RHI APR 2016

PROJECT ID: 1053-02-60
WITH: N/A

COUNTY: MARATHON

ORDER OF SHEETS

TOTAL SHEETS = 146

N

DESIGN DESIGNATION		CTH J - CTH O	CTH O - CTH Y
A.A.D.T. (2018)	=	12,640	13,000
A.A.D.T. (2038)	=	16,210	17,000
D.H.V.	=	1,710	1,790
D.D.	=	51/49	51/49
T.	=	13.7%	13.7%
DESIGN SPEED	=	60-70 MPH	60-70 MPH
ESALS	=	N/A	N/A

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (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 (955.36)
- 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

WAUSAU - WITTENBERG

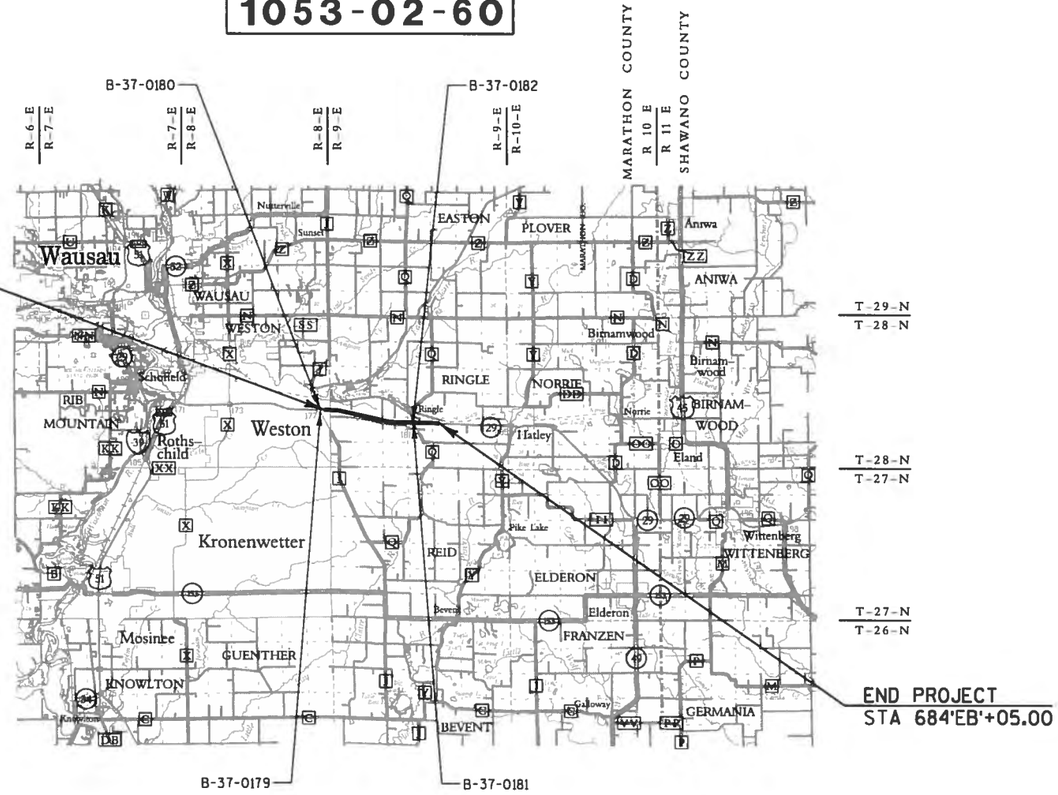
CTH J TO CTH Q

STH 29

MARATHON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1053-02-60	WISC 2016122	1

STATE PROJECT NUMBER
1053-02-60



BEGIN PROJECT
STA 455'EB'+00.00
Y=177,120.92
X=317,762.16

END PROJECT
STA 684'EB'+05.00

LAYOUT
SCALE 0 3 MI.

TOTAL NET LENGTH OF CENTERLINE = 4.338 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), MARATHON COUNTY (NAD 83), 1991 ADJUSTMENT

ALL ELEVATIONS ON THIS PROJECT ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

ORIGINAL PLANS PREPARED BY

emcs.inc

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

WISCONSIN
STEPHANIE G. CHRISTENSEN
E35808
WAUSAU, WI
PROFESSIONAL ENGINEER

5/19/15 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT / EMCS, INC.
Designer	EMCS, INC.
Project Manager	JED PETERS
Regional Examiner	CHERYL SIMON
Regional Supervisor	ROBIN STAFFORD

APPROVED FOR THE DEPARTMENT
DATE: 5/29/2015 (Signature)

E

2

GENERAL NOTES

NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. EXISTING UTILITIES WERE ONLY SURVEYED IN AREAS OF POTENTIAL EXCAVATION.

CONCRETE REPAIR ITEMS IN THIS PLAN ARE BASED ON A CRACK SURVEY COMPLETED IN 2012. THE TYPES OF REPAIRS AND LIMITS OF PAVEMENT REMOVAL ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

MATCH EXISTING CONCRETE JOINTS FOR REPAIR AND REPLACEMENT AREAS. CONCRETE JOINT LAYOUT WILL NOT BE PAID FOR SEPERATELY.

EXISTING RIGHT-OF-WAY IS APPROXIMATE AND IS BASED ON AVAILABLE RIGHT-OF-WAY PLATS.

AS-BUILTS USED FOR PLAN DEVELOPMENT

PROJECT NO: 1054-07-77, CONSTRUCTION YEAR: 1989
PROJECT NO: 1054-07-75, CONSTRUCTION YEAR: 1989

ORDER OF SECTION 2 SHEETS

UTILITIES

ANR PIPELINE COMPANY
(GAS/PETROLIUM)
DUANE PRONDZINSKI
2629 SUNSET DRIVE
STEVENS POINT, WI 54482
(715) 295-3143
CELL (715) 460-4322
duane_prondzinski@transcanada.com

ATC MANAGEMENT INC.
(ELECTRIC)
MIKE OLSEN
801 O'KEEFE RD
P.O. BOX 6113
DE PERE, WI 54115-6113
(920) 338-6582
molsen@atcllc.com

FRONTIER COMMUNICATIONS OF WILLC
(COMMUNICATIONS)
CALVIN KLADE
1851 N. 14TH AVE
WAUSAU, WI 54401
(715) 847-1525
CELL (715) 573-2110
calvin.klade@ftr.com

PACKERLAND BROADBAND
(COMMUNICATIONS)
WAYNE CRETTON
105 KENT ST
P.O. BOX 190
IRON MOUNTAIN, MI 49801
CELL (906) 282-3768
wayne.cretton@packerlandbroadband.com

QWEST
(COMMUNICATIONS)
BOB SAMPSON
1310 EAST MARY ST
OTTUMWA, WI 52501
(636) 887-5367
robert.sampson@centurylink.com

VILLAGE OF WESTON
(SEWER & WATER)
MICHEAL WODALSKI
5500 SCHOFIELD AVE
WESTON, WI 54476
(715) 241-2624
CELL (715) 241-2636
mwodalski@westonwi.org

WISCONSIN INDEPENDENT NETWORK, LLC
(COMMUNICATIONS)
JOHN LOUIS
800 WISCONSIN ST SUITE 219
EAU CLAIRE, WI 54703
(715) 838-4012
CELL (715) 864-2918
jlouis@wins.net

WISCONSIN PUBLIC SERVICE
(GAS)
MICHAEL BOSI
1700 SHERMAN STREET
WAUSAU, WI 54402
(715) 848-7471
CELL (715) 803-8009
mabosi@wisconsinpublicservice.com

WISCONSIN PUBLIC SERVICE
(ELECTRIC)
CLAYTON VIRCKS
P.O. BOX 1166
WAUSAU, WI 54402
(715) 848-7317
CELL (715) 573-7806
chvircks@wisconsinpublicservice.com

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

OTHER CONTACT

DNR LIAISON
MARC HERSHFIELD
NORTH CENTRAL REGION
473 GRIFFITH DRIVE
WISCONSIN RAPIDS, WI 54494
(715) 421-7867
MARC.HERSHFIELD@WISCONSIN.GOV

2

N

BEGIN CONSTRUCTION
STA 426'WB'+17

B-37-0180
(STH 29 WB OVER CTH J)
POLYMER OVERLAY

END CONSTRUCTION
STA 428'WB'+50

BEGIN CONSTRUCTION
STA 455'WB'+00

CTH J

RECONSTRUCT MAINTENANCE CROSSOVER,
SEE DETAILS

450'EB'+00

500'EB'+00

STH 29

550'EB'+00

TRAVEL LANES:
CONCRETE PAVEMENT REPAIR/REPLACEMENT,CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

SHOULDERS:
CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS, REMOVING ASPHALTIC SURFACE MILLING, AND HMA PAVEMENT OVERLAY

END CONSTRUCTION
STA 429'EB'+00

BEGIN PROJECT
STA 455'EB'+00

RECONSTRUCT MAINTENANCE CROSSOVER,
SEE DETAILS

B-37-0179
(STH 29 EB OVER CTH J)
POLYMER OVERLAY

BEGIN CONSTRUCTION
STA 426'EB'+74

INSTALL RAMP CLOSURE GATE AT THE CTH Q ENTRANCE RAMP G-37-29

CTH Q

B-37-0182
(STH 29 WB OVER CTH Q)
POLYMER OVERLAY

RINGLE AVE

RECONSTRUCT MAINTENANCE CROSSOVER,
SEE DETAILS

END CONSTRUCTION
STA 675'WB'+00

600'EB'+00

650'EB'+00

700'EB'+00

RECONSTRUCT MAINTENANCE CROSSOVER,
SEE DETAILS

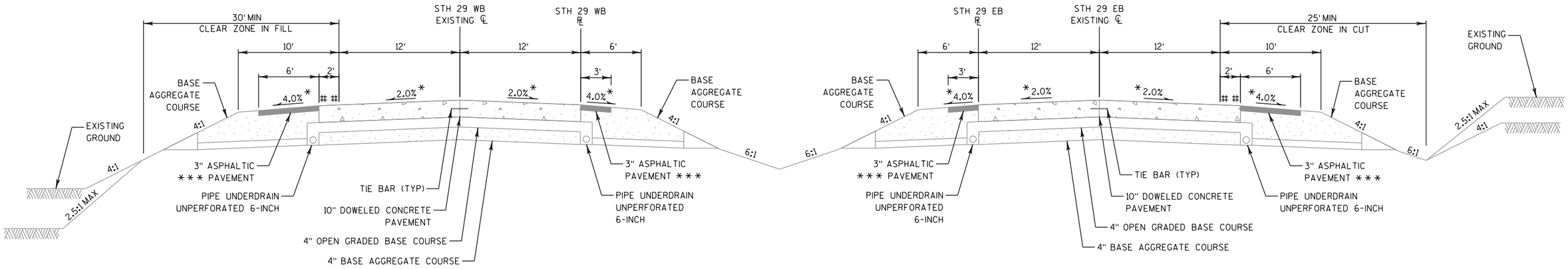
WESTON AVE

INSTALL RAMP CLOSURE GATE AT THE CTH Q ENTRANCE RAMP G-37-28

B-37-0181
(STH 29 EB OVER CTH Q)
POLYMER OVERLAY

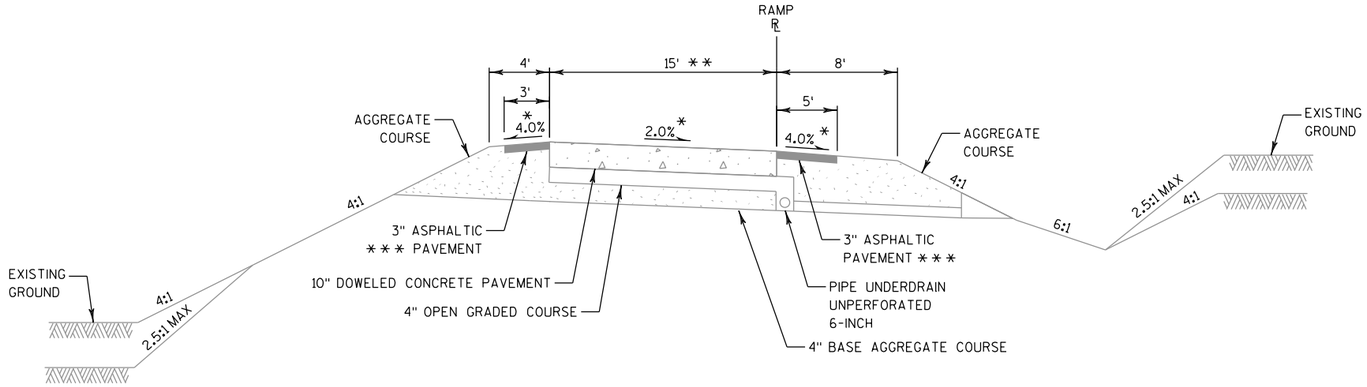
END PROJECT
STA 684'EB'+05

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PROJECT OVERVIEW	SHEET 3	E



TYPICAL EXISTING SECTION
STH 29

STA 426'EB'+74 - STA 429'EB'+00
STA 426'WB'+17 - STA 428'WB'+50
STA 455'EB'+00 - STA 684'EB'+05
STA 455'WB'+00 - STA 675'WB'+00



TYPICAL EXISTING SECTION
STH 29 EXIT AND ENTRANCE RAMPS

(EB RAMPS SHOWN, FOR WB RAMPS MIRROR AROUND ℟)

CTH Q

STA 10'QA'+35 - STA 24'QA'+28
STA 32'QB'+07 - STA 48'QB'+18
STA 58'QC'+77 - STA 72'QC'+91
STA 70'QD'+38 - STA 86'QD'+43

NOTES

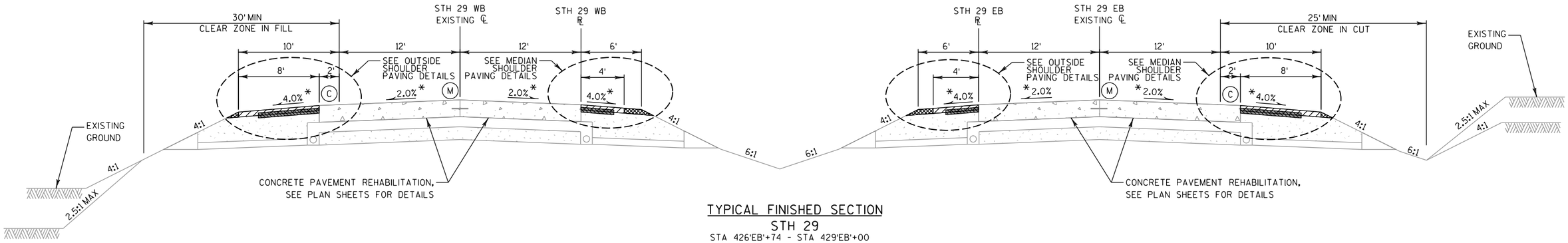
* CROSS SLOPE VARIES DUE TO SUPERELEVATION

** PAVEMENT WIDTH VARIES AT TURN LANES AND RAMP TERMINALS

*** EXISTING ASPHALT SHOULDERS HAVE SETTLED LOWER THAN EXISTING CONCRETE PAVEMENT IN SOME LOCATIONS

EXISTING RUMBLE STRIP CORRUGATION; 6'LONG, 60' CENTER TO CENTER

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 4	E



TYPICAL FINISHED SECTION
STH 29

STA 426'EB'+74 - STA 429'EB'+00
STA 426'WB'+17 - STA 428'WB'+50
STA 455'EB'+00 - STA 684'EB'+05
STA 455'WB'+00 - STA 675'WB'+00

NOTES

* CROSS SLOPE VARIES DUE TO SUPERELEVATION

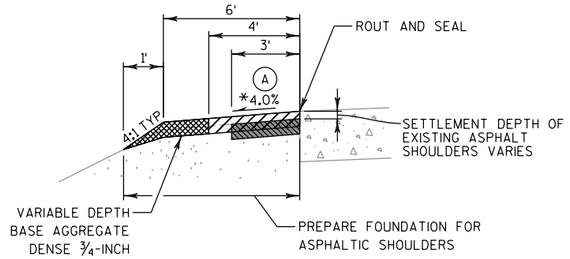
(C) MILL CONTINUOUS CONCRETE SHOULDER RUMBLE STRIPS BETWEEN EXISTING RUMBLE STRIP CORRUGATIONS, SEE SDD "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION

(A) ASPHALTIC SHOULDER RUMBLE STRIP, SEE SDD "SHOULDER RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION

(M) REMOVING RAISED PAVEMENT MARKER AND FILLING VOID ALONG STH 29 CENTERLINE AND ENTRANCE RAMP GORE AREAS

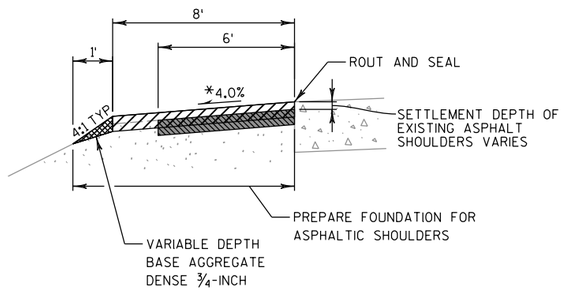
STH 29 MEDIAN SHOULDER PAVING DETAILS

(EB SHOWN, MIRROR DETAIL FOR WB SHOULDER)
STA 455'EB'+00 - STA 684'EB'+05
STA 455'WB'+00 - STA 675'WB'+00



STH 29 OUTSIDE SHOULDER PAVING DETAIL

(WB SHOWN, MIRROR DETAIL FOR EB SHOULDER)
STA 455'EB'+00 - STA 684'EB'+05
STA 455'WB'+00 - STA 675'WB'+00

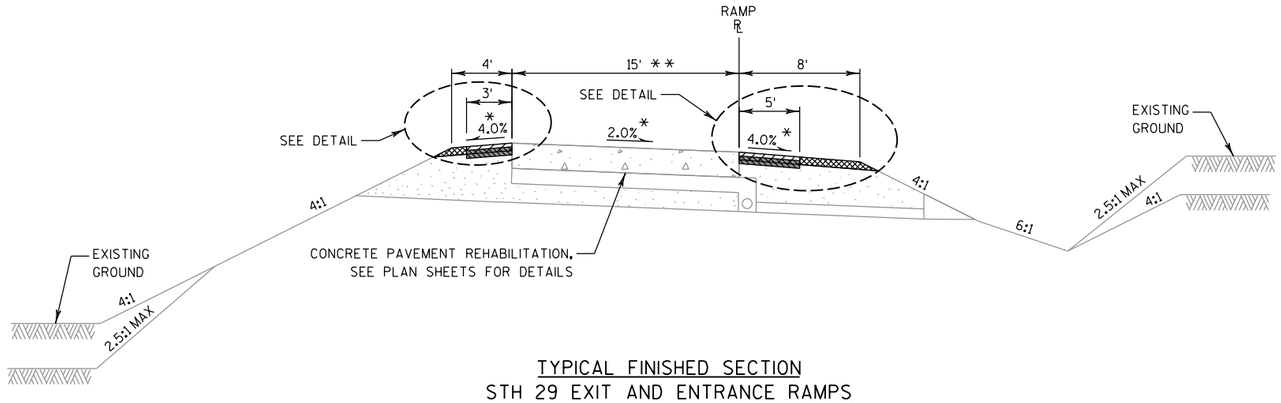


LEGEND

REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH, PLACE BASE AGGREGATE DENSE ¾-INCH AS NEEDED

3.5-INCH HMA PAVEMENT 4 LT 58-28 S

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 5	E



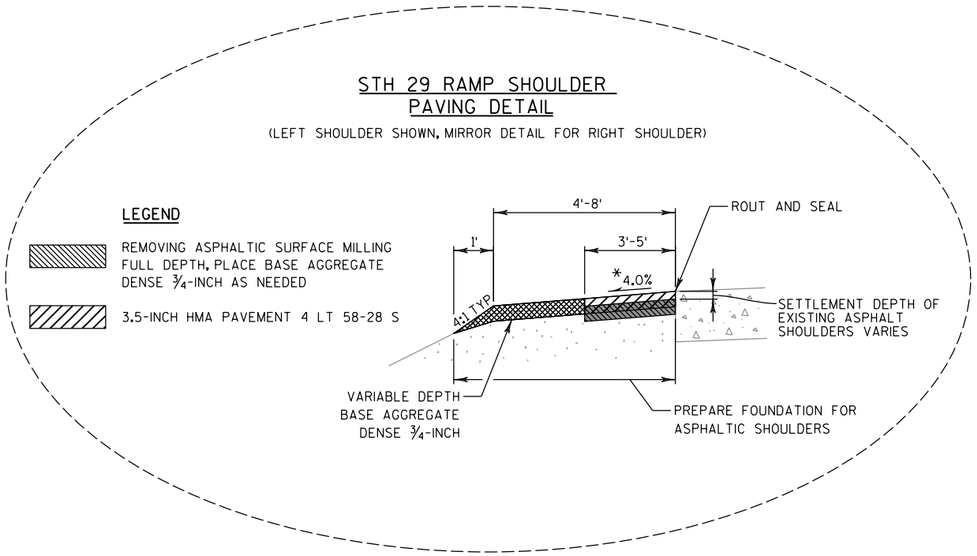
TYPICAL FINISHED SECTION
STH 29 EXIT AND ENTRANCE RAMPS
(EB RAMPS SHOWN, FOR WB RAMPS MIRROR AROUND ℄)

CTH Q
STA 10'QA'+35 - STA 35'QA'+77
STA 30'QB'+00 - STA 48'QB'+18
STA 50'QC'+00 - STA 72'QC'+91
STA 70'QD'+38 - STA 88'QD'+36

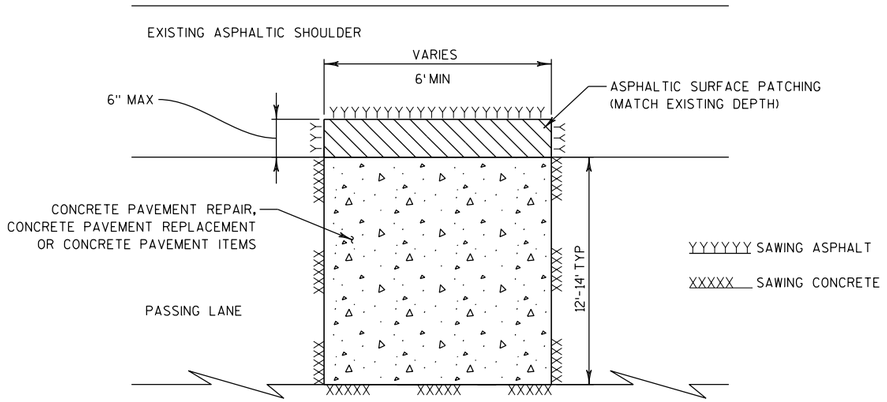
NOTES

* CROSS SLOPE VARIES DUE TO SUPERELEVATION

** PAVEMENT WIDTH VARIES AT TURN LANES AND RAMP TERMINALS



PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	TYPICAL SECTIONS	SHEET 6	E



ASPHALTIC SHOULDER DETAIL ADJACENT TO CONCRETE REPAIR/REPLACEMENT/PAVEMENT

MEDIAN SHOULDER

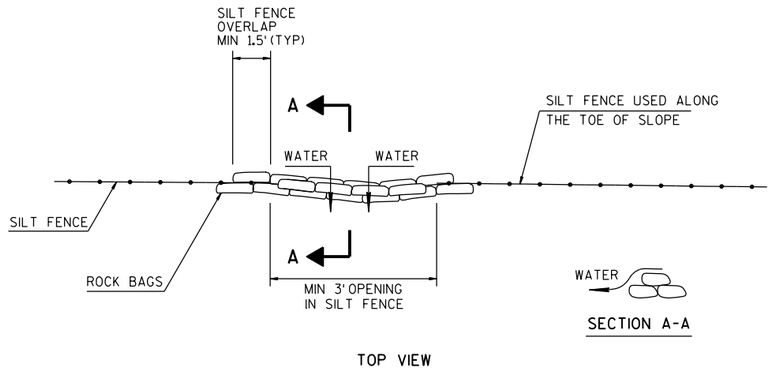
NOTES

DAMAGE TO EITHER EXISTING PAVEMENTS OR EXISTING SHOULDERS OUTSIDE OF THE LIMITS TO BE REMOVED DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE ENGINEER AND NO ADDITIONAL PAYMENT WILL BE MADE

PLACE ASPHALTIC PATCH BEFORE OPENING ADJACENT LANE TO TRAFFIC IN ALL AREAS

NO ASPHALTIC SURFACE PATCHING IS PROPOSED FOR OUTSIDE SHOULDER. MILL AND OVERLAY OUTSIDE SHOULDER PRIOR TO OPENING THE DRIVING LANE TO TRAFFIC

2



ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS

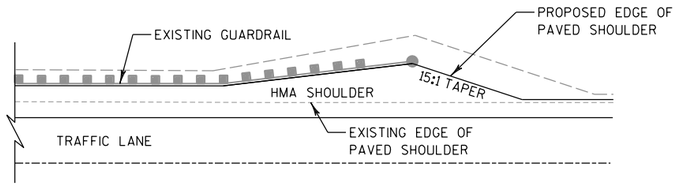
NOTE

SEE RAMP GATE AND MEDIAN CROSSOVER DETAIL SHEETS FOR ADDITIONAL INFORMATION

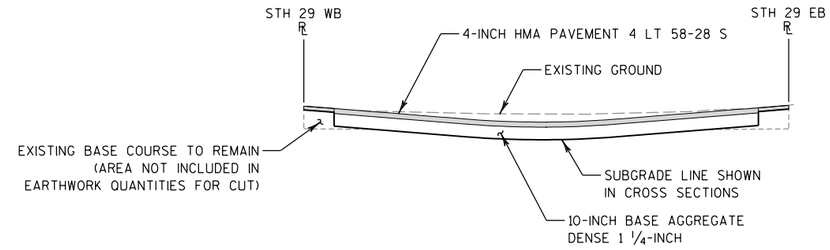
RUNOFF COEFFICIENT TABLE

	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 = 161.2 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 24.5 ACRES



DETAIL FOR ASPHALTIC SHOULDER AT EXISTING GUARDRAIL



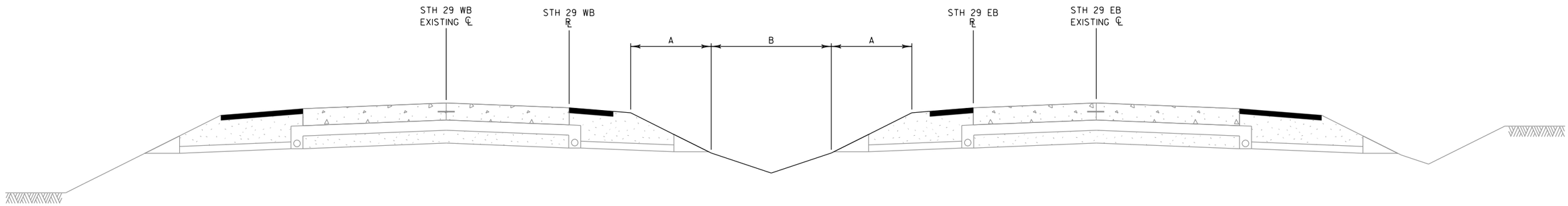
EARTHWORK & BASE AGGREGATE FOR CROSSOVER GRADING DETAIL

NOTE

ANY CUT AND FILL REQUIRED IS INCIDENTAL TO THE GRADING, SHAPING AND FINISHING CROSSOVERS ITEM

BENCH FILL AS REQUIRED PER STANDARD SPECIFICATION 205.3.2(4)

SEE CONSTRUCTION DETAILS - CROSSOVER RECONSTRUCTION FOR ADDITIONAL INFORMATION



NOTES

A= FERTILIZER TYPE B & SEEDING MIXTURE NO. 30

B= TOPSOIL, FERTILIZER TYPE B, SEEDING MIXTURE NO. 30 & EROSION MAT

TOPSOIL, FERTILIZER TYPE B, AND SEEDING MIXTURE NO. 30 ARE INCIDENTAL TO THE GRADING, SHAPING AND FINISHING MAINTENANCE CROSSOVER ITEM (SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION)

FINISHING ITEMS AT MAINTENANCE CROSSOVER GRADING AREAS

STH 29

N

LEGEND

- RAMP CLOSURE GATE SOLAR CONCRETE BASE TYPE 5 POLE TYPE 5 - STEEL TRANSFORMER BASE STANDARD 11 1/2-INCH BOLT CIRCLE
- 24" X 36" PULL BOX
- SOLAR POWERED BATTERY AND CONTROLLER CABINET CONCRETE CONTROL CABINET BASE TYPE 10 PEDESTAL BASE, TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT
- RAMP CLOSURE GATE (VARYING LENGTHS)
- CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH
- SILT FENCE
- F SILT FENCE RELIEF (ROCK BAGS)
- SURFACE WATER FLOW
- PROPOSED SIGN MOUNTED ON SINGLE POST
- X SIGN - REMOVE
- X SIGN - PLACE NEW

QC-4
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

GUY

WISCONSIN PUBLIC SERVICE (ELECTRIC)

CTH O

111'0'+00

109'0'+00

QC-2
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

70'0D'+00

73'0C'+00

71'0D'+00

EXIT RAMP FROM WB STH 29

ENTRANCE RAMP TO WB STH 29

72'0C'+00

108'0'+00

PROPOSED 40-FT RAMP CLOSURE GATE

SLOPE INTERCEPT

RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

QC-1

NO GRADING CHANGES REQUIRED, MAINTAIN EXISTING SLOPES

STRUCTURE IDENTIFICATION PLAQUE REQUIRED G-37-29

DELINEATED WETLAND BOUNDARY

107'0'+00

QC-3
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

PLACE BOX-OUT IN MEDIAN +/- STA. 105'0'+00

CTH O

DELINEATED WETLAND BOUNDARY

47'0B'+00

EXIT RAMP FROM EB STH 29

48'0B'+00

102'0'+00

+/- STA. 103'0'+00 PLACE BOX-OUT IN MEDIAN

QA-4
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

DELINEATED WETLAND BOUNDARY

CTH O

101'0'+00

STRUCTURE IDENTIFICATION PLAQUE REQUIRED G-37-28

SLOPE INTERCEPT

F

QA-2
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

11'0A'+00

NO GRADING CHANGES REQUIRED, MAINTAIN EXISTING SLOPES

ENTRANCE RAMP TO EB STH 29

100'0'+00

PROPOSED 37-FT RAMP CLOSURE GATE

QA-1
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

PACKERLAND BROADBAND (COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE (ELECTRIC)

OWEST (COMMUNICATIONS)

GUY

99'0'+00

CTH O

QA-3
RAMP CLOSED
~~USE~~
ALT ROUTE
R11-54F
48" X 30"

NOTES

PRIOR TO INSTALLING STRUCTURE IDENTIFICATION PLAQUES CONFIRM LOCATION NUMBER PROVIDED BY WISDOT.

SAWING ASPHALT AND REMOVING ASPHALTIC SURFACE FOR SIGN BOX-OUTS IN EXISTING PAVEMENT ARE PAID FOR UNDER PERTINENT ITEMS IN THE CONTRACT.

FOR OTHER TYPE II SIGNING ITEMS SEE THE PERMANENT SIGNING AND PAVEMENT MARKING SHEETS.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR RAMP GATE CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED NO. 30, AND EROSION MAT CLASS 1 TYPE B. ALL OF THESE ITEMS EXCEPT EROSION MAT WILL BE PAID FOR AS SHAPING AND FINISHING RAMP GATES.

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS - RAMP CLOSURE GATE LAYOUT AT CTH Q	SHEET 9	E

2

NOTES

FOR GRADING SHAPING AND FINISHING CROSSOVER LIMITS AND ADDITIONAL PAVEMENT SLOPE INFORMATION, SEE CROSS SECTIONS.

FOR TYPE II SIGNING ITEMS, SEE THE PERMANENT SIGNING AND PAVEMENT MARKING SHEETS.

SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS" FOR INFORMATION NOT SHOWN.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED FOR CROSSOVER GRADING ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED NO. 30, AND EROSION MAT CLASS 1 TYPE B. ALL OF THESE ITEMS EXCEPT EROSION MAT WILL BE PAID FOR AS GRADING SHAPING AND FINISHING CROSSOVERS. EROSION MAT WILL BE PAID FOR UNDER THE ITEMS PROVIDED IN THE CONTRACT.

LEGEND

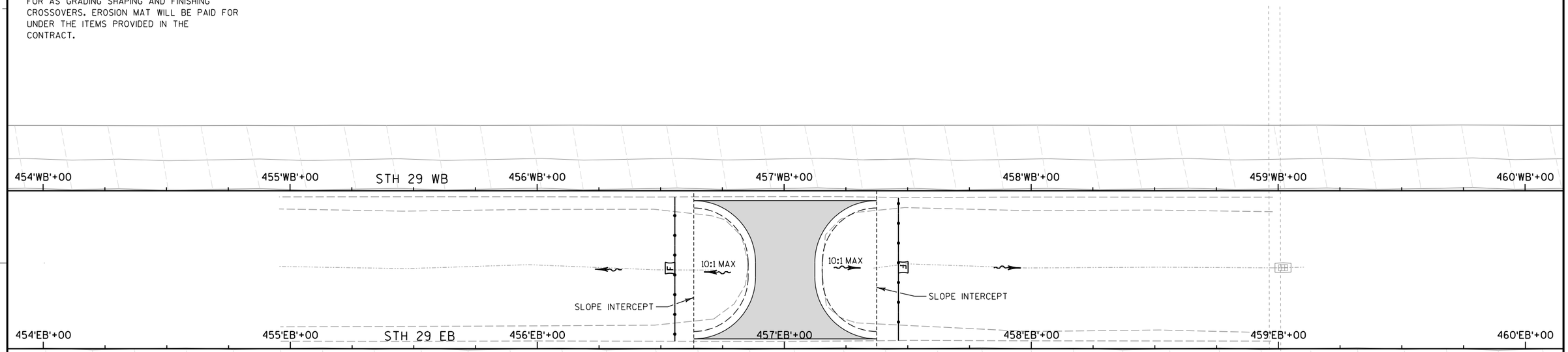
SURFACE WATER FLOW

SILT FENCE RELIEF (ROCK BAGS)

SILT FENCE

4-INCH HMA PAVEMENT 4 LT 58-28 S

N



PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS - CROSSOVER RECONSTRUCTION	SHEET 10	E

2

NOTES

FOR GRADING SHAPING AND FINISHING CROSSOVER LIMITS AND ADDITIONAL PAVEMENT SLOPE INFORMATION, SEE CROSS SECTIONS.

FOR TYPE II SIGNING ITEMS, SEE THE PERMANENT SIGNING AND PAVEMENT MARKING SHEETS.

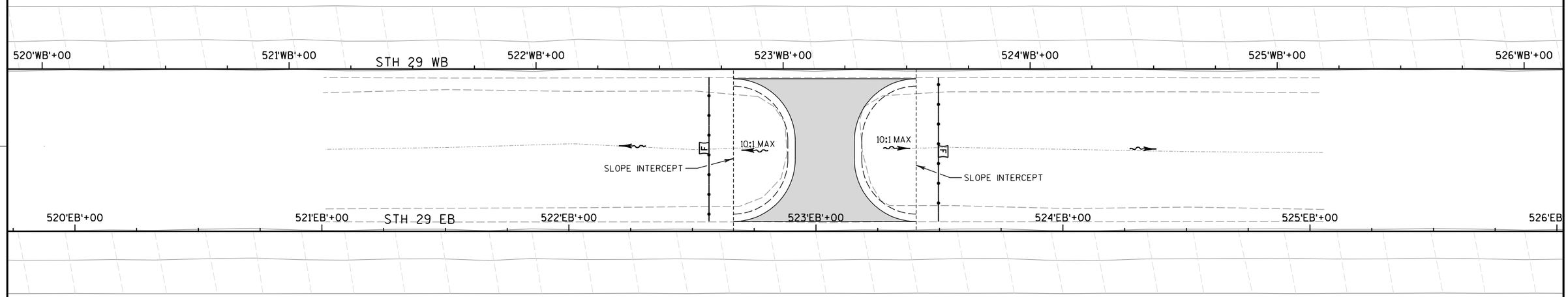
SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS" FOR INFORMATION NOT SHOWN.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED FOR CROSSOVER GRADING ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED NO. 30, AND EROSION MAT CLASS 1 TYPE B. ALL OF THESE ITEMS EXCEPT EROSION MAT WILL BE PAID FOR AS GRADING SHAPING AND FINISHING CROSSOVERS. EROSION MAT WILL BE PAID FOR UNDER THE ITEMS PROVIDED IN THE CONTRACT.

LEGEND

- SURFACE WATER FLOW
- [F] SILT FENCE RELIEF (ROCK BAGS)
- SILT FENCE
- 4-INCH HMA PAVEMENT 4 LT 58-28 S

N



2

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS - CROSSOVER RECONSTRUCTION	SHEET 11	E

2

NOTES

FOR GRADING SHAPING AND FINISHING CROSSOVER LIMITS AND ADDITIONAL PAVEMENT SLOPE INFORMATION, SEE CROSS SECTIONS.

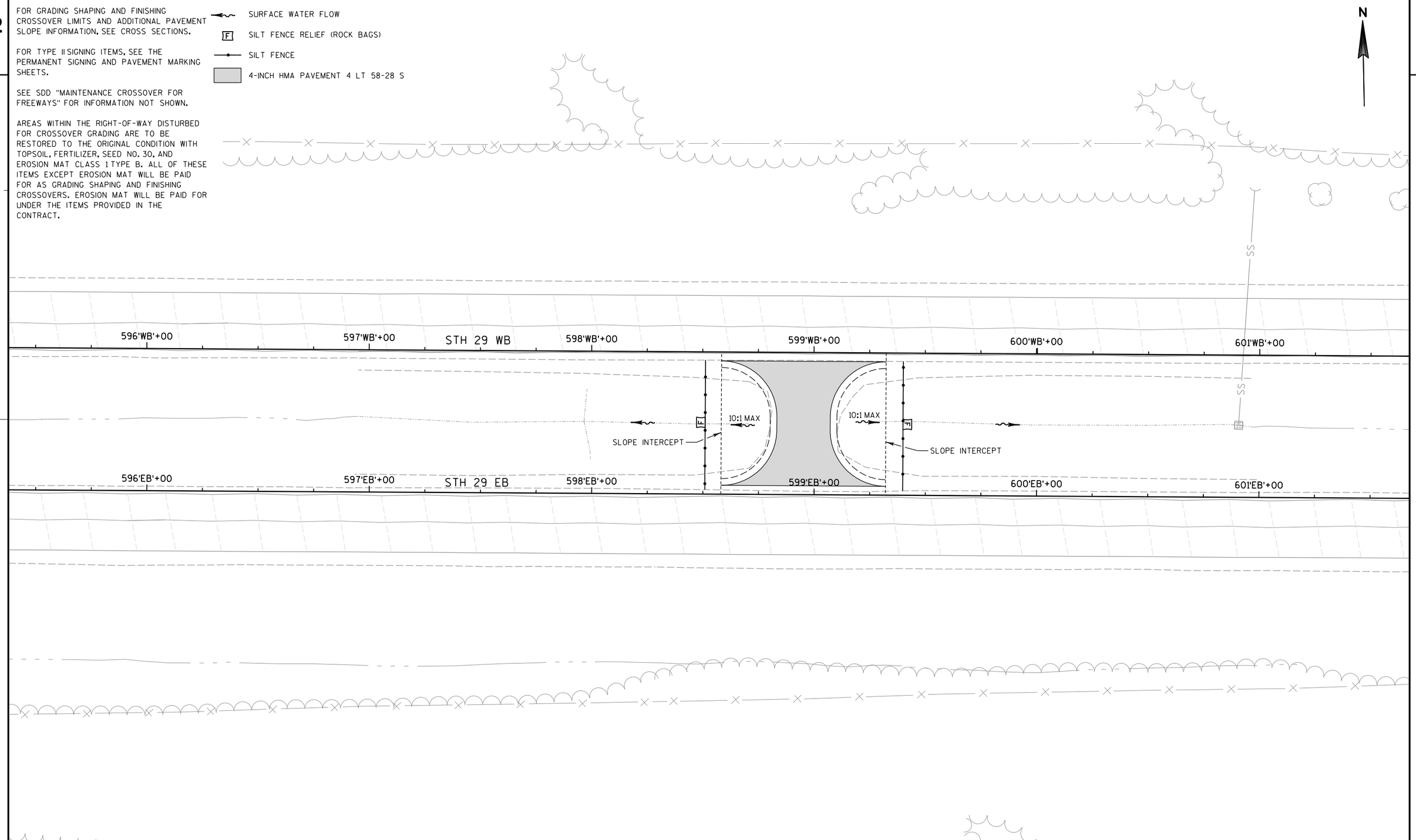
FOR TYPE II SIGNING ITEMS, SEE THE PERMANENT SIGNING AND PAVEMENT MARKING SHEETS.

SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS" FOR INFORMATION NOT SHOWN.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED FOR CROSSOVER GRADING ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED NO. 30, AND EROSION MAT CLASS 1 TYPE B. ALL OF THESE ITEMS EXCEPT EROSION MAT WILL BE PAID FOR AS GRADING SHAPING AND FINISHING CROSSOVERS. EROSION MAT WILL BE PAID FOR UNDER THE ITEMS PROVIDED IN THE CONTRACT.

LEGEND

- SURFACE WATER FLOW
- F — SILT FENCE RELIEF (ROCK BAGS)
- SILT FENCE
- 4-INCH HMA PAVEMENT 4 LT 58-28 S



PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS - CROSSOVER RECONSTRUCTION	SHEET 12	E

2

NOTES

FOR GRADING SHAPING AND FINISHING CROSSOVER LIMITS AND ADDITIONAL PAVEMENT SLOPE INFORMATION, SEE CROSS SECTIONS.

FOR TYPE II SIGNING ITEMS, SEE THE PERMANENT SIGNING AND PAVEMENT MARKING SHEETS.

SEE SDD "MAINTENANCE CROSSOVER FOR FREEWAYS" FOR INFORMATION NOT SHOWN.

AREAS WITHIN THE RIGHT-OF-WAY DISTURBED FOR CROSSOVER GRADING ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, SEED NO. 30, AND EROSION MAT CLASS 1 TYPE B. ALL OF THESE ITEMS EXCEPT EROSION MAT WILL BE PAID FOR AS GRADING SHAPING AND FINISHING CROSSOVERS. EROSION MAT WILL BE PAID FOR UNDER THE ITEMS PROVIDED IN THE CONTRACT.

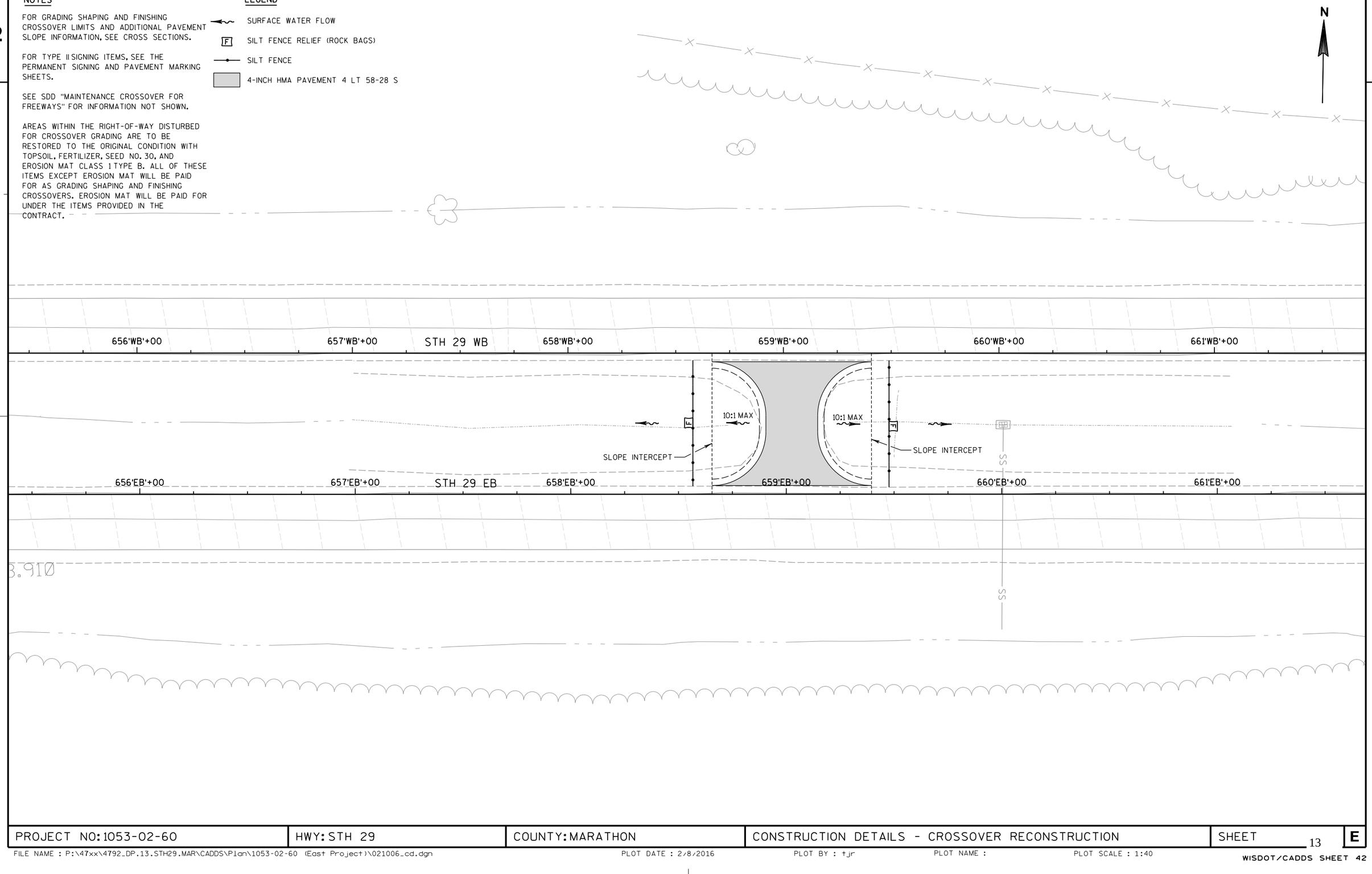
LEGEND

SURFACE WATER FLOW

SILT FENCE RELIEF (ROCK BAGS)

SILT FENCE

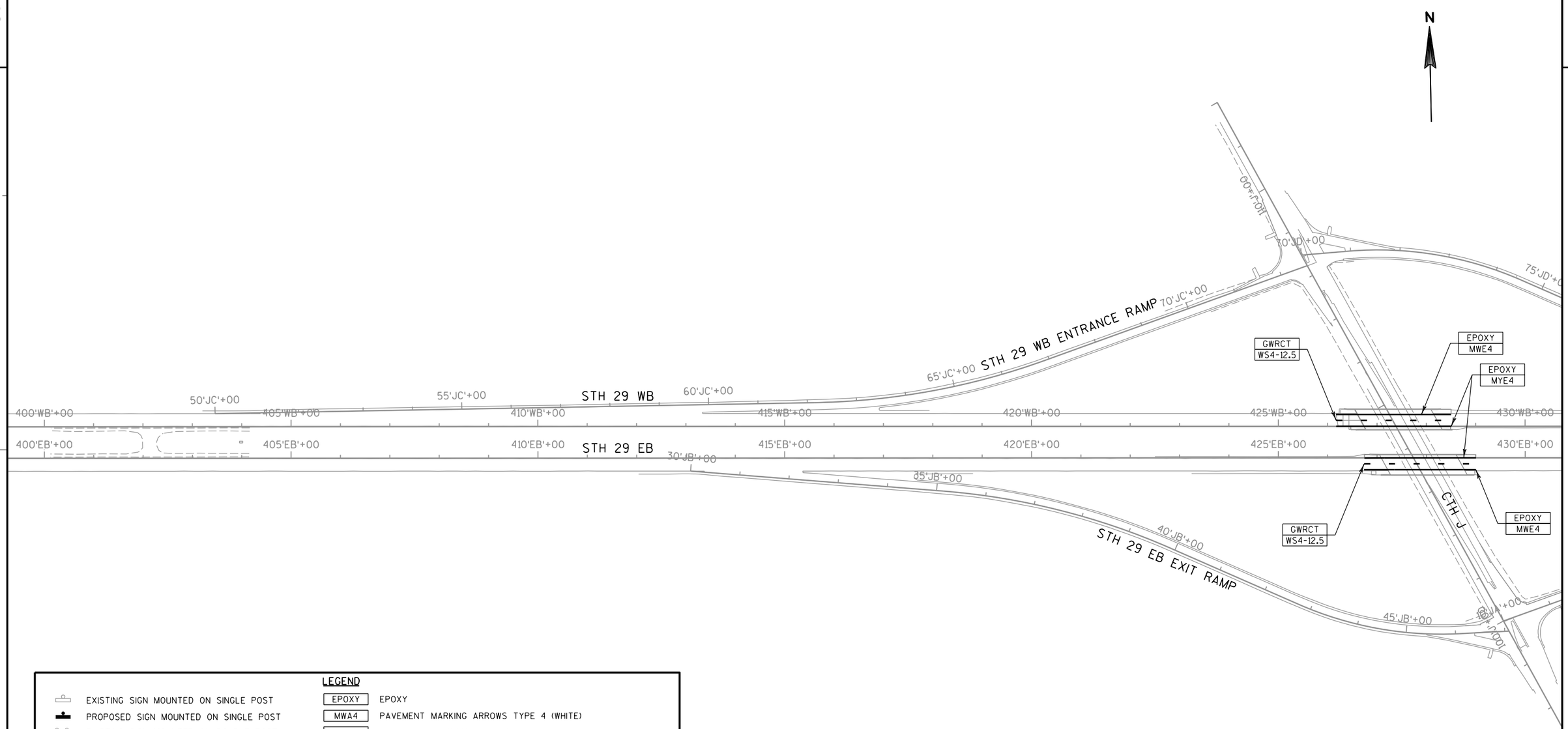
4-INCH HMA PAVEMENT 4 LT 58-28 S



2

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CONSTRUCTION DETAILS - CROSSOVER RECONSTRUCTION	SHEET 13	E

2



LEGEND

	EXISTING SIGN MOUNTED ON SINGLE POST
	PROPOSED SIGN MOUNTED ON SINGLE POST
	EXISTING SIGN MOUNTED ON DOUBLE POST
	PROPOSED SIGN MOUNTED ON MULTIPLE POSTS
X	SIGN - REMOVE AND REPLACE
X	SIGN - REMOVE
X	SIGN - PLACE NEW
	SINGLE DELINEATOR
	DOUBLE DELINEATOR

EPOXY	EPOXY
MWA4	PAVEMENT MARKING ARROWS TYPE 4 (WHITE)
MWE4	PAVEMENT MARKING 4-INCH (WHITE EDGE LINE)
MYE4	PAVEMENT MARKING 4-INCH (YELLOW EDGE LINE)
WS4-3	PAVEMENT MARKING 4-INCH (WHITE SKIP) (3'LINE, 9'GAP)
WS4-12.5	PAVEMENT MARKING 4-INCH (WHITE SKIP) (12 1/2'LINE, 37 1/2'GAP)
MW8	PAVEMENT MARKING 8-INCH (WHITE)
MWSL18	PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
MWD24	PAVEMENT MARKING DIAGONAL 24-INCH (WHITE)
GWRCT	GROOVED WET REFLECTIVE CONTRAST TAPE

NOTES

PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

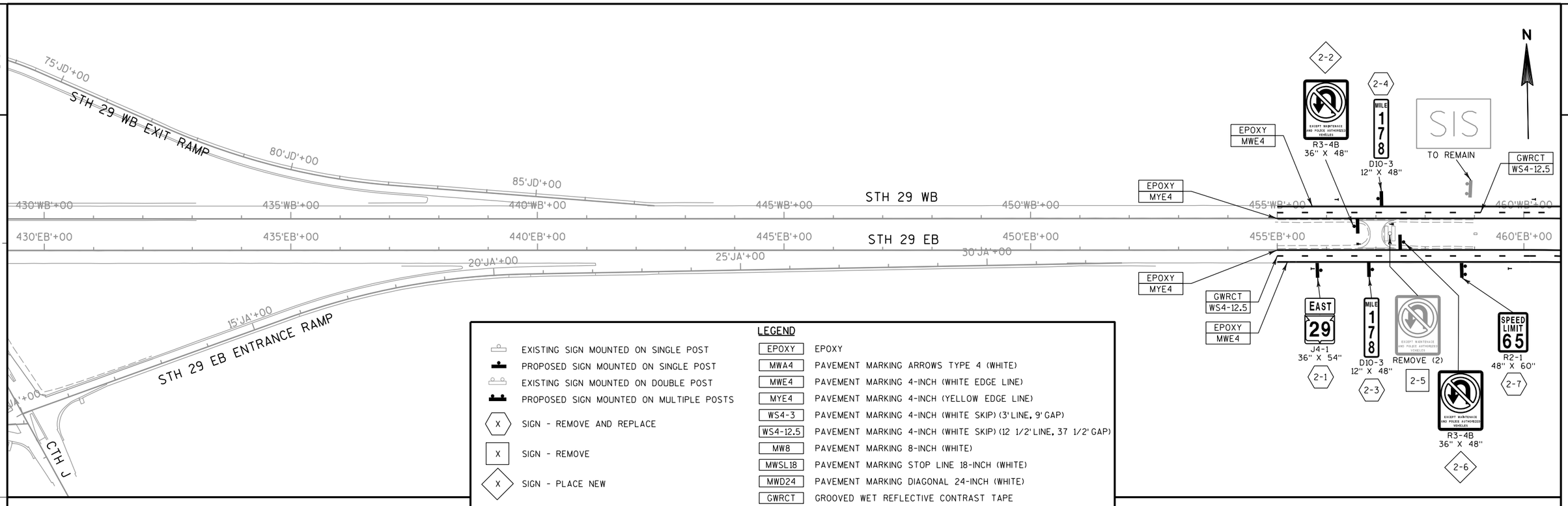
ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

REMOVE EXISTING DELINEATORS, REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

SIGNS NOT USED:
4-7, 6-9

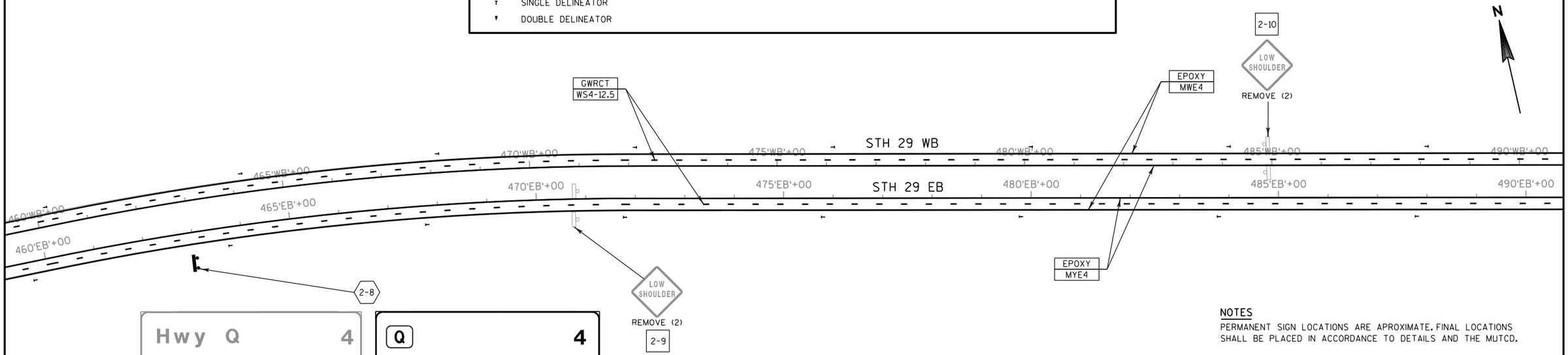
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 14	E



LEGEND

	EXISTING SIGN MOUNTED ON SINGLE POST
	PROPOSED SIGN MOUNTED ON SINGLE POST
	EXISTING SIGN MOUNTED ON DOUBLE POST
	PROPOSED SIGN MOUNTED ON MULTIPLE POSTS
X	SIGN - REMOVE AND REPLACE
X	SIGN - REMOVE
X	SIGN - PLACE NEW
	SINGLE DELINEATOR
	DOUBLE DELINEATOR

EPOXY	EPOXY
MWA4	PAVEMENT MARKING ARROWS TYPE 4 (WHITE)
MWE4	PAVEMENT MARKING 4-INCH (WHITE EDGE LINE)
MYE4	PAVEMENT MARKING 4-INCH (YELLOW EDGE LINE)
WS4-3	PAVEMENT MARKING 4-INCH (WHITE SKIP) (3' LINE, 9' GAP)
WS4-12.5	PAVEMENT MARKING 4-INCH (WHITE SKIP) (12 1/2' LINE, 37 1/2' GAP)
MW8	PAVEMENT MARKING 8-INCH (WHITE)
MWSL18	PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
MWD24	PAVEMENT MARKING DIAGONAL 24-INCH (WHITE)
GWRCT	GROOVED WET REFLECTIVE CONTRAST TAPE



Hwy Q	4
Shawano	47
Green Bay	83

REMOVE

Q	4
Shawano	47
Green Bay	83

D2-3
180" X 84"

NOTES

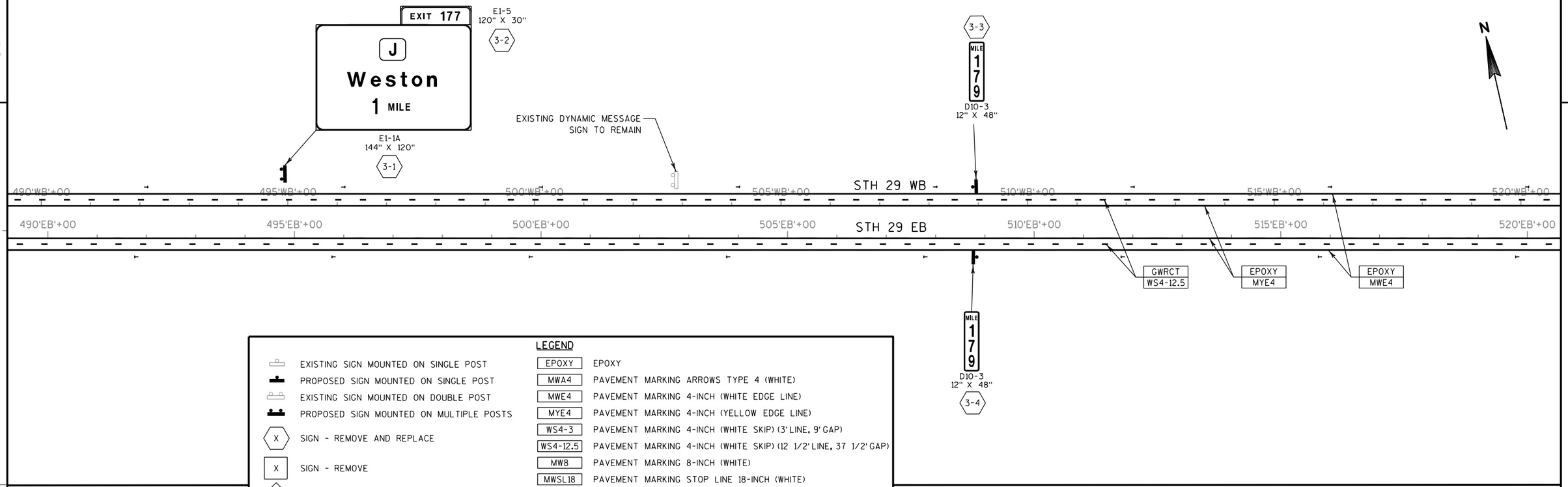
PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

REMOVE EXISTING DELINEATORS, REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

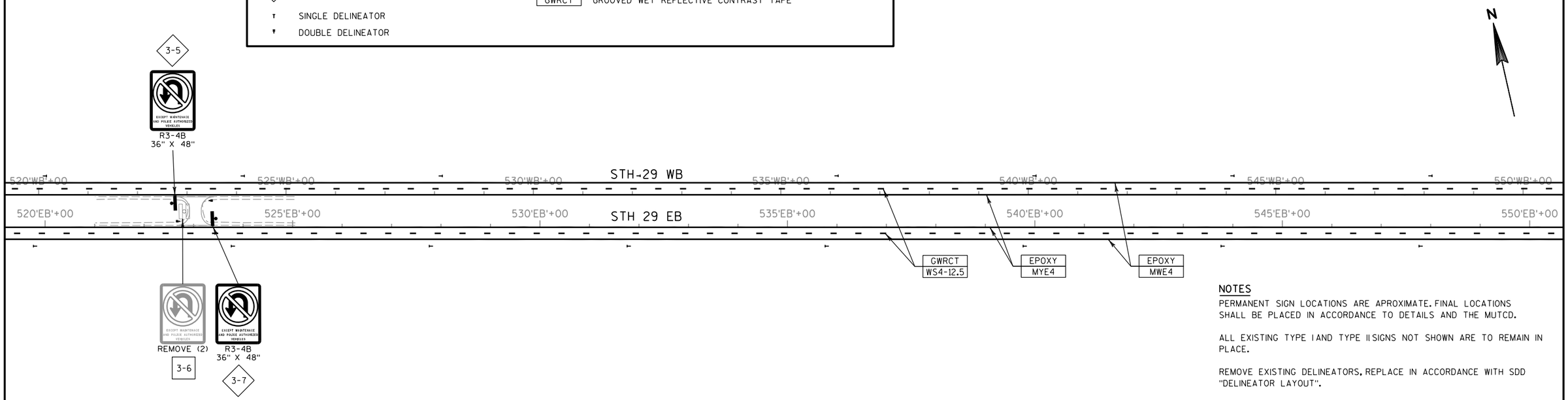
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 15	E



LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON MULTIPLE POSTS
- (X) SIGN - REMOVE AND REPLACE
- [X] SIGN - REMOVE
- ◇X◇ SIGN - PLACE NEW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR

EPOXY	EPOXY
MWA4	PAVEMENT MARKING ARROWS TYPE 4 (WHITE)
MWE4	PAVEMENT MARKING 4-INCH (WHITE EDGE LINE)
MYE4	PAVEMENT MARKING 4-INCH (YELLOW EDGE LINE)
WS4-3	PAVEMENT MARKING 4-INCH (WHITE SKIP) (3' LINE, 9' GAP)
WS4-12.5	PAVEMENT MARKING 4-INCH (WHITE SKIP) (12 1/2' LINE, 37 1/2' GAP)
MW8	PAVEMENT MARKING 8-INCH (WHITE)
MWSL18	PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
MWD24	PAVEMENT MARKING DIAGONAL 24-INCH (WHITE)
GWRCT	GROOVED WET REFLECTIVE CONTRAST TAPE



NOTES

PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

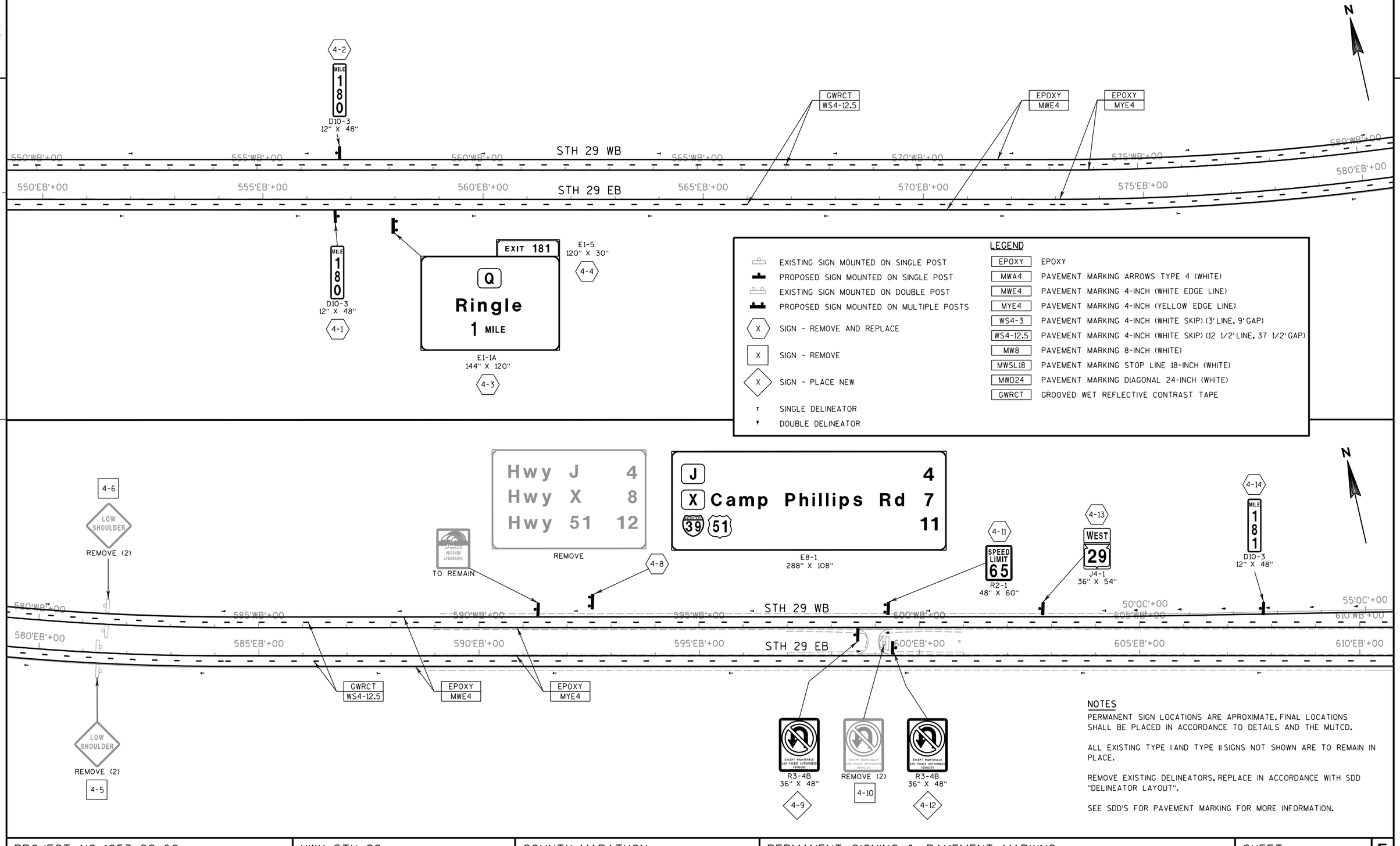
ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

REMOVE EXISTING DELINEATORS, REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 16	E

2



NOTES

PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

REMOVE EXISTING DELINEATORS. REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

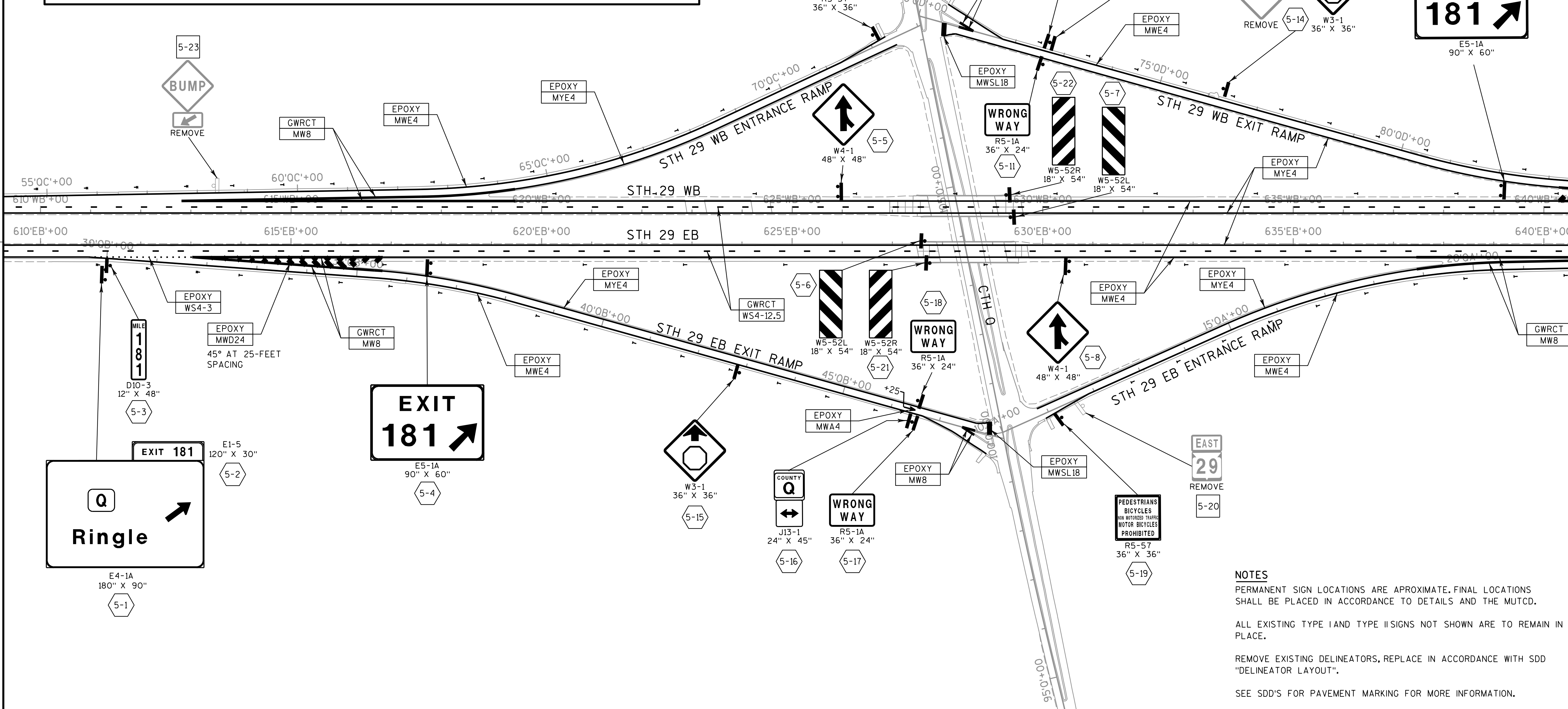
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 17	E

2

LEGEND

(symbol)	EXISTING SIGN MOUNTED ON SINGLE POST
(symbol)	PROPOSED SIGN MOUNTED ON SINGLE POST
(symbol)	EXISTING SIGN MOUNTED ON DOUBLE POST
(symbol)	PROPOSED SIGN MOUNTED ON MULTIPLE POSTS
(X)	SIGN - REMOVE AND REPLACE
X	SIGN - REMOVE
X	SIGN - PLACE NEW
(symbol)	SINGLE DELINEATOR
(symbol)	DOUBLE DELINEATOR

EPOXY	EPOXY
MWA4	PAVEMENT MARKING ARROWS TYPE 4 (WHITE)
MWE4	PAVEMENT MARKING 4-INCH (WHITE EDGE LINE)
MYE4	PAVEMENT MARKING 4-INCH (YELLOW EDGE LINE)
WS4-3	PAVEMENT MARKING 4-INCH (WHITE SKIP) (3' LINE, 9' GAP)
WS4-12.5	PAVEMENT MARKING 4-INCH (WHITE SKIP) (12 1/2' LINE, 37 1/2' GAP)
MW8	PAVEMENT MARKING 8-INCH (WHITE)
MWSL18	PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
MWD24	PAVEMENT MARKING DIAGONAL 24-INCH (WHITE)
GWRCT	GROOVED WET REFLECTIVE CONTRAST TAPE



NOTES

PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

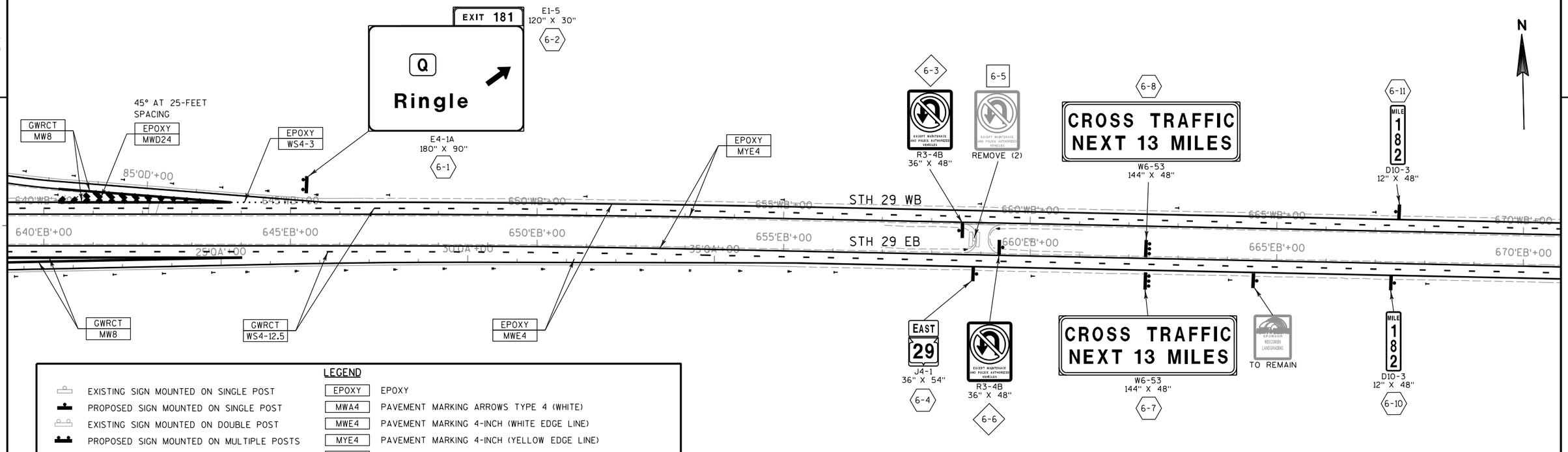
REMOVE EXISTING DELINEATORS, REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 18	E

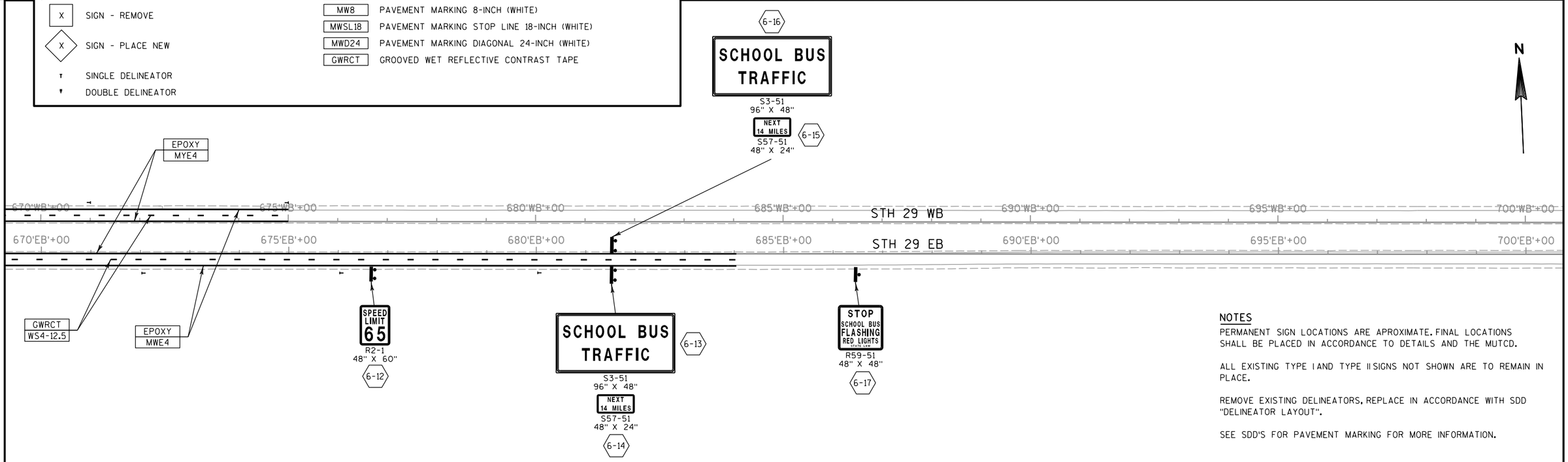
FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\023205_ps.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:200 WISDOT/CADDS SHEET 42

2



LEGEND

	EXISTING SIGN MOUNTED ON SINGLE POST	EPOXY — EPOXY
	PROPOSED SIGN MOUNTED ON SINGLE POST	MWA4 — PAVEMENT MARKING ARROWS TYPE 4 (WHITE)
	EXISTING SIGN MOUNTED ON DOUBLE POST	MWE4 — PAVEMENT MARKING 4-INCH (WHITE EDGE LINE)
	PROPOSED SIGN MOUNTED ON MULTIPLE POSTS	MYE4 — PAVEMENT MARKING 4-INCH (YELLOW EDGE LINE)
X	SIGN - REMOVE AND REPLACE	WS4-3 — PAVEMENT MARKING 4-INCH (WHITE SKIP) (3' LINE, 9' GAP)
X	SIGN - REMOVE	WS4-12.5 — PAVEMENT MARKING 4-INCH (WHITE SKIP) (12 1/2' LINE, 37 1/2' GAP)
X	SIGN - PLACE NEW	MW8 — PAVEMENT MARKING 8-INCH (WHITE)
	SINGLE DELINEATOR	MWSL18 — PAVEMENT MARKING STOP LINE 18-INCH (WHITE)
	DOUBLE DELINEATOR	MWD24 — PAVEMENT MARKING DIAGONAL 24-INCH (WHITE)
		GWRCT — GROOVED WET REFLECTIVE CONTRAST TAPE



NOTES

PERMANENT SIGN LOCATIONS ARE APROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD.

ALL EXISTING TYPE I AND TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE.

REMOVE EXISTING DELINEATORS, REPLACE IN ACCORDANCE WITH SDD "DELINEATOR LAYOUT".

SEE SDD'S FOR PAVEMENT MARKING FOR MORE INFORMATION.

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 19	E

TRAFFIC CONTROL GENERAL NOTES

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

2) "WO" SIGNS ARE THE SAME A "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

3) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C WARNING LIGHT.

4) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED. EQUIP WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS PER SDDS.

5) FOR LANE CLOSURES SEE SDD "TRAFFIC CONTROL, LANE CLOSURE AND TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION".

6) FOR EXIT AND ENTRANCE RAMPS SEE SDD "TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE".

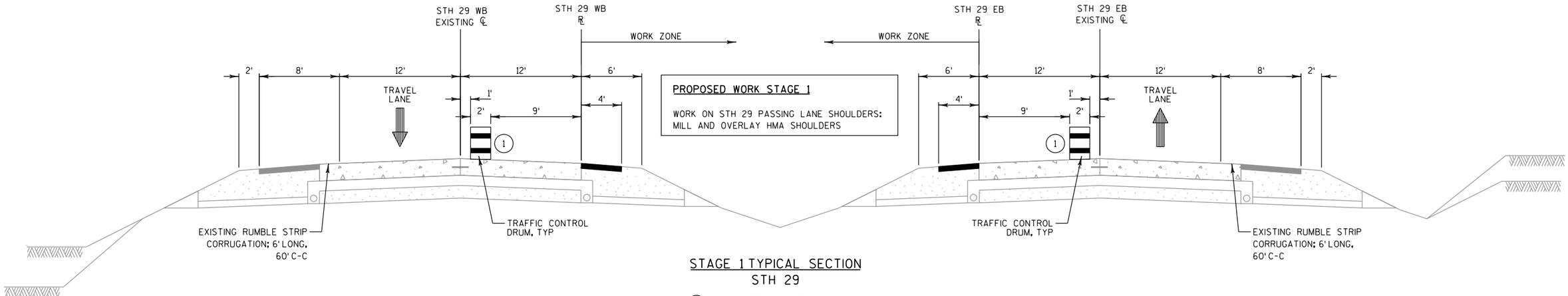
7) FOR SHOULDER CLOSURES SEE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAT 40 M.P.H."

SPEED REDUCTION

FOR STAGE 2 AND STAGE 3 REDUCE THE SPEED LIMIT ON STH 29 TO 55 MPH WHEN WORK IS BEING PERFORMED ON STH 29. SEE SDD "TRAFFIC CONTROL LANE CLOSURE, SPEED REDUCTION" FOR TRAFFIC CONTROL DEVICES REQUIRED. INSTALL TEMPORARY LANE CLOSURE TAPERS FOR 65 MPH PER SSD "TRAFFIC CONTROL, LANE CLOSURE". REMOVE EXISTING EDGE LINE ADJACENT TO LANE CLOSURE TAPERS ON STH 29 TO ALLOW TRAFFIC TO SHIFT ONTO THE PAVED SHOULDER.

NOTE

TRAFFIC MAY ONLY BE SHIFTED ONTO NEW ASPHALTIC SHOULDERS DUE TO EXISTING PAVEMENT CONDITIONS AND SHOULDER SETTLEMENT

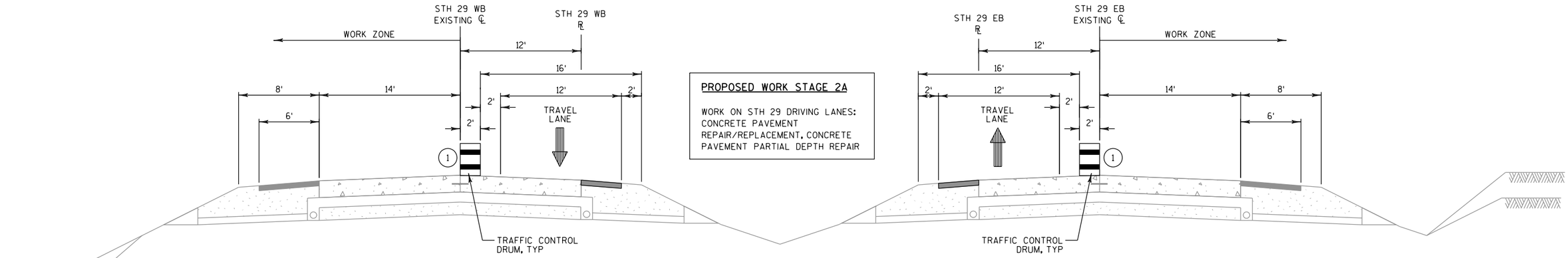


PROPOSED WORK STAGE 1

WORK ON STH 29 PASSING LANE SHOULDERS: MILL AND OVERLAY HMA SHOULDERS

STAGE 1 TYPICAL SECTION
STH 29

(1) LANE CLOSURE SHOWN. PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC.



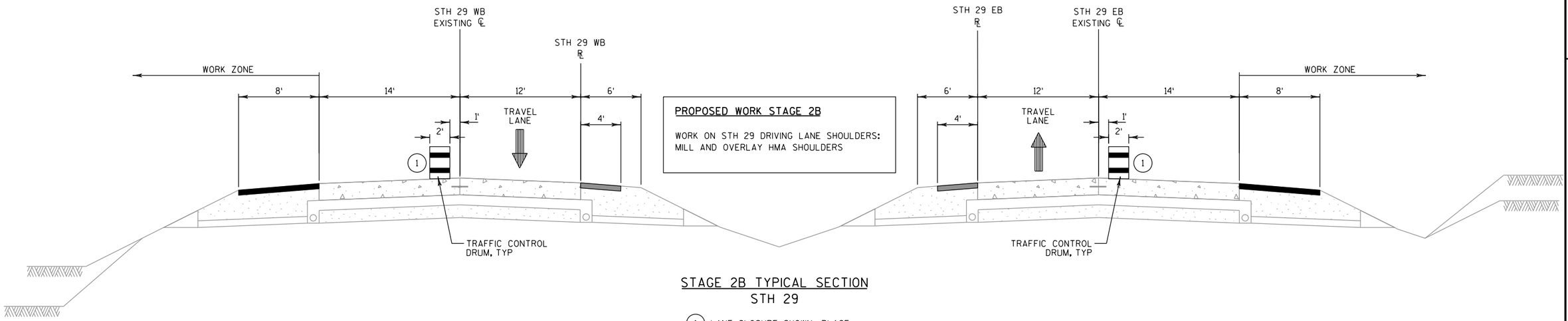
PROPOSED WORK STAGE 2A

WORK ON STH 29 DRIVING LANES: CONCRETE PAVEMENT REPAIR/REPLACEMENT, CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

STAGE 2A TYPICAL SECTION
STH 29

(1) LANE CLOSURE SHOWN. PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC.

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 20	E

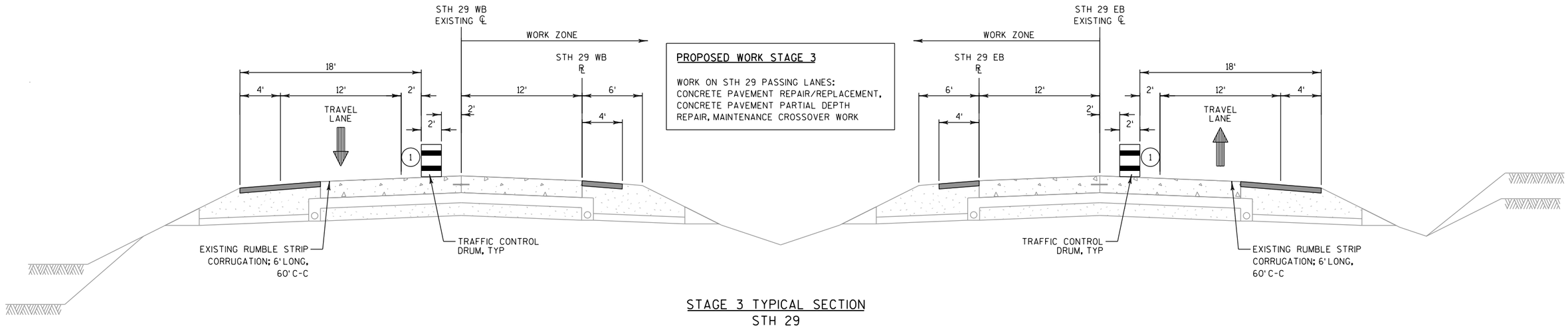


PROPOSED WORK STAGE 2B

WORK ON STH 29 DRIVING LANE SHOULDERS:
MILL AND OVERLAY HMA SHOULDERS

STAGE 2B TYPICAL SECTION
STH 29

(1) LANE CLOSURE SHOWN. PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC.



PROPOSED WORK STAGE 3

WORK ON STH 29 PASSING LANES:
CONCRETE PAVEMENT REPAIR/REPLACEMENT,
CONCRETE PAVEMENT PARTIAL DEPTH
REPAIR, MAINTENANCE CROSSOVER WORK

STAGE 3 TYPICAL SECTION
STH 29

(1) LANE CLOSURE SHOWN. PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC.

PROPOSED WORK STAGE 4 (NOT SHOWN)

WORK ON STH 29 DRIVING LANE SHOULDERS:
INSTALL OUTSIDE SHOULDER RUMBLE STIPS

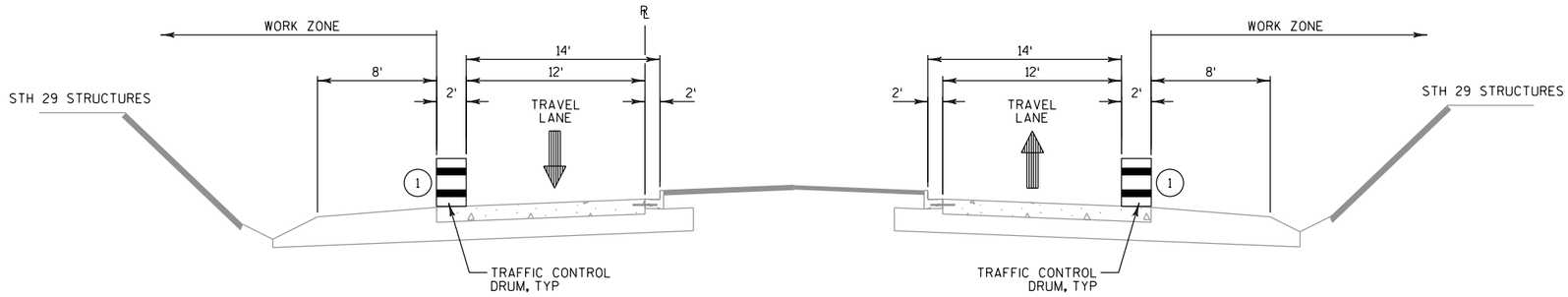
SEE STAGE 2B TYPICAL SECTION FOR TRAFFIC CONTROL SCENARIO

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	TRAFFIC CONTROL - TYPICAL SECTIONS	SHEET 21	E

2

PROPOSED WORK ON CTH Q RAMPS

WORK ON STH 29 EXIT AND ENTRANCE RAMPS:
CONCRETE PAVEMENT REPAIR/REPLACEMENT,
CONCRETE PAVEMENT PARTIAL DEPTH REPAIR, MILL
AND OVERLAY HMA SHOULDERS, RAMP GATE WORK



CTH Q TYPICAL SECTION

(THROUGH EXIT AND ENTRANCE RAMPS DURING RAMP WORK)

(1) SHOULDER CLOSURE SHOWN.
PLACE TRAFFIC CONTROL DRUMS
OUTSIDE OF SHOULDER WHILE
SHOULDER IS OPEN.

NOTES

SEE SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON
DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H."
FOR ADDITIONAL INFORMATION AT CTH Q

2

NOTES

ADJUST TRAFFIC CONTROL PCMS MESSAGE AS NEEDED BASED ON WORK ZONE AREAS AND CONSTRUCTION SCHEDULE.

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1000 FEET IN FRONT OF THE MESSAGE BOARD.

PLACE MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF FREEWAY CONSTRUCTION PROJECTS THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ELEVATION OF THE ROADWAY. FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.

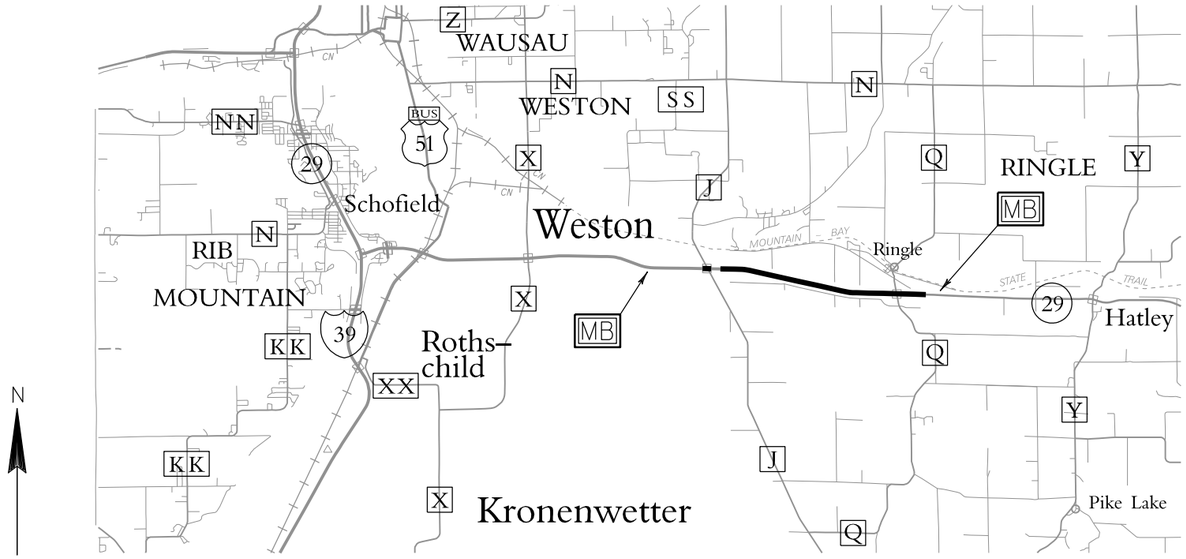
PLACE TRAFFIC CONTROL SIGNS PCMS THAT DISPLAY THE "PRIOR TO CONSTRUCTION" MESSAGE 10 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK THAT WILL REQUIRE LANE OR RAMP CLOSURES. ADJUST THE MESSAGE DATE ACCORDINGLY.

TRAFFIC CONTROL SIGNS PCMS ARE ALSO FOR WORK ZONE INCIDENT MANAGEMENT.

LEGEND

MB — TRAFFIC CONTROL SIGNS PCMS

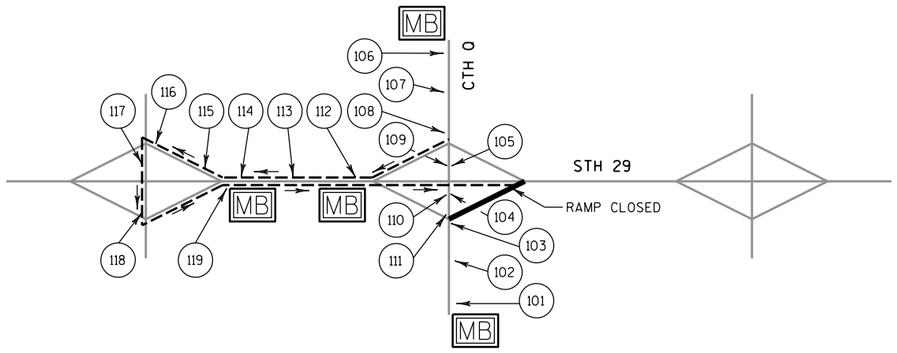
WORK ZONE



ADVANCED WARNING PCMS LOCATIONS

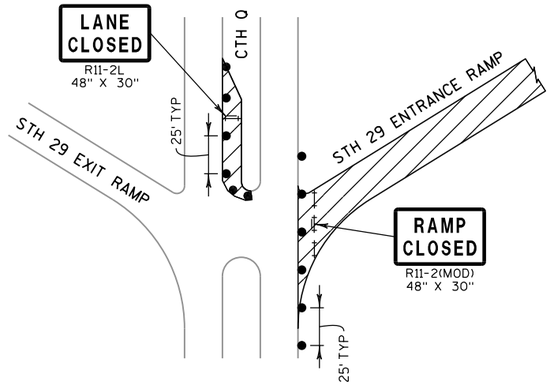
ADVANCED WARNING PCMS MESSAGES

	PRIOR TO CONSTRUCTION		DURING DRIVING LANE CLOSURE		DURING PASSING LANE CLOSURE		EMERGENCY MESSAGE	
PCMS SIGN LOCATION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
EB STH 29 0.5 MILES WEST OF CTH J	ROAD WORK STARTS	DATE	RIGHT LANE CLOSED	_ MILES MERGE LEFT	LEFT LANE CLOSED	- MILES MERGE RIGHT	TRAFFIC STOPPED AHEAD	WATCH FOR FLAGGER
WB STH 29 1 MILE EAST OF CTH Q	ROAD WORK STARTS	DATE	RIGHT LANE CLOSED	_ MILES MERGE LEFT	LEFT LANE CLOSED	- MILES MERGE RIGHT	TRAFFIC STOPPED AHEAD	WATCH FOR FLAGGER



ENTRANCE RAMP CLOSURE TRAFFIC CONTROL DETOUR

TYPICAL STH 29 EB ENTRANCE RAMP CLOSURE SHOWN.
MIRROR DETAIL FOR STH 29 WB ENTRANCE RAMP CLOSURE



ENTRANCE RAMP CLOSURE TRAFFIC CONTROL DETAIL

ENTRANCE RAMP CLOSURE PCMS MESSAGES				
	PRIOR TO CONSTRUCTION		DURING RAMP CLOSURE	
PCMS SIGN APPROXIMATE LOCATION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
STH 29 EB ADVANCED WARNING (0.5 MILES EAST OF SHADY LN) STH 29 WB ADVANCED WARNING (0.3 MILES EAST OF WHITE BIRCH RD)	HWY Q RAMP WORK	STARTING DATE	HWY Q RAMP WORK	NO E/WB HWY 29 RE-ENTRY
STH 29 AT CLOSED RAMP (NEAR RAMP EXIT SIGN)	HWY Q RAMP WORK	STARTING DATE	HWY Q RAMP WORK	NO E/WB HWY 29 RE-ENTRY
NB CTH Q PRIOR TO INTERCHANGE (NORTH OF WESTON AVE)	HWY 29 E/WB ENT RAMP	CLOSED STARTING DATE	EASTBND/ WESTBND ENTRANCE RAMP	CLOSED FOLLOW DETOUR
SB CTH Q PRIOR TO INTERCHANGE (SOUTH OF RINGLE AVE)	HWY 29 E/WB ENT RAMP	CLOSED STARTING DATE	EASTBND/ WESTBND ENTRANCE RAMP	CLOSED FOLLOW DETOUR

LEGEND

- MB — TRAFFIC CONTROL SIGNS PCMS
- ● — TRAFFIC CONTROL DRUM
- ⇕/↕ — TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- ━━ — WORK ZONE
- – –⇒– – — DETOUR ROUTE
- ▨ — LANE CLOSURE/RAMP CLOSURE

NOTES

NOT ALL EXISTING SIGNS ARE SHOWN. SIGNS NOT SHOWN ARE TO REMAIN.

* PAID FOR AS TRAFFIC CONTROL DETOUR SIGN.

** PAID FOR AS TRAFFIC CONTROL COVERING SIGNS TYPE II.

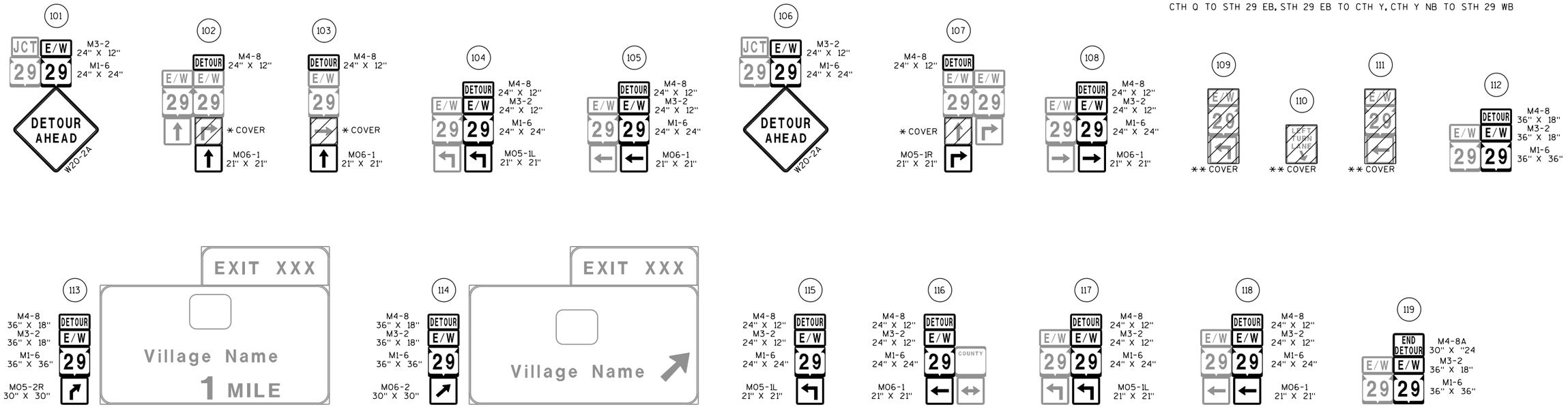
SEE MAINLINE PCMS OVERVIEW SHEET FOR ADDITIONAL PCMS NOTES.

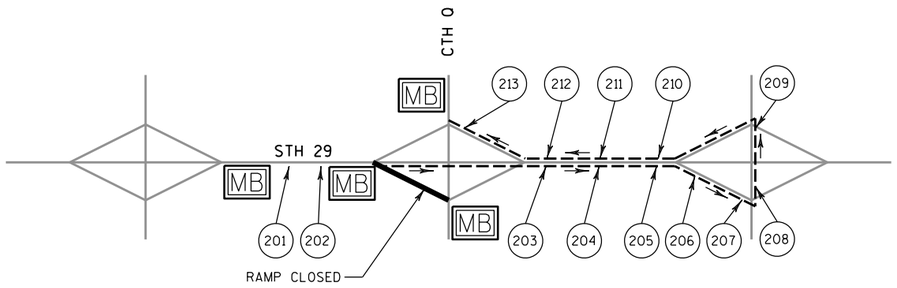
THE "E/W" DETOUR SIGNS ARE "EAST" OR "WEST".

THE DETOUR ROUTE SIGNING PROVIDED IS TYPICAL FOR ENTRANCE RAMP CLOSURES. THE DETOUR ROUTES FOR EACH ENTRANCE RAMP ARE AS FOLLOWS:

STH 29 EB ENTRANCE RAMP FROM CTH Q DETOUR:
CTH Q TO STH 29 WB, STH 29 WB TO CTH J, CTH J SB TO STH 29 EB

STH 29 WB ENTRANCE RAMP FROM CTH X DETOUR:
CTH Q TO STH 29 EB, STH 29 EB TO CTH Y, CTH Y NB TO STH 29 WB





EXIT RAMP CLOSURE TRAFFIC CONTROL DETOUR

TYPICAL STH 29 EB EXIT RAMP CLOSURE SHOWN. MIRROR DETAIL FOR STH 29 WB EXIT RAMP CLOSURE

LEGEND

MB — TRAFFIC CONTROL SIGNS PCMS

WORK ZONE

DETOUR ROUTE

NOTES

NOT ALL EXISTING SIGNS ARE SHOWN. SIGNS NOT SHOWN ARE TO REMAIN.

* PAID FOR AS TRAFFIC CONTROL DETOUR SIGN.

*** PAID FOR AS TRAFFIC CONTROL COVERING SIGNS TYPE I.

SEE SDD "TRAFFIC CONTROL, EXIT RAMP CLOSURE" FOR ADDITIONAL INFORMATION.

SEE MAINLINE PCMS OVERVIEW SHEET FOR ADDITIONAL PCMS NOTES.

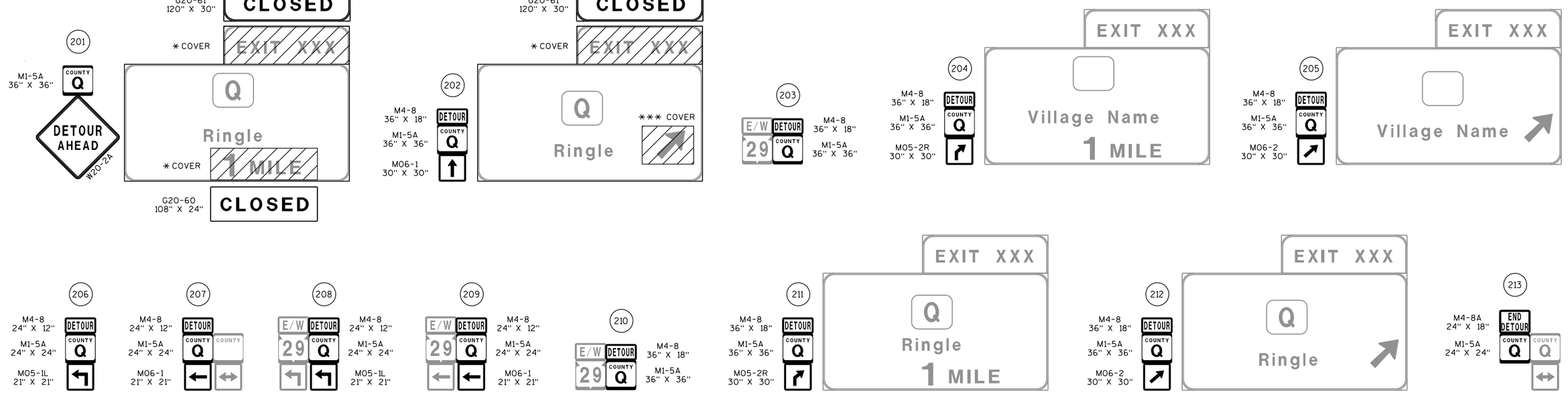
THE "E/W" DETOUR SIGNS ARE "EAST" OR "WEST".

THE DETOUR ROUTE SIGNING PROVIDED IS TYPICAL FOR EXIT RAMP CLOSURES. THE DETOUR ROUTES FOR EACH EXIT RAMP ARE AS FOLLOWS:

STH 29 EB EXIT RAMP TO CTH Q DETOUR:
STH 29 EB TO CTH Y, CTH Y NB TO STH 29 WB, STH 29 WB TO CTH Q

STH 29 WB EXIT RAMP TO CTH Q DETOUR:
STH 29 WB TO CTH J, CTH J SB TO STH 29 EB, STH 29 EB TO CTH Q

EXIT RAMP CLOSURE PCMS MESSAGES				
	PRIOR TO CONSTRUCTION		DURING RAMP CLOSURE	
PCMS SIGN APPROXIMATE LOCATION	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)	PHASE 1 (2 SEC)	PHASE 2 (2 SEC)
STH 29 EB ADVANCED WARNING (0.5 MILES EAST OF SHADY LN) STH 29 WB ADVANCED WARNING (0.3 MILES EAST OF WHITE BIRCH RD)	HWY Q RAMP WORK	STARTING DATE	HWY Q RAMP WORK	NO E/WB HWY 29 RE-ENTRY
STH 29 AT CLOSED RAMP (NEAR RAMP EXIT SIGN)	HWY Q RAMP WORK	STARTING DATE	HWY Q RAMP WORK	NO E/WB HWY 29 RE-ENTRY
NB CTH Q PRIOR TO INTERCHANGE (NORTH OF WESTON AVE)	HWY 29 E/WB ENT RAMP	CLOSED STARTING DATE	EASTBND/ WESTBND ENTRANCE RAMP	CLOSED FOLLOW DETOUR
SB CTH Q PRIOR TO INTERCHANGE (SOUTH OF RINGLE AVE)	HWY 29 E/WB ENT RAMP	CLOSED STARTING DATE	EASTBND/ WESTBND ENTRANCE RAMP	CLOSED FOLLOW DETOUR



NOTE

CURVE LOCATIONS AND PI COORDINATE DATA
ARE SHOWN ON SECTION 5 SHEETS

STH 29 'WB' ALIGNMENT DATA

CURVE 1 DATA
STH 29 WB

PI = 466'WB'+14.82
Y = 177163.562
X = 318877.915
PC = 460'WB'+29.66
Y = 177174.77
X = 318292.864
PT = 471'WB'+95.97
Y = 177034.813
X = 319448.733
T = 585.16
L = 1166.31
R = 5754.24
DELTA = 11°36'47.09" RT
D = 00°59'44.57"
SE = 3.0%

CURVE 2 DATA
STH 29 WB

PI = 578'WB'+86.81
Y = 174682.559
X = 329877.586
PC = 573'WB'+19.18
Y = 174807.453
X = 329323.864
PT = 584'WB'+50.78
Y = 174668.24
X = 330445.038
T = 567.63
L = 1131.61
R = 5755.58
DELTA = 11°15'53.79" LT
D = 00°59'43.74"
SE = 3.0%

CURVE 3 DATA
STH 29 WB

PI = 650'WB'+93.26
Y = 174500.658
X = 337085.814
PC = 646'WB'+19.54
Y = 174512.609
X = 336612.246
PT = 655'WB'+66.95
Y = 174478.784
X = 337559.029
T = 473.72
L = 947.40
R = 45199.62
DELTA = 01°12'03.40" RT
D = 00°07'36.34"
SE = NC

STH 29 'EB' ALIGNMENT DATA

CURVE 1 DATA
STH 29 EB

PI = 466'EB'+01.42
Y = 177099.829
X = 318863.376
PC = 460'EB'+11.67
Y = 177111.124
X = 318273.737
PT = 471'EB'+87.12
Y = 176970.023
X = 319438.66
T = 589.75
L = 1175.45
R = 5797.05
DELTA = 11°37'03.72" LT
D = 00°59'18.10"
SE = 3.0%

CURVE 2 DATA
STH 29 EB

PI = 578'EB'+68.40
Y = 174619.033
X = 329857.998
PC = 573'EB'+09.56
Y = 174742.037
X = 329312.858
PT = 584'EB'+23.64
Y = 174604.935
X = 330416.666
T = 558.85
L = 1114.09
R = 5664.14
DELTA = 11°16'10.42" LT
D = 01°00'41.59"
SE = 3.0%

CURVE 3 DATA
STH 29 EB

PI = 650'EB'+10.45
Y = 174438.768
X = 337001.374
PC = 646'EB'+80.95
Y = 174447.081
X = 336671.977
PT = 653'EB'+39.93
Y = 174423.649
X = 337330.529
T = 329.50
L = 658.98
R = 31877.34
DELTA = 01°11'03.98" RT
D = 00°10'47.06"
SE = NC

CTH Q RAMP ALIGNMENT DATA

CURVE 1-A DATA
RAMP QA

PI = 17'QA'+79.44
Y = 174418.958
X = 335621.248
PC = 14'QA'+88.53
Y = 174306.570
X = 335352.921
PT = 20'QA'+62.51
Y = 174417.512
X = 335912.158
T = 290.91
L = 573.99
R = 1429.18
DELTA = 23°00'39.96" RT
D = 04°00'32.42"
SE = 5.6%

CURVE 1-B DATA
RAMP QA

PI = 28'QA'+38.97
Y = 174413.65
X = 336688.60
PC = 26'QA'+48.97
Y = 174414.60
X = 336498.61
PT = 30'QA'+28.94
Y = 174408.48
X = 336878.52
T = 189.99
L = 379.97
R = 17085.73
DELTA = 01°16'27" RT
D = 00°20'07"
SE = NC

CURVE 2 DATA
RAMP QB

PI = 36'QB'+76.94
Y = 174443.947
X = 333797.438
PC = 35'QB'+34.24
Y = 174457.86
X = 333655.419
PT = 38'QB'+18.70
Y = 174402.206
X = 333933.896
T = 142.70
L = 284.45
R = 1427.98
DELTA = 11°24'48.05" RT
D = 04°00'44.56"
SE = 5.6%

CURVE 3 DATA
RAMP QC

PI = 65'QC'+55.62
Y = 174629.739
X = 334063.257
PC = 62'QC'+46.26
Y = 174632.125
X = 333753.905
PT = 68'QC'+55.84
Y = 174753.845
X = 334346.633
T = 309.36
L = 609.58
R = 1449.63
DELTA = 24°05'35.46" LT
D = 03°57'08.75"
SE = 5.6%

CURVE 4 DATA
RAMP QD

PI = 81'QD'+78.47
Y = 174608.472
X = 335882.773
PC = 80'QD'+36.99
Y = 174649.859
X = 335747.491
PT = 83'QD'+19.05
Y = 174593.905
X = 336023.493
T = 141.47
L = 282.06
R = 1455.84
DELTA = 11°06'02.18" LT
D = 03°56'08.07"
SE = 5.6%

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	ALIGNMENT DATA	SHEET 26	E

DATE 23FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-60 QUANTITY
0010	204.0100	Removing Pavement	SY	1,160.000	1,160.000
0020	204.0110	Removing Asphaltic Surface	SY	100.000	100.000
0030	204.0120	Removing Asphaltic Surface Milling	SY	49,500.000	49,500.000
0040	204.0180	Removing Delineators and Markers	EACH	205.000	205.000
0050	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	1,000.000	1,000.000
0060	213.0100	Finishing Roadway (project) 01. 1053-02-60	EACH	1.000	1.000
0070	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,570.000	4,570.000
0080	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	650.000	650.000
0090	310.0110	Base Aggregate Open Graded	TON	125.000	125.000
0100	415.0070	Concrete Pavement 7-Inch	SY	295.000	295.000
0110	415.0410	Concrete Pavement Approach Slab	SY	290.000	290.000
0120	415.6000.S	Rout and Seal	LF	99,920.000	99,920.000
0130	416.0610	Drilled Tie Bars	EACH	2,744.000	2,744.000
0140	416.0620	Drilled Dowel Bars	EACH	2,686.000	2,686.000
0150	416.0750.S	Concrete Pavement Partial Depth Repair Joint Repair	LF	2,175.000	2,175.000
0160	416.0752.S	Concrete Pavement Partial Depth Repair Crack Repair	LF	2,345.000	2,345.000
0170	416.0754.S	Concrete Pavement Partial Depth Repair Surface Repair	SF	510.000	510.000
0180	416.0756.S	Concrete Pavement Partial Depth Repair Edge Repair	LF	55.000	55.000
0190	416.0758.S	Concrete Pavement Partial Depth Repair Full Depth Adjustment	SF	1,125.000	1,125.000
0200	416.1010	Concrete Surface Drains	CY	20.000	20.000
0210	416.1110	Concrete Shoulder Rumble Strips	LF	41,590.000	41,590.000
0220	416.1710	Concrete Pavement Repair	SY	40.000	40.000
0230	416.1720	Concrete Pavement Replacement	SY	9,080.000	9,080.000
0240	460.2000	Incentive Density HMA Pavement	DOL	8,000.000	8,000.000
0250	460.5224	HMA Pavement 4 LT 58-28 S	TON	12,430.000	12,430.000
0260	465.0110	Asphaltic Surface Patching	TON	33.000	33.000
0270	465.0315	Asphaltic Flumes	SY	80.000	80.000
0280	465.0400	Asphaltic Shoulder Rumble Strips	LF	44,540.000	44,540.000
0290	509.5100.S	Polymer Overlay	SY	2,580.000	2,580.000
0300	611.8115	Adjusting Inlet Covers	EACH	8.000	8.000
0310	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1053-02-60	EACH	1.000	1.000
0320	619.1000	Mobilization	EACH	1.000	1.000
0330	624.0100	Water	MGAL	65.000	65.000
0340	628.1504	Silt Fence	LF	625.000	625.000
0350	628.1520	Silt Fence Maintenance	LF	625.000	625.000
0360	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0370	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0380	628.2004	Erosion Mat Class I Type B	SY	1,120.000	1,120.000
0390	628.7570	Rock Bags	EACH	200.000	200.000
0400	631.0300	Sod Water	MGAL	25.000	25.000
0410	633.0100	Delineator Posts Steel	EACH	205.000	205.000
0420	633.0500	Delineator Reflectors	EACH	240.000	240.000
0430	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	4.000	4.000
0440	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	16.000	16.000
0450	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	28.000	28.000
0460	634.0620	Posts Wood 4x6-Inch X 20-FT	EACH	18.000	18.000
0470	635.0200	Sign Supports Structural Steel HS	LB	5,340.000	5,340.000

3

DATE 23FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-60 QUANTITY
0480	636.0100	Sign Supports Concrete Masonry	CY	9.200	9.200
0490	636.0500	Sign Supports Steel Reinforcement	LB	558.000	558.000
0500	637.1220	Signs Type I Reflective SH	SF	886.000	886.000
0510	637.2210	Signs Type II Reflective H	SF	384.500	384.500
0520	637.2215	Signs Type II Reflective H Folding	SF	80.000	80.000
0530	637.2230	Signs Type II Reflective F	SF	253.000	253.000
0540	638.2601	Removing Signs Type I	EACH	6.000	6.000
0550	638.2602	Removing Signs Type II	EACH	53.000	53.000
0560	638.3000	Removing Small Sign Supports	EACH	59.000	59.000
0570	638.3100	Removing Structural Steel Sign Supports	EACH	12.000	12.000
0580	642.5201	Field Office Type C	EACH	1.000	1.000
0590	643.0200	Traffic Control Surveillance and Maintenance (project) 01. 1053-02-60	DAY	127.000	127.000
0600	643.0300	Traffic Control Drums	DAY	58,736.000	58,736.000
0610	643.0420	Traffic Control Barricades Type III	DAY	3,735.000	3,735.000
0620	643.0705	Traffic Control Warning Lights Type A	DAY	7,471.000	7,471.000
0630	643.0715	Traffic Control Warning Lights Type C	DAY	3,662.000	3,662.000
0640	643.0800	Traffic Control Arrow Boards	DAY	328.000	328.000
0650	643.0900	Traffic Control Signs	DAY	7,940.000	7,940.000
0660	643.0910	Traffic Control Covering Signs Type I	EACH	2.000	2.000
0670	643.0920	Traffic Control Covering Signs Type II	EACH	48.000	48.000
0680	643.1050	Traffic Control Signs PCMS	DAY	334.000	334.000
0690	643.2000	Traffic Control Detour (project) 01. 1053-02-60	EACH	1.000	1.000
0700	643.3000	Traffic Control Detour Signs	DAY	920.000	920.000
0710	646.0106	Pavement Marking Epoxy 4-Inch	LF	98,240.000	98,240.000
0720	646.0126	Pavement Marking Epoxy 8-Inch	LF	125.000	125.000
0730	646.0600	Removing Pavement Markings	LF	6,400.000	6,400.000
0740	646.0841.S	Pavement Marking Grooved Wet Reflective Contrast Tape 4-Inch	LF	11,125.000	11,125.000
0750	646.0843.S	Pavement Marking Grooved Wet Reflective Contrast Tape 8-Inch	LF	4,120.000	4,120.000
0760	647.0186	Pavement Marking Arrows Epoxy Type 4	EACH	1.000	1.000
0770	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	60.000	60.000
0780	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	500.000	500.000
0790	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	16,490.000	16,490.000
0800	649.0403	Temporary Pavement Marking Epoxy 4-Inch	LF	6,400.000	6,400.000
0810	649.0506	Temporary Pavement Marking Removable Mask-Out Tape 6-Inch	LF	12,455.000	12,455.000
0820	649.0801	Temporary Pavement Marking Removable Tape 8-Inch	LF	1,800.000	1,800.000
0830	650.8000	Construction Staking Resurfacing Reference	LF	55,117.000	55,117.000
0840	650.9910	Construction Staking Supplemental Control (project) 01. 1053-02-60	LS	1.000	1.000
0850	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	30.000	30.000
0860	653.0135	Pull Boxes Steel 24x36-Inch	EACH	2.000	2.000
0870	654.0105	Concrete Bases Type 5	EACH	2.000	2.000
0880	654.0220	Concrete Control Cabinet Bases Type 10	EACH	2.000	2.000
0890	657.0100	Pedestal Bases	EACH	2.000	2.000
0900	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	2.000	2.000
0910	657.0321	Poles Type 5-Steel	EACH	2.000	2.000

3

DATE 23FEB16 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	1053-02-60 QUANTITY
0920	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0930	662.2037.S	Ramp Closure Gates Solar 37-FT	EACH	1.000	1.000
0940	662.2040.S	Ramp Closure Gates Solar 40-FT	EACH	1.000	1.000
0950	662.3037.S	Ramp Closure Gate Arms Stockpile 37-FT	EACH	1.000	1.000
0960	662.3040.S	Ramp Closure Gate Arms Stockpile 40-FT	EACH	1.000	1.000
0970	662.4000.S	Ramp Closure Gate Flashers Stockpile	EACH	6.000	6.000
0980	690.0150	Sawing Asphalt	LF	2,625.000	2,625.000
0990	690.0250	Sawing Concrete	LF	10,055.000	10,055.000
1000	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1010	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
1020	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,260.000	1,260.000
1030	SPV.0045	Special 01. Portable Changeable Message Sign (PCMS) Cellular Communications	DAY	254.000	254.000
1040	SPV.0060	Special 01. Removing Raised Pavement Marker and Filling Void	EACH	490.000	490.000
1050	SPV.0060	Special 02. Shaping and Finishing Ramp Gates	EACH	2.000	2.000
1060	SPV.0060	Special 03. Grading, Shaping and Finishing Maintenance Crossovers	EACH	4.000	4.000
1070	SPV.0180	Special 01. Diamond Grinding Concrete Pavement	SY	9,120.000	9,120.000

REMOVING PAVEMENT

STATION - STATION	LOCATION	204.0100 SY
CAT 0010		
426'EB'+75 - 427'EB'+27	LT & RT	50
428'EB'+61 - 429'EB'+00	LT & RT	50
627'EB'+60 - 627'EB'+96	LT & RT	100
629'EB'+23 - 629'EB'+52	LT & RT	100
426'WB'+26 - 426'WB'+76	LT & RT	120
428'WB'+10 - 428'WB'+50	LT & RT	50
627'WB'+41 - 627'WB'+77	LT & RT	100
629'WB'+04 - 629'WB'+33	LT & RT	90
UNDISTRIBUTED	--	500
TOTAL		1,160

REMOVING ASPHALTIC SURFACE

STATION	LOCATION	204.0110 SY
CAT 0010		
426'EB'+75 - 426'EB'+88	LT & RT	5
429'EB'+00	LT & RT	5
426'WB'+26 - 426'WB'+43	LT & RT	5
428'WB'+50	LT & RT	5
+/- 103'Q'+00	RT	1
+/- 105'Q'+00	RT	1
10'QA'+94	RT	20
48'QB'+04	RT	20
72'QC'+28	LT	23
70'QD'+54	LT	15
TOTAL		100

REMOVING ASPHALTIC SURFACE MILLING

STATION - STATION	LOCATION	204.0120 SY	COMMENTS
CAT 0010			
455'EB'+00 - 611'EB'+32	RT	10,420	DRIVING LANE SHOULDER
455'EB'+00 - 627'EB'+60	LT	5,760	PASSING LANE SHOULDER
616'EB'+33 - 627'EB'+68	RT	760	DRIVING LANE SHOULDER
629'EB'+46 - 684'EB'+05	LT	1,820	PASSING LANE SHOULDER
629'EB'+52 - 637'EB'+96	RT	570	DRIVING LANE SHOULDER
654'EB'+37 - 684'EB'+05	RT	1,980	DRIVING LANE SHOULDER
455'WB'+00 - 605'WB'+13	LT	10,010	DRIVING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT	5,750	PASSING LANE SHOULDER
618'WB'+97 - 627'WB'+41	LT	570	DRIVING LANE SHOULDER
629'WB'+26 - 640'WB'+79	LT	770	DRIVING LANE SHOULDER
629'WB'+33 - 675'WB'+00	RT	1,530	PASSING LANE SHOULDER
645'WB'+45 - 675'WB'+00	LT	1,970	DRIVING LANE SHOULDER
10'QA'+82 - 22'QA'+35	LT	650	INSIDE RAMP SHOULDER AND RAMP GORE
10'QA'+98 - 35'QA'+77	RT	1,380	OUTSIDE RAMP SHOULDER
30'QB'+00 - 48'QB'+00	RT	1,000	OUTSIDE RAMP SHOULDER
32'QB'+47 - 48'QB'+00	LT	860	INSIDE RAMP SHOULDER AND RAMP GORE
50'QC'+00 - 72'QC'+25	LT	1,240	OUTSIDE RAMP SHOULDER
60'QC'+75 - 72'QC'+47	RT	640	INSIDE RAMP SHOULDER AND RAMP GORE
70'QD'+57 - 88'QD'+36	LT	990	OUTSIDE RAMP SHOULDER
70'QD'+75 - 86'QD'+04	RT	830	INSIDE RAMP SHOULDER AND RAMP GORE
TOTAL		49,500	

REMOVING DELINEATORS AND MARKERS

STATION - STATION	LOCATION	204.0180 EACH
CAT 0010		
455'EB'+00 - 684'EB'+05	LT & RT	63
455'WB'+00 - 675'WB'+00	LT & RT	62
10'QA'+35 - 35'QA'+77	RT	24
30'QB'+00 - 48'QB'+18	RT	17
50'QC'+00 - 72'QC'+91	LT	22
70'QD'+38 - 88'QC'+36	LT	17
TOTAL		205

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION - STATION	LOCATION	211.0400 STA	COMMENTS
CAT 0010			
455'EB'+00 - 611'EB'+32	RT	157	DRIVING LANE SHOULDER
455'EB'+00 - 627'EB'+60	LT	173	PASSING LANE SHOULDER
616'EB'+33 - 627'EB'+68	RT	12	DRIVING LANE SHOULDER
629'EB'+46 - 684'EB'+05	LT	55	PASSING LANE SHOULDER
629'EB'+52 - 637'EB'+96	RT	9	DRIVING LANE SHOULDER
654'EB'+37 - 684'EB'+05	RT	30	DRIVING LANE SHOULDER
455'WB'+00 - 605'WB'+13	LT	151	DRIVING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT	173	PASSING LANE SHOULDER
618'WB'+97 - 627'WB'+41	LT	9	DRIVING LANE SHOULDER
629'WB'+26 - 640'WB'+79	LT	12	DRIVING LANE SHOULDER
629'WB'+33 - 675'WB'+00	RT	46	PASSING LANE SHOULDER
645'WB'+45 - 675'WB'+00	LT	30	DRIVING LANE SHOULDER
10'QA'+82 - 22'QA'+35	LT	13	INSIDE RAMP SHOULDER AND RAMP GORE
10'QA'+98 - 35'QA'+77	RT	25	OUTSIDE RAMP SHOULDER
30'QB'+00 - 48'QB'+00	RT	18	OUTSIDE RAMP SHOULDER
32'QB'+47 - 48'QB'+00	LT	16	INSIDE RAMP SHOULDER AND RAMP GORE
50'QC'+00 - 72'QC'+25	LT	23	OUTSIDE RAMP SHOULDER
60'QC'+75 - 72'QC'+47	RT	13	INSIDE RAMP SHOULDER AND RAMP GORE
70'QD'+57 - 88'QD'+36	LT	19	OUTSIDE RAMP SHOULDER
70'QD'+75 - 86'QD'+04	RT	16	INSIDE RAMP SHOULDER AND RAMP GORE
TOTAL		1,000	

BASE AGGREGATE ITEMS

STATION - STATION	LOCATION	305.0110 DENSE 3/4-INCH TON	305.0120 DENSE 1 1/4-INCH TON	310.0110 OPEN GRADED TON	COMMENTS
CAT 0010					
455'EB'+00 - 611'EB'+32	LT	440	--	--	PASSING LANE SHOULDER
455'EB'+00 - 627'EB'+60	RT	960	--	--	DRIVING LANE SHOULDER
456'EB'+63 - 457'EB'+37	LT	20	160	--	MAINTENANCE CROSSOVER
522'EB'+67 - 523'EB'+41	LT	20	170	--	MAINTENANCE CROSSOVER
598'EB'+58 - 599'EB'+32	RT	20	160	--	MAINTENANCE CROSSOVER
616'EB'+33 - 627'EB'+68	LT	40	--	--	PASSING LANE SHOULDER
629'EB'+46 - 684'EB'+05	RT	310	--	--	DRIVING LANE SHOULDER
629'EB'+52 - 637'EB'+96	LT	30	--	--	PASSING LANE SHOULDER
654'EB'+37 - 684'EB'+05	LT	90	--	--	PASSING LANE SHOULDER
658'EB'+66 - 659'EB'+40	LT	20	160	--	MAINTENANCE CROSSOVER
455'WB'+00 - 605'WB'+13	LT	420	--	--	PASSING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT	960	--	--	DRIVING LANE SHOULDER
618'WB'+97 - 627'WB'+41	LT	30	--	--	PASSING LANE SHOULDER
629'WB'+26 - 640'WB'+79	RT	40	--	--	DRIVING LANE SHOULDER
629'WB'+33 - 675'WB'+00	RT	260	--	--	DRIVING LANE SHOULDER
645'WB'+45 - 675'WB'+00	LT	90	--	--	PASSING LANE SHOULDER
10'QA'+82 - 19'QA'+38	LT	40	--	--	INSIDE RAMP SHOULDER
10'QA'+98 - 35'QA'+77	RT	190	--	--	OUTSIDE RAMP SHOULDER
30'QB'+00 - 48'QB'+00	RT	140	--	--	OUTSIDE RAMP SHOULDER
35'QB'+00 - 48'QB'+00	LT	50	--	--	INSIDE RAMP SHOULDER
50'QC'+00 - 72'QC'+25	LT	170	--	--	OUTSIDE RAMP SHOULDER
63'QC'+82 - 72'QC'+47	RT	40	--	--	INSIDE RAMP SHOULDER
70'QD'+57 - 88'QD'+36	LT	140	--	--	OUTSIDE RAMP SHOULDER
70'QD'+75 - 83'QD'+72	RT	50	--	--	INSIDE RAMP SHOULDER
PROJECT	--	--	--	125	CONCRETE REPAIR/REPLACEMENTS
TOTALS		4,570	650	125	

NOTE: BASE AGGREGATE OPEN GRADED ITEM IS FOR CONCRETE REPAIR/REPLACEMENT AREAS REQUIRING SUBGRADE IMPROVEMENTS

3

CONCRETE PAVEMENT, APPROACH SLAB, AND SURFACE DRAIN ITEMS

STATION - STATION	LOCATION	415.0070 CONCRETE PAVEMENT 7-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0610* DRILLED TIE BARS EACH	416.1010 CONCRETE SURFACE DRAINS CY	465.0110* ASPHALTIC SURFACE PATCHING TON	690.0150* SAWING ASPHALT LF	690.0250* SAWING CONCRETE LF
CAT 0010								
426'EB'+75 - 427'EB'+27	LT & RT	35	--	38	5	1	15	70
428'EB'+61 - 429'EB'+00	LT & RT	45	--	36	--	1	15	60
627'EB'+60 - 627'EB'+96	LT & RT	30	55	48	5	1	15	20
629'EB'+23 - 629'EB'+52	LT & RT	40	60	48	--	1	15	20
426'WB'+26 - 426'WB'+76	LT & RT	30	65	50	5	1	15	25
428'WB'+10 - 428'WB'+50	LT & RT	50	--	36	--	1	15	55
627'WB'+41 - 627'WB'+77	LT & RT	30	55	48	5	1	15	20
629'WB'+04 - 629'WB'+33	LT & RT	35	55	48	--	1	15	20
TOTALS		295	290	352	20	8	120	290

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE

CONCRETE PAVEMENT REHABILITATION ITEMS

STATION - STATION	LOCATION	416.0610* DRILLED TIE BARS EACH	416.0620 DRILLED DOWEL BARS EACH	416.0750.S PARTIAL DEPTH REPAIR JOINT REPAIR LF	416.0752.S PARTIAL DEPTH REPAIR CRACK REPAIR LF	416.0754.S PARTIAL DEPTH REPAIR SURFACE REPAIR SF	416.0756.S PARTIAL DEPTH REPAIR EDGE REPAIR LF	416.0758.S PARTIAL DEPTH REPAIR FULL DEPTH ADJUSTMENT SF	416.1710 CONCRETE PAVEMENT REPAIR SY	416.1720 CONCRETE PAVEMENT REPLACEMENT SY	465.0110* ASPHALTIC SURFACE PATCHING TON	690.0150* SAWING ASPHALT LF	690.0250* SAWING CONCRETE LF
CAT 0010													
455'EB'+00 - 510'EB'+00	DRIVING LANE	352	360	65	277	60	5	60	--	1,290	--	--	1,380
455'EB'+00 - 510'EB'+00	PASSING LANE	80	208	238	232	14	3	131	--	620	5	505	510
510'EB'+00 - 564'EB'+00	DRIVING LANE	120	120	7	17	32	2	15	--	440	--	--	470
510'EB'+00 - 564'EB'+00	PASSING LANE	32	64	55	5	8	--	19	--	210	2	170	180
564'EB'+00 - 620'EB'+00	DRIVING LANE	184	160	5	16	23	--	8	--	680	--	--	680
564'EB'+00 - 620'EB'+00	PASSING LANE	48	80	80	38	12	--	36	--	210	2	170	240
620'EB'+00 - 684'EB'+05	DRIVING LANE	280	160	42	63	43	--	43	--	720	--	--	920
620'EB'+00 - 684'EB'+05	PASSING LANE	88	176	180	120	20	8	94	--	450	4	400	480
426'WB'+17 - 426'WB'+43	DRIVING LANE	8	10	--	--	--	--	--	--	40	--	--	20
426'WB'+17 - 426'WB'+43	PASSING LANE	--	10	--	--	--	--	--	--	40	1	15	--
455'WB'+00 - 510'WB'+00	DRIVING LANE	208	240	90	150	12	5	69	--	770	--	--	860
455'WB'+00 - 510'WB'+00	PASSING LANE	64	112	169	81	18	6	76	--	360	3	300	330
510'WB'+00 - 564'WB'+00	DRIVING LANE	64	100	88	161	21	4	44	20	210	--	--	300
510'WB'+00 - 564'WB'+00	PASSING LANE	8	48	115	205	8	6	60	--	80	1	65	95
564'WB'+00 - 620'WB'+00	DRIVING LANE	408	180	280	405	25	11	97	--	920	--	--	1,270
564'WB'+00 - 620'WB'+00	PASSING LANE	80	80	209	271	23	--	72	--	260	2	210	320
620'WB'+00 - 675'WB'+00	DRIVING LANE	272	300	52	87	56	3	55	--	980	--	--	1,100
620'WB'+00 - 675'WB'+00	PASSING LANE	64	176	461	150	68	2	200	--	640	5	570	425
10'QA'+00 - 35'QA'+77	LT & RT	--	--	9	8	14	--	9	--	--	--	--	--
30'QB'+00 - 48'QB'+34	LT & RT	8	36	5	26	12	--	8	--	60	--	--	70
50'QC'+00 - 73'QC'+06	LT & RT	--	38	5	8	22	--	10	--	60	--	--	55
70'QD'+00 - 88'QD'+36	LT & RT	24	28	20	25	19	--	19	20	40	--	--	60
TOTALS		2,392	2,686	2,175	2,345	510	55	1,125	40	9,080	25	2,405	9,765

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE

NOTES: QUANTITIES FOR MAINLINE PAVEMENT REPAIRS ARE DIVIDED INTO APPROXIMATELY 5000+ FOOT SEGMENTS

DRILLED TIE BARS FOR ADJACENT LANES ARE INCLUDED WITHIN DRIVING LANE QUANTITIES

DIAMOND GRINDING CONCRETE PAVEMENT

STATION - STATION	LOCATION	SPV.0180.01 SY
CAT 0010		
455'EB'+00 - 510'EB'+00	DRIVING LANE	1,290
455'EB'+00 - 510'EB'+00	PASSING LANE	620
510'EB'+00 - 564'EB'+00	DRIVING LANE	440
510'EB'+00 - 564'EB'+00	PASSING LANE	210
564'EB'+00 - 620'EB'+00	DRIVING LANE	680
564'EB'+00 - 620'EB'+00	PASSING LANE	210
620'EB'+00 - 684'EB'+05	DRIVING LANE	720
620'EB'+00 - 684'EB'+05	PASSING LANE	450
426'WB'+17 - 426'WB'+43	DRIVING LANE	40
426'WB'+17 - 426'WB'+43	PASSING LANE	40
455'WB'+00 - 510'WB'+00	DRIVING LANE	770
455'WB'+00 - 510'WB'+00	PASSING LANE	360
510'WB'+00 - 564'WB'+00	DRIVING LANE	230
510'WB'+00 - 564'WB'+00	PASSING LANE	80
564'WB'+00 - 620'WB'+00	DRIVING LANE	920
564'WB'+00 - 620'WB'+00	PASSING LANE	260
620'WB'+00 - 675'WB'+00	DRIVING LANE	980
620'WB'+00 - 675'WB'+00	PASSING LANE	640
30'QB'+00 - 48'QB'+34	LT & RT	60
50'QC'+00 - 73'QC'+06	LT & RT	60
70'QD'+00 - 88'QD'+36	LT & RT	60
TOTAL		9,120

NOTE: DIAMOND GRINDING BID ITEM FOR CONCRETE PAVEMENT REPAIR AND CONCRETE PAVEMENT REPLACEMENT AREAS

HMA AND ASPHALTIC ITEMS

STATION - STATION	LOCATION	415.6000.S ROUT AND SEAL LF	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	465.0315 ASPHALTIC FLUMES SY	COMMENTS
CAT 0010					
455'EB'+00 - 611'EB'+32	RT	15,640	2,680	--	DRIVING LANE SHOULDER
455'EB'+00 - 627'EB'+60	LT	17,260	1,480	--	PASSING LANE SHOULDER
456'EB'+63 - 457'EB'+37	LT	--	50	--	MAINTENANCE CROSSOVER
522'EB'+67 - 523'EB'+41	LT	--	50	--	MAINTENANCE CROSSOVER
598'EB'+58 - 599'EB'+32	LT	--	50	--	MAINTENANCE CROSSOVER
616'EB'+33 - 627'EB'+68	RT	1,390	200	--	DRIVING LANE SHOULDER
629'EB'+46 - 684'EB'+05	LT	5,460	470	--	PASSING LANE SHOULDER
629'EB'+52 - 637'EB'+96	RT	1,140	150	--	DRIVING LANE SHOULDER
654'EB'+37 - 684'EB'+05	RT	2,970	510	--	DRIVING LANE SHOULDER
658'EB'+66 - 659'EB'+40	LT	--	50	--	MAINTENANCE CROSSOVER
455'WB'+00 - 605'WB'+13	LT	15,020	2,570	--	DRIVING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT	17,250	1,480	--	PASSING LANE SHOULDER
618'WB'+97 - 627'WB'+41	LT	1,160	150	--	DRIVING LANE SHOULDER
629'WB'+26 - 640'WB'+79	LT	1,380	200	--	DRIVING LANE SHOULDER
629'WB'+33 - 675'WB'+00	RT	4,570	400	--	PASSING LANE SHOULDER
645'WB'+45 - 675'WB'+00	LT	2,960	510	--	DRIVING LANE SHOULDER
10'QA'+82 - 22'QA'+35	LT	1,160	110	--	INSIDE RAMP SHOULDER AND RAMP GORE
10'QA'+94 - 35'QA'+77	RT	2,480	270	20	OUTSIDE RAMP SHOULDER
30'QB'+00 - 48'QB'+04	RT	1,800	200	20	OUTSIDE RAMP SHOULDER
32'QB'+47 - 48'QB'+00	LT	1,560	150	--	INSIDE RAMP SHOULDER AND RAMP GORE
50'QC'+00 - 72'QC'+28	LT	2,230	240	25	OUTSIDE RAMP SHOULDER
60'QC'+75 - 72'QC'+47	RT	1,180	110	--	INSIDE RAMP SHOULDER AND RAMP GORE
70'QD'+54 - 88'QD'+36	LT	1,780	200	15	OUTSIDE RAMP SHOULDER
70'QD'+75 - 86'QD'+04	RT	1,530	150	--	INSIDE RAMP SHOULDER AND RAMP GORE
TOTALS		99,920	12,430	80	

NOTE: FOR ASPHALTIC SURFACE PATCHING ITEM, REFER TO CONCRETE PAVEMENT REHABILITATION ITEMS AND CONCRETE PAVEMENT, APPROACH SLABS, AND SURFACE DRAIN ITEMS

3

RUMBLE STRIP ITEMS

STATION - STATION	LOCATION	416.1110 CONCRETE SHOULDER RUMBLE STRIPS LF	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	COMMENTS
CAT 0010				
455'EB'+00 - 610'EB'+32	RT	15,540	--	DRIVING LANE SHOULDER
455'EB'+00 - 627'EB'+60	LT	--	17,260	PASSING LANE SHOULDER
616'EB'+33 - 627'EB'+68	RT	1,140	--	DRIVING LANE SHOULDER
629'EB'+46 - 684'EB'+05	LT	--	5,460	PASSING LANE SHOULDER
629'EB'+52 - 637'EB'+96	RT	850	--	DRIVING LANE SHOULDER
648'EB'+37 - 684'EB'+05	RT	3,570	--	DRIVING LANE SHOULDER
455'WB'+00 - 611'WB'+13	LT	15,620	--	DRIVING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT	--	17,250	PASSING LANE SHOULDER
618'WB'+97 - 627'WB'+41	LT	850	--	DRIVING LANE SHOULDER
629'WB'+26 - 640'WB'+79	LT	1,160	--	DRIVING LANE SHOULDER
629'WB'+33 - 675'WB'+00	RT	--	4,570	PASSING LANE SHOULDER
646'WB'+45 - 675'WB'+00	LT	2,860	--	DRIVING LANE SHOULDER
TOTALS		41,590	44,540	

ADJUSTING INLET COVERS

STATION	LOCATION	611.8115 EACH
CAT 0010		
426'EB'+83	LT	1
427'EB'+06	RT	1
627'EB'+65	LT	1
627'EB'+73	RT	1
426'WB'+31	LT	1
426'WB'+55	RT	1
627'WB'+46	LT	1
627'WB'+55	RT	1
TOTAL		8

WATER

LOCATION	624.0100 MGAL
CAT 0010	
PROJECT	65
TOTAL	65

MOBILIZATIONS EROSION CONTROL

LOCATION	628.1905 EACH	628.1910 EMERGENCY EACH
CAT 0010		
PROJECT	4	3
TOTALS	4	3

SOD WATER

LOCATION	631.0300 MGAL
CAT 0010	
PROJECT	25
TOTAL	25

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS I TYPE B SY	628.7570 ROCK BAGS EACH	COMMENTS
CAT 0010						
456'EB'+63 - 457'EB'+37	LT	100	100	200	30	MAINTENANCE CROSSOVER
522'EB'+67 - 523'EB'+41	LT	100	100	210	30	MAINTENANCE CROSSOVER
598'EB'+58 - 599'EB'+32	LT	100	100	200	30	MAINTENANCE CROSSOVER
658'EB'+66 - 659'EB'+40	LT	100	100	206	30	MAINTENANCE CROSSOVER
10'QA'+94	RT	--	--	12	--	ASPHALTIC FLUME
10'QA'+75 - 11'QA'+00	LT	50	50	17	15	RAMP GATE
48'QB'+04	RT	--	--	12	--	ASPHALTIC FLUME
72'QC'+28	LT	--	--	14	--	ASPHALTIC FLUME
72'QC'+35 - 72'QC'+60	RT	50	50	15	15	RAMP GATE
70'QD'+54	LT	--	--	9	--	ASPHALTIC FLUME
UNDISTRIBUTED	--	125	125	225	50	
TOTALS		625	625	1,120	200	

NOTE: ROCK BAGS ARE FOR SILT FENCE RELIEF

DELINEATOR ITEMS

STATION - STATION	LOCATION	633.0100 POSTS STEEL EACH	633.0500 REFLECTORS (WHITE) EACH	633.0500 REFLECTORS (YELLOW) EACH
CAT 0010				
455'EB'+00 - 684'EB'+05	LT & RT	63	60	8
455'WB'+00 - 675'WB'+00	LT & RT	62	59	8
10'QA'+35 - 35'QA'+77	RT	24	35	--
30'QB'+00 - 48'QB'+18	RT	17	20	--
50'QC'+00 - 72'QC'+91	LT	22	31	--
70'QD'+38 - 88'QC'+36	LT	17	19	--
TOTALS		205	224	16
			240	

TYPE II SIGNS AND SUPPORTS

SIGN NO.	SIGN CODE	W	X	H	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0614 POSTS WOOD 4x6x14 EACH	634.0616* POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	634.0620 POSTS WOOD 4x6x20 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
CAT 0010													
2-1	J4-1	36	X	54	13.50	--	--	--	1	--	1	1	
2-2	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
2-3	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
2-4	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
2-5	--	--	X	--	--	--	--	--	--	--	1	1	
2-6	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
2-7	R2-1	48	X	60	20.00	--	--	--	--	2	1	1	
2-9	--	--	X	--	--	--	--	--	--	--	2	2	
2-10	--	--	X	--	--	--	--	--	--	--	2	2	
3-3	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
3-4	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
3-5	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
3-6	--	--	X	--	--	--	--	--	--	--	1	1	
3-7	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
4-1	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
4-2	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
4-5	--	--	X	--	--	--	--	--	--	--	2	2	
4-6	--	--	X	--	--	--	--	--	--	--	2	2	
4-9	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
4-10	--	--	X	--	--	--	--	--	--	--	1	1	
4-11	R2-1	48	X	60	20.00	--	--	--	--	2	1	1	
4-12	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
4-13	J4-1	36	X	54	13.50	--	--	--	1	--	1	1	
4-14	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
5-3	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
5-4	E5-1A	90	X	60	37.50	--	--	--	--	2	1	2	
5-5	W4-1	48	X	48	--	16.00	--	--	2	--	1	1	
5-6	W5-52L	18	X	54	--	6.75	1	--	--	--	1	1	
5-7	W5-52L	18	X	54	--	6.75	1	--	--	--	1	1	
5-8	W4-1	48	X	48	--	16.00	--	--	2	--	1	1	
5-9	E5-1A	90	X	60	37.50	--	--	--	--	2	1	2	
5-10	R5-57	36	X	36	9.00	--	--	1	--	--	1	1	
5-11	R5-1A	36	X	24	6.00	--	--	1	--	--	1	1	
5-12	R5-1A	36	X	24	6.00	--	--	--	--	--	--	--	MOUNT ON SAME POST AS 5-13
5-13	J13-1	24	X	45	7.50	--	--	1	--	--	1	1	MOUNT ON SAME POST AS 5-12
5-14	W3-1	36	X	36	--	9.00	--	1	--	--	1	1	
5-15	W3-1	36	X	36	--	9.00	--	1	--	--	1	1	
5-16	J13-1	24	X	45	7.50	--	--	1	--	--	1	1	MOUNT ON SAME POST AS 5-17
5-17	R5-1A	36	X	24	6.00	--	--	--	--	--	--	--	MOUNT ON SAME POST AS 5-16
5-18	R5-1A	36	X	24	6.00	--	--	1	--	--	1	1	
5-19	R5-57	36	X	36	9.00	--	--	1	--	--	1	1	
5-20	--	--	X	--	--	--	--	--	--	--	1	1	
5-21	W5-52R	18	X	54	--	6.75	1	--	--	--	1	1	
5-22	W5-52R	18	X	54	--	6.75	1	--	--	--	1	1	
5-23	--	--	X	--	--	--	--	--	--	--	1	1	
6-3	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
6-4	J4-1	36	X	54	13.50	--	--	--	1	--	1	1	
6-5	--	--	X	--	--	--	--	--	--	--	1	1	
6-6	R3-4B	36	X	48	12.00	--	--	--	1	--	--	--	
6-7	W6-53	144	X	48	--	48.00	--	--	1	2	1	3	
6-8	W6-53	144	X	48	--	48.00	--	--	1	2	1	3	
SUBTOTALS					340.50	173.00	4	8	25	12	45	51	

* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

TYPE II SIGNS AND SUPPORTS (CONTINUED)

SIGN NO.	SIGN CODE	W	X	H	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0614 POSTS WOOD 4x6x14 EACH	634.0616* POSTS WOOD 4x6x16 EACH	634.0618 POSTS WOOD 4x6x18 EACH	634.0620 POSTS WOOD 4x6x20 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	COMMENTS
CAT 0010													
6-10	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
6-11	D10-3	12	X	48	4.00	--	--	--	1	--	1	1	
6-12	R2-1	48	X	60	20.00	--	--	--	--	2	1	1	
6-13	S3-51	96	X	48	--	32.00	--	--	--	2	1	2	MOUNT ON SAME POSTS AS 6-14
6-14	S57-51	48	X	24	--	8.00	--	--	--	--	1	--	MOUNT ON SAME POSTS AS 6-13
6-15	S57-51	48	X	24	--	8.00	--	--	--	--	1	--	MOUNT ON SAME POSTS AS 6-16
6-16	S3-51	96	X	48	--	32.00	--	--	--	2	1	2	MOUNT ON SAME POSTS AS 6-15
6-17	R59-51	48	X	48	16.00	--	--	--	1	--	1	1	
SUBTOTALS					44.00	80.00	0	0	3	6	8	8	
PROJECT TOTALS					384.50	253.00	4	8	28	18	53	59	

* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

TYPE I SIGNS AND SUPPORTS

SIGN NO.	SIGN CODE	W	X	H	635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS LB	636.0100 SIGN SUPPORTS CONCRETE MASONRY CY	636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB	637.1220 SIGNS TYPE I REFLECTIVE SH SF	638.2601 REMOVING SIGNS TYPE I EACH	638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS EACH	COMMENTS
CAT 0010											
2-8	D2-3	180	X	84	620	1.2	68	105.00	1	2	
3-1	E1-1A	144	X	120	950	1.6	98	120.00	1	2	MOUNT WITH 3-2
3-2	E1-5	120	X	30	--	--	--	25.00	--	--	MOUNT WITH 3-1
4-3	E1-1A	144	X	120	965	1.6	98	120.00	1	2	MOUNT WITH 4-4
4-4	E1-5	120	X	30	--	--	--	25.00	--	--	MOUNT WITH 4-3
4-8	E8-1	288	X	108	1,000	1.6	98	216.00	1	2	
5-1	E4-1A	180	X	90	925	1.6	98	112.50	1	2	MOUNT WITH 5-2
5-2	E1-5	120	X	30	--	--	--	25.00	--	--	MOUNT WITH 5-1
6-1	E4-1A	180	X	90	880	1.6	98	112.50	1	2	MOUNT WITH 6-2
6-2	E1-5	120	X	30	--	--	--	25.00	--	--	MOUNT WITH 6-1
TOTALS					5,340	9.2	558	886.00	6	12	

3

FOLDING SIGN ITEMS

SIGN NO.	SIGN CODE	W	X	H	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	634.0616* POSTS WOOD 4x6x16 EACH	COMMENTS
CAT 0010							
OA-1	R11-54F	48	X	30	10.00	1	CTH Q ENTRANCE RAMP TO STH 29 EB
OA-2	R11-54F	48	X	30	10.00	1	CTH Q ENTRANCE RAMP TO STH 29 EB
OA-3	R11-54F	48	X	30	10.00	1	RIGHT TURN ADVANCE FOR CTH Q ENTRANCE RAMP TO STH 29 EB
OA-4	R11-54F	48	X	30	10.00	1	LEFT TURN ADVANCE FOR CTH Q ENTRANCE RAMP TO STH 29 EB
OC-1	R11-54F	48	X	30	10.00	1	CTH Q ENTRANCE RAMP TO STH 29 WB
OC-2	R11-54F	48	X	30	10.00	1	CTH Q ENTRANCE RAMP TO STH 29 WB
OC-3	R11-54F	48	X	30	10.00	1	LEFT TURN ADVANCE FOR CTH Q ENTRANCE RAMP TO STH 29 WB
OC-4	R11-54F	48	X	30	10.00	1	RIGHT TURN ADVANCE FOR CTH Q ENTRANCE RAMP TO STH 29 WB
TOTALS					80.00	8	

* ADDITIONAL QUANTITIES LOCATED ELSEWHERE

TRAFFIC CONTROL COVERING SIGNS

LOCATION	NUMBER OF CYCLES	NUMBER OF TYPE I SIGNS	643.0910 TYPE I EACH	NUMBER OF TYPE II SIGNS	643.0920 TYPE II EACH
CAT 0010					
STH 29 EB - STAGE 1	1	--	--	4	4
STH 29 WB - STAGE 1	1	--	--	4	4
STH 29 EB - STAGE 2A	1	--	--	4	4
STH 29 WB - STAGE 2A	1	--	--	4	4
STH 29 EB - STAGE 2B	1	--	--	4	4
STH 29 WB - STAGE 2B	1	--	--	4	4
STH 29 EB - STAGE 3	1	--	--	4	4
STH 29 WB - STAGE 3	1	--	--	4	4
STH 29 EB - STAGE 4	1	--	--	4	4
STH 29 WB - STAGE 4	1	--	--	4	4
CTH Q - RAMP A	1	--	--	3	3
CTH Q - RAMP B	1	1	1	1	1
CTH Q - RAMP C	1	--	--	3	3
CTH Q - RAMP D	1	1	1	1	1
TOTALS			2		48

3

TRAFFIC CONTROL ITEMS

LOCATION	DAYS	643.0200 SURVEILLANCE AND MAINTENANCE (1053-02-60) DAYS	643.0300 DRUMS NO.	643.0300 DRUMS DAYS	643.0420 BARRICADES TYPE III NO.	643.0420 BARRICADES TYPE III DAYS	643.0705 WARNING LIGHTS TYPE A NO.	643.0705 WARNING LIGHTS TYPE A DAYS	643.0715 WARNING LIGHTS TYPE C NO.	643.0715 WARNING LIGHTS TYPE C DAYS	643.0800 ARROW BOARDS NO.	643.0800 ARROW BOARDS DAYS	643.0900 SIGNS NO.	643.0900 SIGNS DAYS	643.1050 SIGNS PCMS NO.	643.1050 SIGNS PCMS DAYS	643.3000 DETOUR SIGNS NO.	643.3000 DETOUR SIGNS DAYS	SPV.0045.01 PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS NO.	SPV.0045.01 PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) CELLULAR COMMUNICATIONS DAYS
CAT 0010																				
STH 29 EB - STAGE 1	7	--	297	2,079	20	137	39	274	16	112	2	14	44	308	--	--	--	--	--	--
STH 29 WB - STAGE 1	7	--	297	2,079	20	137	39	274	16	112	2	14	44	308	--	--	--	--	--	--
STH 29 EB - STAGE 2A	25	--	374	9,355	24	589	47	1,177	26	655	2	50	48	1,206	--	--	--	--	--	--
STH 29 WB - STAGE 2A	25	--	374	9,355	24	589	47	1,177	26	655	2	50	48	1,206	--	--	--	--	--	--
STH 29 EB - STAGE 2B	25	--	374	9,355	24	589	47	1,177	26	655	2	50	48	1,206	--	--	--	--	--	--
STH 29 WB - STAGE 2B	25	--	374	9,355	24	589	47	1,177	26	655	2	50	48	1,206	--	--	--	--	--	--
STH 29 EB - STAGE 3	20	--	294	5,884	20	391	39	782	13	264	2	40	48	965	--	--	--	--	--	--
STH 29 WB - STAGE 3	20	--	294	5,884	20	391	39	782	13	264	2	40	48	965	--	--	--	--	--	--
STH 29 EB - STAGE 4	5	--	377	1,885	24	118	47	235	29	145	2	10	44	220	--	--	--	--	--	--
STH 29 WB - STAGE 4	5	--	377	1,885	24	118	47	235	29	145	2	10	44	220	--	--	--	--	--	--
CTH Q - RAMP A	5	--	25	125	5	25	10	50	--	--	--	--	8	40	4	20	54	270	--	--
CTH Q - RAMP B	5	--	10	50	4	20	8	40	--	--	--	--	5	25	4	20	38	190	--	--
CTH Q - RAMP C	5	--	25	125	5	25	10	50	--	--	--	--	8	40	4	20	54	270	--	--
CTH Q - RAMP D	5	--	10	50	4	20	8	40	--	--	--	--	5	25	4	20	38	190	--	--
PROJECT	127	127	10	1,270	--	--	--	--	--	--	--	--	--	--	2	254	--	--	2	254
TOTALS		127		58,736		3,735		7,471		3,662		328		7,940		334		920		254

PAVEMENT MARKING ITEMS

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH (WHITE) LF	646.0106 EPOXY 4-INCH (YELLOW) LF	646.0126 EPOXY 8-INCH (WHITE) LF	646.0841.S GROOVED WET REFLECTIVE CONTRAST TAPE 4-INCH (WHITE) LF	646.0843.S GROOVED WET REFLECTIVE CONTRAST TAPE 8-INCH (WHITE) LF	647.0186 ARROWS EPOXY TYPE 4 (WHITE) EACH	647.0566 STOP LINE EPOXY 18-INCH (WHITE) LF	647.0746 DIAGONAL EPOXY 24-INCH (YELLOW) LF
CAT 0010									
426'EB'+75 - 429'EB'+00	LT & RT	225	225	--	62.5	--	--	--	--
455'EB'+00 - 675'EB'+00	LT & RT	--	22,000	--	5,500	--	--	--	--
455'EB'+00 - 610'EB'+96	RT	15,600	--	--	--	--	--	--	--
610'EB'+96 - 613'EB'+03	RT	55	--	--	--	--	--	--	--
616'EB'+83 - 637'EB'+46	RT	2,065	--	--	--	--	--	--	--
655'EB'+25 - 684'EB'+04	RT	2,880	--	--	--	--	--	--	--
426'WB'+17 - 428'WB'+50	LT & RT	235	235	--	62.5	--	--	--	--
455'WB'+00 - 675'WB'+00	LT & RT	--	22,000	--	5,500	--	--	--	--
455'WB'+00 - 604'WB'+25	LT	14,925	--	--	--	--	--	--	--
619'WB'+48 - 640'WB'+29	LT	2,085	--	--	--	--	--	--	--
643'WB'+80 - 645'WB'+72	LT	50	--	--	--	--	--	--	--
645'WB'+72 - 675'WB'+00	LT	2,930	--	--	--	--	--	--	--
10'0A'+82 - 25'0A'+43	LT	--	815	--	--	1,315	--	--	--
10'0A'+90 - 36'0A'+65	LT & RT	2,575	--	--	--	--	--	--	--
29'0B'+63 - 48'0B'+08	LT & RT	1,850	--	60	--	--	--	--	--
31'0B'+70 - 47'0B'+97	LT	--	1,255	--	--	765	1	30	260
49'0C'+12 - 72'0C'+32	LT & RT	2,325	--	--	--	--	--	--	--
57'0C'+68 - 72'0C'+47	RT	--	820	--	--	1,335	--	--	--
70'0D'+50 - 88'0D'+64	LT & RT	1,820	--	65	--	--	--	--	--
70'0D'+59 - 86'0D'+72	RT	--	1,270	--	--	705	--	30	240
TOTALS		49,620	48,620	125	11,125	4,120	1	60	500
		98,240							

TEMPORARY PAVEMENT MARKING ITEMS

LOCATION	646.0600 REMOVING PAVEMENT MARKINGS LF	649.0403 EPOXY 4-INCH (WHITE) LF	649.0403 EPOXY 4-INCH (YELLOW) LF	649.0400 REMOVABLE TAPE 4-INCH (WHITE) LF	649.0400 REMOVABLE TAPE 4-INCH (YELLOW) LF	649.0506 REMOVABLE MASK-OUT TAPE 6-INCH (BLACK) LF	649.0801 REMOVABLE TAPE 8-INCH (WHITE) LF	COMMENTS
CAT 0010								
STH 29 EB	--	--	--	--	2,340	625	--	LANE CLOSURE TAPER - STAGE 1
STH 29 WB	--	--	--	--	2,340	625	--	LANE CLOSURE TAPER - STAGE 1
STH 29 EB	--	--	--	2,340	--	2,640	--	LANE CLOSURE TAPER - STAGE 2
STH 29 WB	--	--	--	2,340	--	2,640	--	LANE CLOSURE TAPER - STAGE 2
STH 29 EB	--	--	--	--	2,340	2,640	--	LANE CLOSURE TAPER - STAGE 3
STH 29 WB	--	--	--	--	2,340	2,640	--	LANE CLOSURE TAPER - STAGE 3
STH 29 EB	--	--	--	450	--	115	200	CTH J RAMPS WITHIN LANE CLOSURE
STH 29 WB	--	--	--	200	--	100	400	CTH J RAMPS WITHIN LANE CLOSURE
STH 29 EB	--	--	--	650	--	215	600	CTH Q RAMPS WITHIN LANE CLOSURE
STH 29 WB	--	--	--	650	--	215	600	CTH Q RAMPS WITHIN LANE CLOSURE
CTH Q - RAMP B	--	--	--	250	--	--	--	EXIT RAMP CLOSURE
CTH Q - RAMP D	--	--	--	250	--	--	--	EXIT RAMP CLOSURE
PROJECT	6,400	4,140	2,260	--	--	--	--	
TOTALS	6,400	4,140	2,260	7,130	9,360	12,455	1,800	
		6,400		16,490				

NOTE: TEMPORARY PAVEMENT MARKING 4-INCH IS FOR USE ON CONCRETE PAVEMENT REPAIR/REPLACEMENT AREAS PRIOR TO OPENING A LANE TO TRAFFIC, IF NEEDED, WITHOUT PERMANENT MARKING IN PLACE

CONSTRUCTION STAKING ITEMS

STATION - STATION	LOCATION	650.8000 RESURFACING REFERENCE LF	650.9910 SUPPLEMENTAL CONTROL (1053-02-60) LS
CAT 0010			
426'EB'+74 - 429'EB'+00	LT & RT	226	--
455'EB'+00 - 684'EB'+05	LT & RT	22,905	--
426'WB'+17 - 428'WB'+50	LT & RT	233	--
455'WB'+00 - 675'WB'+00	LT & RT	22,000	--
98'0'+00 - 110'0'+00	LT & RT	1,200	--
10'0A'+00 - 35'0A'+77	LT & RT	2,577	--
30'0B'+00 - 48'0B'+34	LT & RT	1,834	--
50'0C'+00 - 73'0C'+06	LT & RT	2,306	--
70'0D'+00 - 88'0D'+36	LT & RT	1,836	--
PROJECT	--	--	1
TOTALS		55,117	1

RAMP CLOSURE GATE ASSEMBLY ITEMS

STATION	LOCATION	652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	653.0135 PULL BOXES STEEL 24X36-INCH EACH	654.0105 CONCRETE BASES TYPE 5 EACH	654.0220 CONCRETE CONTROL CABINET BASES TYPE 10 EACH	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0321 POLES TYPE 5 STEEL EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	662.2037.S RAMP CLOSURE GATES SOLAR 37-FT EACH	662.2040.S RAMP CLOSURE GATES SOLAR 40-FT EACH	662.3037.S RAMP CLOSURE GATE ARMS STOCKPILE 37-FT EACH	662.3040.S RAMP CLOSURE GATE ARMS STOCKPILE 40-FT EACH	662.4000.S RAMP CLOSURE GATE FLASHERS STOCKPILE EACH
CAT 0010														
10'0A'+80	25' LT	15	1	1	1	1	1	1	1	1	--	1	--	3
72'0C'+53	30' RT	15	1	1	1	1	1	1	1	--	1	--	1	3
TOTALS		30	2	2	2	2	2	2	2	1	1	1	1	6

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150* LF	COMMENTS
CAT 0010			
455'EB'+00 - 627'EB'+68	RT & LT	20	DRIVING & PASSING LANE SHOULDER
629'EB'+46 - 684'EB'+05	RT & LT	20	DRIVING & PASSING LANE SHOULDER
455'WB'+00 - 627'WB'+50	RT & LT	20	DRIVING & PASSING LANE SHOULDER
629'WB'+26 - 675'WB'+00	RT & LT	20	DRIVING & PASSING LANE SHOULDER
+/- 103'0'+00	RT	10	SIGN QA-4 BOX-OUT
+/- 105'0'+00	RT	10	SIGN QC-3 BOX-OUT
TOTALS		100	

*ADDITIONAL QUANTITIES LOCATED ELSEWHERE

REMOVING RAISED PAVEMENT MARKERS AND FILLING VOID

STATION - STATION	LOCATION	SPV.0060.01 EACH
CAT 0010		
455'EB'+00 - 684'EB'+05	RT	230
613'EB'+80 - 616'EB'+30	RT	20
455'WB'+00 - 675'WB'+00	LT	220
640'WB'+78 - 643'WB'+13	LT	20
TOTAL		490

GRADING, SHAPING AND FINISHING MAINTENANCE CROSSOVERS

STATION - STATION	LOCATION	SPV.0060.03 EACH	**COMMON EXC. CY	**FILL CY	**BORROW EXC. CY	**TOPSOIL SY	**FERTILIZER TYPE B CWT	**SEEDING #30 LB
CAT 0010								
456'EB'+63 - 457'EB'+37	LT	1	124	--	--	199	0.1	4
522'EB'+67 - 523'EB'+41	LT	1	124	--	--	208	0.1	4
598'EB'+58 - 599'EB'+32	LT	1	112	--	--	199	0.1	4
658'EB'+66 - 659'EB'+40	LT	1	134	--	--	204	0.1	4
TOTALS		4	494	0	0	810	0.4	16

**NON-BIDITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY

SHAPING AND FINISHING RAMP GATES

STATION - STATION	LOCATION	SPV.0060.02 EACH	**TOPSOIL SY	**FERTILIZER TYPE B CWT	**SEEDING #30 LB
CAT 0010					
10'0A'+75 - 11'0A'+00	LT	1	17	0.1	0.3
72'0C'+35 - 72'0C'+60	RT	1	15	0.1	0.3
TOTALS		2	32	0.2	0.6

**NON-BIDITEM, ITEMS AND QUANTITIES LISTED FOR BID INFORMATION ONLY

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
SEE LEGEND

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
3	103'J'+76, 70'LT	ALUMN. CAP IN PARAPET	1275.73
4	105'J'+42, 48'RT	NE FLANGE BOLT ON HYD.	1249.06

CONTROL POINT 13
Y=177789.40
X=314757.61
ELEV=1244.26
0.75"x24" REBAR
W/BLUE EMCS CAP

N

STH 29 WB ENTRANCE RAMP

STH 29 WB EXIT RAMP

CTH J

VILLAGE OF WESTON
(SANITARY SEWER)

DELINEATED WETLAND BOUNDARY

VILLAGE OF WESTON
(WATER)

BM 4

POLYMER OVERLAY
SEE STRUCTURE PLANS

DELINEATED WETLAND BOUNDARY

WISCONSIN PUBLIC SERVICE
(ELECTRIC)

WISCONSIN PUBLIC SERVICE
(GAS)

CAUTION

BEGIN CONSTRUCTION
STA 426'WB'+17

END CONSTRUCTION
STA 428'WB'+50

B-37-0180

416'WB'+00 418'WB'+00 420'WB'+00 422'WB'+00 424'WB'+00 426'WB'+00 428'WB'+00 430'WB'+00

STA 420'WB'+00
Y=177251.948
X=314263.942

S 88°54'09" E

STH 29 WB

STH 29 EB

416'EB'+00 418'EB'+00 420'EB'+00 422'EB'+00 424'EB'+00 426'EB'+00 428'EB'+00 430'EB'+00

S 88°54'09" E

STA 420'EB'+00
Y=177187.9581
X=314262.8001

B-37-0179

BEGIN CONSTRUCTION
STA 426'EB'+74

BM 3

POLYMER OVERLAY
SEE STRUCTURE PLANS

END CONSTRUCTION
STA 429'EB'+00

STH 29 EB EXIT RAMP

DELINEATED
WETLAND
BOUNDARY

STH 29 EB
ENTRANCE RAMP

CTH J

DELINEATED WETLAND BOUNDARY

QWEST
(COMMUNICATIONS)

PACKERLAND BROADBAND
(COMMUNICATIONS)

CONTROL POINT 12
Y=176586.35
X=315322.40
ELEV=1252.35
0.75"x24" REBAR
W/BLUE EMCS CAP

CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

(S) CONCRETE SURFACE DRAIN AND ADJUSTING INLET COVERS

(A) SAWING ASPHALT, REMOVING ASPHALTIC SURFACE, AND ASPHALTIC SURFACE PATCHING (ESTIMATED AT 2'LONG)

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 39	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\050201_pn.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

NOTE

THIS SHEET PROVIDED FOR ALIGNMENT INFORMATION ONLY

N

STH 29 WB EXIT RAMP

5

5

432'WB'+00 434'WB'+00 436'WB'+00 438'WB'+00 440'WB'+00 442'WB'+00 444'WB'+00 446'WB'+00

S 88°54'09" E

STH 29 WB

432'EB'+00 434'EB'+00 436'EB'+00 438'EB'+00 440'EB'+00 442'EB'+00 STH 29 EB 444'EB'+00 446'EB'+00

S 88°54'09" E

STH 29 EB ENTRANCE RAMP

QWEST
(COMMUNICATIONS)

FO

FO

FO

FO

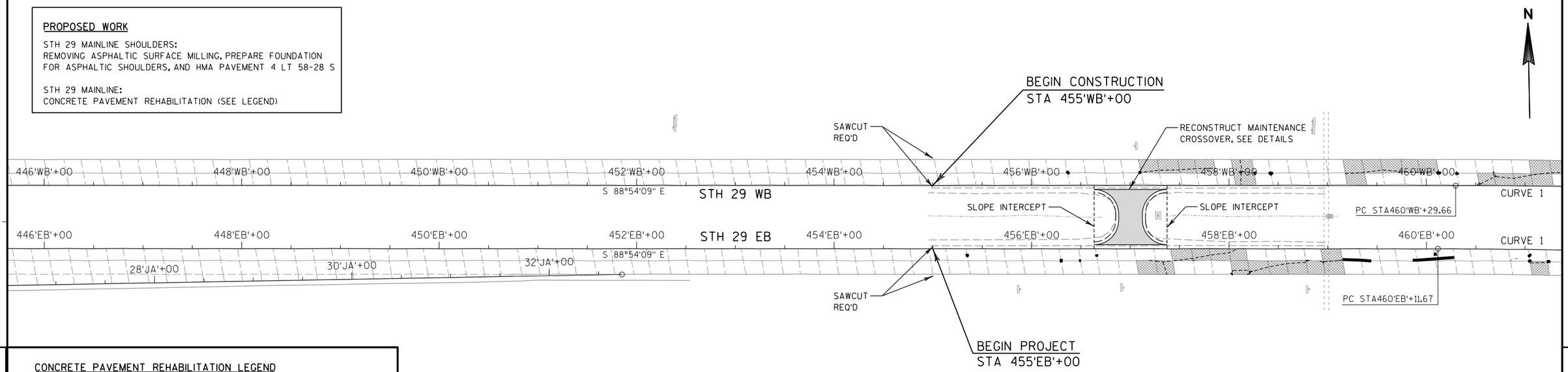
PACKERLAND BROADBAND
(COMMUNICATIONS)

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 40	E

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



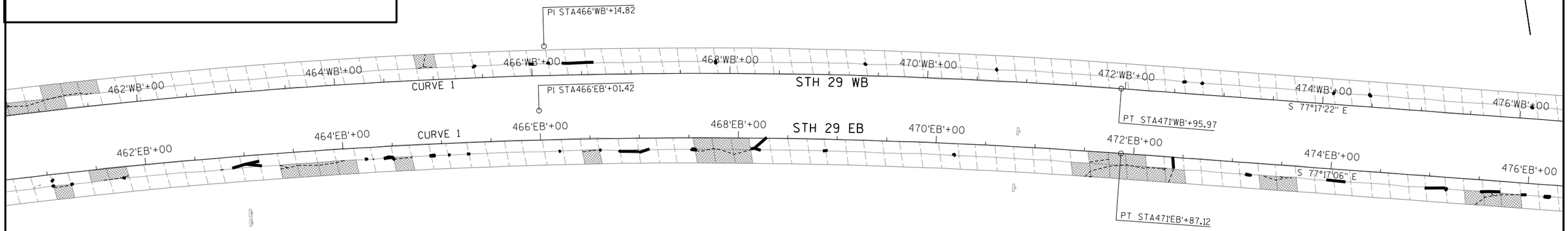
CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

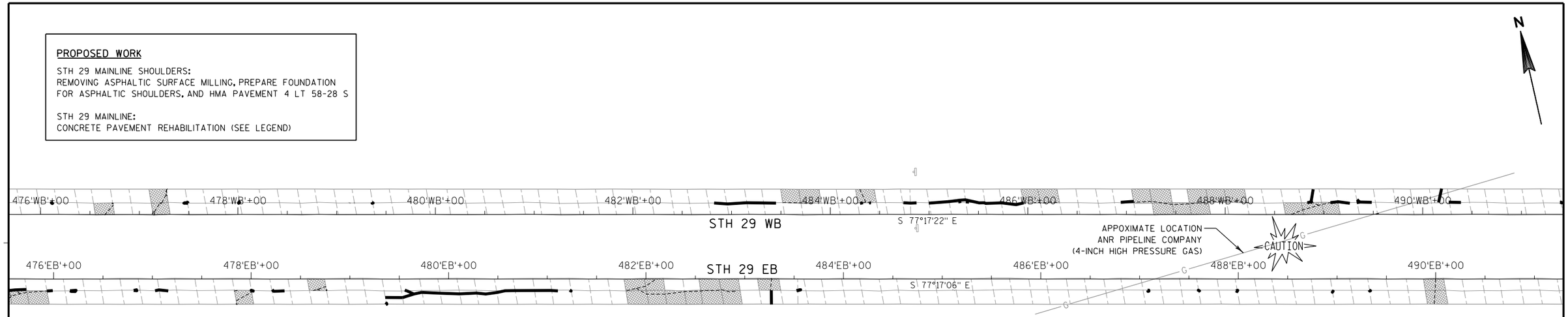


PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 41	E

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



5

CONCRETE PAVEMENT REHABILITATION LEGEND

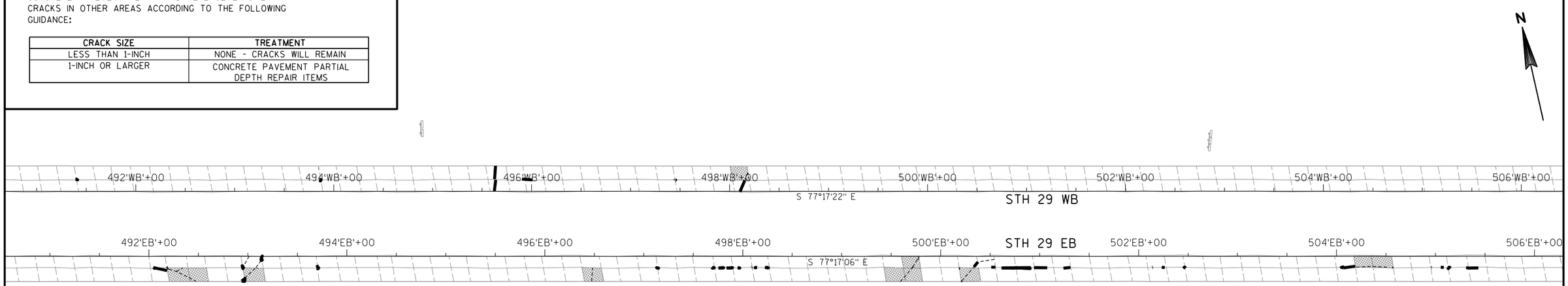
- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

5



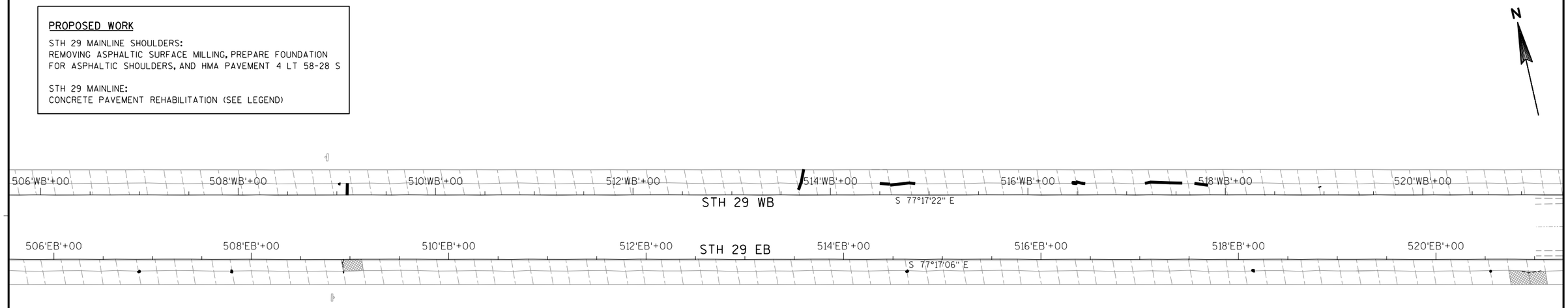
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 42	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\050204_pn.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:100

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



5

5

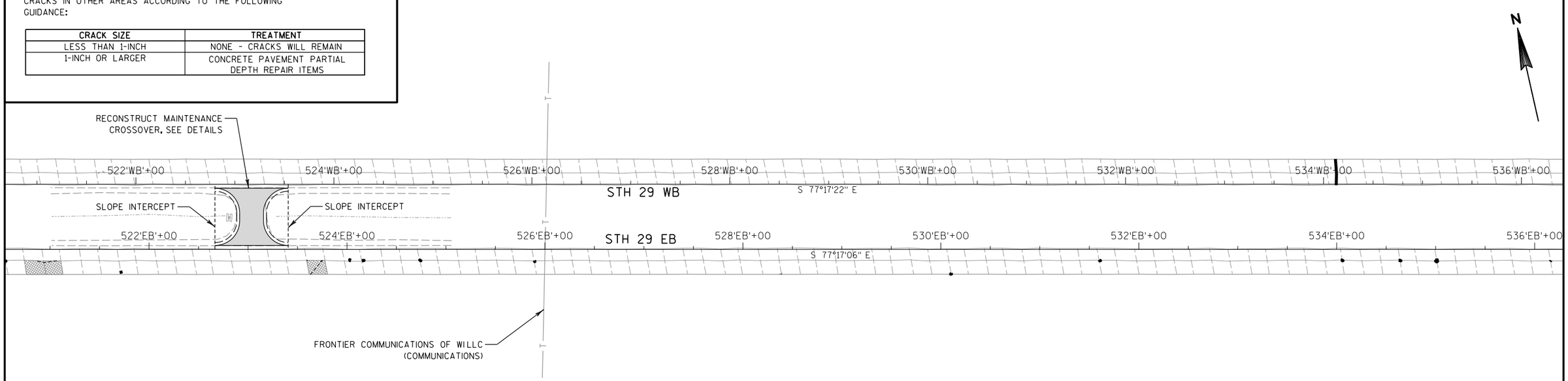
CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

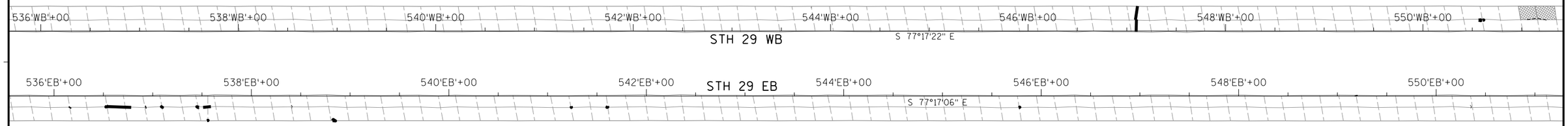


PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 43	E

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



5

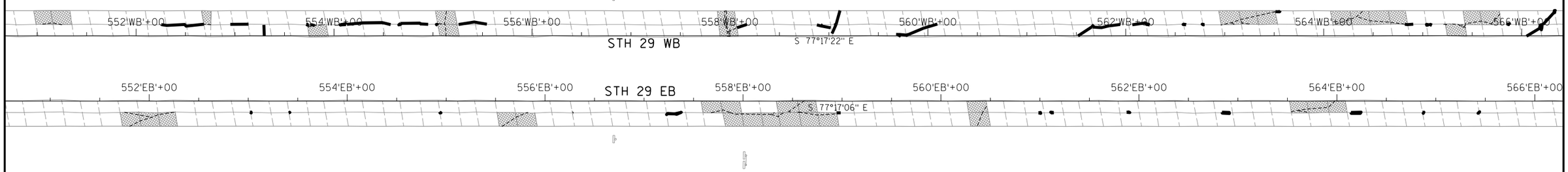
CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS



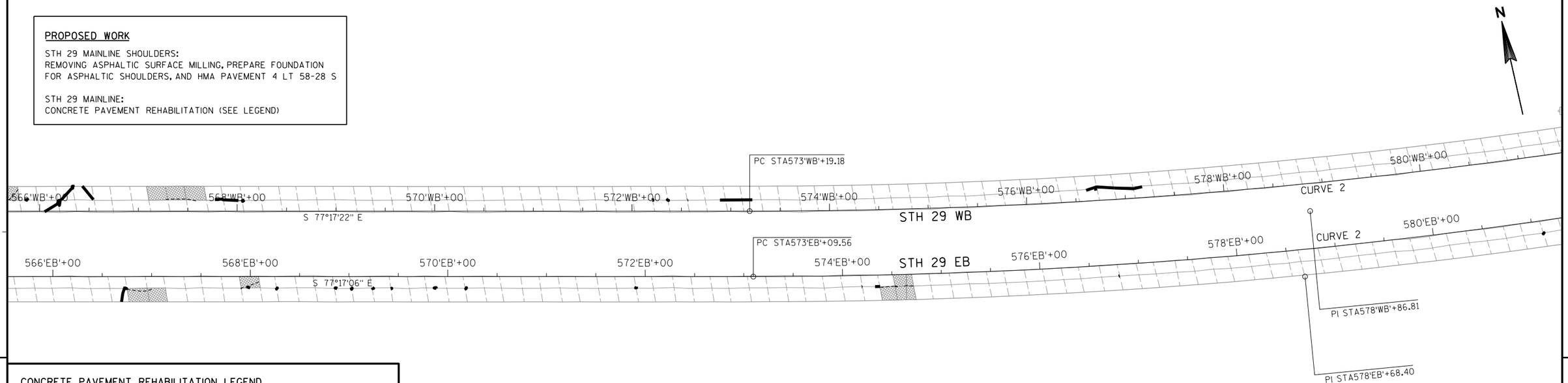
5

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 44	E

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



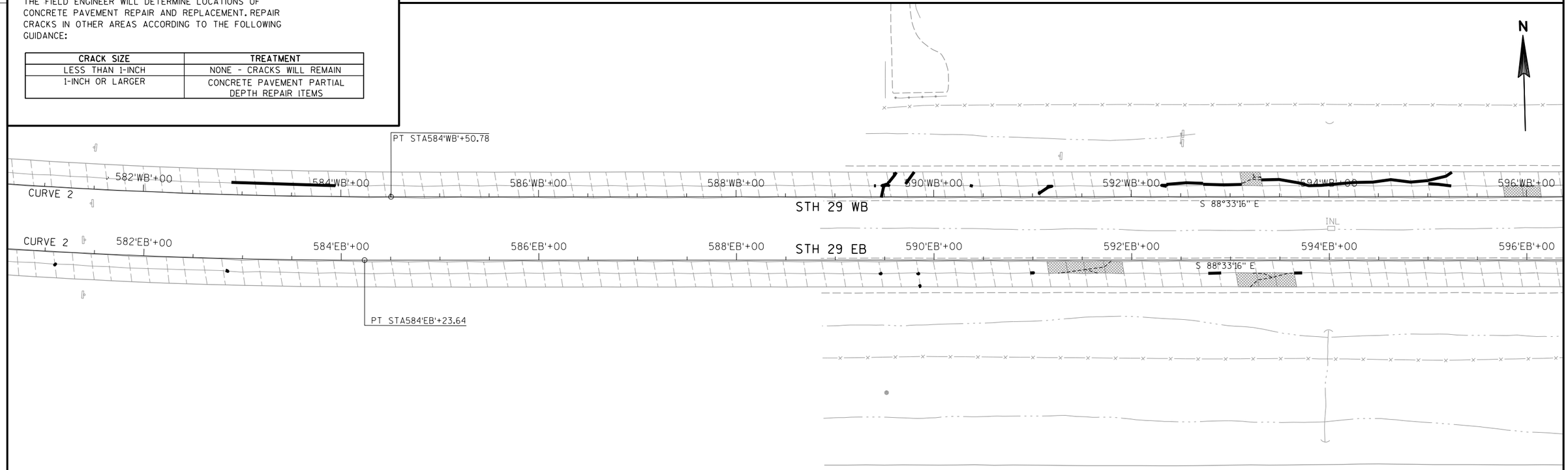
CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS



PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 45	E

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)

N

EQUATION

EQN STA600'WB+00.00
EQN STA600'WB+00.41

RECONSTRUCT MAINTENANCE CROSSOVER, SEE DETAILS

STA 50'QC'+00
Y=174641.739
X=332507.681

596'WB'+00 598'WB'+00 600'WB'+00 602'WB'+00 604'WB'+00 606'WB'+00 608'WB'+00 610'WB'+00

52'QC'+00 54'QC'+00 56'QC'+00

STH 29 WB

S 88°33'16" E

SLOPE INTERCEPT

SLOPE INTERCEPT

INL

596'EB'+00 598'EB'+00 600'EB'+00 602'EB'+00 STH 29 EB 604'EB'+00 606'EB'+00 608'EB'+00 610'EB'+00

S 88°33'16" E

30'OB

WESTON AVE

CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

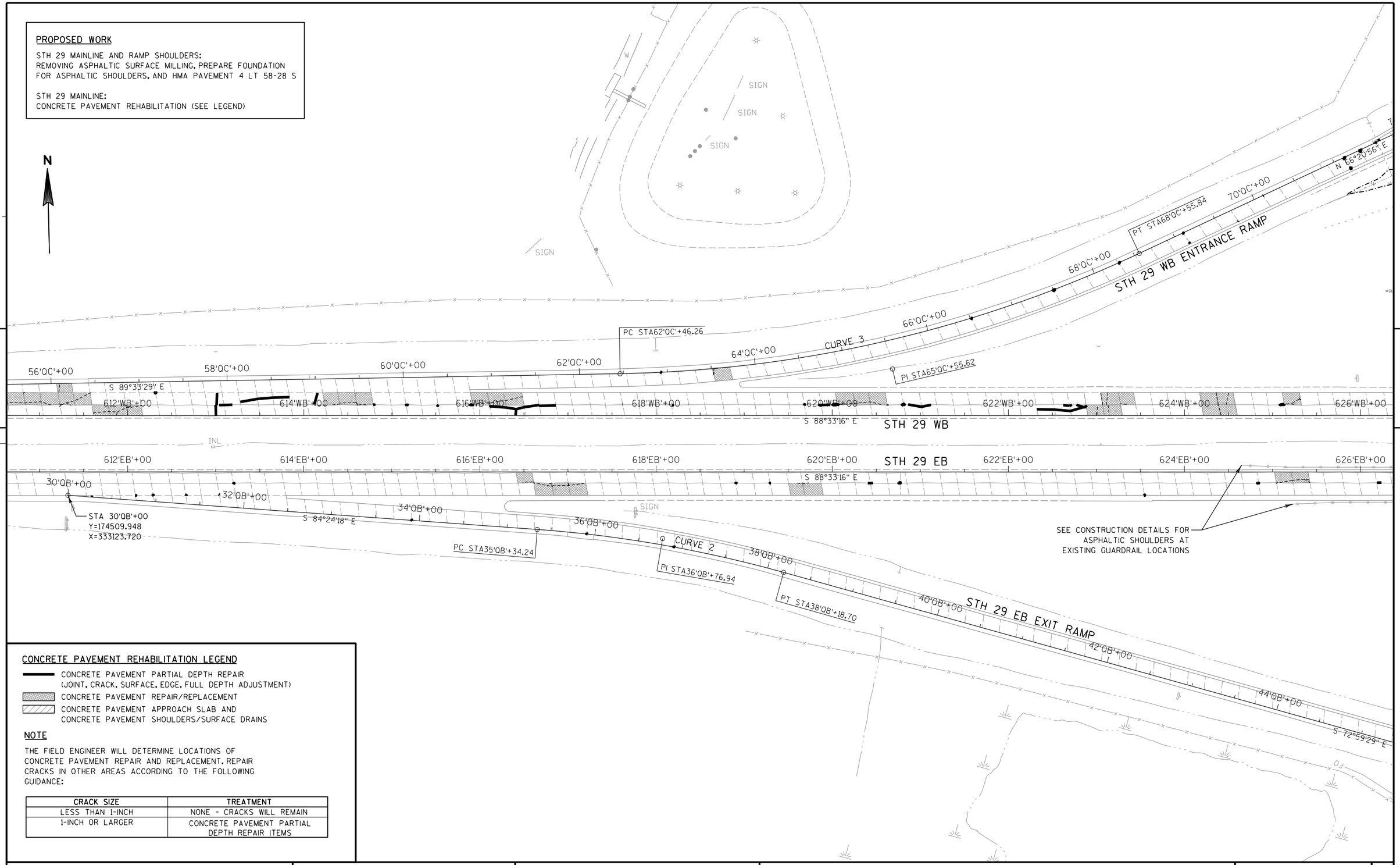
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 46	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\050208_pn.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:100

PROPOSED WORK

STH 29 MAINLINE AND RAMP SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 47	E

PROPOSED WORK

STH 29 MAINLINE AND RAMP SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
1	109'0'+75, 86'LT	6" MAG NAIL IN PP #2809 28W8	1330.61
2	103'0'+59, 69'LT	ALUMN. CAP IN PARAPET	1358.77

BM 1
CONTROL POINT 10
Y=175114.67
X=334703.63
ELEV=1330.42
0.75"x24" REBAR
W/BLUE EMCS CAP

STA 70'0D'+00.00=
STA 108'0'+19.00
Y=174953.226
X=334755.864

STA 73'0C'+06.18=
STA 108'0'+29.12
Y=174934.506
X=334759.146

CTH Q

STH 29 WB EXIT RAMP

PC STA80'0D'+36.99
PT STA83'0D'+19.05
PI STA81'0D'+78.47
CURVE 4

DELINEATED WETLAND BOUNDARY

WISCONSIN PUBLIC SERVICE (ELECTRIC)

POLYMER OVERLAY
SEE STRUCTURE PLANS

SEE CONSTRUCTION DETAILS FOR ASPHALTIC SHOULDERS AT EXISTING GUARDRAIL LOCATIONS

SAWCUT REQ'D

B-37-0182
B-37-0181

STH 29 EB

BM 2

STH 29 EB ENTRANCE RAMP

PC STA14'0A'+88.53
PI STA17'0A'+79.44
PT STA20'0A'+62.51
CURVE 1-A

STA 10'0A'+00.00=
STA 100'0'+00.00
Y=174117.837
X=334902.322

SLOPE INTERCEPT

STA 48'0B'+33.72=
STA 99'0'+87.27
Y=174105.299
X=334904.521

CONTROL POINT 11
Y=173854.19
X=334988.90
ELEV=1336.56
0.75"x24" REBAR
W/BLUE EMCS CAP

PACKERLAND BROADBAND (COMMUNICATIONS)

QWEST (COMMUNICATIONS)

CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

(F) ASPHALTIC FLUME AND REMOVING ASPHALTIC SURFACE

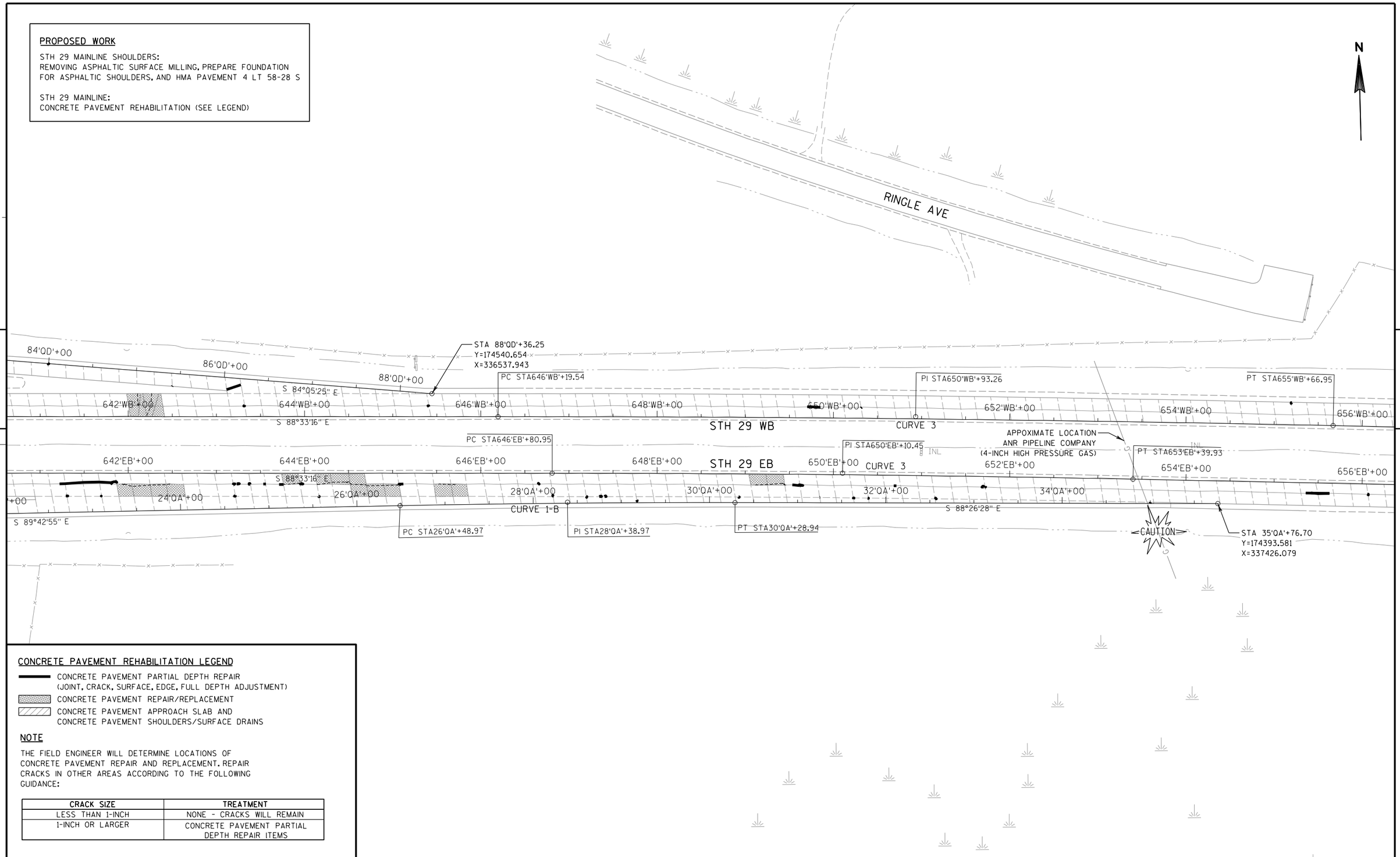
(S) CONCRETE SURFACE DRAIN AND ADJUSTING INLET COVERS

(R) INSTALL RAMP CLOSURE GATE (SEE CONSTRUCTION DETAIL)

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

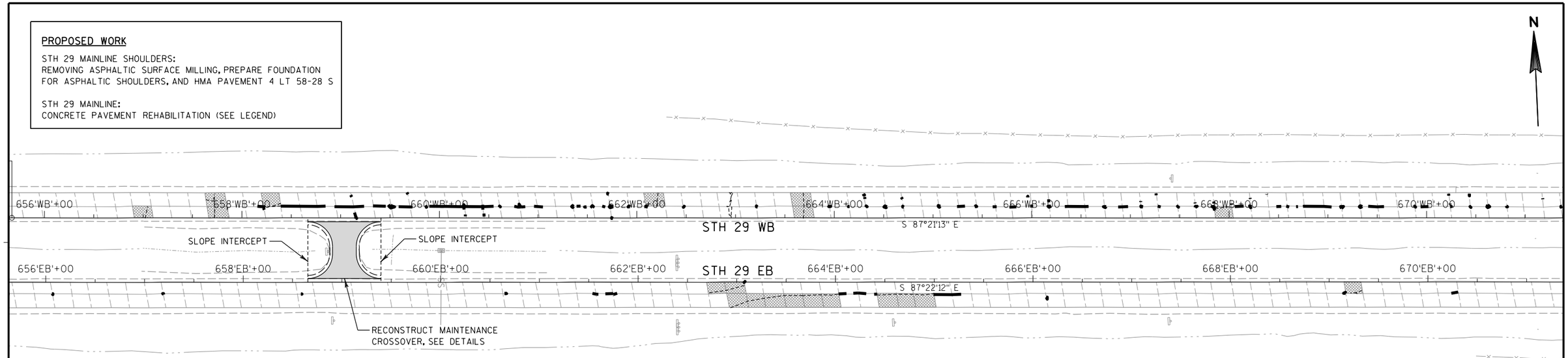
THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

PROPOSED WORK

STH 29 MAINLINE SHOULDERS:
REMOVING ASPHALTIC SURFACE MILLING, PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS, AND HMA PAVEMENT 4 LT 58-28 S

STH 29 MAINLINE:
CONCRETE PAVEMENT REHABILITATION (SEE LEGEND)



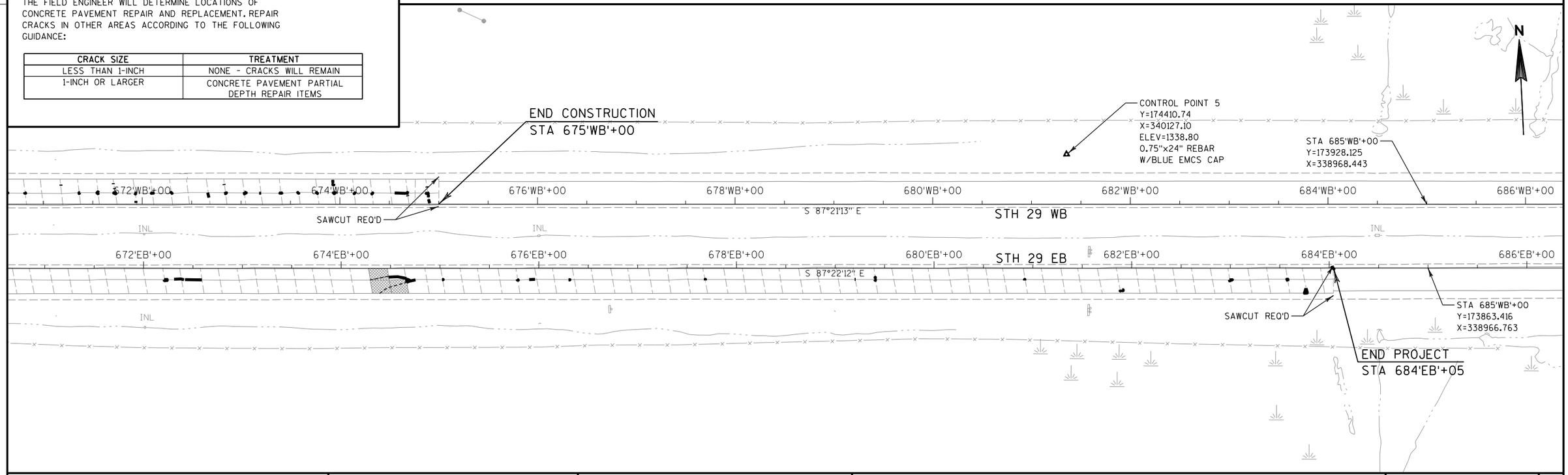
CONCRETE PAVEMENT REHABILITATION LEGEND

- CONCRETE PAVEMENT PARTIAL DEPTH REPAIR (JOINT, CRACK, SURFACE, EDGE, FULL DEPTH ADJUSTMENT)
- CONCRETE PAVEMENT REPAIR/REPLACEMENT
- CONCRETE PAVEMENT APPROACH SLAB AND CONCRETE PAVEMENT SHOULDERS/SURFACE DRAINS

NOTE

THE FIELD ENGINEER WILL DETERMINE LOCATIONS OF CONCRETE PAVEMENT REPAIR AND REPLACEMENT. REPAIR CRACKS IN OTHER AREAS ACCORDING TO THE FOLLOWING GUIDANCE:

CRACK SIZE	TREATMENT
LESS THAN 1-INCH	NONE - CRACKS WILL REMAIN
1-INCH OR LARGER	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR ITEMS

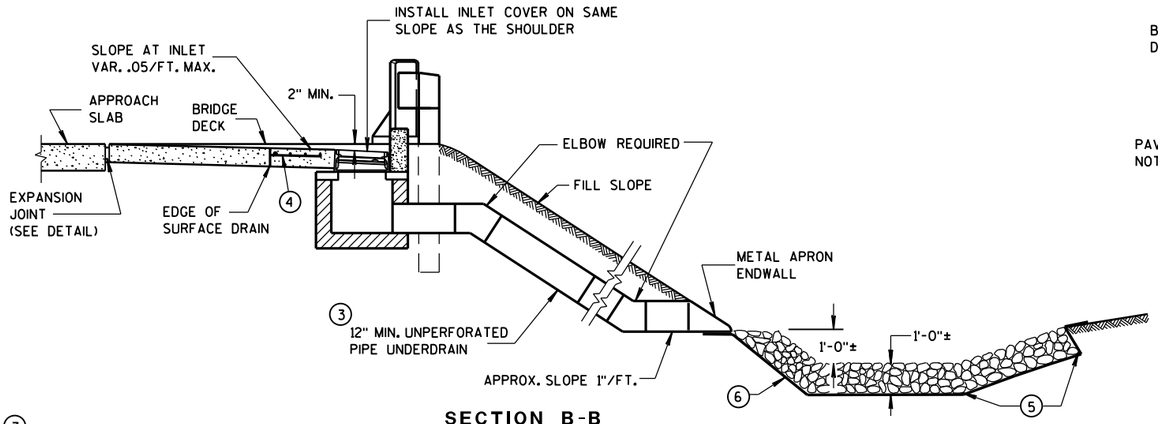


PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	PLAN	SHEET 50	E

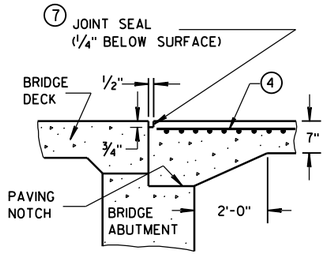
Standard Detail Drawing List

08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C05-09	CONCRETE CONTROL CABINET BASES
11A01-05	MAINTENANCE CROSSOVER FOR FREEWAYS
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
13A03-06	CONCRETE PAVEMENT SHOULDERS
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C08-02	CONCRETE PAVEMENT PARTIAL DEPTH REPAIR
13C09-13A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-13C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C17-01A	CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI
13C17-01B	CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-03C	CONCRETE PAVEMENT JOINT TIES
13C18-03D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15A02-08	DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING
15A06-02	DELINEATOR LAYOUT
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C19-03C	MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-05A	TRAFFIC CONTROL, LANE CLOSURE
15D12-05B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D21-03	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-02	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D34-02A	RAMP GATE SOLAR POWER
15D34-02B	RAMP GATE SOLAR POWER
15D34-02C	RAMP GATE SOLAR POWER
15D34-02D	RAMP GATE SOLAR POWER

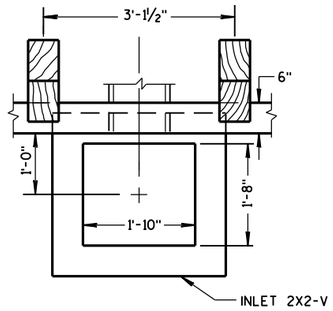
6



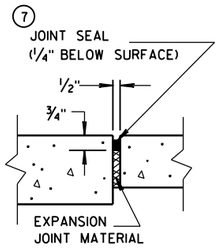
SECTION B-B



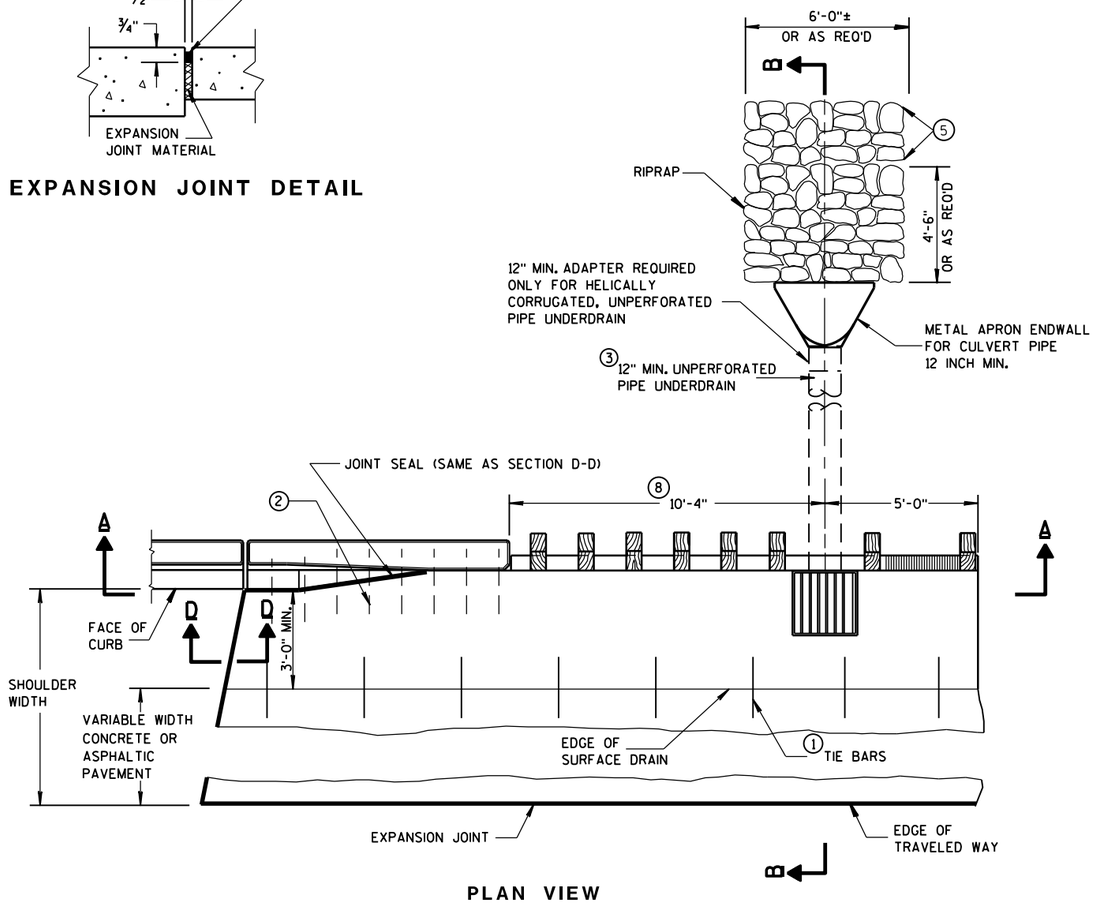
SECTION D-D



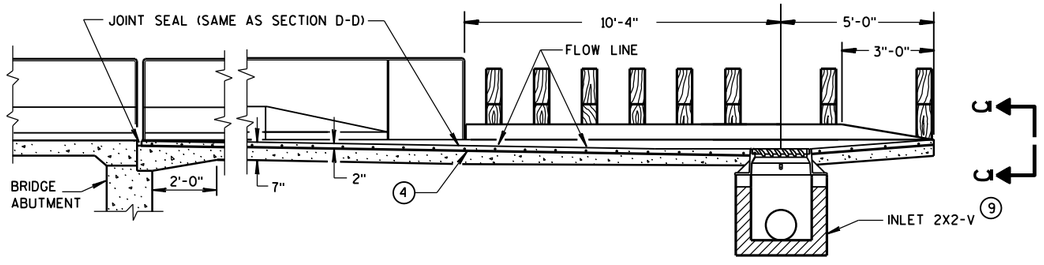
PLAN VIEW



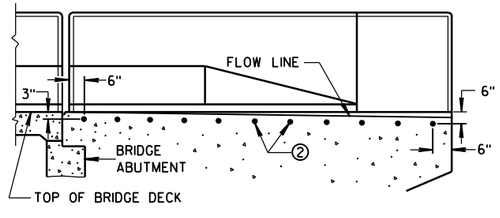
EXPANSION JOINT DETAIL



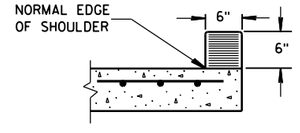
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

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

(3) THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.

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

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

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".

(9) SEE CURRENT STANDARD DETAIL DRAWINGS 8A5 AND 8C7 FOR DETAILS.

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

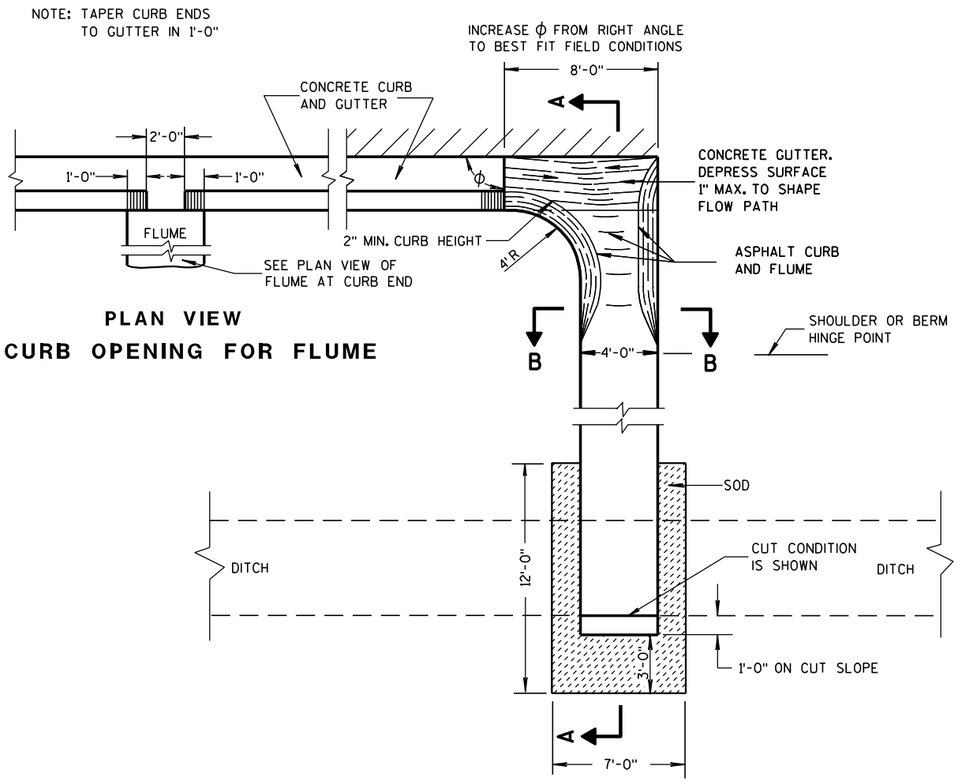
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

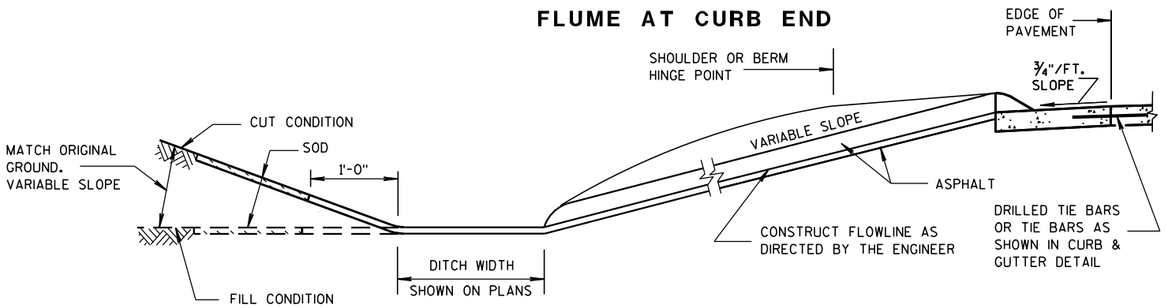
S.D.D. 8 D 3-6

ASPHALTIC FLUME

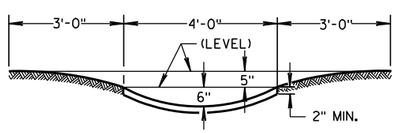


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

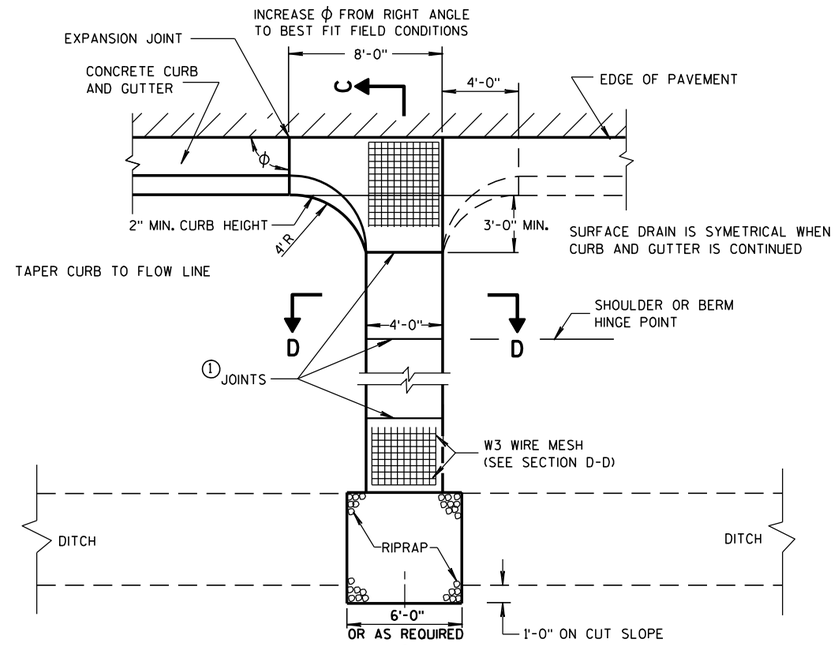
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

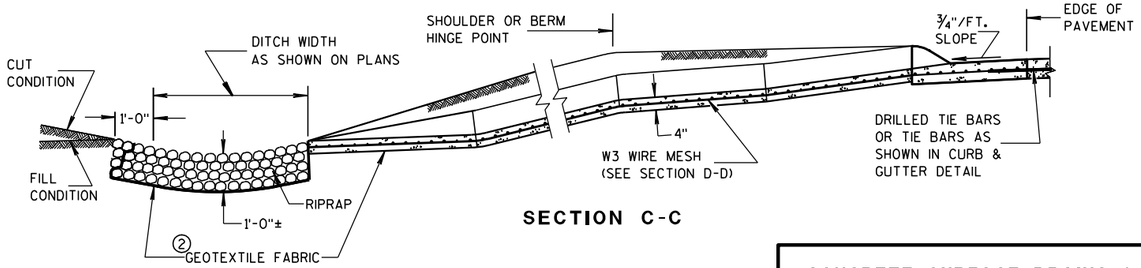
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

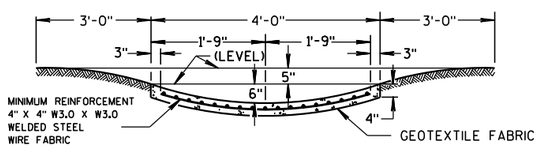
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

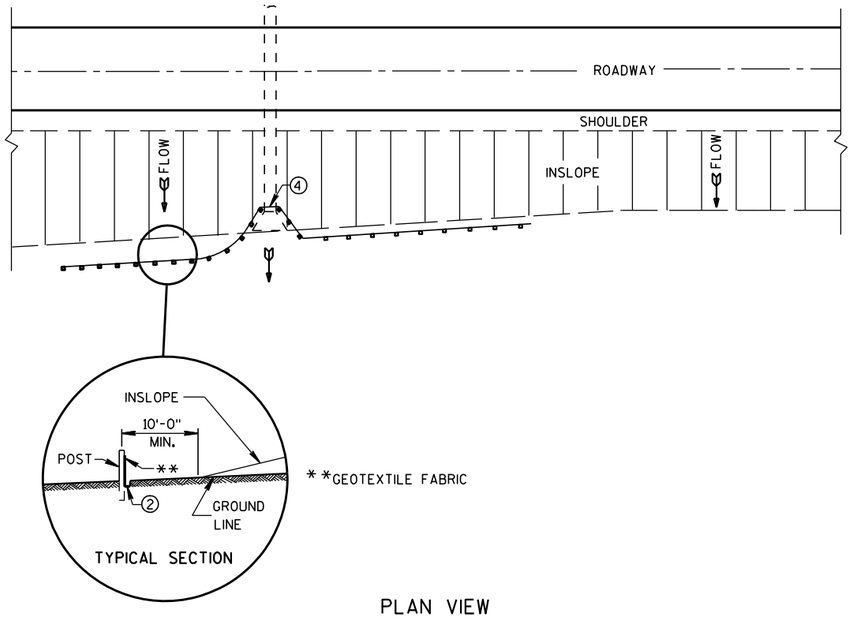
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
53
MENT
FHWA

6

S.D.D. 8 D 4-5

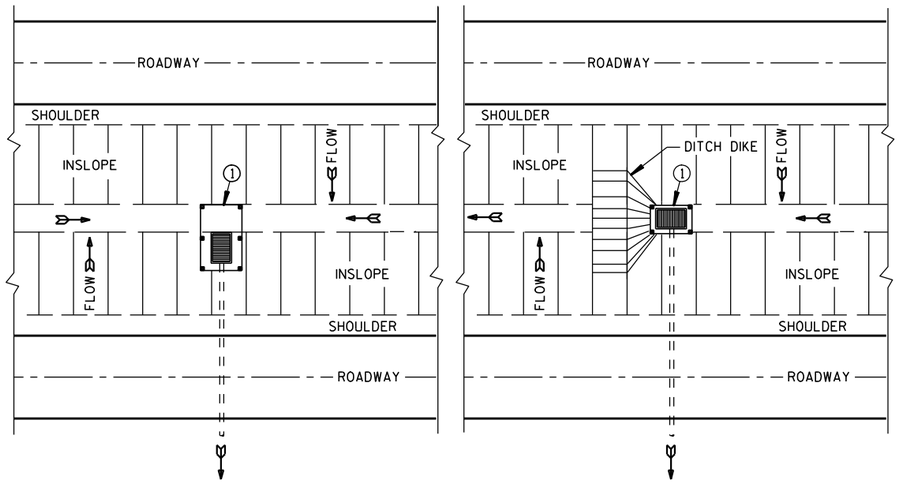
6

S.D.D. 8 D 4-5



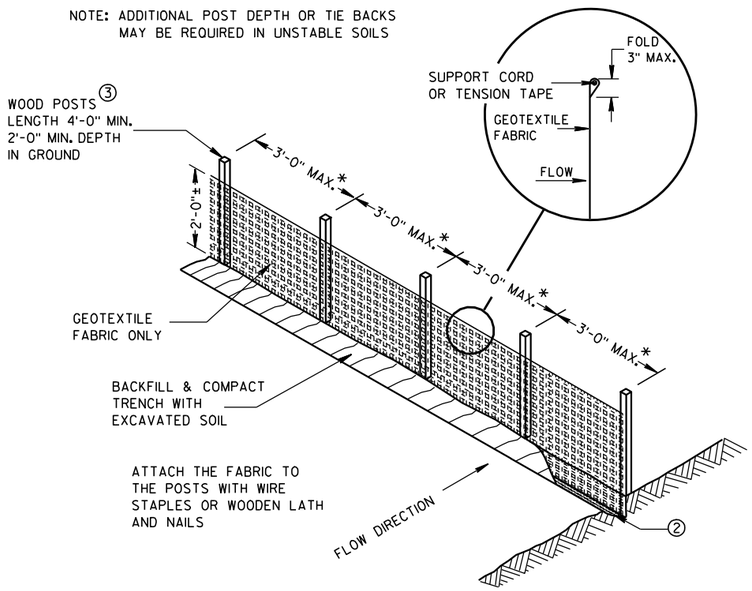
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

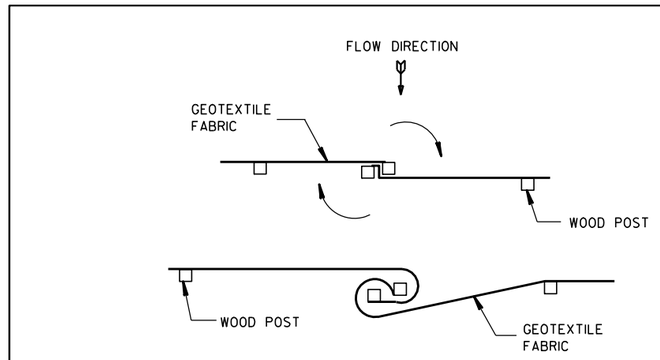


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

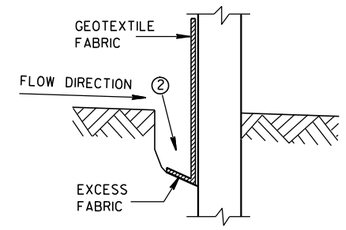


JOINING TWO LENGTHS OF SILT FENCE 5

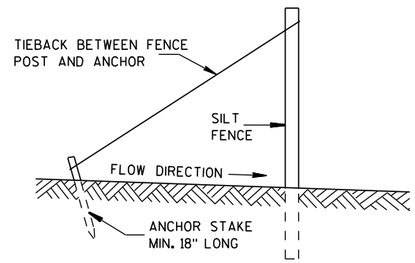
GENERAL NOTES

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



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

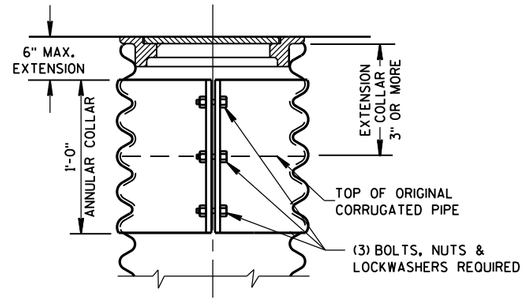
S.D.D. 8 E 9-6

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

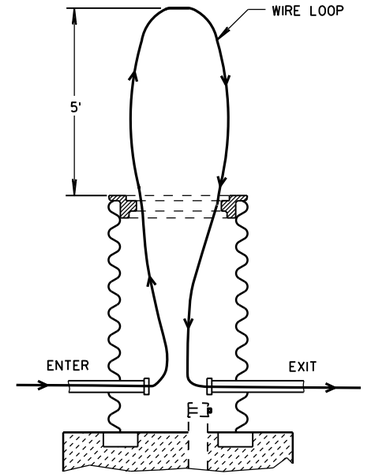
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

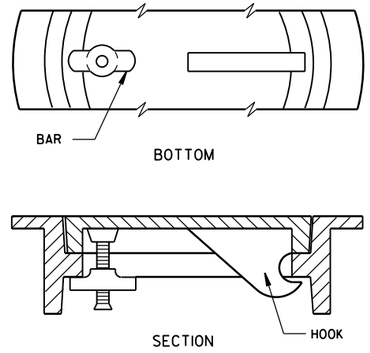
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

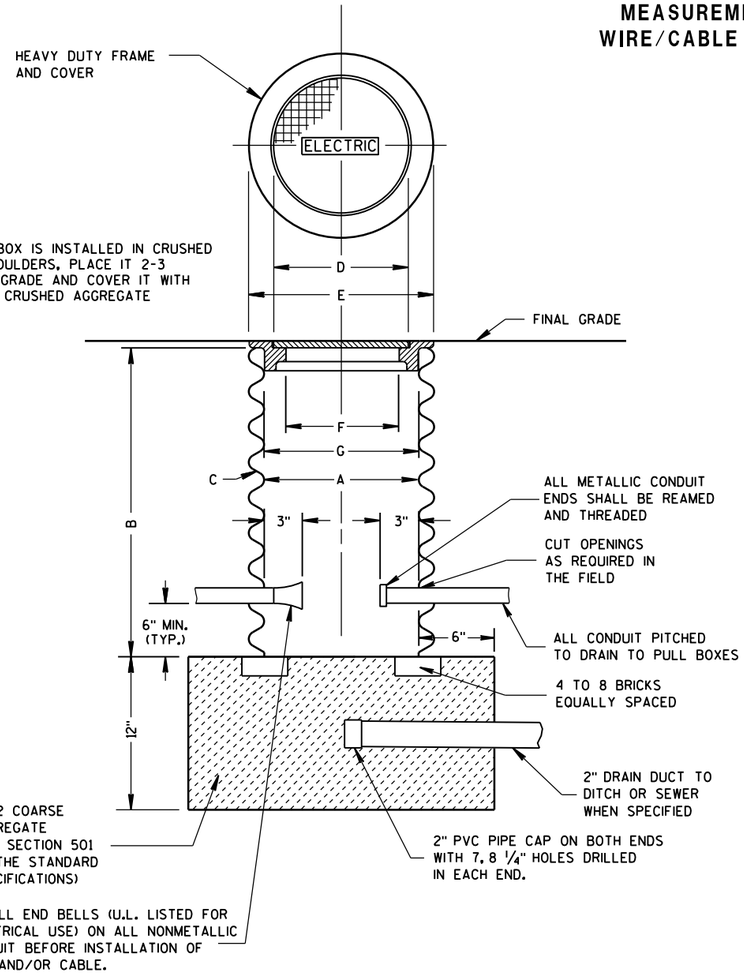


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



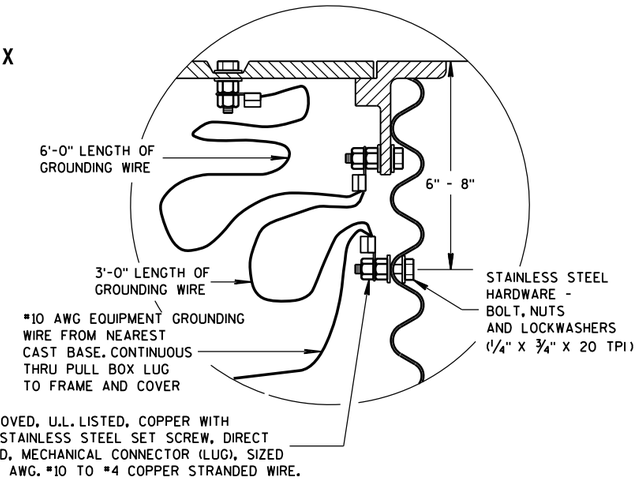
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

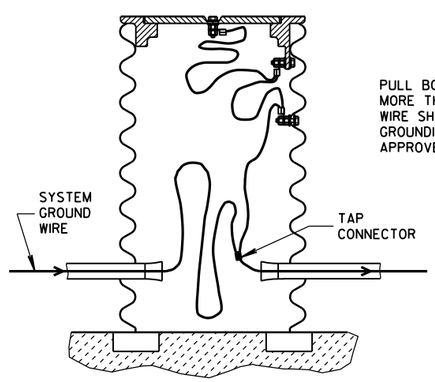


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.

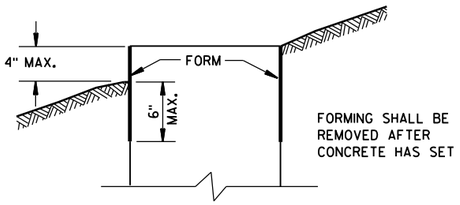
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 B 4-11

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

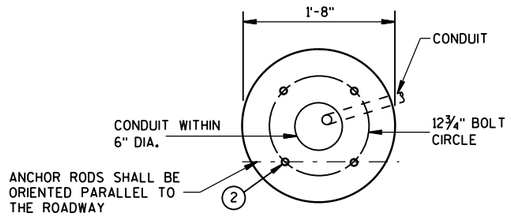
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

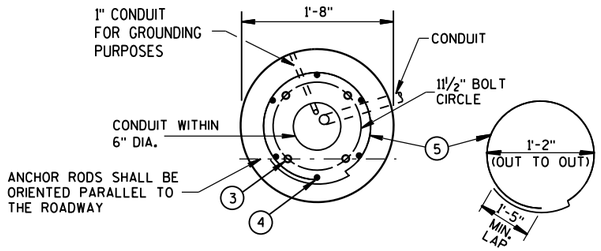
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

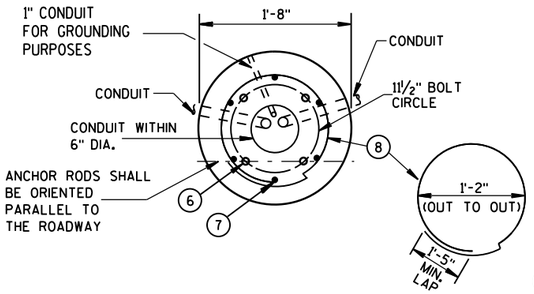
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.



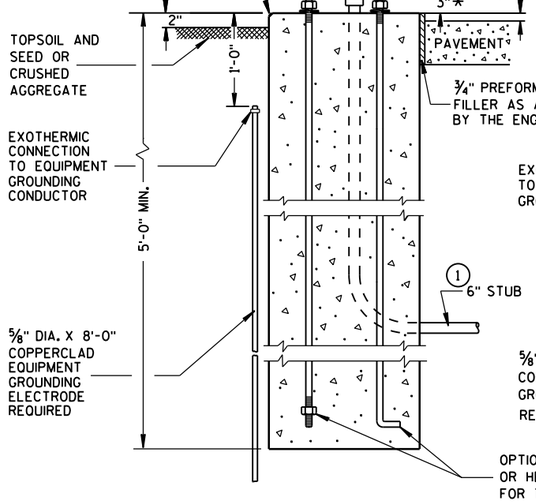




FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND

HALF SECTION IN UNPAVED AREA

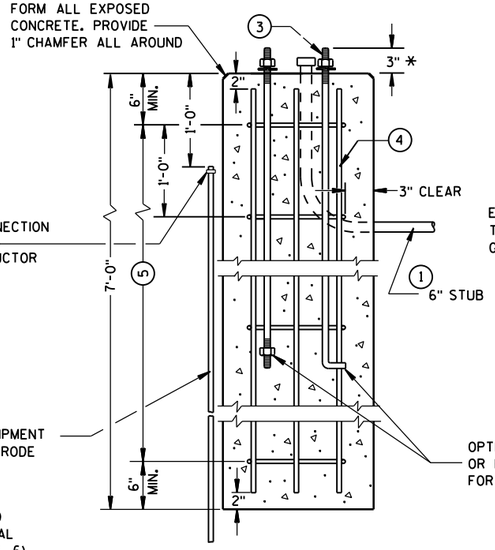
(TYPICAL FOR TYPES 1, 2, 5, & 6)



HALF SECTION IN PAVEMENT

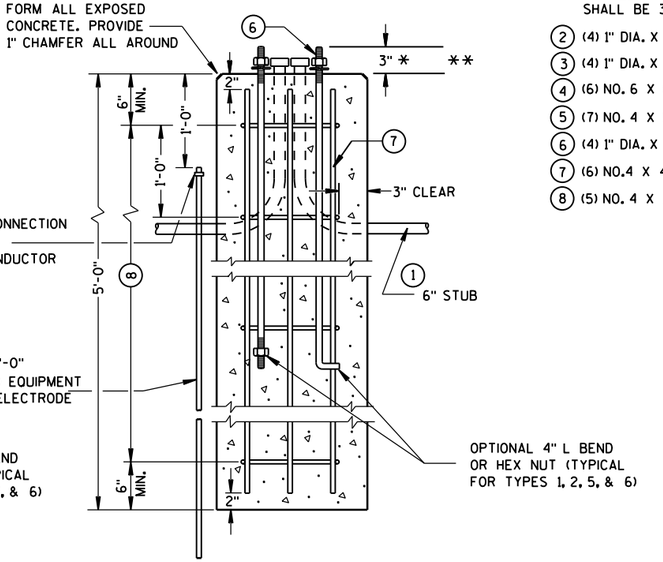
(TYPICAL FOR TYPES 1, 2, 5, & 6)

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES, TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 2-7

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

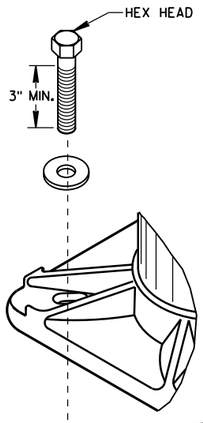
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

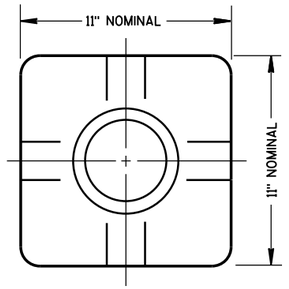
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

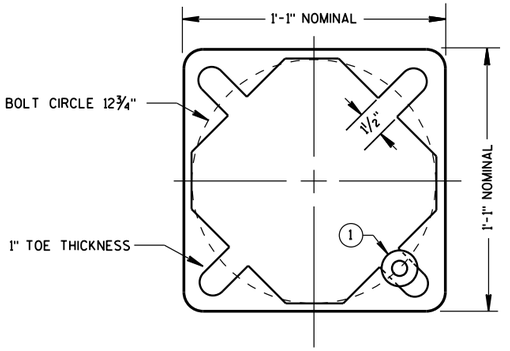
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.

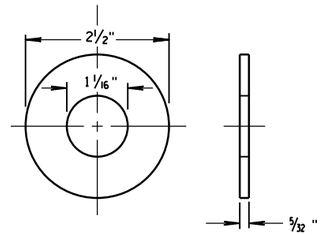




TOP VIEW
(PEDESTAL BASE)

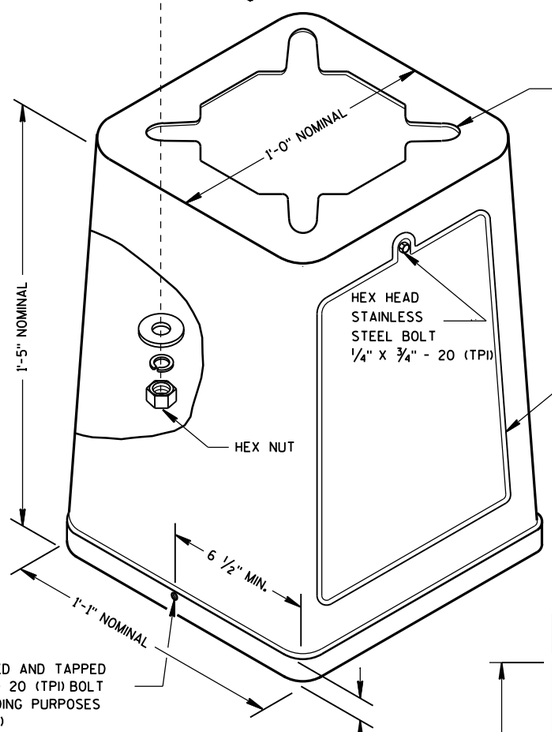


BOTTOM VIEW
(PEDESTAL BASE)

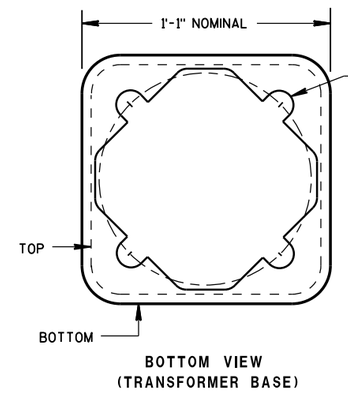


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

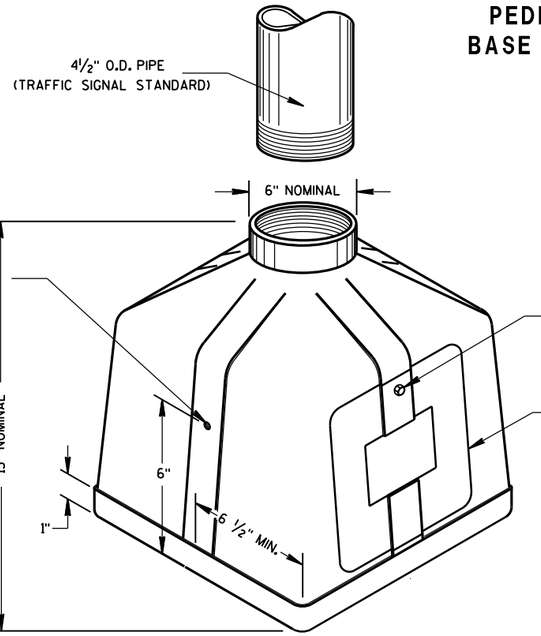
PEDESTAL BASE WASHER (1)



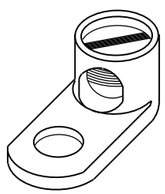
ISOMETRIC VIEW



BOTTOM VIEW
(TRANSFORMER BASE)

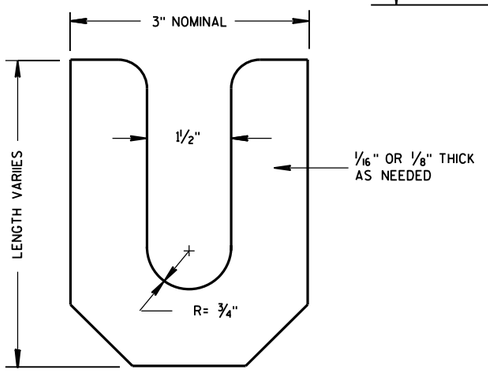


ISOMETRIC VIEW
PEDESTAL BASE



TYPICAL MECHANICAL CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

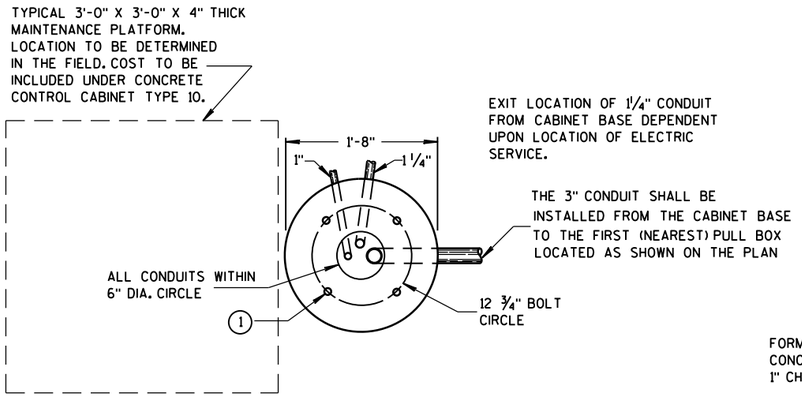
S.D.D. 9 C 3-4

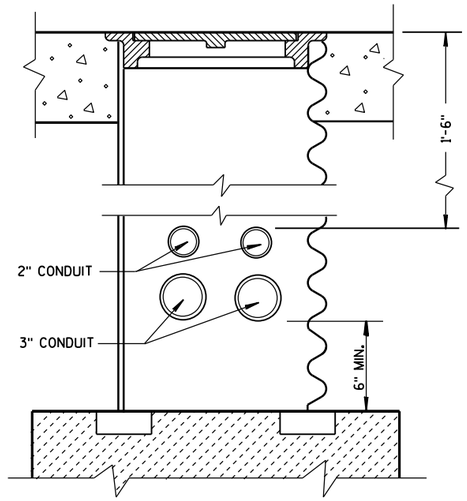
6

S.D.D. 9 C 3-4

CONTROL CABINET BASE TYPE	DIMENSIONS				C.Y. CONCRETE (APPROX.)
	H	I	J	K	
TYPE 6 - 30" CABINET	34"	60"	10"	17"	.64
TYPE 7 - 38" CABINET	42"	60"	10"	21"	.93
TYPE 8 - 38" CABINET	42"	72"	12"	21"	1.29
TYPE 9 - VARIABLE	54"	72"	14"	27"	1.56
TYPE 10 - POST MOUNT	AS SHOWN				.65 *

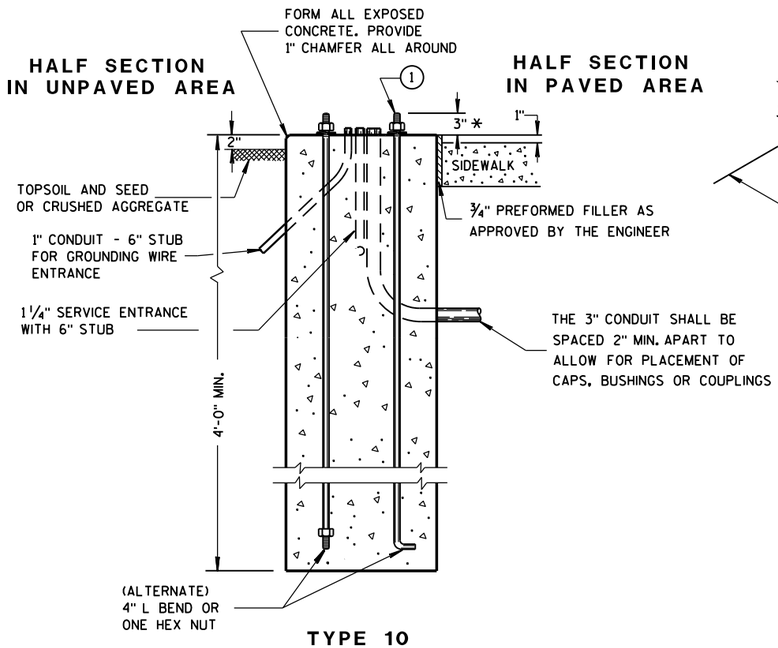
* INCLUDES MAINTENANCE PLATFORM.



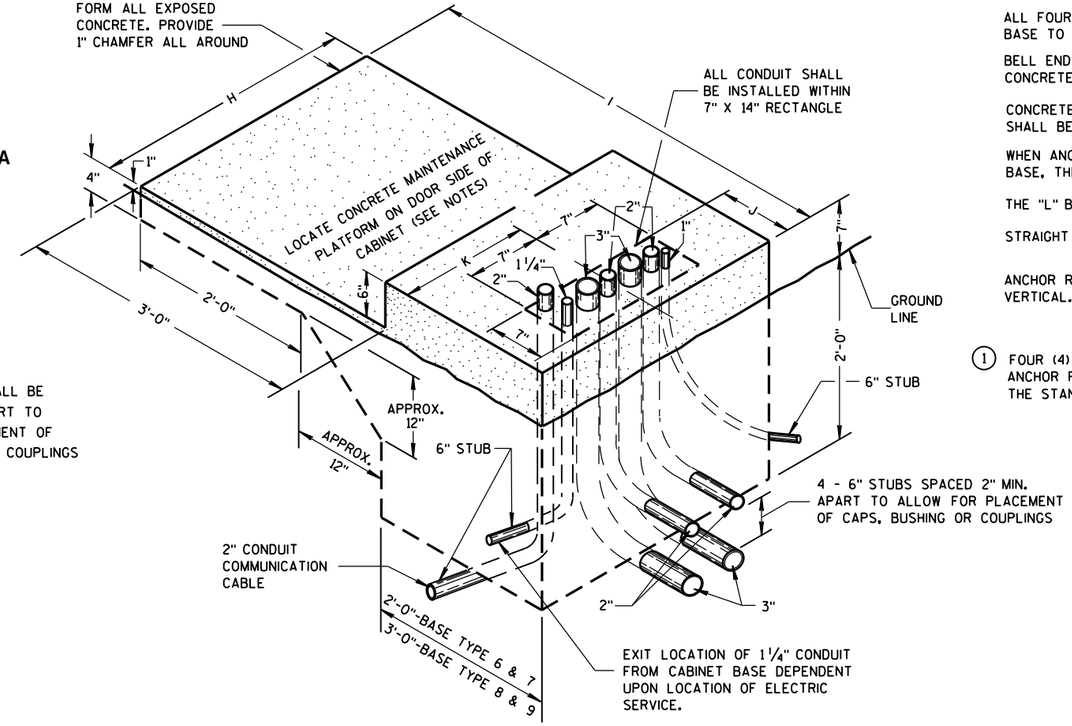


CONDUIT LOCATIONS IN 24" X 36" PULL BOX

(LEADING TO CONTROLLER CABINET BASE TYPE 6, 7, 8 AND 9)



TYPE 10



TYPE 6,7,8 AND 9
(ISOMETRIC VIEW)

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

GENERAL NOTES

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

INSTALL FOUR ½ INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

ALL FOUR (TWO INCH AND THREE INCH) CONDUIT SHALL BE INSTALLED FROM THE CABINET BASE TO THE FIRST (NEAREST PULL BOX LOCATED AS SHOWN ON THE PLANS.

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

(1) FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6". ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

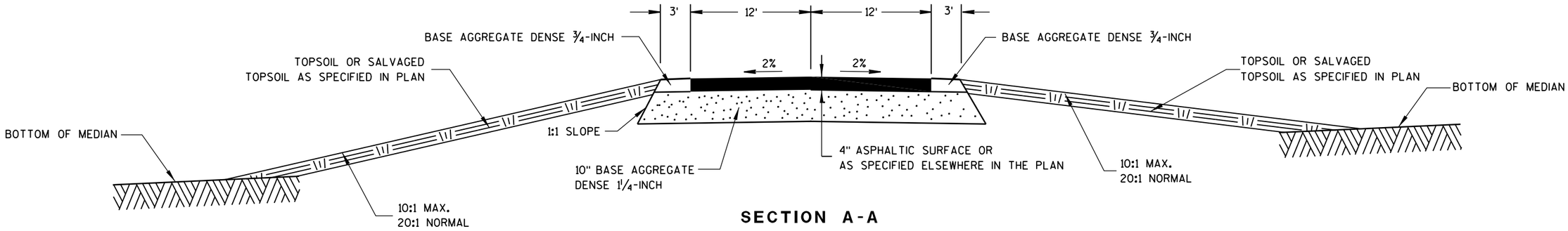
CONCRETE CONTROL CABINET BASES

CONCRETE CONTROL CABINET BASES

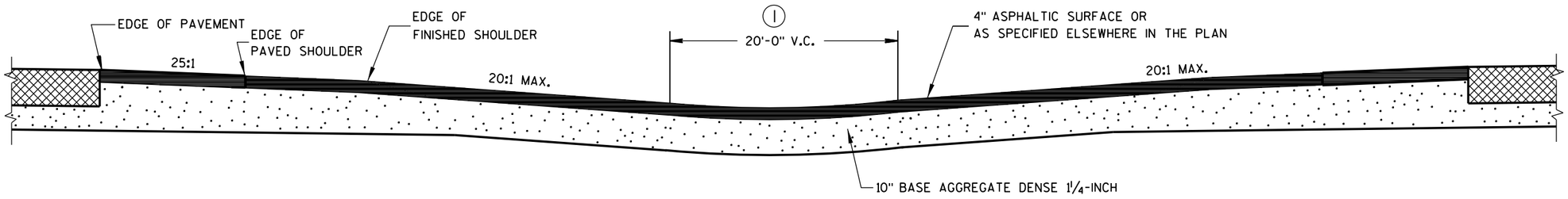
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

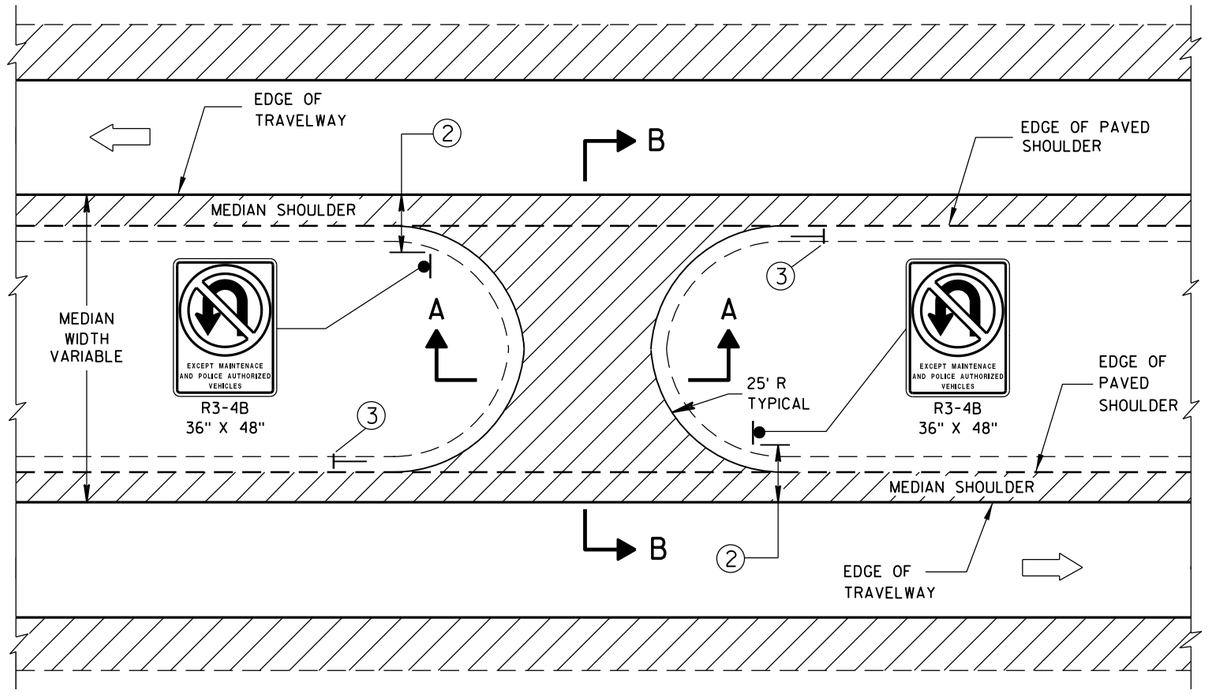
S.D.D. 9 C 5-9
6
6



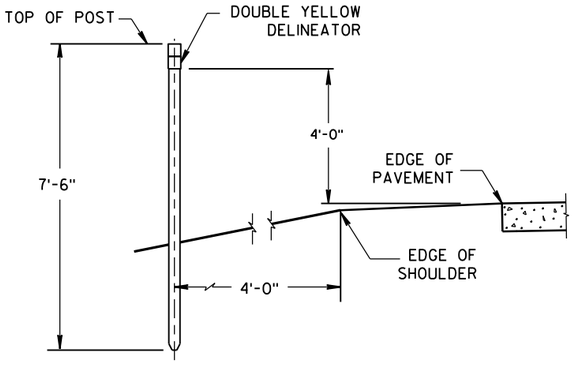
SECTION A-A



SECTION B-B



PLAN VIEW



DOUBLE YELLOW DELINEATOR INSTALLATION

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

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

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

MAINTENANCE CROSSOVER FOR FREEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

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

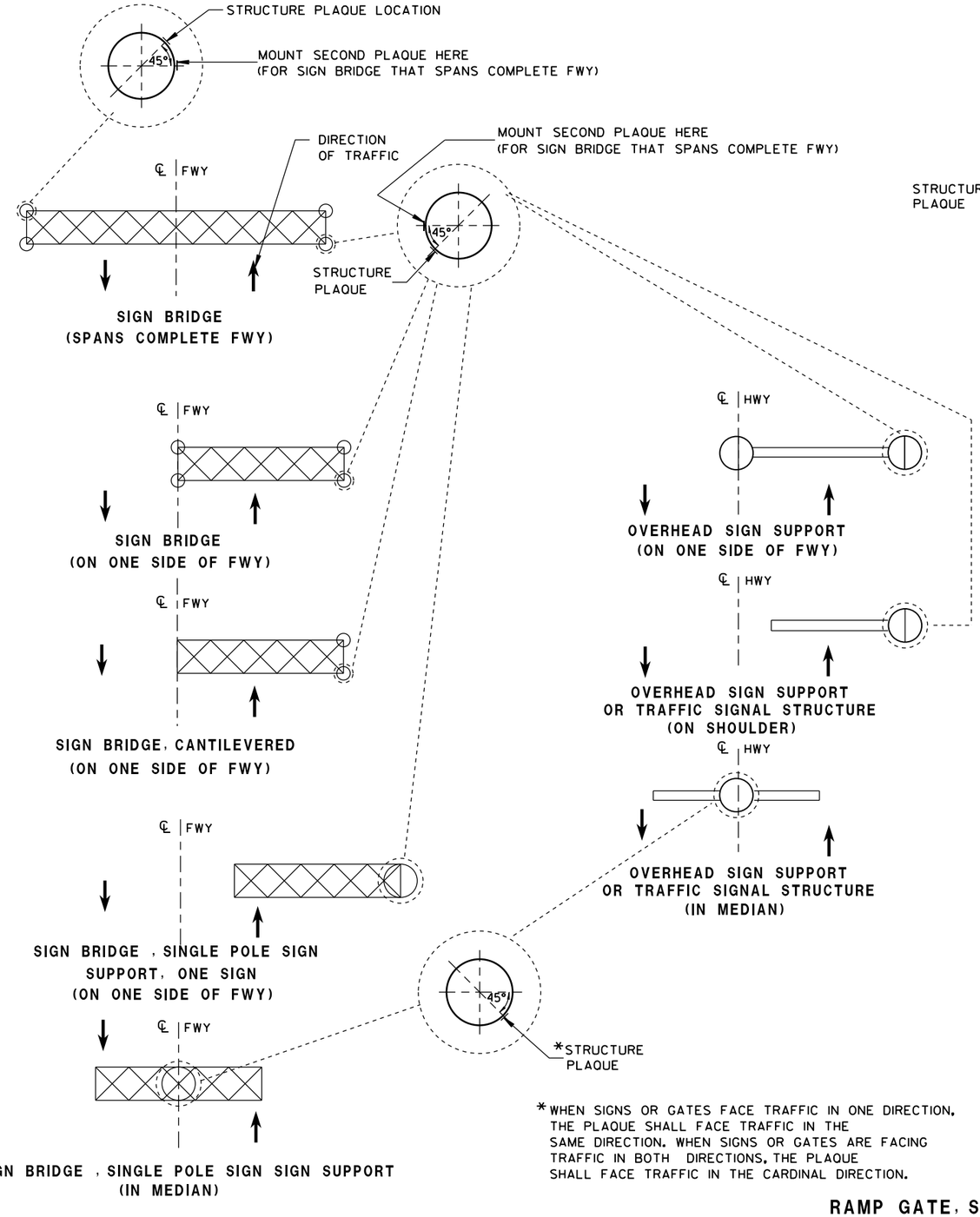
FHWA

6

S.D.D. 11 A 1-5

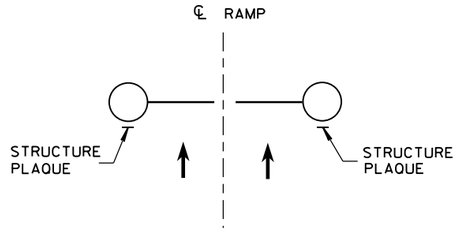
6

S.D.D. 11 A 1-5

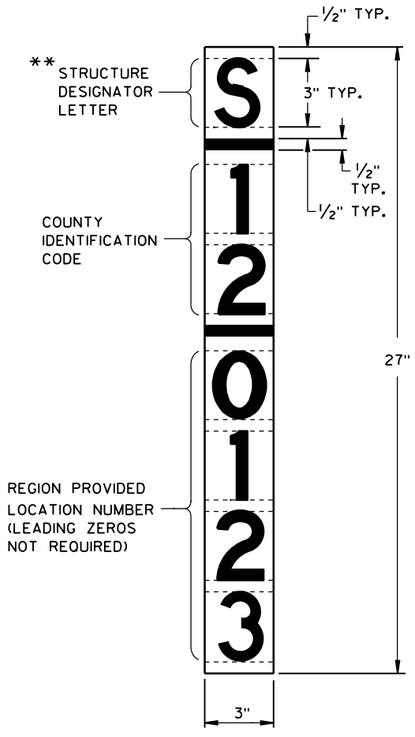


LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES

* WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.



RAMP GATE
(ACROSS FWY ON-RAMP)



** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

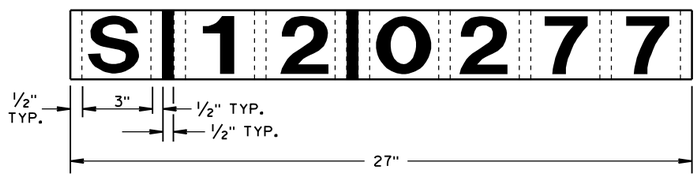
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.



IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

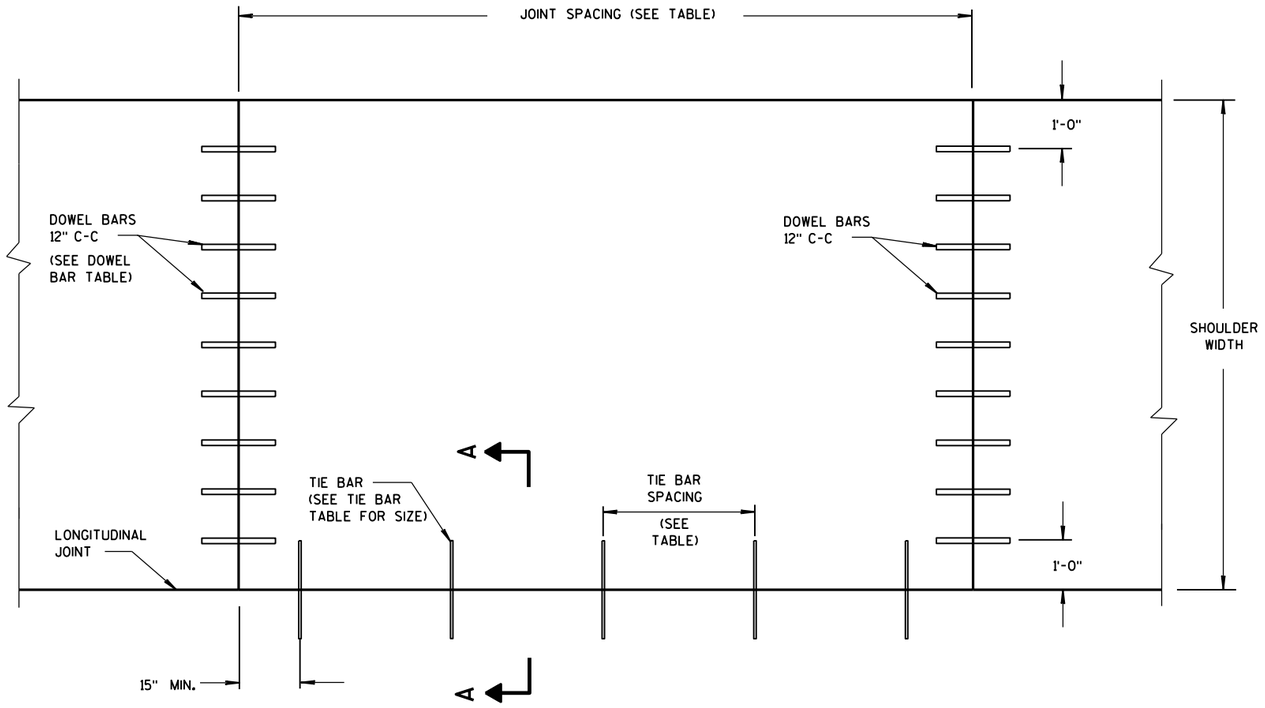
APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 12 A 4-3

6

S.D.D. 12 A 4-3



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

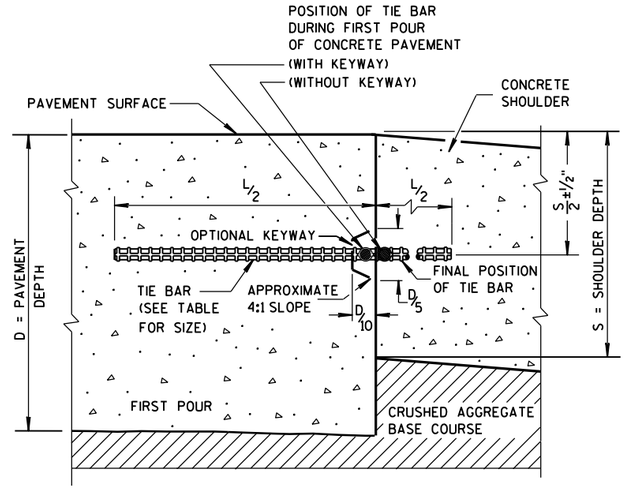
GENERAL NOTES

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

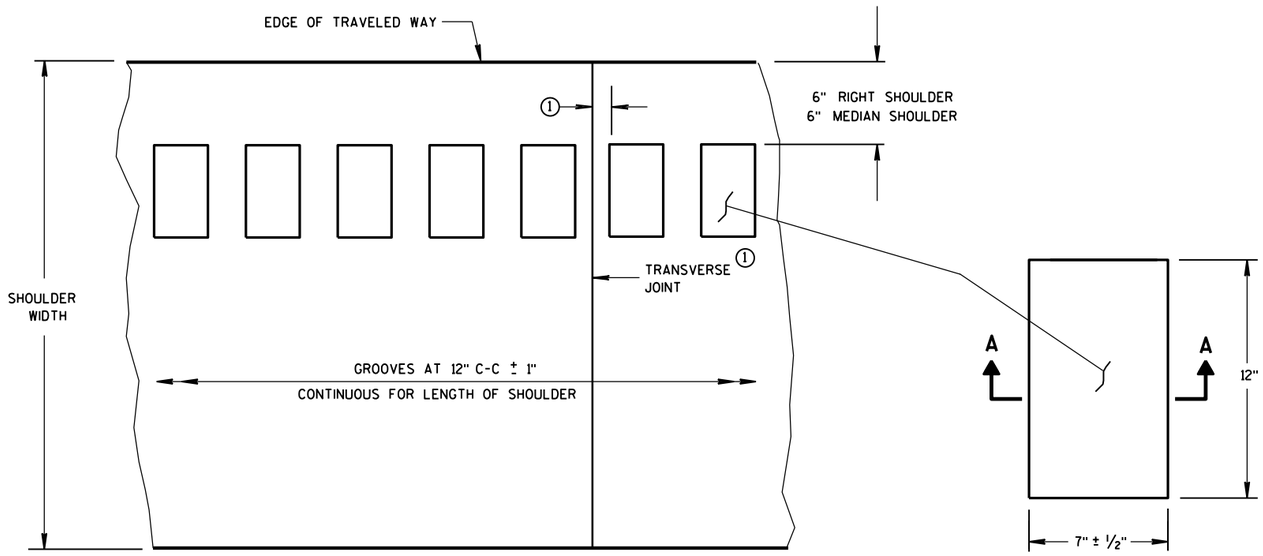
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

6

S.D.D. 13 A 3-6

6

S.D.D. 13 A 3-6



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

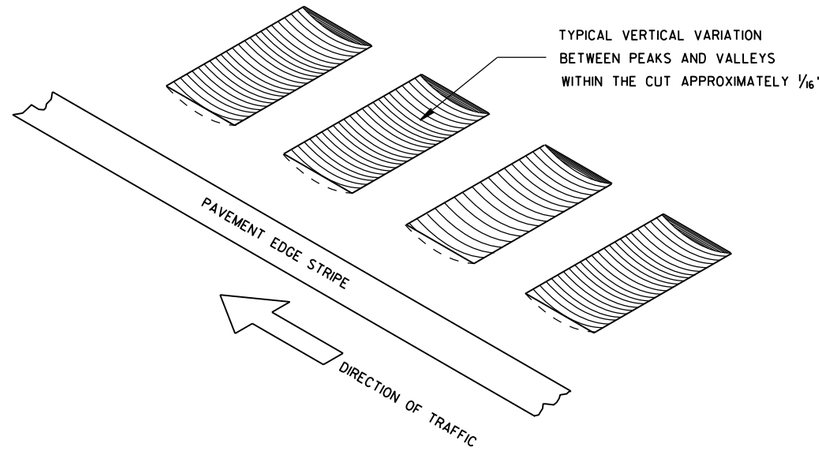
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

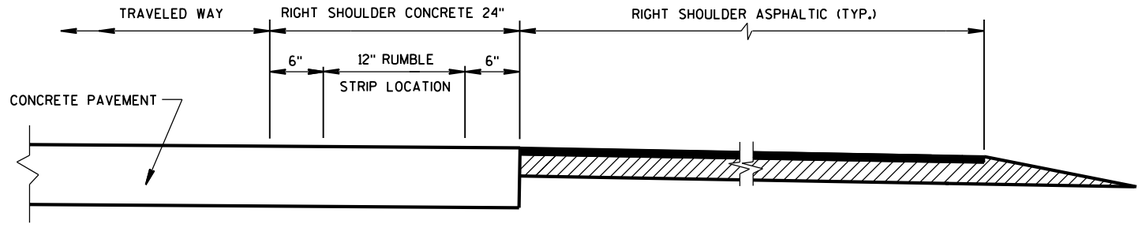
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

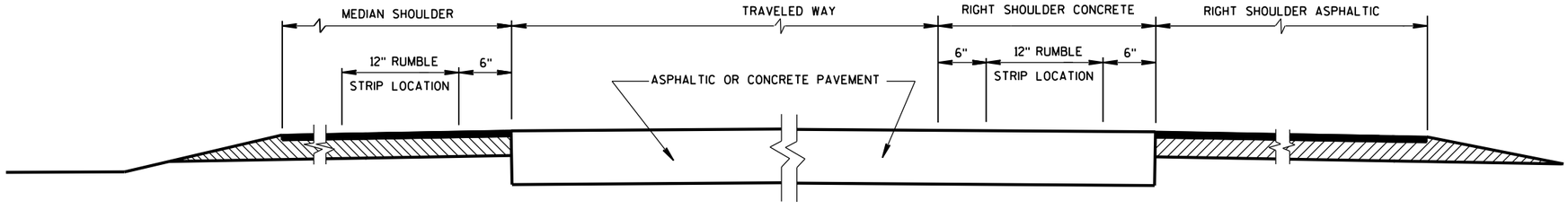
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



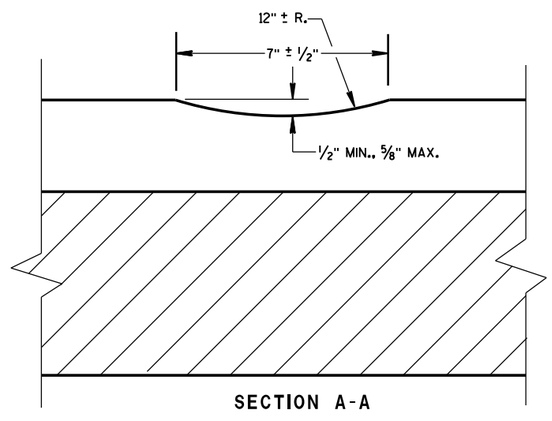
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

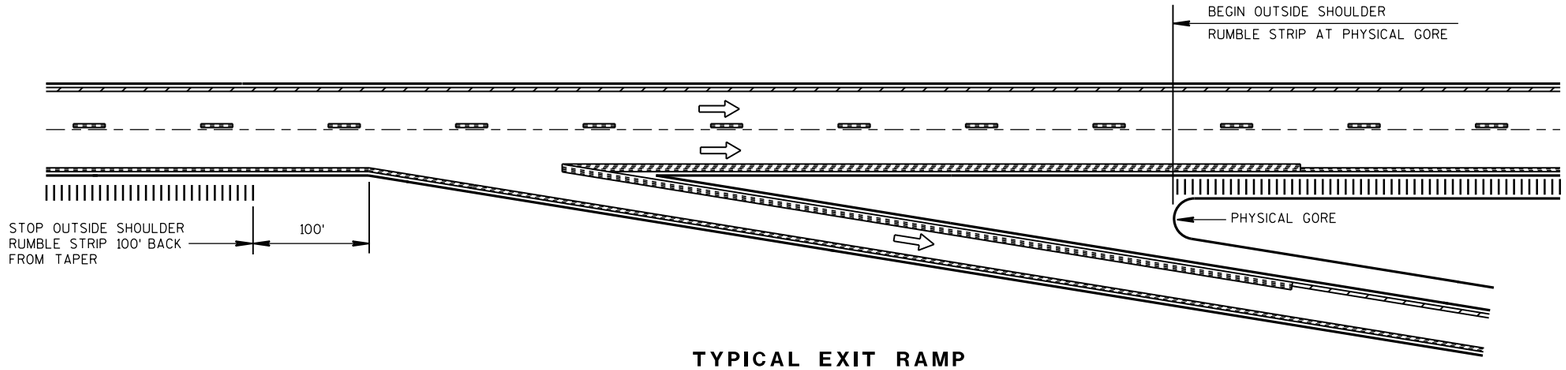
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



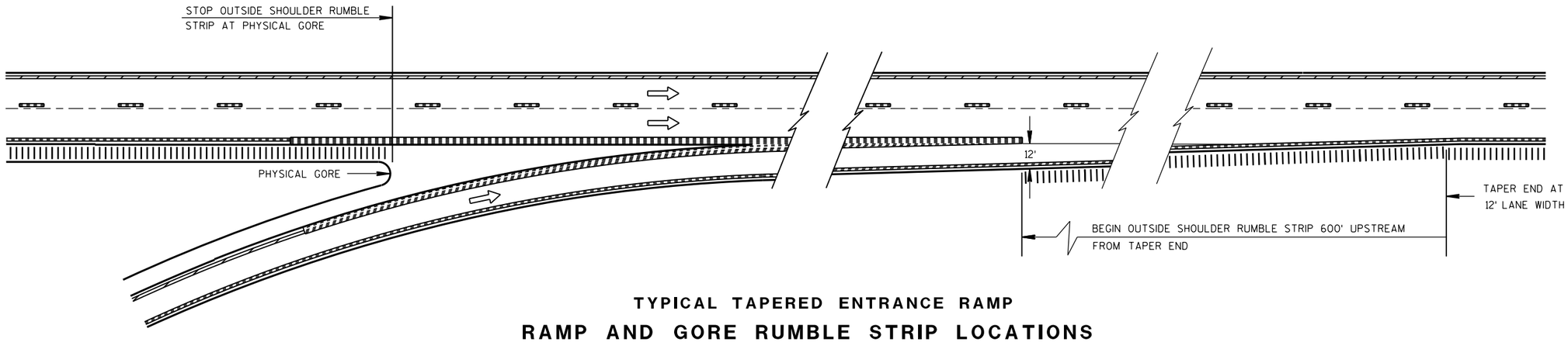
TYPICAL EXIT RAMP

NOTES:

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

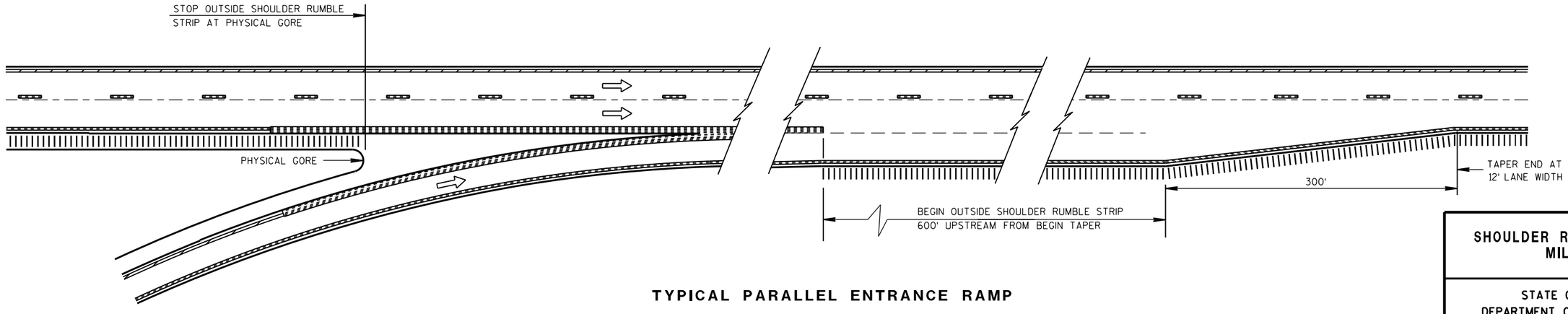
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TYPICAL TAPERED ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS



TYPICAL PARALLEL ENTRANCE RAMP

RAMP AND GORE RUMBLE STRIP LOCATIONS

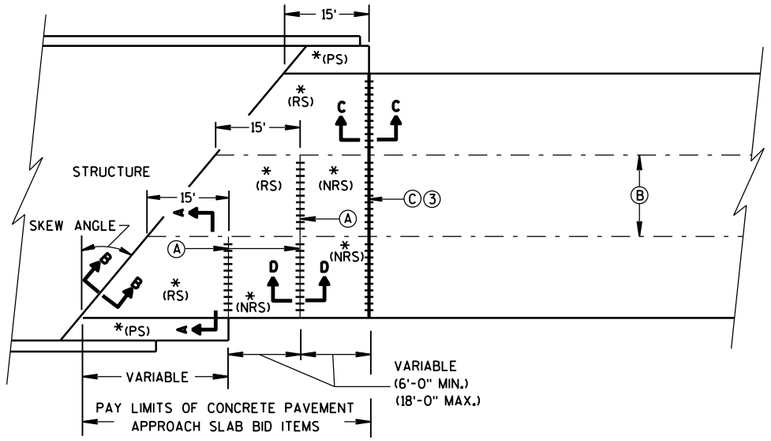
SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

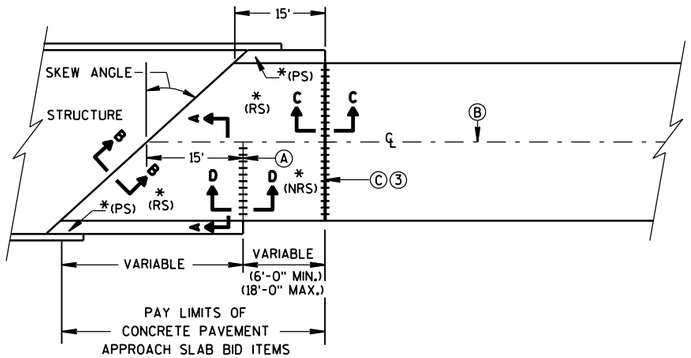
APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

6

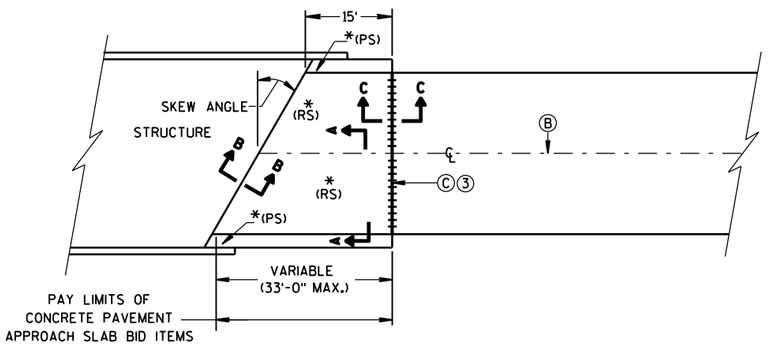
S.D.D. 13 A 5-5b



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

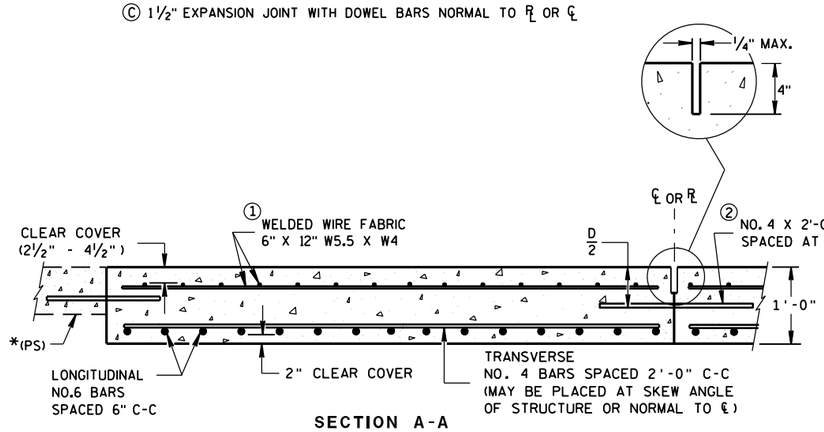
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

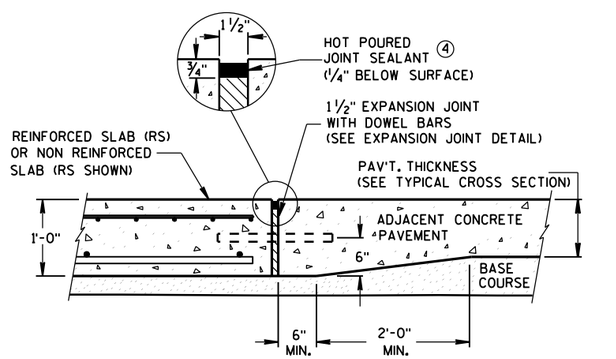
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

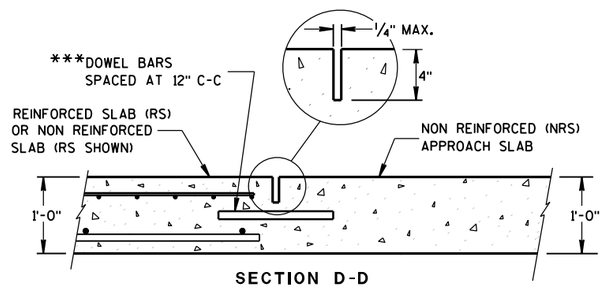
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

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.

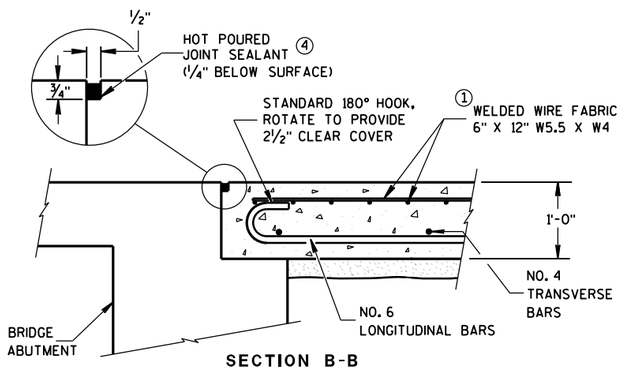
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

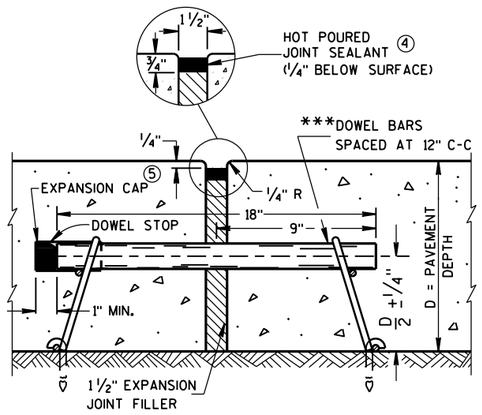
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

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.



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

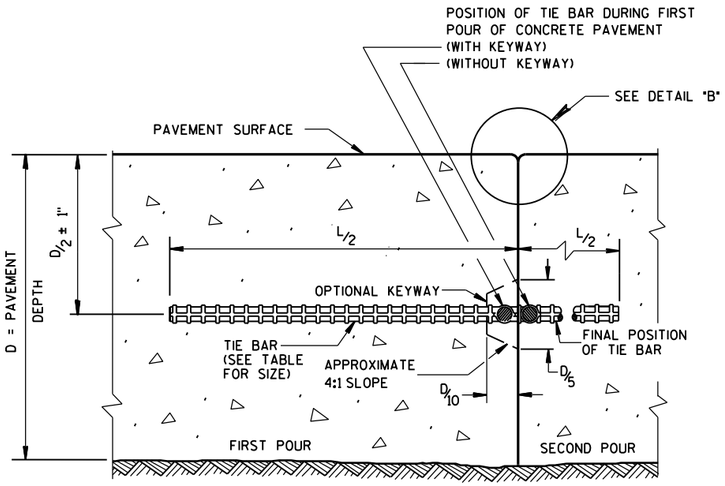
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

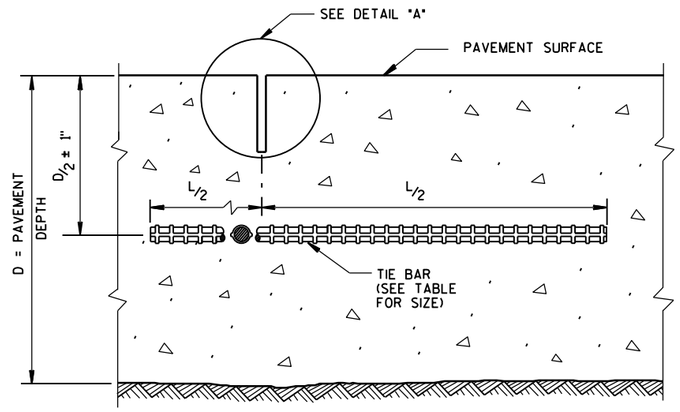
S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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"

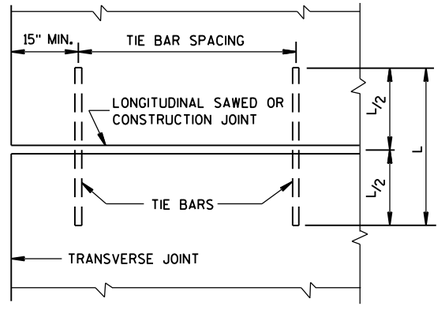
DETAIL "C"

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.



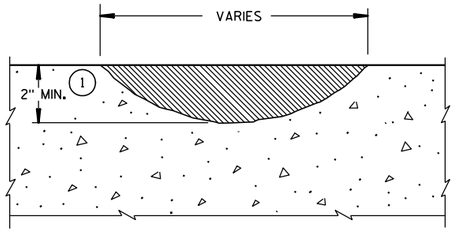
PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

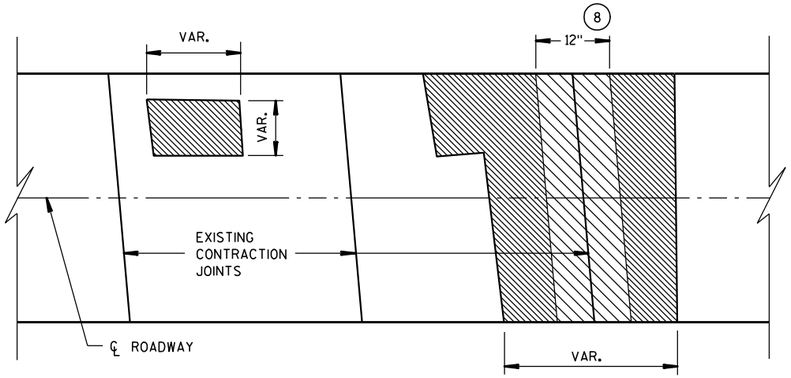
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 13 C 1-18

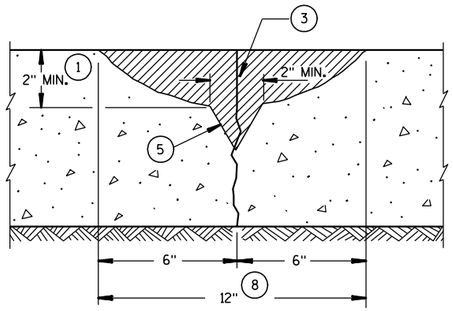


PROFILE VIEW

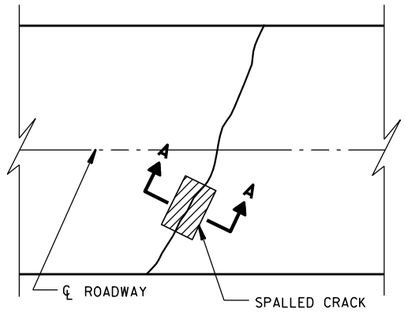


PLAN VIEW

SURFACE REPAIR



SECTION A-A

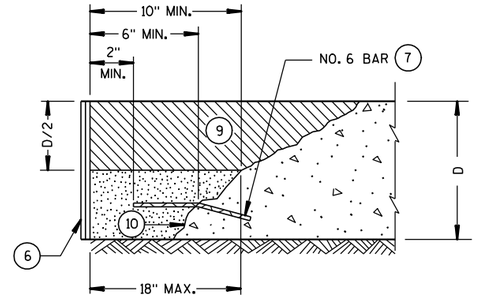


PLAN VIEW

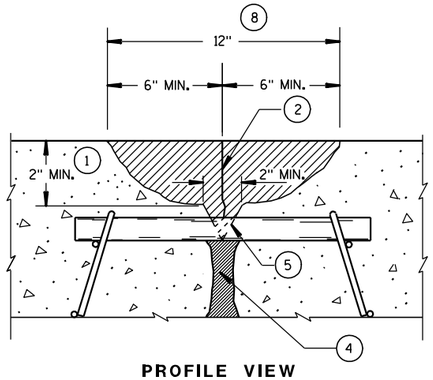
CRACK REPAIR

GENERAL NOTES

1. REMOVE ALL CONCRETE, TO LIMITS SHOWN, TO A MAXIMUM OF ½ THE PAVEMENT DEPTH OR TOP OF DOWELS.
2. IF REPAIR IS DEEPER THAN ANTICIPATED SAWCUT, COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
3. COMPRESSION RELIEF MATERIAL MUST BE USED. THE THICKNESS OF COMPRESSION RELIEF MATERIAL MUST BE EQUAL TO OR GREATER THAN THE WIDTH OF THE JOINT OR CRACK (1/4"). THIS MATERIAL SHOULD EXTEND FULL DEPTH OF THE REPAIR.
4. CLEAN, DRY SAND WHEN NECESSARY.
5. REMOVE UNSOUND MATERIAL BY CHIPPING AT 1:1 SLOPE.
6. ¼" MINIMUM PREFORMED JOINT FILLER IF ADJACENT TO CONCRETE. EDGING REQUIRED. FULLY FORMED EDGE IF ADJACENT TO SHOULDER.
7. PAVEMENT TIES AS SHOWN. ALL EMBEDMENTS 6" MINIMUM AND INSTALLED WITH GROUT.
8. OVER 12" (NOMINAL WIDTH) WILL BE PAID AS SURFACE REPAIR.
9. PAID AS JOINT OR CRACK REPAIR.
10. FULL-DEPTH ADJUSTMENT SHALL BE CHIPPED TO BOTTOM OF PCC PAVEMENT AT 1:1 SLOPE.
11. BEYOND 18" WILL BE PAID AS SURFACE REPAIR.

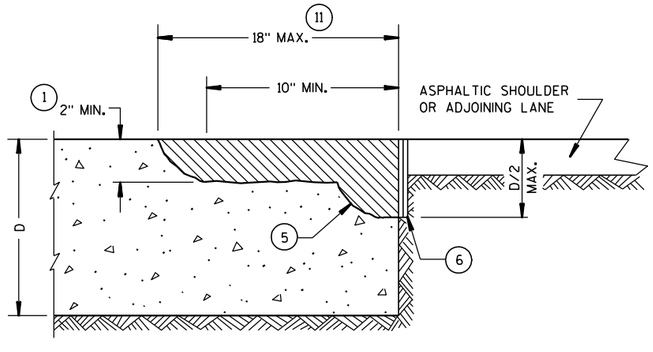


PROFILE VIEW

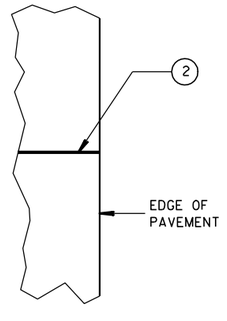


PROFILE VIEW

JOINT REPAIR

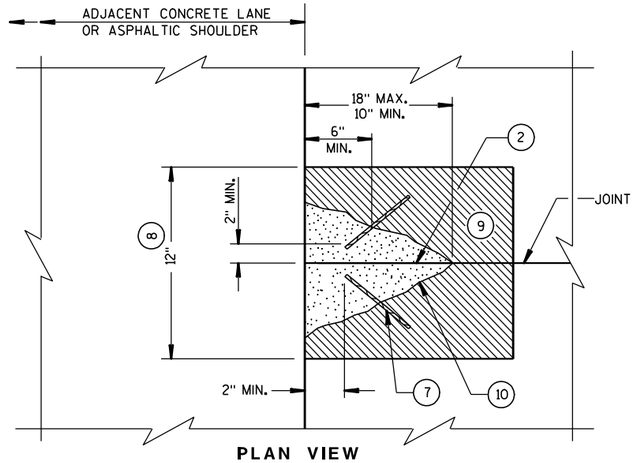


PROFILE VIEW



PLAN VIEW

EDGE REPAIR



PLAN VIEW

FULL DEPTH REPAIR ADJUSTMENT

CONCRETE PAVEMENT PARTIAL DEPTH REPAIR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/21/03 DATE
/S/ Bill Ducker PAVEMENT ENGR
FHWA

6

S.D.D. 13 C 8-2

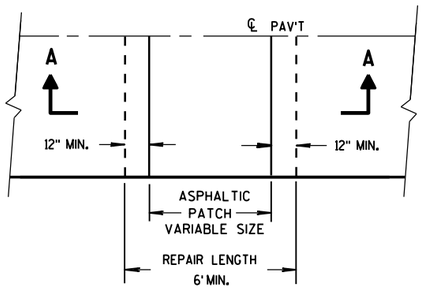
GENERAL NOTES

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

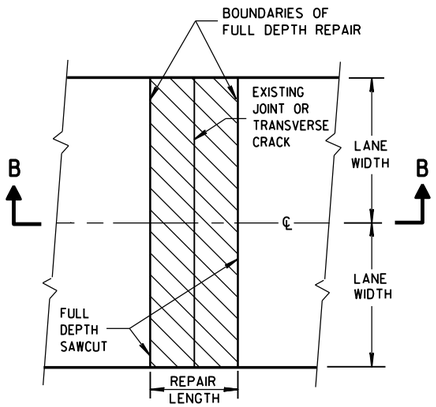
PROVIDE A 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK IN THE SAME LANE.

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

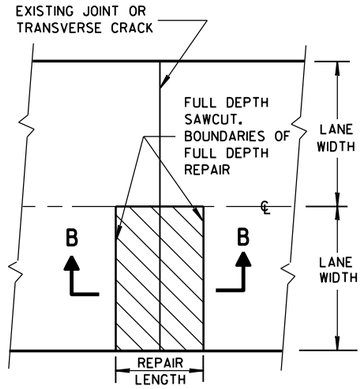
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

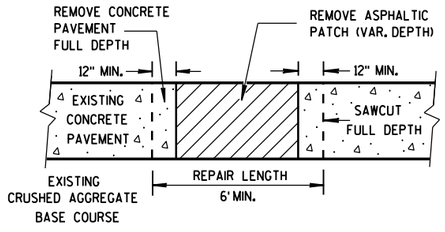


PLAN VIEW
(DOUBLE LANE REPAIR)



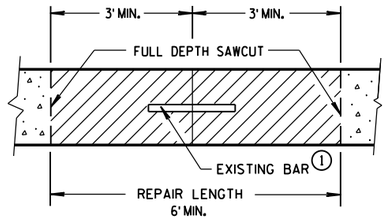
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



SECTION B-B

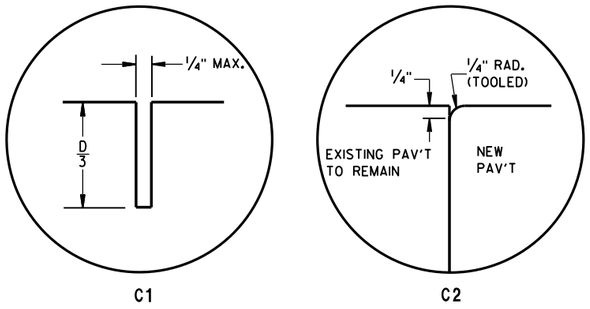
CONCRETE REMOVAL

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 13 C 9-13a



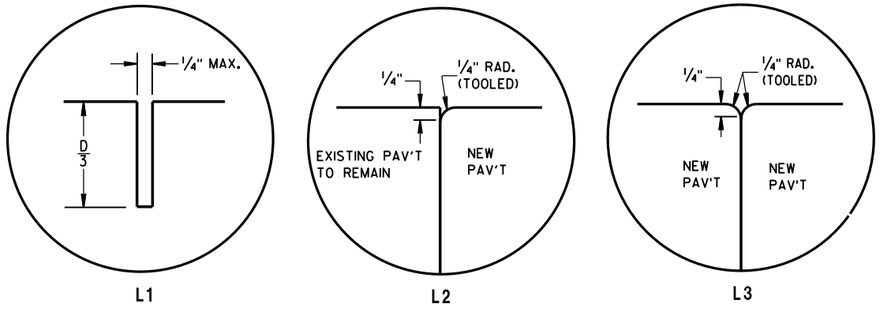
TRANSVERSE JOINTS

TIE BAR TABLE

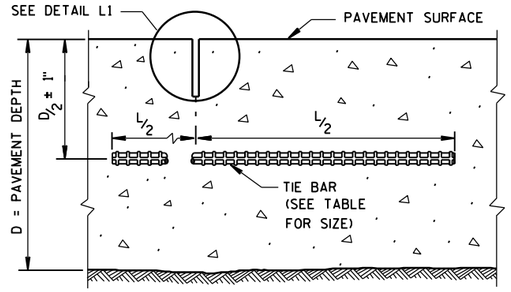
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
≥ 10 ½"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* 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.



LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT

GENERAL NOTES

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

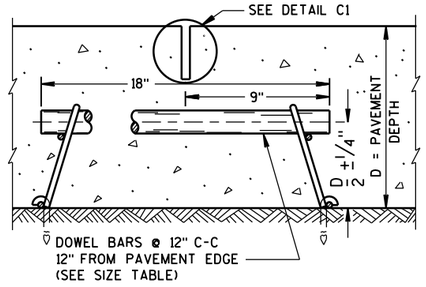
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

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

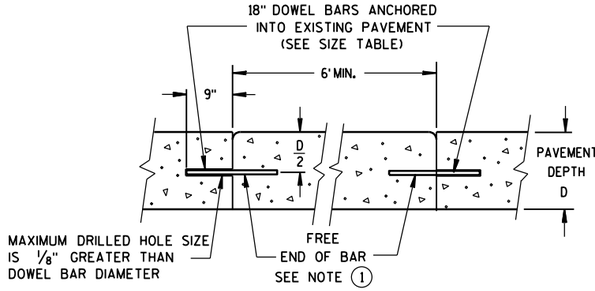
FOR MULTI-LANE CONCRETE PAVEMENT REPLACEMENTS, PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM ALL TRANSVERSE JOINTS OR EDGES OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

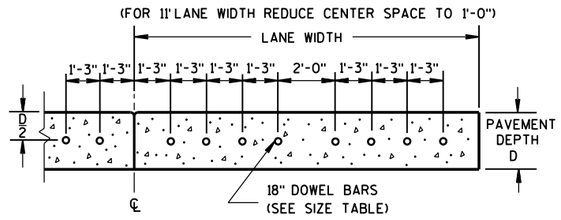


SECTION F-F

CONTRACTION JOINT



SECTION D-D

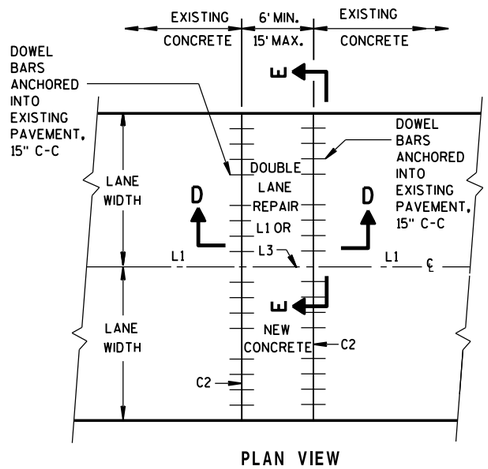


SECTION E-E

DRILLED DOWEL BAR CONSTRUCTION JOINT

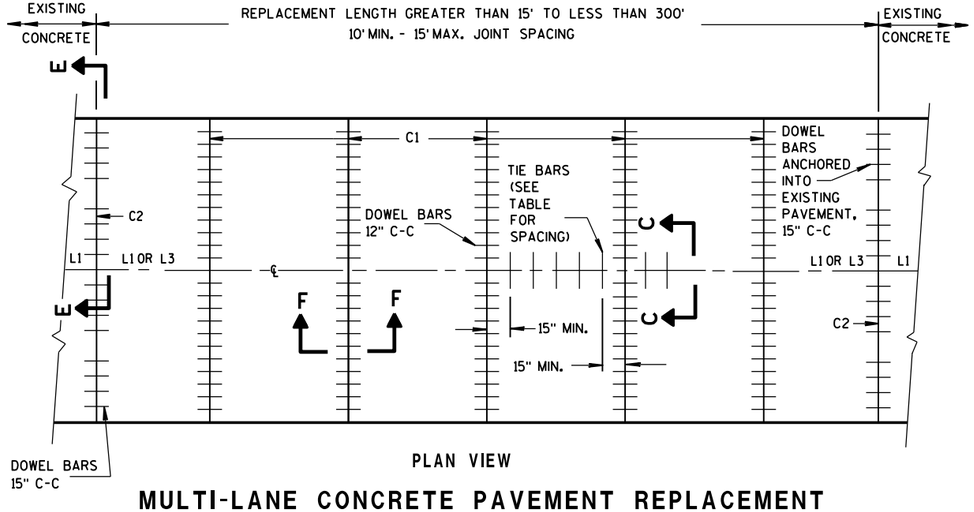
PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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'



PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

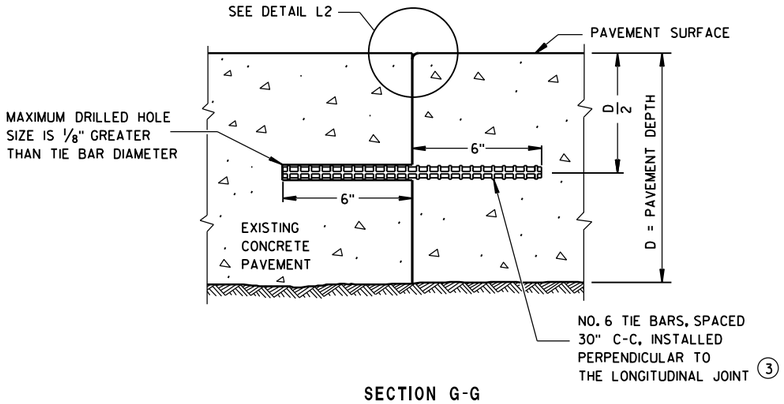
MULTI-LANE CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 13 C 9-13b



SECTION G-G

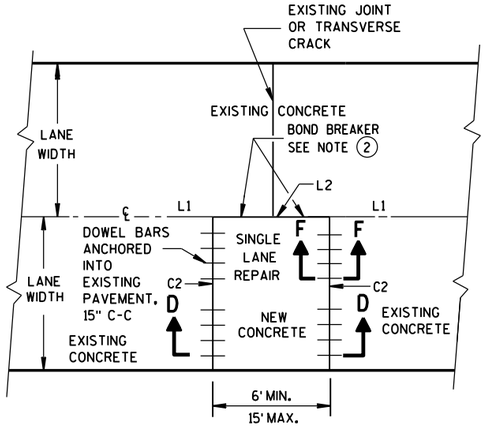
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

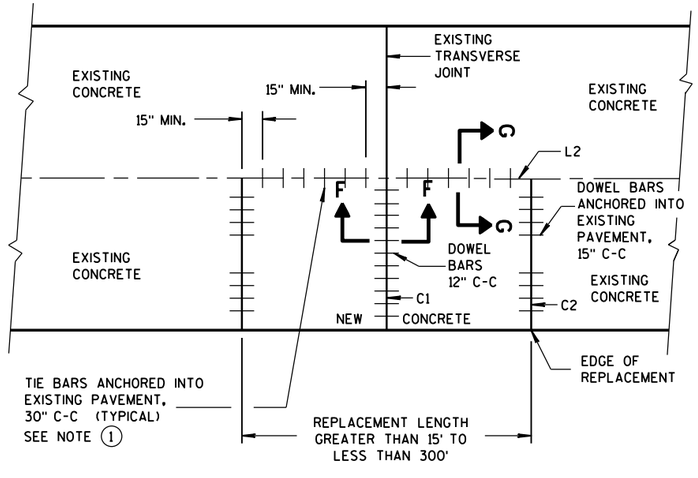
(2) USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.

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



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPAIR



PLAN VIEW

SINGLE LANE CONCRETE PAVEMENT REPLACEMENT

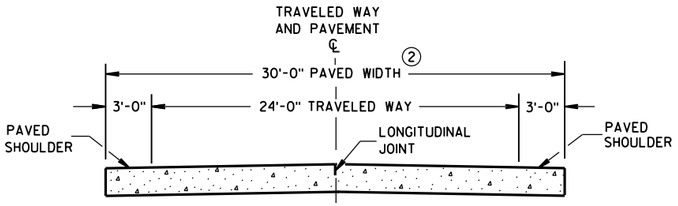
CONCRETE PAVEMENT REPAIR AND REPLACEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

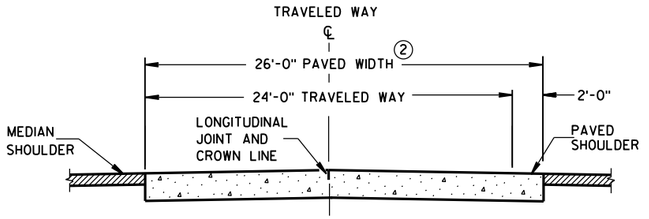
6

S.D.D. 13 C 9-13c

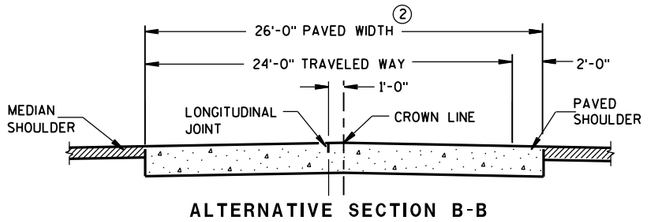


SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY



SECTION B-B



ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

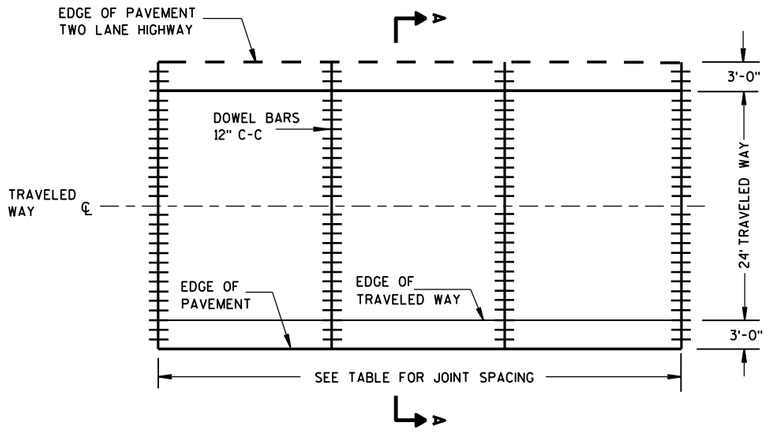
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

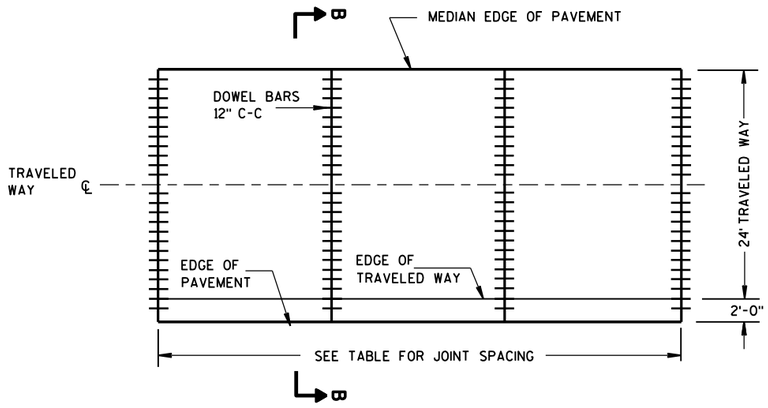
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

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'



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



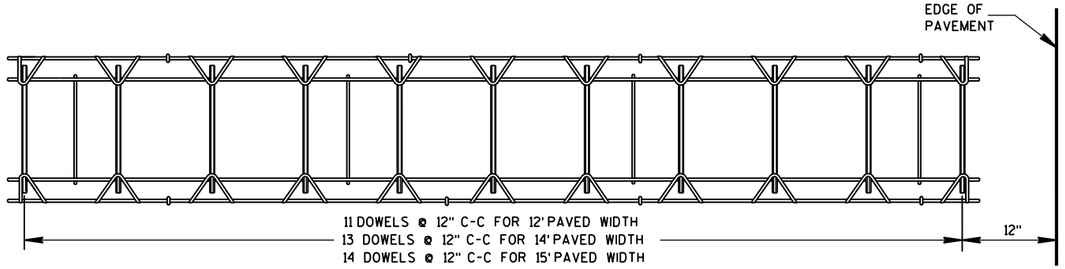
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

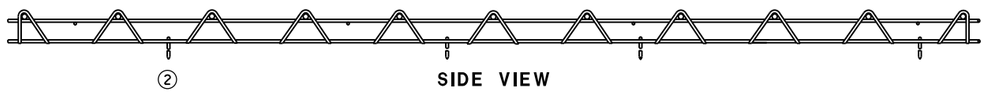
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 13 C 11-11a



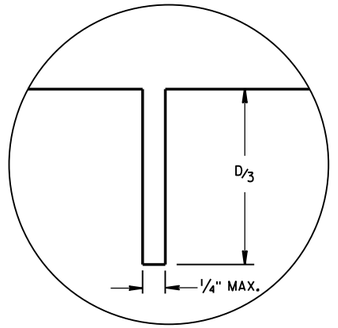
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

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

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

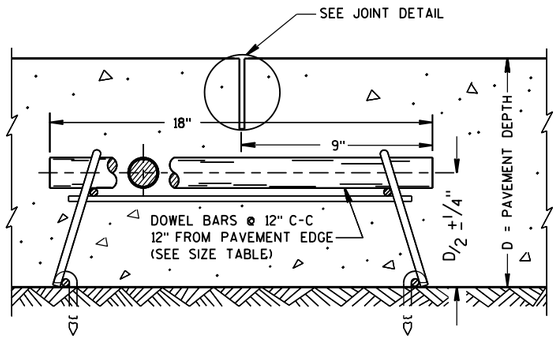
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

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

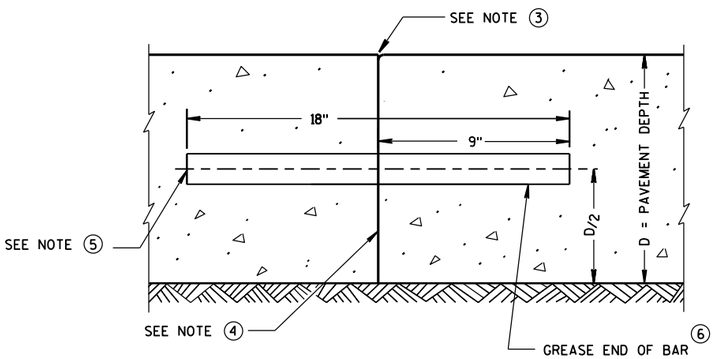
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL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

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

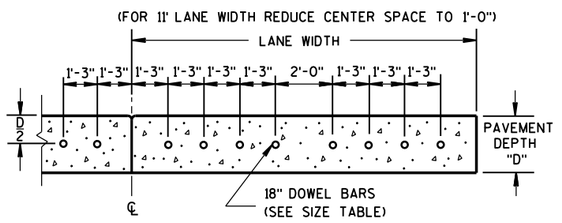
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/3/2013 DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER

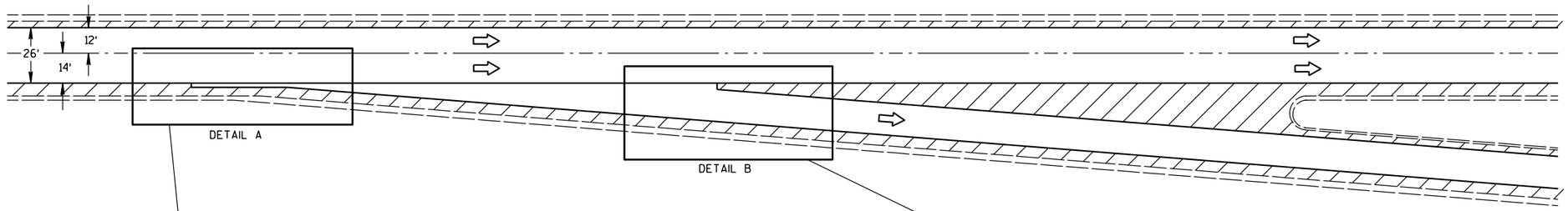
FHWA

6

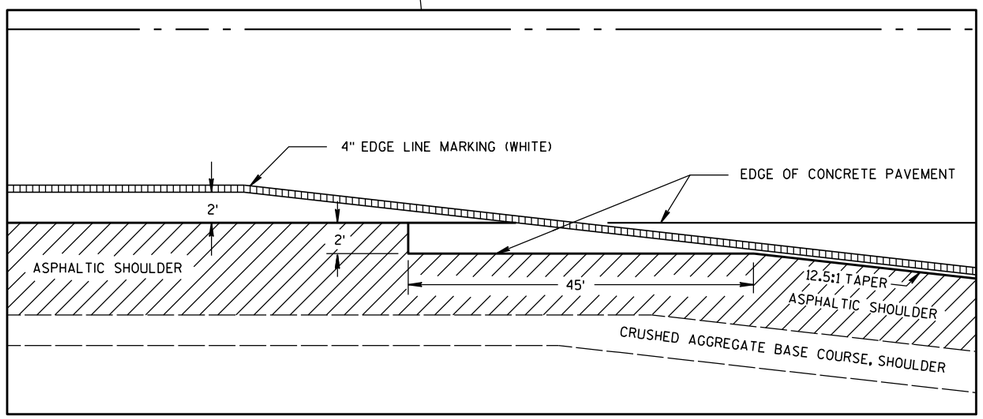
S.D.D. 13 C 11-11b

6

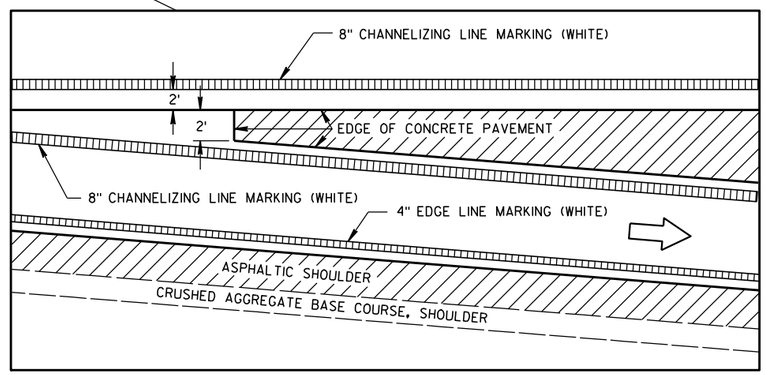
S.D.D. 13 C 11-11b



EXIT RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI

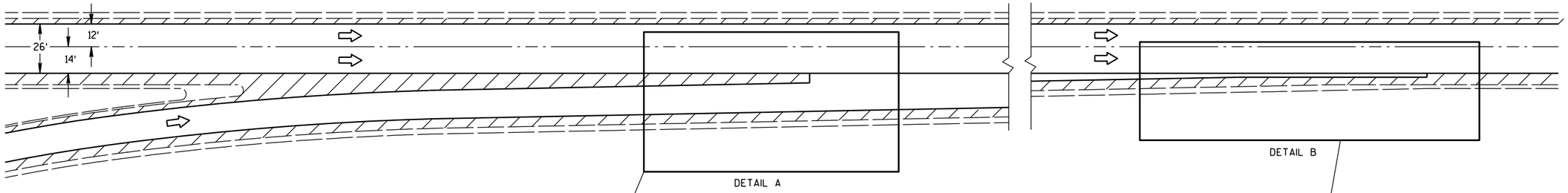
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

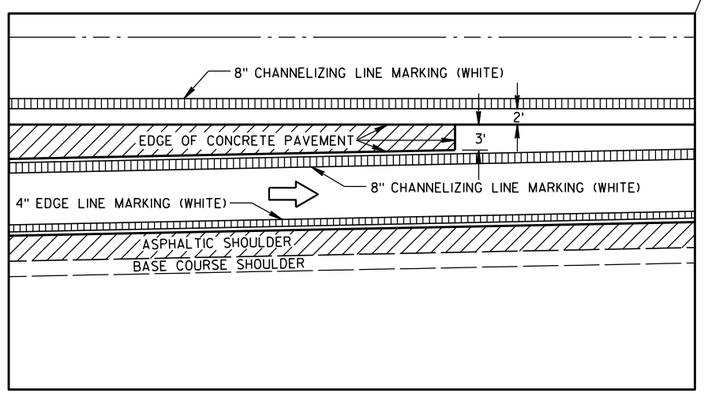
S.D.D. 13 C 17-1a

6

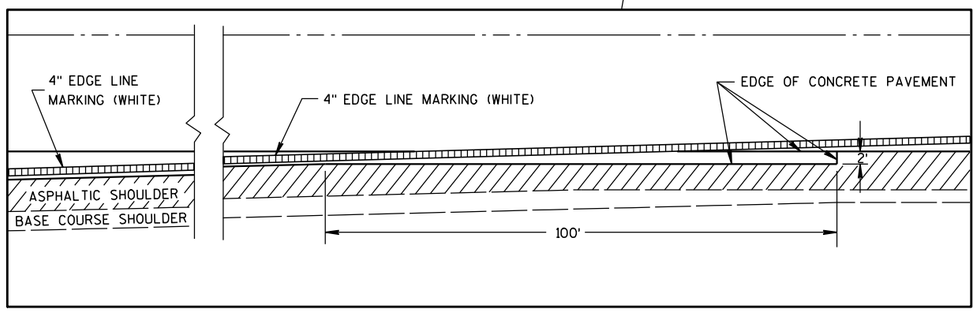
S.D.D. 13 C 17-1a



ENTRANCE RAMP DETAIL



DETAIL A



DETAIL B

CONCRETE JOINT PAVING DETAILS

GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

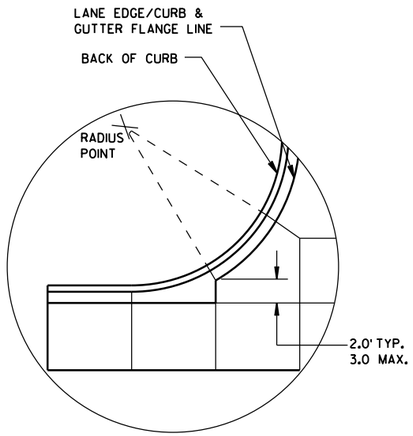
APPROVED

5/27/98
DATE

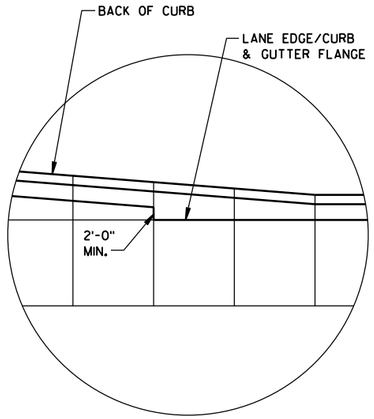
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

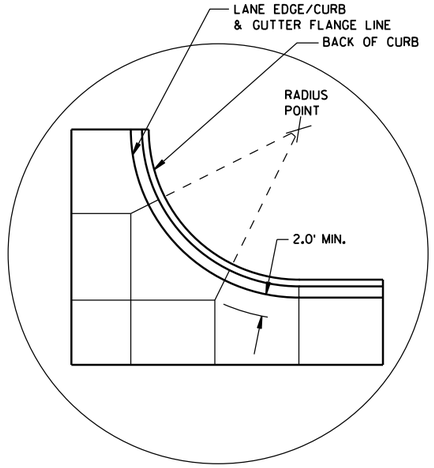
6
S.D.D. 13 C 17-1b



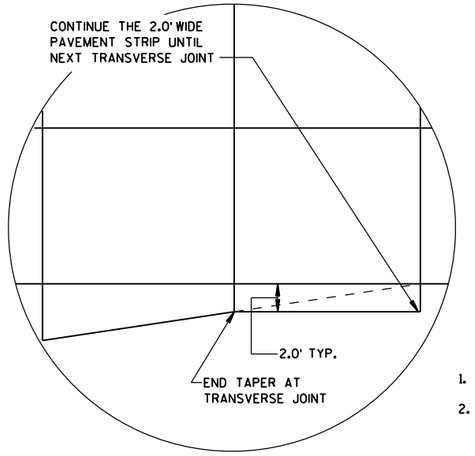
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

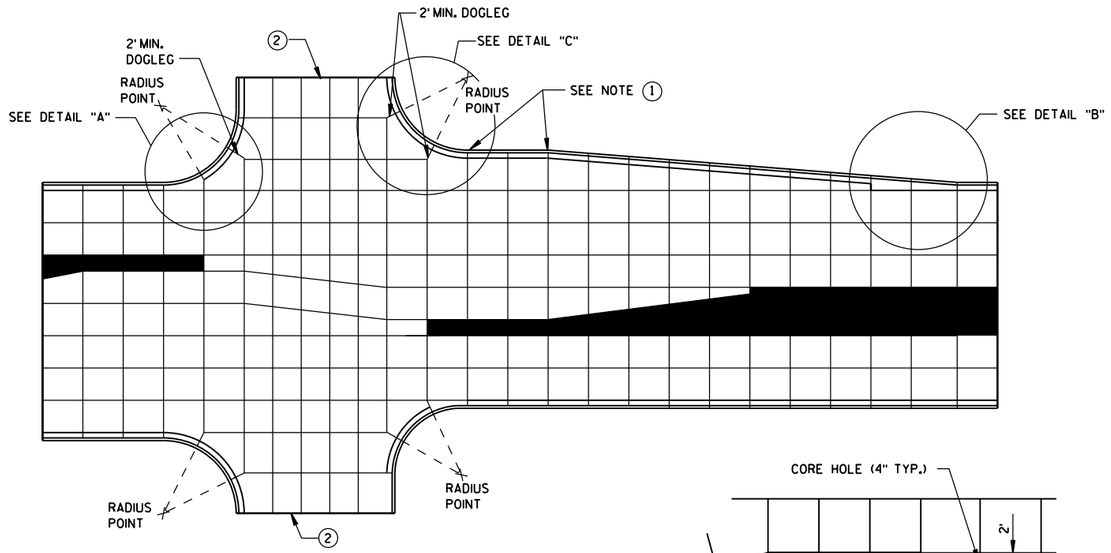
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

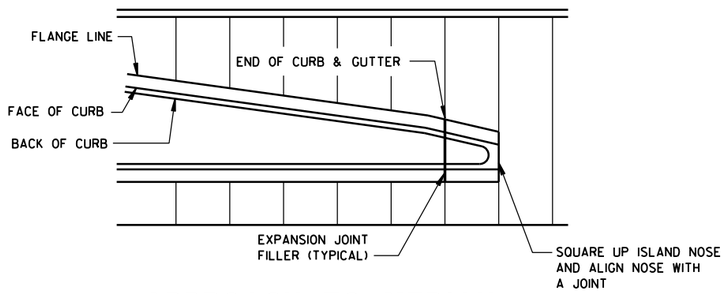
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



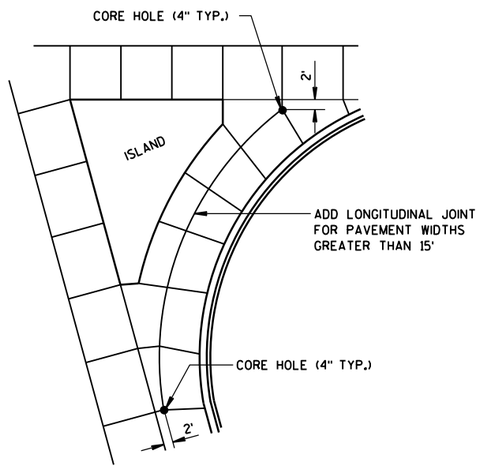
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

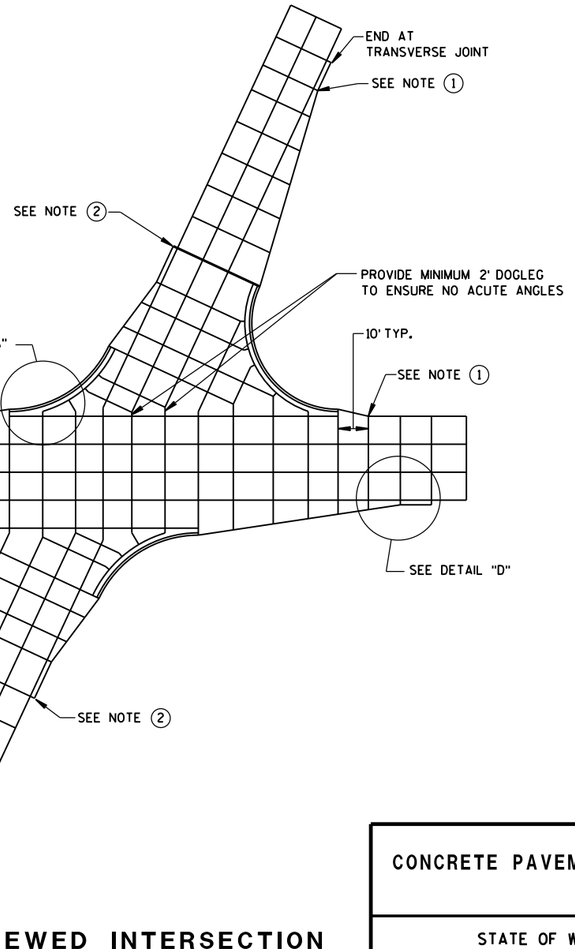
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

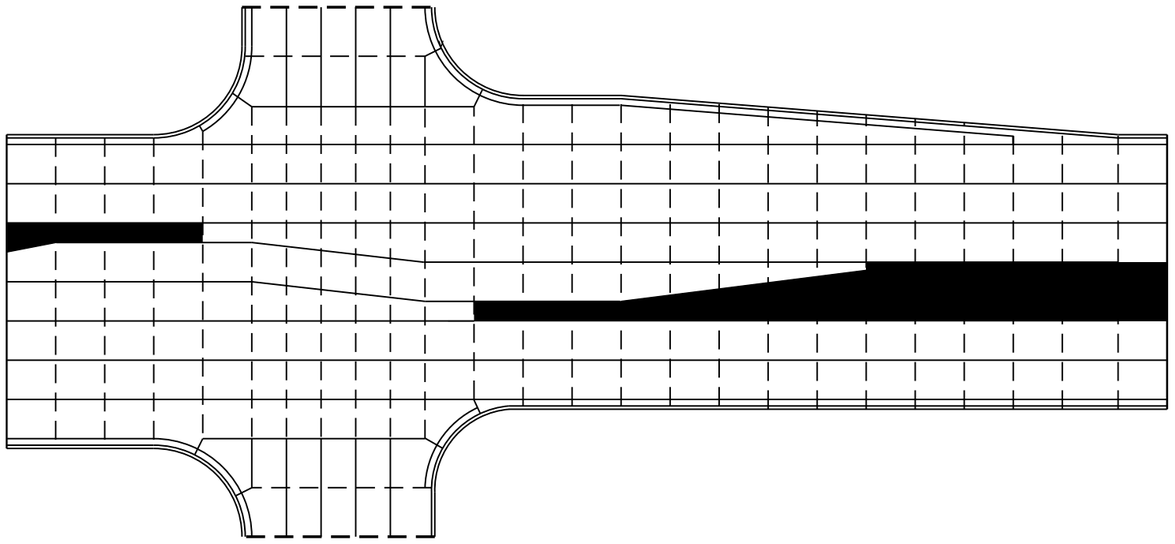
6
S.D.D. 13 C 18-3a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

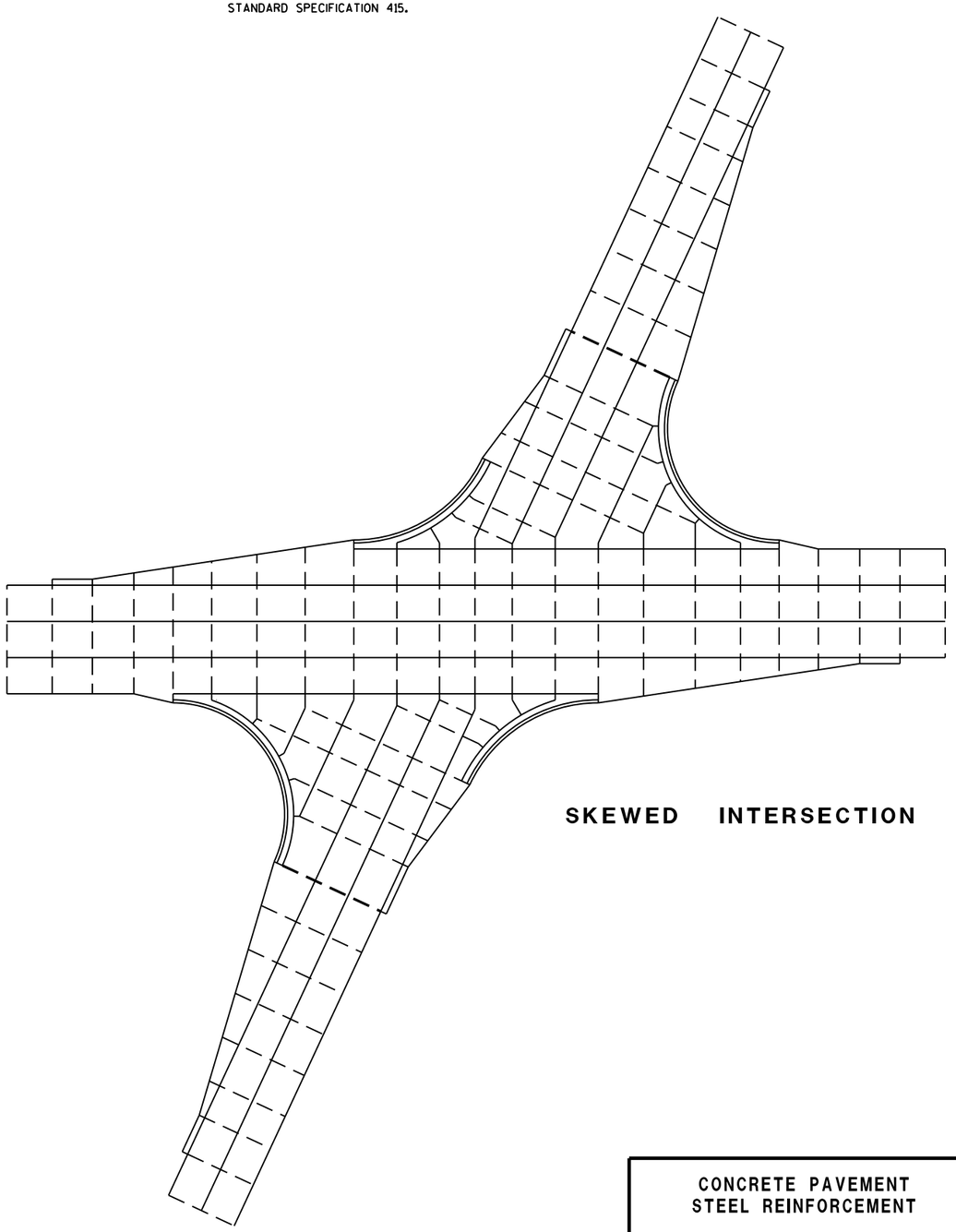
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

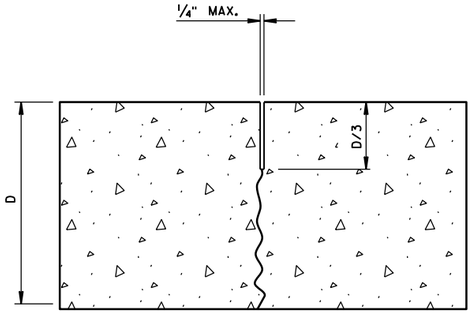
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

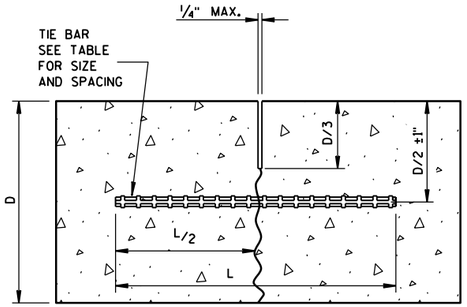
S.D.D. 13 C 18-3b

6

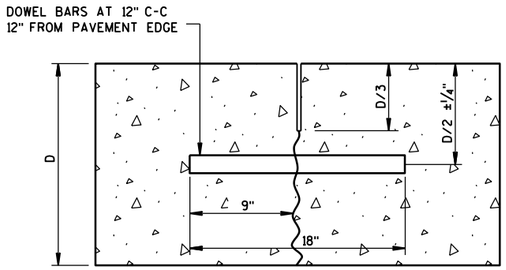
S.D.D. 13 C 18-3b



UNDOWELED-TRANSVERSE



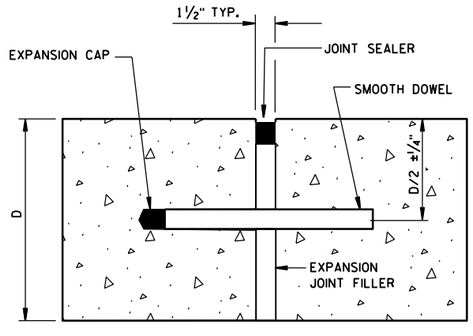
TIED LONGITUDINAL



DOWELED-TRANSVERSE

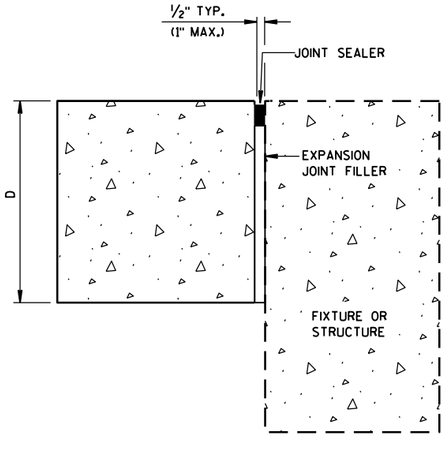
CONTRACTION JOINTS

SEE NOTE (2)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

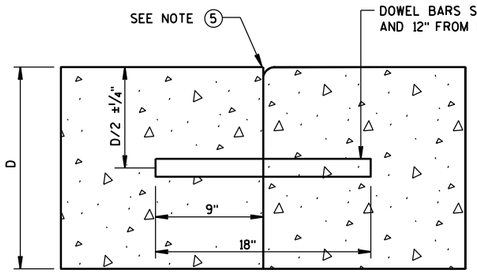
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

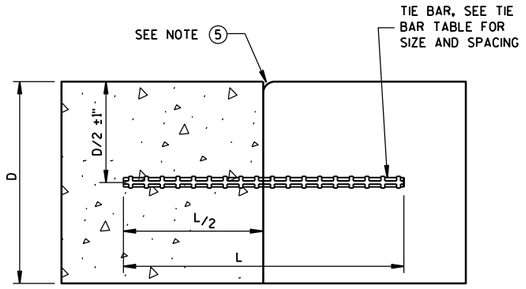
** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

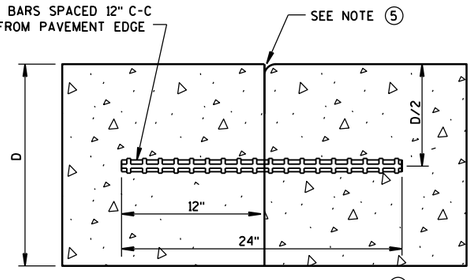
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



DOWELED TRANSVERSE (3)

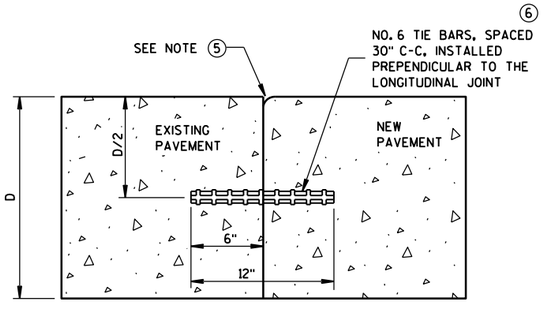


TIED LONGITUDINAL



TIED TRANSVERSE (3)

(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

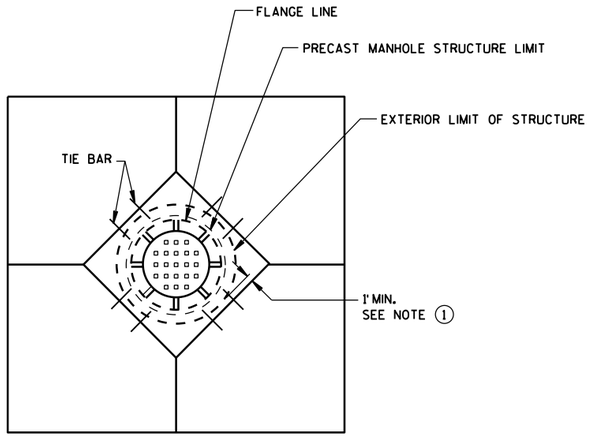
SEE NOTE (4)

CONCRETE PAVEMENT
JOINT TYPES

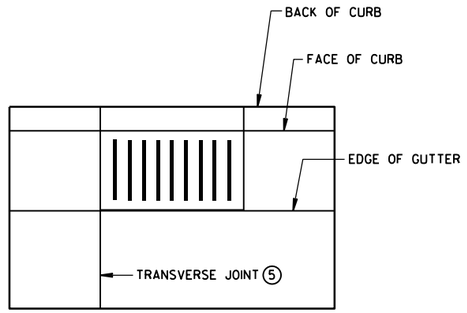
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

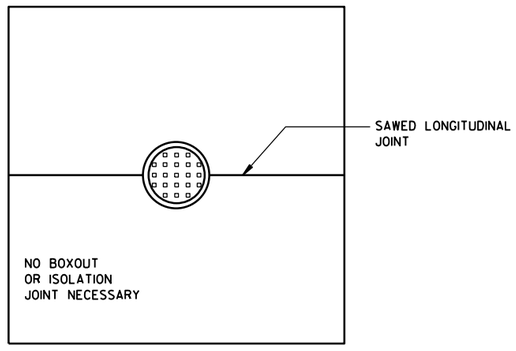
S.D.D. 13 C 18-3c



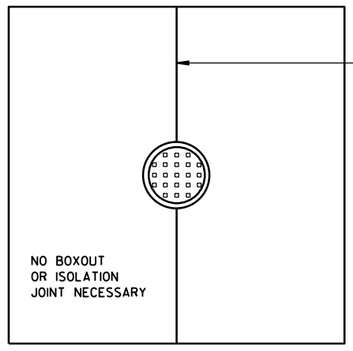
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



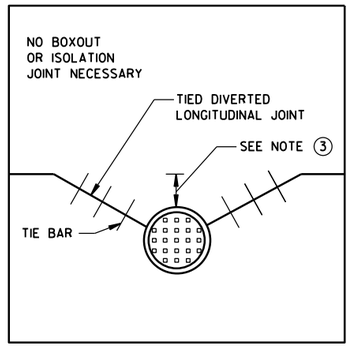
INLET WITH TRANSVERSE JOINT



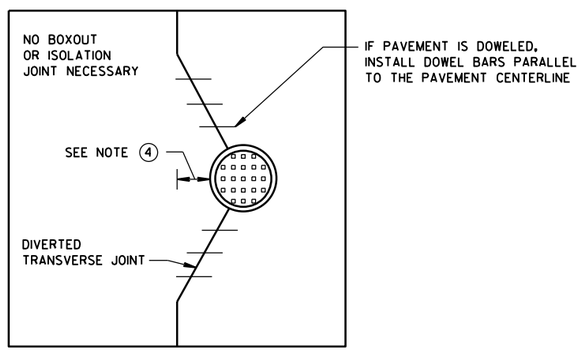
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

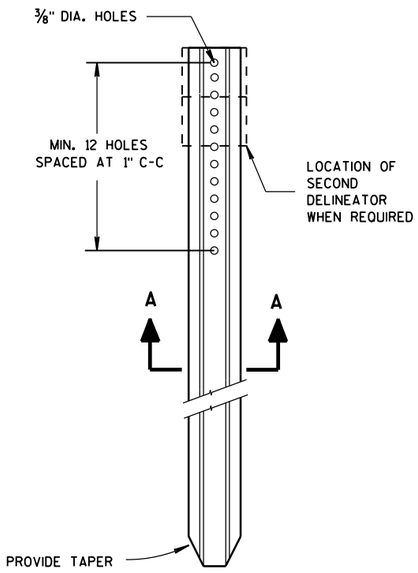
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

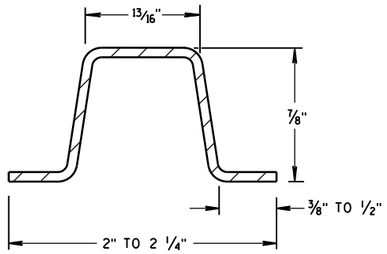
APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA

6

S.D.D. 13 C 18-3d

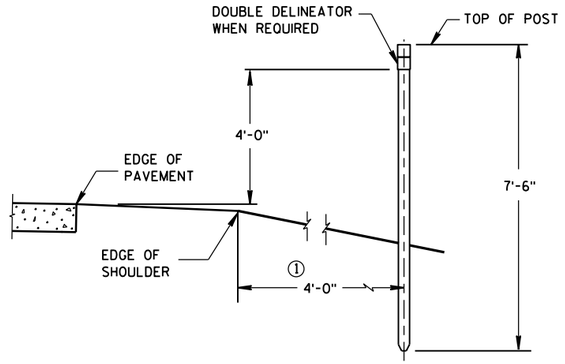


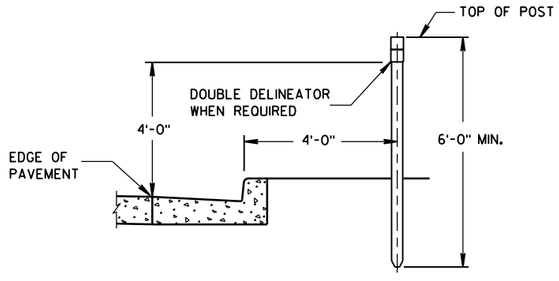
DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



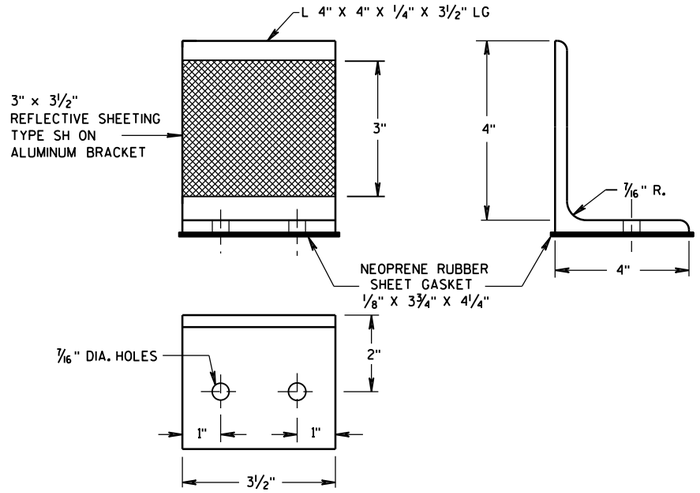


TYPICAL INSTALLATIONS OF DELINEATOR POSTS

GENERAL NOTES

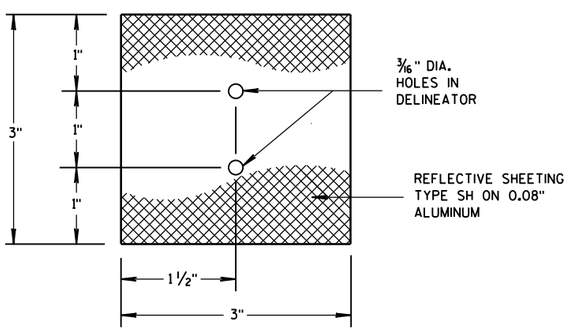
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.

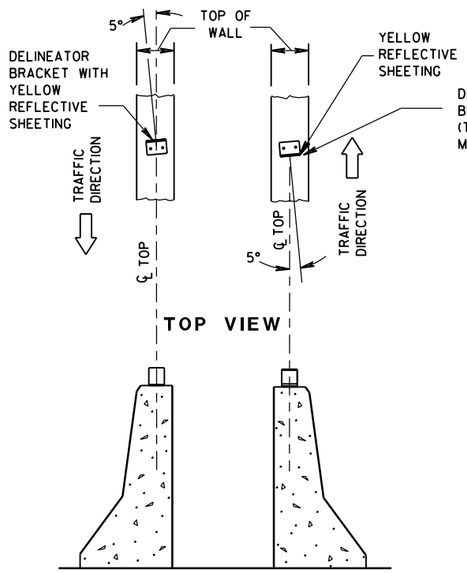


DELINEATOR BRACKET

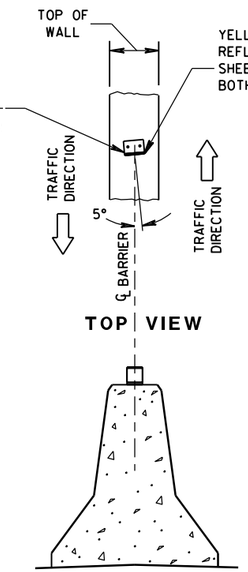
MOUNTING DETAIL FOR DELINEATOR



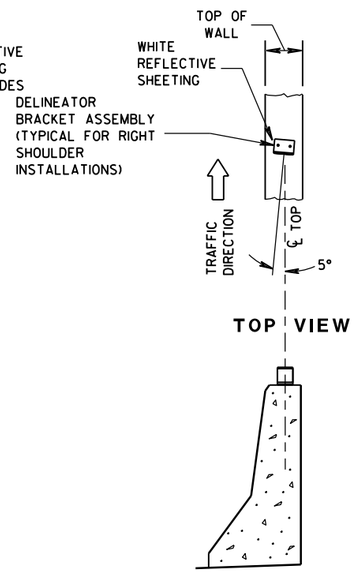
3"x 3" DELINEATOR



DOUBLE BARRIERS IN MEDIAN

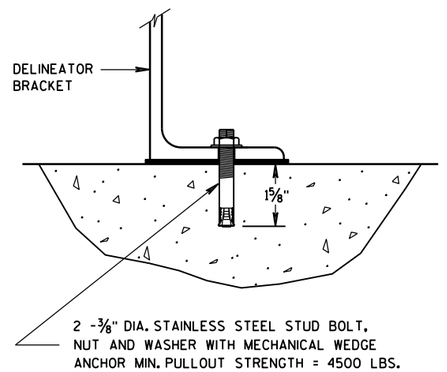


MEDIAN BARRIER



BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
FHWA

6

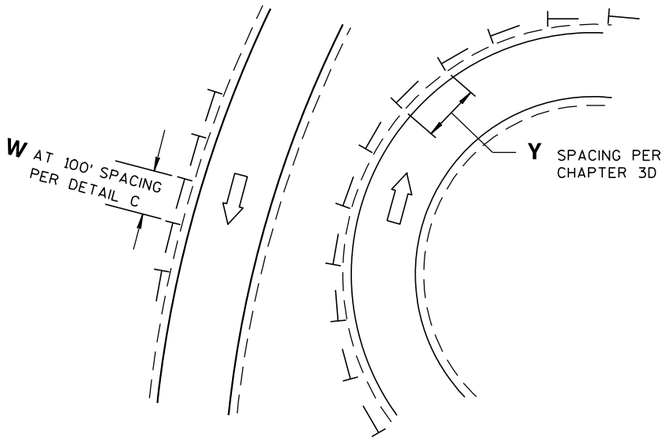
S.D.D. 15 A 2-8

6

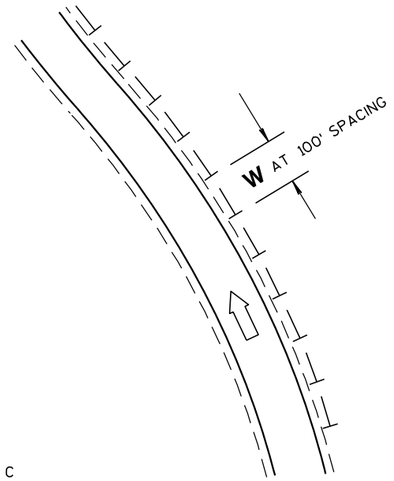
S.D.D. 15 A 2-8

GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



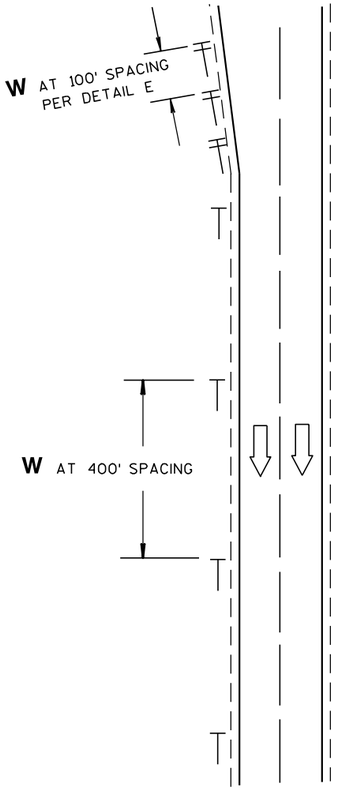
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



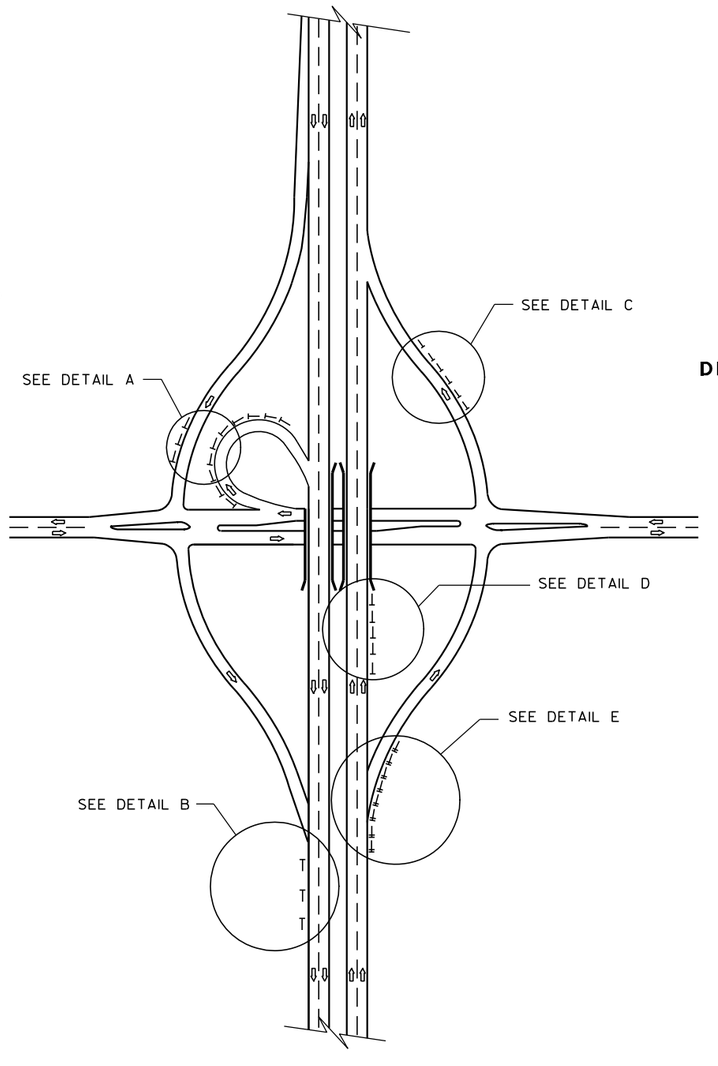
DETAIL C
DELINEATOR LAYOUT ALONG RAMP

LEGEND

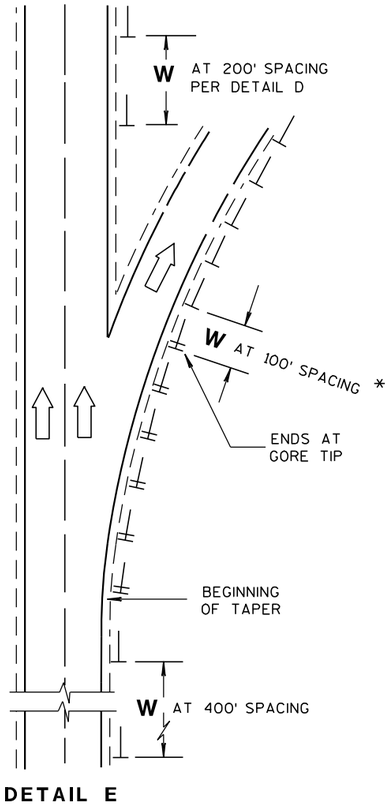
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



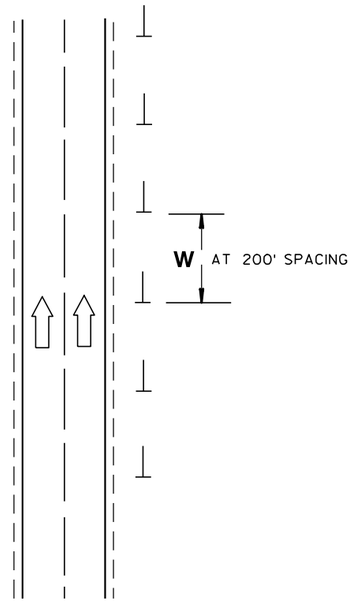
DETAIL B
DELINEATOR LAYOUT ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS



DETAIL D
DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

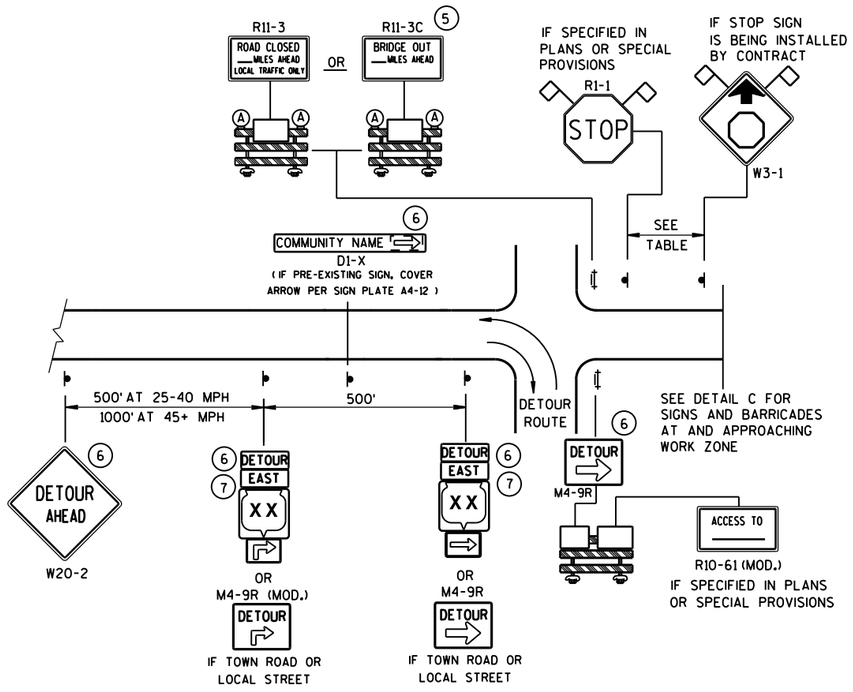
APPROVED
2/5/09 DATE
/S/ Thomas N. Nothdurft
STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 A 6-2

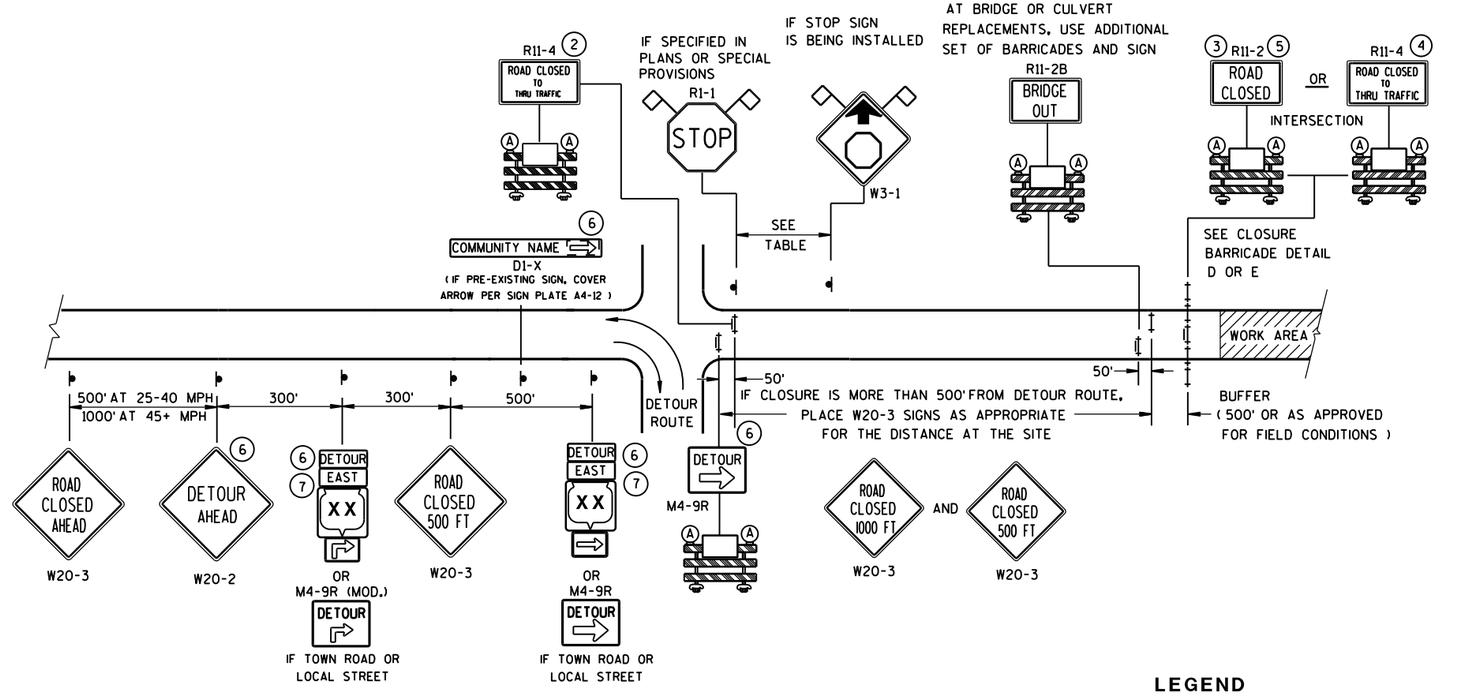
6

S.D.D. 15 A 6-2



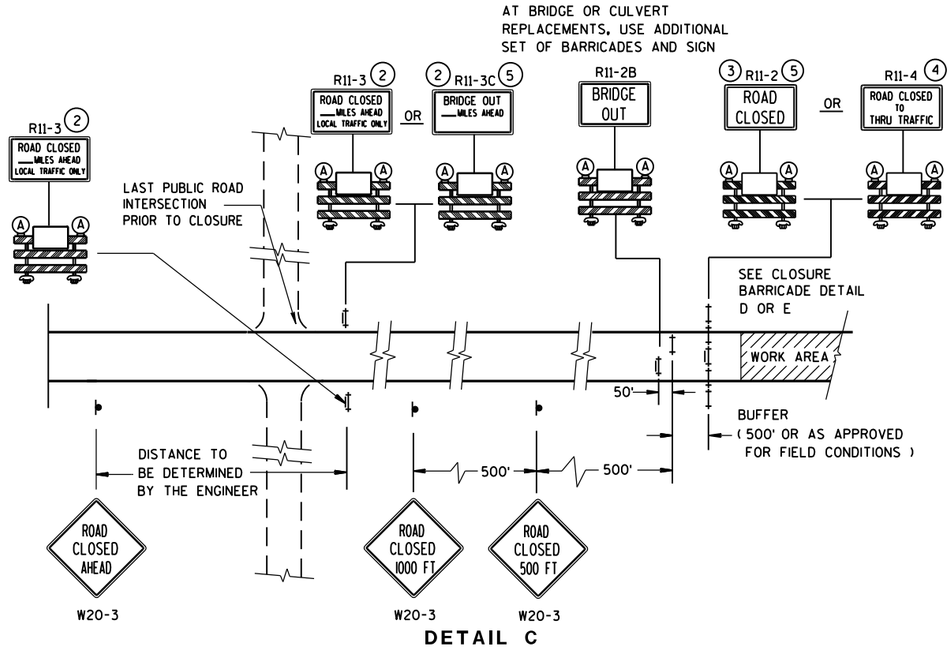
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

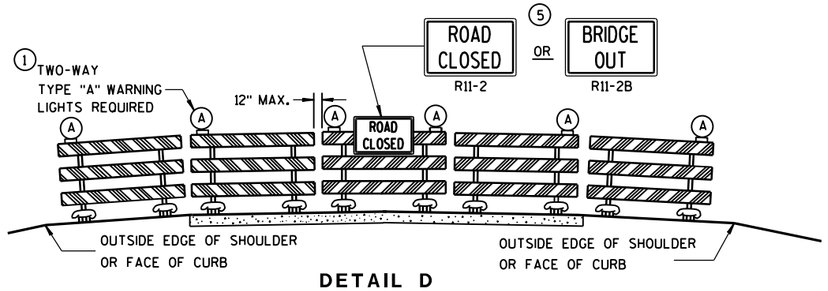
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

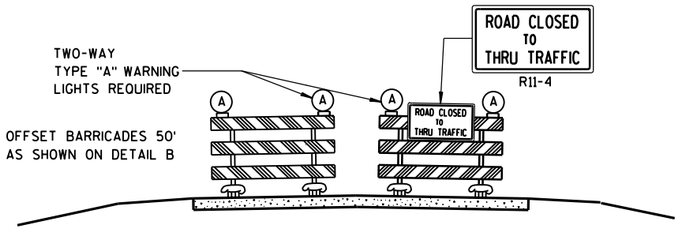
6
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b

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

GENERAL NOTES

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

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

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

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

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

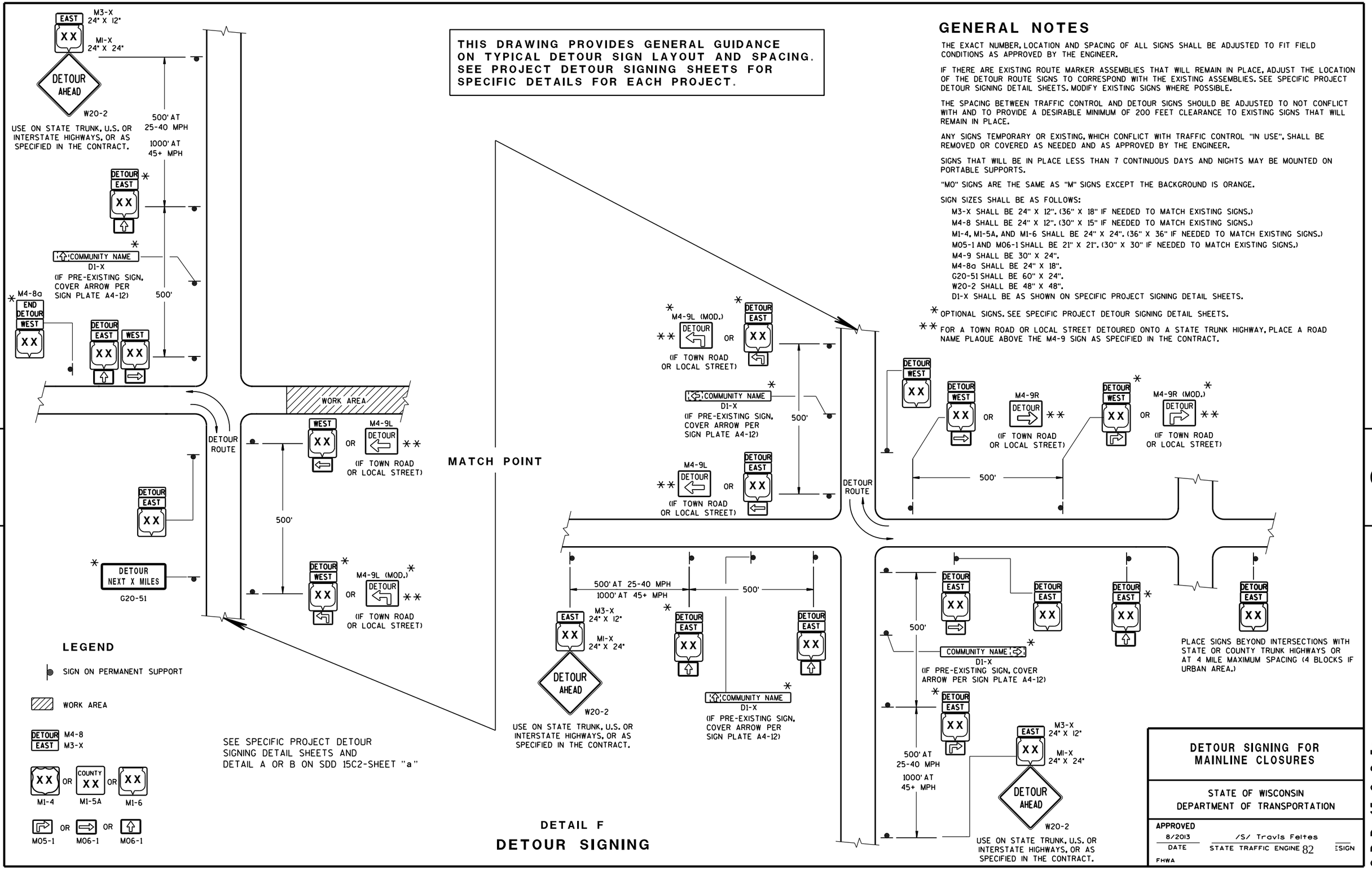
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- M1-4 OR M1-5A OR M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

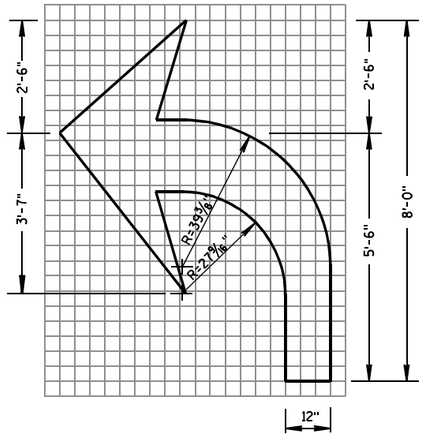
FHWA

6 S.D.D. 15 C 2-5c

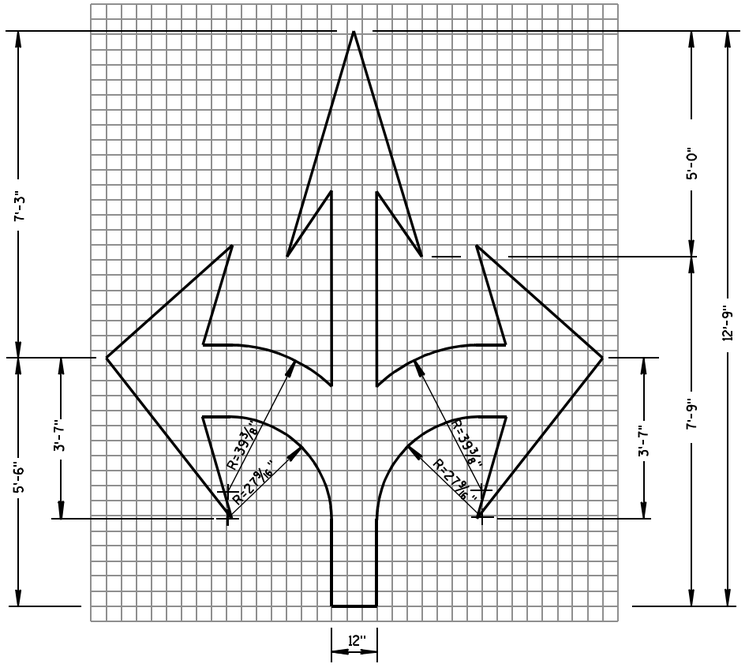
GENERAL NOTES

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

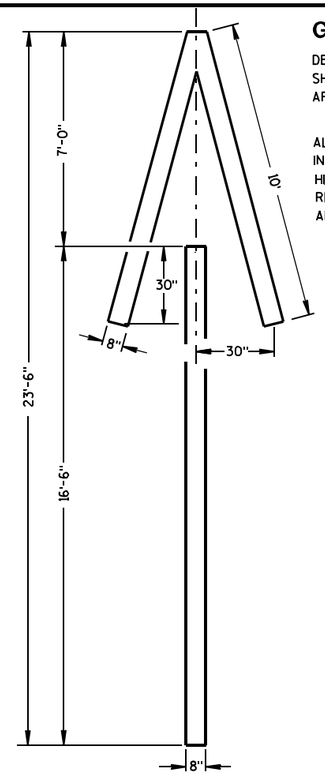
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES OF THAT BOOK ARE ACCEPTABLE.



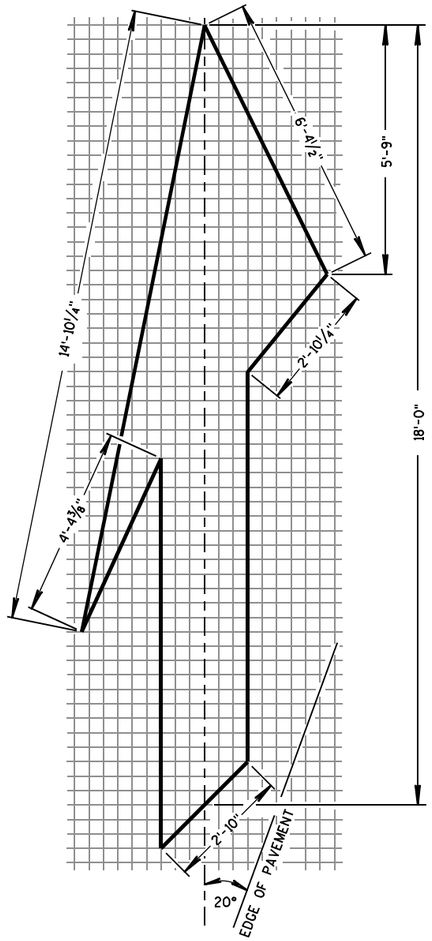
TYPE 2



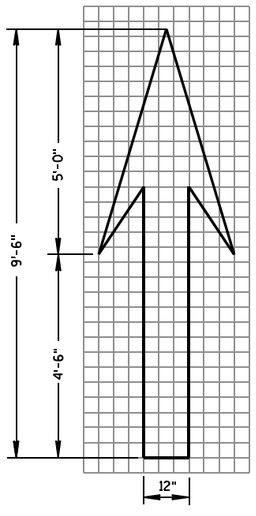
TYPE 6



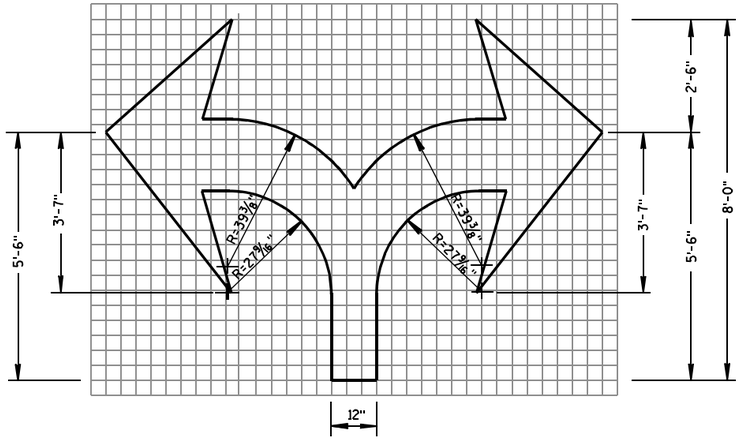
TYPE 4



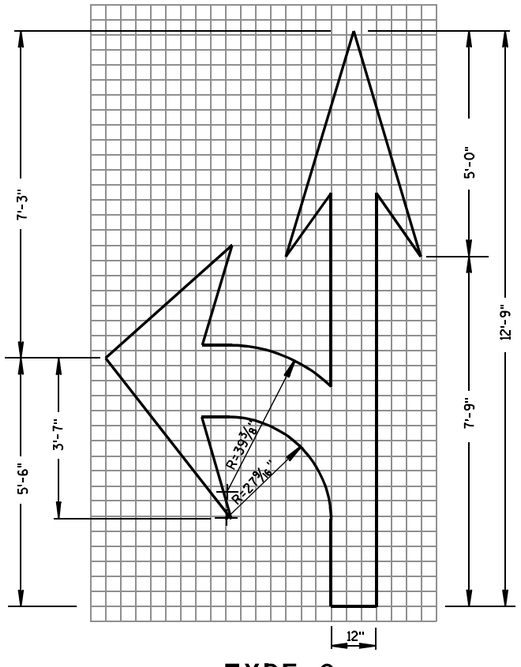
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/1/11 — DATE

/S/ Thomas N. Nothdurft — STATE TRAFFIC ENGINEER

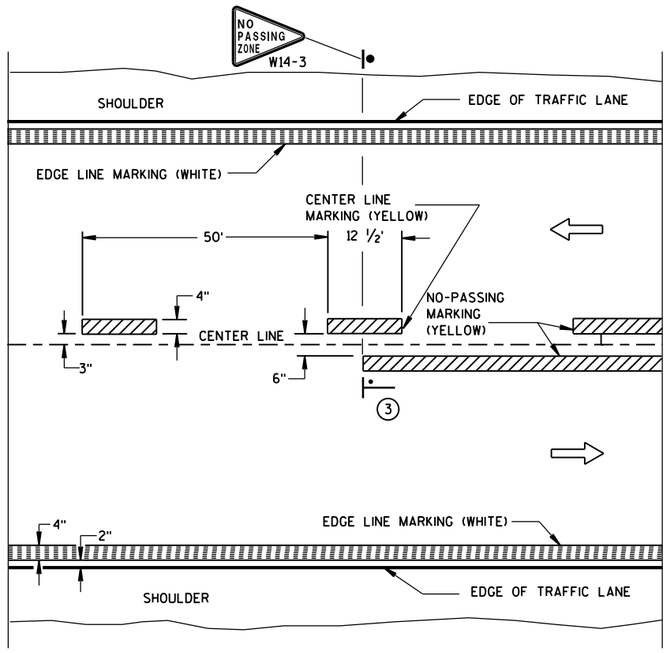
FHWA

6

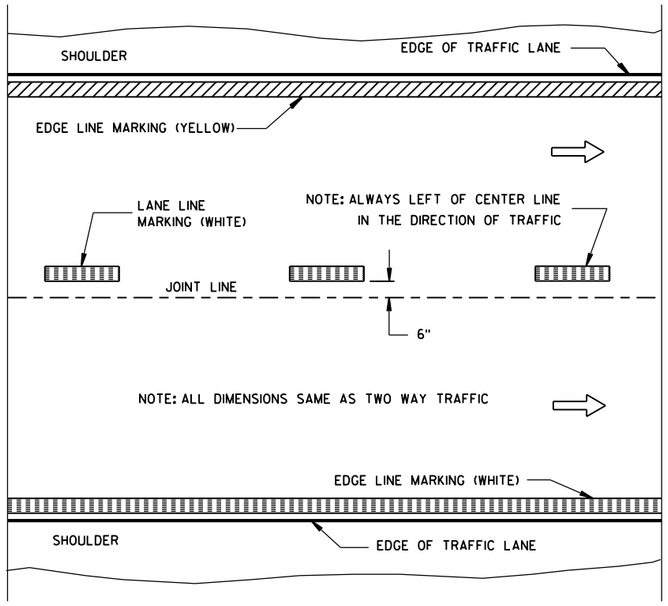
S.D.D. 15 C 7-12c

6

S.D.D. 15 C 7-12c

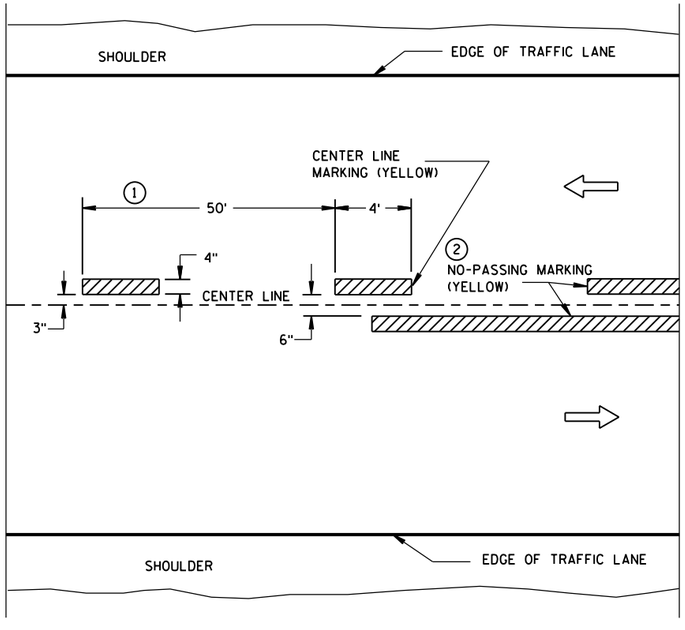


TWO WAY TRAFFIC

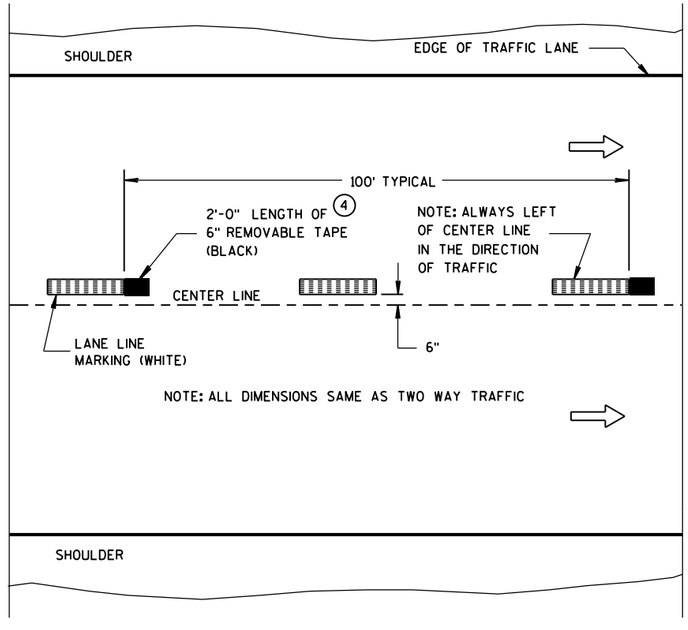


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

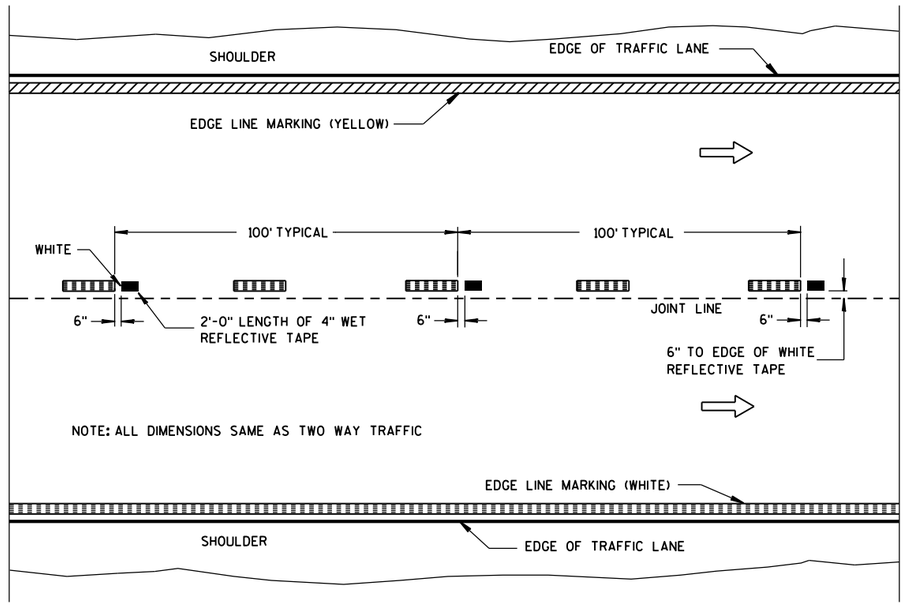
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

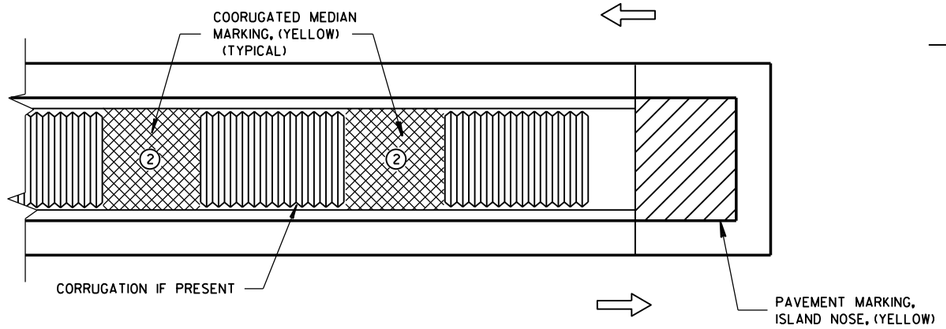
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

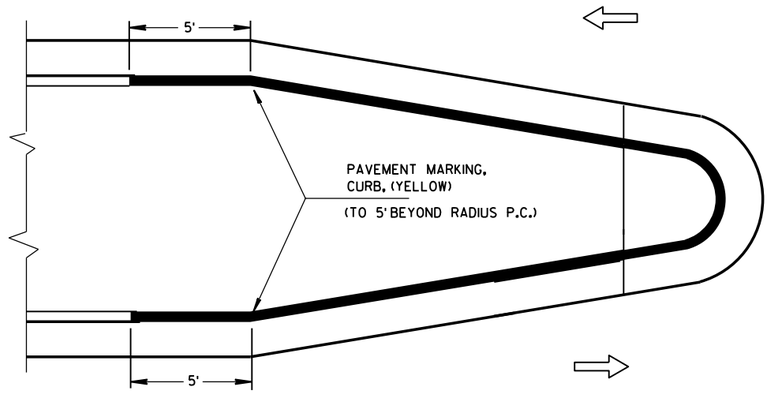
S.D.D. 15 C 8-16a

6

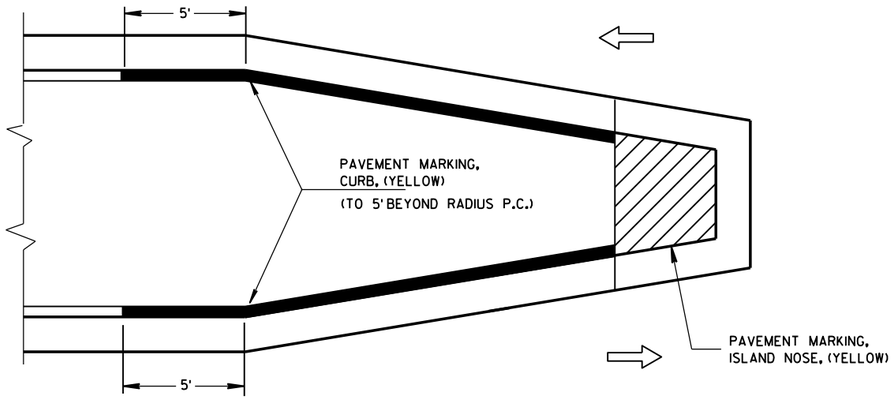
S.D.D. 15 C 8-16a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

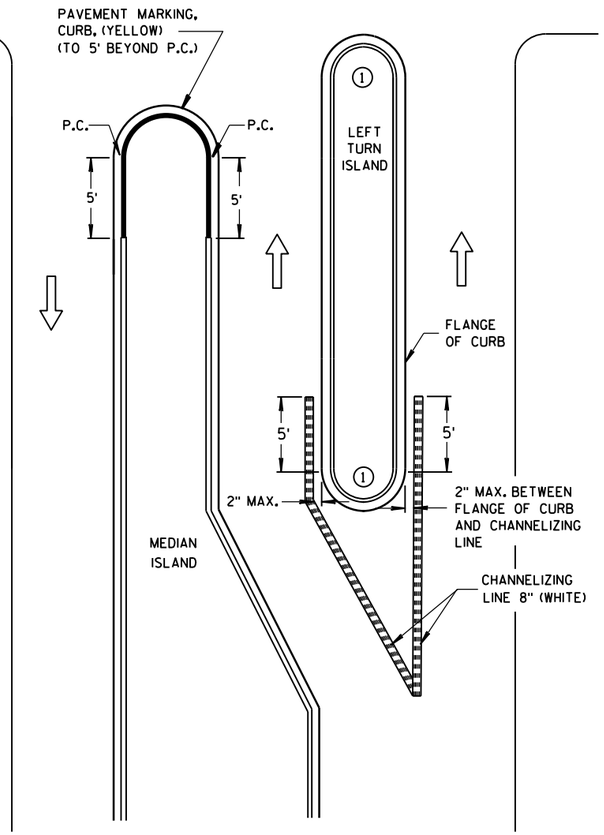


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

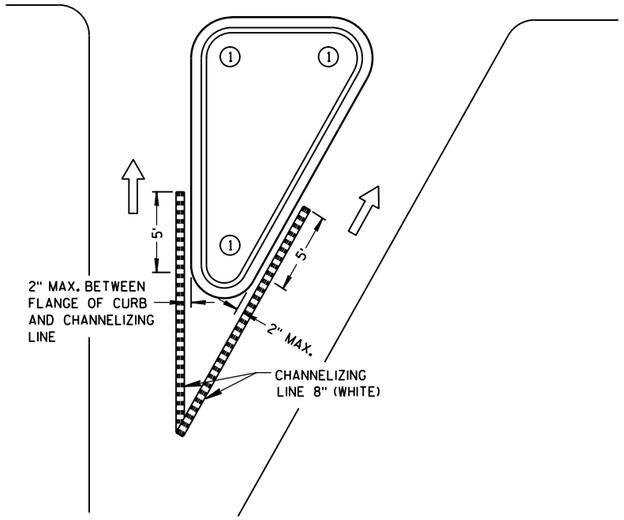


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

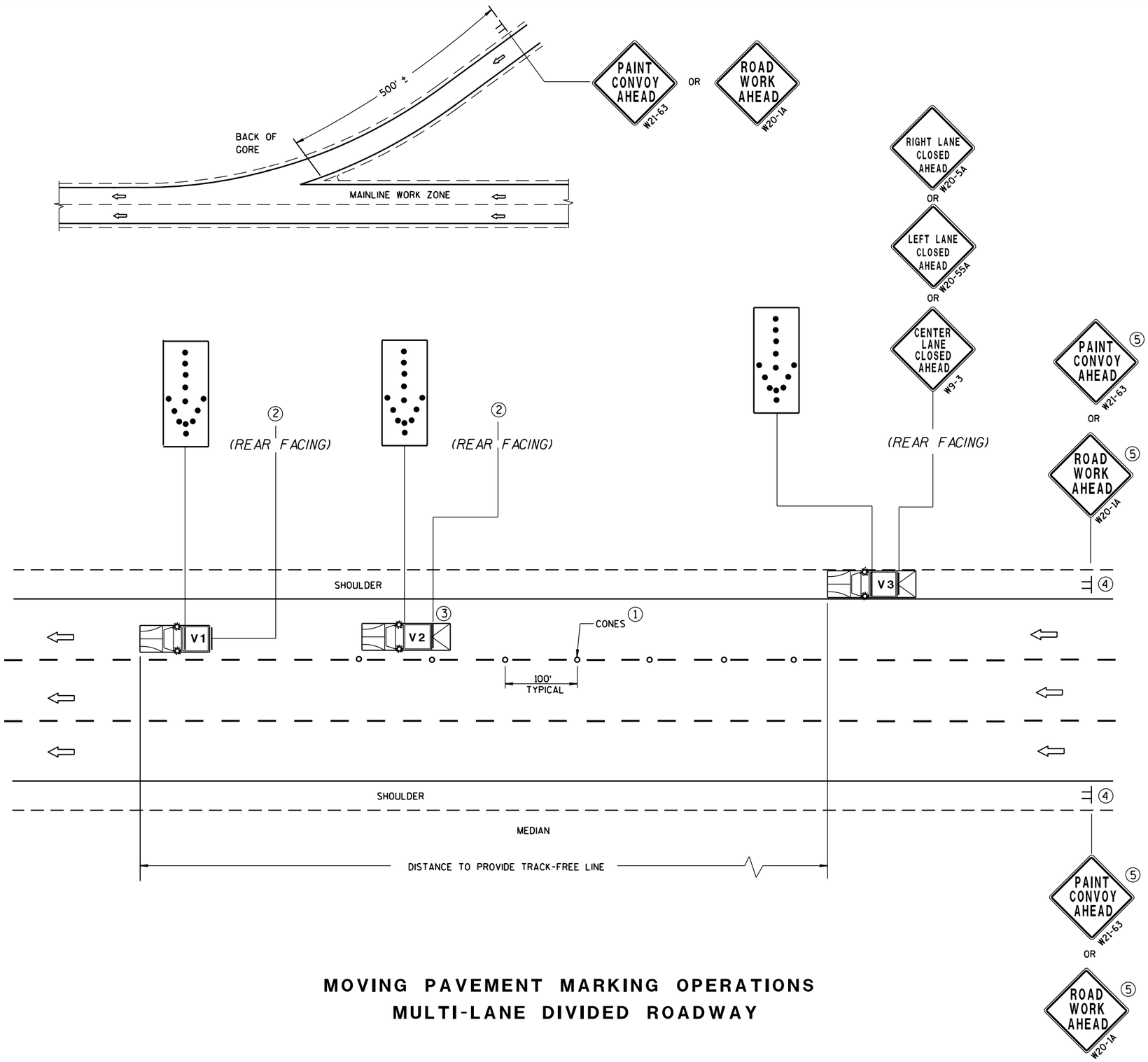
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 C 8-16f

6

S.D.D. 15 C 8-16f



MOVING PAVEMENT MARKING OPERATIONS
MULTI-LANE DIVIDED ROADWAY

GENERAL NOTES

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

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

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

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

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 OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1	LEAD VEHICLE
V2	SHADOW VEHICLE
V3	TRAIL VEHICLE WITH TMA
TMA	TRUCK-MOUNTED ATTENUATOR
	SIGN ON TEMPORARY SUPPORT
	DIRECTION OF TRAFFIC
	CONES
	FLASHING ARROW PANEL (MERGE)

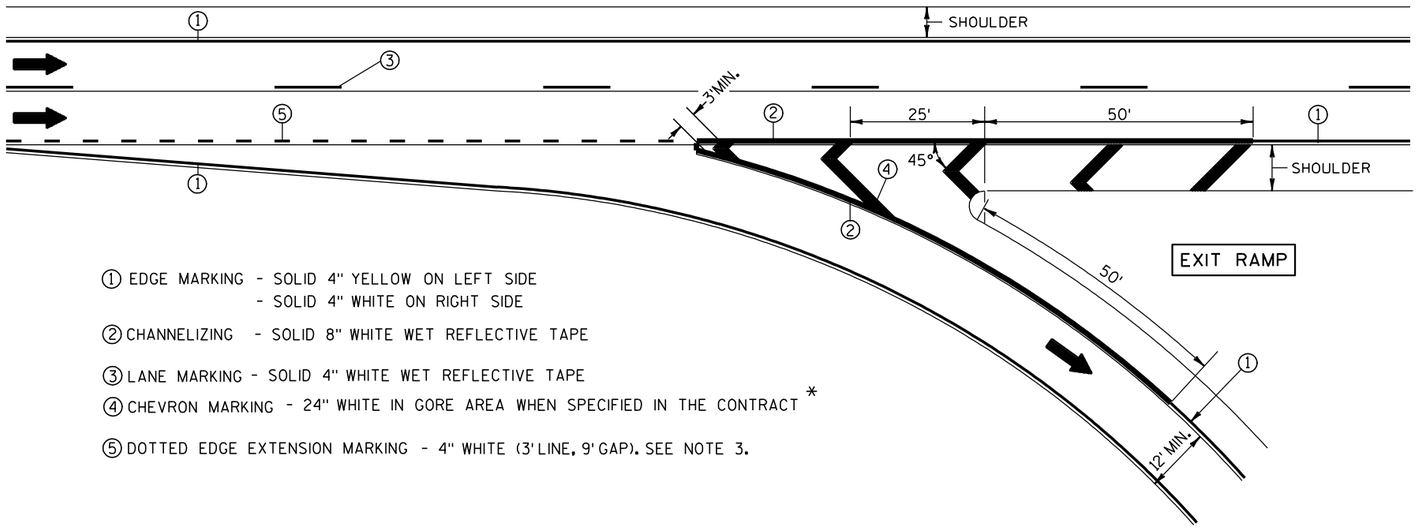
MOVING PAVEMENT MARKING OPERATION
MULTI-LANE DIVIDED ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZON SAFETY ENGINI
FHWA

6 S.D.D. 15 C 19-3c

6 S.D.D. 15 C 19-3c



① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *

⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

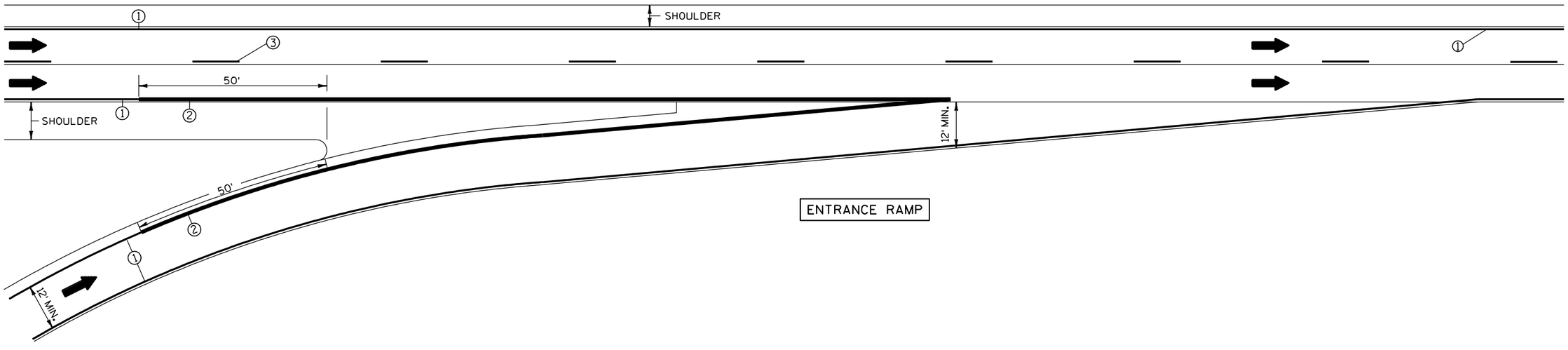
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.

3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.



6

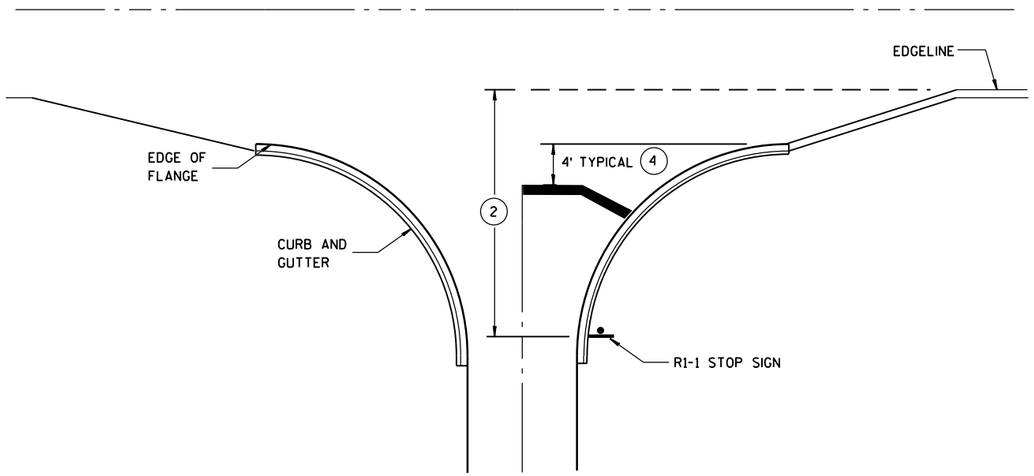
6

S.D.D. 15 C 31-1a

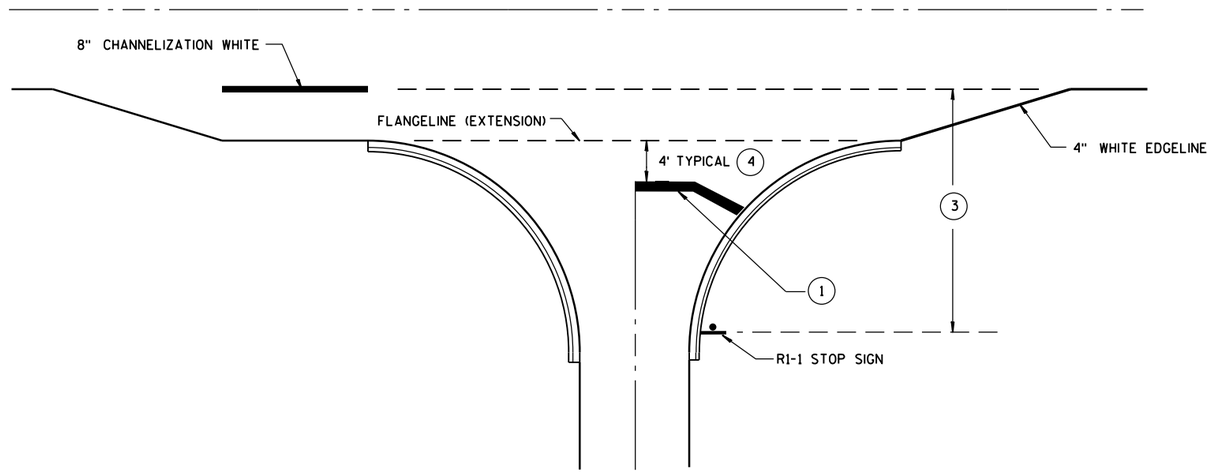
S.D.D. 15 C 31-1a

PAVEMENT MARKING
(RAMPS AND GORES)

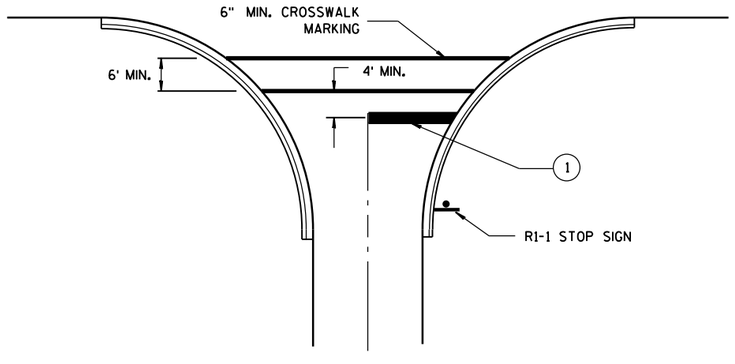
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



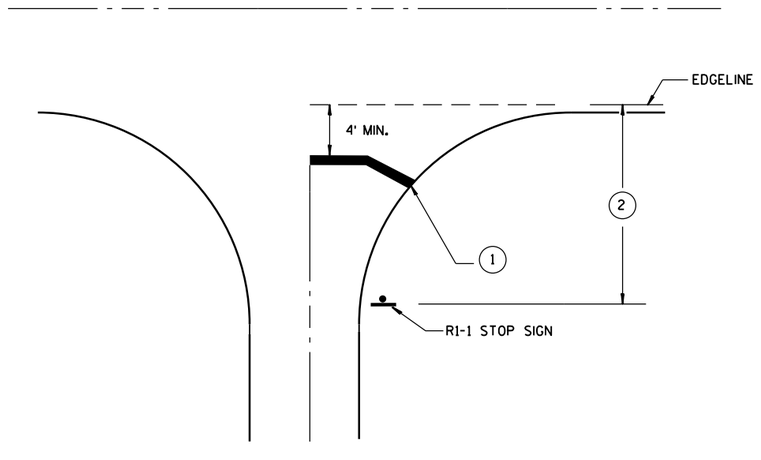
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4/30/2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA

6

S.D.D. 15 C 33-1

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

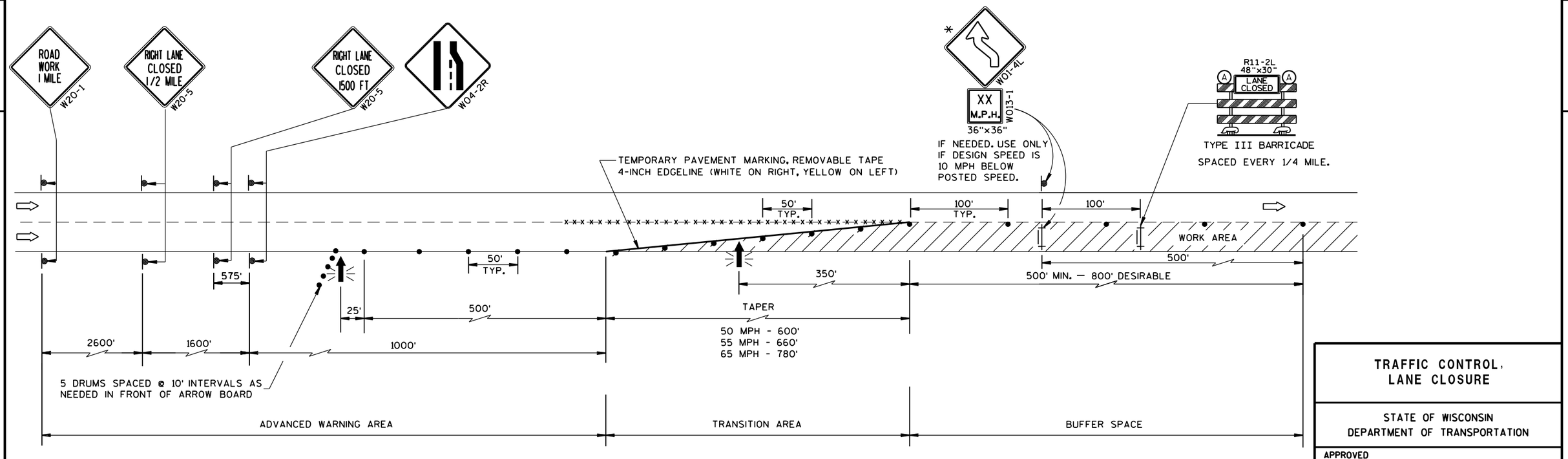
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 12-5a

LEGEND

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

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"×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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

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

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

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

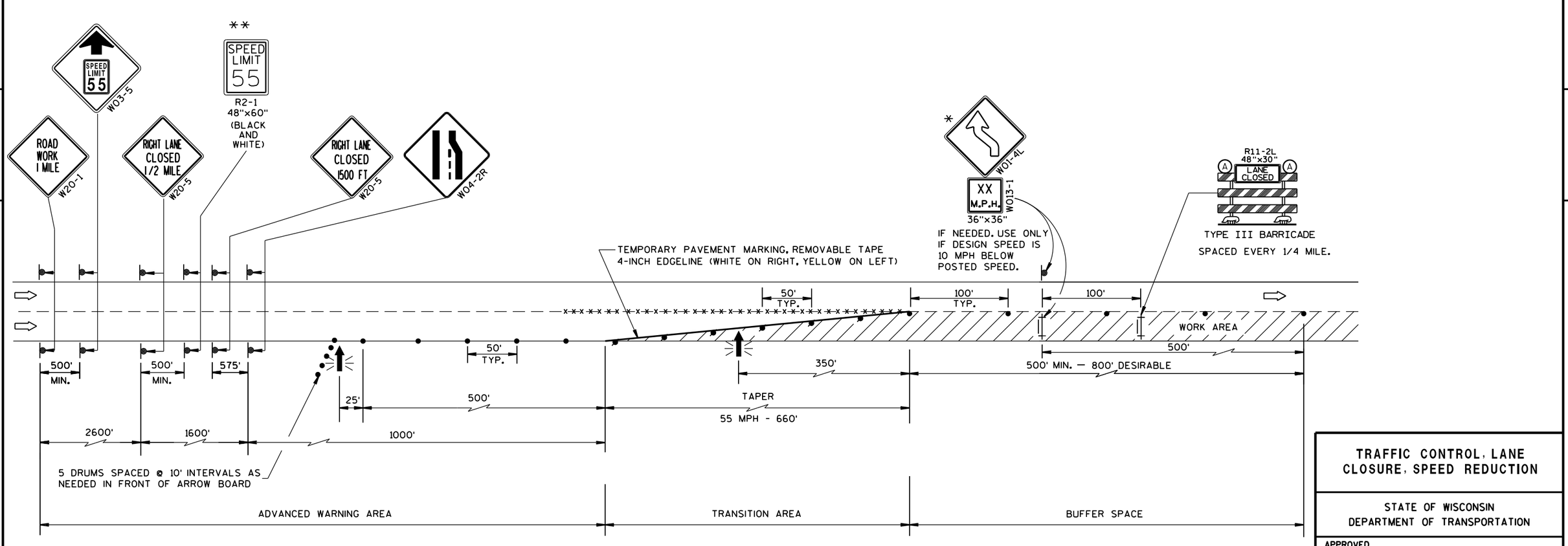
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.



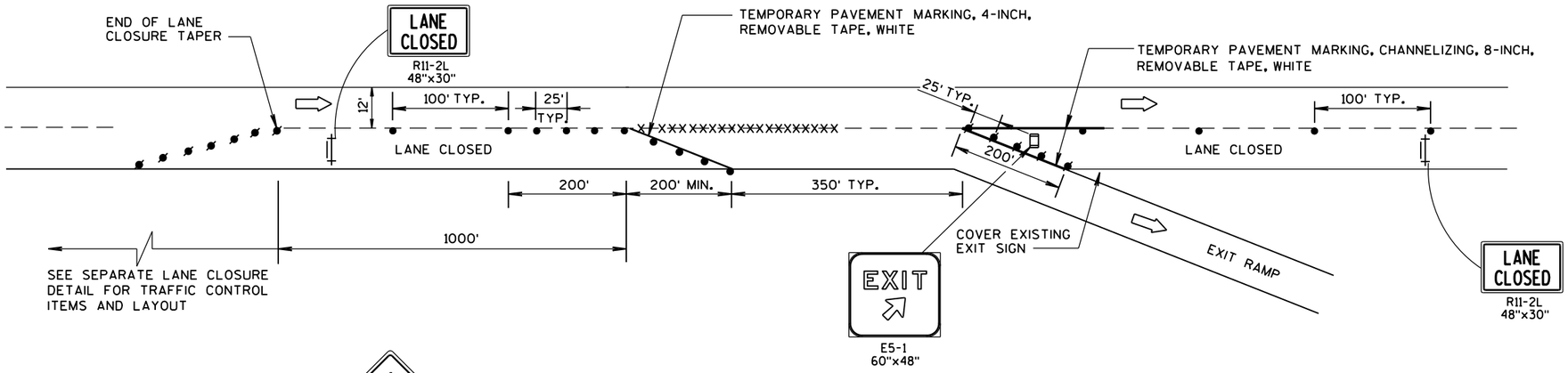
TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

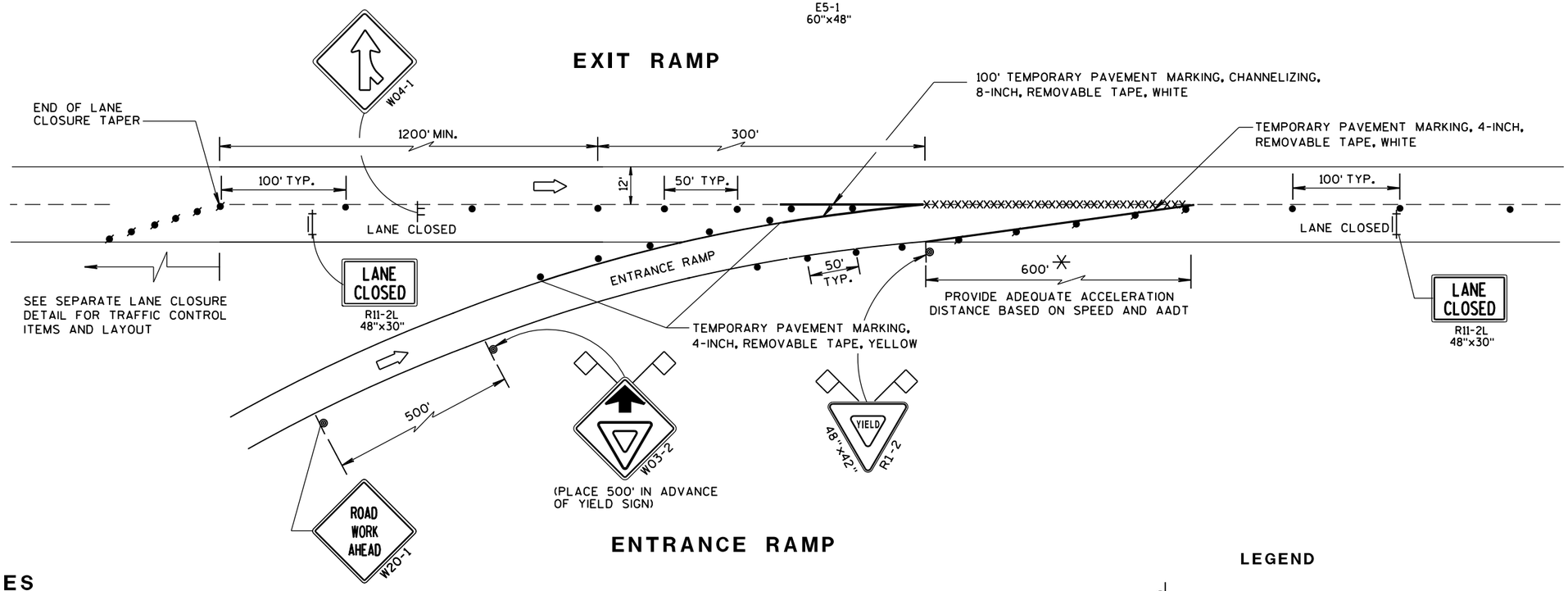
APPROVED
Feb. 2015 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

S.D.D. 15 D 12-5b

S.D.D. 15 D 12-5b



EXIT RAMP



ENTRANCE RAMP

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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

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

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

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

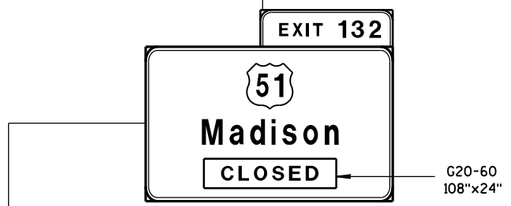
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

S.D.D. 15 D 15-2

S.D.D. 15 D 15-2

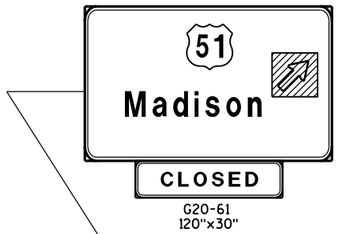
G20-60
108"x24"

OR



G20-60
108"x24"

PLACE SIGN G20-60 OVER MILEAGE
ON EXISTING E1-1A SIGN



COVER ARROW ON
EXISTING E4-1A
SIGN (COVERING
SIGNS TYPE I)

G20-61
120"x30"

TEMPORARY PAVEMENT MARKING
4" REMOVABLE TAPE, WHITE
(ACROSS THE RAMP OPENING)

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

25' TYP.

100' MIN.

200'

EDGE OF SHOULDER

COVER EXISTING
EXIT SIGN

ROAD
WORK
AHEAD
*W20-1A

RAMP
CLOSED
AHEAD
W20-53A

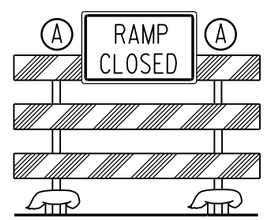
RAMP
CLOSED
1000 FT
W20-53C

1500'

1500'

1000'

R11-2R
48" X 30"
MOUNTED ON
TYPE III BARRICADE



RAMP WILL
BE CLOSED
(TIME)
BEGINNING
(DATE)

**R11-51
48"X48"
(OR SPECIAL SIGN IF INDICATED IN PLAN)

GENERAL NOTES

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

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

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROPOFF ALONG THE EDGE OF AN OPEN TRAVEL LANE SHALL BE LEVELED WITH TEMPORARY FILL WHEN THE CONTRACTOR IS NOT WORKING ADJACENT TO THE TRAVEL LANE. DRUMS SHALL BE PLACED ENTIRELY OUTSIDE THE TRAVEL LANE, ALLOWING THE FULL UNOBSTRUCTED LANE WIDTH, WHEN THE WORK IS NOT IN PROGRESS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

* W20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE RAMP CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

**TRAFFIC CONTROL,
EXIT RAMP CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

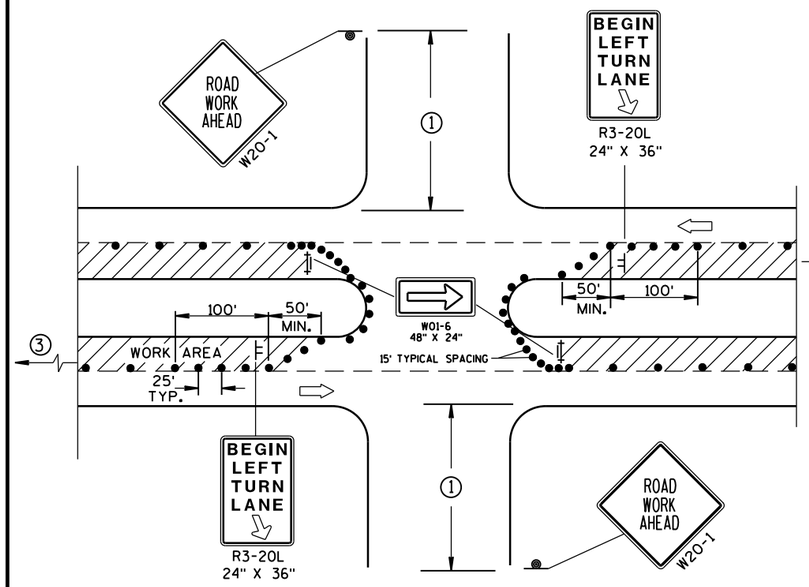
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGII — FIC
FHWA

6

S.D.D. 15 D 16-3

6

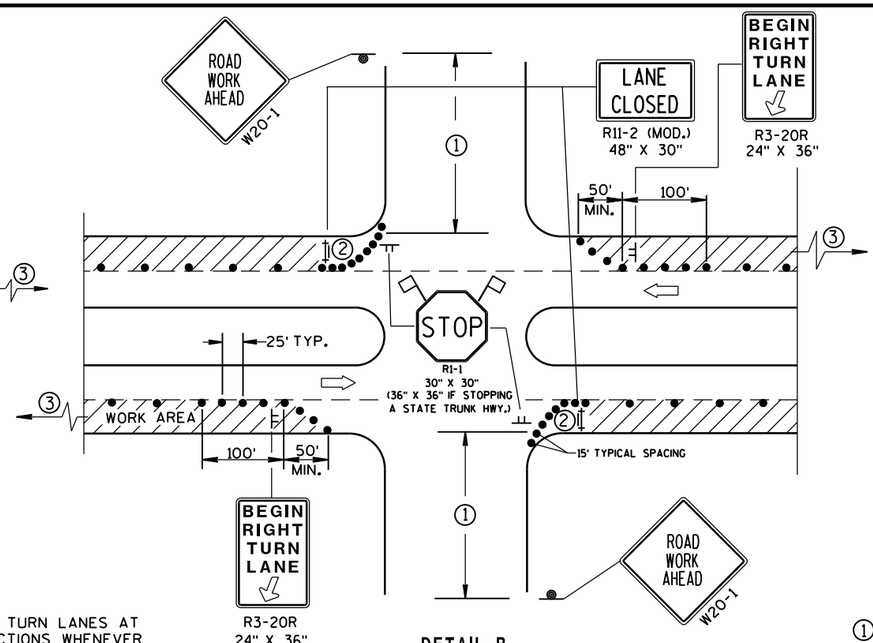
S.D.D. 15 D 16-3



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

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

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

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 DISTRICT TRAFFIC UNIT.

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

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

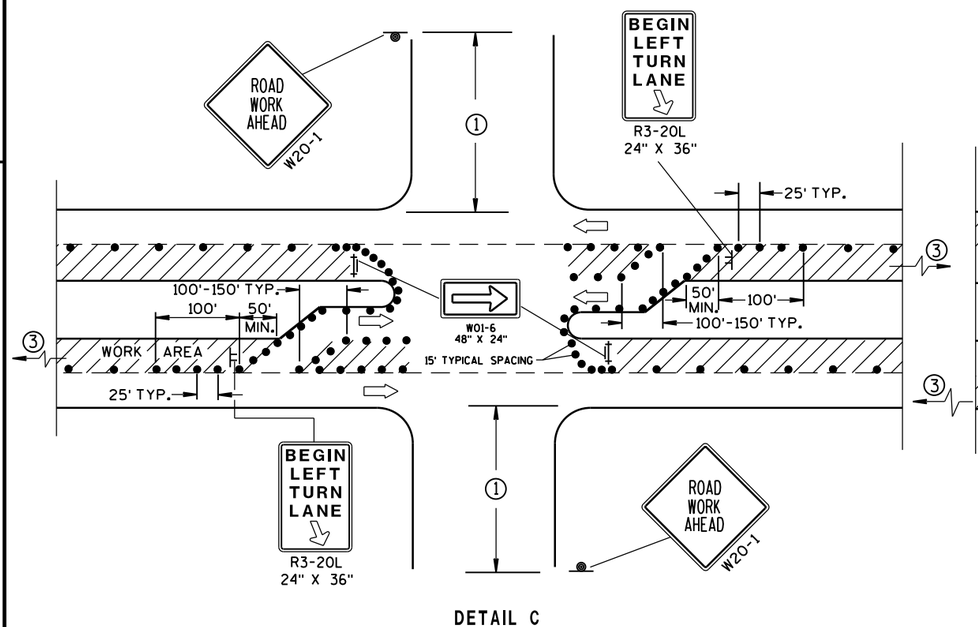
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

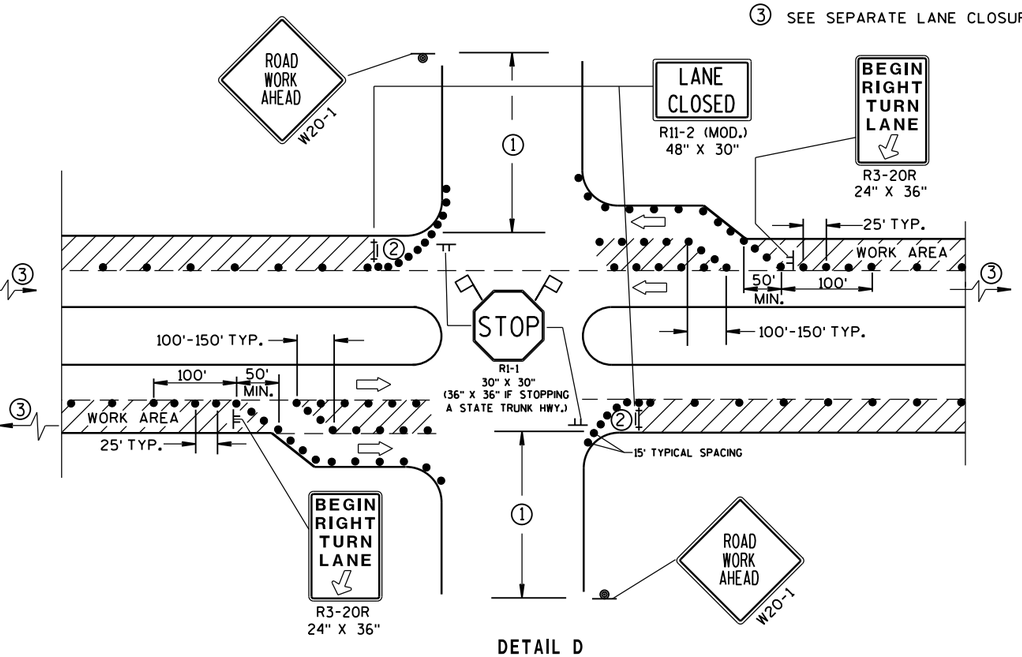
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Nov. 2014 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

6

S.D.D. 15 D 21-3

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

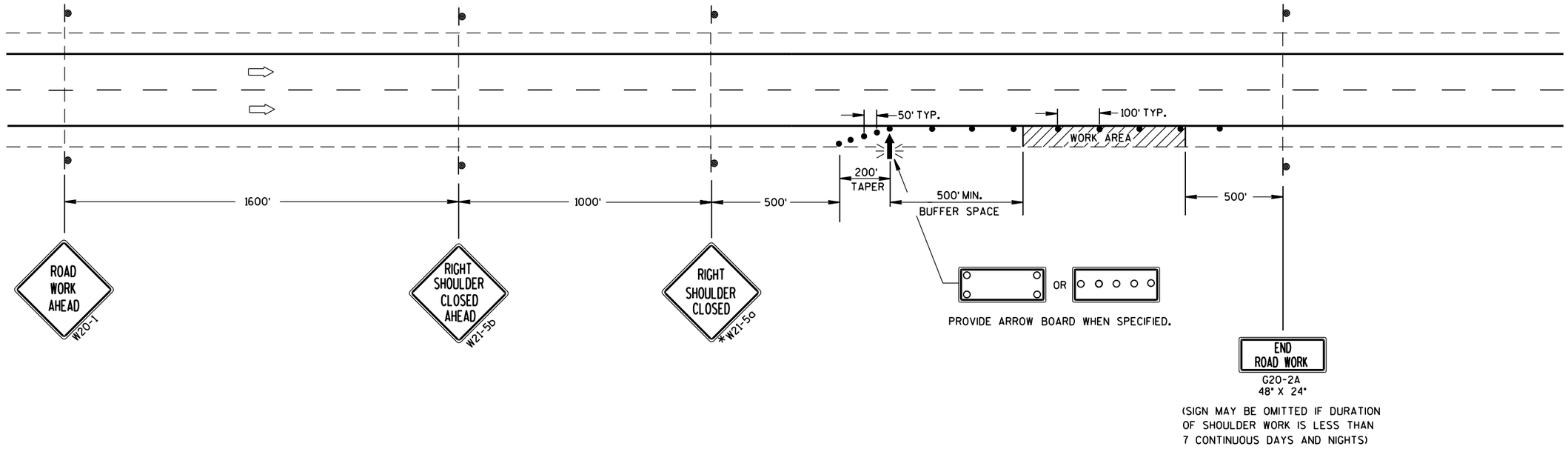
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 D 27-2

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.

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

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

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

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

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.

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

TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

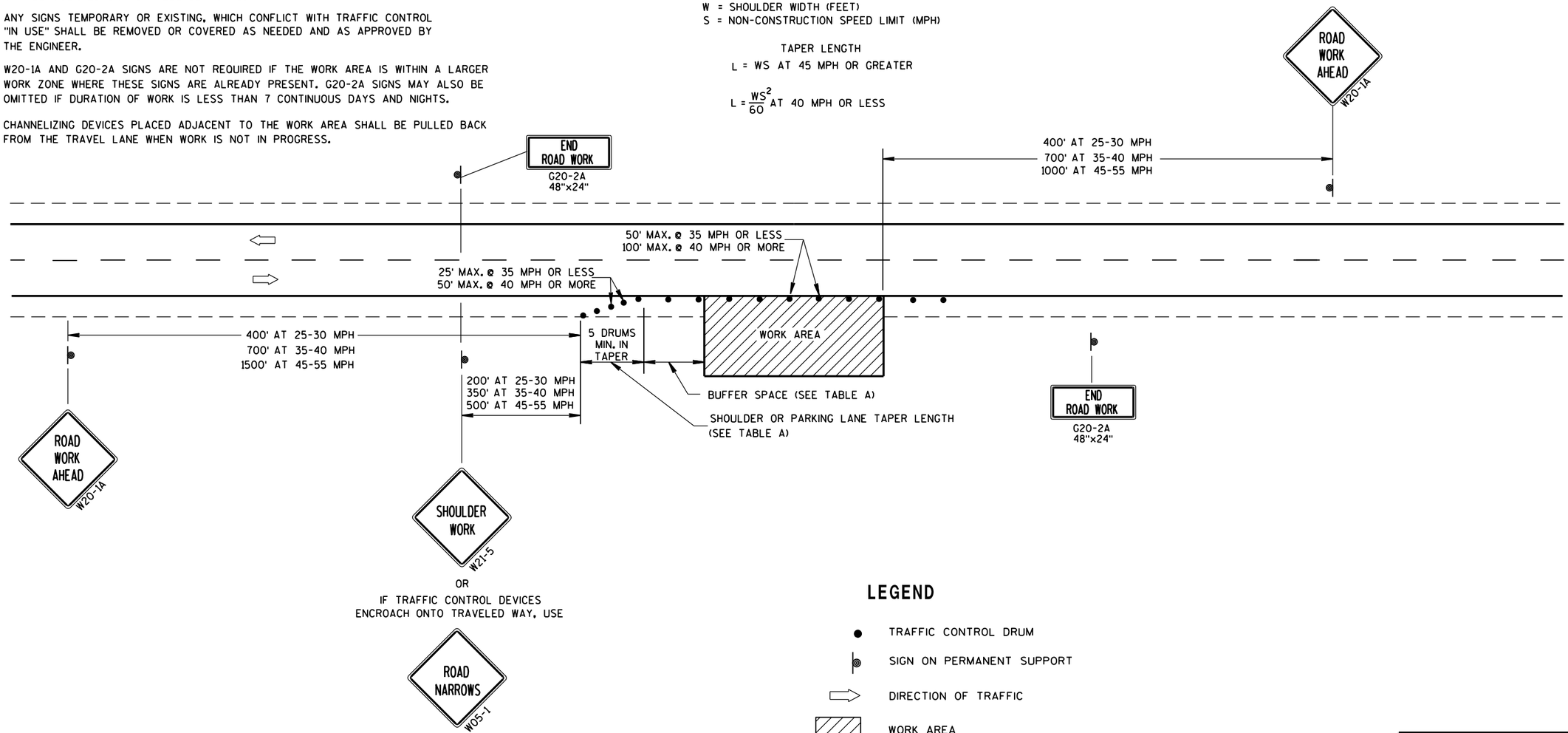
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

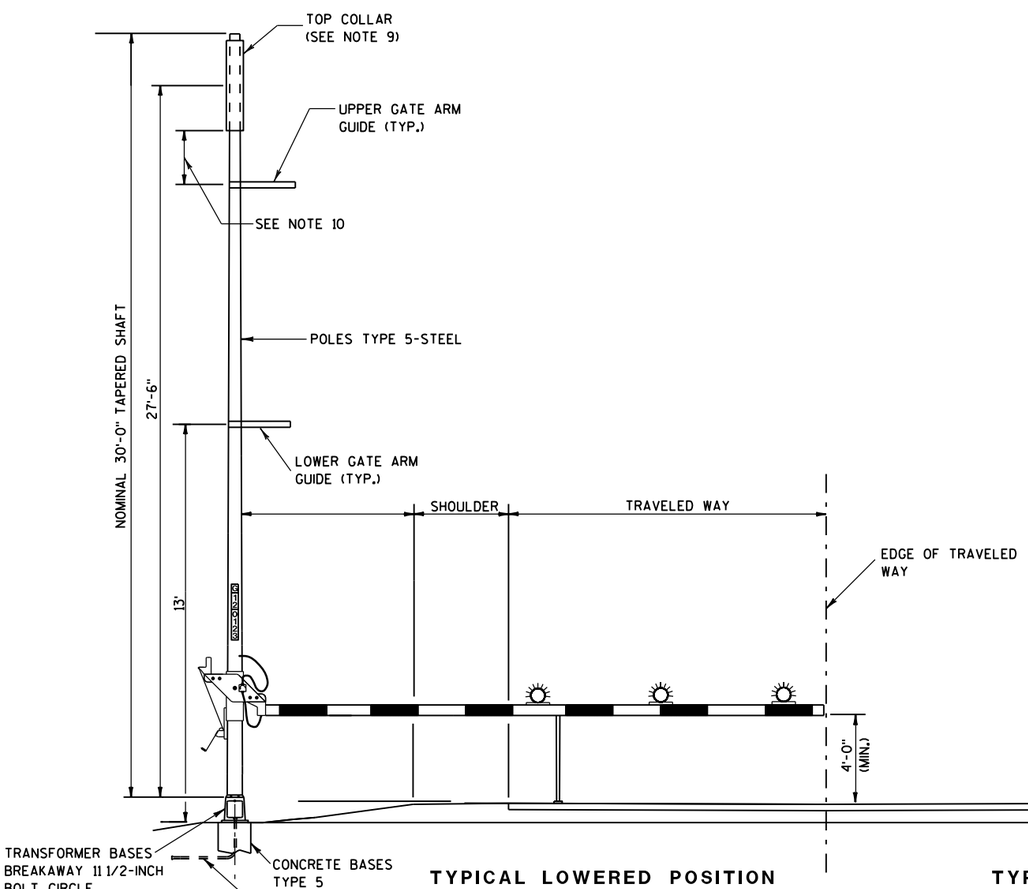
July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC

FHWA

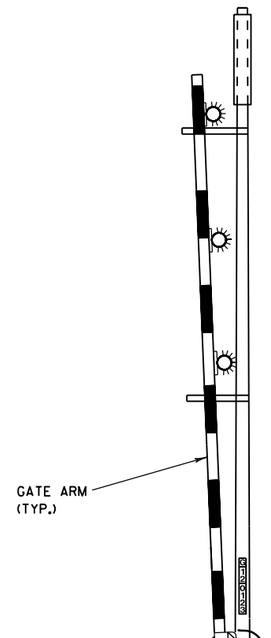
6

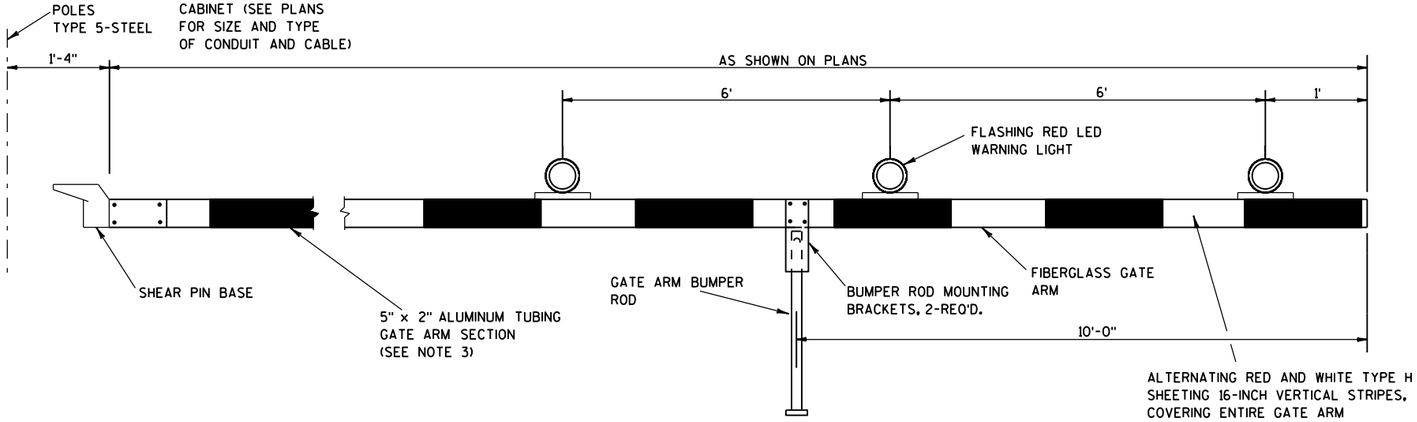
S.D.D. 15 D 28-3



TYPICAL LOWERED POSITION

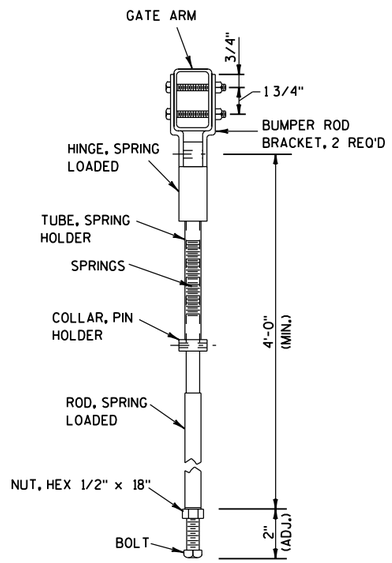
TYPICAL RAISED POSITION



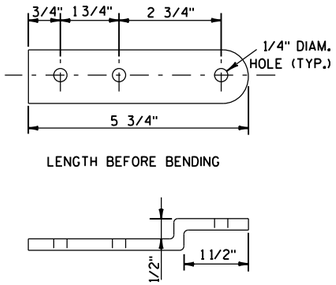


GATE DETAIL

(SOLAR POWER OPTION)



GATE ARM BUMPER ROD DETAIL



BUMPER ROD MOUNTING
BRACKET DETAIL

GENERAL NOTES

1. THE LOCATION OF RAMP CLOSURE GATES AND MOUNTING HEIGHT OF GATE ARM PIVOT SHALL BE VERIFIED BY THE ENGINEER.
2. HEIGHT OF GATE ARM GUIDES MAY BE VARIED AS REQUIRED FOR WARNING LIGHT CLEARANCE.
3. FIBERGLASS/ALUMINUM GATE ARM AND SHEAR PIN BASE SHALL BE SUPPLIED BY THE SAME VENDOR.
4. GATE ARM TO BE MOUNTED ON PROPOSED POLE AS INDICATED ON THE PLANS. PROPOSED POLE SHALL BE TYPE 5 POLE.
5. LOCATION OF THE CONCRETE BASE AND LENGTH OF THE GATE ARM WILL BE VERIFIED BY THE ENGINEER TO ENSURE ADEQUATE COVERAGE OF THE TRAVELED LANE.
6. GATE PIVOTS, SUPPORTS AND GUIDES, AND ALL ASSOCIATED HARDWARE SHALL BE GALVANIZED. ALL ROUGH EDGES AND BURRS SHALL BE GROUND SMOOTH PRIOR TO GALVANIZING.
7. ALL EXPOSED BOLT THREADS SHALL BE PAINTED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.
8. ANY FIELD DAMAGE TO THE GALVANIZING SHALL BE REPAIRED WITH TWO COATS OF ZINC RICH PAINT CONFORMING WITH THE REQUIREMENTS OF ASTM A 780.
9. A STANDARD LIGHTING LUMINAIRE ARM MAY BE MOUNTED TO THE TYPE 5 POLE IN LIEU OF THE TOP COLLAR.
10. UPPER GATE ARM GUIDE IS TO BE INSTALLED 6 TO 12-INCHES BELOW THE BOTTOM OF THE TOP COLLAR.

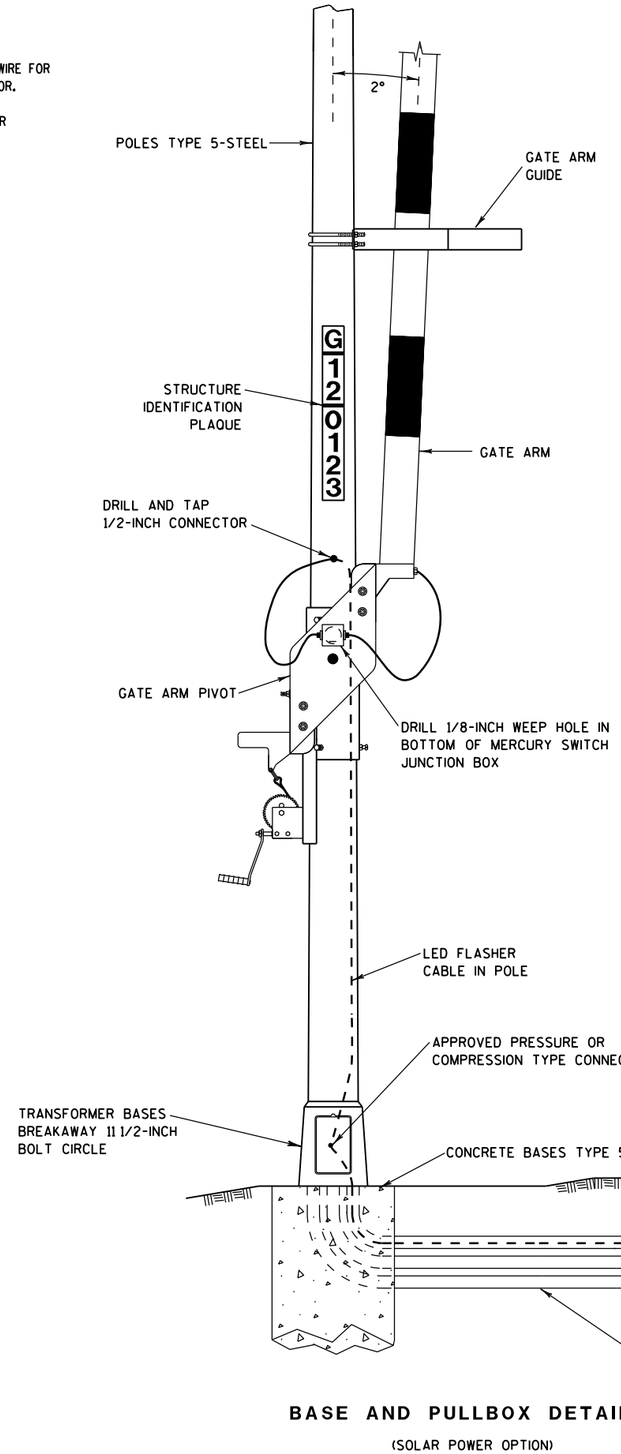
RAMP GATE
SOLAR POWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

WIRING NOTES

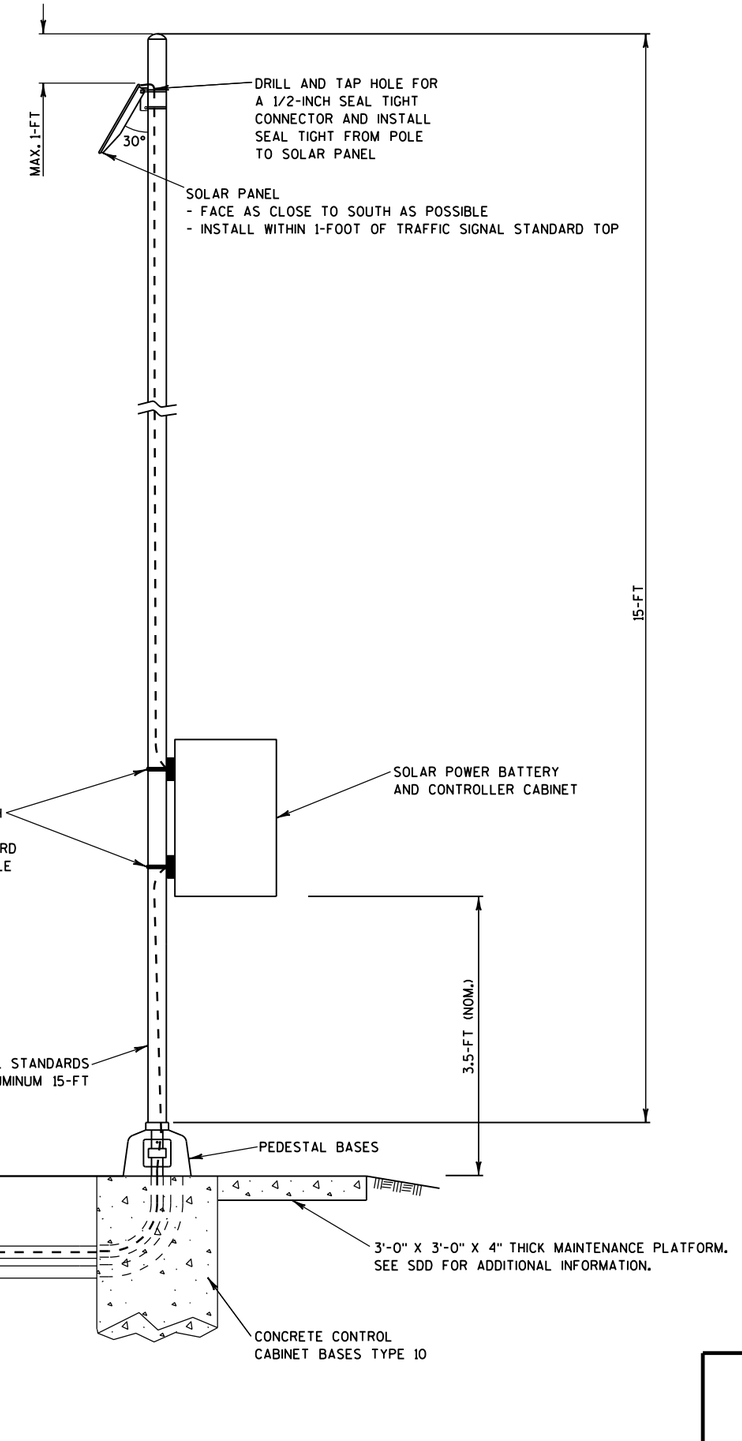
1. WIRING FROM SOLAR PANEL TO CABINET SHALL BE BLUE #10 XLP WIRE FOR POSITIVE CONDUCTOR AND WHITE #10 XLP FOR NEGATIVE CONDUCTOR.

2. WIRING FROM CABINET TO GATE ARM SHALL BE WHITE #10 XLP FOR COMMON, RED #10 XLP FOR FLASHER CIRCUIT 1, AND BLUE #10 XLP FOR FLASHER CIRCUIT 2.



BASE AND PULLBOX DETAIL

(SOLAR POWER OPTION)

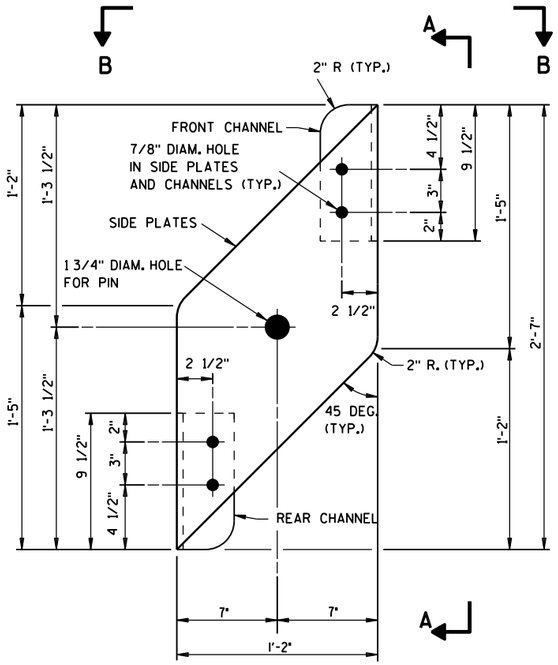


RAMP GATE
SOLAR POWER

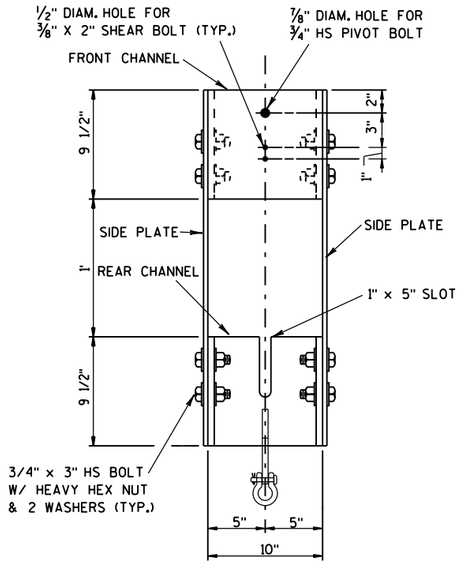
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

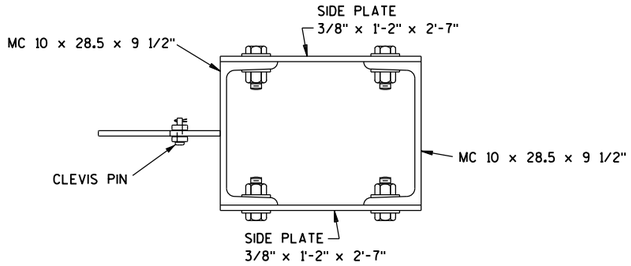
S.D.D. 15 D 34-2b



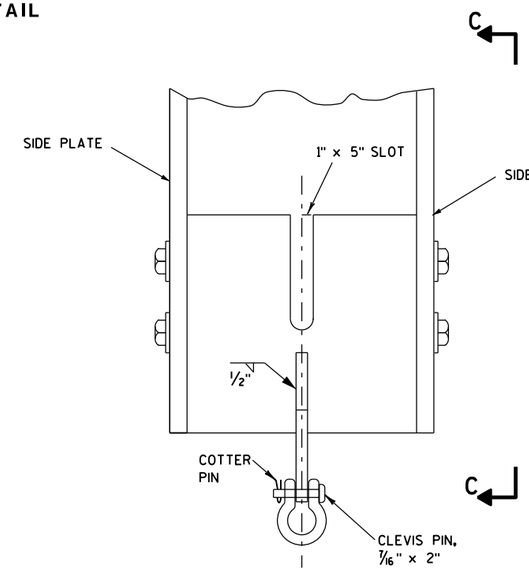
SIDE PLATE DETAIL



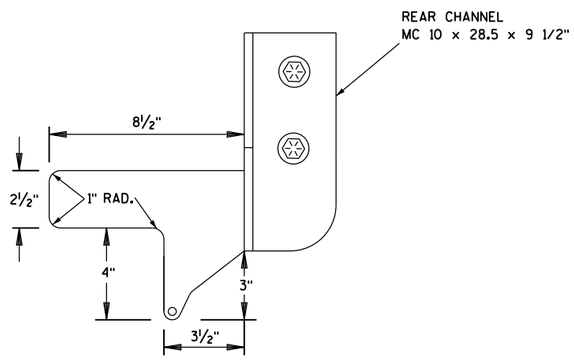
SECTION A-A



SECTION B-B



YOKE ASSEMBLY DETAIL



SECTION C-C

RAMP GATE
SOLAR POWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 34-2c

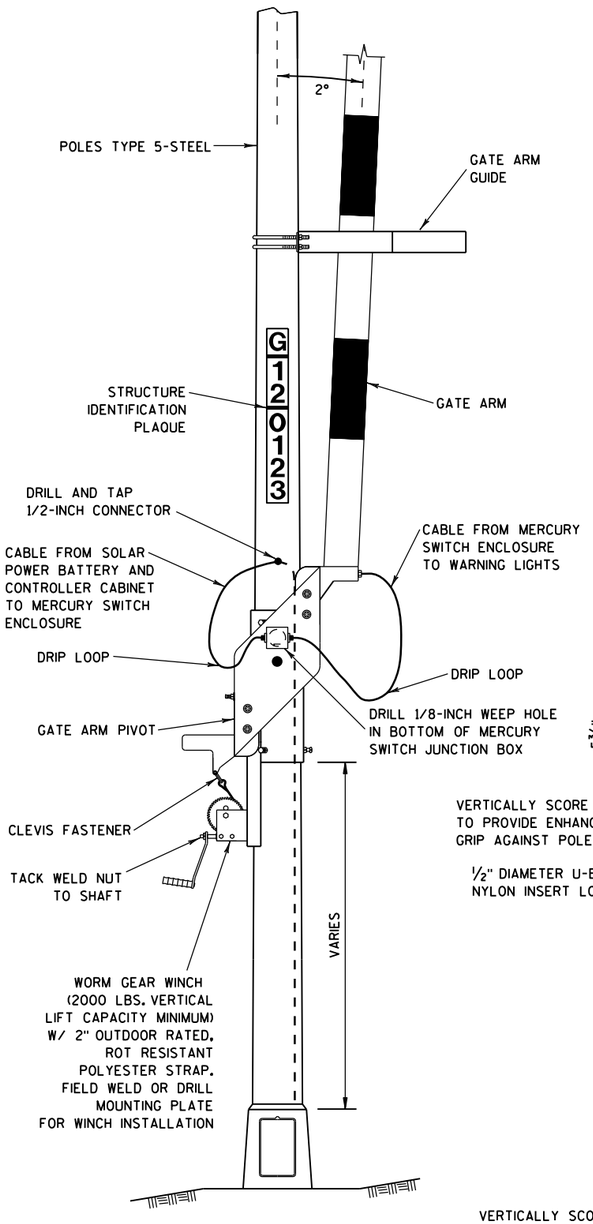
GENERAL NOTES

1. WHEN THE GATE IS FULLY RAISED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE OUTSIDE OF THE REAR CHANNEL.

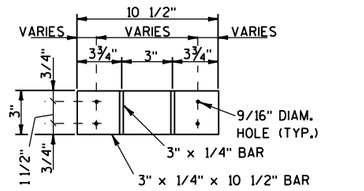
2. WHEN THE GATE IS FULLY LOWERED, THE NUT AND WASHER SHALL BE PLACED SNUGLY AGAINST THE INSIDE OF THE REAR CHANNEL.

3. ANTI-SEIZE LUBRICATING MATERIAL SHALL BE USED ON ALL BOLT THREADS BEFORE INSTALLATION.

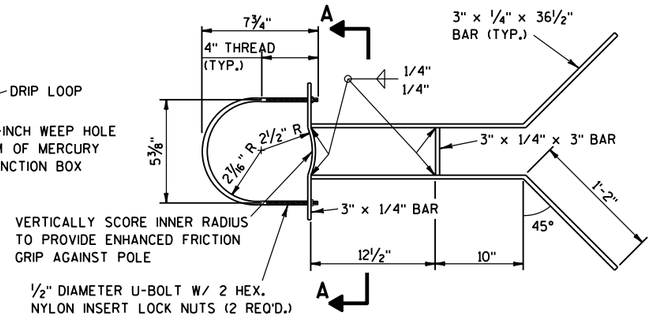
4. ALL BOLTS SHALL BE GALVANIZED AND CONFORM TO ASTM A307, GRADE A, UNLESS DESIGNATED AS HS (HIGH STRENGTH), WHICH SHALL CONFORM TO ASTM A325. BOLTS OF 1/2" NOMINAL DIAMTER OR LESS MAY BE STAINLESS STEEL.



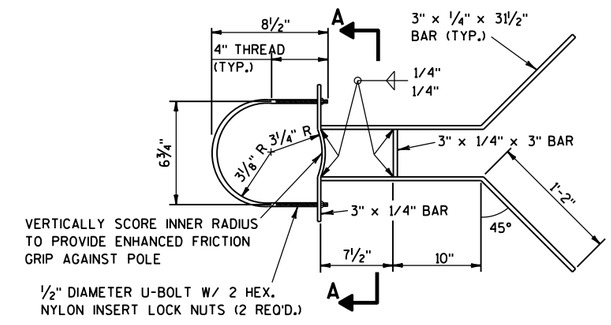
GATE PIVOT ASSEMBLY



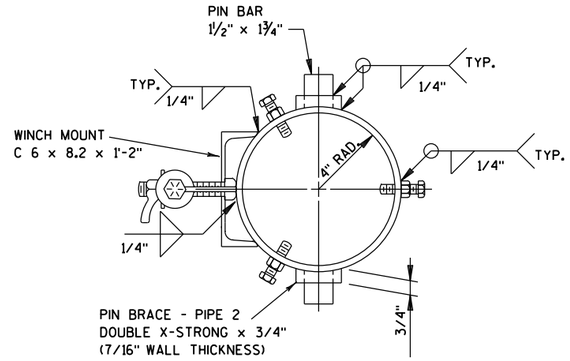
SECTION A-A
U-BOLTS NOT SHOWN



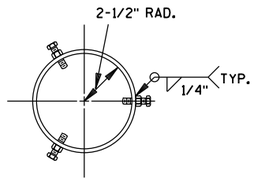
UPPER GATE ARM GUIDE DETAIL



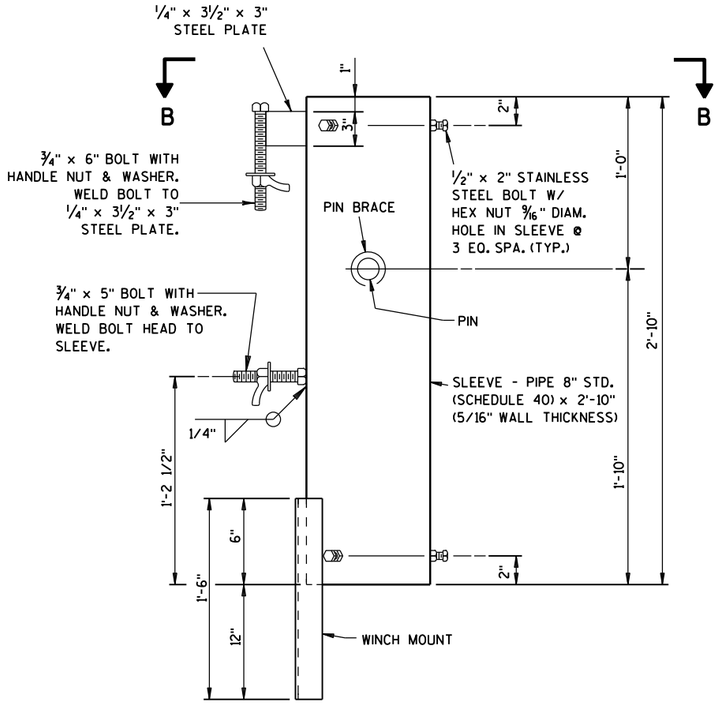
LOWER GATE ARM GUIDE DETAIL



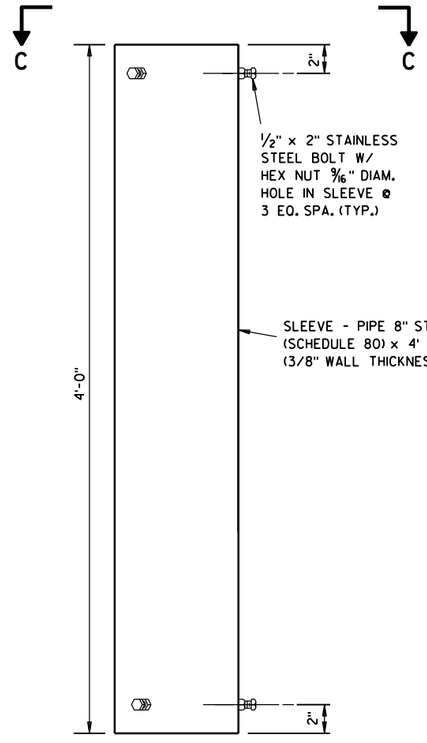
SECTION B-B



SECTION C-C



PIVOT SLEEVE DETAIL



TOP COLLAR

RAMP GATE
SOLAR POWER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

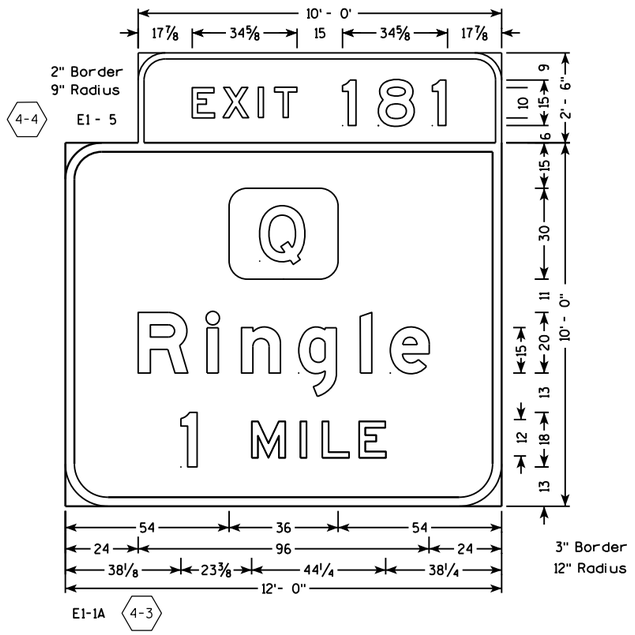
APPROVED
11/2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRCIAL
99
R
FHWA

6

S.D.D. 15 D 34-2d

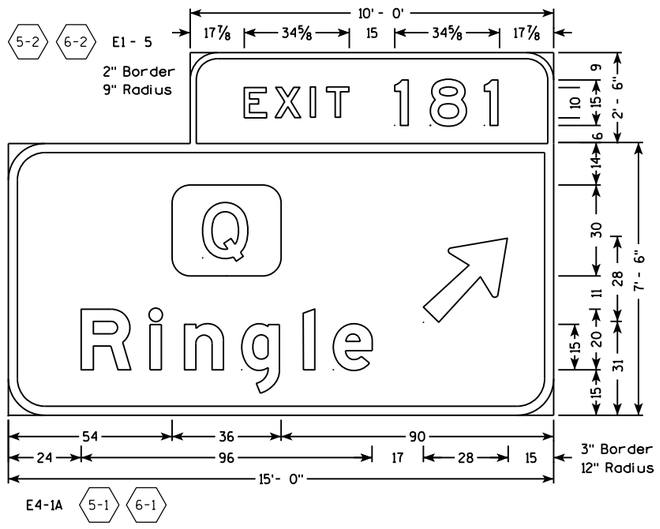
6

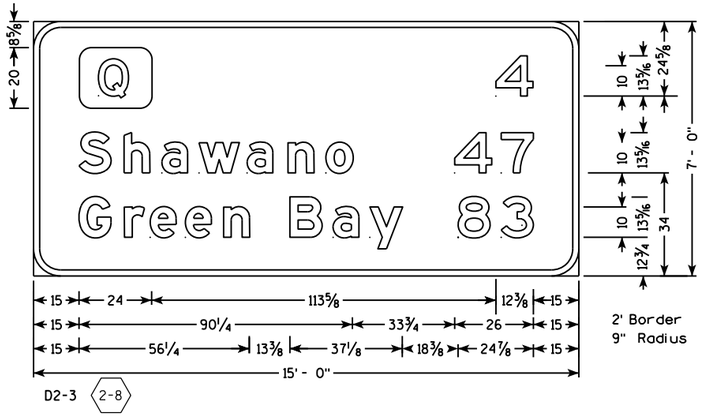
S.D.D. 15 D 34-2d



NOTES

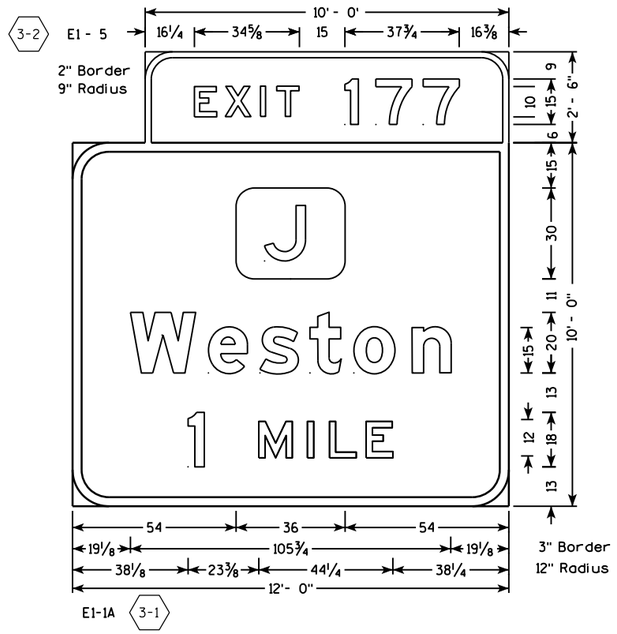
1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E

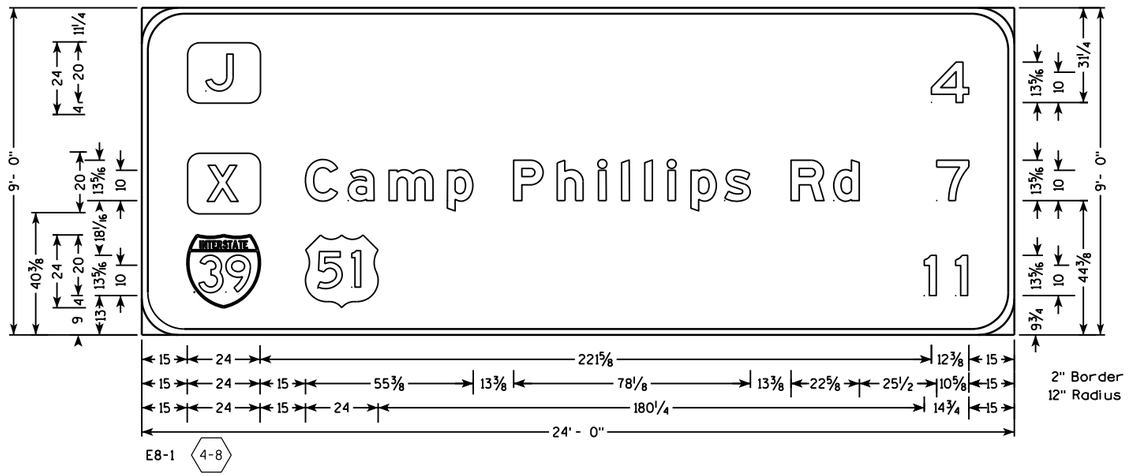




NOTES

1. All Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap Words are Series E





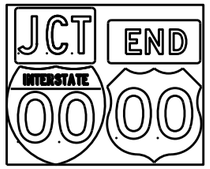
7

7

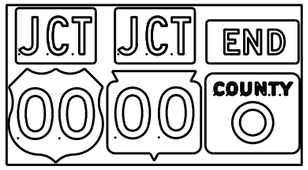
PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	SIGN DETAIL		SHEET 101	E

TYPICAL ASSEMBLIES

J1-1

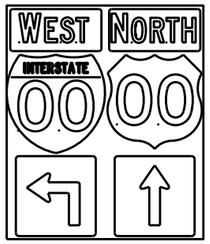


J1-2

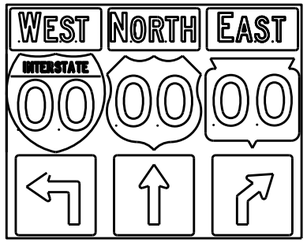


J1-3

J2-1



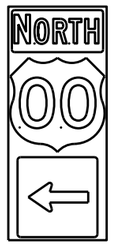
J2-2



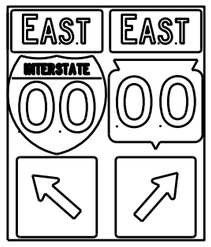
J2-3

JV

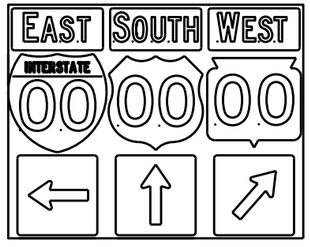
(Typical Vertical J-Assembly
See Note 10 and 11)



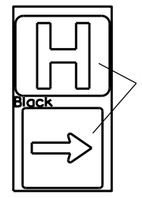
J3-1



J3-2



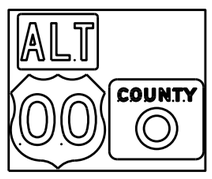
J3-3



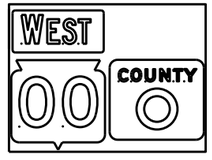
Blue Background

JH-1

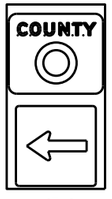
J4-1



J4-2



J4-2



J13-1

J12-1

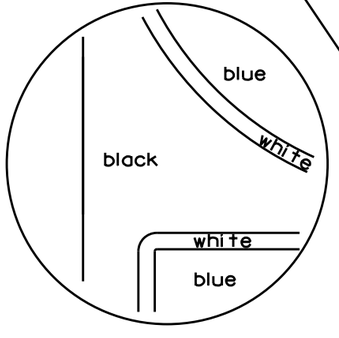
J32-1

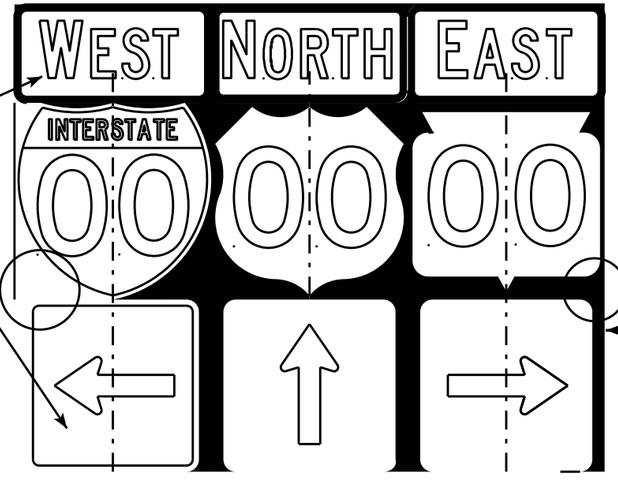
J33-1

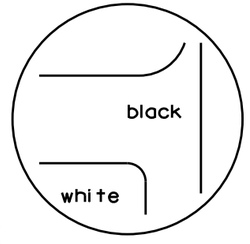
J23-1

J22-1

[blue background with interstate]







[black background]

NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

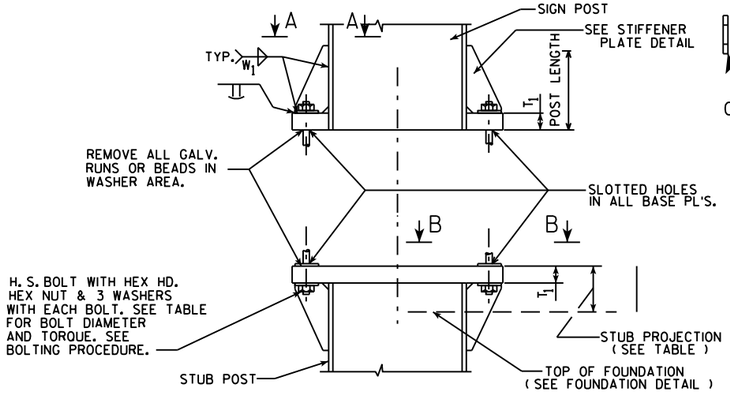
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

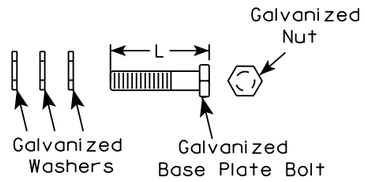
PROJECT NO: | SHEET NO: E

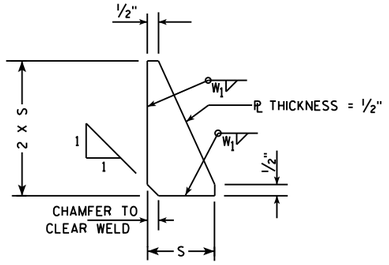
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

WISDOT/CADDS SHEET 42



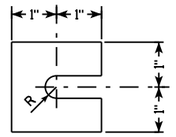
SIGN POST AND STUB POST ELEVATION





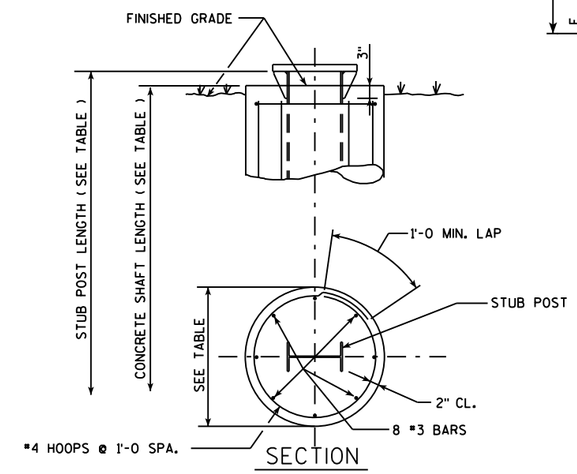
STIFFENER PLATE DETAIL

(SEE TABLE FOR DIMENSIONS)

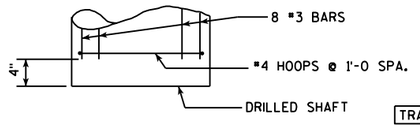


FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

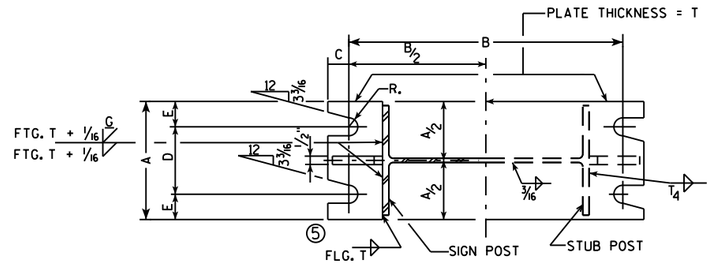
SHIM DETAIL



SECTION

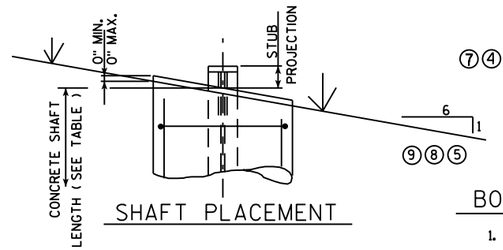


FOUNDATION DETAIL



SECTION A-A

SECTION B-B



SHAFT PLACEMENT

⑦④

⑨⑧⑤

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

GROUP LOADS	PERCENT OF ALLOWABLE STRESS
1. DEAD	100
2. DEAD & WIND	140
3. DEAD, ICE & ½ WIND[4]	140 [4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

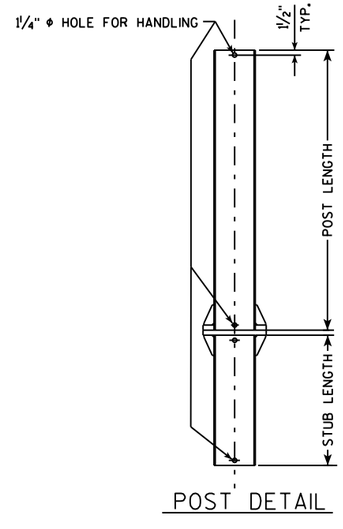
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
⑨ ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.

BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. (SEE TABLE)
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

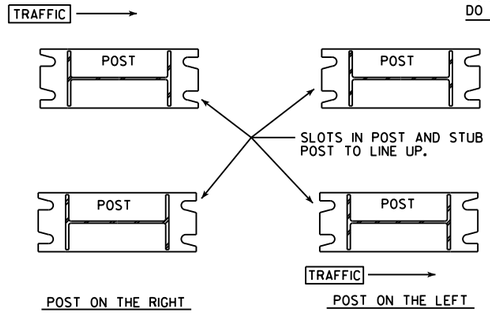
NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.



POST DETAIL

QUANTITIES FOR 1 FOOTING		
	CONC. MASONRY C.Y.	REINF. STEEL LBS.
A	0.6	34
B	0.8	49
C	0.9	50
D	0.9	56
⑦ E	1.0	62

REINF.	TYPE	#3	#4
	A	8 @ 4'-5	5 @ 6'-3
	B	8 @ 6'-5	7 @ 6'-3
	C	8 @ 6'-11	7 @ 6'-3
	D	8 @ 7'-5	8 @ 6'-3
⑦	E	8 @ 7'-11	9 @ 6'-3



POST SLOT ORIENTATION ⑦

L	X	TYPE	DIMENSION / POST SIZE	BASE CONNECTION DATA TABLE: BOLT SIZE & TORQUE	A	B	C	D	E	T_1	T_4	W_1	R	S	FOUNDATION DATA: STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	② K
3 ¾	④	A	W10"X12.0 #/FT.	¾" Φ @ 75#-FT.	5¼"	1'-0⅜"	⅞"	3½"	⅞"	1"	3/16"	5/16"	13/32"	2⅛"	3'-6	3"	2'-0 Φ	5'-0	76.0# ④
4 ¾	④	B	W12"X16.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1¼"	¼"	5/16"	13/32"	3"	5'-6	3"	2'-0 Φ	7'-0	146.5# ④
5		C	W12"X19.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	5/16"	5/16"	13/32"	3"	6'-0	3"	2'-0 Φ	7'-6	182.1#
5		D	W12"X22.0 #/FT.	⅞" Φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	⅜"	5/16"	13/32"	3"	6'-6	3"	2'-0 Φ	8'-0	210.5#
5	③	E	W12"X26.0 #/FT.	1" Φ @ 90#-FT.	7"	1'-4¼"	1¼"	4"	1½"	1½"	⅜"	5/16"	17/32"	3"	7'-0	3"	2'-0 Φ	8'-6	293.0# ③

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. (1 POST) = K+ (POST LENGTH X POST WT.)
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/15 PLATE NO. A3-1.16

⑩	1-21-14	LUBRICATION OF BASE BOLTS
⑨	4-26-11	REMOVE NON-GALVANIZED
⑧	10-30-96	NOT GALVANIZED/GALVANIZED
⑦	10-30-92	QUANT., A588 EXCEPT., ADD SLOT VIEW
⑥	8-24-87	BASE CONN. WELD
⑤	10-13-81	BASE CONN. WELD & FUSE PL WASHERS
④	10-19-79	POST A & B, A572 GR. 50, & K
②	11-28-78	"K" ③ 4-23-79 TYPE "E"
①	5-4-78	T_1 , T_2 & W_1
NO.	DATE	REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

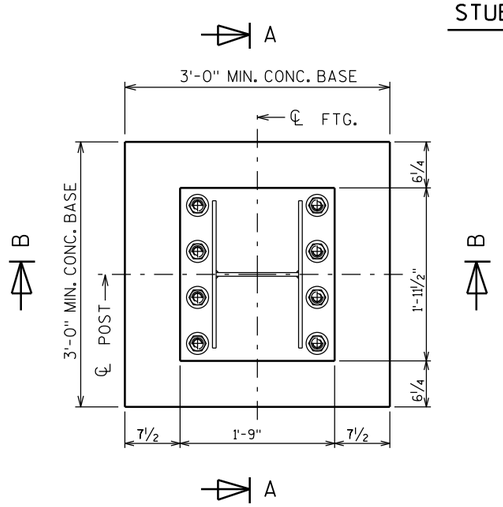
CONST. SPEC.	DRAWN BY	PLANS CK'D.
2011	JPH	

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

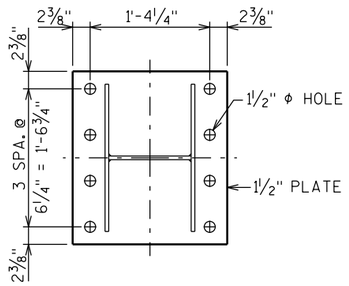
SHEET

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

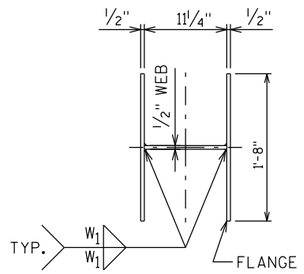
STUB AND MASONRY ANCHOR DETAILS



STUB SECTION



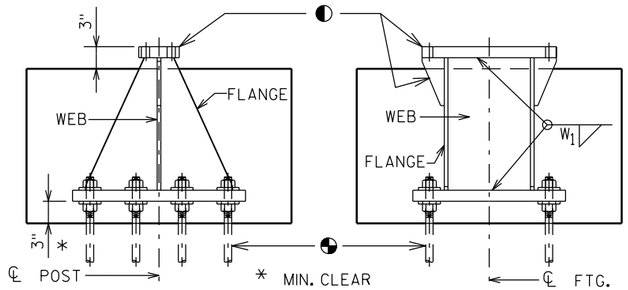
BASE PLATE



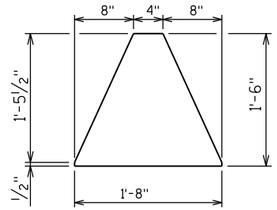
STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.



SECTION A SECTION B



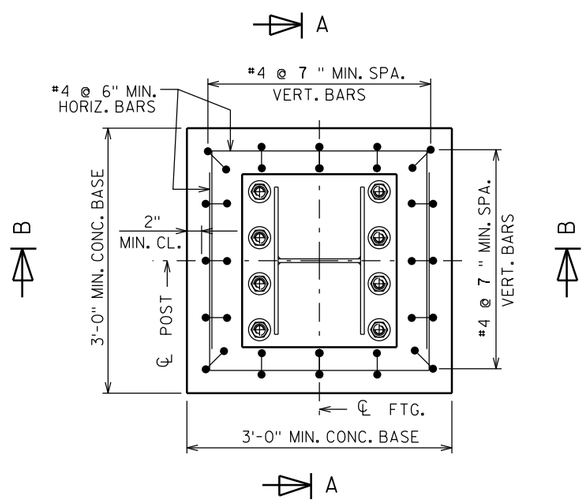
FLANGE

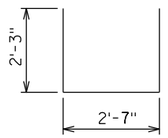
GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

CONCRETE BASE AND REINFORCING STEEL DETAILS

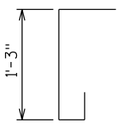
CONCRETE BASE SECTION





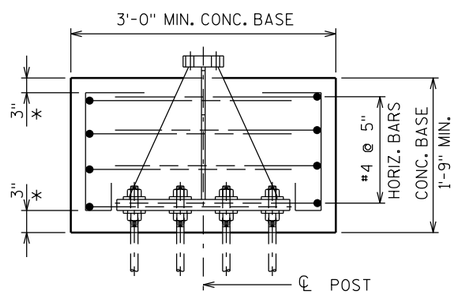
HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



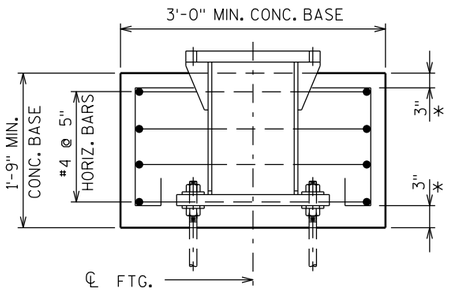
VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED



SECTION A

* MIN. CLEAR



SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

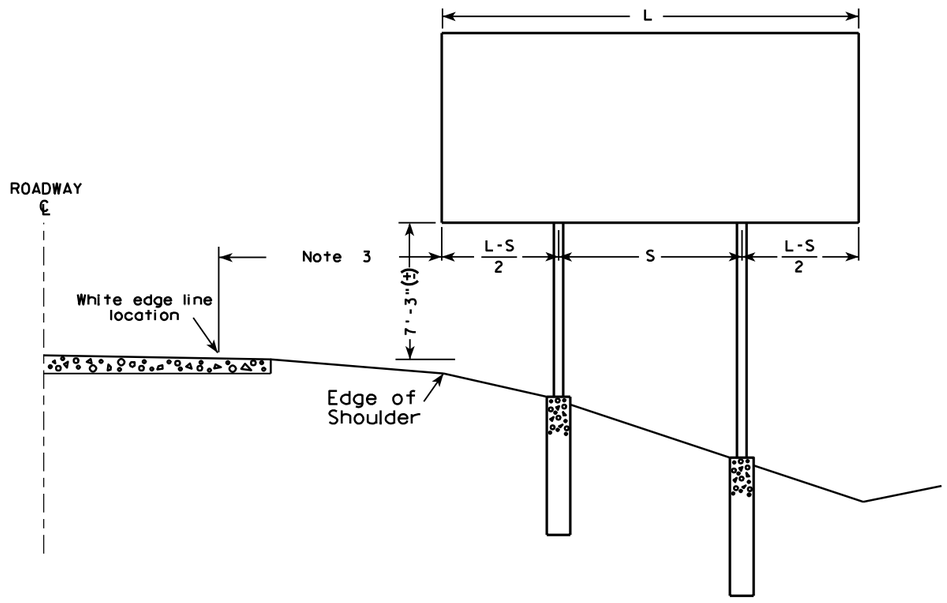
WISCONSIN DEPT OF TRANSPORTATION

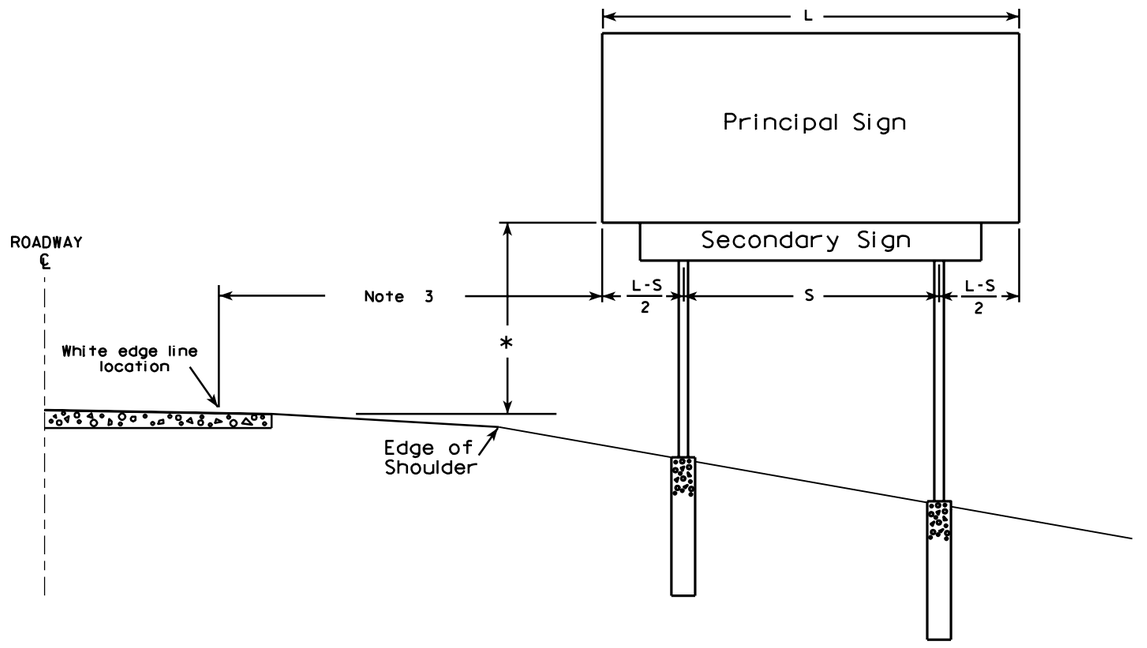
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 2/06/2014 PLATE A3-1M.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000 WISDOT/CADDS SHEET 42





GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

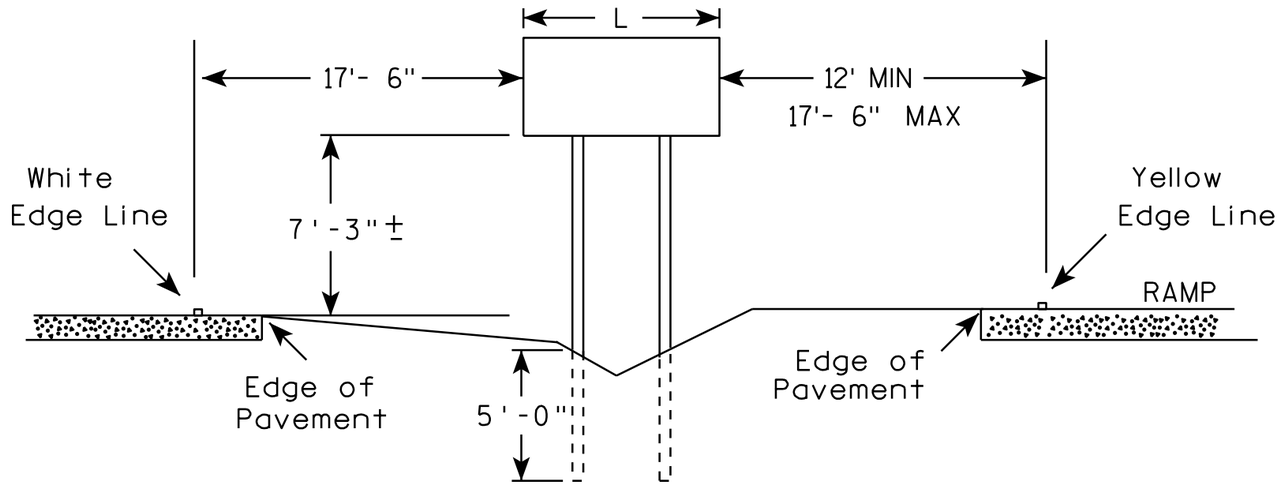
TYPICAL INSTALLATION
OF TYPE I SIGNS

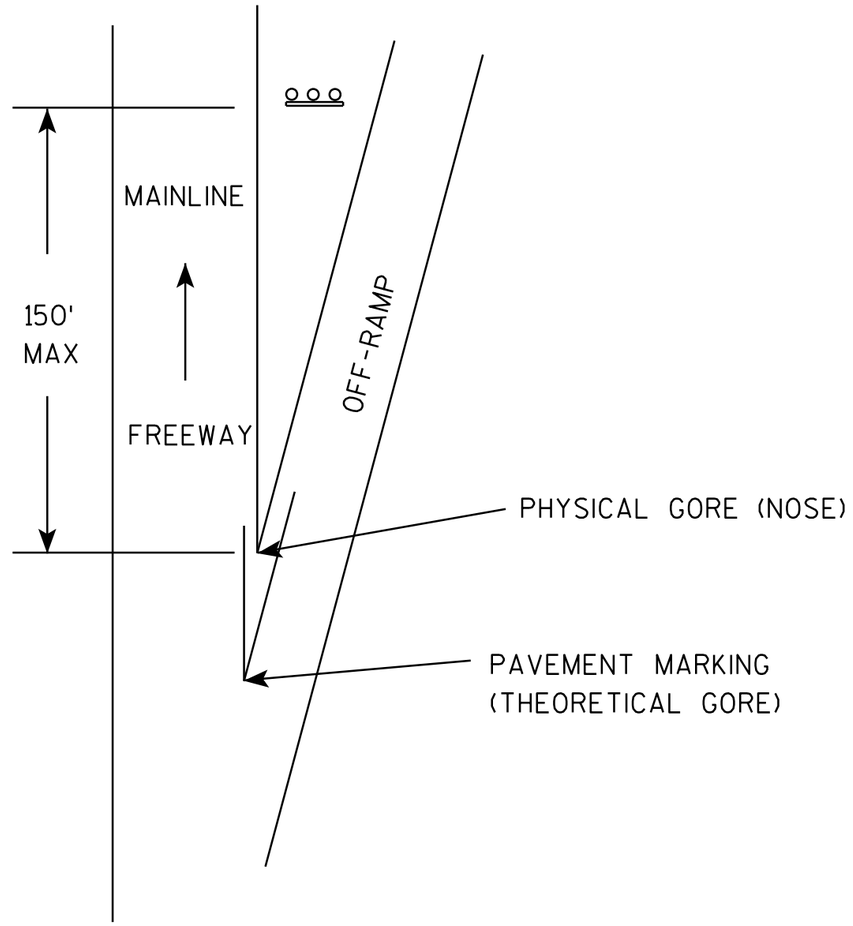
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:				SHEET NO: 105	E





GENERAL NOTES

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

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

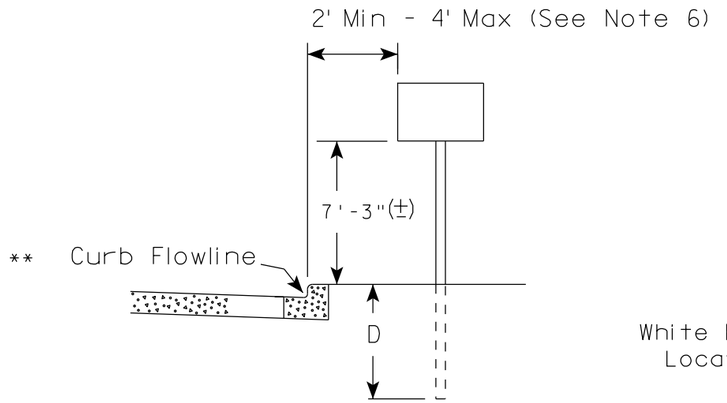
DATE 2/06/14 PLA... A4-2.3

PROJECT NO: | SHEET NO: E

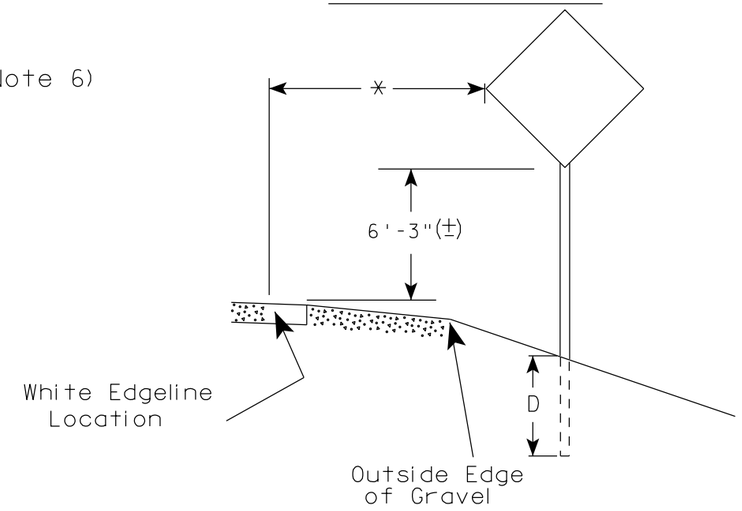
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A42.DGN PLOT DATE : 06-FEB-2014 12:36 PLOT BY : mscsja

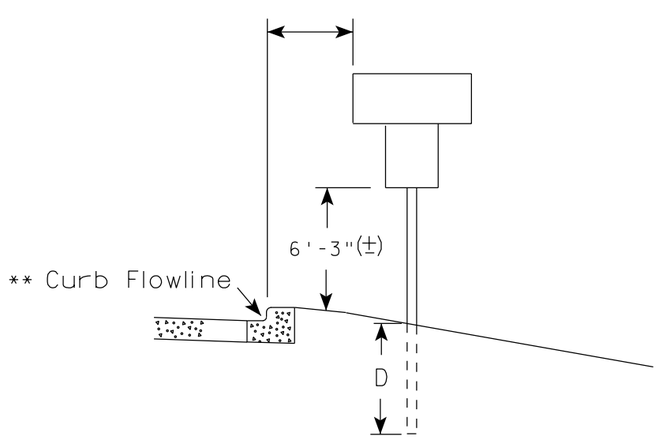
WISDOT/CADDS SHEET 42

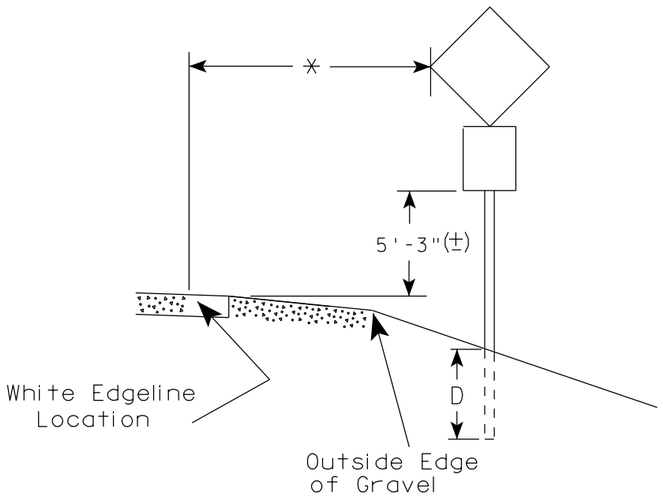
URBAN AREA



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 barrier wall, see A4-10 sign plate.
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 J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. 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), 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" (±).

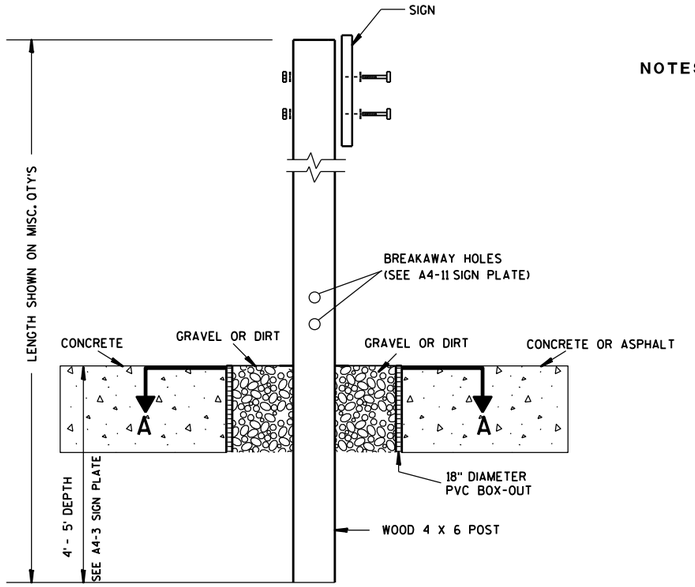
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

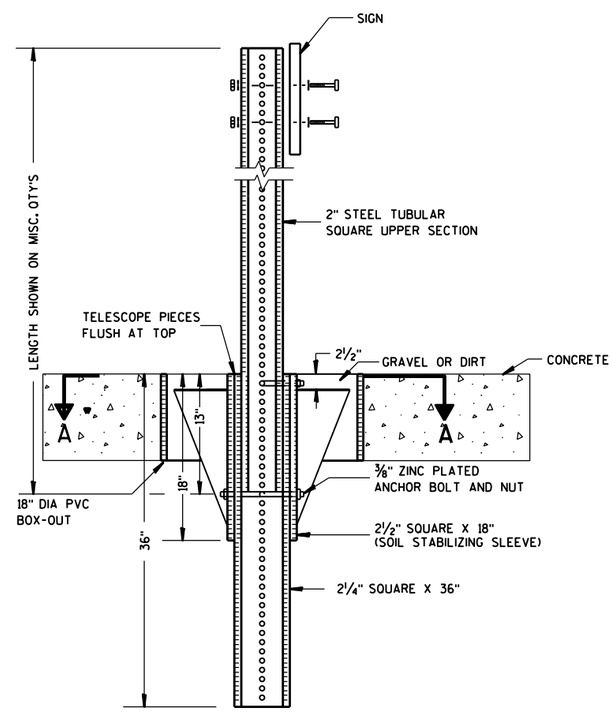
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

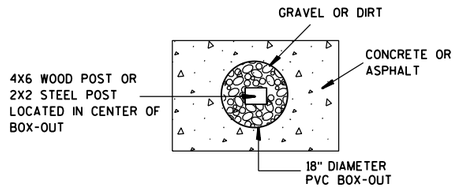
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

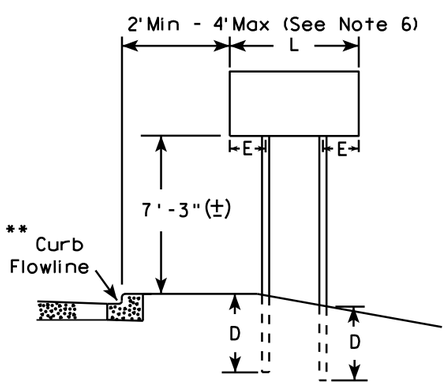
APPROVED Matthew R Rauch
for State Traffic Engineer

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

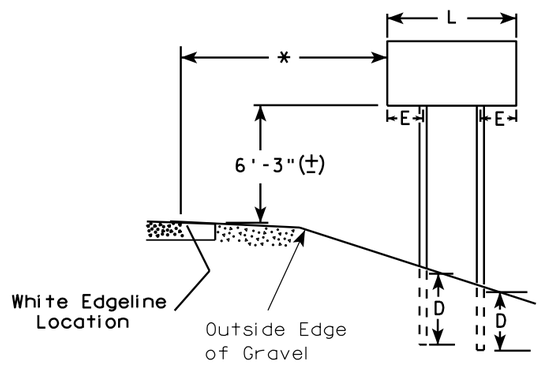
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

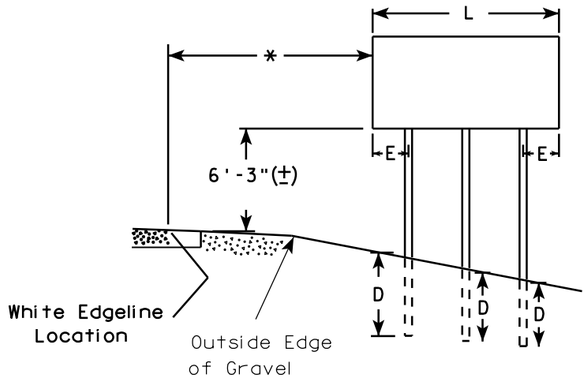
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

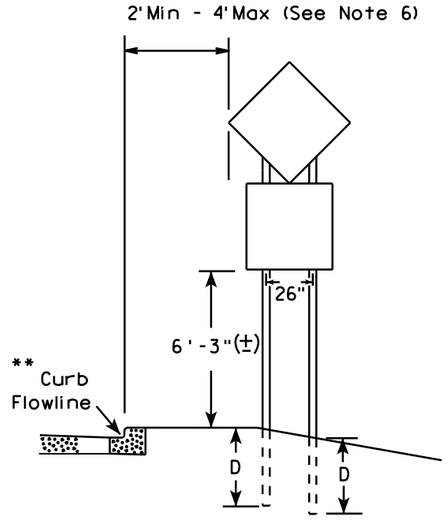
URBAN AREA



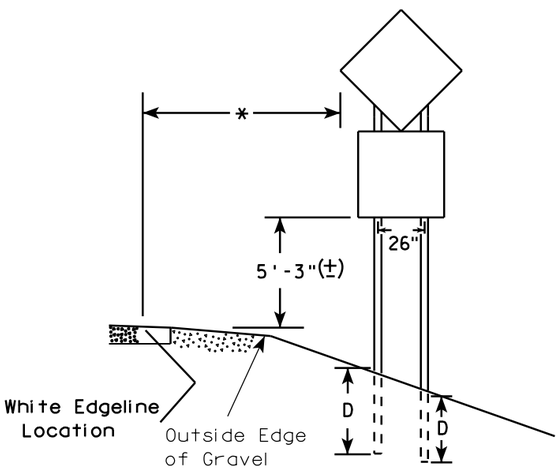
RURAL AREA (See Note 3)







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 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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

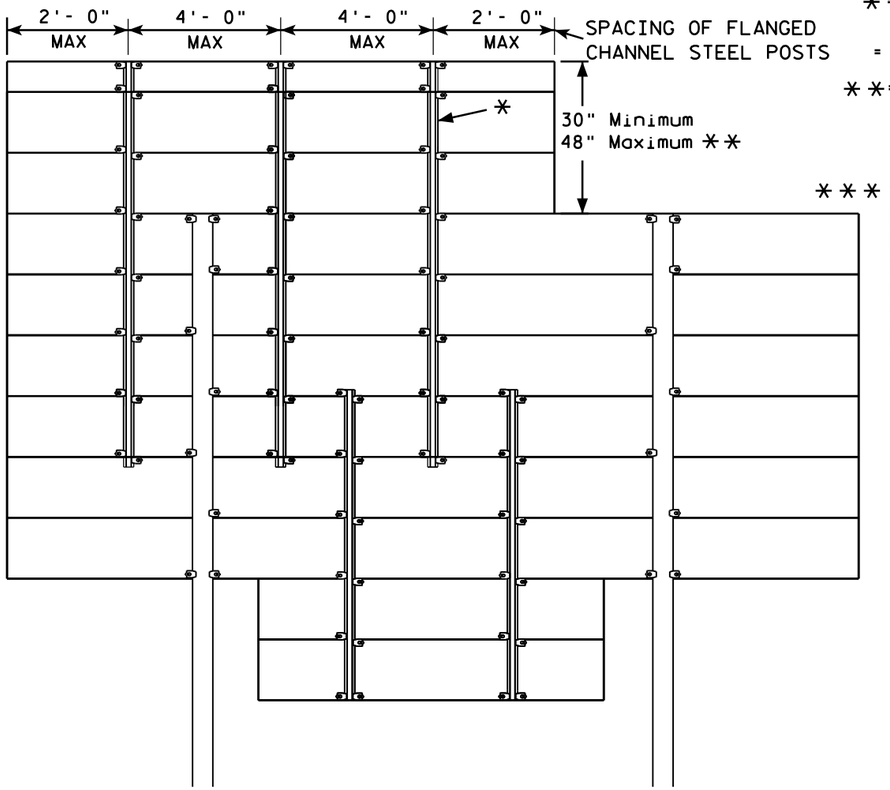
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 14

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42

GROUND MOUNTED SIGN

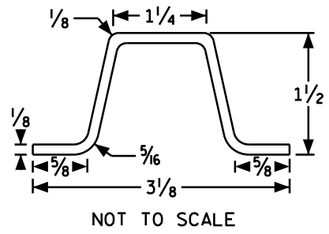


* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

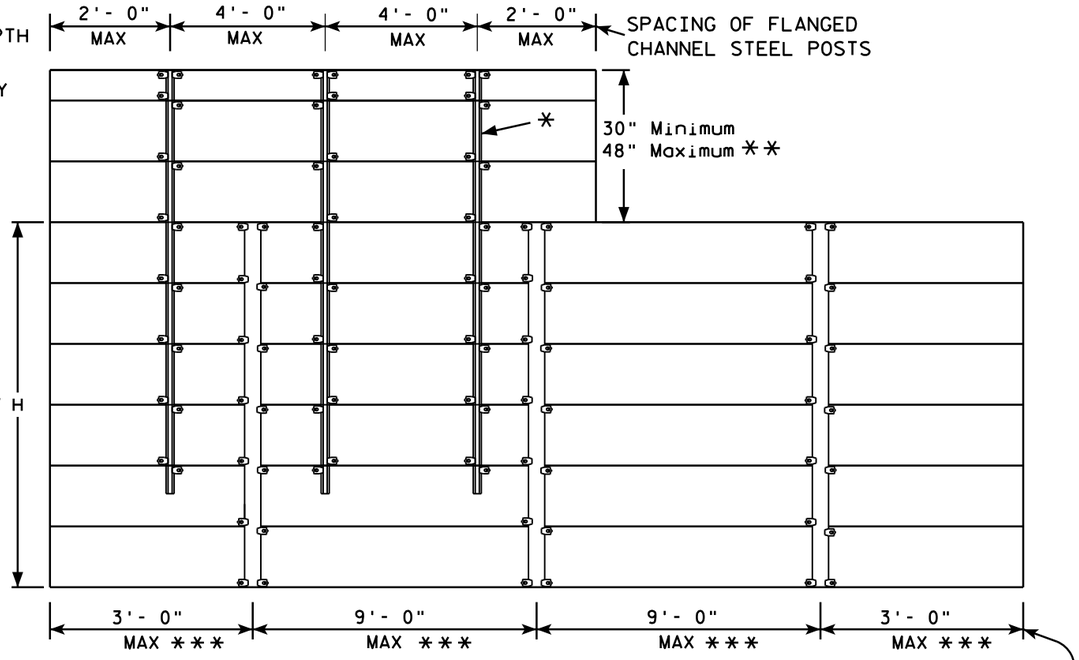
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

FLANGE CHANNEL DETAIL



NOT TO SCALE

SIGN BRIDGE MOUNTED SIGN



GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

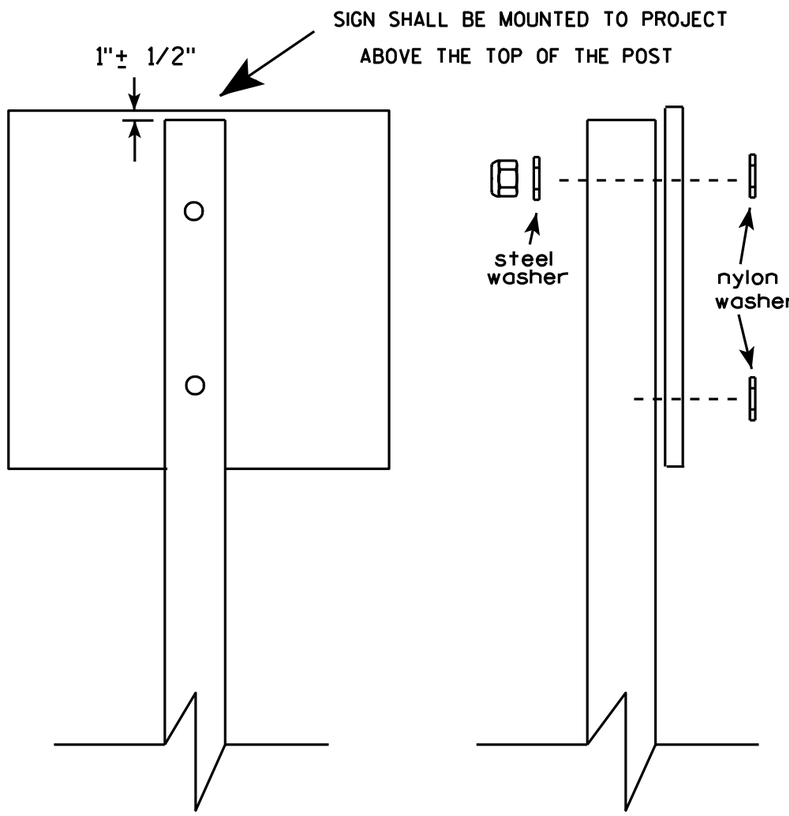
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

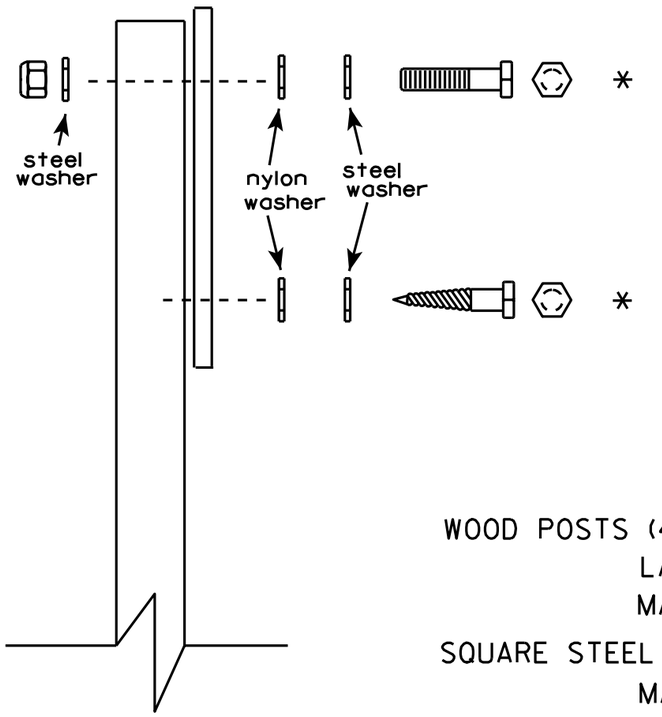
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 110 A4-6.12

PROJECT NO:				SHEET NO:	E





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

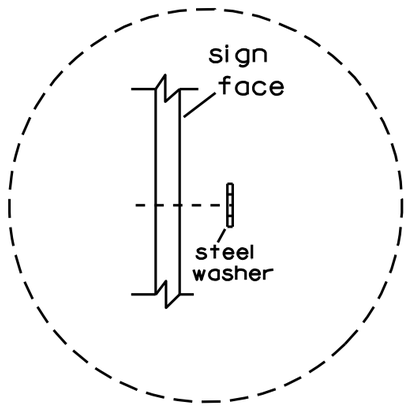
a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
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 for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

* 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 3/23/10 PLATE NO. A4-8.7

7

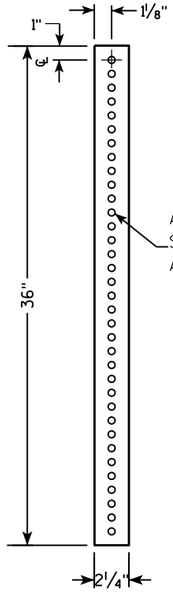
7

PROJECT NO:

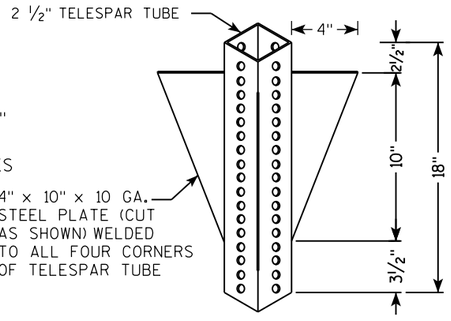
SHEET NO: 111 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

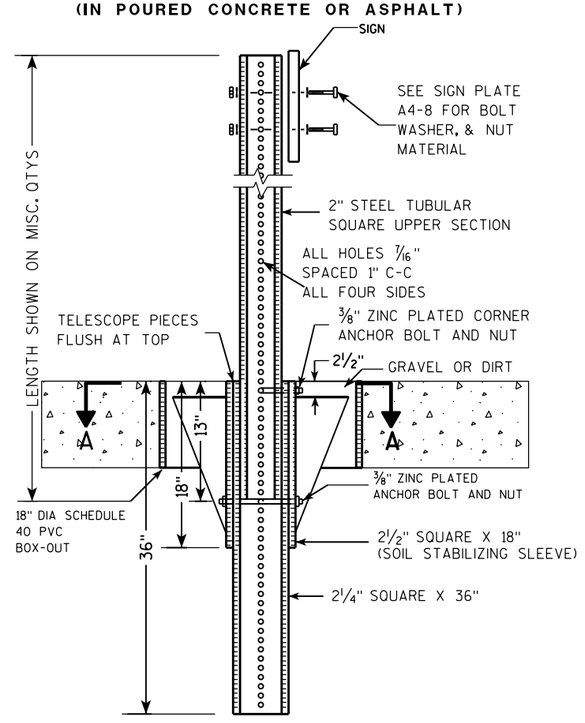
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



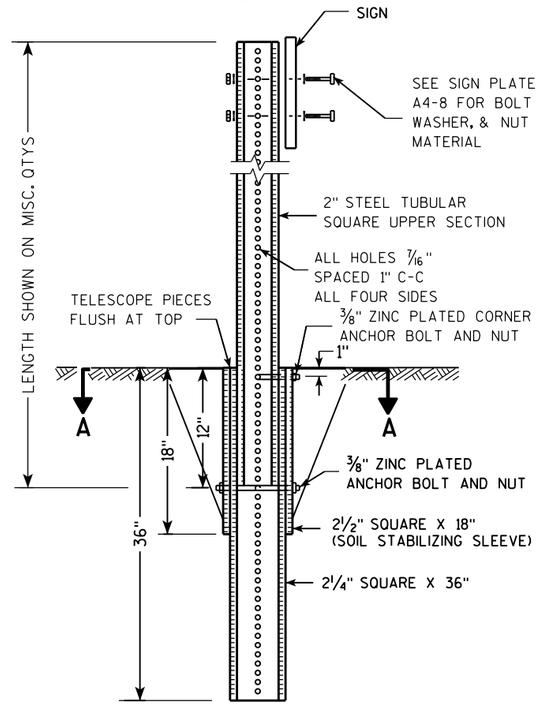
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

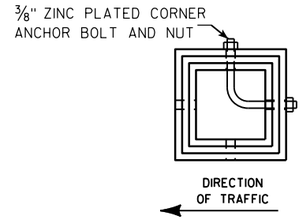


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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

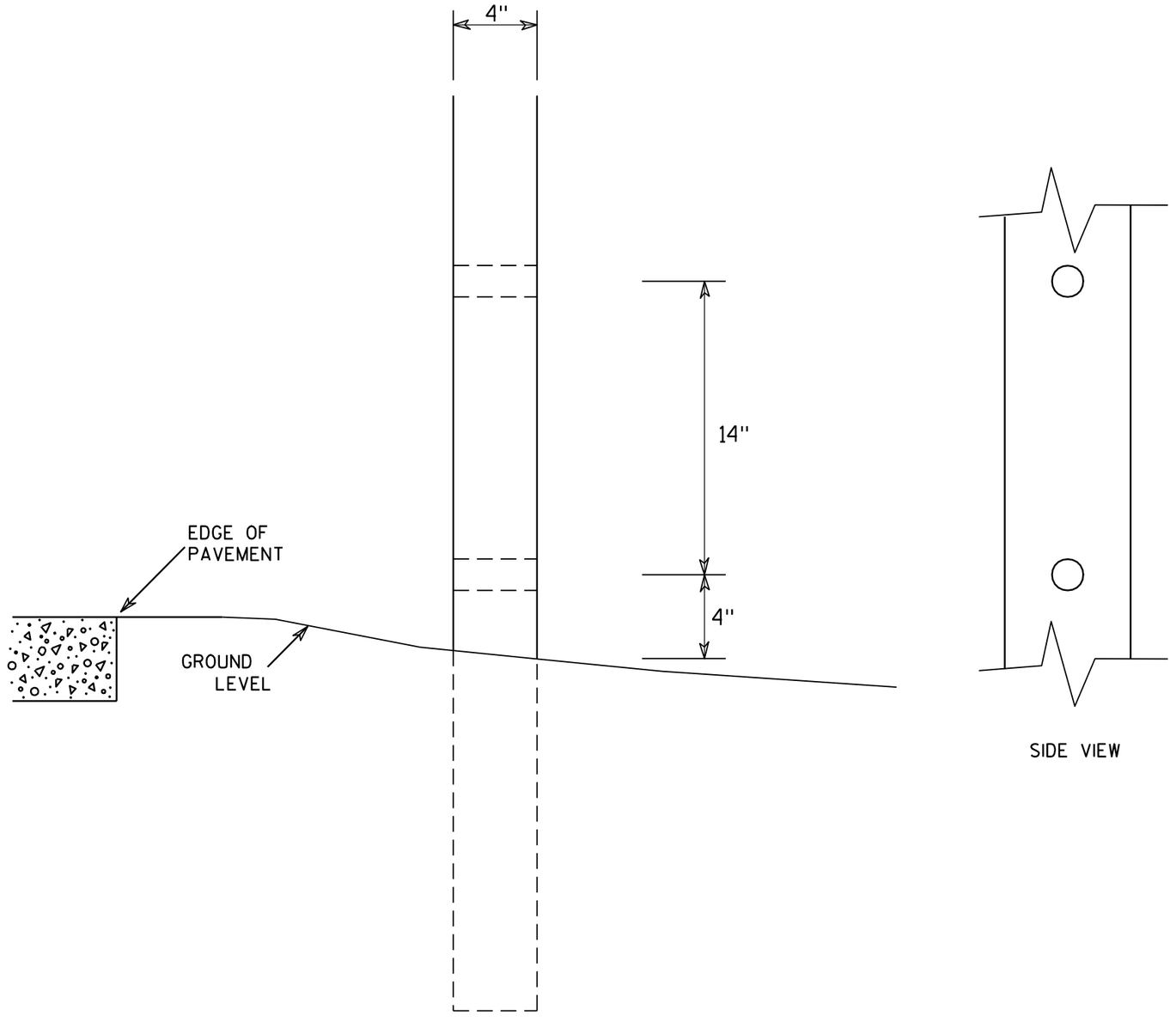
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 112 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



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

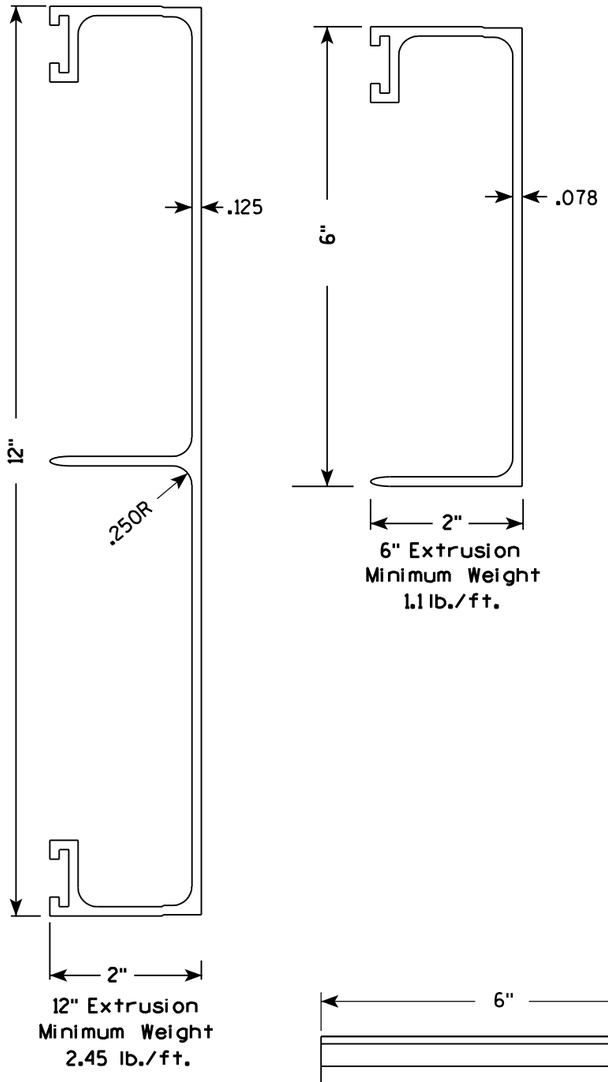
WISCONSIN DEPT OF TRANSPORTATION

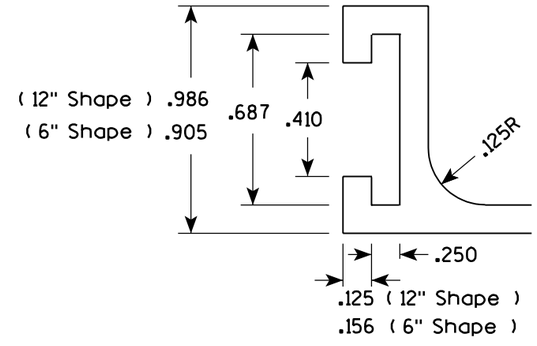
APPROVED Chester J Spang
for State Traffic Engineer

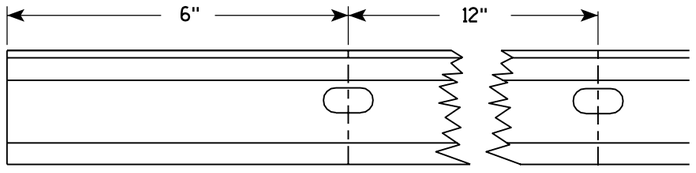
DATE 3/27/97 PLATE NO. A4-11.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 113	E

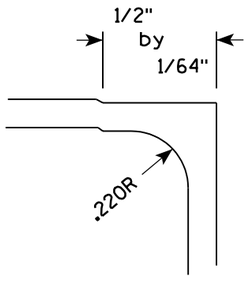
Extruded Shape







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

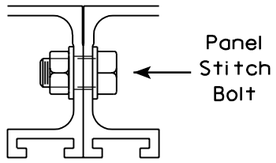


Hardware

STITCH BOLT, WASHER & NUT

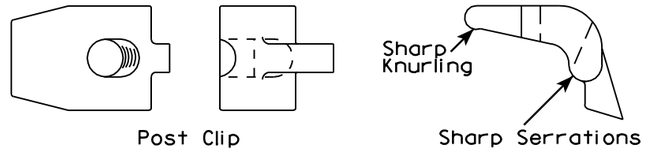
The hardware includes:

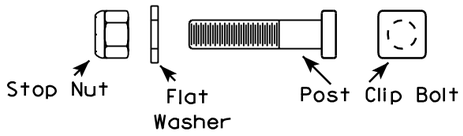
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy



POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.





NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spagg
for State Traffic Engineer

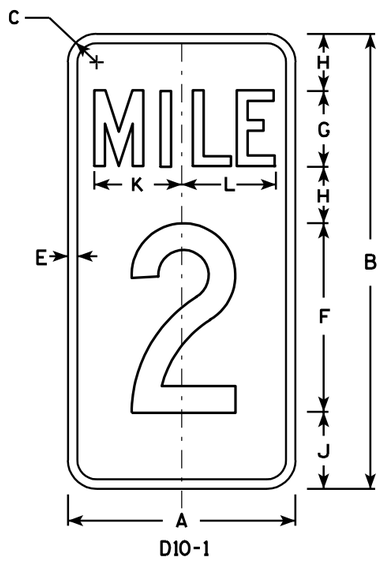
DATE 11/18/99 PLATE NO. A5-2.9

7

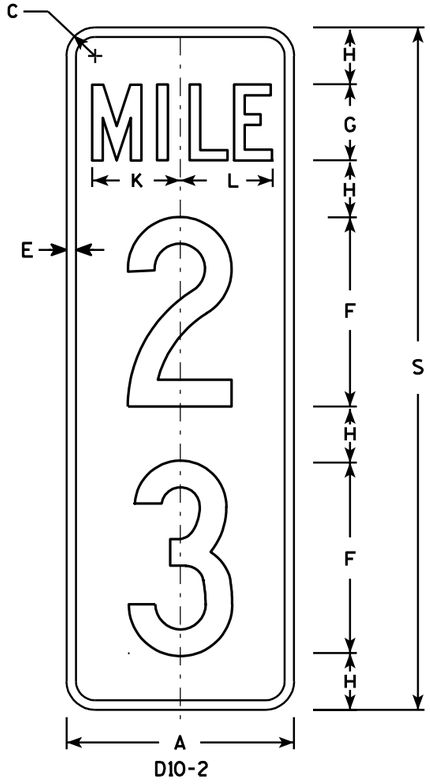
7

PROJECT NO:

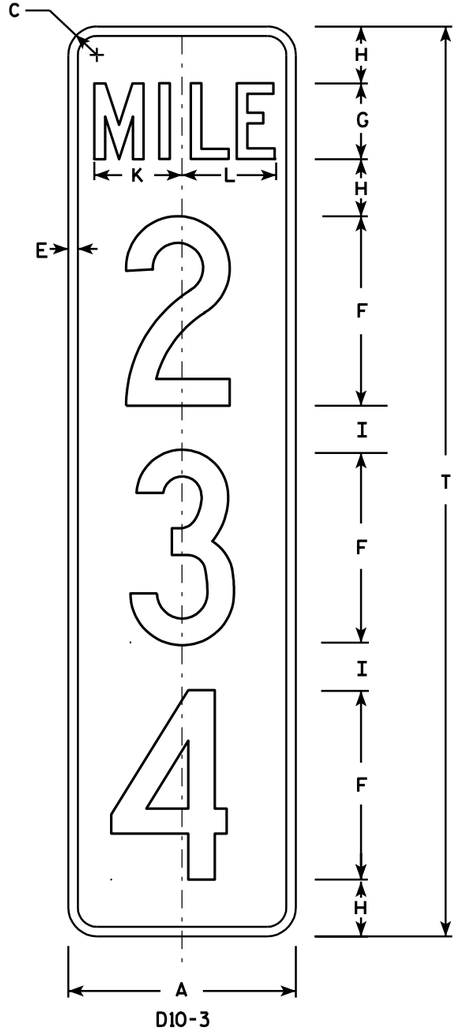
SHEET NO: 114 E



D10-1



D10-2



D10-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White - Type H Reflective
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. Optically adjust numerals about the centerline of the sign to achieve proper balance.

7

Metric equivalent for this sign is:

PHY. SIZE	
12 X 24	300 mm X 600 mm
12 X 36	300 mm X 900 mm
12 X 48	300 mm X 1200 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1																										
2																										
3																										
4	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						
5	12	24	1 ½		½	10	4	3	2 ½	4	4 ⅝	4 ⅞							36	48						

D10-1	D10-2	D10-3
Area sq. ft.	Area sq. ft.	Area sq. ft.
2.0	3.0	4.0
Area m2	Area m2	Area m2
.19	.28	.38

STANDARD SIGN
D10-1 , D10-2 & D10-3

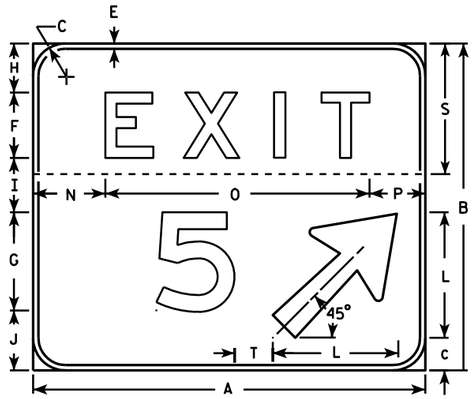
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for Director, Office of Traffic

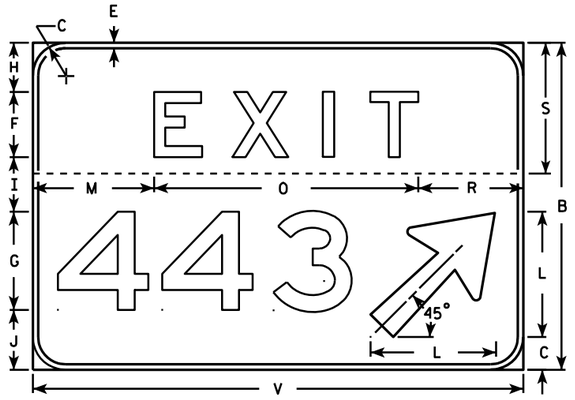
DATE 1/16/02 PLATE NO. D10-3.2

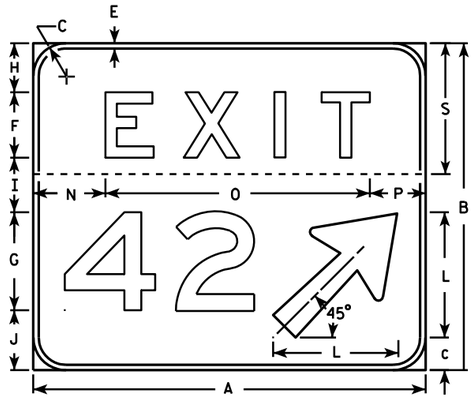
PROJECT NO:

SHEET NO: 115 E



NOTE: T diminision shall be measured from the back of the number to the front of the arrow

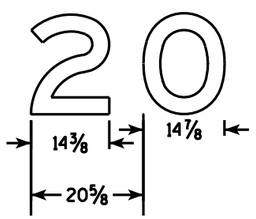




NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

EXAMPLE FOR USING SPACING CHART



SPACING CHART FOR 18" NUMERALS

NUMBERS	WIDTH	0	1	2	3	4	5	6	7	8	9	A	B	C
0	14 7/8	21 5/8	21 5/8	21 1/4	20 3/8	21 1/4	21 1/4	21 5/8	19 7/8	22 1/8	21 5/8			
1	5 7/8	14	14	14	13 1/8	12 1/8	14	14	12 1/4	14	14			
2	14 3/8	20 5/8	21 1/8	20 5/8	19 3/4	20 1/4	20 5/8	20 5/8	18 7/8	21 1/8	20 5/8			
3	14 3/8	20 3/4	21 1/8	20 3/4	20 1/4	19 3/4	20 3/4	20 3/4	19 3/8	21 1/8	20 3/4			
4	16 5/8	22 7/8	22	22 1/2	21 5/8	21 5/8	22 7/8	22 7/8	20 5/8	23 3/8	22 7/8			
5	14 1/4	20 5/8	20 5/8	20 1/8	18 3/4	18 3/4	20 5/8	20 5/8	18 3/8	20 5/8	20 5/8			
6	14 1/2	21 1/4	20 3/4	20 3/4	19 7/8	19 1/2	20 3/8	20 3/4	19	20 3/4	20 3/8			
7	14 3/8	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4			
8	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8			
9	14 1/2	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4			
A	18	19 3/4	19 3/4	20 1/4	19 3/4	17	19 3/4	20 5/8	18 7/8	20 5/8	19 3/4	21 5/8	23 7/8	23
B	14 1/4	21 1/2	21 1/2	20 5/8	19 1/4	19 3/4	20 5/8	21 1/2	19 5/8	21 1/2	20 5/8	19 1/2	22 3/8	21 1/2
C	14 1/4	21 1/4	21 1/4	20 7/8	20	20 7/8	20 7/8	21 1/4	19 1/2	21 3/4	21 1/4	18 3/8	21	19 3/4

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
2																										
3																										
4																										
5	72	60	6		1	12	18	9	10	11	8 7/8	23	22 1/4	13 1/4	48 1/2	10 1/4		19 1/4	24	7		90		96	7 1/2	

1-2 Digit Bid Area	3 Digit Bid Area
Sq. Ft.	
30	37.5

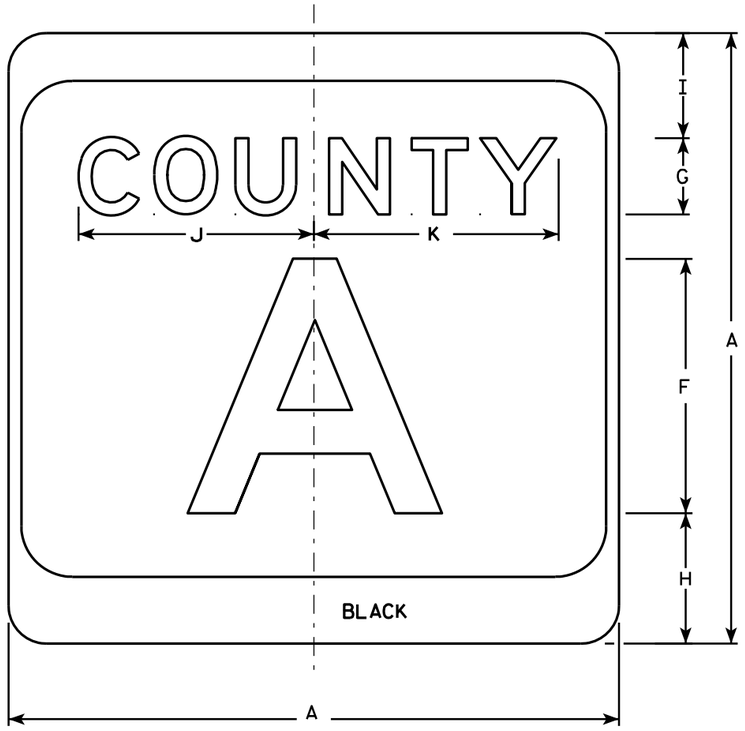
STANDARD SIGN E5-1A

WISCONSIN DEPT OF TRANSPORTATION

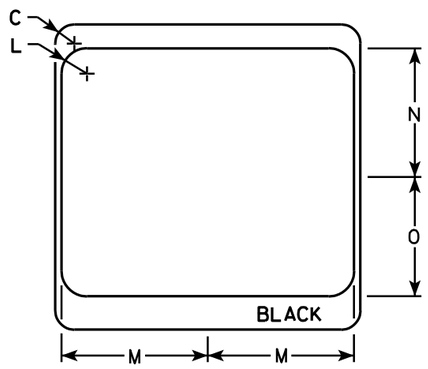
APPROVED Matthew R Rauch for State Traffic Engineer

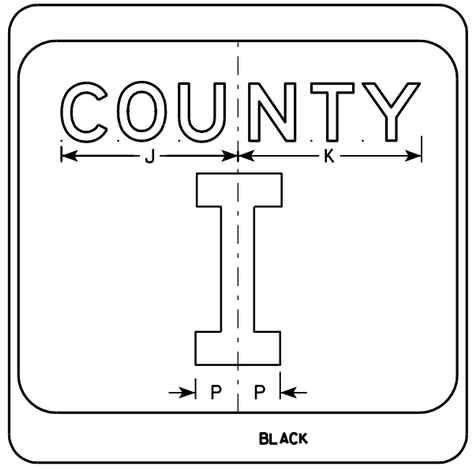
DATE 5/11/10 PLATE NO. E5-1A.12

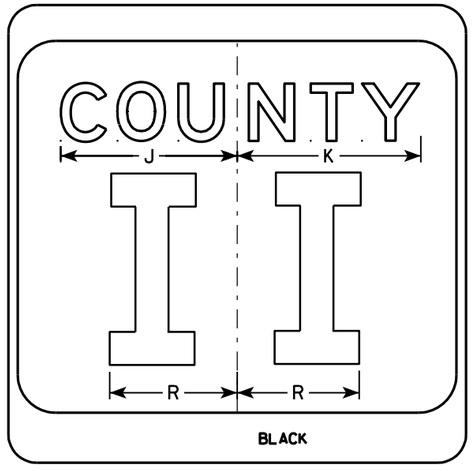
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 116 | E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

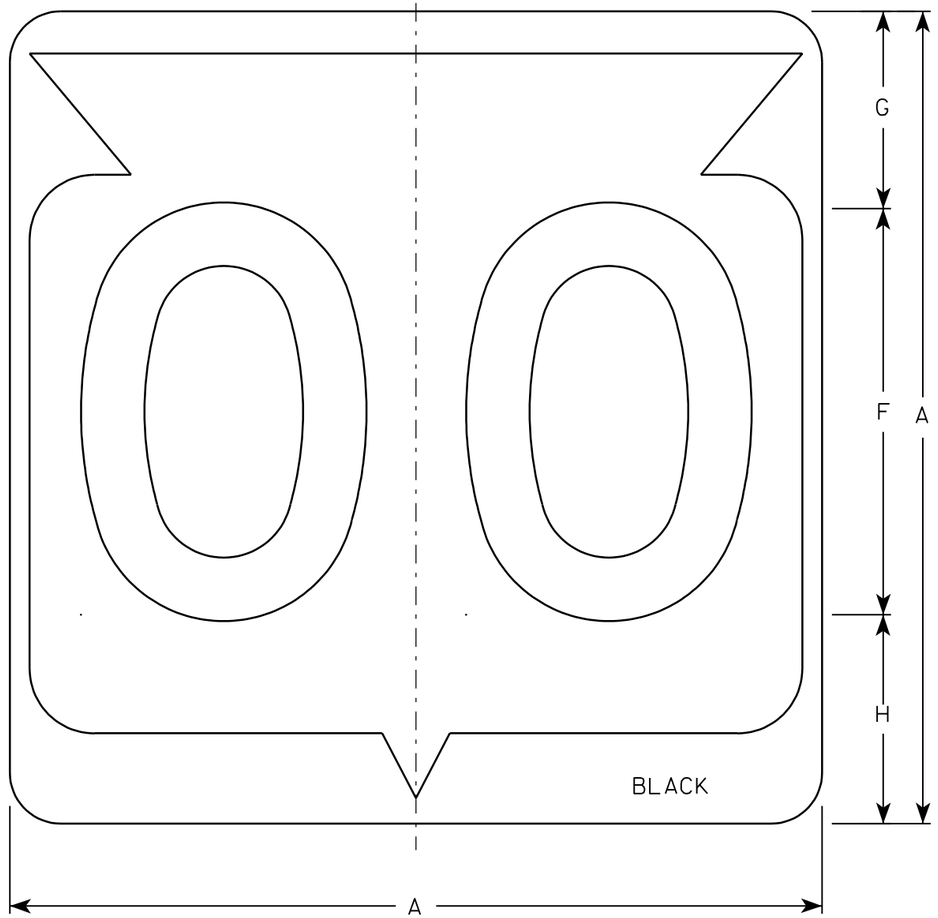
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

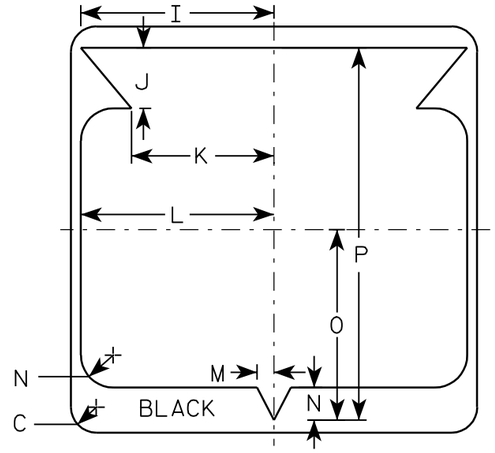
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 117	E



M1-6

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   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. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective



Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
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	.36
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	.81
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	.81
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	.81

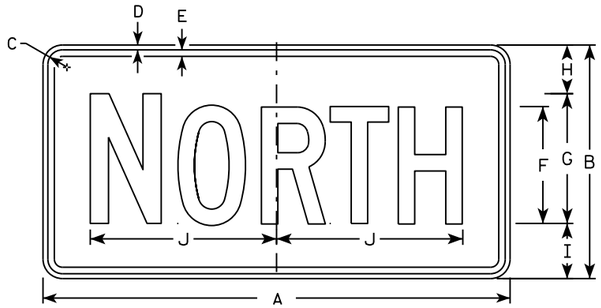
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

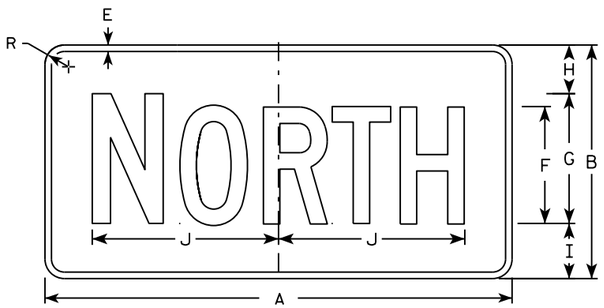
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 118	E



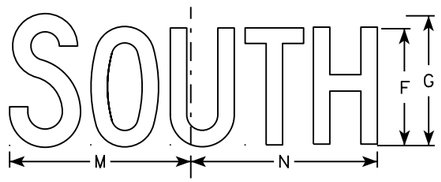
M3-1
MM3-1
MP3-1



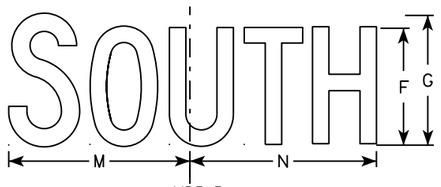
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

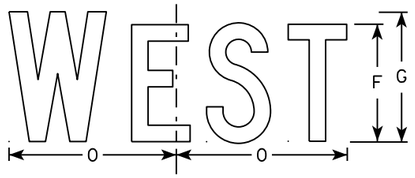
MB3-2
MK3-2
MN3-2



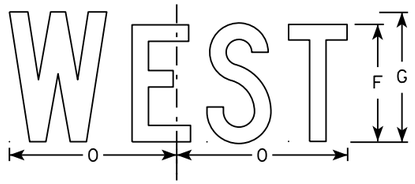
M3-3
MM3-3
MP3-3



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

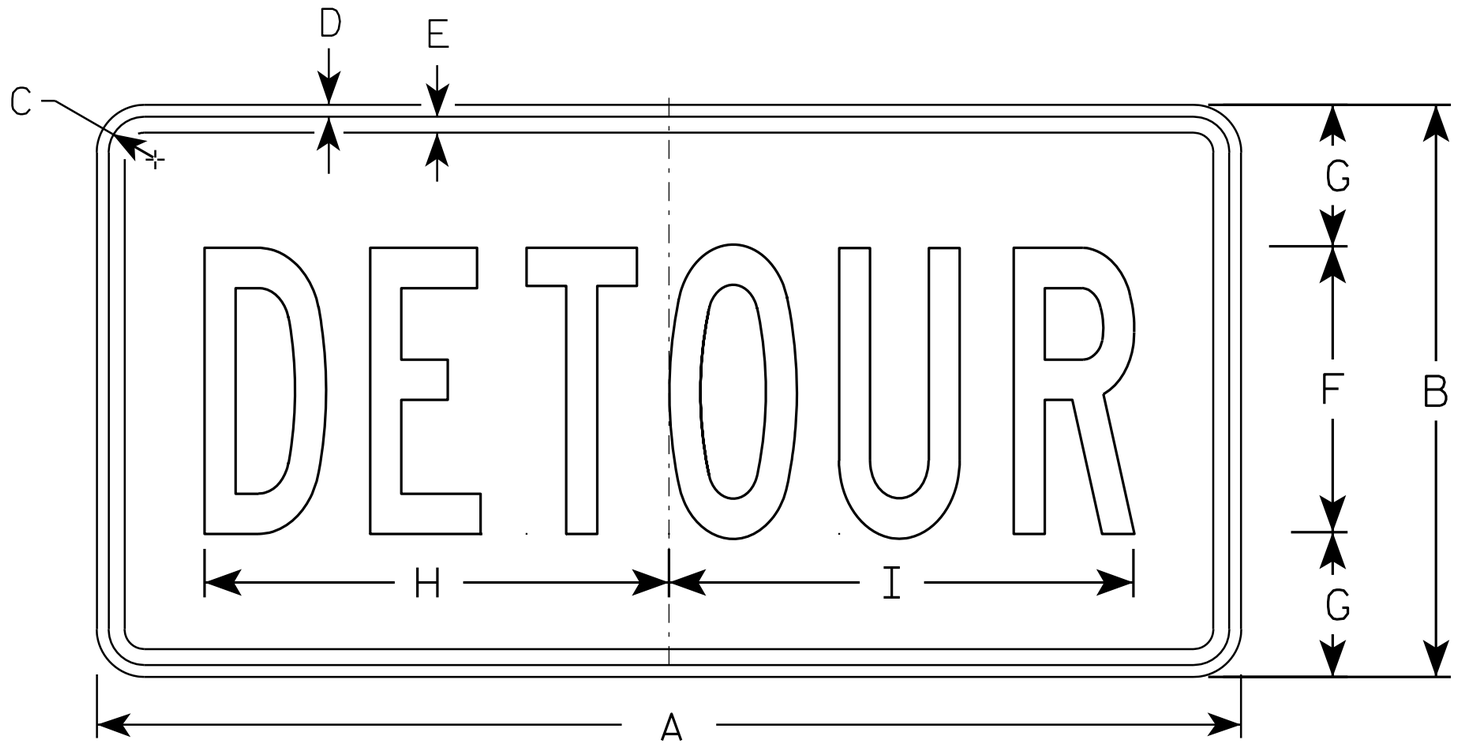
WISCONSIN DEPT OF TRANSPORTATION

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



M4-8

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

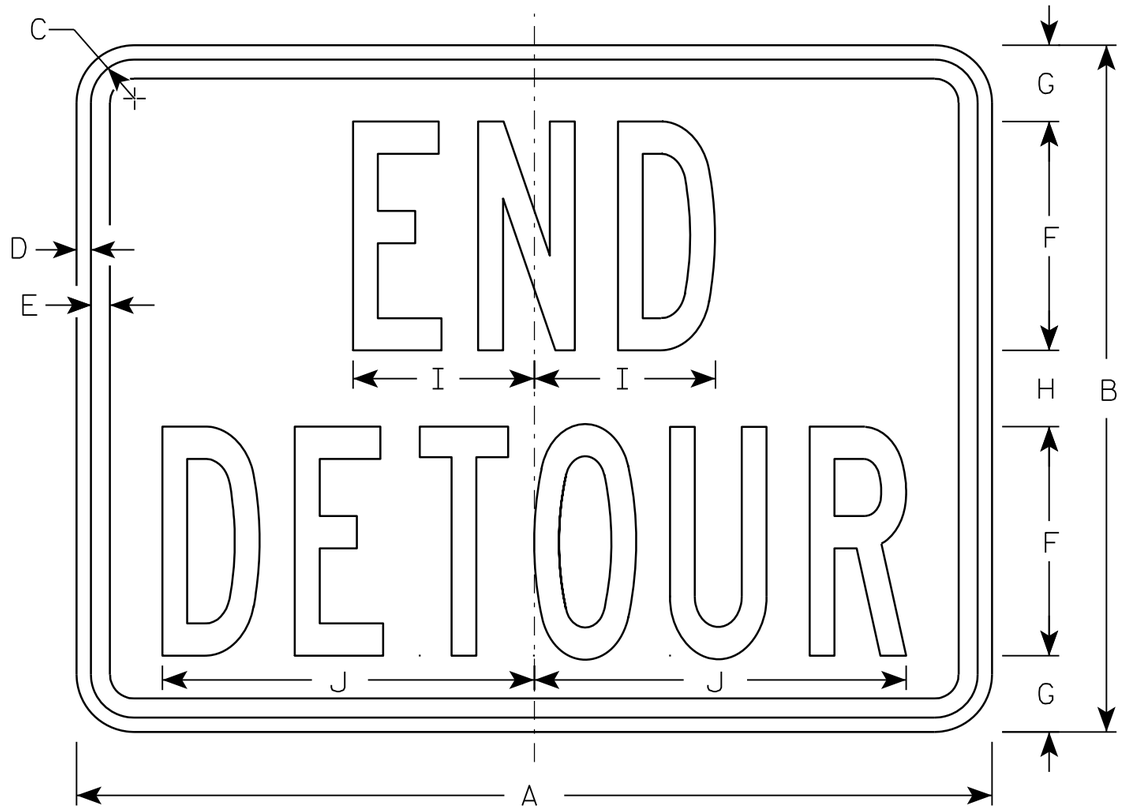
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E



M4-8A

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

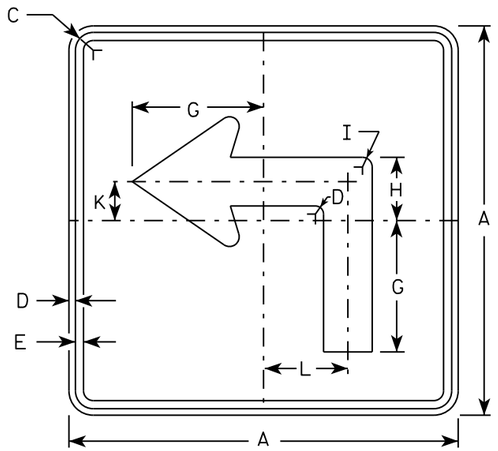
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

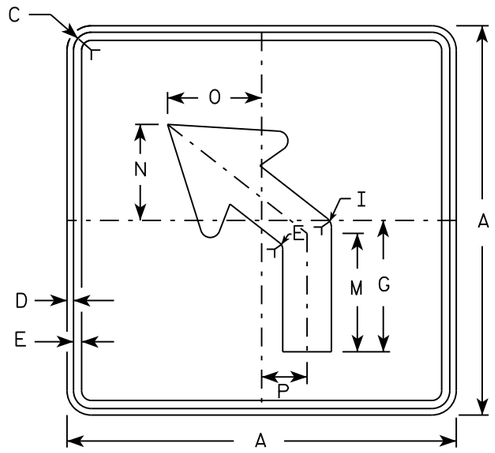
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

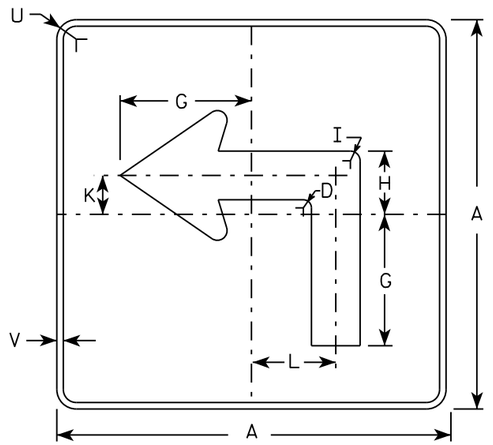
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E



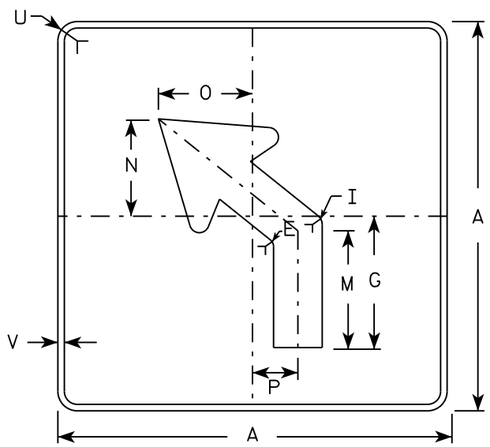
M5-1L
MM5-1L
MO5-1L
MP5-1L



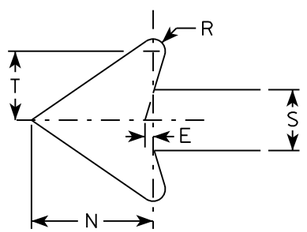
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

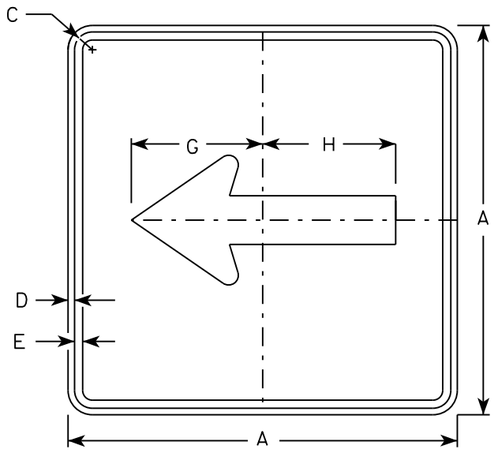
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

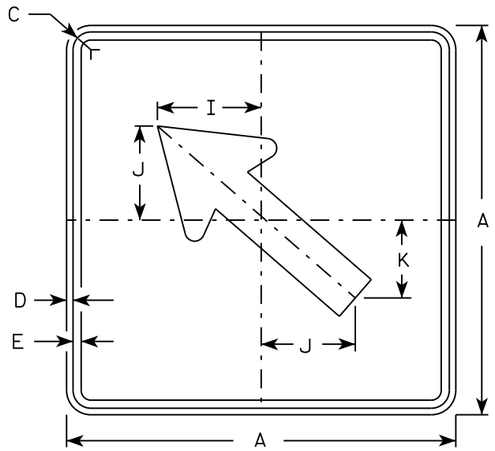
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



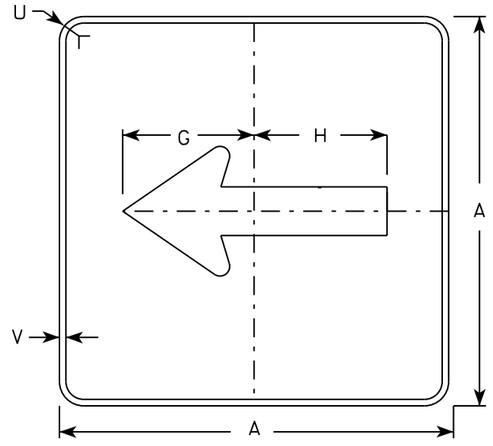
M6-1
MM6-1
MO6-1
MP6-1



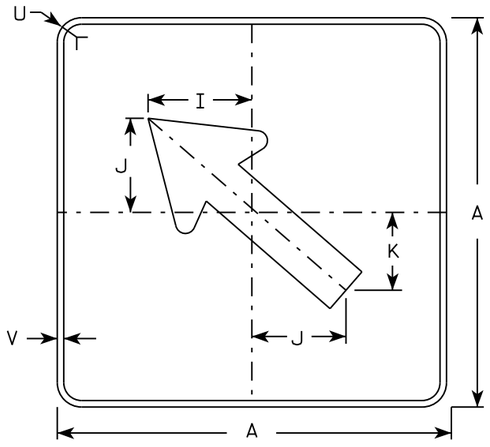
M6-2
MM6-2
MO6-2
MP6-2

NOTES

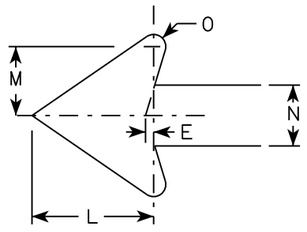
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



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

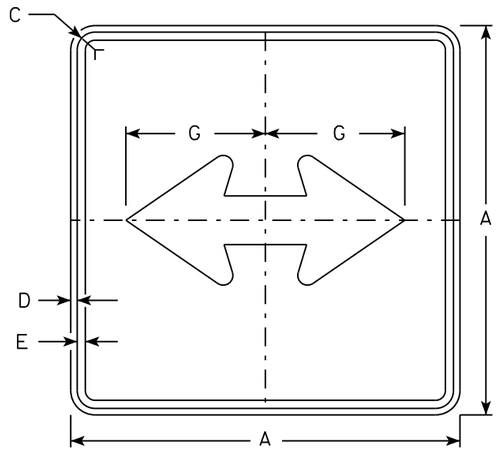
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

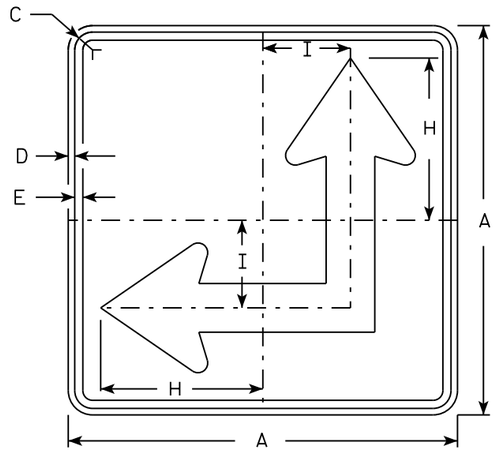
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 123 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



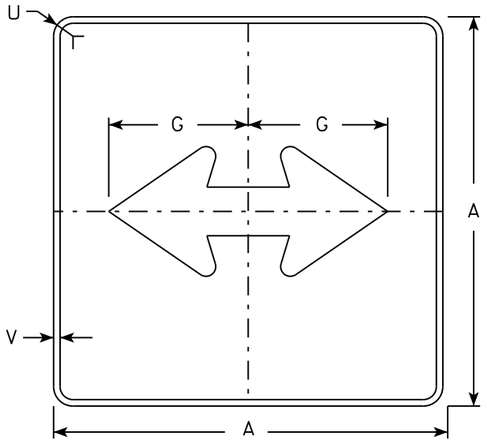
M6-4
MM6-4
MO6-4
MP6-4



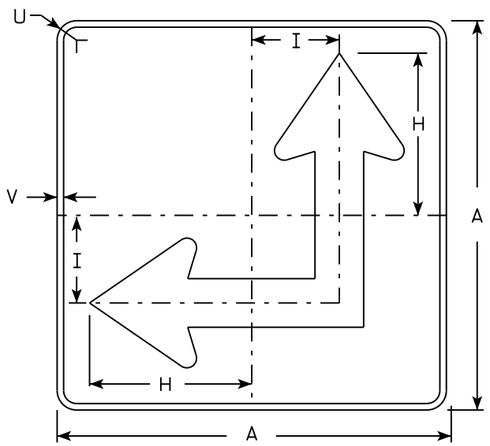
M6-6
MM6-6
MO6-6
MP6-6

NOTES

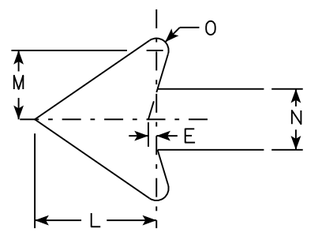
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White
   MK6-4 and MK6-6 Background - Green
   Message - White
   MM6-4 and MM6-6 Background - White
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - Yellow
5. M6-6R same as M6-6L except arrow points ahead and right.



MB6-4
MK6-4
MN6-4
MR6-4



MB6-6
MK6-6
MN6-6
MR6-6



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	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

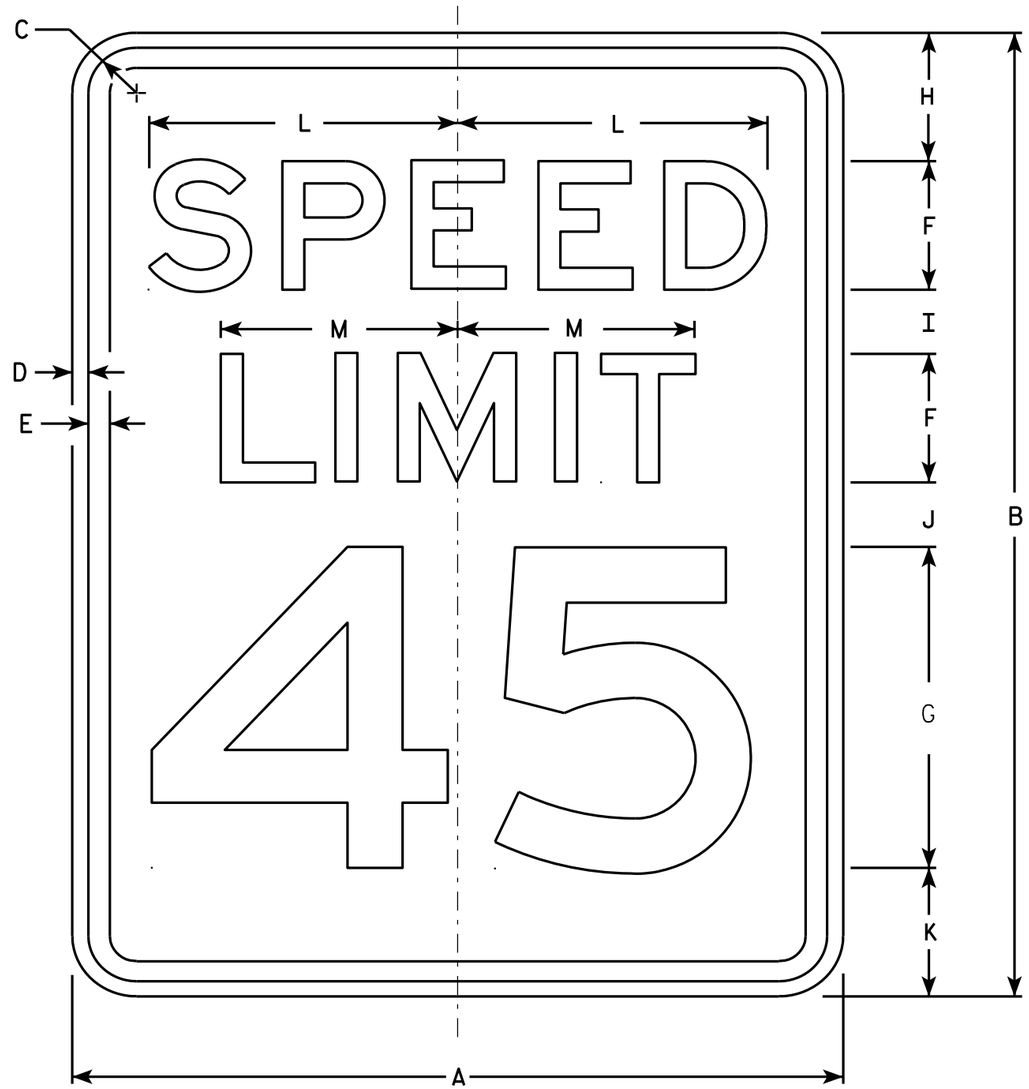
STANDARD SIGN
M6-4 & M6-6
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 10/15/15 PLATE 124 M6-4.10

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



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

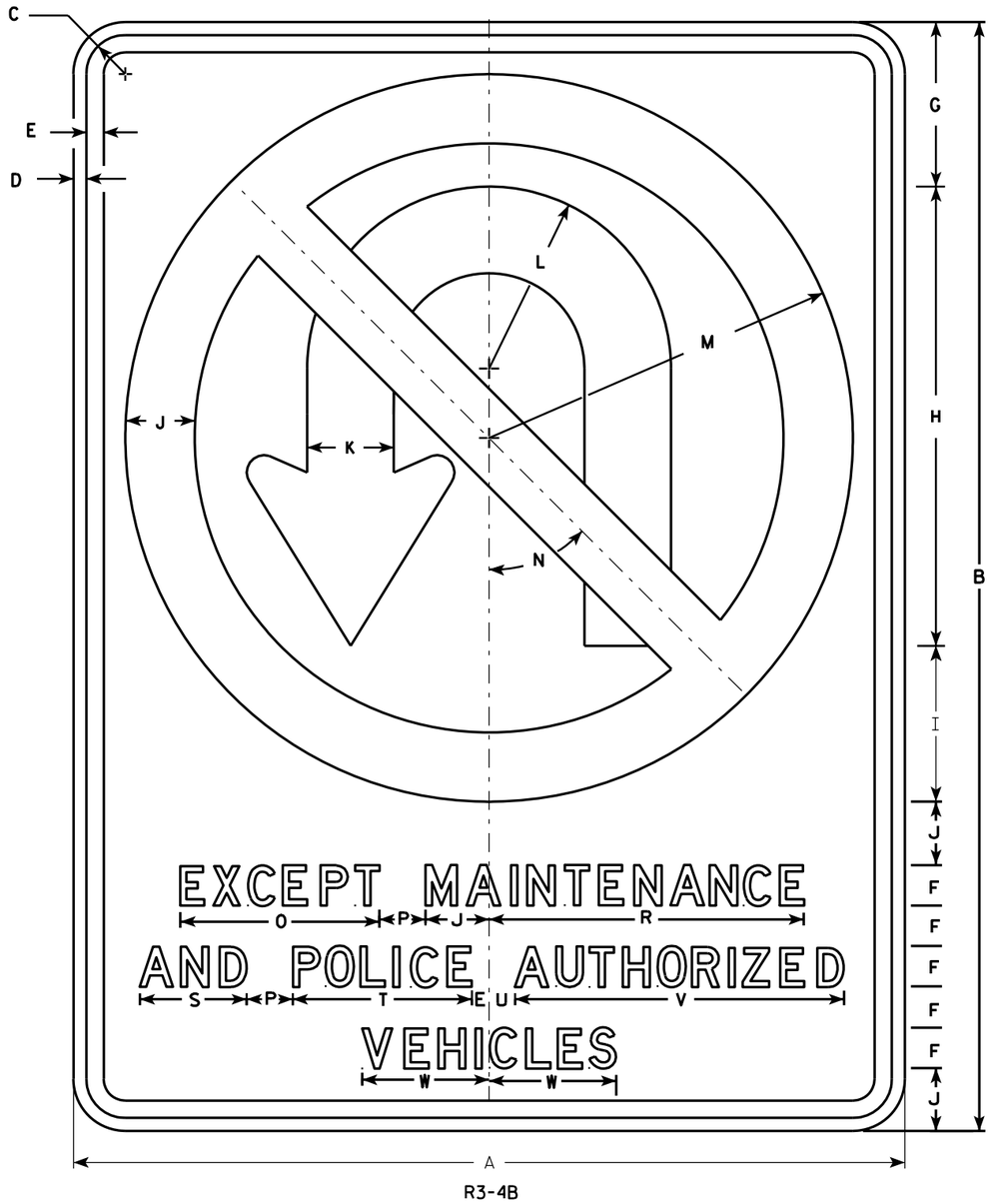
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 125 | 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

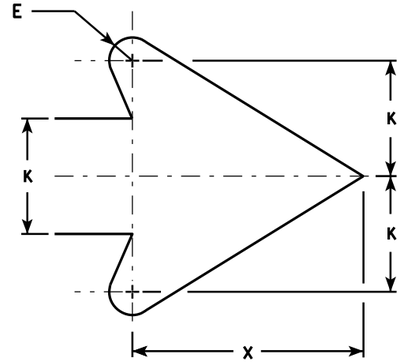
WISDOT/CADDS SHEET 42



R3-4B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - See note 4
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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0
5	36	48	1 5/8	5/8	3/4	1 3/4	7 1/8	19 7/8	6 3/4	2 3/4	3 3/4	7 7/8	15 3/4	45°	8 5/8	2		13 5/8	4 5/8	7 3/4	1 1/8	14 1/4	5 1/2	7 5/8			12.0

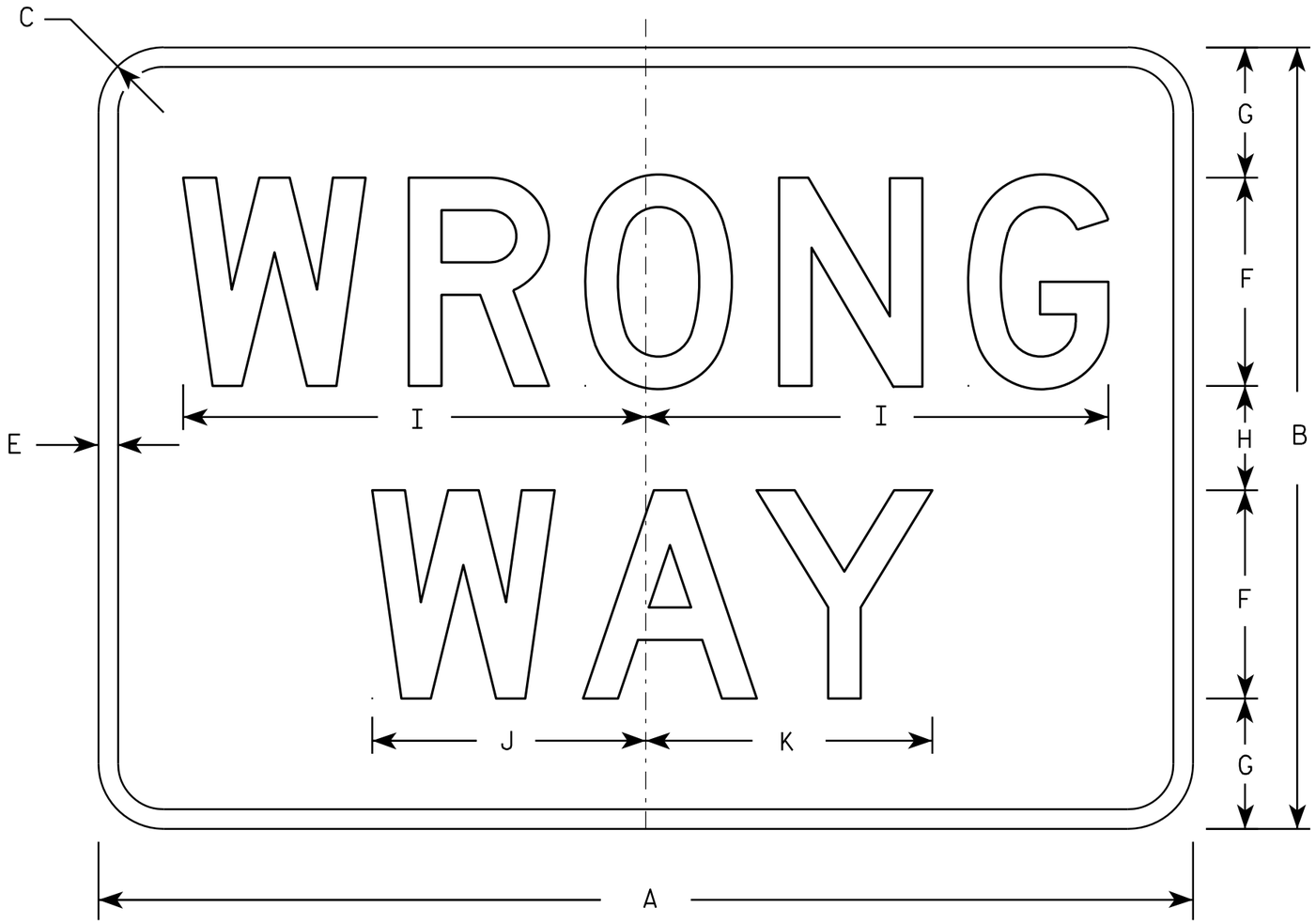
STANDARD SIGN
R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 126	E



R5-1A

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 127 | E

R5-57

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 - Lines 1, 2, and 5 are Series C.
   Lines 3 and 4 are 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																											
2M																											
3																											
4	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0
5	36		1 5/8	5/8	3/4	4	3	2	3 1/2	14 1/4	14 7/8	11	11 1/2	4 3/4	1 3/4	9		1 3/8	10	11	2 1/2	1 3/4	15 1/2	13	13 5/8		9.0

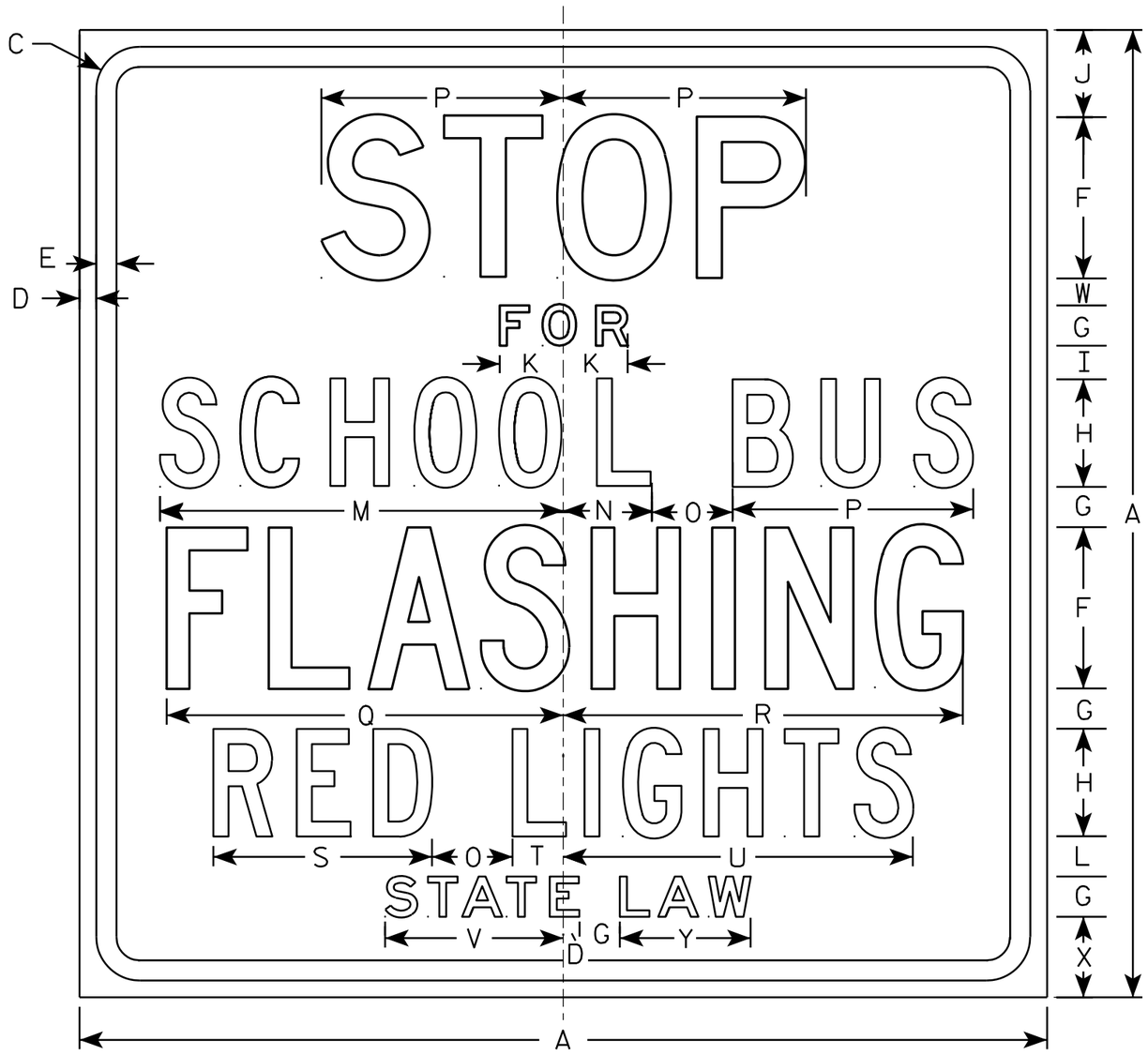
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 128 | E



R59-51

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 - 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. Line 1 is Series D
   Lines 2 & 6 are Series E
   Line 3, 4 & 5 are Series C

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	36		1 5/8	5/8	3/4	6	1 1/2	4	1 1/4	3 1/4	2 3/8	1 1/2	15	3 1/4	3	9	14 3/4	14 7/8	8 1/8	1 7/8	13	6 5/8	1	3	4 7/8		9.0
2M	36		1 5/8	5/8	3/4	6	1 1/2	4	1 1/4	3 1/4	2 3/8	1 1/2	15	3 1/4	3	9	14 3/4	14 7/8	8 1/8	1 7/8	13	6 5/8	1	3	4 7/8		9.0
3	48		2 1/4	3/4	1	8	2	6	1 1/4	4 3/4	3 1/4	1 1/2	20 1/4	5	3 5/8	12	19 1/2	20	11 5/8	3 3/4	19	9 1/2	1	3 1/2	6 3/4		16.0
4	48		2 1/4	3/4	1	8	2	6	1 1/4	4 3/4	3 1/4	1 1/2	20 1/4	5	3 5/8	12	19 1/2	20	11 5/8	3 3/4	19	9 1/2	1	3 1/2	6 3/4		16.0
5																											

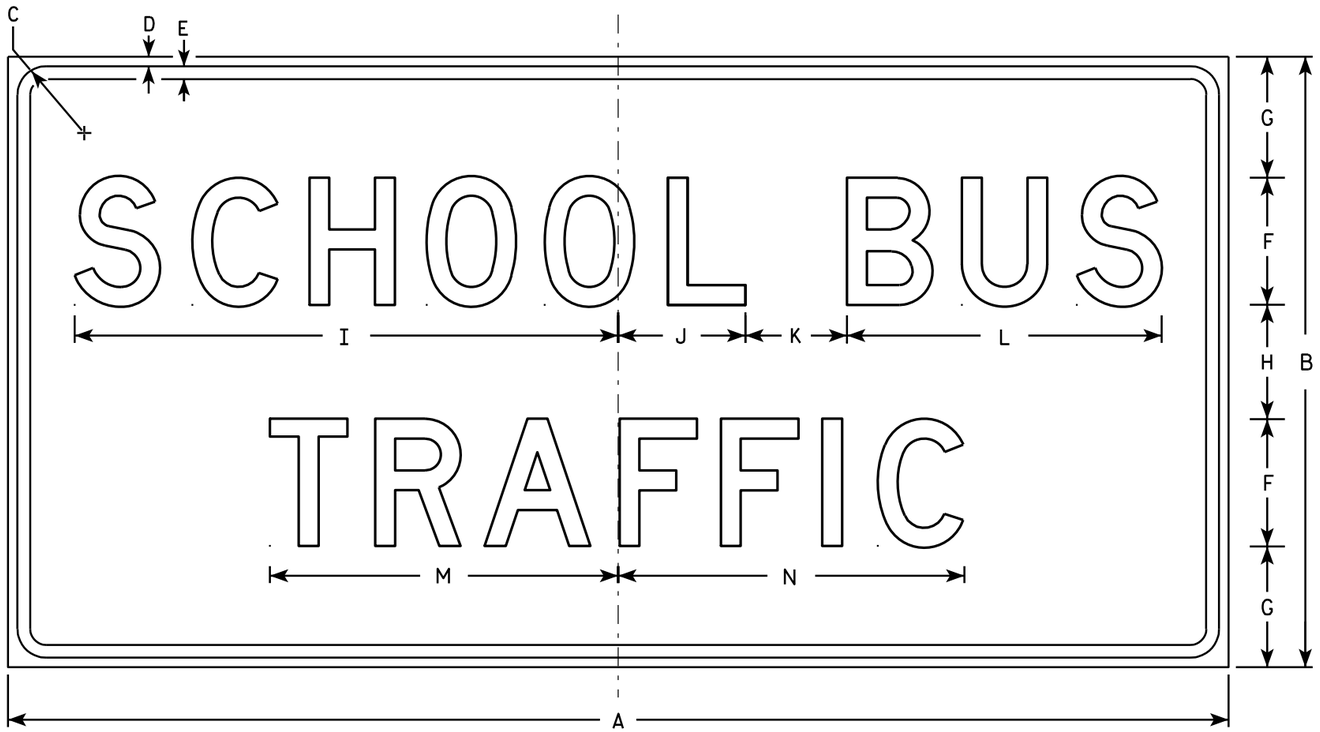
STANDARD SIGN
R59-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/30/11 PLATE NO. R59-51.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 129 | E



S3-51

NOTES

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

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	5	4 3/4	4 1/2	21 3/8	5	4	12 3/8	14	13 5/8													8.0
2M	48	24	1 3/8	1/2	5/8	5	4 3/4	4 1/2	21 3/8	5	4	12 3/8	14	13 5/8													8.0
3																											
4	96	48	2 1/4	3/4	1	10	9 1/2	9	42 3/4	10	8	24 3/4	27 3/8	27 1/8													32.0
5																											

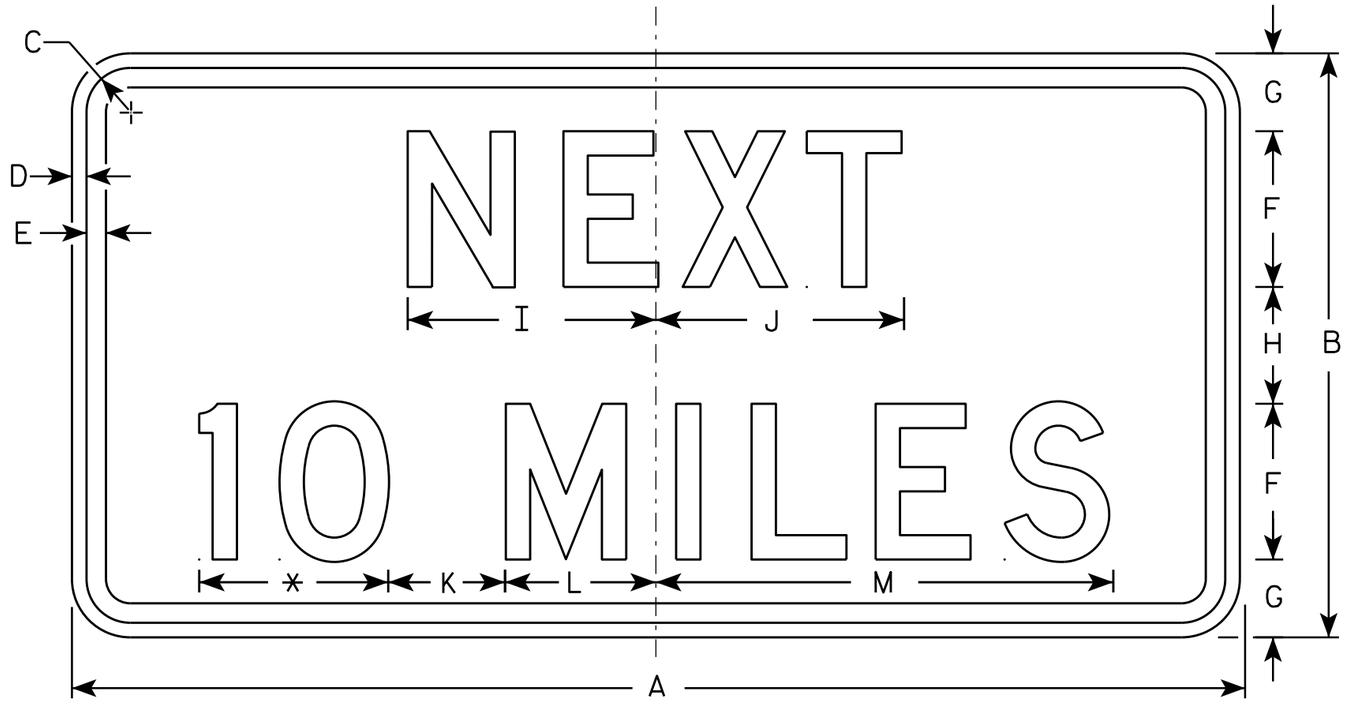
STANDARD SIGN
S3-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/02/10 PLATE NO. S3-51.4

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | E



S57-51

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   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. Substitute appropriate numerals 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																											
2S	36	18	1 1/8	3/8	1/2	5	2 5/8	2 3/4	7 7/8	8	5	4 1/8	15 3/8														4.5
2M	36	18	1 1/8	3/8	1/2	5	2 5/8	2 3/4	7 7/8	8	5	4 1/8	15 3/8														4.5
3																											
4	48	24	1 3/8	1/2	5/8	6	3 1/2	5	10	10 1/8	6	5 5/8	19														8.0
5																											

STANDARD SIGN
S57-51

WISCONSIN DEPT OF TRANSPORTATION

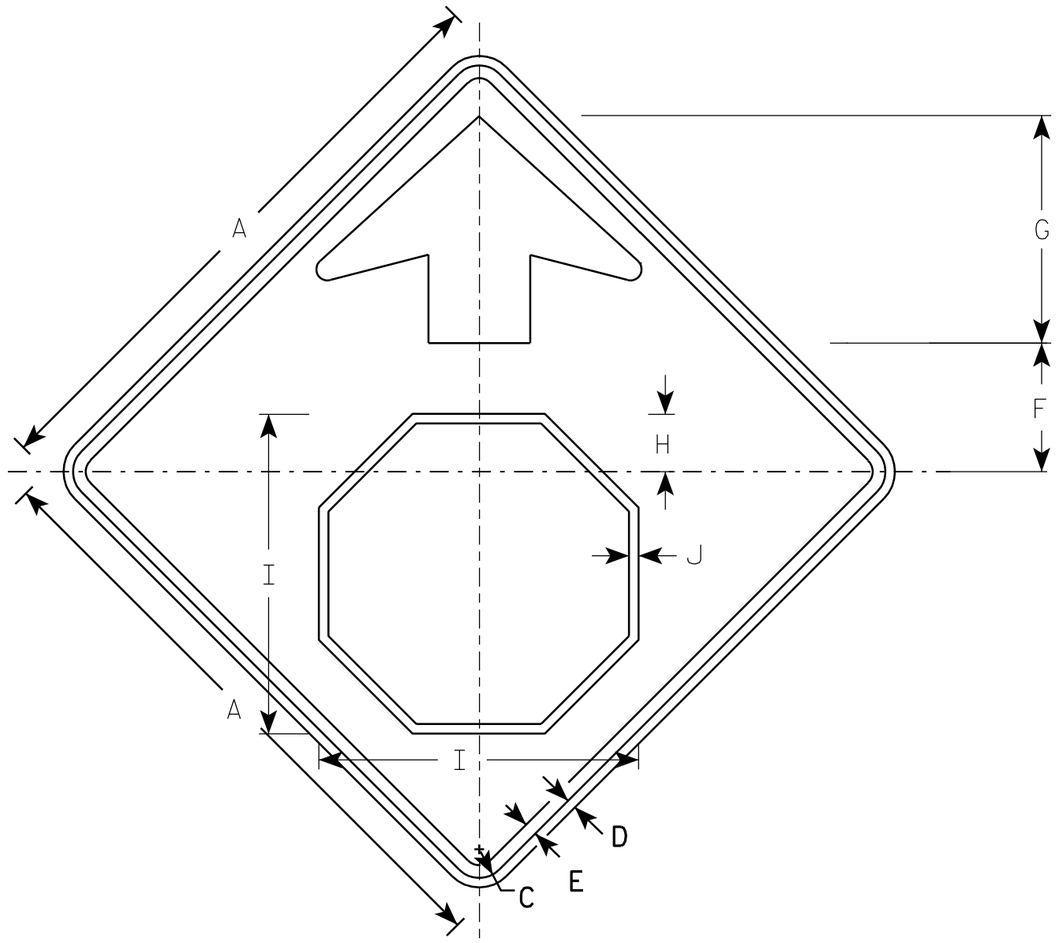
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/3/2013 PLA 131 S57-51.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

7

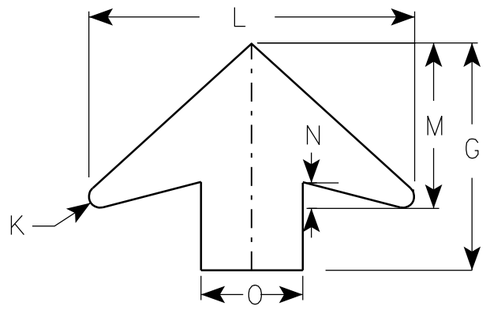
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\S5751.DGN PLOT DATE : 03-OCT-2013 15:53 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.891684:1.000000
WISDOT/CADDS SHEET 42



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

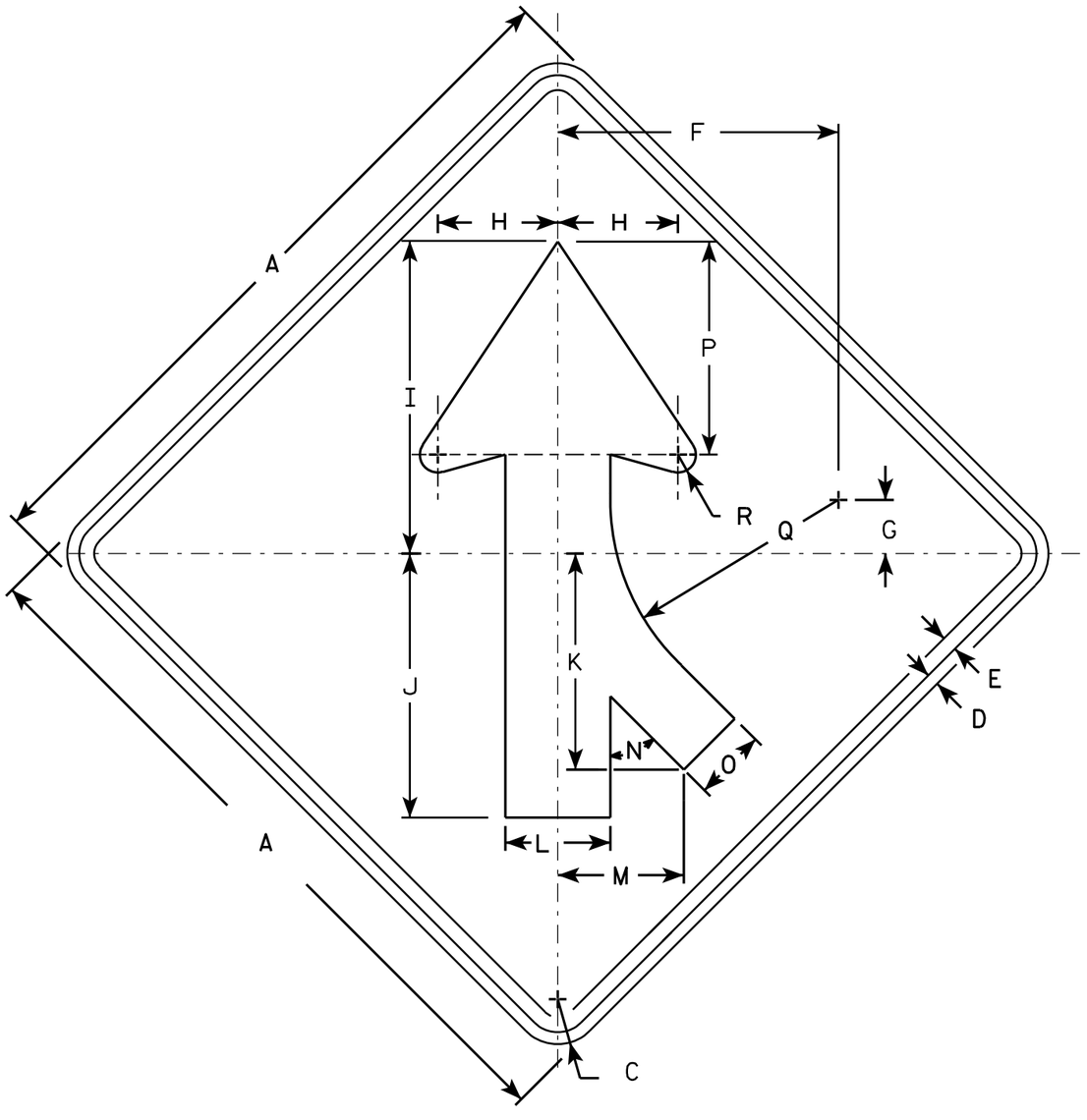
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 132 E



W4-1 R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   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. W4-1L is the same as W4-1R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	11 5/8	2 1/2	5	13	11	9	4 3/8	5 1/4	45°	3	8 7/8	9 1/2	3/4									6.25
2S	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
2M	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
3	36		1 5/8	5/8	3/4	14	2 3/4	6	15 3/4	13 1/4	10 1/4	5 1/4	6 3/8	45°	3 5/8	10 5/8	11 3/8	7/8									9.0
4	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0
5	48		2 1/4	3/4	1	18 3/4	3 5/8	8	20 1/2	17 1/2	14 3/8	7	8 3/8	45°	4 3/4	14 1/4	15 1/4	1 1/4									16.0

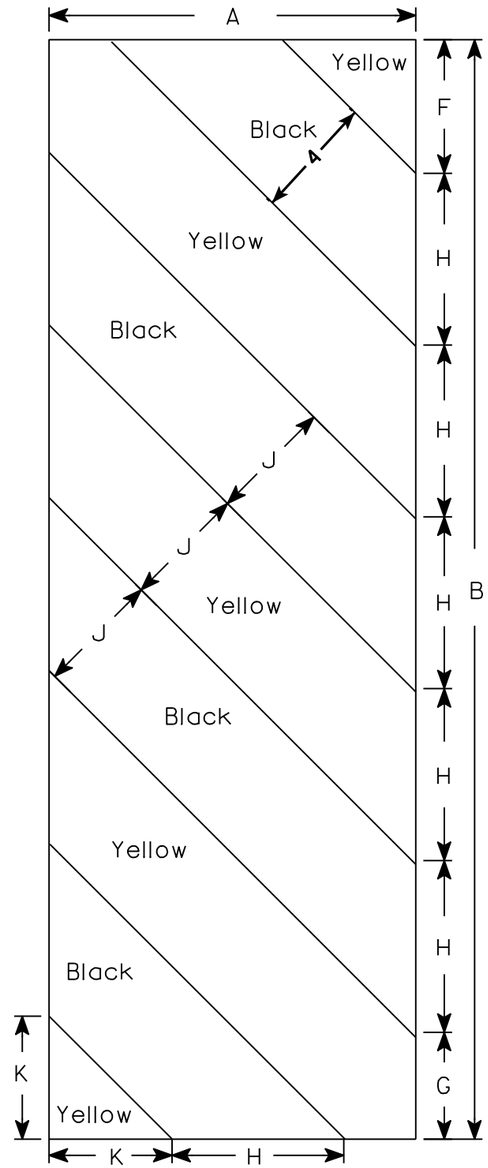
STANDARD SIGN
W4-1

WISCONSIN DEPT OF TRANSPORTATION

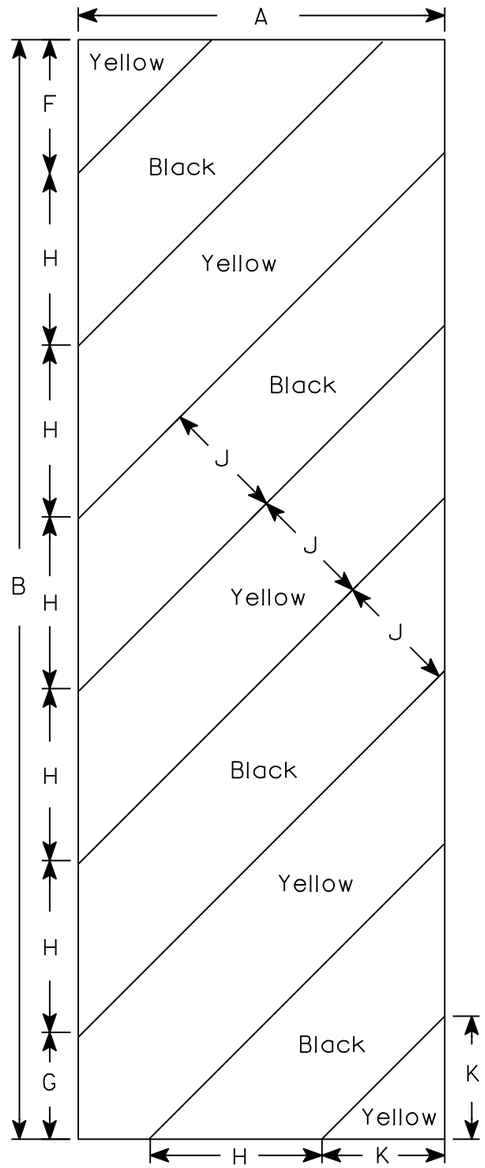
APPROVED Matthew R Rausch for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-1.14

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 133	E



W5-52L



W5-52R

NOTES

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

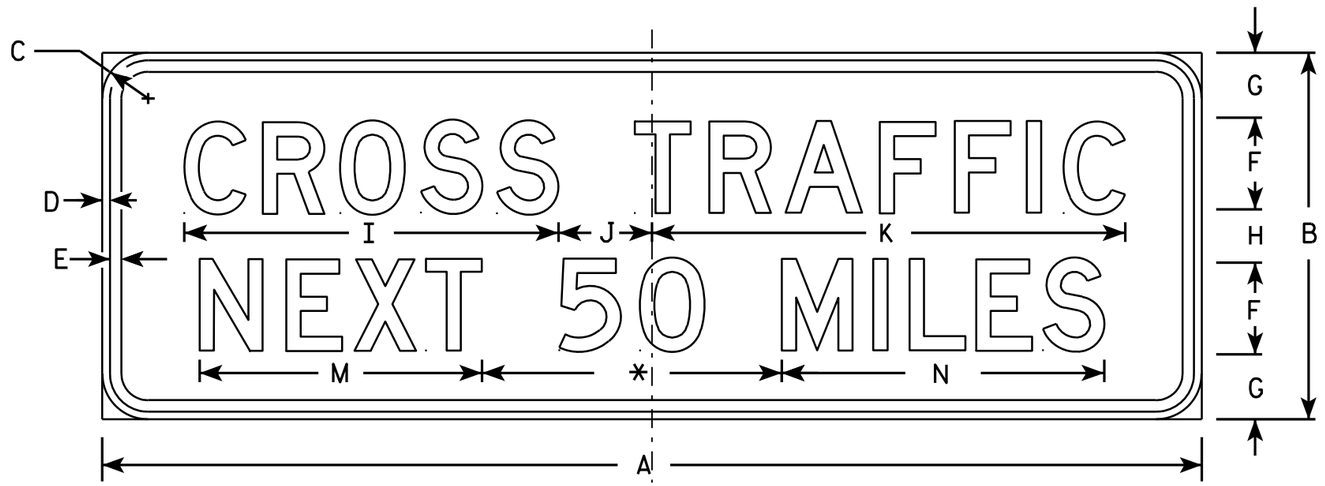
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 134 | E



W6-53

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black Non - reflective
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. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

* Varies (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																											
2S																											
2M																											
3																											
4	144	48	6	1	1 1/2	12	9	6	49	12 1/4	62		37	42 1/4													48.0
5																											

STANDARD SIGN
W6-53

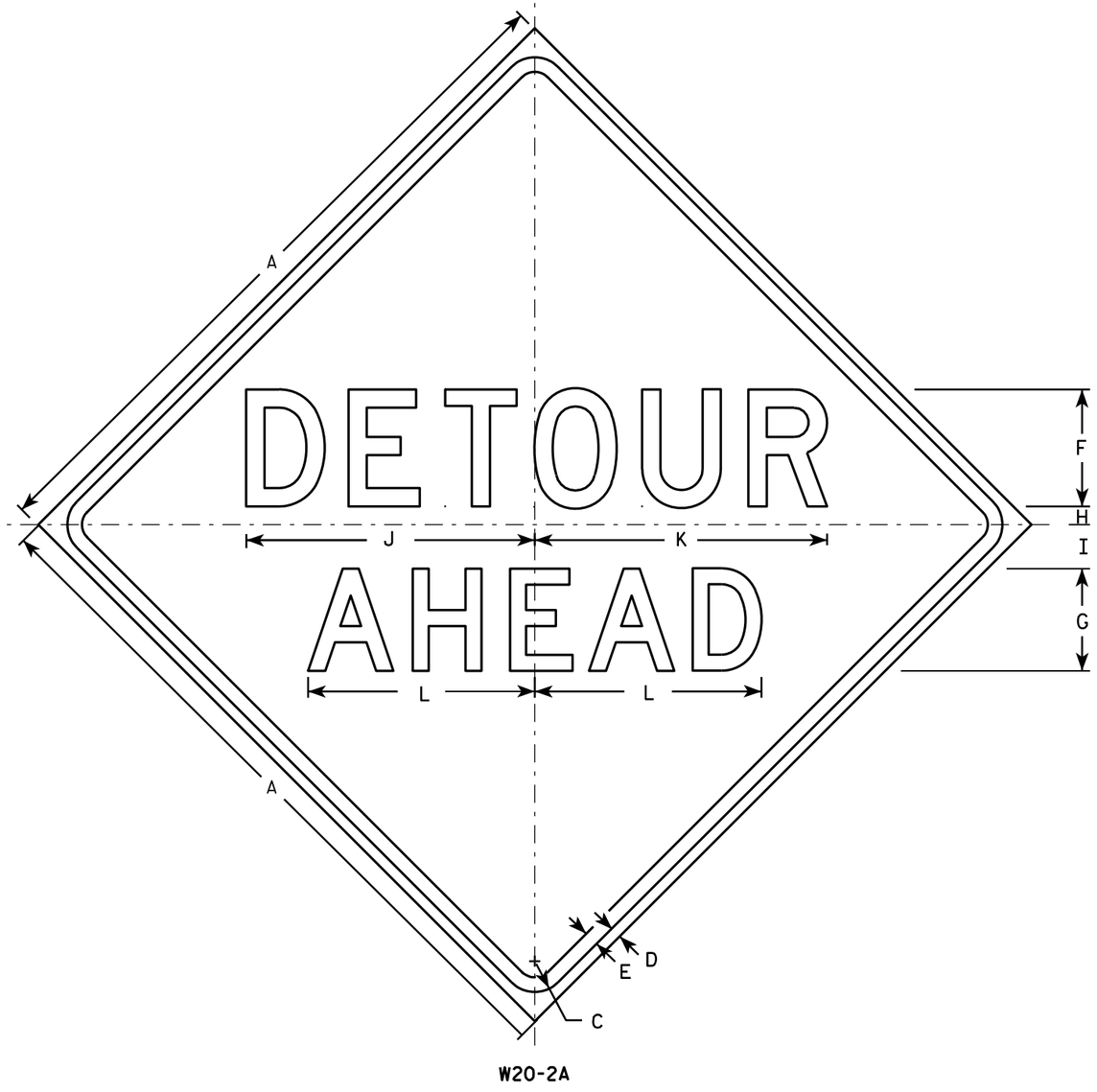
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

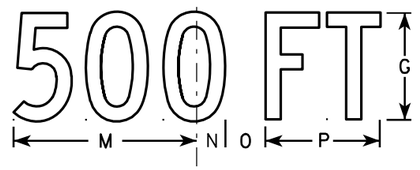
DATE 03/12/13 PLATE NO. W6-53.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 135 | E

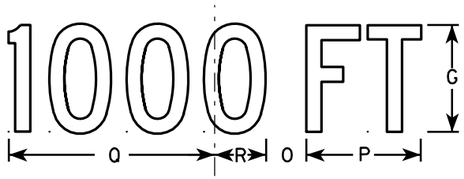
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W653.DGN PLOT DATE : 12-MAR-2013 14:22 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 19.847587:1.000000
WISDOT/CADDS SHEET 42



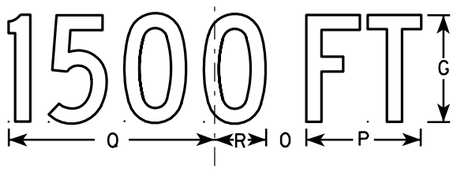
W20-2A



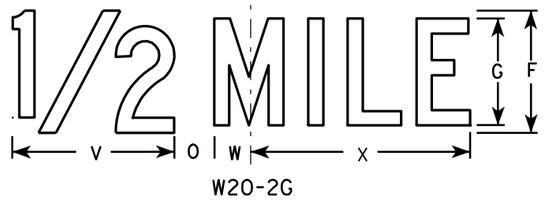
W20-2D



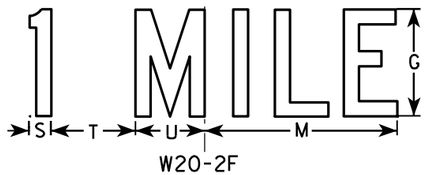
W20-2C



W20-2B



W20-2G



W20-2F

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. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

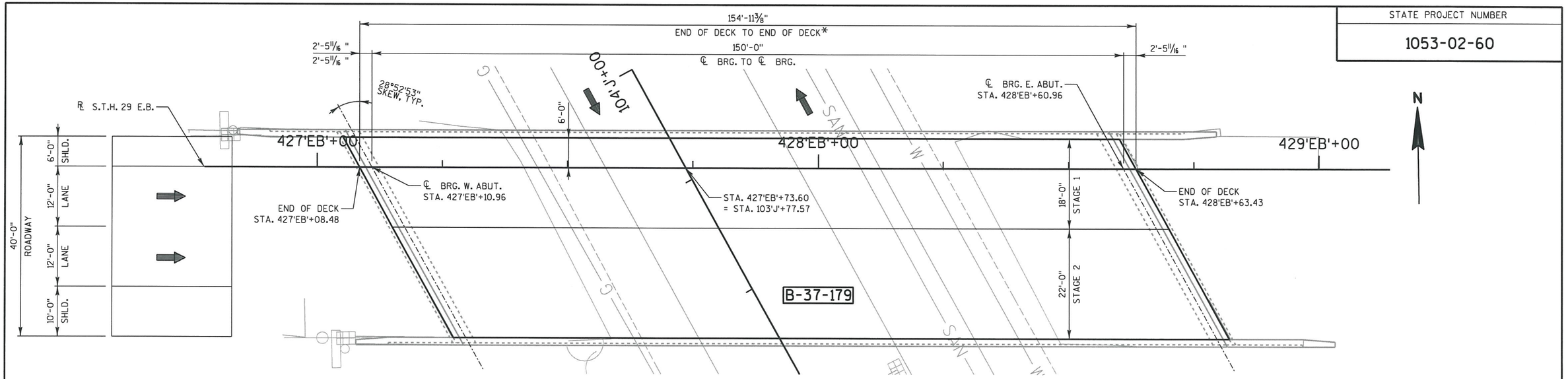
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

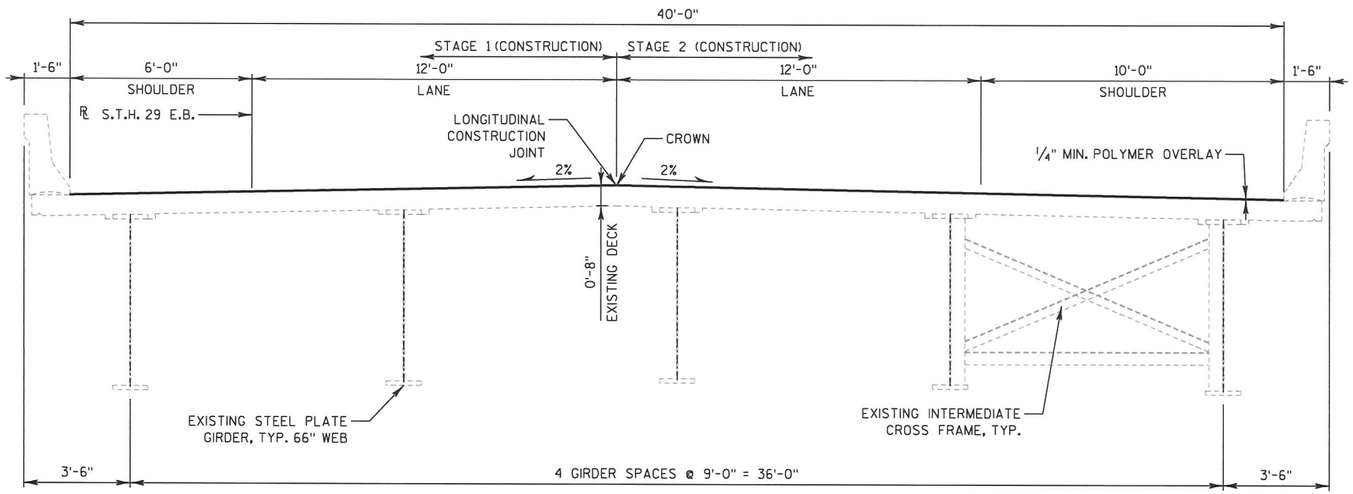
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E

STATE PROJECT NUMBER
1053-02-60



PLAN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TRAFFIC DATA

STH 29 EB:
A.D.T. = 7,000 (2018)
A.D.T. = 9,350 (2038)

C.T.H. J:
A.D.T. = 4,750 (2018)
A.D.T. = 6,250 (2038)

DESIGN DATA

LIVE LOAD:
INVENTORY RATING = HS28
OPERATIONAL RATING = HS47
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE EXISTING STRUCTURE B-37-179 IS A SINGLE SPAN WELDED PLATE GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 156'-3½".

* END OF DECK DIMENSION INCLUDES EXPANSION JOINTS AND PAVING BLOCKS.

**CLEAN STRIP SEAL JOINTS OF DEBRIS PRIOR TO APPLICATION OF POLYMER OVERLAY. WORK IS INCIDENTAL TO BID ITEM "POLYMER OVERLAY."

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
**	509.5100.S	POLYMER OVERLAY	SY	690

WISCONSIN
SARAH K. ROBKE
E-41770-6
MUKWONAGO WI
PROFESSIONAL ENGINEER
Sarah K Robke
2/25/2015

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MIKE RADTKE (414) 347-1607

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/05/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-37-179

S.T.H. 29 E.B. OVER C.T.H. "J"

COUNTY	TOWN
MARATHON	WESTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	MDR	SKR	MDR

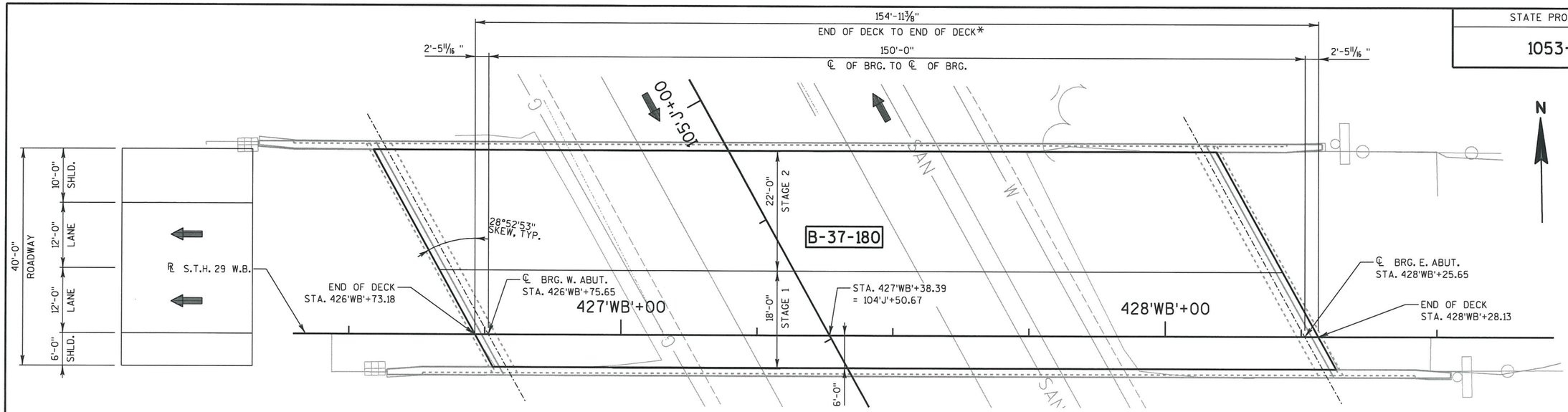
POLYMER OVERLAY

SHEET 137 OF 1

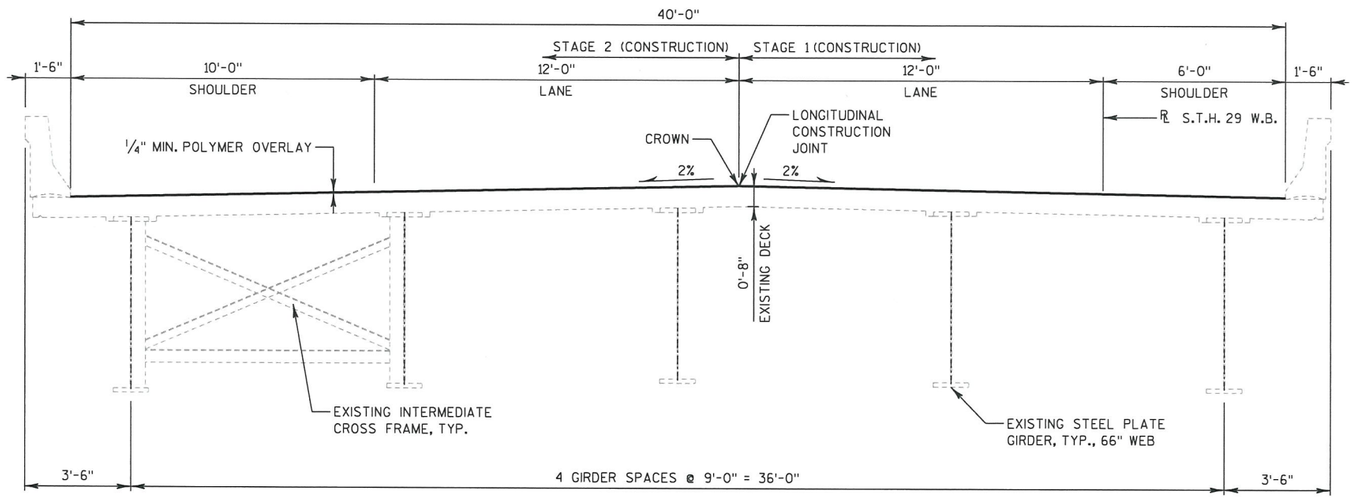
8

8

STATE PROJECT NUMBER
1053-02-60



PLAN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TRAFFIC DATA

STH 29 WB:
A.D.T. = 7,000 (2018)
A.D.T. = 9,350 (2038)

C.T.H. J:
A.D.T. = 4,750 (2018)
A.D.T. = 6,250 (2038)

DESIGN DATA

LIVE LOAD:
INVENTORY RATING = HS28
OPERATIONAL RATING = HS47
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE EXISTING STRUCTURE B-37-180 IS A SINGLE SPAN WELDED PLATE GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 156'-3½".

* END OF DECK DIMENSION INCLUDES EXPANSION JOINTS AND PAVING BLOCKS.

**CLEAN STRIP SEAL JOINTS OF DEBRIS PRIOR TO APPLICATION OF POLYMER OVERLAY. WORK IS INCIDENTAL TO BID ITEM "POLYMER OVERLAY."

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
**	509.5100.S	POLYMER OVERLAY	SY	690

WISCONSIN PROFESSIONAL ENGINEER
SARAH K. ROBKE
E-41770-6
MUKWONAGO
WI

Sarah K. Robke
2/25/2015

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MIKE RADTKE (414) 347-1607

NO.	DATE	REVISION	BY

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 William C. Dreher SDR 08/05/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-180

S.T.H. 29 W.B. OVER C.T.H. "J"

COUNTY	TOWN
MARATHON	WESTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	MDR	SKR	MDR

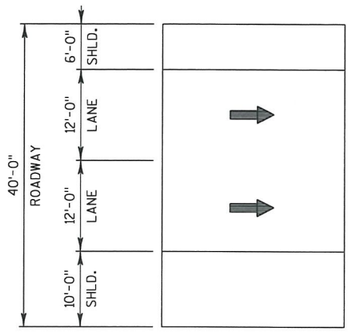
POLYMER OVERLAY

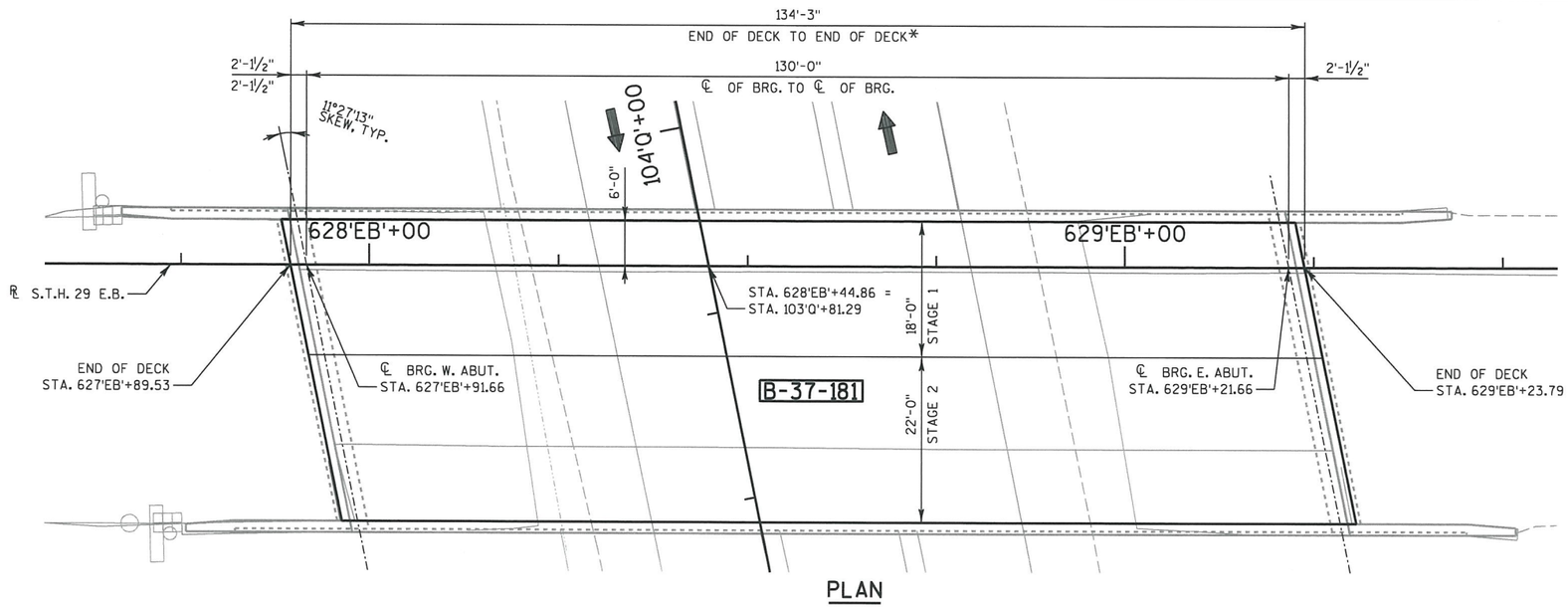
SHEET 138 OF 1

8

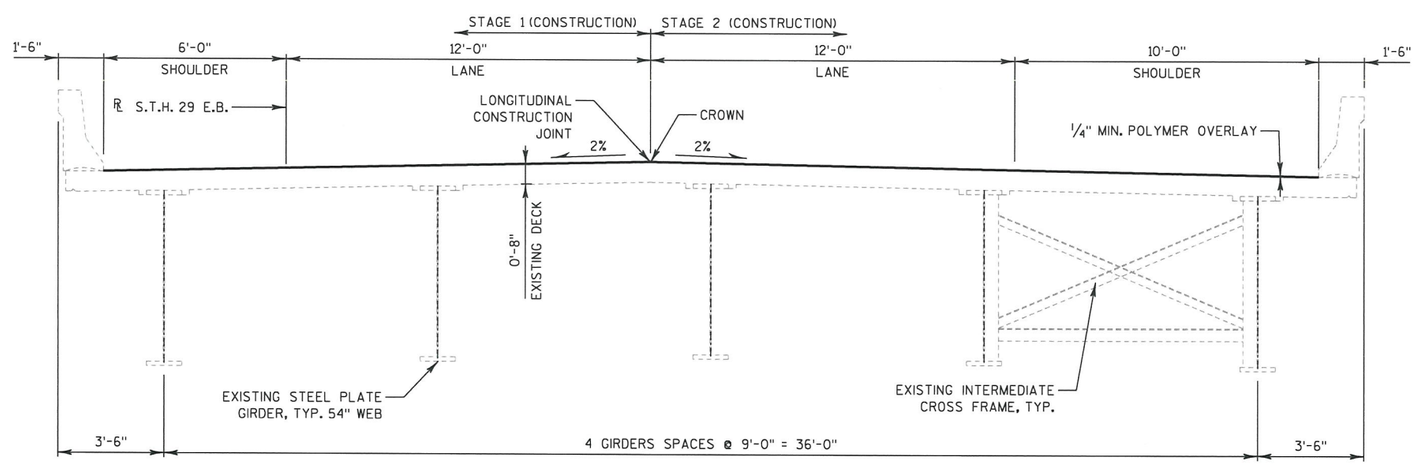
8

STATE PROJECT NUMBER
1053-02-60





PLAN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TRAFFIC DATA

STH 29 EB:
A.D.T. = 6,800 (2018)
A.D.T. = 8,500 (2038)

C.T.H. Q:
A.D.T. = 980 (2018)
A.D.T. = 1,060 (2038)

DESIGN DATA

LIVE LOAD:
INVENTORY RATING = HS27
OPERATIONAL RATING = HS45
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE EXISTING STRUCTURE B-37-181 IS A SINGLE SPAN WELDED PLATE GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 135'-5¼".

* END OF DECK DIMENSION INCLUDES EXPANSION JOINTS AND PAVING BLOCKS.

**CLEAN STRIP SEAL JOINTS OF DEBRIS PRIOR TO APPLICATION OF POLYMER OVERLAY. WORK IS INCIDENTAL TO BID ITEM "POLYMER OVERLAYS."

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
**	509.5100.S	POLYMER OVERLAY	SY	600

WISCONSIN
SARAH K. ROBKE
E-41770-6
MUKWONAGO
WI
PROFESSIONAL ENGINEER
Sarah K Robke
2/25/2015

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MIKE RADTKE (414) 347-1607

NO.	DATE	REVISION	BY

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 08/05/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-181

S.T.H. 29 E.B. OVER C.T.H. "Q"

COUNTY	TOWN
MARATHON	RINGLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	AJC	SKR	MDR

POLYMER OVERLAY

SHEET 139 OF 1

8

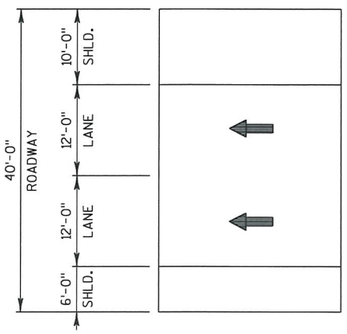
8

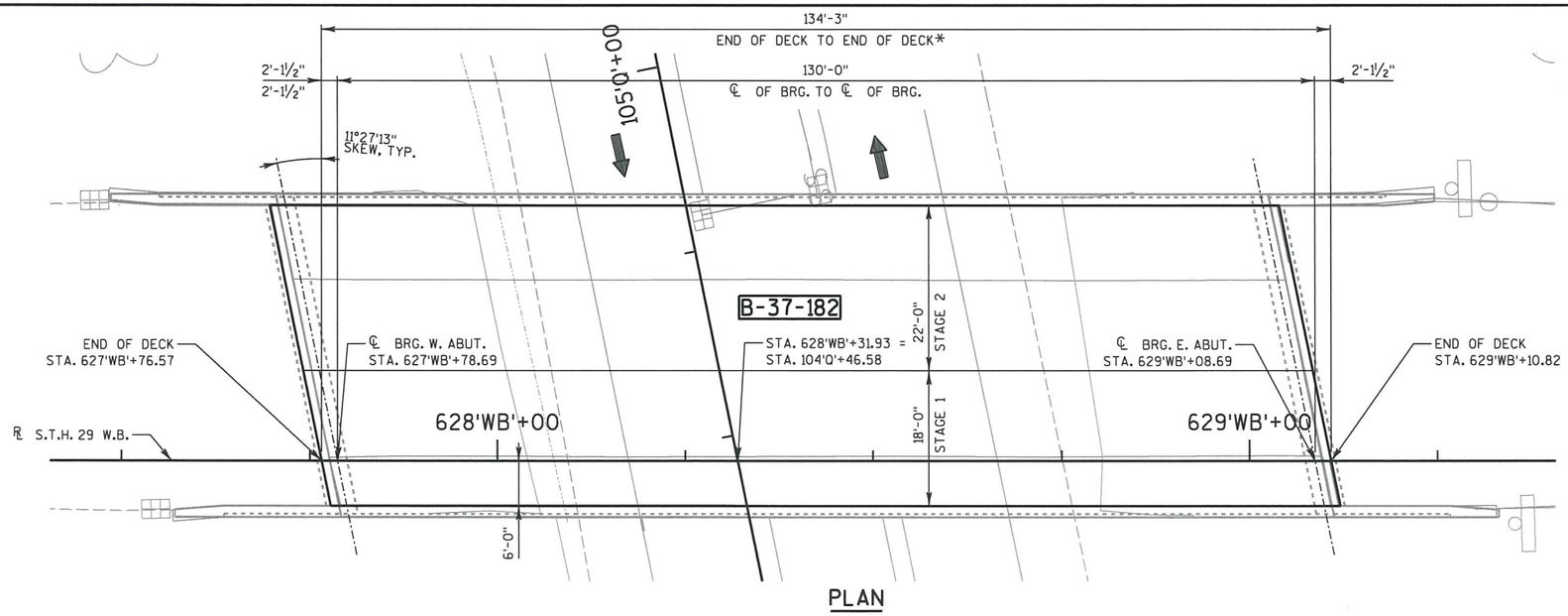
FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\09 STRUCTURES\B-37-0181\Plan\080301_gp.dgn

PLOT DATE : 2/25/2015

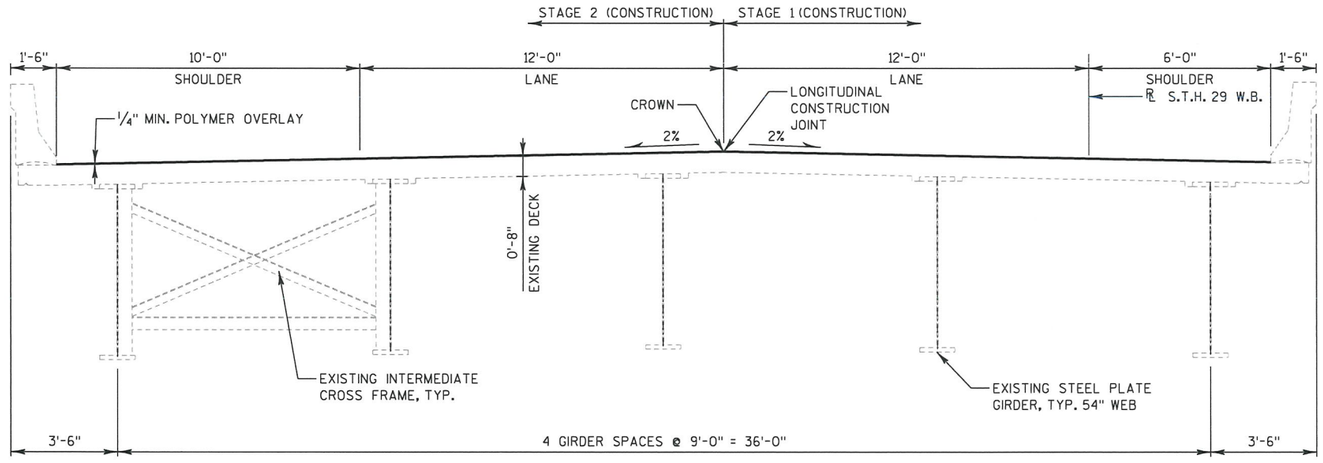
PLOT BY : skr

STATE PROJECT NUMBER
1053-02-60





PLAN



CROSS SECTION THRU ROADWAY

(LOOKING EAST)

TRAFFIC DATA

S.T.H. 29 WB:
A.D.T. = 6,500 (2018)
A.D.T. = 8,500 (2038)

C.T.H. Q:
A.D.T. = 980 (2018)
A.D.T. = 1,060 (2038)

DESIGN DATA

LIVE LOAD:
INVENTORY RATING = HS27
OPERATIONAL RATING = HS45
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

VARIATIONS TO THE NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

THE EXISTING STRUCTURE B-37-182 IS A SINGLE SPAN WELDED PLATE GIRDER STRUCTURE WITH AN OVERALL WIDTH OF 43'-0" AND AN OVERALL LENGTH OF 135'-5¼".

* END OF DECK DIMENSION INCLUDES EXPANSION JOINTS AND PAVING BLOCKS.

**CLEAN STRIP STEAL JOINTS OF DEBRIS PRIOR TO APPLICATION OF POLYMER OVERLAY. WORK IS INCIDENTAL TO BID ITEM "POLYMER OVERLAY."

DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

TOTAL ESTIMATED QUANTITIES

	ITEM NO.	BID ITEM	UNIT	TOTAL
**	509.5100.S	POLYMER OVERLAY	SY	600

WISCONSIN
SARAH K. ROBKE
E-41770-6
MUKWONAGO WI
PROFESSIONAL ENGINEER
2/25/2015

STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MIKE RADTKE (414) 347-1607

NO.	DATE	REVISION	BY

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 William C. Dreher SDR 08/05/15
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-37-182

S.T.H. 29 W.B. OVER C.T.H. "Q"

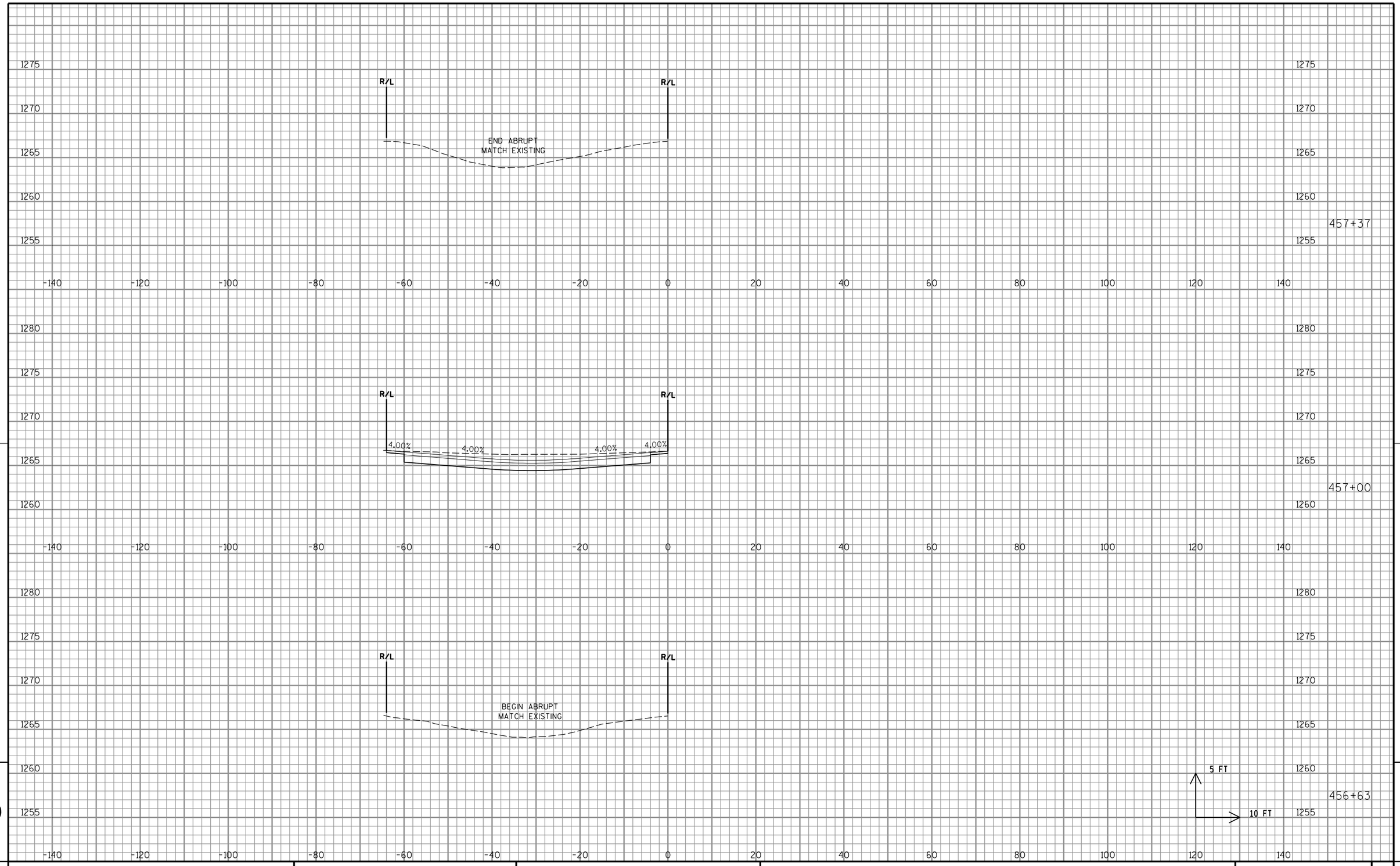
COUNTY	TOWN
MARATHON	RINGLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SKR	AJC	SKR	MDR

POLYMER OVERLAY

SHEET 1 OF 1
140



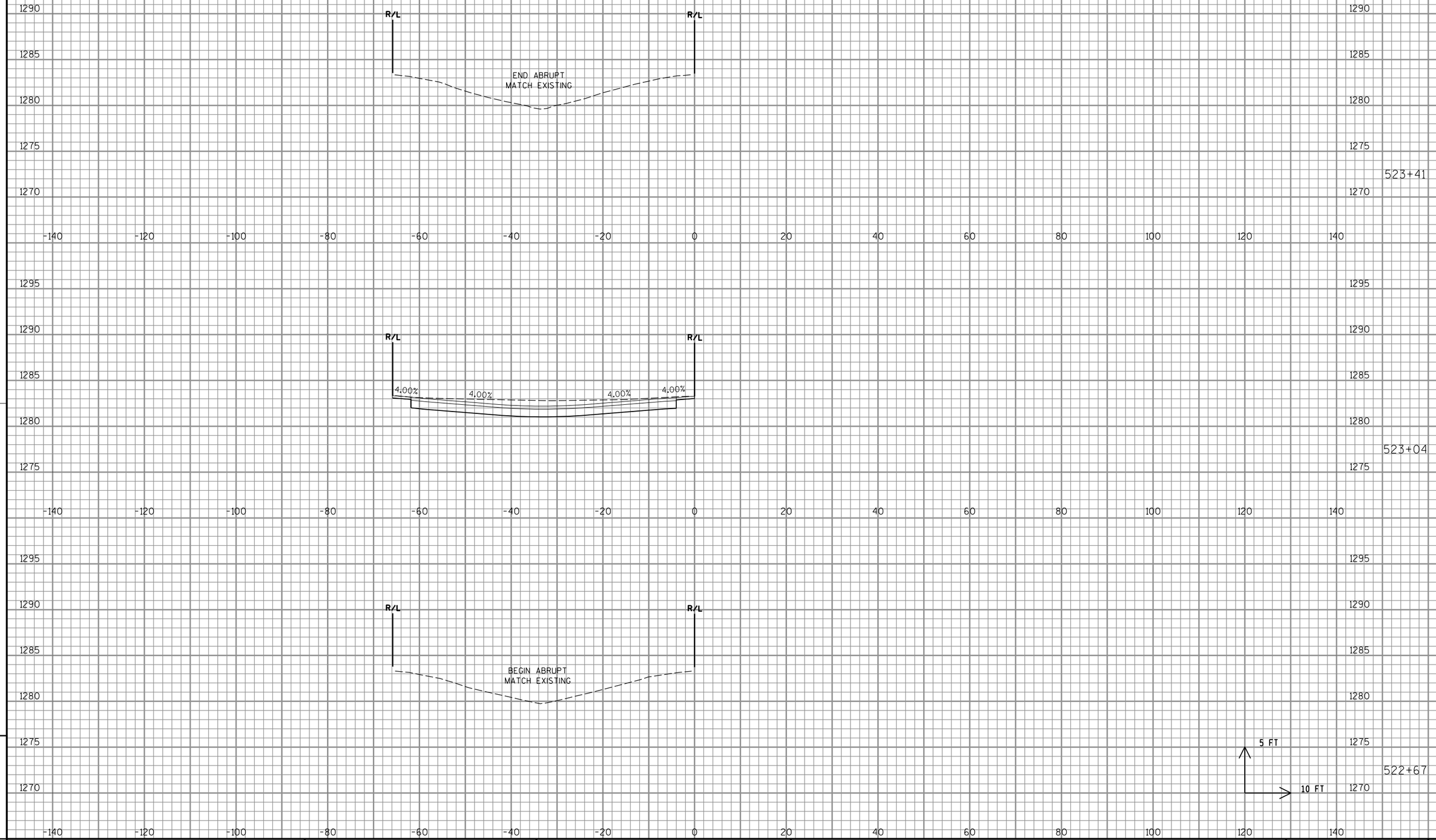
9

9

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CROSSOVER GRADING	SHEET 141	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\090201_xs.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:20

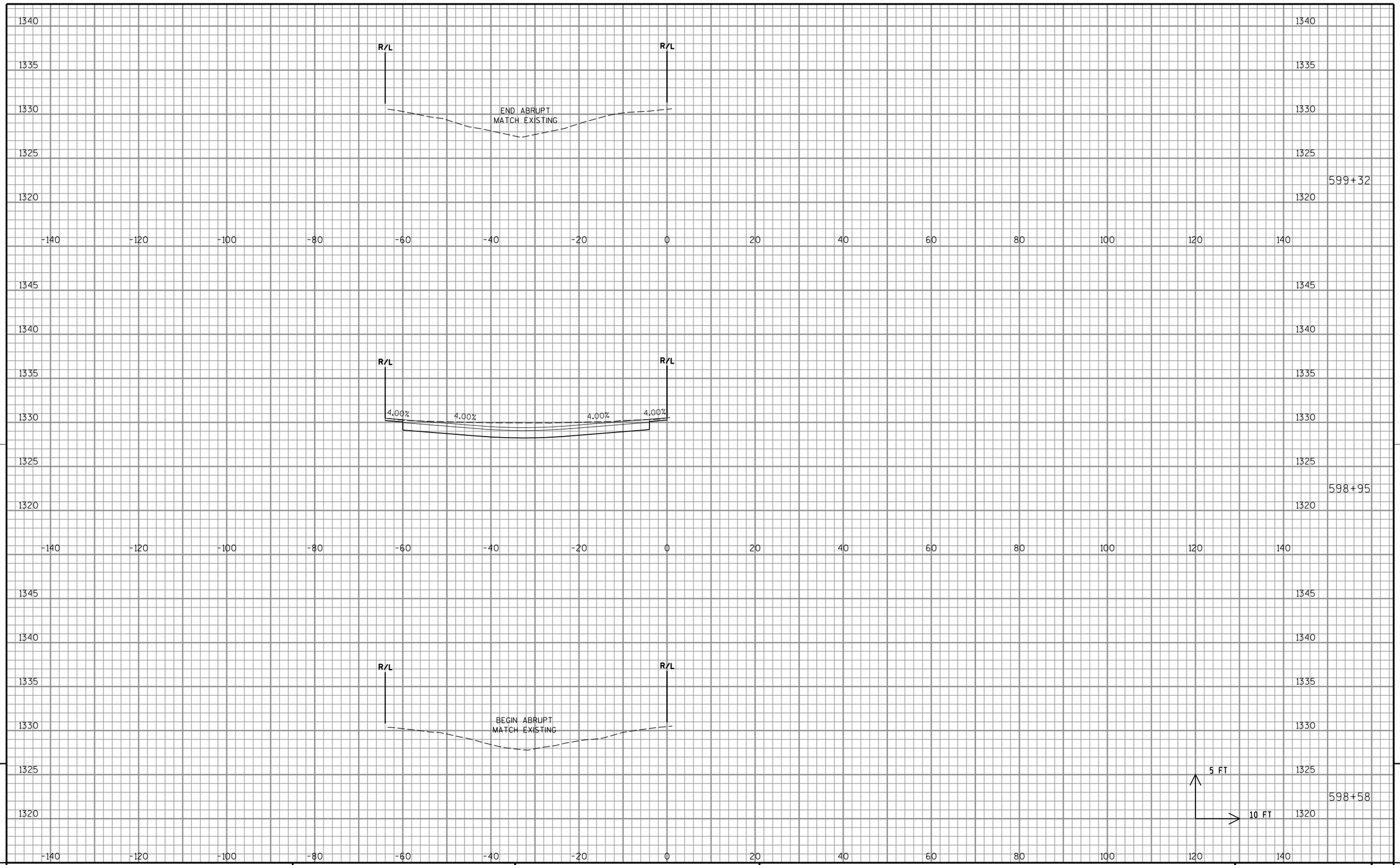
WISDOT/CADDS SHEET 21



9

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CROSSOVER GRADING	SHEET 142	E

9



9

9

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CROSSOVER GRADING	SHEET 143	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\090201_xs.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

659+40

R/L R/L

END ABRUPT
MATCH EXISTING

1355 1350 1345 1340 1335

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

659+03

R/L R/L

4.00% 4.00% 4.00% 4.00%

658+66

R/L R/L

BEGIN ABRUPT
MATCH EXISTING

5 FT

10 FT

9 9

PROJECT NO: 1053-02-60	HWY: STH 29	COUNTY: MARATHON	CROSS SECTIONS: CROSSOVER GRADING	SHEET 144	E

FILE NAME : P:\47xx\4792_DP.13.STH29.MAR\CADDS\Plan\1053-02-60 (East Project)\090201_xs.dgn PLOT DATE : 2/8/2016 PLOT BY : tjr PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov