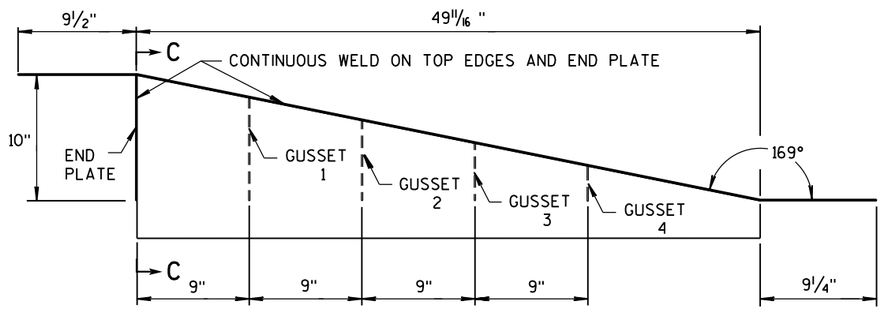


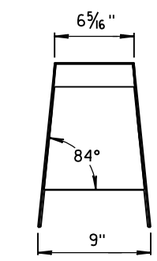
TOP PLATE

SIDE, TOP AND END PLATES FOR CAP FROM TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.







SECTION C-C

NOTES

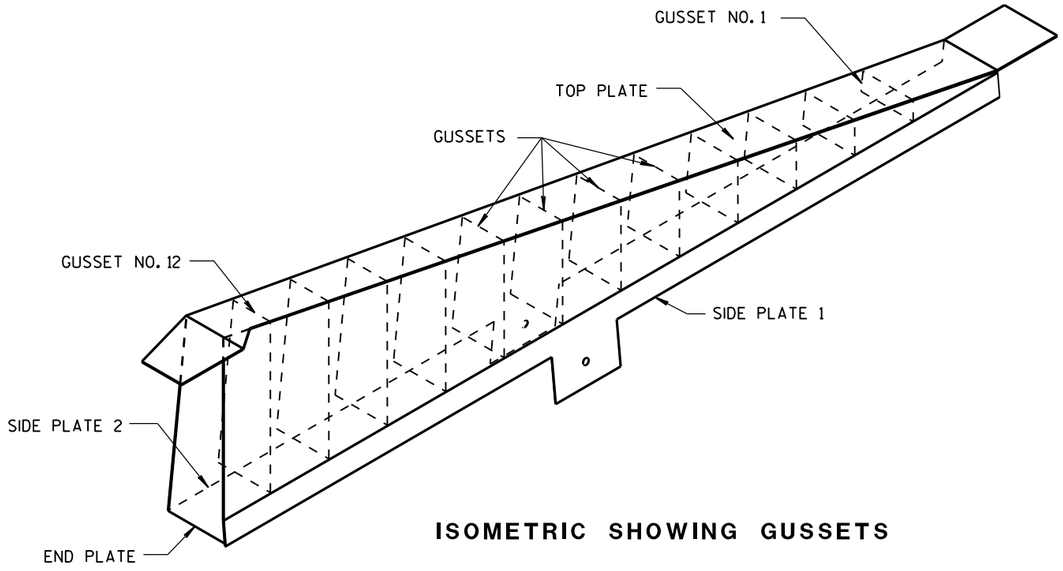
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

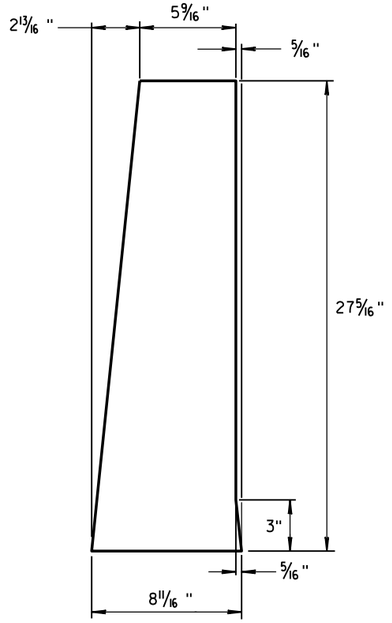
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 14 B 7-15g

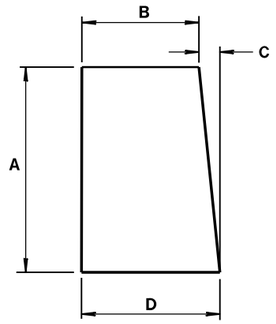


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



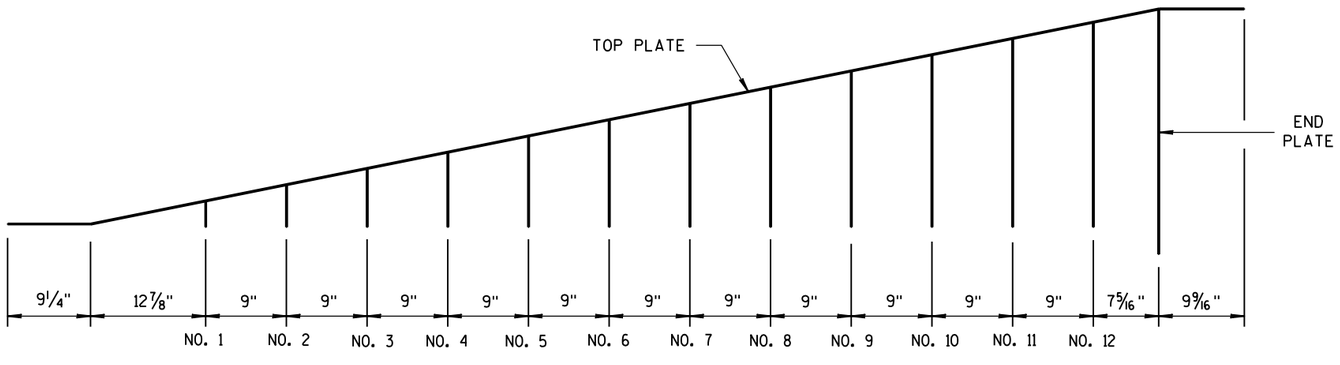
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	A	B	C	D
1	2 7/8"	7 3/4"	1/4"	8
2	4 11/16 "	7 9/16 "	1/2"	8
3	6 1/2"	7 3/8"	11/16 "	8 1/16 "
4	8 5/16 "	7 3/16 "	7/8"	8 1/16 "
5	10 1/8"	7"	1 1/16 "	8 1/16 "
6	11 15/16 "	6 13/16 "	1 1/4"	8 1/16 "
7	13 3/4"	6 5/8"	1 7/16 "	8 1/16 "
8	15 9/16 "	6 7/16 "	1 9/16 "	8 1/16 "
9	17 3/8"	6 1/4"	1 13/16 "	8 1/16 "
10	19 3/16 "	6 1/16 "	1 15/16 "	8 1/16 "
11	21"	5 7/8"	2 3/16 "	8 1/16 "
12	22 13/16 "	5 11/16 "	2 5/16 "	8 1/16 "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



GUSSET LOCATION

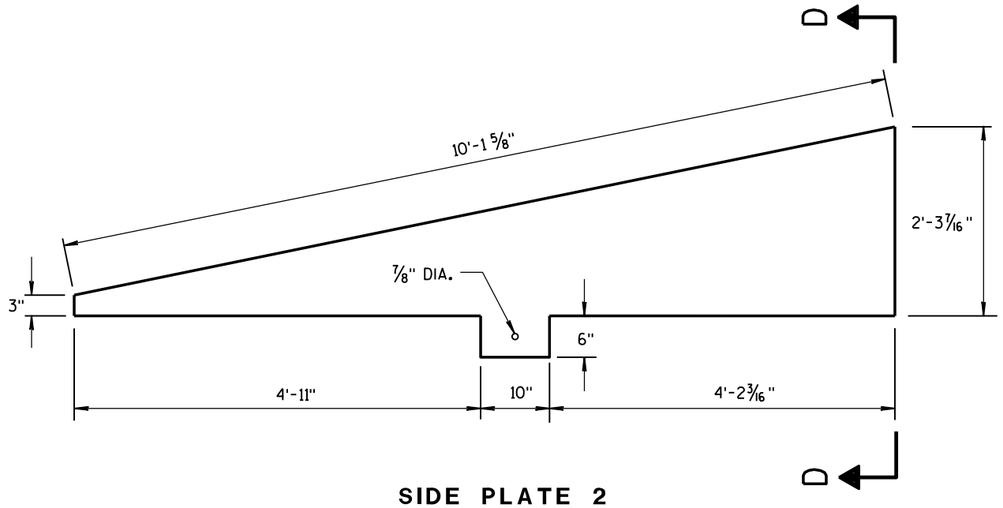
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

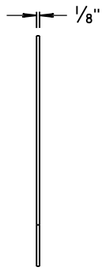
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

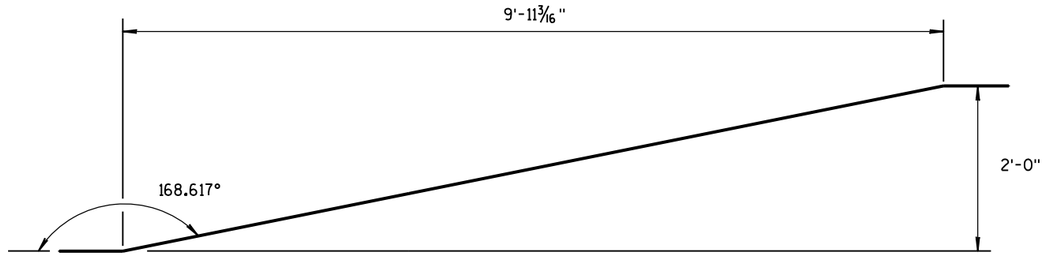
S.D.D. 14 B 7-15h



SIDE PLATE 2

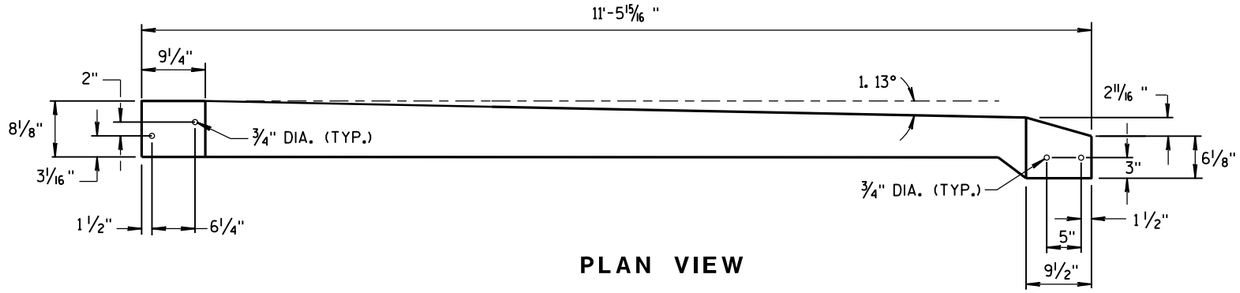


END VIEW



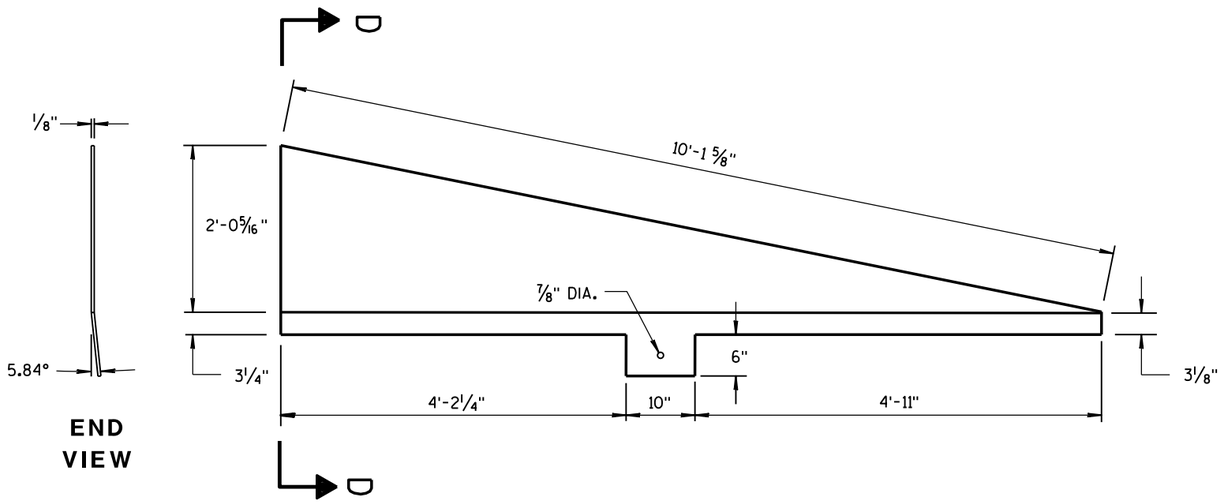
SIDE VIEW

TOP PLATE



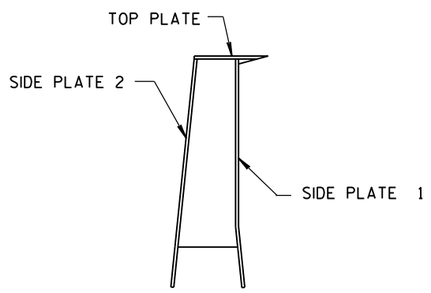
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

65

S.D.D. 14 B 7-15i

S.D.D. 14 B 7-15i

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

(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

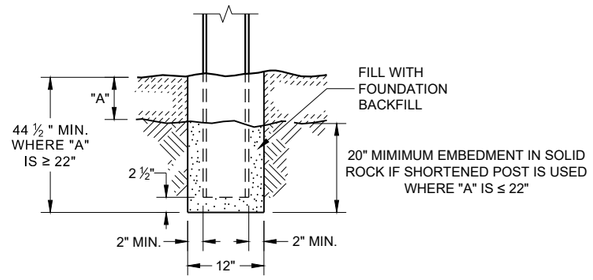
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL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

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

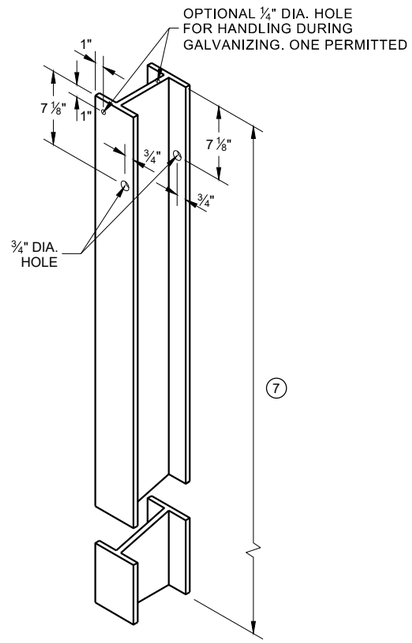
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

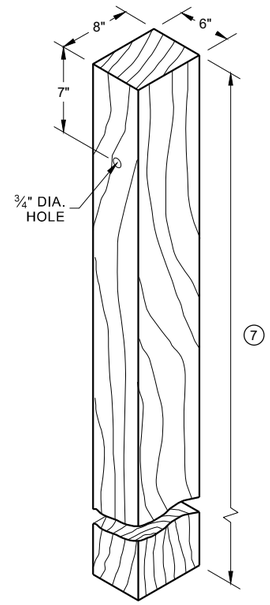
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



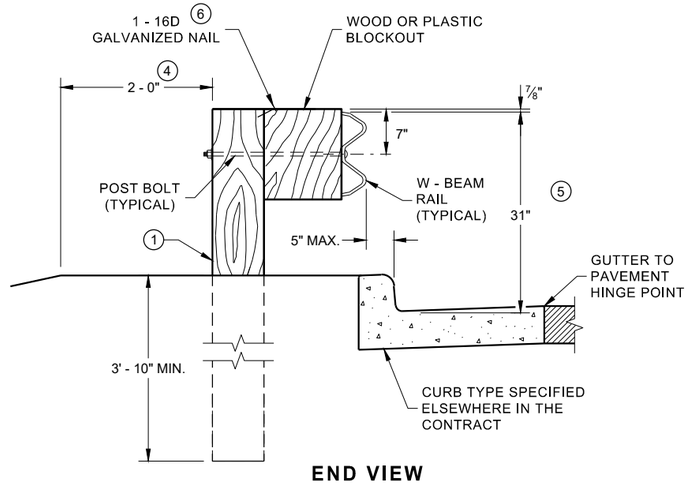
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



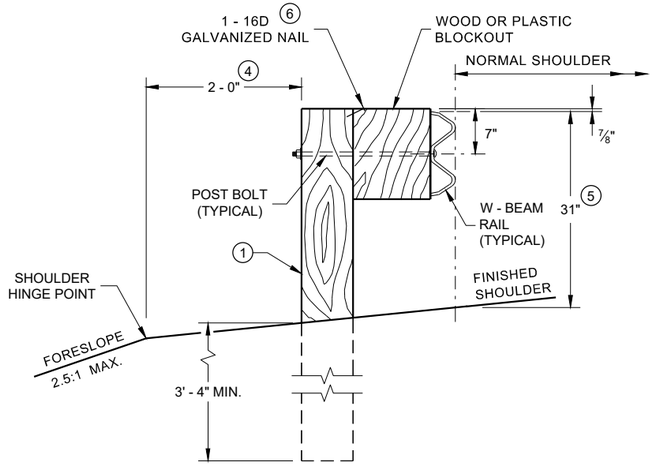
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



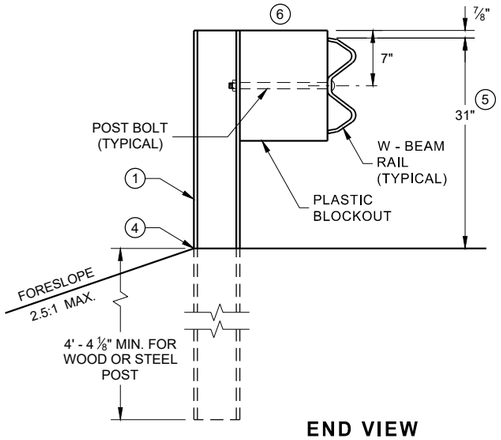
WOOD POST (6" X 8") NOMINAL (1)



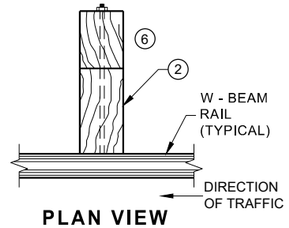
END VIEW
LOCATED ALONG A CURBED ROADWAY



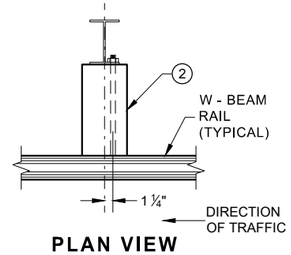
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



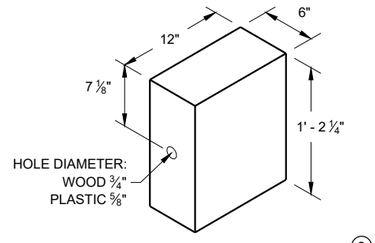
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



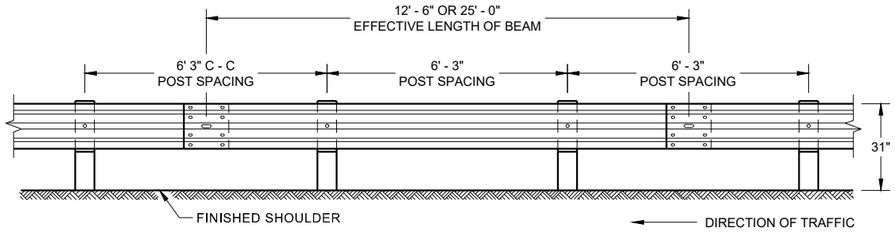
WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

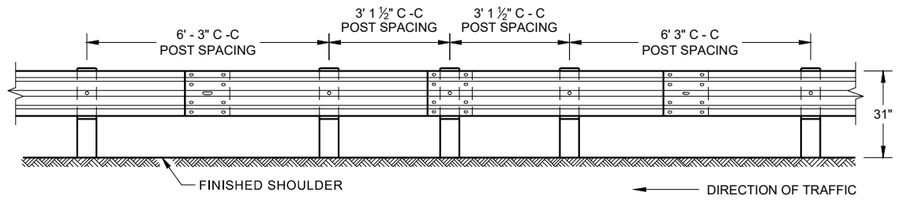
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 07a

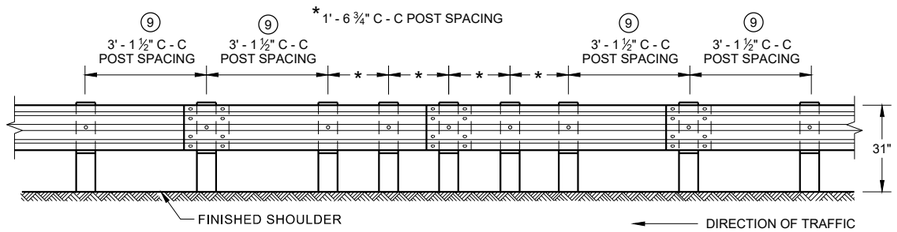
SDD 14B42 - 07a



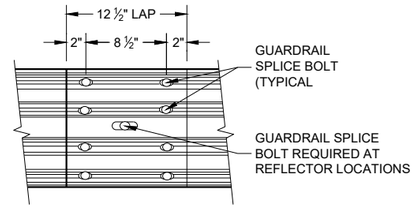
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

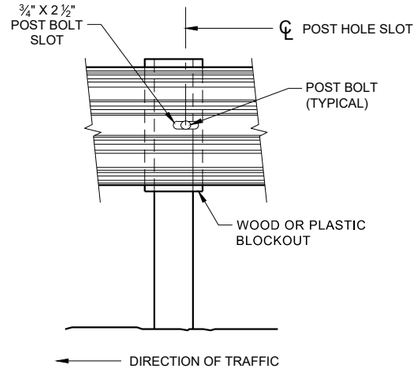
GENERAL NOTES

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

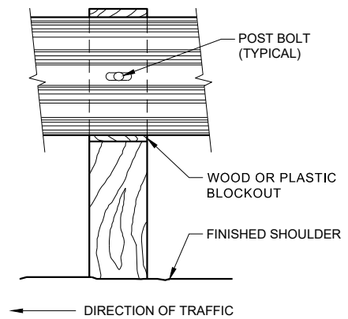
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

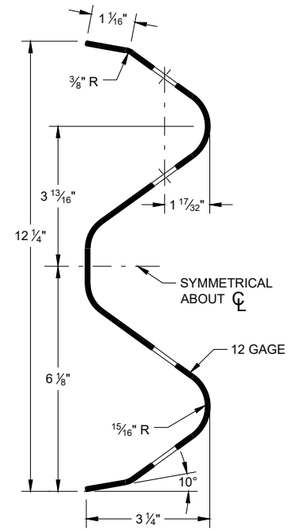
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



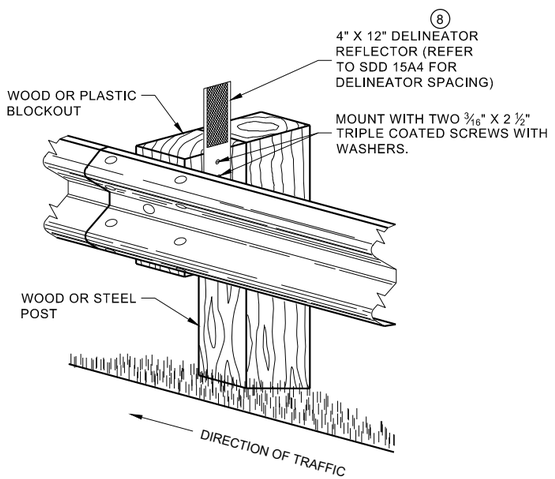
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



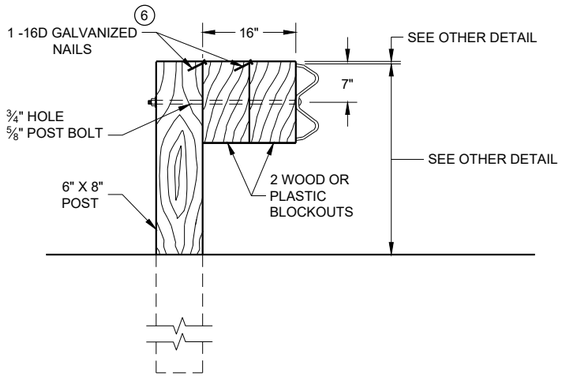
ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B42 - 07b
SDD 14B42 - 07b

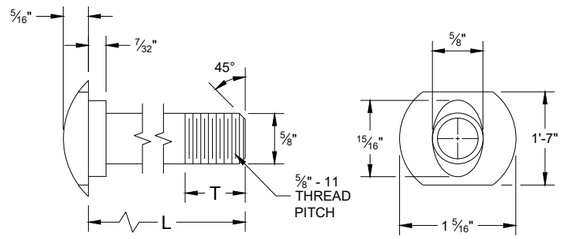


DETAIL FOR 16" BLOCKOUT DEPTH

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

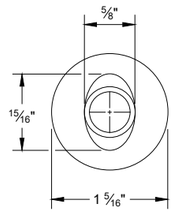
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

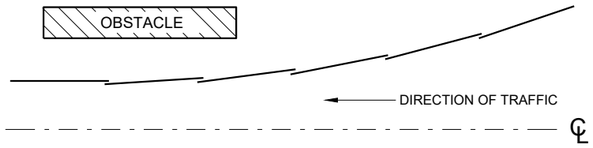


POST BOLT TABLE

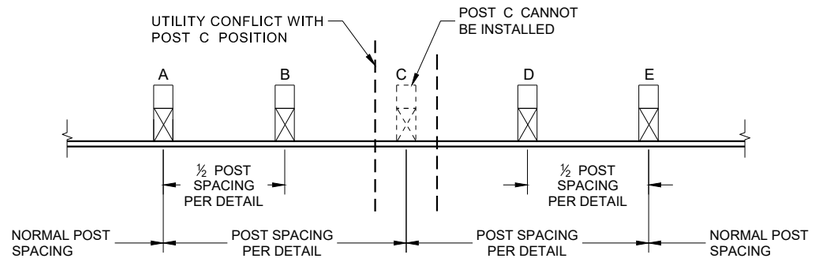
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



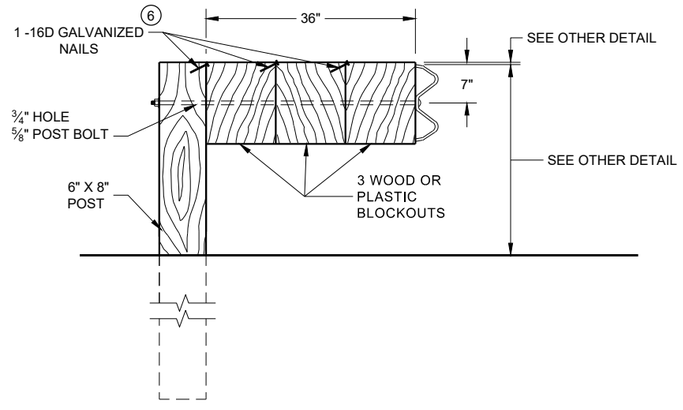
ALTERNATE BOLT HEAD



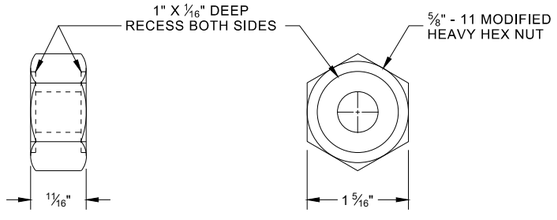
PLAN VIEW
BEAM LAPPING DETAIL



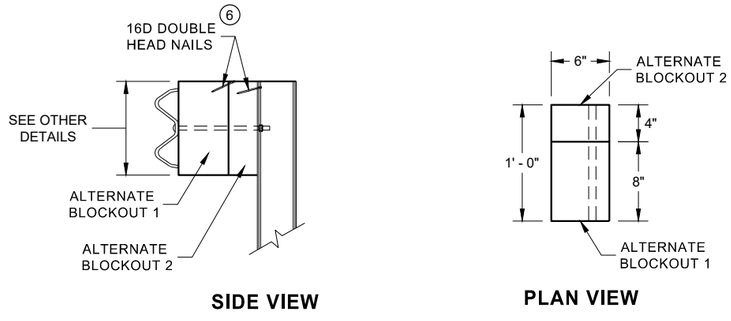
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



ALTERNATE WOOD BLOCKOUT DETAIL

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

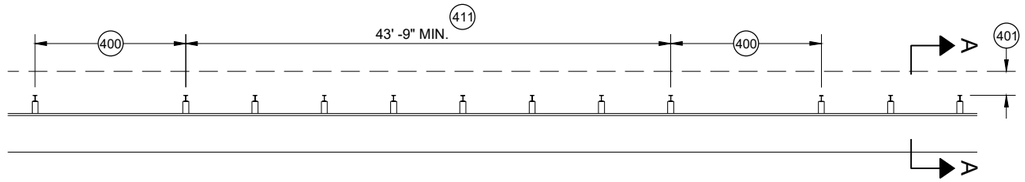
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

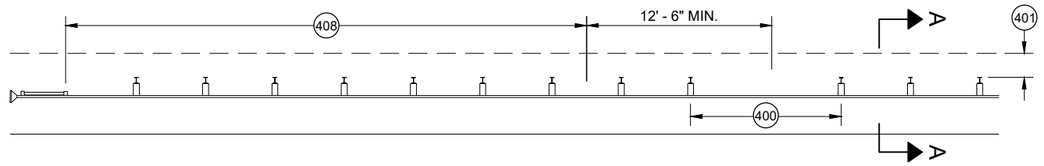
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

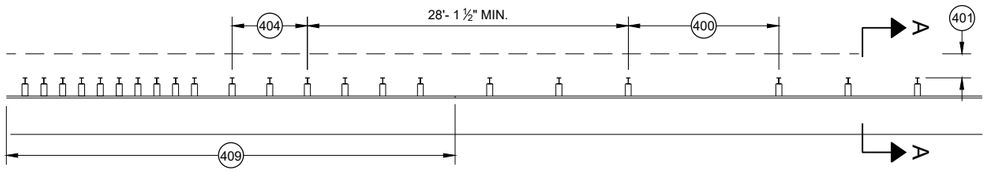
SDD 14B42 - 07c



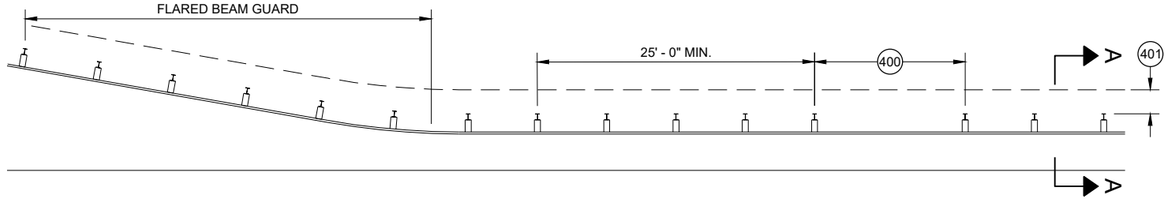
MISSING POST IN MGS GUARDRAIL



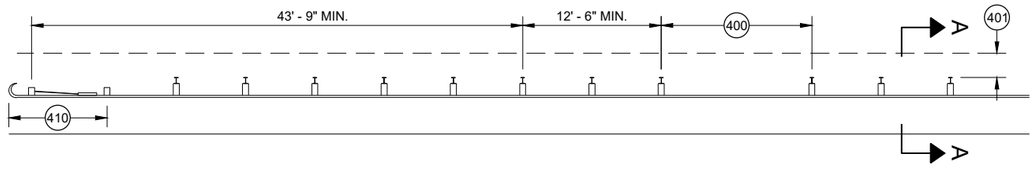
MISSING POST IN MGS GUARDRAIL NEAR EAT



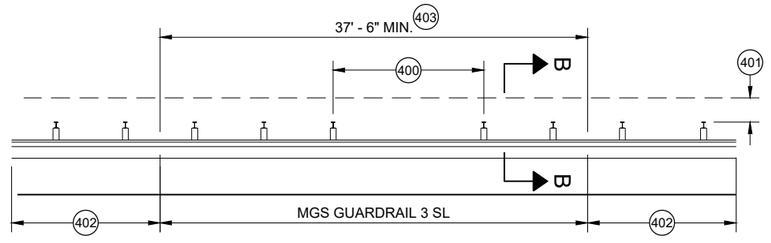
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

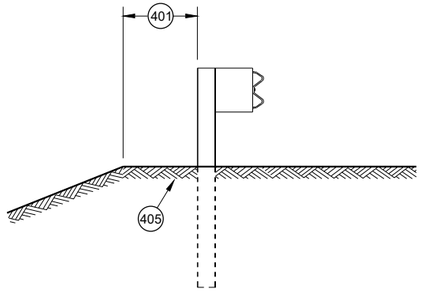


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

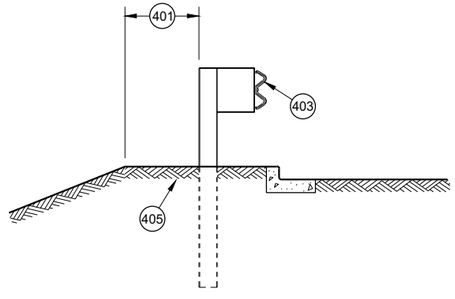


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

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



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

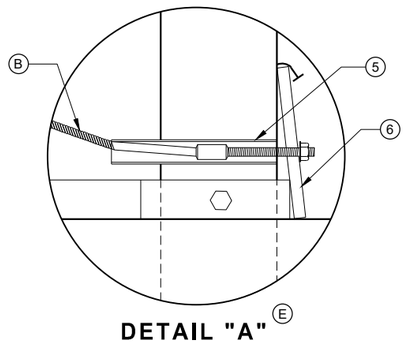
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

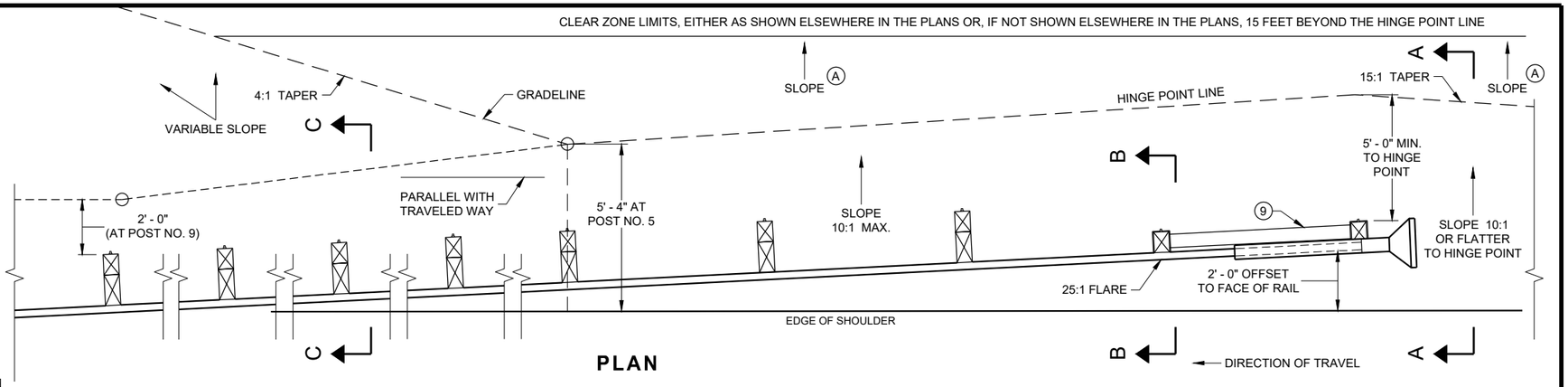
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

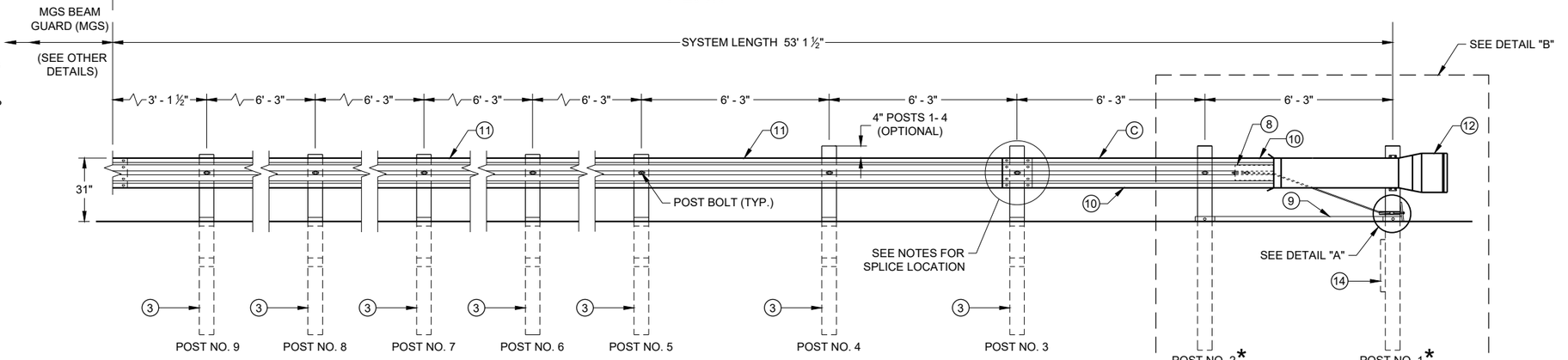
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



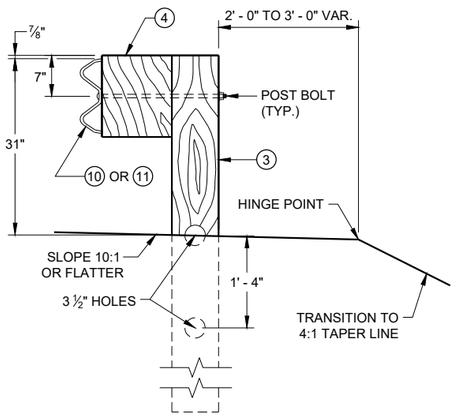
DETAIL "A" (E)



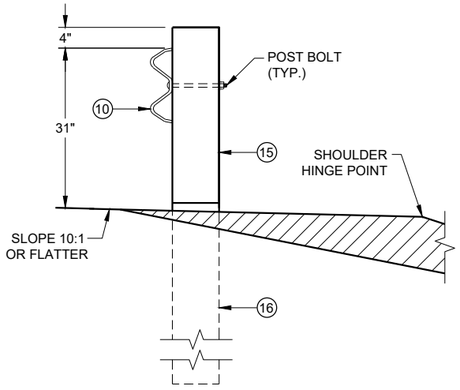
PLAN



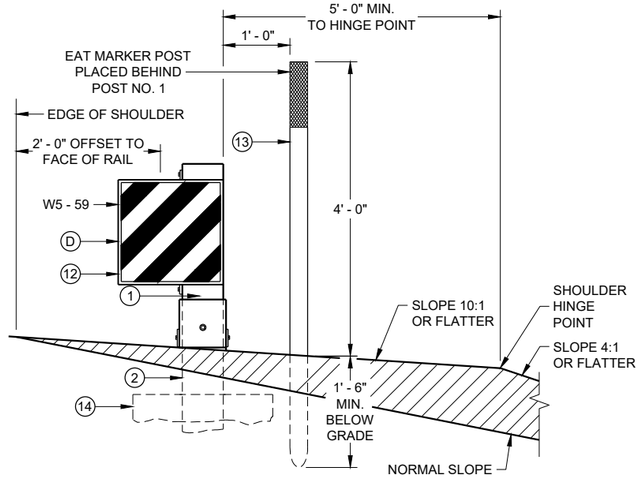
ELEVATION



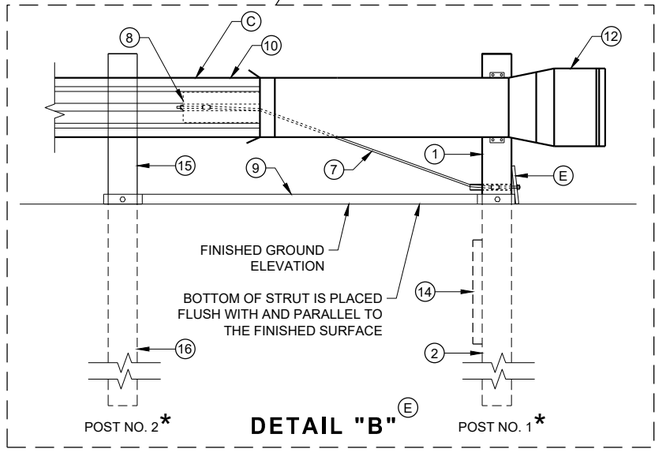
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



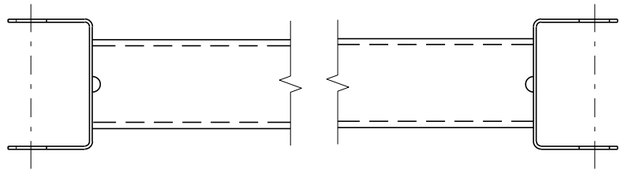
DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

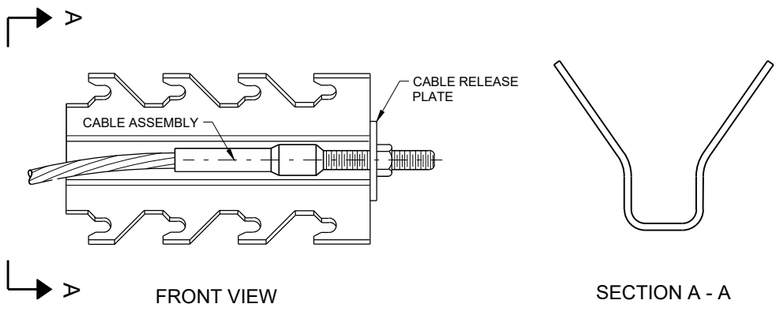
SDD 14B44 - 04a



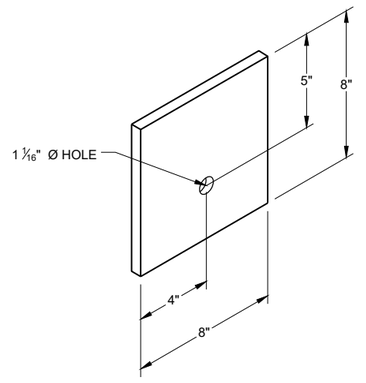
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

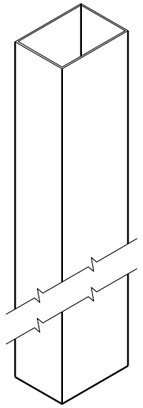
6

SDD 14B44 - 04b

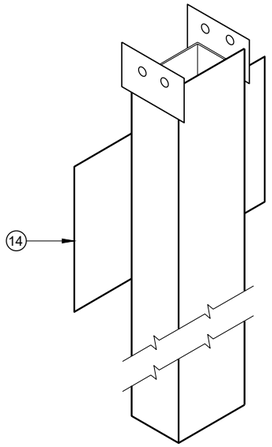
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

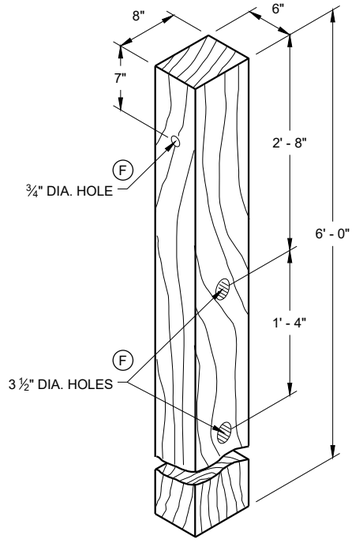
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



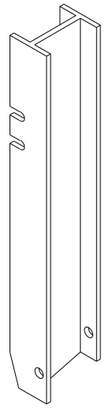
UPPER POST NO. 1 (1) (E)



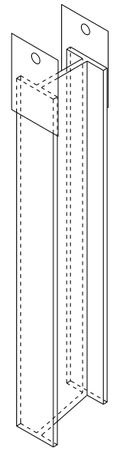
LOWER POST NO. 1 (2) (E)



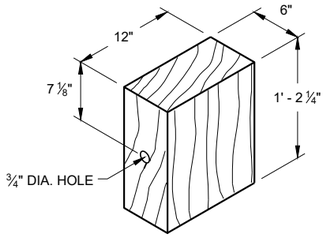
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



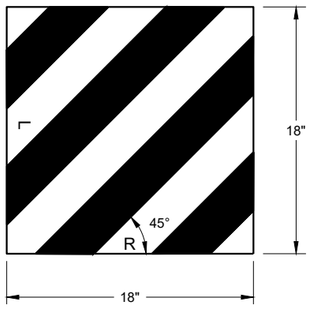
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

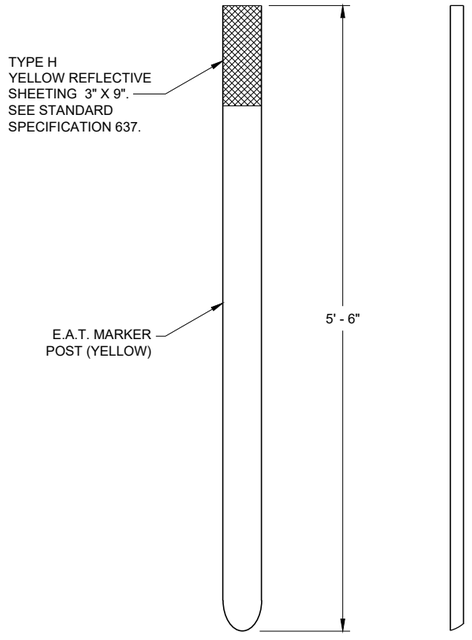


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



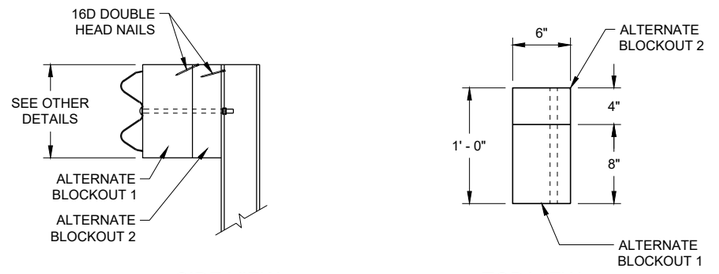
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

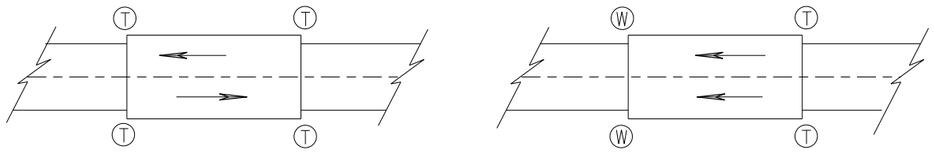
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

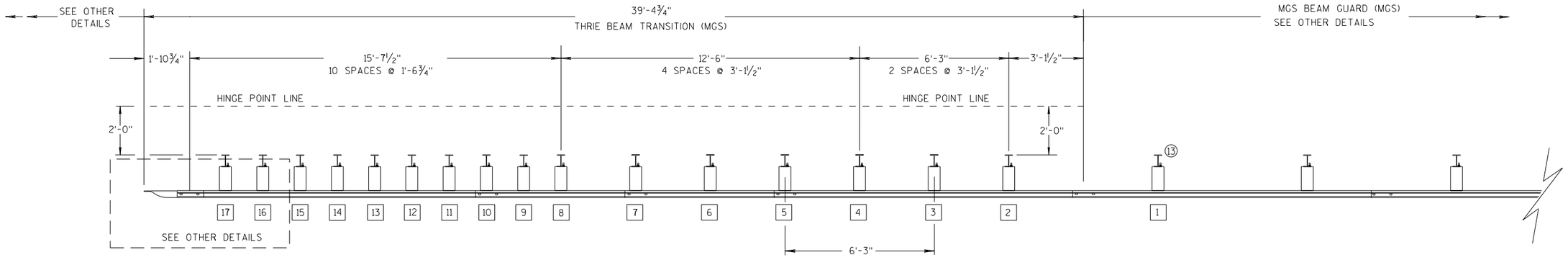
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

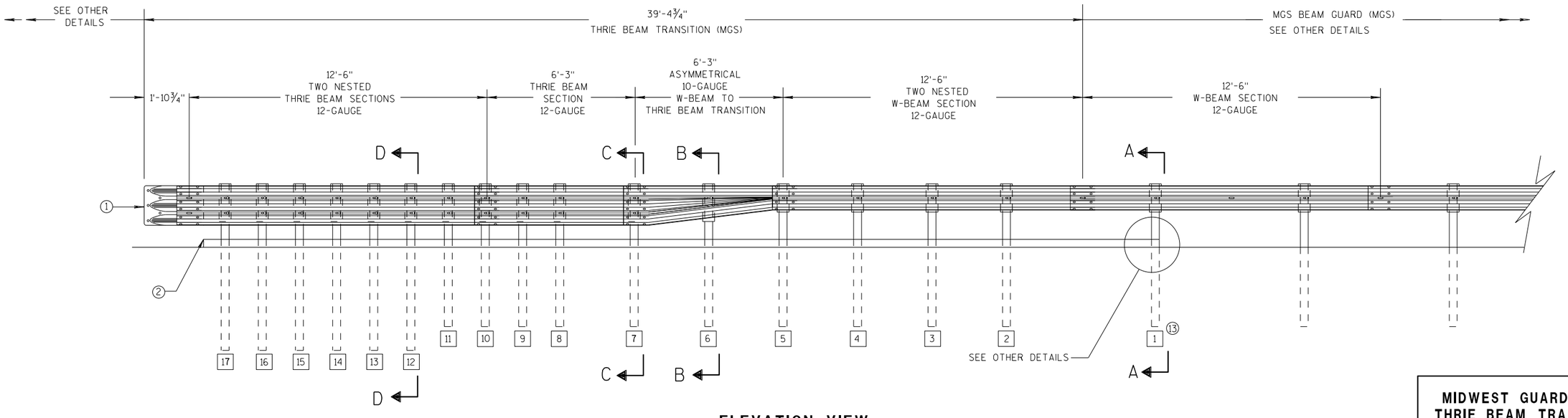
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

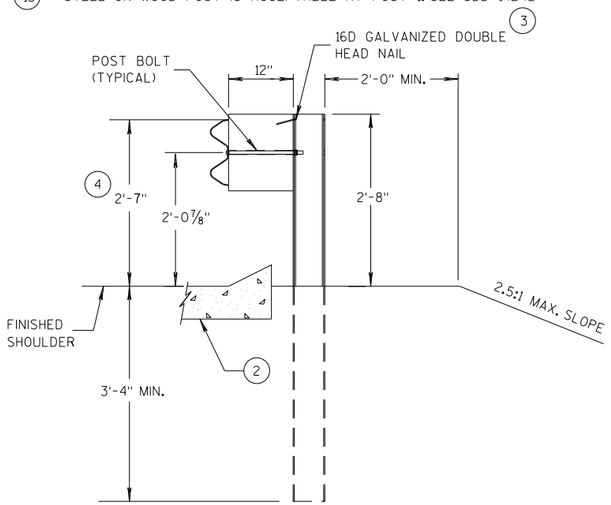
GENERAL NOTES

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

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

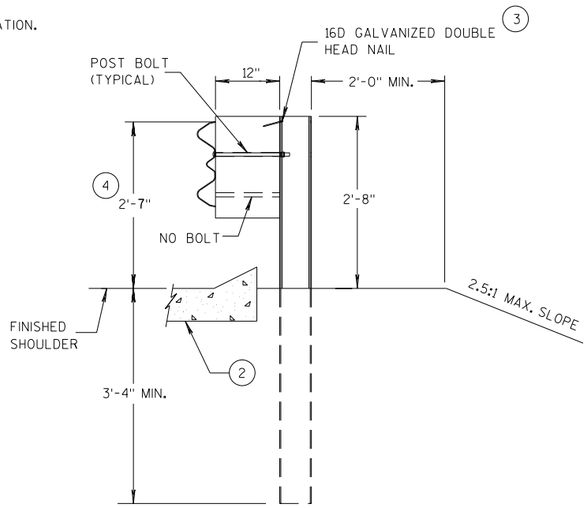
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



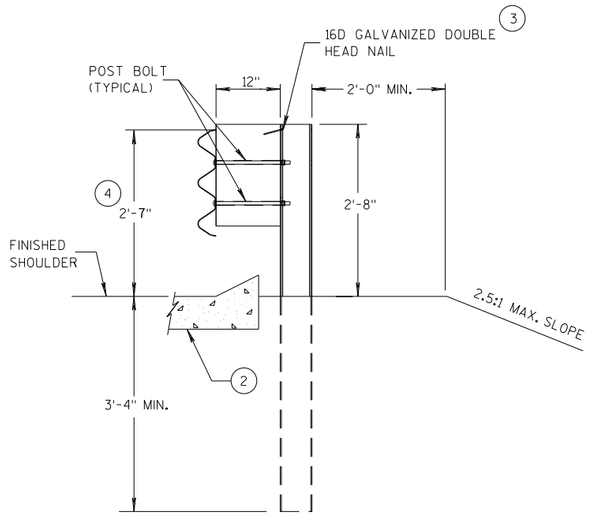
SECTION A-A (13)

POSTS 1-5



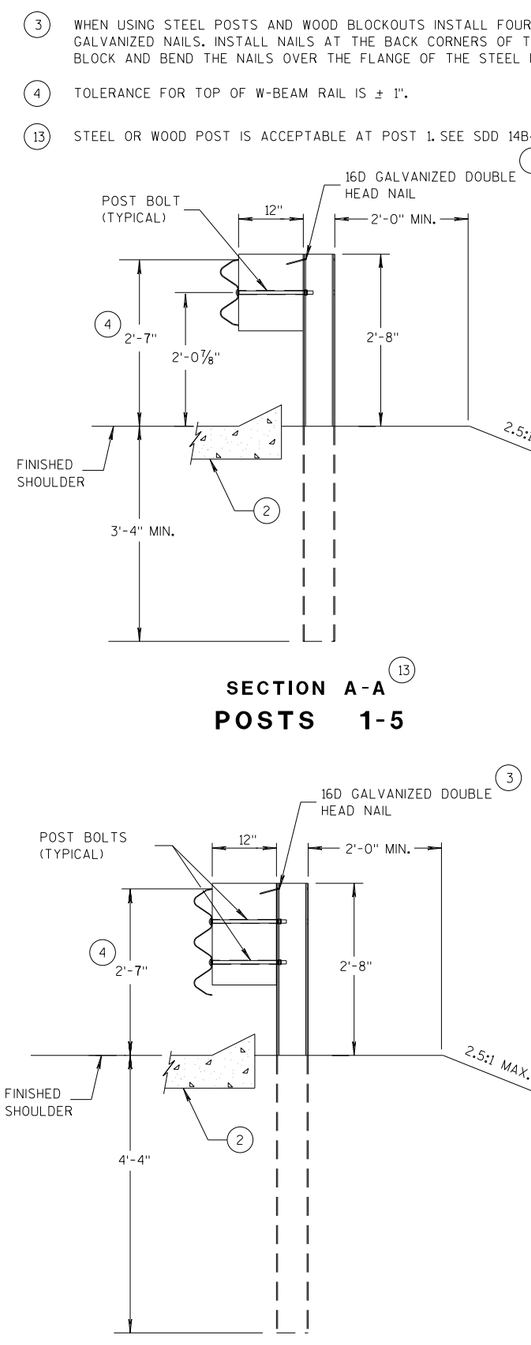
SECTION B-B

POST 6



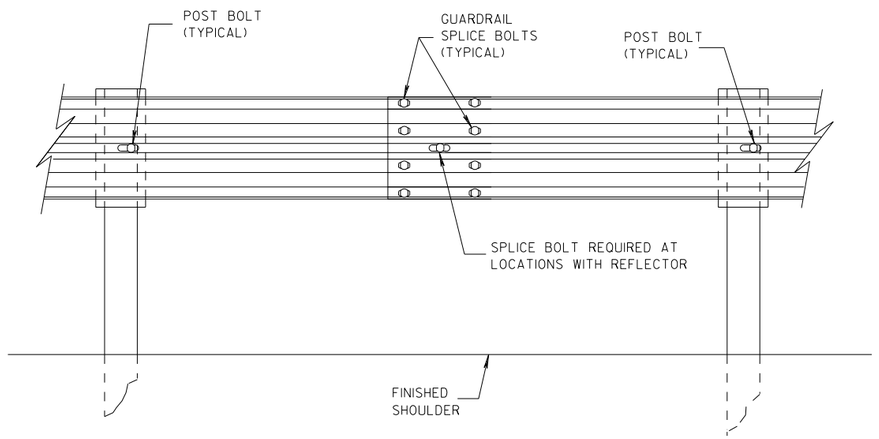
SECTION C-C

POSTS 7-11



SECTION D-D

POSTS 12-17



SPLICE DETAIL

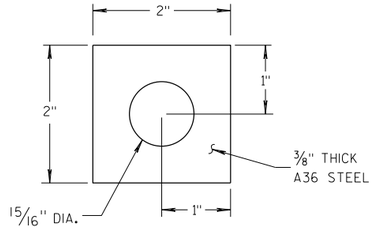
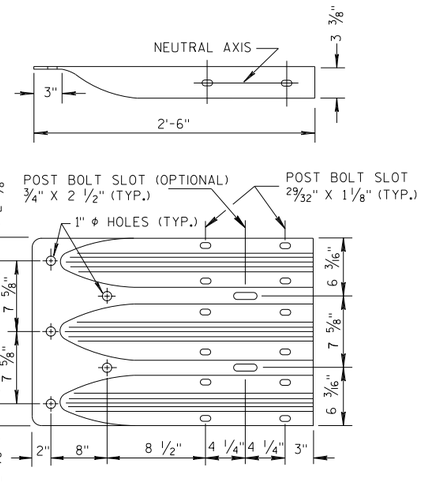
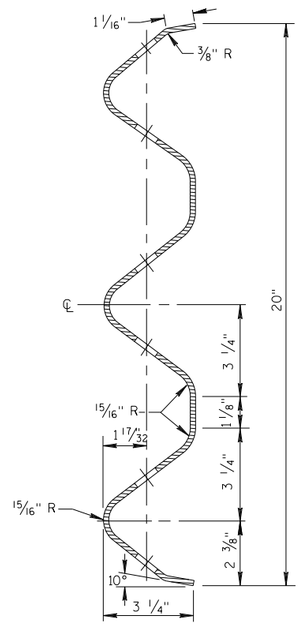


PLATE WASHER DETAIL



THRIE BEAM TERMINAL CONNECTOR



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

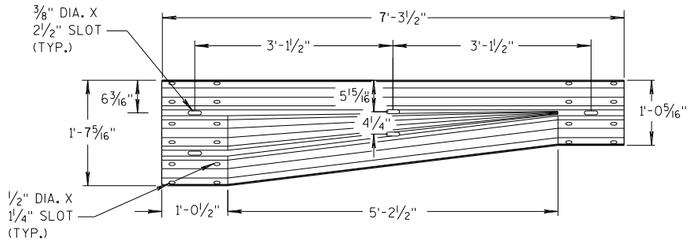
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 74

6

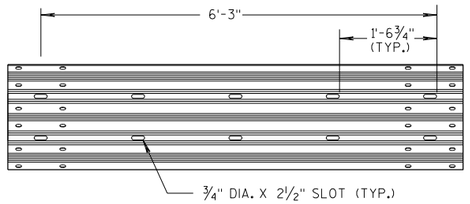
S.D.D. 14 B 45-5b

6

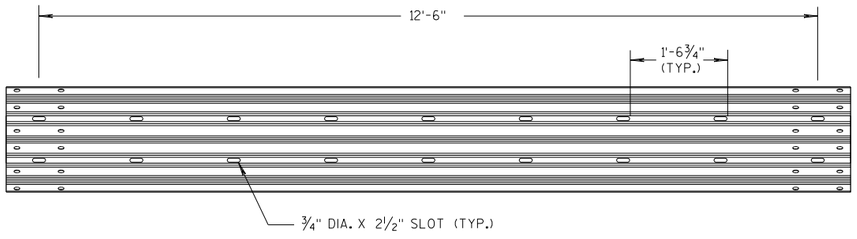
S.D.D. 14 B 45-5b



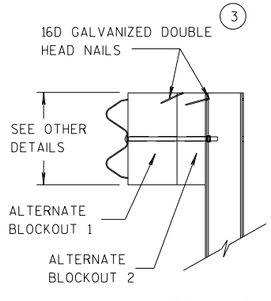
W-BEAM TO THRIE BEAM TRANSITION SECTION



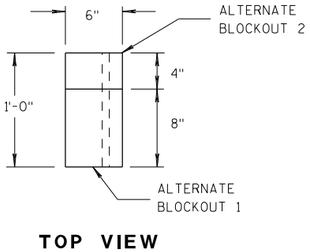
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

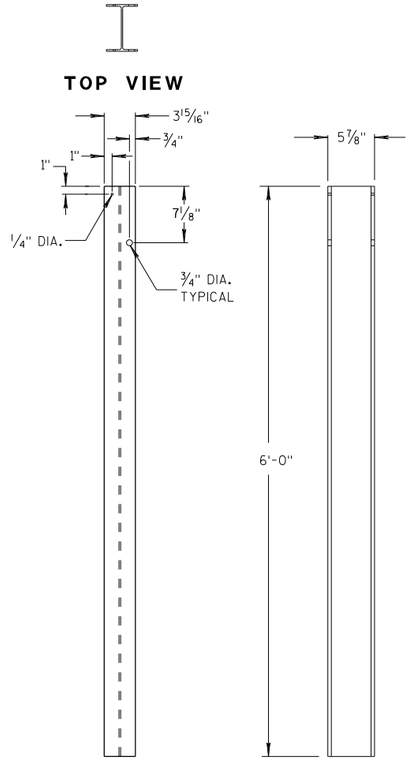


SIDE VIEW



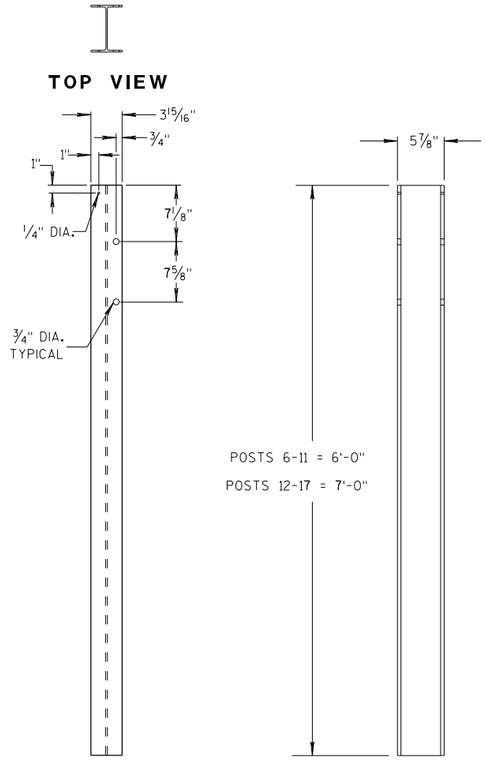
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



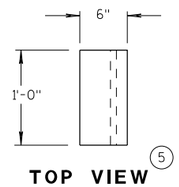
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

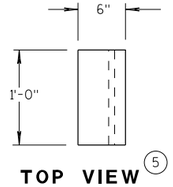


FRONT VIEW SIDE VIEW

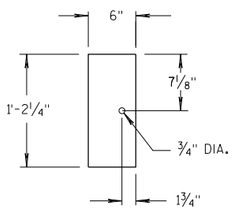
STEEL POSTS 6-17



TOP VIEW (5)

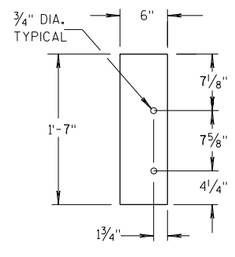


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

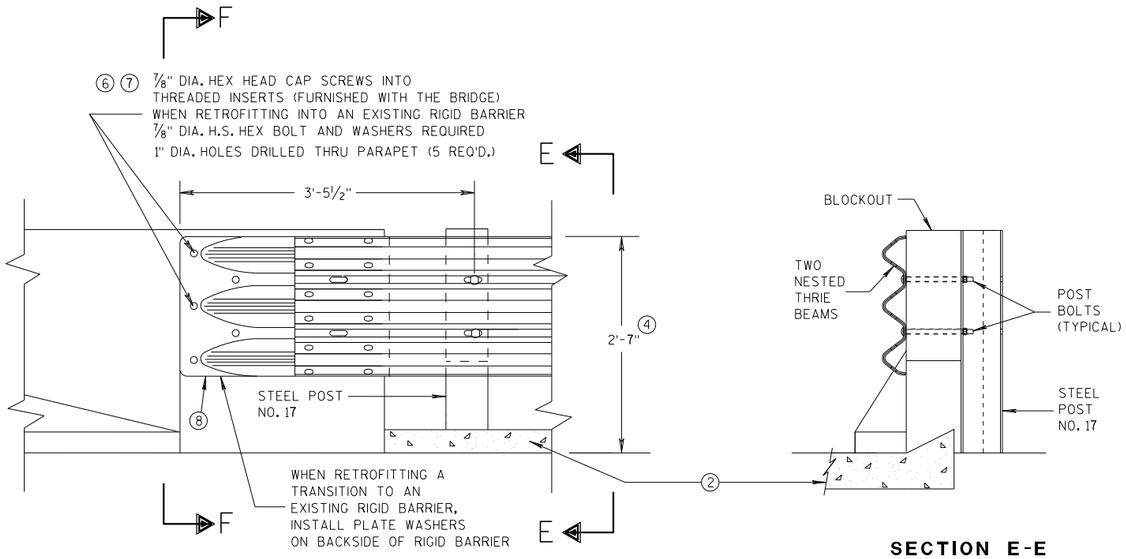
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 75

6

S.D.D. 14 B 45-5c

6

S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

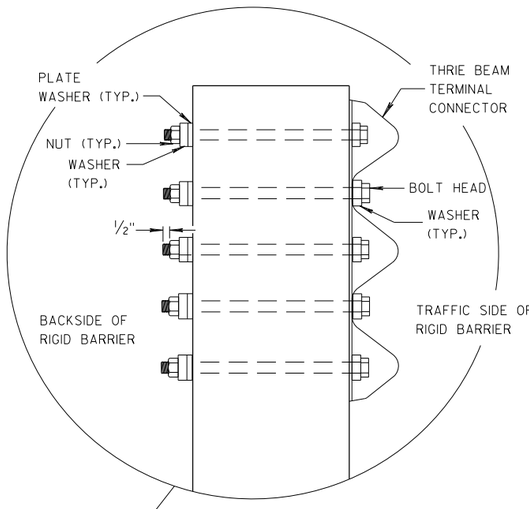
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

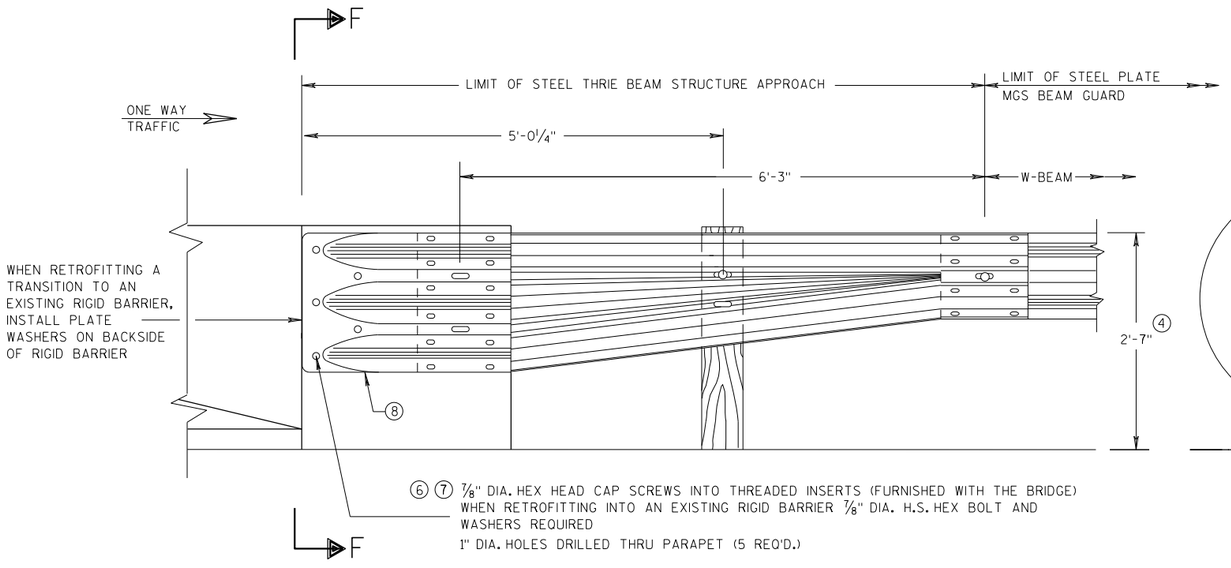
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

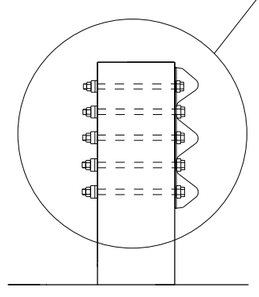
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE.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

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

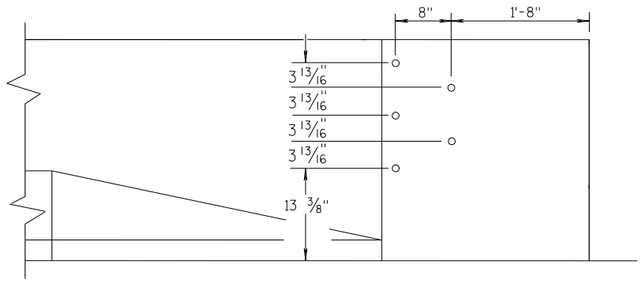




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

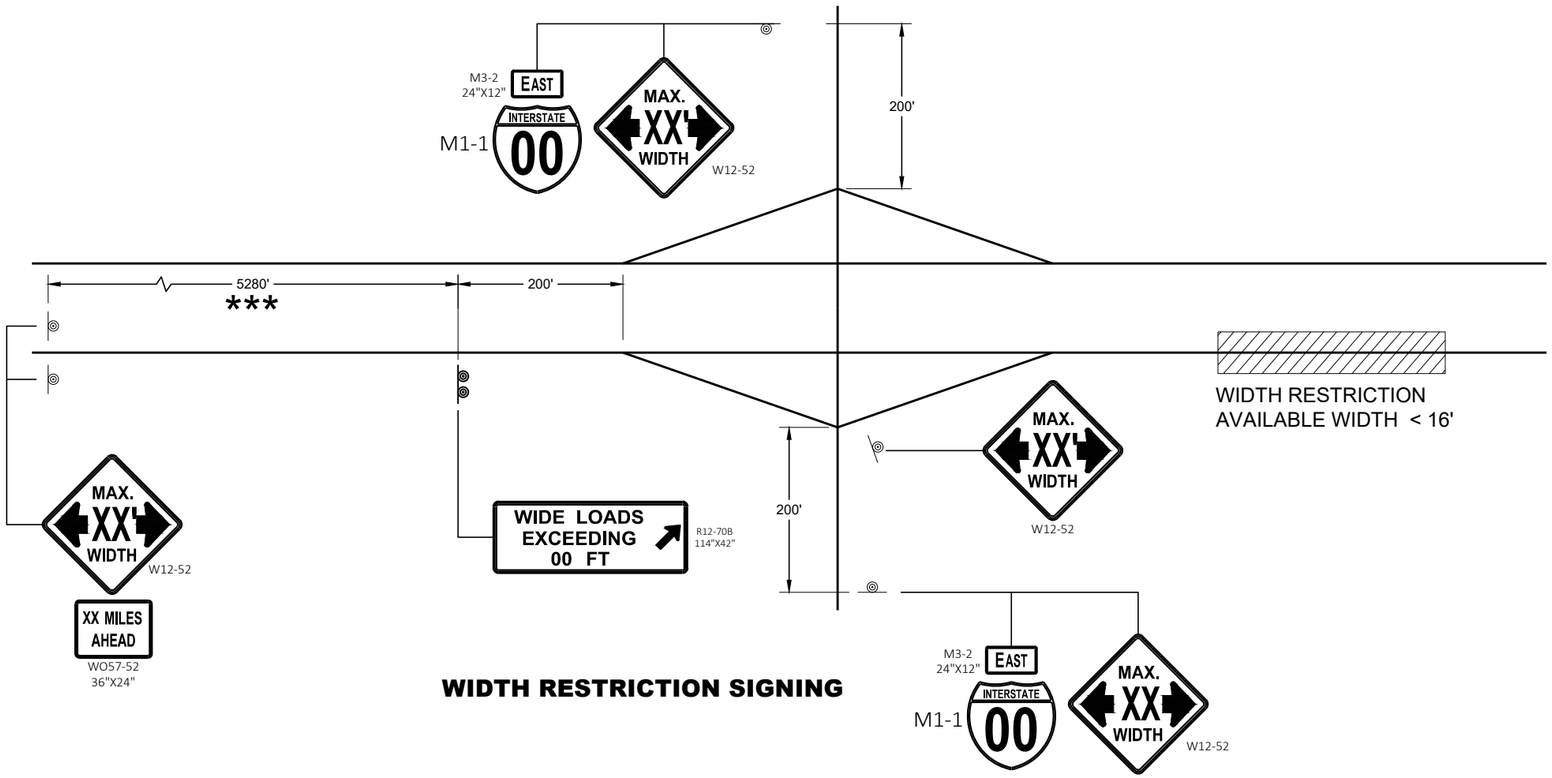
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D[UNIT SUPERVIS
NT
FHWA

6

S.D.D. 14 B 45-5d

6

S.D.D. 14 B 45-5d



WIDTH RESTRICTION SIGNING

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

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

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

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

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

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

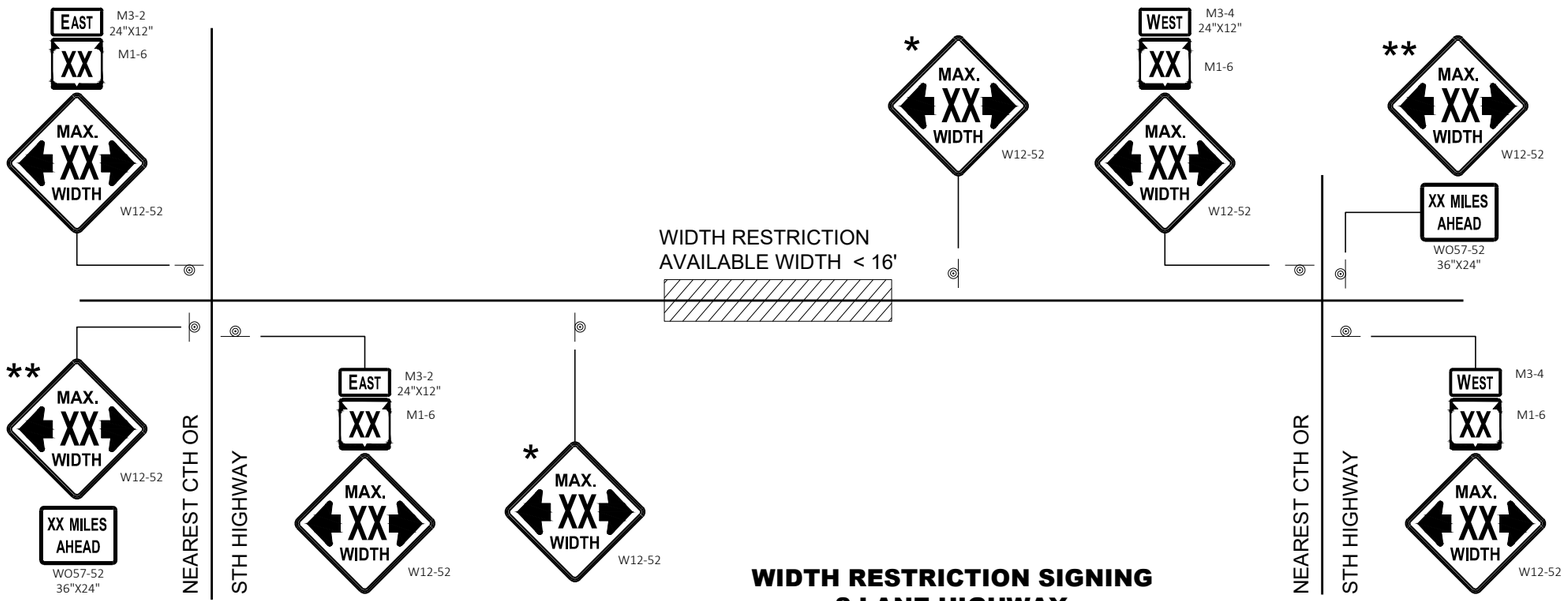
WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.

* PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.

** SIGN SHALL BE VISIBLE FROM ROADWAY.

*** ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

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



WIDTH RESTRICTION SIGNING
2 LANE HIGHWAY

ADVANCED WIDTH RESTRICTION SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 08f

GENERAL NOTES

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

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

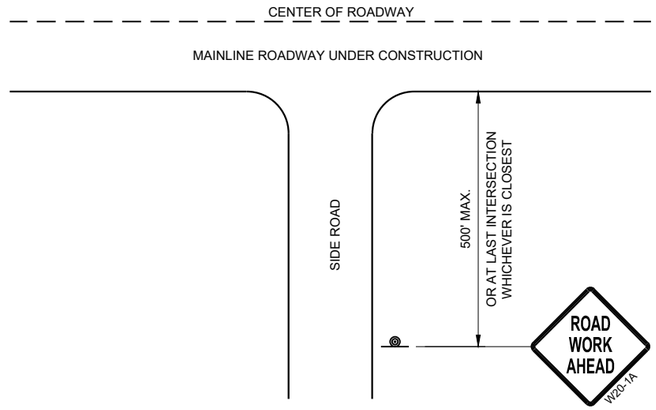
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS

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



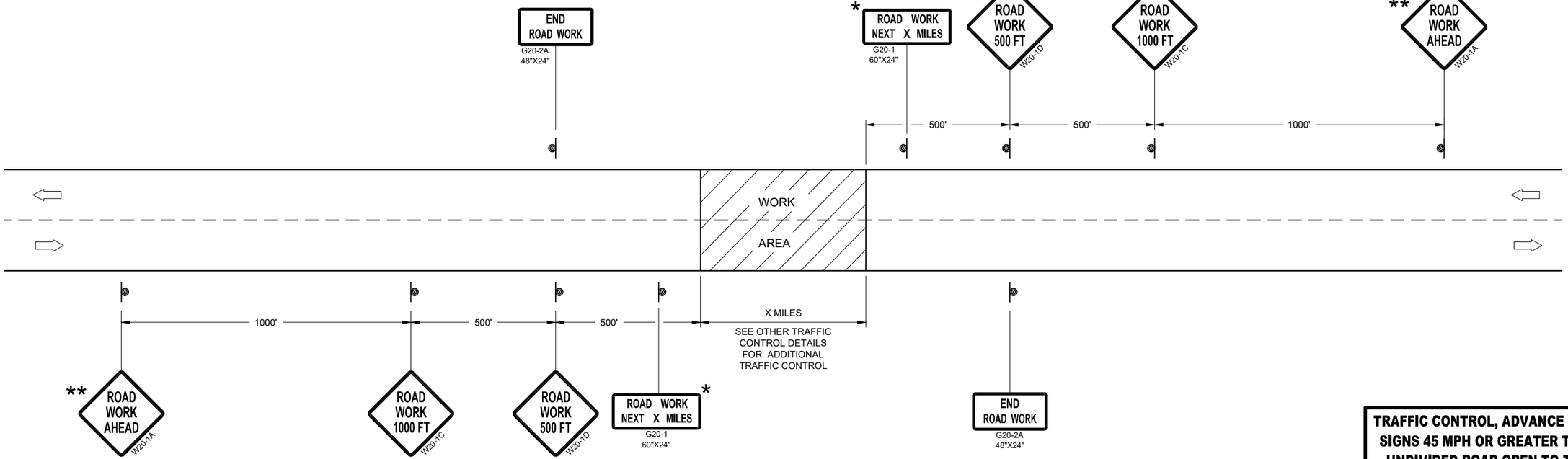
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

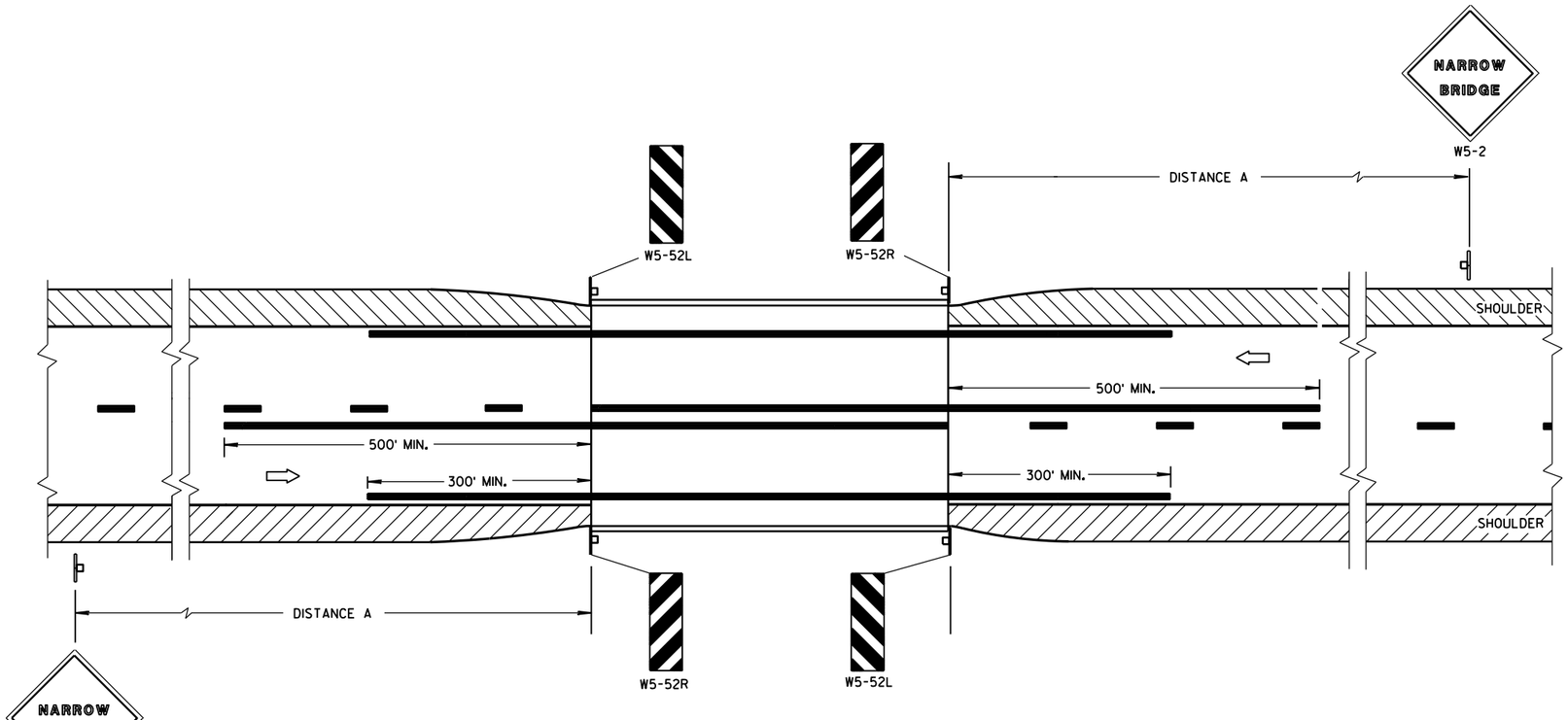
APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.

DISTANCE TABLE

POSTED OR 85th PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	750'

GENERAL NOTES

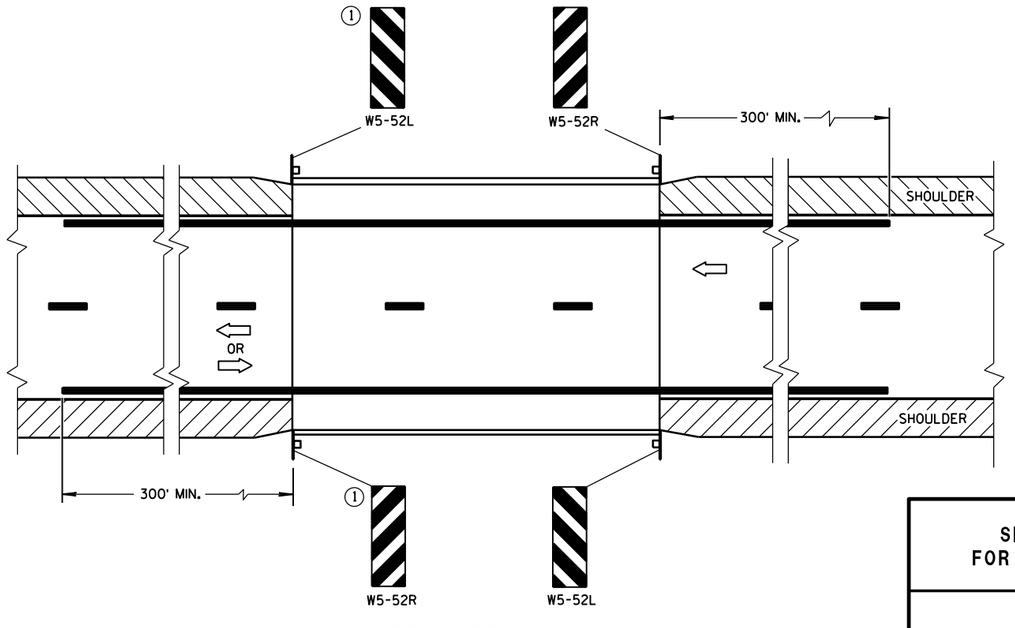
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET.

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

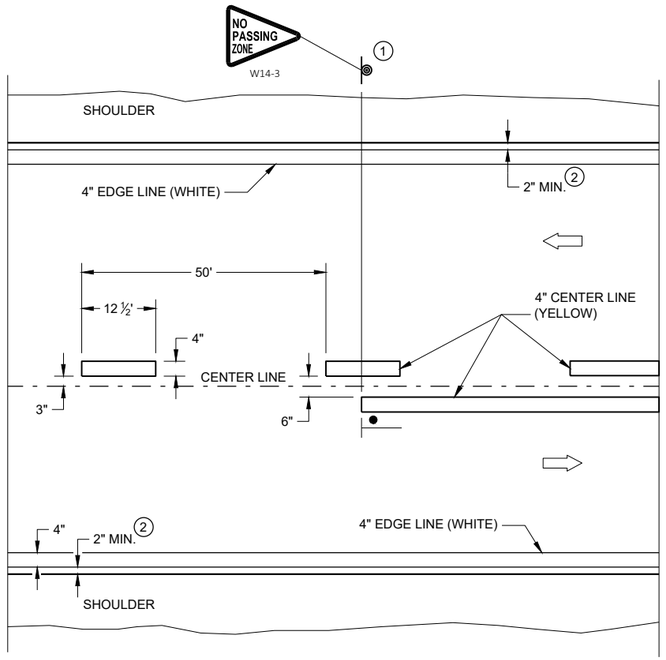
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

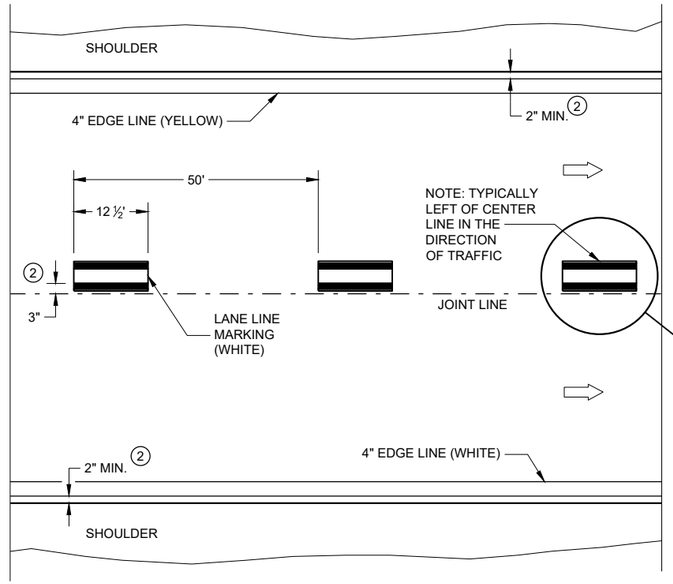
S.D.D. 15 C 6-9

6

S.D.D. 15 C 6-9

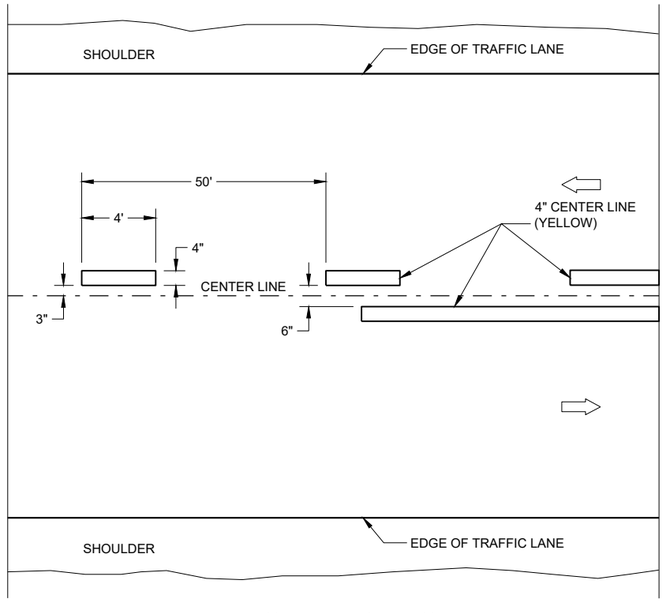


TWO WAY TRAFFIC

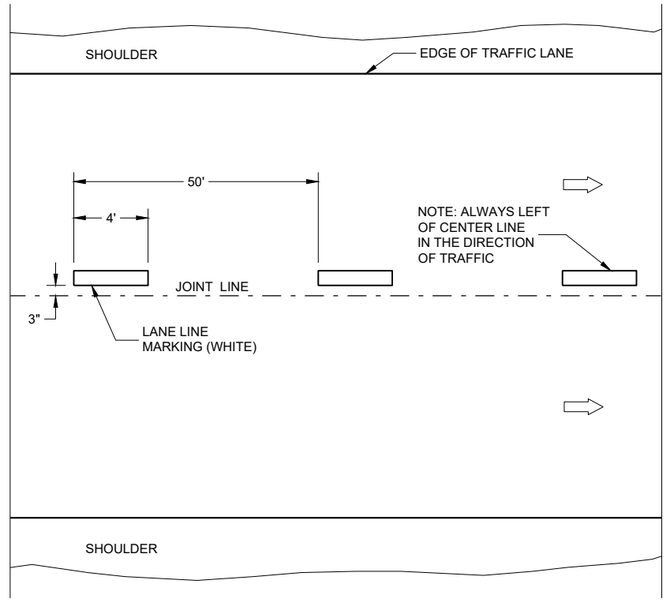


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

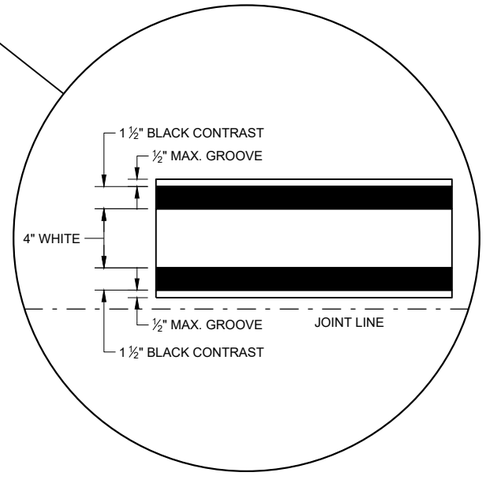
1. LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
2. MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Matthew Rauch
STATEWIDE SIGNING AND M ENGINEER

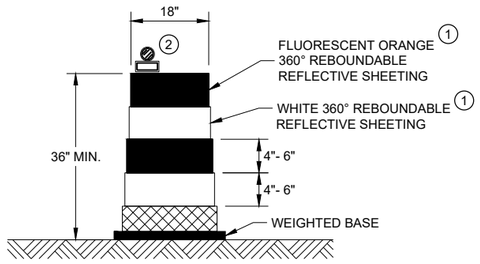
FHWA

SDD 15C08 - 20a

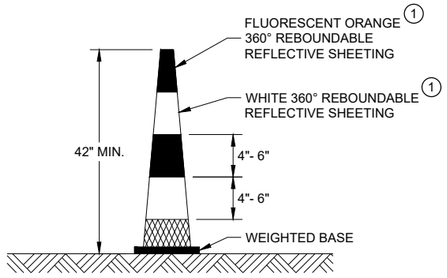
SDD 15C08 - 20a

GENERAL NOTES

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

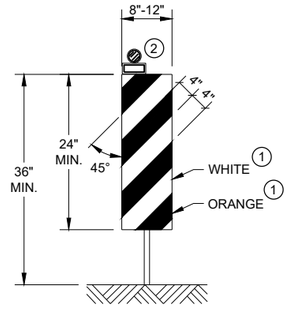


DRUM



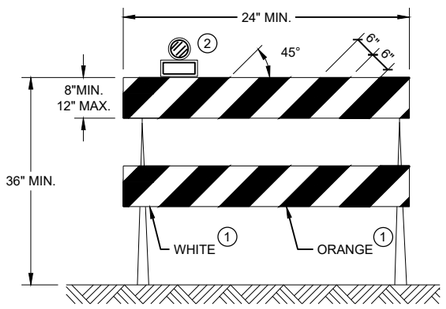
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



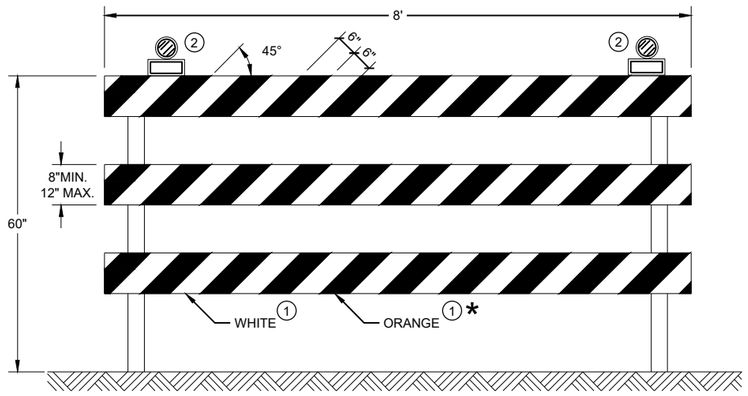
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEE
FHWA

6

SDD 15C11 - 09b

6

SDD 15C11 - 09b

LEGEND

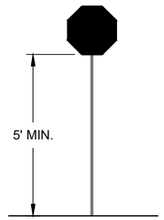
SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



STOP/SLOW PADDLE ON SUPPORT STAFF

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

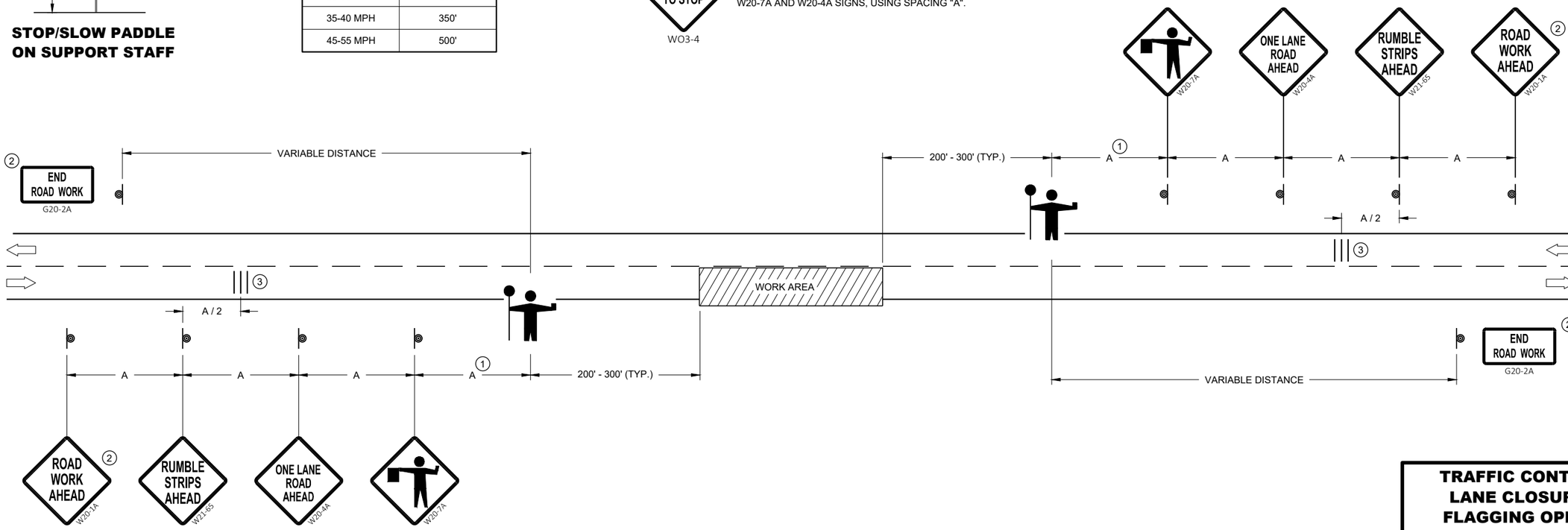
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

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



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

SDD 15C12 - 08

6
SDD 15C12 - 08

LEGEND

V1 LEAD VEHICLE

V2 MARKING VEHICLE

V3 SHADOW VEHICLE

TRUCK MOUNTED ATTENUATOR (TMA)

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

FLASHING ARROW PANEL (CAUTION)

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

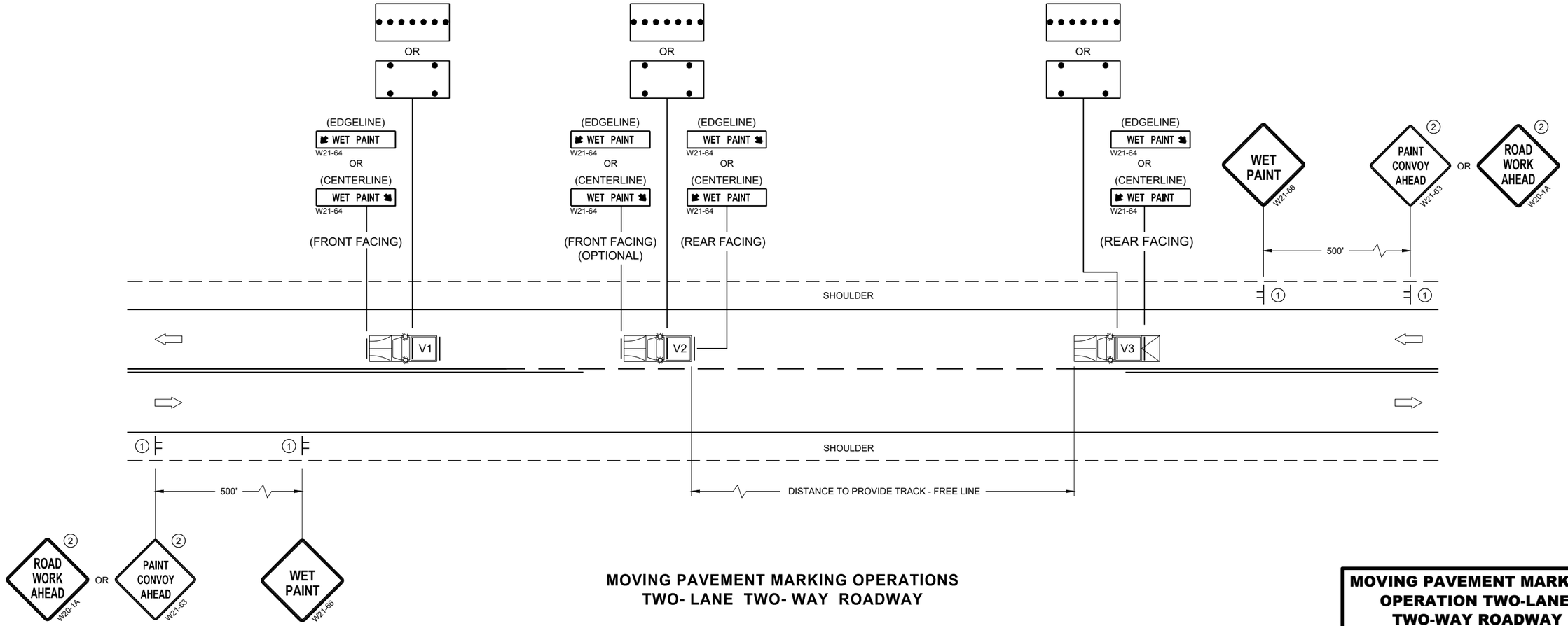
WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

(1) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(2) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.



MOVING PAVEMENT MARKING OPERATIONS TWO- LANE TWO- WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2019
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15C19 - 06a

SDD 15C19 - 06a

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

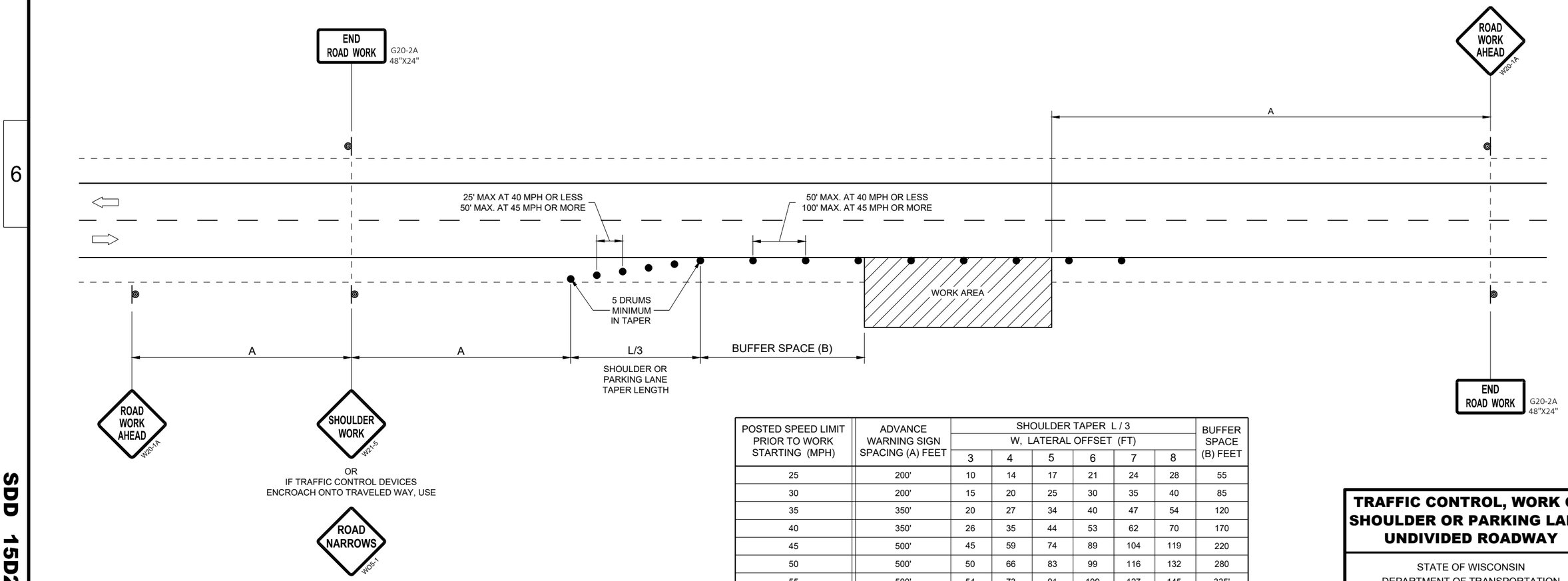
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT)						BUFFER SPACE (B) FEET
		3	4	5	6	7	8	
25	200'	10	14	17	21	24	28	55
30	200'	15	20	25	30	35	40	85
35	350'	20	27	34	40	47	54	120
40	350'	26	35	44	53	62	70	170
45	500'	45	59	74	89	104	119	220
50	500'	50	66	83	99	116	132	280
55	500'	54	73	91	109	127	145	335'

TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

FLAGS, 16" X 16" MIN. (ORANGE)

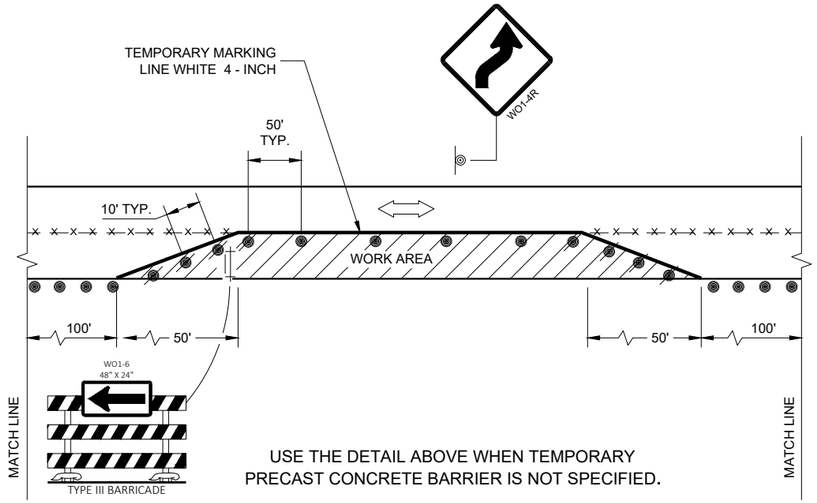
REMOVING PAVEMENT MARKING

DIRECTION OF TRAFFIC

ASPHALTIC PAVEMENT WIDENING

CONCRETE BARRIER TEMPORARY PRECAST

TEMPORARY SIGNAL. SEE SDD 09G02 FOR EXACT PLACEMENT



USE THE DETAIL ABOVE WHEN TEMPORARY PRECAST CONCRETE BARRIER IS NOT SPECIFIED.

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

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.

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

(1) 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.

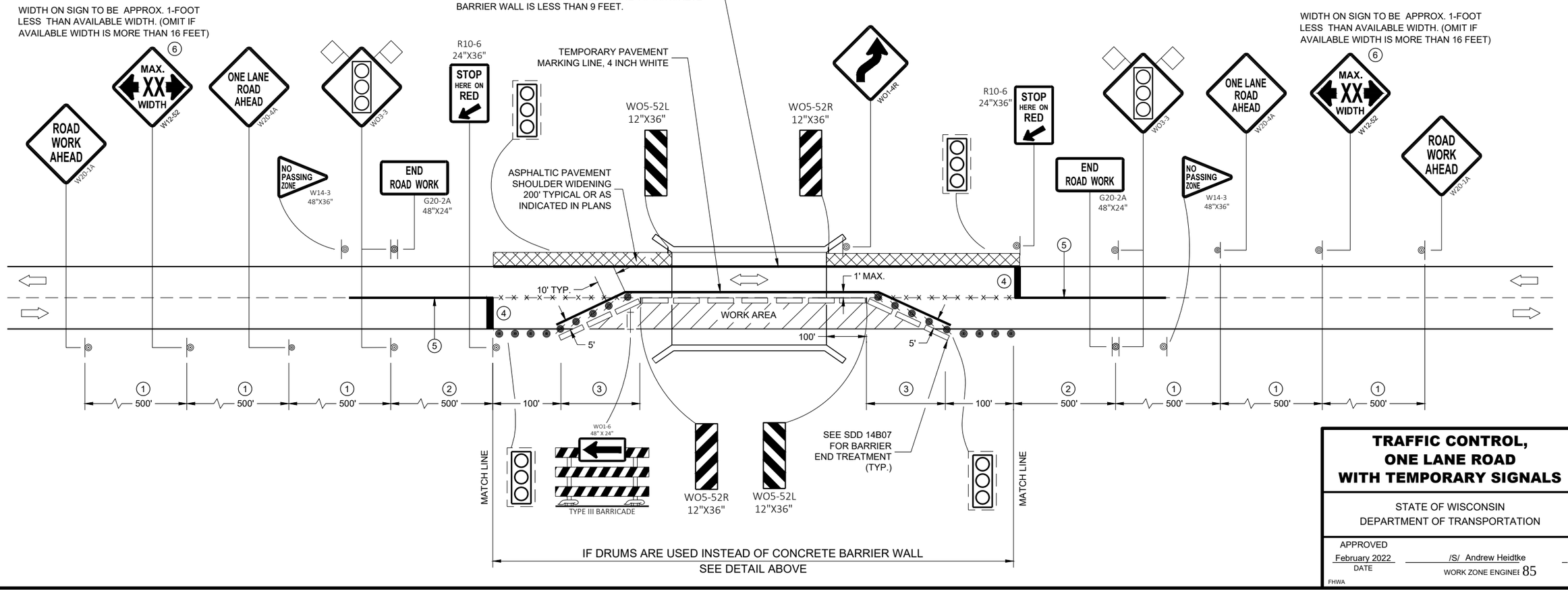
(2) USE 300 FOOT SPACING IF THE PRE - CONSTRUCTION REGULATORY SPEED IS 35 MPH OR LESS.

(3) DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.

(4) TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.

(5) 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 4 INCH DOUBLE YELLOW . WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.

(6) SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022
DATE

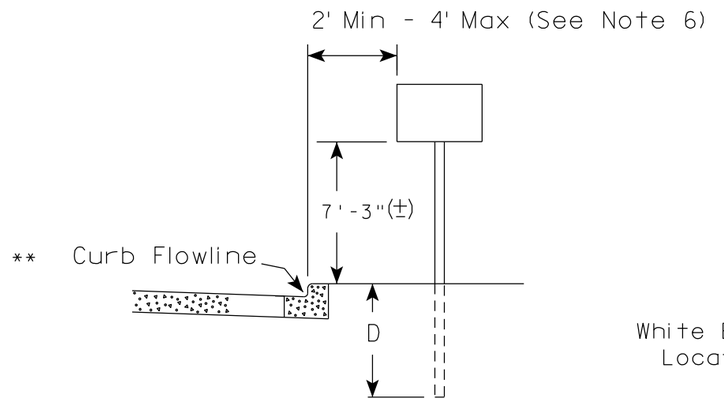
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

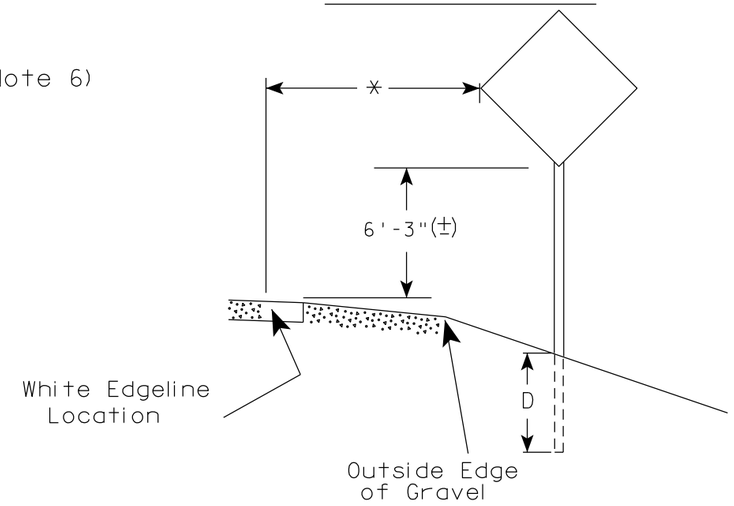
SDD 15D33 - 07

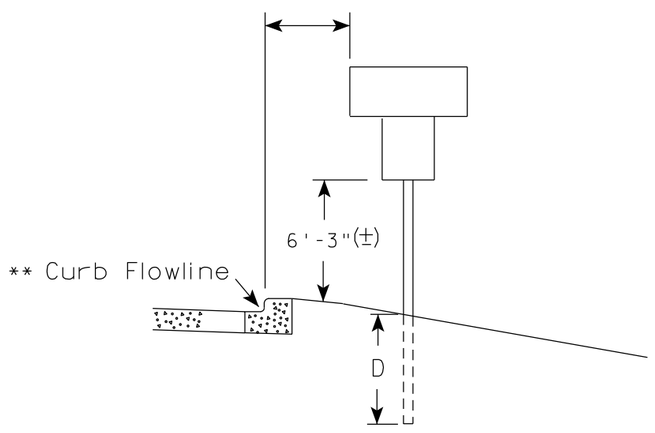
SDD 15D33 - 07

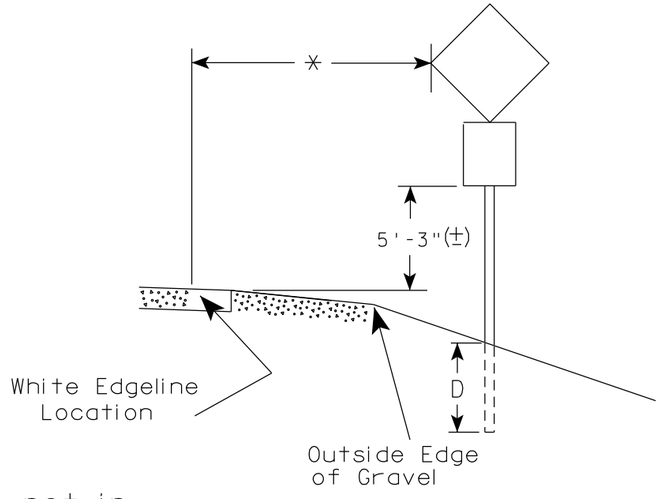
URBAN AREA



RURAL AREA (See Note 2)







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

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

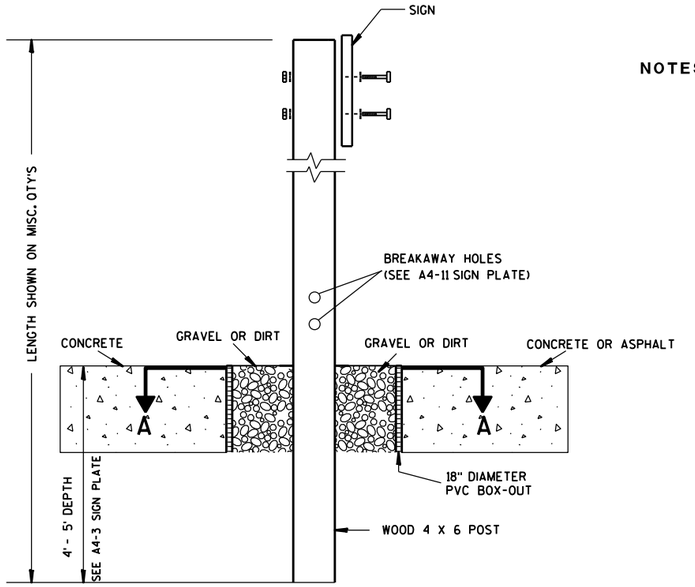
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

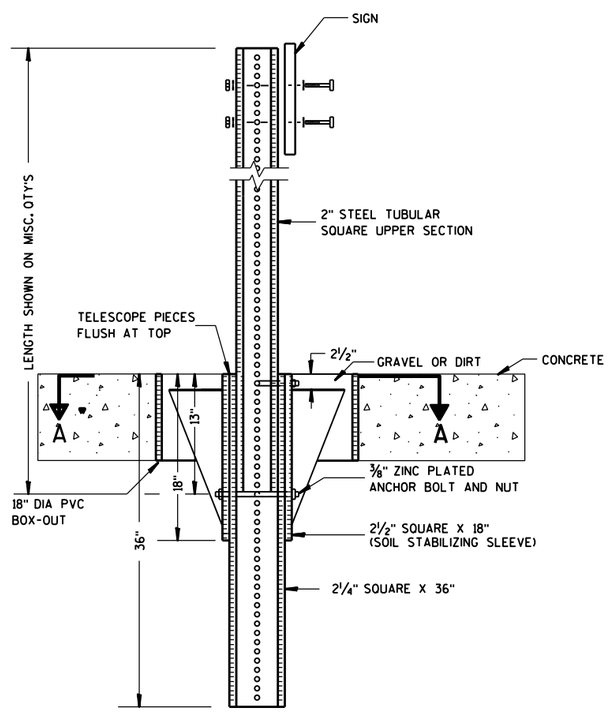
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 86	E



ELEVATION VIEW

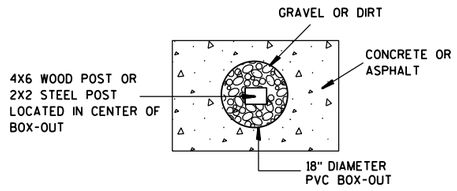
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

NOTES:
1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

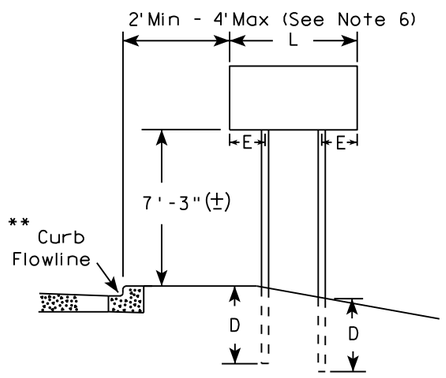
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

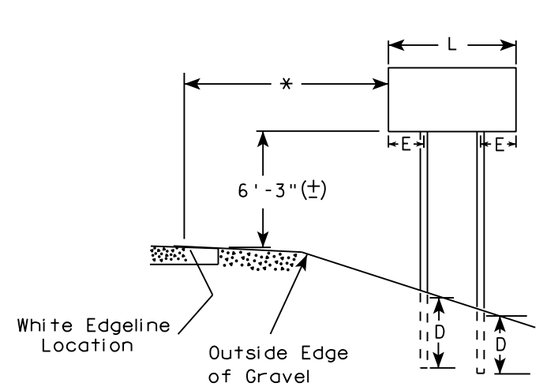
DATE 1/27/14 PLATE NO. A4-3B.1

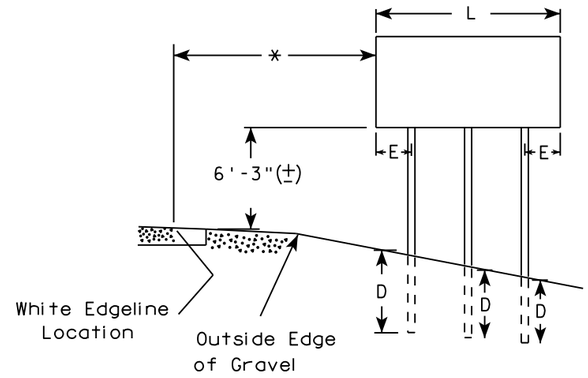
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

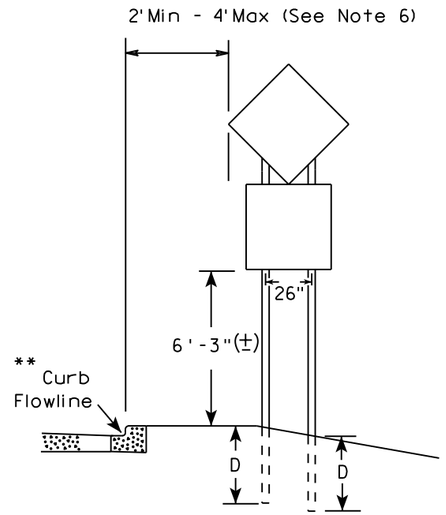
URBAN AREA



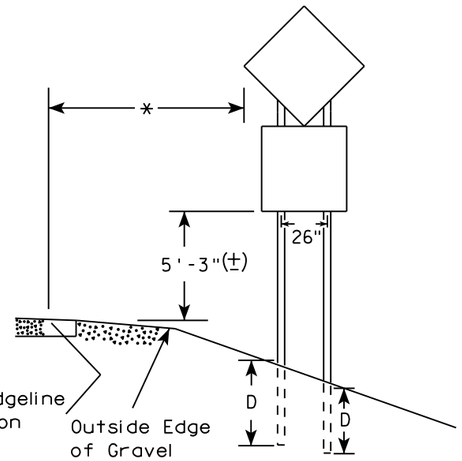
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

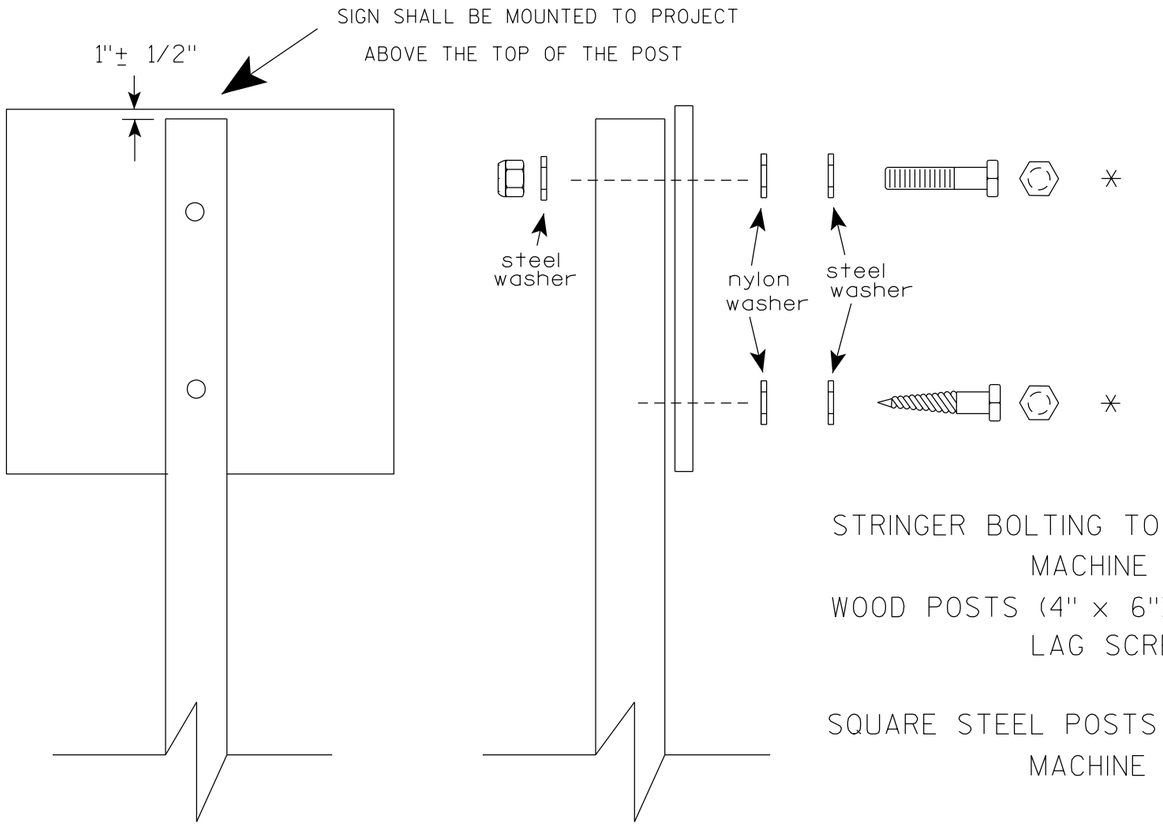
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 88	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

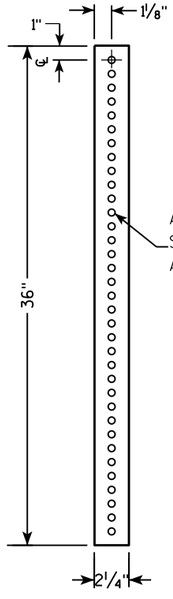
SHEET NO: 89 E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 01-APRIL-2020 PLOT BY : dotc4c

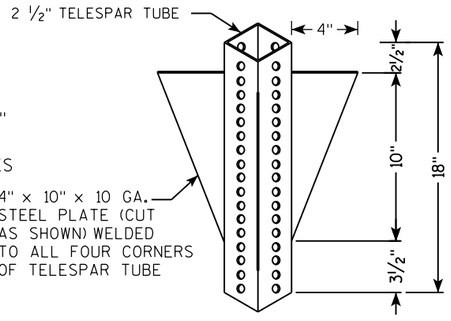
WISDOT/CADDS SHEET 42

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

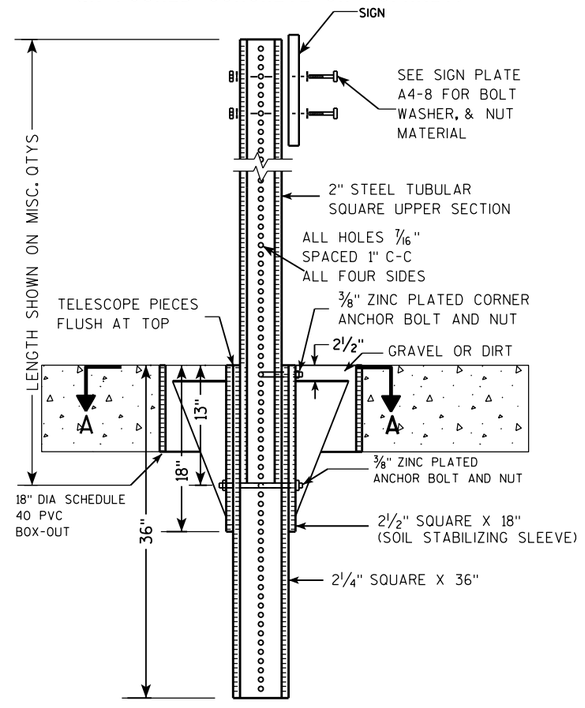
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



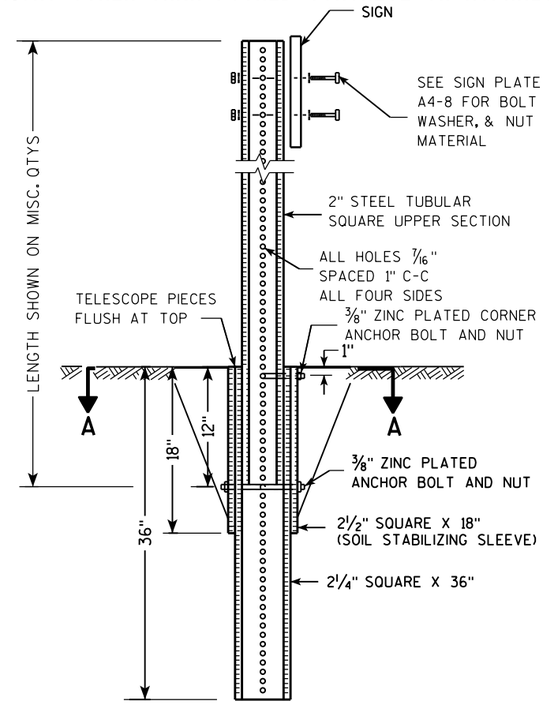
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

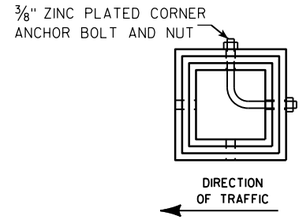


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



DETAIL OF TUBULAR STEEL SIGN POST
(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)





SECTION A-A

Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

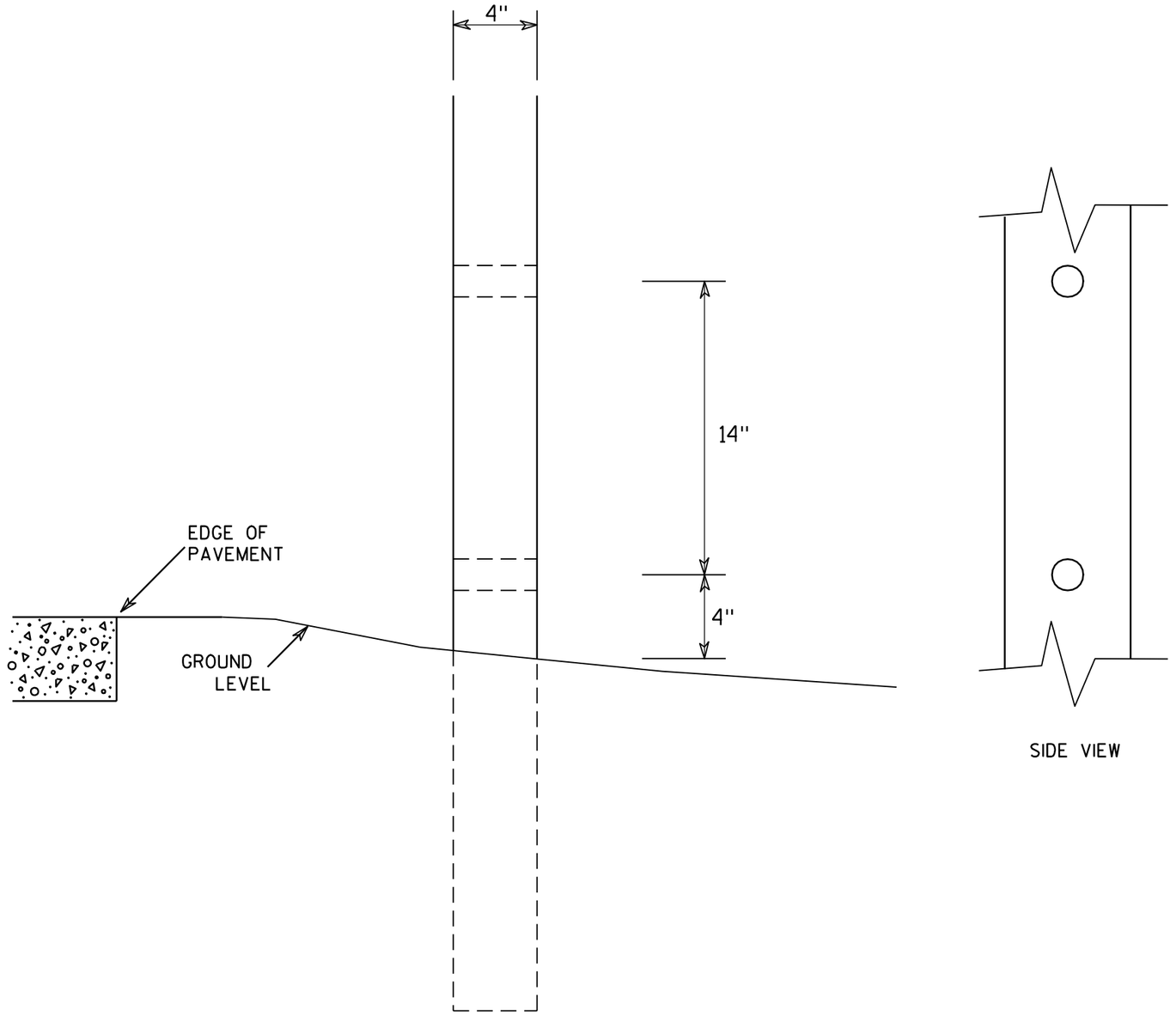
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 90 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

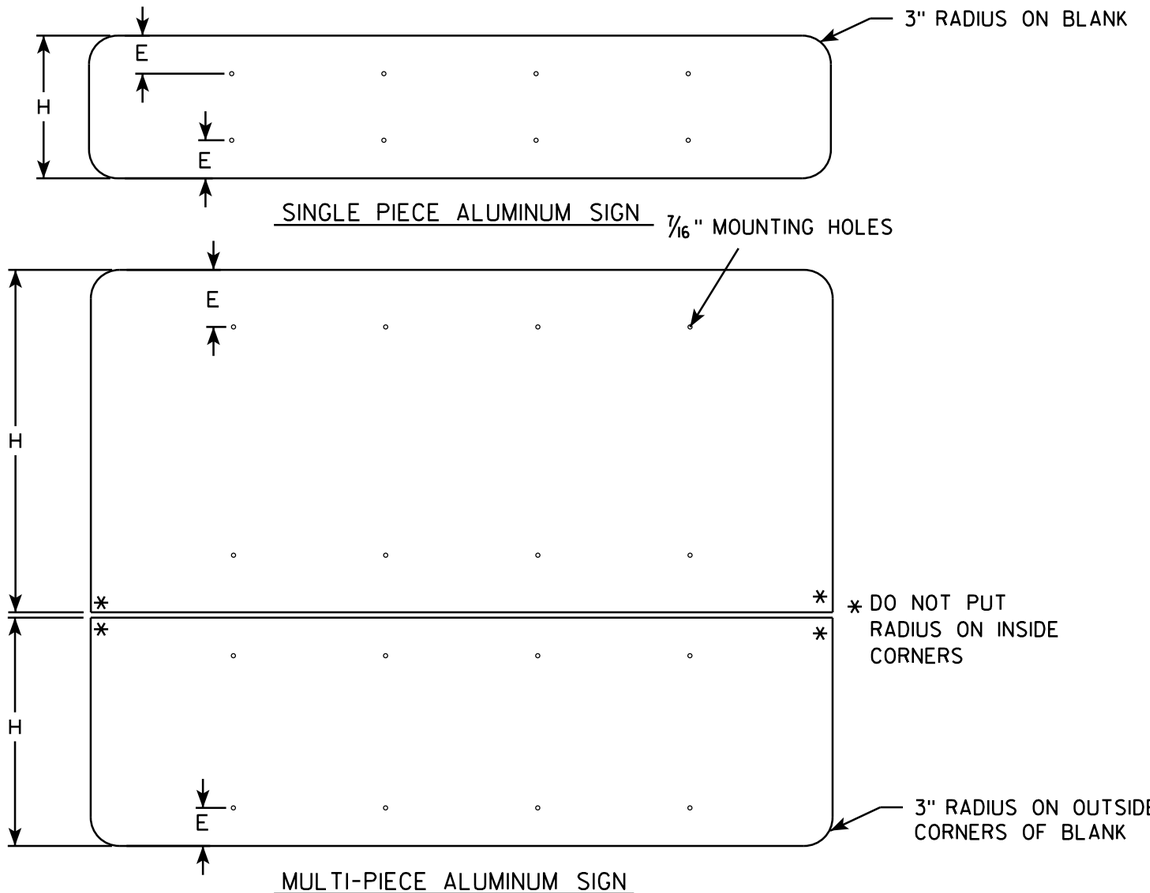
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

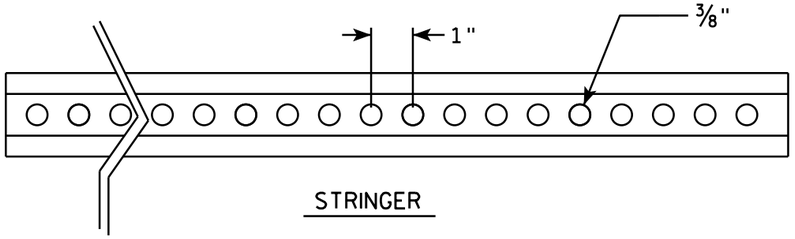
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 91	E



GENERAL NOTES

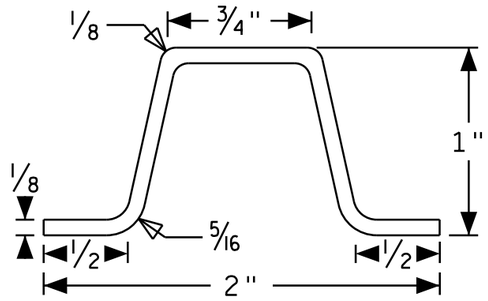
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

SIGN WIDTH	STRINGER WIDTH	POSTS	HOLE SPACING	MOUNTING HOLES
78"	72"	2	16"	15" 31" 47" 63"
84"	72"	2	17"	16½" 33½" 50½" 67½"
90"	72"	2	18"	18" 36" 54" 72"
96"	90"	2	19"	19½" 38½" 57½" 76½"
102"	90"	2	20"	21" 41" 61" 81"
108"	90"	2	21"	22½" 43½" 64½" 85½"
114"	108"	3	15"	12" 27" 42" 57" 72" 87" 102"
120"	108"	3	16"	12" 28" 44" 60" 76" 92" 108"
126"	108"	3	17"	12" 29" 46" 63" 80" 97" 114"
132"	126"	3	18"	12" 30" 48" 66" 84" 102" 120"
138"	126"	3	19"	12" 31" 50" 69" 88" 107" 126"
144"	126"	3	20"	12" 32" 52" 72" 92" 112" 132"

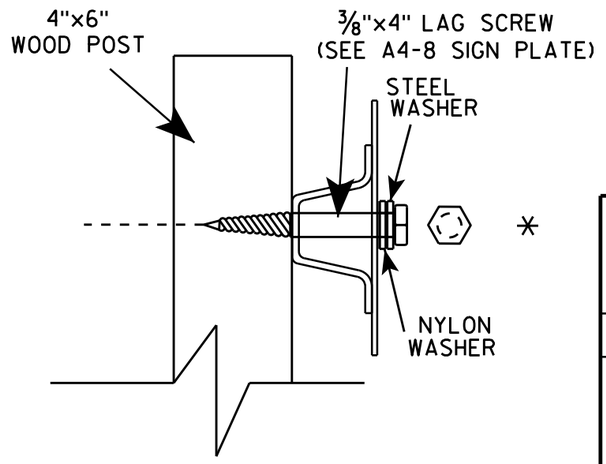


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

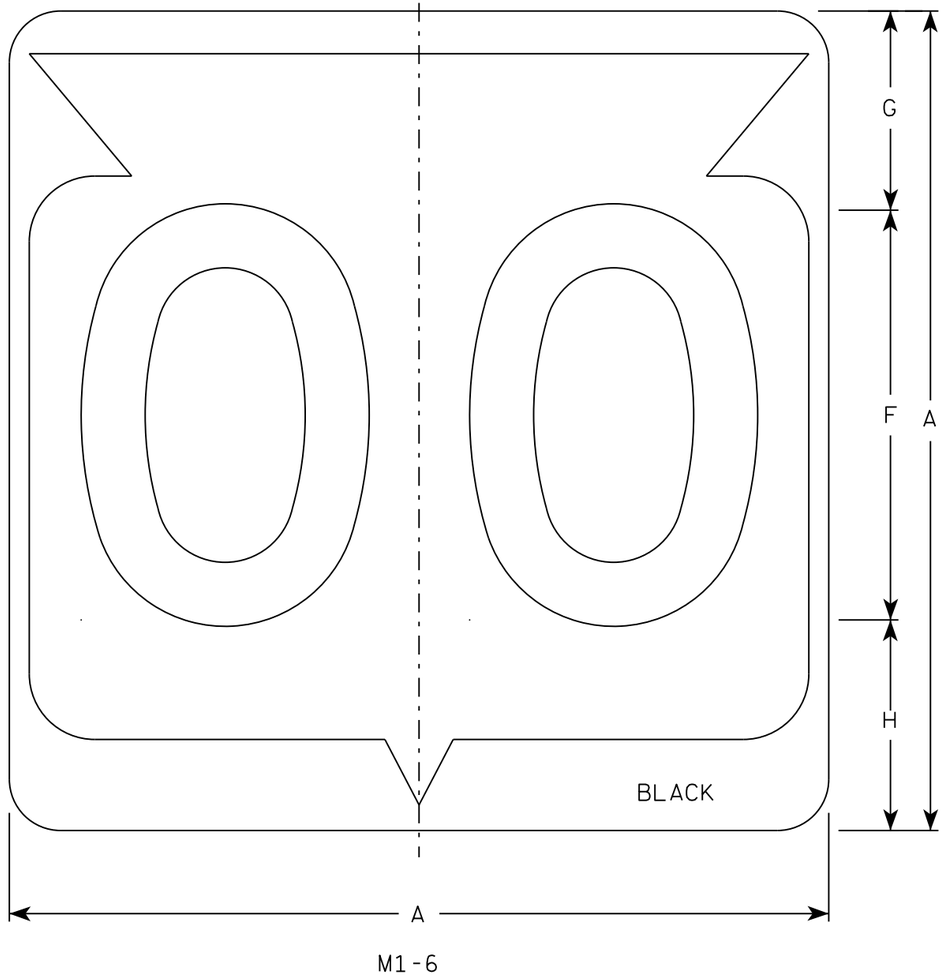
APPROVED Matthew R Rauch

for State Traffic Engineer

DATE 4/26/16 PLATE NO A4-18.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

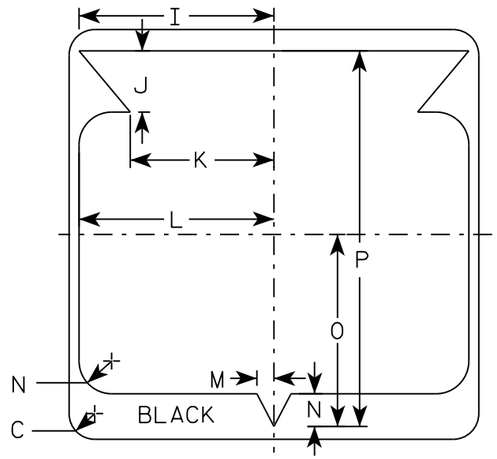
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42



M1-6

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

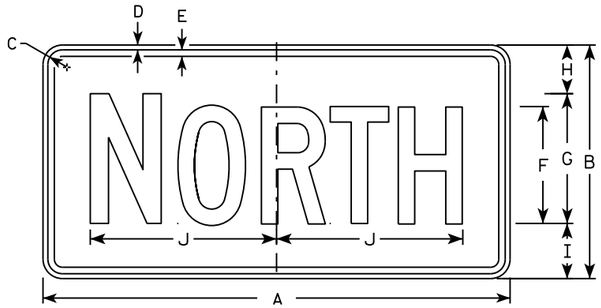
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

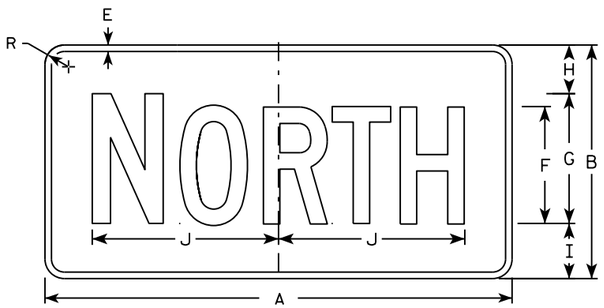
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 3/16/18 PLATE NO. M1-6.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 93 E



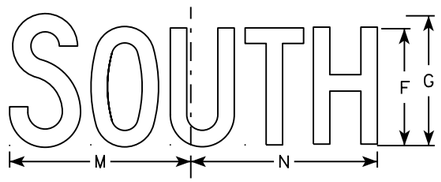
M3-1
MM3-1
MP3-1



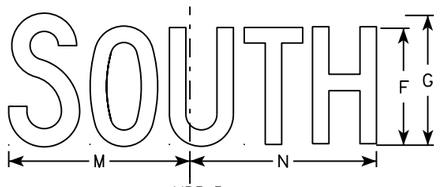
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

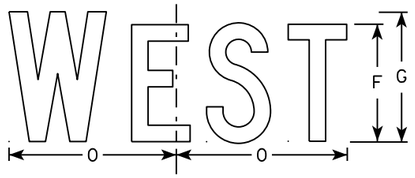
MB3-2
MK3-2
MN3-2



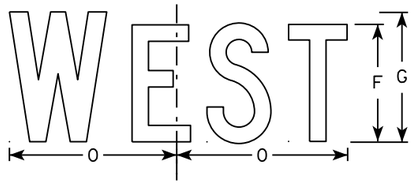
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
   MP3-1 thru MP3-4 Background - White
   Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

STANDARD SIGNS
M3-1 thur M3-4
SERIES

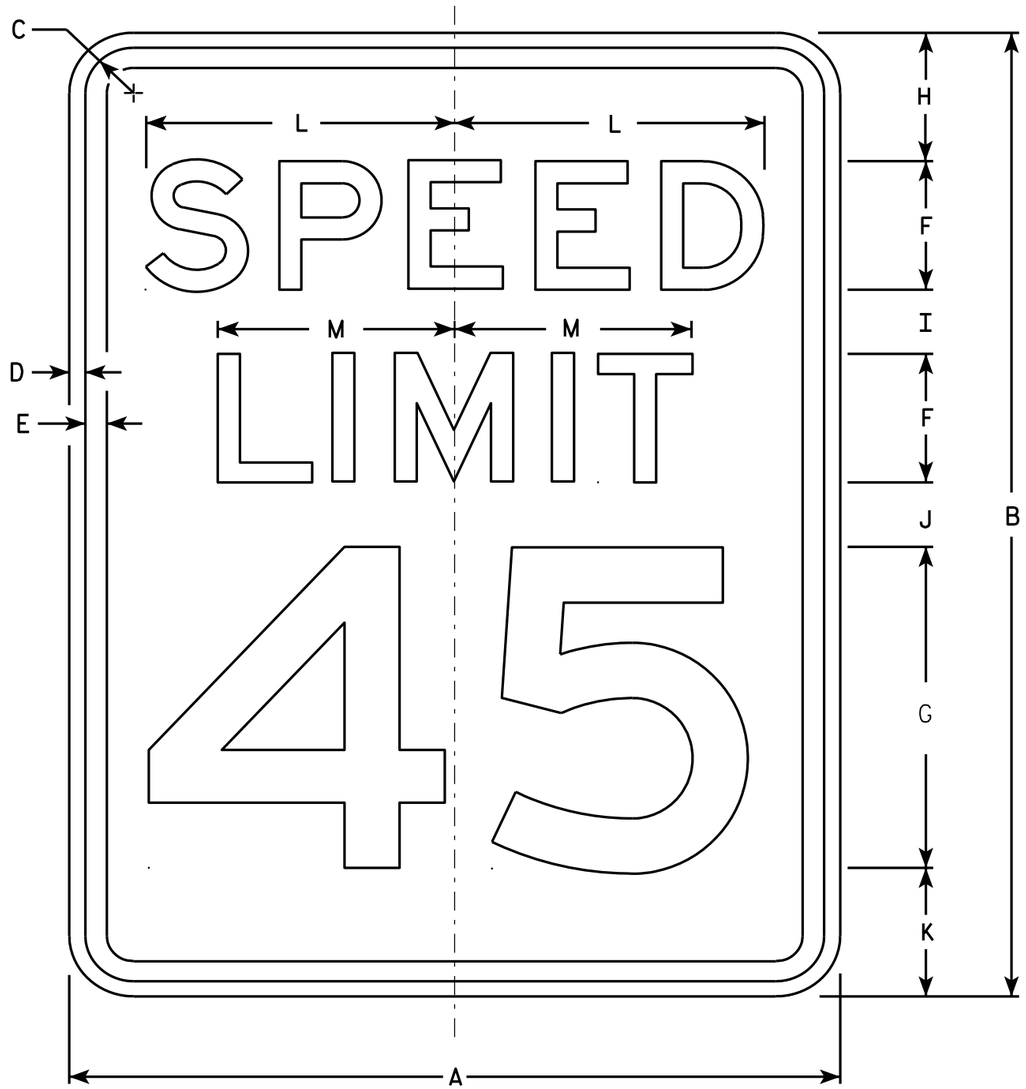
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R2-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

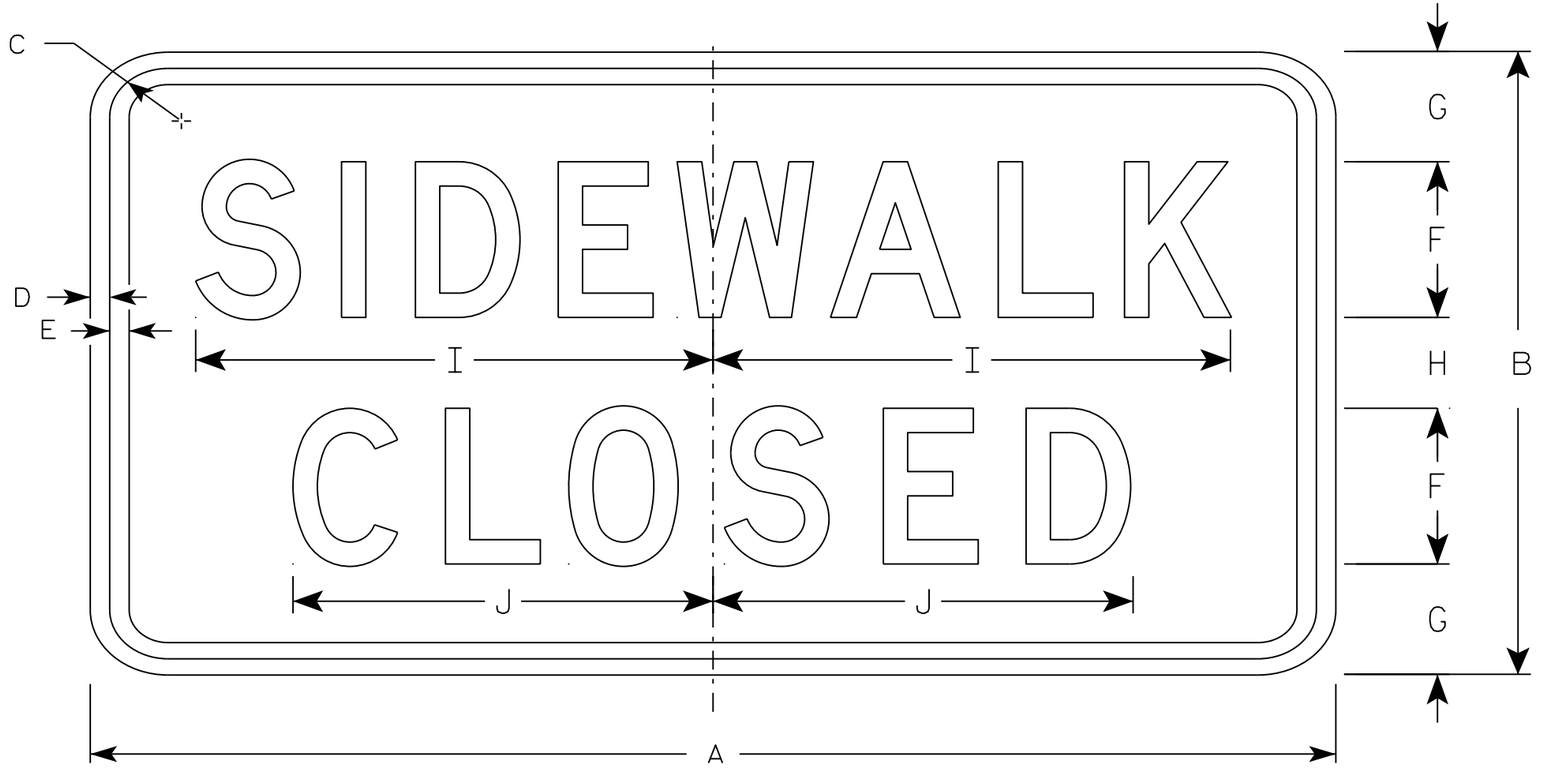
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 95 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

WISDOT/CADDS SHEET 42



R9-9

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
2M	24	12	1 3/4	1/2	1/2	3	2 1/8	1 3/4	10	8 1/8																	2.0
3	30	18	1 3/4	1/2	1/2	4	3 1/2	3	12 1/2	10 1/4																	3.75
4																											
5																											

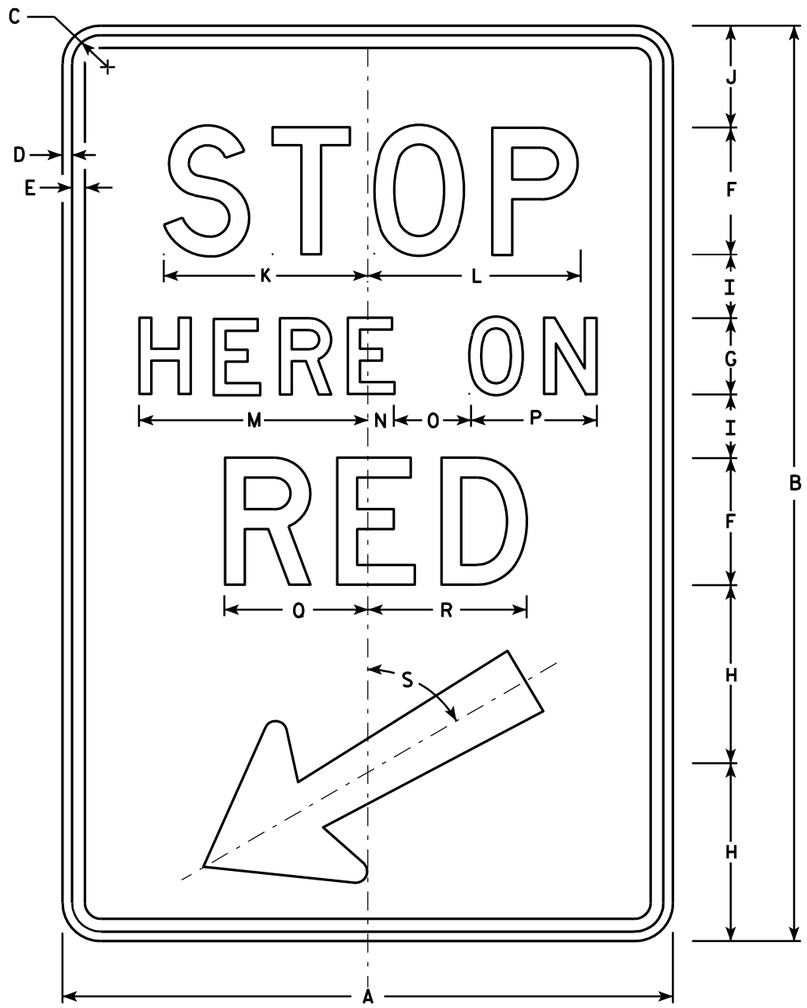
STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 96 R9-9.6

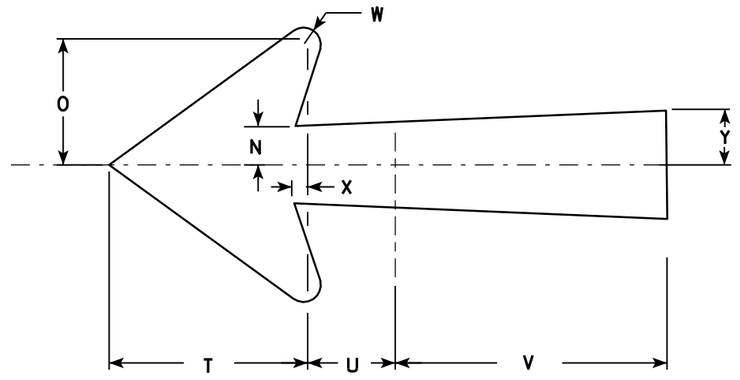
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



R10-6

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
2M	24	36	1 1/8	3/8	1/2	5	3	7	2 1/2	4	8	8 3/8	9	1	3	5	5 5/8	6 1/4	60°	5 1/4	2 1/4	7 1/8	1/2	3/8	1 3/8		6.0
3																											
4																											
5																											

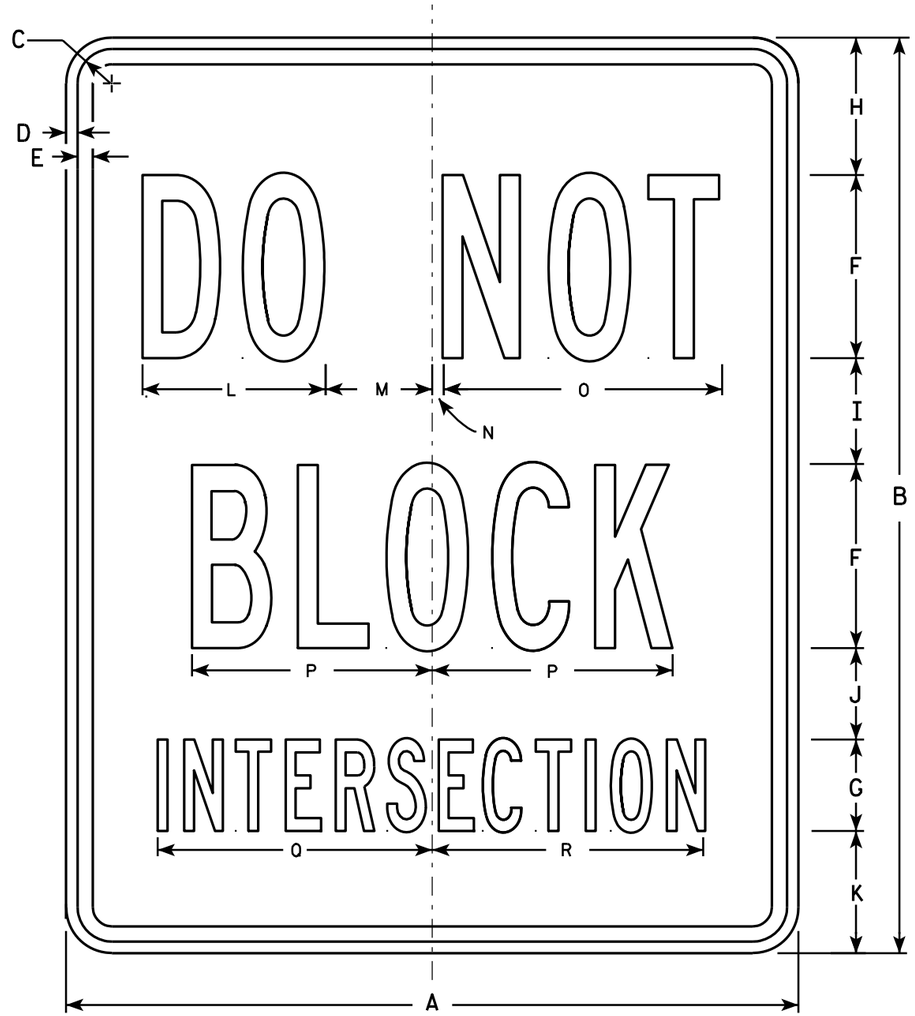
STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 97	E



R10-7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
2M	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
3	36	48	1 3/8	1/2	5/8	10	5	7	5 1/4	4 1/2	6 1/4	10	5 5/8	1/2	15 1/8	13 1/8	15	14 7/8									12.0
4																											
5																											

STANDARD SIGN
R10-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-7.5

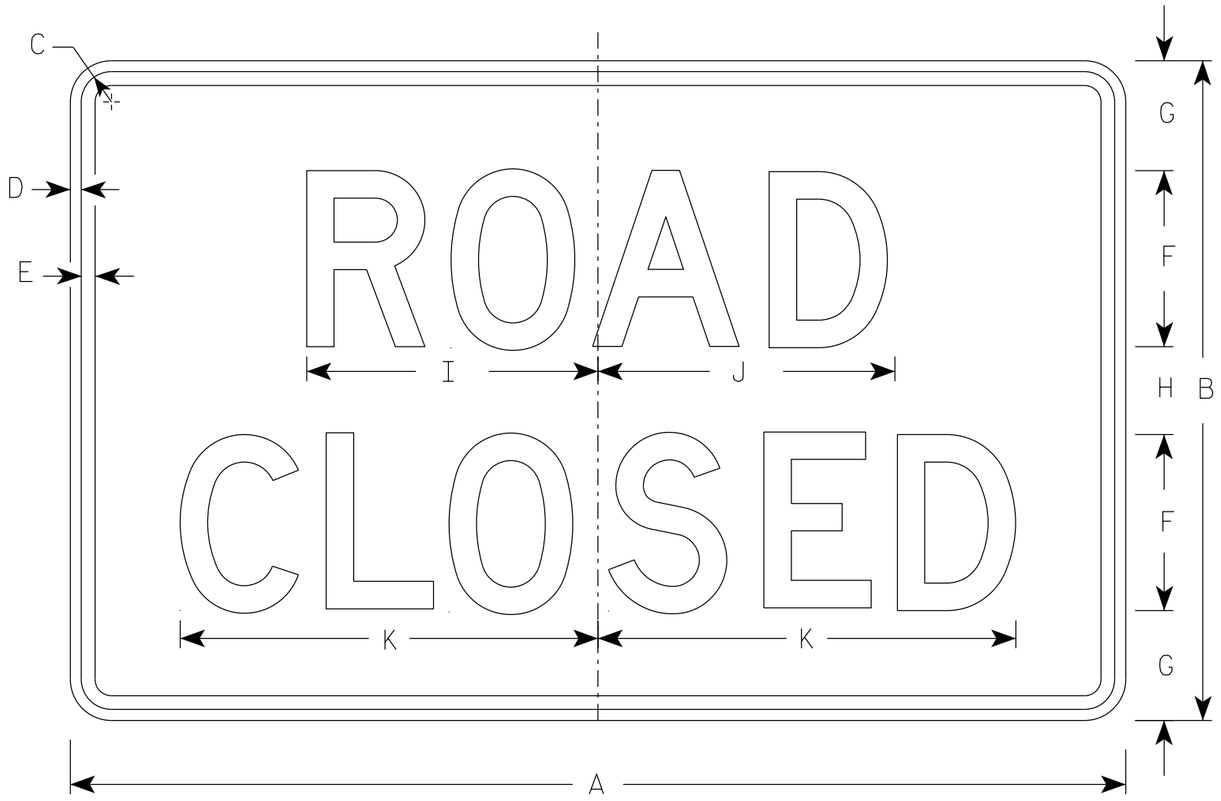
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R107.DGN PLOT DATE : 05-APR-2011 09:44 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.965868:1.000000

WISDOT/CADDS SHEET 42

7

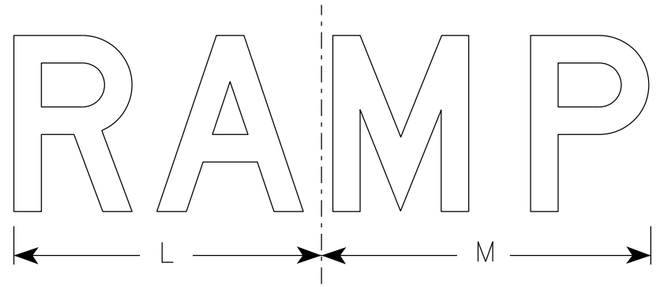
7



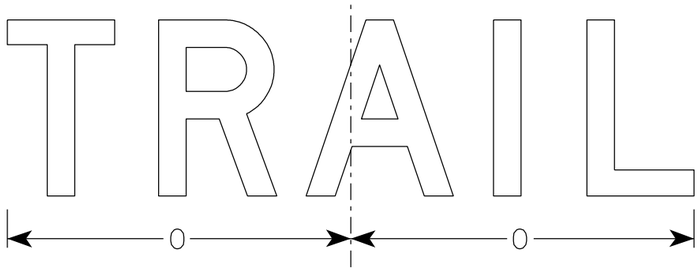
R11-2

NOTES

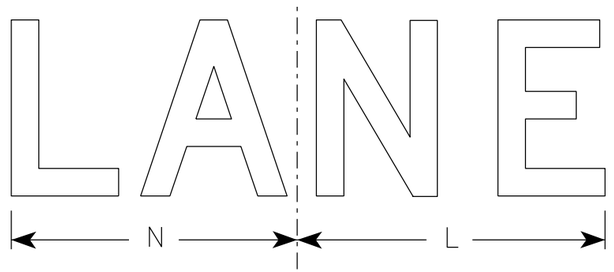
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the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



R11-2R



R11-2T



R11-2L

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

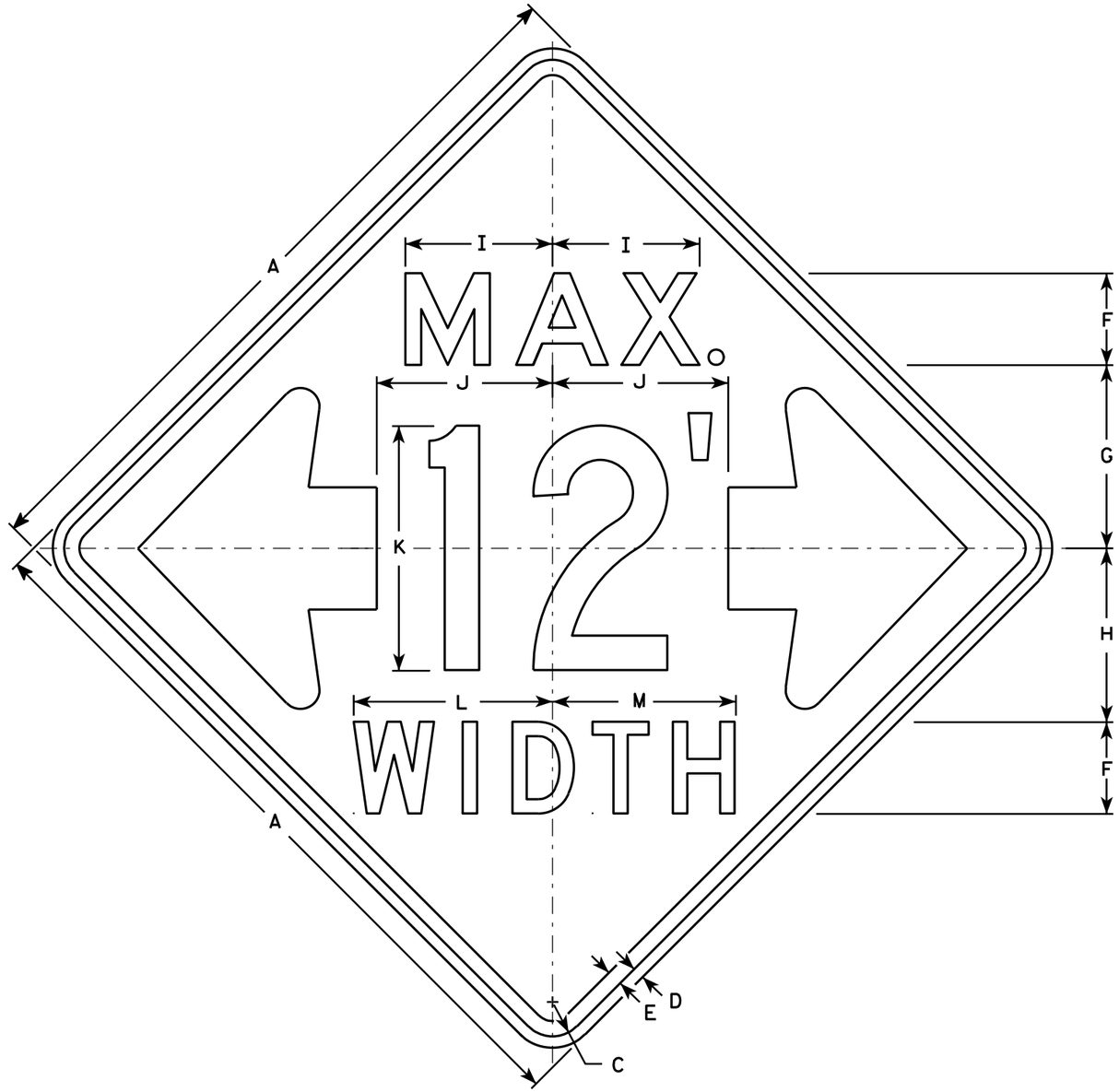
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2021 PLATE NO. R11-2.11

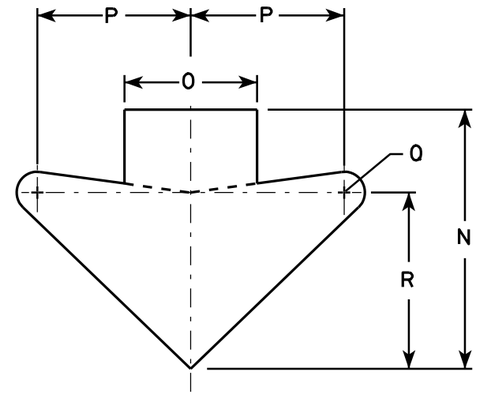
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
2M	48		2 1/4	3/4	1	6	12	11 3/8	9 5/8	11 1/2	16	13	12	15 5/8	8	9 1/4	1 1/4	10 5/8									16.0
3																											
4																											
5																											

STANDARD SIGN
W12-52

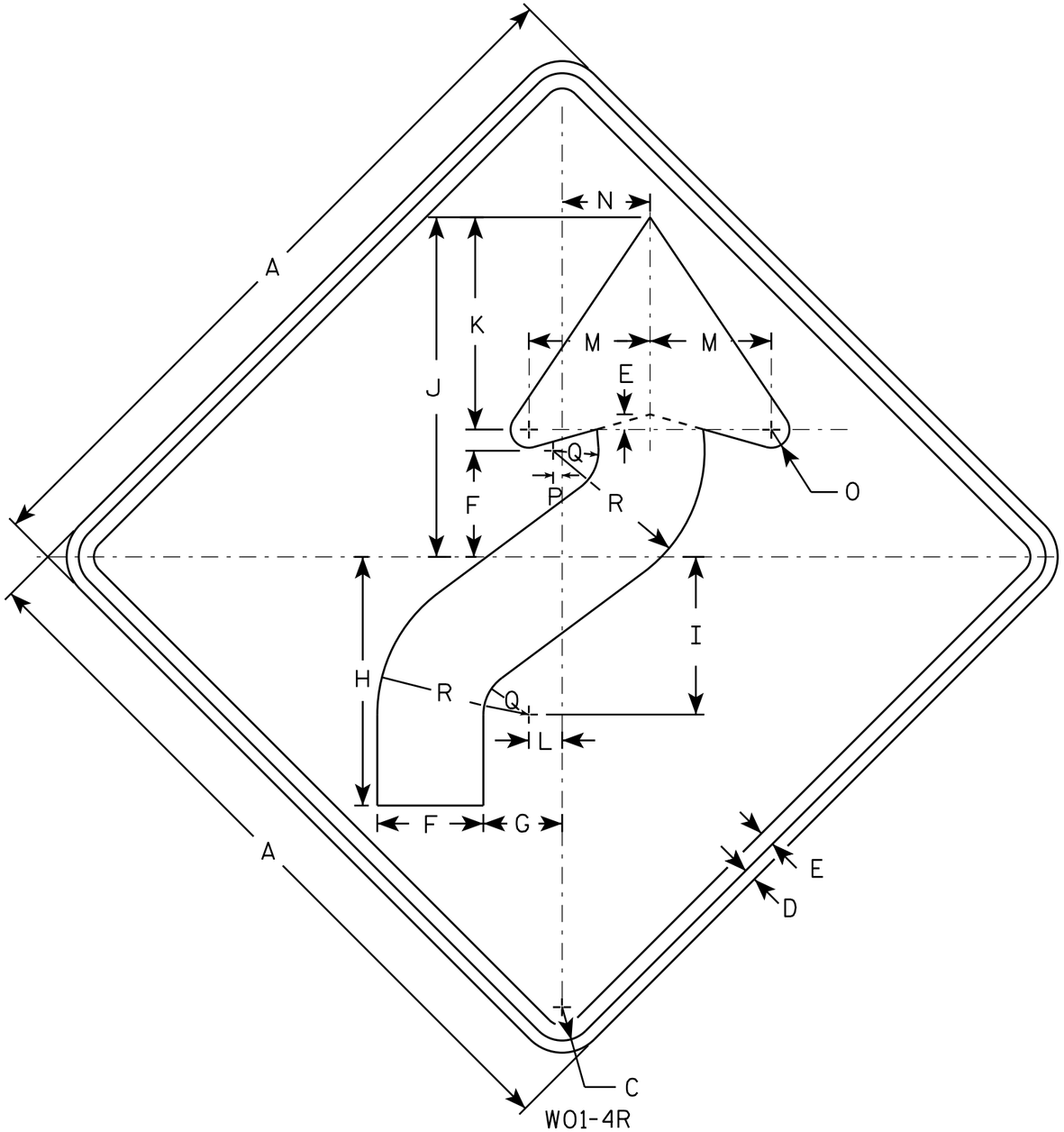
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 100 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000
WISDOT/CADDS SHEET 42



W01-4R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W01-4L is the same as W01-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
2S	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
2M	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
3	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
4	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN
W01-4

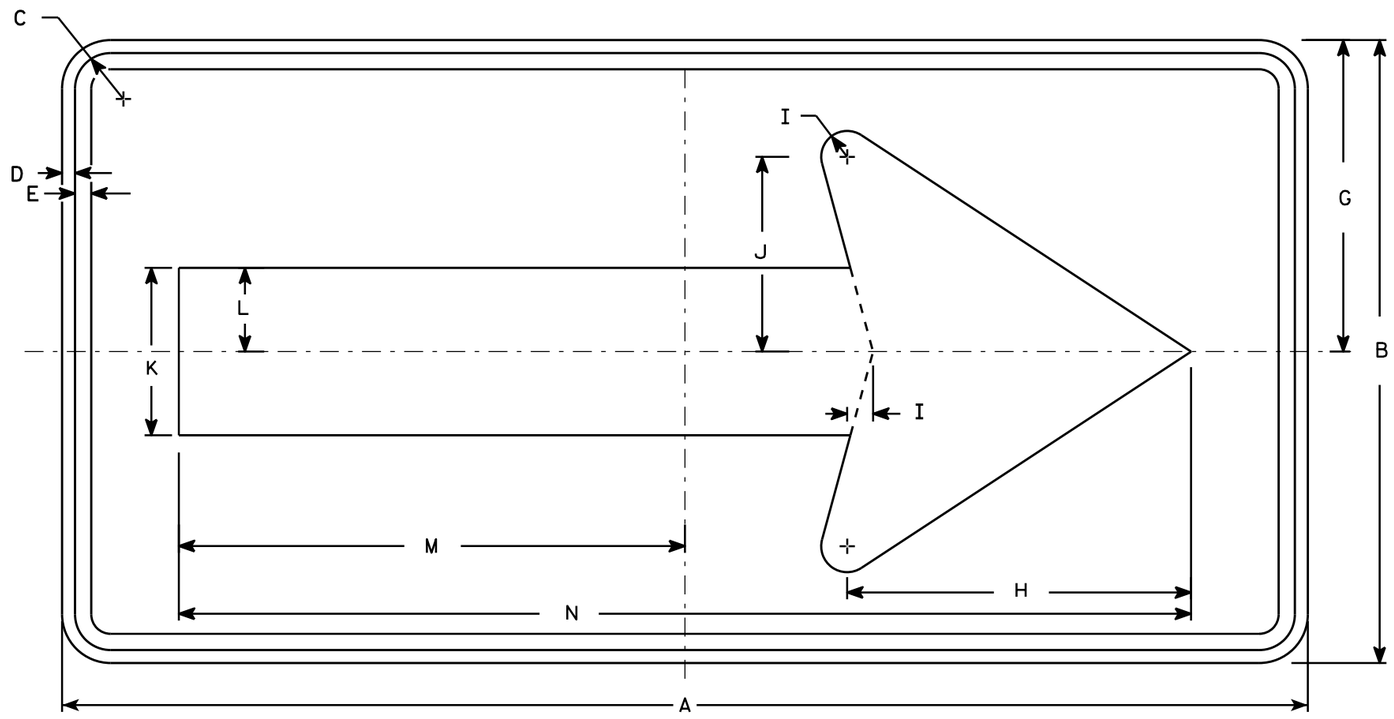
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000
WISDOT/CADDS SHEET 42



W01-6

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

STANDARD SIGN
W01-6

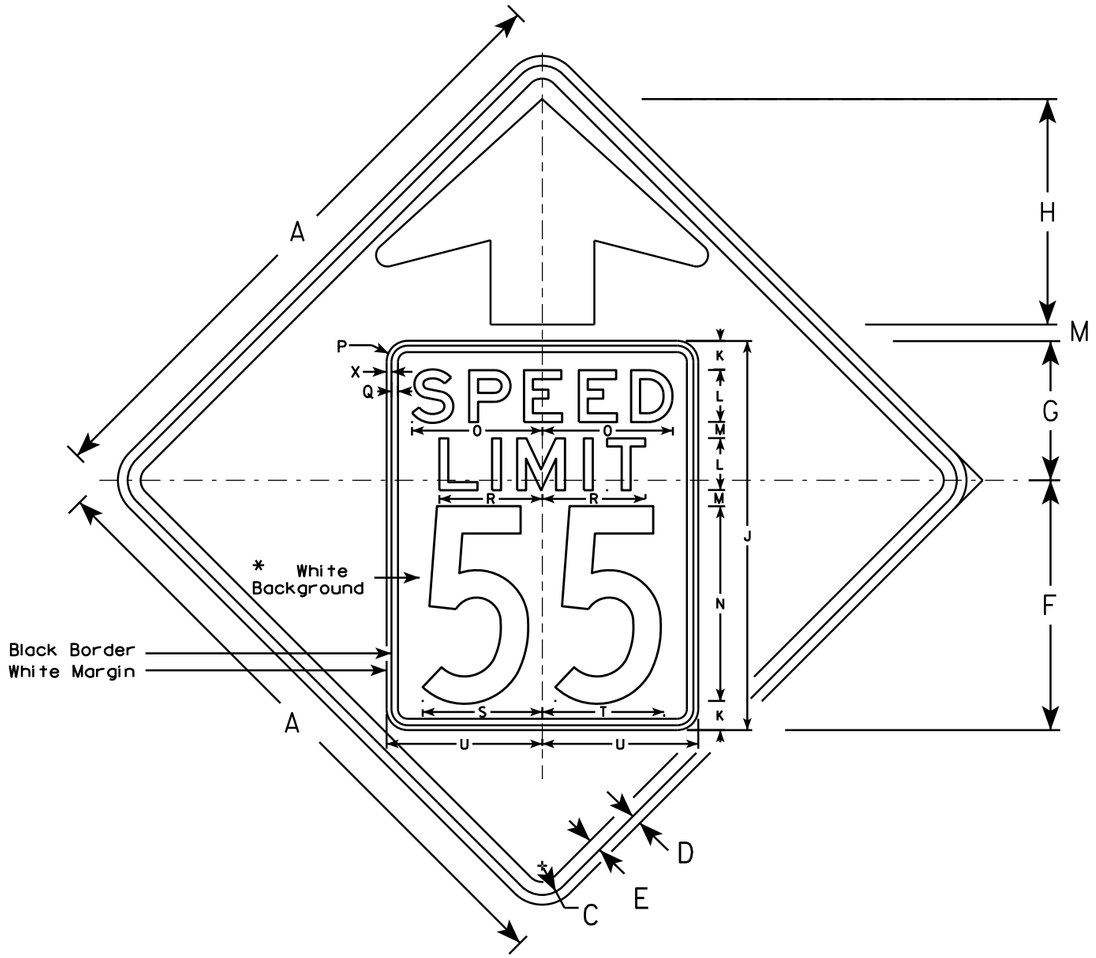
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000 WISDOT/CADDS SHEET 42

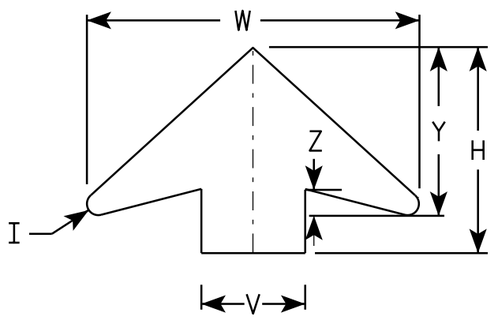


W03-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - ORANGE*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2S	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
2M	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
3	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W03-5

WISCONSIN DEPT OF TRANSPORTATION

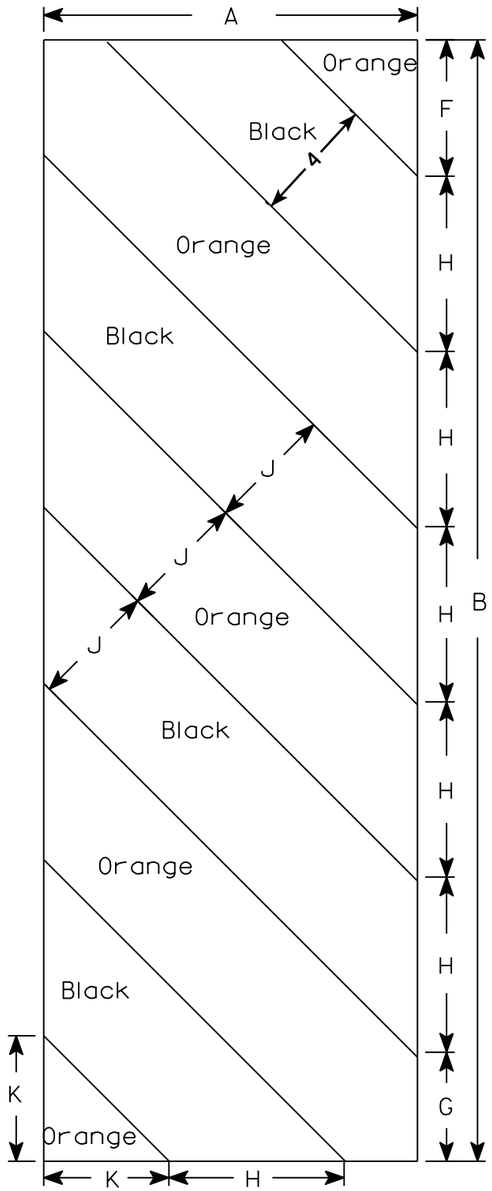
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W03-5.1

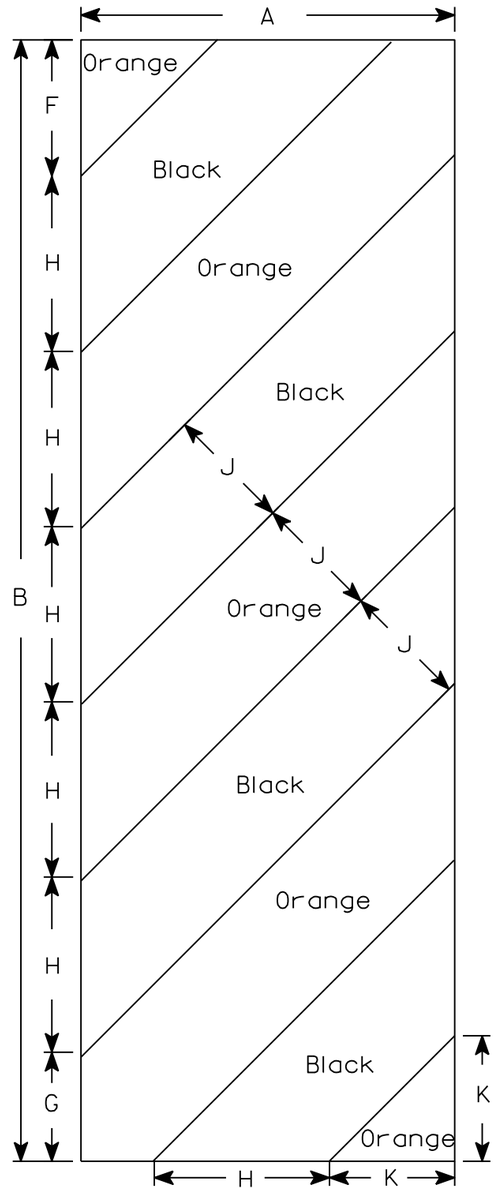
PROJECT NO: SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W035.DGN PLOT DATE : 20-NOV-2013 11:32 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W05-52L



W05-52R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Alternate colors of stripes as shown.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W05-52L & W05-52R

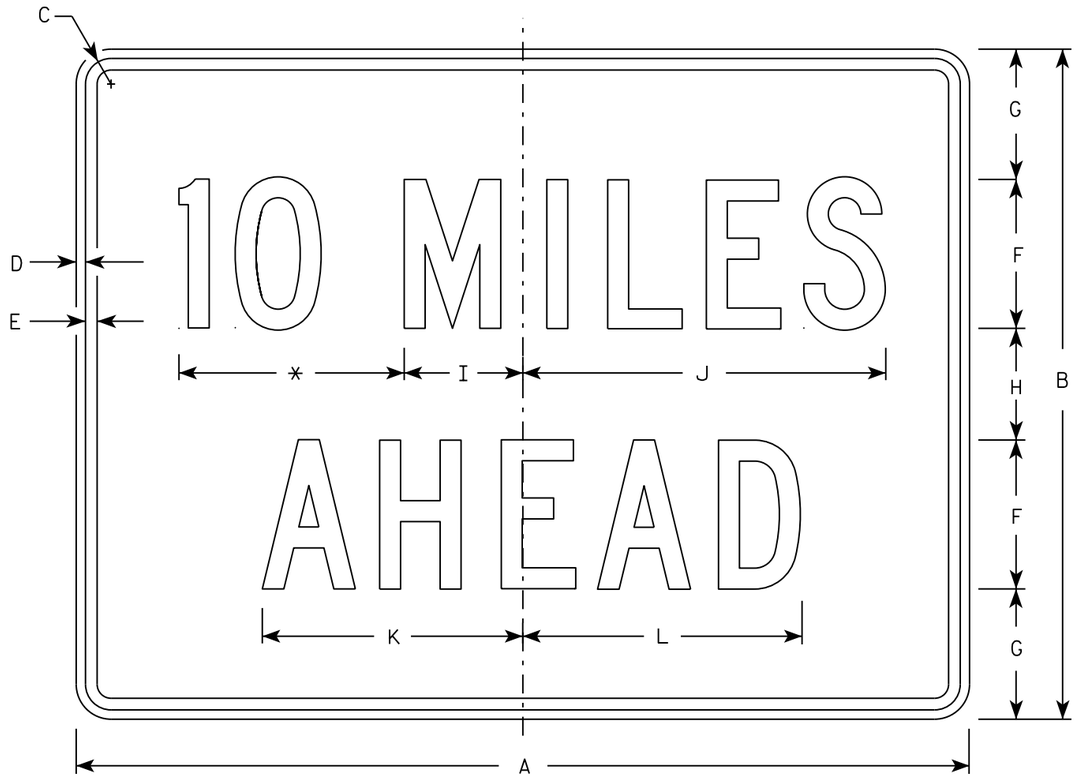
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

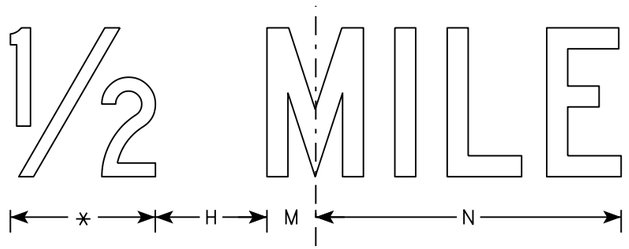
DATE 11/20/13 PLATE W05-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W0552.DGN PLOT DATE : 28-FEB-2014 11:39 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.864607:1.000000 WISDOT/CADDS SHEET 42



W057-52



NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

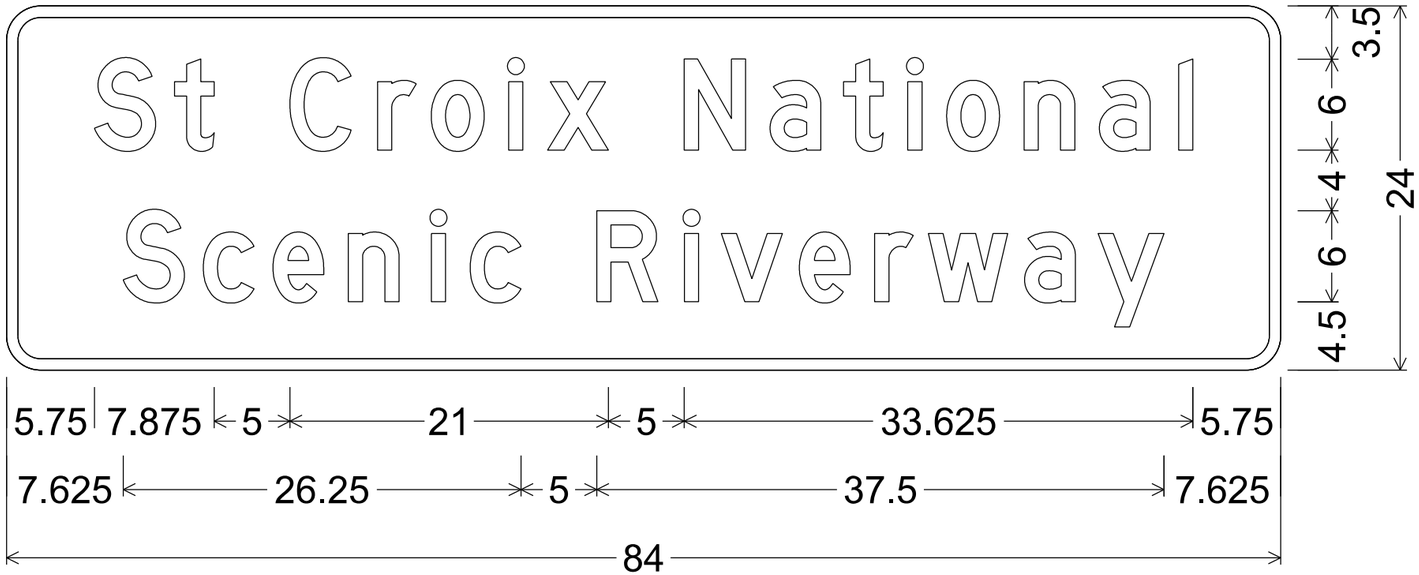
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. W057-52.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 105	E

NOTES

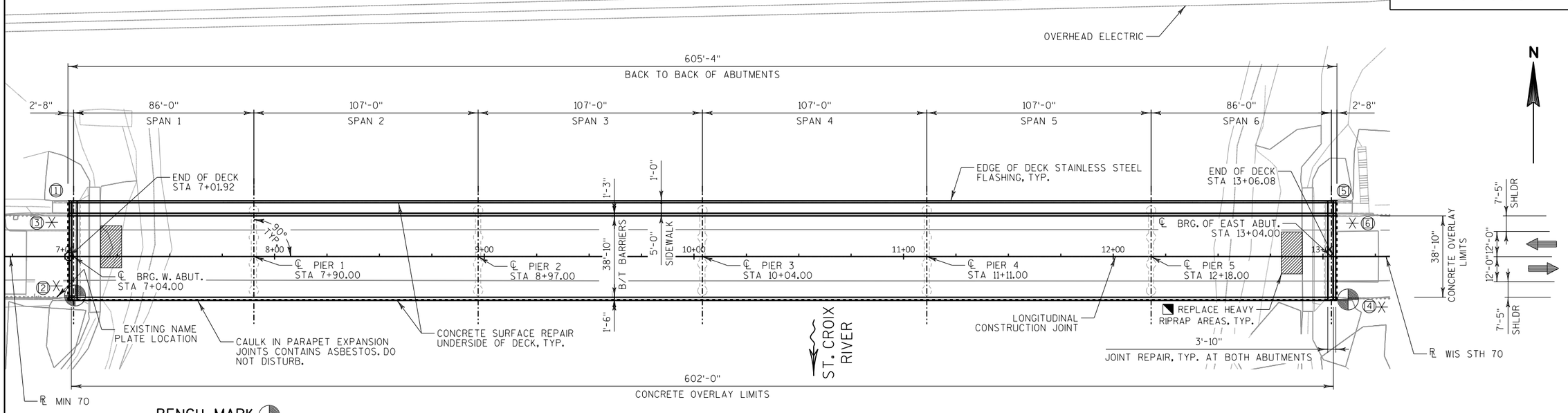
1. Sign is Type II- Type H Reflective
2. Color:
   Background - Brown
   Message - White
3. Message Series - D



2.250" Radius, 0.750" Border

STATE PROJECT NUMBER

8040-01-74

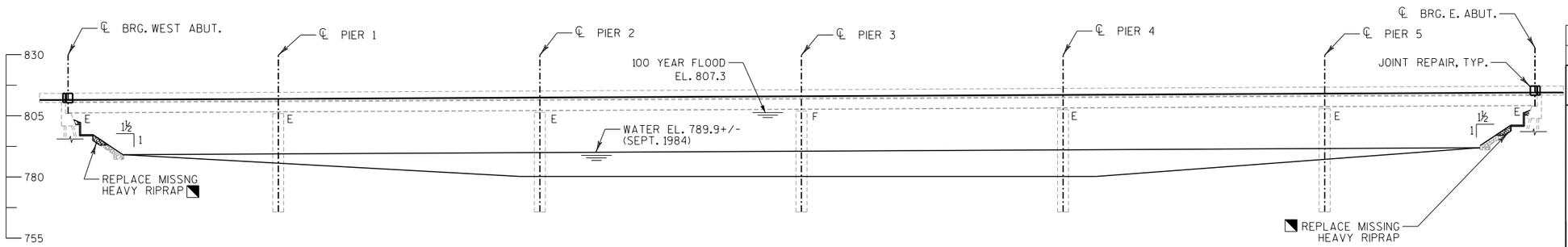


BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
600	7+05.31	BM ALUM DISK IN BRDG DECK	811.31
601	13+12.55	BM CHISLED X	817.14

PLAN

6 SPAN-48" STEEL GIRDERS
(CONCRETE OVERLAY)



ELEVATION

NORMAL TO ST. CROIX RIVER
(LOOKING UPSTREAM)

NOTES

ⓧ DENOTES WINGWALL NUMBER

✳ THRIE BEAM RAIL ATTACHMENT

◥ REPLACE HEAVY RIPRAP IN THE ESTIMATED AREA OF 10'-0" X 20'-0" AT EACH ABUTMENT TO A DEPTH OF 3'-0". AREAS WILL BE CONFIRMED IN THE FIELD BY THE ENGINEER. NO RIPRAP WILL BE PLACED BELOW ORIDNARY HIGH WATER MARK.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-24
OPERATING RATING: HS-41
WISCONSIN STD. PERMIT VEHICLE (WIS-SPV) = 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY SUPERSTRUCTURE	f'c = 4,000 psi
CONCRETE MASONRY SUBSTRUCTURE	f'c = 3,500 psi
CONCRETE MASONRY OVERLAY DECKS	f'c = 4,000 psi
HIGH STRENGTH BAR STEEL REINFORCEMENT	fy = 60,000 psi
FENCE POST AND PIPE SLEEVE	ASTM F1083
FENCE PLATES	A572 GRADE 50

TRAFFIC DATA

ADT = 3,800 (2016)
ADT = 4,800 (2043)
RDS = 55 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTION AND QUANTITIES
3. CONSTRUCTION STAGING
4. EXPANSION JOINT DETAILS 1
5. EXPANSION JOINT DETAILS 2
6. EXPANSION JOINT DETAILS 3
7. EXPANSION JOINT DETAILS 4

WISCONSIN
MICHAEL D. RADTKE
E-40967
ELM GROVE, WI
PROFESSIONAL ENGINEER
2/24/2022

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: AARON BONK (608) 261-0261
CONSULTANT: MIKE RADTKE (414) 939-7039

NO.	DATE	REVISION	BY

STATE OF MINNESOTA
DEPARTMENT OF TRANSPORTATION

MINNESOTA BRIDGE NO. 58004

STH 70 OVER ST. CROIX RIVER

CITY OF ROCK CREEK — PINE COUNTY

APPROVED _____ DATE _____
STATE BRIDGE ENGINEER

emcs inc
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 Fax 414.347.1347

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ AMB 4/14/2022
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-7-20

STH 70 OVER ST. CROIX RIVER

COUNTY	BURNETT CO., WI PINE CO., MN	TOWN CITY	GRANTSBURG, WI ROCK CREEK, MN
DESIGN SPEC.	REHABILITATION		N/A
DESIGNED BY	APH	DESIGN CK'D.	MDR
DRAWN BY		PLANS CK'D.	MDR

GENERAL PLAN & ELEVATION

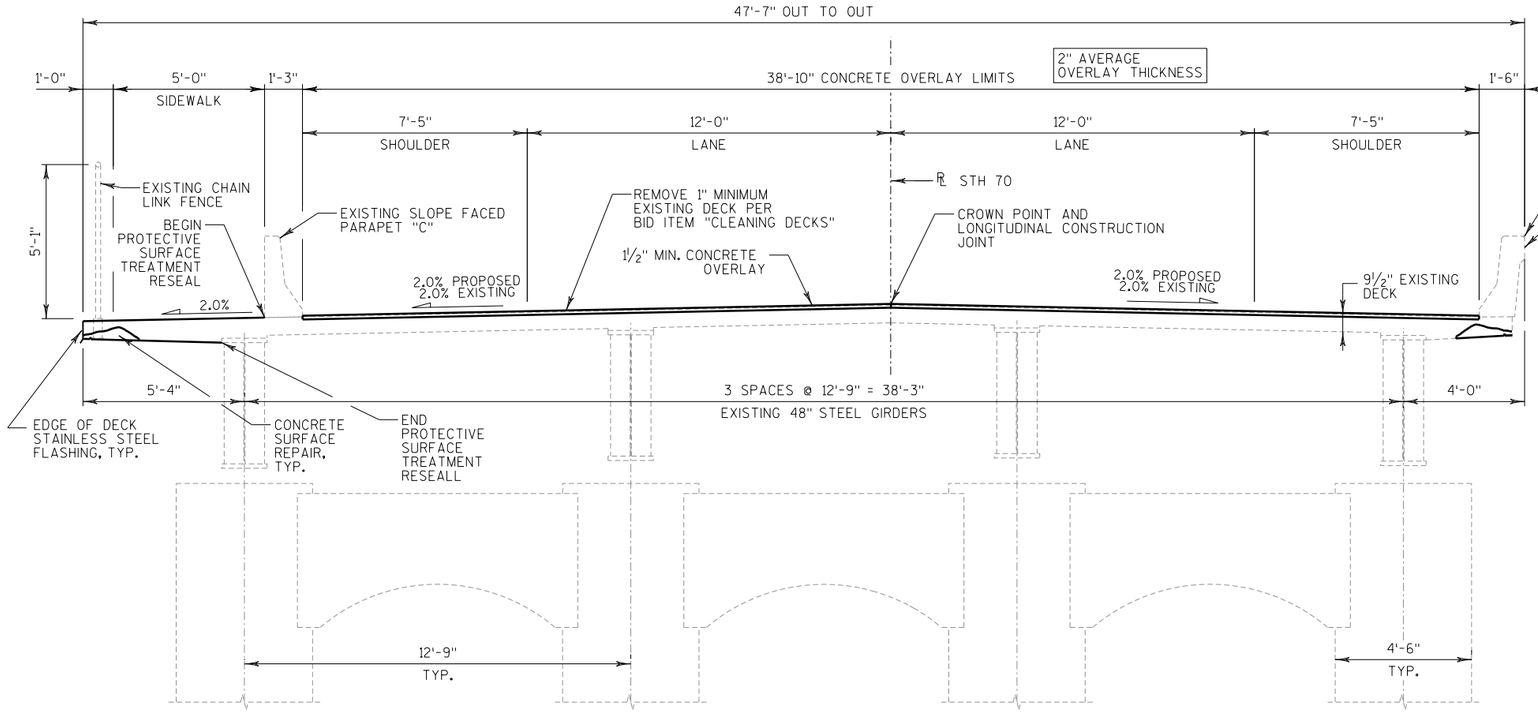
SHEET 1 OF 7
107

8

8

STATE PROJECT NUMBER

8040-01-74



TYPICAL SECTION THRU STH 70

LOOKING UPSTATION

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET. ELEVATIONS SHOWN ARE REFERENCED FROM THE ORIGINAL 1991 BRIDGE PLANS.

SEAL OVERLAY CONSTRUCTION JOINTS ACCORDING TO SECTION 502.3.13.1 OF THE STANDARD SPECIFICATION. COST IS CONSIDERED INCLUDED IN BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

A MINIMUM OF 1" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER BID ITEM "CLEANING DECKS".

PREPARATION DECKS TYPE 1, TYPE 2, AND FULL DEPTH DECK REPAIR QUANTITIES ARE BASED ON THE PLANS AND AS DETERMINED BY THE FIELD ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS" OR "CONCRETE MASONRY DECK REPAIR" AT THE SIDEWALKS. "CONCRETE MASONRY DECK REPAIR" WILL BE USED AT THE JOINT REPAIR AREAS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR THE JOINT REPAIR AT THE ABUTMENTS IS TO BE INCLUDED IN WORK FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF ½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". THE AVERAGE OVERLAY THICKNESS IS BASED ON THE MINIMUM OVERLAY THICKNESS PLUS ½" TO ACCOUNT FOR VARIATIONS IN THE DECK SURFACE. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

ALL CONCRETE REMOVAL NOT COVERED WITH CONCRETE OVERLAY SHALL BE DEFINED BY A SAW CUT INCLUDING DECK PREPARATION AND CONCRETE MASONRY DECK REPAIR AREAS AT THE SIDEWALK.

APPLY THE "PIGMENTED SURFACE SEALER RESEAL" TO THE TOPS AND INSIDE FACES OF THE EXTERIOR SLOPE FACED PARAPET "B" AND TO ALL FACES OF THE INTERIOR SLOPE FACED PARAPET "C" FROM END OF WINGWALL TO END OF WINGWALL.

APPLY THE "PROTECTIVE SURFACE TREATMENT RESEAL" ON THE 5'-0" WIDTH OF SIDEWALK, AT THE NORTH DECK EDGE, AND THE NORTH OVERHANG AS SHOWN ON THE TYPICAL SECTION FROM ABUTMENT TO ABUTMENT.

APPLY THE PROTECTIVE SURFACE TREATMENT TO THE TOP AND VERTICAL FACE OF THE PAVING NOTCHES AND TO THE TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

CONTAIN ANY AND ALL DEBRIS FROM SURFACE REPAIR AREAS ON THE PIERS, OVERHANGS, AND FULL DEPTH DECK REPAIR AREAS UNDER BID ITEM "DEBRIS CONTAINMENT OVER WATERWAY B-7-20".

REPAIR EXISTING SPALLS ON UNDERSIDE OF DECK OVERHANGS AS DETERMINED IN THE FIELD AND AT THE DIRECTION OF THE FIELD ENGINEER UNDER BID ITEM CONCRETE SURFACE REPAIR. COMPLETE ALL WORK FROM THE TOP OF DECK ONLY WITH APPROPRIATE DEBRIS CONTAINMENT SYSTEM.

◥ CONCRETE SURFACE REPAIR IS EXPECTED AT THE SUPERSTRUCTURE AND AT THE ABUTMENTS. QUANTITIES ARE AN ESTIMATE ONLY. ACTUAL QUANTITIES TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE FIELD ENGINEER.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT RESEAL APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

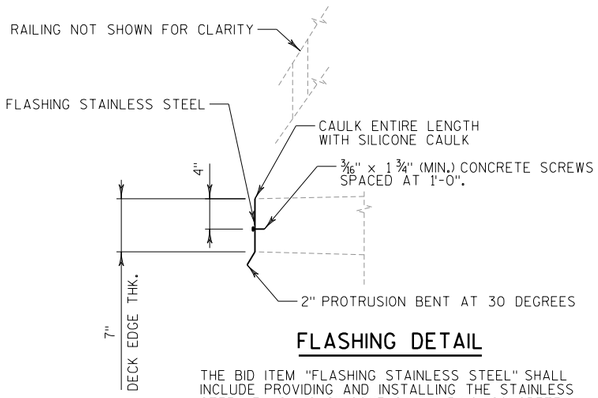
EXTEND FLASHING TO THE BACKFACE OF ABUTMENT DIAPHRAGM.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF DECK/SLAB SURFACE.

THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0335	DEBRIS CONTAINMENT OVER WATERWAY B-7-20	EACH	1
502.3101	EXPANSION DEVICE	LF	96
502.3200	PROTECTIVE SURFACE TREATMENT	SY	2,621
502.3205	PIGMENTED SURFACE SEALER RESEAL	SY	679
502.3215	PROTECTIVE SURFACE TREATMENT RESEAL	SY	767
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	96
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,360
509.0301	PREPARATION DECKS TYPE 1	SY	151
509.0302	PREPARATION DECKS TYPE 2	SY	31
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	68
509.0500	CLEANING DECKS	SY	2,607
509.1000	JOINT REPAIR	SY	42
◥ 509.1500	CONCRETE SURFACE REPAIR	SF	304
509.2000	FULL-DEPTH DECK REPAIR	SY	16
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	15
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	157
606.0300	RIPRAP HEAVY	CY	46
616.0405	FENCE CHAIN LINK SALVAGED 5-FT	LF	8
SPV.0180	ABUTMENT SEAT CLEANING AND SEALING	SY	24
SPV.0090	FLASHING STAINLESS STEEL	LF	605



FLASHING DETAIL

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK, 3/16" CONCRETE SCREWS, AND CLEANING THE EDGE OF THE DECK PRIOR TO ATTACHMENT OF THE FLASHING.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY | PLANS CK'D. MDR

TYPICAL SECTION AND QUANTITIES

SHEET 2 OF 7

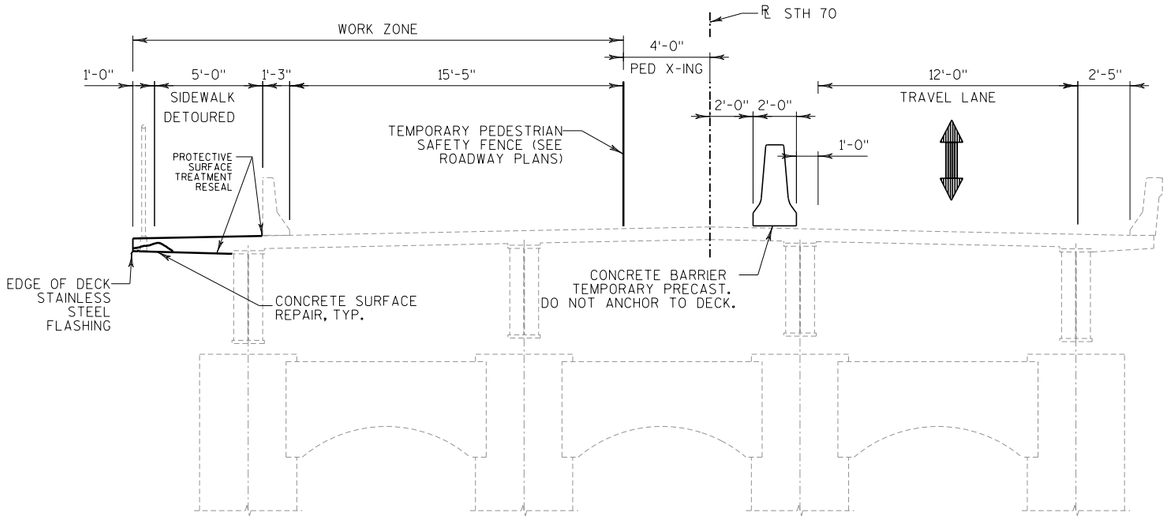
108

8

8

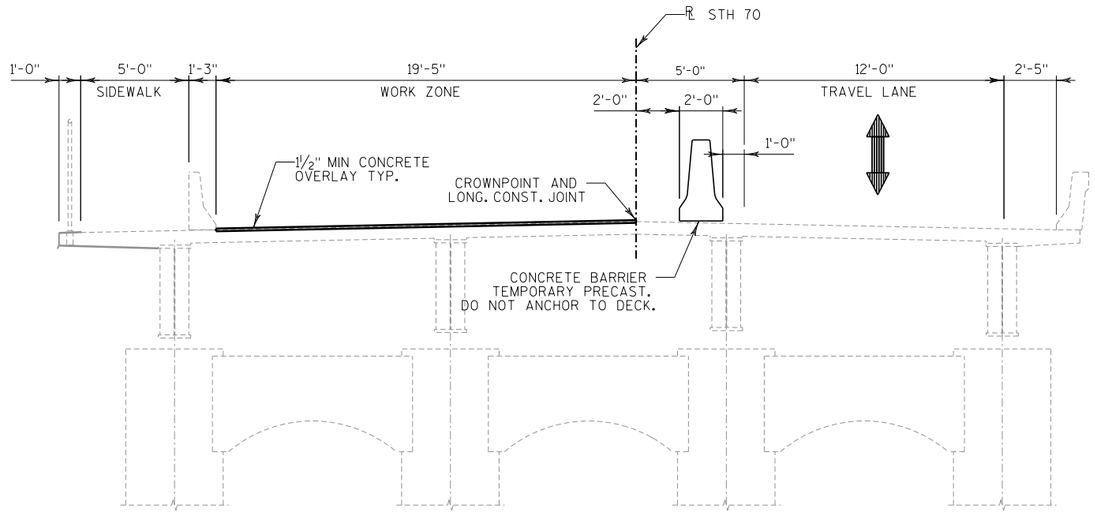
STATE PROJECT NUMBER

8040-01-74



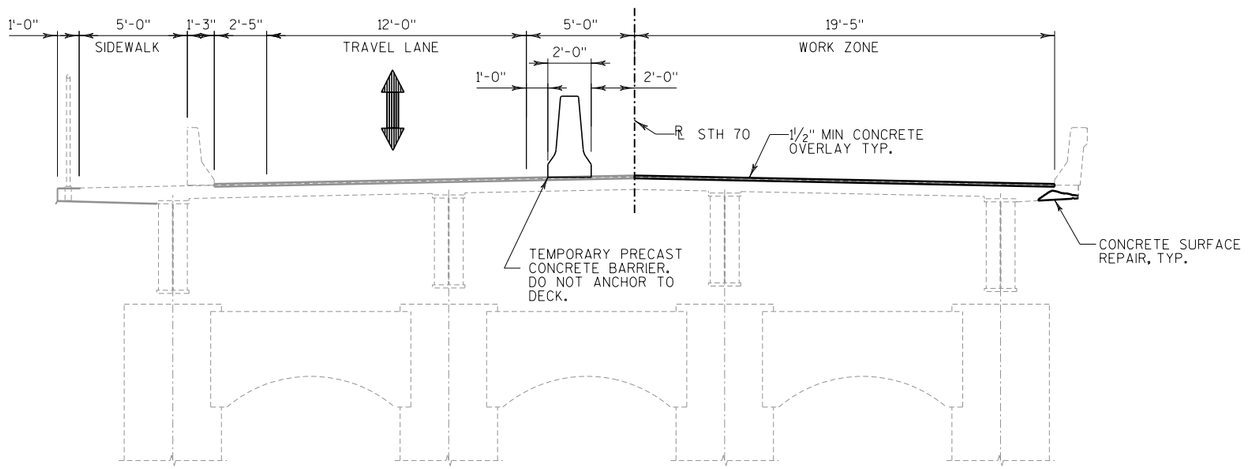
STAGE 1/2 TYPICAL SECTION THRU STH 70

LOOKING UPSTATION



STAGE 3/6 TYPICAL SECTION THRU STH 70

LOOKING UPSTATION



STAGE 4/5 TYPICAL SECTION THRU STH 70

LOOKING UPSTATION

8

8

NOTES

TRAFFIC WILL BE MAINTAINED WITH THE USE OF TEMPORARY SIGNALS. SEE ROADWAY PLANS FOR DETAILS AND TRAFFIC STAGING INFORMATION.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY | PLANS CK'D. MDR

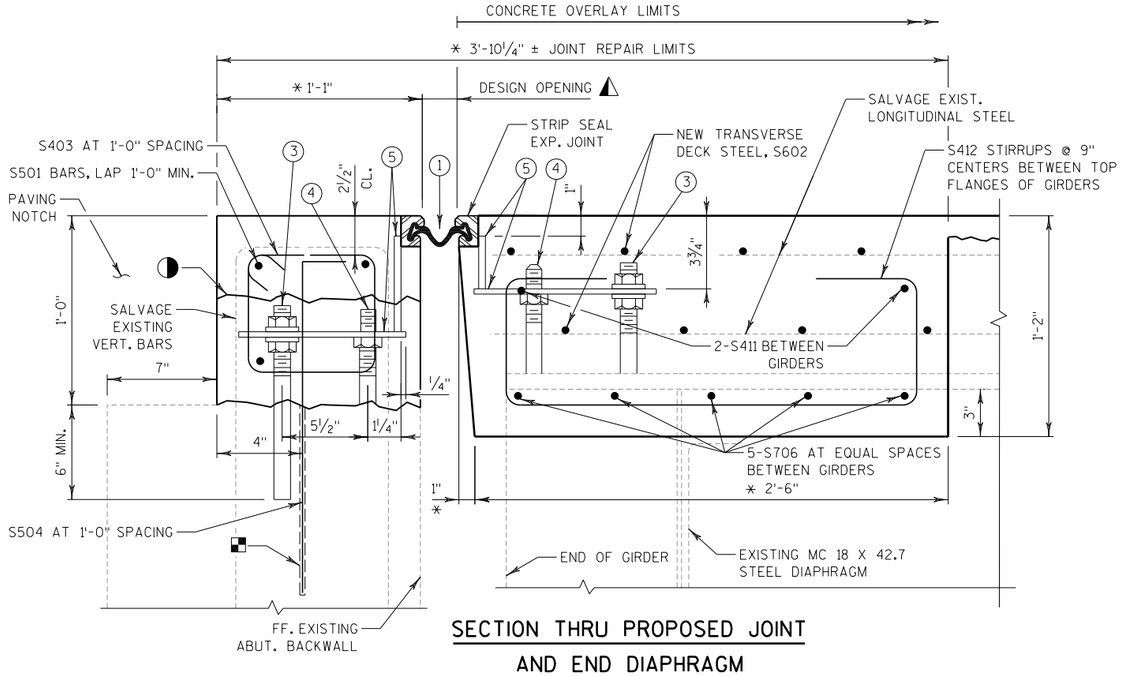
CONSTRUCTION STAGING

SHEET 3 OF 7

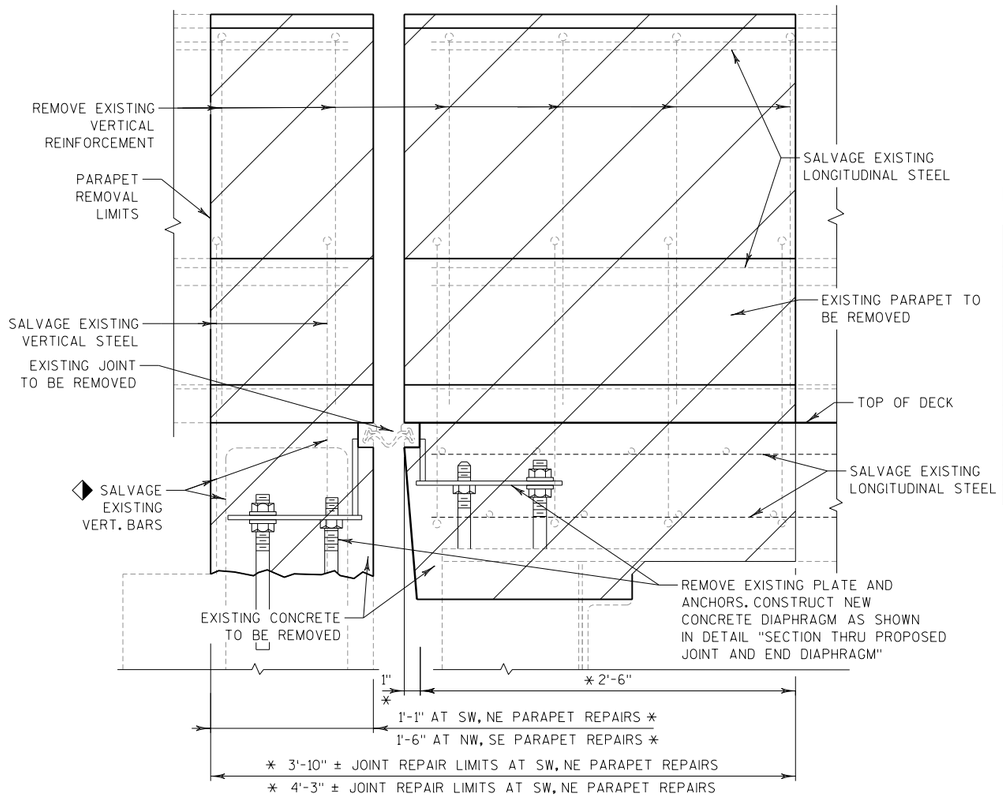
109

STATE PROJECT NUMBER

8040-01-74



SECTION THRU PROPOSED JOINT AND END DIAPHRAGM



JOINT REMOVAL LIMITS

HATCHED AREA IS CONCRETE TO BE REMOVED

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FILED SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST PLATES, SUPPORTS, AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS, AND EXTRUSTIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BYTHE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.

ANCHOR SYSTEM NO. 8 & NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C & D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE WILL BE PAID FOR AT THE PRICE BID FOR "EXPANSION DEVICE B-7-20", LF.

PRESERVE AND PROTECT EXISTING REINFORCEMENT. IF EXISTING BARS ARE SEVERELY CORRODED SEE ENGINEER FOR REPLACEMENT OPTIONS. IF EXISTING BARS ARE DAMAGED DURING CONCRETE REMOVAL OPERATIONS, THE CONTRACTOR WILL REPLACE REINFORCEMENT AT THE DIRECTION OF THE ENGINEER AT NO ADDITIONAL EXPENSE TO THE OWNER.

JOINT OPENINGS ARE MEASURED PERPENDICULAR TO JOINT. SMALL JOINT OPENINGS DUE TO HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSTION PRIOR TO SETTING THE EXPANSION JOINT.

ALL MATERIAL AND WORKMANSHIP IN THE FENCE POST SLEEVE ASSEMBLY IS INCLUDED IN THE PRICE BID FOR "FENCE CHAIN LINK SALVAGED 5-FT". FENCE POST SLEEVE TO BE MADE OF GALVANIZED STEEL CONFORMING TO ASTM A123.

ALL MATERIALS AND WORKMANSHIP NEED FOR THE FENCE REPAIR AND REPLACEMENT IS INCLUDED IN THE PRICE BID FOR "FENCE CHAIN LINK SALVAGED 5-FT". ALL FENCING COMPONENTS SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A123.

LEGEND

(1) NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.

(2) STUDS ⅝" DIA. X 6⅜" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) ½" THICK ANCHOR PLATE WITH ⅝" DIA. ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) ¾" DIA. THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) ¾" DIA. THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" DIA. HOLE FOR NO. 3 & 1" DIA HOLE FOR NO.4.

(6) GALVANIZED PLATE ⅜" X 10½" X 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.

(7) ¾" DIA. X 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) ¾" DIA. X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" DIA. X 2¼" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

(11) SIDEWALK COVER PLATE ⅜" X 2'-0" X 5'-0". GALVANIZE PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.

(12) REMOVE AND REPLACE FENCE POST SLEEVE. FENCE POST TO REMAIN. ATTACH FENCE POST TO SLEEVE USING ⅜" CARRIAGE BOLT.

BLOCK OUT CONCRETE 2" EITHER SIDE OF JOINT OPENING.

JOINT OPENING DIM. ALONG SKEW PLUS ½"

ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" IN CONCRETE. TURN 10" LEG AS NECESSARY TO FIT.

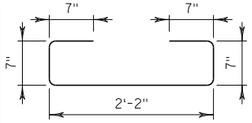
OPTIONAL CONSTRUCTION JOINT. 1" MIN BELOW EXISTING REINFORCEMENT.

* DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT.

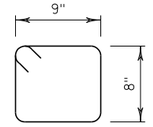
EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY

BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
S501	X	42	7'-7"		PAVING BLOCK LONG.
S602	X	32	25'-0"		TRANSVERSE DECK REINF.
S403	X	96	3'-4"	X	PAVING BLOCK STIRRUP
S504	X	96	2'-6"	X	PAVING BLOCK VERT.
S405	X	12	12'-1"		EXPANSION JOINT LONG. BTW. GIRDERS
S706	X	30	12'-1"		DIAPHRAGM LONG. BTW. GIRDERS
S407	X	12	4'-10"	X	SLOPE FACE PARAPET "B" UPPER VERT.
S408	X	8	4'-3"	X	SLOPE FACE PARAPET "B" LOWER VERT.
S409	X	12	5'-0"	X	SLOPE FACE PARAPET "C" UPPER VERT.
S410	X	8	4'-0"	X	SLOPE FACE PARAPET "C" LOWER VERT.
S411	X	8	24'-3"		DIAPHRAGM LONG.
S412	X	96	4'-2"	X	DIAPHRAGM STIRRUP



S412

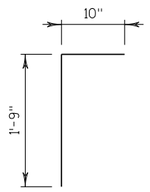


S403

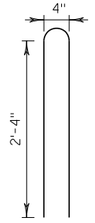
TEMPERATURE TABLE

SHADED UNDERSIDE DECK TEMP. (°F)	JOINT OPENING (NORMAL TO JT.)
90°	1¼"
80°	1⅜"
70°	1⅝"
60°	2"
50°	2⅛"
40°	2⅜"
30°	2⅝"

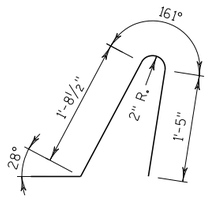
TEMPERATURE SETTING IS TAKEN FROM EXISTING 1991 PLANS.



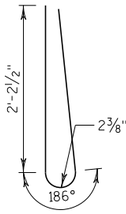
S504



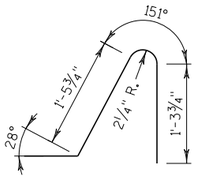
S407



S408



S409



S410

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY RJK | PLANS CK'D. MDR

EXPANSION JOINT DETAILS 1

SHEET 4 OF 7

110

8

8

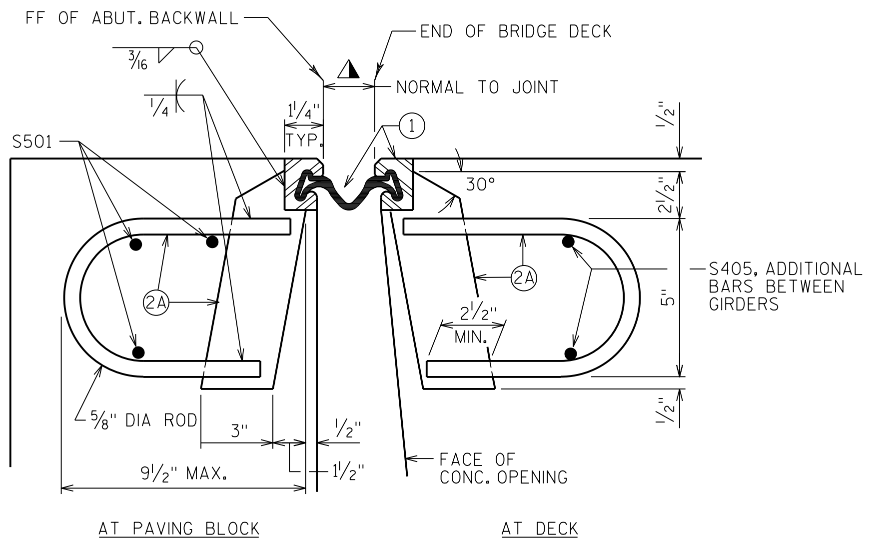
FILE NAME : N:±52xx±5209.DP.19.STH70.BUR±09 STRUCTURES±B-07-0020±Plan±080104_xj_B070020.dgn

PLOT DATE : 2/24/2022

PLOT BY : mdr

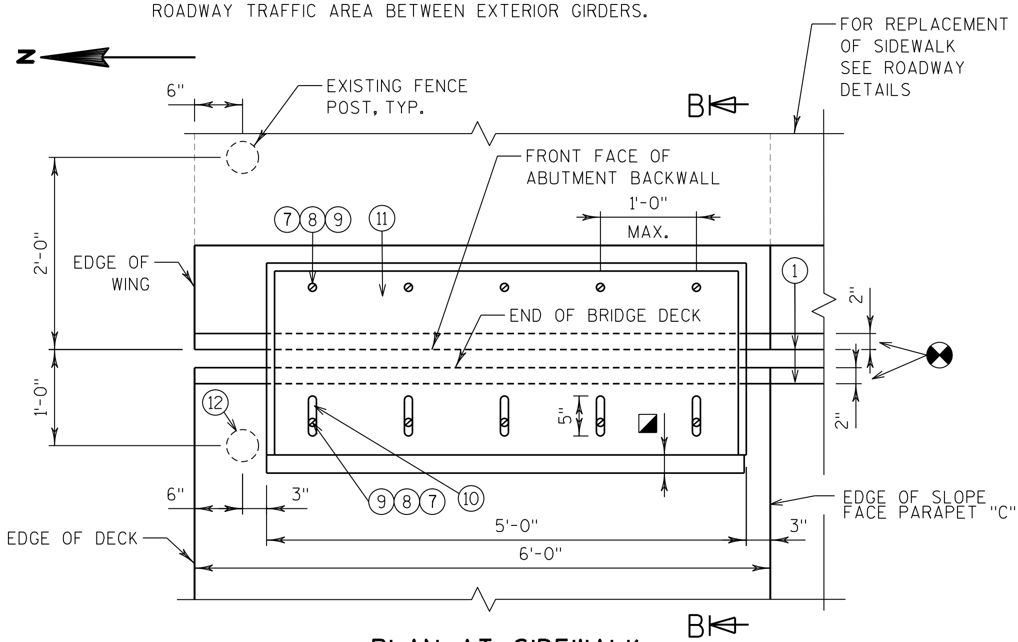
STATE PROJECT NUMBER

8040-01-74



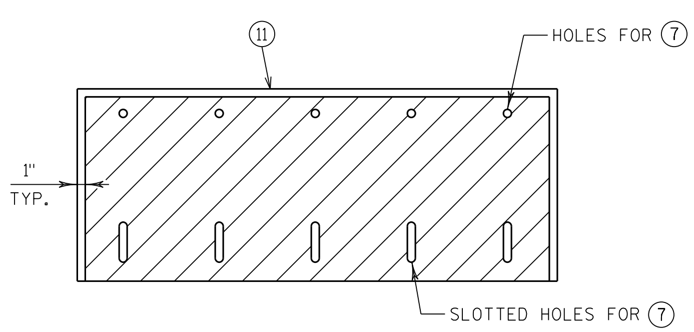
SECTION THRU JOINT AT ABUTMENT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PLAN AT SIDEWALK

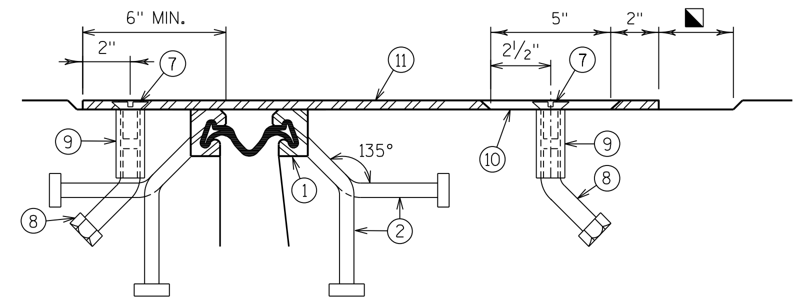
(SHOWN AT EAST ABUTMENT)



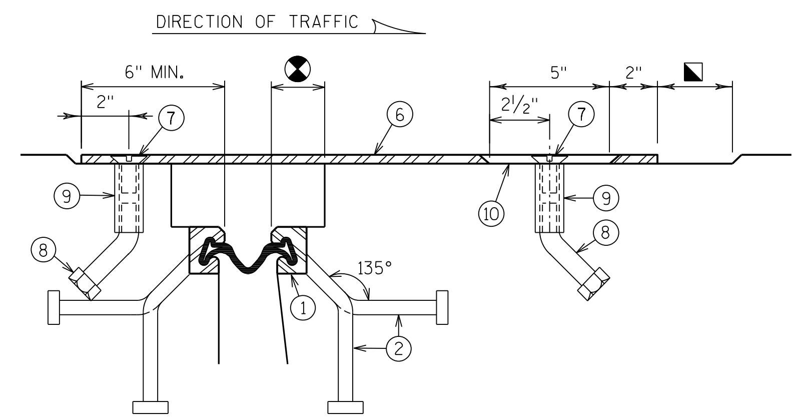
PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN HATCHED AREA ONLY.

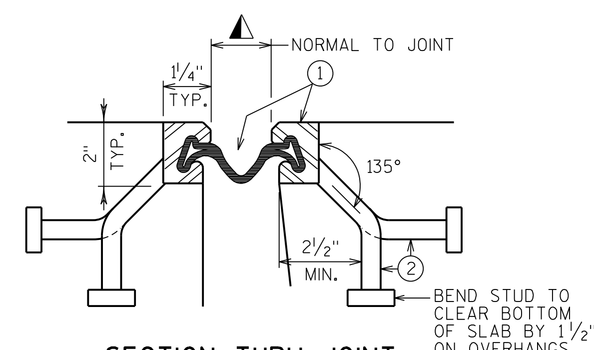
APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W.S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170



SECTION B-B

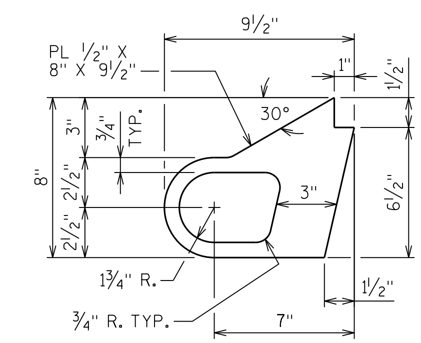


SECTION C-C

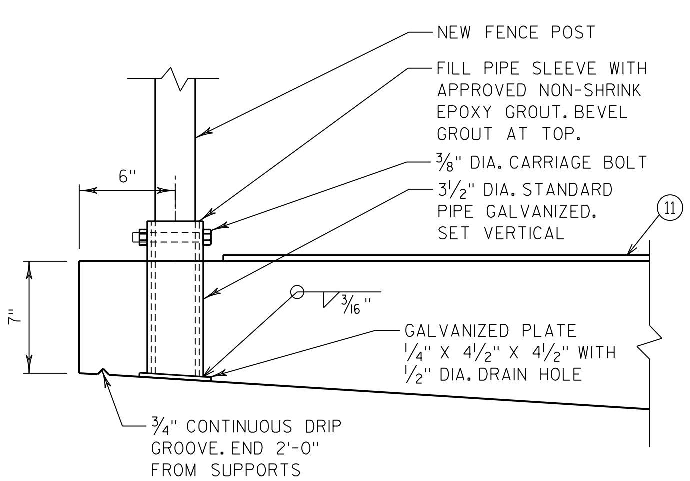


SECTION THRU JOINT

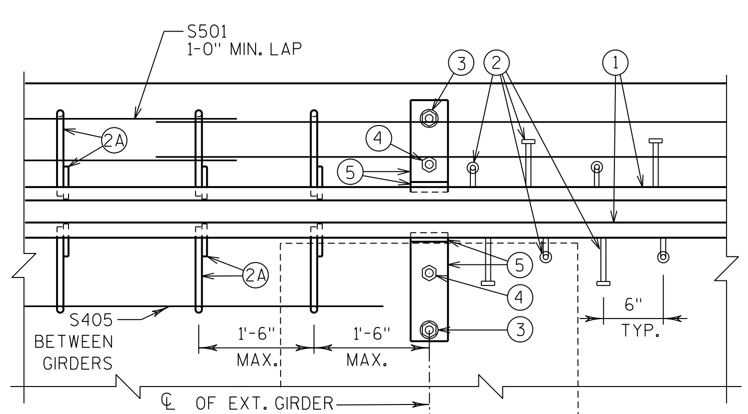
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS



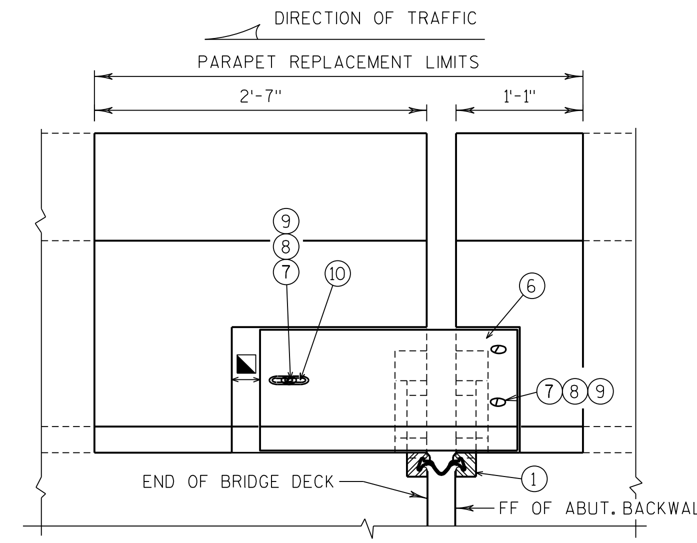
ALTERNATE STRIP SEAL ANCHOR



SECTION THRU SIDEWALK

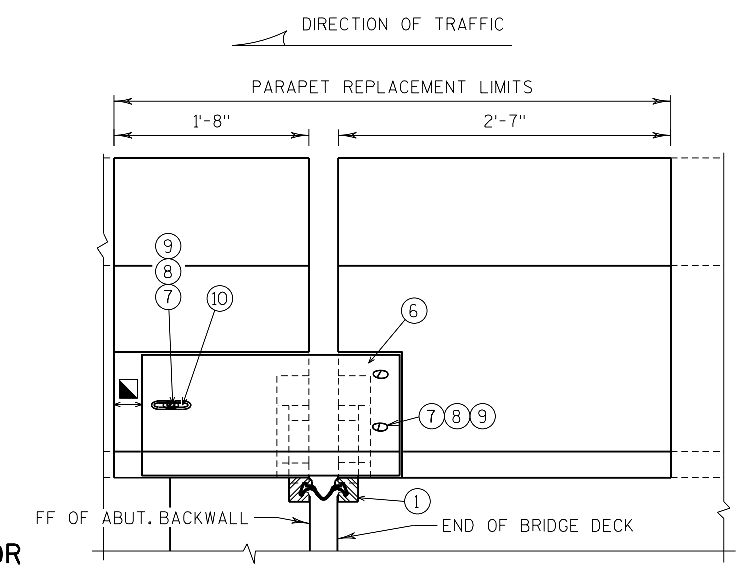


PART PLAN



VIEW OF PARAPET PLATE FROM ROADWAY

(SLOPE FACE PARAPET "C" REPLACEMENT AT EAST EXP. JOINT AND SLOPE FACE PARAPET "B" REPLACEMENT AT WEST EXP. JOINT)



VIEW OF PARAPET PLATE FROM ROADWAY

(SLOPE FACE PARAPET "B" REPLACEMENT AT EAST EXP. JOINT AND SLOPE FACE PARAPET "C" REPLACEMENT AT WEST EXP. JOINT)

NOTES

FOR NOTES AND LEGEND SEE SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY RJK PLANS CK'D. MDR

EXPANSION JOINT DETAILS 2

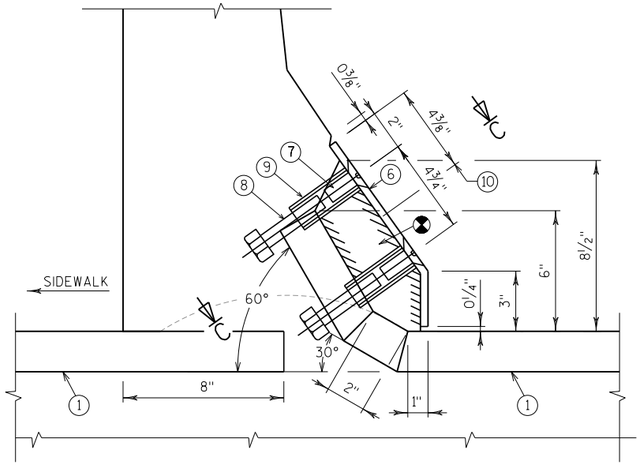
SHEET 5 OF 7

8

FILE NAME : N:±52xx±5209.DP.19.STH70.BUR±09 STRUCTURES±B-07-0020±Plan±080105_xj2_B070020.dgn PLOT DATE : 2/24/2022 PLOT BY : mdr

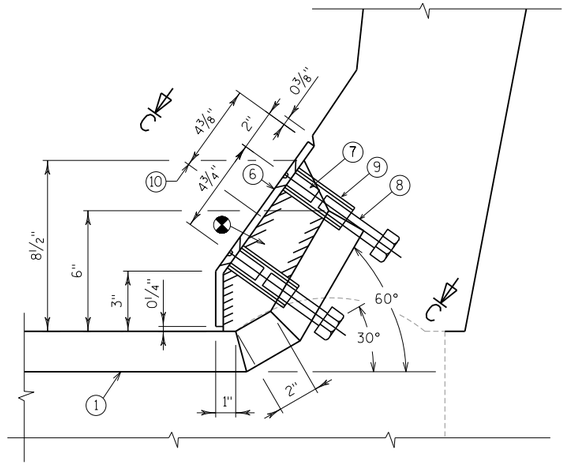
STATE PROJECT NUMBER

8040-01-74



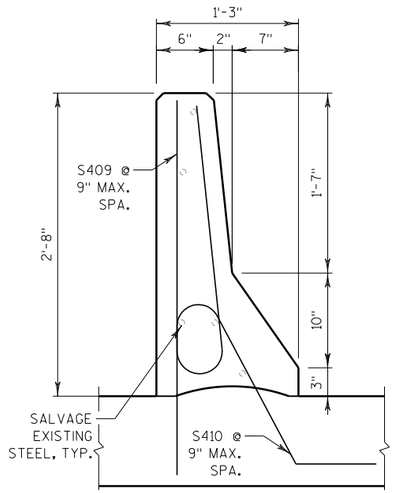
SECTION D-D

AT SLOPE FACE PARAPET "C"
LOOKING UPSTATION



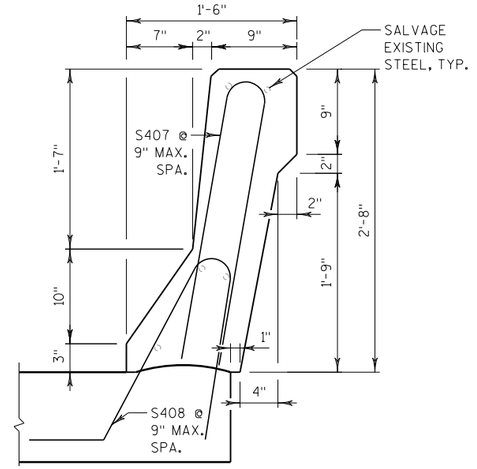
SECTION D-D

AT SLOPE FACE PARAPET "B"
LOOKING UPSTATION



SECTION E-E
SLOPE FACE PARAPET "C"

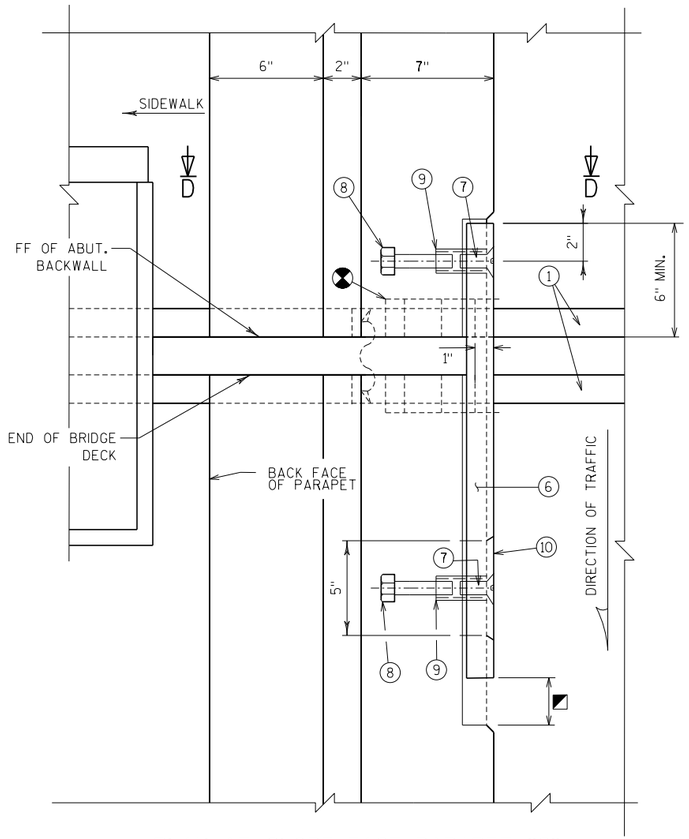
(ON DECK)



SECTION E-E
SLOPE FACE PARAPET "B"

(ON DECK)

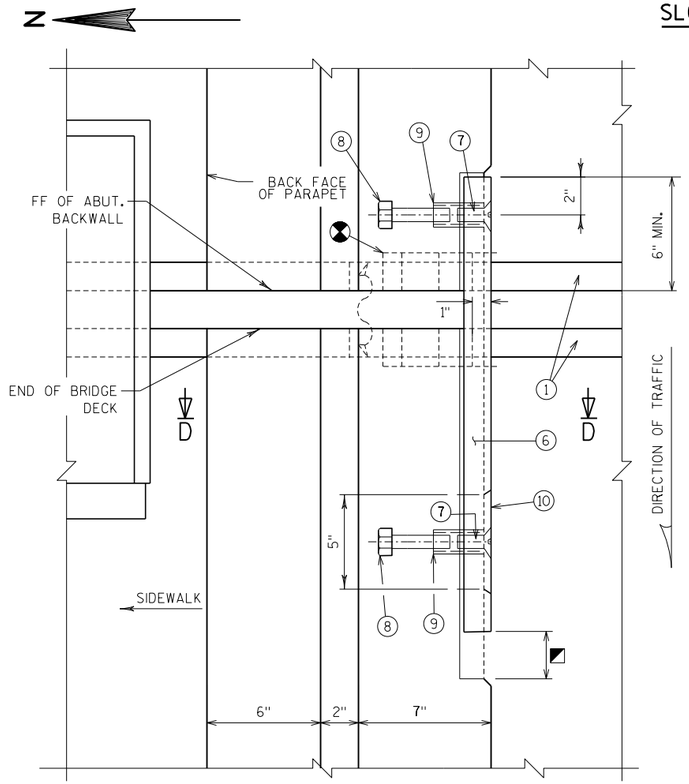
N



PLAN AT SLOPE FACE PARAPET "C"

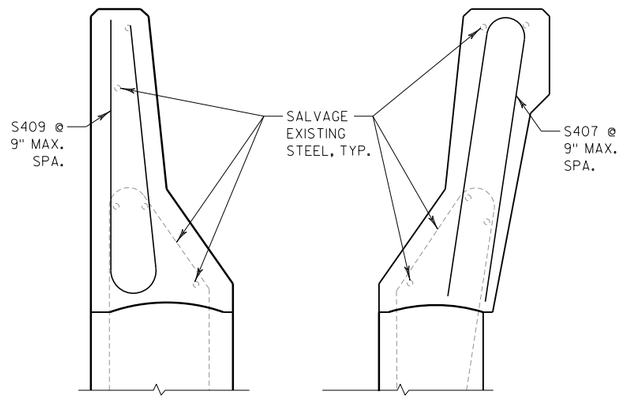
AT EAST EXP. JOINT, SLOPE FACE
PARAPET "B" SIMILAR AT WEST EXP. JOINT

N



PLAN AT SLOPE FACE PARAPET "C"

AT WEST EXP. JOINT, SLOPE FACE
PARAPET "B" SIMILAR AT EAST EXP. JOINT



SECTION F-F
SLOPE FACE PARAPET "C"

(AT WINGWALL)

SECTION F-F
SLOPE FACE PARAPET "B"

(AT WINGWALL)

NOTES

FOR NOTES AND LEGEND SEE SHEET 4.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY RJK | PLANS CK'D. MDR

EXPANSION JOINT DETAILS 3

SHEET 6 OF 7

112

8

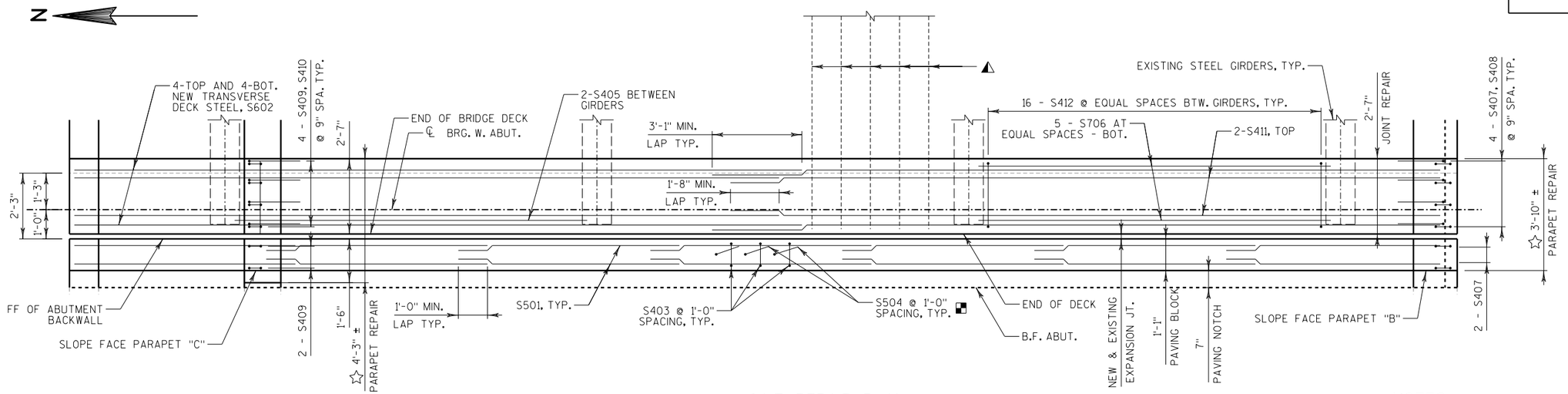
8

FILE NAME : N:±52xx±5209.DP.19.STH70.BUR±09 STRUCTURES±B-07-0020±Plan±080106_xj3_B070020.dgn

PLOT DATE : 2/24/2022

PLOT BY : mdr

STATE PROJECT NUMBER
8040-01-74



JOINT REPAIR PLAN

WEST ABUTMENT SHOWN, EAST ABUTMENT SIMILAR

NOTES

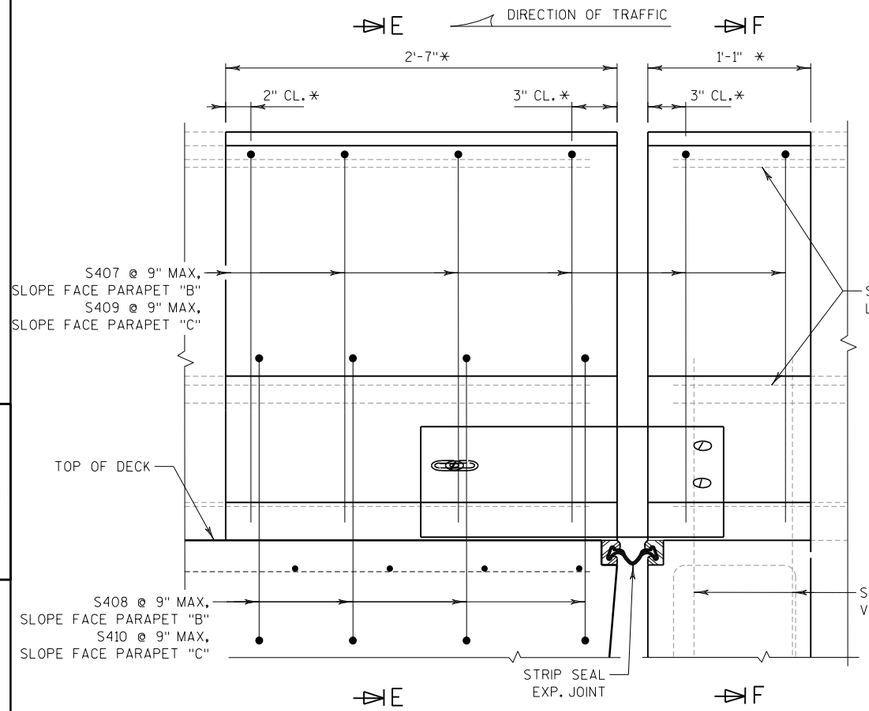
SEE SHEETS 4, 5, AND 6 FOR SECTIONS THROUGH JOINT AT ABUTMENT AND SECTIONS THROUGH PARAPETS.

FOR NOTES AND LEGEND SEE SHEET 4.

◭ SALVAGE EXISTING LONGITUDINAL DECK AND PARAPET REINFORCEMENT AND EXTEND FULL LENGTH INTO NEW WORK.

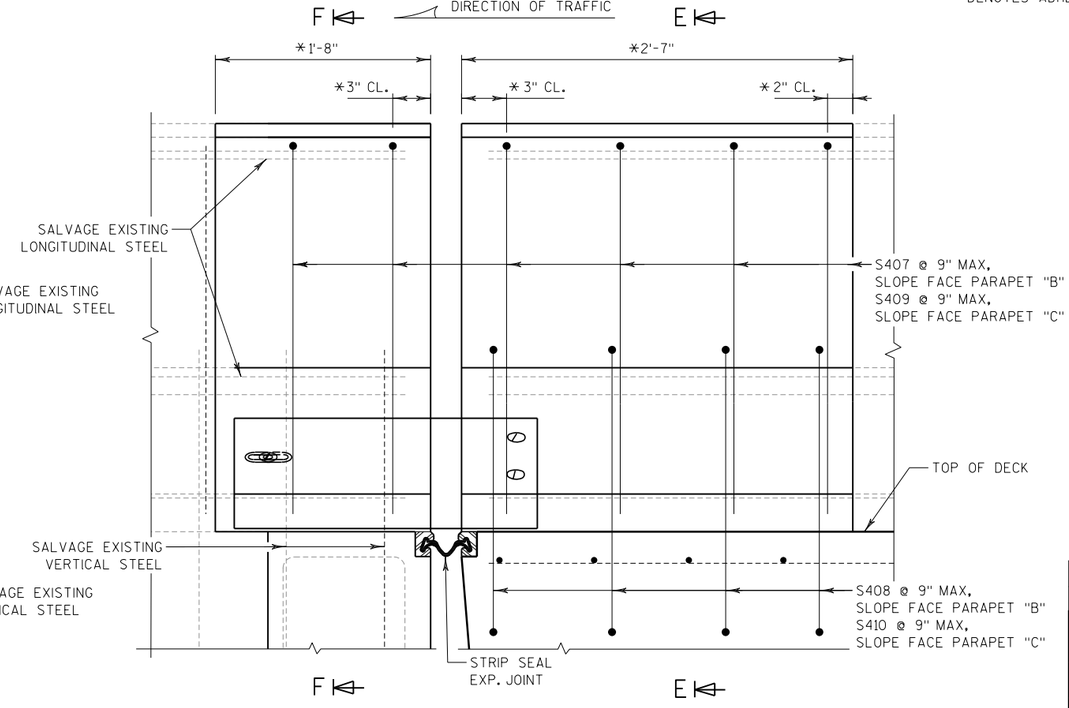
☆ EXTENT OF PARAPET REMOVAL AND REPLACEMENT. WILL VARY WITH DIRECTION OF TRAFFIC.

■ DENOTES ADHESIVE ANCHORS NO. 5 BARS.



PARAPET REPLACEMENT ELEVATION

SLOPE FACE PARAPET "B" REPLACEMENT AT WEST EXP. JOINT
(SLOPE FACE PARAPET "C" REPLACEMENT AT EAST EXP. JOINT SIMILAR)



PARAPET REPLACEMENT ELEVATION

SLOPE FACE PARAPET "B" REPLACEMENT AT EAST EXP. JOINT
(SLOPE FACE PARAPET "C" REPLACEMENT AT WEST EXP. JOINT SIMILAR)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-7-20

DRAWN BY RJK | PLANS CK'D. MDR

EXPANSION JOINT DETAILS 4

SHEET 7 OF 7

113

STH 70 STA 13+06 - STA 15+57 LT (STAGE 3)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 3	MASS ORDINATE NOTE 4
13+06	0	31	0	0	0	0	0	0
13+21	15	32	0	18	0	18	0	18
13+27	6	46	0	9	0	27	0	27
13+50	23	21	0	29	0	56	0	56
13+54	4	21	0	3	0	59	0	59
13+58	4	20	0	3	0	62	0	62
13+79	21	20	0	16	0	78	0	78
14+00	21	24	0	17	0	95	0	95
14+04	4	25	0	4	0	99	0	99
14+27	23	28	0	22	0	121	0	121
14+50	23	26	0	23	0	144	0	144
14+52	2	26	0	1	0	145	0	145
14+69	17	24	0	16	0	161	0	161
14+77	8	21	0	6	0	167	0	167
14+87	11	20	1	8	0	175	0	175
15+00	13	19	1	9	0	184	0	184
15+23	23	17	0	15	0	199	0	199
15+41	18	18	0	12	0	211	0	211
15+57	16	15	0	10	0	221	0	221
		COLUMN TOTALS		221	0			

STH 70 STA 13+06 - STA 15+23 RT (STAGE 4)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 3	MASS ORDINATE NOTE 4
13+06	0	32	0	0	0	0	0	0
13+21	15	38	0	19	0	19	0	19
13+27	6	39	0	8	0	27	0	27
13+50	23	21	0	26	0	53	0	53
13+54	4	21	0	3	0	56	0	56
13+58	4	21	0	3	0	59	0	59
13+79	21	22	0	17	0	76	0	76
14+00	21	26	0	19	0	95	0	95
14+04	4	27	0	4	0	99	0	99
14+27	23	26	0	22	0	121	0	121
14+50	23	12	9	17	4	138	5	133
14+52	2	11	9	1	1	139	6	133
14+69	17	10	7	7	5	146	12	134
14+77	8	10	6	3	2	149	15	134
14+87	11	10	5	4	2	153	18	135
15+00	13	10	4	5	2	158	21	137
15+23	23	17	0	11	2	169	24	145
		COLUMN TOTALS		169	18			

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SUMMARY SHEET IN SECTION 3 OF THE PLANS.
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME, SALVAGED UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SUMMARY SHEET.
3 - EXPANDED FILL	(UNEXPANDED FILL) * (FILL FACTOR)
4 - MASS ORDINATE	CUT - (EXPANDED FILL); PLUS INDICATES AN EXCESS OF MATERIAL. SEE SUMMARY SHEET IN SECTION 3 FOR MASS ORDINATE ACCOUNTING FOR SALVAGED UNUSABLE PAVEMENT MATERIAL.

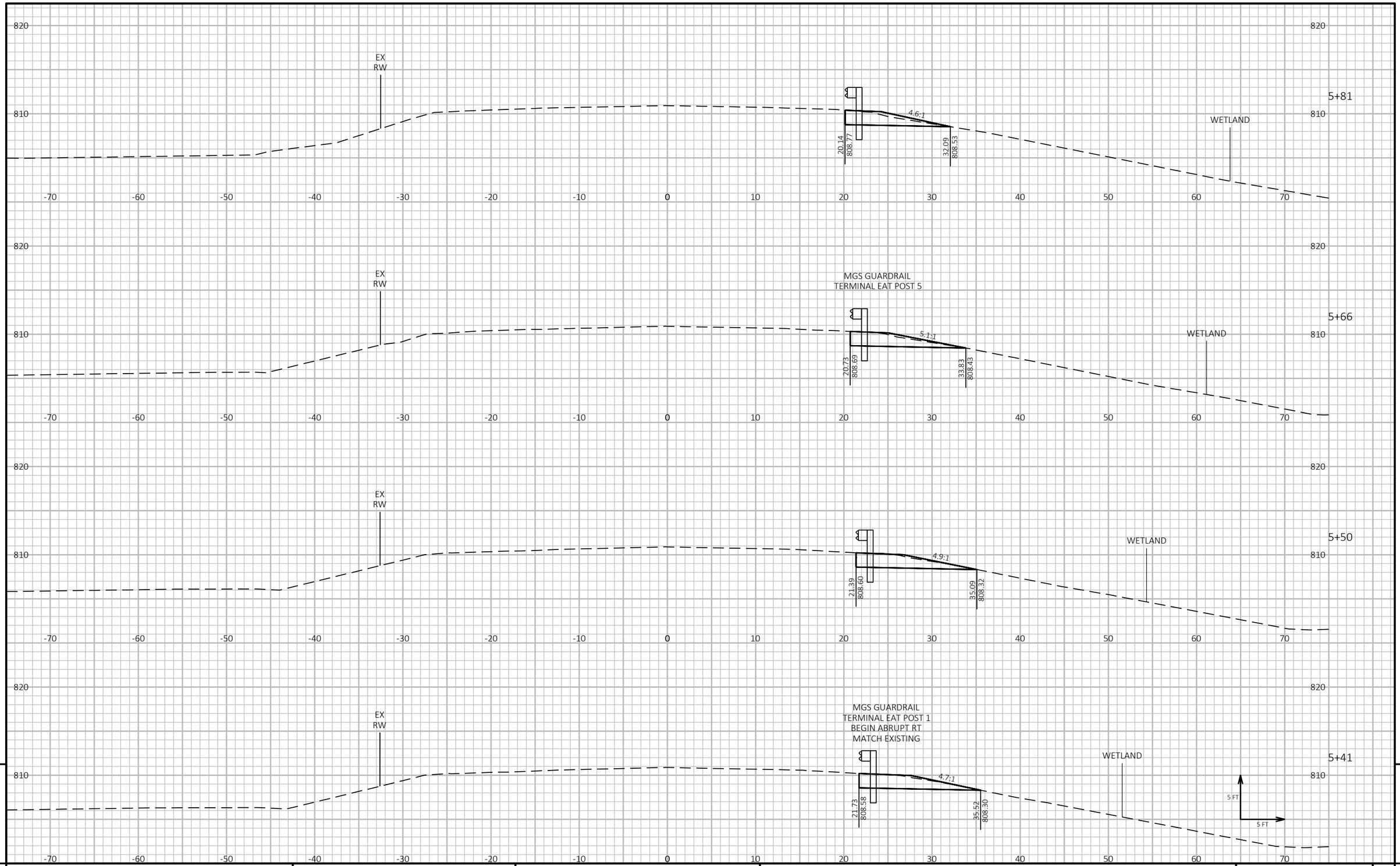
STH 70 STA 5+41 - STA 7+00 RT (STAGE 5)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 3	MASS ORDINATE NOTE 4
5+41	0	14	0	0	0	0	0	0
5+50	9	14	0	4	0	4	0	4
5+66	16	12	0	8	0	12	0	12
5+81	15	10	0	6	0	18	0	18
5+91	10	11	0	4	0	22	0	22
5+94	2	12	0	1	0	23	0	23
6+00	6	12	0	3	0	26	0	26
6+19	19	14	0	9	0	35	0	35
6+44	25	26	0	19	0	54	0	54
6+50	6	26	0	6	0	60	0	60
6+58	8	48	0	14	0	74	0	74
6+87	29	46	0	50	0	124	0	124
7+00	13	30	0	18	0	142	0	142
COLUMN TOTALS				142	0			

STH 70 STA 5+94 - STA 7+00 LT (STAGE 6)

STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT NOTE 1	FILL NOTE 2	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 3	MASS ORDINATE NOTE 4
5+94	0	10	0	0	0	0	0	0
6+00	6	9	0	2	0	2	0	2
6+19	19	8	0	6	0	8	0	8
6+44	25	23	0	14	0	22	0	22
6+50	6	23	0	5	0	27	0	27
6+58	8	43	0	13	0	40	0	40
6+87	29	30	0	39	0	79	0	79
7+00	13	30	0	15	0	94	0	94
COLUMN TOTALS				94	0			

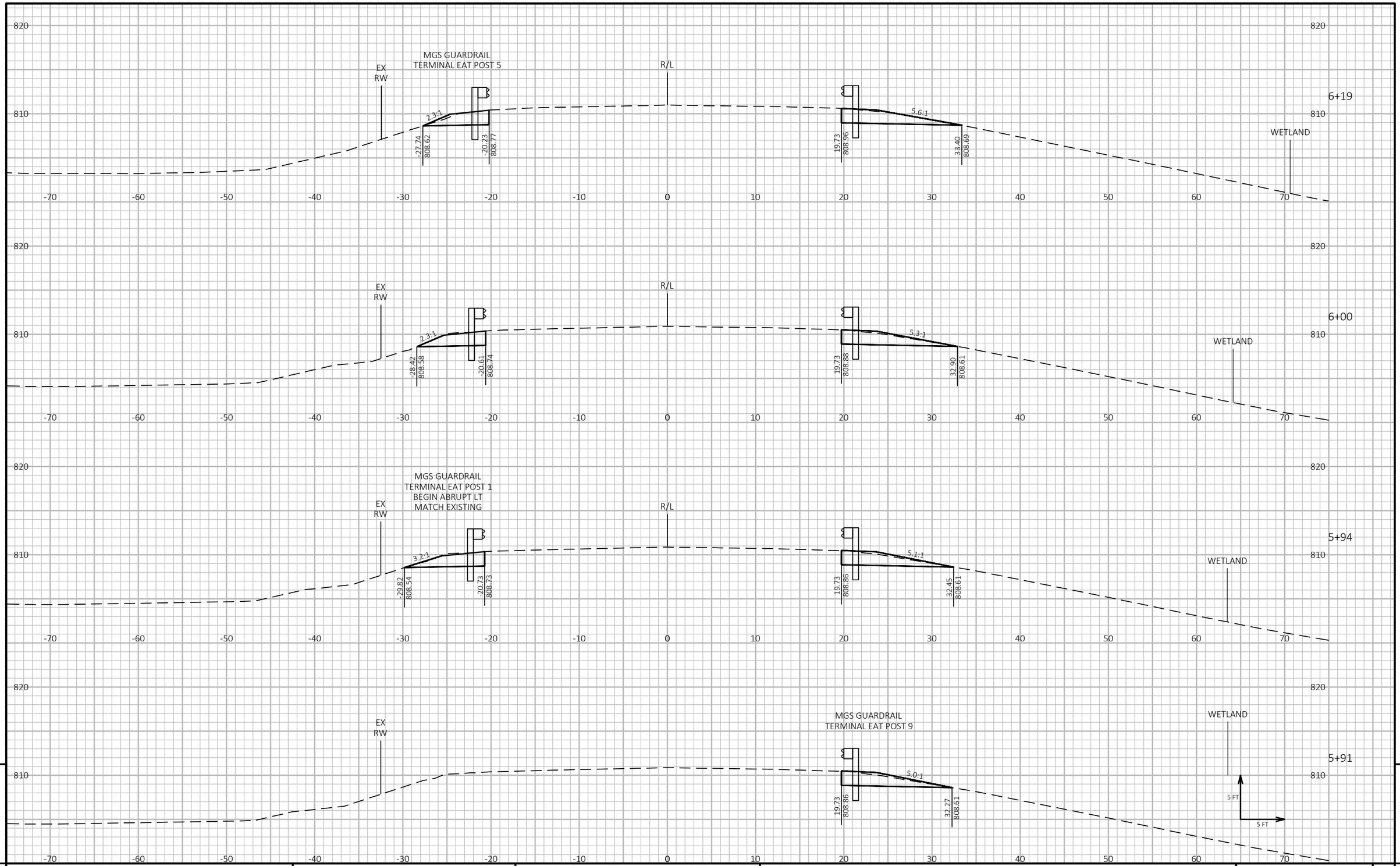
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SUMMARY SHEET IN SECTION 3 OF THE PLANS.
2 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME, SALVAGED UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SUMMARY SHEET.
3 - EXPANDED FILL	(UNEXPANDED FILL) * (FILL FACTOR)
4 - MASS ORDINATE	CUT - (EXPANDED FILL); PLUS INDICATES AN EXCESS OF MATERIAL. SEE SUMMARY SHEET IN SECTION 3 FOR MASS ORDINATE ACCOUNTING FOR SALVAGED UNUSABLE PAVEMENT MATERIAL.



9

9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 116	E



9

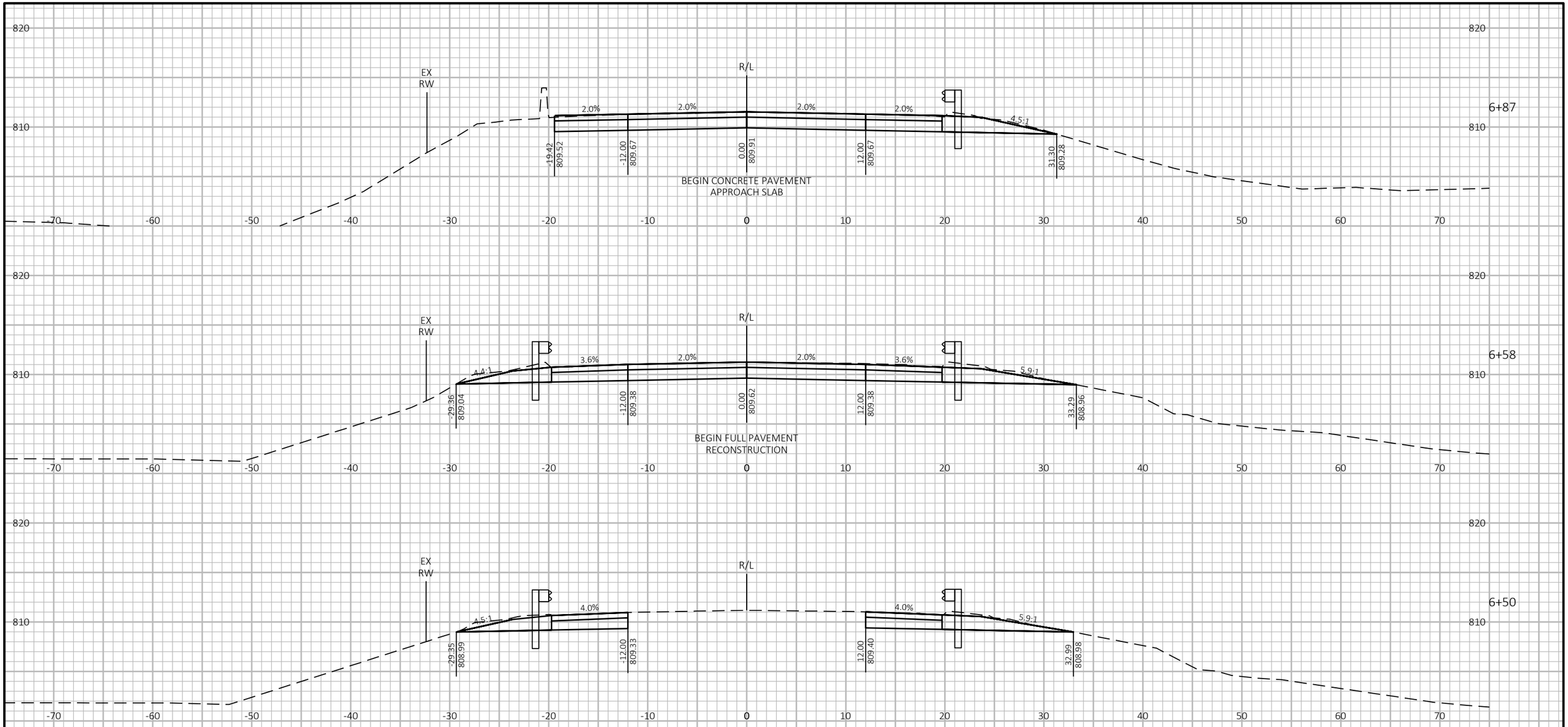
9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 117	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 2

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

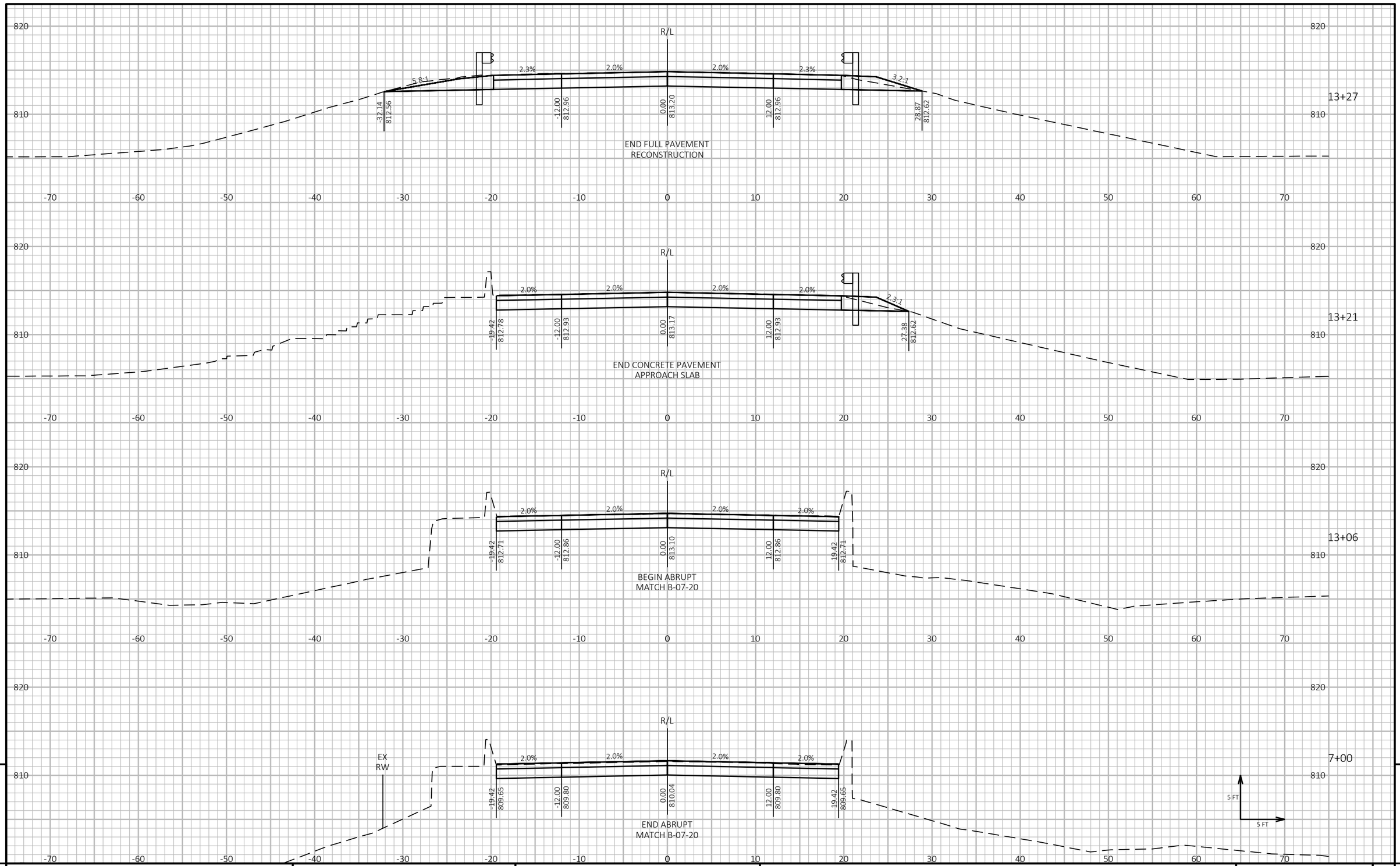
WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 118	E



9

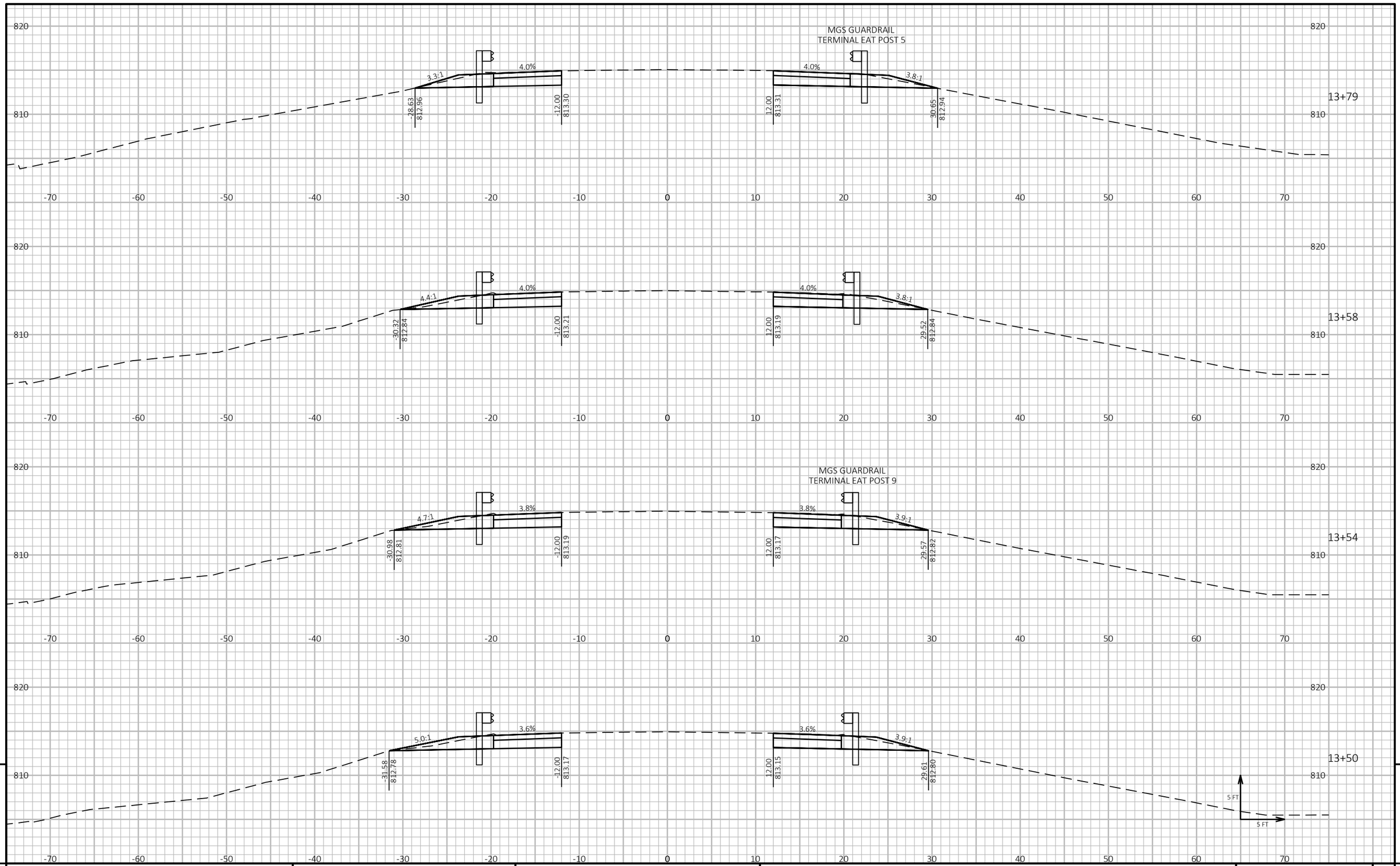
9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 119	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 4

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

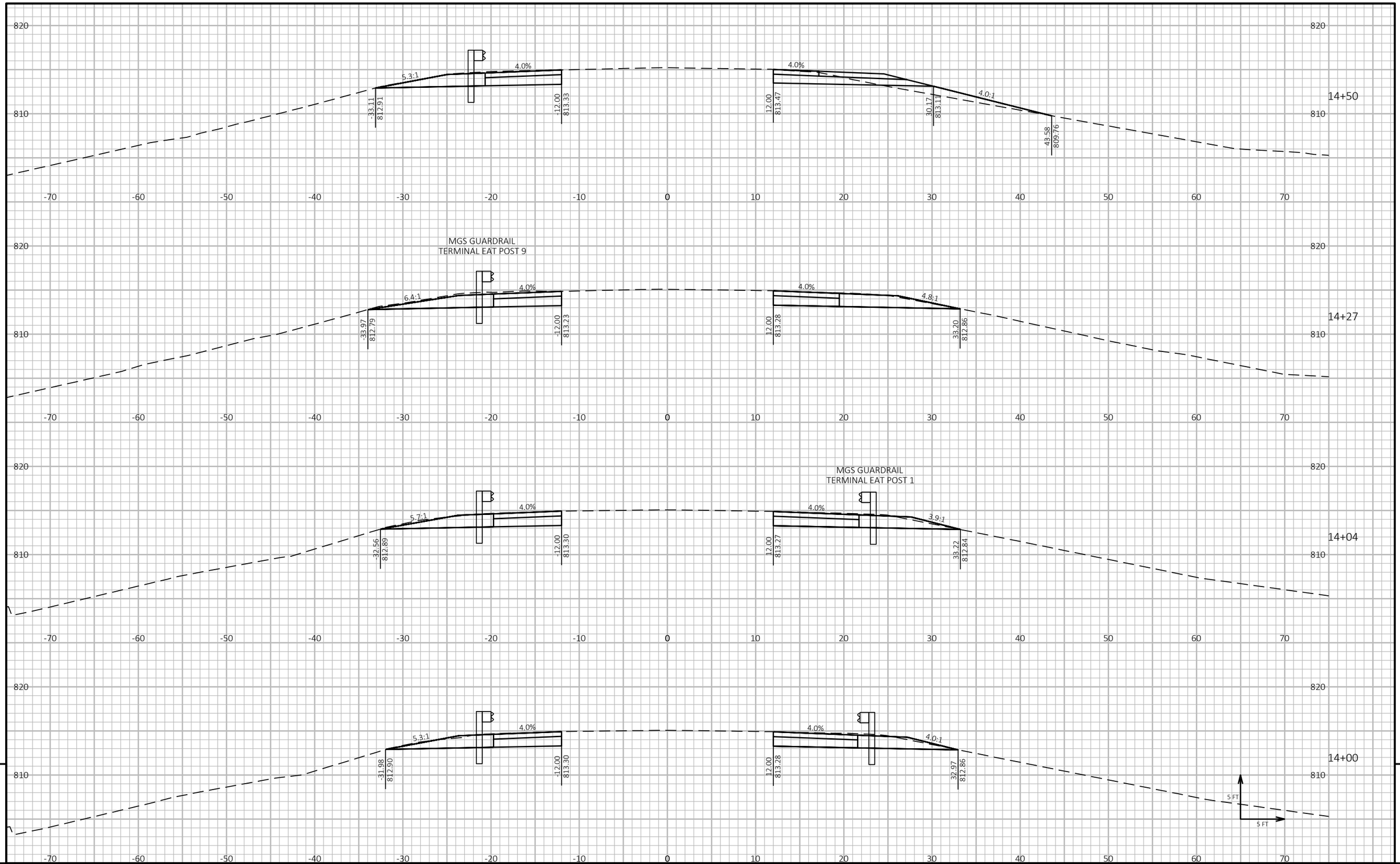
9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 120	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 5

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

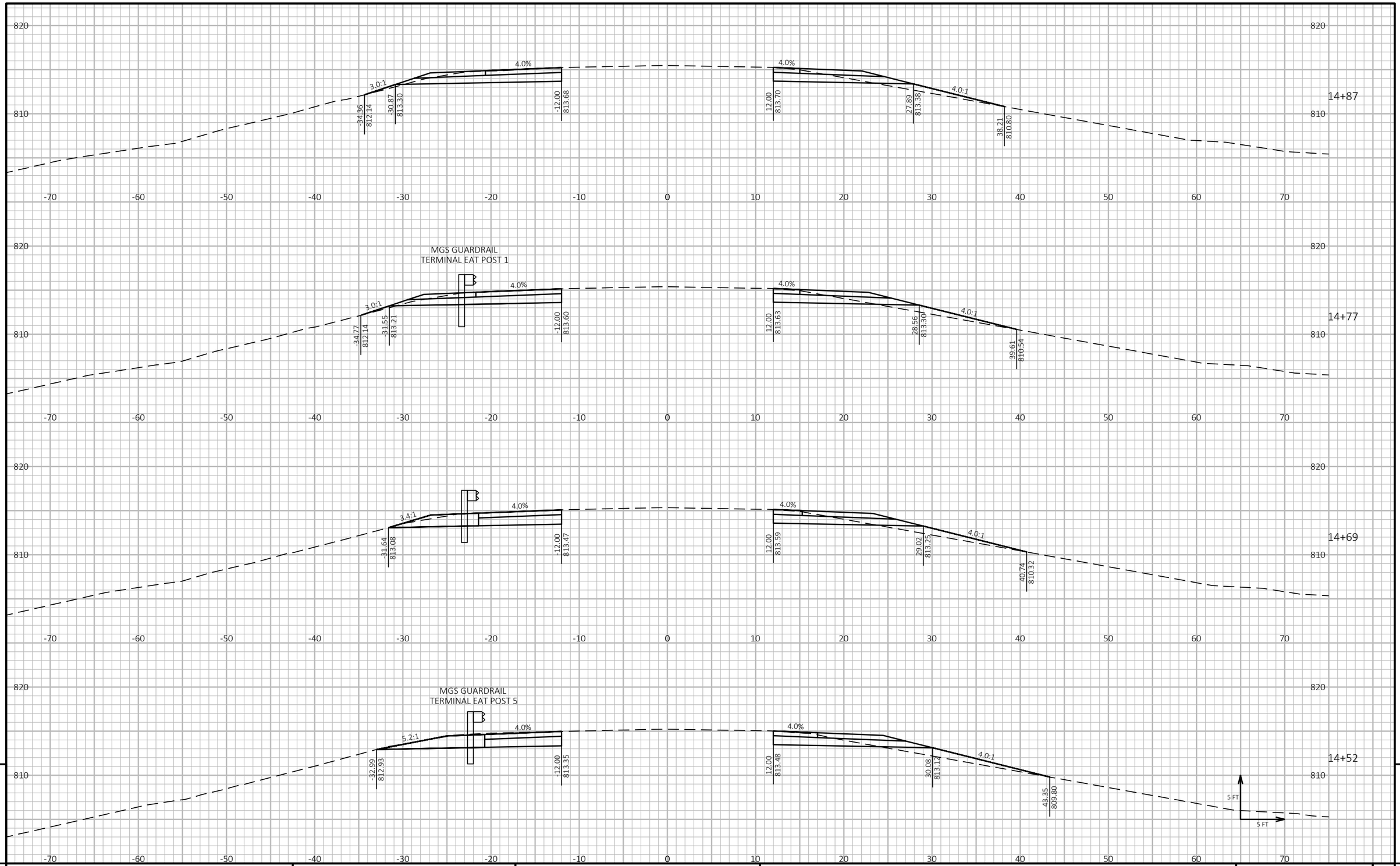
9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 121	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 6

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

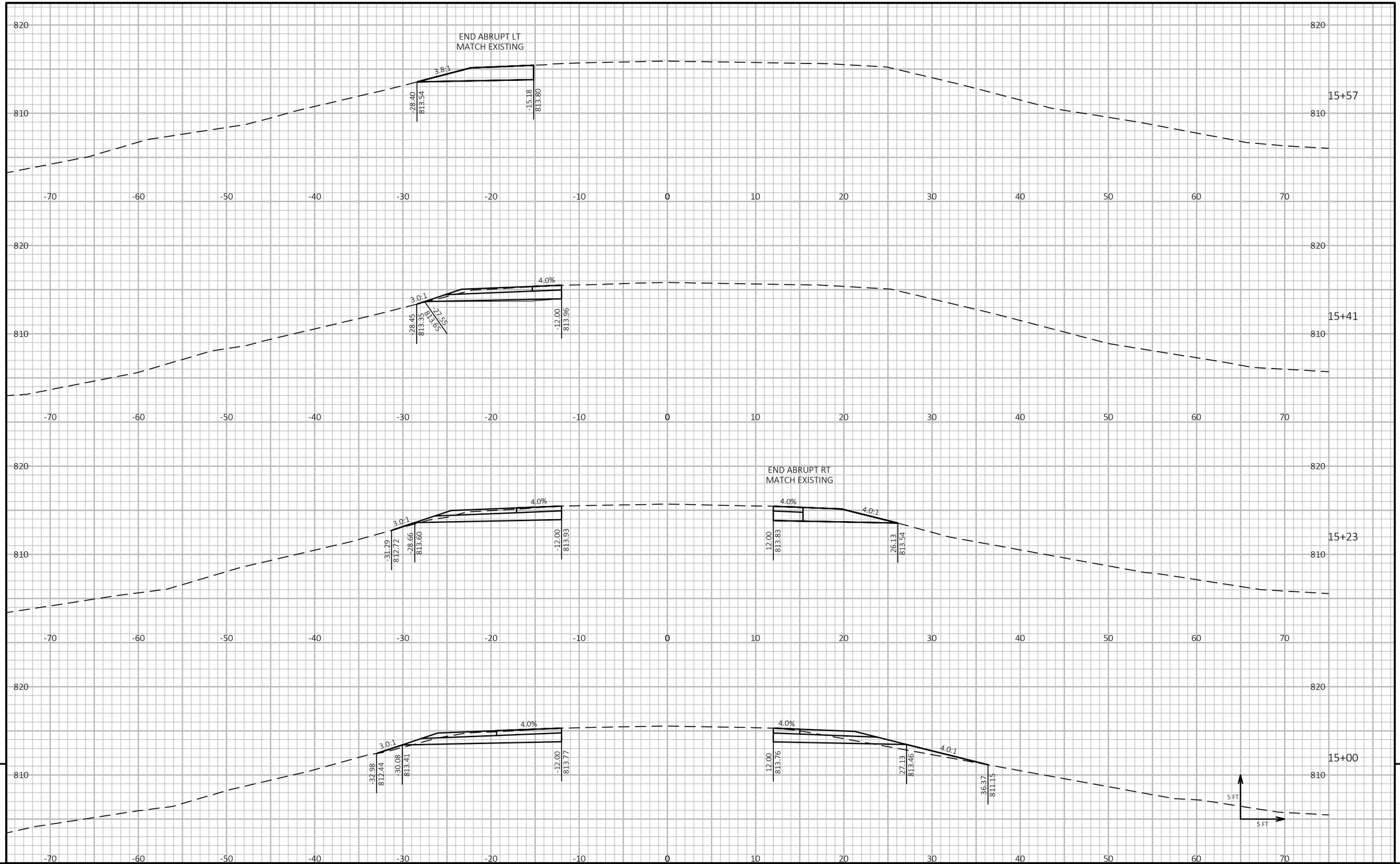
9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 122	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 7

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 8040-01-74	HWY: STH 70	COUNTY: BURNETT	CROSS SECTIONS	SHEET 123	E

FILE NAME : P:\52XX\5209.DP.19.STH70.BUR\CADDS\80400174\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 8

PLOT DATE : 2/17/2022 11:55 AM PLOT BY : DREW NELSON PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov