WKE

NOVEMBER 2019

PROJECT ID: 1000-51-72

WITH: 1000-54-73

COUNTY: SE REGION WIDE

ORDER OF SHEETS

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

TOTAL SHEETS = 354

DESIGN DESIGNATION

A.A.D.T.	=
A.A.D.T.	=
D.H.V.	=
D.D.	=
T.	=
DESIGN SPEED	=
ESALS	=

SEE GENERAL NOTES FOR MORE INFORMATION

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1000-51-72	WISC 2019682	1

VARIOUS HIGHWAYS

VARIOUS BRIDGES IN SE REGION

VAR HWY

SOUTHEAST REGION WIDE

STATE PROJECT NUMBER
1000-51-72

B-66-93
STH 33
OVER MILWAUKEE RIVER

B-45-39
MINK RANCH ROAD
OVER STH 57

B-45-95
STH 33
OVER MILWAUKEE RIVER

B-66-27
STH 175
OVER LIMESTONE CREEK

B-40-52
W WELLS ST
OVER STH 175

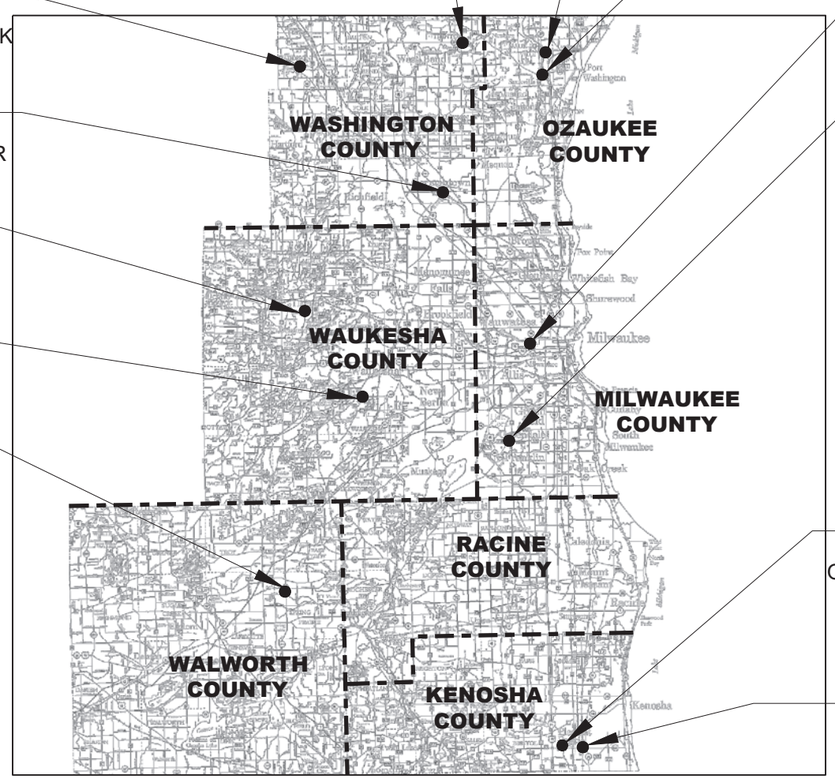
B-66-99
STH 145
OVER MENOMONEE RIVER

B-40-392
CTH BB (W RAWSON AVE) WB
B-40-644
CTH BB (W RAWSON AVE) EB
OVER STH 36 (LOOMIS ROAD)

B-67-220
STH 83
OVER BARK RIVER

B-67-230
STH 59 WB
OVER FOX RIVER

B-64-80
STH 120
OVER BR SUGAR CREEK



B-30-65
STH 165 EB
OVER DES PLAINES RIVER

B-30-66
STH 165 EB
B-30-67
STH 165 WB
OVER SOO LINE RR

LAYOUT

SCALE 0 14 MI

TOTAL NET LENGTH OF CENTERLINE = 0.000

REFER TO ALIGNMENT PLAN FOR COORDINATE SYSTEM SPECIFIC TO EACH STRUCTURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	GRAEF
Designer	NENG YANG
Project Manager	BRIAN PLUEMER
Regional Examiner	
Regional Supervisor	REEM SHAHIN

APPROVED FOR THE DEPARTMENT

DATE: 5/1/2019 (Signature)

E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 4/9/2019 2:23 PM

PLOT BY : MATHENY, ROBERT B

PLOT NAME :

STANDARD ABBREVIATIONS

AP	ACCESS POINT	NOM	NOMINAL
AC	ACRE	NC	NORMAL CROWN
ADJ	ADJUST	N	NORTH
AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE	Y	NORTH GRID COORDINATE
		NB	NORTHBOUND
AH	AHEAD	NO	NUMBER
AC	ASPHALT CEMENT	OPT	OPTIONAL
ASPH	ASPHALTIC	OD	OUTSIDE DIAMETER
ACP	ASPHALTIC CONCRETE PAVEMENT	PAVT	PAVEMENT
AVG	AVERAGE	PLE	PERMANENT LIMITED EASEMENT
ADT	AVERAGE DAILY TRAFFIC	PACS	PIPE ARCH CORRUGATED STEEL
BK	BACK	PT	POINT
BAD	BASE AGGREGATE DENSE	PC	POINT OF CURVATURE
BM	BENCHMARK	PI	POINT OF INTERSECTION
CB	CATCH BASIN	PT	POINT OF TANGENCY
C/L	CENTER LINE	PVC	POINT OF VERTICAL CURVE
C/L CONST	CENTER LINE CONSTRUCTION	PVI	POINT OF VERTICAL INTERSECTION
Δ	CENTRAL ANGLE OR DELTA	PVT	POINT OF VERTICAL TANGENCY
CL	CLASS	PVC	POLYVINYL CHLORIDE
CONC	CONCRETE	PCC	PORTLAND CEMENT CONCRETE
CONST	CONSTRUCTION	LB	POUND
CMCP	CORRUGATED METAL CULVERT PIPE	PSF	POUNDS PER SQUARE FOOT
CTH	COUNTY TRUNK HIGHWAY	PSI	POUNDS PER SQUARE INCH
CABC	CRUSHED AGGREGATE BASE COURSE	PE	PRIVATE ENTRANCE
CFS	CUBIC FEET PER SECOND	PGL	PROFILE GRADE LINE
CY	CUBIC YARD	PL	PROPERTY LINE
CP	CULVERT PIPE	Q100	100-YEAR FLOW RATE
CPCS	CULVERT PIPE CORRUGATED STEEL	R	RADIUS
CPRC	CULVERT PIPE REINFORCED CONCRETE	RR	RAILROAD
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL	R	RANGE
		R/L	R/L
C & G	CURB AND GUTTER	REINF	REINFORCING OR REINFORCEMENT
D	DEGREE OF CURVE	REQD	REQUIRED
DHV	DESIGN HOUR VOLUME	RT	RIGHT
DIA	DIAMETER	R/W	RIGHT-OF-WAY
DD	DIRECTIONAL DISTRIBUTION	RD	ROAD
DWY	DRIVEWAY	RDWY	ROADWAY
E	EAST	SEC	SECTION
X	EAST GRID COORDINATE	SHLDR	SHOULDER
EB	EASTBOUND	S	SOUTH
EL	ELEVATION	SB	SOUTHBOUND
ESALS	EQUIVALENT SINGLE AXLE LOADS	SQ	SQUARE
EXC	EXCAVATION	SF	SQUARE FEET
EBS	EXCAVATION BELOW SUBGRADE	SW	SIDEWALK
EXIST	EXISTING	SY	SQUARE YARD
FPS	FEET PER SECOND	SDD	STANDARD DETAIL DRAWINGS
FERT	FERTILIZE	STH	STATE TRUNK HIGHWAYS
FE	FIELD ENTRANCE	STA	STATION
FL	FLOW LINE	SS	STORM SEWER
FT	FOOT	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
GN	GRID NORTH	ST	STREET
HES	HIGH EARLY STRENGTH	STR	STRUCTURE OR STRUCTURAL
HP HW	HIGH POINT	SEC	SUPERELEVATION
HW	HIGH WATER	T	TANGENT
HMA	HOT MIX ASPHALT	TEMP	TEMPORARY
CWT	HUNDREDWEIGHT	TI	TEMPORARY INTEREST
HWD	HYDRANT	TLE	TEMPORARY LIMITED EASEMENT
INL	INLET	t	TON
ID	INSIDE DIAMETER	T	TOWN
I	INTERSECTION ANGLE	T/L	TRANSIT LINE
INV	INVERT	T	TRUCKS (PERCENT OF)
IP	IRON PIPE OR PIN	TYP	TYPICAL
JT	JOINT	USH	UNITED STATES HIGHWAY
LT	LEFT	VAR	VARIABLE
LT	LENGTH OF CURVE	V	VELOCITY OF DESIGN SPEED
LF	LINEAR FOOT	VERT	VERTICAL
LP	LOW POINT	VC	VERTICAL CURVE
LS	LUMP SUM	VOL	VOLUME
MH	MANHOLE	WM	WATERMAIN
MAX	MAXIMUM	WV	WATER VALVE
Mgal	MEGAGALLON	W	WEST
MPH	MILES PER HOUR	WB	WESTBOUND
MIN	MINIMUM	YD	YARD
MON	MONUMENT		

GENERAL NOTES

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

THE CONTRACTOR WILL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A CALL TO THE UTILITIES THAT HAVE INSTALLATIONS WITHIN THE PROJECT AREA.

MAINTAIN ACCESSS TO ALL DRIVEWAYS AND ALL BUSINESSES AT ALL TIMES.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

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

PROTECT FROM DAMAGE AND AROUND ANY EXISTING SIGNS OR MAILBOXES THAT ARE TO REMAIN IN PLACE.

STATIONS, OFFSETS, AND ELEVATIONS ARE TO THE FLANGE LINE OF CURB & GUTTER.

ALL RADII ARE MEASURED TO THE FLANGE LINE OF CURB AND GUTTER UNLESS OTHERWISE NOTED.

CONSTRUCTION LIMITS ON SIDE ROADS AND PRIVATE ENTRANCES SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE RESTORED IN KIND.

TEMPORARY STORAGE OF ANY MATERIAL WILL NOT BE PERMITTED IN WETLANDS.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS & EROSION CONTROL
STORM SEWER
EXISTING/PERMANENT SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
DETOUR
ALIGNMENT

2

2

HMA PAVEMENT LOCATION	ASPHALT MIX	UPPER LAYER	GRADATION
MINK RANCH RD	ASPHALTIC SURFACE	3.5-INCH	
STH 165 STH 33 STH 83	4 MT 58-28 S	2-INCH	12.5 MM
STH 59 (SHOULDER)	4 MT 58-28 S	3.5-INCH	12.5 MM
STH 120 STH 175 STH 145			
STH 175 (SHOULDER)	4 LT 58-28 S	4-INCH	12.5 MM

CONCRETE OVERLAY LOCATION			
STH 59	CONCRETE MASONRY OVERLAY APPROACHES	2-INCH	

DESIGN DESIGNATION	B-30-65 STH 165	B-30-66 STH 165 EB	B-30-67 STH 165 WB	B-40-52 W WELLS ST	B-40-392 CTH BB	B-40-644 CTH BB	B-45-39 MINK RANCH RD	B-45-95 STH 33	B-64-80 STH 120	B-66-27 STH 175	B-66-93 STH 33	B-66-99 STH 145	B-67-220 STH 83	B-67-230 STH 59 WB
A.A.D.T. (2019)	16600	15600	15600	2900	16000	16000	NA	19700	4600	2100	8200	5300	15800	17400
A.A.D.T. (2039)	22800	20800	20800	3300	19900	19900	NA	21600	5200	2600	9700	5900	17700	21900
D.H.V.	2622	2392	2392	422	2328	2328	NA	2225	577	317	1028	732	2018	2497
D.D.	59/41	59/41	59/41	59/41	59/41	59/41	NA	60/40	60/40	60/40	60/40	59/41	59/41	59/41
T.	18.3%	18.3%	18.3%	6.0%	8.5%	8.5%	NA	4.7%	9.7%	14.8%	6.3%	10.7%	5.5%	11.8%
DESIGN SPEED (MPH)	60	50	50	35	45	45	60	30	60	60	60	50	50	50

UTILITY CONTACTS

AT&T LEGACY - COMMUNICATION LINE
KENNETH NINE
110 N MAIN ST
CULVER, IN 46511
(574) 842-8830
KENNETHNINE@ATT.NET

AT&T LOCAL NETWORK - COMMUNICATION LINE
JENNIFER NAVARRO
6070 N FLINT RD
GLENDALE, WI 53209
(414) 459-3564
J.NAVARRO@NORTHWINDTECH.COM

AT&T WISCONSIN - COMMUNICATION LINE
JEFF OLDENBURG
2005 PEWAUKEE RD
WAUKESHA, WI 53188-2443
(262) 896-7522
JO2736@ATT.COM

AT&T WISCONSIN - COMMUNICATION LINE
JAY BULANEK
2005 PEWAUKEE RD
WAUKESHA, WI 53188-2443
(262) 896-7669
JB5175@ATT.COM

CENTURYLINK - COMMUNICATION LINE
JAMES WINTER
224 INDUSTRIAL DR
NORTH PRAIRIE, WI 53153
(262) 392-5210
JAMES.WINTER@CENTURYLINK.COM

CENTURYLINK COMMUNICATIONS - COMMUNICATION LINE
LAMAAR LAMPKINS
11111 DORSETT RD
MARYLAND HEIGHTS, MO 63043
(414) 416-5191
LAMAAR.LAMPKINS@CENTURYLINK.COM

CHARTER COMMUNICATIONS
STEVEN CRAMER
1320 N MARTIN LUTHER KING JR DR
MILWAUKEE WI, 53212
(414) 277-4045
STEVE.CRAMER@CHARTER.COM

CITY OF DELAFIELD DPW - WATER
PAUL ZELLNER
500 GENESSEE ST
DELAFIELD, WI 53018
(262) 303-4627
PZELLNER@CI.DELAFIELD.WI.US

CITY OF FRANKLIN - STREET LIGHTING
JOE HEINRICHS
7979 W RYAN RD
FRANKLIN, WI 53132
(414) 425-2592
BDUDASH@FRANKLINWI.GOV

CITY OF MILWAUKEE - SEWER
ZAFAR YOUSUF
841 N BROADWAY
MILWAUKEE, WI 53202
(414) 286-2467
ZYOUSU@MILWAUKEE.GOV

CITY OF MILWAUKEE - STREET LIGHTING
DENNIS MILLER
1540 W CANAL ST
MILWAUKEE, WI 53233
(414) 708-4251
DENNIS.MILLER@MILWAUKEE.GOV

CITY OF MILWAUKEE - WATER
DAVE GOLDAPP
3850 N 35TH ST
MILWAUKEE, WI 53216
(414) 286-6301
DGOLDAPP@MILWAUKEE.GOV

CITY OF WAUKESHA - WATER
CHRIS WALTER
P.O. BOX 1648
WAUKESHA, WI 53187
(262) 901-5886
CWALTER@WAUKESHA-WATER.COM

FRONTIER COMMUNICATIONS - COMMUNICATION LINE
CALVIN KLADE
1851 N 14TH AVE
WAUSAU, WI 54401
(715) 847-1525
CALVIN.KLADE@FTR.COM

LEVEL 3 COMMUNICATIONS LLC - COMMUNICATION LINE
SASHA DEMIAN
3235 INTERTECH DR
BROOKFIELD, WI 53045
(414) 908-1042
SASHA.DEMIAN@LEVEL3.COM

MIDWEST FIBER NETWORKS - COMMUNICATION LINE
PATRICK GRAHAM
6070 NORTH FLINT RD
GLENDALE, WI 53209
(414) 672-5612
PGRAHAM@MIDWESTFIBERNETWORKS.COM

MILWAUKEE METROPOLITAN SEWERAGE DISTRICT - SEWER
LARRY ANDERSON
260 W SEEBOTH ST
MILWAUKEE, WI 53204
(414) 225-2241
LANDERSON@MMSD.COM

PAETEC COMMUNICATIONS - COMMUNICATION LINE
MARY BETH FISHER
13935 BISHOPS DR
BROOKFIELD, WI 53005
(262) 792-7938
MARY.B.FISHER@WINDSTREAM.COM

TDS METROCOM - COMMUNICATION LINE
MATTHEW SCHULTE
16924 WEST VICTOR RD
NEW BERLIN, WI 53151
(262) 754-3063
MATT.SCHULTE@TDSTELECOM.COM

USDI - LANDFILL GAS PIPELINE
MICHAEL WEILER
1927 MILLER DR
OLNEY, IL 62450
(618) 392-5502
MWEILER@USDI.US

VILLAGE OF HARTLAND DPW - SEWER
DAVE FELKNER
210 COTTONWOOD AVE
HARTLAND, WI 53029
(262) 367-4750
DAVEF@VILLAGEOFHARTLAND.COM

VILLAGE OF HARTLAND DPW - WATER
DAVE FELKNER
210 COTTONWOOD AVE
HARTLAND, WI 53029
(262) 367-4750
DAVEF@VILLAGEOFHARTLAND.COM

VILLAGE OF PLEASANT PRAIRIE - SEWER
JOHN STEINBRINK JR
8600 GREENBAY RD
PLEASANT PRAIRIE, WI 53158
(262) 925-6768
JSTEINBRINK@PLPRAIRIEWI.COM

VILLAGE OF PLEASANT PRAIRIE - WATER
JOHN STEINBRINK JR
8600 GREENBAY RD
PLEASANT PRAIRIE, WI 53158
(262) 925-6768
JSTEINBRINK@PLPRAIRIEWI.COM

VILLAGE OF SAUKVILLE DPW - SEWER
RAY HARTMANN
639 E GREEN BAY AVE
SAUKVILLE, WI 53080
(262) 284-3185
RHARTMANN@VILLAGE.SAUKVILLE.WI.US

VILLAGE OF SAUKVILLE DPW - WATER
DALE KROPIDLOWSKI
639 E GREEN BAY AVE
SAUKVILLE, WI 53080
(262) 284-3185
DKROPIDLOWSKI@VILLAGE.SAUKVILLE.WI.US

WE ENERGIES - ELECTRIC
BRYAN STOEHR
500 S 116TH ST
WEST ALLIS, WI 53214
(414) 944-5516
BRYAN.STOEHR@WE-ENERGIES.COM

WE ENERGIES - GAS
ALEX DANTINNE
500 S 116TH ST
WEST ALLIS, WI 53214
(920) 621-6903
ALEX.DANTINNE@WE-ENERGIES.COM

WINDSTREAM KDL - COMMUNICATION LINE
MARY BETH FISHER
13935 BISHOPS DR
BROOKFIELD, WI 53005
(262) 792-7938
MARY.B.FISHER@WINDSTREAM.COM

WISDOT - STREET LIGHTING
ERIC PEREA
141 NW BARSTOW STREET
WAUKESHA, WI 53087-0798
(262) 574-5422
ERIC.PEREA@DOT.WI.GOV

WISDOT - WISCONSIN SIGNAL
STEPHANIE SWARD
141 NW BARSTOW STREET
WAUKESHA, WI 53188
(414) 750-2605
STEPHANIE.SWARD@DOT.WI.GOV

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

2

OTHER CONTACTS

MCTS
ANDY TILLMAN
MILWAUKEE COUNTY TRANSIT SYSTEM - BUS STOPS
1942 N. 17TH STREET
MILWAUKEE, WI 53025
PHONE: (414) 343-1728
ATILLMAN@MCTS.ORG

WAUKESHA METRO
BRIAN ENGELKING
TRANSIT MANAGER
2311 BADGER DRIVE
WAUKESHA, WI 53188
PHONE: (262) 524-3634
BENGELKI@CI.WAUKESHA.WI.US

WISDOT SIGNALS
DAVID BRANTNER
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 548-8736
DAVID.BRANTNER@DOT.WI.GOV

MCTS
MELANIE FLYNN
MILWAUKEE COUNTY TRANSIT SYSTEM - ROUTES
1942 N. 17TH STREET
MILWAUKEE, WI 53025
PHONE: (414) 343-1764
MFLYNN@MCTS.ORG

WISDNR CONTACT
KENOSHA, WALWORTH, & WAUKESHA COUNTIES
CRAIG WEBSTER
141 NW BARSTOW ST, ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 574-2141
CRAIG.WEBSTER@WISCONSIN.GOV

SEWRPC
JOHN WASHBURN
W239 N1812 ROCKWOOD DR
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4295
JWASHBURN@SEWRPC.ORG

WISDNR CONTACT
MILWAUKEE, OZAUKEE, &
WASHINGTON COUNTIES
KRISTINA BETZOLD
2300 N MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
PHONE: (414) 263-8517
KRISTINA.BETZOLD@WISCONSIN.GOV

WAUKESHA COUNTY
CAROLYNN GELLINGS
515 W MORELAND BLVD
WAUKESHA, WI 53188
PHONE: (262) 548-7740
CGELLINGS@WAUKESHACOUNTY.GOV

WISDOT REGION CONTACT
BRIAN PLUEMER
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 548-6721
BRIAN.PLUEMER@DOT.WI.GOV

2

KENOSHA COUNTY
VILLAGE OF PLEASANT PRAIRIE

1 MILE EAST OF I-94

N

DES PLAINES RIVER

STH 165 WB

STH 165 EB

BEGIN CONSTRUCTION

END CONSTRUCTION

B-30-65
STH 165 EB OVER DES PLAINES RIVER
CONCRETE OVERLAY AND PAINT GIRDERS

KENOSHA COUNTY
VILLAGE OF PLEASANT PRAIRIE

1.9 MILES EAST OF I-94
0.25 MILES WEST OF CTH H

N

STH 165 WB

STH 165 EB

B-30-67
STH 165 WB OVER SOO LINE RR
PMA OVERLAY

BEGIN CONSTRUCTION

END CONSTRUCTION

B-30-66
STH 165 EB OVER SOO LINE RR
PMA OVERLAY

SOO LINE RR

2

MILWAUKEE COUNTY
CITY OF MILWAUKEE

N

STH 175 NB

STH 175 SB

END CONSTRUCTION

W WELLS ST

BEGIN CONSTRUCTION

B-40-52
W WELLS ST OVER STH 175
METHACRYLATE SEALER

MILWAUKEE COUNTY
CITY OF FRANKLIN

N

B-40-392
CTH BB (RAWSON AVE) EB OVER STH 36 (LOOMIS RD)
CONCRETE OVERLAY AND PAINT GIRDERS

END CONSTRUCTION

CTH BB (RAWSON AVE) WB

CTH BB (RAWSON AVE) EB

BEGIN CONSTRUCTION

STH 36 (LOOMIS RD)

STH 36 (LOOMIS RD)

B-40-644
CTH BB (RAWSON AVE) EB OVER STH 36 (LOOMIS RD)
CONCRETE OVERLAY

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	PROJECT OVERVIEW	SHEET 6	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\020202_PO.DWG
LAYOUT NAME - PO SHEET 1

PLOT DATE : 4/9/2019 2:25 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

OZAUKEE COUNTY
VILLAGE OF SAUKVILLE

B-45-39
MINK RANCH RD OVER STH 57
PMA OVERLAY AND PAINT GIRDERS

END CONSTRUCTION

MINK RANCH RD

BEGIN CONSTRUCTION

STH 57 SB

STH 57 NB

N

OZAUKEE COUNTY
VILLAGE OF SAUKVILLE

CTH W

END CONSTRUCTION

B-45-95
STH 33 OVER MILWAUKEE RIVER
PMA OVERLAY

MAIN ST.

BEGIN CONSTRUCTION

MILWAUKEE RIVER

STH 33

ULAO ST.

N

2

WALWORTH COUNTY
TOWN OF SPRING PRAIRIE

1.0 MILE SOUTH OF CTH D
2.8 MILES NORTH OF STH 11

END CONSTRUCTION

SUGAR CREEK

BEGIN CONSTRUCTION

B-64-80
STH 120 OVER SUGAR CREEK
PMA OVERLAY

STH 120

N

WASHINGTON COUNTY
TOWN OF ADDISON

0.15 MILES NORTH OF CROOKED ROAD
0.15 MILES SOUTH OF HILLCREST DRIVE

END CONSTRUCTION

LIMESTONE CREEK

B-66-27
STH 175 OVER LIMESTONE CREEK
PMA OVERLAY

BEGIN CONSTRUCTION

STH 175

N

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	PROJECT OVERVIEW	SHEET 7	E

2

WASHINGTON COUNTY
TOWN OF TRENTON

0.2 MILES EAST OF CTH M
0.15 MILES WEST OF RIVERVIEW DRIVE

N

B-66-93
STH 33 OVER MILWAUKEE RIVER
CONCRETE OVERLAY

BEGIN CONSTRUCTION

MILWAUKEE RIVER

STH 33

END CONSTRUCTION

WASHINGTON COUNTY
VILLAGE OF GERMANTOWN

CENTURY
LANE

N

END CONSTRUCTION

B-66-99
STH 145 OVER MENOMONEE RIVER
PMA OVERLAY

MENOMONEE RIVER

STH 145

CTH F

BEGIN CONSTRUCTION

2

WAUKESHA COUNTY
CITY OF DELAFIELD

1.3 MILES SOUTH OF STH 16
0.7 MILES NORTH OF CTH KE

N

END CONSTRUCTION

B-67-220
STH 83 OVER BARK RIVER
CONCRETE OVERLAY

BARK RIVER

BEGIN CONSTRUCTION

STH 83

WALNUT RIDGE DRIVE

WAUKESHA COUNTY
CITY OF WAUKESHA

0.5 MILES EAST OF CTH X
0.4 MILES WEST OF OAKDALE DRIVE

N

B-67-230
STH 59 WB OVER FOX RIVER
CONCRETE OVERLAY

FOX RIVER
PARKWAY

END CONSTRUCTION

STH 59 WB

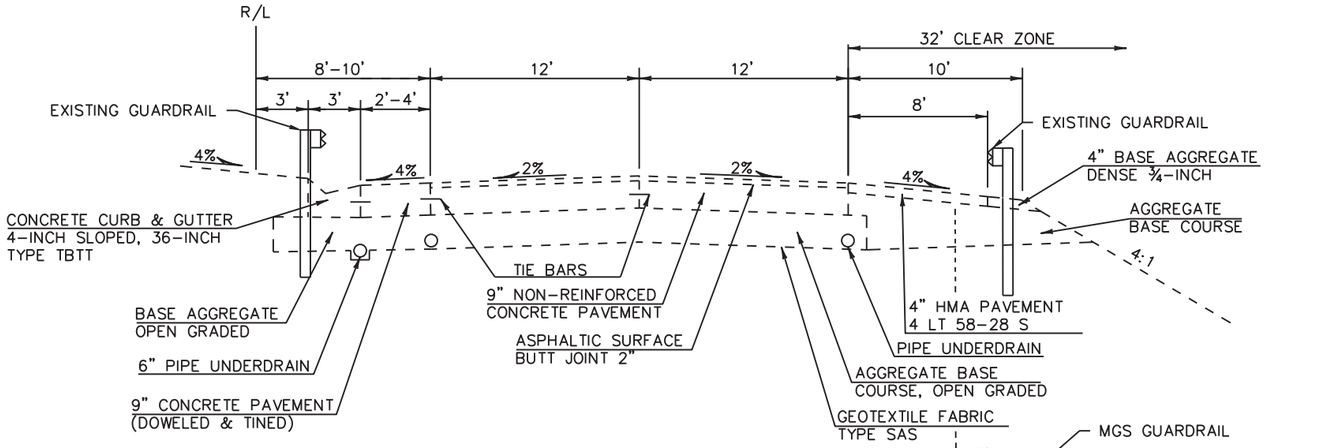
STH 59 EB

BEGIN CONSTRUCTION

FOX RIVER

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	PROJECT OVERVIEW	SHEET E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\020202_PO.DWG
LAYOUT NAME - PO SHEET 3
PLOT DATE : 4/9/2019 2:25 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

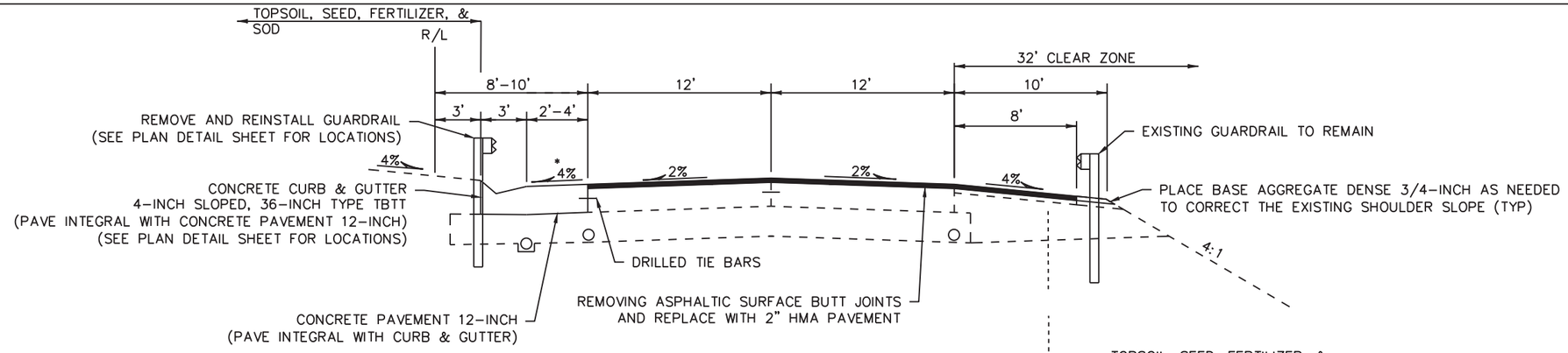


EXISTING TYPICAL SECTION STH 165

B-30-65

STA 448+52 – STA 449+21
STA 451+84 – STA 452+51

CURB AND GUTTER SECTION
STA 449+13 – STA 449+28



*TRANSITION TO 3% AT BRIDGE

FINISHED TYPICAL SECTION STH 165

B-30-65

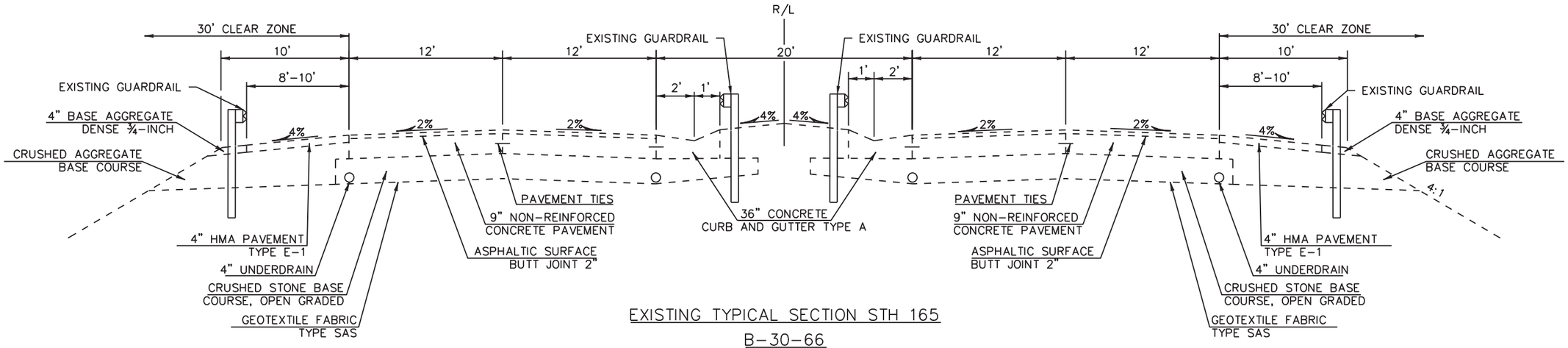
STA 448+52 – STA 449+21
STA 451+84 – STA 452+73

NOTE: CONCRETE PAVEMENT APPROACH SLABS ON BOTH SIDES OF THE BRIDGE

CURB & GUTTER SECTION
STA 449+13 – STA 449+28

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TYPICAL SECTIONS	SHEET 9	E

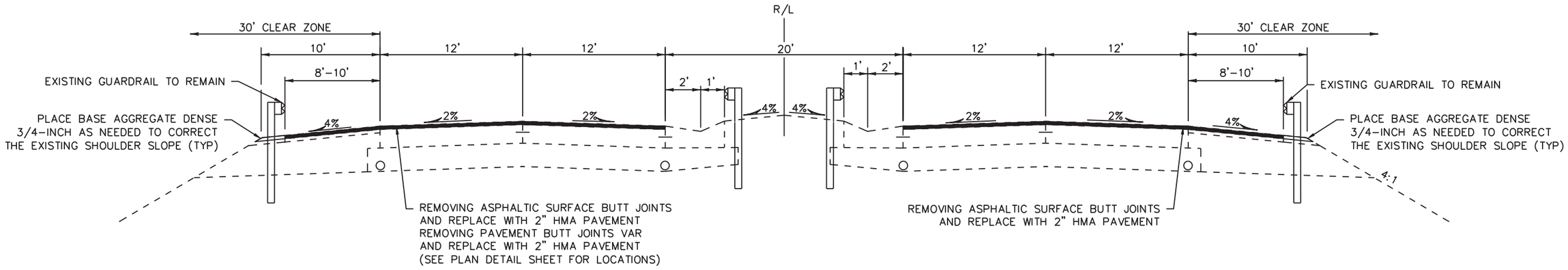
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\020301_TS_B30-ALL.DWG
LAYOUT NAME - TS B-30-65
PLOT DATE : 4/9/2019 2:26 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



EXISTING TYPICAL SECTION STH 165

B-30-66
STA 496+66 – STA 497+09
STA 498+73 – STA 499+09

B-30-67
STA 496+54 – STA 496+92
STA 498+56 – STA 498+98



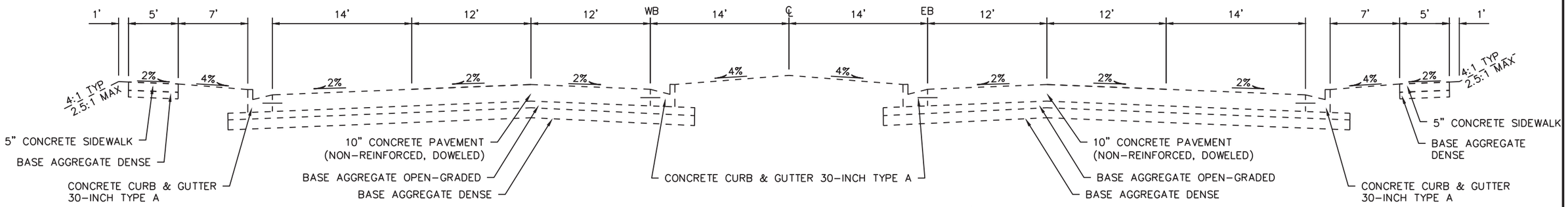
FINISHED TYPICAL SECTION STH 165

B-30-66
STA 496+66 – STA 497+09
STA 498+73 – STA 499+09

B-30-67
STA 496+54 – STA 496+92
STA 498+56 – STA 498+98

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TYPICAL SECTIONS	SHEET 10	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\020301_TS_B30-ALL.DWG
LAYOUT NAME - TS B-30-66 & B-30-67
PLOT DATE : 4/9/2019 2:26 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



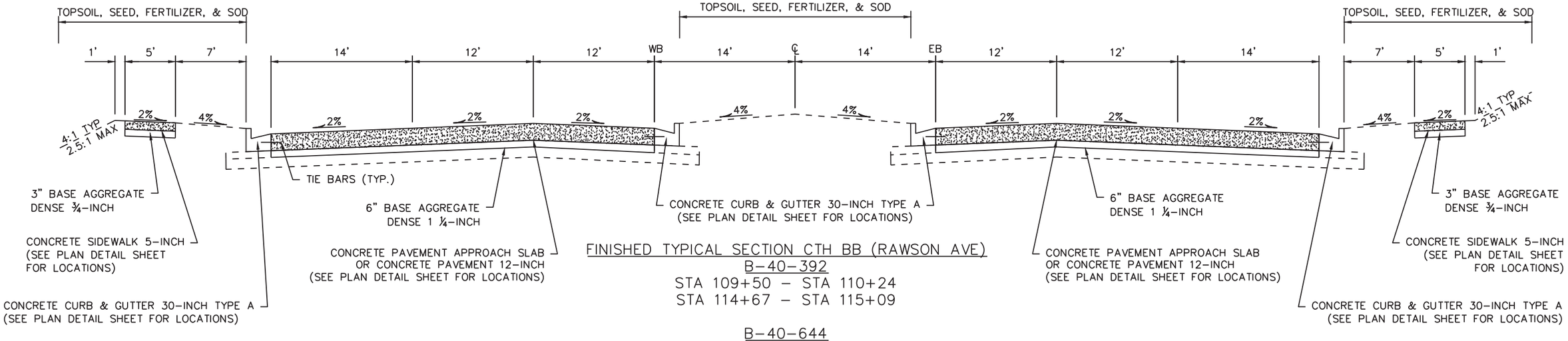
EXISTING TYPICAL SECTION CTH BB (RAWSON AVE)

B-40-392

STA 109+50 – STA 110+24
STA 114+67 – STA 115+09

B-40-644

STA 108+89 – STA 109+46
STA 113+83 – STA 114+53



FINISHED TYPICAL SECTION CTH BB (RAWSON AVE)

B-40-392

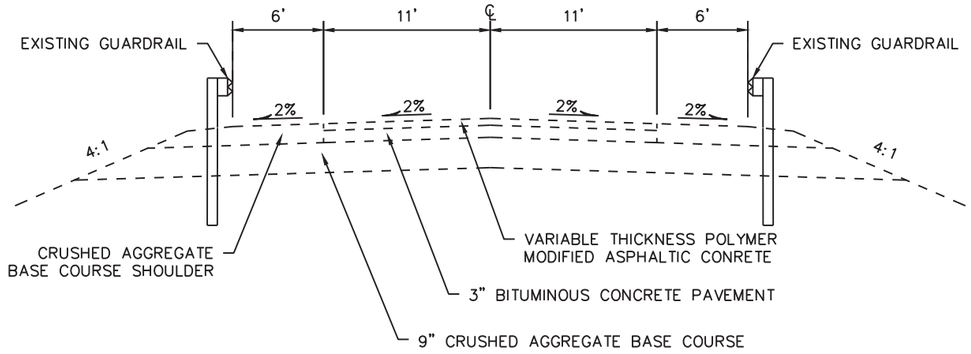
STA 109+50 – STA 110+24
STA 114+67 – STA 115+09

B-40-644

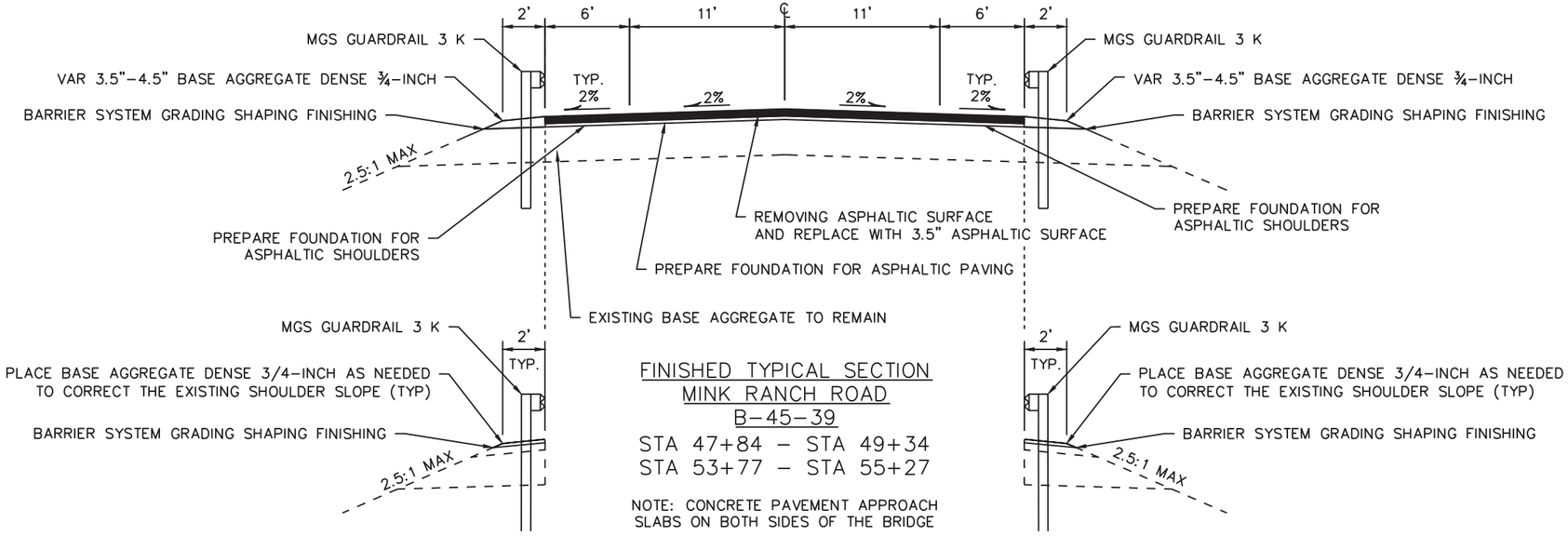
STA 108+89 – STA 109+46
STA 113+83 – STA 114+53

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TYPICAL SECTIONS	SHEET 11	E

2



EXISTING TYPICAL SECTION MINK RANCH ROAD
B-45-39
STA 44+10 – STA 49+51
STA 53+60 – STA 56+07



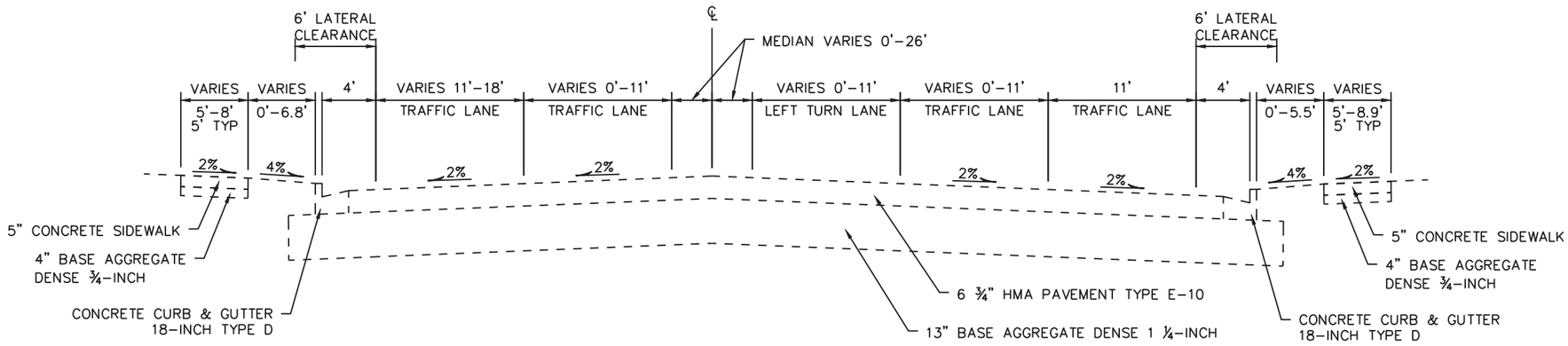
FINISHED TYPICAL SECTION
MINK RANCH ROAD
B-45-39
STA 47+84 – STA 49+34
STA 53+77 – STA 55+27

NOTE: CONCRETE PAVEMENT APPROACH
SLABS ON BOTH SIDES OF THE BRIDGE

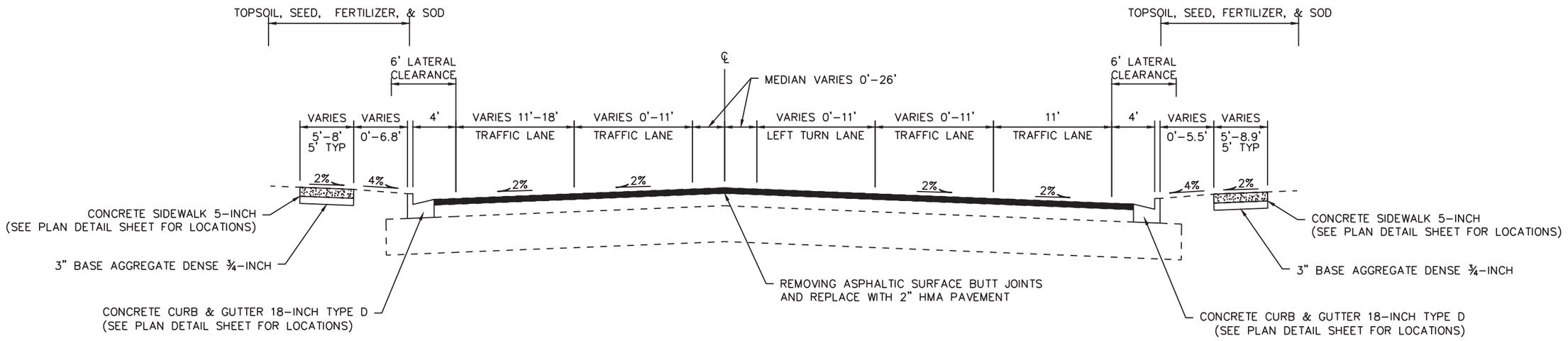
GUARDRAIL SECTION LT
STA 44+17 – STA 47+84
STA 55+27 – STA 56+01

GUARDRAIL SECTION RT
STA 44+10 – STA 47+84
STA 55+27 – STA 56+07

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TYPICAL SECTIONS	SHEET 12	E

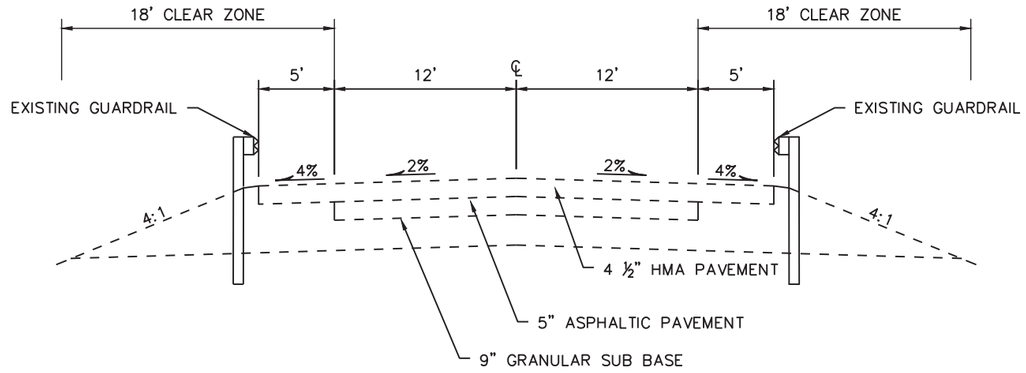


EXISTING TYPICAL SECTION STH 33
B–45–95
STA 91+53 – STA 92+61
STA 95+14 – STA 95+77

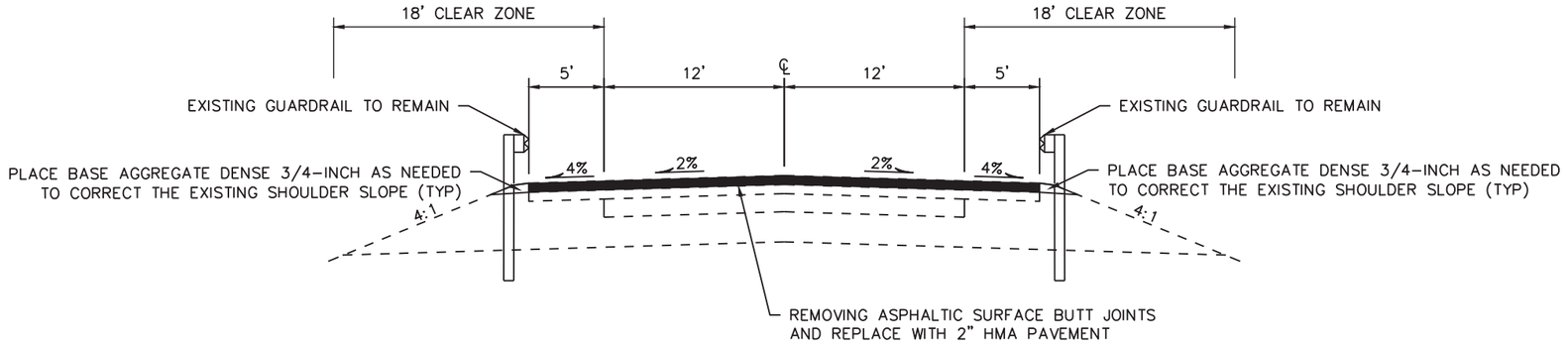


FINISHED TYPICAL SECTION STH 33
B–45–95
STA 91+53 – STA 92+61
STA 95+14 – STA 95+77

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TYPICAL SECTIONS	SHEET 13	E



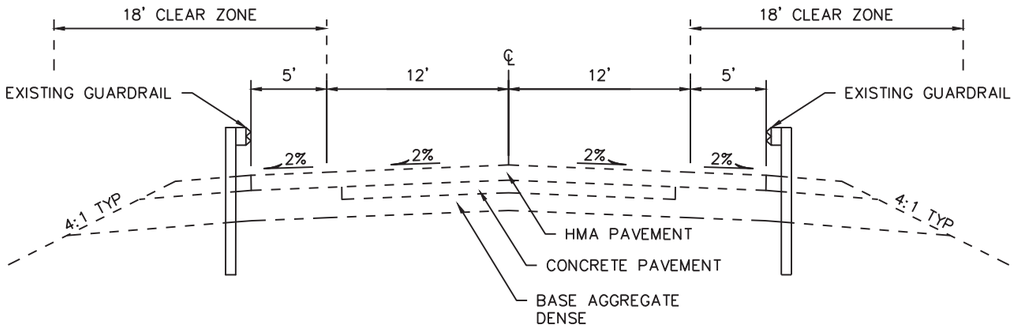
EXISTING TYPICAL SECTION STH 120
B-64-80
STA 388+00 – STA 388+54
STA 389+02 – STA 389+50



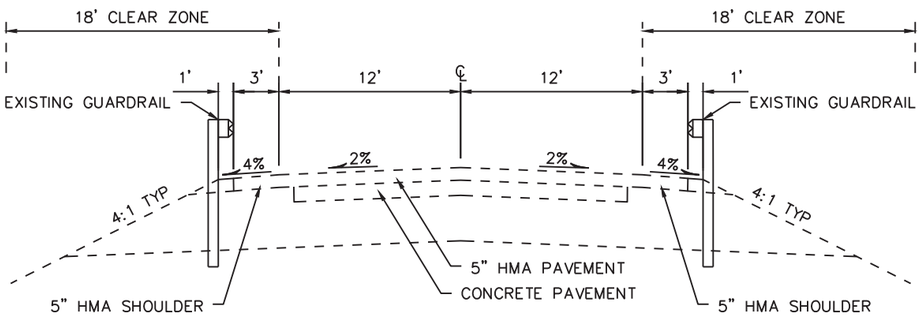
FINISHED TYPICAL SECTION STH 120
B-64-80
STA 388+00 – STA 388+54
STA 389+02 – STA 389+50

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	TYPICAL SECTION	SHEET 14	E

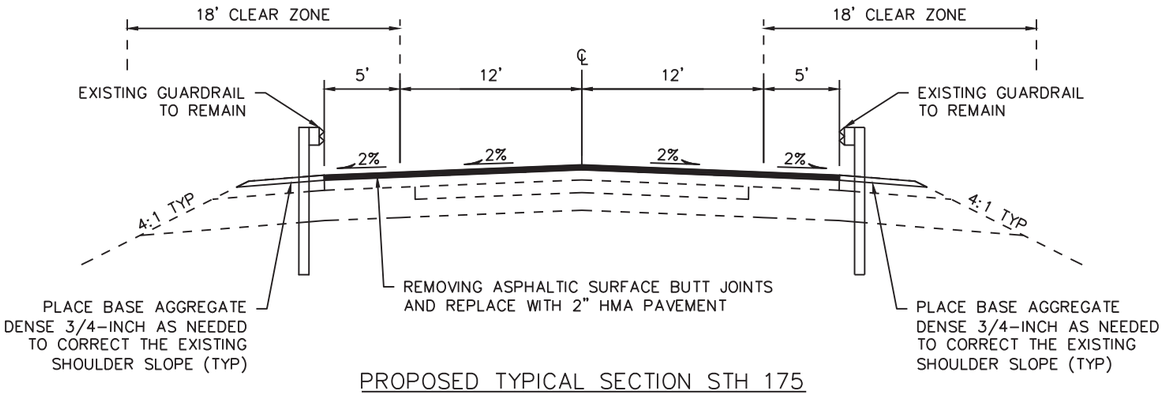
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-64-80_STH 120\020301_TS_B64-80.DWG
LAYOUT NAME - B64-80 TS
PLOT DATE : 4/9/2019 2:26 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42



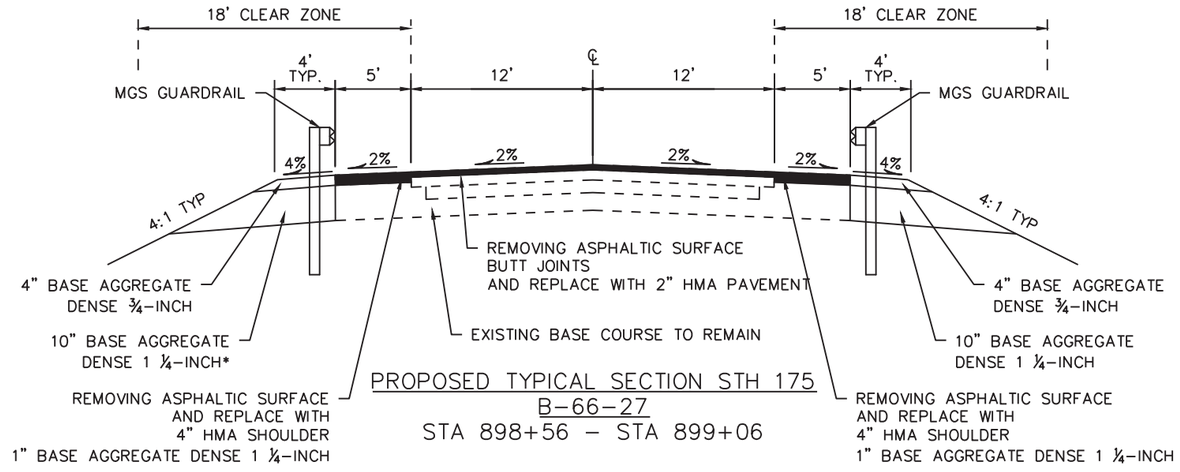
EXISTING TYPICAL SECTION STH 175
B-66-27
STA 897+75 – STA 898+20



EXISTING TYPICAL SECTION STH 175
B-66-27
STA 898+56 – STA 899+06



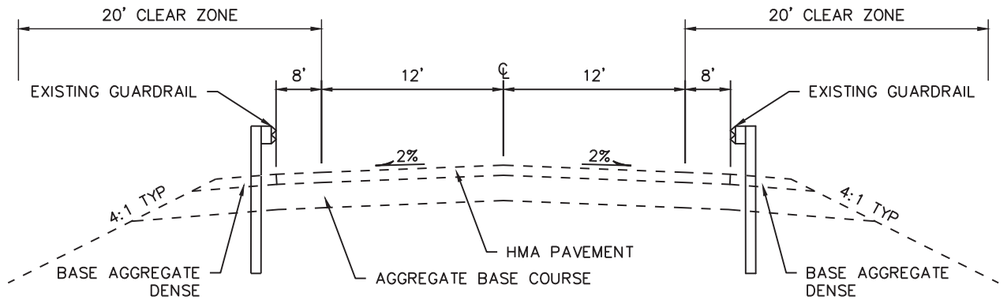
PROPOSED TYPICAL SECTION STH 175
B-66-27
STA 897+75 – STA 898+20



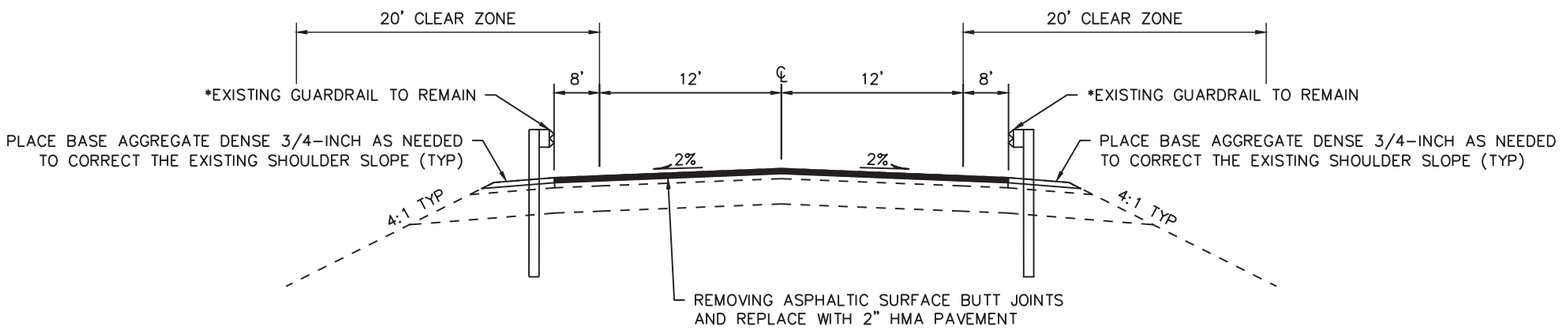
PROPOSED TYPICAL SECTION STH 175
B-66-27
STA 898+56 – STA 899+06

* SEE PLAN DETAIL SHEET FOR ADDITIONAL DETAILS

2



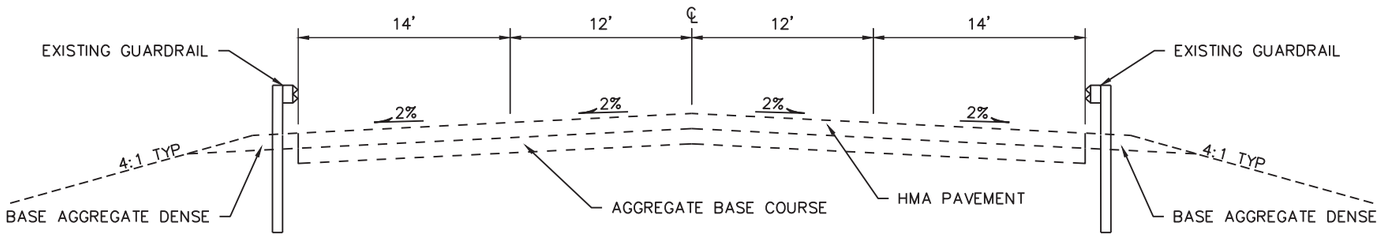
EXISTING TYPICAL SECTION STH 33
B-66-93
STA 261+91 – STA 262+41
STA 263+86 – STA 264+36



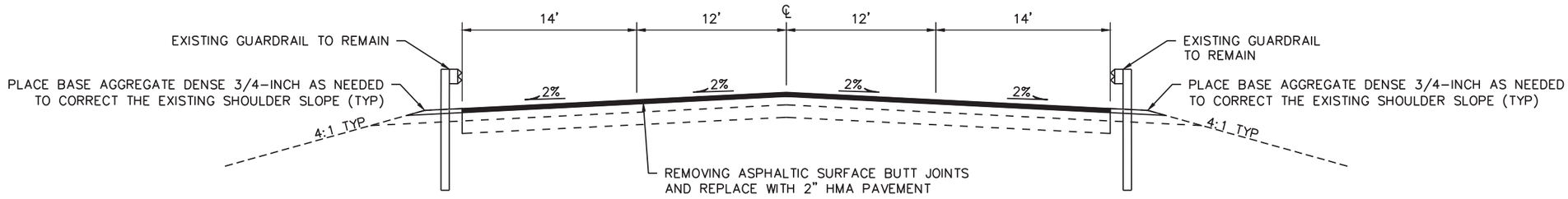
FINISHED TYPICAL SECTION STH 33
B-66-93
STA 261+91 – STA 262+41
STA 263+86 – STA 264+36

*REMOVE AND REINSTALL GUARDRAIL WHERE CONCRETE CURB & GUTTER IS TO BE INSTALLED. SEE PLAN DETAILS.

2



EXISTING TYPICAL SECTION STH 145
B-66-99
STA 549+60 – STA 550+10
STA 550+54 – STA 551+06

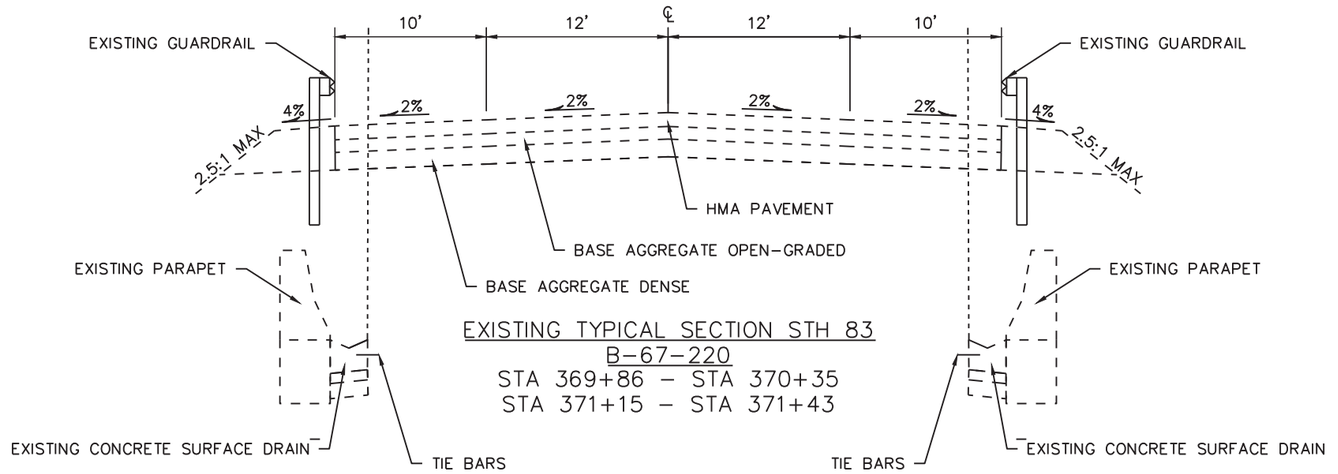


FINISHED TYPICAL SECTION STH 145
B-66-99
STA 549+60 – STA 550+10
STA 550+54 – STA 551+06

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 17	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-99_STH 145\020301_TS_B66-99.DWG
LAYOUT NAME - B66-99 TS
PLOT DATE : 4/9/2019 2:27 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

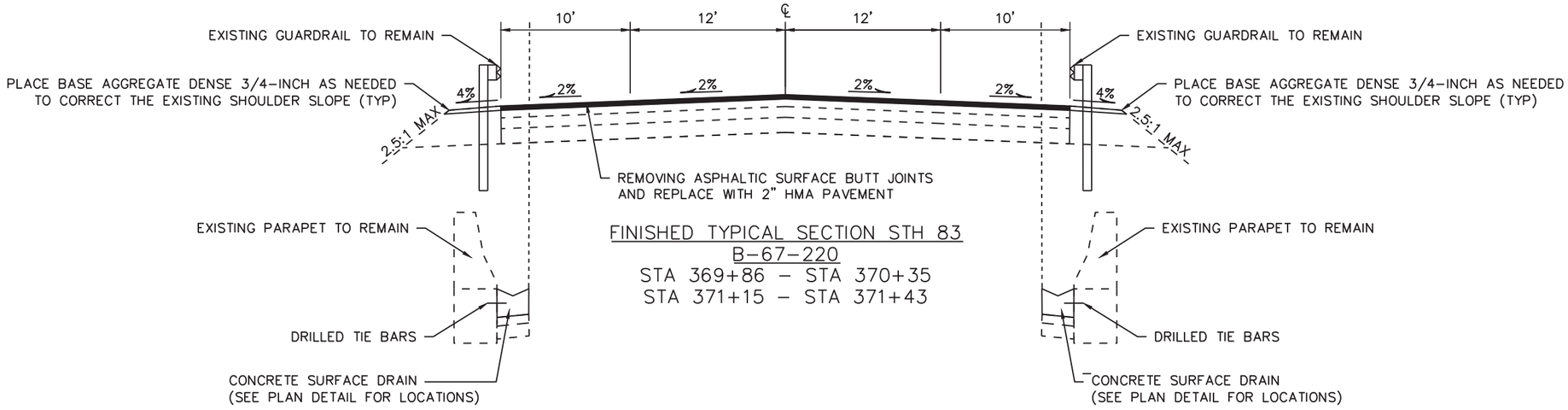
2



EXISTING TYPICAL SECTION STH 83
B-67-220
STA 369+86 – STA 370+35
STA 371+15 – STA 371+43

CURB AND GUTTER SECTION LT
STA 370+96 – STA 371+14

CONCRETE SURFACE DRAIN SECTION RT
STA 370+97 – STA 371+15

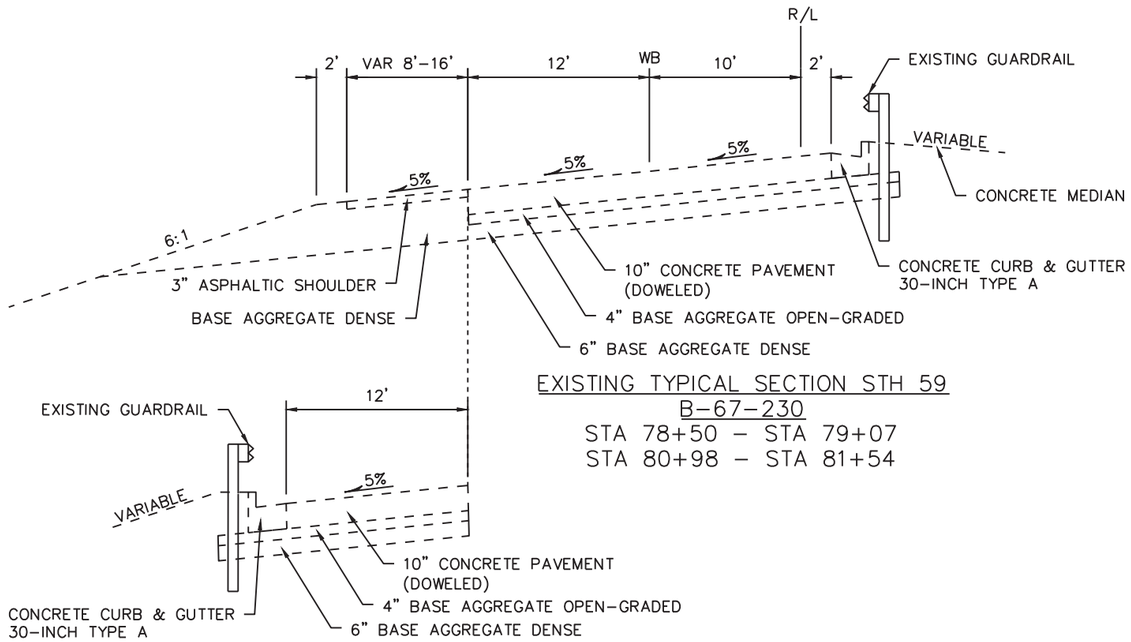


FINISHED TYPICAL SECTION STH 83
B-67-220
STA 369+86 – STA 370+35
STA 371+15 – STA 371+43

CONCRETE SURFACE DRAIN SECTION LT
STA 370+96 – STA 371+14

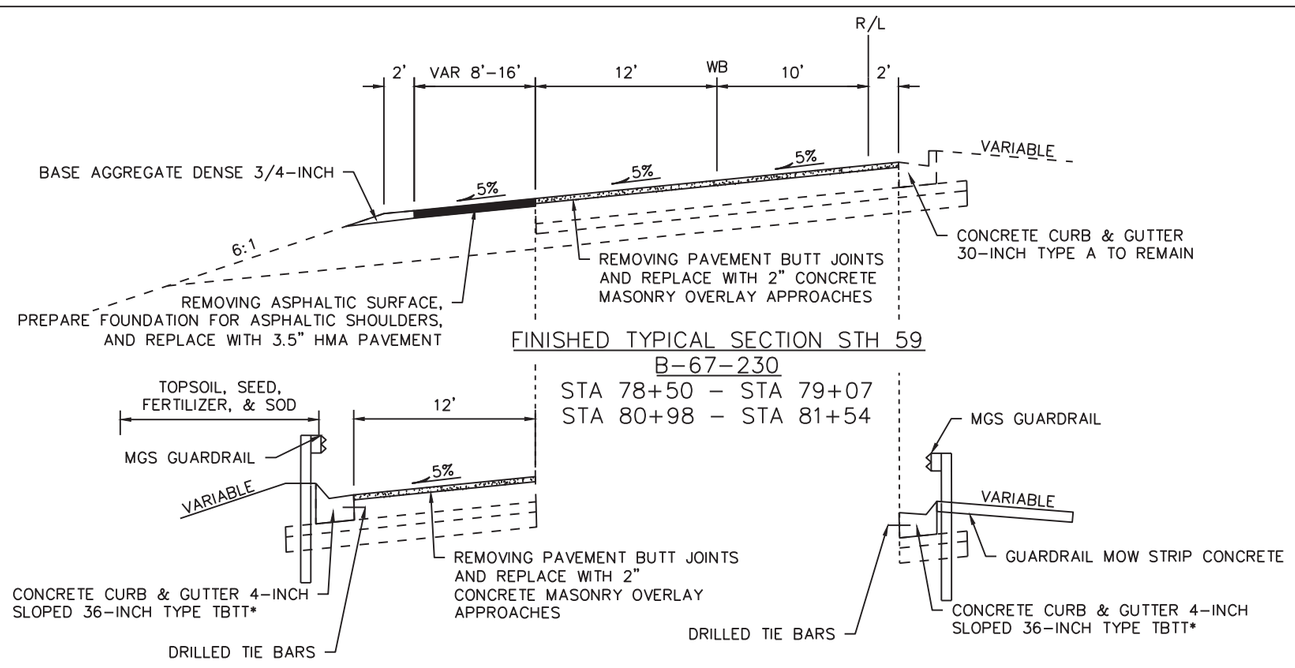
CONCRETE SURFACE DRAIN SECTION RT
STA 370+97 – STA 371+15

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 18	E



EXISTING TYPICAL SECTION STH 59
B-67-230
STA 78+50 – STA 79+07
STA 80+98 – STA 81+54

SHOULDER WITH GUARDRAIL
STA 80+98 – STA 82+27



FINISHED TYPICAL SECTION STH 59
B-67-230
STA 78+50 – STA 79+07
STA 80+98 – STA 81+54

SHOULDER WITH MGS GUARDRAIL
STA 81+00 – STA 82+27 LT

MGS GUARDRAIL WITH MOW STRIP
STA 81+11 – STA 82+53 RT

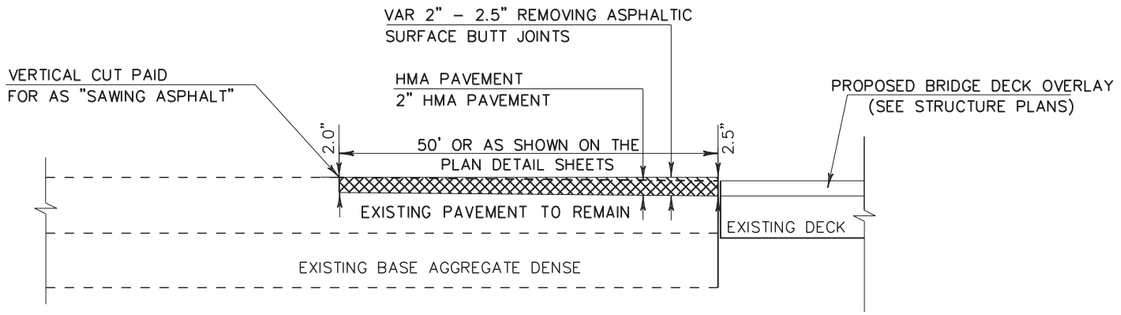
* CURB AND GUTTER LOCATIONS

4-INCH SLOPED 36-INCH TYPE TBTT
STA 81+11 – STA 81+55 LT
STA 81+13 – STA 81+56 RT

EXISTING 30-INCH TYPE A TO REMAIN
STA 81+55 – STA 82+14 LT
STA 81+56 – STA 82+40 RT

SAWING CURB HEAD
STA 82+14 – STA 82+54 LT
STA 82+63 – STA 82+88 LT

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 19	E

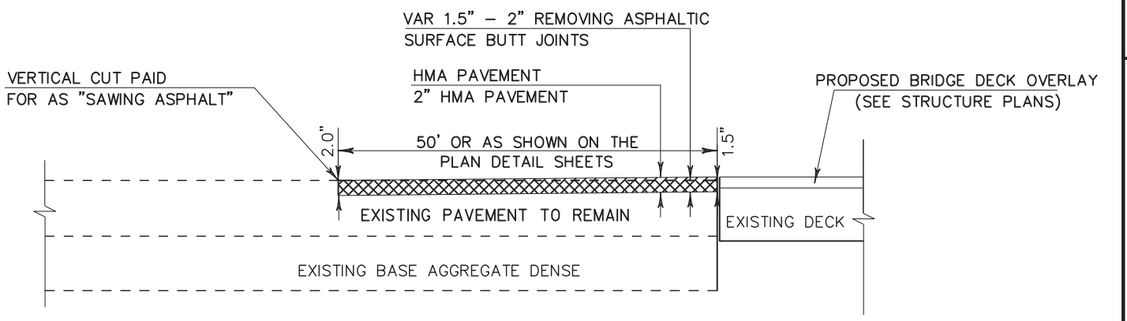


BUTT JOINT DETAIL 1

STH 165 (B–30–65)**
STH 165 (B–30–66)
STH 165 (B–30–67)
STH 33 (B–45–95)
STH 175 (B–66–27)
STH 33 (B–66–93)*
STH 145 (B–66–99)

BUTT JOINT NOTES

*MILL 1 3/4" AT C/L – 3" AT PARAPET
**BUTT JOINT ADJACENT TO THE NEW CONCRETE PAVEMENT APPROACH SLAB

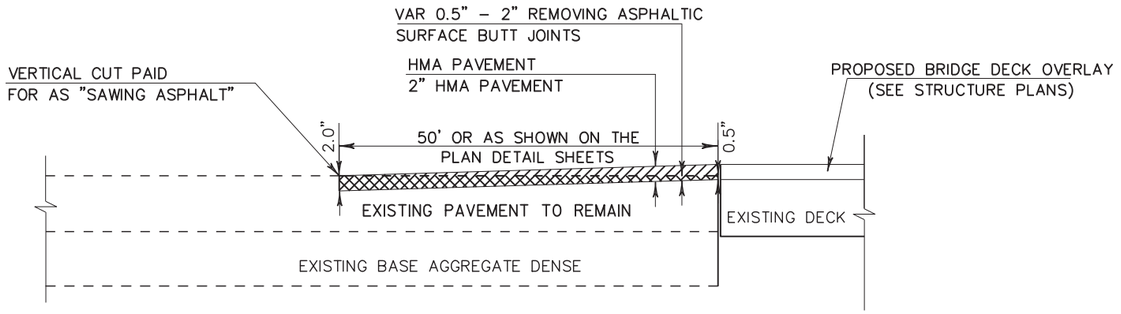


BUTT JOINT DETAIL 3

STH 83 (B–67–220):

BUTT JOINT NOTES

CONCRETE OVERLAY ON BARE DECK – ASPHALT APPROACH

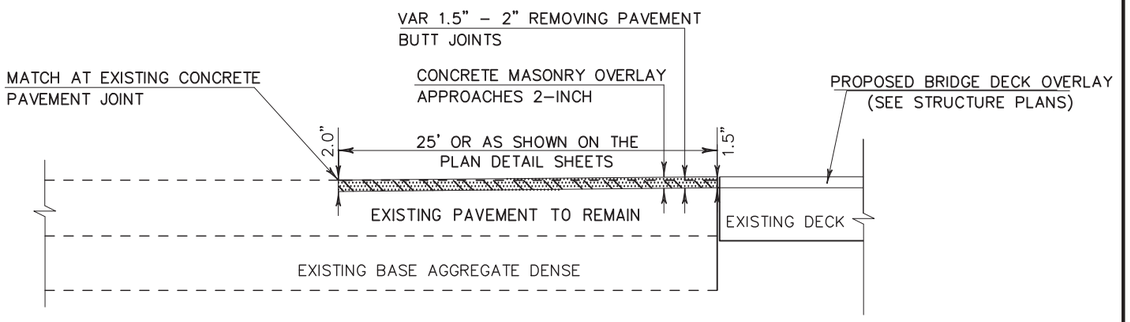


BUTT JOINT DETAIL 2

STH 120 (B–64–80):

BUTT JOINT NOTES

PMA OVERLAY ON BARE DECK



BUTT JOINT DETAIL 4

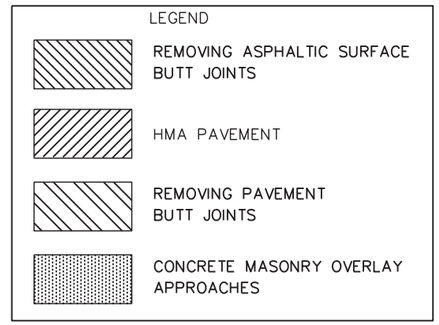
STH 59 (B–67–230):

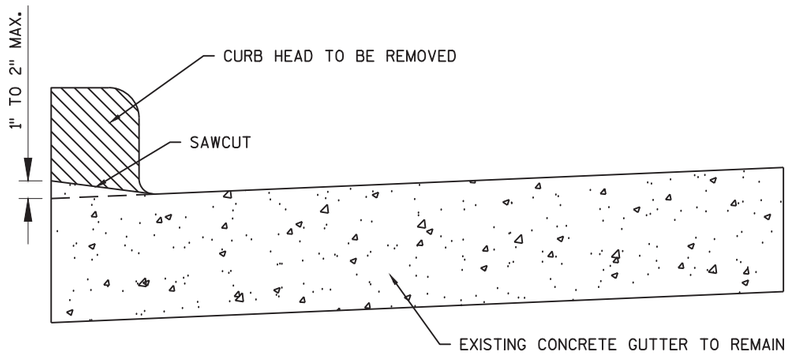
BUTT JOINT NOTES

CONCRETE OVERLAY ON BARE DECK – CONCRETE APPROACH

BUTT JOINTS DETAILS

SEE PLAN DETAIL FOR LOCATIONS



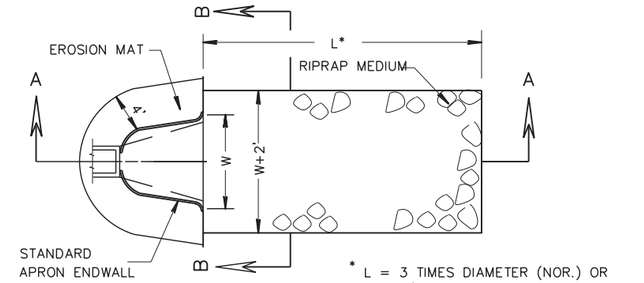


SAWING CONCRETE CURB HEAD

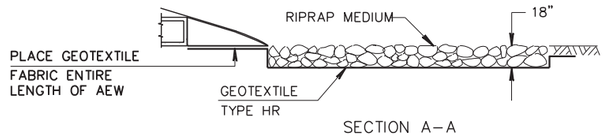
STH 59 (B-67-230)

TRANSITION FROM EXISTING CURB TO SAVED CURB OVER 6 FEET

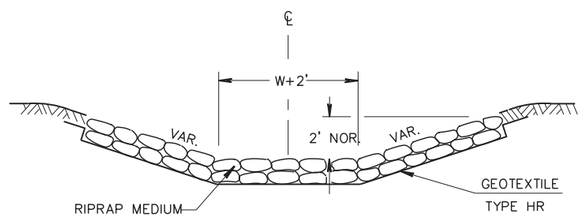
TRANSITION PAID AS SAWING CONCRETE CURB HEAD



* L = 3 TIMES DIAMETER (NOR.) OR 10' MIN. OR AS DIRECTED BY THE ENGINEER



SECTION A–A



SECTION B–B

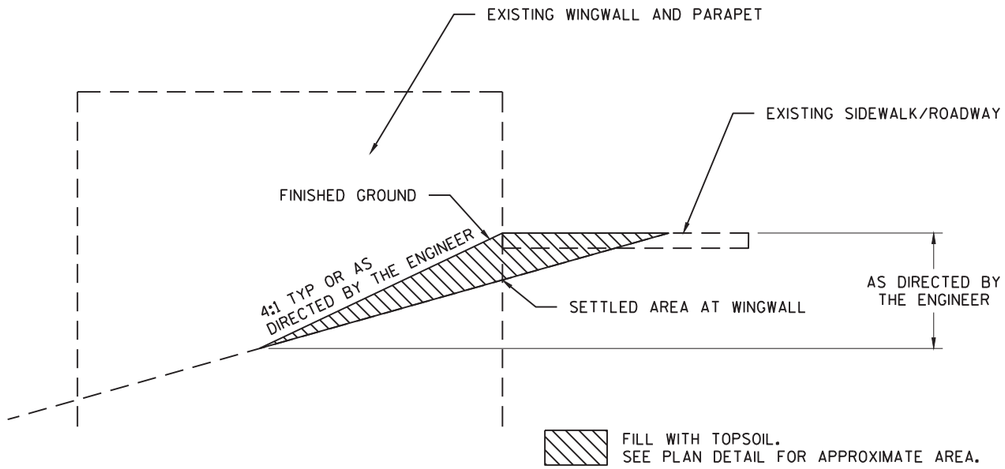
RIPRAP MEDIUM AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

SEE EROSION CONTROL PLAN FOR LOCATIONS

MINK RANCH RD (B-45-39):

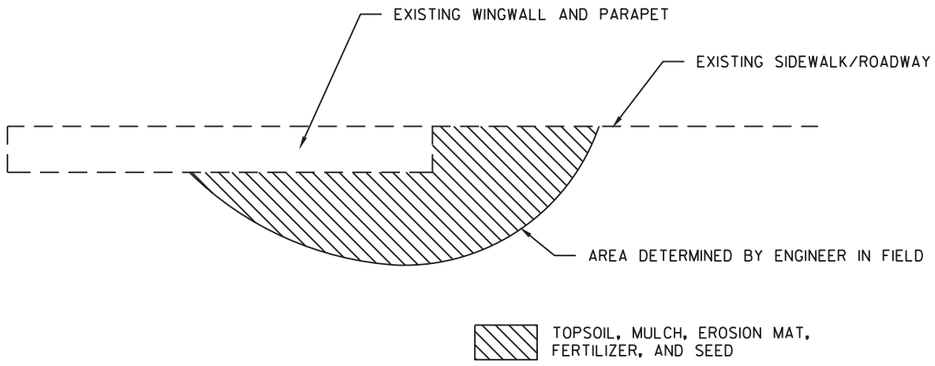
STA 49+13, 90' LT
STA 49+18, 85' RT
STA 53+95, 65' LT
STA 54+03, 65' RT

2



PROFILE VIEW

STRUCTURE	QUADRANT
B-40-392/644	NW
	SW
	SE
B-45-95	NW
	NE
	SE
B-67-230	NW



PLAN VIEW

EROSION RESTORATION AROUND WINGWALL

SEE TABLE FOR LOCATIONS

2

GENERAL NOTES

1. POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.
2. WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
3. TOLERANCE FOR TOP OF W-BEAM RAIL IS + 1".

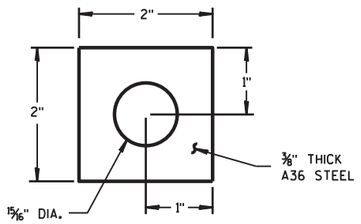
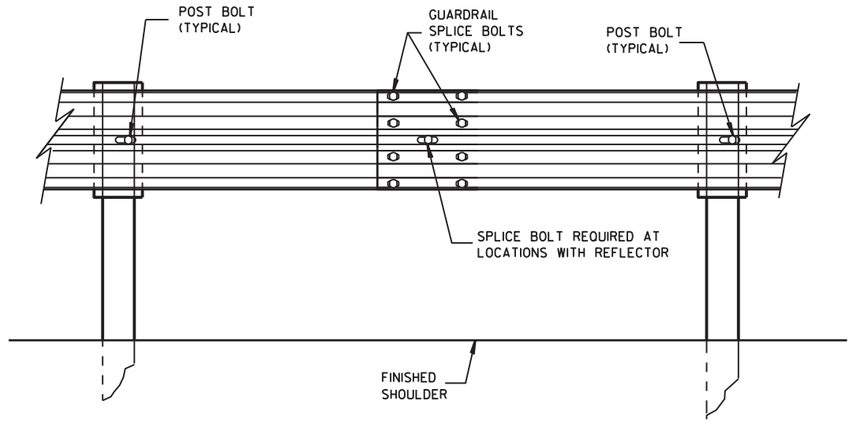
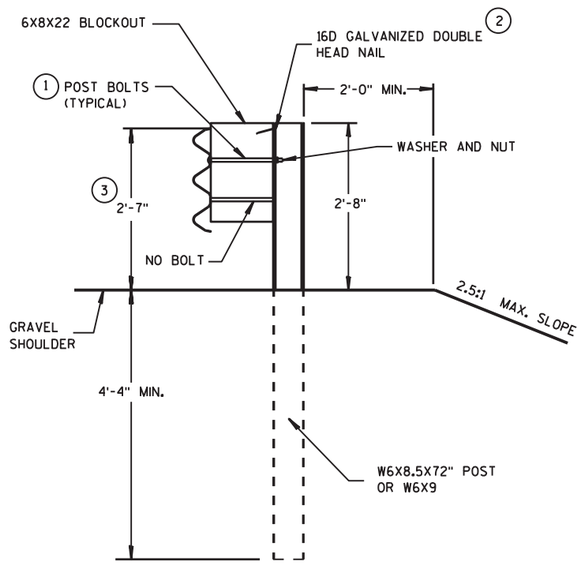


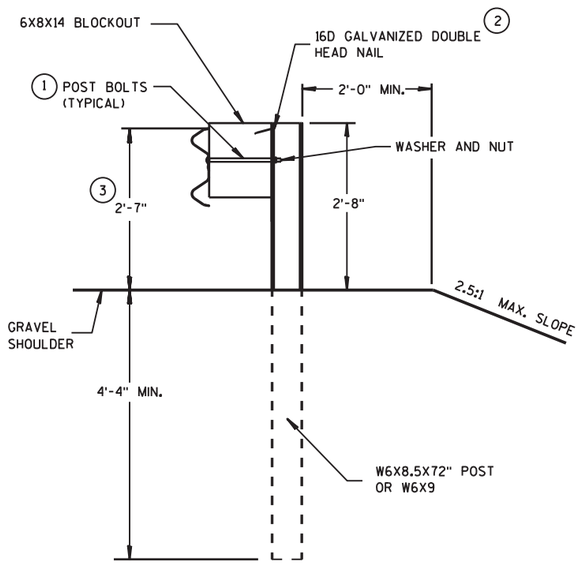
PLATE WASHER DETAIL



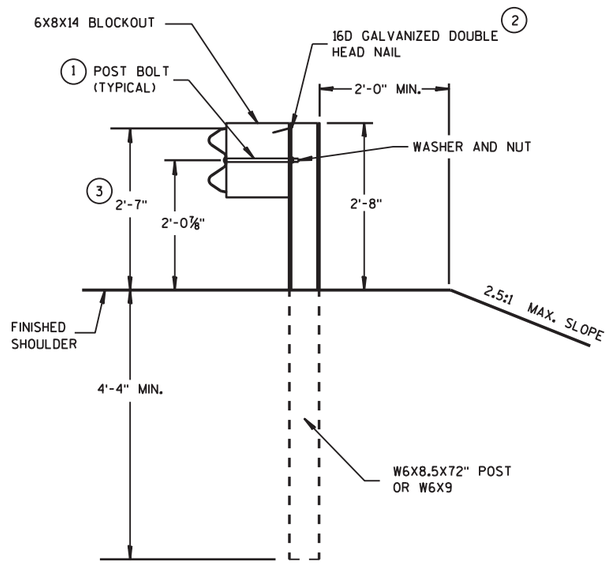
SPLICE DETAIL



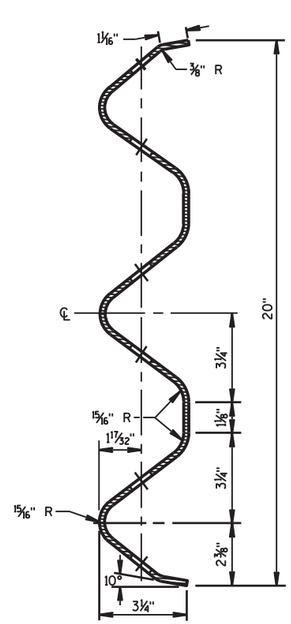
SECTION A–A
POST 1



SECTION B–B
POST 2



SECTION C–C
POSTS 3–4



SECTION THRU THRIE
BEAM RAIL ELEMENT

MGS THRIE BEAM TRANSITION TL–2

STH 175 (B–66–27)

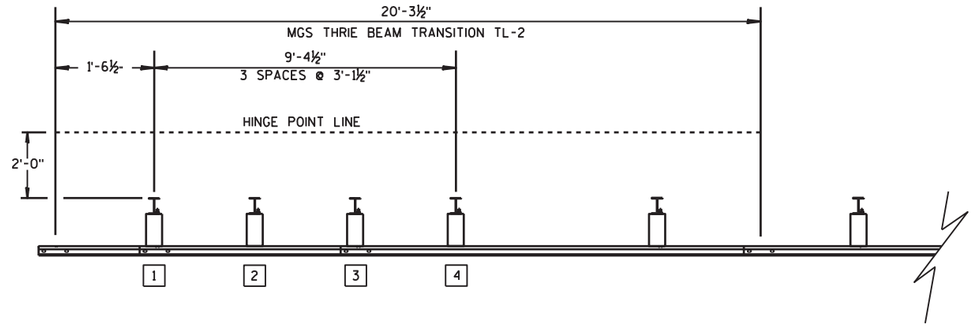
GENERAL NOTES

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST.

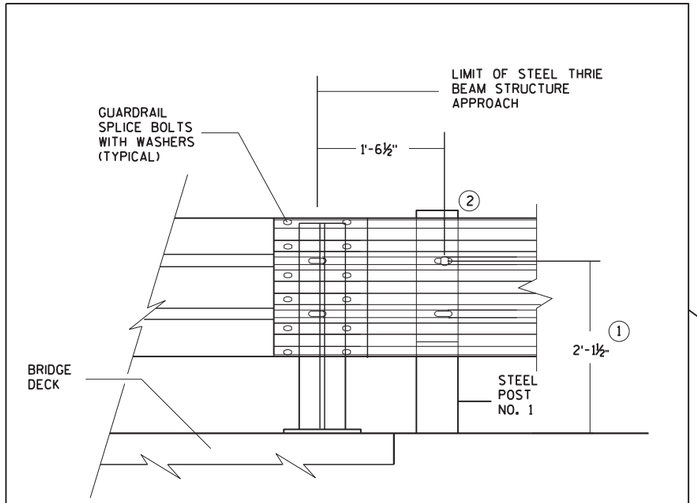
TRANSITION USES STEEL POSTS ONLY.

(1) TOLERANCE FOR TOP OF BEAM IS + 1".

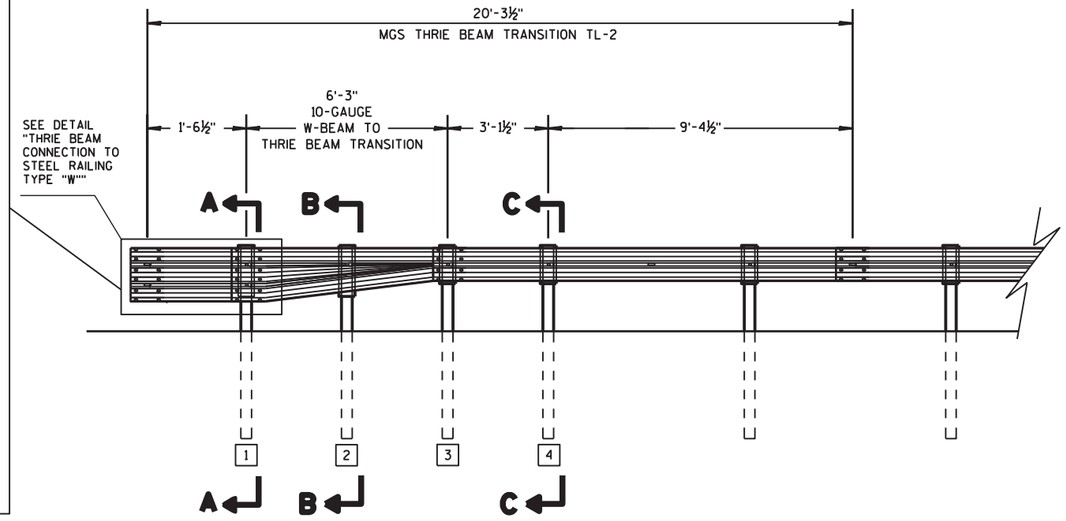
(2) DO NOT INSTALL THE LOWER POST BOLT FOR POSTS 1 AND 2.



PLAN VIEW



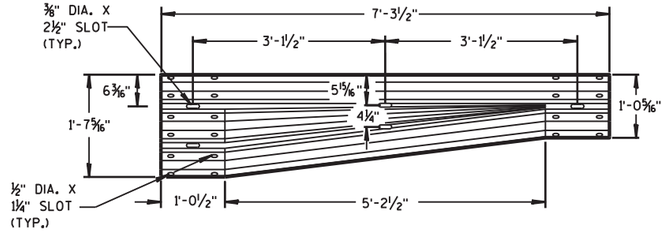
FRONT VIEW
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



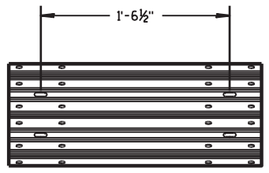
ELEVATION VIEW

MGS THRIE BEAM TRANSITION TL-2

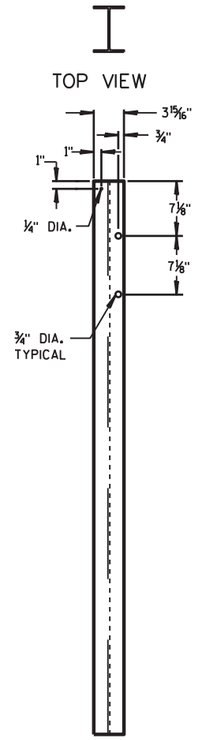
STH 175 (B-66-27)

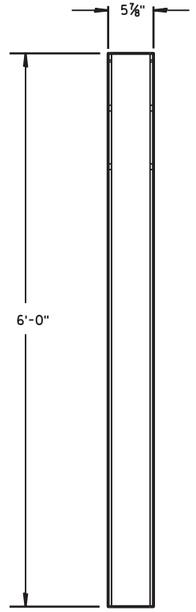


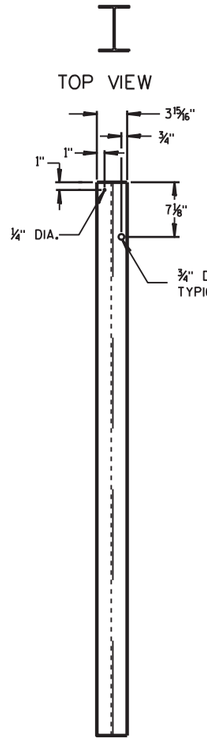
10 GAUGE W-BEAM TO THRIE BEAM TRANSITION SECTION

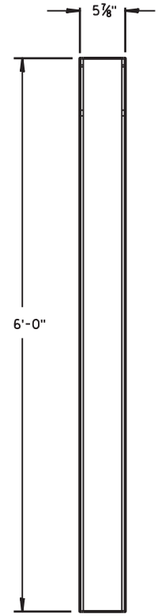


10 GAUGE THRIE BEAM SECTION



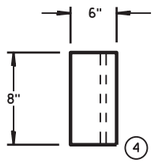


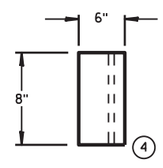


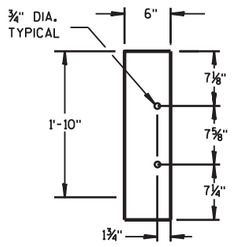


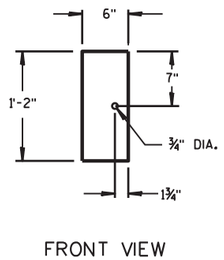
STEEL POSTS 1-2

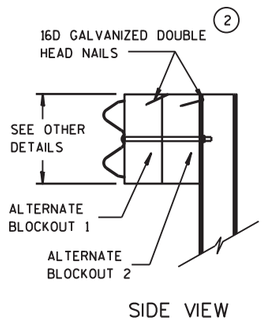
STEEL POSTS 3-4

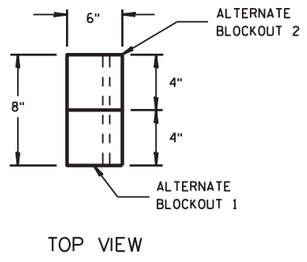












ALTERNATE WOOD BLOCKOUT DETAIL

GENERAL NOTES

STEEL POSTS ARE W6X8.5 OR W6X9.

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

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

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

MGS THRIE BEAM TRANSITION TL-2

STH 175 (B-66-27)

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

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

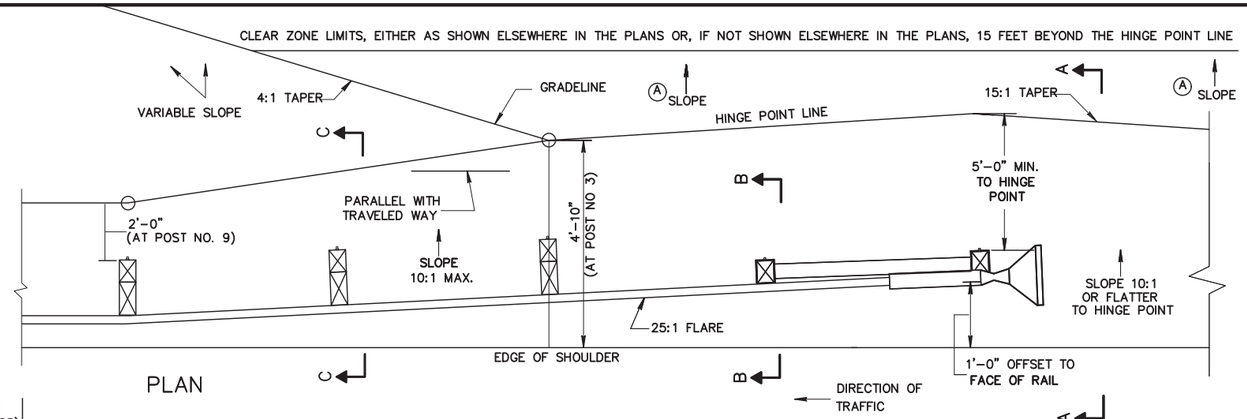
(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

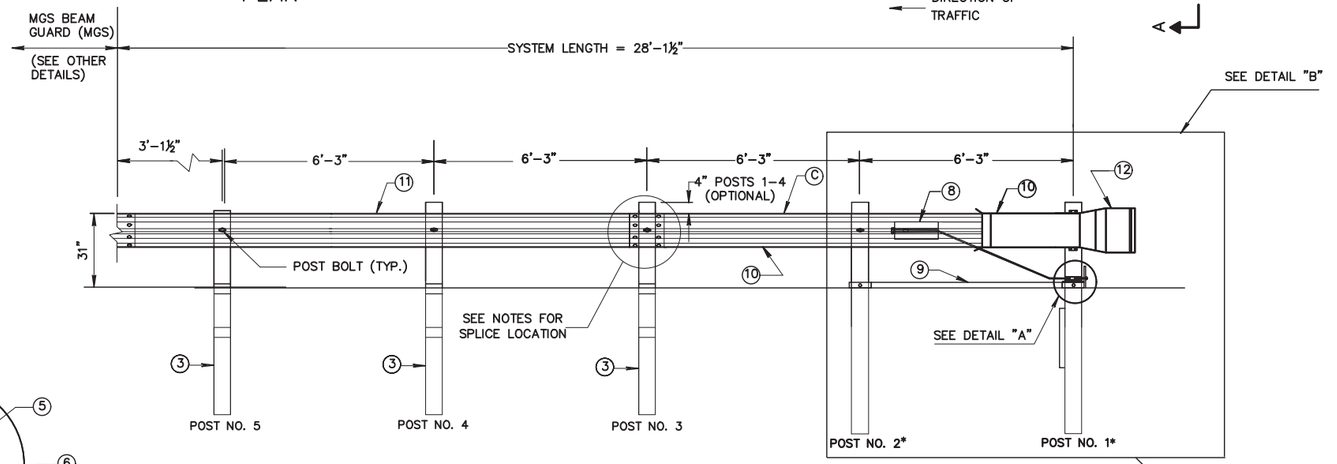
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

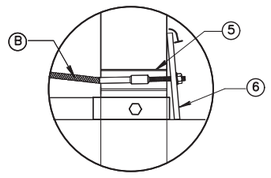
DO NOT INSTALL REFLECTORS ON THE FIRST 25 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

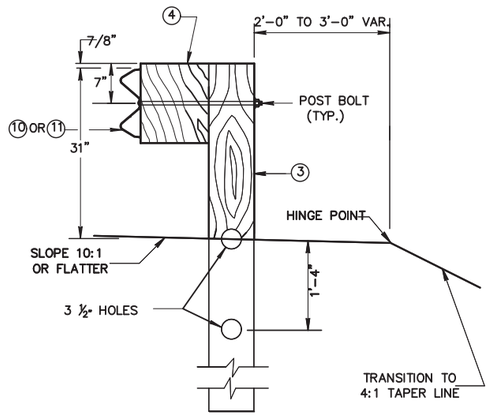
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 5 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



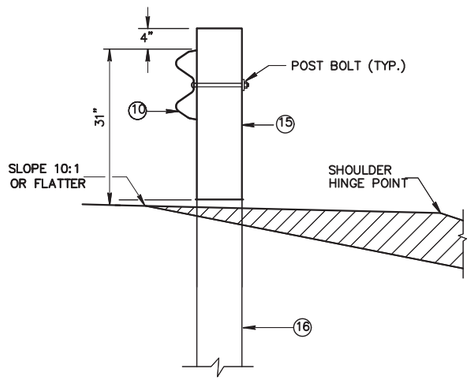




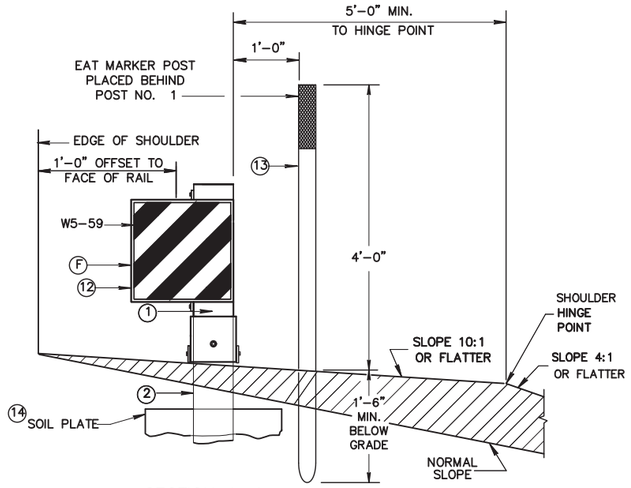
DETAIL "A"



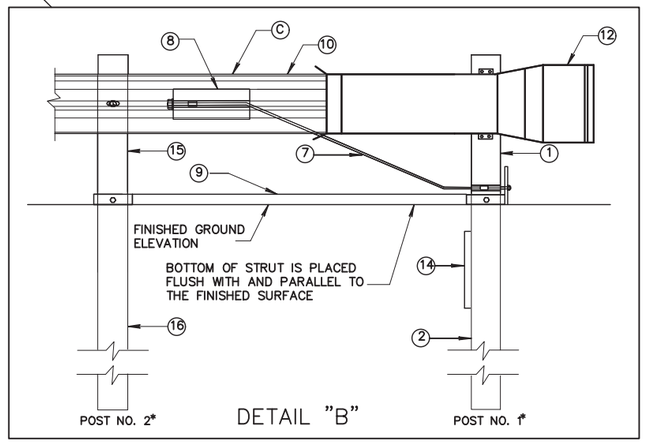
SECTION C-C
TYPICAL AT POST NOS. 3-5



SECTION B-B
TYPICAL AT POST NO. 2 *



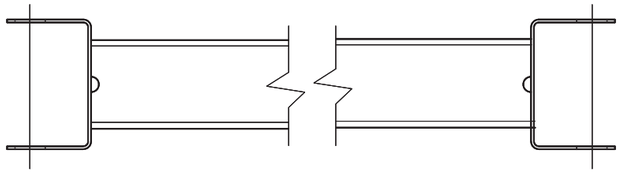
SECTION A-A
TYPICAL AT POST NO. 1 *



MGS GUARDRAIL TERMINAL EAT TL-2

STH 175 (B-66-27)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	CONSTRUCTION DETAIL	SHEET 26	E

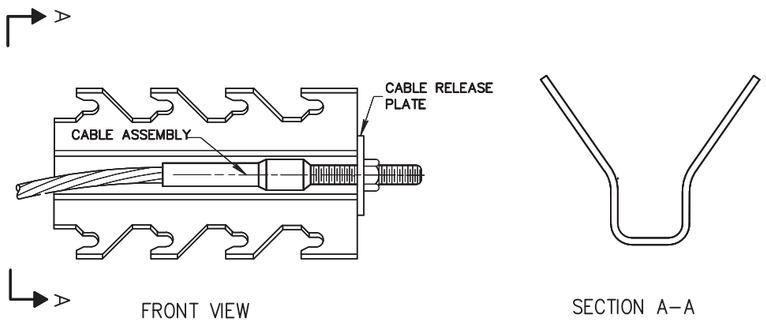


⑨ Ⓗ

GENERIC GROUND STRUT

BILL OF MATERIALS

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

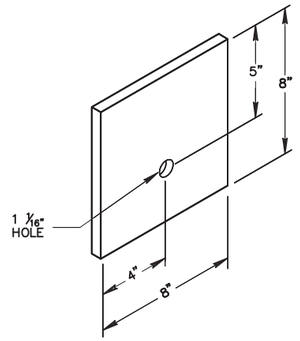


FRONT VIEW

SECTION A–A

⑧ Ⓗ

GENERIC ANCHOR CABLE BOX

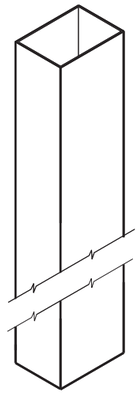


⑥

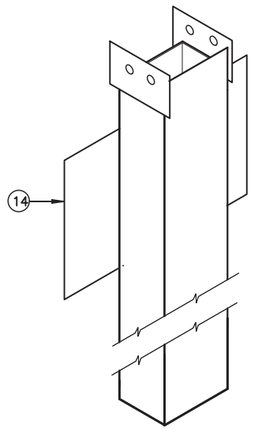
BEARING PLATE

MGS GUARDRAIL TERMINAL EAT TL-2

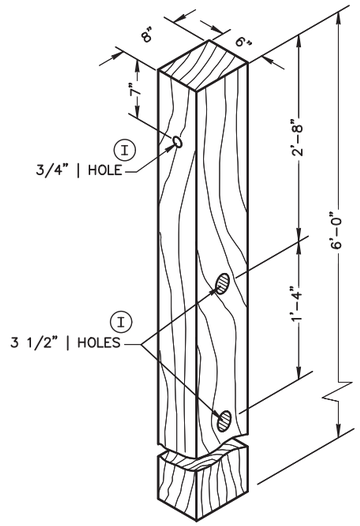
STH 175 (B-66-27)



UPPER POST NO. 1 ①

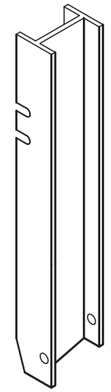


LOWER POST NO. 1 ②

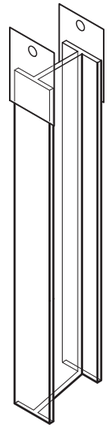


POSTS NUMBER 3–5

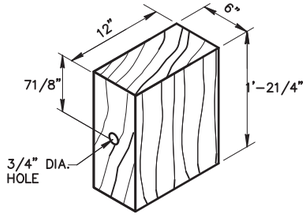
WOOD CRT POST ③



UPPER POST NO. 2 ⑮

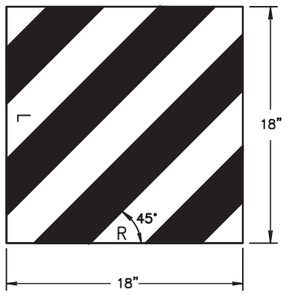


LOWER POST NO. 2 ⑯



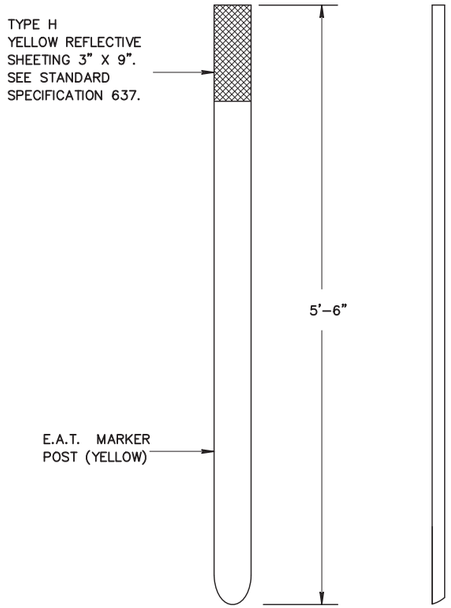
WOOD BLOCKOUT ④

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



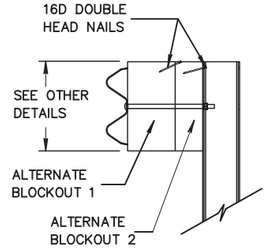
W5–59

REFLECTIVE SHEETING DETAIL ⑭

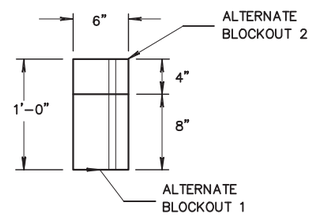


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST ⑬



SIDE VIEW



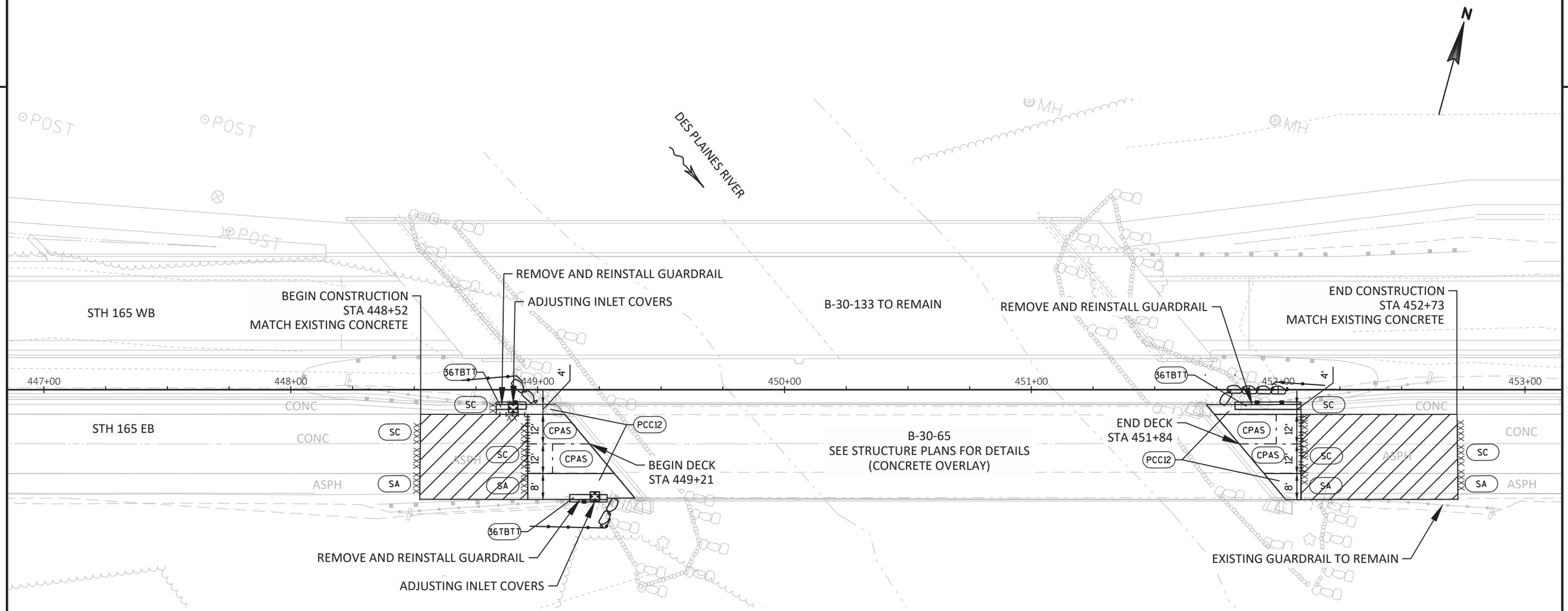
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MGS GUARDRAIL TERMINAL EAT TL–2

STH 175 (B–66–27)

2



LEGEND

36TBTT	REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT
PCC12	CONCRETE PAVEMENT 12-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SC	SAWING CONCRETE
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
	INLET PROTECTION TYPE B
	SILT FENCE
	DRILLED DOWEL BARS OR DRILLED TIE BARS
	ROCK BAGS

CURB & GUTTER, REMOVE AND REINSTALL GUARDRAIL, & TOPSOIL, FERTILIZER, AND SOD SECTIONS

STA 448+83 RT - STA 448+95 RT
STA 449+13 RT - STA 449+28 RT
STA 451+83 RT - STA 452+09 RT

ADJUSTING INLET COVERS AND INLET PROTECTION LOCATIONS

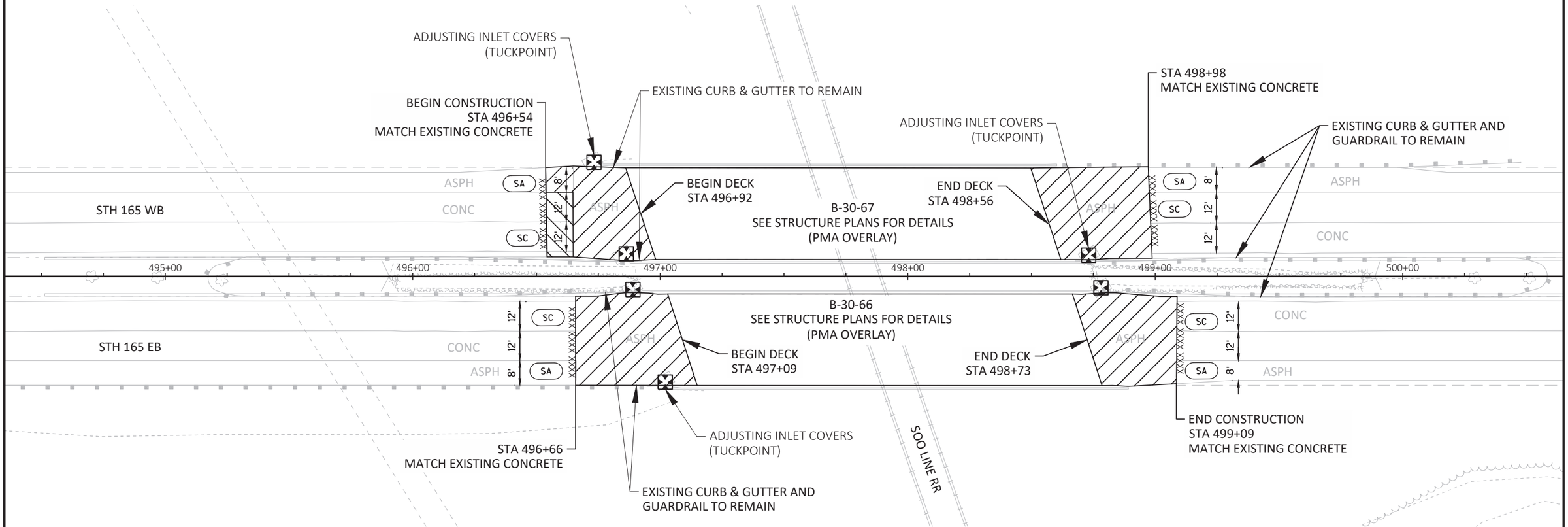
STA 448+90, 7.3' RT
STA 449+23, 43.2' RT

APPROACH SLAB LOCATIONS

STA 448+96 RT - BEGIN OF DECK RT
END OF DECK RT - STA 452+09 RT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. SEE SDD "CONCRETE BRIDGE APPROACH" FOR APPROACH SLAB DIMENSIONS.
4. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

2



LEGEND

- SC — SAWING CONCRETE
- SA — SAWING ASPHALT
- XXXX XXXX — SAW CUT LINE
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
- REMOVING PAVEMENT BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
- INLET PROTECTION TYPE B

INLET PROTECTION LOCATIONS

B-30-66
STA 496+89, 4.8' RT
STA 497+02, 42.7' RT
STA 498+78, 4.5' RT

B-30-67
STA 496+73, 46.3' LT
STA 446+85, 9.0' LT
STA 498+73, 8.6' LT

ADJUSTING INLET COVERS LOCATIONS

B-30-66
STA 498+78, 4.5' RT

B-30-67
STA 496+73, 46.3' LT
STA 498+73, 8.6' LT

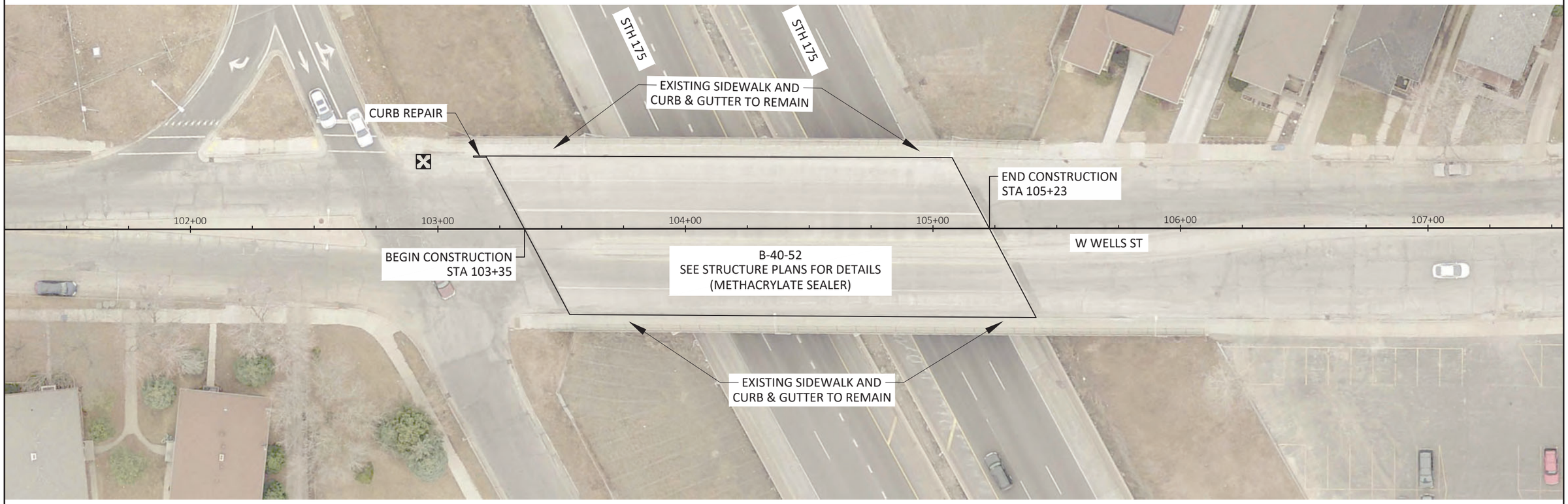
NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	PLAN DETAILS/EROSION CONTROL: B-30-66 & B-30-67 (STH 165 OVER SOO LINE RR)	SHEET 30	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\021201_PD_B30-66.DWG
LAYOUT NAME - B-30-66 & B-30-67
PLOT DATE : 7/25/2019 4:12 PM
PLOT BY : YANG, VANG NENG
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N



LEGEND

INLET PROTECTION TYPE B

INLET PROTECTION LOCATION

STA 102+95, 28.6' LT

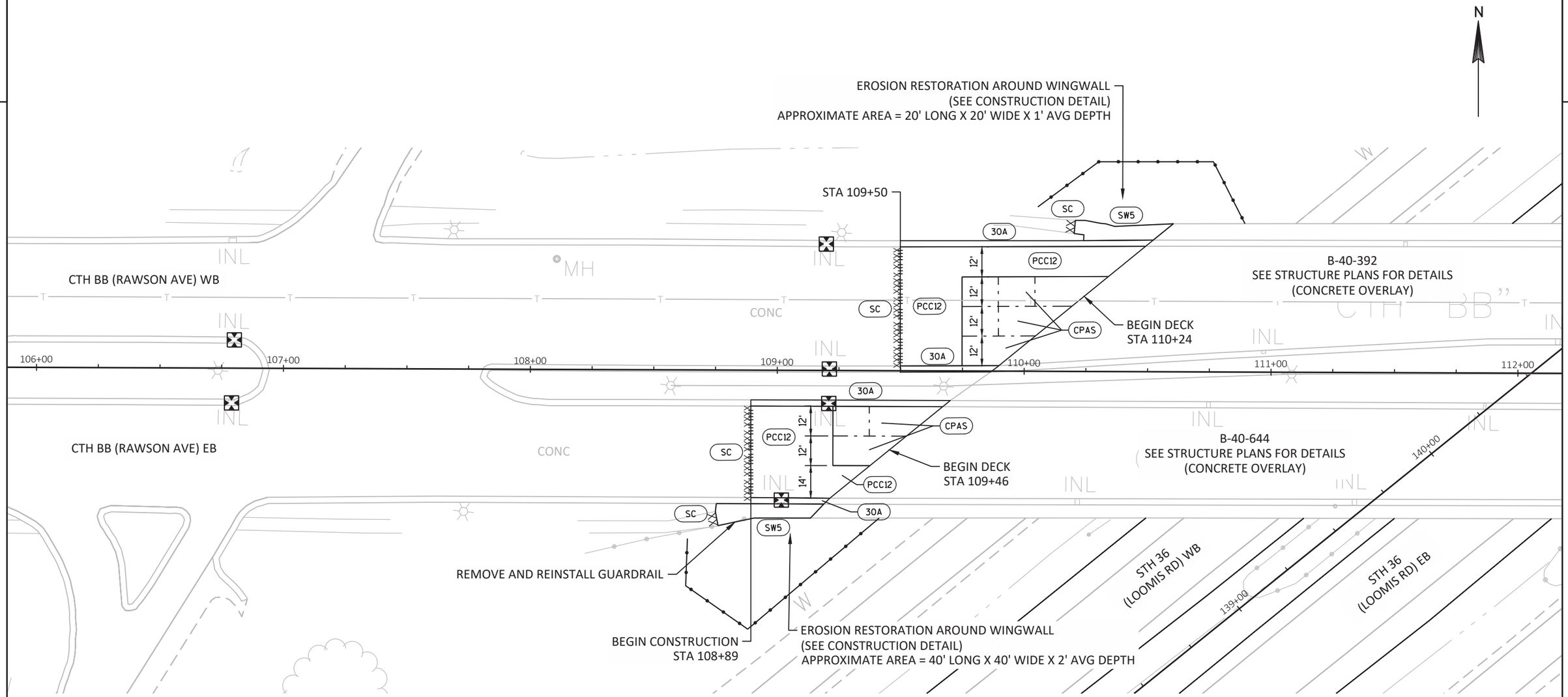
CURB REPAIR LOCATION

STA 103+14 LT - 103+19 LT

NOTES:
1. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	PLAN DETAILS/EROSION CONTROL: B-40-52 (W WELLS ST OVER STH 175)	SHEET 31	E

2



LEGEND

SW5	REMOVING CONCRETE SIDEWALK AND REPLACE WITH CONCRETE SIDEWALK 5-INCH
30A	REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 30-INCH TYPE A
PCC12	CONCRETE PAVEMENT 12-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SC	SAWING CONCRETE
XXXX XXXX	SAW CUT LINE
⊠	INLET PROTECTION TYPE B
|||||	DRILLED DOWEL BARS OR DRILLED TIE BARS
—●—●—	SILT FENCE

CURB & GUTTER SECTIONS

B-40-392
STA 109+50 LT - STA 110+53 LT
STA 109+50 LT - STA 109+90 LT

B-40-644
STA 108+89 RT - STA 109+22 RT
STA 108+89 RT - STA 109+70 RT

TOPSOIL, FERTILIZER, AND SOD SECTIONS

B-40-392
STA 109+50 LT - STA 110+24 LT
STA 109+50 LT - STA 109+90 LT

B-40-644
STA 108+98 RT - STA 109+70 RT

APPROACH SLAB LOCATIONS

B-40-392
STA 109+75 LT - BEGIN OF DECK LT

B-40-644
STA 109+23 RT - BEGIN OF DECK RT

SIDEWALK SECTIONS

B-40-392
STA 110+24 LT - STA 110+60 LT

B-40-644
STA 108+74 RT - STA 109+19 RT

INLET PROTECTION LOCATIONS

B-40-392
STA 106+80, 11.6' LT
STA 109+20, 51.3' LT
STA 109+21, 0.9' LT

B-40-644
STA 106+79, 14.1' RT
STA 109+02, 52.5' RT
STA 109+21, 13.4' RT

ADJUSTING INLET COVERS LOCATIONS

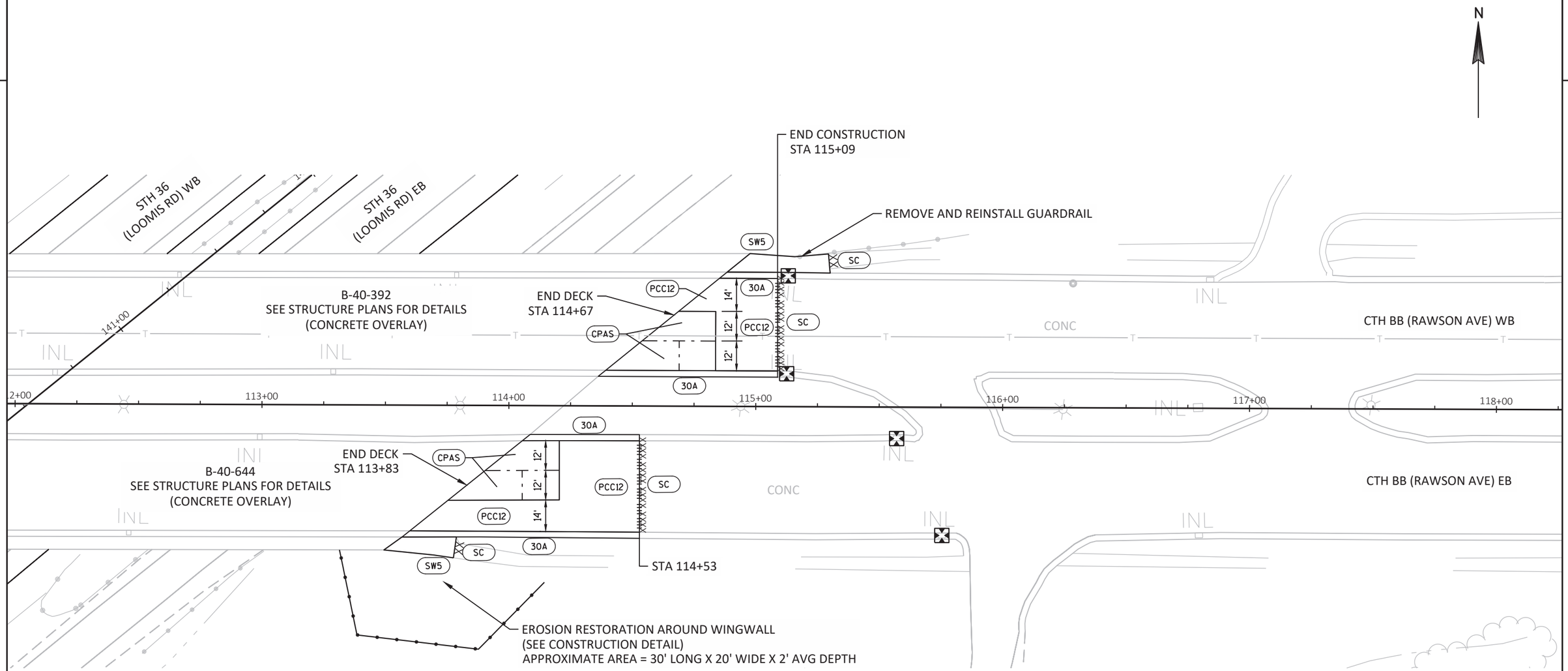
B-40-644
STA 109+02, 52.5' RT
STA 109+21, 13.4' RT

NOTES:
1. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
2. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	PLAN DETAILS/EROSION CONTROL: B-40-392 & B-40-644 (CTH BB OVER STH 36)	SHEET 32	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\021201_PD_B40-392.DWG
LAYOUT NAME - B-40-392 & B-40-644 SHEET 1
PLOT DATE : 7/25/2019 4:12 PM PLOT BY : YANG, VANG NENG PLOT NAME : _____ PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



LEGEND

SW5	REMOVING CONCRETE SIDEWALK AND REPLACE WITH CONCRETE SIDEWALK 5-INCH
30A	REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 30-INCH TYPE A
PCC12	CONCRETE PAVEMENT 12-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SC	SAWING CONCRETE
XXXX XXXX	SAW CUT LINE
	INLET PROTECTION TYPE B
|||||	DRILLED DOWEL BARS OR DRILLED TIE BARS
	SILT FENCE

CURB & GUTTER SECTIONS

B-40-392
STA 114+36 LT - STA 115+09 LT
STA 114+85 LT - STA 115+09 LT

B-40-644
STA 113+57 RT - STA 114+53 RT
STA 114+06 RT - STA 114+53 RT

TOPSOIL, FERTILIZER, AND SOD SECTIONS

B-40-392
STA 114+36 LT - STA 115+09 LT

B-40-644
STA 113+79 RT - STA 114+46 RT
STA 114+06 RT - STA 114+46 RT

APPROACH SLAB LOCATIONS

B-40-392
END DECK LT - STA 113+84 LT

B-40-644
END OF DECK RT - STA 114+21 RT

SIDEWALK SECTIONS

B-40-392
STA 114+88 LT - STA 115+30 LT

B-40-644
STA 113+50 RT - STA 113+88 RT

INLET PROTECTION LOCATIONS

B-40-392
STA 115+12, 13.4' LT
STA 115+13, 52.9' LT

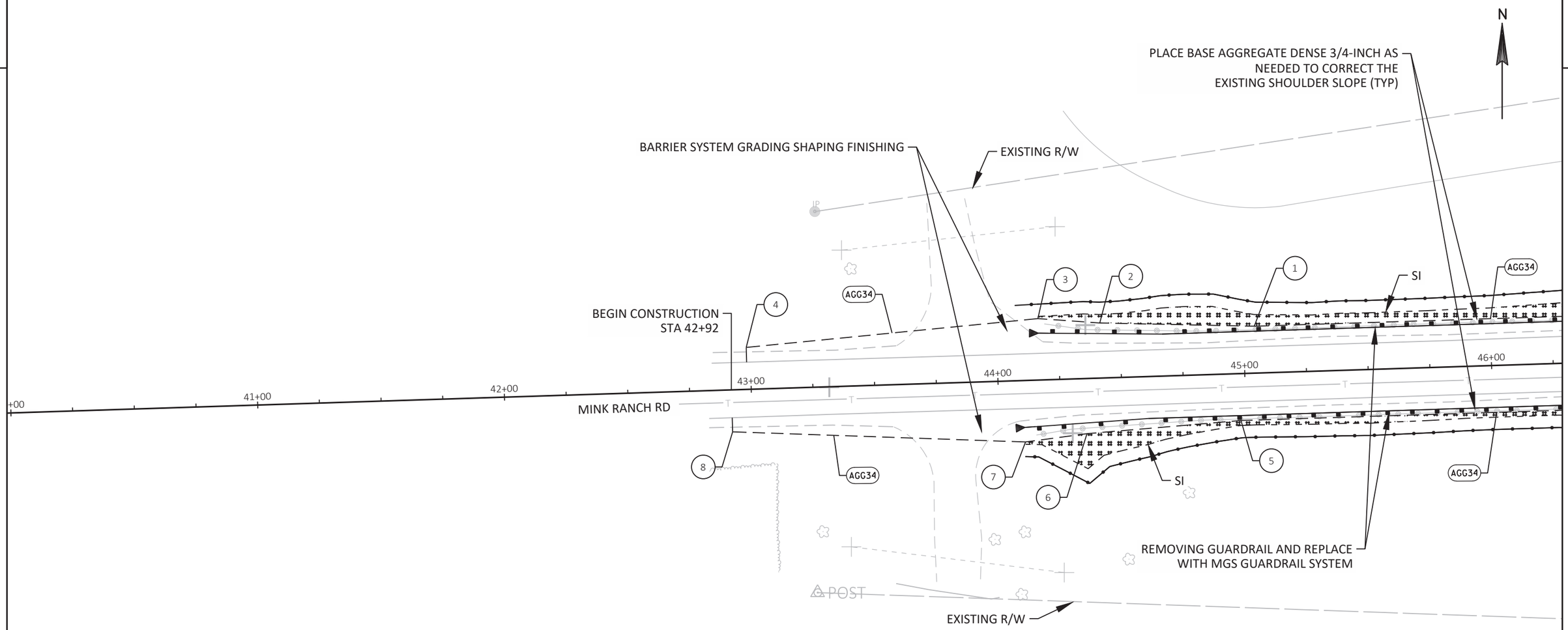
B-40-644
STA 115+57, 12.8' RT
STA 115+76, 51.9' RT

NOTES:
1. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
2. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	PLAN DETAILS/EROSION CONTROL: B-40-392 & B-40-644 (CTH BB OVER STH 36)	SHEET 33	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\021201_PD_B40-392.DWG
LAYOUT NAME - B-40-392 & B-40-644 SHEET 2
PLOT DATE : 7/25/2019 4:13 PM PLOT BY : YANG, VANG NENG PLOT NAME : _____ PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



LEGEND

- (AGG34) BASE AGGREGATE DENSE 3/4-INCH
- MGS GUARDRAIL 3K
- MGS GUARDRAIL TERMINAL EAT
- EROSION MAT CLASS I, TYPE B
- SILT FENCE

AGGREGATE SECTIONS

LT SIDE STATIONS AND OFFSETS

1. POST 9 AGGREGATE BREAK POINT, 45+04, 19.0' LT
2. POST 5 AGGREGATE BREAK POINT, 44+42, 22.3' LT
3. POST 1 AGGREGATE BREAK POINT, 44+17, 24.9' LT
4. END OF AGGREGATE, 42+99, 17.0' LT

RT SIDE STATIONS AND OFFSETS

5. POST 9 AGGREGATE BREAK POINT, 44+98, 19.0' RT
6. POST 5 AGGREGATE BREAK POINT, 44+35, 22.3' RT
7. POST 1 AGGREGATE BREAK POINT, 44+10, 24.9' RT
8. END OF AGGREGATE, 42+92, 17.0' RT

MGS GUARDRAIL SYSTEM SECTIONS

MGS GUARDRAIL TERMINAL EAT
STA 44+10, 19.0' RT - STA 44+60, 17.0' RT
STA 44+17, 19.0' LT - STA 44+67, 17.0' LT

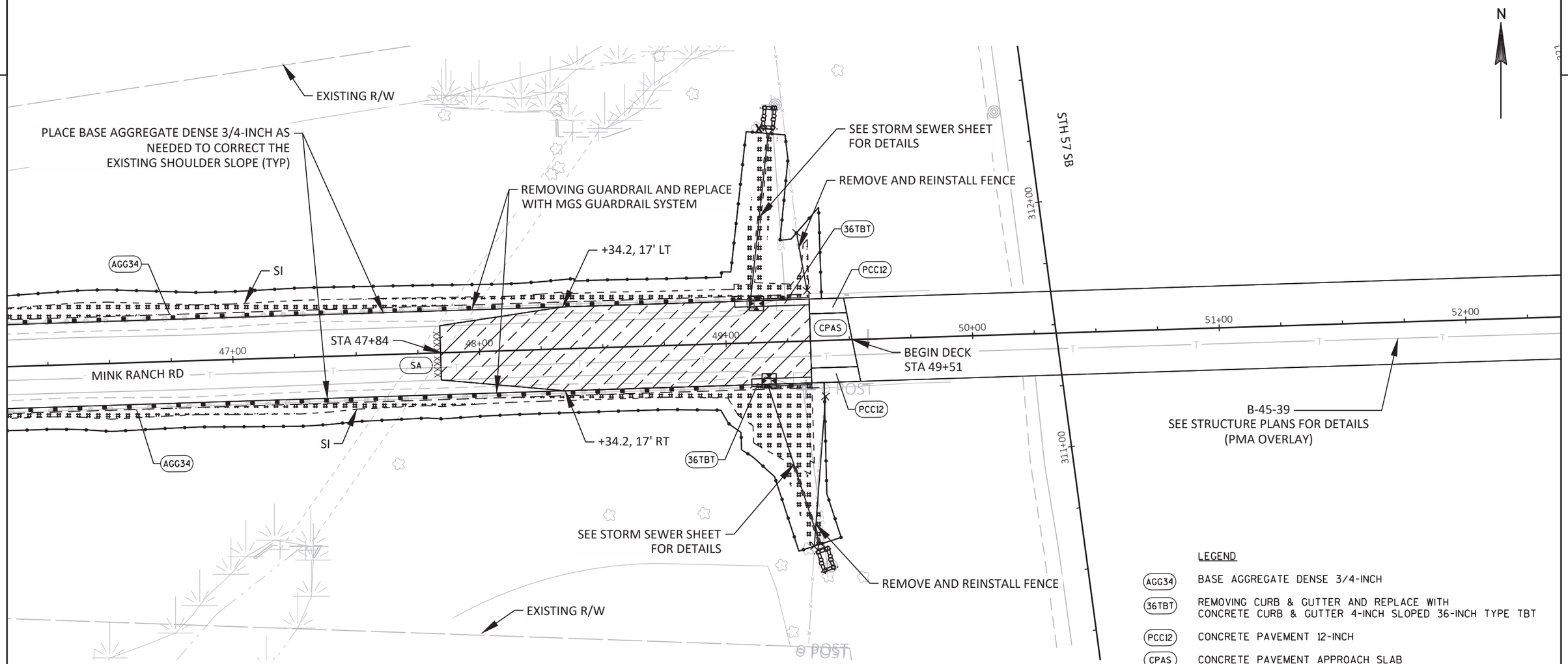
MGS GUARDRAIL 3 K
STA 44+60, 17.0' RT - STA 48+98, 17.0' RT
STA 44+67, 17.0' LT - STA 48+92, 17.0' LT

NOTES:
1. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	PLAN DETAILS/EROSION CONTROL: B-45-39 (MINK RANCH RD OVER STH 57)	SHEET 34	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-45-39_STH 57\021201_PD_B45-39.DWG
LAYOUT NAME - B-45-39 PD SHEET 1
PLOT DATE : 7/25/2019 4:13 PM PLOT BY : YANG, VANG NENG PLOT NAME : _____ PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



CURB & GUTTER SECTIONS

STA 49+04 LT - STA 49+34 LT
STA 49+10 RT - STA 49+34 RT

INLET PROTECTION LOCATIONS

STA 49+10, 15.8' LT
STA 49+16, 15.8' RT

APPROACH SLAB LOCATIONS

STA 49+34 - BEGIN DECK

MGS GUARDRAIL SYSTEM SECTIONS

MGS GUARDRAIL 3 K
STA 44+60, 17.0' RT - STA 48+98, 17.0' RT
STA 44+67, 17.0' LT - STA 48+92, 17.0' LT

MGS THRIE BEAM TRANSITION
STA 48+92, 17.0' LT - STA 49+31, 17.0' LT
STA 48+98, 17.0' RT - STA 49+37, 17.0' RT

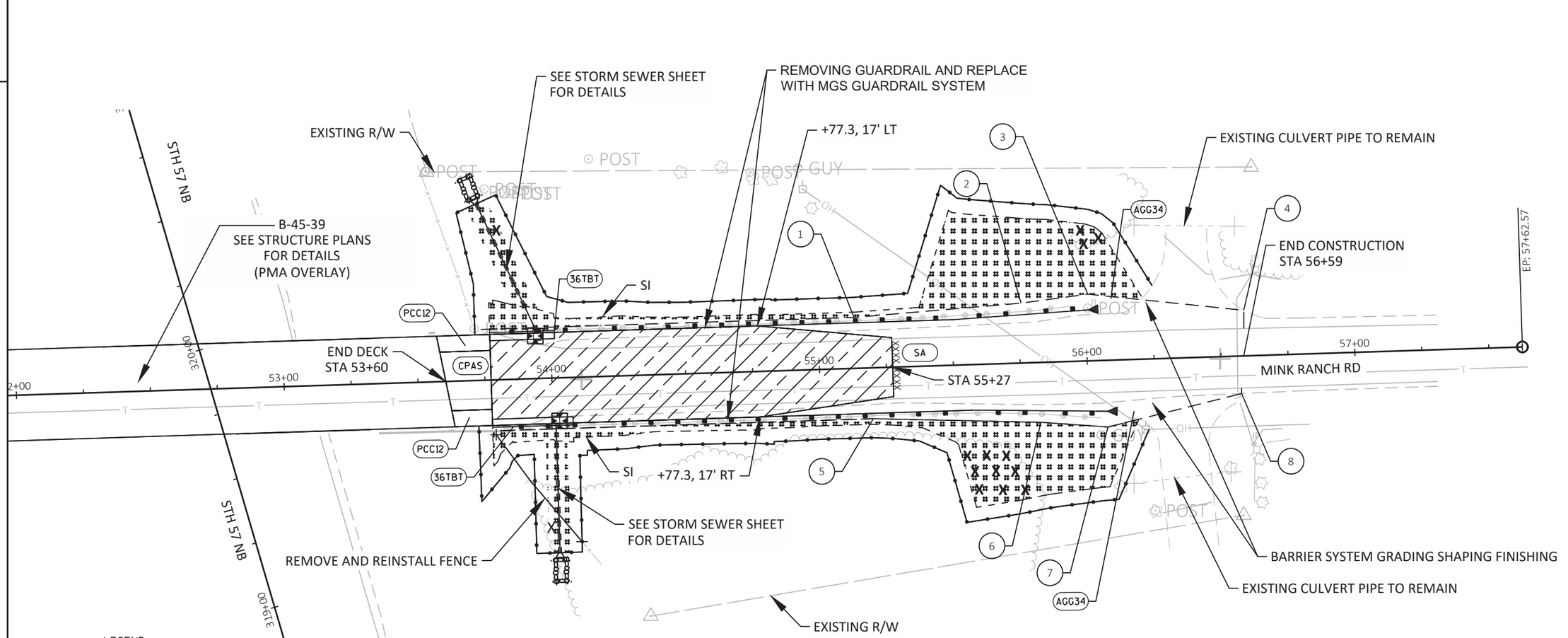
LEGEND

AGG34	BASE AGGREGATE DENSE 3/4-INCH
36TBT	REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
PCC12	CONCRETE PAVEMENT 12-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	MGS GUARDRAIL 3K
	MGS GUARDRAIL TERMINAL EAT
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE 3.5"
	INLET PROTECTION TYPE B
	EROSION MAT CLASS I, TYPE B
	SILT FENCE
	RIPRAP MEDIUM
	WETLAND LIMITS

NOTES:
1. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
2. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	PLAN DETAILS/EROSION CONTROL: B-45-39 (MINK RANCH RD OVER STH 57)	SHEET 35	E

2



LEGEND

AGG34	BASE AGGREGATE DENSE 3/4-INCH
36TBT	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT
PCC12	CONCRETE PAVEMENT 12-INCH
CPAS	CONCRETE PAVEMENT APPROACH SLAB
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	MGS GUARDRAIL 3K
	MGS GUARDRAIL TERMINAL EAT
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE
	INLET PROTECTION TYPE B
	EROSION MAT CLASS I, TYPE B
	SILT FENCE
	RIPRAP MEDIUM

CURB & GUTTER SECTIONS

STA 53+77 LT - STA 54+01 LT
STA 53+77 RT - STA 54+07 RT

INLET PROTECTION LOCATIONS

STA 53+95, 15.8' LT
STA 54+03, 16.0' RT

APPROACH SLAB LOCATIONS

END DECK - STA 53+77

AGGREGATE SECTIONS

LT SIDE STATIONS AND OFFSETS

1. POST 9 AGGREGATE BREAK POINT, 55+14, 19.0' LT
2. POST 5 AGGREGATE BREAK POINT, 55+76, 22.3' LT
3. POST 1 AGGREGATE BREAK POINT, 56+01, 24.9' LT
4. END OF AGGREGATE, 56+59, 17.0' LT

RT SIDE STATIONS AND OFFSETS

5. POST 9 AGGREGATE BREAK POINT, 55+19, 19.0' RT
6. POST 5 AGGREGATE BREAK POINT, 55+82, 22.3' RT
7. POST 1 AGGREGATE BREAK POINT, 56+07, 24.9' RT
8. END OF AGGREGATE, 56+57, 14.0' RT

MGS GUARDRAIL SYSTEM SECTIONS

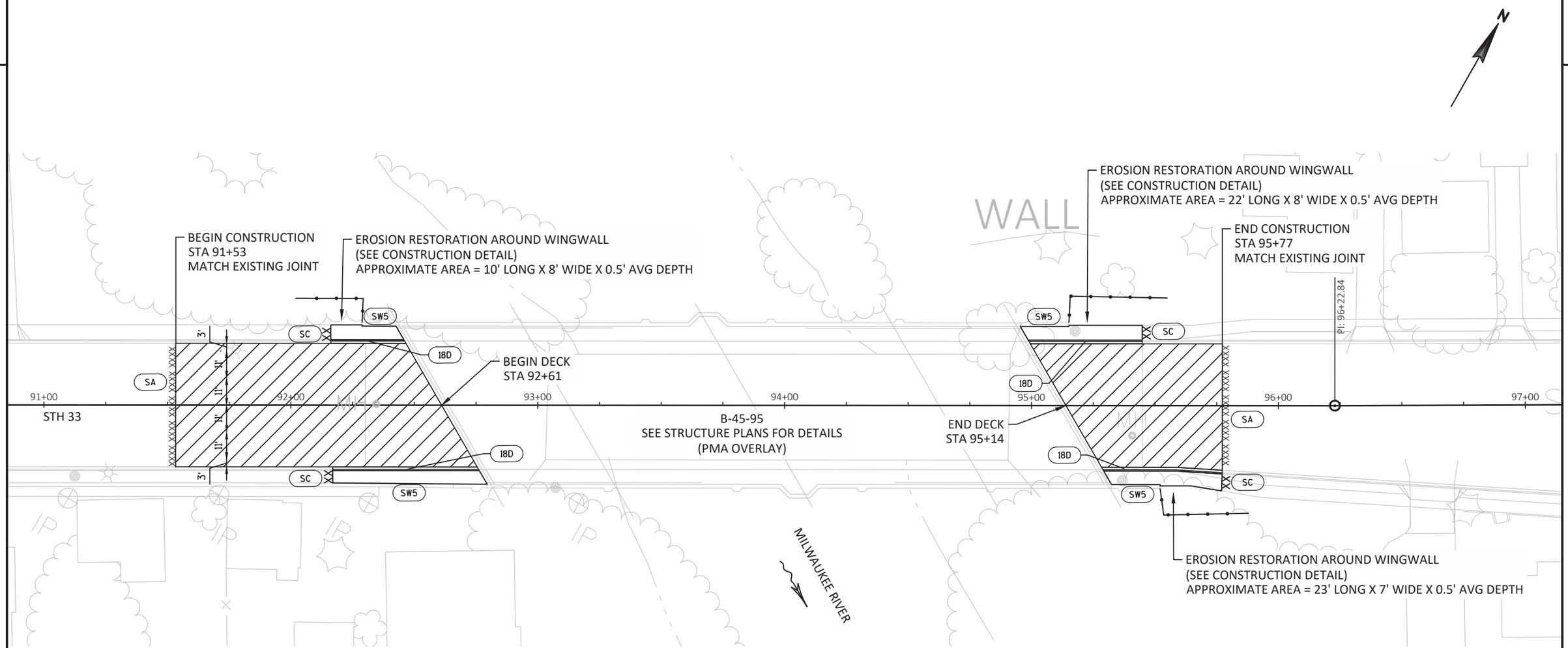
MGS THRIE BEAM TRANSITION
STA 53+74, 17.0' LT - STA 54+14, 17.0' LT
STA 53+80, 17.0' RT - STA 54+19, 17.0' RT

MGS GUARDRAIL 3 K
STA 54+14, 17.0' LT - STA 55+51, 17.0' LT
STA 54+19, 17.0' RT - STA 55+57, 17.0' RT

MGS GUARDRAIL TERMINAL EAT
STA 55+51, 17.0' LT - STA 56+01, 19.0' LT
STA 55+57, 17.0' RT - STA 56+07, 19.0' RT

NOTES:
1. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
2. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

2



LEGEND

SW5	REMOVING CONCRETE SIDEWALK AND REPLACE WITH CONCRETE SIDEWALK 5-INCH
18D	REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 18-INCH TYPE D
SC	SAWING CONCRETE
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
	SILT FENCE

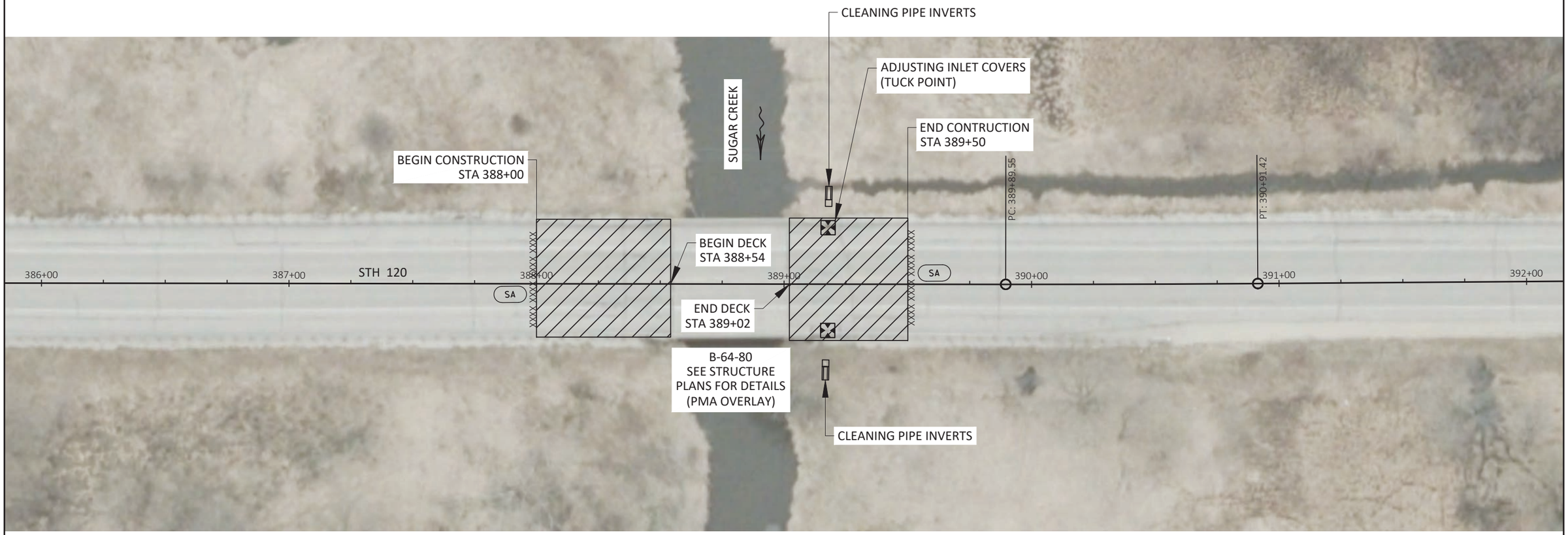
SIDEWALK AND CURB & GUTTER SECTIONS

STA 92+16 LT - STA 92+47 LT
STA 92+17 RT - STA 92+76 RT
STA 94+99 LT - STA 95+45 LT
STA 95+28 RT - STA 95+77 RT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

2

N



LEGEND

SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
	INLET PROTECTION TYPE B

INLET PROTECTION LOCATIONS

STA 389+17, 19.0' RT
STA 389+17, 22.9' LT

ADJUSTING INLET COVERS LOCATIONS

STA 389+17, 22.9' LT

CLEANING INLET PIPE LOCATIONS

STA 389+18, 36.6' LT
STA 389+17, 32.8' RT

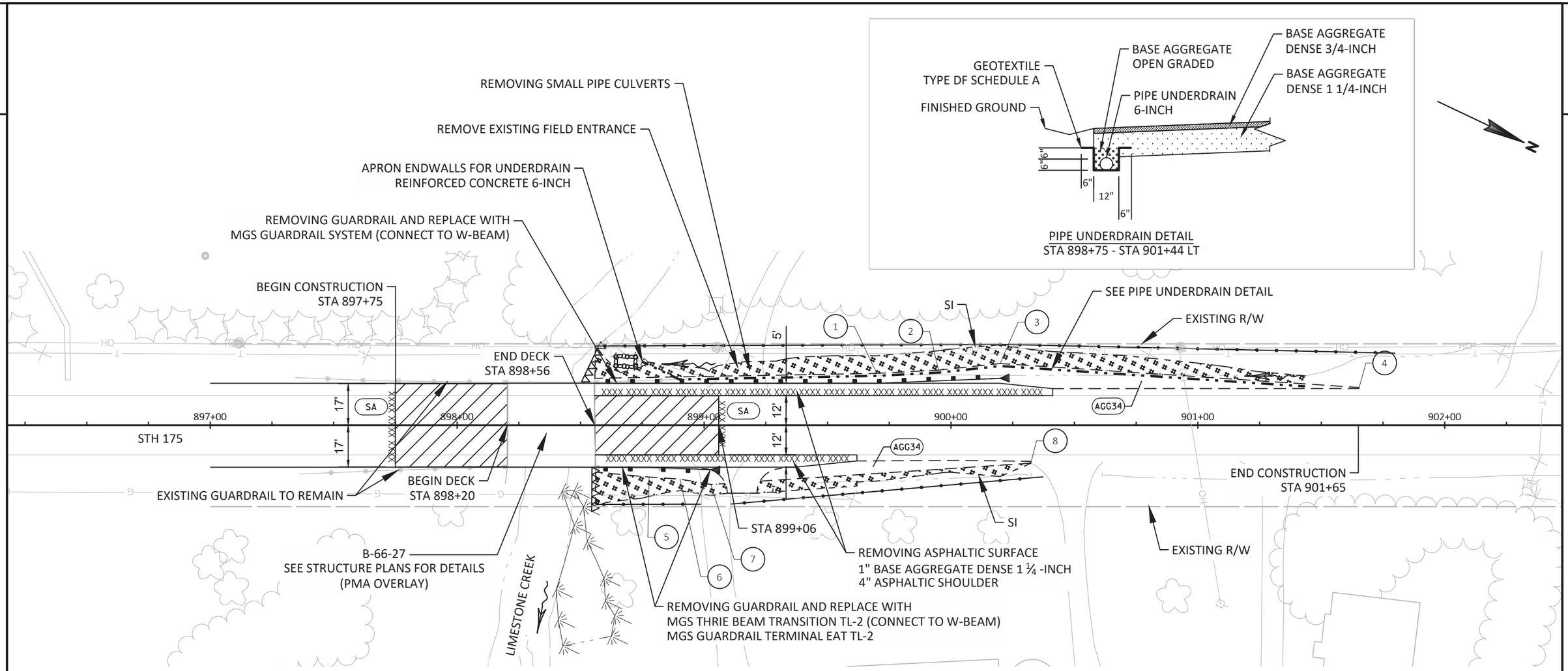
NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PLAN DETAILS/EROSION CONTROL: B-64-80 (STH 120 OVER SUGAR CREEK)	SHEET 38	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-64-80_STH 120\021201_PD_B64-80.DWG
LAYOUT NAME - B-64-80 PD
PLOT DATE : 7/25/2019 4:13 PM
PLOT BY : YANG, VANG NENG
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

PIPE UNDERDRAIN DETAIL
STA 898+75 - STA 901+44 LT



LEGEND

- AGG34 — BASE AGGREGATE DENSE 3/4-INCH
- SA — SAWING ASPHALT
- XXXX XXXX — SAW CUT LINE
- MGS GUARDRAIL SYSTEM
- MGS GUARDRAIL TERMINAL EAT
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
- EROSION MAT CLASS I, TYPE B
- SILT FENCE
- TEMPORARY DITCH CHECKS
- WETLAND LIMITS
- RIPRAP MEDIUM

AGGREGATE SECTIONS

LT SIDE STATIONS AND OFFSETS

1. POST 9 AGGREGATE BREAK POINT, 899+70, 21.0' LT
2. POST 5 AGGREGATE BREAK POINT, 899+95, 22.3' LT
3. POST 1 AGGREGATE BREAK POINT, 900+20, 25.0' LT
4. END OF AGGREGATE, 901+65, 15.0' LT

RT SIDE STATIONS AND OFFSETS

5. POST 5 AGGREGATE BREAK POINT, 898+78, 21.0' RT
6. POST 3 AGGREGATE BREAK POINT, 898+90, 21.8' RT
7. POST 1 AGGREGATE BREAK POINT, 899+03, 24.0' RT
8. END OF AGGREGATE, 901+65, 15.0' RT

MGS GUARDRAIL SYSTEM SECTIONS

MGS THRIE BEAM TRANSITION
STA 898+56, 17.0' LT - STA 898+95, 17.0' LT

MGS THRIE BEAM TRANSITION TL-2
STA 898+56, 17.0' RT - STA 898+78, 17.0' RT

MGS GUARDRAIL 3
STA 898+95, 17.0' LT - STA 899+70, 17.0' LT

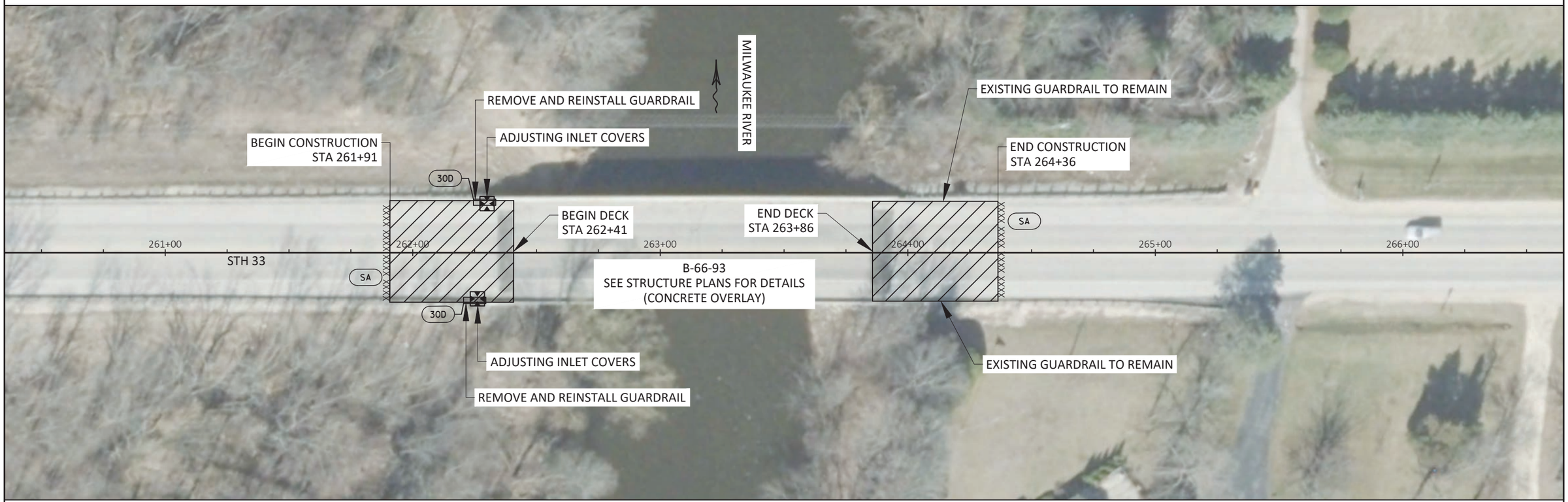
MGS GUARDRAIL TERMINAL EAT
STA 899+70, 17.0' LT - STA 900+20, 19.0' LT

MGS GUARDRAIL TERMINAL EAT TL-2
STA 898+78, 17.0' RT - STA 899+03, 18.0' RT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	PLAN DETAILS/EROSION CONTROL: B-66-27 (STH 175 OVER LIMESTONE CREEK)	SHEET 39	E

2



LEGEND

30D	CONCRETE CURB & GUTTER 30-INCH TYPE D
SA	SAWING ASPHALT
XXXX XXXX	SAW CUT LINE
	REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
	INLET PROTECTION TYPE B

CURB & GUTTER AND
REMOVE AND REINSTALL GUARDRAIL SECTIONS

STA 262+21 RT - STA 262+30 RT
STA 262+25 LT - STA 262+34 LT

ADJUSTING INLET COVERS AND
INLET PROTECTION LOCATIONS

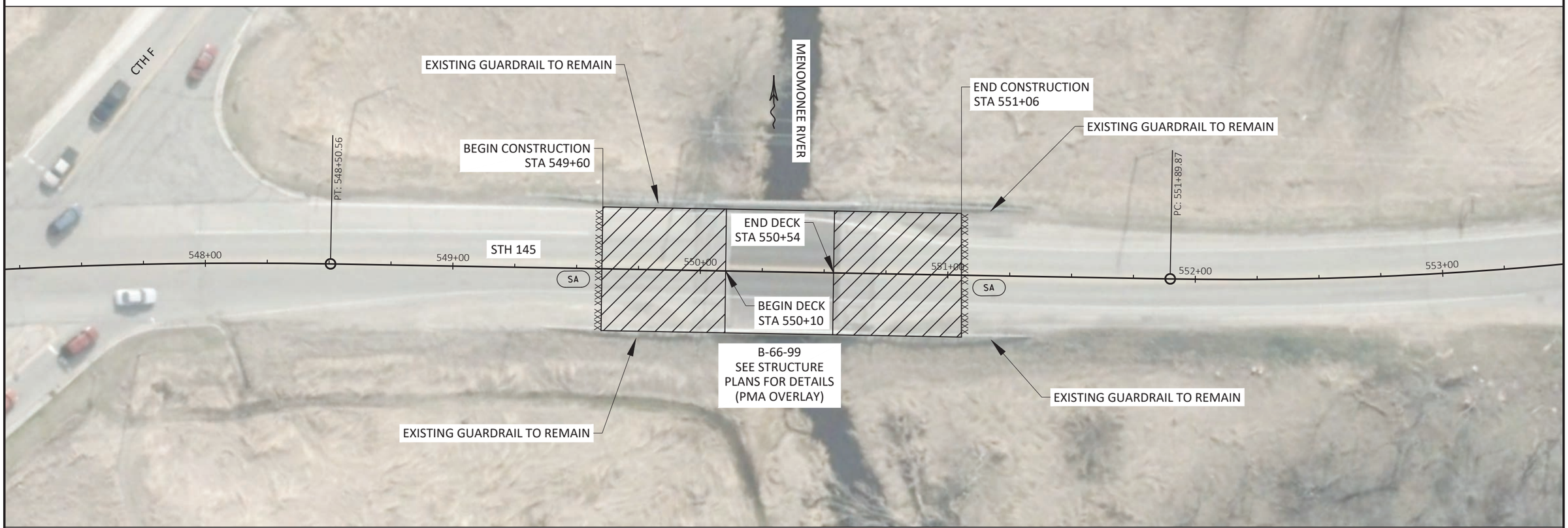
STA 262+30, 20.4' LT
STA 262+26, 18.8' RT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: STH 33	COUNTY: WASHINGTON	PLAN DETAILS/EROSION CONTROL: B-66-93 (STH 33 OVER MILWAUKEE RIVER)	SHEET 40	E

FILE NAME : N:\PDS\C3D\10005102\SHEETSPLAN\B-66-93_STH 33\021201_PD_B66-93.DWG
LAYOUT NAME - B66-93 PD
PLOT DATE : 7/25/2019 4:14 PM
PLOT BY : YANG, VANG NENG
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



LEGEND

SA — SAWING ASPHALT

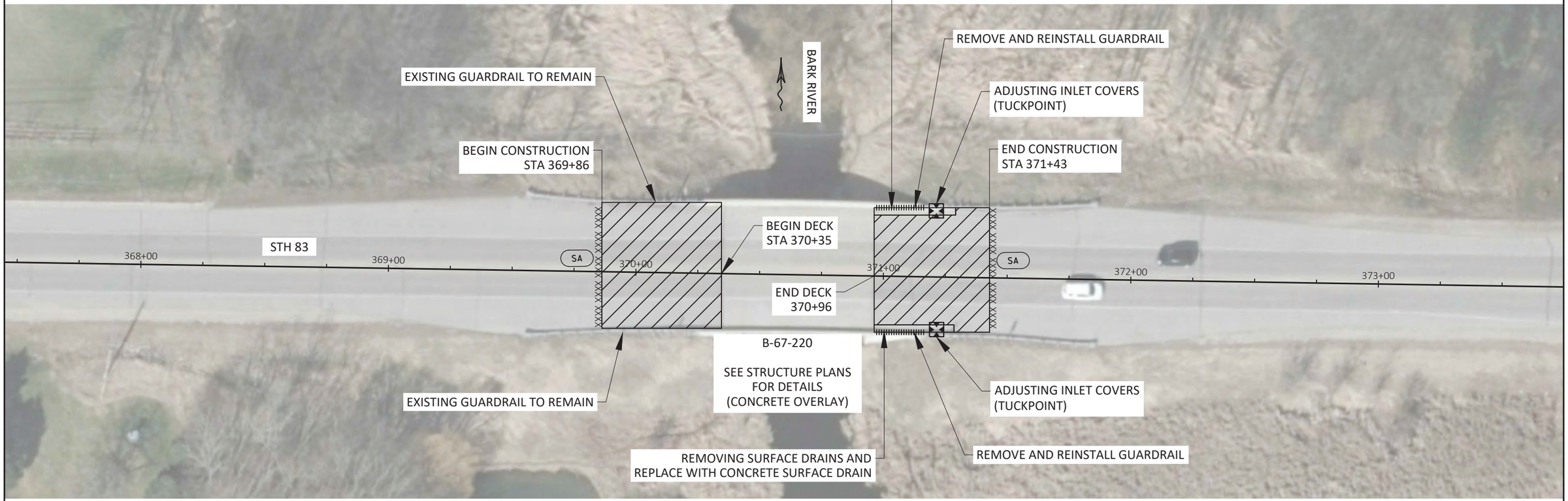
XXXX XXXX — SAW CUT LINE

REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

2

N



LEGEND

- (SA) SAWING ASPHALT
- XXXX XXXX SAW CUT LINE
- REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT
- INLET PROTECTION TYPE B
- DRILLED TIE BARS

CONCRETE SURFACE DRAIN SECTIONS

STA 370+96 LT - STA 371+29 LT
STA 370+96 RT - STA 371+29 RT

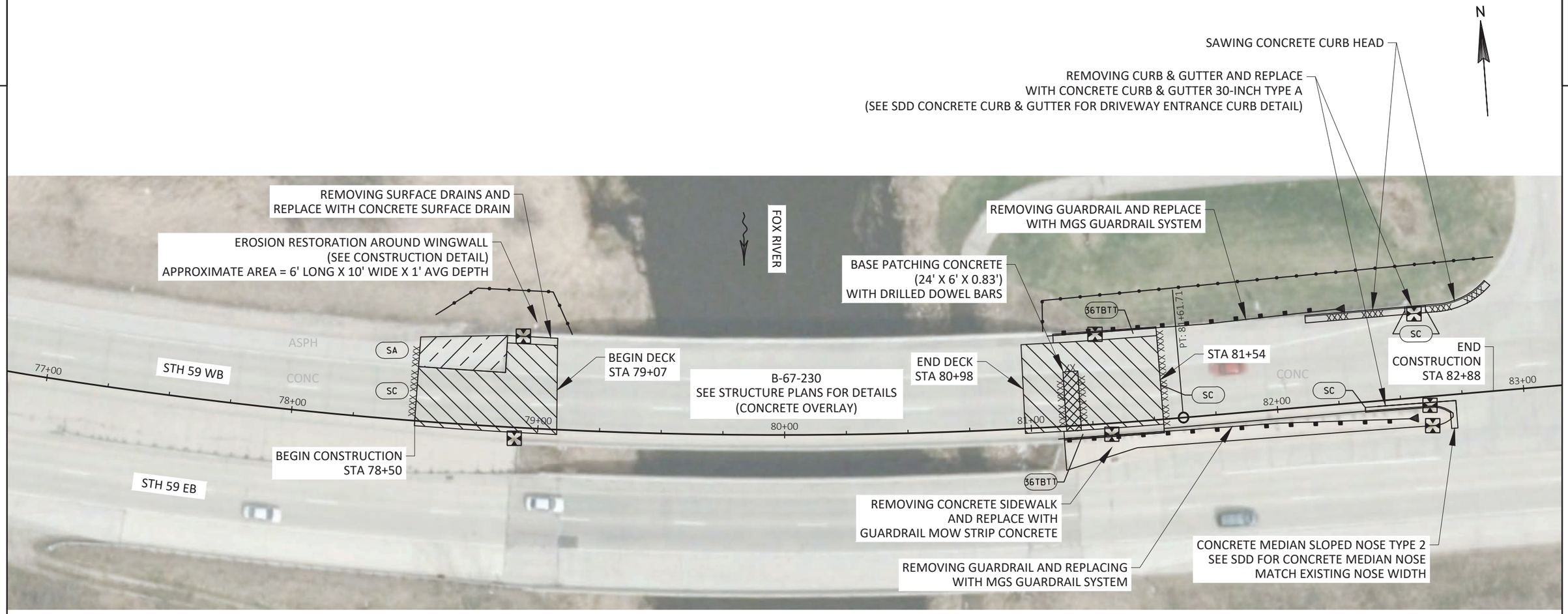
ADJUSTING INLET COVERS AND INLET PROTECTION LOCATIONS

STA 371+22, 21.6' RT
STA 371+23, 25.6' LT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PLAN DETAILS/EROSION CONTROL: B-67-220 (STH 83 OVER BARK RIVER)	SHEET 42	E

2



LEGEND

- 36TBTT — REMOVING CURB & GUTTER AND REPLACE WITH CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE TBTT
- SC — SAWING CONCRETE
- SA — SAWING ASPHALT
- XXXX XXXX — SAW CUT LINE
- MGS GUARDRAIL SYSTEM
- MGS GUARDRAIL TERMINAL EAT
- REMOVING ASPHALTIC SURFACE AND REPLACE WITH HMA PAVEMENT 3.5"
- REMOVING PAVEMENT BUTT JOINTS AND REPLACE WITH CONCRETE MASONRY OVERLAY APPROACHES
- INLET PROTECTION TYPE B
- SILT FENCE

CURB & GUTTER SECTIONS

STA 81+11 LT - STA 81+54 LT
STA 81+13 RT - STA 81+54 RT
STA 82+55 LT - STA 82+63 LT
STA 82+35 RT - STA 82+70 RT

SAWING CURB HEAD SECTIONS

STA 82+14 LT - STA 82+55 LT
STA 82+63 RT - STA 82+88 RT

TOPSOIL, FERTILIZER, AND SOD SECTIONS

STA 81+11 LT - STA 81+54 LT
STA 82+14 LT - STA 82+88 LT

CONCRETE SURFACE DRAIN SECTION

STA 78+86 LT - STA 78+06 LT

INLET PROTECTION LOCATIONS

STA 78+91, 5.0' RT
STA 78+92, 37.5' LT
STA 81+28, 36.4' LT
STA 81+32, 4.0' RT
STA 82+59, 36.0' LT
STA 82+61, 3.6' RT
STA 82+62, 12.1' RT

INLET COVERS TYPE S LOCATIONS

STA 81+28, 36.4' LT
STA 81+32, 4.0' RT

INLET COVERS TYPE B LOCATIONS

STA 82+59, 36.0' LT
STA 82+61, 3.6' RT

MGS GUARDRAIL SYSTEM SECTIONS

MGS THRIE BEAM TRANSITION
STA 81+08 LT - STA 81+48 LT
STA 81+11 RT - STA 81+50 RT

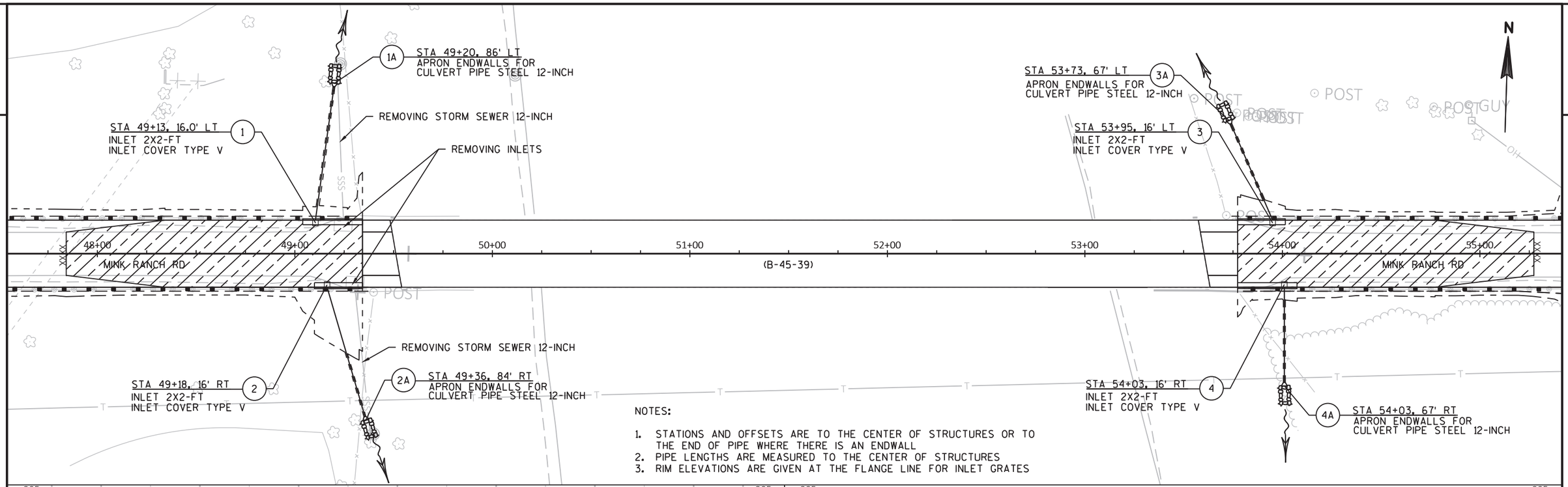
MGS GUARDRAIL 3
STA 81+48 LT - STA 81+74 LT
STA 81+50 RT - STA 82+00 RT

MGS GUARDRAIL TERMINAL EAT
STA 81+74 LT - STA 82+27 LT
STA 82+00 RT - STA 82+53 RT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. SEE SDD "GUARDRAIL MOW STRIP" FOR LAYOUT DETAILS
4. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

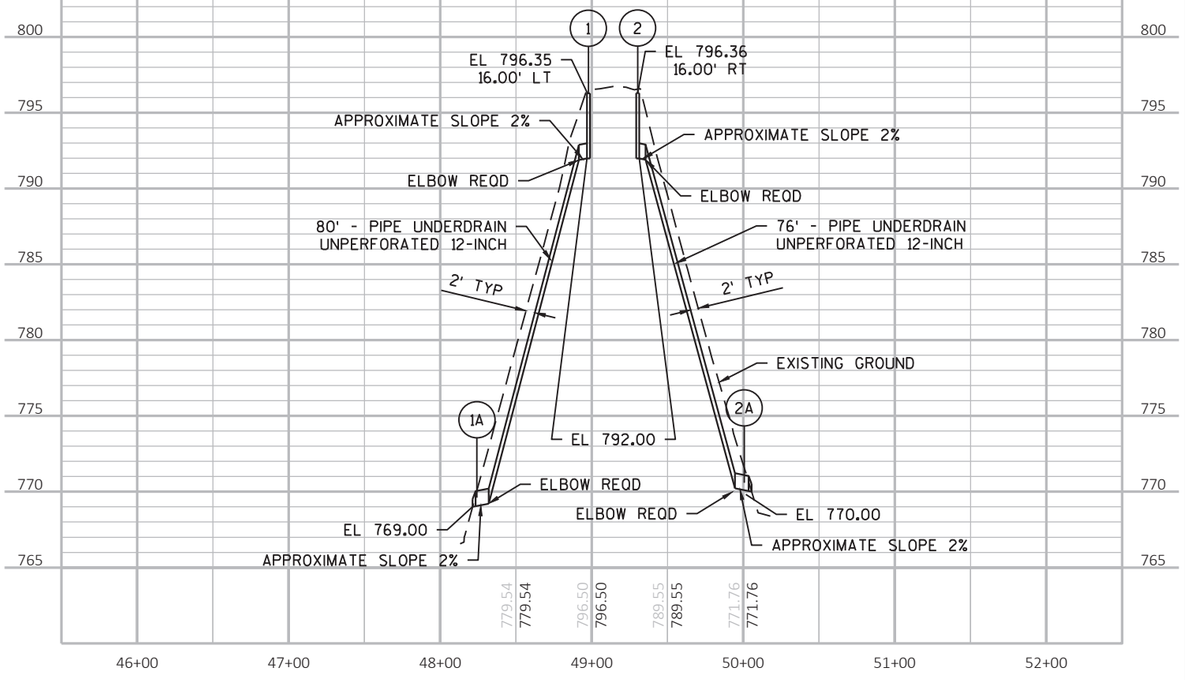
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PLAN DETAILS/EROSION CONTROL: B-67-230 (STH 59 WB OVER FOX RIVER)	SHEET 43	E

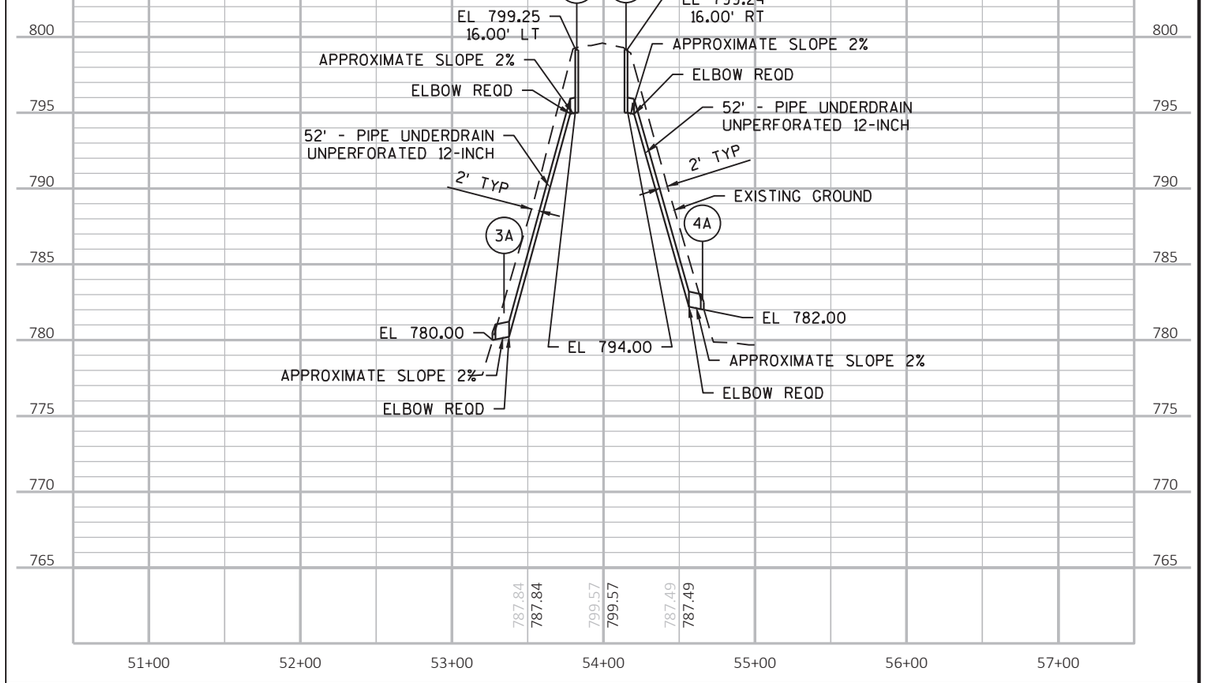
2



NOTES:

1. STATIONS AND OFFSETS ARE TO THE CENTER OF STRUCTURES OR TO THE END OF PIPE WHERE THERE IS AN ENDWALL
2. PIPE LENGTHS ARE MEASURED TO THE CENTER OF STRUCTURES
3. RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE FOR INLET GRATES



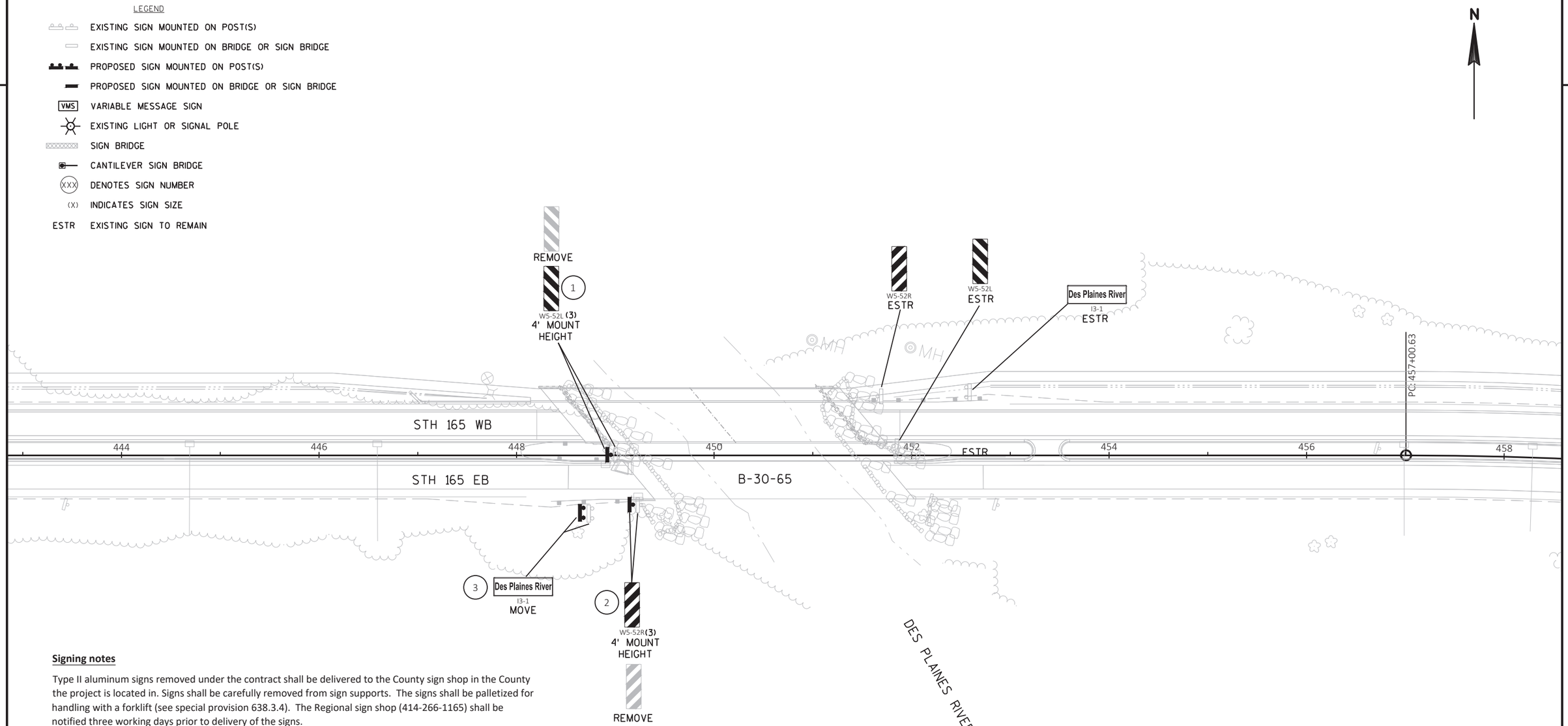


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	STORM SEWER	SHEET 44	E

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN



Signing notes

Type II aluminum signs removed under the contract shall be delivered to the County sign shop in the County the project is located in. Signs shall be carefully removed from sign supports. The signs shall be palletized for handling with a forklift (see special provision 638.3.4). The Regional sign shop (414-266-1165) shall be notified three working days prior to delivery of the signs.

When an existing stop sign support is to be removed and a new stop sign and support erected, the work shall be done concurrently. For other signs and supports that are to be removed and new signs and supports erected, the removal of the existing sign/support and erection of the new sign/support should be done as concurrently as possible. In no case shall a new sign/support be down for more than 24 hours and there shall not be more than one sign of the same legend missing in a row.

Wood posts sizes, for type II signs are estimated lengths and the actual length will be determined in the field.

Street name signs are property of the municipality (city, village or town). The municipality shall be contacted to remove their street name signs prior to construction and it is their responsibility to reinstall the old signs or replace them following construction. WisDOT does not furnish or install street name signs. The street name signs shall not be placed on top of the STOP signs.

Locate no passing pennants based on establishing no passing zones pay item. Place signs based on where the pavement marking for no passing zones begin

SHEET 1 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - STH 165 (B-30-65)	SHEET 45	E

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

CTH BB (RAWSON AVE.) WB

CTH BB (RAWSON AVE.) EB

B-40-392

B-40-644

STH 36 (LOOMIS RD.) WB

STH 36 (LOOMIS RD.) EB

PT: 137462.03

146
144
142
140
138
136
134

SOUTH 36 J3-1 ESTR

5 NO PARKING ANY TIME R7-1D(2M) REMOVE

SOUTH 36 J2-1 ESTR ON LIGHT POLE

6 W5-52R(2M) 4' MOUNT HEIGHT REMOVE

WEST COUNTY BB J3-1 MOVE 7

8 W Rawson Ave WEST MOVE

ONE WAY R6-2L ESTR

R4-7 ESTR

ONE WAY R6-2L ESTR

NO PARKING ANY TIME R7-1D ESTR

4 W5-52R (2M) 4' MOUNT HEIGHT REMOVE

9 NO PARKING ANY TIME R7-1D (2M) REMOVE

R3-4 ESTR

R4-7 ESTR

EAST COUNTY BB J3-1

W Rawson Ave EAST ESTR

SHEET 2 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - CTH BB (B-40-392/644)	SHEET 46	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023202_PS

PLOT DATE : 4/18/2018 10:53 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

10
W5-52L (2S)
4' MOUNT HEIGHT

12
W5-52R (2S)
4' MOUNT HEIGHT

11
W5-52R (2S)
4' MOUNT HEIGHT

13
W5-52L (2S)
4' MOUNT HEIGHT

43+00 44+00 45+00 46+00 47+00 48+00 49+00 50+00 51+00 52+00 53+00 54+00 55+00 56+00 57+00

MINK RANCH ROAD

B-45-39

STH 57

STH 57

EPS5746825S7

SHEET 3 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - MINK RANCH RD (B-45-39)	SHEET 47	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 4/18/2018 10:54 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- (XXX) — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

86 DEKORA ST

88

PI: 89+04.77

R3-8
ONLY
ESTR

REMOVE
WEST
33

WEST
33
14
J3-1(2S)

Milwaukee River
I3-1
ESTR
ON LIGHT POLE

WEST
33
ONLY
ESTR

PI: 96+22.84

RIGHT LANE
MUST
TURN RIGHT
R3-7R
ESTR

STH 33

B-45-95

90 92 94 96 98 100

N

JCT
COUNTY
W
J1-1
Milwaukee River
I3-1
ESTR
ON LIGHT POLE

NORTH SOUTH
COUNTY W COUNTY W
J2-2
ESTR

CTH W

SHEET 4 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - STH 33 (B-45-95)	SHEET 48	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023204_PS

PLOT DATE : 4/18/2018 10:54 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

15 REMOVE
W5-52L (2S)
4' MOUNT HEIGHT

16 REMOVE
W5-52R (2S)
4' MOUNT HEIGHT

17 Limestone Creek
I3-1
MOVE

20A NO PASSING ZONE
W14-3
MOVE

896 STH 175 898 B-66-27 900 STH 175

XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX XXXX

Limestone Creek
I3-1
ESTR

18 W5-52R (2S)
4' MOUNT HEIGHT
REMOVE

LIMESTONE CREEK

19 W5-52L (2S)
4' MOUNT HEIGHT
REMOVE

20 Hillcrest Dr
D1-1
MOVE

SHEET 5 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - STH 175 (B-66-27)	SHEET 49	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023205_PS

PLOT DATE : 4/18/2018 10:54 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

REMOVE
21
W5-52L(2S)
4' MOUNT HEIGHT

REMOVE
22
W5-52R(2S)
4' MOUNT HEIGHT

NO PASSING ZONE
REMOVE
NO PASSING ZONE
23
W14-3(2S)

364 366 368 370 372 374 376 378

STH 83 B-67-220 STH 83

BARK RIVER

24
W5-52R(2S)
4' MOUNT HEIGHT
REMOVE

25
W5-52L(2S)
4' MOUNT HEIGHT
REMOVE

26
S1-1(2S)
AHEAD
S16-9P(2S)
27
AHEAD
REMOVE

SHEET 6 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - STH 83 (B-67-220)	SHEET 50	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023206_PS

PLOT DATE : 4/18/2018 10:55 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

2

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS — VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- XXX — DENOTES SIGN NUMBER
- (X) — INDICATES SIGN SIZE
- ESTR — EXISTING SIGN TO REMAIN

N

FOX RIVER

FOX RIVER PKWY

REMOVE

28

W5-52R (3)
4' MOUNT HEIGHT

REMOVE

NO PARKING ANY TIME

29

R7-1R (3)

PT: 81+61.71

72 74 76 78 B-67-230 80 82 84 STH 59 WB 86

STH 59 EB

30

W5-52L (3)
4' MOUNT HEIGHT

REMOVE

31

BEGIN LEFT TURN LANE

R3-20L (3)

LEFT TURN LANE

REMOVE

NO PARKING ANY TIME

R7-1L
ESTR

32

W5-52L (3)
4' MOUNT HEIGHT

REMOVE

SPEED LIMIT 45

R2-1 (3)

33 34

SPEED LIMIT 45

REMOVE

SHEET 7 OF 7

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	PERMANENT SIGNING PLAN - STH 59 (B-67-230)	SHEET 51	E

FILE NAME : N:\PDS\C3D\CAD\10005172\023201_PS.DWG
LAYOUT NAME - 023207_PS

PLOT DATE : 4/18/2018 10:55 AM PLOT BY : MARTENS, KAREN L PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

N

POST

POST

POST

MH

MH

DES PLAINES RIVER

STH 165 WB

B-30-133 TO REMAIN

1

447+00

448+00

449+00

450+00

451+00

452+00

453+00

STH 165 EB

3

5

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	PAVEMENT MARKING - STH 165 (B-30-65)	SHEET 52	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\024501_PM_B30-65.DWG
LAYOUT NAME - B30-65 PM

PLOT DATE : 4/9/2019 2:36 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 42

2

POST
MH
POST
W-V
SOO LINE RR
N
STH 165
495+00
496+00
497+00
498+00
499+00
500+00
3
4
1
1
4
3

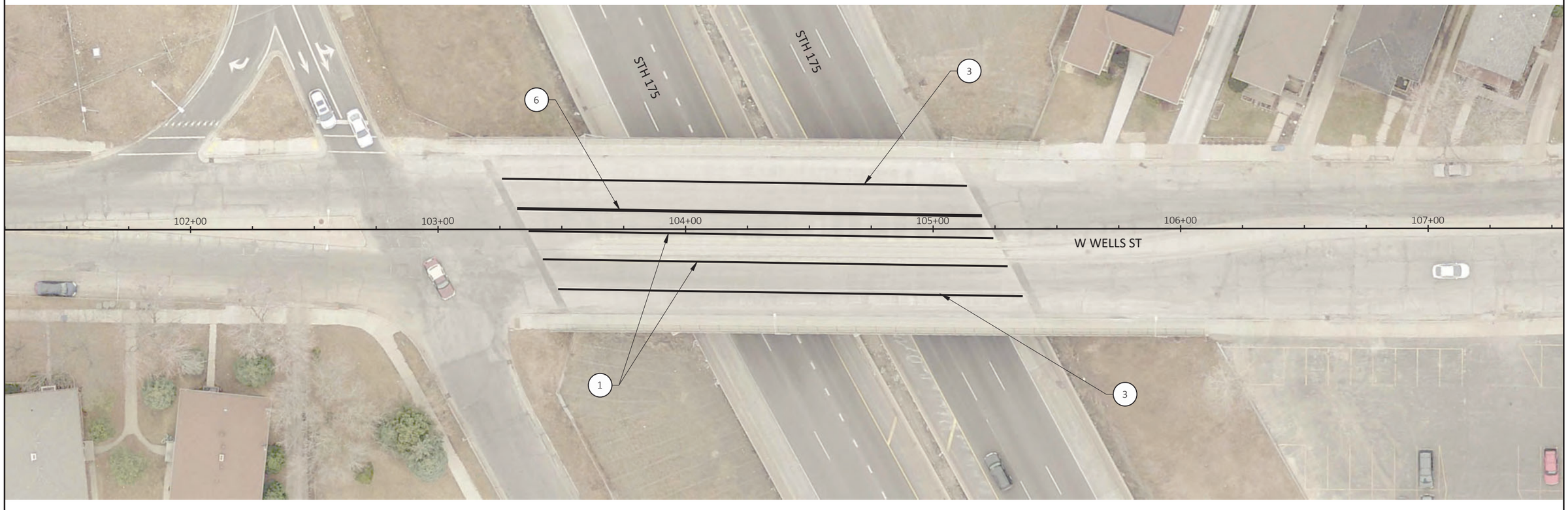
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	PAVEMENT MARKING - STH 165 (B-30-66/67)	SHEET 53	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\024501_PM_B30-66.DWG
LAYOUT NAME - B30-66 AND B30-67 PM
PLOT DATE : 4/9/2019 2:38 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

2



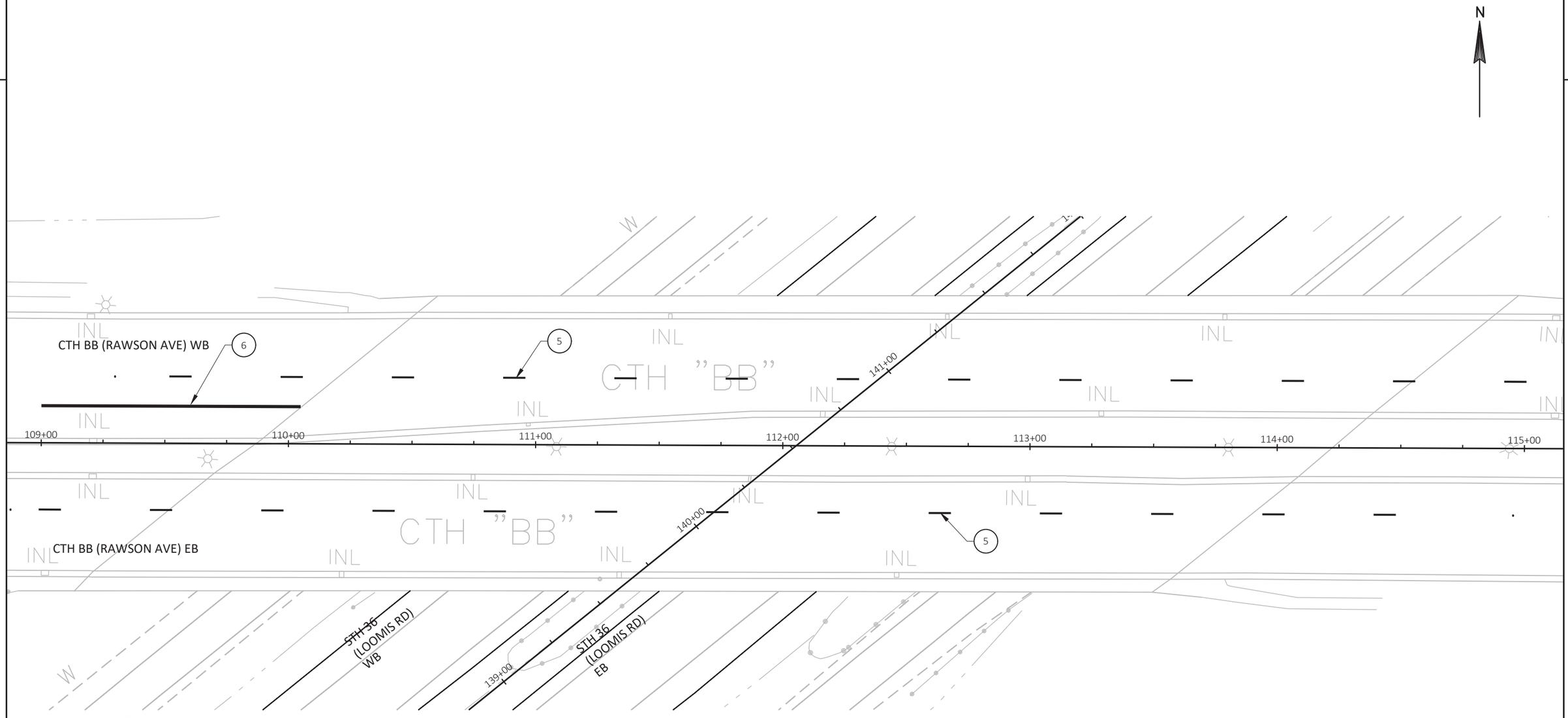
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	PAVEMENT MARKING - W WELLS ST (B-40-52)	SHEET 54	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-52_USH 41\024501_PM_B40-52.DWG
LAYOUT NAME - B40-52 PM
PLOT DATE : 4/9/2019 2:38 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



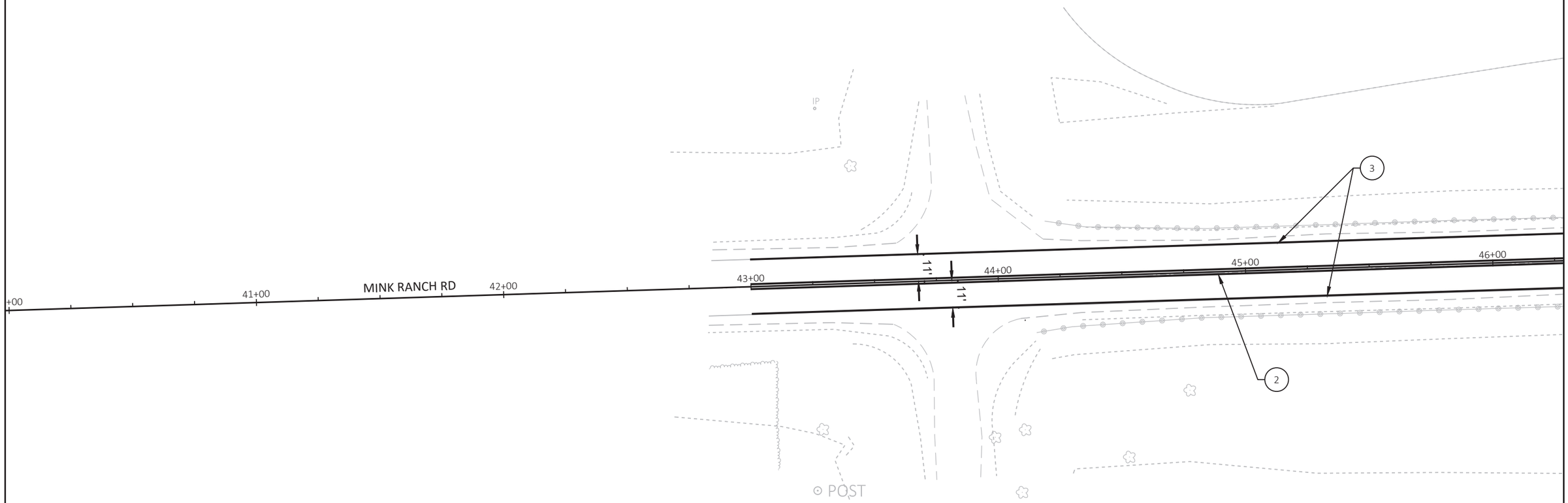
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	PAVEMENT MARKING - CTH BB (B-40-392 /644)	SHEET 55	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\024501_PM_B40-392.DWG
LAYOUT NAME - B40-392 AND B40-644 PM
PLOT DATE : 4/9/2019 2:39 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	PAVEMENT MARKING - MINK RANCH RD (B-45-39)	SHEET 56	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\024501_PM_B45-39.DWG
LAYOUT NAME - B45-39 PM Sheet 1
PLOT DATE : 4/9/2019 2:39 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2

N

STH 57 NB

STH 57 SB

313+00

312+00

311+00

310+00

MINK RANCH RD

47+00

48+00

49+00

50+00

51+00

52+00

11'

11'

POST

POST

POST

3

2

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	PAVEMENT MARKING - MINK RANCH RD (B-45-39)	SHEET 57	E

2

N

STH 57 NB

321+00

320+00

319+00

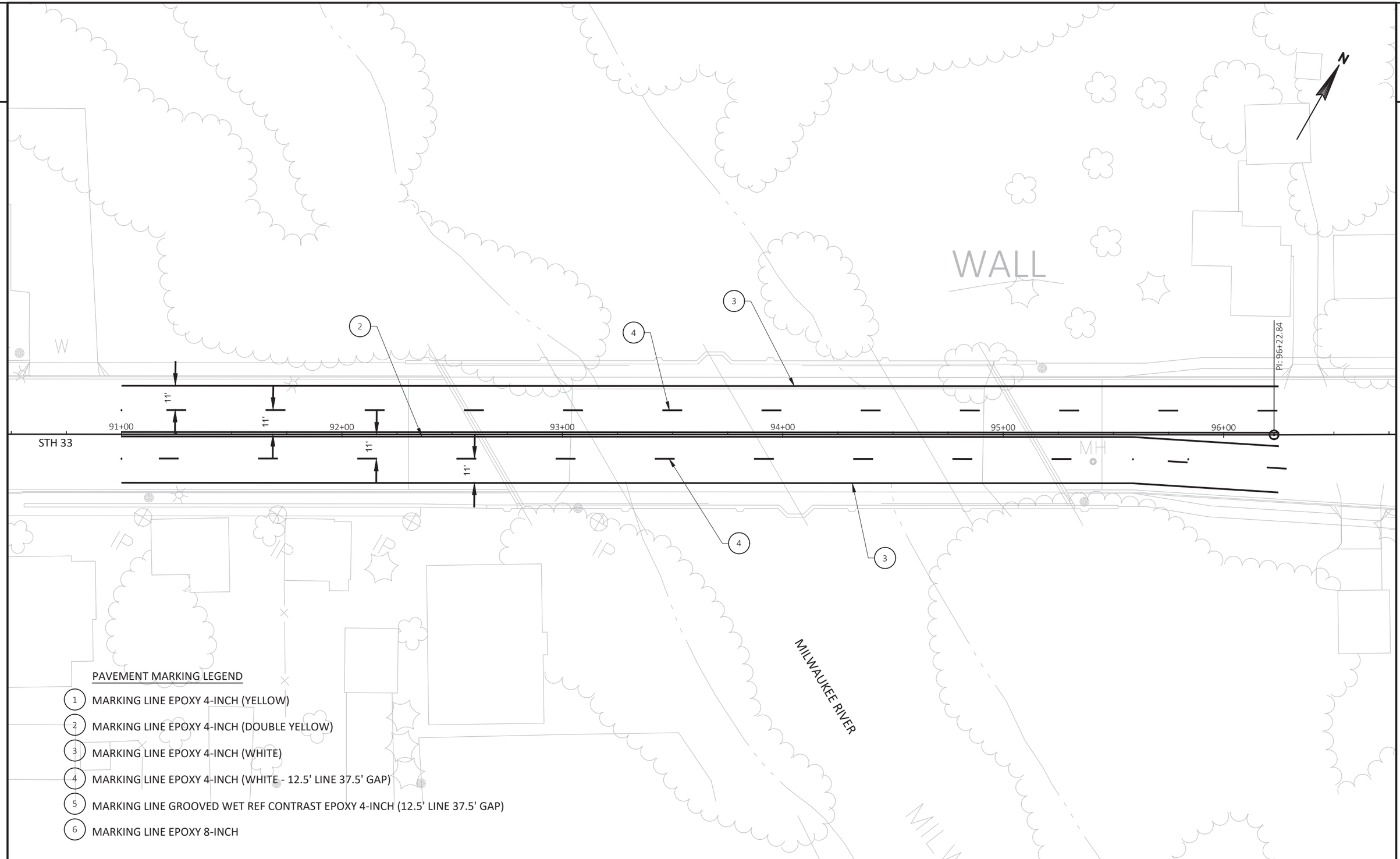
318+81

POST

POST

POST

2



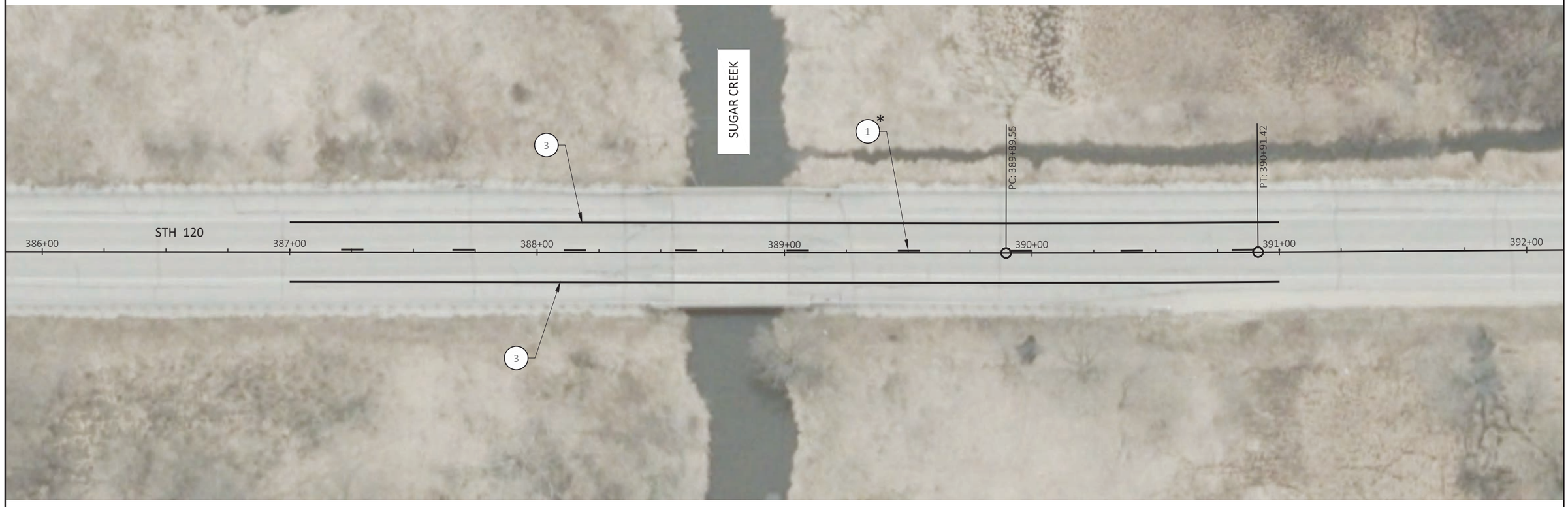
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	PAVEMENT MARKING - STH 33 (B-45-95)	SHEET 59	E

2

N



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

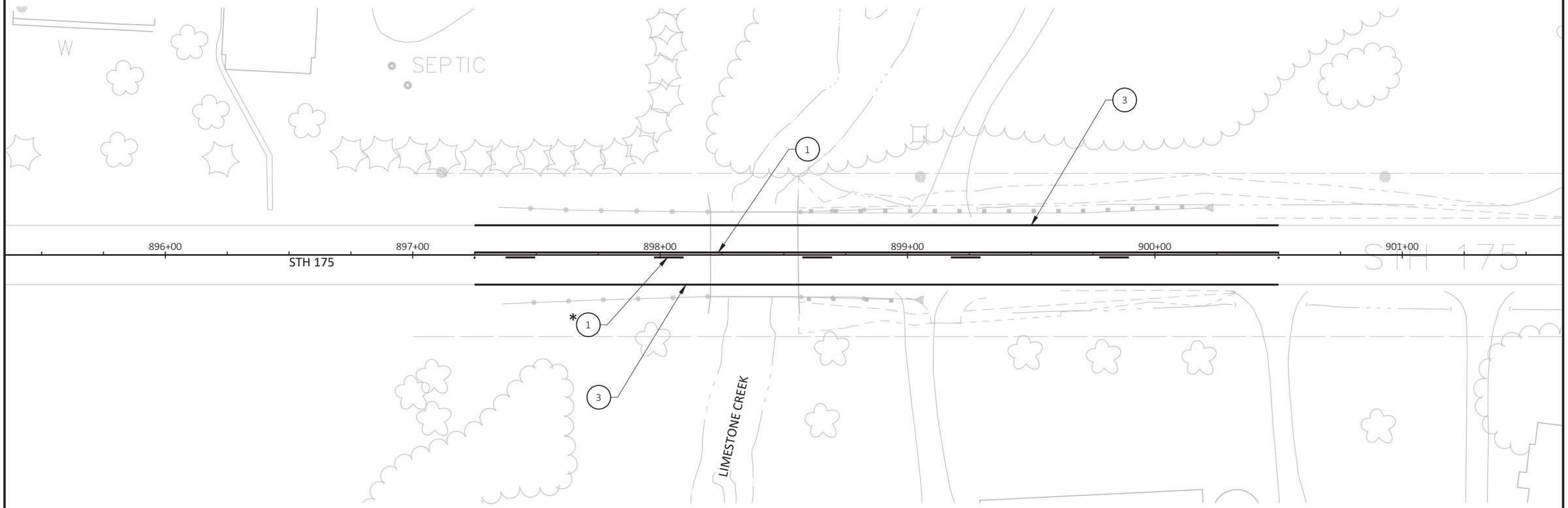
NOTE:

* 12.5' LINE, 37.5' GAP

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PAVEMENT MARKING - STH 120 (B-64-80)	SHEET 60	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-64-80_STH 120\024501_PM_B64-80.DWG
LAYOUT NAME - B64-80 PM
PLOT DATE : 4/9/2019 2:40 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



PAVEMENT MARKING LEGEND

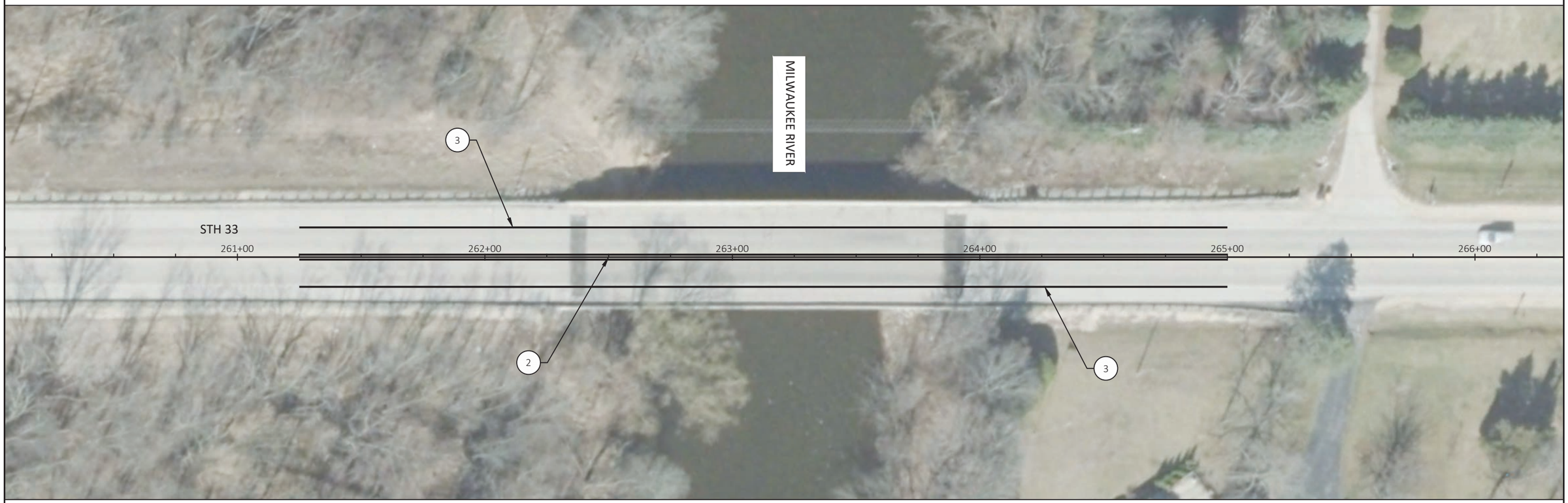
1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP
6. MARKING LINE EPOXY 8-INCH

NOTE:

* 12.5' LINE, 37.5' GAP

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	PAVEMANET MARKING - STH 175 (B-66-27)	SHEET 61	E

2



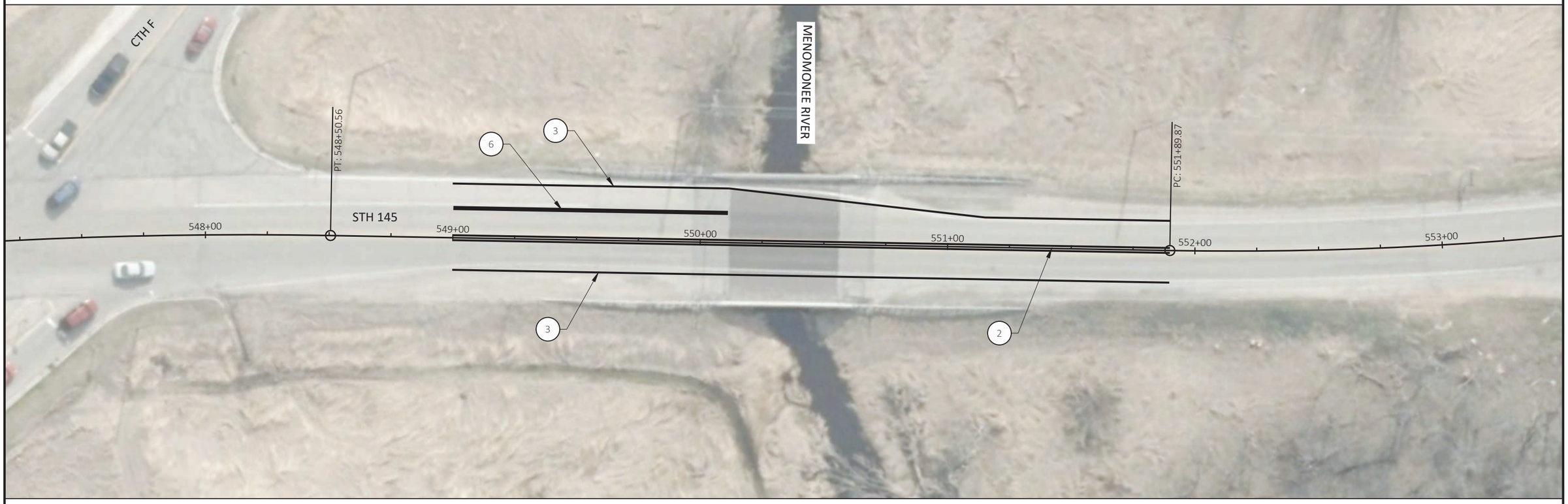
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: STH 33	COUNTY: WASHINGTON	PAVEMENT MARKING - STH 33 (B-66-93)	SHEET 62	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-93_STH 33\024501_PM_B66-93.DWG
LAYOUT NAME - B66-93 PM
PLOT DATE : 4/9/2019 2:42 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



PAVEMENT MARKING LEGEND

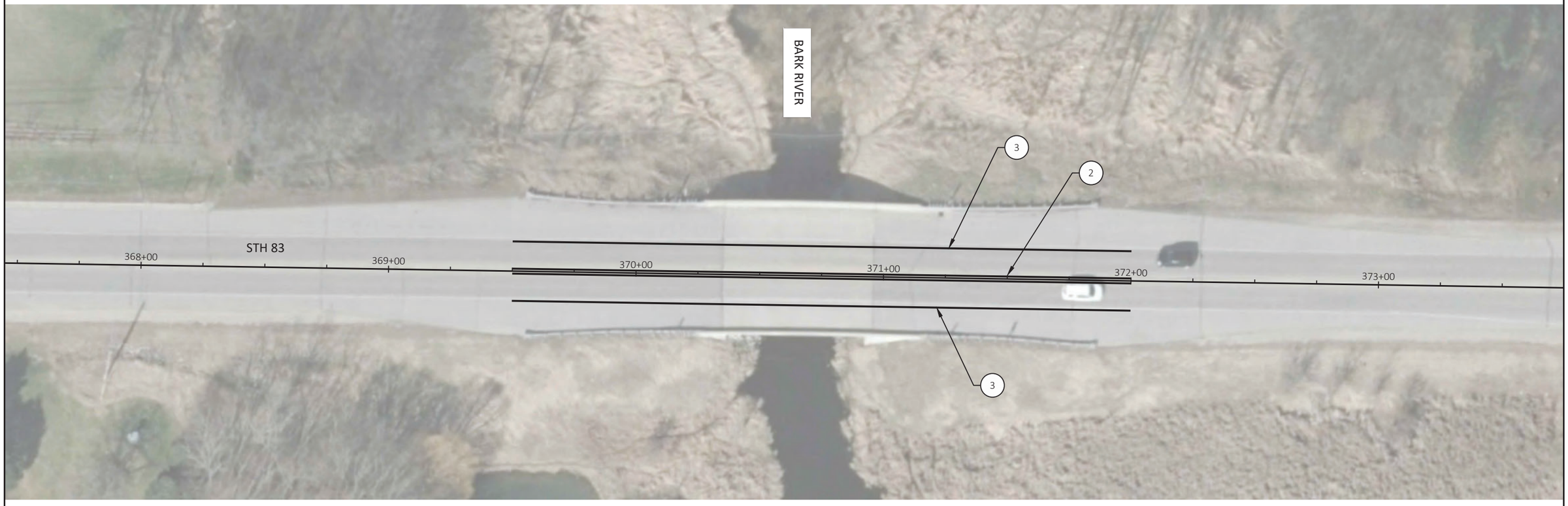
1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHIET - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	PAVEMENT MARKING - STH 145 (B-66-99)	SHEET 63	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-99_STH 145\024501_PM_B66-99.DWG
LAYOUT NAME - B66-99 PM
PLOT DATE : 4/9/2019 2:42 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

N



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PAVEMENT MARKING - STH 83 (B-67-220)	SHEET 64	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-220_STH 83\024501_PM_B67-220.DWG
LAYOUT NAME - B67-220 PM
PLOT DATE : 4/9/2019 2:43 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT

2

N

PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (YELLOW)
2. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
3. MARKING LINE EPOXY 4-INCH (WHITE)
4. MARKING LINE EPOXY 4-INCH (WHITE - 12.5' LINE 37.5' GAP)
5. MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE 37.5' GAP)
6. MARKING LINE EPOXY 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PAVEMENT MARKING - STH 59 (B-67-230)	SHEET 65	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-230_STH 59\024501_PM_B67-230.DWG
LAYOUT NAME - B67-230 PM
PLOT DATE : 4/9/2019 2:43 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

2

GENERAL NOTES FOR TRAFFIC CONTROL

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

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

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

4) 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.

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

6) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED, AND EQUIPPED WITH TWO TYPE "A" (LOW INTENSITY FLASHING) LIGHTS.

7) INSTALL PROPOSED TRAFFIC CONTROL SIGNS ON BOTH OUTSIDE SHOULDER AND MEDIAN SIDE OF ALL DIVIDED ROADWAYS OR AS DIRECTED BY THE ENGINEER.

8) STH 57 NORTHBOUND AND STH 57 SOUTHBOUND LANE CLOSURES FOR GIRDER PAINTING WORK ACTIVITIES SHALL BE LESS THAN 4 DAYS. DO NOT REMOVE PAVEMENT MARKING PER TRAFFIC CONTROL, LANE CLOSURE.

2

N

STA 496+00 – STA 499+75
B–30–66 & B–30–67

STA 448+00 – STA 453+00

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

TERWALL TERR.

DES PLAINES RIVER

STH 165

CANADIAN PACIFIC RAILROAD

88TH AVE (CTH H)

UNION PACIFIC RAILROAD

86TH AVE

82ND AVE

80TH AVE

350' MAX

JELLY BELLY LN

STH 31 (GREENBAY ROAD)

72ND AVE

W. FRONTAGE RD.

IH 94

E. FRONTAGE RD.

CORPORATE DR.

MAX 13' WIDTH
W12-52
48"X48"

00 MILES AHEAD
WO57-52
48"X36"

LEGEND

1. USE SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

2. USE SDD: TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY

3. WEST
M3-4
24"X12"
165
M1–6
MAX 13' WIDTH
W12-52
48"X48"

INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO BRIDGE DECK PREPARATION AND OVERLAY OPERATIONS. M1–6 SHALL BE 36"X36" ON INSTALLATIONS ALONG I–41/94 AND 24"x24" ON ALL OTHER INSTALLATIONS.

4. EAST
M3-2
36"X18"
165
M1–6
MAX 13' WIDTH
W12-52
48"X48"

* INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO BRIDGE DECK PREPARATION AND OVERLAY OPERATIONS. M1–6 SHALL BE 36"X36" ON INSTALLATIONS ALONG I–41/94. M3–2 SHALL BE 36"X18" ON INSTALLATIONS ALONG I–41/94

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: OVERVIEW STH 165 - STAGE 1	SHEET 67	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\025001_TC_S1_B30-65.DWG
LAYOUT NAME - TC Overview-S1
PLOT DATE : 4/9/2019 2:43 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:1500 FT
WISDOT/CADDS SHEET 42

2

2

N

STH 165 WB

STH 165 EB

426 428 430 432 434 436 438 440

50'

+00

+15

+87

4

4

2

1

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2L = 2
DRUMS = 15
ARROW BOARDS = 1

SEE S.D.D. "TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER" FOR ADDITIONAL DETAILS AND BID ITEMS.

W01-4R

BEGIN REMOVING PAVEMENT MARKING

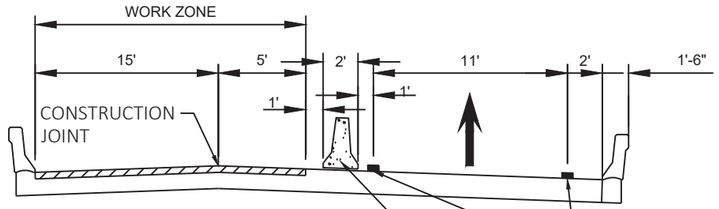
BEGIN FILL EXISTING RUMBLE STRIP
SEE S.D.D. TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY (2 DAYS MAX) AND SEE SECTION B-B FOR MORE DETAILS

LEGEND

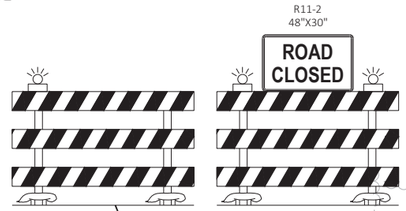
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

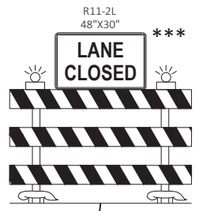
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

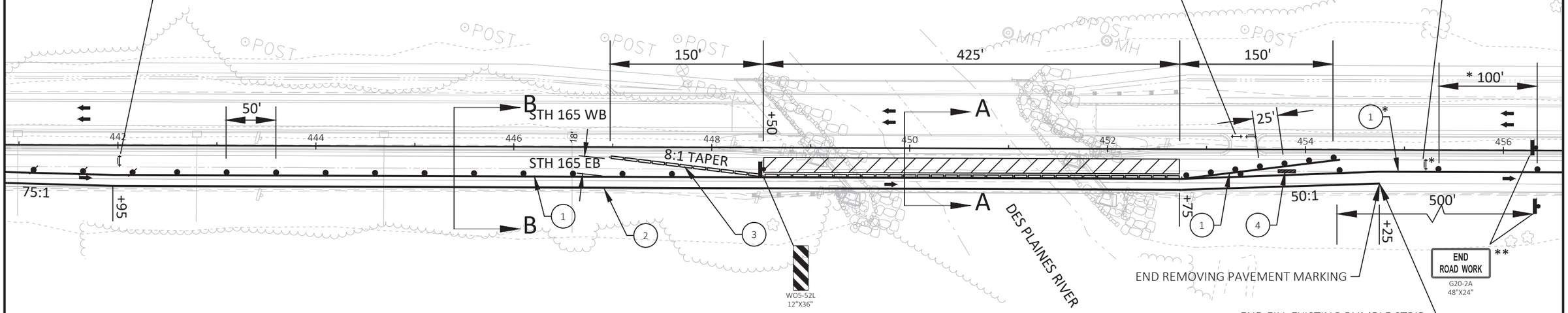
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-65 - STAGE 1	SHEET 68	E



SECTION A-A
STAGE 1



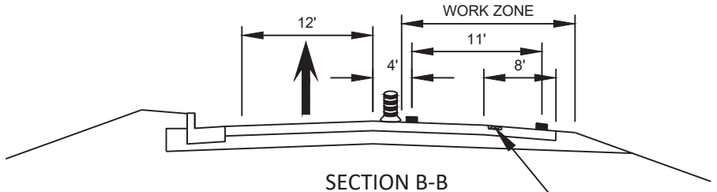




LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD



SECTION B-B
PRE-STAGE 1
STA 439+20 - STA 448+35
STA 452+90 - STA 454+25

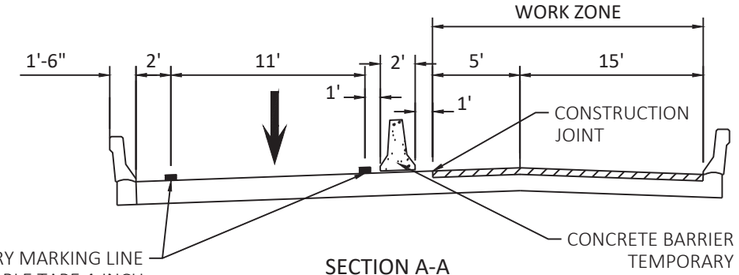
NOTES:

* SINGLE LANE CLOSURE TO BE CONTINUED TO B-30-66 WHILE WORK IS BEING PERFORMED AT B-30-66, STAGE 1.
** COVER SIGNS G20-2A WHEN THEY ARE NOT IN USED.
*** PLACE 1 BARRICADE TYPE III EVERY 1000-FT.

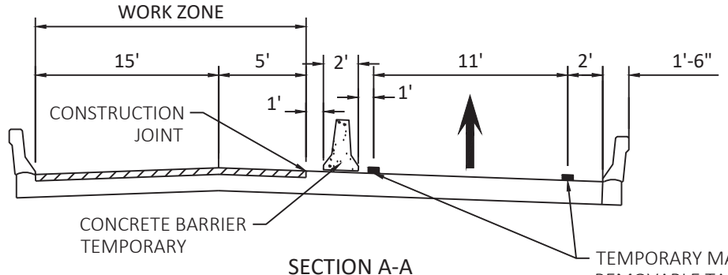
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-65 - STAGE 1	SHEET 69	E

2

STH 165
C/L

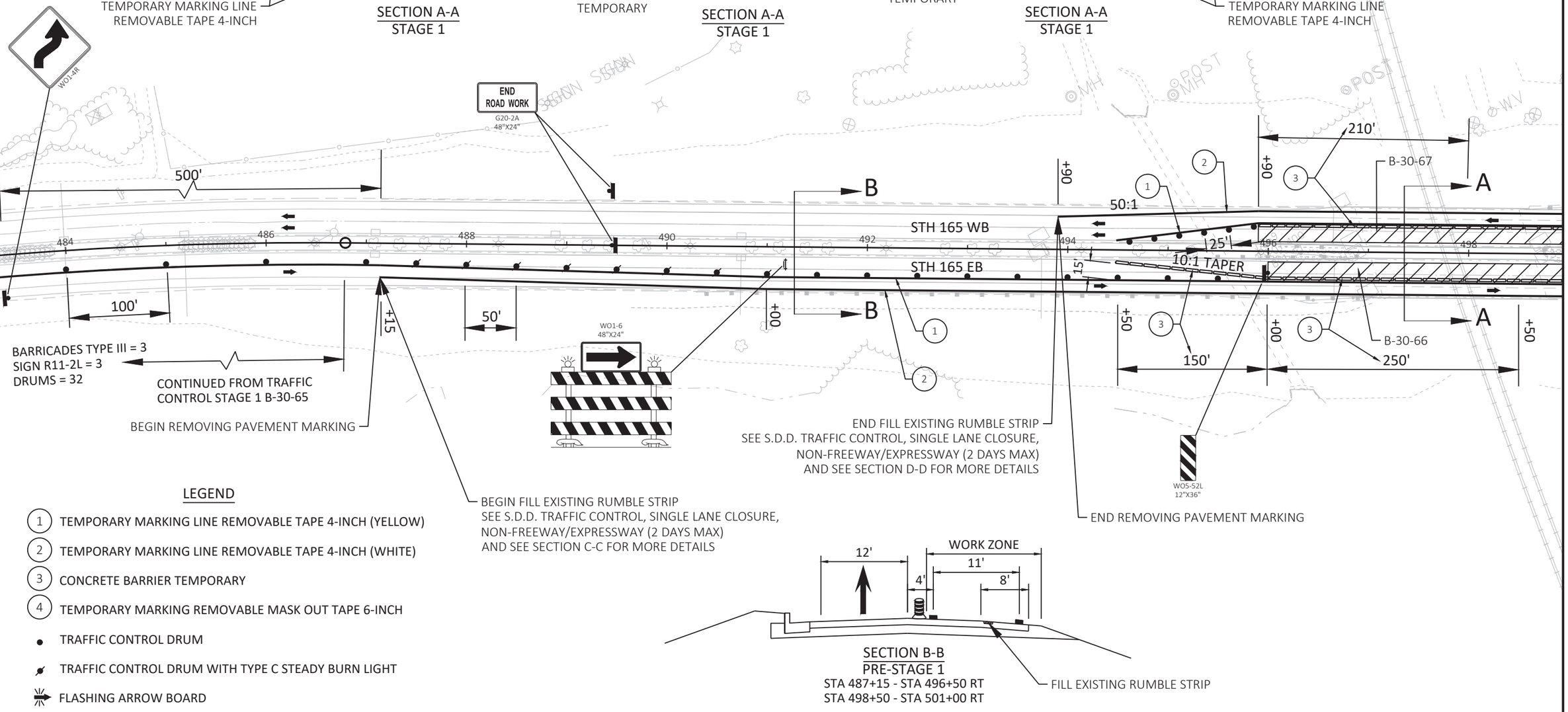


SECTION A-A
STAGE 1



SECTION A-A
STAGE 1

SECTION A-A
STAGE 1



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

SECTION B-B
PRE-STAGE 1
STA 487+15 - STA 496+50 RT
STA 498+50 - STA 501+00 RT

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 1	SHEET 70	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026001_S1_B30-67.DWG
LAYOUT NAME - B30-67 S1 Sheet 1
PLOT DATE : 4/9/2019 2:46 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

BEGIN REMOVING PAVEMENT MARKING

BEGIN FILL EXISTING RUMBLE STRIP
SEE S.D.D. TRAFFIC CONTROL, SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY (2 DAYS MAX)
AND SEE SECTION D-D FOR MORE DETAILS

WO1-6
48"X24"

R11-2L
48"X30"
LANE CLOSED

WO1-4R

END
ROAD WORK
G20-2A
48"X24"

ROAD
WORK
AHEAD
W20-1A

350' MAX

N

B-30-67

177.5'

+77.5

150'

10:1 TAPER

25'

+40

C

+50

125'

+75

WO5-52L
12"X36"

50:1

15'

+27.5

+75

C

B-30-66

END REMOVING PAVEMENT MARKING

STH 165 EB

STH 165 WB

50'

50'

+00

+19

25'

+53

+20

25'

+70

25'

END FILL EXISTING RUMBLE STRIP
SEE S.D.D. TRAFFIC CONTROL, SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY (2 DAYS MAX)
AND SEE SECTION C-C FOR MORE DETAILS

END
ROAD WORK
G20-2A
48"X24"

350' MAX

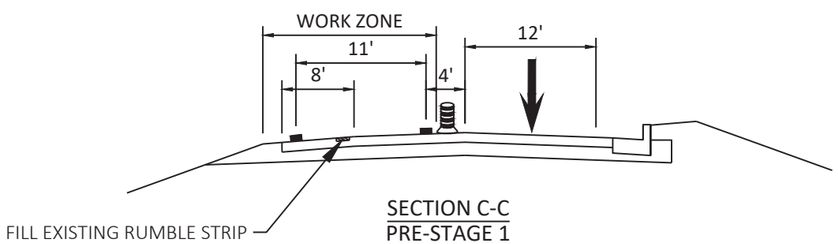
CTH H/88TH AVE

ROAD
WORK
AHEAD
W20-1A

END
ROAD WORK
G20-2A
48"X24"

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD



SECTION C-C
PRE-STAGE 1
STA 493+90 - STA 495+90 LT
STA 500+50 - STA 502+40 LT

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 1	SHEET 71	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026001_S1_B30-67.DWG
LAYOUT NAME - B30-67 S1 Sheet 2

PLOT DATE : 4/9/2019 2:47 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

TEMPORARY MARKING REMOVABLE MASK OUT TYPE 10-INCH

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

350' MAX

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

TEMPORARY MARKING REMOVABLE MASK OUT TYPE 10-INCH

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

+83 25' +09 +11 25' +11 +31 +50 +47 25' +71 50' +45 +24

STH 165 WB

STH 165 EB

514 516 518 520 522 524 526 528

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 8-INCH (WHITE)

86TH AVE

350' MAX

82ND AVE

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

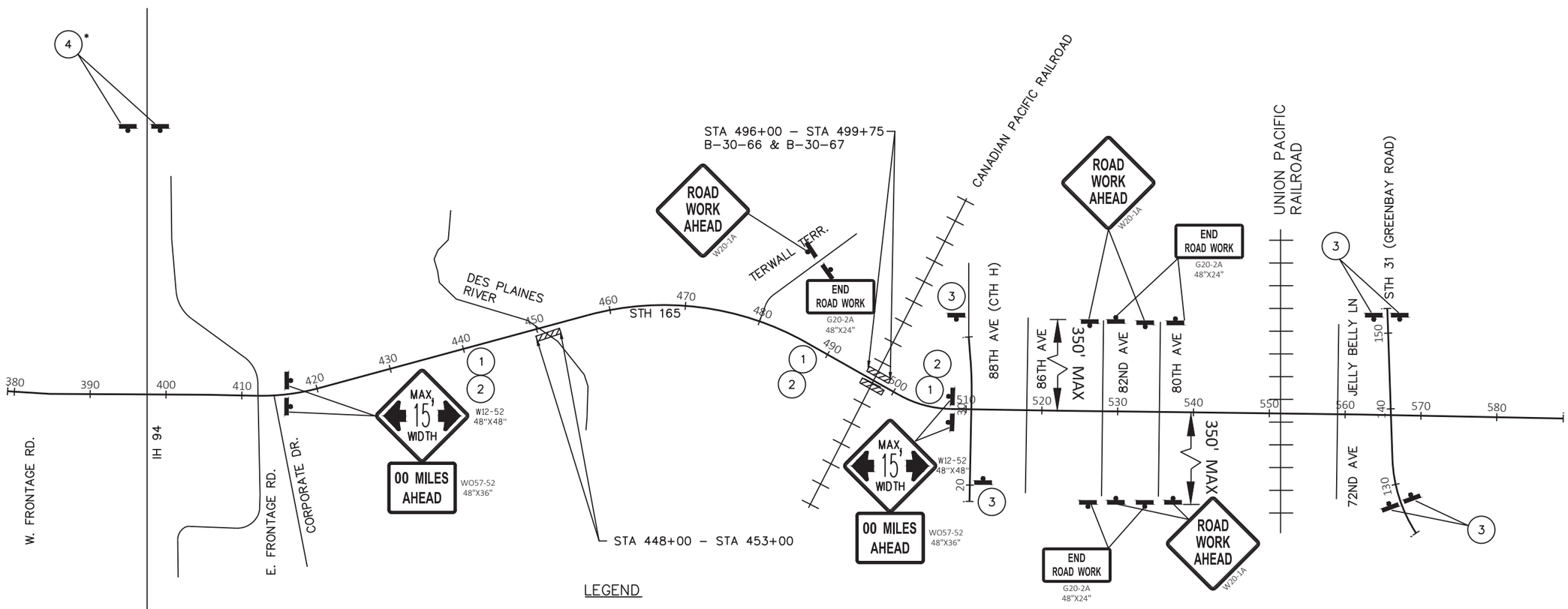
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 1	SHEET 72	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026001_S1_B30-67.DWG
LAYOUT NAME - B30-67 S1 Sheet 3
PLOT DATE : 4/9/2019 2:47 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N



LEGEND

1. USE SDD: TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

2. USE SDD: TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON FREEWAY/EXPRESSWAY

3. WEST (M3-4, 24"X12") / 165 (M1–6) / MAX, 15' WIDTH (W12-52, 48"X48")

   INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO BRIDGE DECK PREPARATION AND OVERLAY OPERATIONS. M1–6 SHALL BE 36"X36" ON INSTALLATIONS ALONG I–41/94 AND 24"x24" ON ALL OTHER INSTALLATIONS.

4. EAST (M3-2, 36"X18") / 165 (M1–6) / MAX, 15' WIDTH (W12-52, 48"X48")

   * INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO BRIDGE DECK PREPARATION AND OVERLAY OPERATIONS. M1–6 SHALL BE 36"X36" ON INSTALLATIONS ALONG I–41/94. M3–2 SHALL BE 36"X18" ON INSTALLATIONS ALONG I–41/94

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: OVERVIEW STH 165 - STAGE 2	SHEET 73	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\025001_TC_S2_B30-65.DWG
LAYOUT NAME - TC Overview-S2
PLOT DATE : 4/9/2019 2:47 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:1500 FT
WISDOT/CADDS SHEET 42

2

N

STH 165 WB

426 428 430 432 434 436 438 440

STH 165 EB

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

+40

50'

2

+70

4

TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH (TO REMAIN FROM STAGE 1)

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

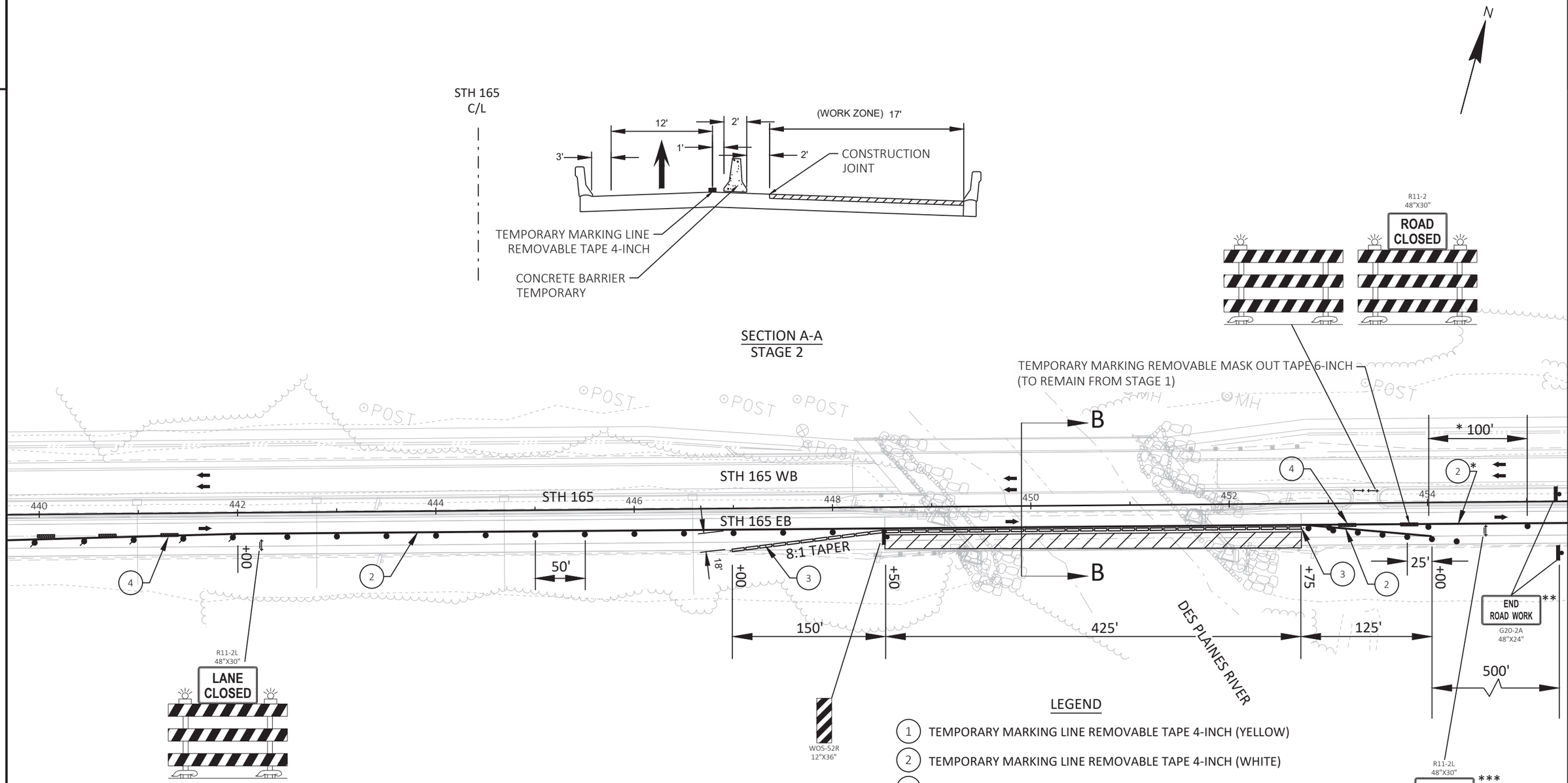
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-65 - STAGE 2	SHEET 74	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026101_S2_B30-65.DWG
LAYOUT NAME - 026101_s2_B30-65
PLOT DATE : 4/9/2019 2:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

SECTION A-A
STAGE 2



NOTES:

* SINGLE LANE CLOSURE TO BE CONTINUED TO B-30-66 WHILE WORK IS BEING PERFORMED AT B-30-66, STAGE 1.
** COVER SIGNS G20-2A WHEN THEY ARE NOT IN USED.
*** PLACE 1 BARRICADE TYPE III EVERY 1000-FT.

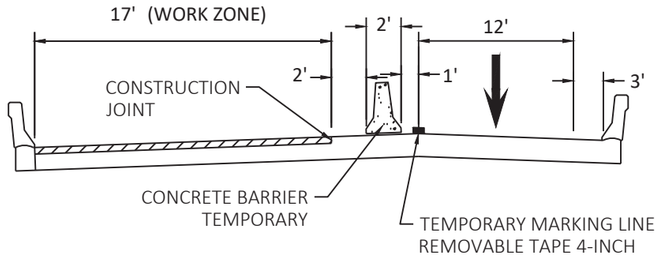
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

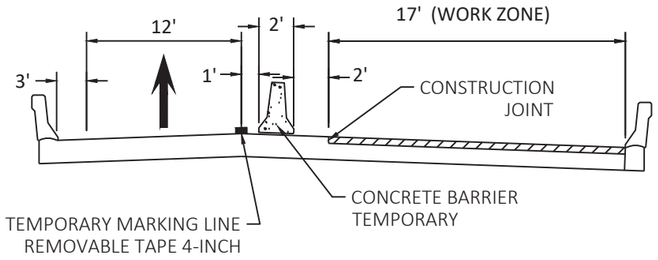
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-65 - STAGE 2	SHEET 75	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026101_S2_B30-65.DWG
LAYOUT NAME - 026102_s2_B30-65
PLOT DATE : 4/9/2019 2:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

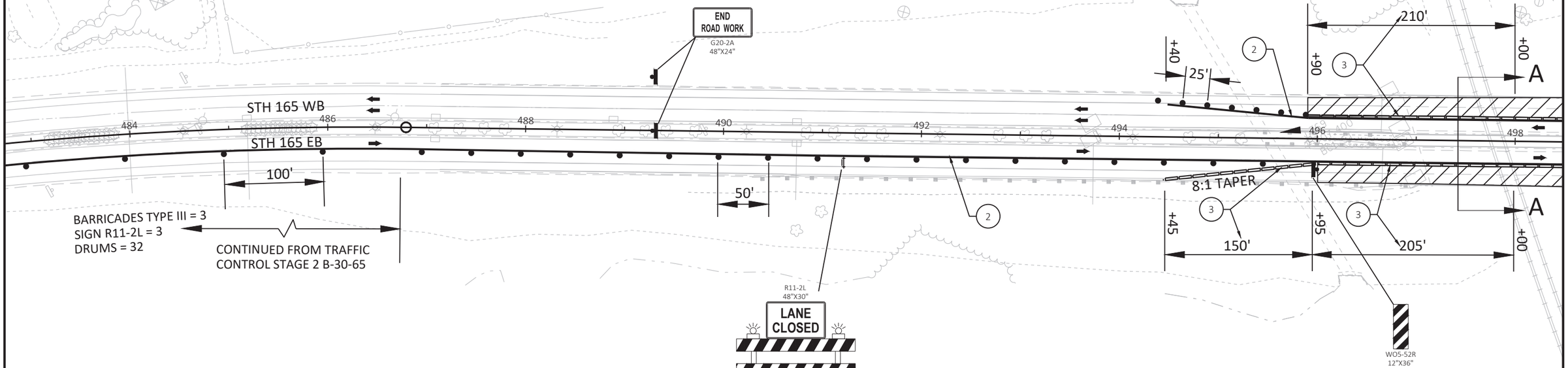
2



STH 165
C/L



SECTION A-A
STAGE 2



LEGEND

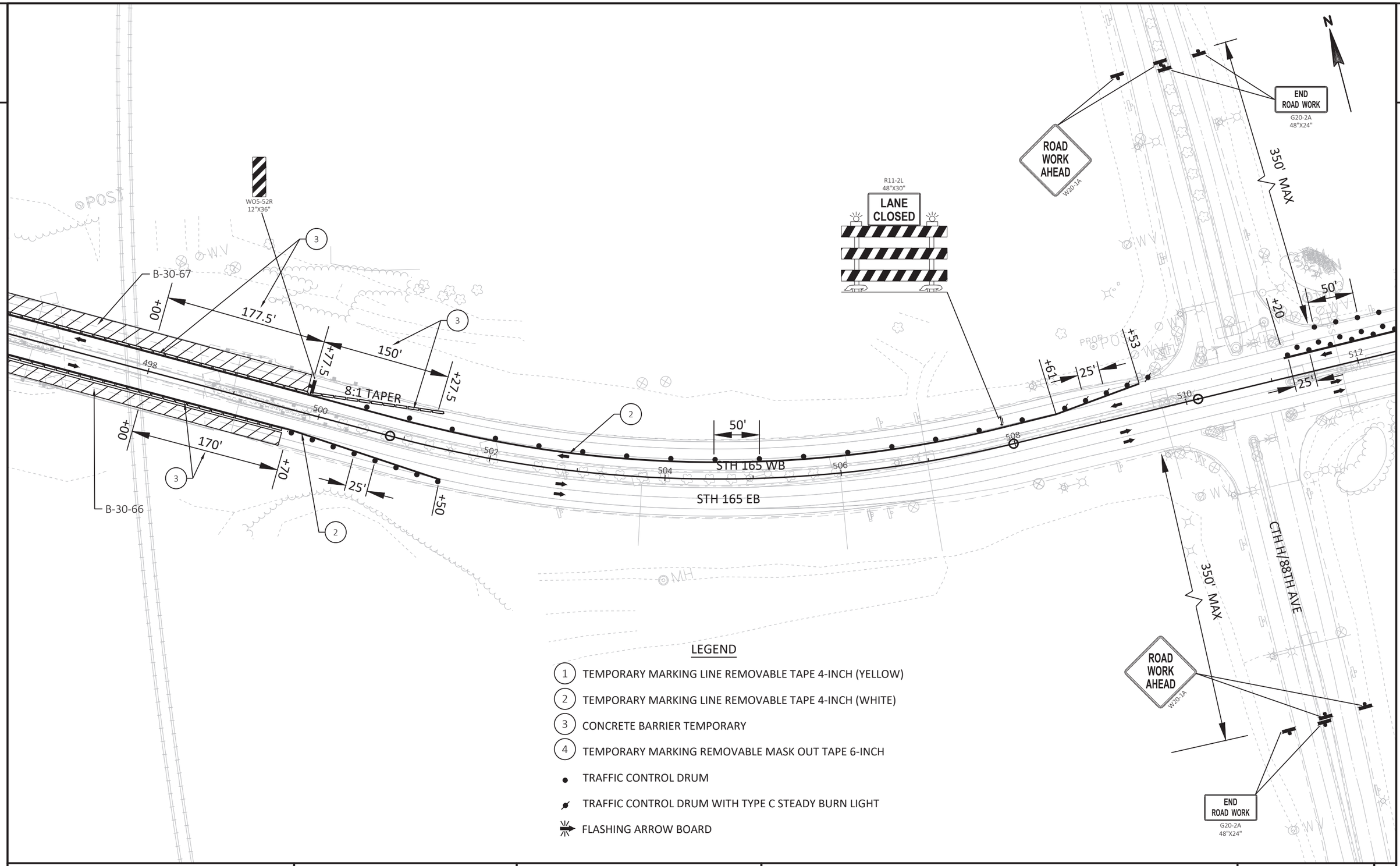
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 2	SHEET 76	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026101_S2_B30-67.DWG
LAYOUT NAME - B30-67 S2 Sheet 1
PLOT DATE : 4/9/2019 2:50 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 2	SHEET 77	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-30-65, 66, 67, 73, 74_STH 165\026101_S2_B30-67.DWG
LAYOUT NAME - B30-67 S2 Sheet 2
PLOT DATE : 4/9/2019 2:50 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

TEMPORARY MARKING REMOVABLE MASK OUT TYPE 10-INCH

350' MAX

BEGIN RIGHT TURN LANE
R3-20R
24"X36"

TEMPORARY MARKING REMOVABLE MASK OUT TYPE 10-INCH

N

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W03-5 = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

+70 +83 25' +09 +11 25' +11

+31 +50 +47 25' +71 50' +47 +24 +45

512 514 516 518 520 522 524 526

STH 165 WB

STH 165 EB

25'

END ROAD WORK
G20-2A
48"X24"

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 8-INCH (WHITE)

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 8-INCH (WHITE)

86TH AVE

350' MAX

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

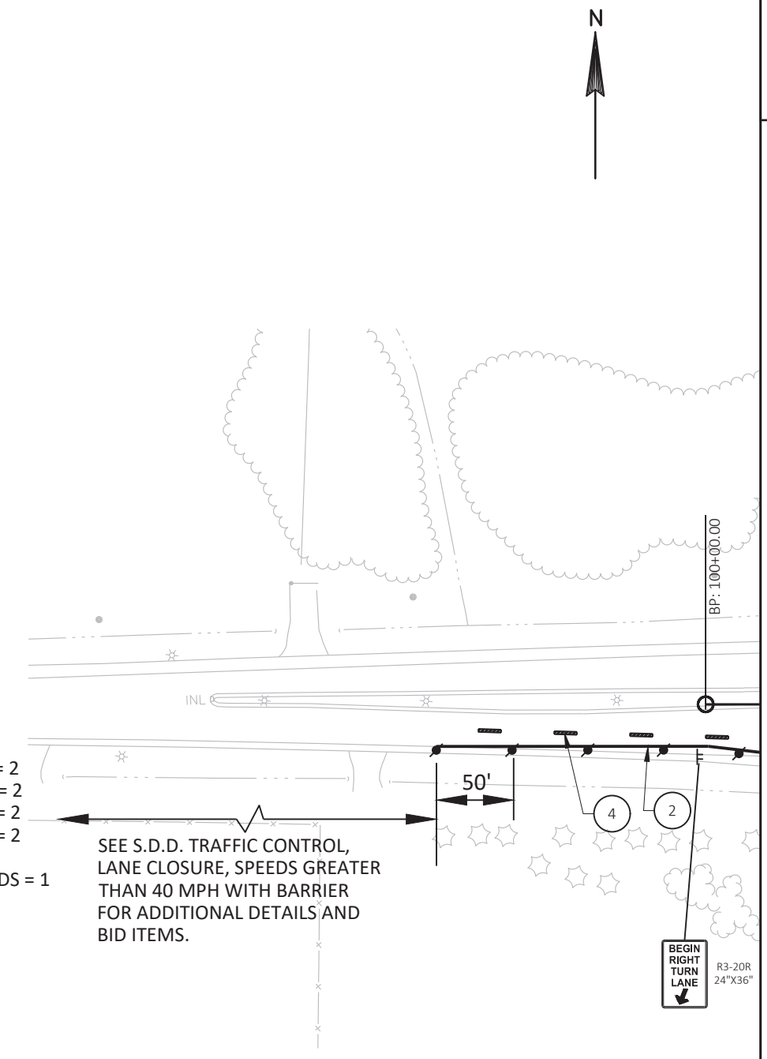
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: KENOSHA	TRAFFIC CONTROL: B-30-66 AND B-30-67 - STAGE 2	SHEET 78	E

2



SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

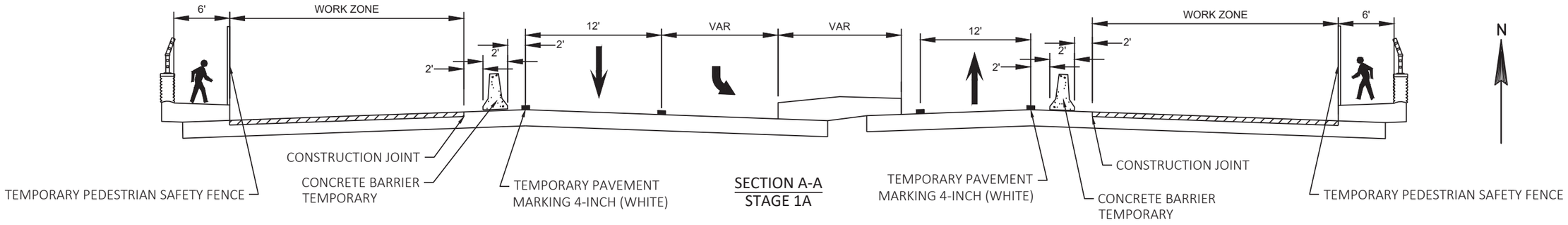
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

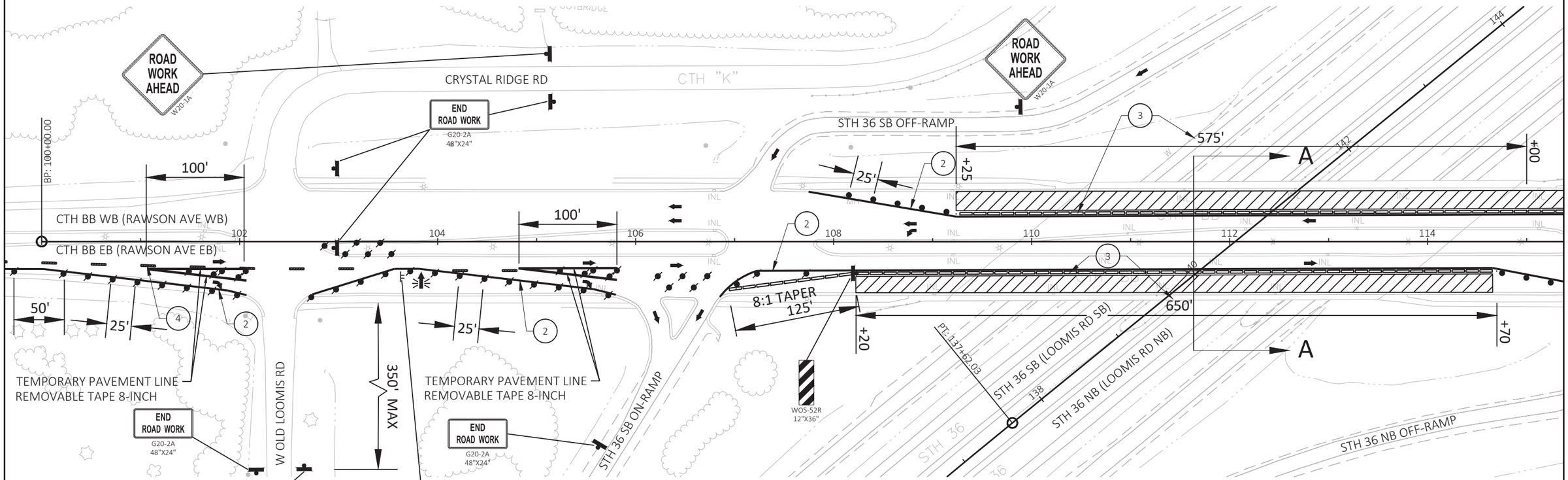
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 - STAGE 1A	SHEET 79	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S1A_B40-392.DWG
LAYOUT NAME - B40-392 S1A Sheet 1
PLOT DATE : 4/9/2019 2:51 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : _____ PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



SECTION A-A
STAGE 1A



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 - STAGE 1A	SHEET 80	E

2

N

WO1-6
48"X24"

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

STH 36 (LOOMIS RD)

WO5-52R
12"X36"

62.5'
+62.5'
125'
8:1 TAPER
50'
350' MAX
EP: 125+83.52

CANOPY
FILLER CAPS
SIGN
MH
INL
W

CTH BB WB (RAWSON AVE WB)

116 118 120 122 124

CTH BB EB (RAWSON AVE EB)

25'
STH 36 NB OFF-RAMP
350' MAX

CTH U

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

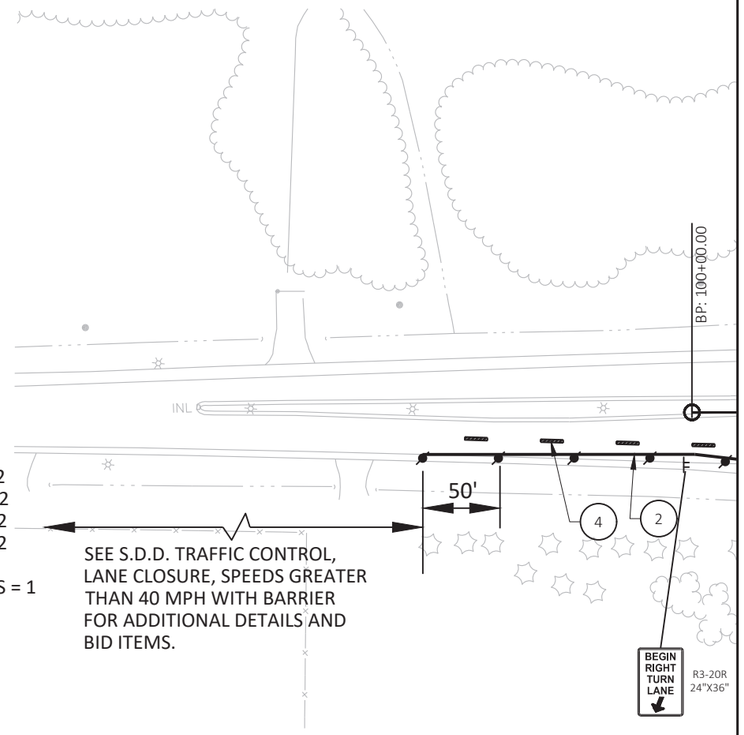
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 - STAGE 1A	SHEET 81	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S1A_B40-392.DWG
LAYOUT NAME - B40-392 S1A Sheet 3
PLOT DATE : 4/9/2019 2:51 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N



SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

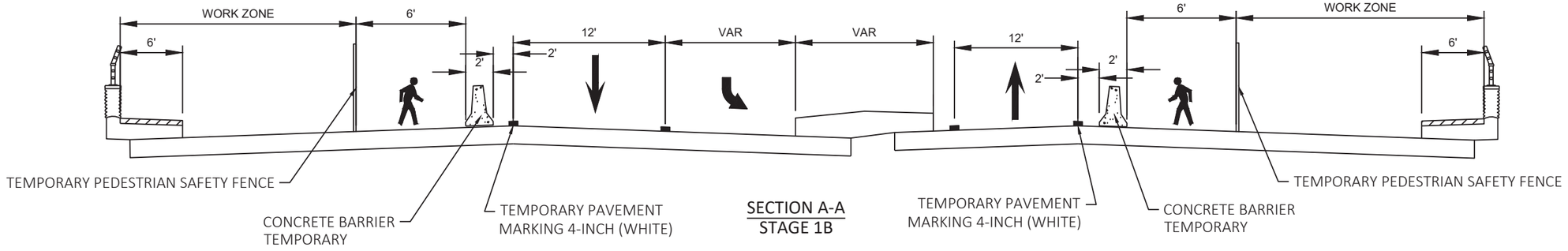
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 1B	SHEET 82	E

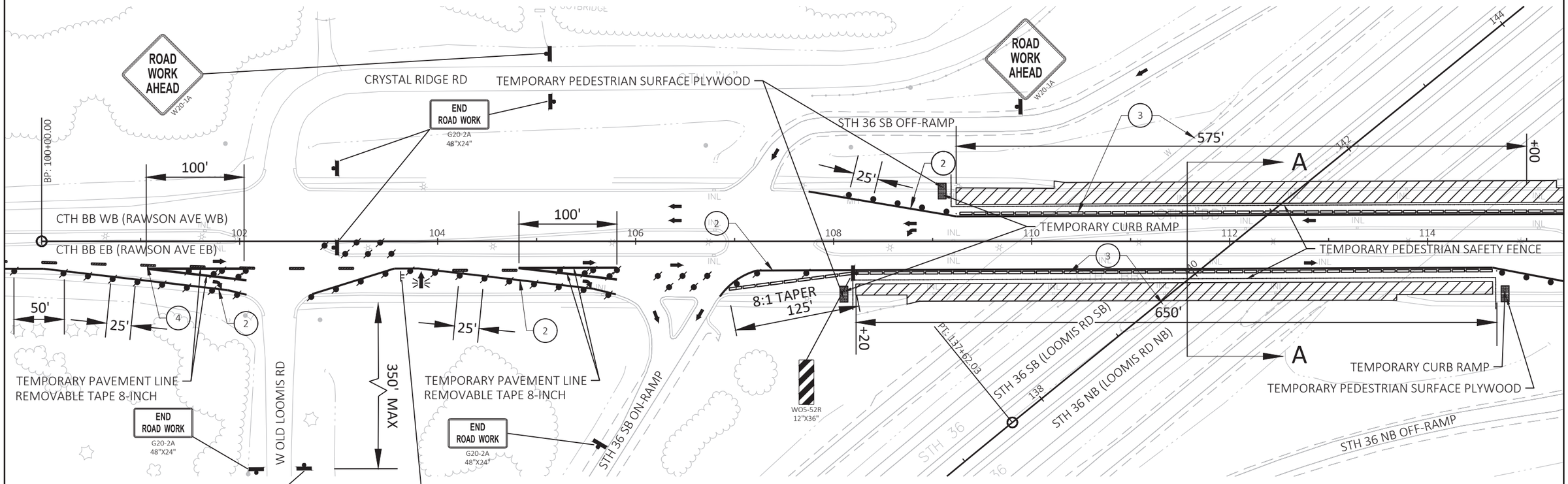
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S1B_B40-392.DWG
LAYOUT NAME - B40-392 S1B Sheet 1
PLOT DATE : 4/9/2019 2:52 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT



SECTION A-A
STAGE 1B

N

2



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 1B	SHEET 83	E

2

N

WO1-6
48"X24"

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

STH 36 (LOOMIS RD)

WO5-52R
12"X36"

TEMPORARY PEDESTRIAN SURFACE PLYWOOD

TEMPORARY CURB RAMP

62.5'

+62.5'

125'

50'

8:1 TAPER

350' MAX

EP: 125+83.52

CANOPY

FILLER CAPS

SIGN

MH

INL

CTH BB WB (RAWSON AVE WB)

116 118 120 122 124

CTH BB EB (RAWSON AVE EB)

25'

STH 36 NB OFF-RAMP

350' MAX

END ROAD WORK
G20-2A
48"X24"

CTH U

350' MAX

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

ROAD WORK AHEAD
W20-1A

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

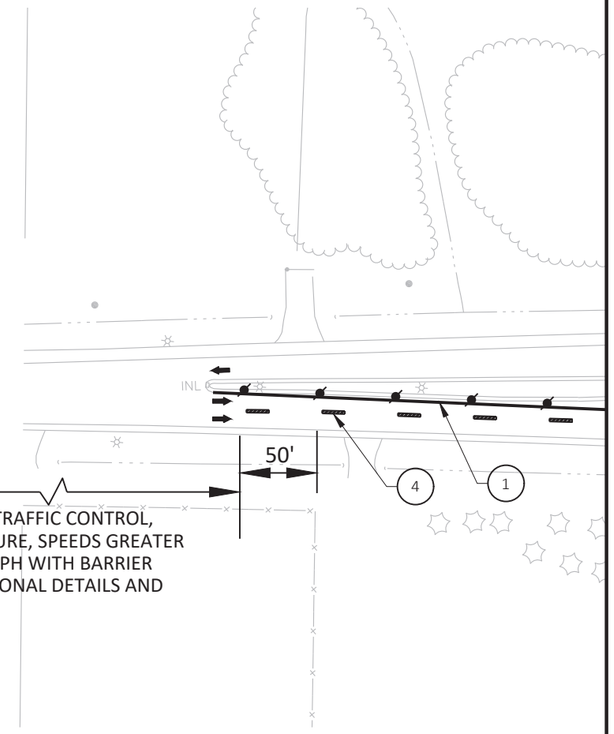
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 1B	SHEET 84	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S1B_B40-392.DWG
LAYOUT NAME - B40-392 S1B Sheet 3
PLOT DATE : 4/9/2019 2:52 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

N



SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2L = 2
DRUMS = 15
ARROW BOARDS = 1

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

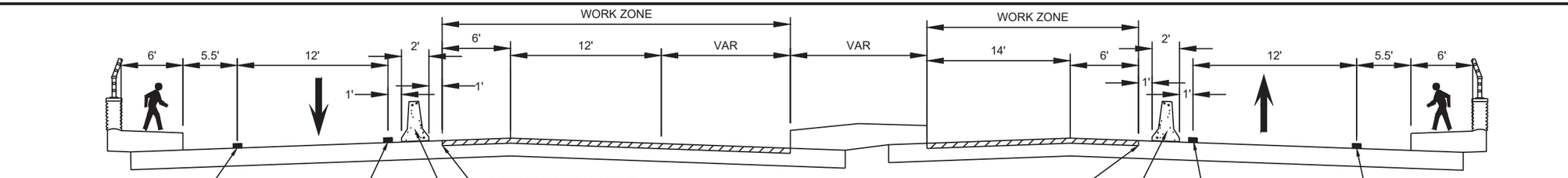
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

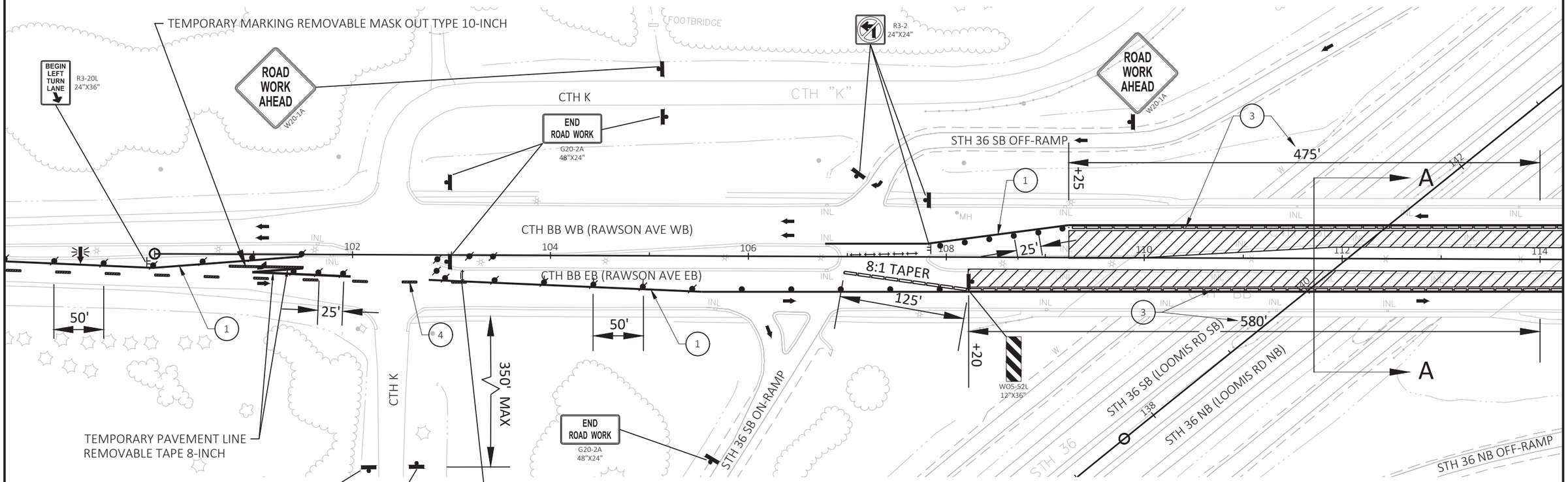
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 2	SHEET 85	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S2_B40-392.DWG
LAYOUT NAME - B40-392 S2 Sheet 1
PLOT DATE : 4/9/2019 2:53 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



SECTION A-A
STAGE 2



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 2	SHEET 86	E

2

2 SIGNS: MOUNT ON BOTH SIDES OF BARRICADE

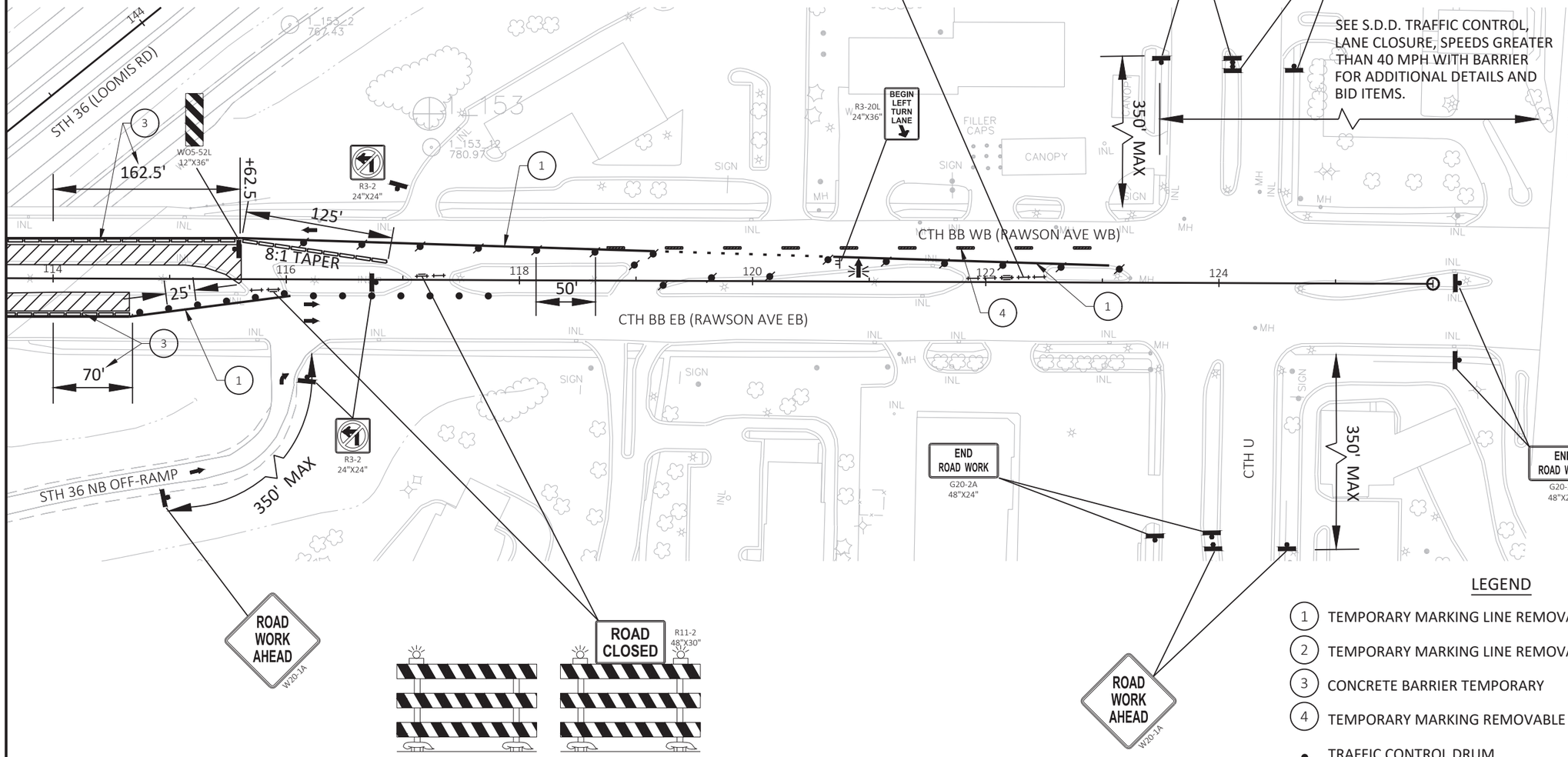
ROAD CLOSED
R11-2
48"X30"

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2L = 2
DRUMS = 15
ARROW BOARDS = 1



ROAD WORK AHEAD
W20-1A

ROAD CLOSED
R11-2
48"X30"

END ROAD WORK
G20-2A
48"X24"

ROAD WORK AHEAD
W20-1A

END ROAD WORK
G20-2A
48"X24"

LEGEND

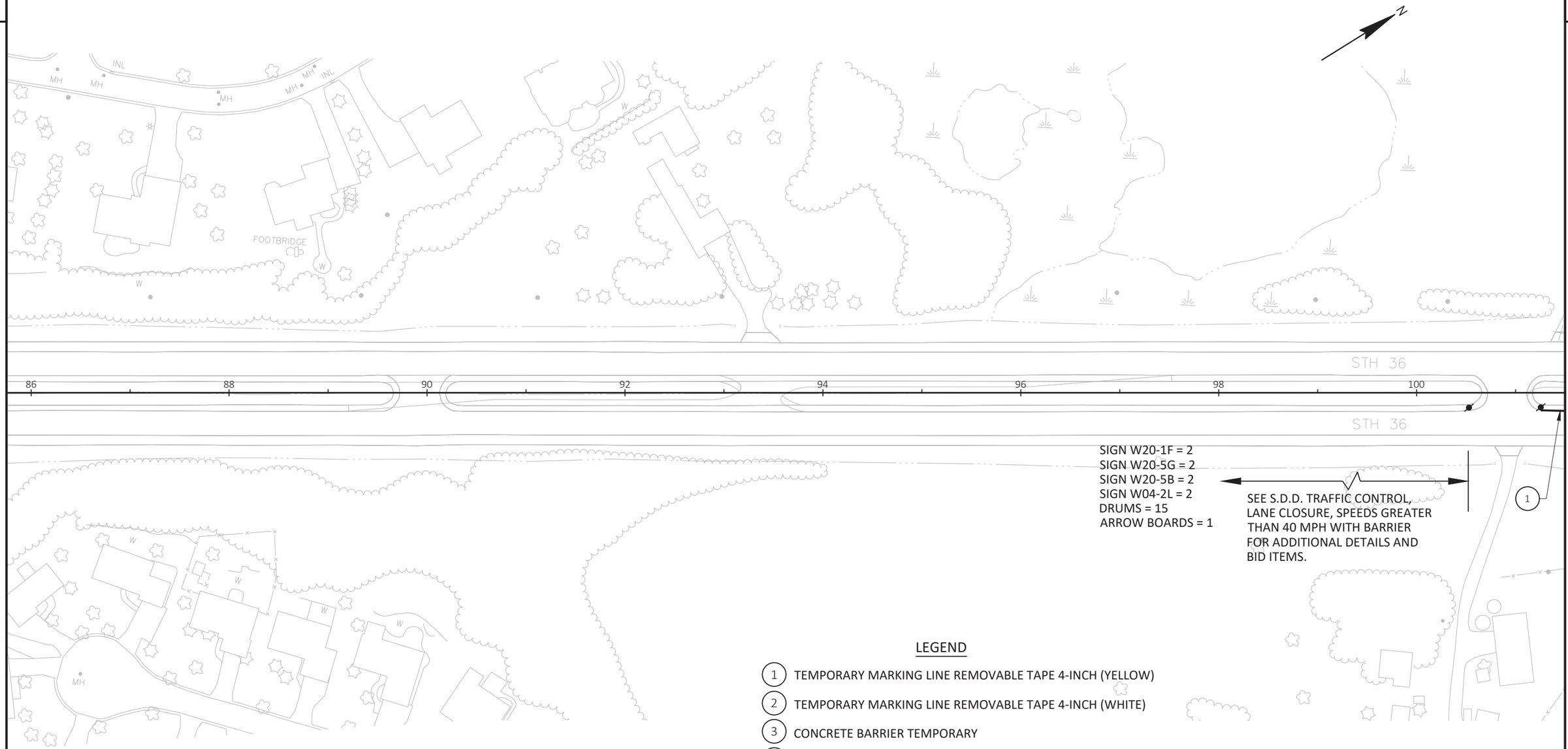
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 2	SHEET 87	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026001_S2_B40-392.DWG
LAYOUT NAME - B40-392 S2 Sheet 3
PLOT DATE : 4/9/2019 2:53 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL - B40-392 & 644 STAGE 3	SHEET 88	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026301_S3_B40-392.DWG
LAYOUT NAME - B40-392 S3 Sheet 1
PLOT DATE : 4/9/2019 2:54 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

+25

+55

+85

102

104

106

108

110

112

114

116

SIGN

SIGN

SIGN

SIGN

POOL

W

1

4

2

*

1

R11-2L
48"X30"

LANE
CLOSED

LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

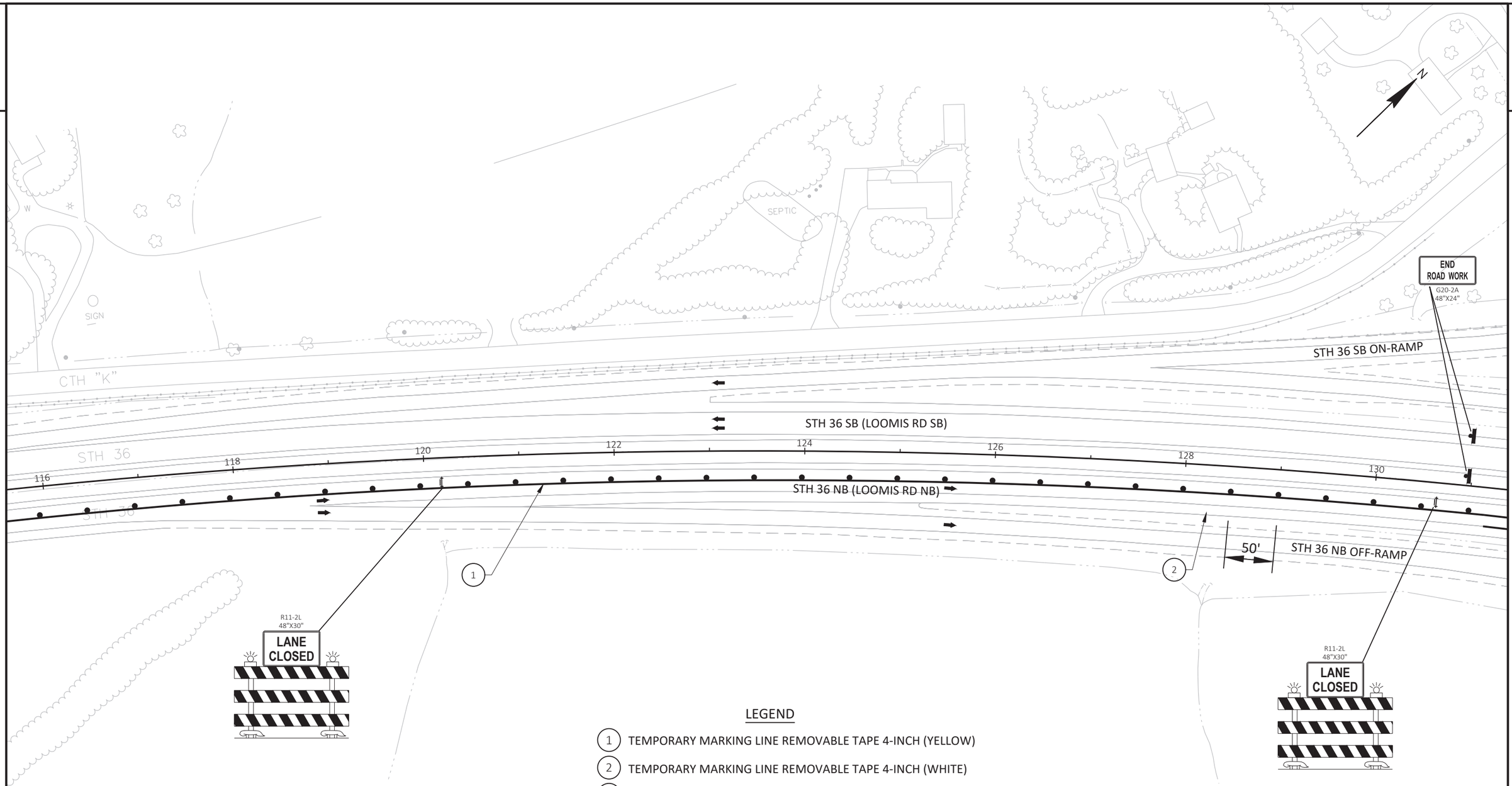
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL - B-40-392 & 644 STAGE 3	SHEET 89	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026301_S3_B40-392.DWG
LAYOUT NAME - B40-392 S3 Sheet 2

PLOT DATE : 4/9/2019 2:54 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

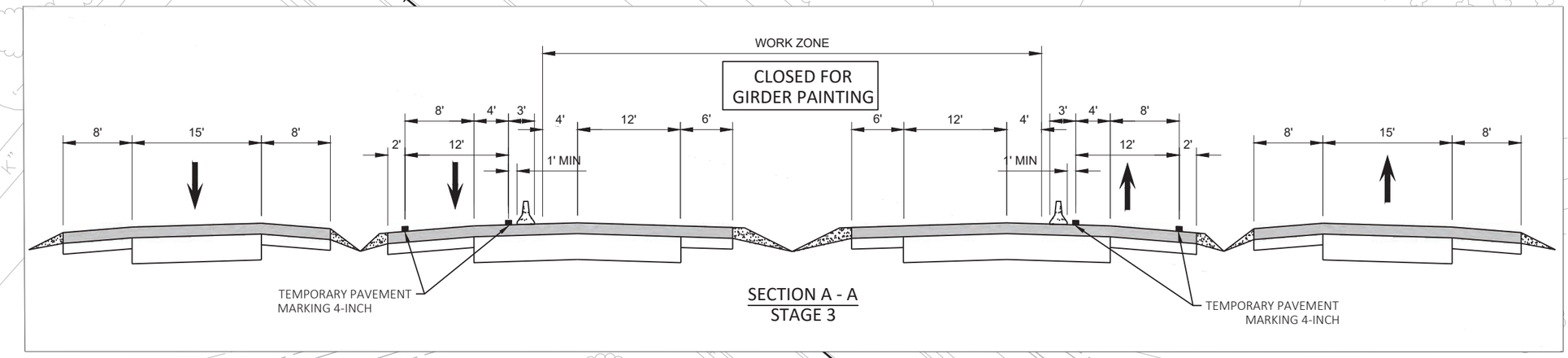


LEGEND

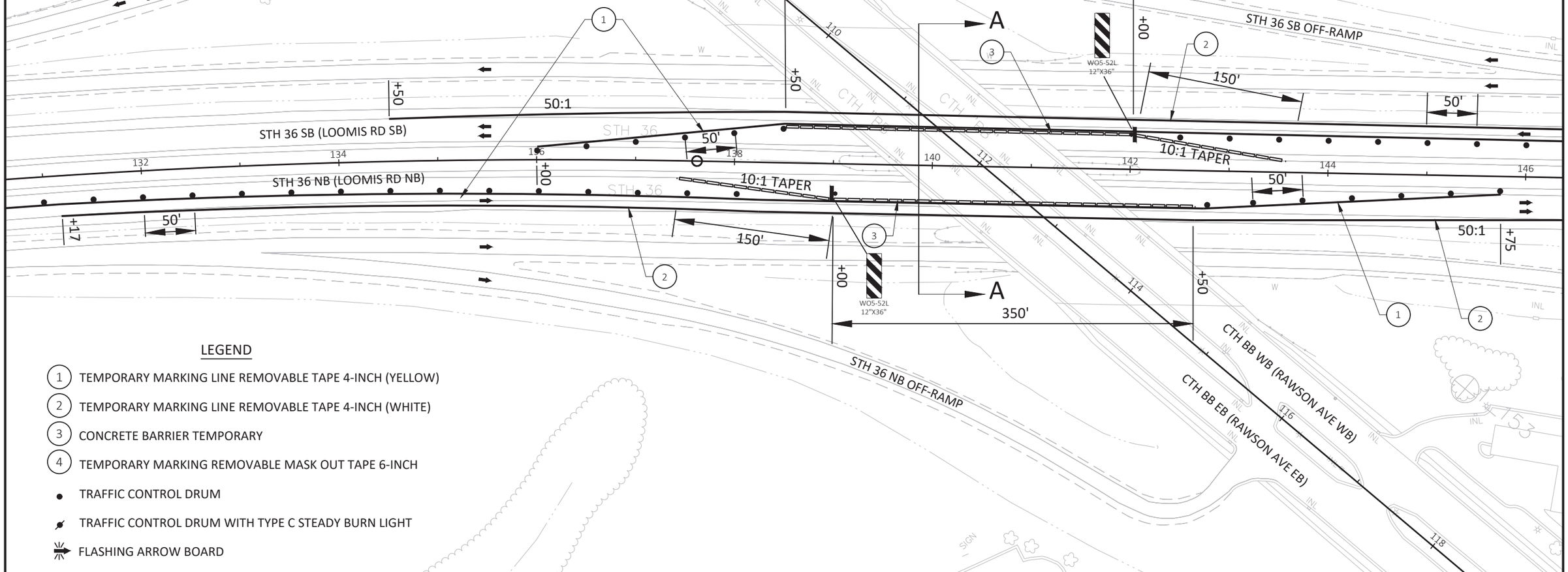
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 3	SHEET 90	E



SECTION A - A
STAGE 3



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 3	SHEET 91	E

2

R11-2L
48"X30"
LANE CLOSED

STH 36 SB ON-RAMP

STH 36 SB OFF-RAMP

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2L = 2
DRUMS = 15
ARROW BOARDS = 1

+00

+25

+84

+00

50'

STH 36 SB (LOOMIS RD SB)

146 148 150 152 154 156 158 160

STH 36

STH 36 NB (LOOMIS RD NB)

+50

END ROAD WORK
G20-2A
48"X24"

END ROAD WORK
G20-2A
48"X24"

STH 36 NB OFF-RAMP

CTH U EB

CTH U WB

STH 36 NB ON-RAMP

SIGN

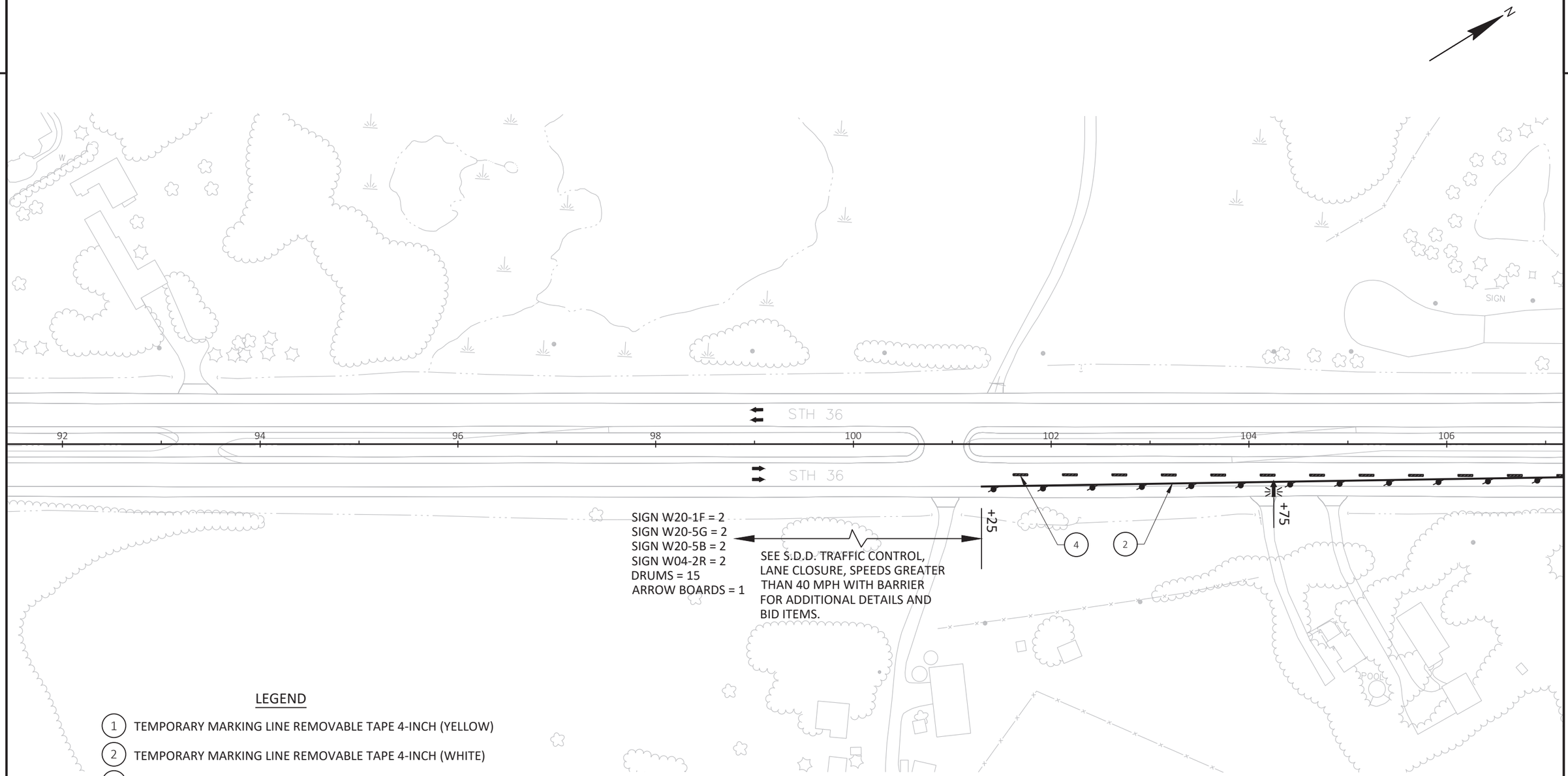
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 3	SHEET 92	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026301_S3_B40-392.DWG
LAYOUT NAME - B40-392 S3 Sheet 5
PLOT DATE : 4/9/2019 2:54 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL : B-40-392 & 644 STAGE 4	SHEET 93	E

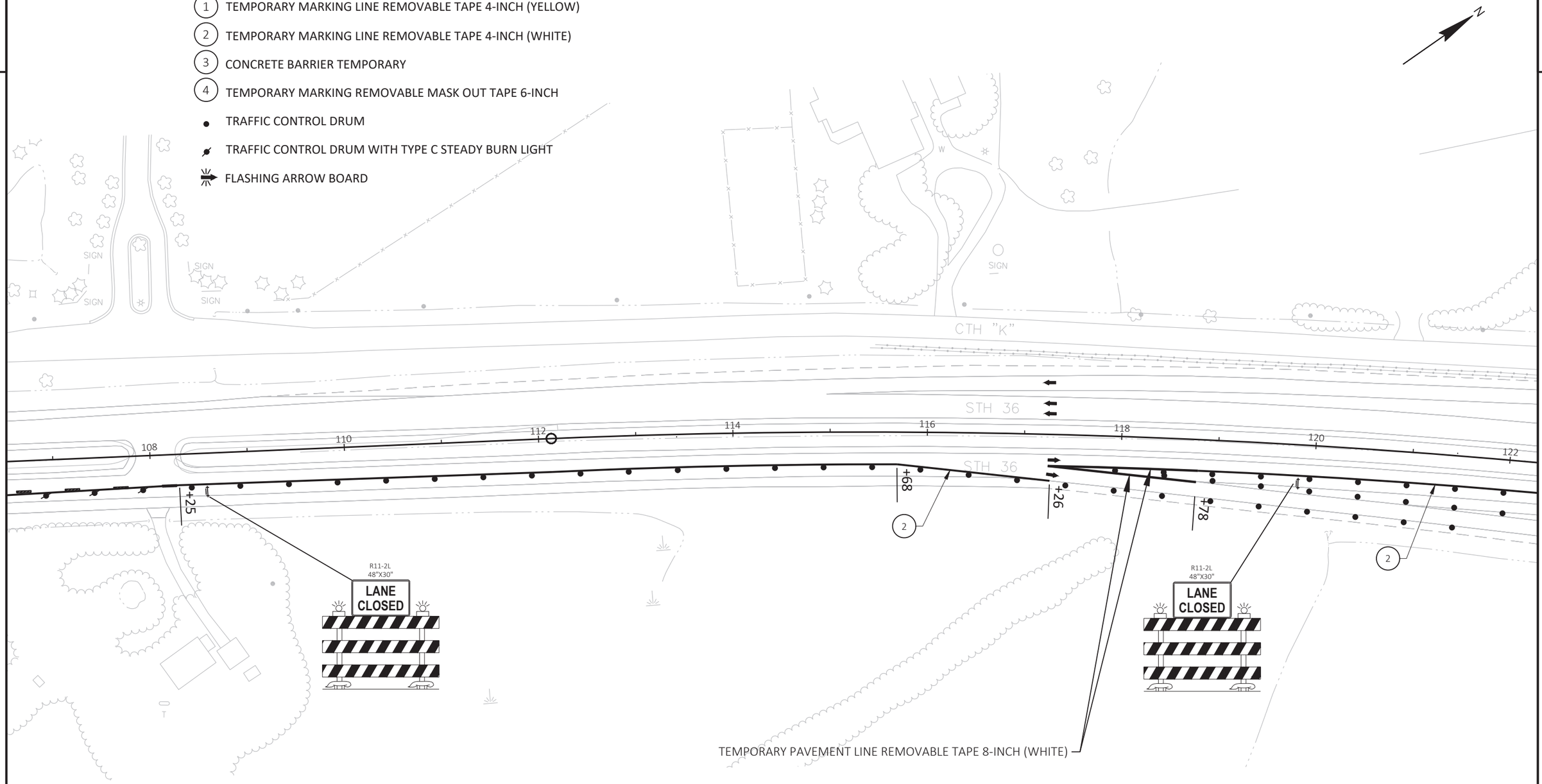
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026401_S4_B40-392.DWG
LAYOUT NAME - B40-392 S4 Sheet 1
PLOT DATE : 4/9/2019 2:55 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

LEGEND

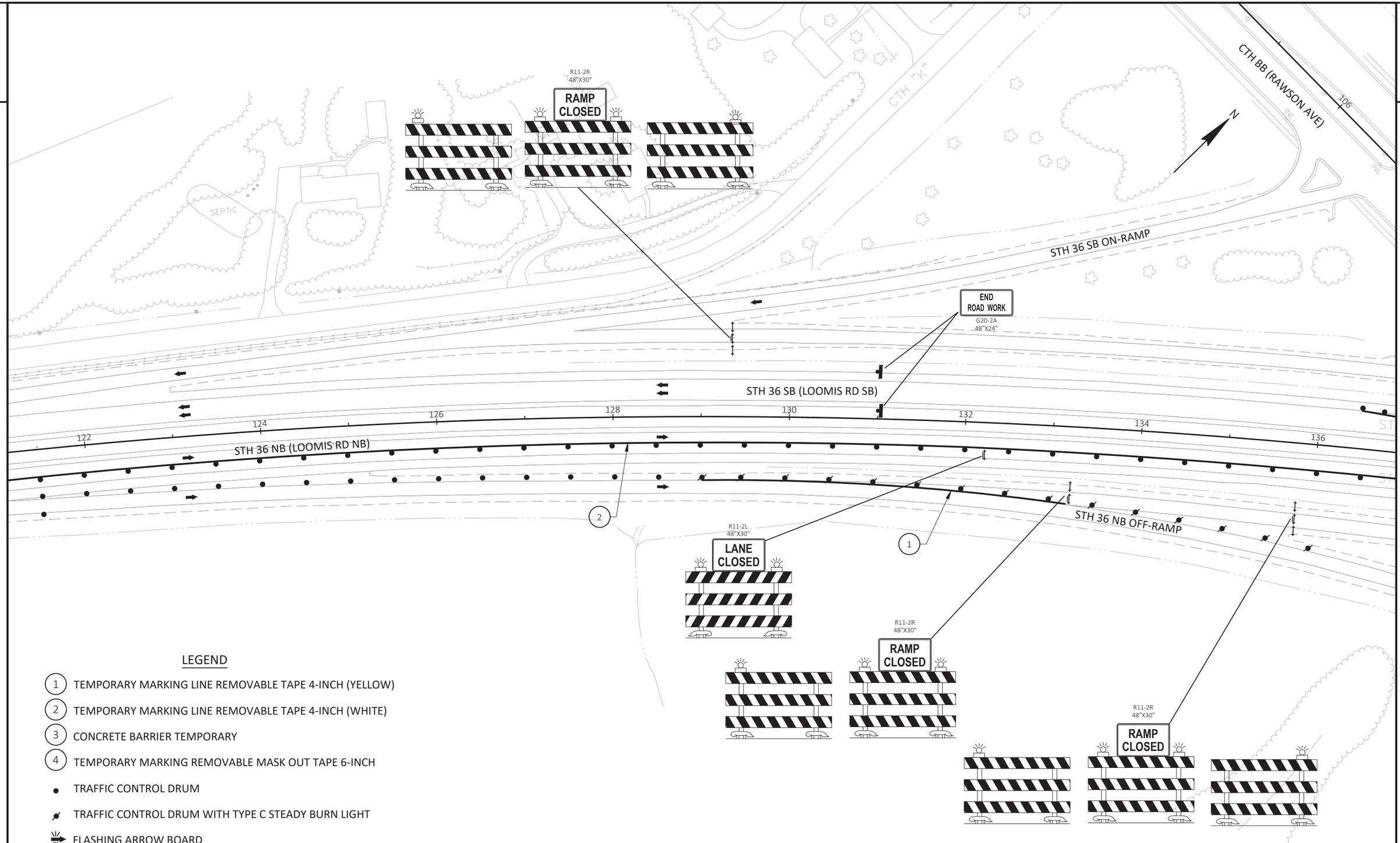
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD



PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL : B-40-392 & 644 STAGE 4	SHEET 94	E

2



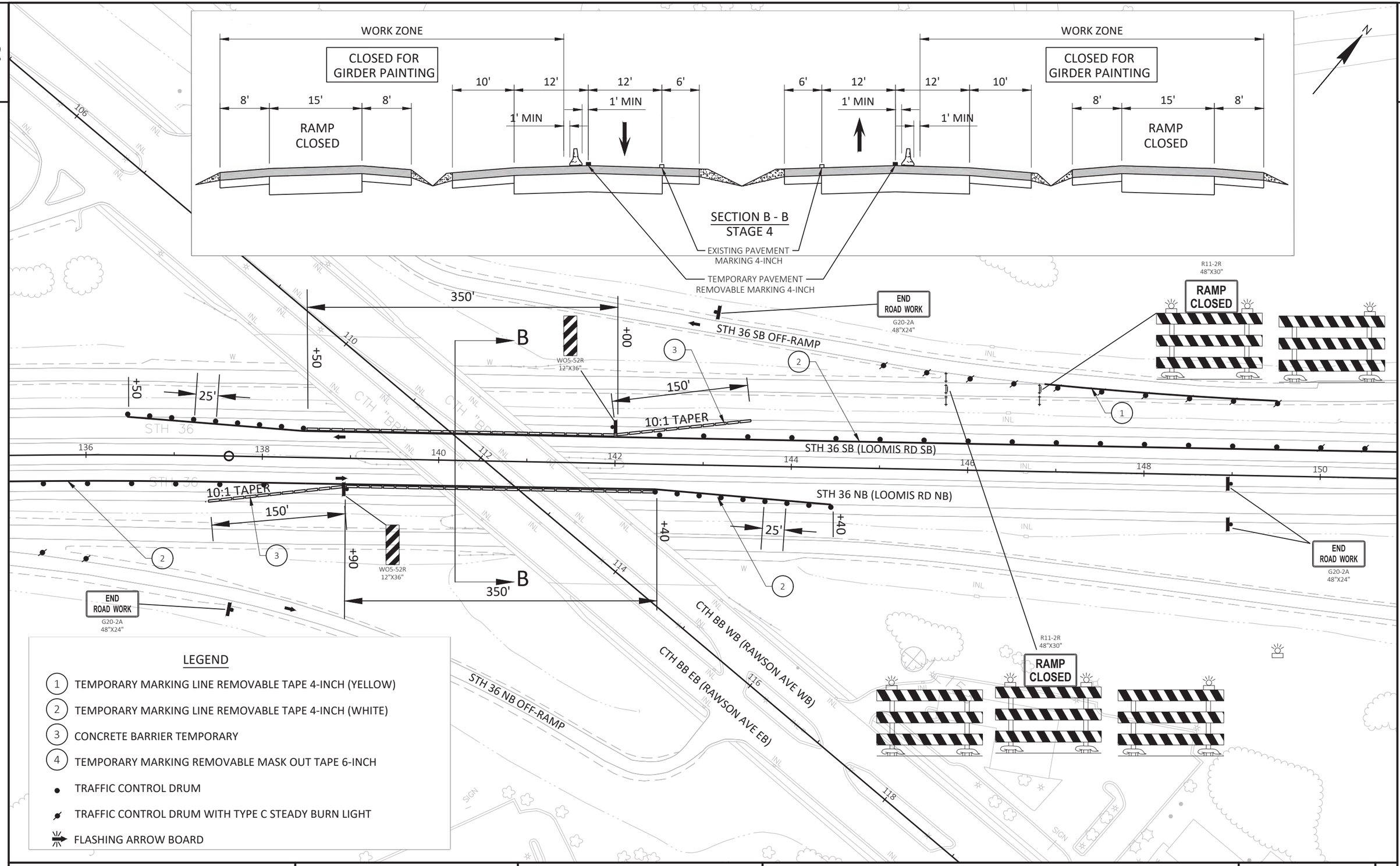
LEGEND

- (1) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- (2) TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- (3) CONCRETE BARRIER TEMPORARY
- (4) TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 4	SHEET 95	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026401_S4_B40-392.DWG
LAYOUT NAME - B40-392 S4 Sheet 3
PLOT DATE : 4/9/2019 2:55 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

SECTION B - B
STAGE 4



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 4	SHEET 96	E

2

R11-2L
48"X30"
LANE CLOSED

STH 36 SB ON-RAMP

STH 36 SB OFF-RAMP

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1

STH 36 SB (LOOMIS RD SB)

150 152 154 156 158 160 162 164

STH 36

STH 36 NB (LOOMIS RD NB)

R11-2R
48"X30"
RAMP CLOSED

CTH U EB

CTH U WB

STH 36 NB OFF-RAMP

STH 36 NB ON-RAMP

END ROAD WORK
G20-2A
48"X24"

R11-2R
48"X30"
RAMP CLOSED

LEGEND

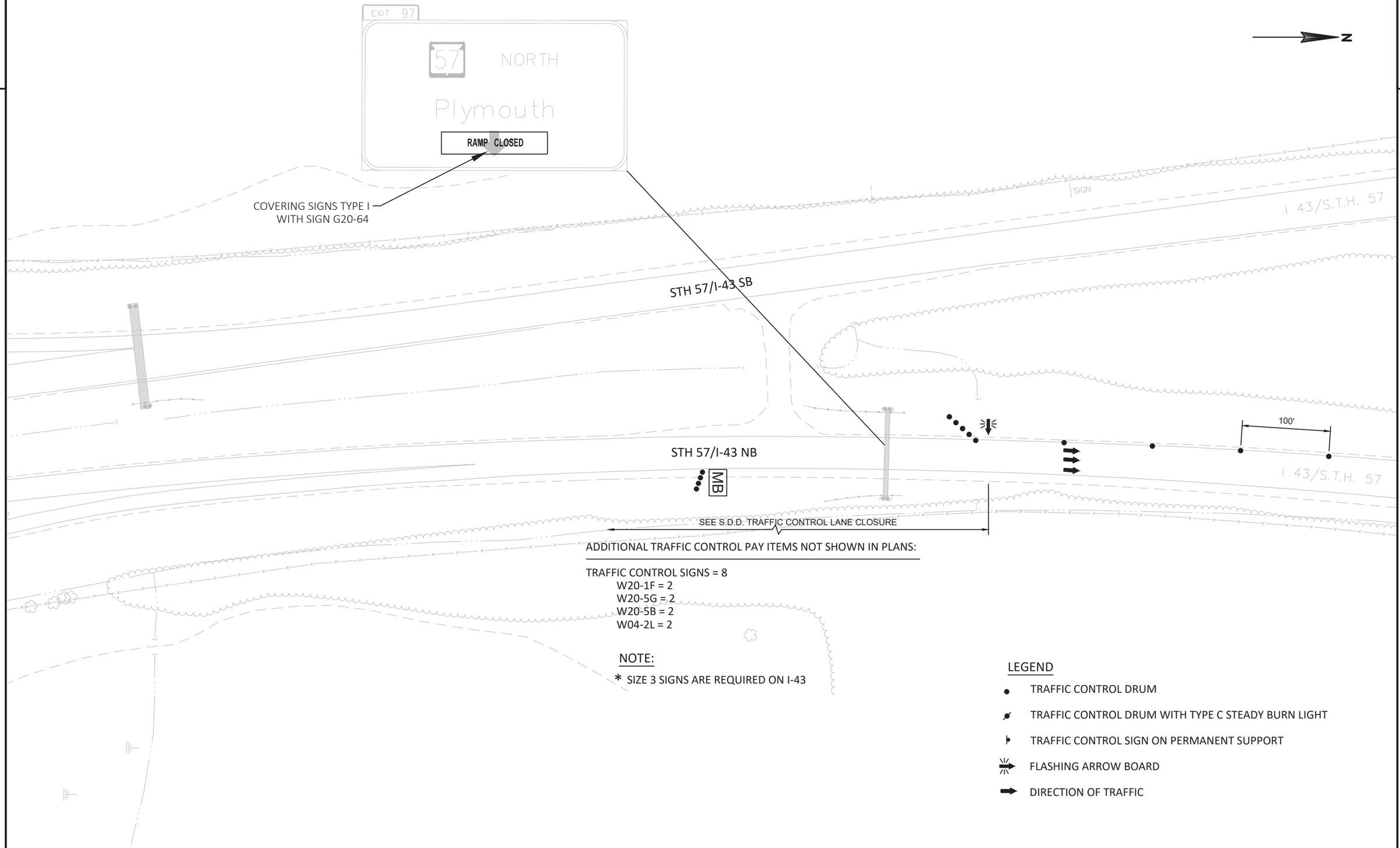
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	TRAFFIC CONTROL: B-40-392 & 644 STAGE 4	SHEET	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\026401_S4_B40-392.DWG
LAYOUT NAME - B40-392 S4 Sheet 5

PLOT DATE : 4/9/2019 2:56 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2



ADDITIONAL TRAFFIC CONTROL PAY ITEMS NOT SHOWN IN PLANS:

TRAFFIC CONTROL SIGNS = 8
- W20-1F = 2
- W20-5G = 2
- W20-5B = 2
- W04-2L = 2

NOTE:

* SIZE 3 SIGNS ARE REQUIRED ON I-43

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL - STH 57 NB CLOSURE	SHEET 98	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\026001_TC.DWG
LAYOUT NAME - B45-39 STH 57 Sheet 1
PLOT DATE : 4/9/2019 2:57 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

2

N

STH 57/I-43 SB

SIGN

SIGN

100'

STH 57/I-43 NB

550'

ONE WEEKEND CLOSURE ONLY
TEMPORARY MARKING NOT REQD

50'

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL - STH 57 NB CLOSURE	SHEET 99	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\026001_TC.DWG
LAYOUT NAME - B45-39 STH 57 Sheet 2

PLOT DATE : 4/9/2019 2:57 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

STH 57 SB

S.T.H. 57

I 43

I-43 SB

N

2

EXIT 97

57 NORTH

Plymouth

RAMP CLOSED

RAMP CLOSED

COVERING SIGNS TYPE I
WITH SIGN G20-64

R11-2
48"X30"
ROAD CLOSED

R11-2R
48"X30"
RAMP CLOSED

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC

RAMP WILL
BE CLOSED
TEXT LINE 1
TEXT LINE 2
TEXT LINE 3
R11-51
48"X48"

50'

100'

STH 57 NB

S.T.H. 57

I-43 NB

I 43

SIGN

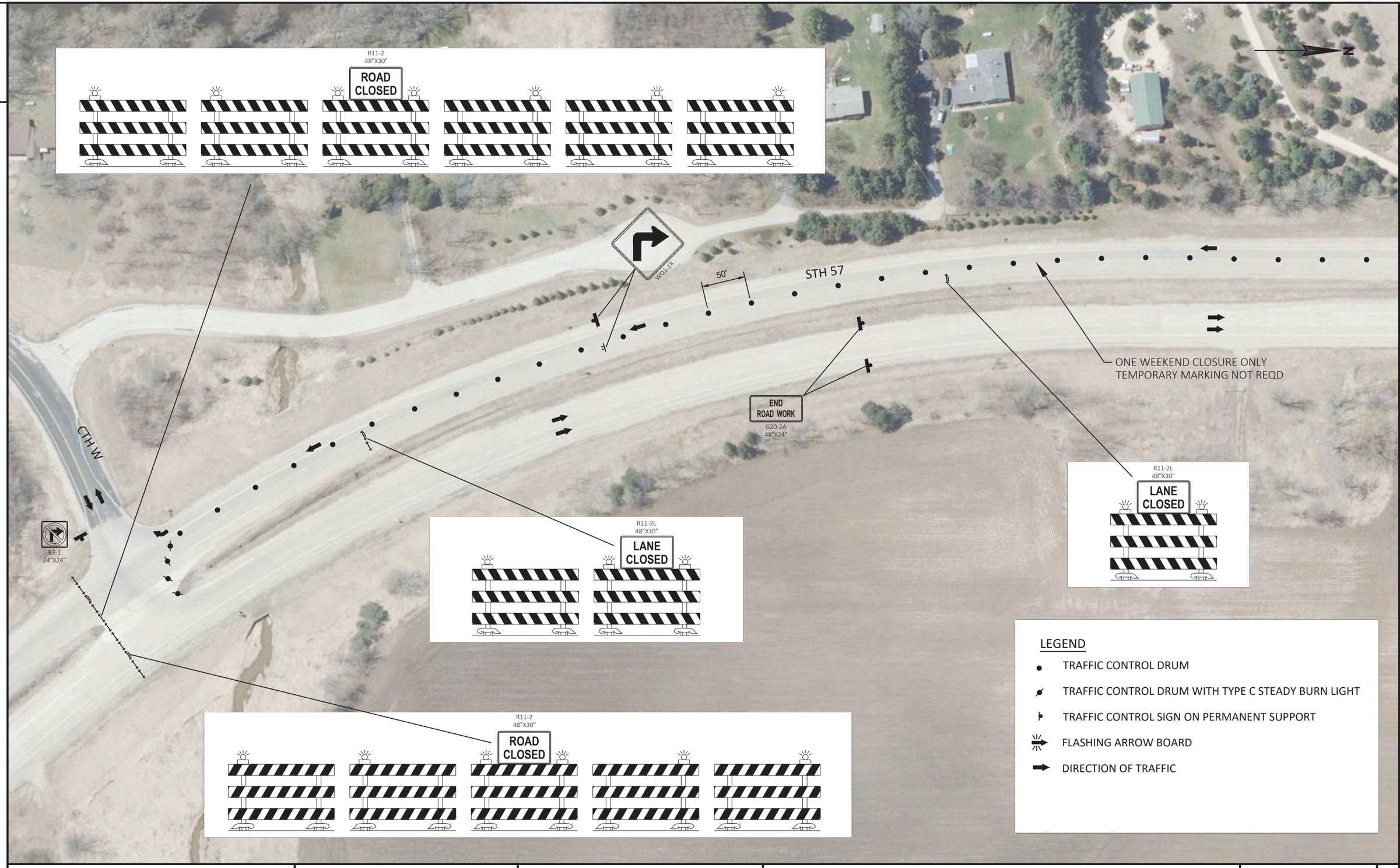
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL - STH 57 NB CLOSURE	SHEET 100	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\026001_TC.DWG
LAYOUT NAME - B45-39 STH 57 Sheet 3

PLOT DATE : 4/9/2019 2:58 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL - STH 57 SB CLOSURE	SHEET 101	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\026001_TC.DWG
LAYOUT NAME - B45-39 STH 57 Sheet 4

PLOT DATE : 4/9/2019 2:58 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

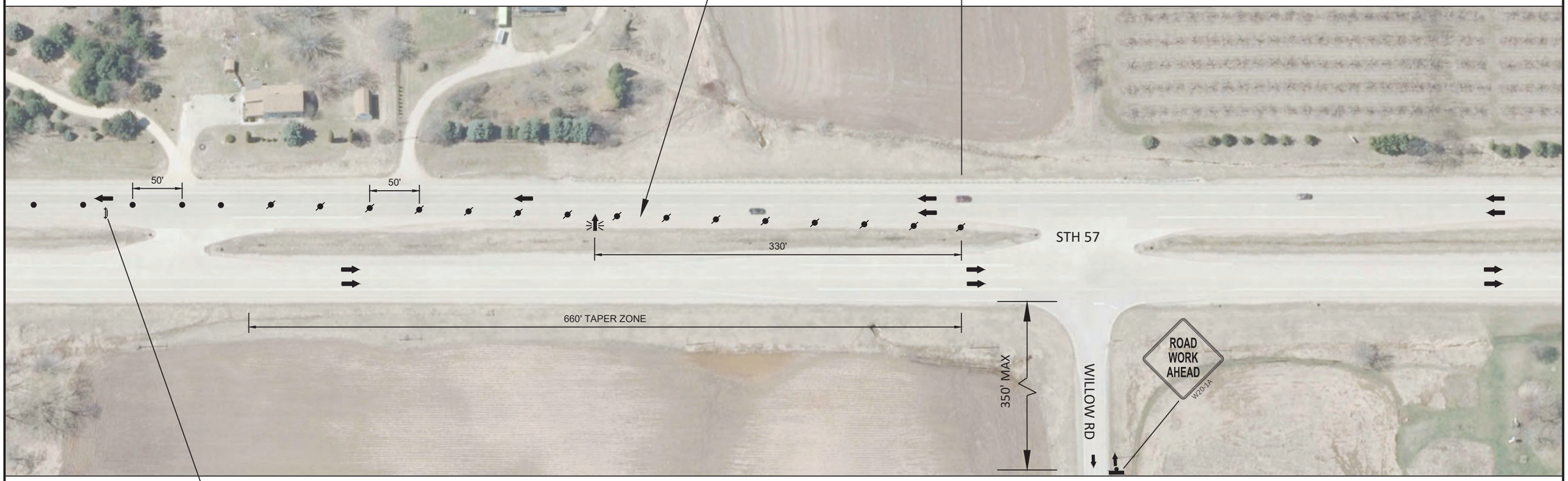
N

SEE S.D.D. TRAFFIC CONTROL LANE CLOSURE

ADDITIONAL TRAFFIC CONTROL PAY ITEMS NOT SHOWN IN PLANS:

TRAFFIC CONTROL DRUMS = 15+4 = 19
TRAFFIC CONTROL ARROW BOARD = 1
TRAFFIC CONTROL SIGNS = 8
- W201F = 2
- W20-5G = 2
- W20-5B = 2
- W04-2L = 2

TRAFFIC CONTROL SIGNS PCMS = 1



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- TRAFFIC CONTROL SIGN ON PERMANENT SUPPORT
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL - STH 57 SB CLOSURE	SHEET 102	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\026001_TC.DWG
LAYOUT NAME - B45-39 STH 57 Sheet 5
PLOT DATE : 4/9/2019 2:58 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2

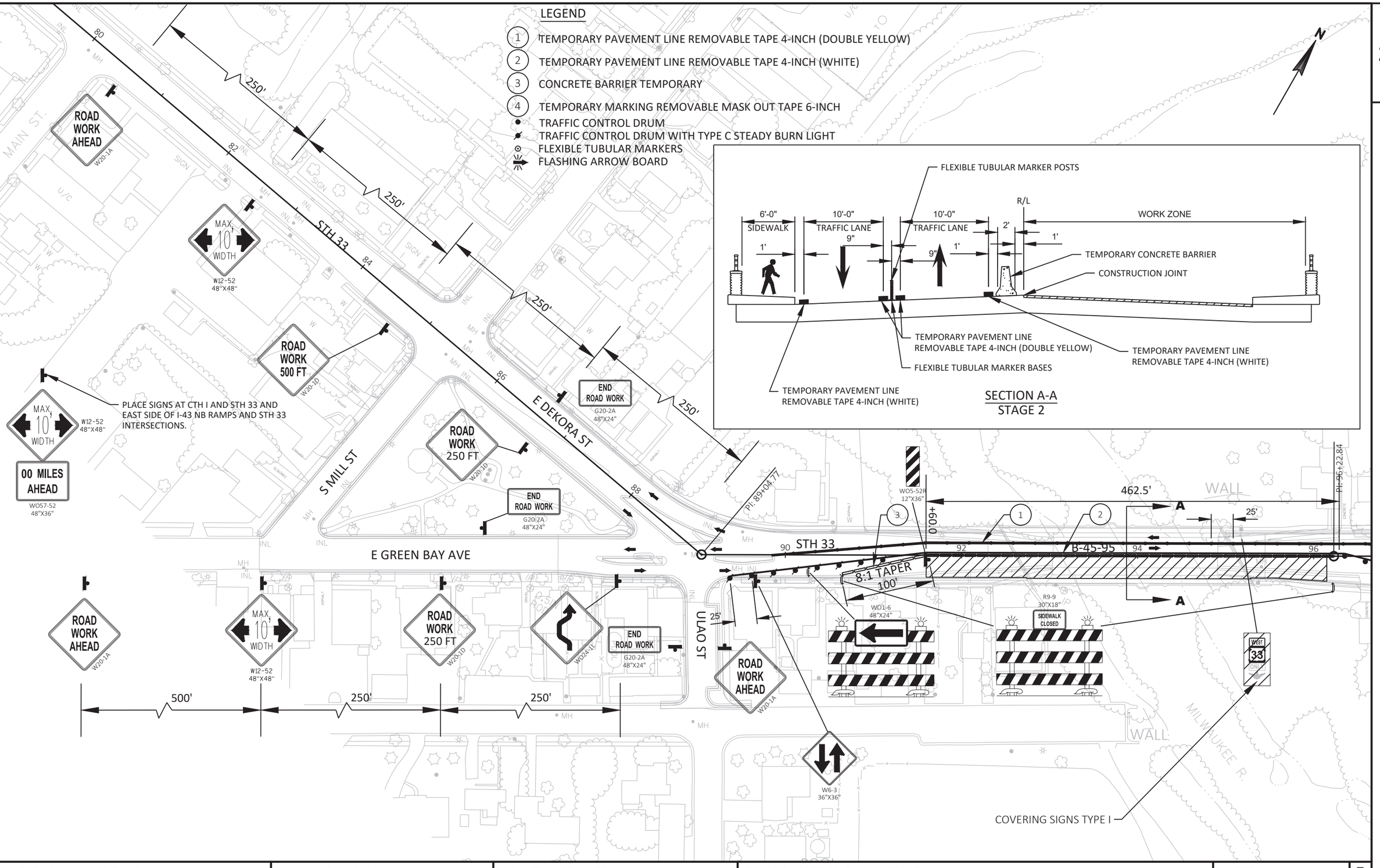
2

LEGEND

1. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
2. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
FLEXIBLE TUBULAR MARKERS
FLASHING ARROW BOARD

SECTION A-A
STAGE 2



PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL: B-45-95 STAGE 1	SHEET 103	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\026001_S1_B45-95.DWG
LAYOUT NAME - B45-95 S1 Sheet 1

PLOT DATE : 4/9/2019 2:58 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42

2

LEGEND

1. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
2. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLEXIBLE TUBULAR MARKERS
- FLASHING ARROW BOARD

ROAD WORK AHEAD W20-1A

END ROAD WORK G20-2A 48"X24"

350' MAX

W1-6 48"X24"

W6-3 36"X36"

RIVERSIDE DR

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (3' LINE, 9' GAP YELLOW)

R11-2L 48"X30" LANE CLOSED

W01-4R

PI: 96+22.84

PI: 104+59.49

EP: 107+00.00

200' 400' 250' 250'

W04-2R

RIGHT LANE CLOSED AHEAD W20-5A

MAX. 10' WIDTH W12-52 48"X48"

ROAD WORK AHEAD W20-1A

25'

96 98 100 102 104 106

STH 33

S.T.H. 33

OPEN TO CONTRACTOR TO ACCESS WORK SITE

350' MAX

ROAD WORK AHEAD W20-1A

END ROAD WORK G20-2A 48"X24"

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL: B-45-95 STAGE 1	SHEET 104 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\026001_S1_B45-95.DWG
LAYOUT NAME - B45-95 S1 Sheet 2

PLOT DATE : 4/9/2019 2:58 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

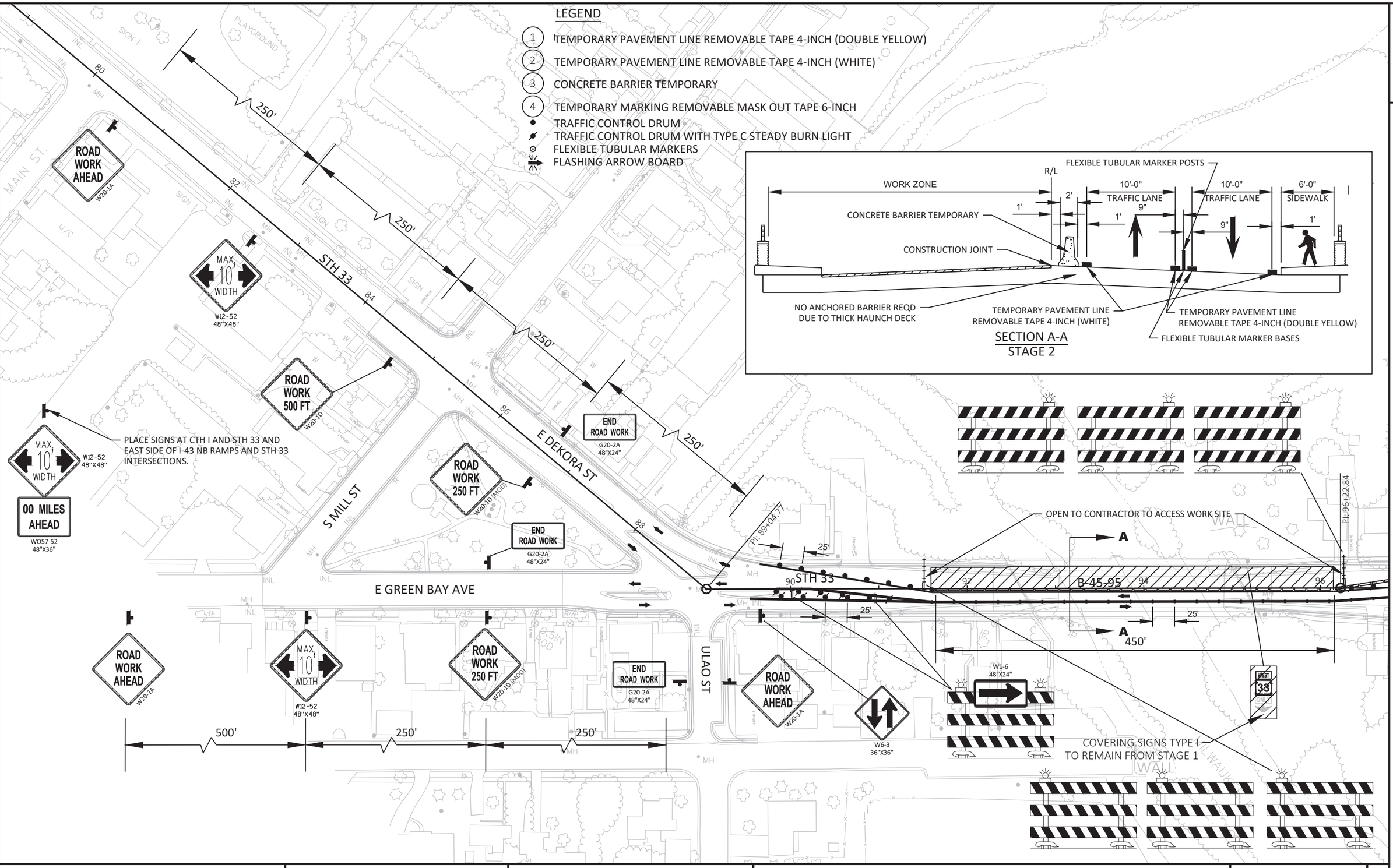
2

LEGEND

1. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
2. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

TRAFFIC CONTROL DRUM
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
FLEXIBLE TUBULAR MARKERS
FLASHING ARROW BOARD

SECTION A-A
STAGE 2



PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL: B-45-95 STAGE 2	SHEET 105	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\026101_S2_B45-95.DWG
LAYOUT NAME - B45-95 S2 Sheet 1

PLOT DATE : 4/9/2019 2:59 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

LEGEND

1. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)
2. TEMPORARY PAVEMENT LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLEXIBLE TUBULAR MARKERS
- FLASHING ARROW BOARD

ROAD WORK AHEAD W20-1A

END ROAD WORK G20-2A 48"X24"

350' MAX

RIVERSIDE DR

R11-2L 48"X30" LANE CLOSED

W05-52R 12"X36"

PI: 96+22.84

W6-3 36"X36"

OPEN TO LOCAL ACCESS AND CONTRACTOR ONLY

100'

10'

25'

8:1 TAPER

+15.0

W01-6 48"X24"

W02-4L

PI: 104+59.49

200' 400' 250' 250'

EP: 107+00.00

W04-2R

RIGHT LANE CLOSED AHEAD W20-5A

MAX. 10' WIDTH W12-52 48"X48"

ROAD WORK AHEAD W20-1A

96 98 100 102 104 106

STH 33

S.T.H. 33

END ROAD WORK G20-2A 48"X24"

350' MAX

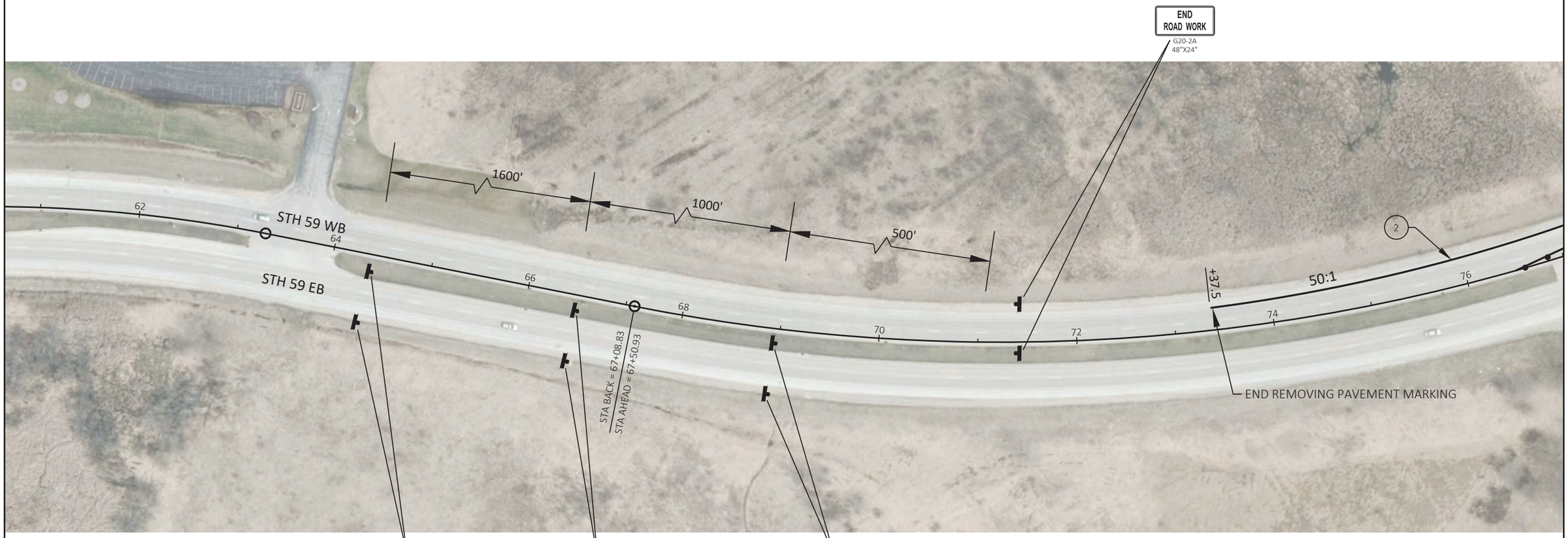
END ROAD WORK G20-2A 48"X24"

ROAD WORK AHEAD W20-1A

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TRAFFIC CONTROL: B-45-95 STAGE 2	SHEET 106	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\026101_S2_B45-95.DWG
LAYOUT NAME - B45-95 S2 Sheet 2
PLOT DATE : 4/9/2019 2:59 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

2



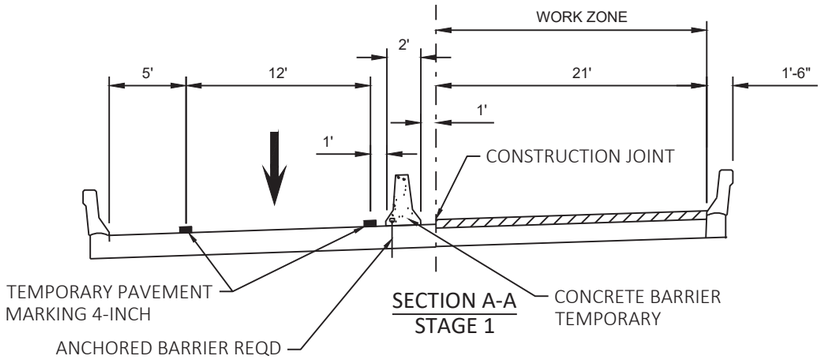
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

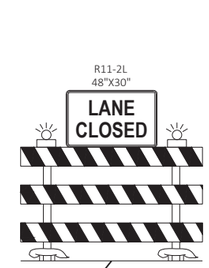
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

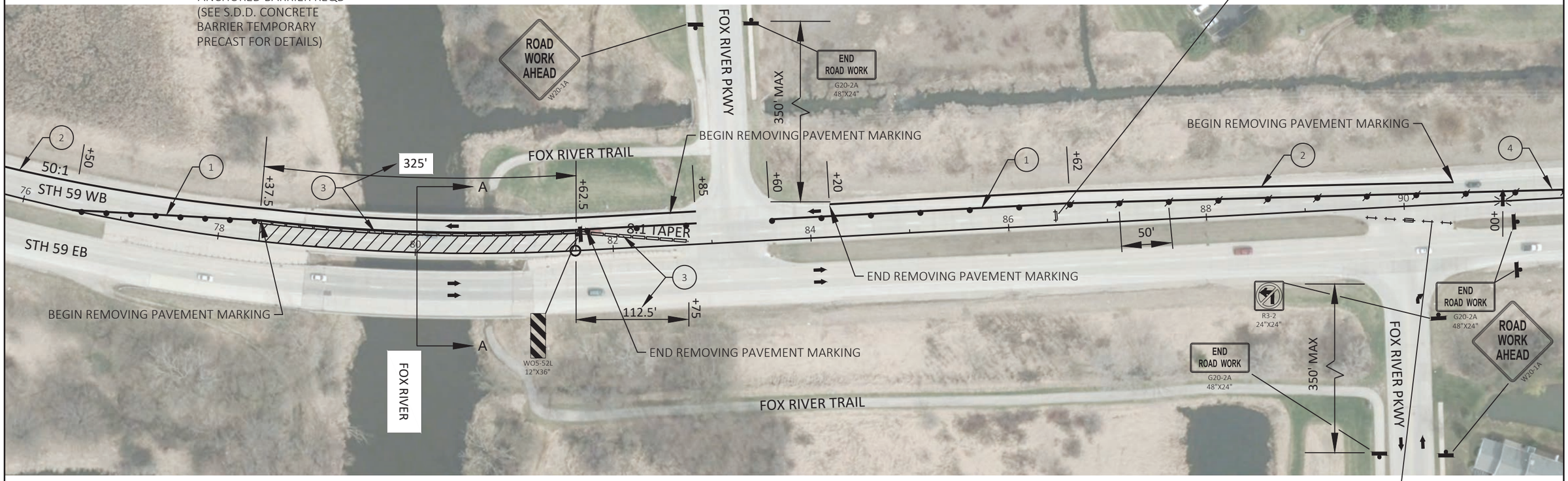
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 1	SHEET 107	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-230_STH 59\026001_S1_B67-230.DWG
LAYOUT NAME - B67-230 S1 Sheet 1
PLOT DATE : 4/9/2019 2:59 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42



SECTION A-A
STAGE 1

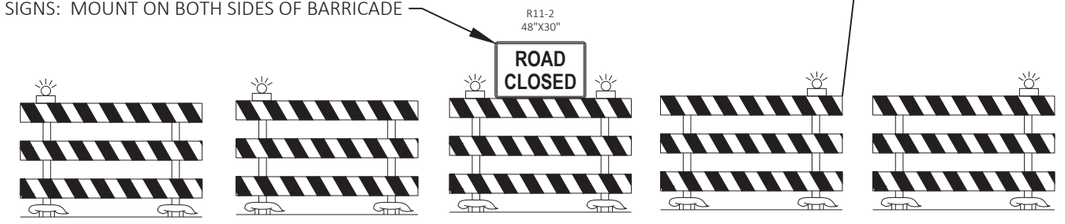




LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

2 SIGNS: MOUNT ON BOTH SIDES OF BARRICADE



PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 1	SHEET 108	E

2

2

N

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2L = 2
DRUMS = 15
ARROW BOARDS = 1

END MASK OUT TAPE 6-INCH

ROAD WORK AHEAD
W20-1A

CTH XX

END ROAD WORK
G20-2A
48"X24"

350' MAX

09+

BEGIN MASK OUT TAPE 6-INCH

1

4

92 94 96 98 100 102 104 106

STH 59 WB

50'

STH 59 EB

END ROAD WORK
G20-2A
48"X24"

350' MAX

ROAD WORK AHEAD
W20-1A

R11-2L
48"X30"
LANE CLOSED

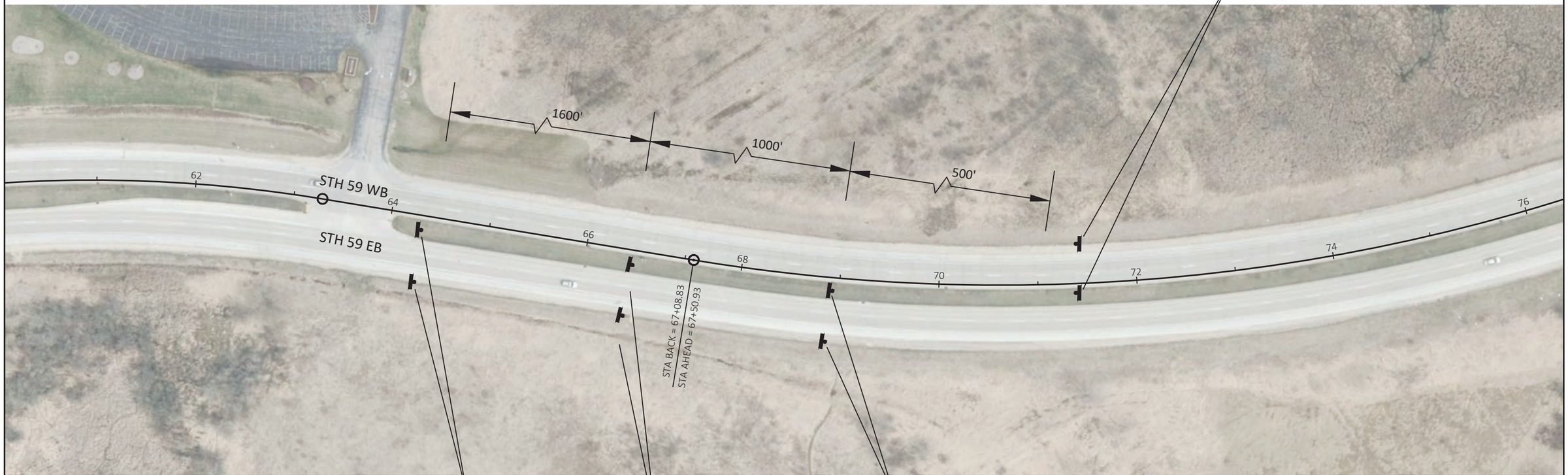
LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 1	SHEET 109	E

2



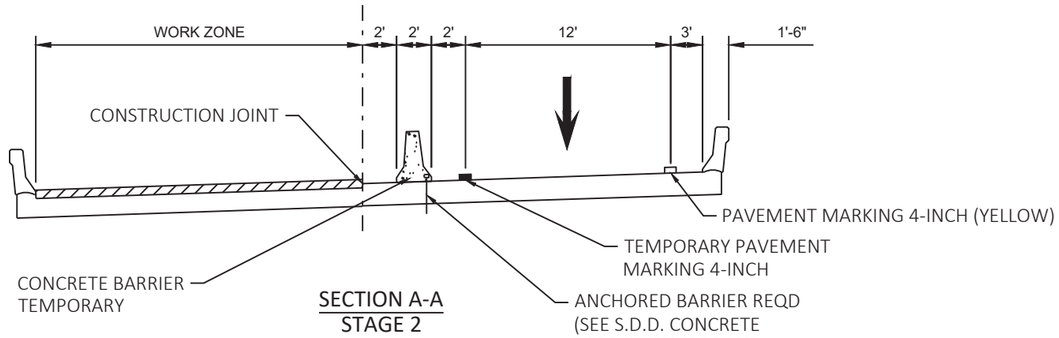
LEGEND

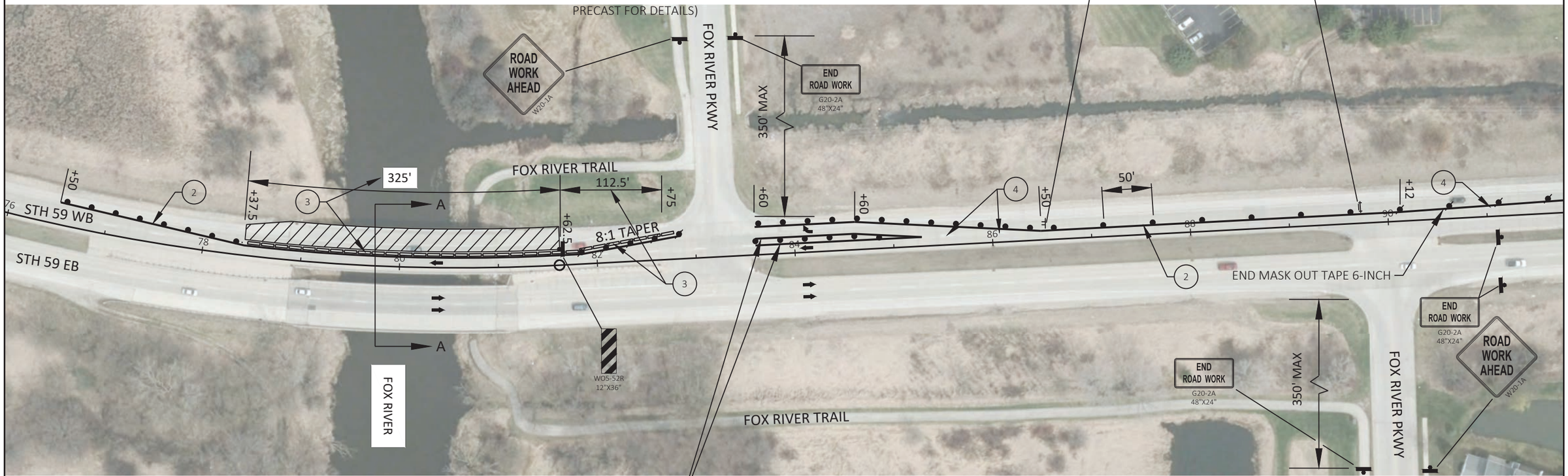
1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 2	SHEET 110	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-230_STH 59\026101_S2_B67-230.DWG
LAYOUT NAME - B67-230 S2 Sheet 1
PLOT DATE : 4/9/2019 3:00 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42





LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

TEMPORARY PAVEMENT LINE REMOVABLE TAPE 8-INCH

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 2	SHEET 111	E

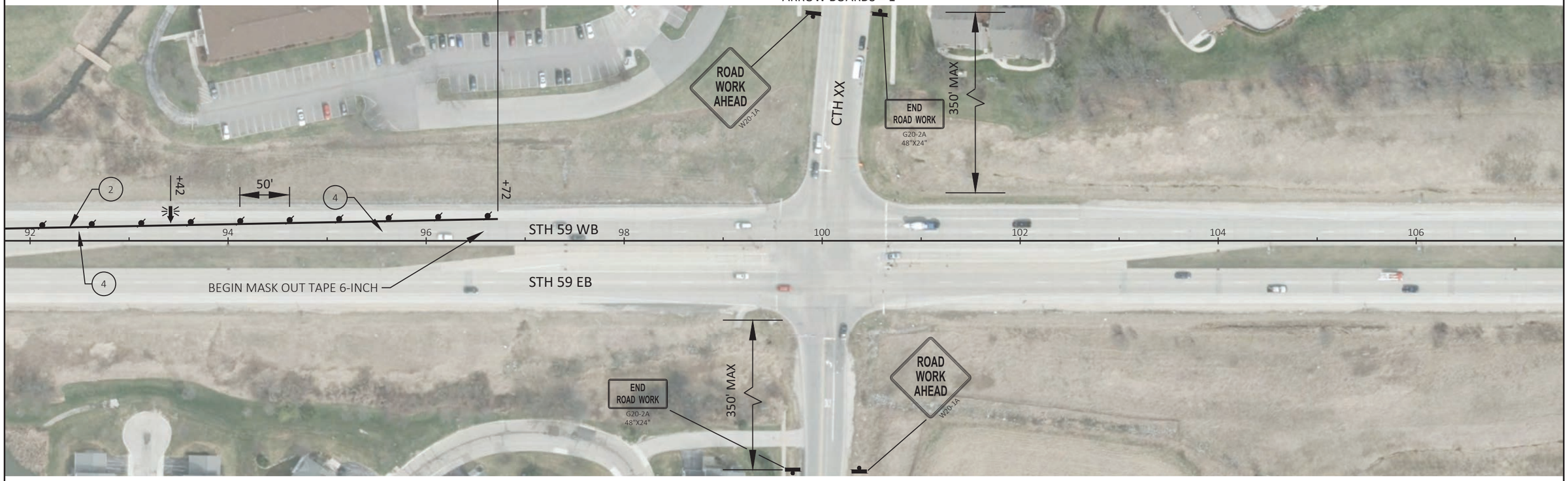
2

2

N

SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER FOR ADDITIONAL DETAILS AND BID ITEMS.

SIGN W20-1F = 2
SIGN W20-5G = 2
SIGN W20-5B = 2
SIGN W04-2R = 2
DRUMS = 15
ARROW BOARDS = 1



LEGEND

1. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
2. TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
3. CONCRETE BARRIER TEMPORARY
4. TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH

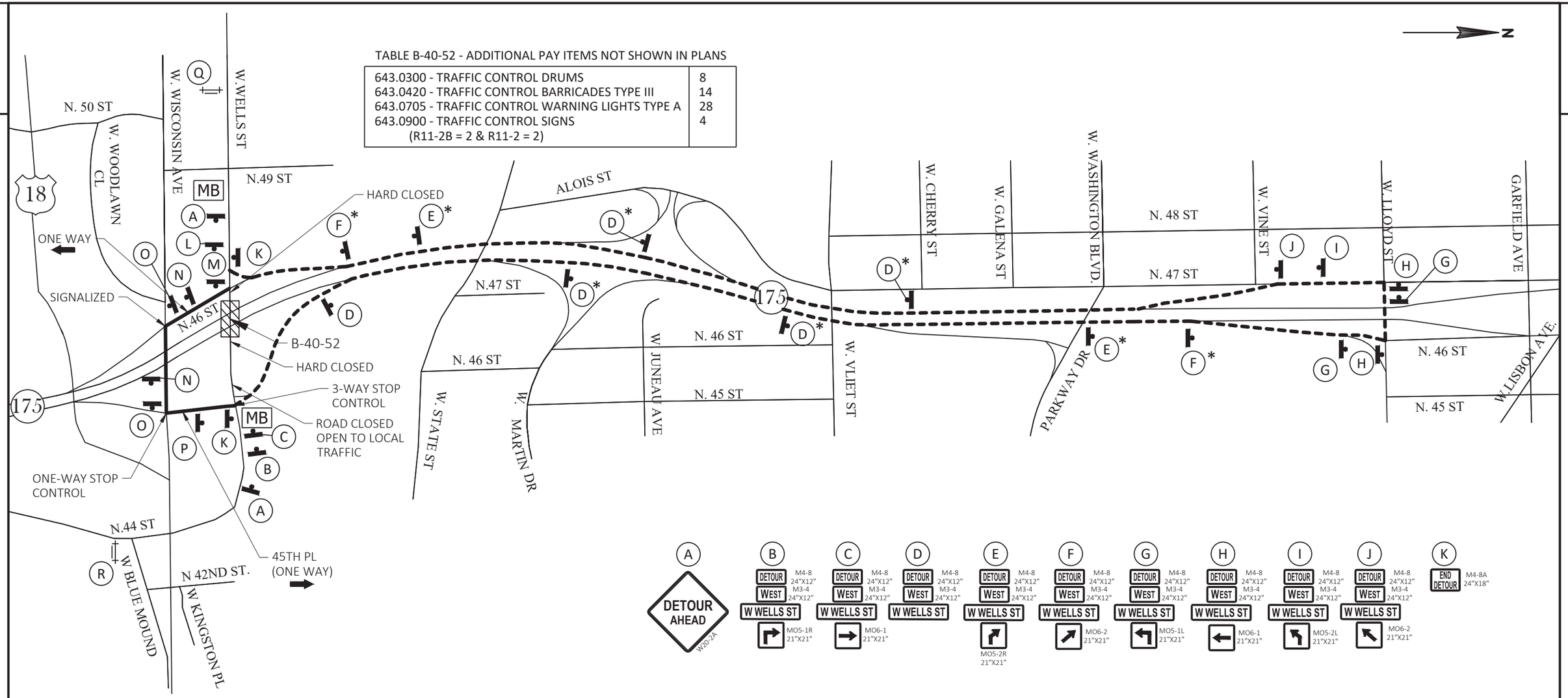
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD

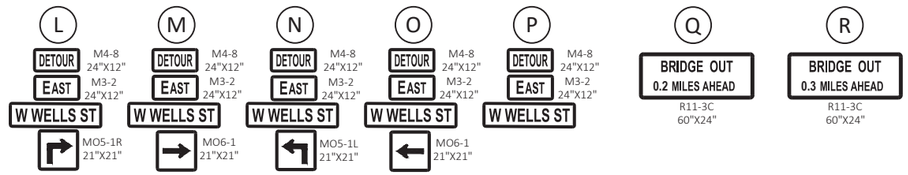
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TRAFFIC CONTROL: B-67-230 STAGE 2	SHEET 112	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-230_STH 59\026101_S2_B67-230.DWG
LAYOUT NAME - B67-230 S2 Sheet 3
PLOT DATE : 4/9/2019 3:00 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

TABLE B-40-52 - ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS

643.0300 - TRAFFIC CONTROL DRUMS	8
643.0420 - TRAFFIC CONTROL BARRICADES TYPE III	14
643.0705 - TRAFFIC CONTROL WARNING LIGHTS TYPE A	28
643.0900 - TRAFFIC CONTROL SIGNS (R11-2B = 2 & R11-2 = 2)	4





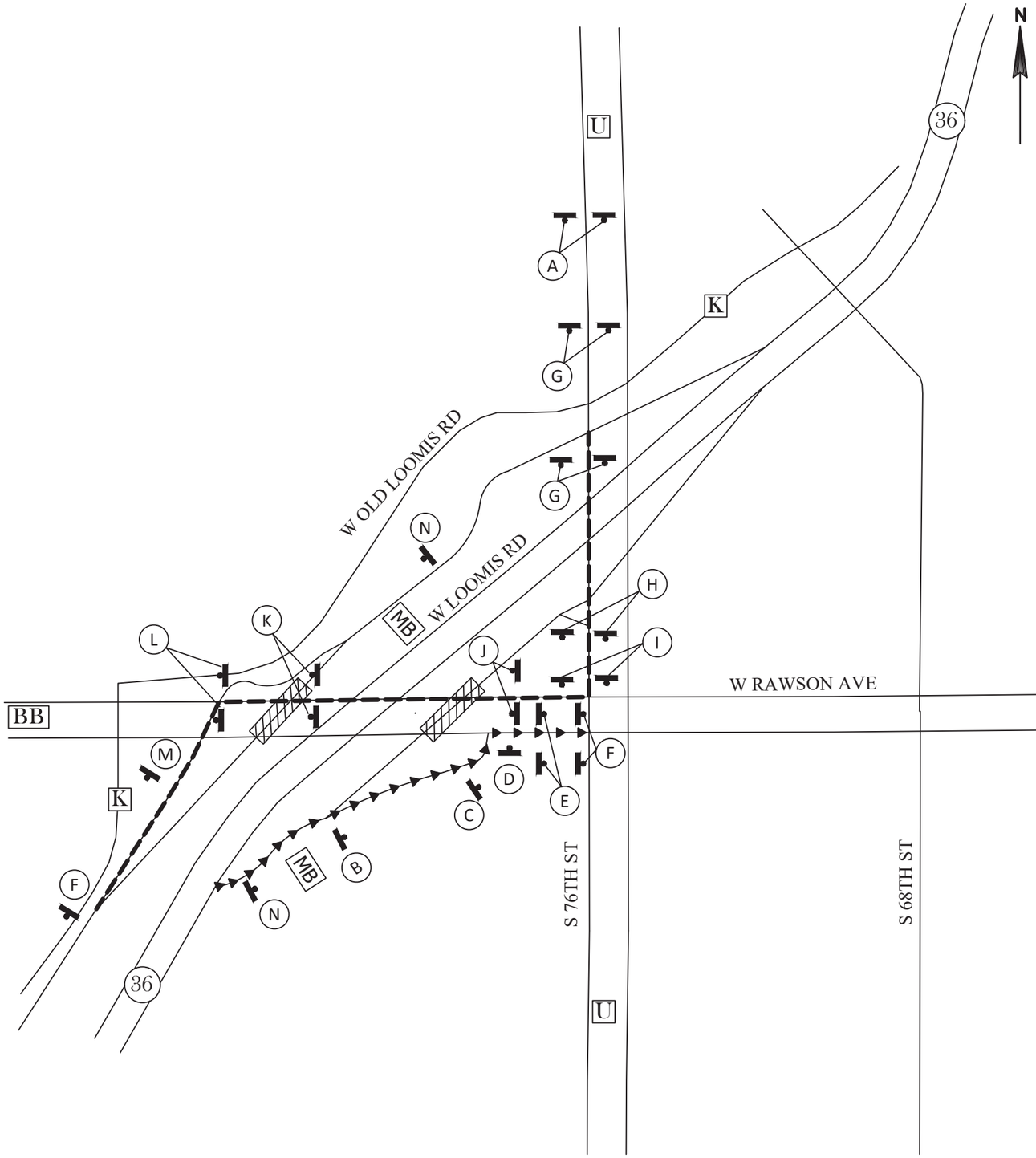
LEGEND

- TRAFFIC CONTROL SIGN
- W WELLS ST EB DETOUR ROUTE
- W WELLS ST WB DETOUR ROUTE
- WORK ZONE
- MB PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

NOTE:

* SIZE 3 SIGNS ARE REQUIRED ON FREEWAY

PROJECT NO: 1000-51-72	HWY: VARIOUS BRIDGES	COUNTY: MILWAUKEE	DETOUR - W WELLS ST (B-40-52)	SHEET 113	E



A
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
DETOUR AHEAD W20-2A

B
TO M4-5 24"X12"
S 76TH ST
MO6-2 21"X21"

C
TO M4-5 24"X12"
S 76TH ST
MO5-1R 21"X21"

D
TO M4-5 24"X12"
S 76TH ST
MO6-1 21"X21"

E
TO M4-5 24"X12"
S 76TH ST
MO6-1 21"X21"

F
END DETOUR M4-8A 24"X18"

G
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
MO6-1 21"X21"

H
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
MO5-1R 21"X21"

I
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
MO6-1 21"X21"

J
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"

K
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
MO5-1L 21"X21"

L
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"
MO6-1 21"X21"

M
TO M4-5 24"X12"
SOUTH M3-3 24"X12"
36 M1-6 24"X24"

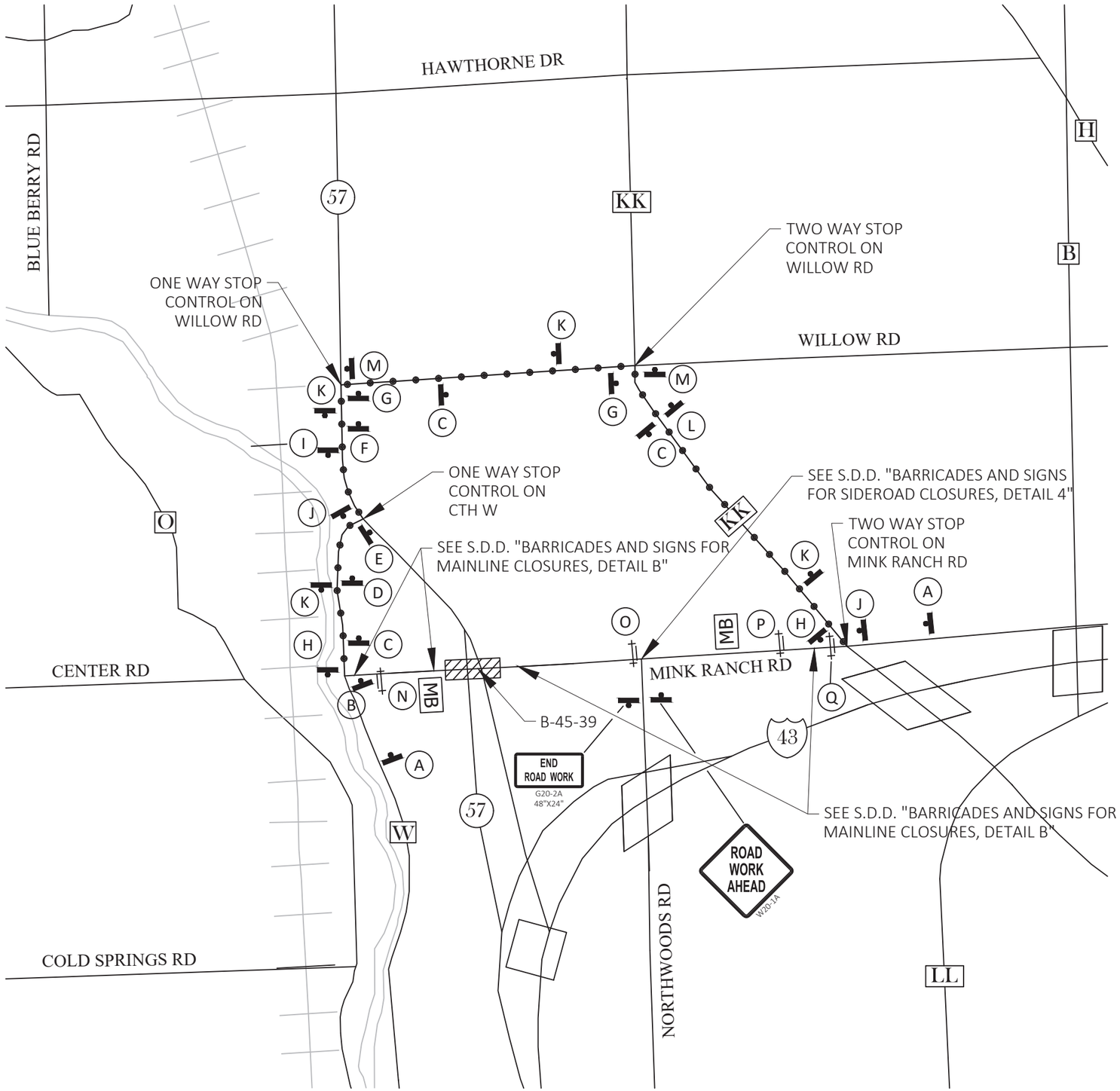
N
RAMP CLOSED AHEAD W20-53A

LEGEND

- TRAFFIC CONTROL SIGN
- DETOUR ROUTE - CTH U TO STH 36
- DETOUR ROUTE - STH 36 TO CTH U
- WORK ZONE - PAINTING GIRDERS
- MB PORTABLE CHANGEABLE MESSAGE SIGN

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: MILWAUKEE	DETOUR - STH 36/CTH U RAMPS (B-40-392 PAINTING)	SHEET 114 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-40-644 AND 392_CTH BB\027001_DT_B40-392.DWG
LAYOUT NAME - B-40-392 Detour
PLOT DATE : 4/9/2019 3:00 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



A
DETOUR AHEAD
W20-2A
MINK RANCH RD

B
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD
MO6-1 21"X21"

C
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD

D
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD
MO5-1L 21"X21"

E
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD
MO6-1 21"X21"

F
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD
MO5-1R 21"X21"

G
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
MINK RANCH RD
MO6-1 21"X21"

H
END DETOUR M4-8A 24"X18"

I
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
MINK RANCH RD
MO5-1R 21"X21"

J
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
MINK RANCH RD
MO6-1 21"X21"

K
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
MINK RANCH RD

L
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
MINK RANCH RD
MO5-1L 21"X21"

M
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
MINK RANCH RD
MO6-1 21"X21"

N
BRIDGE OUT
0.3 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B 60"X30"

O
BRIDGE OUT
0.5 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B 60"X30"

P
BRIDGE OUT
1.2 MILES AHEAD
LOCAL TRAFFIC ONLY
R11-3B 60"X30"

Q
DETOUR M4-9R 30"X24"

LEGEND

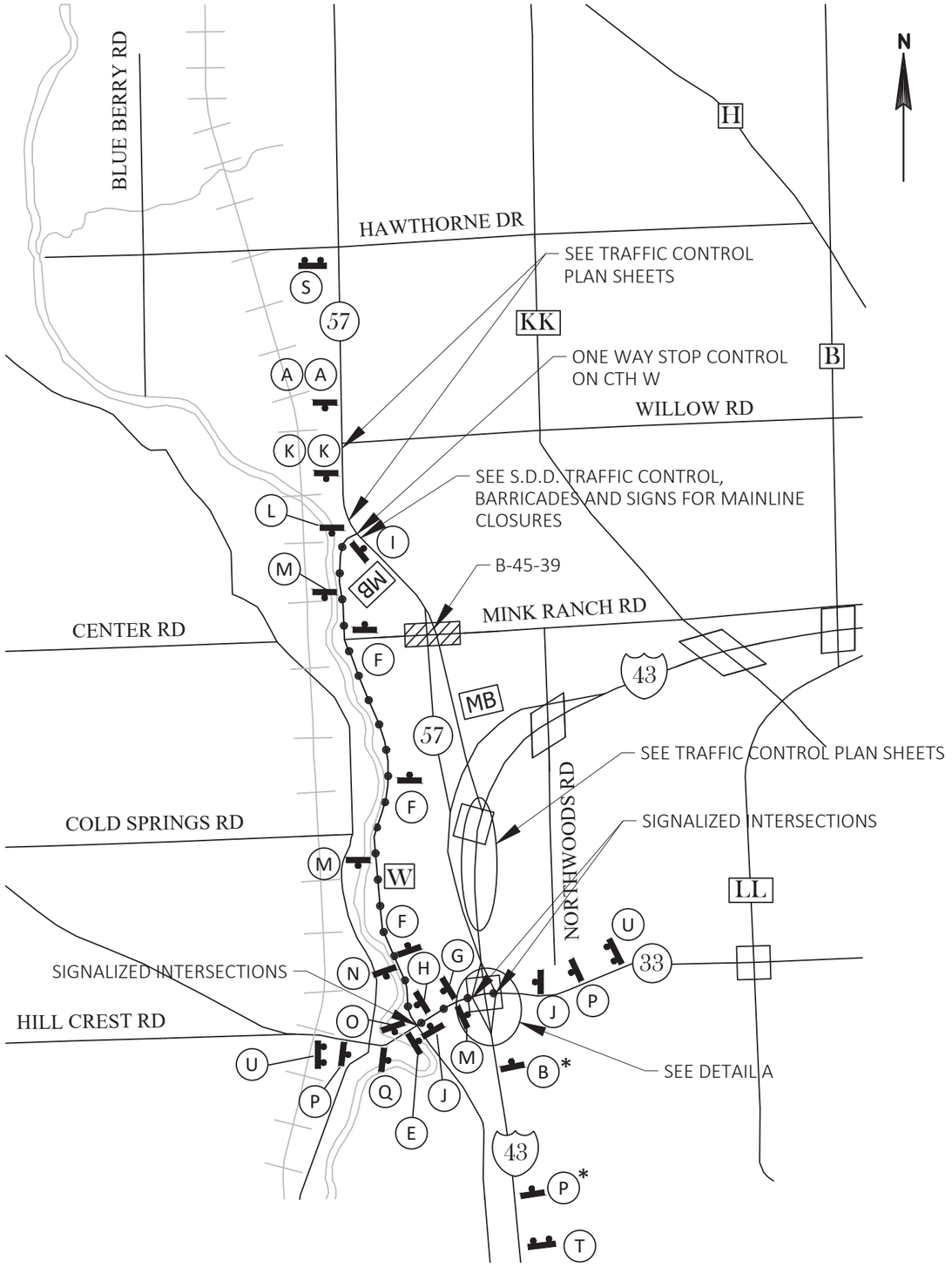
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

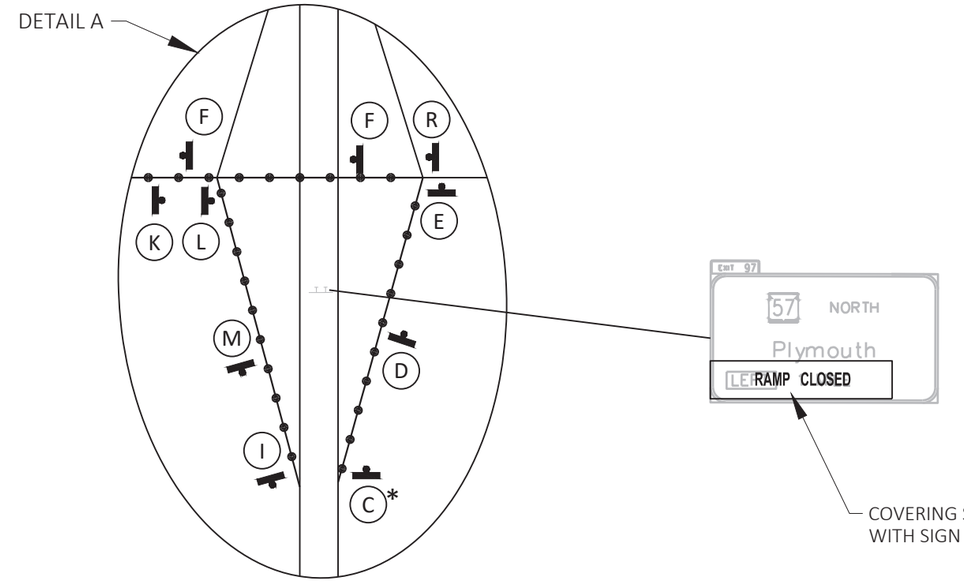
TABLE B-45-39A - ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS

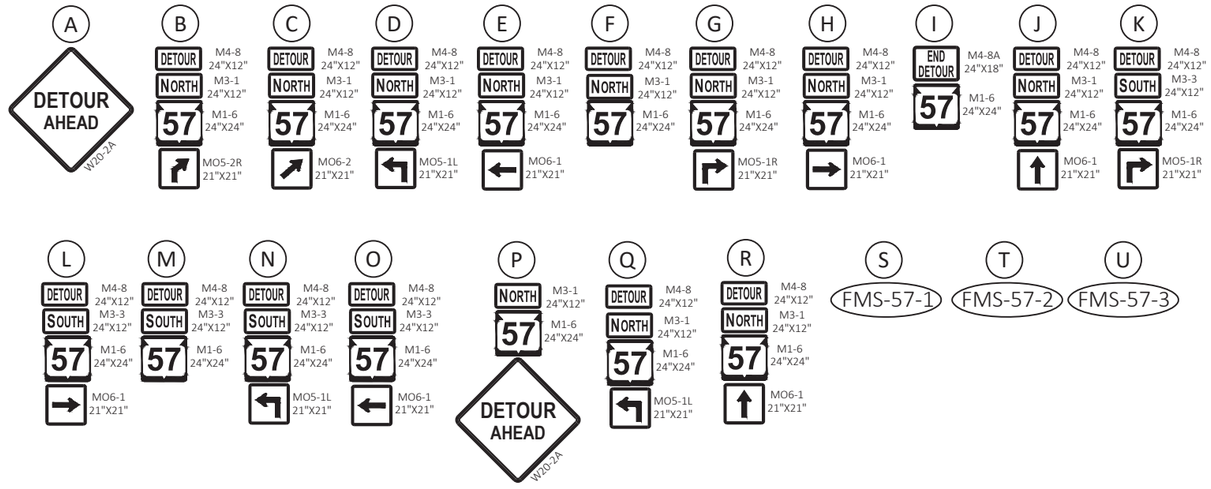
643.0300 - TRAFFIC CONTROL DRUMS	8
643.0420 - TRAFFIC CONTROL BARRICADES TYPE III	14
643.0705 - TRAFFIC CONTROL WARNING LIGHTS TYPE A	28
643.0900 - TRAFFIC CONTROL SIGNS (R11-2B = 2 & R11-2 = 2)	4

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	DETOUR - STH 57 (B-45-39)	SHEET 115	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\027001_DT_B45-39.DWG
LAYOUT NAME - B45-39 Mink Ranch Rd DT
PLOT DATE : 4/9/2019 3:01 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT







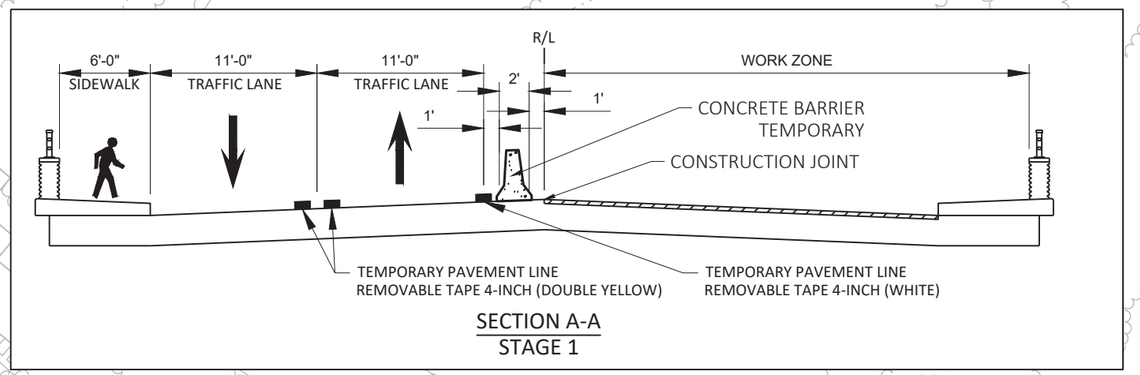
LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

NOTE:

* SIZE 3 SIGNS ARE REQUIRED ON I-43

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	DETOUR - STH 57 (B-45-39 PAINTING)	SHEET 116 E



SECTION A-A
STAGE 1

STH 33
E DEKORA ST
S MILL ST
E GREEN BAY AVE
ULAO ST
RIVERSIDE DR
B-45-95
WALL
POOL

LEGEND

- SIDEWALK CLOSED
- SIDEWALK DETOUR ROUTE
- OPEN TO LOCAL TRAFFIC
- OPEN
- BARRICADE TYPE III WITH SIGN
- SIGN ON PERMANENT SUPPORT

A — SIDEWALK CLOSED — R9-9 30"X18"

B — DETOUR — M4-9BR 30"X24"

C — DETOUR — M4-9BL 30"X24"

D — SIDEWALK CLOSED USE OTHER SIDE — R9-10 48"X24"

E — SIDEWALK CLOSED AHEAD CROSS HERE — R9-11 48"X30"

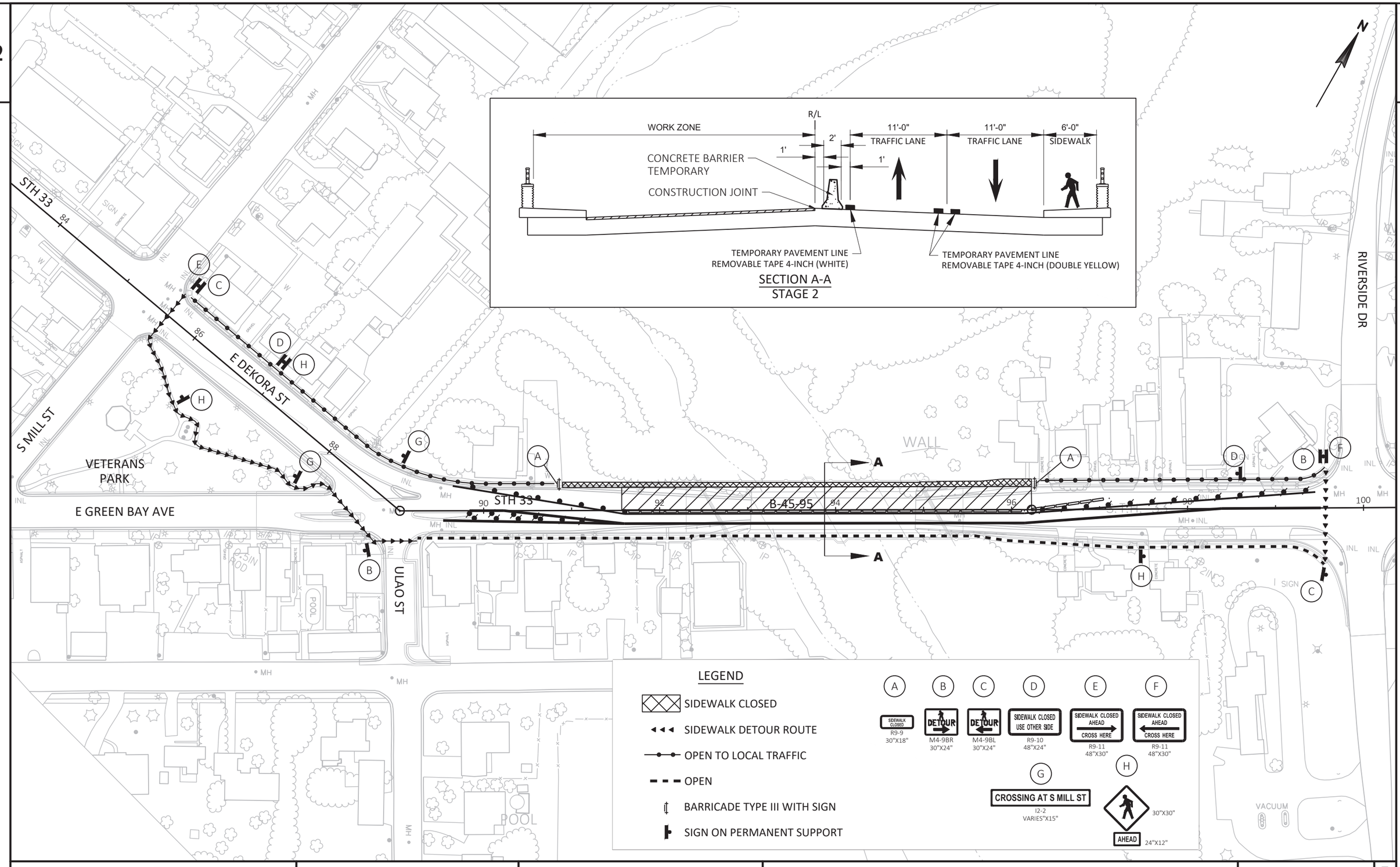
F — SIDEWALK CLOSED AHEAD CROSS HERE — R9-11 48"X30"

G — CROSSING AT S MILL ST — I2-2 VARIES"X15"

H — W011-2 30"X30"; AHEAD — WO16-9P 24"X12"

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	DETOUR - PEDESTRIAN TRAFFIC - STAGE 1	SHEET 117	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\027001_DT_B45-95.DWG
LAYOUT NAME - 027001_dt_B45-95
PLOT DATE : 4/9/2019 3:01 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:100 FT
WISDOT/CADDS SHEET 42

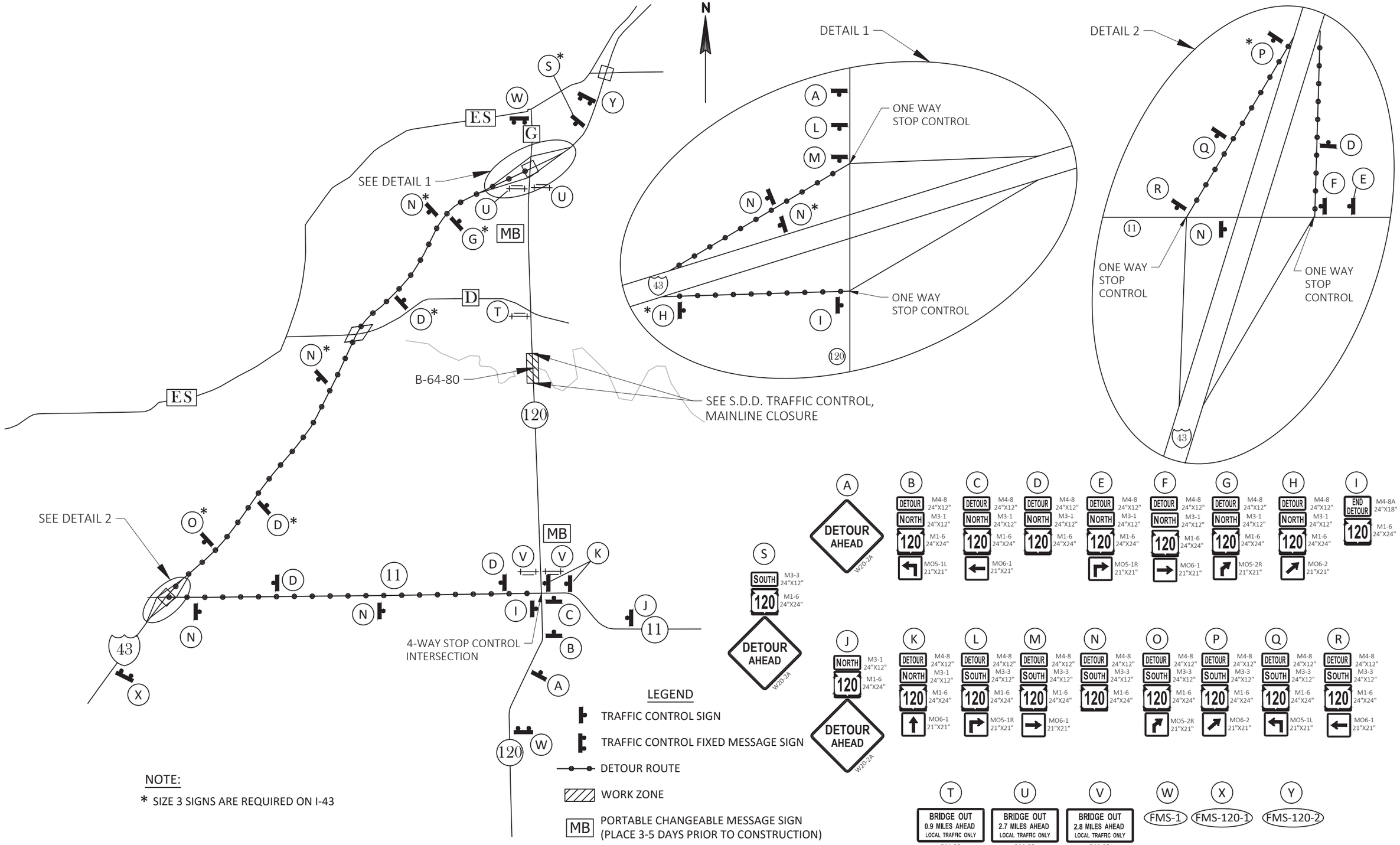


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	DETOUR - PEDESTRIAN TRAFFIC - STAGE 2	SHEET 118	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-95_STH 33\027101_DT_B45-95.DWG
LAYOUT NAME - B45-95_dt_Stage 2

PLOT DATE : 4/9/2019 3:02 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 1000-51-72	HWY: VARIOUS BRIDGES	COUNTY: WALWORTH	DETOUR - STH 120 B-64-80	SHEET 119	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-64-80_STH 120\027001_DT_B64-80.DWG
LAYOUT NAME - B64-80 DT
PLOT DATE : 4/9/2019 3:02 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2

1 ROAD CLOSED AHEAD W20-3A

2 ROAD CLOSED 500 FT W20-3D

3 ROAD WORK AHEAD W20-1A

4 END ROAD WORK G20-2A 48"X24"

5 ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30"

6 DETOUR M4-9R 30"X24"

7 DETOUR M4-9L 30"X24"

COVERING SIGNS TYPE I

Lake Geneva

East Troy

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- WORK ZONE (BRIDGE OUT)

N

EXIT 36

120

East Troy

Lake Geneva

1/2 MILE

COVERING SIGNS TYPE I

EXIT 36

120

East Troy

Lake Geneva

ES

G

HONEY CREEK RD

SWOBODA RD

D

B-64-80

KNIEP RD

POTTER RD

120

SPRING PRAIRIE RD

4-WAY STOP CONTROL INTERSECTION

11

43

SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

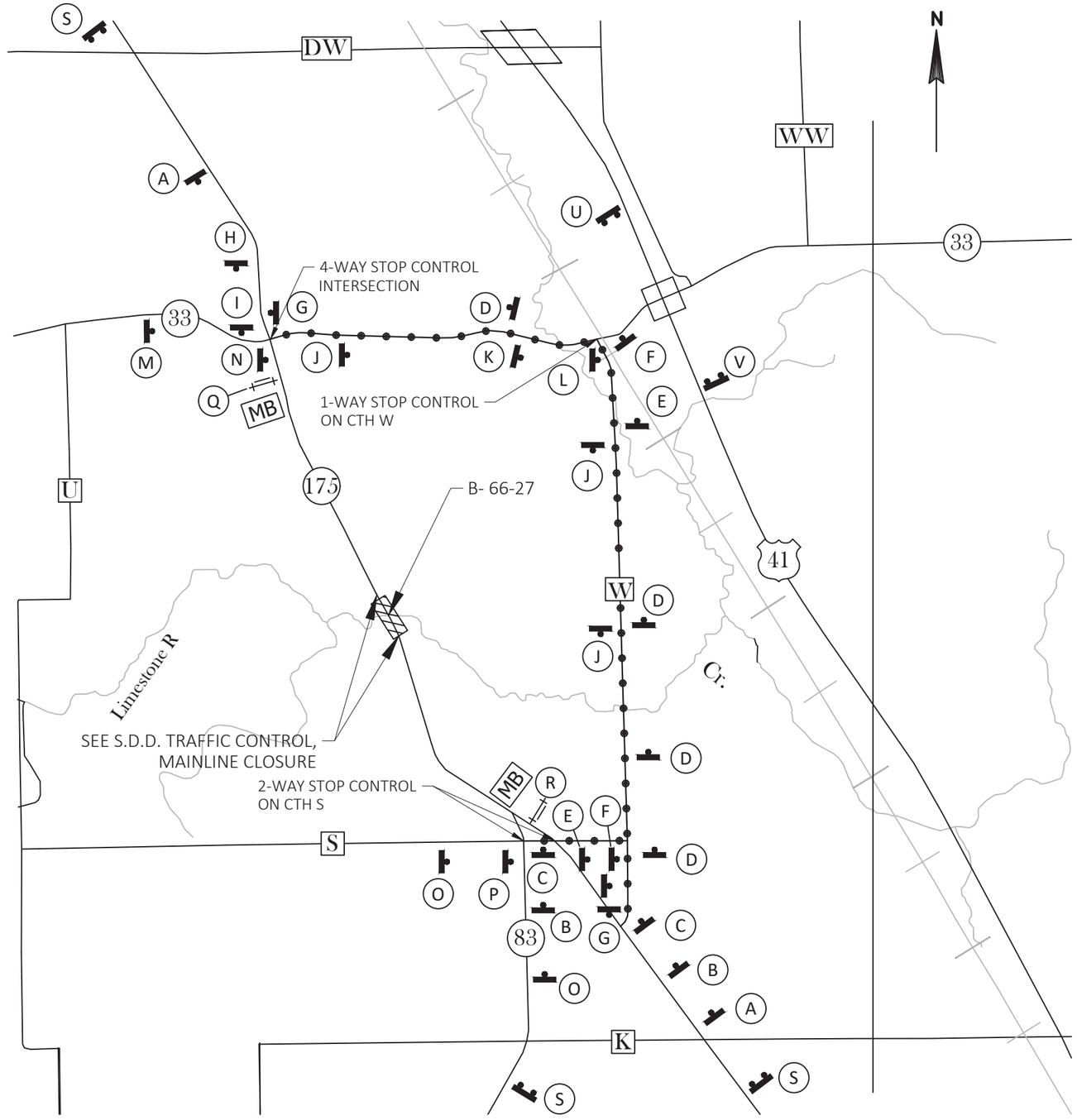
HARD CLOSED AT THE SOUTH SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

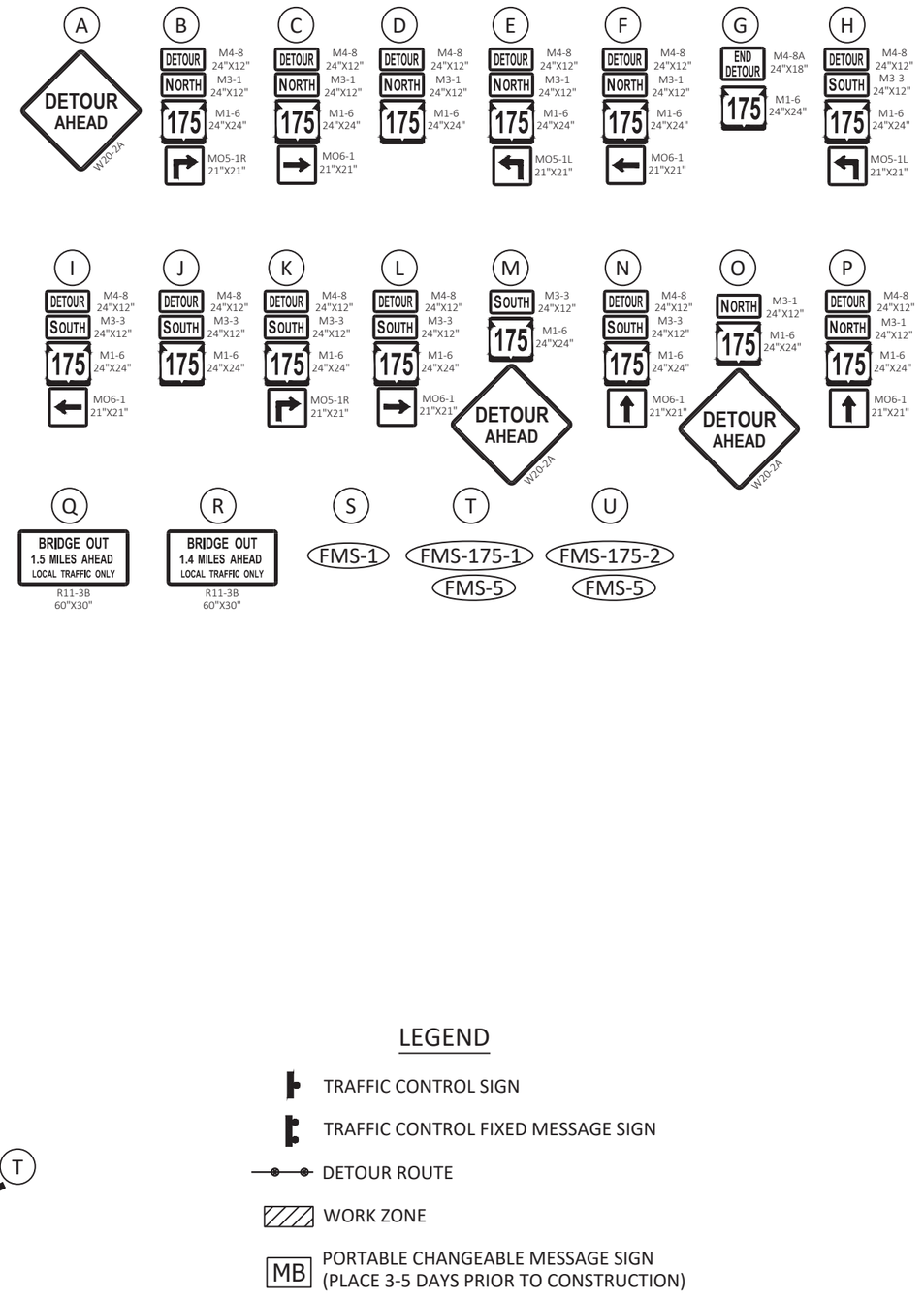
SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

HARD CLOSED AT THE NORTH SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

PROJECT NO: 1000-51-72	HWY: VARIOUS BRIDGES	COUNTY: WALWORTH	DETOUR & TRAFFIC CONTROL OVERVIEW - STH 120 (B-64-80)	SHEET 120	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-64-80_STH 120\027001_DT_B64-80.DWG
LAYOUT NAME - B64-80 DT OV
PLOT DATE : 4/9/2019 3:02 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



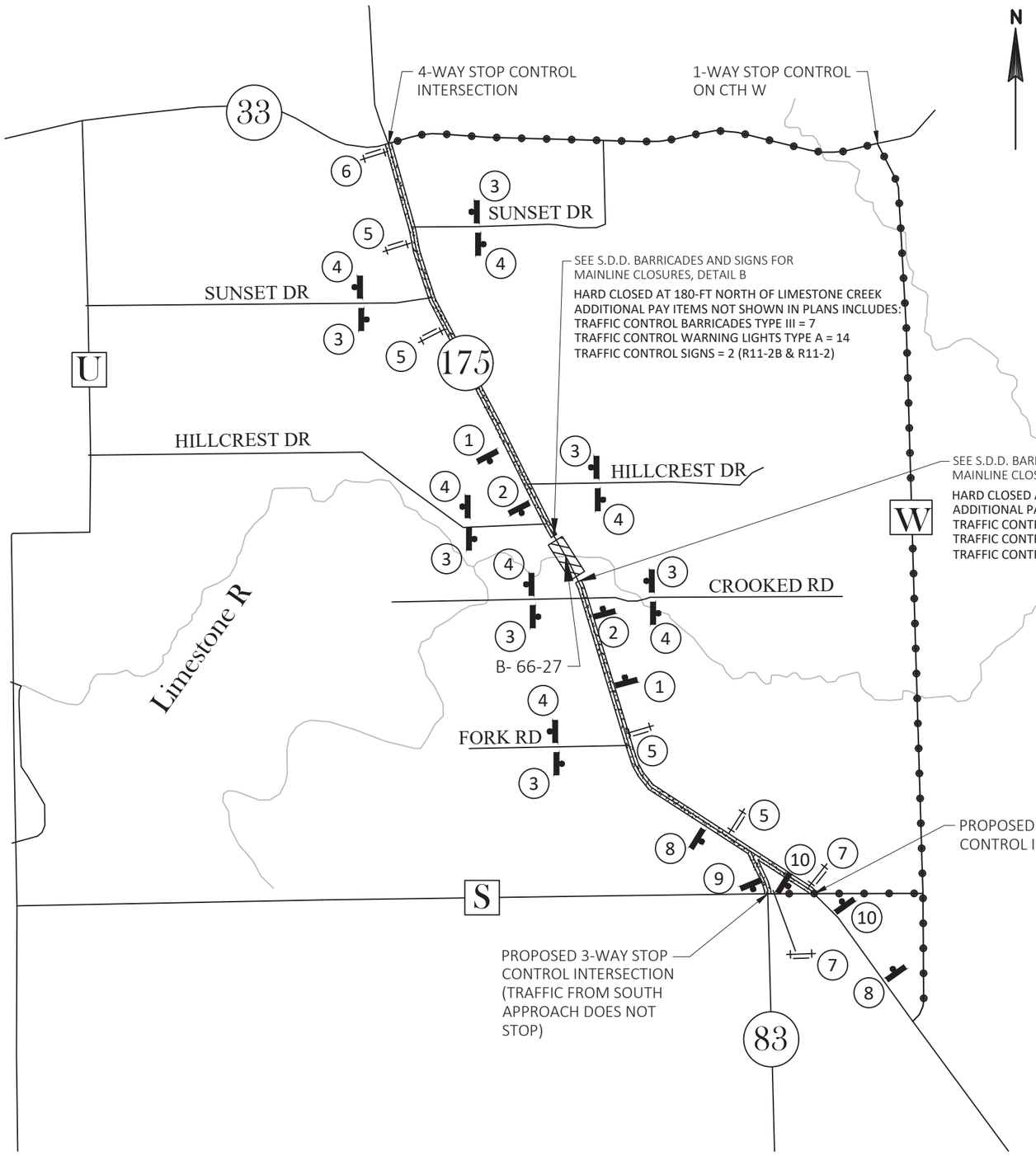


LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	DETOUR - STH 175 (B-66-27)	SHEET 121	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-27_STH 175\027001_DT_B66-27.DWG
LAYOUT NAME - B66-27 DT
PLOT DATE : 4/9/2019 3:02 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT



1 ROAD CLOSED AHEAD W20-3A

2 ROAD CLOSED 500 FT W20-3D

3 ROAD WORK AHEAD W20-1A

4 END ROAD WORK G20-2A 48"X24"

5 ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30"

6 DETOUR M4-9L 30"X24"

7 DETOUR M4-9R 30"X24"

8 W3-1 36"X36"

9 STOP R1-1 36"X36" ONCOMING TRAFFIC DOES NOT STOP W4-4B 30"X12"

10 STOP R1-1 36"X36" ALL WAY R1-3P 18"X6"

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- WORK ZONE (BRIDGE OUT)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	DETOUR & TRAFFIC CONTROL OVERVIEW - STH 175 (B-66-27)	SHEET 122	E

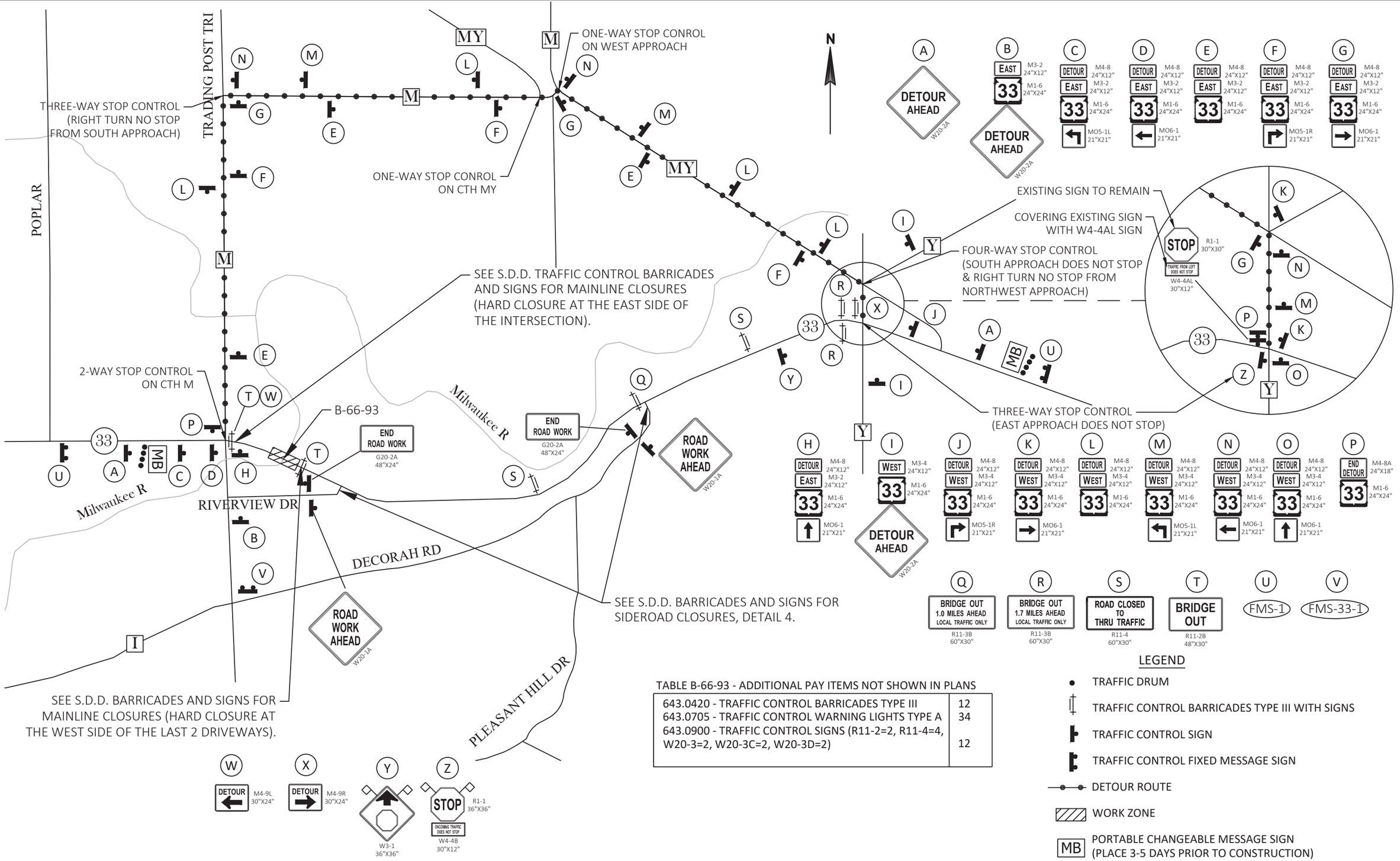


TABLE B-66-93 - ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS

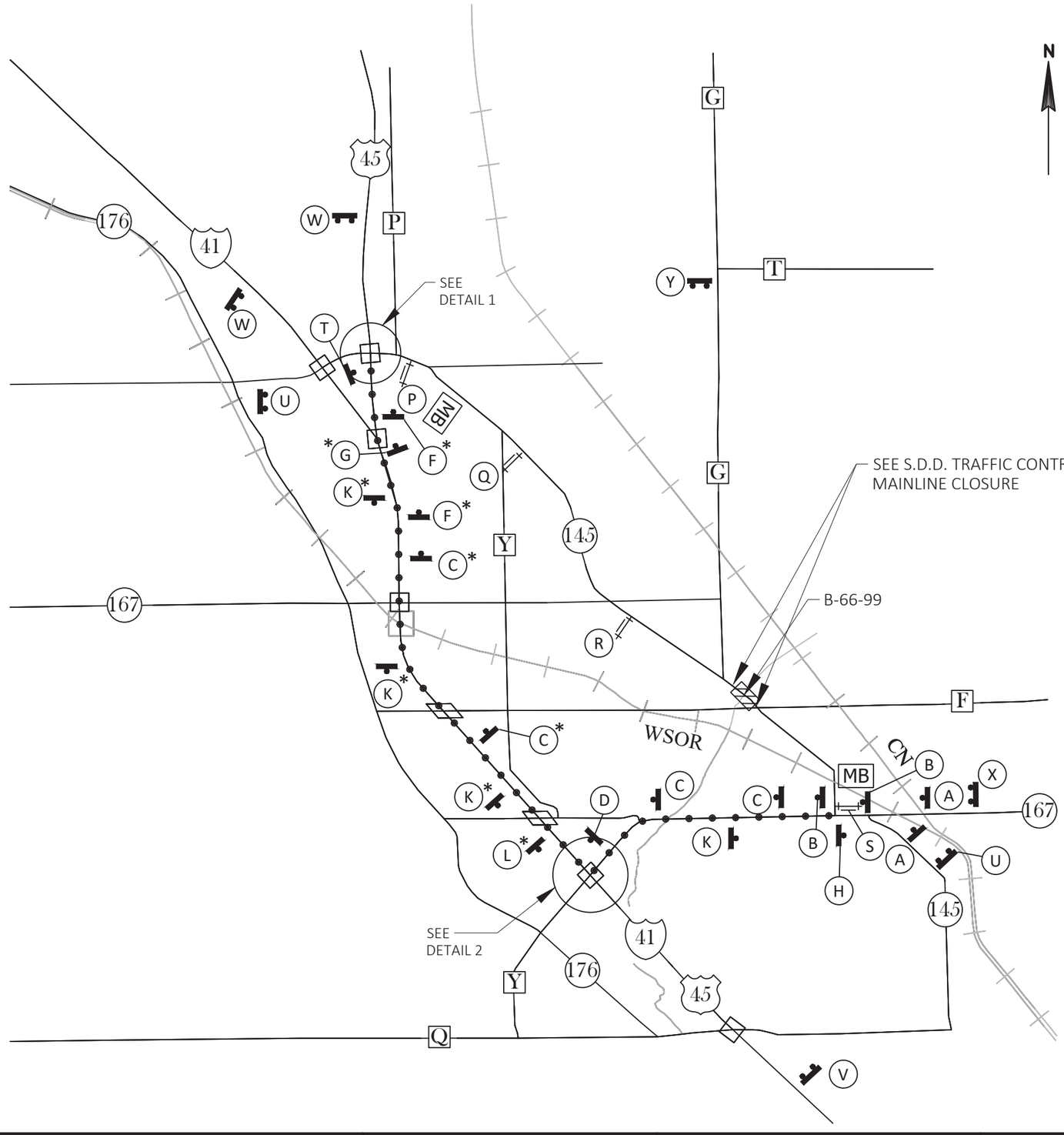
643.0420 - TRAFFIC CONTROL BARRICADES TYPE III	12
643.0705 - TRAFFIC CONTROL WARNING LIGHTS TYPE A	34
643.0900 - TRAFFIC CONTROL SIGNS (R11-2=2, R11-4=4, W20-3=2, W20-3C=2, W20-3D=2)	12

LEGEND

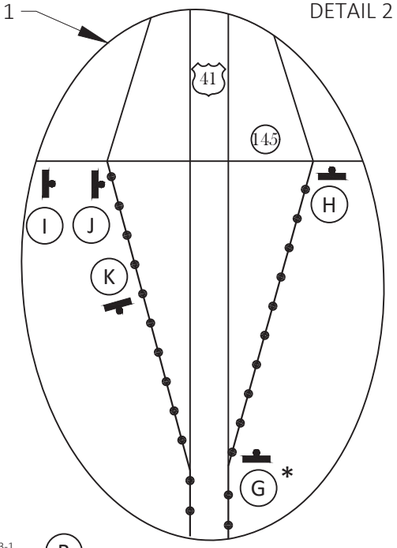
- TRAFFIC DRUM
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGNS
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	DETOUR - STH 33 B-66-93	SHEET 123	E

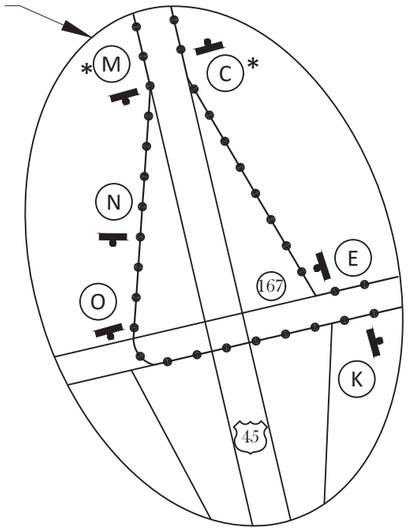
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-93_STH 33\027001_DT_B66-93.DWG
LAYOUT NAME - B66-93 DT
PLOT DATE : 4/9/2019 3:02 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



DETAIL 1



DETAIL 2



A — NORTH 145 — M3-1 24"X12", M1-6 24"X24"

B — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-1 21"X21"

C — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24"

D — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO5-1R 21"X21"

E — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-1 21"X21"

F — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO5-2R 21"X21"

G — DETOUR NORTH 145 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-2 21"X21"

H — END DETOUR 145 — M4-8A 24"X18", M1-6 24"X24"

I — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO5-1R 21"X21"

J — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO6-1 21"X21"

K — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24"

L — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO5-2R 21"X21"

M — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO6-2 21"X21"

N — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO5-1L 21"X21"

O — DETOUR SOUTH 145 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO6-1 21"X21"

P — BRIDGE OUT 4.5 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

Q — BRIDGE OUT 3.0 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

R — BRIDGE OUT 1.3 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

S — BRIDGE OUT 1.2 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

T — SOUTH 145 — M3-3 24"X12", M1-6 24"X24"; DETOUR AHEAD W20-2A

U — FMS-1

V — FMS-145-1

W — FMS-145-2

X — FMS-145-3

Y — FMS-145-4

NOTE:

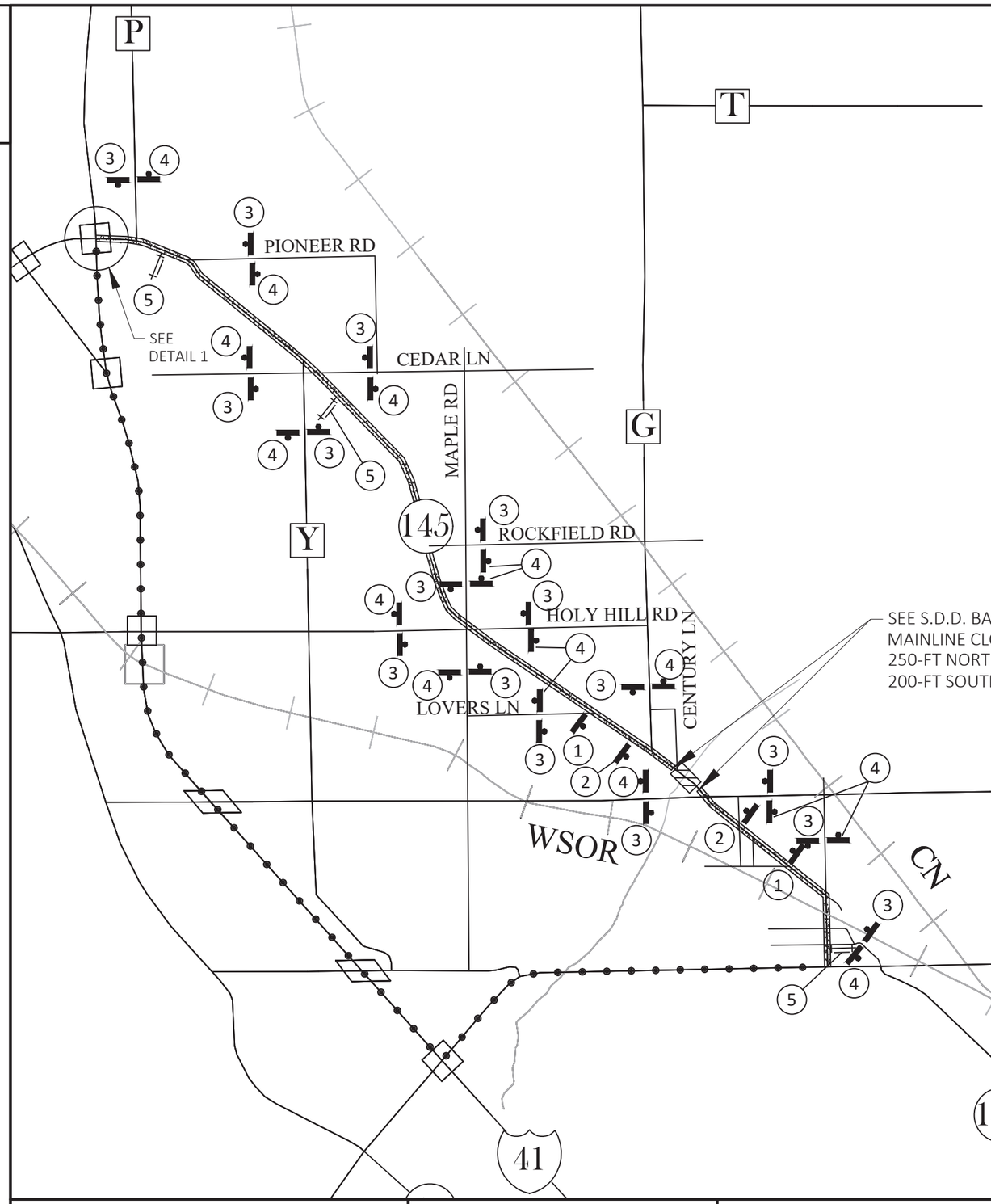
* SIZE 3 SIGNS ARE REQUIRED ON FREEWAY

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	DETOUR - STH 145 (B-66-99)	SHEET 124	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-99_STH 145\027001_DT_B66-99.DWG
LAYOUT NAME - B66-99 DT
PLOT DATE : 4/9/2019 3:03 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



N

1 — ROAD CLOSED AHEAD — W20-3A

2 — ROAD CLOSED 500 FT — W20-3D

3 — ROAD WORK AHEAD — W20-1A

4 — END ROAD WORK — G20-2A 48"X24"

5 — ROAD CLOSED TO THRU TRAFFIC — R11-4 60"X30"

TABLE B-66-99 - ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS

643.0300 - TRAFFIC CONTROL DRUMS	8
643.0420 - TRAFFIC CONTROL BARRICADES TYPE III	14
643.0705 - TRAFFIC CONTROL WARNING LIGHTS TYPE A	28
643.0900 - TRAFFIC CONTROL SIGNS (R11-2B = 2 & R11-2 = 2)	4

LEGEND

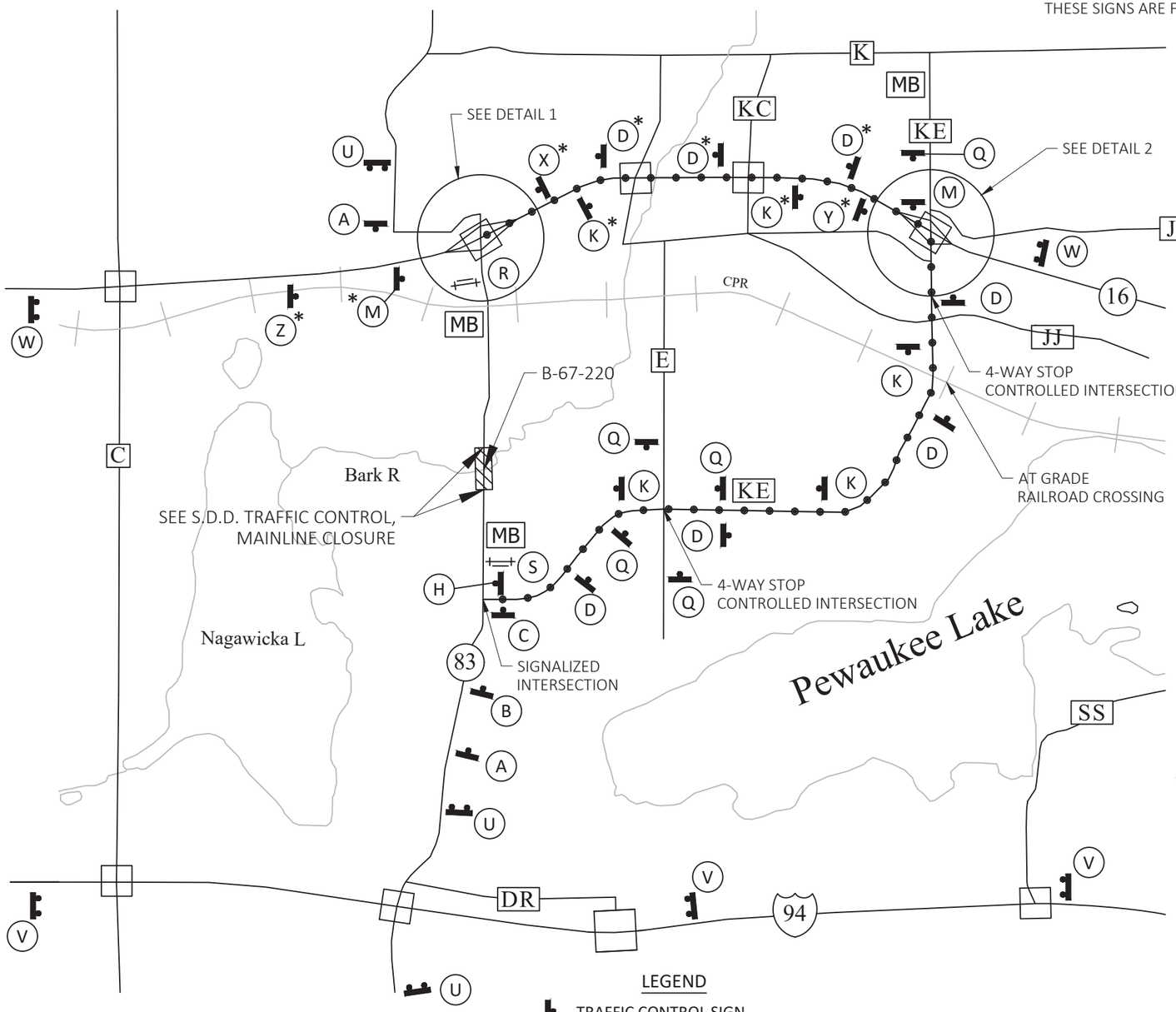
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- WORK ZONE (BRIDGE OUT)

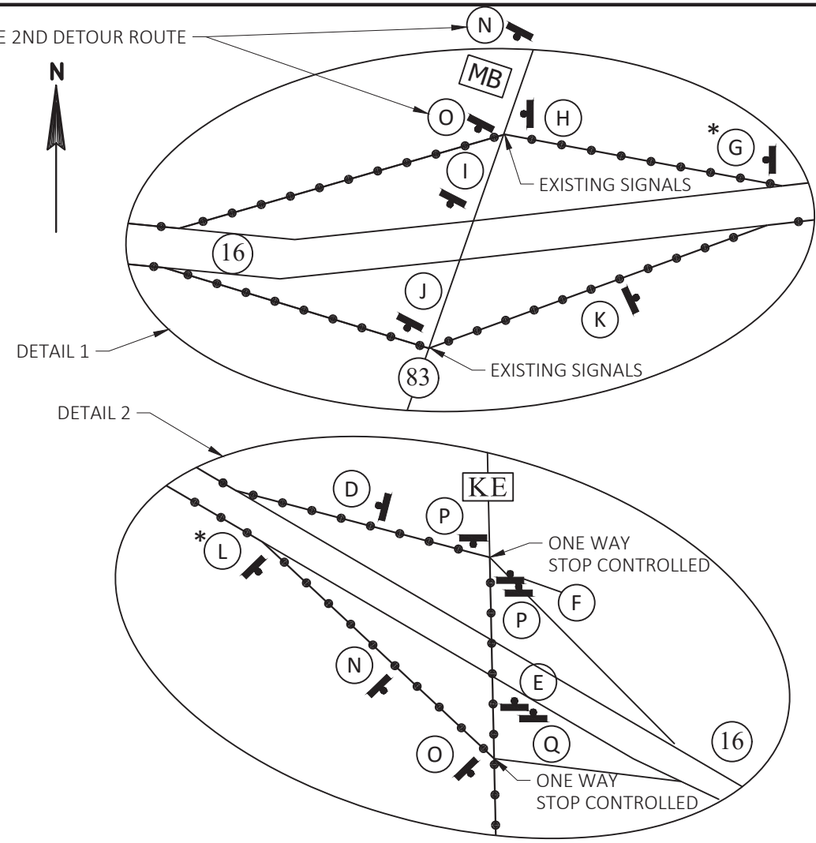
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	DETOUR & TRAFFIC CONROL OVERVIEW - STH 145 (B-66-99)	SHEET 125	E

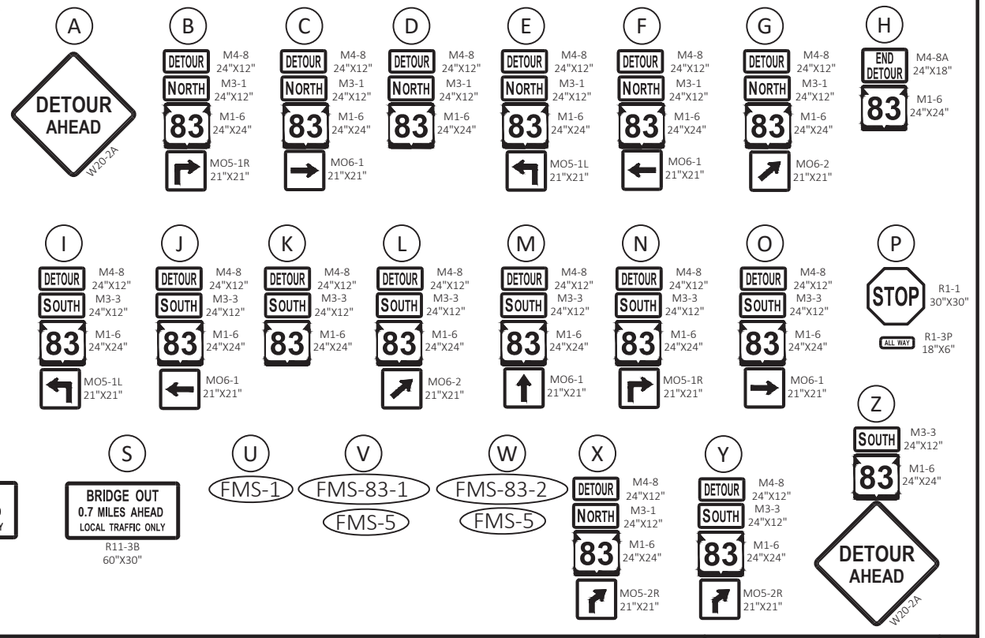
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-99_STH 145\027001_DT_B66-99.DWG
LAYOUT NAME - B66-99 DT OV

PLOT DATE : 4/9/2019 3:03 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT

WISDOT/CADDS SHEET 42







LEGEND

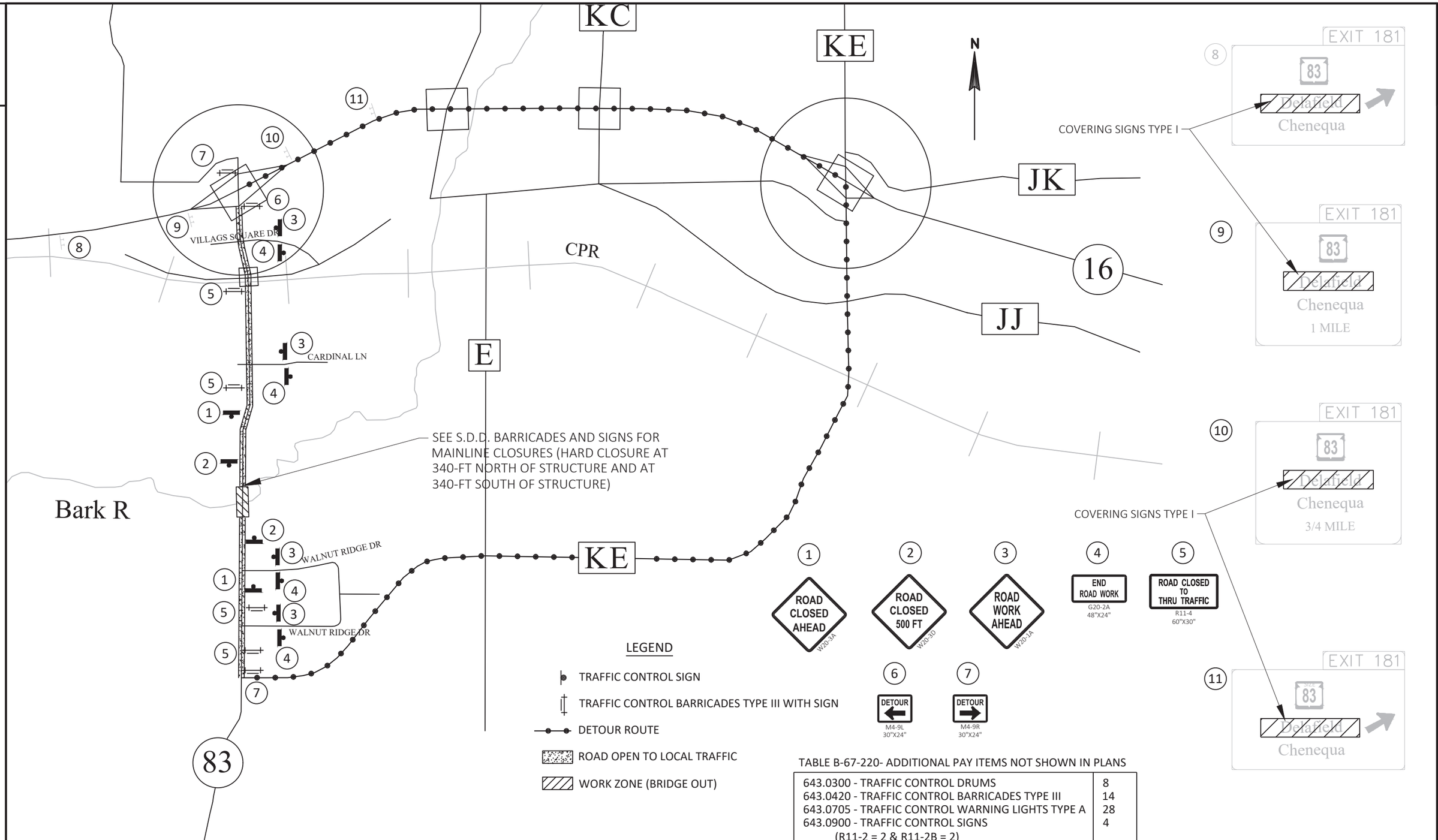
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

NOTE:

* SIZE 3 SIGNS ARE REQUIRED ON STH 16

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR - STH 83 (B-67-220)	SHEET 126	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-220_STH 83\027001_DT_B67-220.DWG
LAYOUT NAME - B67-220 DT
PLOT DATE : 4/9/2019 3:03 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



1 — ROAD CLOSED AHEAD (W20-3A)

2 — ROAD CLOSED 500 FT (W20-3D)

3 — ROAD WORK AHEAD (W20-1A)

4 — END ROAD WORK, G20-2A, 48"X24"

5 — ROAD CLOSED TO THRU TRAFFIC, R11-4, 60"X30"

6 — DETOUR, M4-9L, 30"X24"

7 — DETOUR, M4-9R, 30"X24"

LEGEND

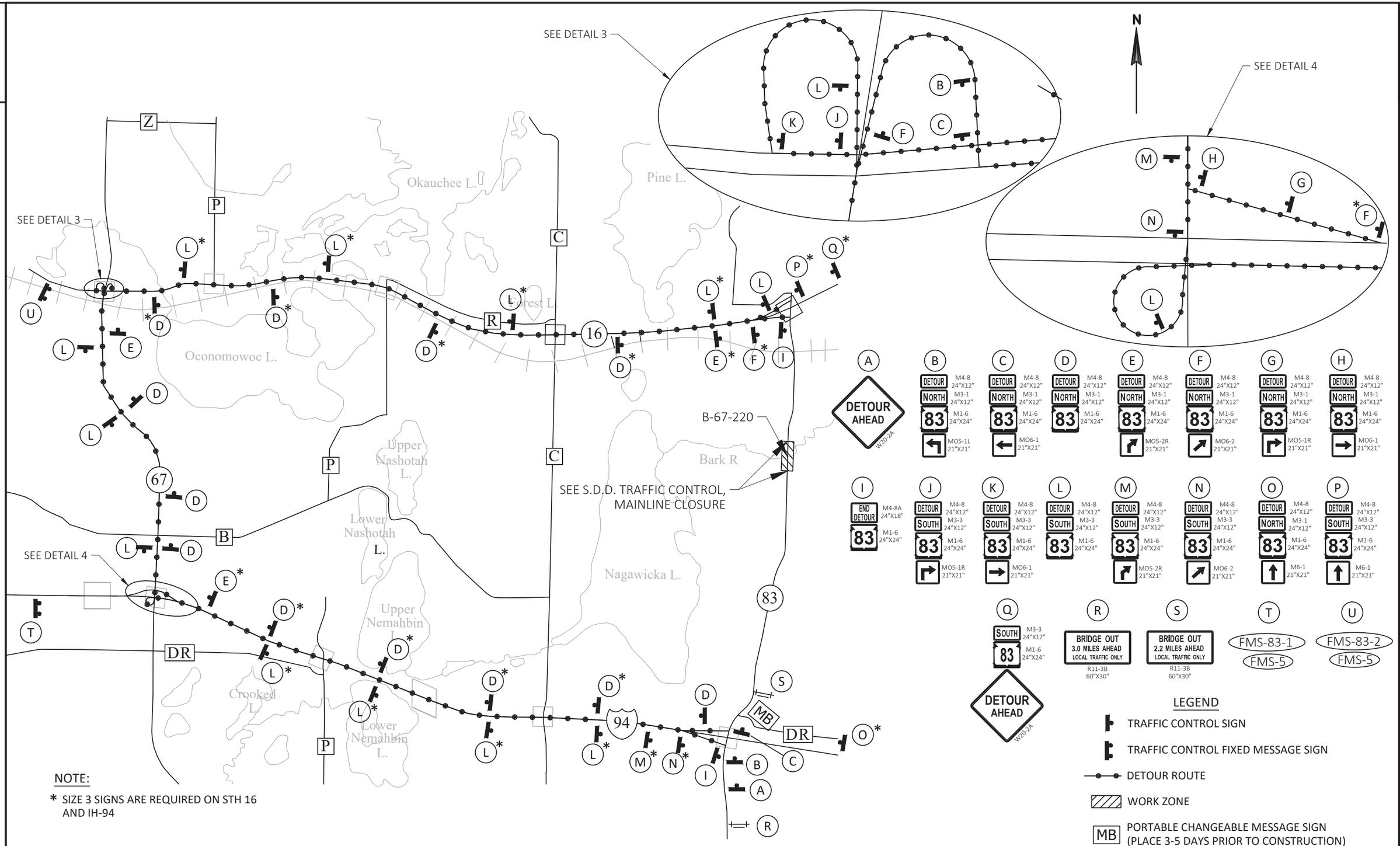
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- WORK ZONE (BRIDGE OUT)

TABLE B-67-220- ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS

643.0300 - TRAFFIC CONTROL DRUMS	8
643.0420 - TRAFFIC CONTROL BARRICADES TYPE III	14
643.0705 - TRAFFIC CONTROL WARNING LIGHTS TYPE A	28
643.0900 - TRAFFIC CONTROL SIGNS (R11-2 = 2 & R11-2B = 2)	4

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR & TRAFFIC CONTROL OVERVIEW - STH 83 (B-67-220)	SHEET 127	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-220_STH 83\027001_DT_B67-220.DWG
LAYOUT NAME - B67-220 DT OV
PLOT DATE : 4/9/2019 3:03 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : Custom
WISDOT/CADDS SHEET 42



A — DETOUR AHEAD W20-2A

B — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO5-1L 21"X21"

C — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-1 21"X21"

D — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24"

E — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO5-2R 21"X21"

F — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-2 21"X21"

G — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO5-1R 21"X21"

H — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", MO6-1 21"X21"

I — END DETOUR / 83 — M4-8A 24"X18", M1-6 24"X24"

J — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO5-1R 21"X21"

K — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO6-1 21"X21"

L — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24"

M — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO5-2R 21"X21"

N — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", MO6-2 21"X21"

O — DETOUR / NORTH / 83 — M4-8 24"X12", M3-1 24"X12", M1-6 24"X24", M6-1 21"X21"

P — DETOUR / SOUTH / 83 — M4-8 24"X12", M3-3 24"X12", M1-6 24"X24", M6-1 21"X21"

Q — SOUTH / 83 — M3-3 24"X12", M1-6 24"X24"; DETOUR AHEAD W20-2A

R — BRIDGE OUT 3.0 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

S — BRIDGE OUT 2.2 MILES AHEAD LOCAL TRAFFIC ONLY — R11-3B 60"X30"

T — FMS-83-1 / FMS-5

U — FMS-83-2 / FMS-5

LEGEND

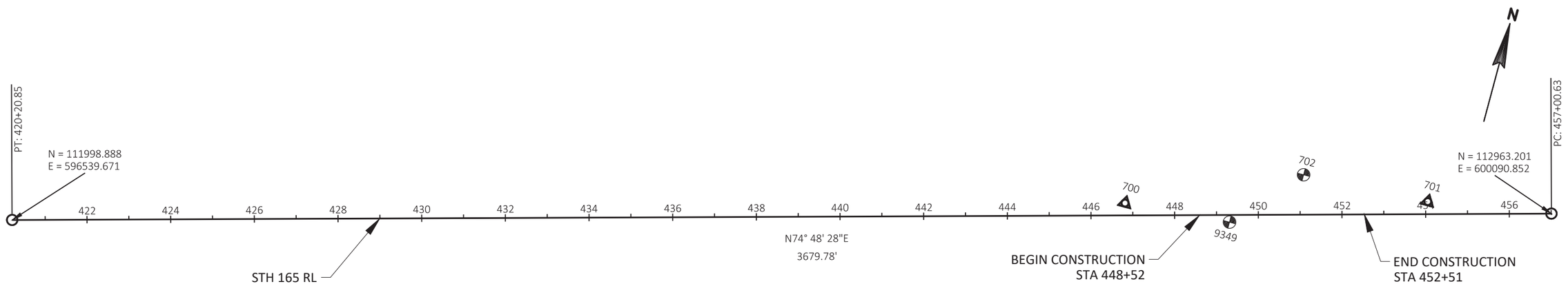
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	ALTERNATE 2ND DETOUR - STH 83 (B-67-220)	SHEET 128 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-67-220_STH 83\027001_DT_B67-220.DWG
LAYOUT NAME - B67-220 DT ALT

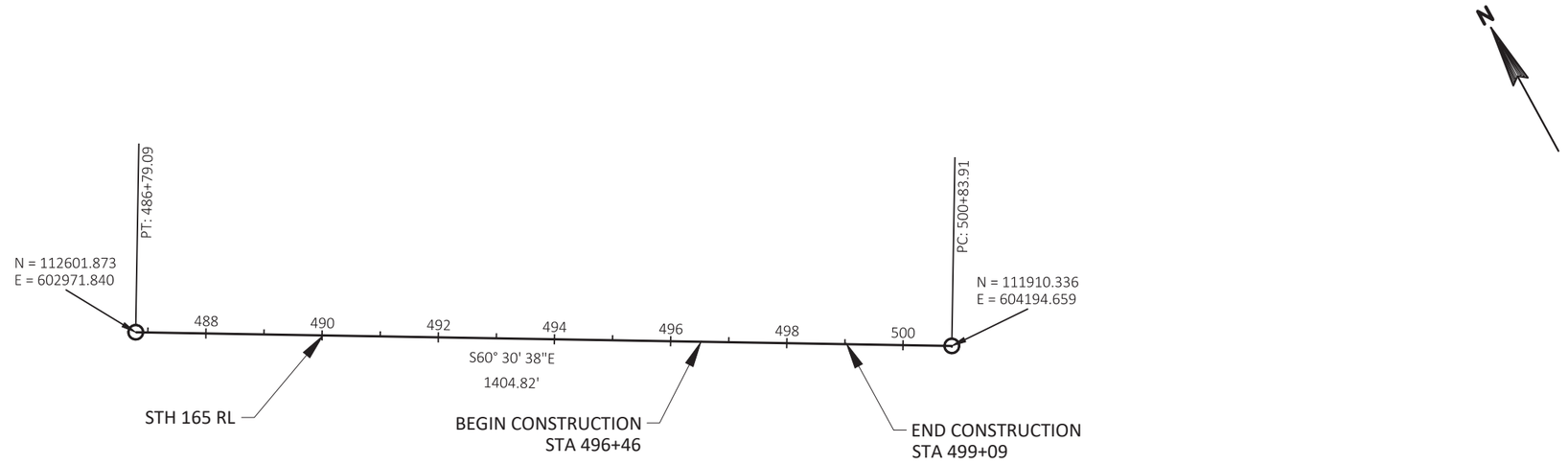
PLOT DATE : 4/9/2019 3:03 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT

2



B-30-65
KENOSHA COUNTY
HORIZONTAL DATUM: NAD83(2007)

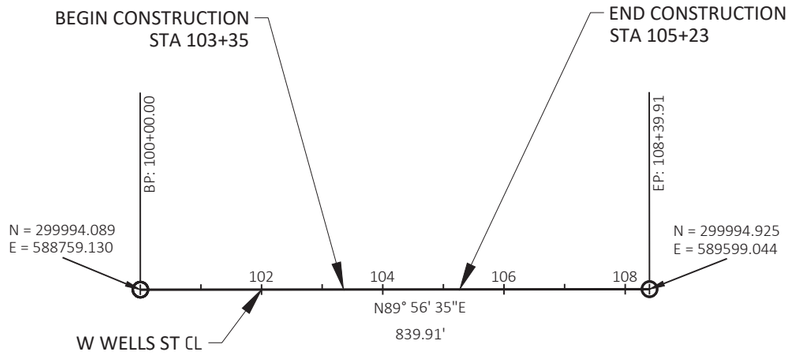
POINT TABLE				
POINT NAME	N	E	ELEVATION	DESCRIPTION
700	112697.950	599106.608	682.43	CP 1000FENO SPK
701	112887.997	599804.834	684.83	CP 1000FENO SPK
702	112873.447	599501.577	688.15	BM BRIDGE CAP B-30-131
9349	112718.200	599359.700	685.94	BM ALUM CAP SW COR BRDG AT 165 & DES PLAINES RVR



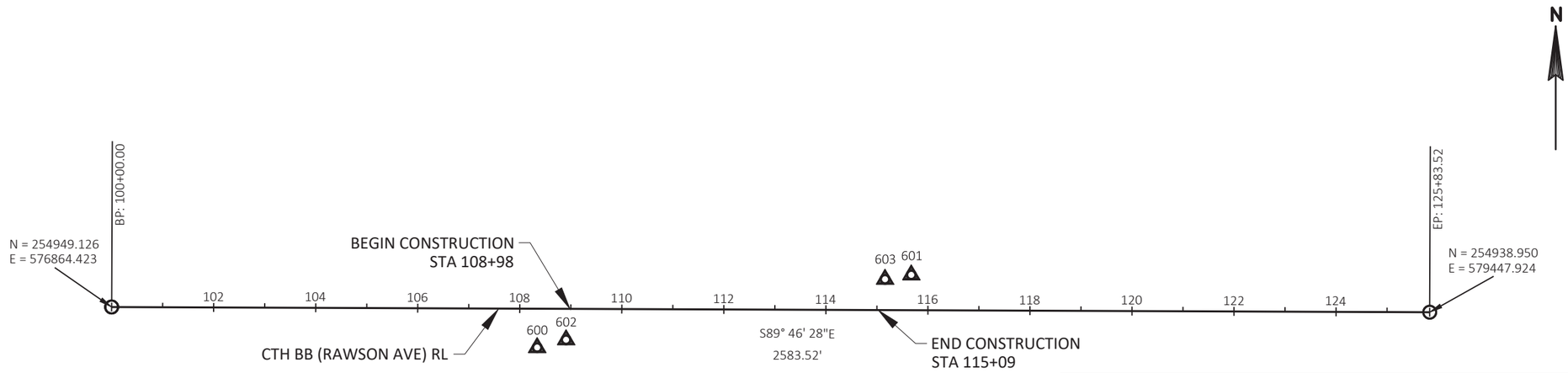
B-30-66, B-30-67
KENOSHA COUNTY
HORIZONTAL DATUM: NAD83(2007)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET	
				129	E

2



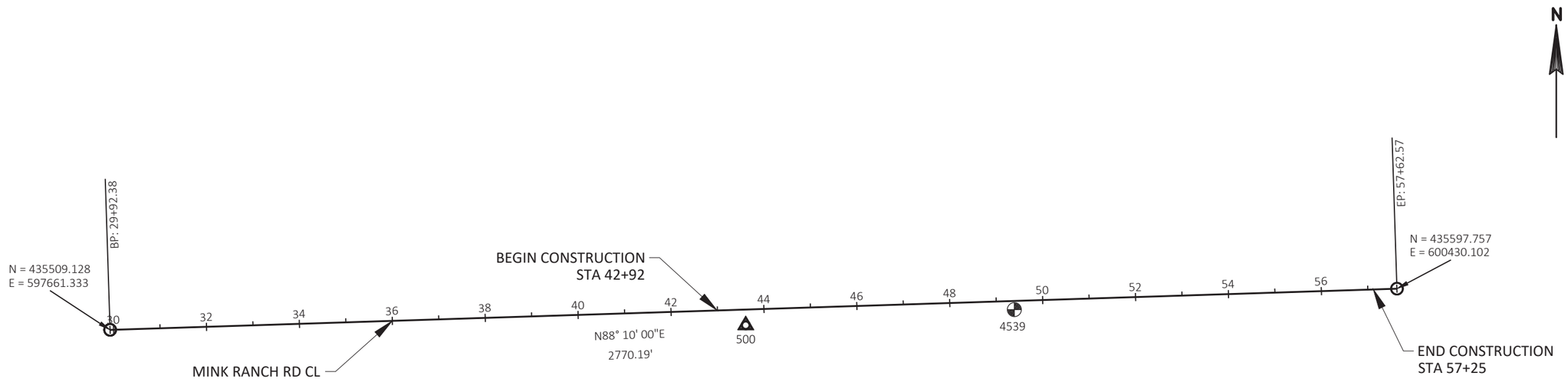
B-40-52
MILWAUKEE COUNTY
HORIZONTAL DATUM: NAD83(2007)



B-40-392, B-40-644
MILWAUKEE COUNTY
HORIZONTAL DATUM: NAD83(1991)

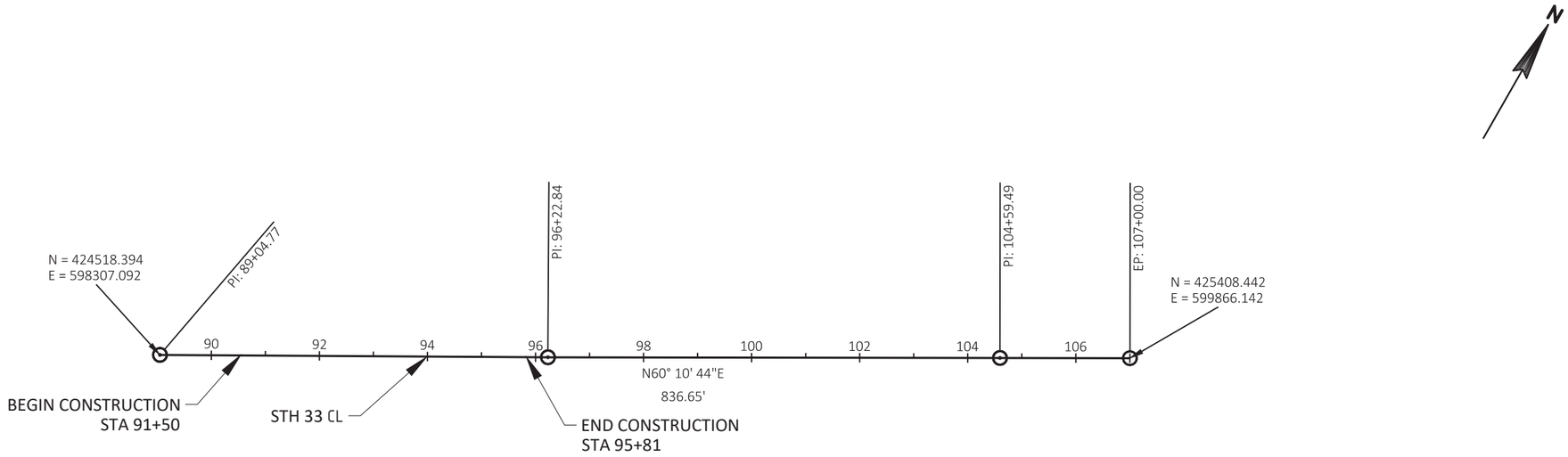
POINT TABLE				
POINT NAME	N	E	ELEVATION	DESCRIPTION
600	254869.677	577698.372	795.78	CP 1000FENO SPIKE W/ALUMINUM CAP
601	255012.099	578431.695	787.92	CP 1000FENO SPIKE W/ALUMINUM CAP
602	254884.938	577755.144	798.51	CP FND CHISELED SQ
603	255003.474	578380.254	792.24	CP FND CHISELED SQ

2



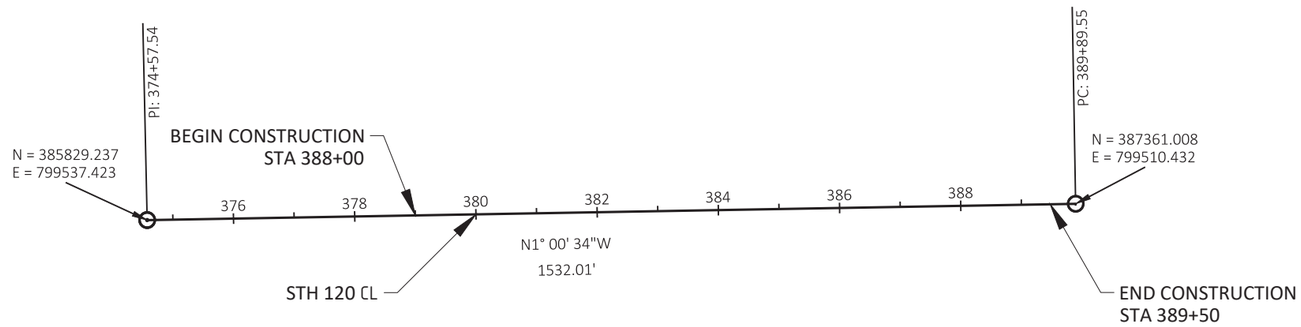
B-45-39
OZAUKEE COUNTY
HORIZONTAL DATUM: NAD83(2011)

POINT TABLE				
POINT NAME	N	E	ELEVATION	DESCRIPTION
500	435519.288	599028.930	777.31	CP 1000FENO SPK
4539	435552.772	599606.878	799.67	BM B-45-39-73 SW COR

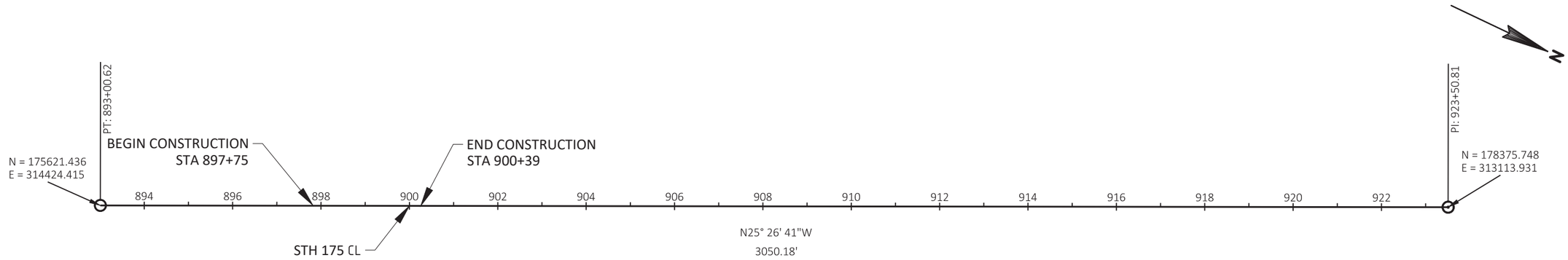


B-45-95
OZAUKEE COUNTY
HORIZONTAL DATUM: NAD83(1991)

2



B-64-80
WALWORTH COUNTY
HORIZONTAL DATUM: NAD83(1997)



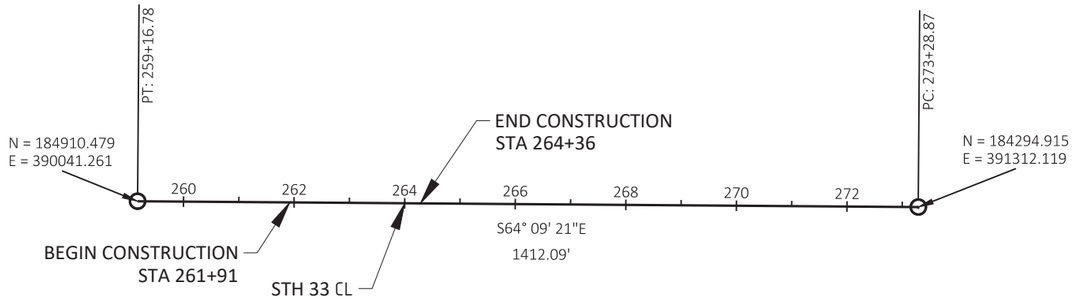
B-66-27
WASHINGTON COUNTY
HORIZONTAL DATUM: NAD83(2007)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET	E

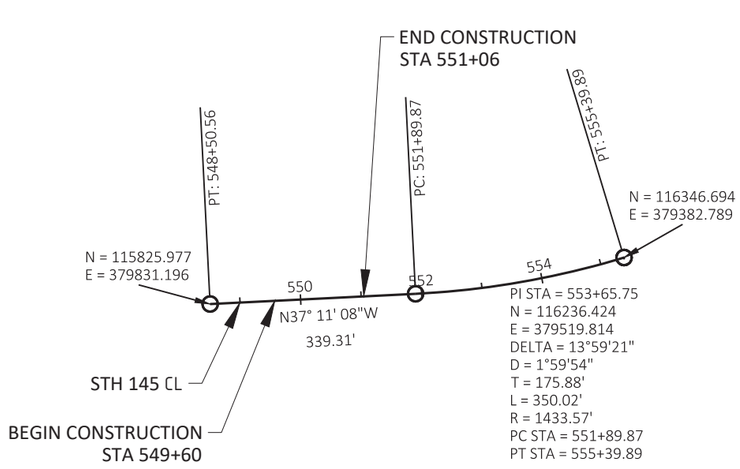
FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - SHEET 5 AD

PLOT DATE : 4/9/2019 3:03 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:250 FT

2



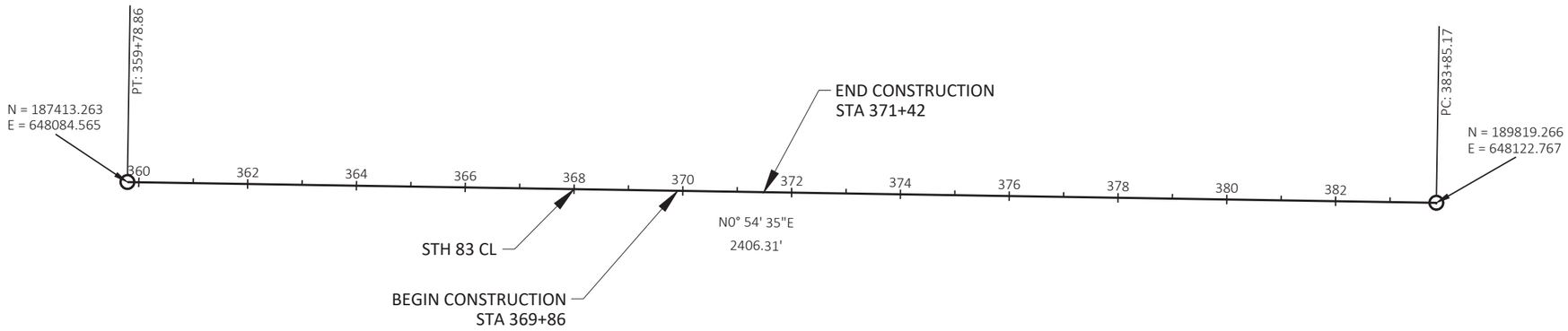
B-66-93
WASHINGTON COUNTY
HORIZONTAL DATUM: NAD83(2007)



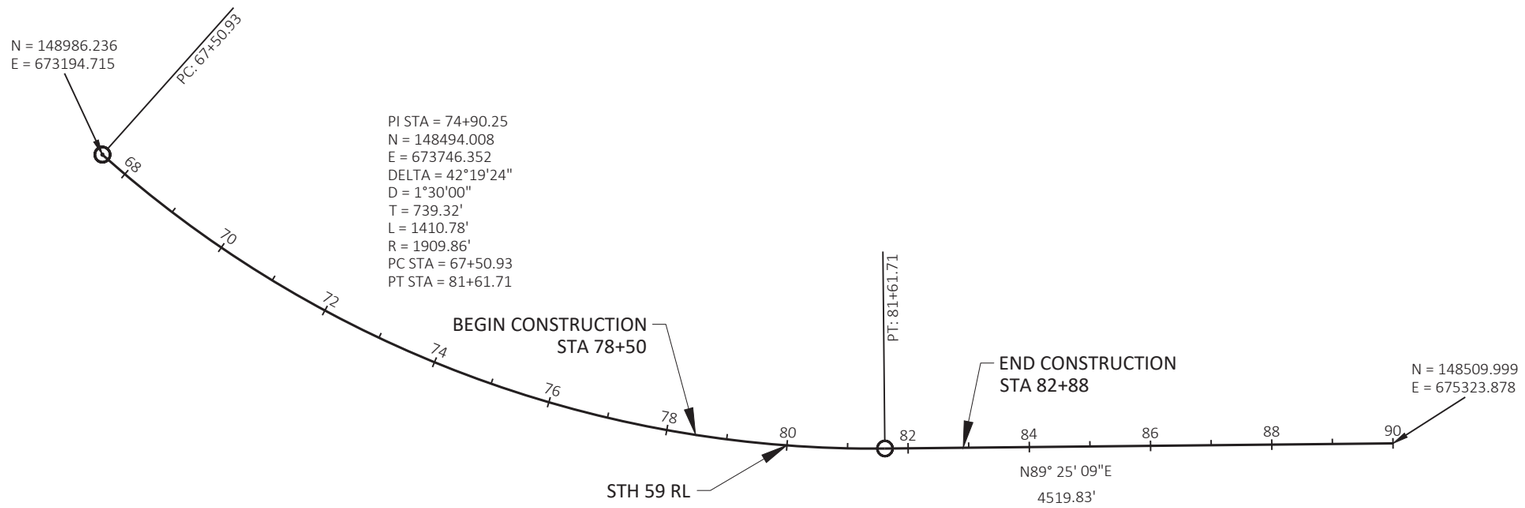
B-66-99
WASHINGTON COUNTY
HORIZONTAL DATUM: NAD83(2007)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET 133	E

2



B-67-220
WAUKESHA COUNTY
HORIZONTAL DATUM: NAD83(1991)



B-67-230
WAUKESHA COUNTY
HORIZONTAL DATUM: NAD83(2011)

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET 134	E

1000-51-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	3.000	3.000
0004	201.0205	Grubbing	STA	3.000	3.000
0006	203.0100	Removing Small Pipe Culverts	EACH	1.000	1.000
0008	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-30-65	LS	1.000	1.000
0010	203.0210.S	Abatement of Asbestos Containing Material (structure) 02. B-30-66	LS	1.000	1.000
0012	203.0210.S	Abatement of Asbestos Containing Material (structure) 03. B-30-67	LS	1.000	1.000
0014	203.0210.S	Abatement of Asbestos Containing Material (structure) 04. B-64-80	LS	1.000	1.000
0016	203.0210.S	Abatement of Asbestos Containing Material (structure) 05. B-66-27	LS	1.000	1.000
0018	203.0210.S	Abatement of Asbestos Containing Material (structure) 06. B-66-99	LS	1.000	1.000
0024	203.0225.S	Debris Containment (structure) 01. B-30-66	LS	1.000	1.000
0026	203.0225.S	Debris Containment (structure) 02. B-30-67	LS	1.000	1.000
0028	203.0225.S	Debris Containment (structure) 03. B-40-392	LS	1.000	1.000
0030	203.0225.S	Debris Containment (structure) 04. B-40-644	LS	1.000	1.000
0032	203.0225.S	Debris Containment (structure) 05. B-45-39	LS	1.000	1.000
0034	204.0100	Removing Pavement	SY	1,403.000	1,403.000
0036	204.0105	Removing Pavement Butt Joints	SY	420.000	420.000
0038	204.0110	Removing Asphaltic Surface	SY	1,154.000	1,154.000
0040	204.0115	Removing Asphaltic Surface Butt Joints	SY	4,369.000	4,369.000
0042	204.0150	Removing Curb & Gutter	LF	377.000	377.000
0044	204.0155	Removing Concrete Sidewalk	SY	347.000	347.000
0046	204.0165	Removing Guardrail	LF	1,816.000	1,816.000
0048	204.0190	Removing Surface Drains	EACH	3.000	3.000
0050	204.0220	Removing Inlets	EACH	2.000	2.000
0052	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	154.000	154.000
0054	205.0100	Excavation Common	CY	1,117.000	1,117.000
0056	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 1000-51-72	LS	1.000	1.000
0058	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	3.000	3.000
0060	213.0100	Finishing Roadway (project) 01. 1000-51-72	EACH	1.000	1.000
0064	305.0110	Base Aggregate Dense 3/4-Inch	TON	230.000	230.000
0066	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	925.000	925.000
0068	305.0410	Aggregate Detours	TON	90.000	90.000
0070	310.0110	Base Aggregate Open-Graded	TON	20.000	20.000
0072	390.0303	Base Patching Concrete	SY	16.000	16.000
0074	415.0120	Concrete Pavement 12-Inch	SY	813.000	813.000

1000-51-72

Line	Item	Item Description	Unit	Total	Qty
0076	415.0410	Concrete Pavement Approach Slab	SY	605.000	605.000
0078	416.0610	Drilled Tie Bars	EACH	110.000	110.000
0080	416.0620	Drilled Dowel Bars	EACH	168.000	168.000
0082	416.1010	Concrete Surface Drains	CY	8.000	8.000
0084	455.0605	Tack Coat	GAL	309.000	309.000
0086	460.2000	Incentive Density HMA Pavement	DOL	390.000	390.000
0088	460.5224	HMA Pavement 4 LT 58-28 S	TON	220.000	220.000
0090	460.6224	HMA Pavement 4 MT 58-28 S	TON	380.000	380.000
0092	465.0105	Asphaltic Surface	TON	220.000	220.000
0094	465.0115	Asphaltic Surface Detours	TON	45.000	45.000
0096	465.0400	Asphaltic Shoulder Rumble Strips	LF	2,625.000	2,625.000
0098	502.3100	Expansion Device (structure) 01. B-30-65	LS	1.000	1.000
0100	502.3100	Expansion Device (structure) 02. B-40-392	LS	1.000	1.000
0102	502.3100	Expansion Device (structure) 03. B-40-644	LS	1.000	1.000
0104	502.3100	Expansion Device (structure) 04. B-45-39	LS	1.000	1.000
0106	502.3200	Protective Surface Treatment	SY	7,212.000	7,212.000
0108	502.3210	Pigmented Surface Sealer	SY	17.000	17.000
0112	502.4205	Adhesive Anchors No. 5 Bar	EACH	574.000	574.000
0114	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	15,240.000	15,240.000
0116	505.0904	Bar Couplers No. 4	EACH	24.000	24.000
0118	505.0905	Bar Couplers No. 5	EACH	26.000	26.000
0120	505.0906	Bar Couplers No. 6	EACH	24.000	24.000
0122	506.2610	Bearing Pads Elastomeric Laminated	EACH	8.000	8.000
0124	506.6000	Bearing Assemblies Expansion (structure) 01. B-30-65	EACH	1.000	1.000
0126	506.6000	Bearing Assemblies Expansion (structure) 02. B-40-392	EACH	1.000	1.000
0128	506.7050.S	Removing Bearings (structure) 01. B-30-65	EACH	1.000	1.000
0130	506.7050.S	Removing Bearings (structure) 02. B-40-392	EACH	1.000	1.000
0132	506.7050.S	Removing Bearings (structure) 03. B-45-39	EACH	8.000	8.000
0134	509.0301	Preparation Decks Type 1	SY	249.000	249.000
0136	509.0302	Preparation Decks Type 2	SY	107.000	107.000
0138	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	590.000	590.000
0140	509.0500	Cleaning Decks	SY	8,521.000	8,521.000
0142	509.1000	Joint Repair	SY	251.000	251.000
0144	509.1200	Curb Repair	LF	46.000	46.000
0146	509.1500	Concrete Surface Repair	SF	223.000	223.000
0148	509.2000	Full-Depth Deck Repair	SY	14.000	14.000
0150	509.2100.S	Concrete Masonry Deck Repair	CY	29.000	29.000
0152	509.2500	Concrete Masonry Overlay Decks	CY	521.000	521.000
0154	509.2600	Concrete Masonry Overlay Approaches	CY	21.000	21.000
0156	509.3500.S	HMA Overlay Polymer-Modified	TON	769.000	769.000

Line	Item	Item Description	Unit	Total	Qty
0158	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 01. B-30-65	SY	1,051.000	1,051.000
0160	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 02. B-30-66	SY	673.000	673.000
0162	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 03. B-30-67	SY	673.000	673.000
0164	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 04. B-45-39	SY	1,526.000	1,526.000
0166	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 05. B-45-95	SY	1,462.000	1,462.000
0168	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 06. B-66-27	SY	135.000	135.000
0170	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 07. B-66-93	SY	648.000	648.000
0176	514.0900	Adjusting Floor Drains	EACH	12.000	12.000
0178	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-30-65	LS	1.000	1.000
0180	517.1800.S	Structure Repainting Recycled Abrasive (structure) 02. B-40-392	LS	1.000	1.000
0182	517.1800.S	Structure Repainting Recycled Abrasive (structure) 03. B-45-39	LS	1.000	1.000
0184	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-30-65	LS	1.000	1.000
0186	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 02. B-40-392	LS	1.000	1.000
0188	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 03. B-45-39	LS	1.000	1.000
0190	517.6001.S	Portable Decontamination Facility	EACH	3.000	3.000
0192	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	4.000	4.000
0194	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	183.000	183.000
0196	601.0409	Concrete Curb & Gutter 30-Inch Type A	LF	525.000	525.000
0198	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	18.000	18.000
0200	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	108.000	108.000
0202	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	137.000	137.000
0204	602.0410	Concrete Sidewalk 5-Inch	SF	1,948.000	1,948.000
0206	603.8000	Concrete Barrier Temporary Precast Delivered	LF	5,475.000	5,475.000
0208	603.8125	Concrete Barrier Temporary Precast Installed	LF	10,950.000	10,950.000
0210	604.9010.S	Slope Paving Repair Crushed Aggregate	CY	14.000	14.000
0212	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	1,225.000	1,225.000
0214	606.0200	Riprap Medium	CY	25.000	25.000

1000-51-72

Line	Item	Item Description	Unit	Total	Qty
0218	611.0606	Inlet Covers Type B	EACH	2.000	2.000
0220	611.0651	Inlet Covers Type S	EACH	2.000	2.000
0222	611.0654	Inlet Covers Type V	EACH	4.000	4.000
0224	611.3220	Inlets 2x2-FT	EACH	4.000	4.000
0226	611.8115	Adjusting Inlet Covers	EACH	12.000	12.000
0228	612.0106	Pipe Underdrain 6-Inch	LF	269.000	269.000
0230	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	260.000	260.000
0232	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	1.000	1.000
0234	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0236	614.0395	Guardrail Mow Strip Concrete	SY	131.000	131.000
0238	614.2300	MGS Guardrail 3	LF	150.000	150.000
0240	614.2330	MGS Guardrail 3 K	LF	1,137.500	1,137.500
0242	614.2500	MGS Thrie Beam Transition	LF	273.000	273.000
0244	614.2610	MGS Guardrail Terminal EAT	EACH	7.000	7.000
0246	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1000-51-72	EACH	1.000	1.000
0250	619.1000	Mobilization	EACH	0.900	0.900
0252	620.0300	Concrete Median Sloped Nose	SF	28.000	28.000
0254	624.0100	Water	MGAL	24.000	24.000
0256	625.0105	Topsoil	CY	325.000	325.000
0258	627.0200	Mulching	SY	1,080.000	1,080.000
0260	628.1504	Silt Fence	LF	4,255.000	4,255.000
0262	628.1520	Silt Fence Maintenance	LF	4,255.000	4,255.000
0264	628.1905	Mobilizations Erosion Control	EACH	12.000	12.000
0266	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0268	628.2004	Erosion Mat Class I Type B	SY	2,310.000	2,310.000
0270	628.7010	Inlet Protection Type B	EACH	36.000	36.000
0272	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0274	628.7560	Tracking Pads	EACH	2.000	2.000
0276	628.7570	Rock Bags	EACH	90.000	90.000
0278	629.0210	Fertilizer Type B	CWT	2.000	2.000
0280	630.0130	Seeding Mixture No. 30	LB	55.000	55.000
0282	630.0200	Seeding Temporary	LB	27.000	27.000
0284	631.1000	Sod Lawn	SY	230.000	230.000
0286	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	35.000	35.000
0288	637.2210	Signs Type II Reflective H	SF	62.000	62.000
0290	637.2230	Signs Type II Reflective F	SF	81.000	81.000
0292	638.2102	Moving Signs Type II	EACH	6.000	6.000
0294	638.2602	Removing Signs Type II	EACH	23.000	23.000

1000-51-72

Line	Item	Item Description	Unit	Total	Qty
0296	638.3000	Removing Small Sign Supports	EACH	31.000	31.000
0298	642.5001	Field Office Type B 01. Ozaukee County	EACH	1.000	1.000
0300	642.5001	Field Office Type B 02. Kenosha County	EACH	1.000	1.000
0302	642.5001	Field Office Type B 03. Milwaukee County	EACH	1.000	1.000
0304	643.0300	Traffic Control Drums	DAY	24,381.000	24,381.000
0306	643.0420	Traffic Control Barricades Type III	DAY	4,133.000	4,133.000
0308	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	64.000	64.000
0310	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	64.000	64.000
0312	643.0705	Traffic Control Warning Lights Type A	DAY	8,738.000	8,738.000
0314	643.0715	Traffic Control Warning Lights Type C	DAY	5,928.000	5,928.000
0316	643.0800	Traffic Control Arrow Boards	DAY	678.000	678.000
0318	643.0900	Traffic Control Signs	DAY	32,403.000	32,403.000
0320	643.0910	Traffic Control Covering Signs Type I	EACH	11.000	11.000
0322	643.0920	Traffic Control Covering Signs Type II	EACH	216.000	216.000
0324	643.1000	Traffic Control Signs Fixed Message	SF	1,447.500	1,447.500
0326	643.1050	Traffic Control Signs PCMS	DAY	713.000	713.000
0328	643.5000	Traffic Control	EACH	0.800	0.800
0330	644.1420.S	Temporary Pedestrian Surface Plywood	SF	128.000	128.000
0332	644.1601.S	Temporary Curb Ramp	EACH	4.000	4.000
0334	644.1616.S	Temporary Pedestrian Safety Fence	LF	2,820.000	2,820.000
0336	645.0111	Geotextile Type DF Schedule A	SY	120.000	120.000
0338	645.0120	Geotextile Type HR	SY	88.000	88.000
0340	646.1020	Marking Line Epoxy 4-Inch	LF	17,870.000	17,870.000
0342	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	550.000	550.000
0344	646.3020	Marking Line Epoxy 8-Inch	LF	403.000	403.000
0348	646.9000	Marking Removal Line 4-Inch	LF	5,475.000	5,475.000
0350	649.0105	Temporary Marking Line Paint 4-Inch	LF	5,518.000	5,518.000
0352	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	52,716.000	52,716.000
0354	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	1,285.000	1,285.000
0356	649.0850	Temporary Marking Stop Line Removable Tape 18-Inch	LF	48.000	48.000
0358	649.0960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	1,482.000	1,482.000
0360	649.0970	Temporary Marking Removable Mask Out Tape 10-Inch	LF	313.000	313.000
0362	690.0150	Sawing Asphalt	LF	954.000	954.000
0364	690.0250	Sawing Concrete	LF	740.000	740.000
0366	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0368	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
0370	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,800.000	1,800.000
0372	SPV.0060	Special 01. Cleaning Pipe Inverts	EACH	2.000	2.000
0374	SPV.0060	Special 02. MGS Guardrail Terminal EAT TL-2	EACH	1.000	1.000
0376	SPV.0060	Special 03. Cleaning and Painting Bearings	EACH	34.000	34.000

1000-51-72

Line	Item	Item Description	Unit	Total	Qty
0378	SPV.0090	Special 01. Remove and Reinstall Guardrail	LF	163.000	163.000
0380	SPV.0090	Special 02. Remove and Reinstall Fence	LF	136.000	136.000
0382	SPV.0090	Special 03. MGS Thrie Beam Transition TL-2	LF	14.000	14.000
0384	SPV.0090	Special 04. Fill Existing Rumble Strips	LF	2,625.000	2,625.000
0386	SPV.0090	Special 05. Sawing Concrete Curb Head	LF	91.000	91.000
0390	SPV.0105	Special 01. Survey Project 1000-51-72	LS	1.000	1.000
0394	SPV.0105	Special 03. Debris Containment Over Waterways B-30-65	LS	1.000	1.000
0396	SPV.0105	Special 04. Debris Containment Over Waterways B-45-95	LS	1.000	1.000
0398	SPV.0105	Special 05. Debris Containment Over Waterways B-64-80	LS	1.000	1.000
0400	SPV.0105	Special 06. Debris Containment Over Waterways B-66-27	LS	1.000	1.000
0402	SPV.0105	Special 07. Debris Containment Over Waterways B-66-93	LS	1.000	1.000
0404	SPV.0105	Special 08. Debris Containment Over Waterways B-66-99	LS	1.000	1.000
0406	SPV.0105	Special 09. Debris Containment Over Waterways B-67-220	LS	1.000	1.000
0408	SPV.0105	Special 10. Debris Containment Over Waterways B-67-230	LS	1.000	1.000
0416	SPV.0165	Special 01. Fiber Wrap Reinforcing Structural	SF	867.000	867.000
0418	SPV.0180	Special 01. Methylacrylate Sealer	SY	1,285.000	1,285.000

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA	REMARKS
49+00	-	50+00	B-45-39	1	1	ONE TREE REMOVAL
53+50		54+50	B-45-39	1	1	PIPE UNDERDRAIN INSTALLATION
55+00	-	56+00	B-45-39	1	1	EAT GRADING AREA
			TOTAL 0010	3	3	

REMOVING SMALL PIPE CULVERTS

STATION	TO	STATION	LOCATION	203.0100 EACH	REMARKS
899+03 LT	-	899+27 LT	B-66-27	1	12" x 24' CPCS
			TOTAL 0010	1	

PAVEMENT REMOVAL

LOCATION	204.0100 REMOVING PAVEMENT SY	204.0105 REMOVING PAVEMENT BUTT JOINTS SY	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	REMARKS
B-30-65	188	--	19	410	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-66	--	--	--	324	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-67	--	31	--	299	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	631	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	584	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	--	--	926	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	--	--	--	951	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-64-80	--	--	--	550	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	--	--	156	303	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	--	--	--	455	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-99	--	--	--	565	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-220	--	--	--	512	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	--	389	53	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	1,403	420	1,154	4,369	

REMOVING CURB & GUTTER

LOCATION	204.0150 LF	REMARKS
B-30-65	54	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	10	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	183	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	130	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	377	

REMOVING CONCRETE SIDEWALK

LOCATION	204.0155 SY	REMARKS
B-40-392	54	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	48	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	114	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	131	CONCRETE MEDIAN
TOTAL 0010	347	

3

REMOVING GUARDRAIL

LOCATION	204.0165 LF	REMARKS
B-45-39	1,478	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	77	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	261	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	1,816	

REMOVING SURFACE DRAINS

LOCATION	204.0190 EACH	REMARKS
B-67-220	2	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	1	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	3	

3

REMOVING INLETS

LOCATION	204.0220 EACH	REMARKS
B-45-39	2	SEE STORM SEWER SHEET FOR LOCATIONS
TOTAL 0010	2	

REMOVING STORM SEWER 12-INCH

LOCATION	204.0245 LF	REMARKS
B-45-39	154	SEE STORM SEWER SHEET FOR LOCATIONS
TOTAL 0010	154	

EXCAVATION COMMON

LOCATION	205.0100 CY	REMARKS
B-30-65	101	CONCRETE APPROACHES
B-30-65	6	CURB & GUTTER REPLACEMENT
B-40-392	316	CONCRETE APPROACHES
B-40-392	21	CURB & GUTTER REPLACEMENT
B-40-392	5	SIDEWALK
B-40-644	292	CONCRETE APPROACHES
B-40-644	20	CURB & GUTTER REPLACEMENT
B-40-644	4	SIDEWALK
B-45-39	50	CONCRETE APPROACHES
B-45-95	10	SIDEWALK
B-66-27	177	SHOULDER/DITCH GRADING
B-67-230	15	CURB & GUTTER REPLACEMENT
UNDISTRIBUTED	100	
TOTAL 0010	1,117	

NOTE: BACKFILL 3 FEET BEHIND CURB & GUTTER WITH EXCAVATED MATERIAL

PREPARE FOUNDATION FOR ASPHALTIC PAVING (1000-51-72)

STATION TO		STATION	LOCATION	211.0100 LS	REMARKS
47+84	-	55+27	B-45-39	1	ASPHALT APPROACHES
			TOTAL 0010	1	

PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

STATION TO		STATION	LOCATION	211.0400 STA	REMARKS
898+56	-	900+41	B-66-27	2	SHOULDER WIDENING
78+50	-	78+85	B-67-230	1	NW QUADRANT SHOULDER
			TOTAL 0010	3	

BASE AGGREGATE

LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	310.0110 BASE AGGREGATE OPEN-GRADED TON	REMARKS
B-30-65	--	80	--	CONCRETE APPROACHES
B-30-65	10	--	--	SEE NOTE BELOW
B-30-66	10	--	--	SEE NOTE BELOW
B-30-67	10	--	--	SEE NOTE BELOW
B-40-392	--	220	--	CONCRETE APPROACHES
B-40-392	--	15	--	SIDEWALK
B-40-644	--	200	--	CONCRETE APPROACHES
B-40-644	--	10	--	SIDEWALK
B-45-39	--	50	--	CONCRETE APPROACHES
B-45-39	70	--	--	SHOULDERS
B-45-95	--	25	--	SIDEWALK
B-64-80	10	--	--	SEE NOTE BELOW
B-66-27	70	325	--	SHOULDER WIDENING
B-66-27	--	--	20	PIPE UNDERDRAIN AREA
B-66-27	10	--	--	SEE NOTE BELOW
B-66-93	10	--	--	SEE NOTE BELOW
B-66-99	10	--	--	SEE NOTE BELOW
B-67-220	10	--	--	SEE NOTE BELOW
B-67-230	10	--	--	SEE NOTE BELOW
TOTAL 0010	230	925	20	

NOTE: PLACE AGGREGATE AS NEEDED TO CORRECT THE EXISTING SHOULDER SLOPE WITHIN THE CONSTRUCTION LIMITS

DETOUR ROUTES

STRUCTURE NO.	DETOUR ROADWAY	LOCATION	305.0410 AGGREGATE DETOURS TON	465.0115 ASPHALTIC SURFACE DETOURS TON
B-40-52	W WELLS ST	UNDISTRIBUTED*	--	--
B-40-392	STH 36 & CTH U RAMPS	UNDISTRIBUTED*	--	--
B-45-39	MINK RANCH RD	UNDISTRIBUTED*	5	5
B-45-39	STH 57	UNDISTRIBUTED*	5	5
B-64-80	STH 120	UNDISTRIBUTED*	10	5
B-66-27	STH 175	UNDISTRIBUTED*	10	5
B-66-93	STH 33	UNDISTRIBUTED*	10	5
B-66-99	STH 145	UNDISTRIBUTED*	10	5
B-67-220	STH 83	UNDISTRIBUTED*	20	10
B-67-220	STH 83 ALT	UNDISTRIBUTED*	20	5
		TOTAL 0010	90	45

*EXACT LOCATIONS ALONG DETOUR ROUTES TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

CONCRETE APPROACHES

LOCATION	390.0303 BASE PATCHING CONCRETE SY	415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	416.0620 DRILLED DOWEL BARS EACH	REMARKS
B-30-65	--	74	134	32	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	--	339	228	56	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	--	355	160	48	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	--	45	83	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	16	--	--	32	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	16	813	605	168	

3

DRILLED TIE BARS

LOCATION	416.0610 EACH	REMARKS
B-30-65	5	CONCRETE REPLACEMENT NW QUADRANT
B-67-220	40	CONCRETE SURFACE DRAIN
B-67-230	17	CONCRETE SURFACE DRAIN
B-67-230	48	CURB & GUTTER REPLACEMENTS
TOTAL 0010	110	

CONCRETE SURFACE DRAINS

LOCATION	416.1010 CY	REMARKS
B-67-220	6	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	2	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	8	

RUMBLE STRIPS

STATION	TO	STATION	LOCATION	465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF	SPV.0090.04 FILL EXISTING RUMBLE STRIPS LF
439+20	-	448+35	B-30-65	915	915
452+90	-	454+25	B-30-65	135	135
487+15	-	496+50	B-30-66	935	935
498+50	-	501+00	B-30-66	250	250
493+90	-	495+90	B-30-67	200	200
500+50	-	502+40	B-30-67	190	190
			TOTAL 0010	2,625	2,625

ASPHALT ITEMS

LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	REMARKS
B-30-65	29	--	50	--	BUTT JOINTS
B-30-66	23	--	40	--	BUTT JOINTS
B-30-67	23	--	40	--	BUTT JOINTS
B-45-39	--	--	--	220	APPROACHES
B-45-95	67	--	115	--	BUTT JOINTS
B-64-80	38	70	--	--	BUTT JOINTS
B-66-27	21	40	--	--	BUTT JOINTS
B-66-27	--	40	--	--	SHOULDERS
B-66-93	32	--	55	--	BUTT JOINTS
B-66-99	40	70	--	--	BUTT JOINTS
B-67-220	36	--	65	--	BUTT JOINTS
B-67-230	--	--	15	--	SHOULDER
TOTAL 0010	309	220	380	220	

CURB REPAIR

LOCATION	509.1200 LF	REMARKS
B-40-52	5	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	5	

CONCRETE MASONRY OVERLAY APPROACHES

LOCATION	509.2600 CY	REMARKS
B-67-230	21	BUTT JOINTS
TOTAL 0010	21	

STORM SEWER

LOCATION	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH	611.0606 INLET COVERS TYPE B EACH	611.0651 INLET COVERS TYPE S EACH	611.0654 INLET COVERS TYPE V EACH	611.3220 INLETS 2X2-FT EACH	611.8115 ADJUSTING INLET COVERS EACH	612.0106 PIPE UNDERDRAIN 6-INCH LF	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF	612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH	REMARKS
B-30-65	--	--	--	--	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-66	--	--	--	--	--	1	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-67	--	--	--	--	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	--	--	--	--	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	4	--	--	4	4	--	--	260	--	SEE STORM SEWER SHEET FOR LOCATIONS
B-64-80	--	--	--	--	--	1	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	--	--	--	--	--	--	269	--	1	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	--	--	--	--	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-220	--	--	--	--	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	--	2	2	--	--	--	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	4	2	2	4	4	12	269	260	1	

CURB & GUTTER

LOCATION	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0409 CONCRETE CURB & GUTTER 30-INCH TYPE A LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	REMARKS
B-30-65	--	--	--	--	54	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	--	232	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	--	250	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	--	--	--	108	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	183	--	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	--	--	18	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	--	43	--	--	83	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	183	525	18	108	137	

CONCRETE SIDEWALK 5-INCH

LOCATION	602.0410 SF	REMARKS
B-40-392	487	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	435	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	1,026	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	1,948	

3

3

TEMPORARY CONCRETE BARRIER

STATION	TO	STATION	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	REMARKS
447+00	-	452+75	STH 165 EB (B-30-65) - STAGE 1	575	575	RE-USE ON NEXT STAGE
447+00	-	452+75	STH 165 EB (B-30-65) - STAGE 2	--	575	
494+50	-	499+75	STH 165 EB (B-30-66) - STAGE 1	575	575	RE-USE ON NEXT STAGE
494+50	-	499+75	STH 165 EB (B-30-66) - STAGE 2	--	575	
495+90	-	501+65	STH 165 WB (B-30-67) - STAGE 1	575	575	RE-USE ON NEXT STAGE
495+90	-	501+65	STH 165 WB (B-30-67) - STAGE 2	--	575	
106+95	-	114+70	CTH BB EB (B-40-392) - STAGE 1A & 1B	775	775	RE-USE ON NEXT STAGE
106+95	-	114+70	CTH BB EB (B-40-392) - STAGE 2	--	775	
136+25	-	142+75	STH 36 NB (B-40-392) - STAGE 3	650	650	RE-USE ON NEXT STAGE
138+50	-	144+00	STH 36 SB (B-40-392) - STAGE 3	550	550	RE-USE ON NEXT STAGE
136+25	-	142+75	STH 36 NB (B-40-392) - STAGE 4	--	650	
138+50	-	144+00	STH 36 SB (B-40-392) - STAGE 4	--	550	
109+23	-	116+86	CTH BB WB (B-40-644) - STAGE 1A & 1B	762.5	762.5	RE-USE ON NEXT STAGE
109+23	-	116+86	CTH BB WB (B-40-644) - STAGE 2	--	762.5	
90+61	-	96+23	STH 33 (B-45-95) - STAGE 1	562.5	562.5	RE-USE ON NEXT STAGE
91+73	-	97+25	STH 33 (B-45-95) - STAGE 2	--	562.5	
78+25	-	82+75	STH 59 WB (B-67-230) - STAGE 1	450	450	RE-USE ON NEXT STAGE
78+25	-	82+75	STH 59 WB (B-67-230) - STAGE 2	--	450	
			TOTAL 0010	5,475	10,950	

SLOPE PAVING

LOCATION	604.9010.S SLOPE PAVING REPAIR CRUSHED AGGREGATE CY	604.9015.S RESEAL CRUSHED AGGREGATE SLOPE PAVING SY	REMARKS
B-45-39	10	25	REPAIR SLOPE PAVING
TOTAL 0010	10	25	

RIPRAP

LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY	REMARKS
B-45-39	16	58	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	4	12	SEE PLAN DETAIL SHEET FOR LOCATIONS
UNDISTRIBUTED	5	18	
TOTAL 0010	25	88	

3

3

GUARDRAIL

LOCATION	614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING EACH	614.0395 GUARDRAIL MOW STRIP CONCRETE SY	614.2300 MGS GUARDRAIL 3 LF	614.2330 MGS GUARDRAIL 3 K LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH	SPV.0060.02 MGS GUARDRAIL TERMINAL EAT TL-2 EACH	SPV.0090.01 REMOVE AND REINSTALL GUARDRAIL LF	SPV.0090.03 MGS THRIE BEAM TRANSITION TL-2 LF	REMARKS
B-30-65	--	--	--	--	--	--	--	54	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	--	--	--	--	--	--	--	12	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	--	--	--	--	--	--	--	13	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	4	--	--	1,137.5	156	4	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	--	--	75	--	39	1	1	--	14	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	--	--	--	--	--	--	--	18	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-220	--	--	--	--	--	--	--	66	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	--	131	75	--	78	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	4	131	150	1,137.5	273	7	1	163	14	

BARRIER SYSTEM GRADING SHAPING FINISHING

LOCATION	TOPSOIL * CY	MULCHING * SY	FERTILIZER TYPE B * CWT	SEEDING MIXTURE NO. 30 * LB
B-45-39	162	985	0.6	18
TOTAL 0010	162	985	0.6	18

*FOR INFORMATION ONLY. PAID AS BARRIER SYSTEM GRADING SHAPING FINISHING. TOPSOIL USED AS FILL.

CONCRETE MEDIAN SLOPED NOSE

LOCATION	620.0300 SF	REMARKS
B-67-230	28	TYPE 2
TOTAL 0010	28	

WATER

LOCATION	624.0100 MGAL	REMARKS
PROJECT	24	BASE AGGREGATE DENSE LOCATIONS
TOTAL 0010	24	

3

RESTORATION ITEMS

LOCATION	625.0105 TOPSOIL CY	627.0200 MULCHING SY	628.2004 EROSION MAT CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200 SEEDING TEMPORARY LB	631.1000 SOD LAWN SY	REMARKS
B-30-65	6	--	--	--	--	--	18	CURB & GUTTER RESTORATION
B-40-392	15	44	44	--	--	--	--	EROSION RESTORATION AROUND WINGWALL
B-40-392	21	--	--	--	--	--	62	CURB & GUTTER RESTORATION
B-40-644	163	244	244	--	--	--	--	EROSION RESTORATION AROUND WINGWALL
B-40-644	20	--	--	--	--	--	60	CURB & GUTTER RESTORATION
B-45-39	--	239	239	--	--	--	--	STORM SEWER AREAS
B-45-39	*	*	985	*	*	--	--	BARRIER SYSTEM
B-45-95	8	46	46	--	--	--	--	EROSION RESTORATION AROUND WINGWALL
B-66-27	10	283	283	--	--	--	--	GRADING AREAS
B-67-230	15	--	--	--	--	--	44	CURB & GUTTER RESTORATION
B-67-230	2	7	7	--	--	--	--	EROSION RESTORATION AROUND WINGWALL
PROJECT WIDE	--	--	--	1.4	42	21	46	ALL GRADING AND RESTORATION
UNDISTRIBUTED	65	217	462	0.6	13	6	--	
TOTAL 0010	325	1,080	2,310	2.0	55	27	230	

* DOES NOT INCLUDE QUANTITIES LISTED UNDER BARRIER SYSTEM GRADING SHAPING FINISHING ITEM

FIELD OFFICE TYPE B

LOCATION	642.5001 EACH
KENOSHA COUNTY (B-30-65/B-30-66/B-30-67)	1
MILWAUKEE COUNTY (B-40-392/B-40-644)	1
OZAUKEE COUNTY (B-45-39/B-45-95)	1
TOTAL 0010	3

3

EROSION CONTROL

LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7010 INLET PROTECTION TYPE B EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7560 TRACKING PADS EACH	628.7570 ROCK BAGS EACH	REMARKS
B-30-65	75	75	1	1	2	--	--	71	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-66	--	--	1	--	3	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-67	--	--	1	--	3	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-52	--	--	1	--	1	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	105	105	1	1	5	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	243	243	--	--	5	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	2,088	2,088	1	1	4	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	132	132	1	--	--	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-64-80	--	--	1	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	494	494	1	1	--	32	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	--	--	1	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-220	--	--	1	--	2	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	266	266	1	1	7	--	--	--	SEE PLAN DETAIL SHEET FOR LOCATIONS
UNDISTRIBUTED	852	852	--	--	--	8	2	19	
TOTAL 0010	4,255	4,255	12	5	36	40	2	90	

TYPE II PERMANENT SIGNING -

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W [IN.]	x	H [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	W5-52L(3)	--	18	x	54	--	6.750	1	1	1	--	--	4 FT MOUNT HEIGHT
2	W5-52R(3)	--	18	x	54	--	6.750	1	1	1	--	--	4 FT MOUNT HEIGHT
3	I3-1	DES PLAINES RIVER	--	x	--	--	--	--	2	2	1	--	--
4	W5-52R(2M)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
5	R7-1D(2M)	--	24	x	30	5.000	--	1	1	1	--	--	--
6	W5-52R(2M)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
7	J3-1	--	--	x	--	--	--	--	--	--	1	8	--
8	D1-1	[LA] W RAWSON AVE - WEST	--	x	--	--	--	--	2	2	1	--	--
9	R7-1D(2M)	--	24	x	30	5.000	--	1	1	1	--	--	--
10	W5-52L(2S)	--	12	x	36	--	3.000	--	--	1	--	--	4 FT MOUNT HEIGHT
11	W5-52R(2S)	--	12	x	36	--	3.000	--	--	1	--	--	4 FT MOUNT HEIGHT
12	W5-52R(2S)	--	12	x	36	--	3.000	--	--	1	--	--	4 FT MOUNT HEIGHT
13	W5-52L(2S)	--	12	x	36	--	3.000	--	--	1	--	--	4 FT MOUNT HEIGHT
14	J3-1(2S)	--	24	x	57	9.500	--	1	1	1	--	--	--
	M3-4	--	24	x	12								
	M1-6	STH 33	24	x	24								
	M5-2R	--	21	x	21								
15	W5-52L(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
16	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
17	I3-1	LIMESTONE CREEK	--	x	--	--	--	--	2	2	1	--	--
18	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
19	W5-52L(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
20	D1-1	[LA] HILLCREST DR	--	x	--	--	--	--	2	2	1	--	--
20A	W14-3	--	--	x	--	--	--	--	--	--	1	20	BACK OF SIGN #20
21	W5-52L(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
22	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
23	W14-3(2S)	--	36	x	48	--	6.000	1	1	1	--	--	--
24	W5-52R(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
25	W5-52L(2S)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
26	S1-1(2S)	--	36	x	36	--	6.750	--	--	--	--	23	BACK OF SIGN #23
27	S16-9P(2S)	--	30	x	18	--	3.750	--	--	--	--	23	--
28	W5-52R(3)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
29	R7-1R(3)	--	24	x	30	5.000	--	1	1	1	--	--	--
30	W5-52L(3)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
31	R3-20L(3)	--	36	x	54	13.500	--	1	1	1	--	--	--
32	W5-52L(3)	--	12	x	36	--	3.000	1	1	1	--	--	4 FT MOUNT HEIGHT
33	R2-1(3)	45 MPH	36	x	48	12.000	--	1	1	1	--	--	--
34	R2-1(3)	45 MPH	36	x	48	12.000	--	1	1	1	--	--	--
TOTALS						62.000	81.000	23	31	35	6		

SHEET 1 OF 1

PROJECT NO: 1000-51-72	HWY: VARIOUS	COUNTY: VARIOUS	MISCELLANEOUS QUANTITIES – PERMANENT SIGNING	SHEET:	E

3

TRAFFIC CONTROL

LOCATION	DAYS	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050 TRAFFIC CONTROL SIGNS EACH	643.1050 PCMS DAY	643.5000 TRAFFIC CONTROL EACH
TRAFFIC CONTROL PLANS													
STH 165 OVERVIEW	52	--	--	--	--	--	--	--	2,184	--	--	--	--
STH 165 EB (B-30-65) STAGE 1	26	1,326	78	--	--	104	468	52	312	--	1	31	--
STH 165 EB (B-30-65) STAGE 2	26	1,248	78	--	--	104	364	52	312	--	1	31	--
STH 165 EB (B-30-66) STAGE 1	15	855	60	--	--	60	120	--	195	--	1	20	--
STH 165 EB (B-30-66) STAGE 2	15	870	60	--	--	120	--	--	195	--	--	--	--
STH 165 WB (B-30-67) STAGE 1	15	1,845	60	--	--	120	615	30	315	--	1	20	--
STH 165 WB (B-30-67) STAGE 2	15	1,650	45	--	--	90	420	30	300	--	1	20	--
CTH BB EB (B-40-392) STAGE 1A/1B	26	1,794	52	--	--	104	1,274	52	572	--	1	31	--
CTH BB EB (B-40-392) STAGE 2	26	1,430	52	--	--	104	572	52	572	--	1	31	--
CTH BB WB (B-40-644) STAGE 1A/1B	26	988	26	--	--	52	468	52	494	--	1	31	--
CTH BB WB (B-40-644) STAGE 2	26	988	52	--	--	104	442	52	598	--	1	31	--
STH 36 NB (B-40-392) STAGE 3	10	990	40	--	--	80	190	20	160	--	1	15	--
STH 36 SB (B-40-392) STAGE 3	10	590	10	--	--	20	230	20	120	--	1	15	--
STH 36 NB (B-40-392) STAGE 4	10	1,270	130	--	--	200	290	20	200	--	1	15	--
STH 36 SB (B-40-392) STAGE 4	10	720	90	--	--	130	330	20	160	--	1	15	--
sth 57 nB (B-45-39) PAINTING (CLOSURE/DETOUR)	3	150	36	--	--	72	78	6	42	--	1	8	--
sth 57 nB (B-45-39) PAINTING (SHOULDER CLOSURE)	7	84	7	--	--	14	0	7	63	--	0	0	--
STH 57 SB (B-45-39) PAINTING (CLOURE/DETOUR)	3	213	30	--	--	60	57	6	39	--	1	8	--
STH 57 SB (B-45-39) PAINTING (SHOULDER CLOSURE)	7	84	7	--	--	14	0	7	63	--	0	0	--
STH 33 (B-45-95) STAGE 1	15	1,080	120	27	27	195	615	30	465	--	1	20	--
STH 33 (B-45-95) STAGE 2	15	990	135	27	27	225	525	30	435	--	1	20	--
STH 59 (B-67-230) STAGE 1	20	1,000	40	--	--	80	440	40	640	--	1	25	--
STH 59 (B-67-230) STAGE 2	20	1,000	40	--	--	80	440	40	580	--	1	25	--
DETOUR ROUTE PLANS													
W WELLS STREET (B-40-52)	3	24	48	--	--	96	--	--	228	174.00	--	--	--
W RAWSON AVE & STH 36 RAMPS (B-40-392/644)	10	80	--	--	--	--	--	--	780	24.00	2	30	--
MINK RANCH RD (B-45-39)	26	208	468	--	--	936	--	--	1,586	131.25	--	--	--
STH 57 (B-45-39) PAINTING	10	80	--	--	--	--	--	--	1,150	96.75	2	30	--
STH 33 (B-45-95) STAGE 1	15	--	30	--	--	60	--	--	285	--	--	--	--
STH 33 (B-45-95) STAGE 2	15	--	30	--	--	60	--	--	270	--	--	--	--
STH 120 (B-64-80)	14	112	364	--	--	728	--	--	1,932	136.50	2	38	--
STH 175 (B-66-27)	18	144	414	--	--	828	--	--	2,358	183.00	2	46	--
STH 33 (B-66-93)	18	144	360	--	--	720	--	--	2,502	58.50	2	46	--
STH 145 (B-66-99)	14	112	294	--	--	588	--	--	2,086	223.50	2	38	--
STH 83 (B-67-220)	19	152	437	--	--	874	--	--	2,850	357.00	2	48	--
STH 83 (B-67-220) ALT	20	160	40	--	--	80	--	--	3,360	63.00	1	25	--
UNDISTRIBUTED		2,000	400	10	10	700	800	60	4,000	--	--	--	0.8
TOTAL 0010		24,381	4,133	64	64	7,802	8,738	678	32,403	1,447.50		713	0.8

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: SE REGION WIDE	MISCELLANEOUS QUANTITIES	SHEET:

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ PLOT SCALE : 1:1

3

TRAFFIC CONTROL COVERING SIGNS TYPE I

LOCATION	NUMBER OF SIGNS	NUMBER OF CYCLES	643.0910 EACH	REMARKS
STH 57 NB (B-45-39) PAINTING	2	1	2	SEE PLAN DETAIL SHEET FOR LOCATIONS
STH 57 (B-45-39) PAINTING	1	1	1	SEE PLAN DETAIL SHEET FOR LOCATIONS
STH 33 (B-45-95) STAGE 1	1	1	1	SEE PLAN DETAIL SHEET FOR LOCATIONS
STH 120 (B-64-80)	3	1	3	SEE PLAN DETAIL SHEET FOR LOCATIONS
STH 83 (B-67-220)	4	1	4	SEE PLAN DETAIL SHEET FOR LOCATIONS
		TOTAL 0010	11	

TEMPORARY PEDESTRIAN

STATION TO	STATION	LOCATION	644.1420.S TEMPORARY PEDESTRIAN SURFACE PLYWOOD SF	644.1601.S TEMPORARY CURB RAMP EACH	644.1616.S TEMPORARY PEDESTRIAN SAFETY FENCE LF
		STAGE 1A:			
108+22 -	114+67	W RAWSON AVE EB (B-40-392) RT	--	--	705
109+23 -	115+62	W RAWSON AVE WB (B-40-644) LT	--	--	705
		STAGE 1B:			
108+10 -	114+75	W RAWSON AVE EB (B-40-392) RT	64	2	705
109+10 -	115+75	W RAWSON AVE WB (B-40-644) LT	64	2	705
		TOTAL 0010	128	4	2,820

3

TRAFFIC CONTROL COVERING SIGNS TYPE II

LOCATION	NUMBER OF SIGNS	NUMBER OF CYCLES	643.0920 EACH
W RAWSON AVE & STH 36 RAMPS	6	1	6
STH 57 (B-45-39) PAINTING	12	1	12
STH 120 (B-64-80)	12	1	12
STH 175 (B-66-27)	18	1	18
STH 33 (B-66-93)	12	1	12
STH 145 (B-66-99)	12	1	12
STH 83 (B-67-220)	12	1	12
STH 83 (B-67-220) ALT	12	1	12
UNDISTRIBUTED	120	1	120
		TOTAL 0010	216

GEOTEXTILE TYPE DF SCHEDULE A

LOCATION	645.0111 SY	REMARKS
B-66-27	120	PIPE UNDERDRAIN LOCATIONS
TOTAL 0010	120	

PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF WHITE	646.1020 MARKING LINE EPOXY 4-INCH LF YELLOW	646.1020 MARKING LINE EPOXY 4-INCH LF YELLOW SKIPS	646.1020 MARKING LINE EPOXY 4-INCH LF WHITE SKIPS	646.1545 MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH LF WHITE	646.3020 MARKING LINE EPOXY 8-INCH LF WHITE
448+00	-	452+75	STH 165 (B-30-65)	475	475	--	--	137.5	--
496+00	-	499+50	STH 165 (B-30-66)	350	350	--	100	--	--
496+00	-	499+50	STH 165 (B-30-67)	350	350	--	100	--	--
103+35	-	105+25	W WELLS ST (B-40-52)	380	380	--	--	--	188
109+00	-	114+50	CTH BB (B-40-392)	--	--	--	--	162.5	--
109+00	-	115+00	CTH BB (B-40-644)	--	--	--	--	162.5	105
43+00	-	57+00	MINK RANCH RD	2,800	2,800	--	--	--	--
91+00	-	96+25	STH 33 (B-45-95)	1,050	1,050	--	300	--	--
387+00	-	391+00	STH 120 (B-64-80)	800	--	100	--	--	--
897+25	-	900+50	STH 175 (B-66-27)	650	325	75	--	--	--
261+25	-	265+00	STH 33 (B-66-93)	750	750	--	--	--	--
549+00	-	551+90	STH 145 (B-66-99)	580	580	--	--	--	110
369+50	-	372+00	STH 83 (B-67-220)	500	500	--	--	--	--
78+00	-	82+75	STH 59 (B-67-230)	475	475	--	--	87.5	--
			SUBTOTAL =	9,160	8,035	175	500		
			TOTAL 0010		17,870			550	403

3

TEMPORARY PAVEMENT MARKING

STATION	TO	STATION	LOCATION	646.9000 MARKING REMOVAL LINE 4-INCH LF	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH LF WHITE	649.0105 TEMPORARY MARKING LINE PAINT 4-INCH LF YELLOW	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF WHITE	649.0150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF YELLOW	649.0250 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH LF	649.0850 TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH LF	649.0960 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH LF	649.0970 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH LF
432+60	-	454+25	STH 165 EB (B-30-65) STAGE 1	1,538	425	425	1,090	1,751	--	--	143	--
437+25	-	454+25	STH 165 EB (B-30-65) STAGE 2	--	--	--	1,669	--	--	--	--	--
452+75	-	487+24	STH 165 EB (B-30-66) STAGE 1	9	--	--	--	3,449	--	--	--	--
487+24	-	501+75	STH 165 EB (B-30-66) STAGE 1	1,451	375	375	1,001	1,025	--	--	--	--
452+75	-	501+00	STH 165 EB (B-30-66) STAGE 2	--	--	--	4,825	--	--	--	--	--
493+90	-	509+50	STH 165 WB (B-30-67) STAGE 1	850	390	390	1,110	960	--	--	--	--
509+50	-	526+50	STH 165 WB (B-30-67) STAGE 1	--	--	--	1,491	--	588	--	299	158
494+50	-	509+50	STH 165 WB (B-30-67) STAGE 2	--	--	--	1,500	--	--	--	--	--
98+23	-	115+80	CTH BB (B-40-392) STAGE 1A/1B	--	547	--	1,057	--	--	--	130	80
107+75	-	121+74	CTH BB EB (B-40-392) STAGE 2	--	--	--	--	1,805	152	--	39	75
96+75	-	116+04	CTH BB WB (B-40-644) STAGE 1A/1B	--	559	--	842	--	--	--	104	--
106+78	-	123+05	CTH BB WB (B-40-644) STAGE 2	--	--	--	--	1,508	--	--	39	--
101+23	-	145+75	STH 36 NB (B-40-392) STAGE 3	--	--	--	1,458	4,386	101	--	195	--
136+00	-	163+00	STH 36 SB (B-40-392) STAGE 3	--	--	--	1,800	2,700	--	--	182	--
101+23	-	144+00	STH 36 NB (B-40-392) STAGE 4	--	--	--	4,112	415	310	--	--	--
136+00	-	161+00	STH 36 SB (B-40-392) STAGE 4	--	--	--	2,500	268	--	--	--	--
89+50	-	106+50	STH 33 (B-45-95) STAGE 1	--	464	928	1,002	1,576	--	--	65	--
89+50	-	99+50	STH 33 (B-45-95) STAGE 2	--	--	--	982	2,334	--	--	--	--
73+38	-	96+50	STH 59 (B-67-230) STAGE 1	1,627	320	320	1,000	1,600	--	--	260	--
73+38	-	92+25	STH 59 (B-67-230) STAGE 2	--	--	--	1,500	--	134	--	26	--
			CTH KE & STH 16 WB RAMPS	--	--	--	--	--	--	48	--	--
			SUBTOTAL =		3,080	2,438	28,939	23,777				
			TOTAL 0010	5,475	5,518		52,716		1,285	48	1,482	313

3

SAWING ASPHALT

LOCATION	690.0150 LF	REMARKS
B-30-65	32	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-66	16	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-67	16	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-39	44	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	101	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-64-80	97	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-27	354	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-93	81	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-99	100	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-220	101	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	12	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	954	

SAWING CONCRETE

LOCATION	690.0250 LF	REMARKS
B-30-65	119	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-66	48	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-30-67	48	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-392	108	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-40-644	102	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-45-95	28	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-230	287	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	740	

3

CLEANING PIPE INVERTS

LOCATION	SPV.0060.01 EACH	REMARKS
B-64-80	2	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	2	

REMOVE AND REINSTALL FENCE

LOCATION	SPV.0090.02 LF	REMARKS
B-45-39	136	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	136	

SAWING CONCRETE CURB HEAD

LOCATION	SPV.0090.05 LF	REMARKS
B-67-230	91	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	91	

SURVEY PROJECT 1000-51-72

LOCATION	SPV.0105.01 LS
PROJECT	1
TOTAL 0010	1

Standard Detail Drawing List

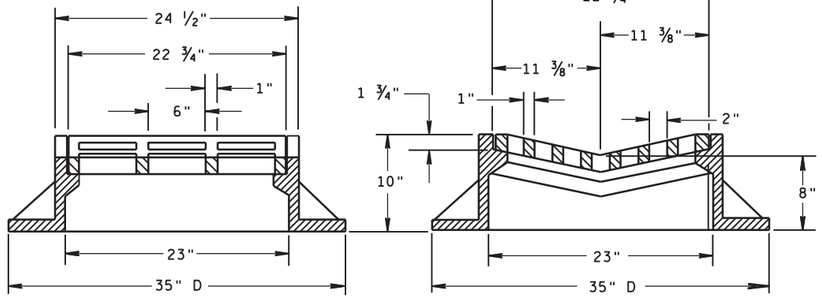
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D03-07	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
11B02-02	CONCRETE MEDIAN NOSE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-09	URBAN DOWELED CONCRETE PAVEMENT
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE
13C14-07C	BASE PATCHING CONCRETE
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B28-03	GUARDRAIL MOW STRIP
14B42-06A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-06D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C27-03B	PAVEMENT MARKING (ISLANDS)
15D03-05	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D06-03	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D12-07B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-04E	TRAFFIC CONTROL, PARALLEL EXIT RAMP WITHIN LANE CLOSURE
15D16-04	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
15D21-06	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

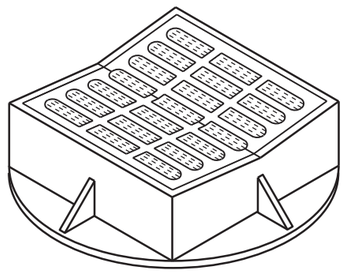
6

Standard Detail Drawing List

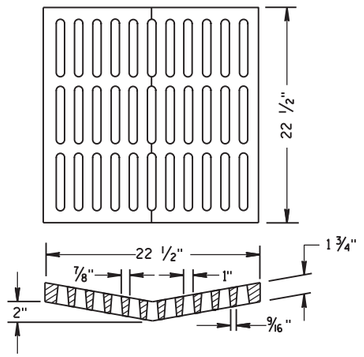
15D30-04A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-04B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-04C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

6





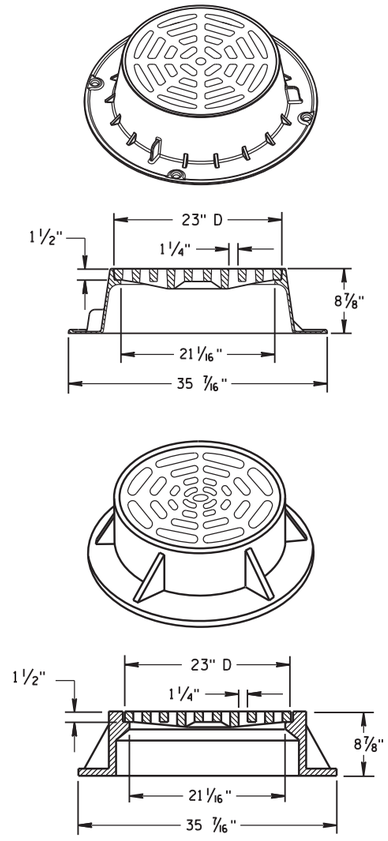
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.

NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

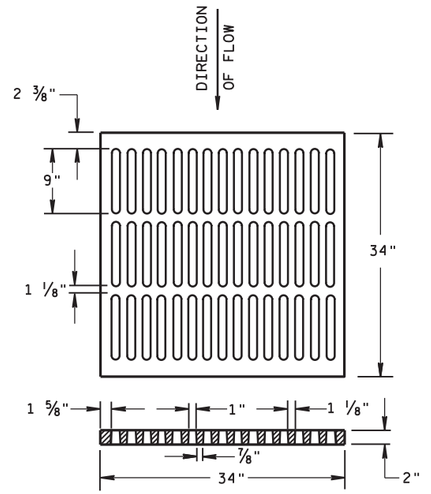
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

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

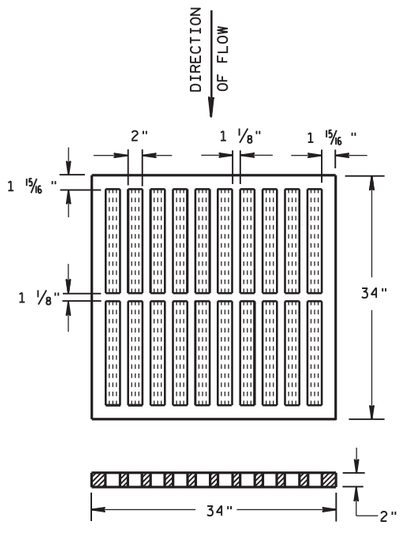
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED

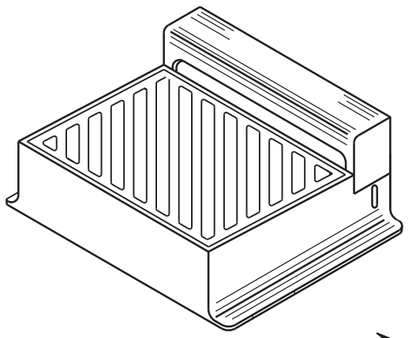
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



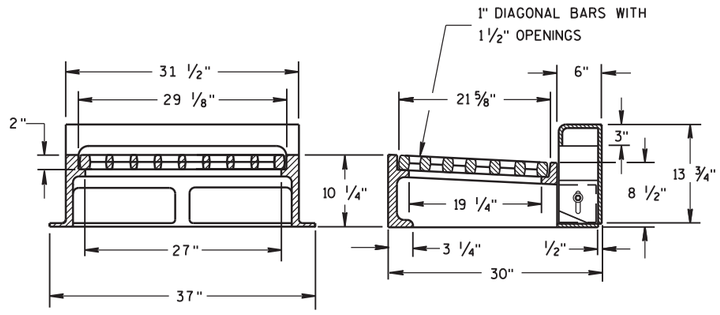
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON DRAINAGE TABLE



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/27/2013 — DATE

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

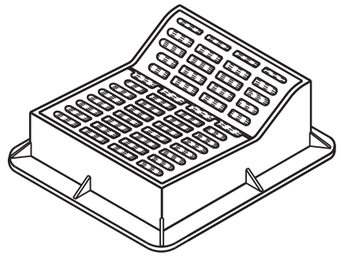
FHWA

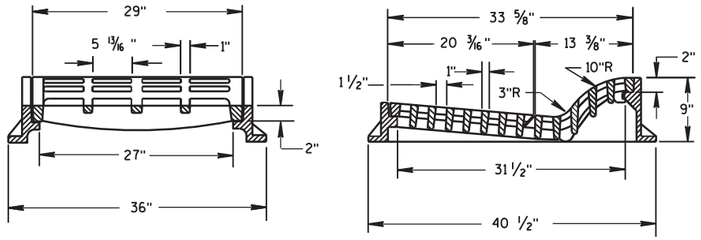
6

S.D.D. 8 A 5-19b

6

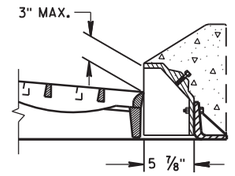
S.D.D. 8 A 5-19b





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

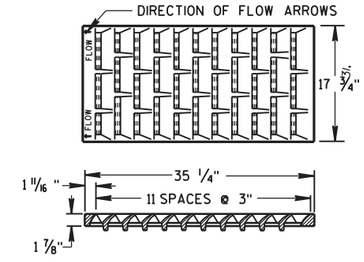
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

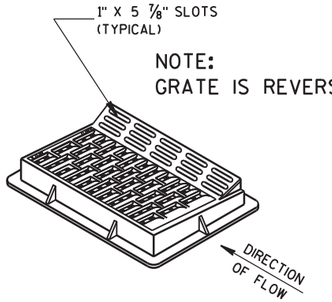
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

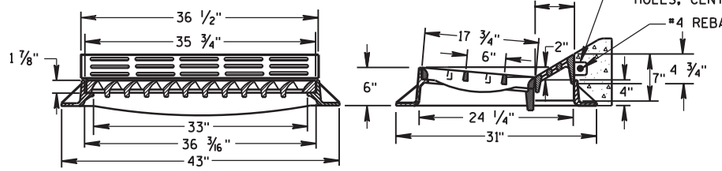
GENERAL NOTES

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

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



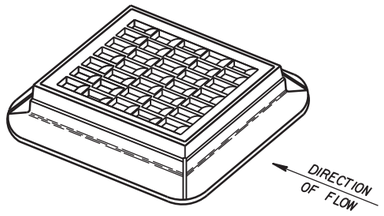


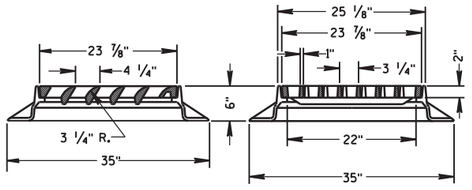


TYPE "HM"

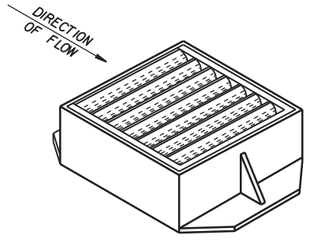
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

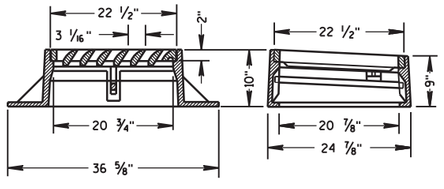
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



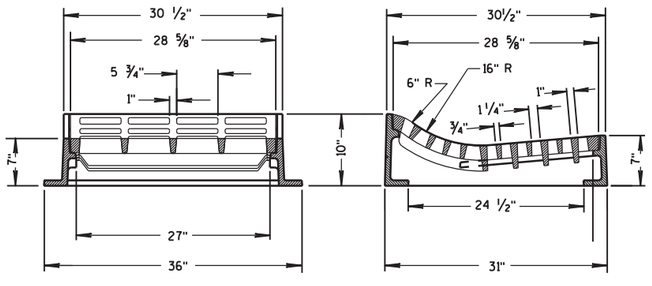


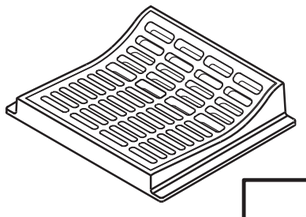
TYPE "S"





TYPE "V"





TYPE "T"

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

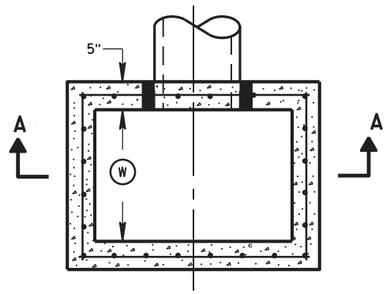
APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

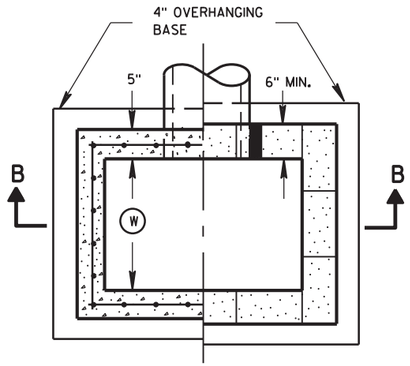
157

FHWA

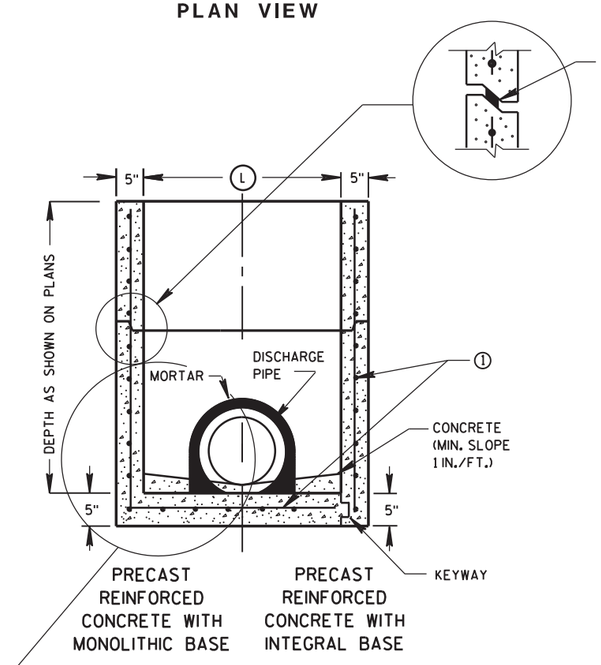
6
S.D.D. 8 A 5-19c



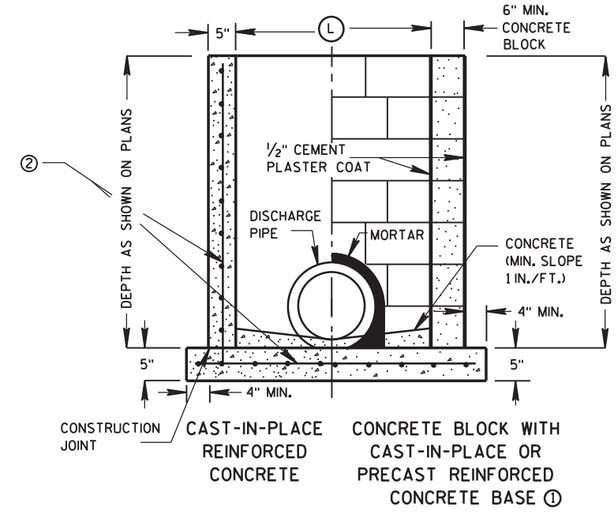
PLAN VIEW



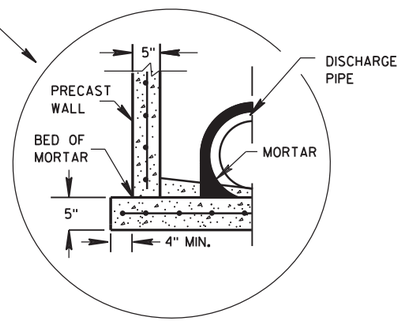
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

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

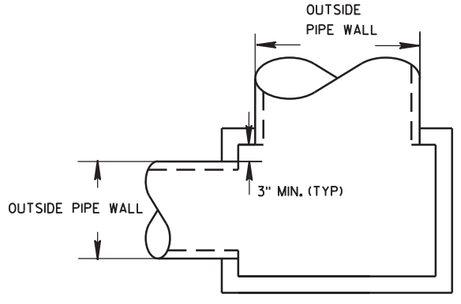
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



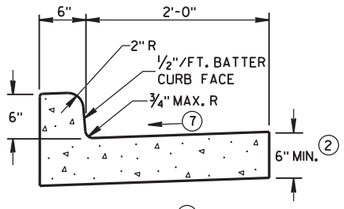
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

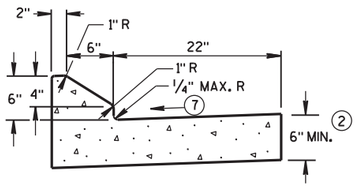
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

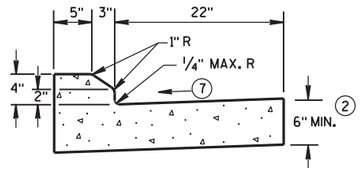
6
S.D.D. 8 C 7-2



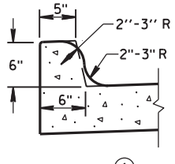
TYPES A (1) & D



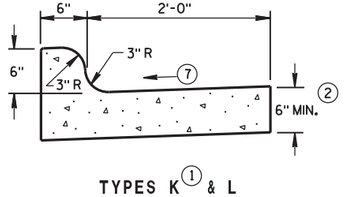
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

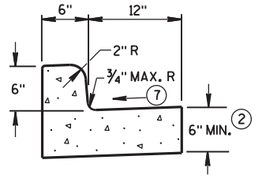


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



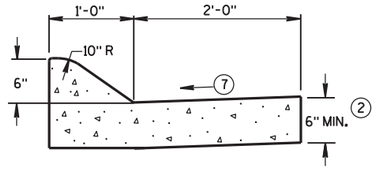
TYPES K (1) & L

CONCRETE CURB & GUTTER 30"

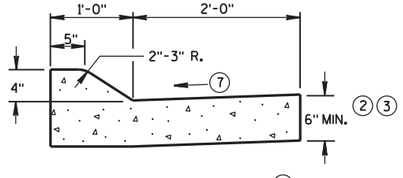


TYPES A (1) & D

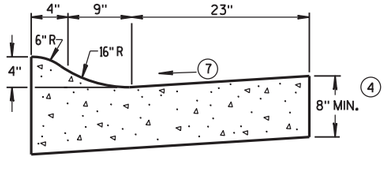
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A (1) & D

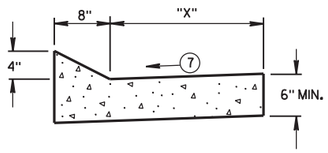


4" SLOPED CURB TYPES A (1) & D



4" SLOPED CURB TYPES R (1) & T (5)

CONCRETE CURB & GUTTER 36"



TYPES TBT & TBTT (1)

CONCRETE CURB & GUTTER

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

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

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

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

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

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

(5) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

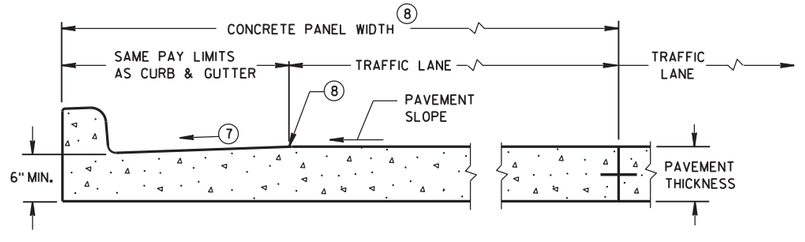
(6) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

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

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

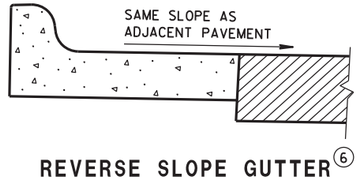
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT *
WITH INTEGRAL CURB & GUTTER

* BIKE LANE IS NOT SHOWN.



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

CONCRETE CURB & GUTTER

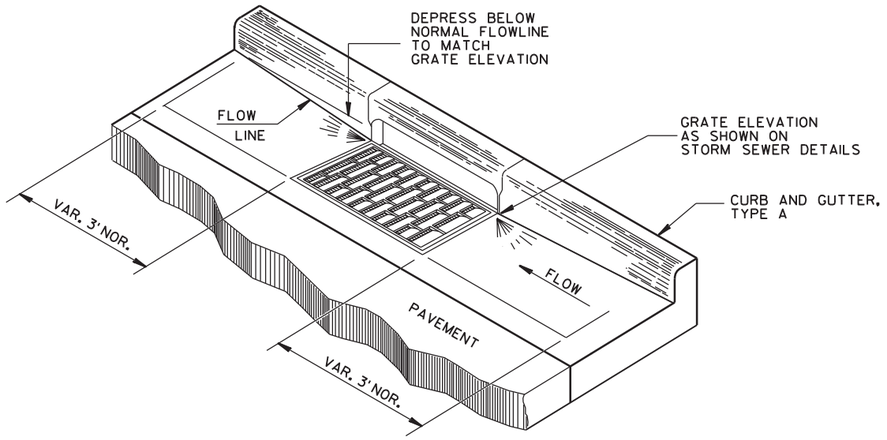
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

S.D.D. 8 D 1-20a

6

S.D.D. 8 D 1-20a



DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

GENERAL NOTES

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

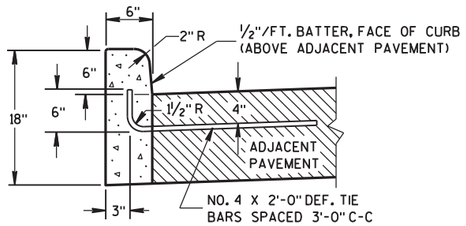
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

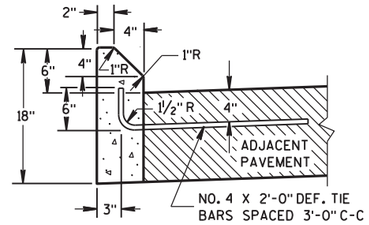
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

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

(9) REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

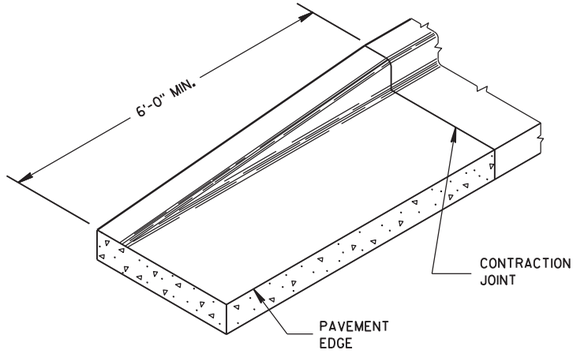


TYPES A(1) & D

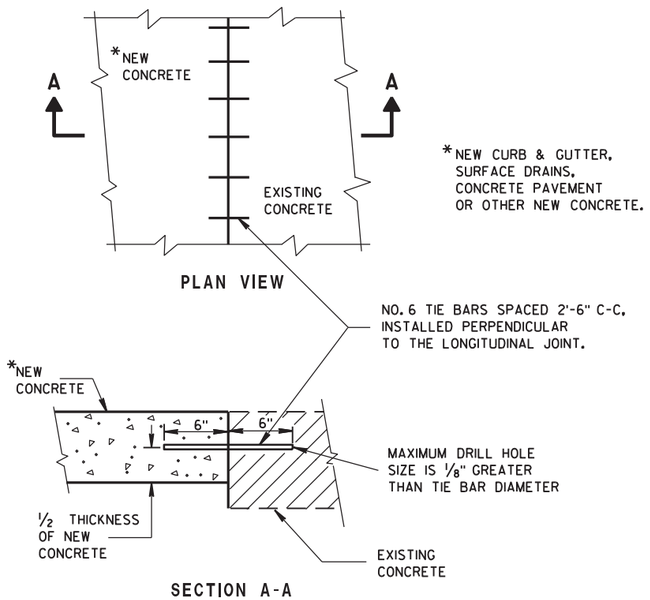


TYPES G(1) & J

CONCRETE CURB



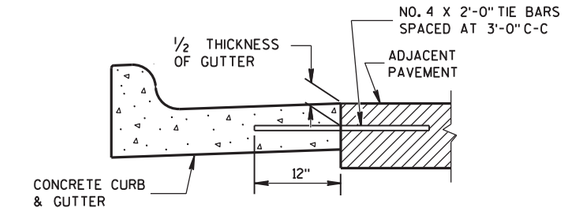
END SECTION CURB & GUTTER



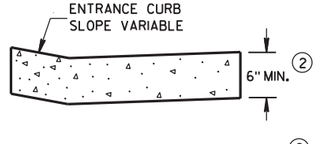
PLAN VIEW

SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (9)

(WHEN DIRECTED BY THE ENGINEER)

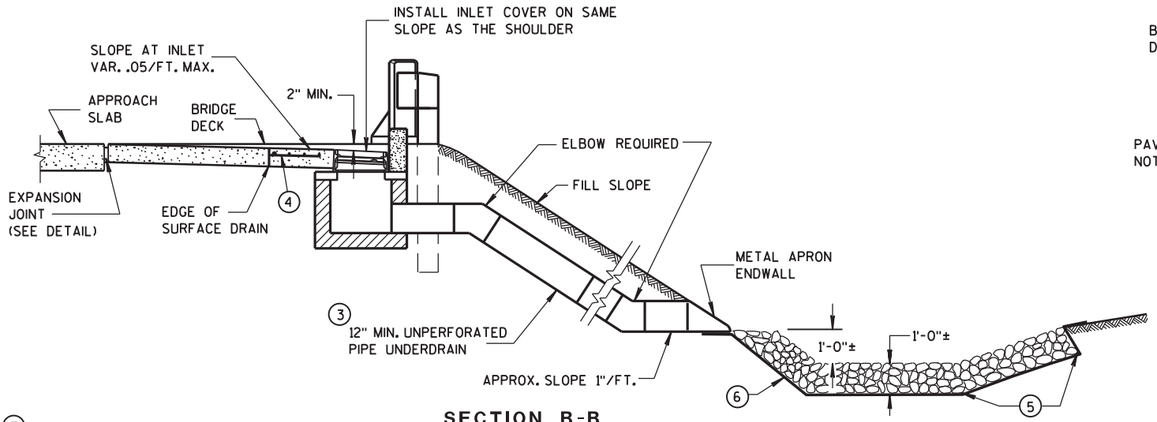
CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

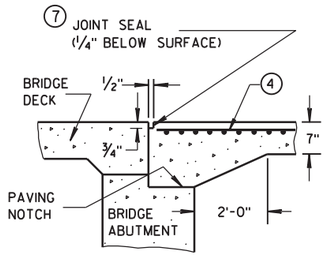
APPROVED
June, 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6

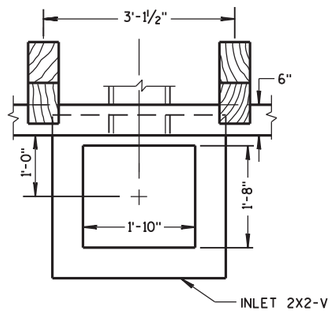
S.D.D. 8 D 1-20b



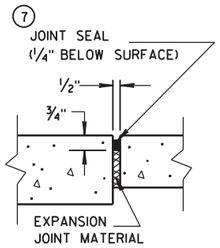
SECTION B-B



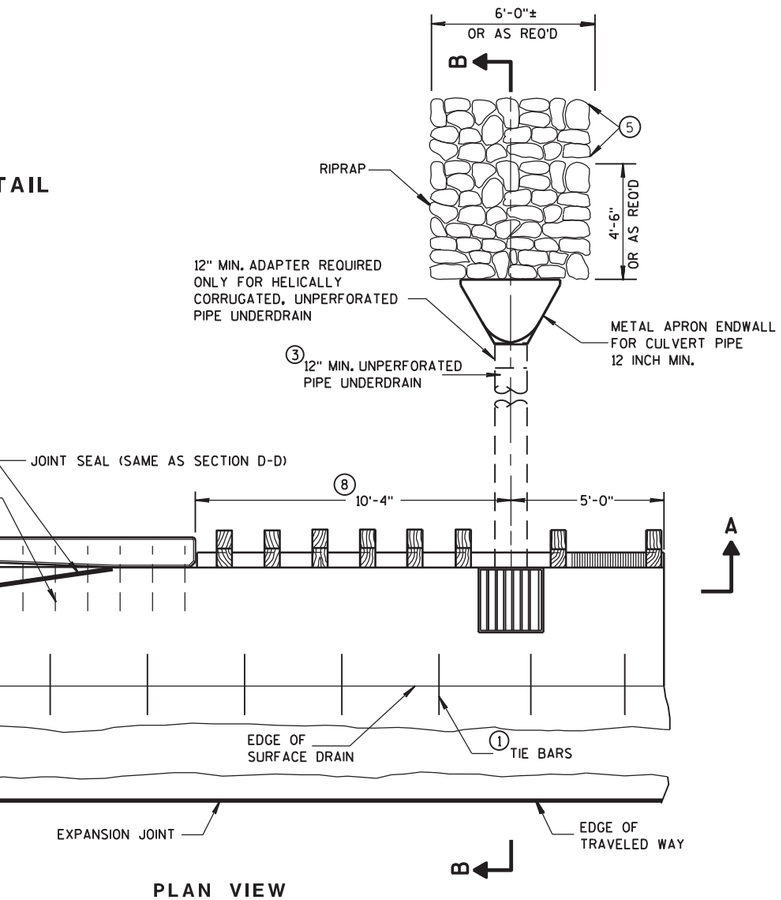
SECTION D-D



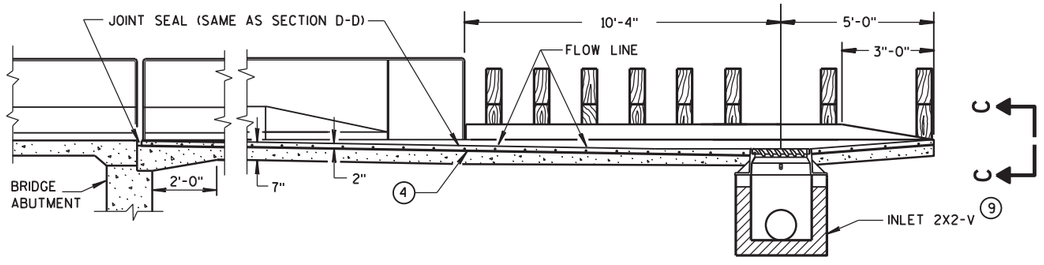
PLAN VIEW



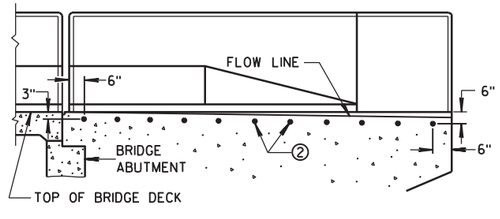
EXPANSION JOINT DETAIL



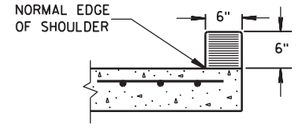
PLAN VIEW



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.

(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

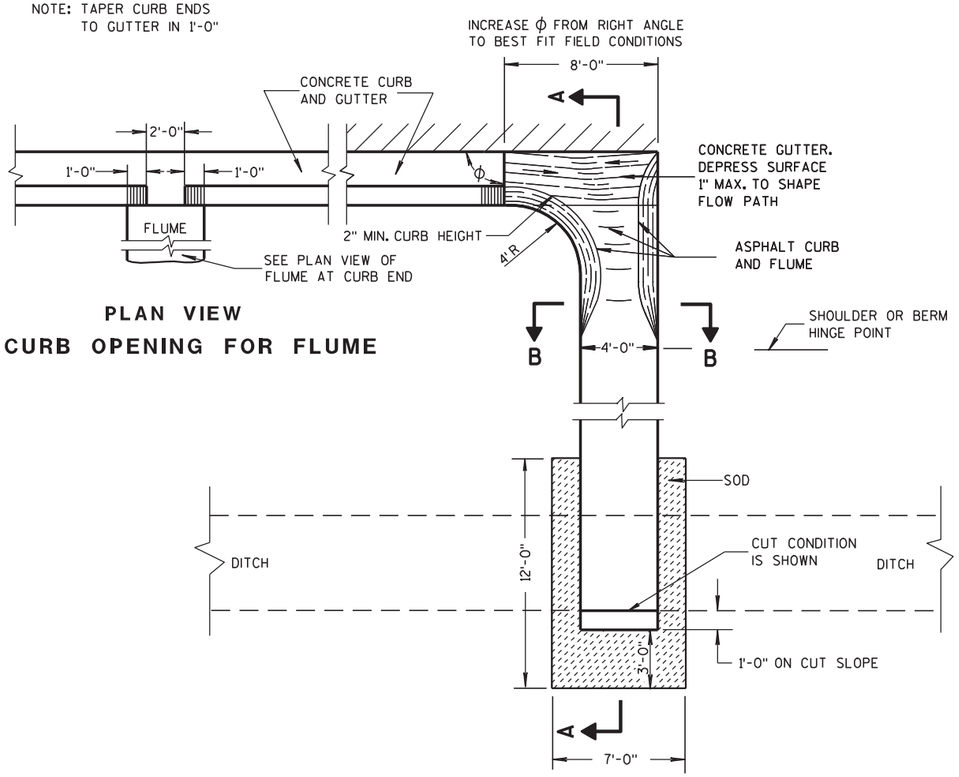
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV... — ...IENT
FHWA

6

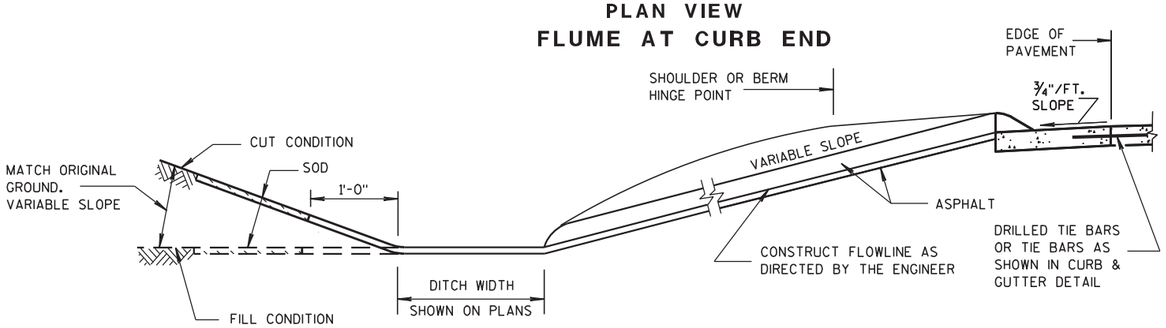
S.D.D. 8 D 3-7

ASPHALTIC FLUME

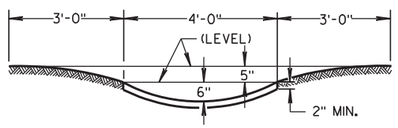


PLAN VIEW
CURB OPENING FOR FLUME

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.

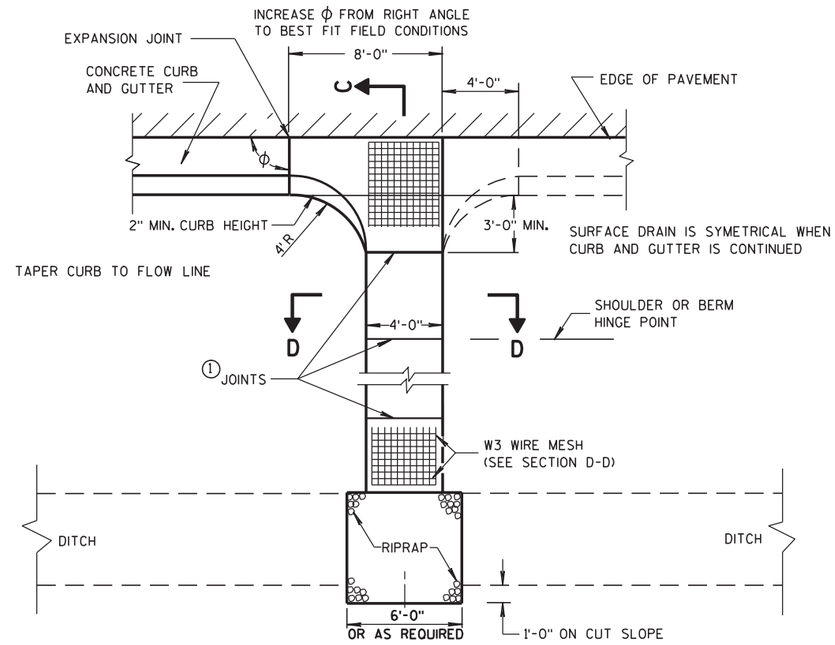
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

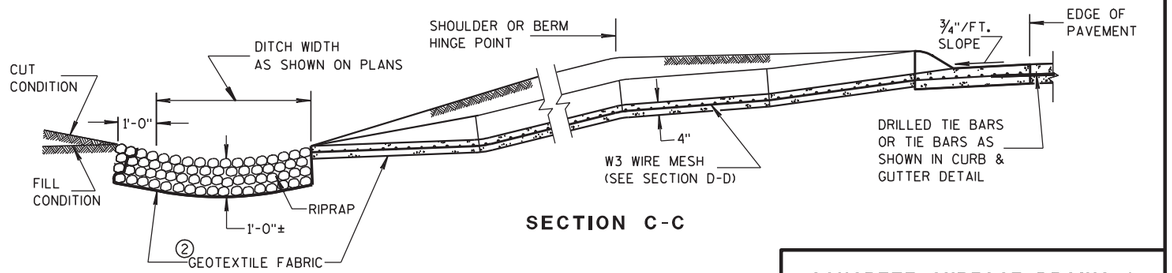
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

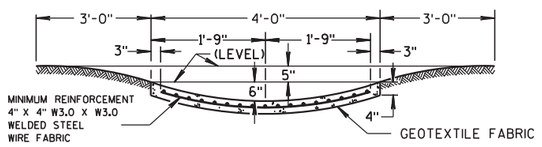
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C

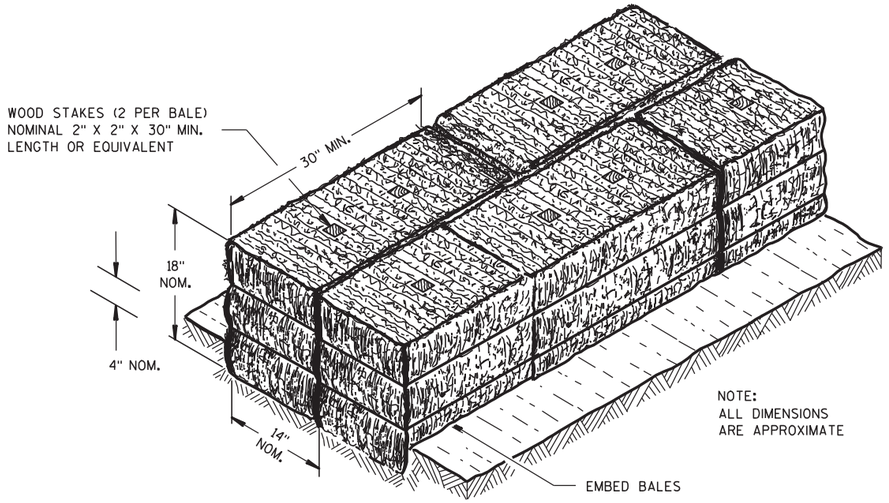


SECTION D-D

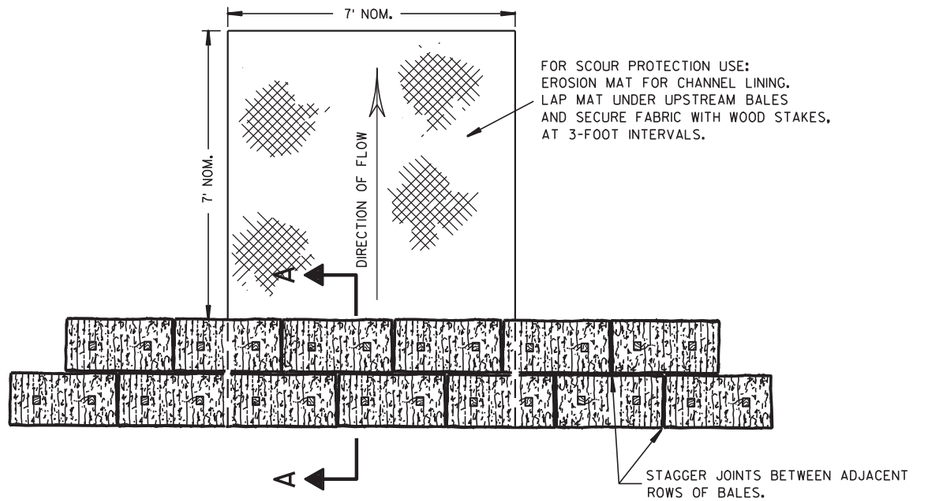
CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

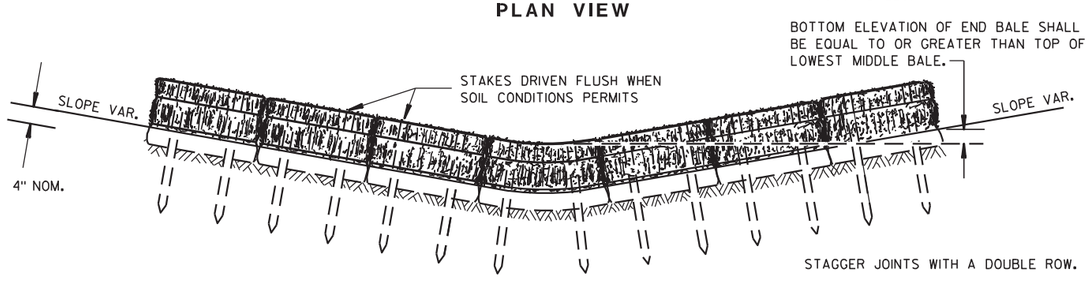
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



SECTION A-A



PLAN VIEW



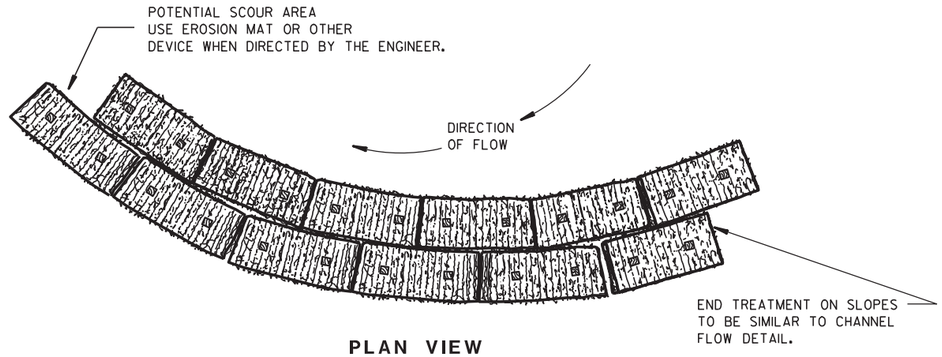
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

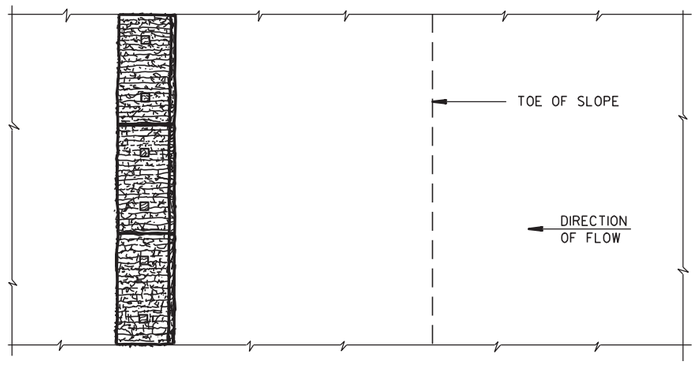
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

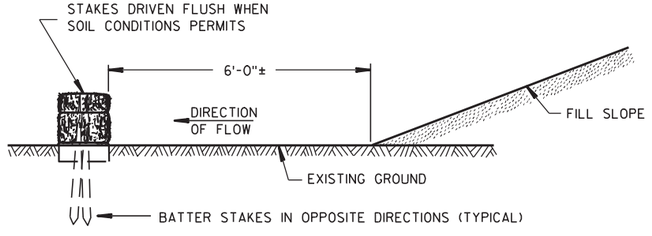


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

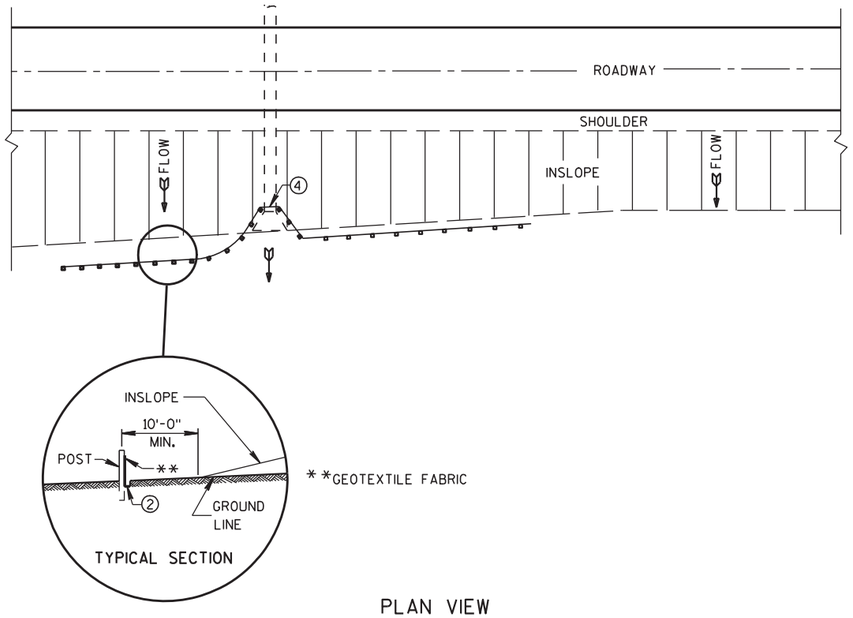
EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

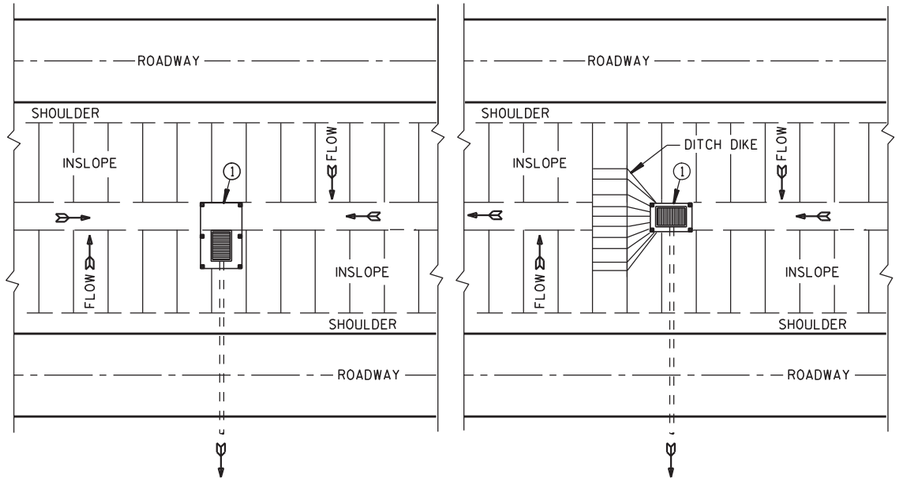
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



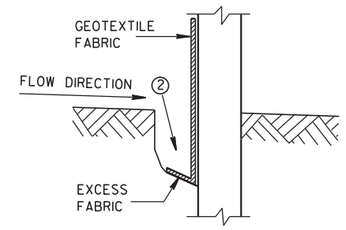
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

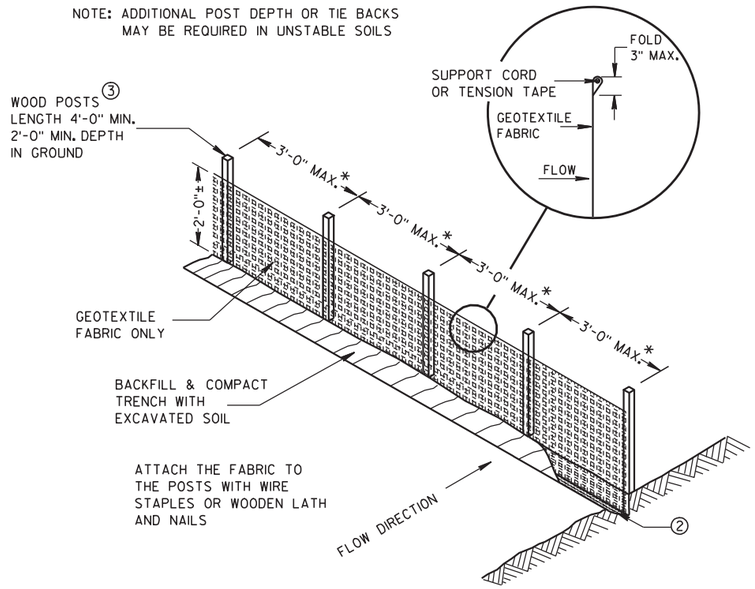
GENERAL NOTES

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

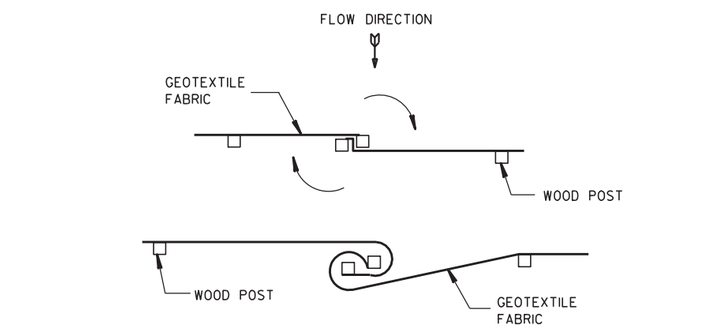
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



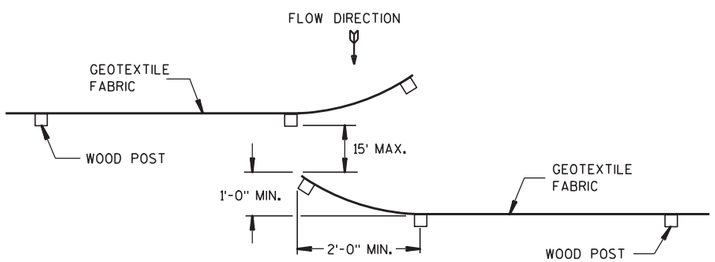
TRENCH DETAIL



SILT FENCE

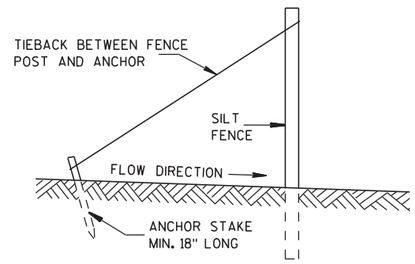


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

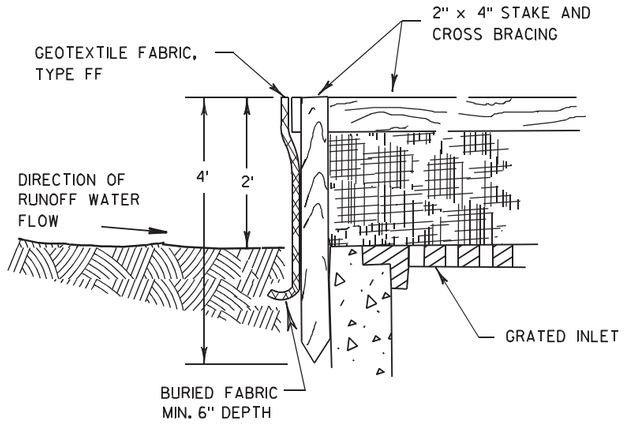
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

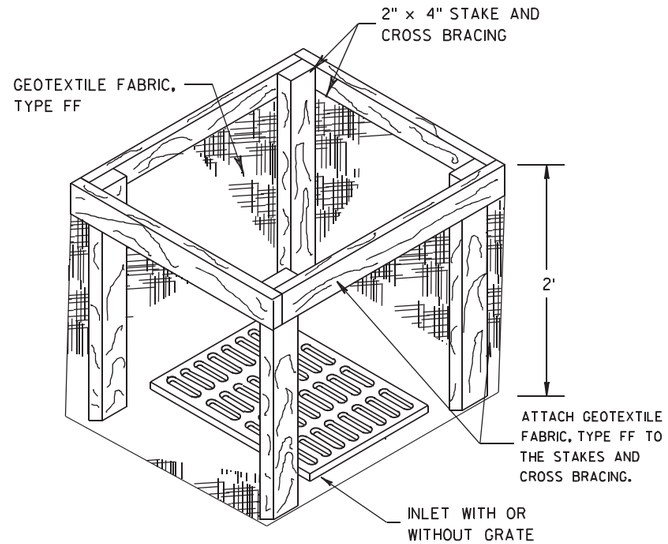
6

S.D.D. 8 E 9-6

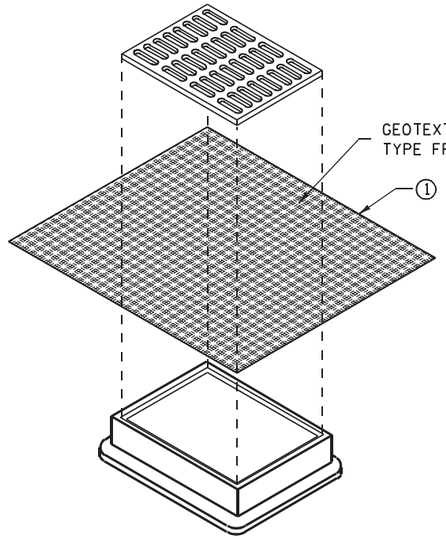
6

S.D.D. 8 E 9-6



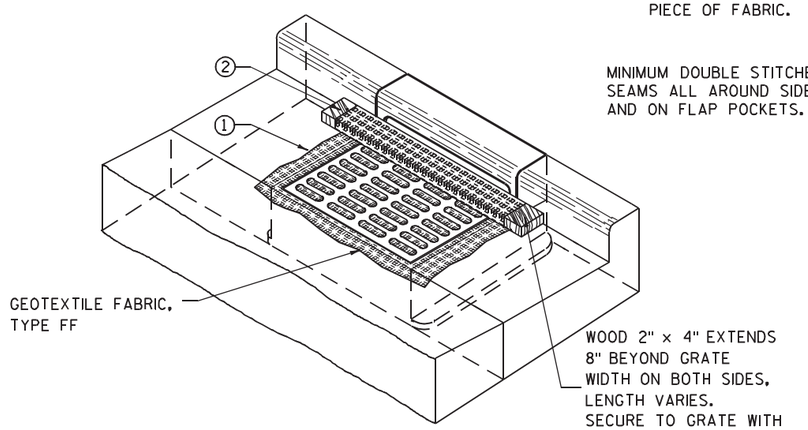


INLET PROTECTION, TYPE A

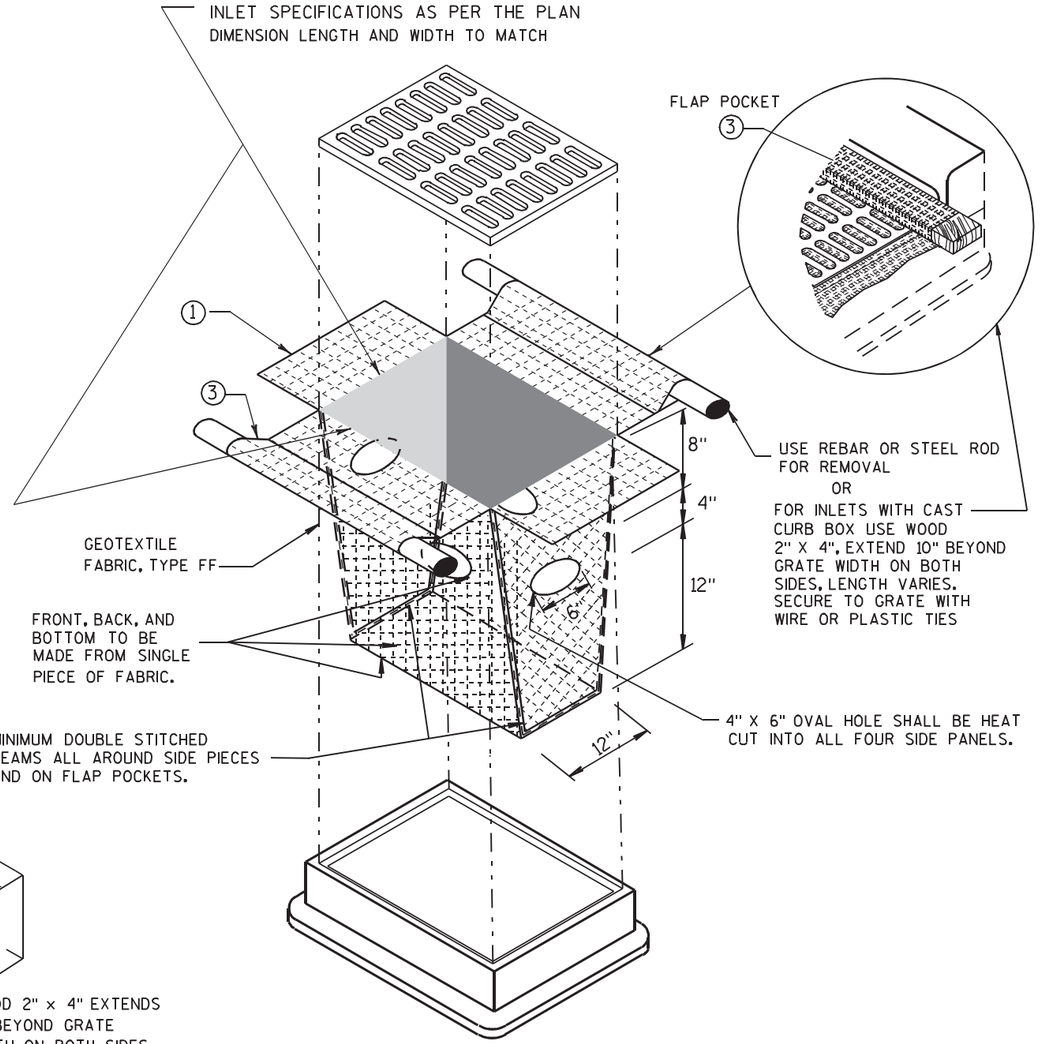


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

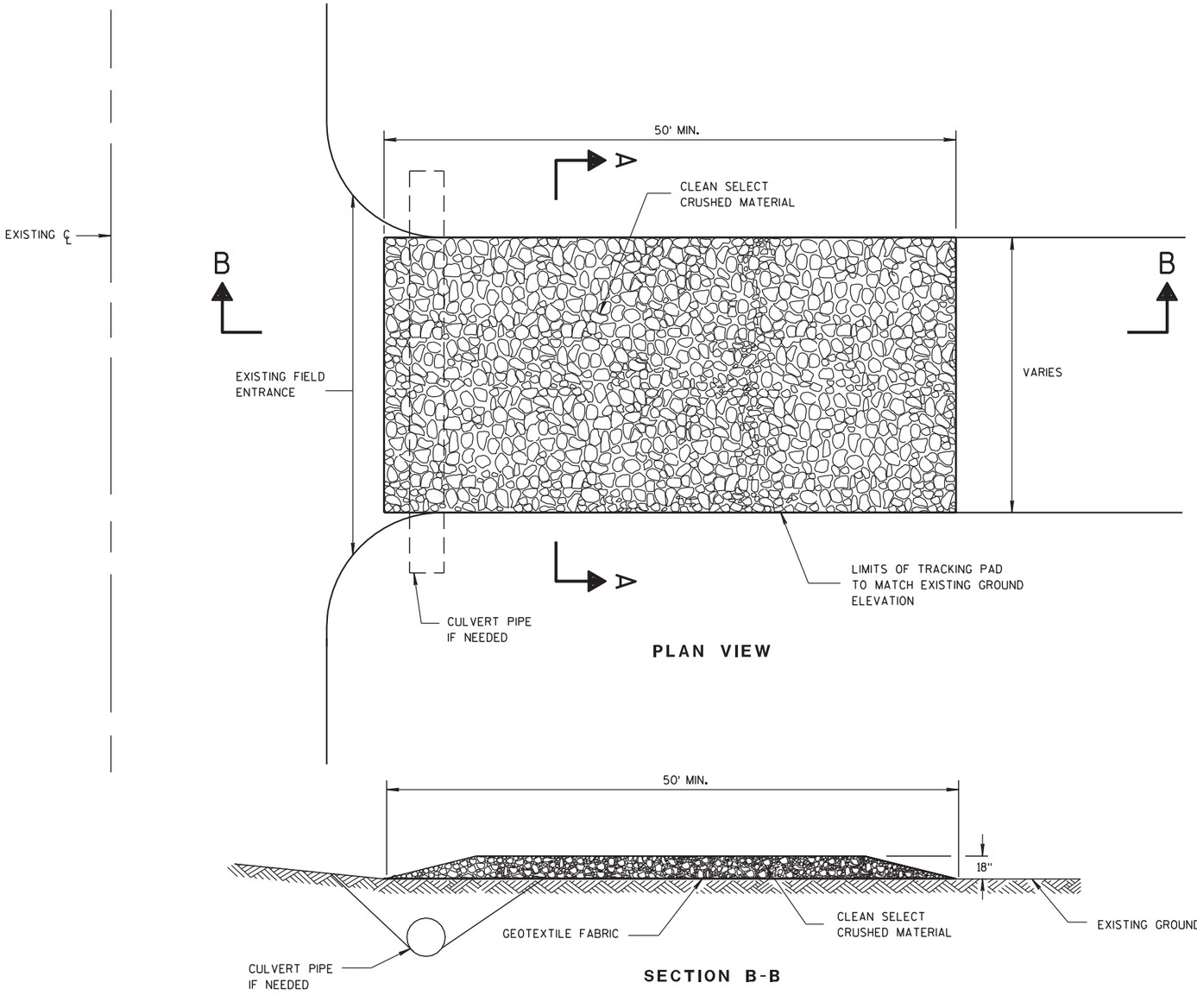
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

SECTION B-B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

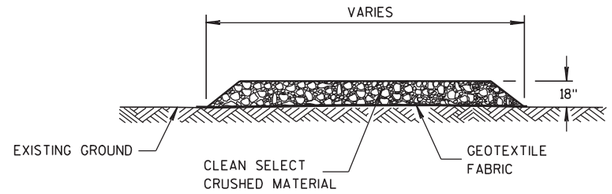
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

TRACKING PAD	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 3/24/2011 DATE FHWA	/S/ Jerry H. Zona ROADWAY STANDARDS ENGINEER

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

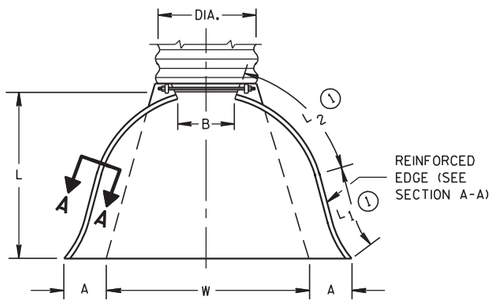
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

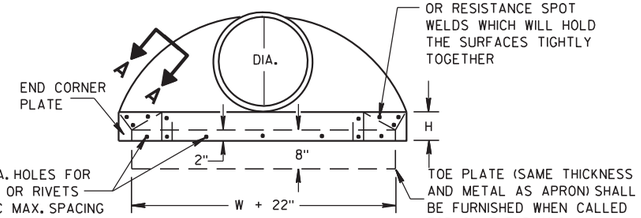
REINFORCED CONCRETE APRON ENDWALLS

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

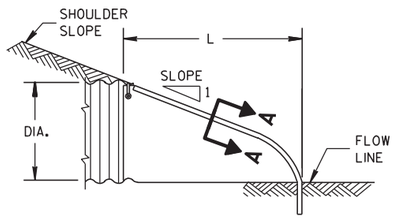
*MINIMUM
**MAXIMUM



PLAN VIEW

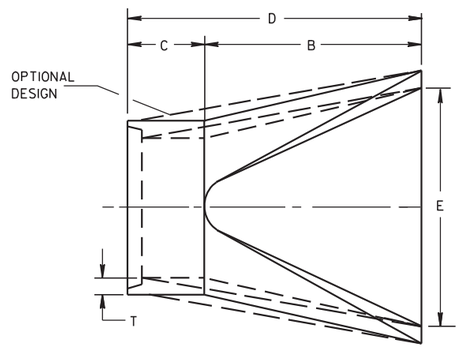


END VIEW

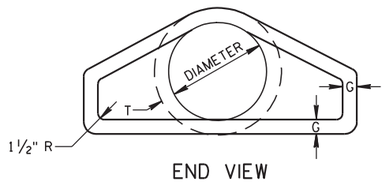


SIDE ELEVATION

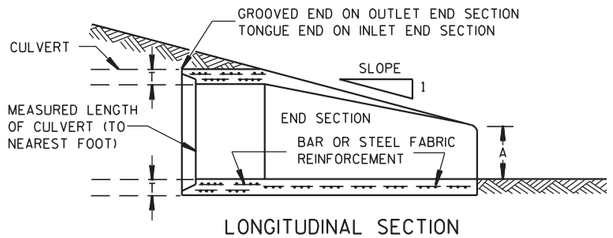
METAL ENDWALLS



PLAN

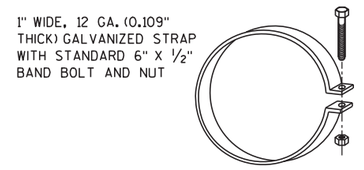


END VIEW



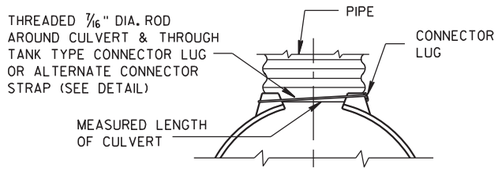
LONGITUDINAL SECTION

CONCRETE ENDWALLS

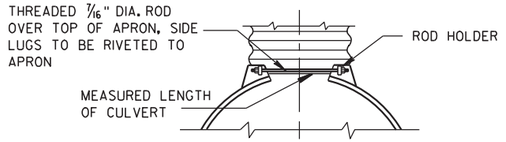


ALTERNATE FOR TYPE 1 CONNECTION

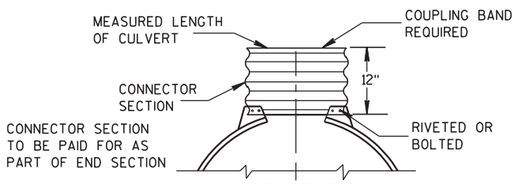
END SECTION CONNECTOR STRAP



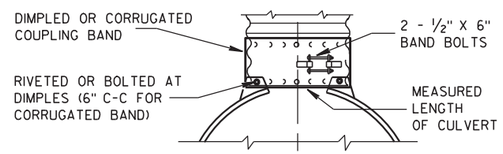
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

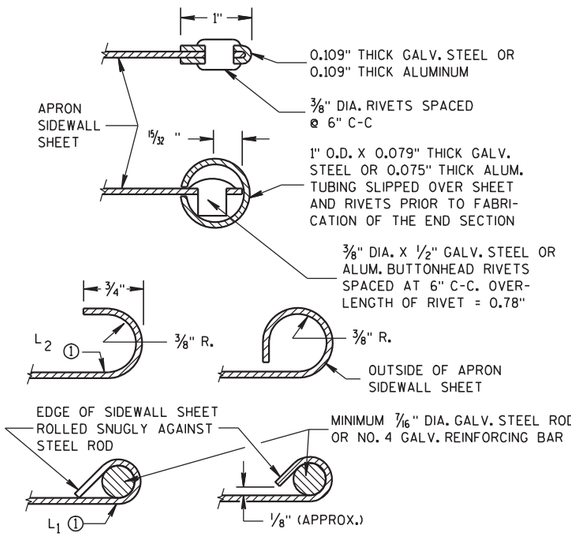
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

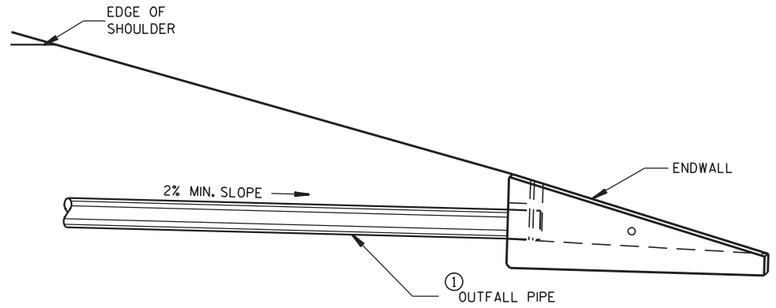
APPROVED
11/30/94 — DATE
/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOP NEER
FHWA

6

S.D.D. 8 F 1-11

DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



INSTALLATION DETAIL

GENERAL NOTES

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

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

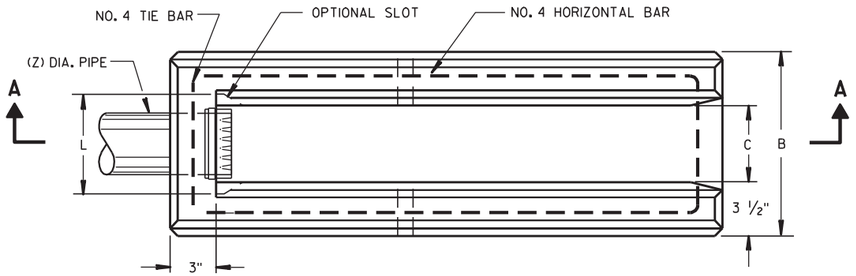
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

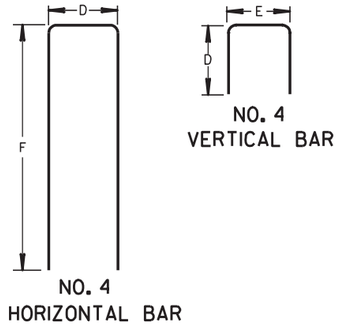
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

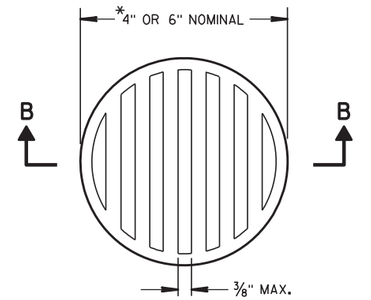
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

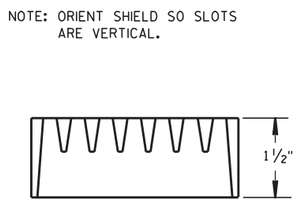


PLAN VIEW



BAR STEEL REINFORCEMENT DETAILS

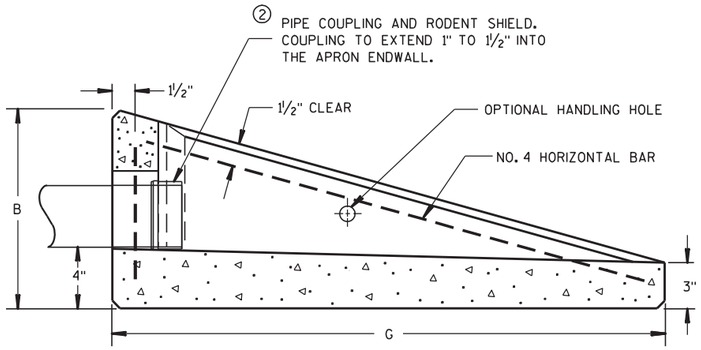




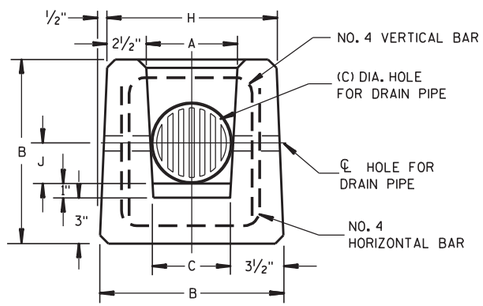
SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.



SECTION A-A



END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

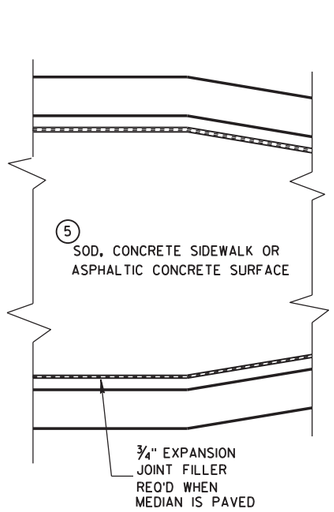
APPROVED
3/10/98 DATE
/S/ Rory L. Rhinearson
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

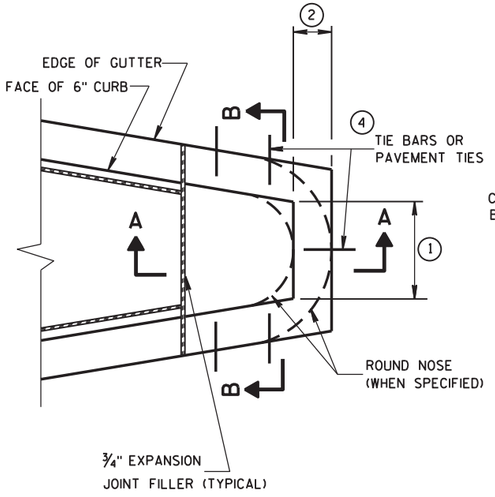
6

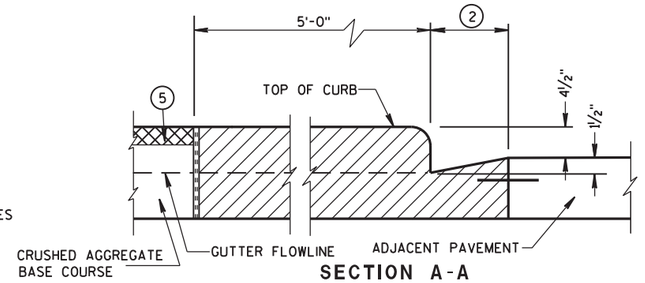
S.D.D. 8 F 6-4

6

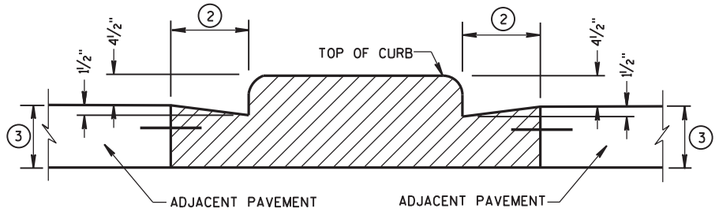
S.D.D. 8 F 6-4







SECTION A-A



SECTION B-B

CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

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

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

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

(1) NEW OR EXISTING CONCRETE PAVEMENT.

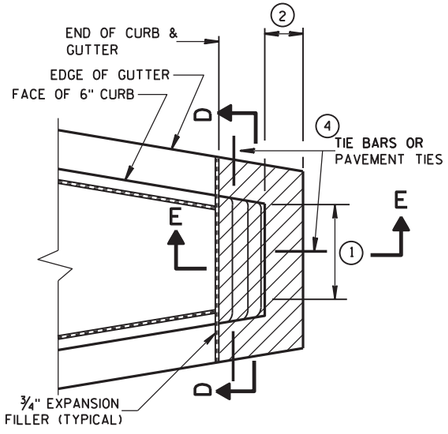
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

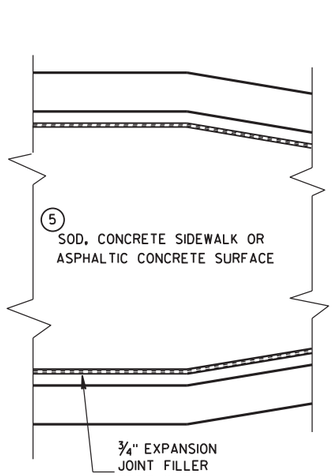
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

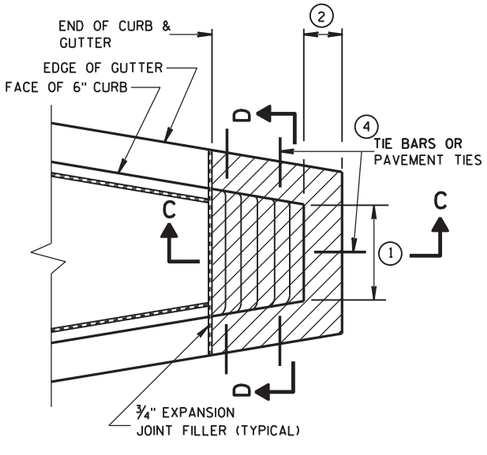
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

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

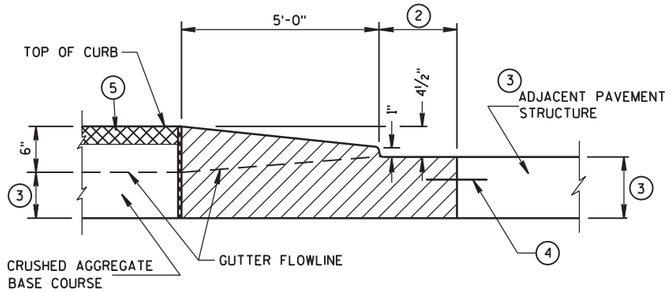
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



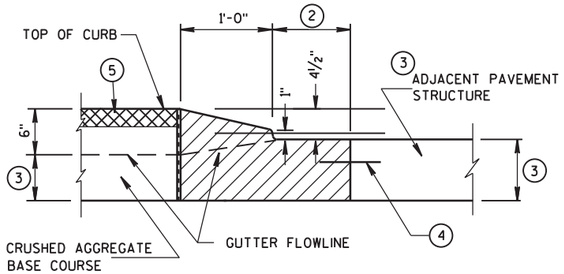




CONCRETE MEDIAN SLOPED NOSE TYPE 1

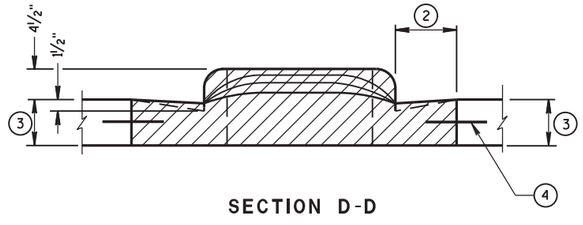


SECTION C-C



SECTION E-E

CONCRETE MEDIAN SLOPED NOSE TYPE 2



SECTION D-D

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/8/2006 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

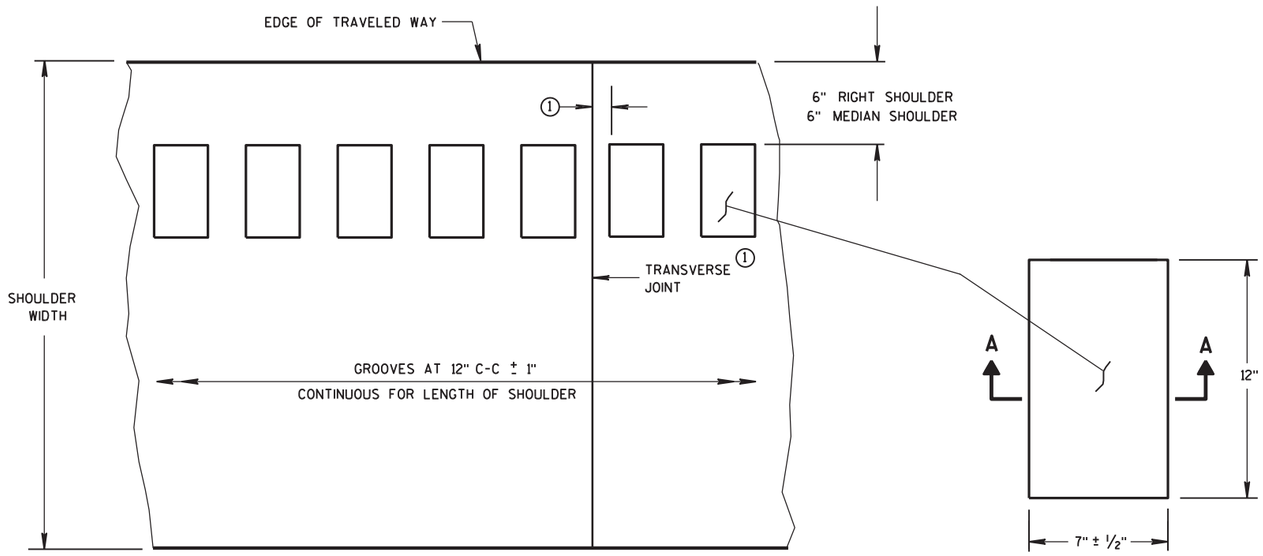
FHWA

6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2



PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

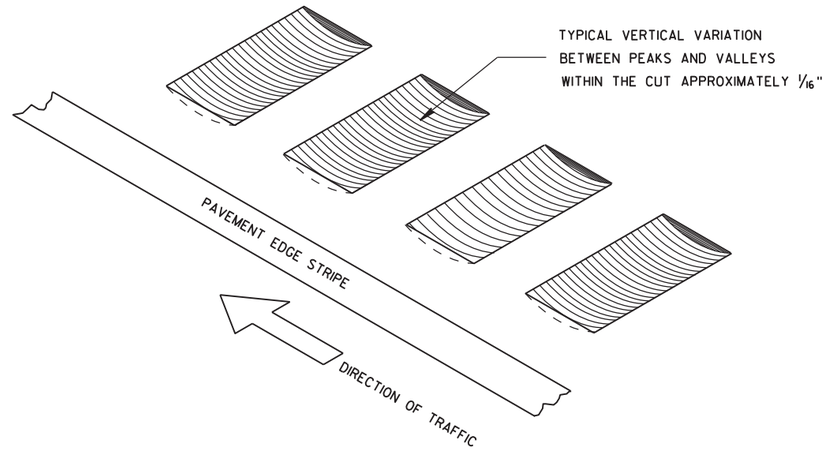
GENERAL NOTES

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

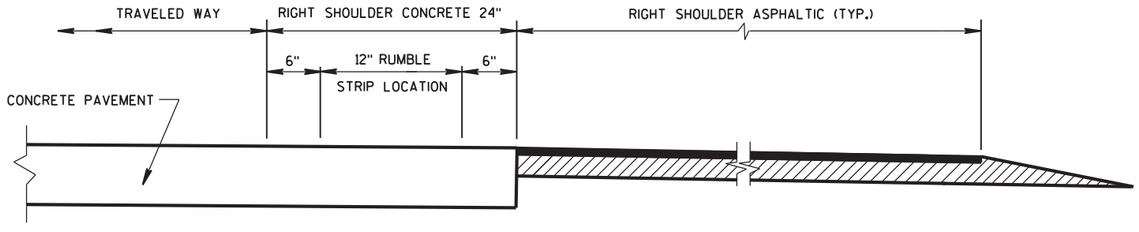
RUMBLE STRIPS ON EXPRESSWAYS

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.

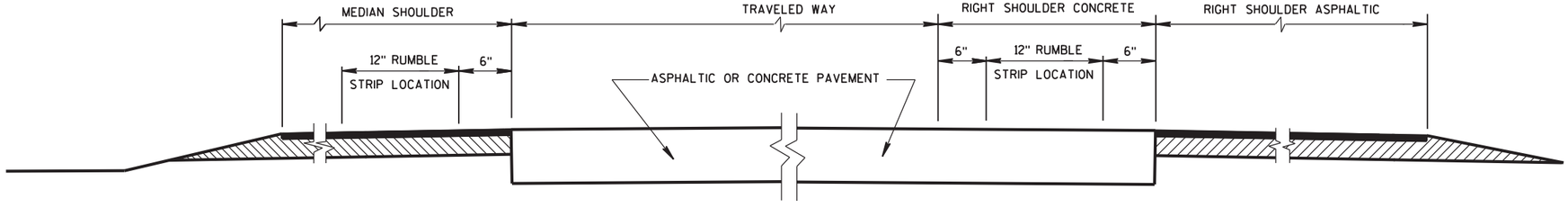
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



ISOMETRIC



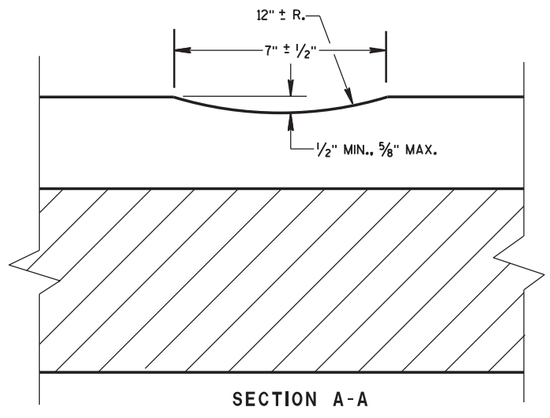
SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



SECTION VIEW

TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

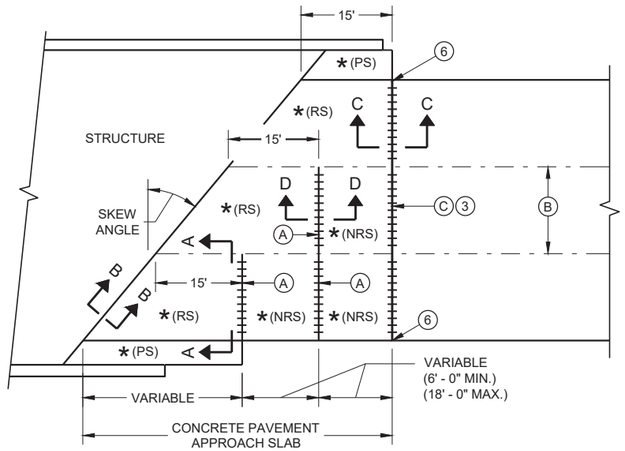
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

6

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



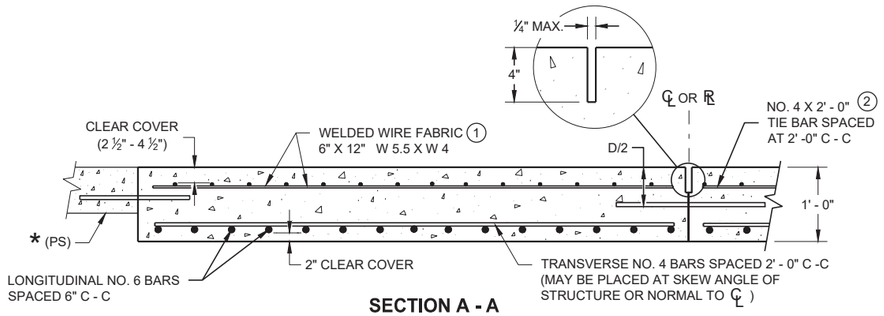
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

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

* (NRS) - NON - REINFORCED CONCRETE SLAB

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



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

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

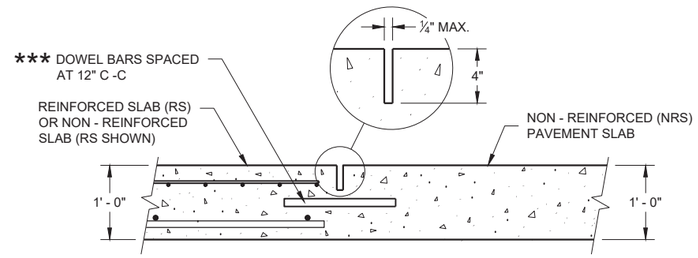
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

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

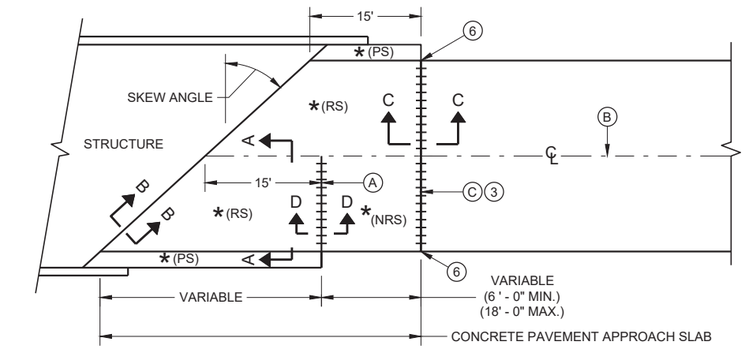
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

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

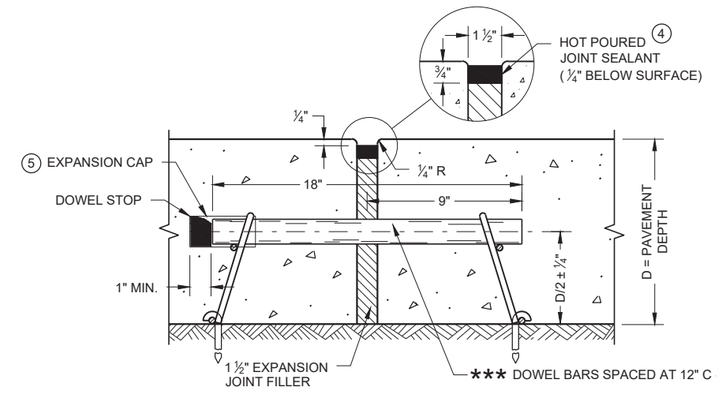


SECTION D - D
CONTRACTION JOINT

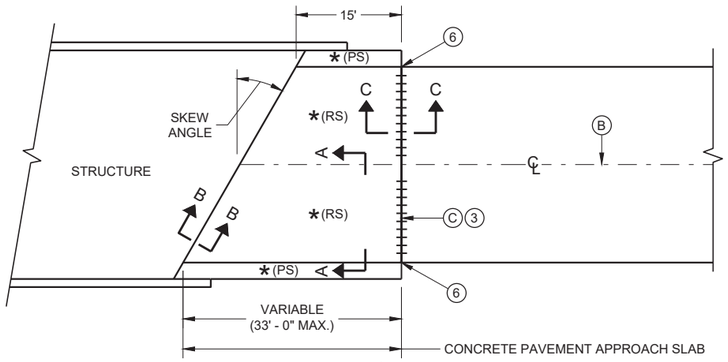


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT

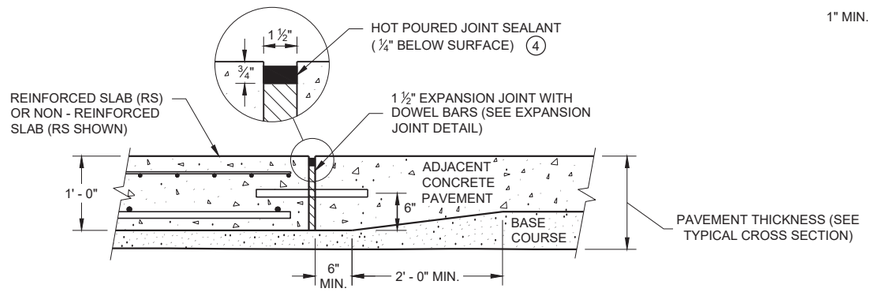


EXPANSION JOINT DETAIL



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

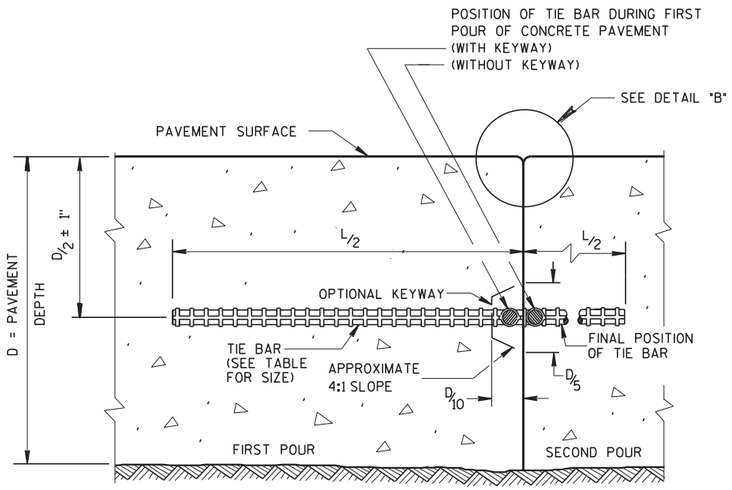
APPROVED
November 2018
DATE

/S/ Peter Kemp P.E.
PAVEMENT SUPERVISO

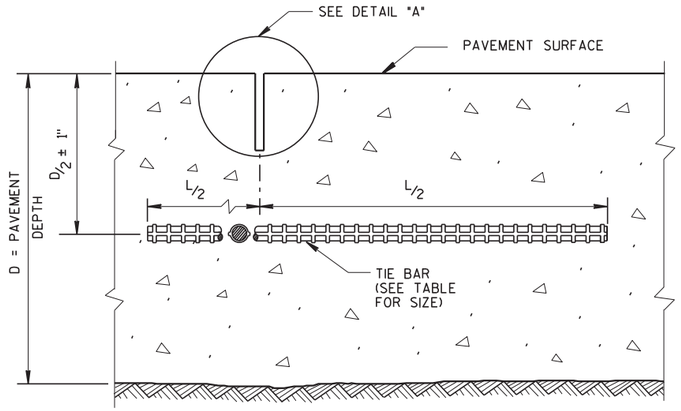
FHWA

6

SDD 13B02 - 09a



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

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

PLAN VIEW

SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

DETAIL "C"

TIE BAR TABLE

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

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

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

PLAN VIEW
SHOWING LOCATION OF TIE BARS

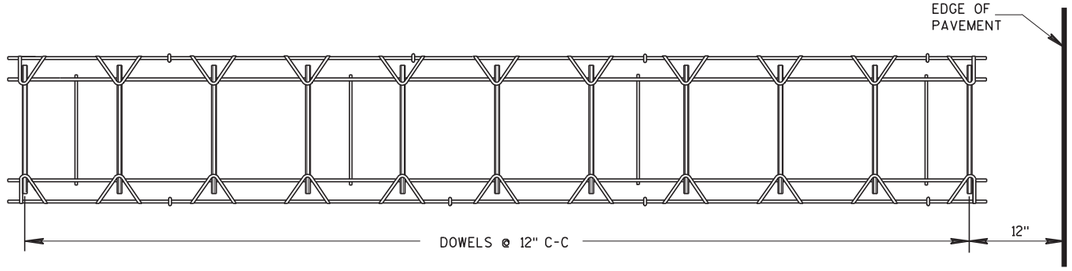
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

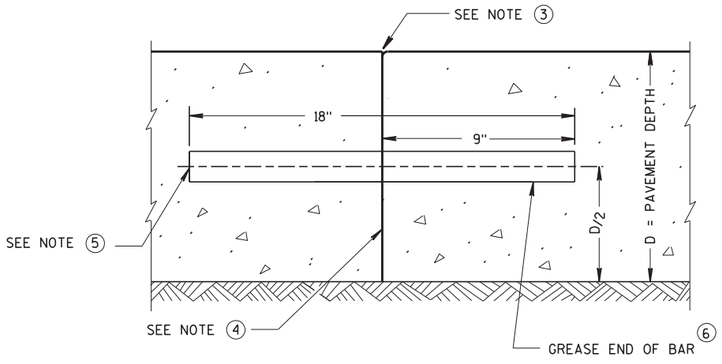
S.D.D. 13 C 1-19



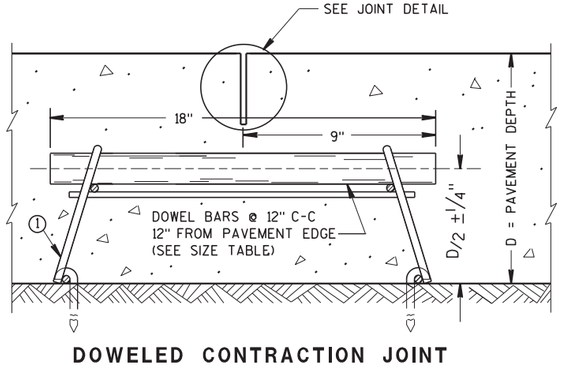
PLAN VIEW

SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



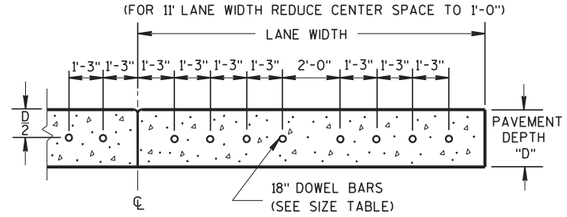
TRANSVERSE CONSTRUCTION JOINT



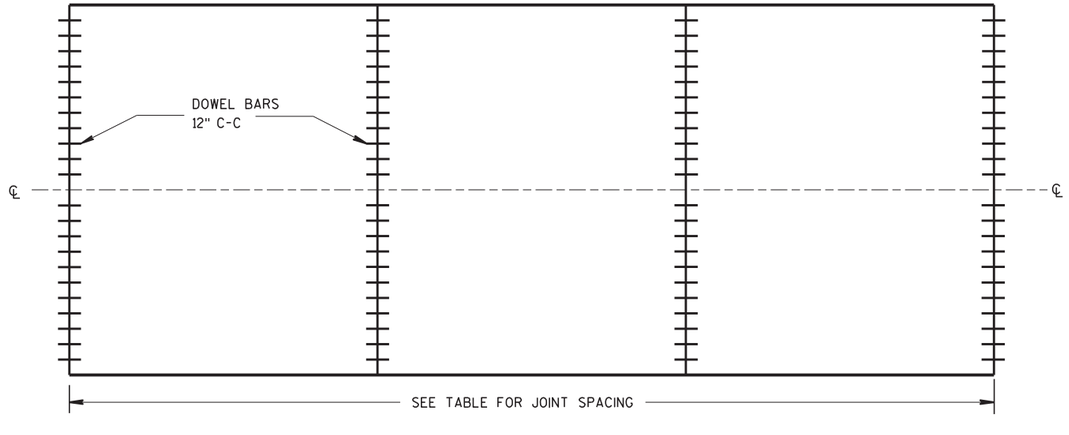
DOWELED CONTRACTION JOINT

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'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

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

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

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

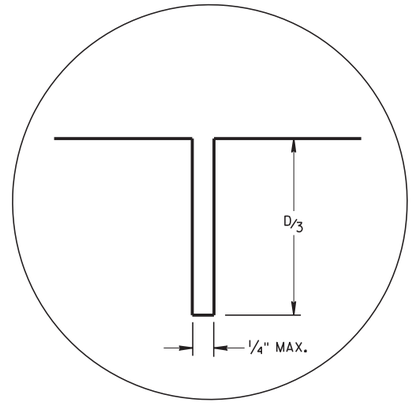
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

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 ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUP
FHWA

6
S.D.D. 13 C 13-9

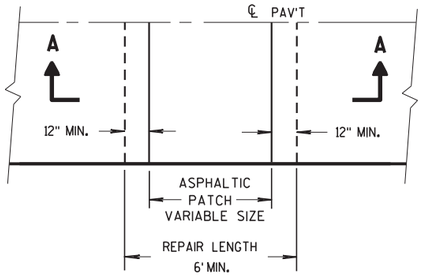
GENERAL NOTES

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.

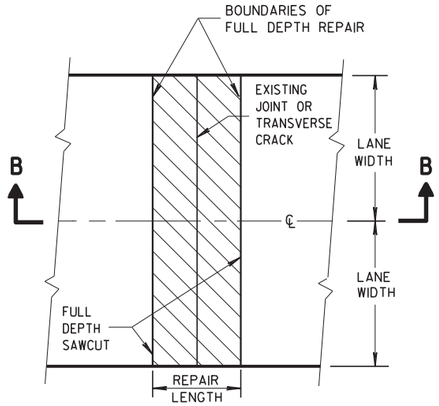
PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

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.

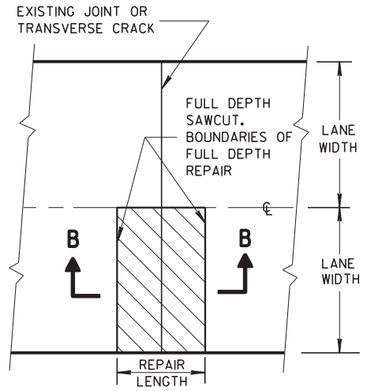
(1) DOWEL BARS MIGHT NOT EXIST.



PLAN VIEW

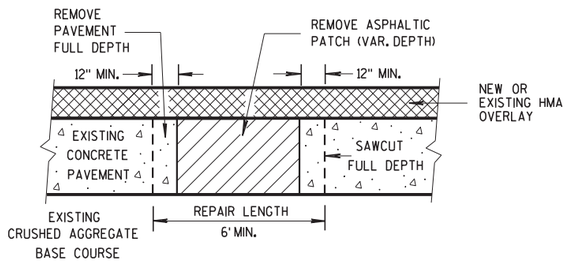


PLAN VIEW
(DOUBLE LANE REPAIR)



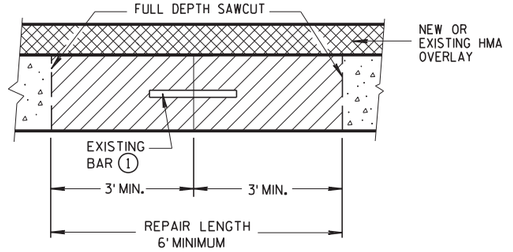
PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL



SECTION A-A

HMA PATCH REMOVAL



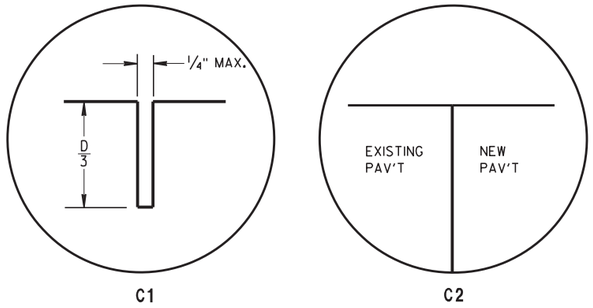
SECTION B-B

CONCRETE REMOVAL

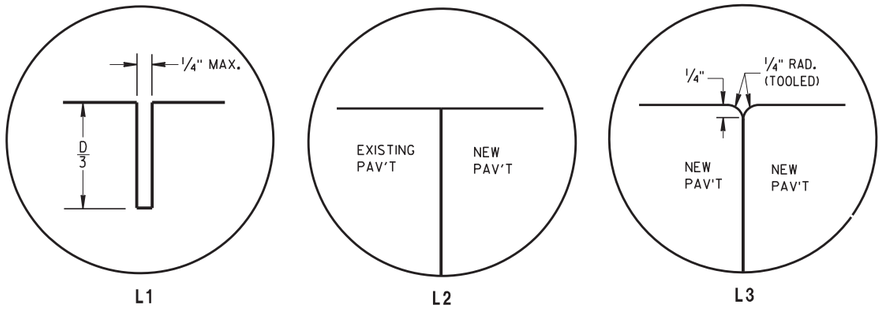
BASE PATCHING CONCRETE

STATE OF WISCONSI
DEPARTMENT OF TRANSPORTATION

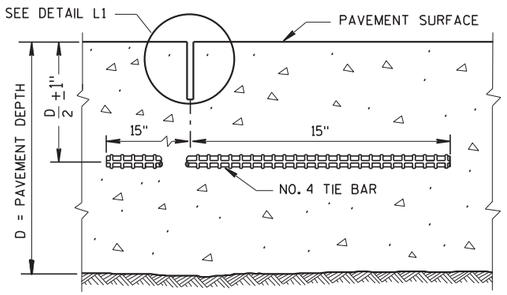
6
S.D.D. 13 C 14-7a



TRANSVERSE JOINTS

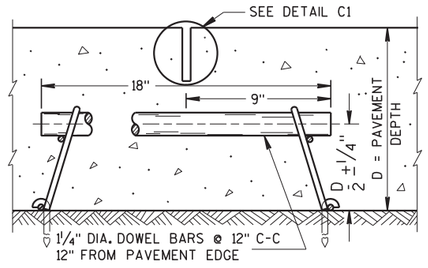


LONGITUDINAL JOINTS



SECTION C-C

SAWED LONGITUDINAL JOINT



SECTION F-F

CONTRACTION JOINT

GENERAL NOTES

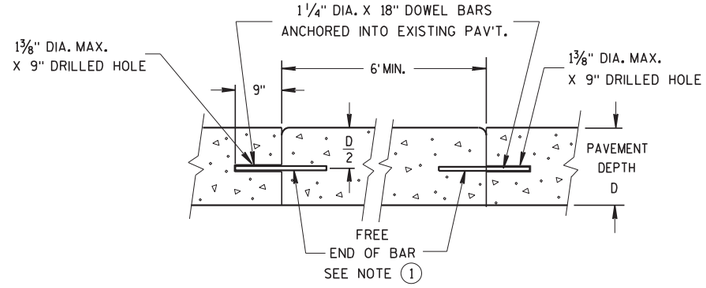
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

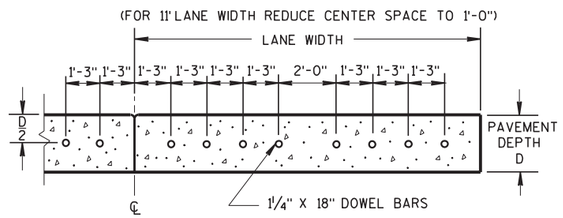
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

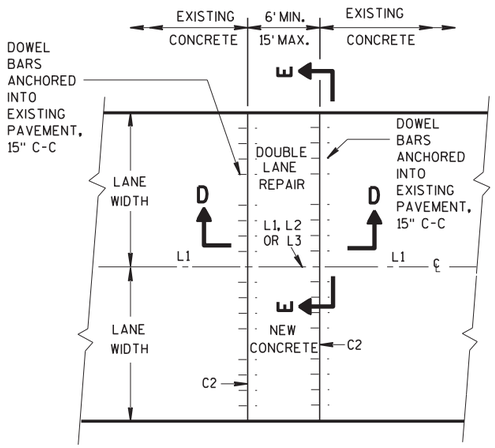


SECTION D-D



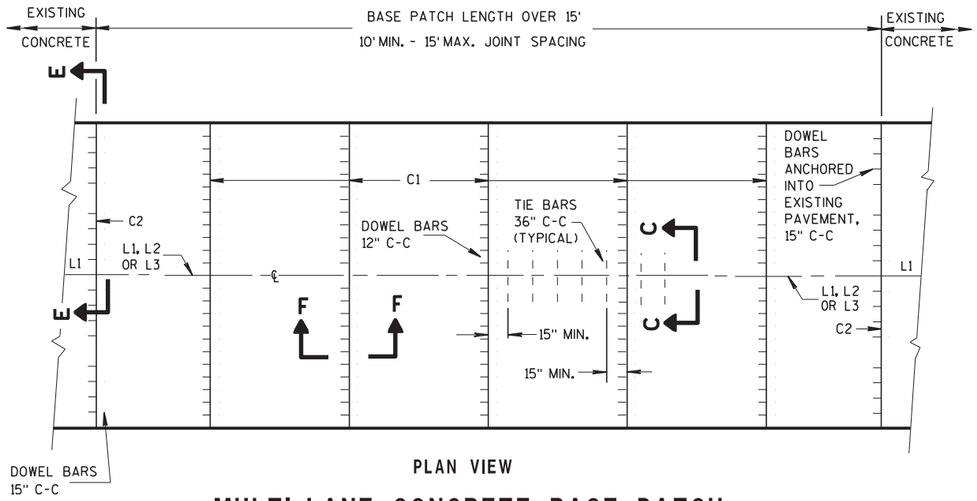
SECTION E-E

SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

MULTI-LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

BASE PATCHING CONCRETE

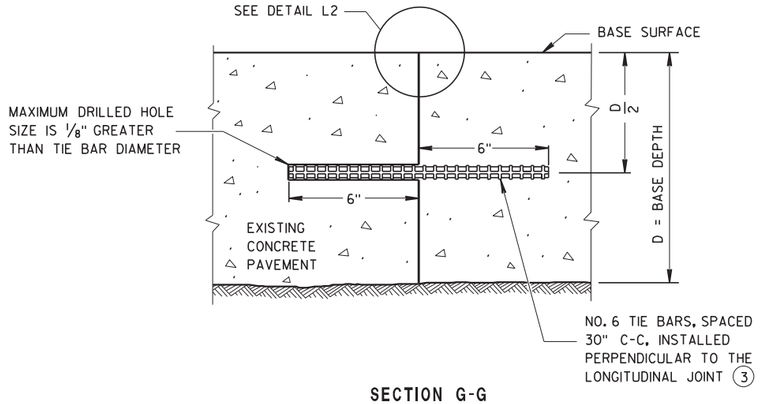
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 13 C 14-7b

6

S.D.D. 13 C 14-7b



SECTION G-G

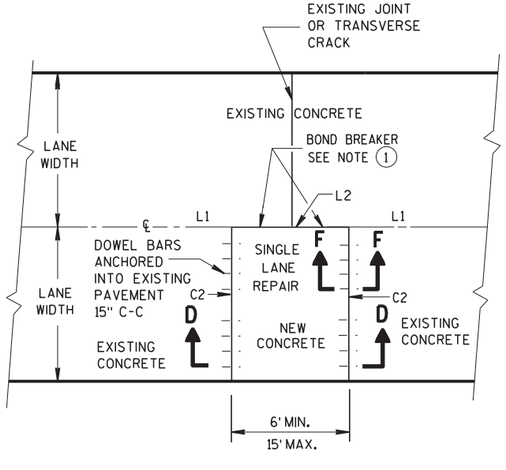
TIE BARS ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

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

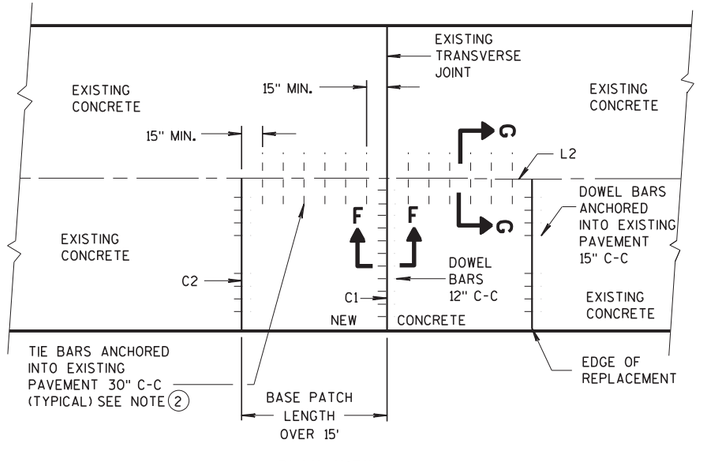
(2) WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO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

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



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH 15' MAXIMUM LENGTH



PLAN VIEW

SINGLE LANE CONCRETE BASE PATCH GREATER THAN 15' IN LENGTH

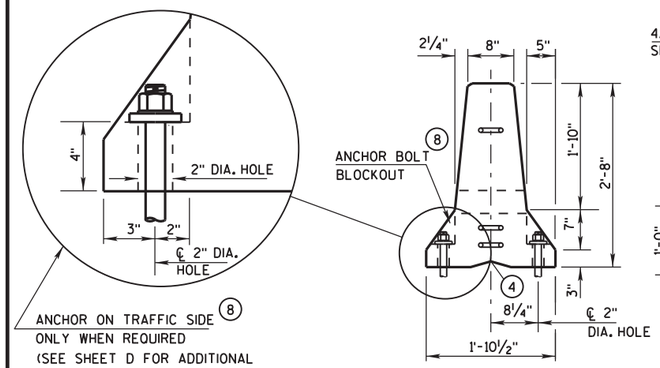
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

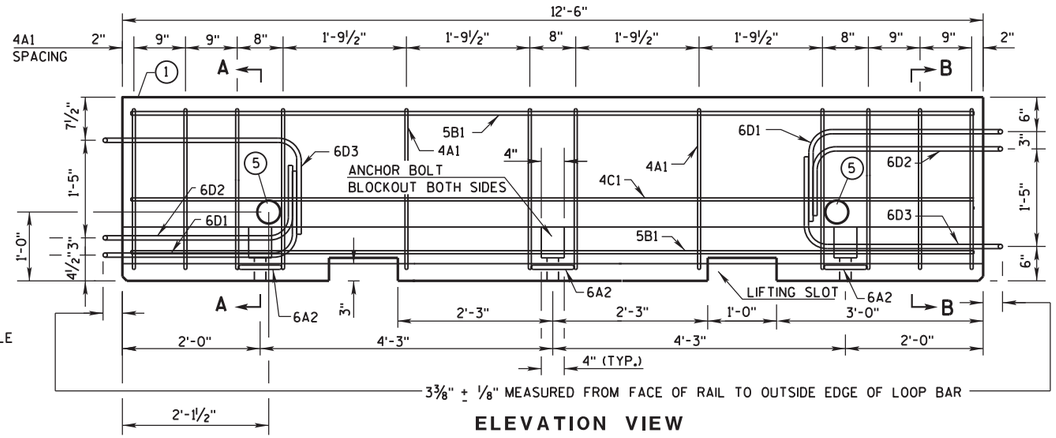
APPROVED
March 2018 — DATE
/S/ Peter Kemp P.E. — PAVEMENT SUPERVISOR
FHWA

6

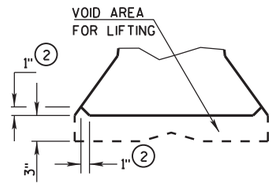
S.D.D. 13 C 14-7c



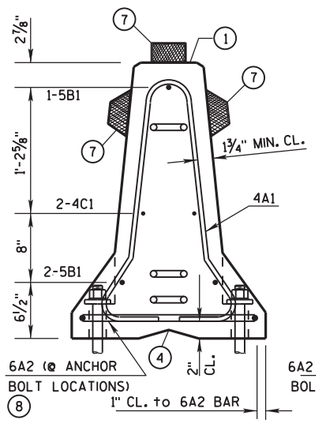
END VIEW



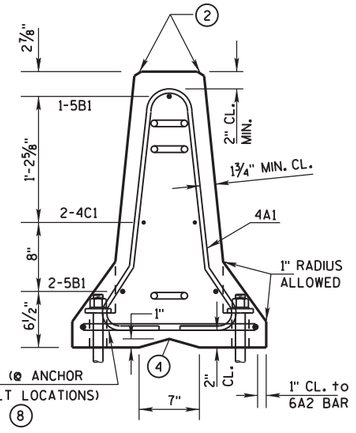
ELEVATION VIEW



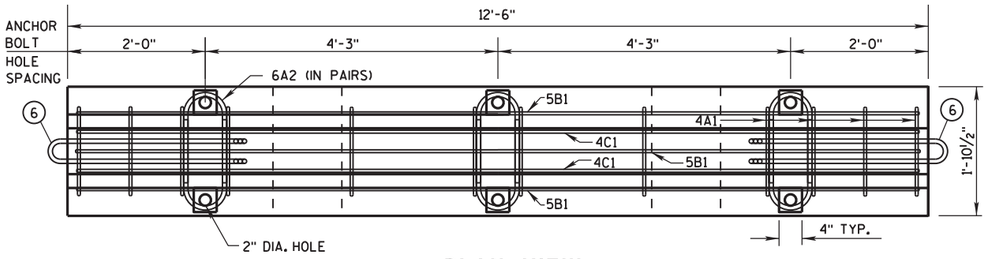
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)



SECTION B-B
(STIRRUP PLACEMENT)



PLAN VIEW

DETAILS OF BARRIER SECTION

GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

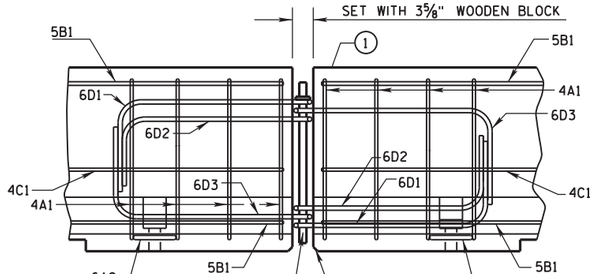
(6) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

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

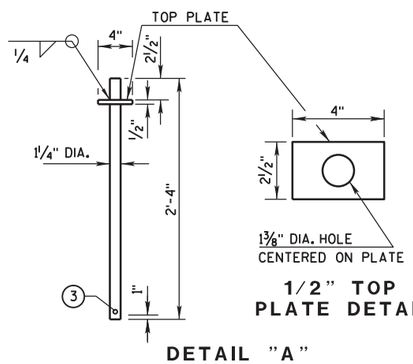
(8) SEE SHEET D FOR HOW TO ANCHOR BARRIER. SEE SHEET E FOR WHEN TO ANCHOR BARRIER.

(9) 1" CHAMFER OPTIONAL.

f'c = 4,000 psi

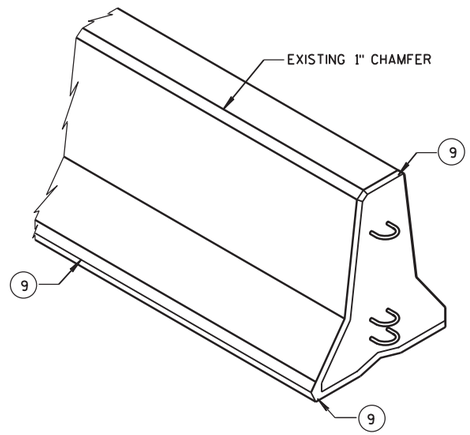


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

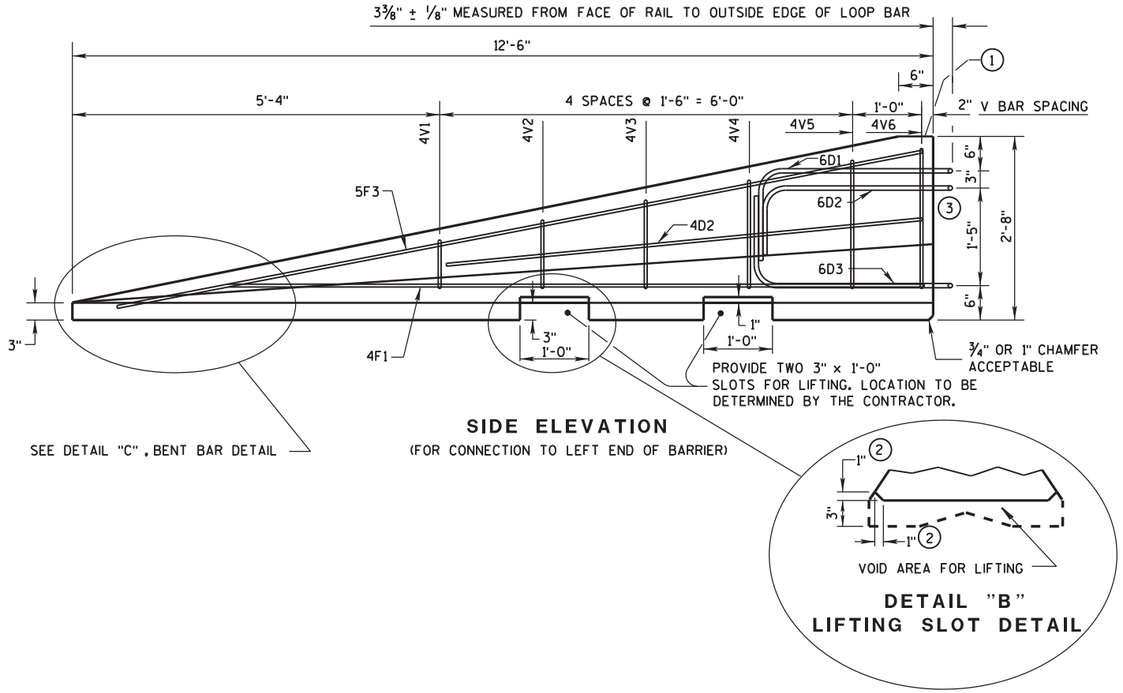
DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))

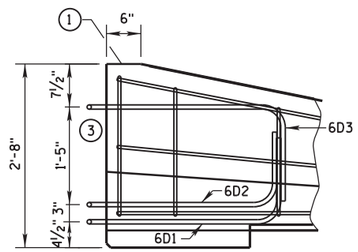


CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

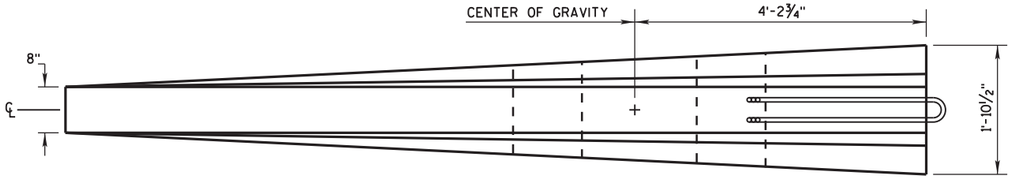
S.D.D. 14 B 7-15a

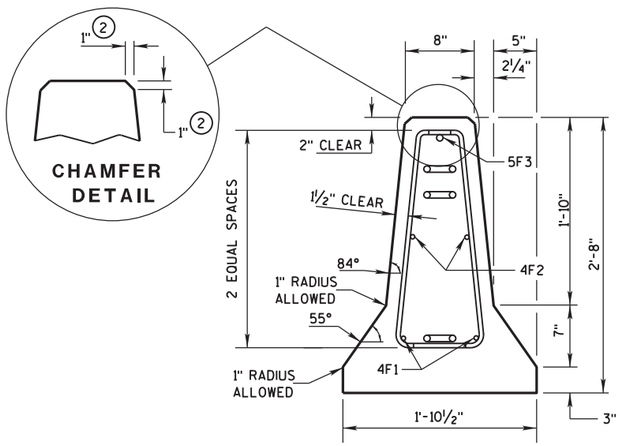


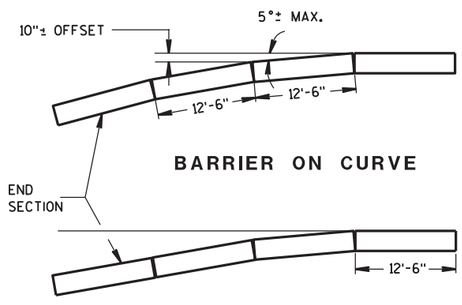


GENERAL NOTES

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







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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

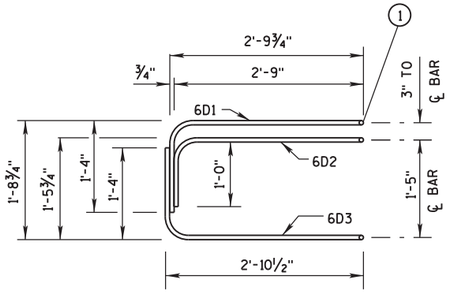
6

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

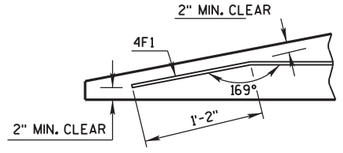
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

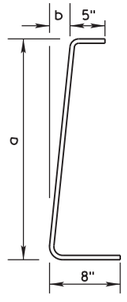
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

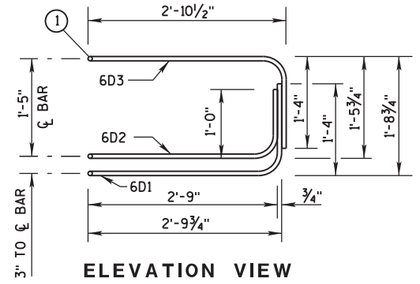
GENERAL NOTES

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

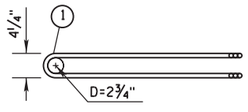
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

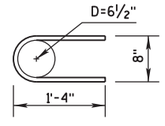
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



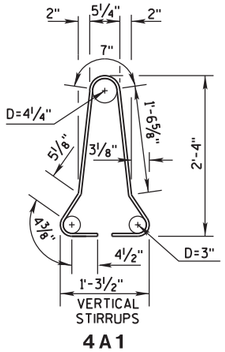
ELEVATION VIEW



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



6A2



4A1

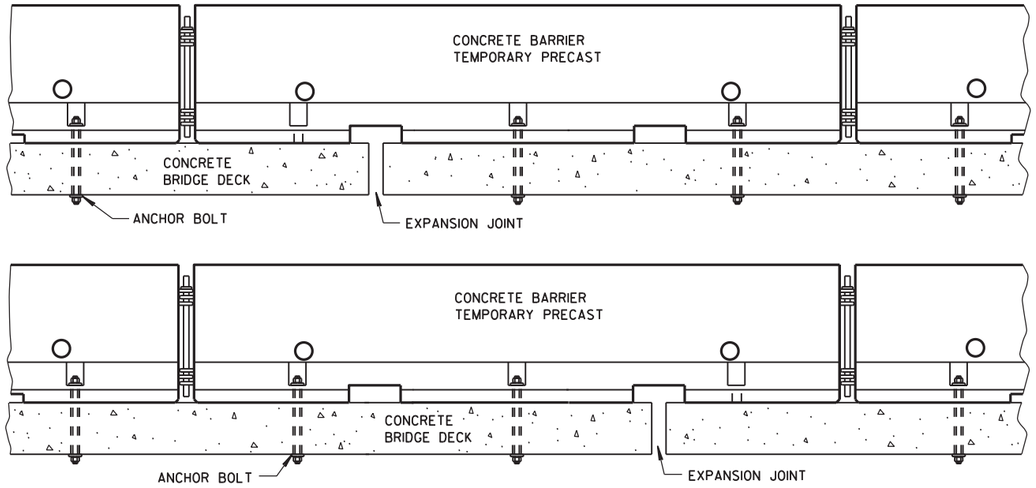
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

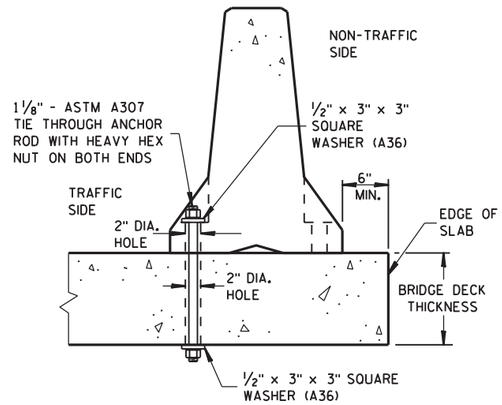
6

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



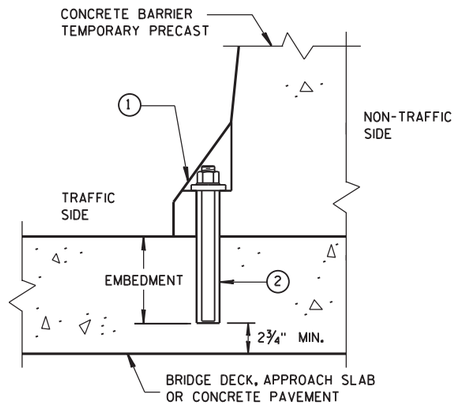
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

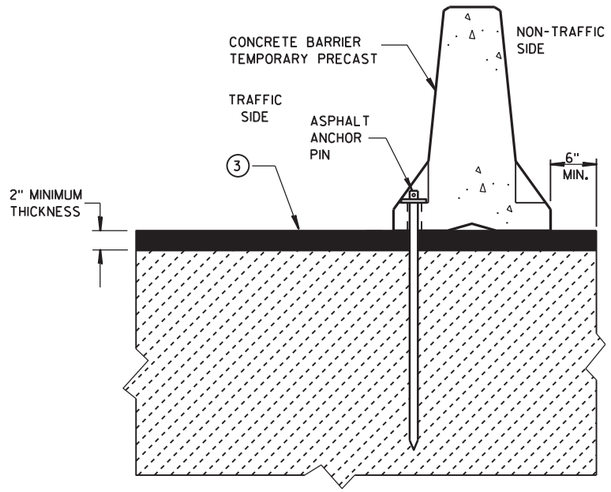
SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

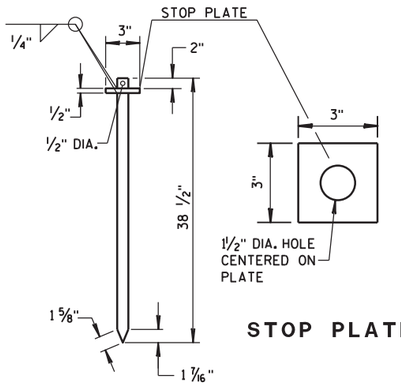
REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

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

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

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



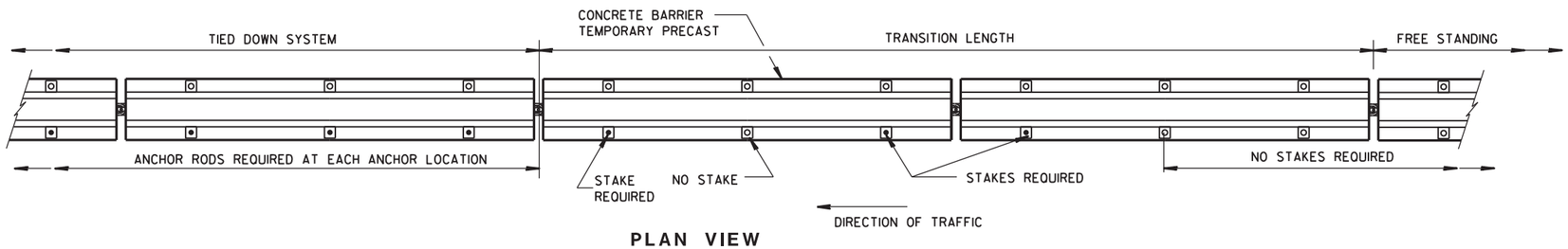


STOP PLATE

ASPHALT ANCHOR PIN

(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC SURFACE



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

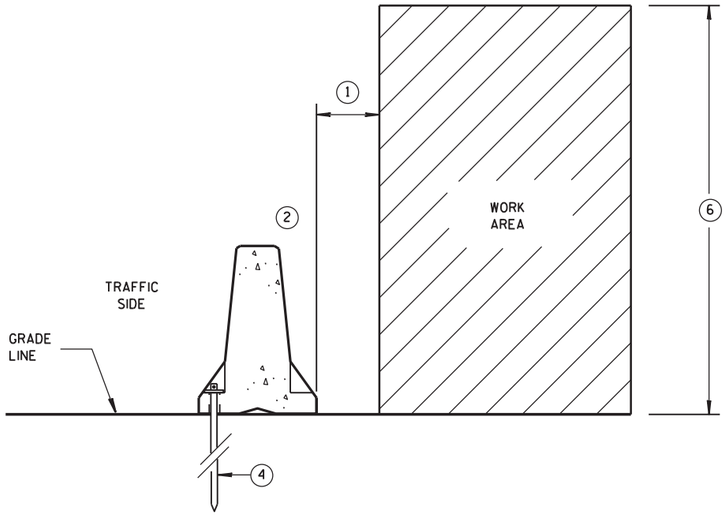
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

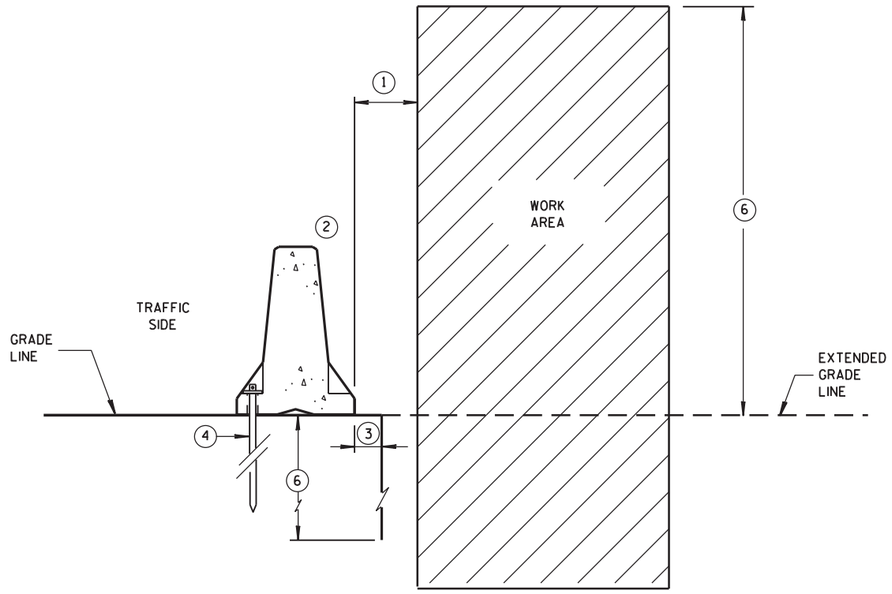
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



ANCHORED BARRIER SPACE REQUIREMENTS FOR HAZARDS EXTENDED ABOVE THE GRADE LINE

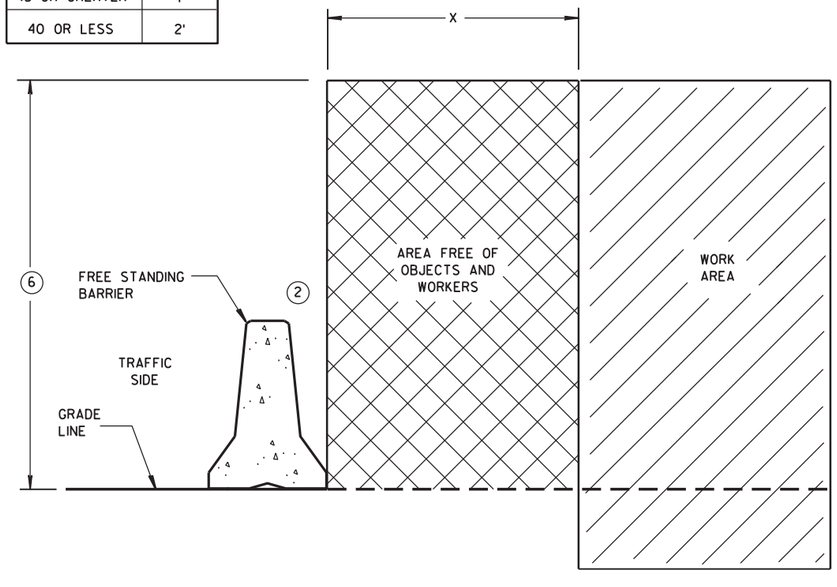


ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS

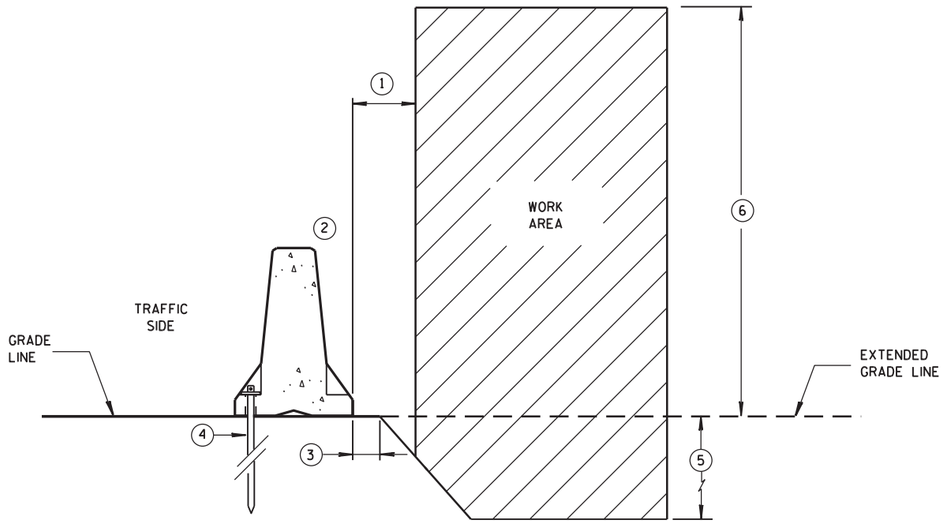
GENERAL NOTES

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

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



FREE STANDING BARRIER SPACE REQUIREMENTS



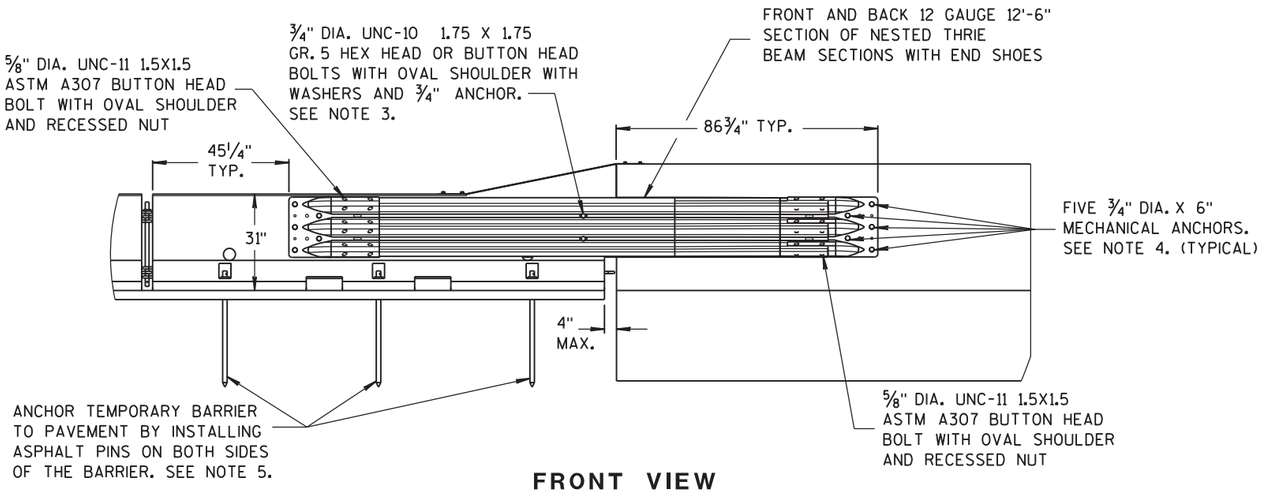
ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

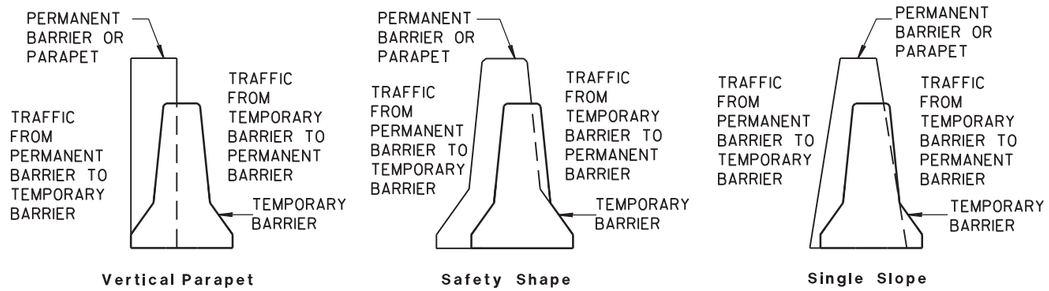
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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



FRONT VIEW

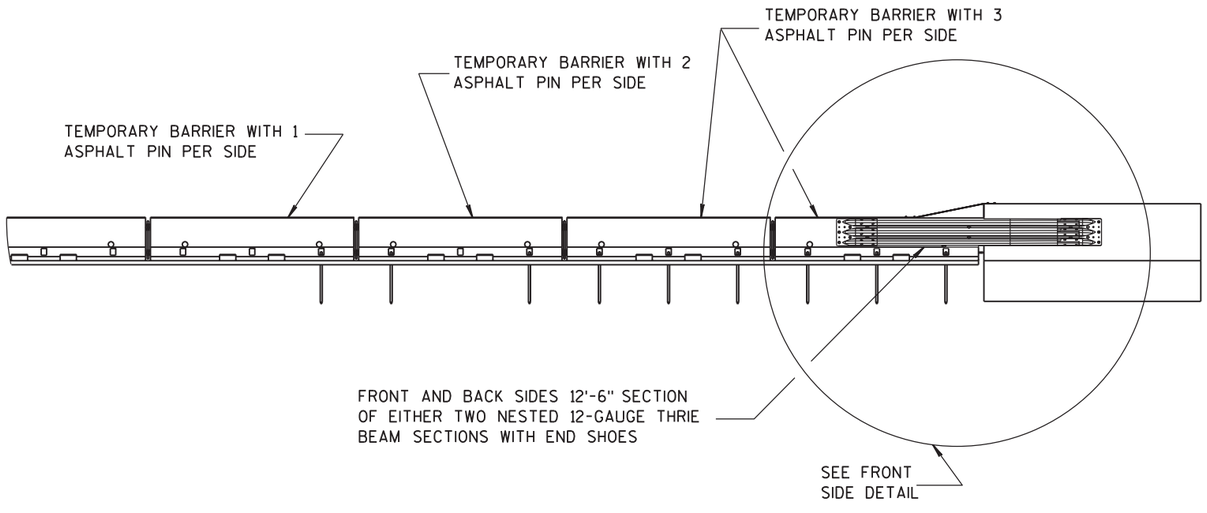


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

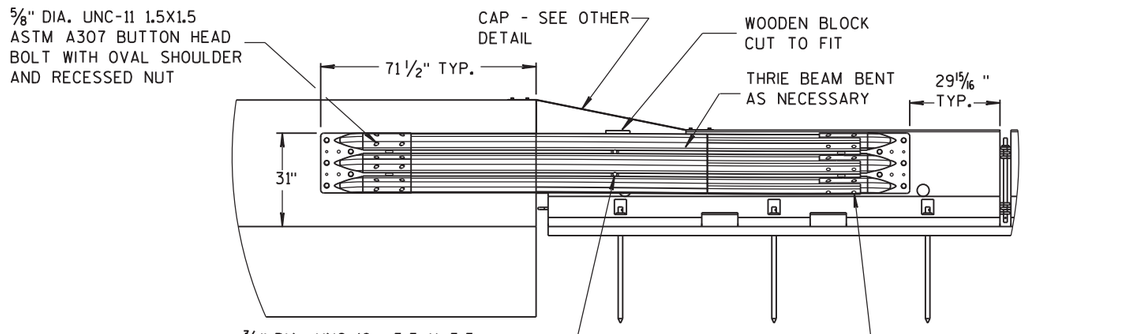
NOTES

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

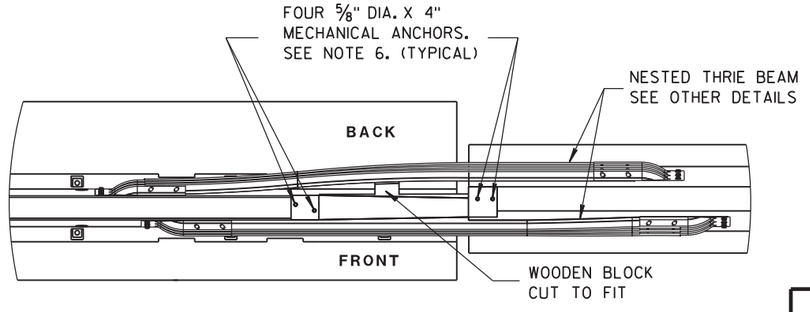
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



FRONT VIEW



BACK VIEW



PLAN VIEW

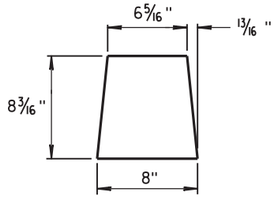
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

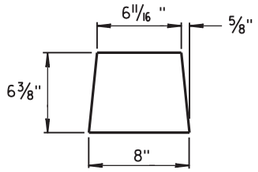
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

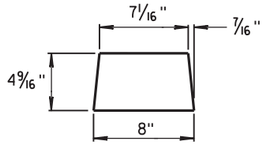
S.D.D. 14 B 7-15f



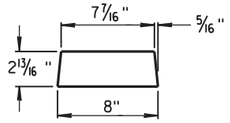
GUSSET 1



GUSSET 2

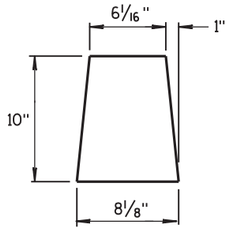


GUSSET 3

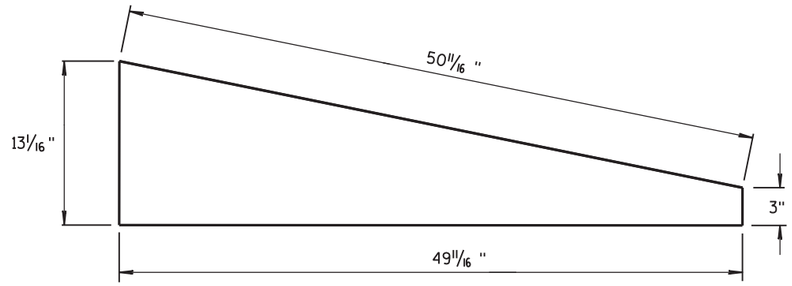


GUSSET 4

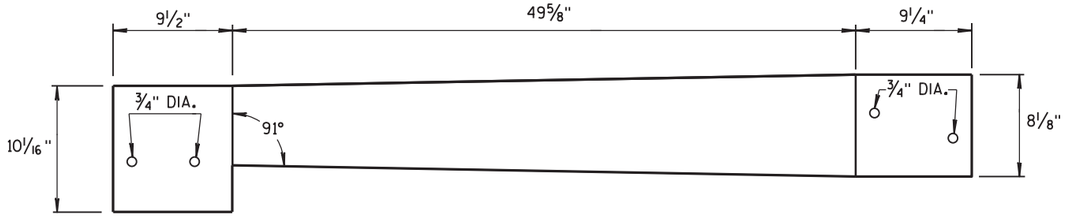
GUSSETS

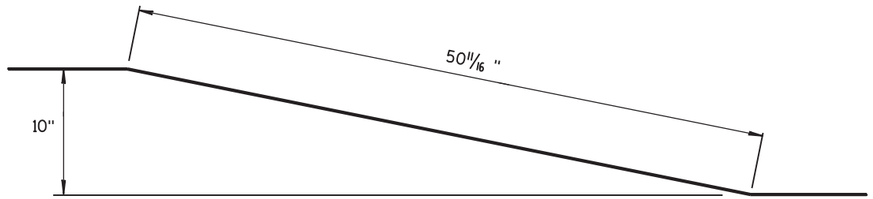


END PLATE



SIDE PLATE

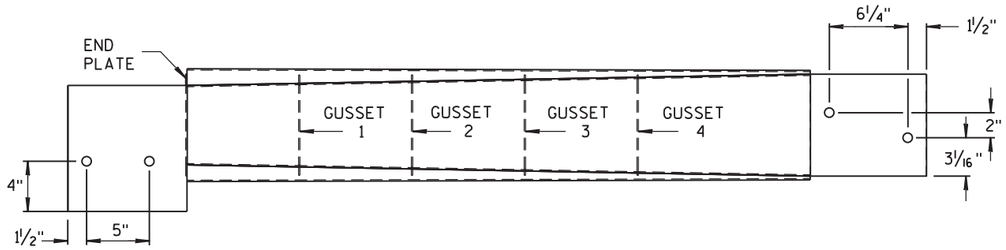


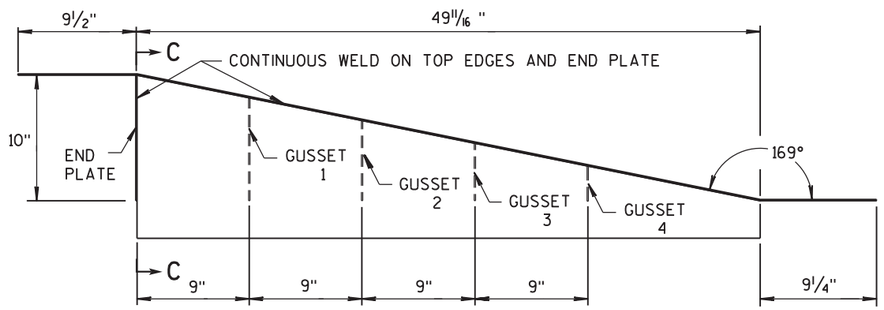


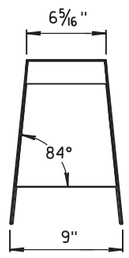
TOP PLATE

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

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







SECTION C-C

NOTES

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

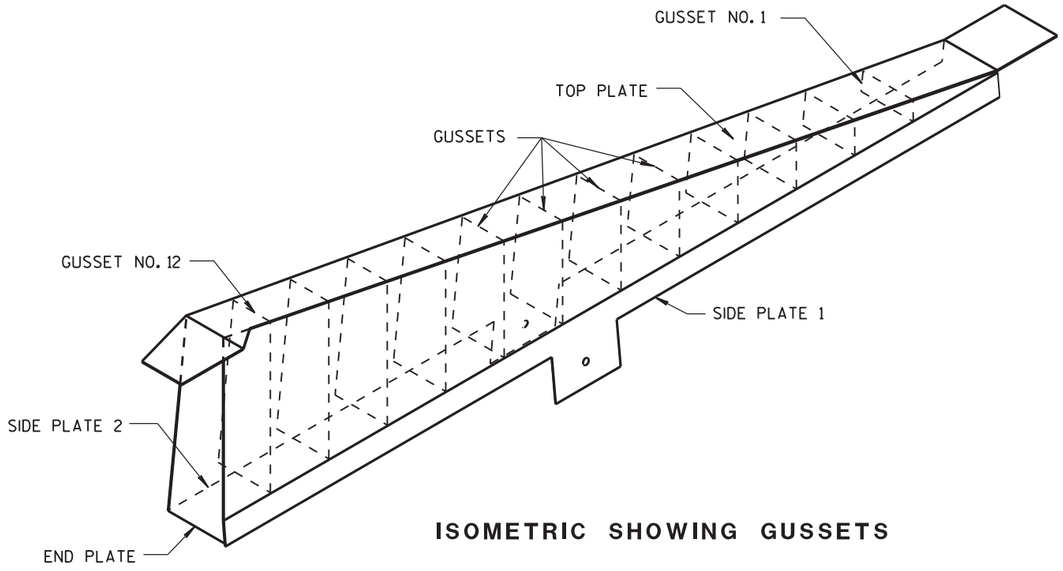
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 42" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

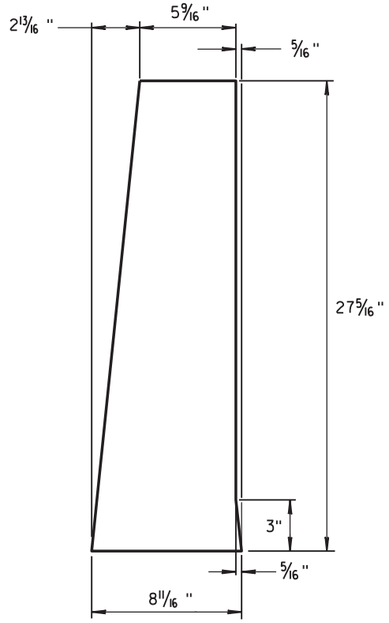
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

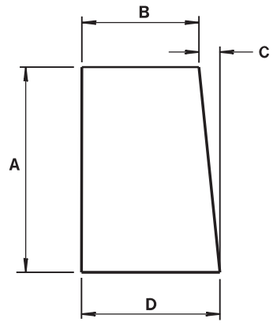


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



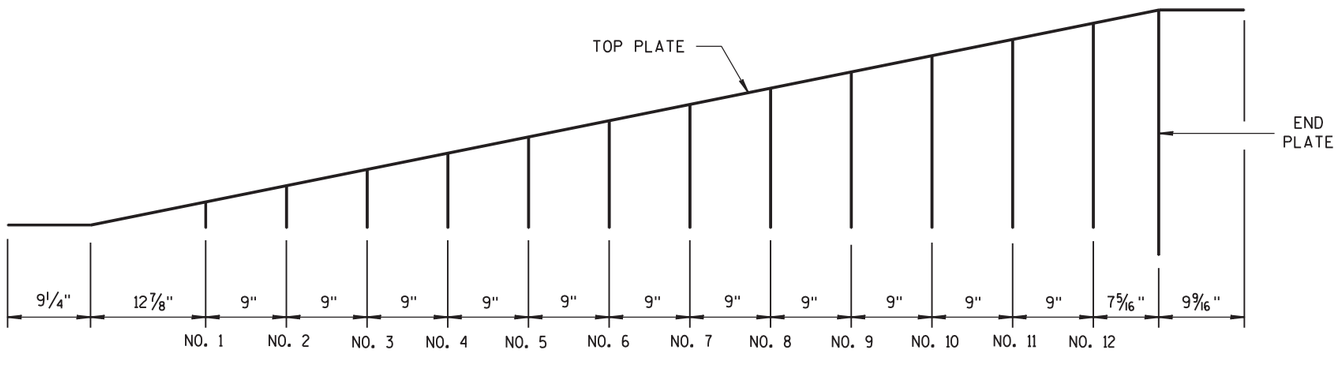
GUSSETS 1 - 12

ALL GUSSETS 1/8" STEEL PLATE

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

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

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



GUSSET LOCATION

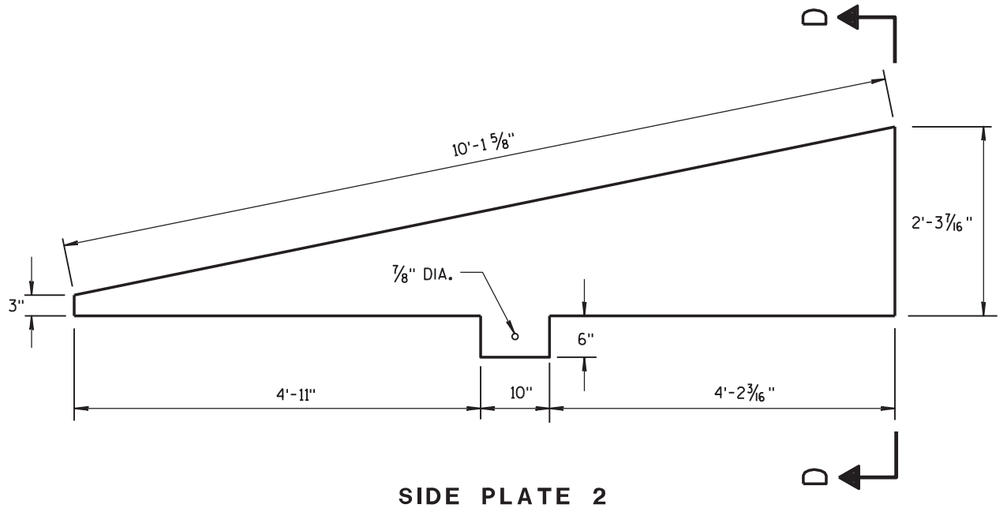
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

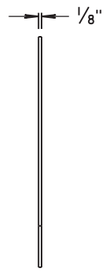
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

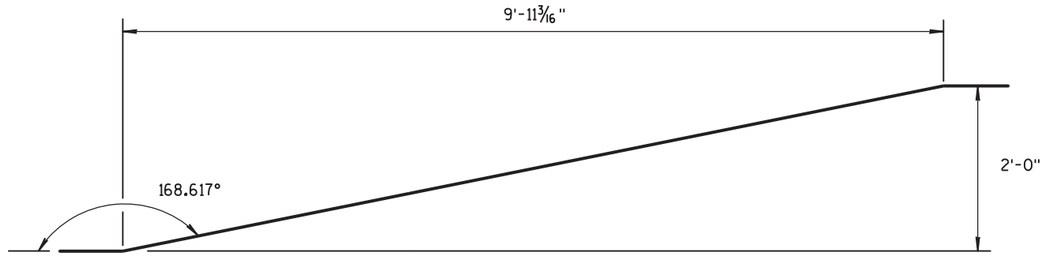
S.D.D. 14 B 7-15h



SIDE PLATE 2

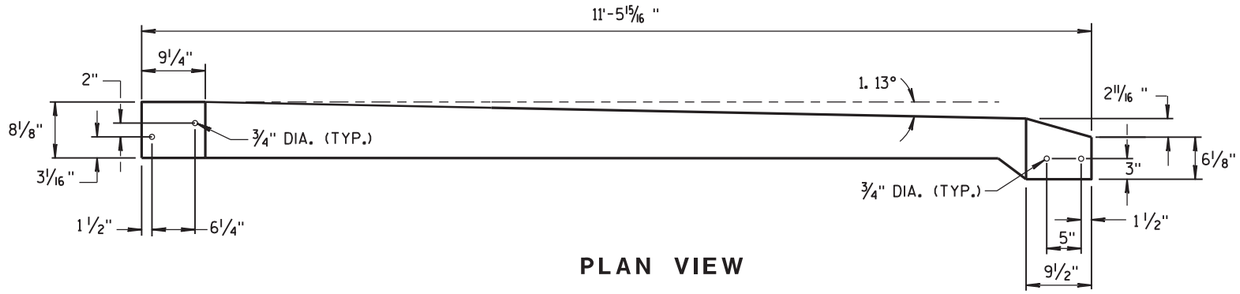


END VIEW



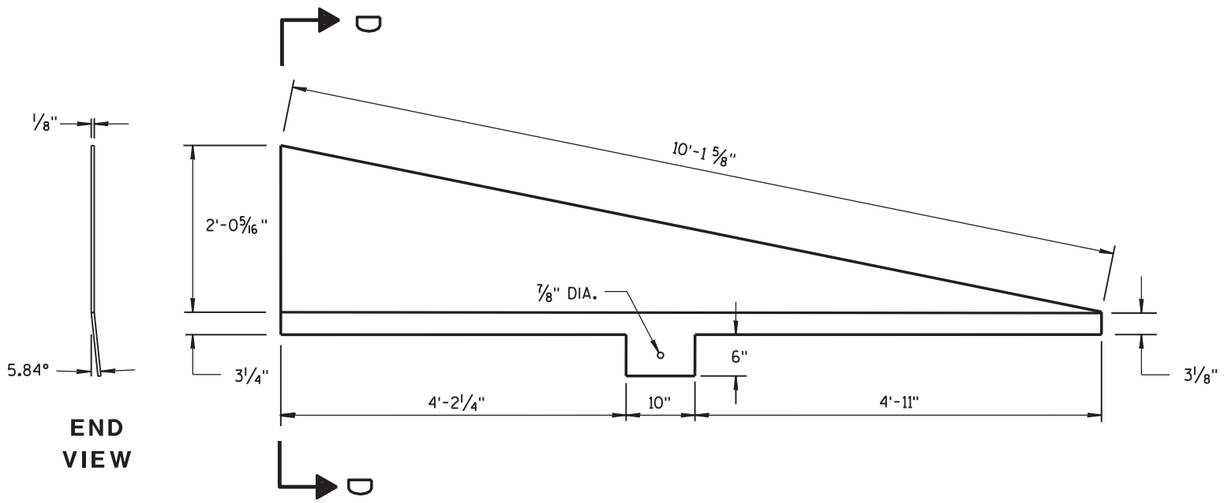
SIDE VIEW

TOP PLATE



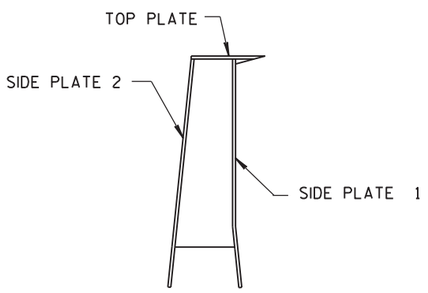
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV

185

ENT

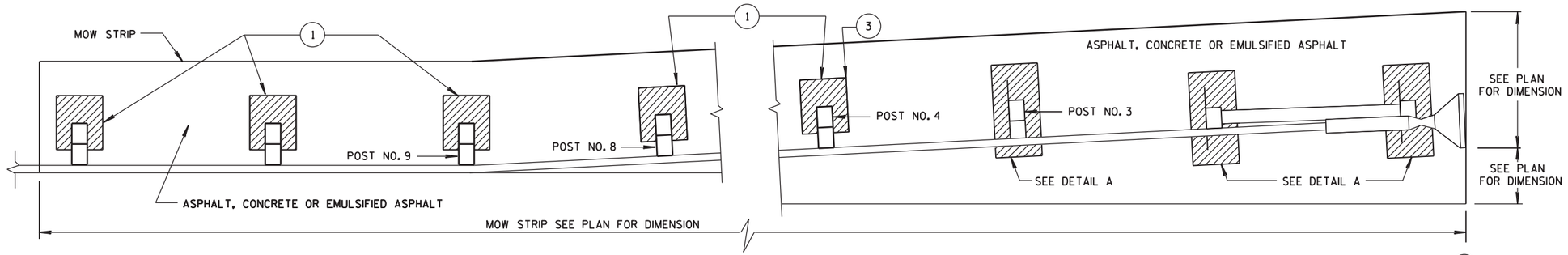
FHWA

6

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

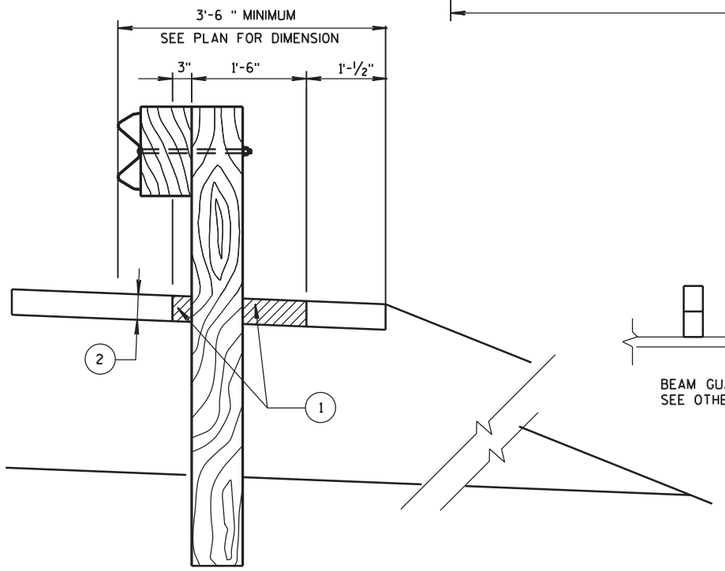
6

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

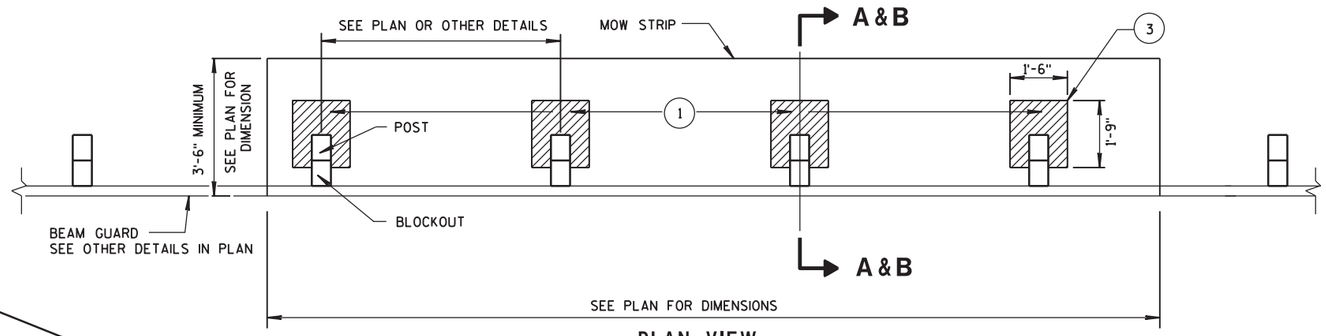


PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

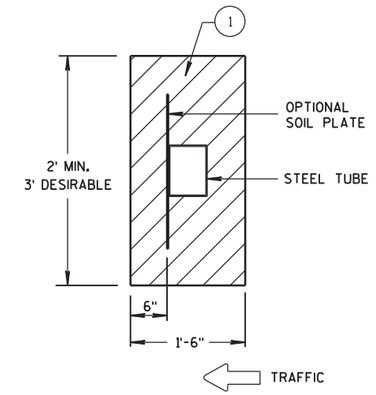


SECTION A-A

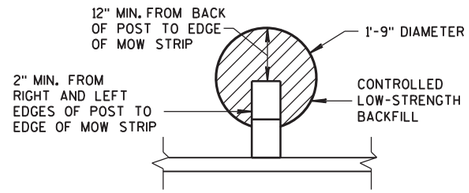


PLAN VIEW

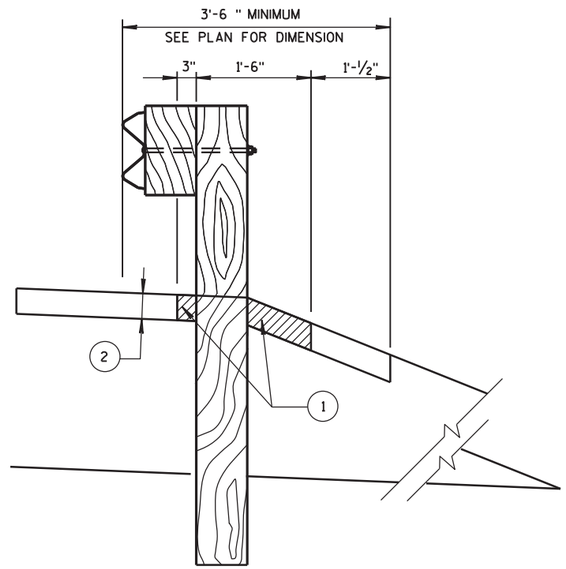
MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



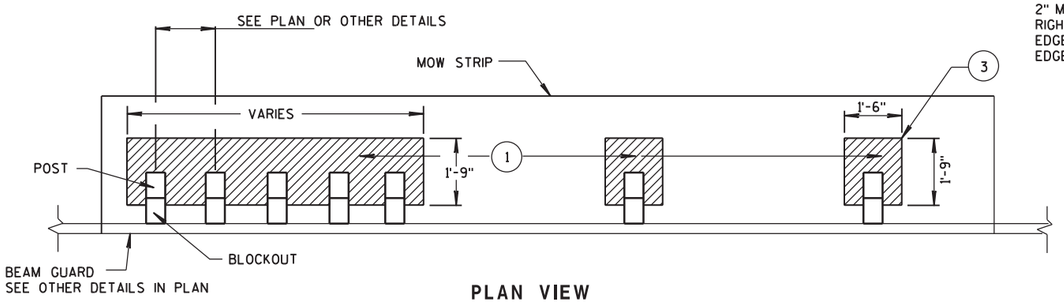
DETAIL A



ALTERNATIVE HMA
MOW STRIP DESIGN

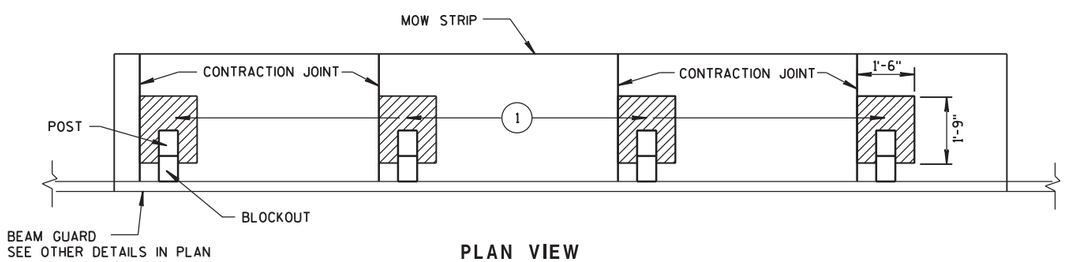


SECTION B-B



PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

1 CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

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

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

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

NT

6

S.D.D. 14 B 28-3

6

S.D.D. 14 B 28-3

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

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

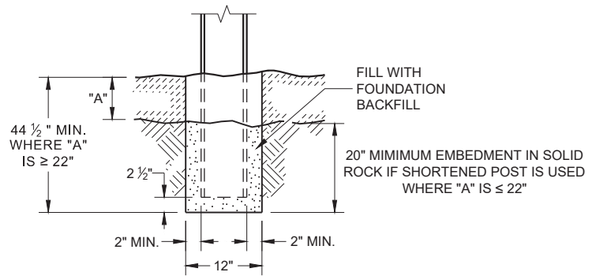
3. IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS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

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

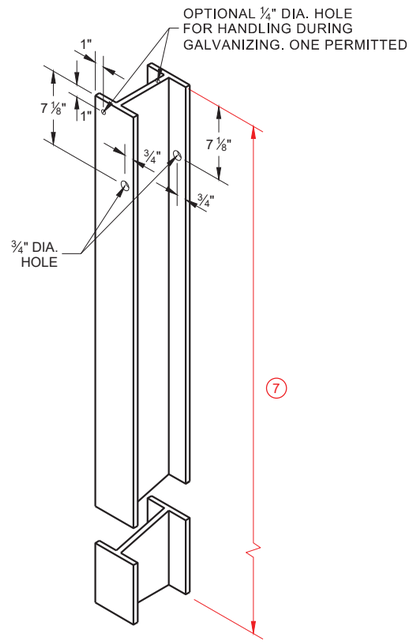
5. FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

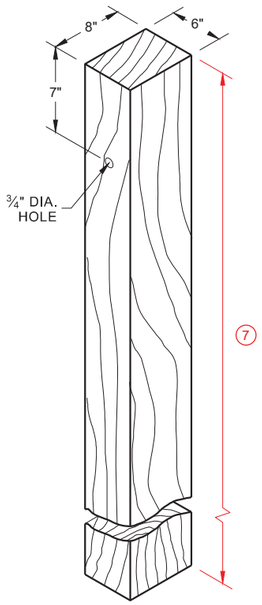
7. TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



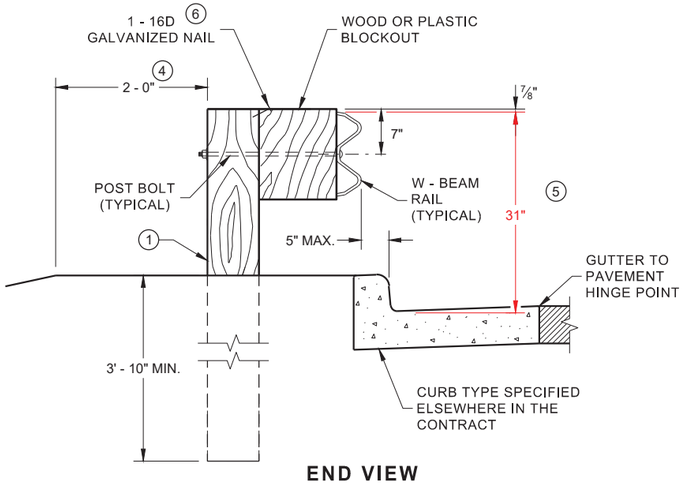
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



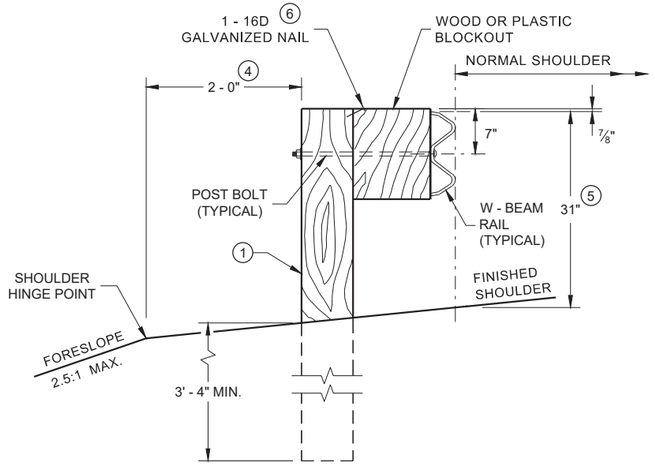
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



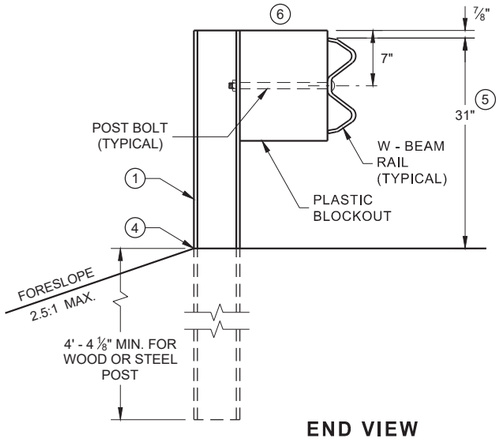
WOOD POST (6" X 8") NOMINAL (1)



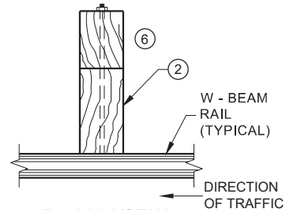
END VIEW
LOCATED ALONG A CURBED ROADWAY



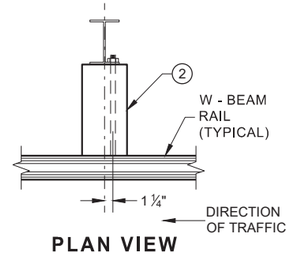
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



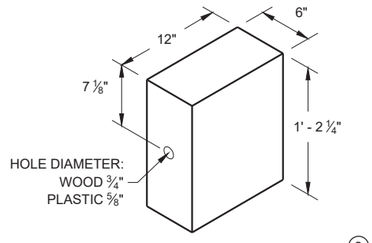
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

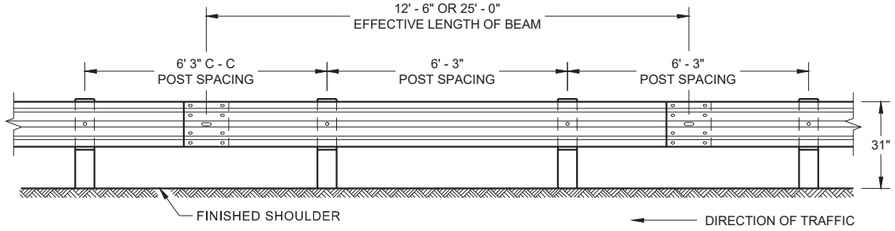
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

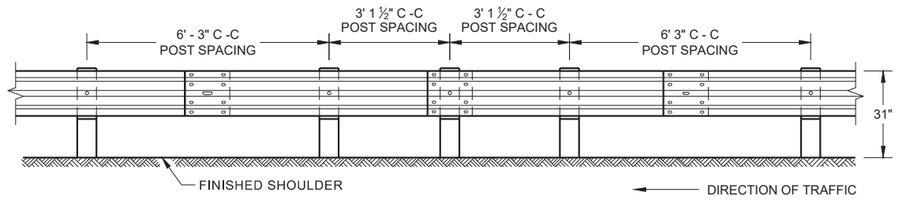
SDD 14B42 - 06a

6

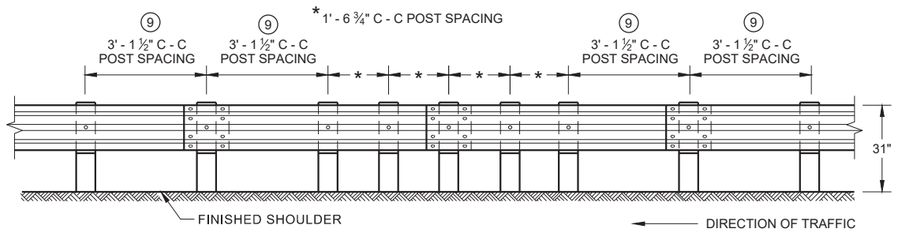
SDD 14B42 - 06a



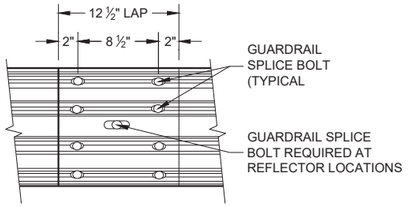
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

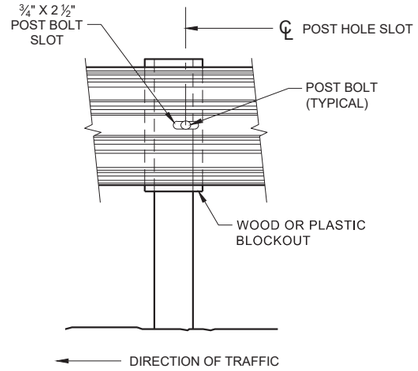
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

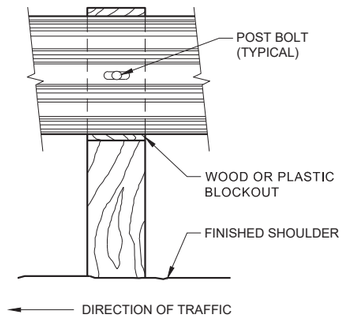
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ¾" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

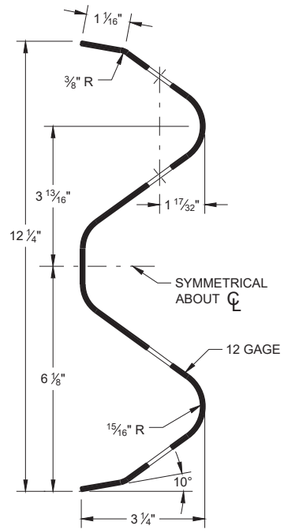
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



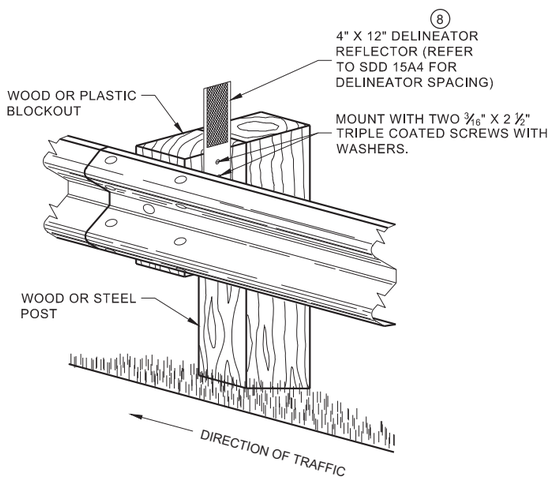
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

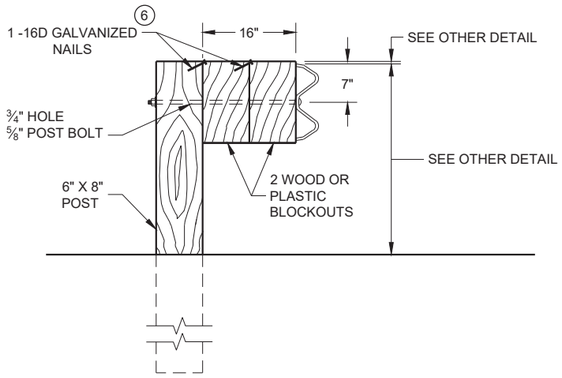
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA 188

6

SDD 14B42 - 06b

6

SDD 14B42 - 06b

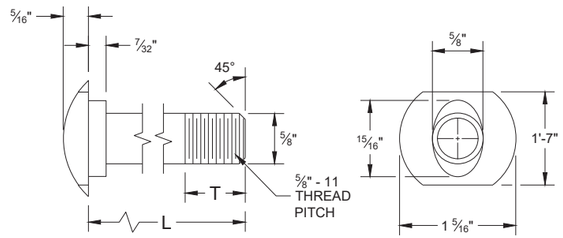


DETAIL FOR 16" BLOCKOUT DEPTH

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

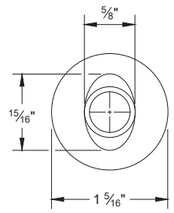
NOTE:

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

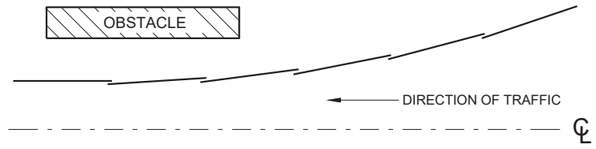


POST BOLT TABLE

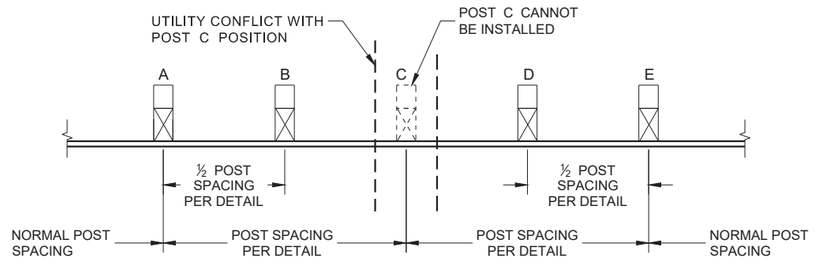
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



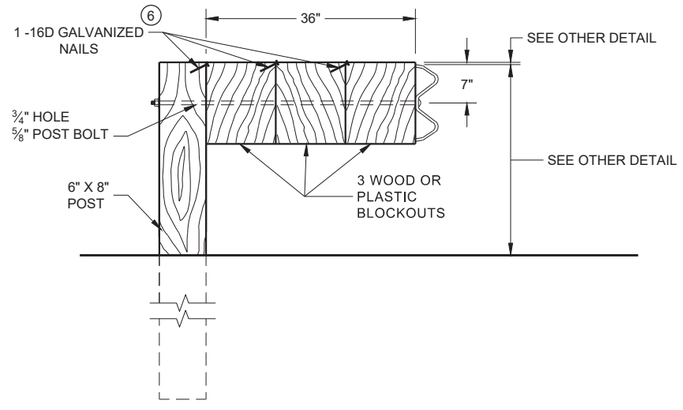
ALTERNATE BOLT HEAD



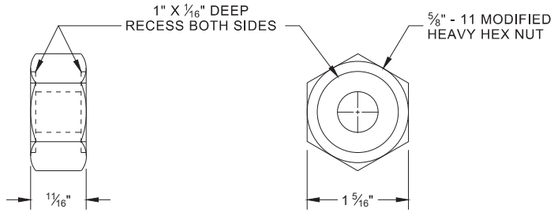
PLAN VIEW
BEAM LAPPING DETAIL



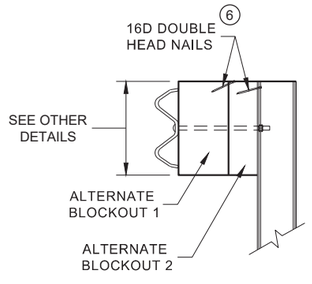
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



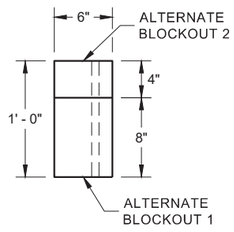
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

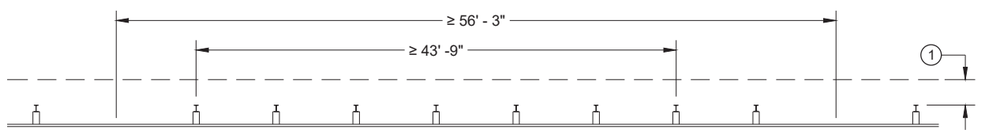
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

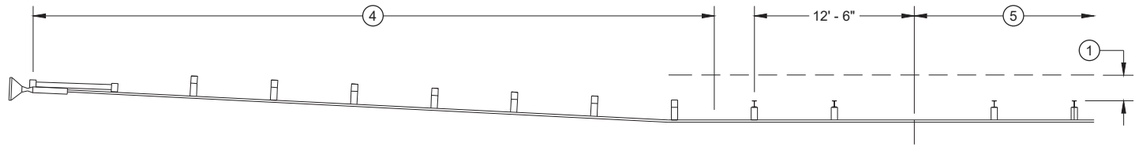
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

6

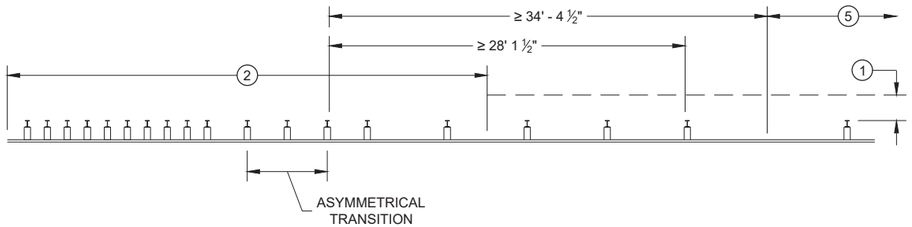
SDD 14B42 - 06c



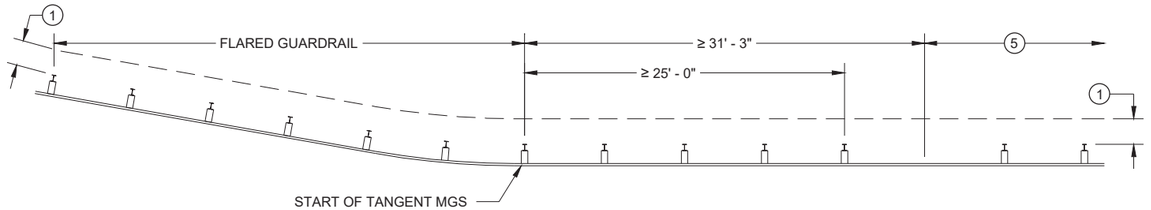
MISSING POST IN NORMAL BEAM GUARD RUN



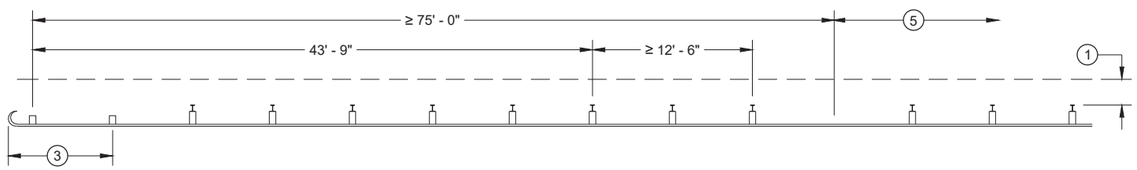
MISSING POST IN NORMAL BEAM GUARD RUN NEAR EAT



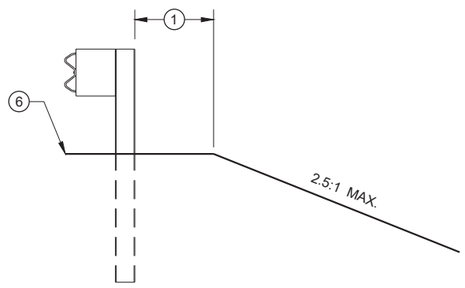
MISSING POST NEAR APPROACH THRIE BEAM TRANSITION



MISSING POST IN NORMAL BEAM GUARD RUN NEAR FLARED BEAM GUARD



MISSING POST IN NORMAL BEAM GUARD RUN NEAR TYPE 2 TERMINAL



CROSS SECTION VIEW

1. MINIMUM OF 2 FEET OF GRADING BEHIND POST.
2. SEE SDD 14B45 FOR MORE DETAILS.
3. SEE SDD 14B47 FOR MORE DETAILS.
4. SEE SDD 14B44 FOR MORE DETAILS.
5. SEE MISSING POST IN NORMAL BEAM GUARD RUN FOR DISTANCE TO NEXT MISSING POST AND AREA FOR WELL DRAINED, COMPACTED SOILS.
6. SEE PLAN FOR SHOULDER DESIGN.

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B42 - 06d

6

SDD 14B42 - 06d

GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

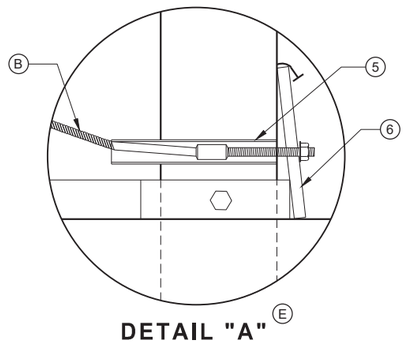
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

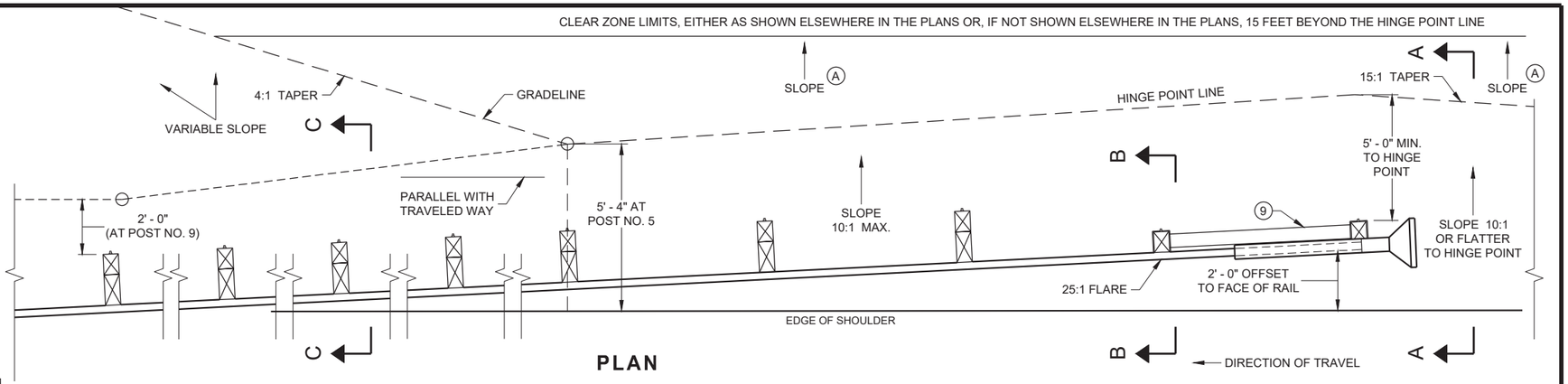
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

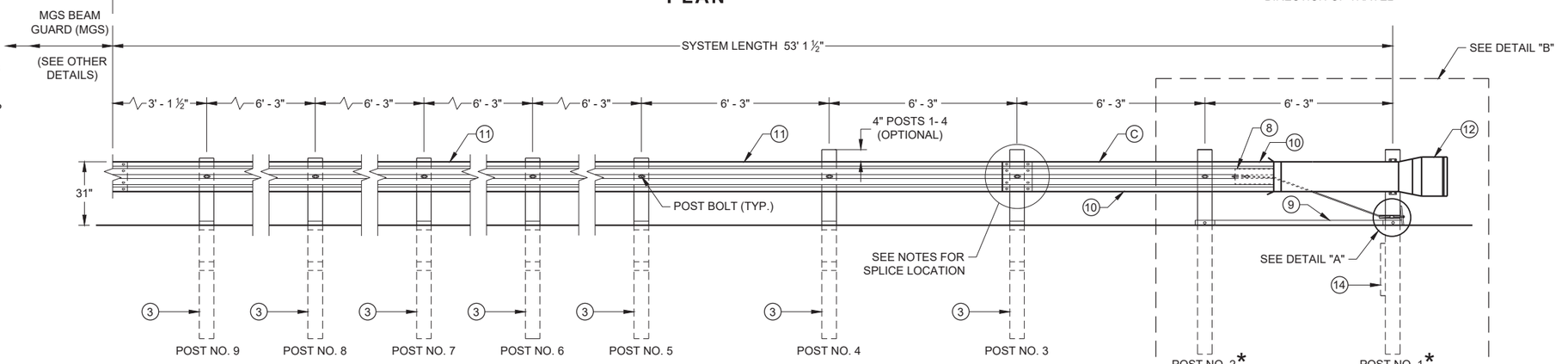
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



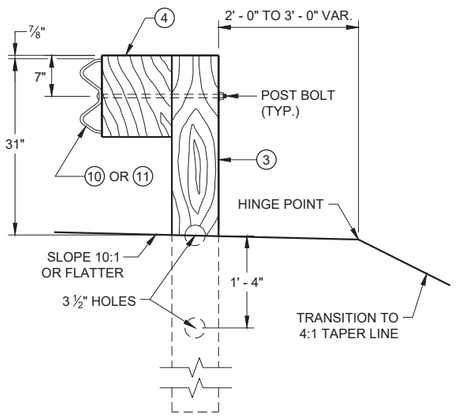
DETAIL "A" (E)



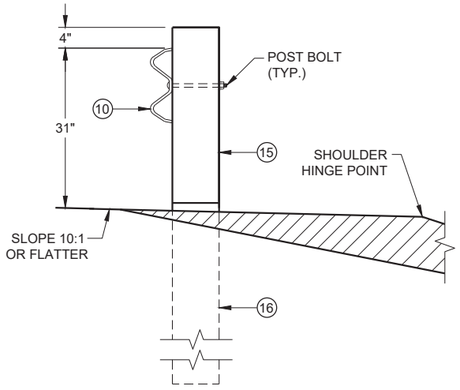
PLAN



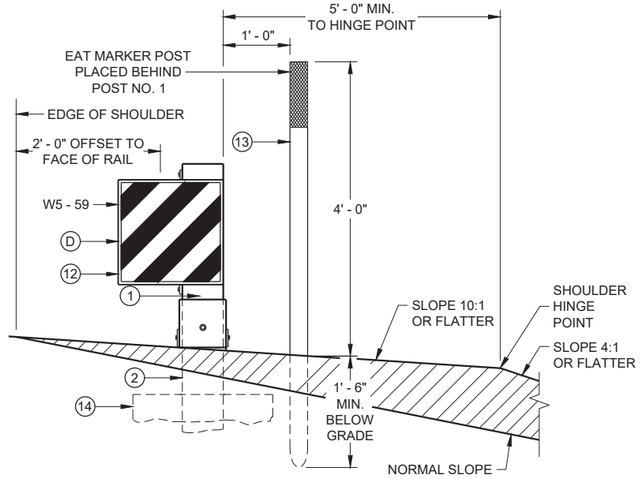
ELEVATION



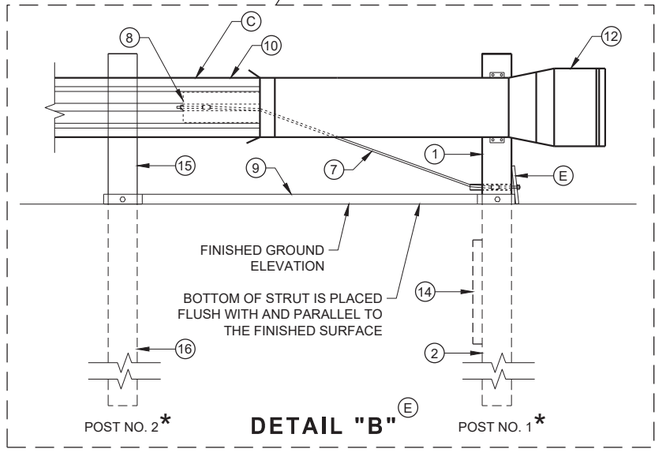
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*



DETAIL "B" (E)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

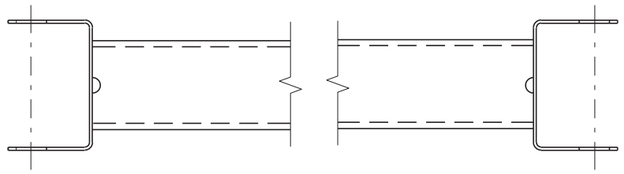
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 14B44 - 04a

6

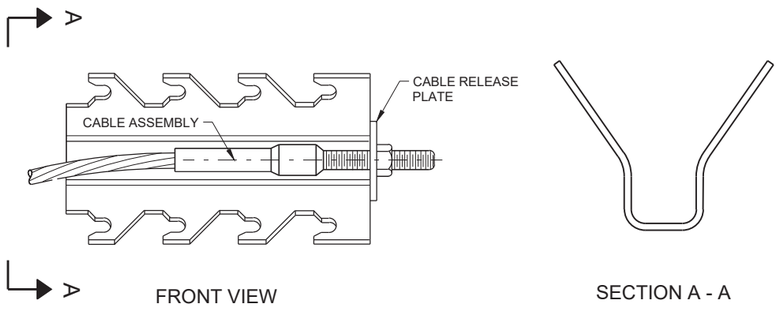
SDD 14B44 - 04a



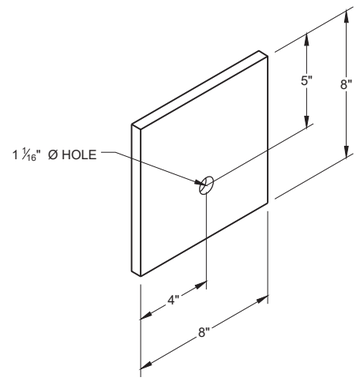
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

6

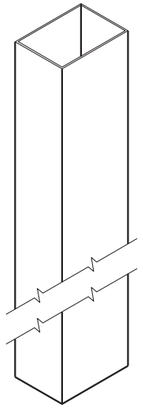
6

SDD 14B44 - 04b

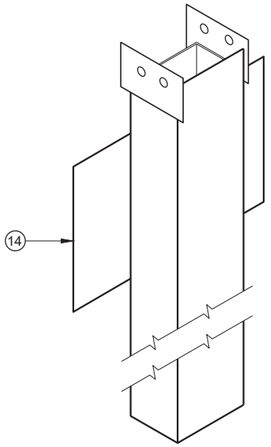
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

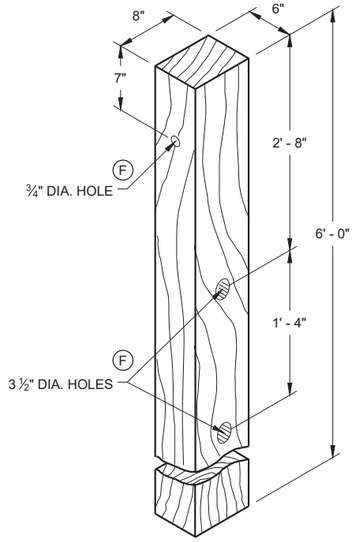
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



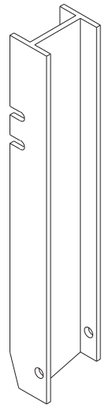
UPPER POST NO. 1 (1) (E)



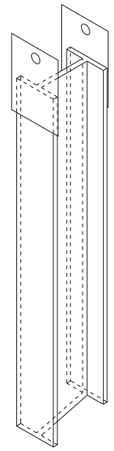
LOWER POST NO. 1 (2) (E)



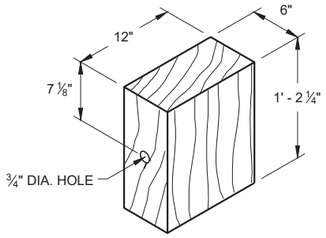
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



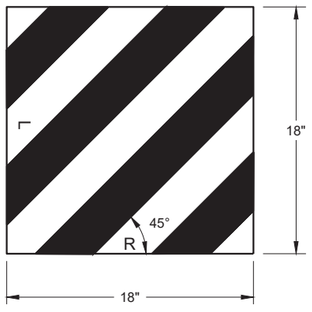
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

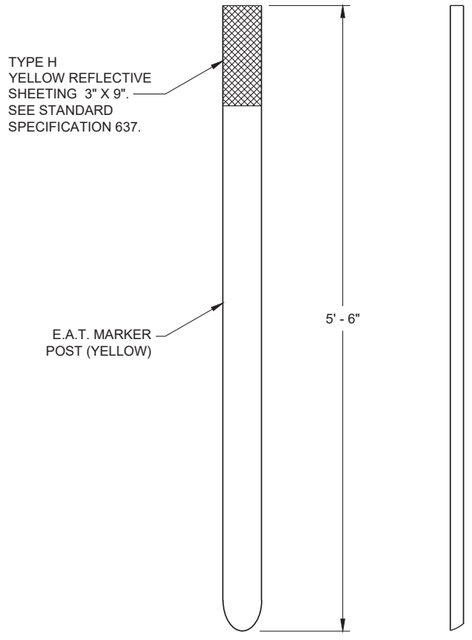


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



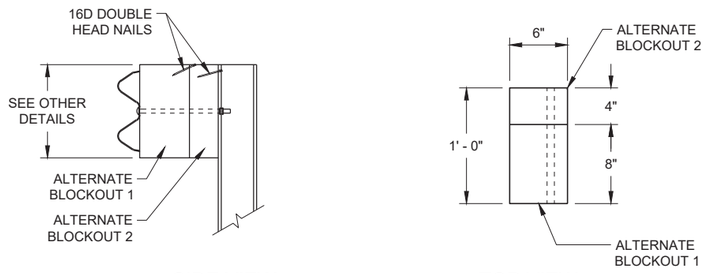
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

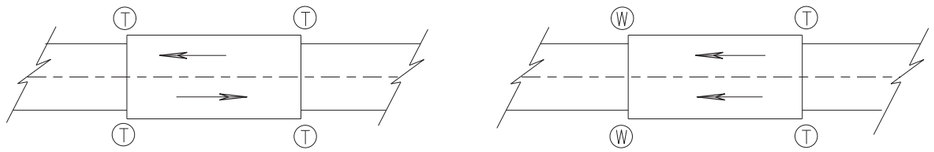
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

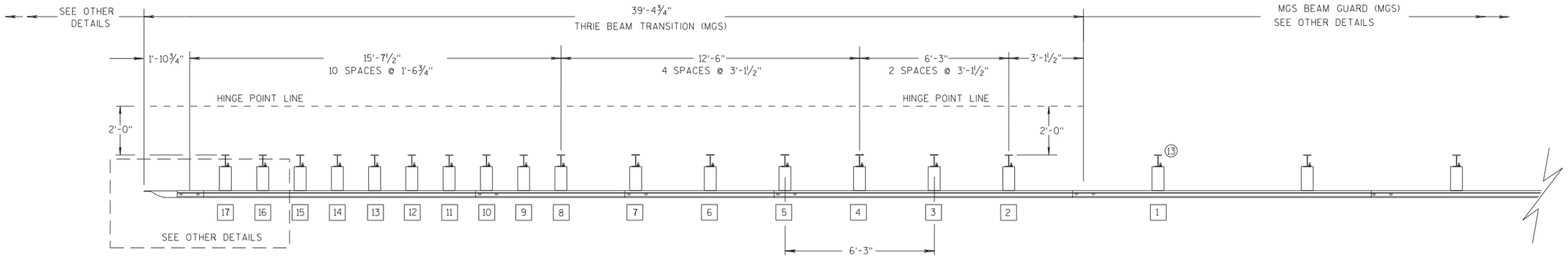
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

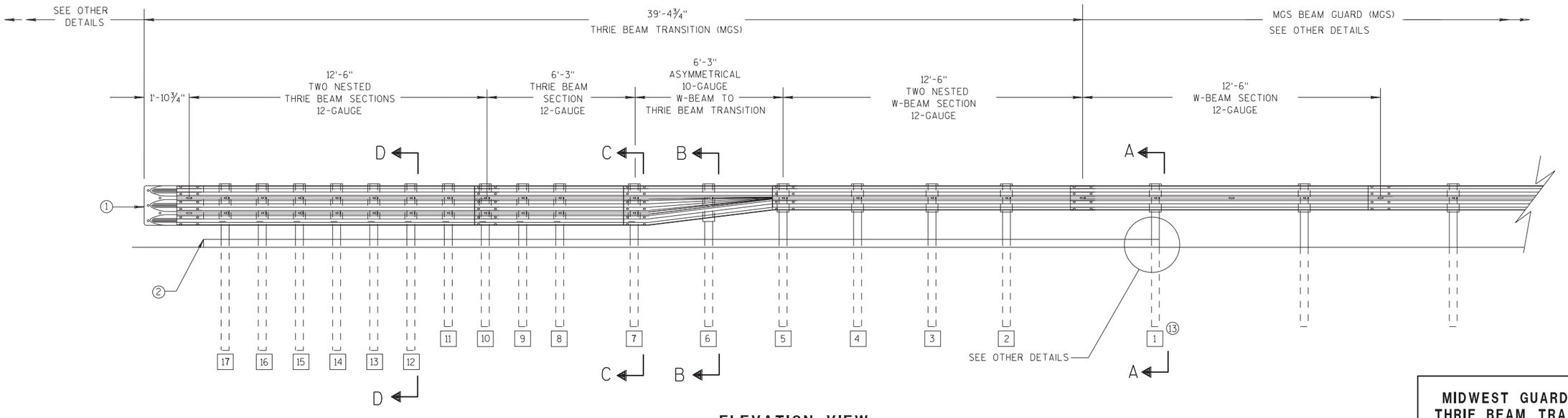
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 194

6

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

6

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

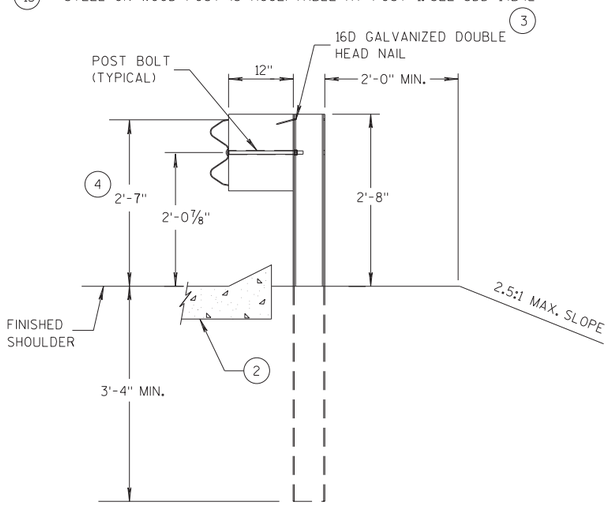
GENERAL NOTES

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

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

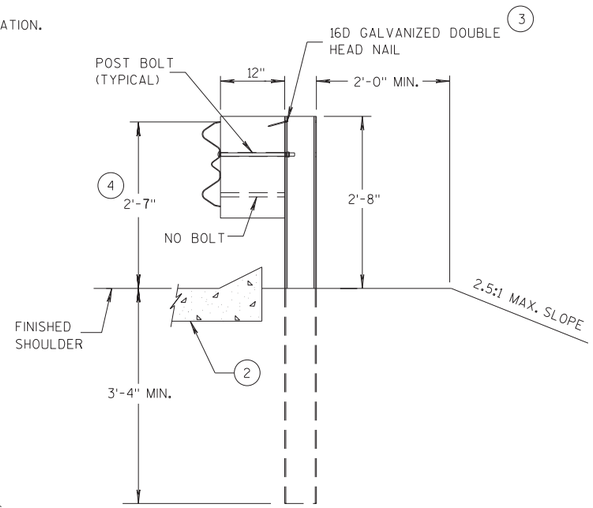
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



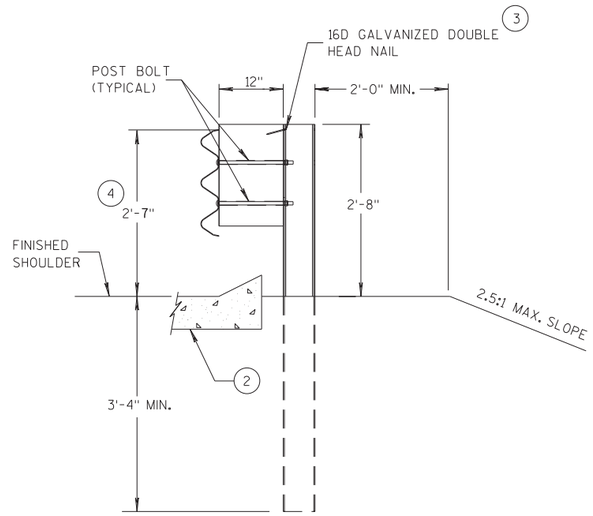
SECTION A-A (13)

POSTS 1-5



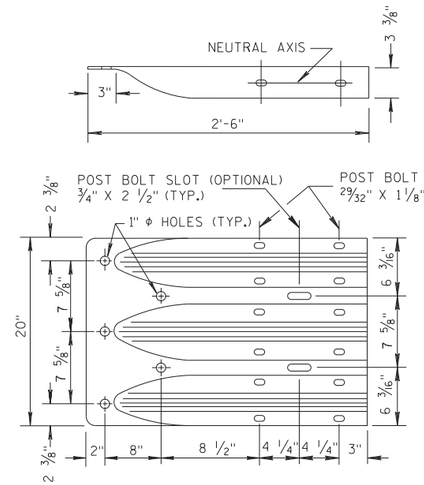
SECTION B-B

POST 6

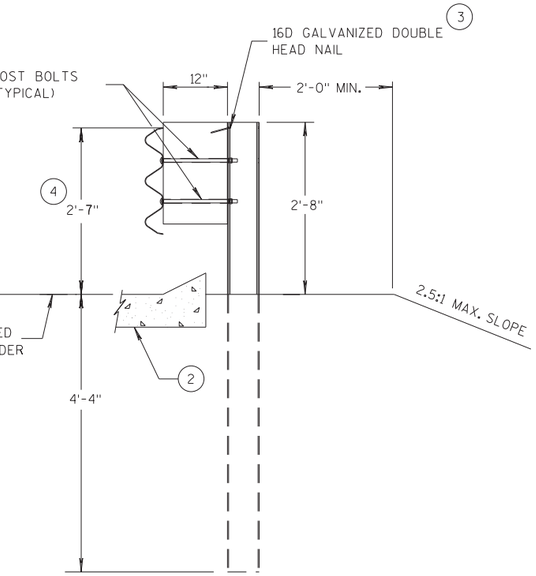


SECTION C-C

POSTS 7-11

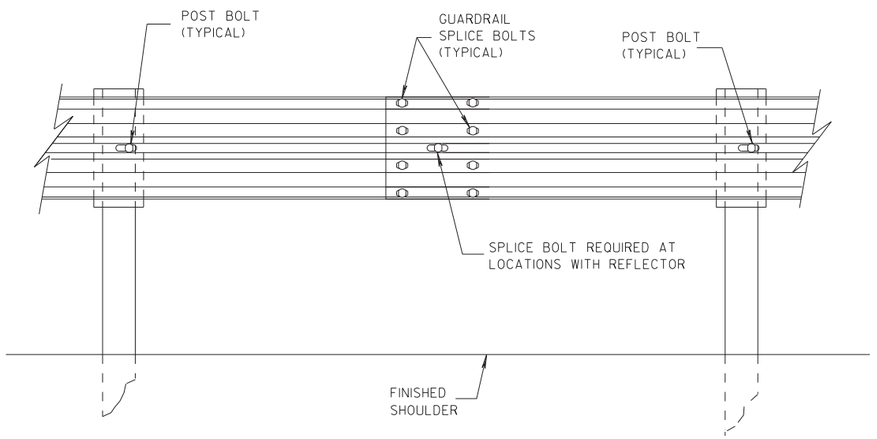


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

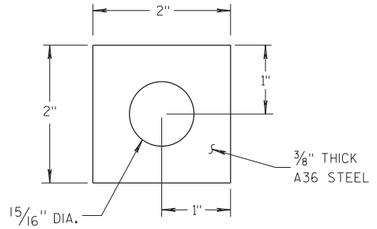
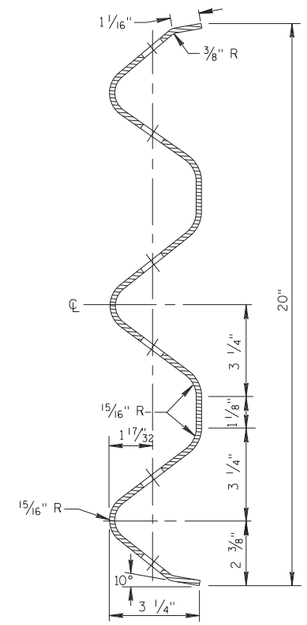


PLATE WASHER DETAIL



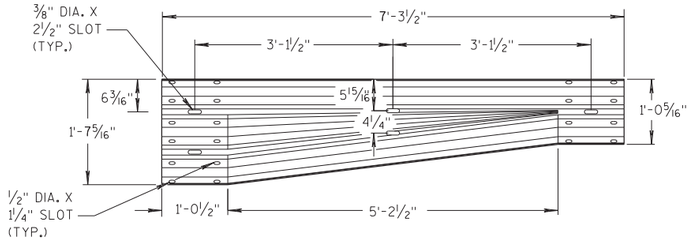
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

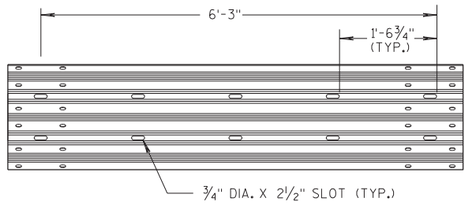
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

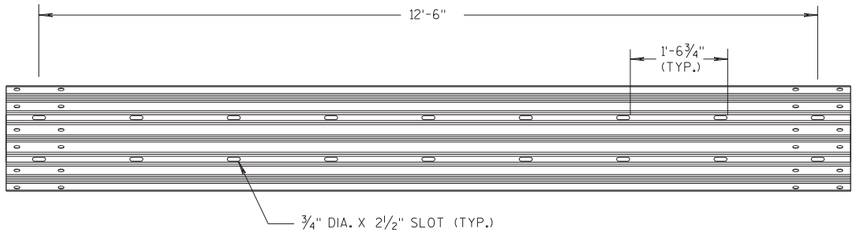
S.D.D. 14 B 45-5b



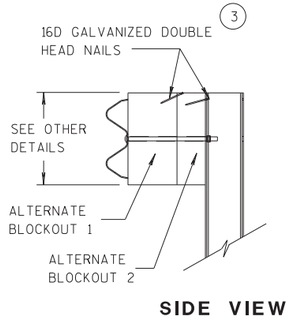
W-BEAM TO THRIE BEAM TRANSITION SECTION



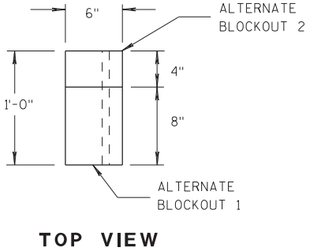
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

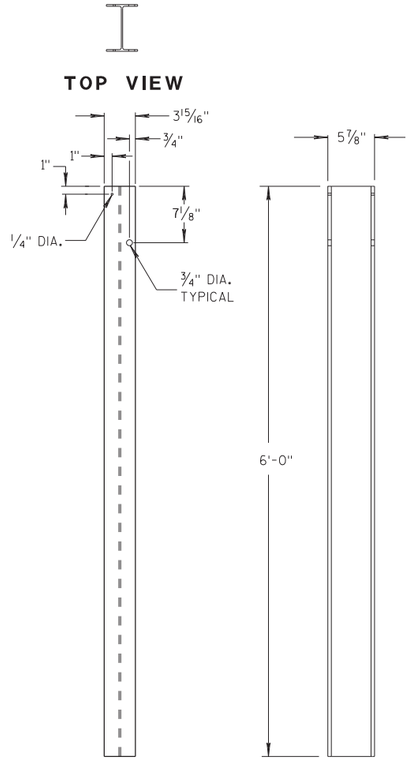


SIDE VIEW



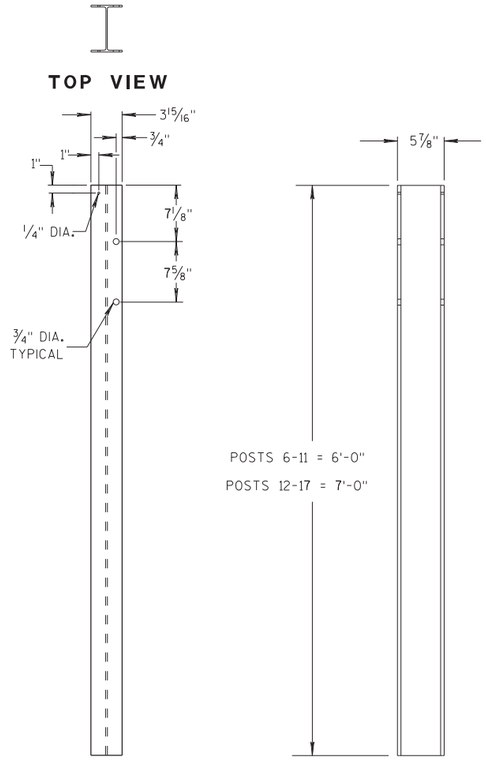
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



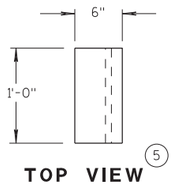
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

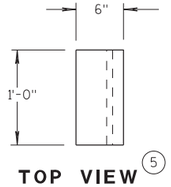


FRONT VIEW SIDE VIEW

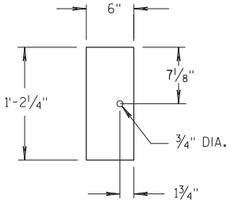
STEEL POSTS 6-17



TOP VIEW (5)

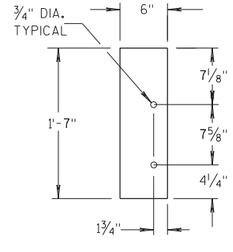


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

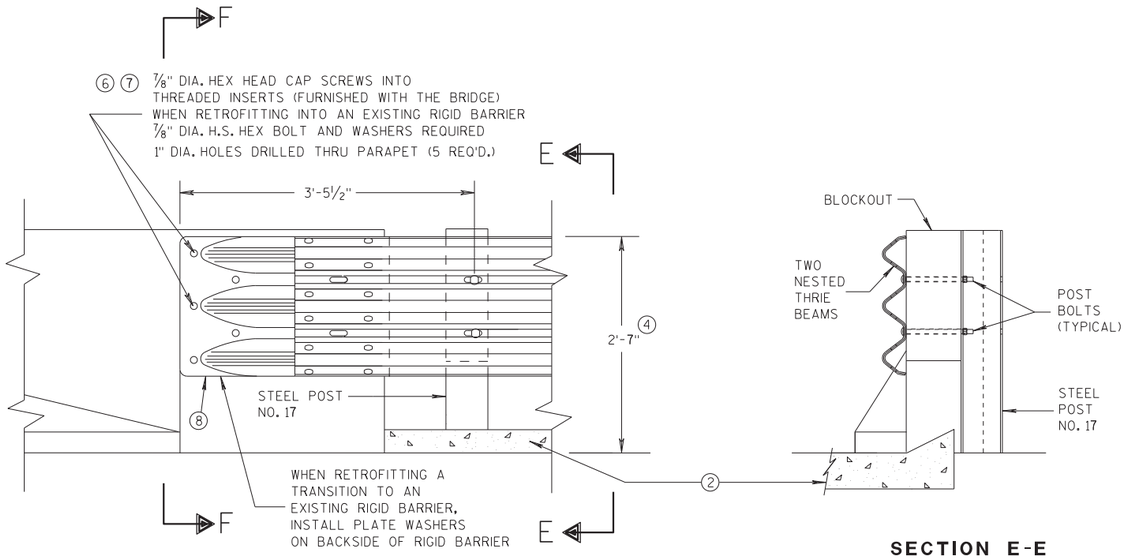
(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

6

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



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

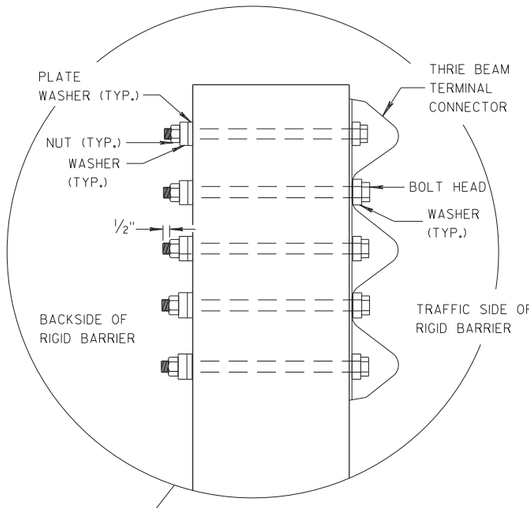
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

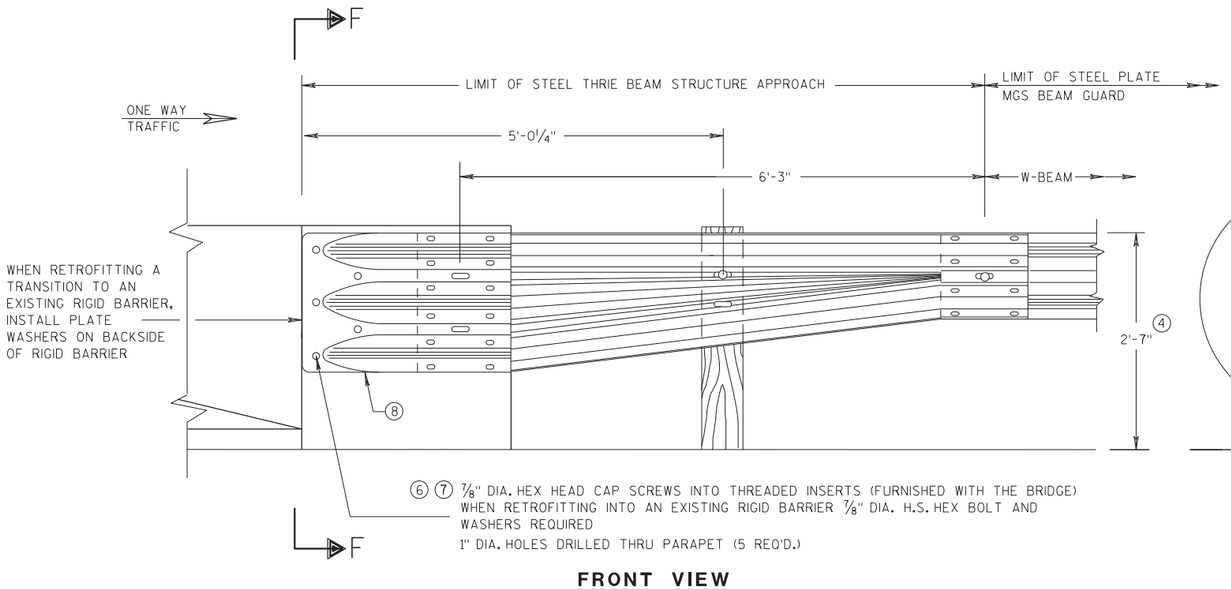
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

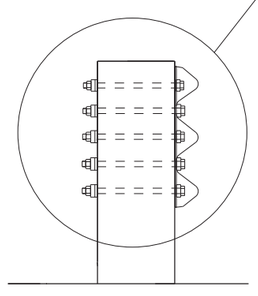
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

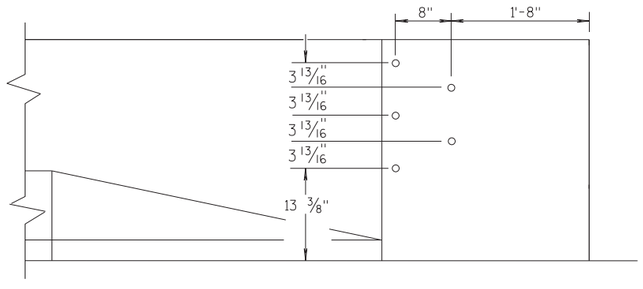




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

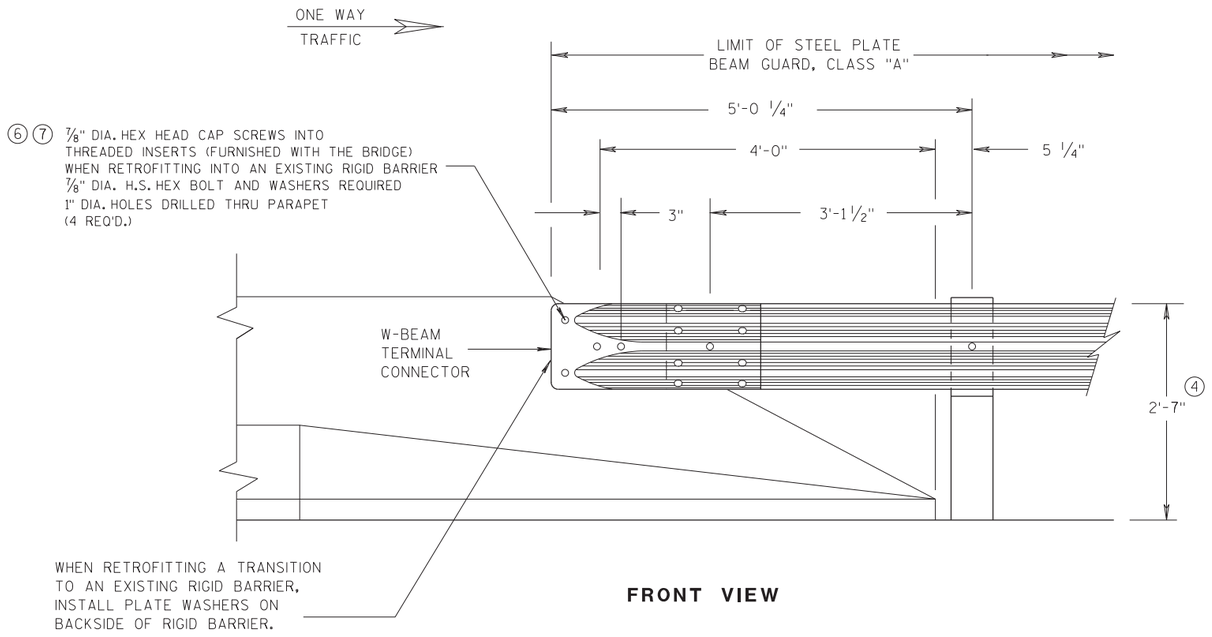
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVIS
NT
FHWA

6

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

6

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



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

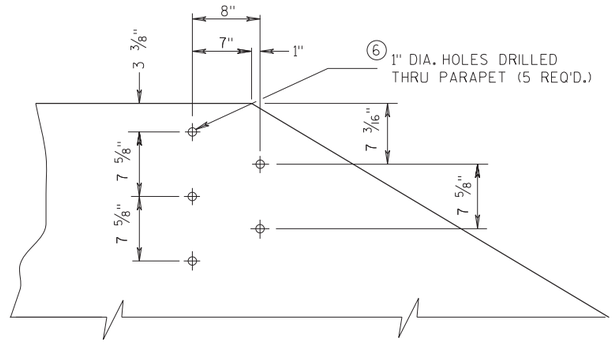
GENERAL NOTES

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

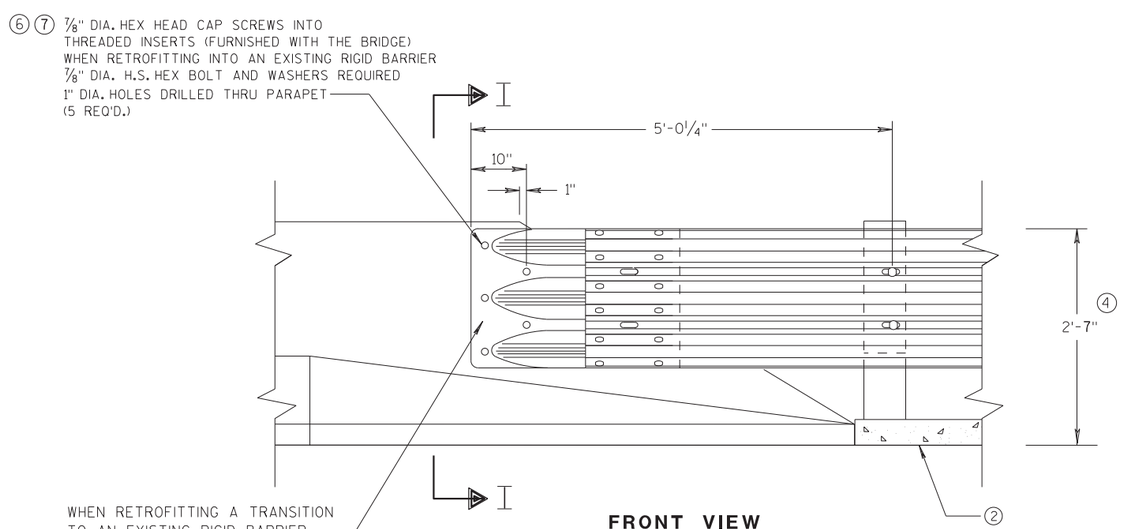
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

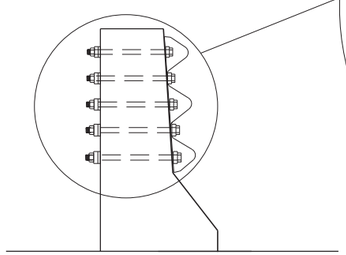
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



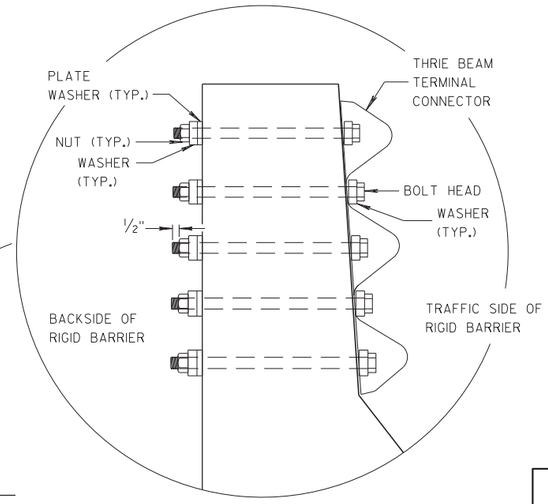
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

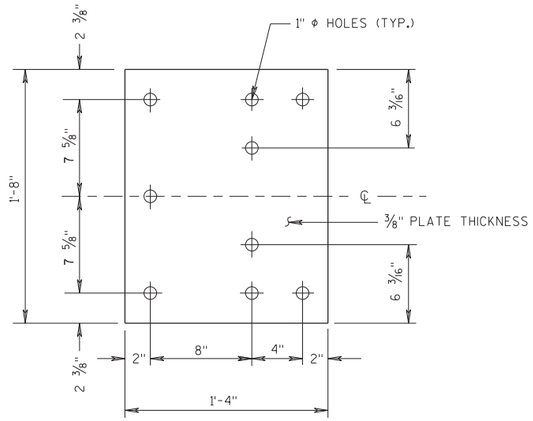
198

6

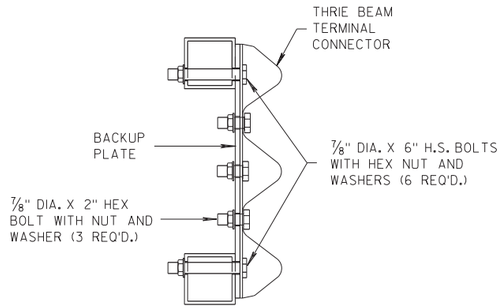
S.D.D. 14 B 45-5f

6

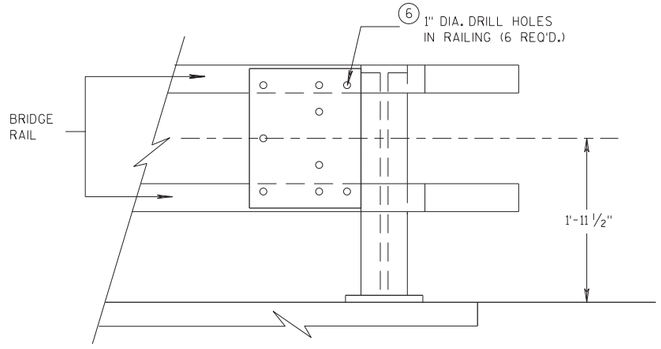
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



SECTION J-J

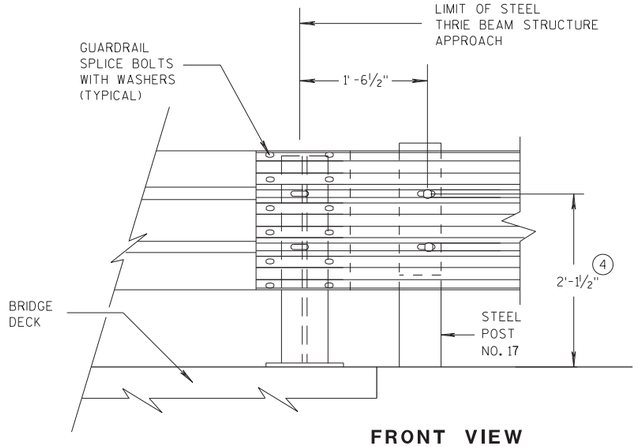


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

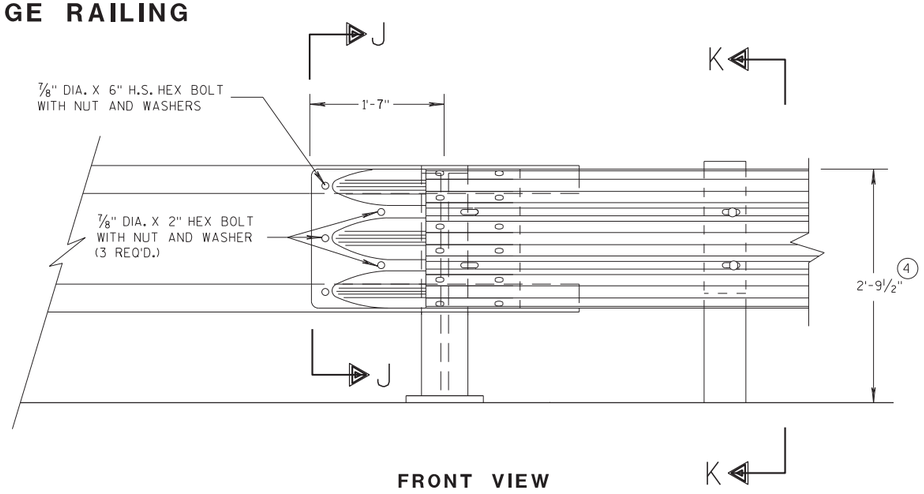
GENERAL NOTES

④ TOLERANCE FOR TOP OF BEAM IS ± 1".

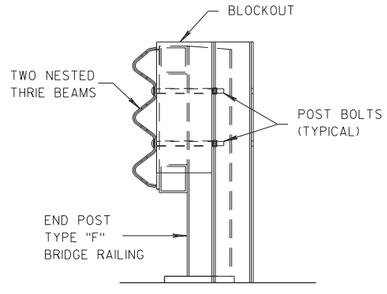
⑥ DRILLING HOLES THROUGH THE PAPRPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



FRONT VIEW
THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

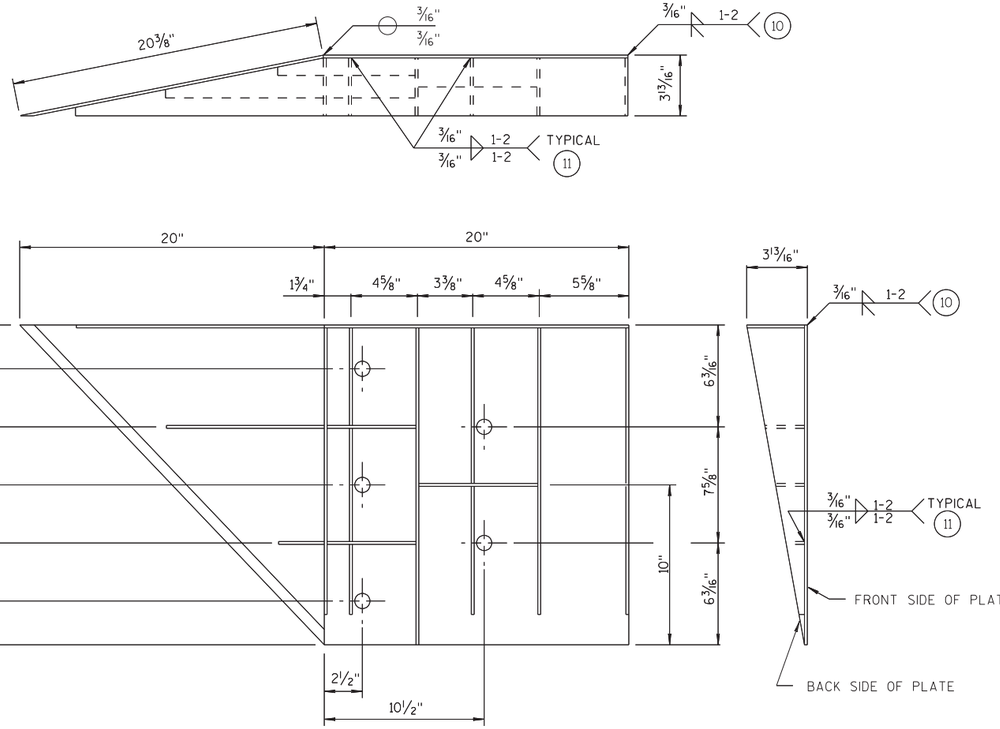
/S/ Rodney Taylor 199
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

6

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

6

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

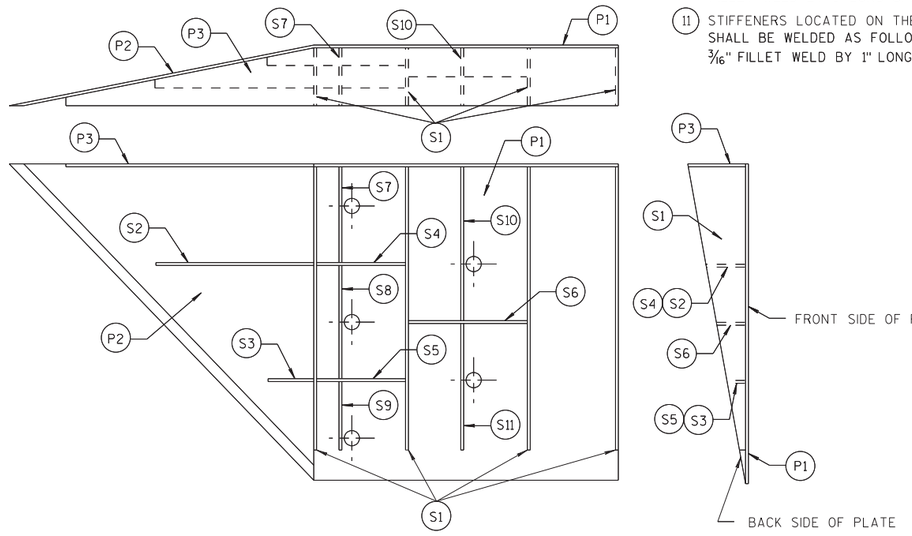


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

PLATE	QUANTITY	SHAPE	SIZE (A x B x C x D)	THICKNESS
P1	1		20" x 20"	3/16"
P2	1		20" x 20" x 28 9/16"	3/16"
P3	1		39" x 3 5/8" x 20" x 19 5/16"	3/16"
S1	4		18 7/16" x 3 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

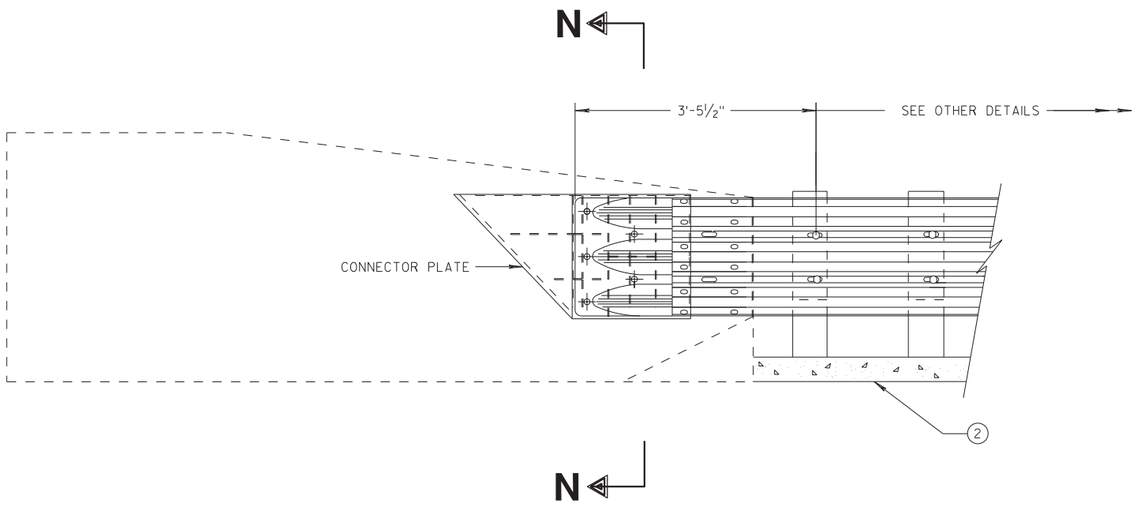
/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI 200 ENT

6

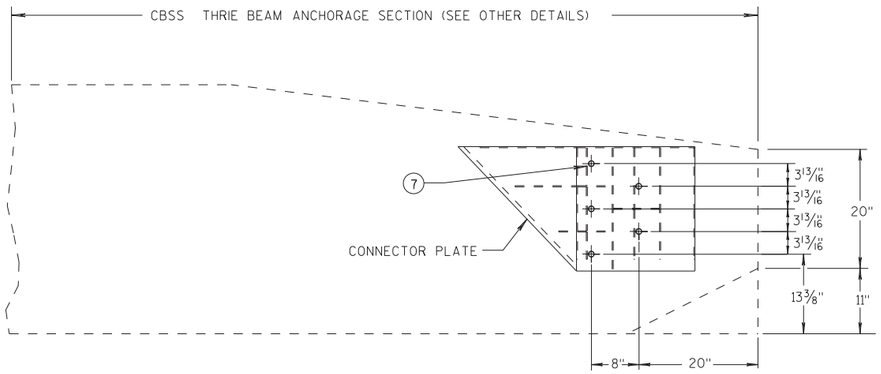
S.D.D. 14 B 45-5i

6

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



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



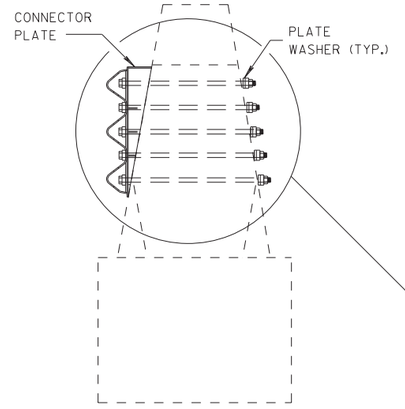
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

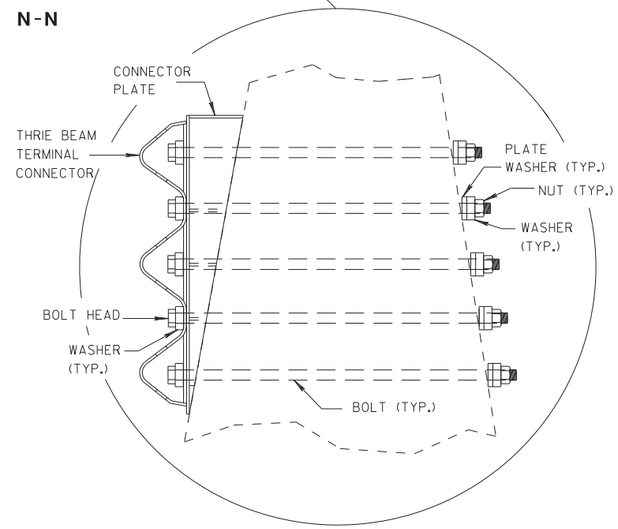
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS DI UNIT SUPERVIS

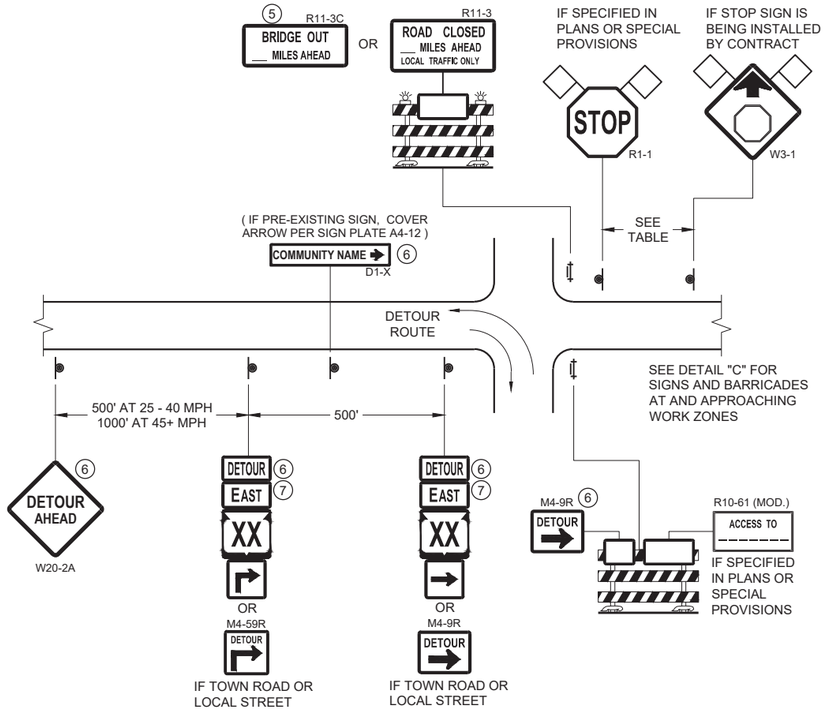
201

6

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

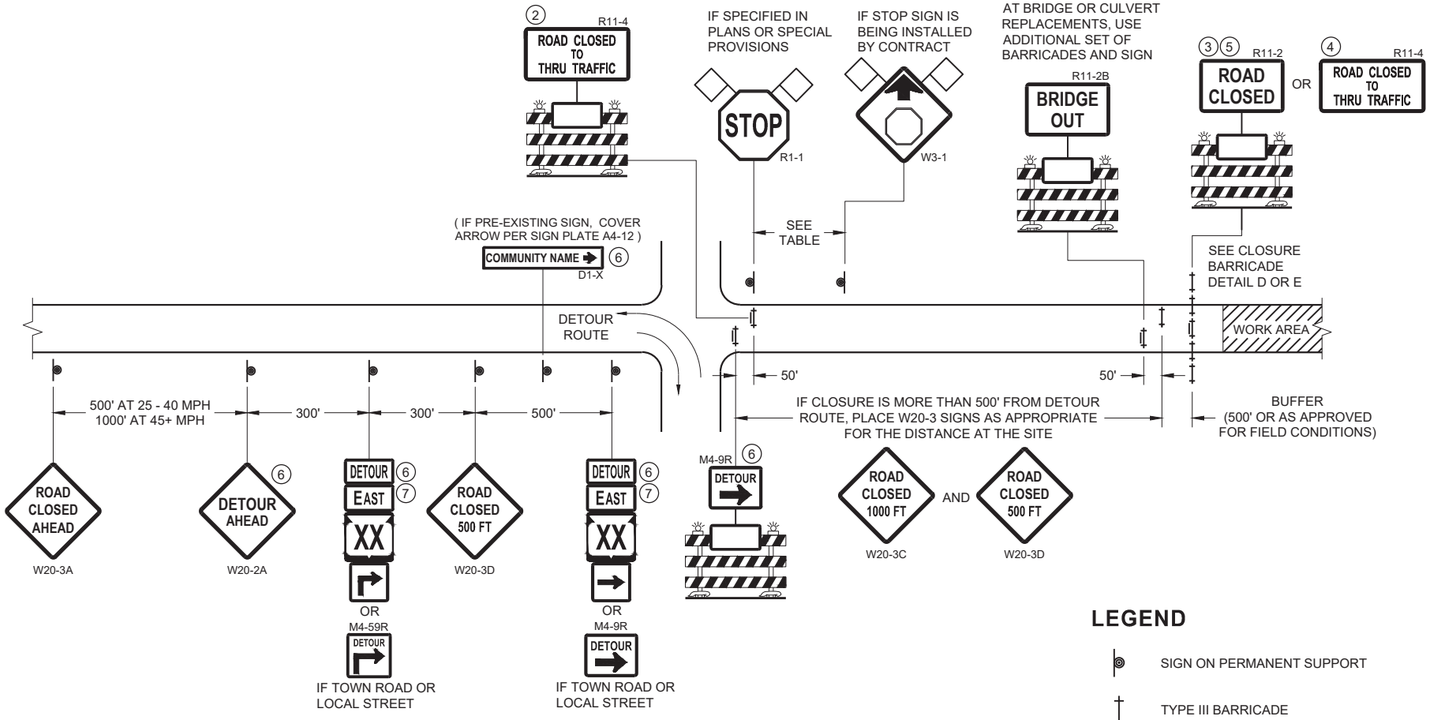
6

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



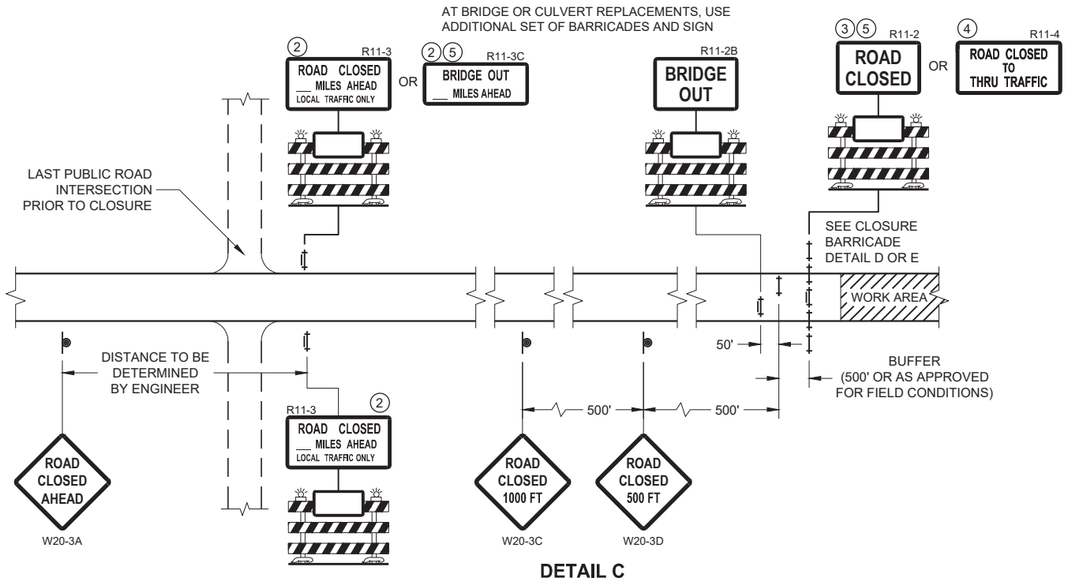
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

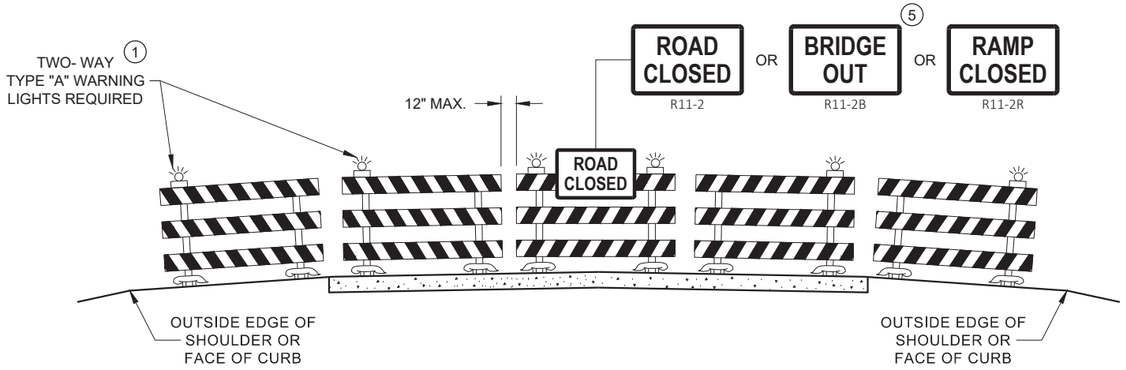
APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

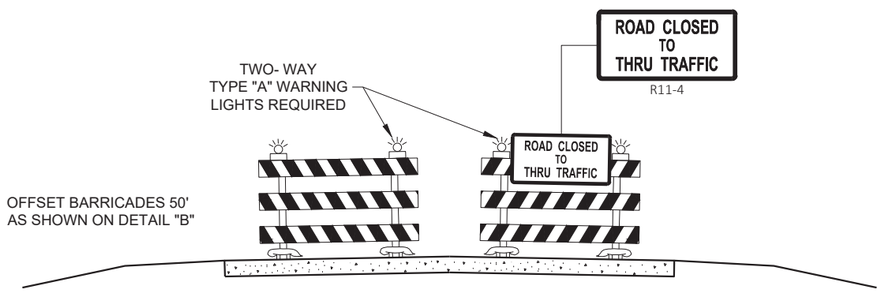
6

SDD 15C02 - 07a

SDD 15C02 - 07a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 07b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- M05 - 1
- OR M06 - 1
- OR M06 - 1

GENERAL NOTES

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

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

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

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

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

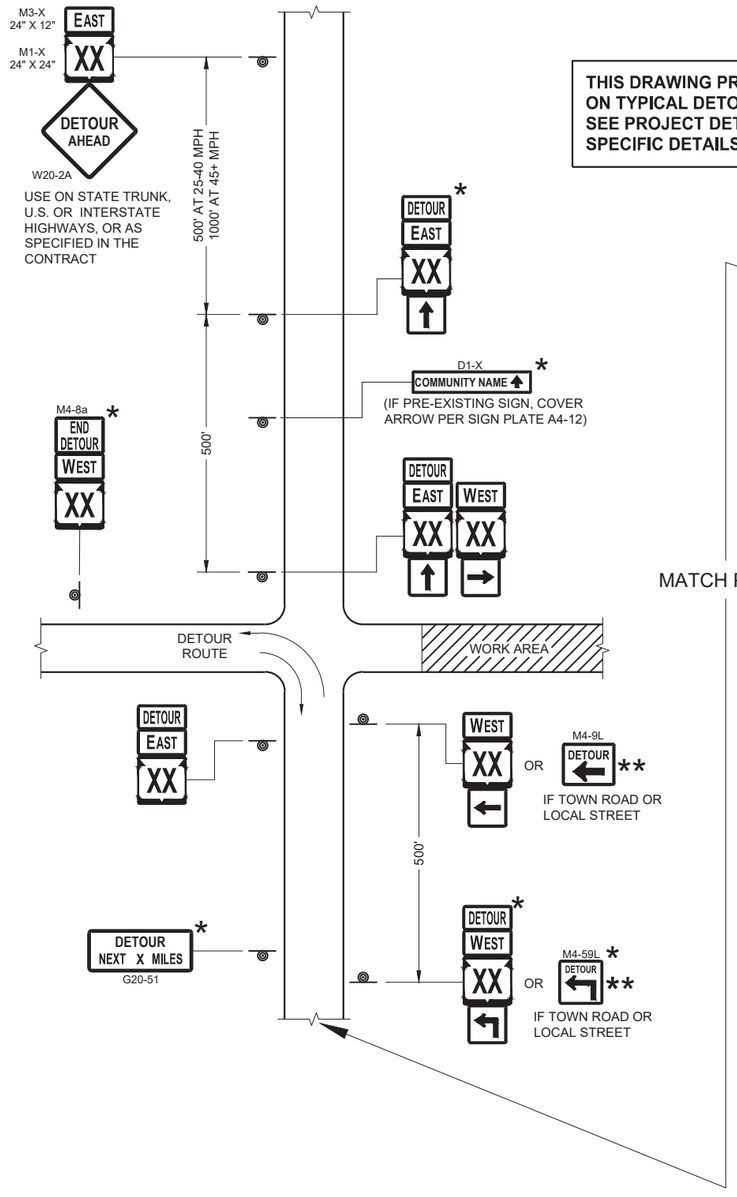
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

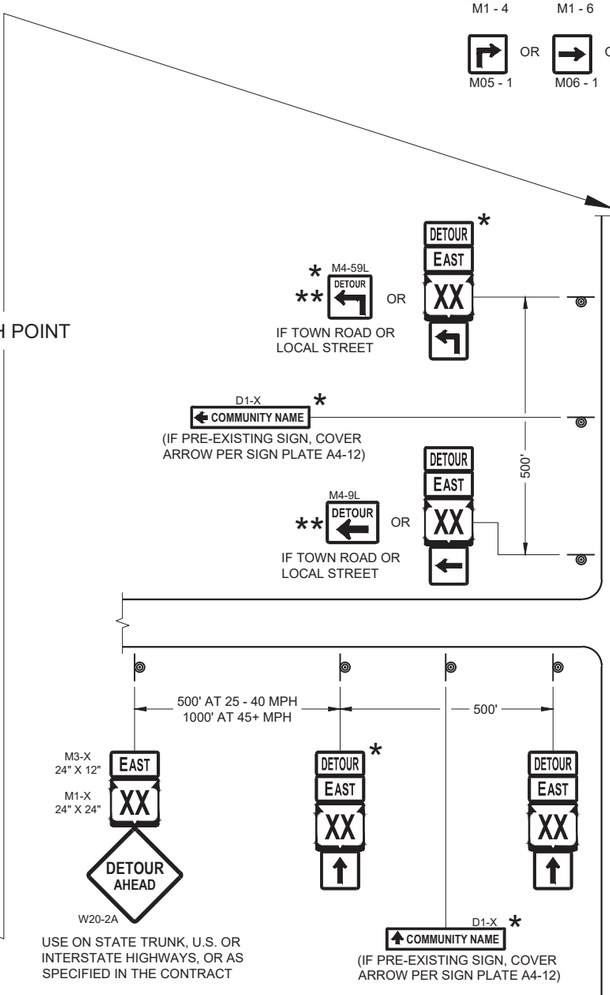
SIGN SIZES SHALL BE AS FOLLOWS:

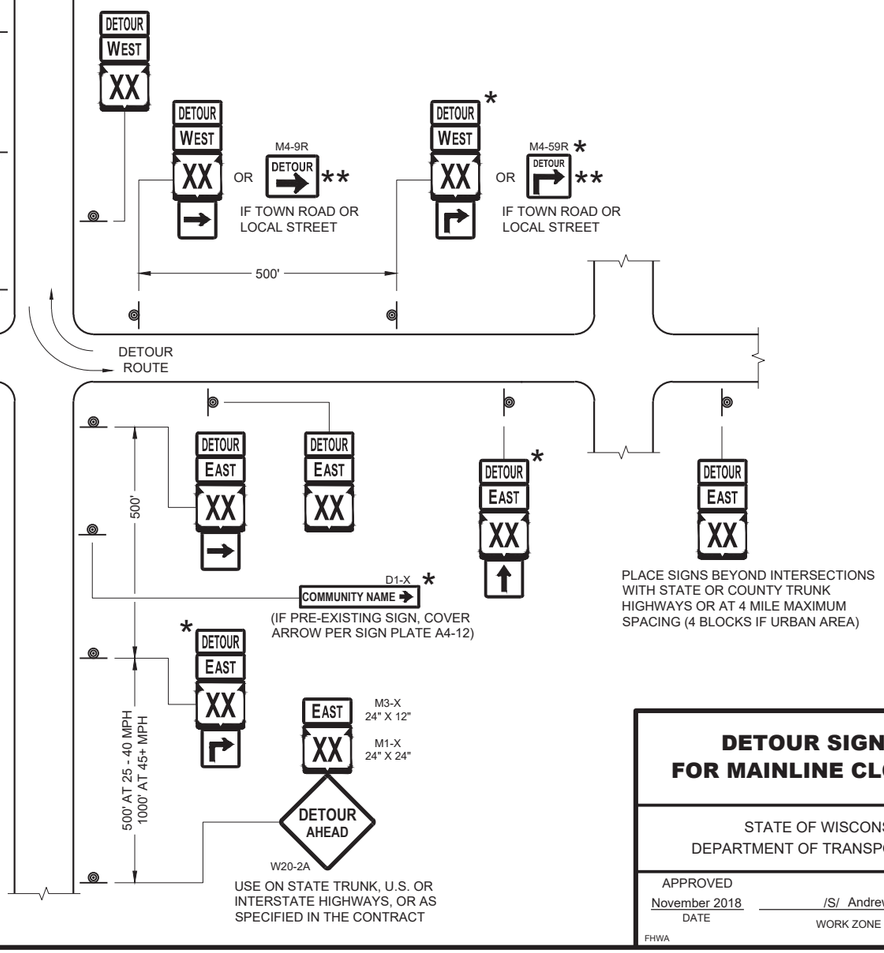
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2 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.







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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

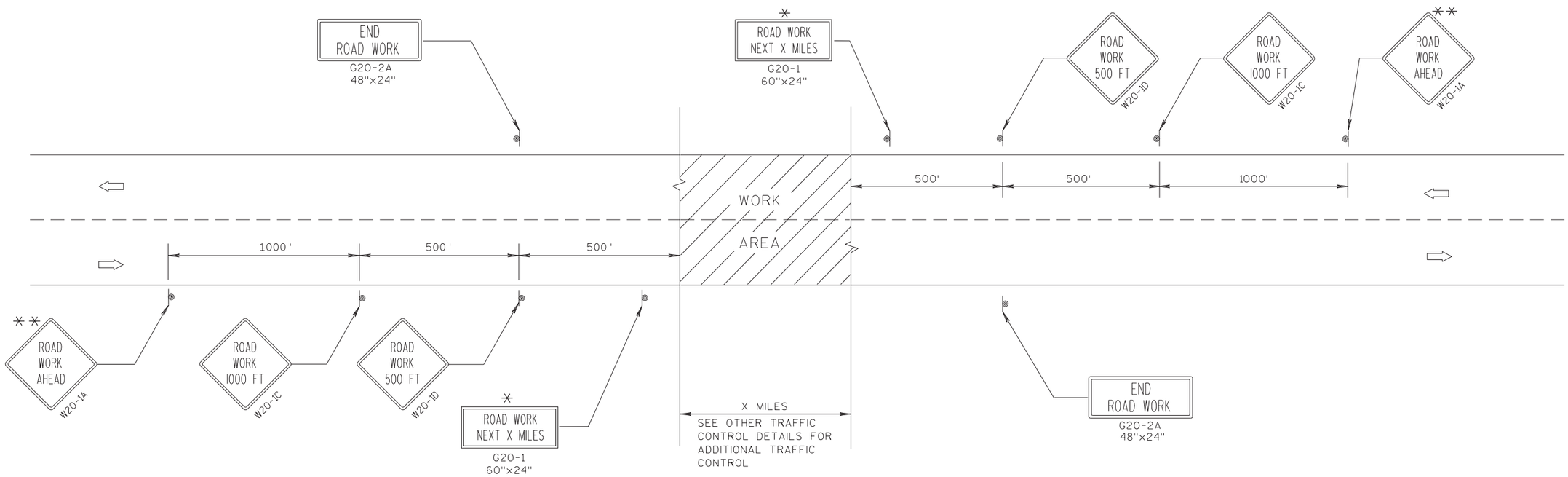
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 07c

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

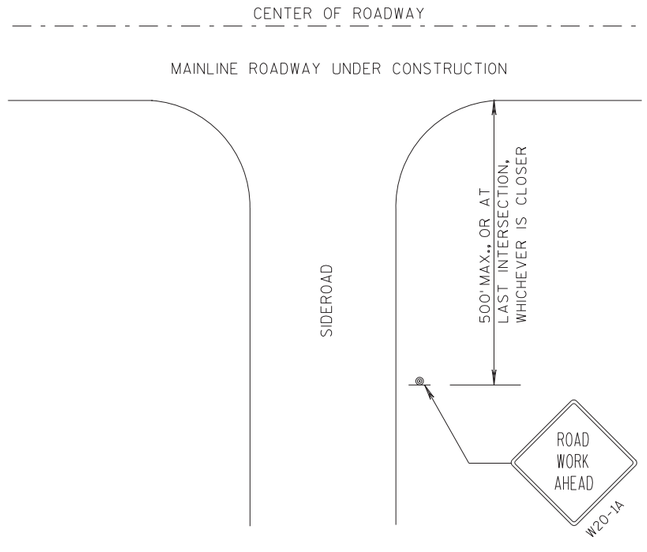
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

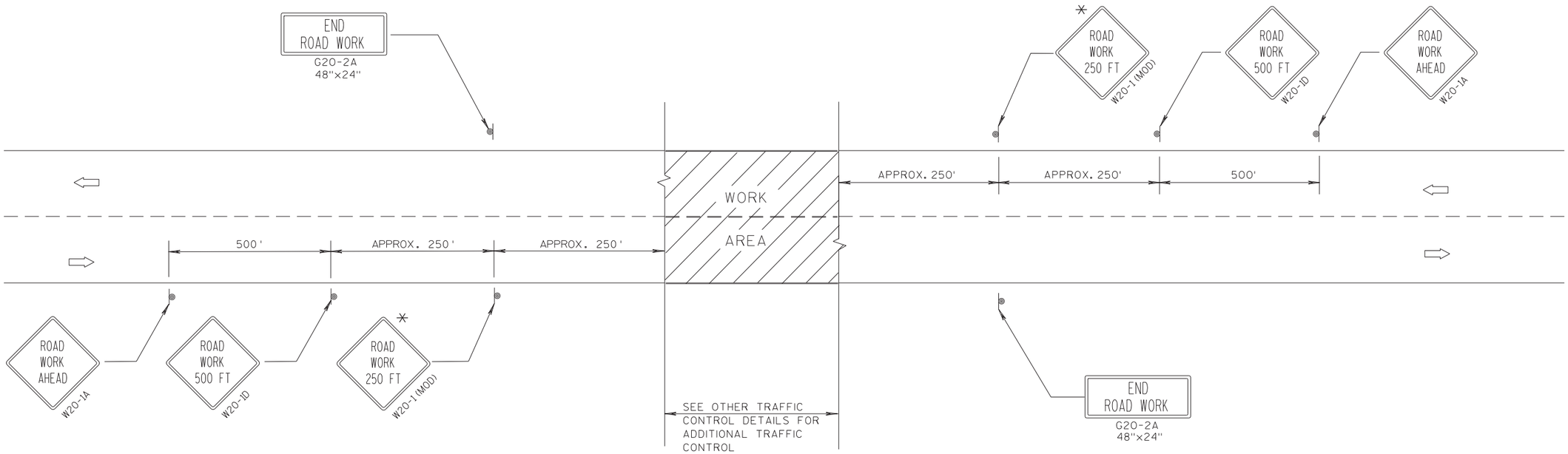
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGI
FHWA

6

S.D.D. 15 C 4-5

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

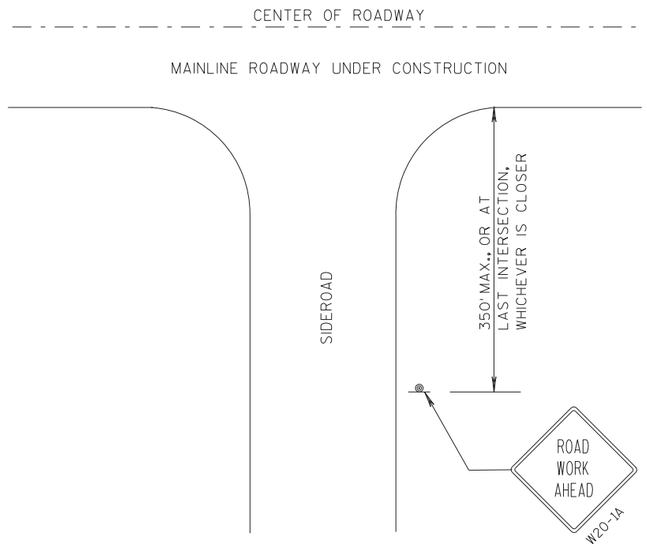
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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

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



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

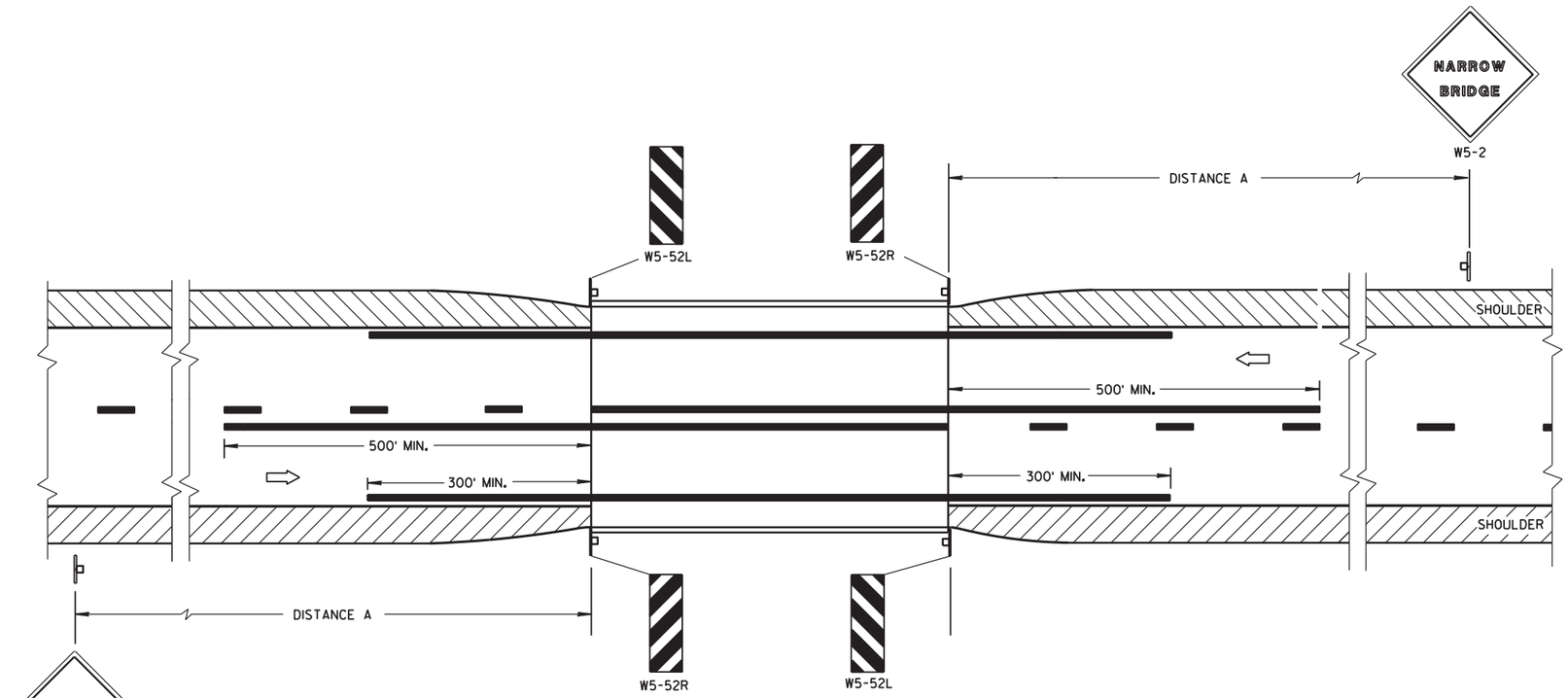
7/2018
DATE

/S/ Andrew Heldtke
WORK ZONE ENGI

FHWA

6

S.D.D. 15 C 5-5



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

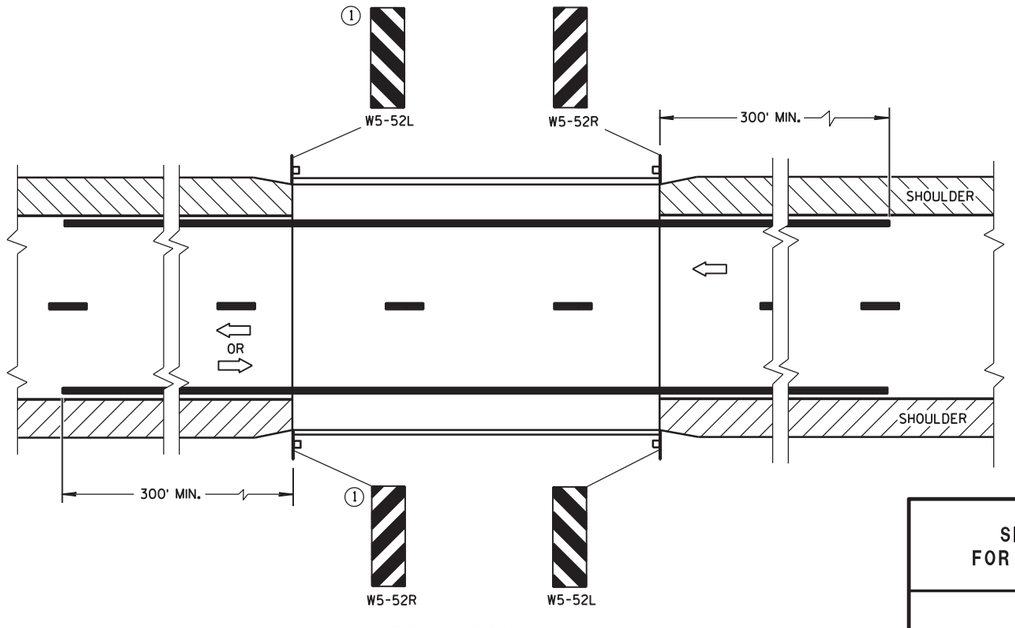
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

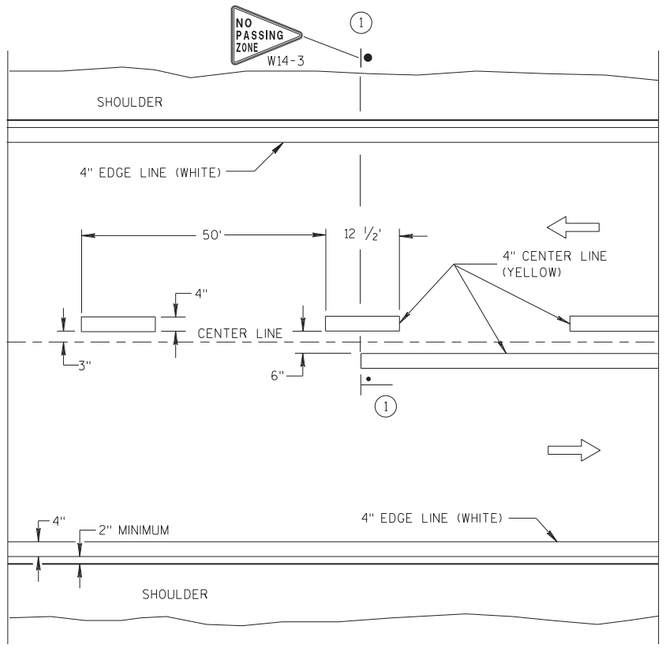
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

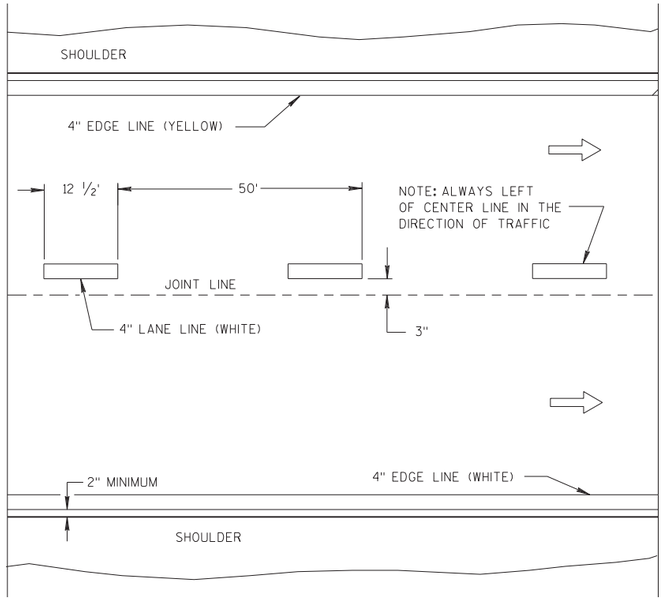
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

S.D.D. 15 C 6-9



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

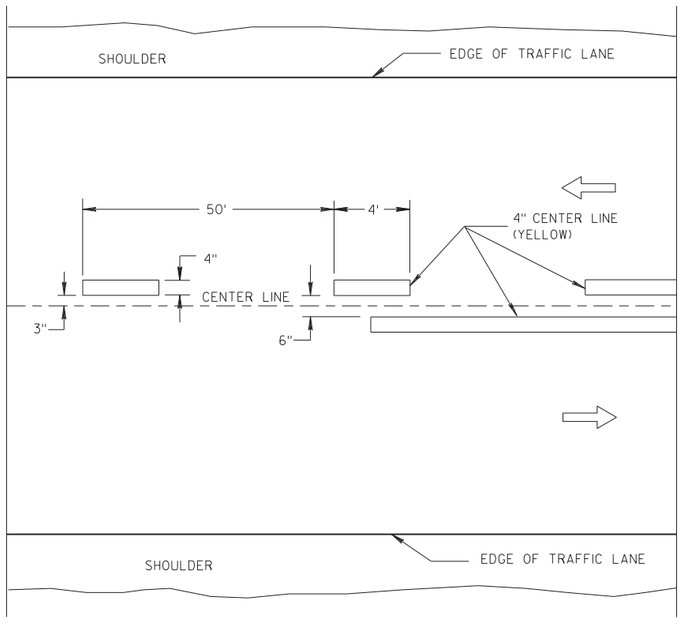
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

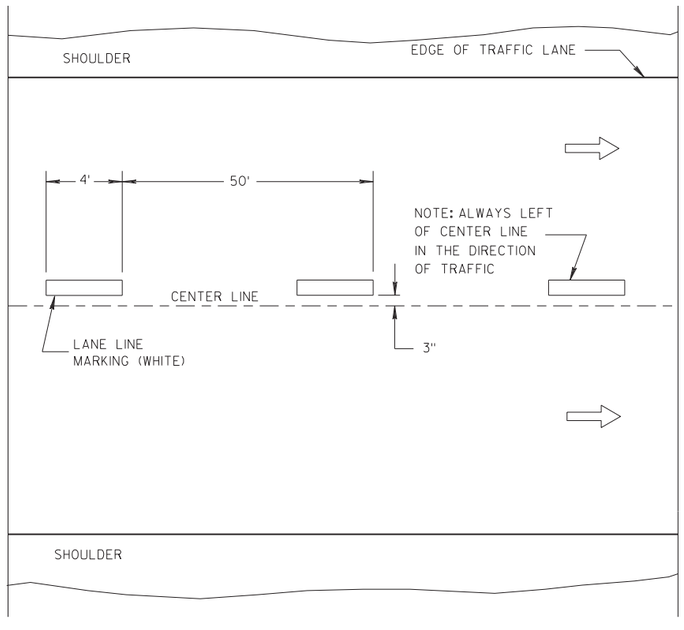
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

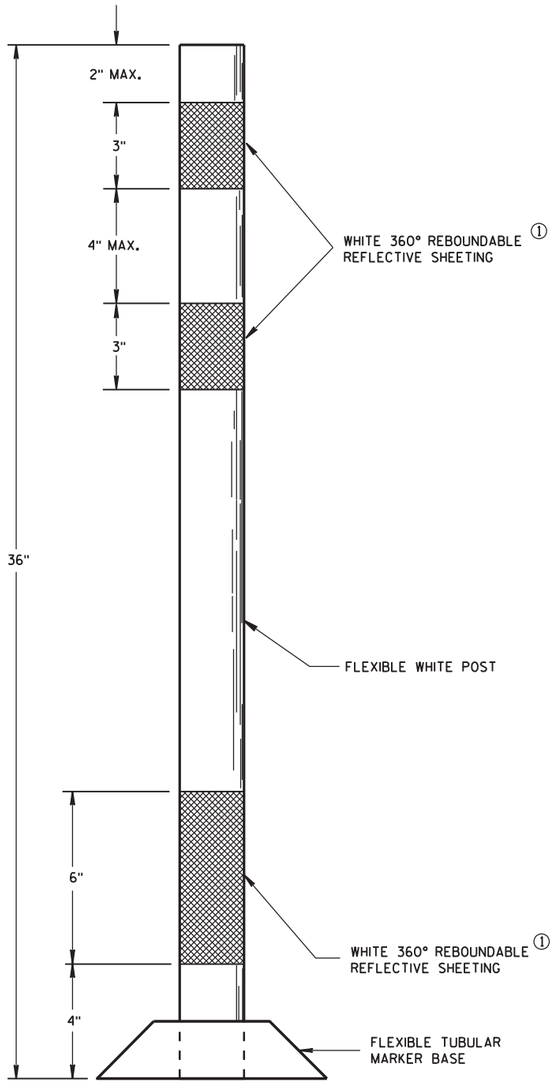
FHWA

6

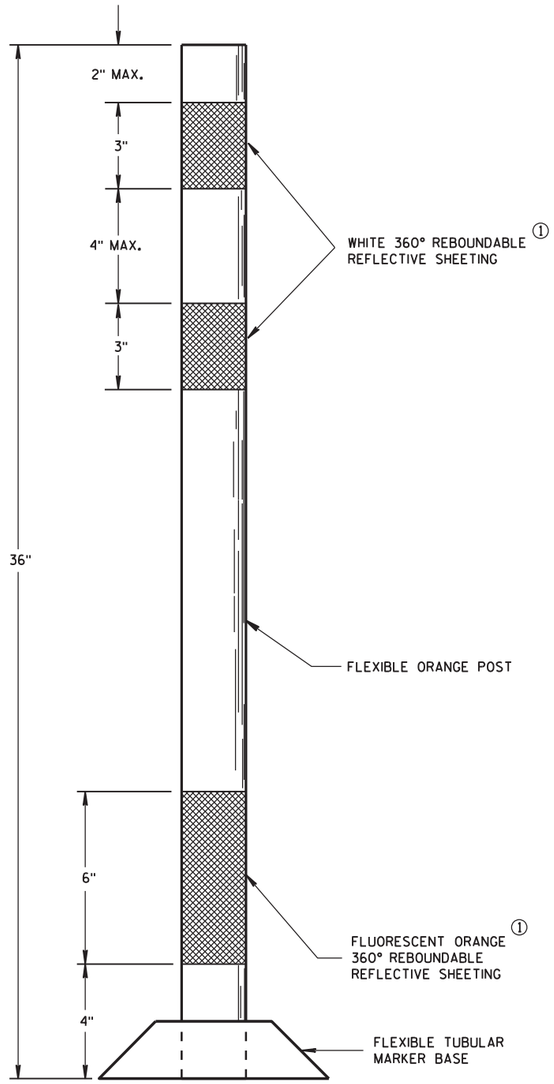
S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a



FLEXIBLE
TUBULAR MARKER POST
PERMANENT CROSSOVER



FLEXIBLE
TUBULAR MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

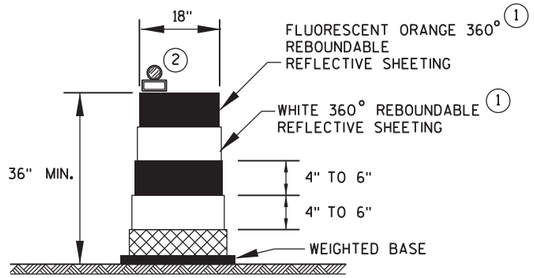
CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

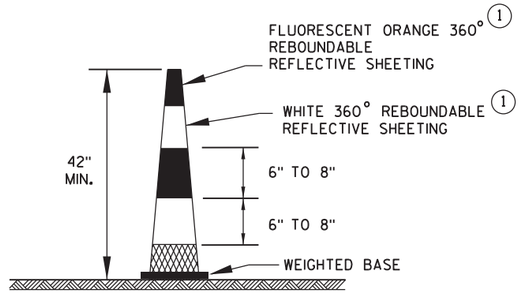
APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENGR
FHWA

6

S.D.D. 15 C 11-7a



DRUM

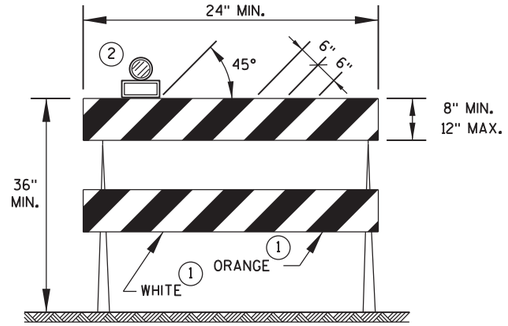


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

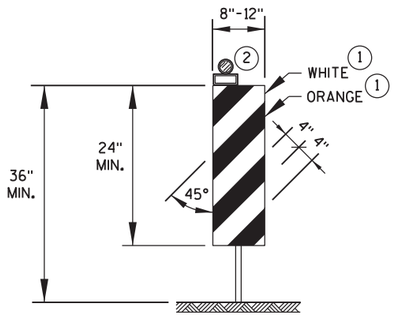
GENERAL NOTES

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



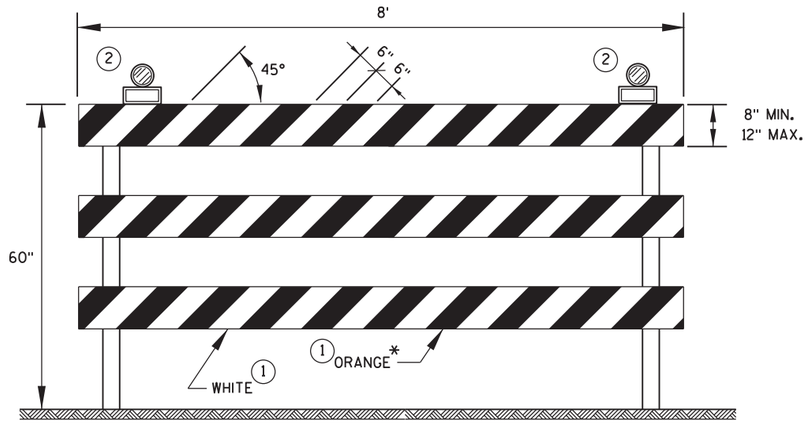
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heidtke — WORK ZONE ENG
FHWA

6
S.D.D. 15 C 11-7b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

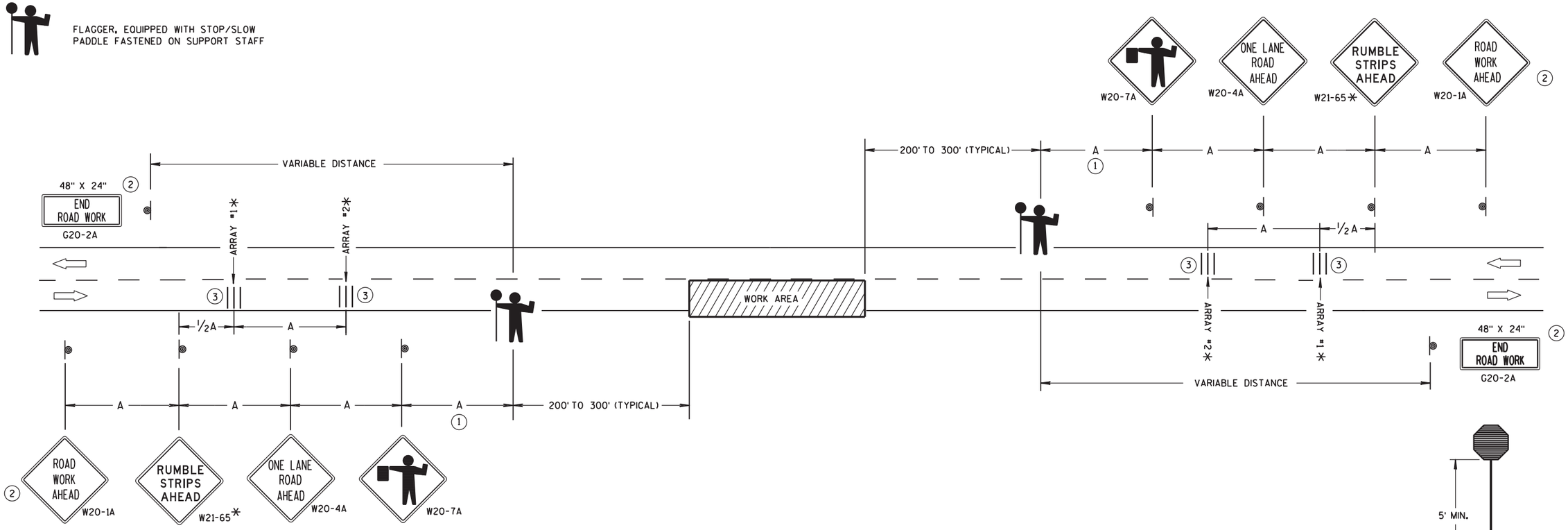
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

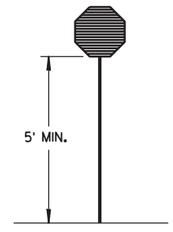
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

W03-4

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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

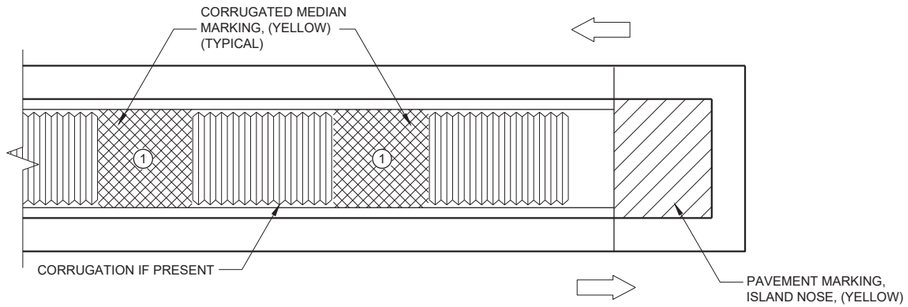
APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

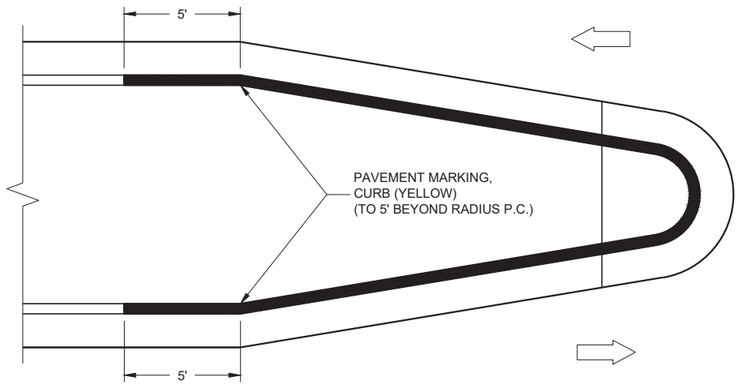
S.D.D. 15 C 12-6

6

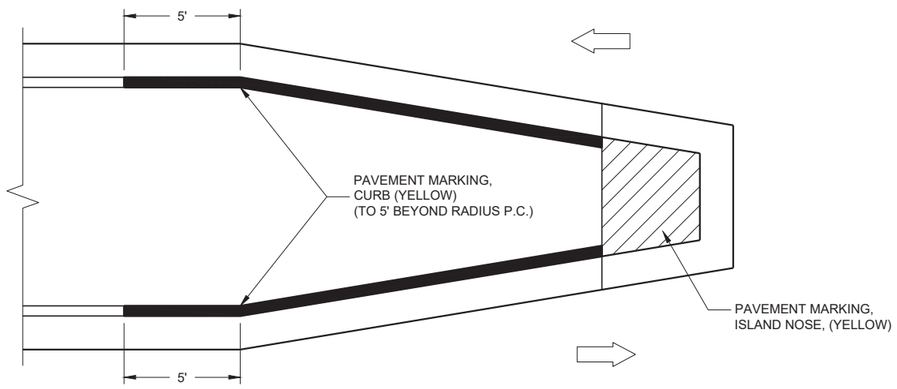
S.D.D. 15 C 12-6



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF
PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

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

ISLAND NOSE MARKING

CURB MARKING

CORRUGATED MEDIAN MARKING

DIRECTION OF TRAVEL

PAVEMENT MARKINGS
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR ENGINEER

FHWA

6

SDD 15C27 - 03b

6

SDD 15C27 - 03b

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

(2) IF NEEDED. USE ONLY IF DESIGN SPEED IS 10 MPH LESS THAN POSTED SPEED.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

OR

LOCATED 400 FEET BEYOND THE W20- 5G SIGN.

SEE SDD 15D12b FOR SIGN PLACEMENT.

R2-1
48"X60"

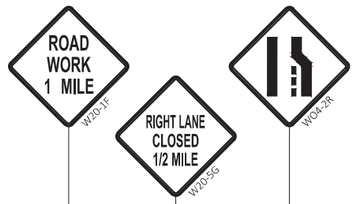
OR

R2-1
48"X60"

(BLACK AND WHITE)

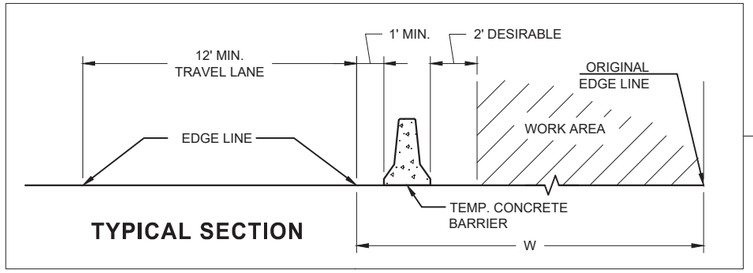
LOCATED 700 FEET BEYOND W03-5 SIGN

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES.



* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

L, TAPER LENGTH (MPH)												
SPEED (MPH)	W, LATERAL OFFSET (FT)											
	1	2	3	4	5	6	7	8	9	10	11	12
45	45	90	135	180	225	270	315	360	405	450	495	540
50	50	100	150	200	250	300	350	400	450	500	550	600
55	55	110	165	220	275	330	385	440	495	550	605	660
60	60	120	180	240	300	360	420	480	540	600	660	720
65	65	130	195	260	325	390	455	520	585	650	715	780
70	70	140	210	280	350	420	490	560	630	700	770	840



TYPICAL SECTION

TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH WITH BARRIER

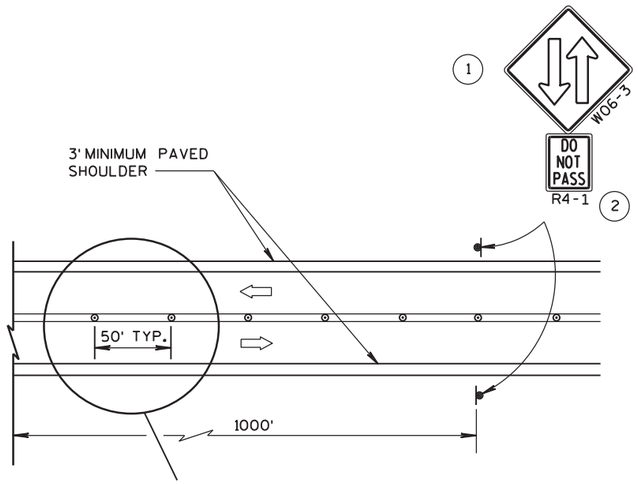
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINE

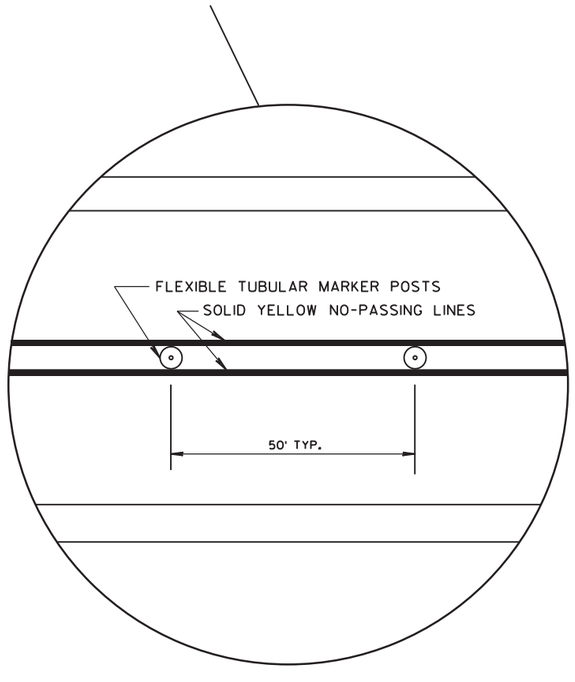
FHWA

SDD 15D03-05

SDD 15D03-05



TWO LANE, TWO WAY OPERATION



LEGEND

- SIGN ON PERMANENT SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- DIRECTION OF TRAFFIC

GENERAL NOTES

ALL SIGNS ARE 48"x48" UNLESS OTHERS NOTED.

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

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

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

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

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50-FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING, 4-INCH DOUBLE YELLOW.

(1)

W057-51
48"x24"

R4-1 (2)

THE W06-3 WITH THE W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND/OR 500 FEET BEYOND ANY SIDEROAD. THE W06-3 WITH THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN W06-3 SIGNS.

(2) CONVENTIONAL: 24"x30"
FREEWAY AND EXPRESSWAY: 36"x48"

TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 DATE
/S/ Travis Feltes STATE TRAFFIC ENGINEER
SIGN
FHWA

6

S.D.D. 15 D 6-3

GENERAL NOTES

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

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

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

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

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

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

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

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

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

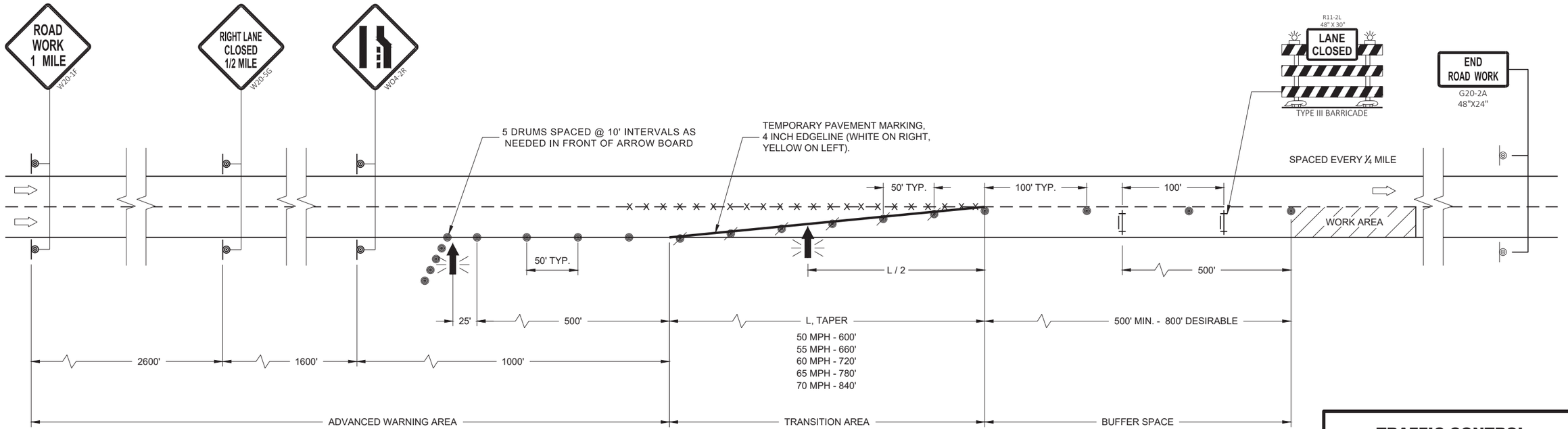
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

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

LEGEND

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



TRAFFIC CONTROL
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D12 - 07a

6

SDD 15D12 - 07a

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

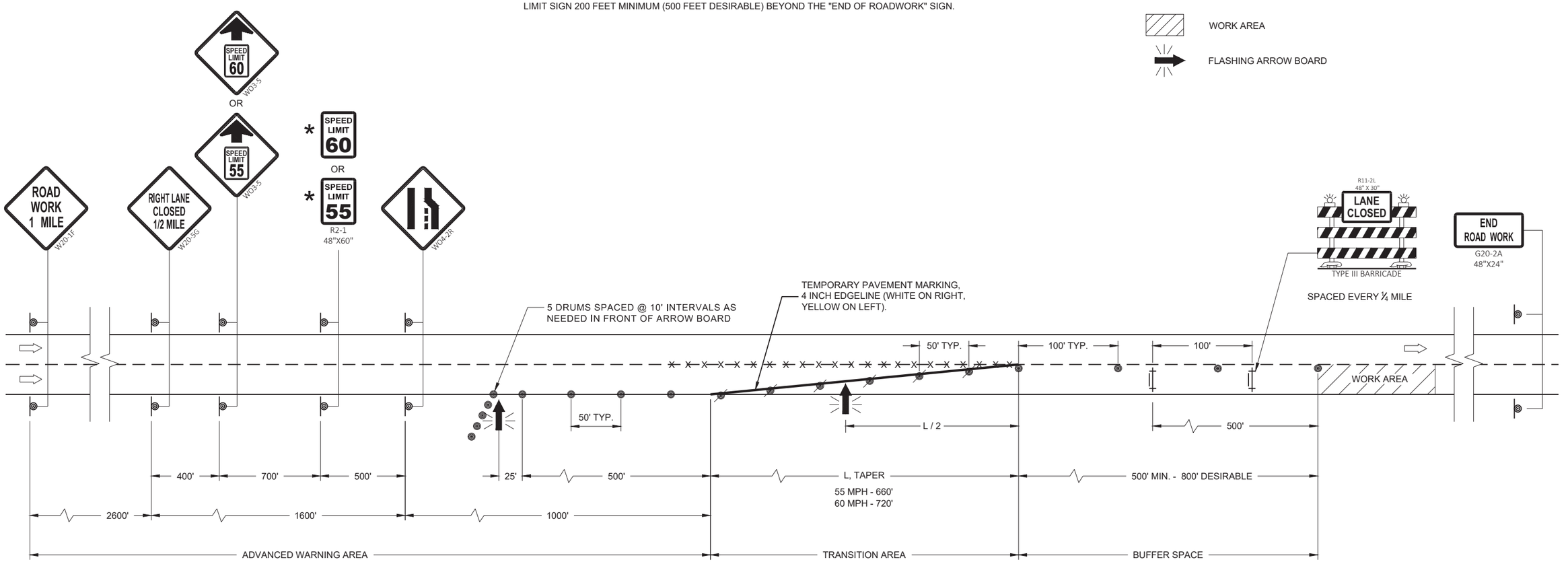
IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

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

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

LEGEND

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



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

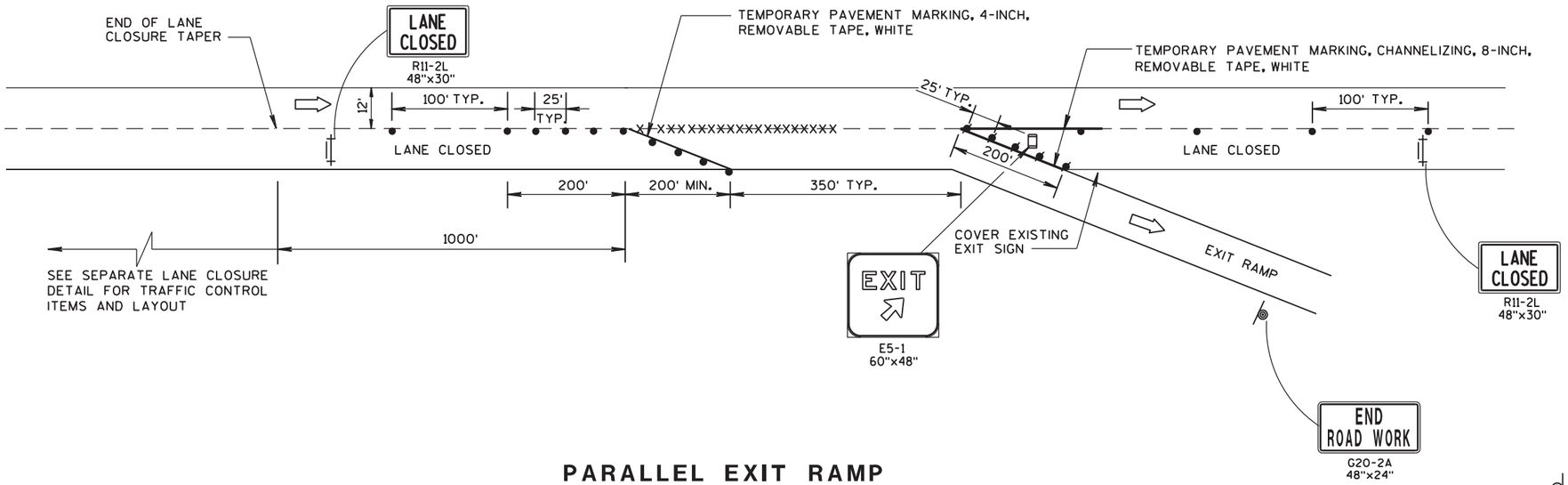
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

SDD 15D12 - 07b

6
SDD 15D12 - 07b



PARALLEL EXIT 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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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, PARALLEL EXIT RAMP WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 D 15-4e

LEGEND

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

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 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WORK AREAS WITH A DROP OFF 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 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 - 1A 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 CLOSED BEGINNING" SIGN OR PCMS 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.

51 Madison EXIT CLOSED — G20 - 60, 108" X 24"

OR

EXIT 132

51 Madison CLOSED — G20 - 60, 108" X 24"

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

51 Madison CLOSED — G20 - 61, 120 ' X 30"

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

END ROAD WORK * — G20-2A, 48"X24"

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

25' TYP.

100' MIN.

EDGE OF SHOULDER

200'

COVER EXISTING EXIT SIGN

1500' | 1500' | 1000'

R11-2R, 48" X 30" — RAMP CLOSED — TYPE III BARRICADE

ROAD WORK AHEAD * — W20-1A

RAMP CLOSED AHEAD — W20-53A

RAMP CLOSED 1000 FT — W20-53C

RAMP CLOSED BEGINNING XXX - XX ** — G20 - 58

OR

PCMS MESSAGING

FRAME 1	FRAME 2
RAMP TO CLOSE	XXXDAY XX XX XX

TRAFFIC CONTROL EXIT RAMP CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE

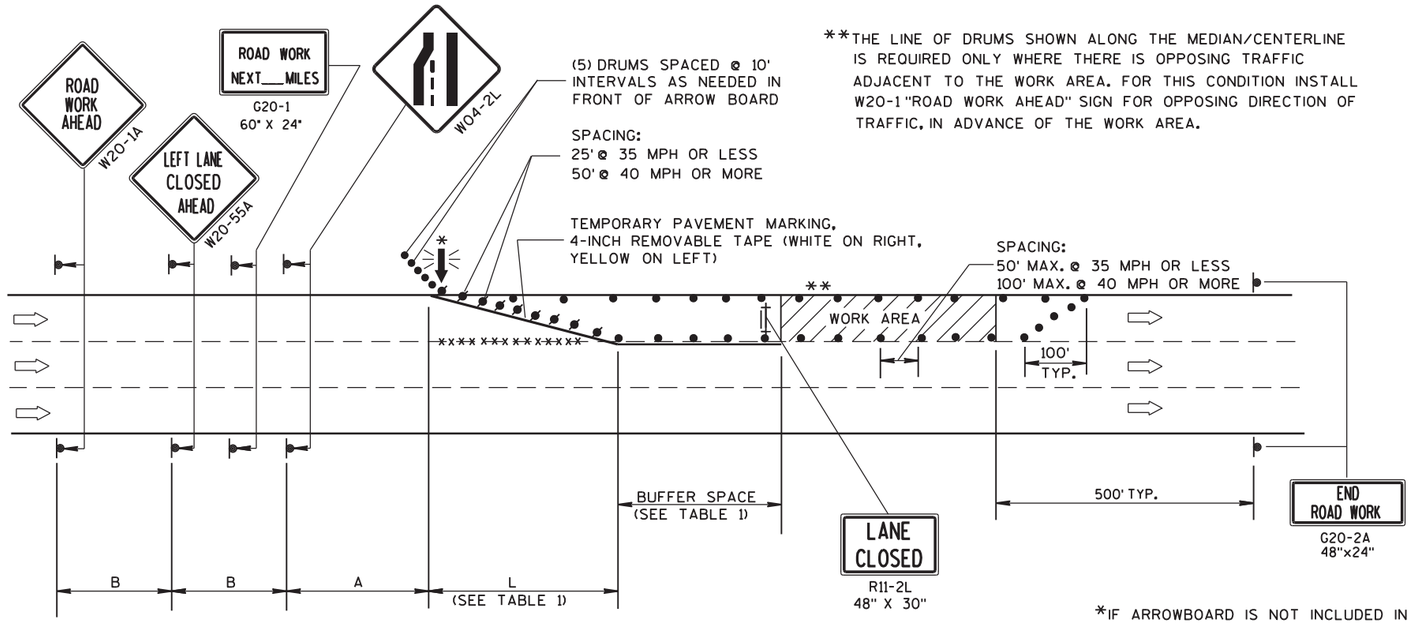
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15D16 - 04

SDD 15D16 - 04



**THE LINE OF DRUMS SHOWN ALONG THE MEDIAN/CENTERLINE IS REQUIRED ONLY WHERE THERE IS OPPOSING TRAFFIC ADJACENT TO THE WORK AREA. FOR THIS CONDITION INSTALL W20-1 "ROAD WORK AHEAD" SIGN FOR OPPOSING DIRECTION OF TRAFFIC, IN ADVANCE OF THE WORK AREA.

B=400' AT 25-30 MPH
700' AT 35-40 MPH
1000' AT 45-55 MPH

A=200' AT 25-30 MPH
350' AT 35-40 MPH
500' AT 45-55 MPH

(PLACE BARRICADE AND SIGN APPROX. EVERY 1000' ACROSS THE CLOSED LANE)

*IF ARROWBOARD IS NOT INCLUDED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE A TYPE III BARRICADE WITH W01-6 SIGN IN THE LANE CLOSURE TAPER.

W01-6
48"x24"

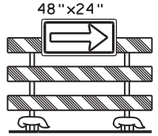


TABLE 1
TAPER AND BUFFER SPACE
FOR 12' LANE WIDTH

S	L	BUFFER SPACE
25	125'	55'
30	180'	85'
35	245'	120'
40	320'	170'
45	540'	220'
50	600'	280'
55	660'	335'

FOR LANE WIDTH OTHER THAN 12':

L = WS AT 45 MPH OR GREATER

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

L = TAPER LENGTH IN FEET

S = NON-CONSTRUCTION SPEED LIMIT (MPH)

W = WIDTH OF LANE CLOSURE

LEGEND

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

GENERAL NOTES

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

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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.

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.

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

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

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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.

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

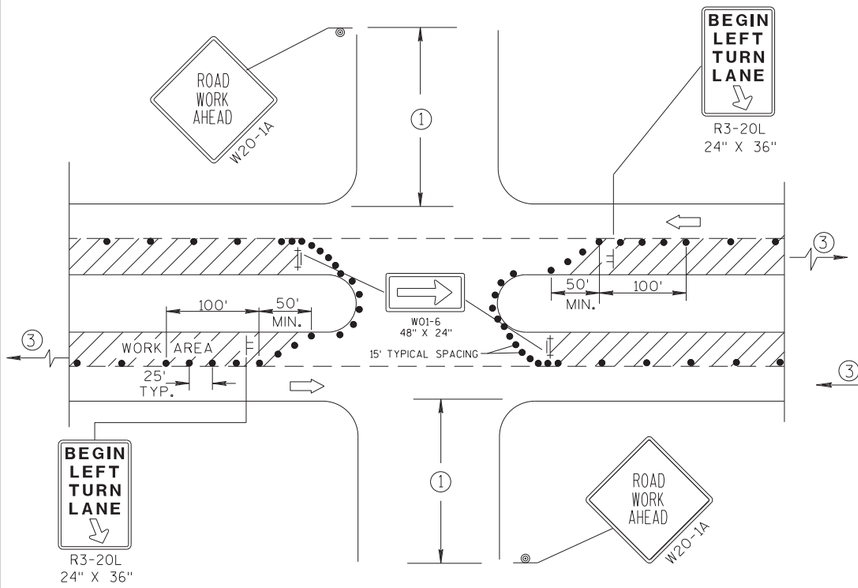
TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

6

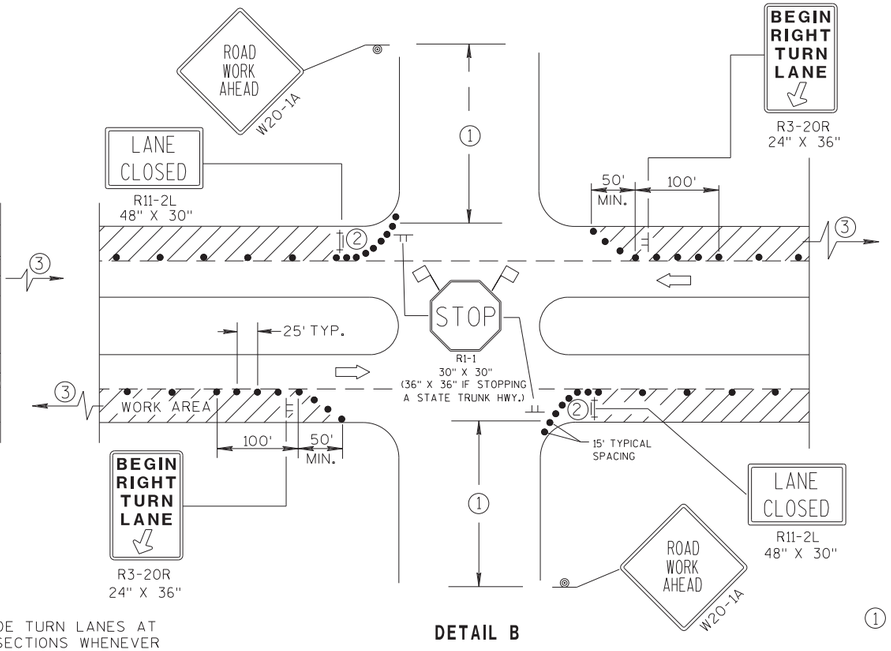
S.D.D. 15 D 20-4



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.

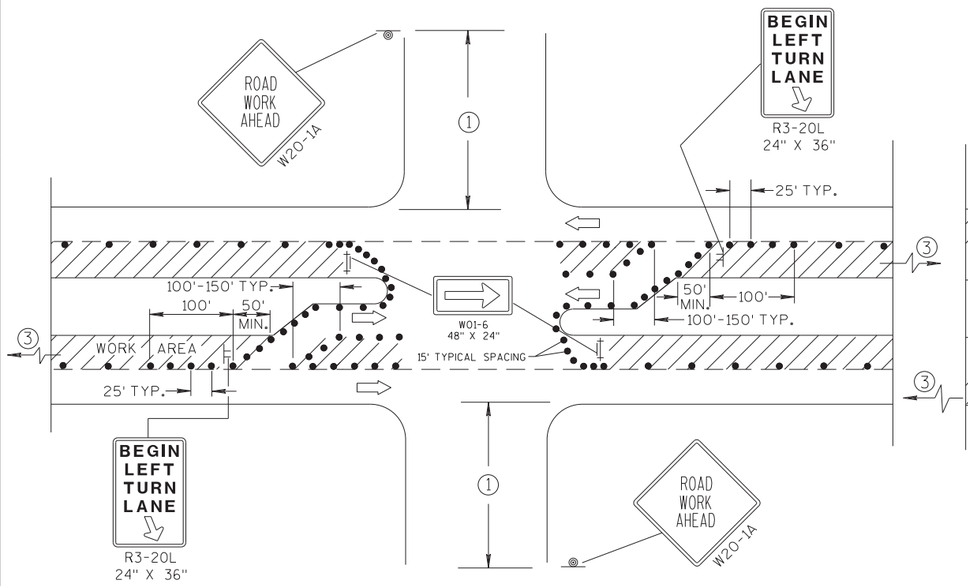
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

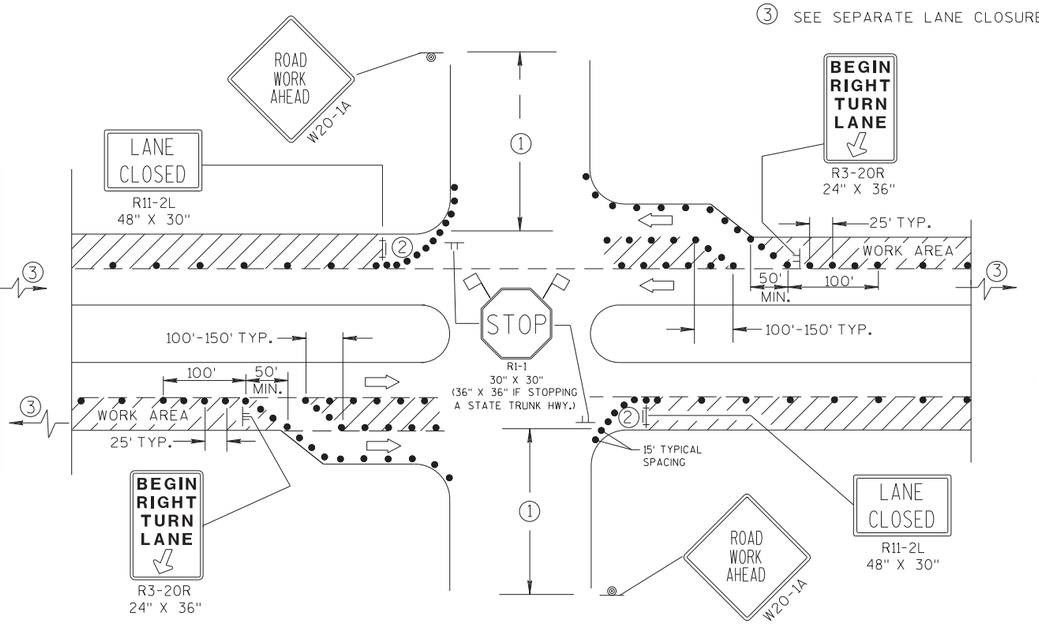
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

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

7/2018
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

6

S.D.D. 15 D 21-6

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.

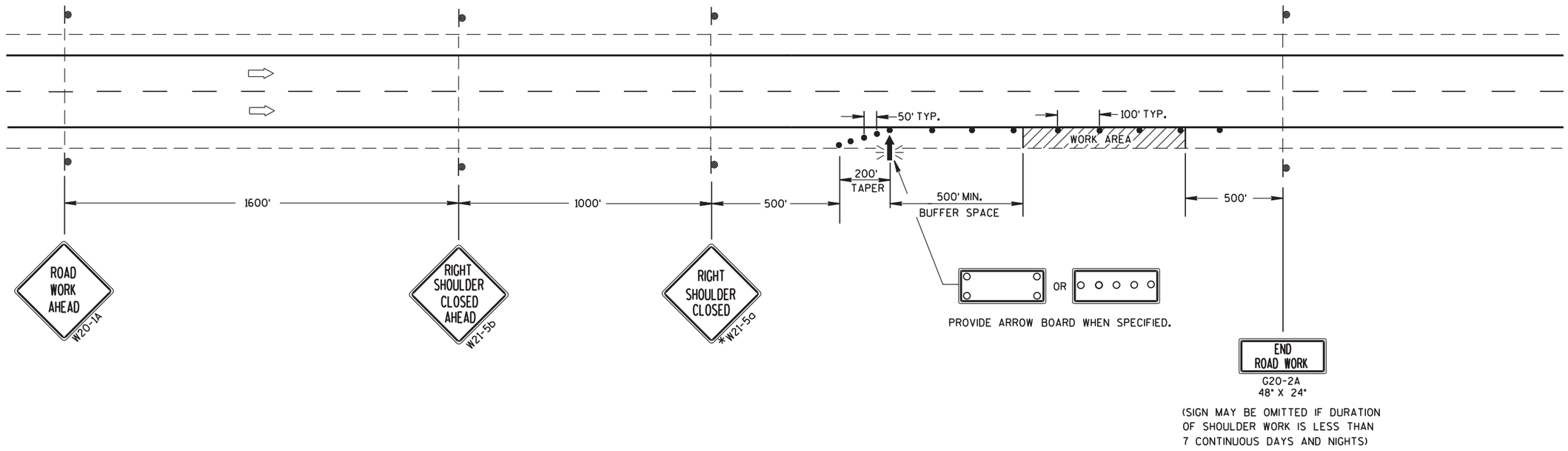
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

June 2016
DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

FHWA

6

S.D.D. 15 D 27-3

6

S.D.D. 15 D 27-3

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

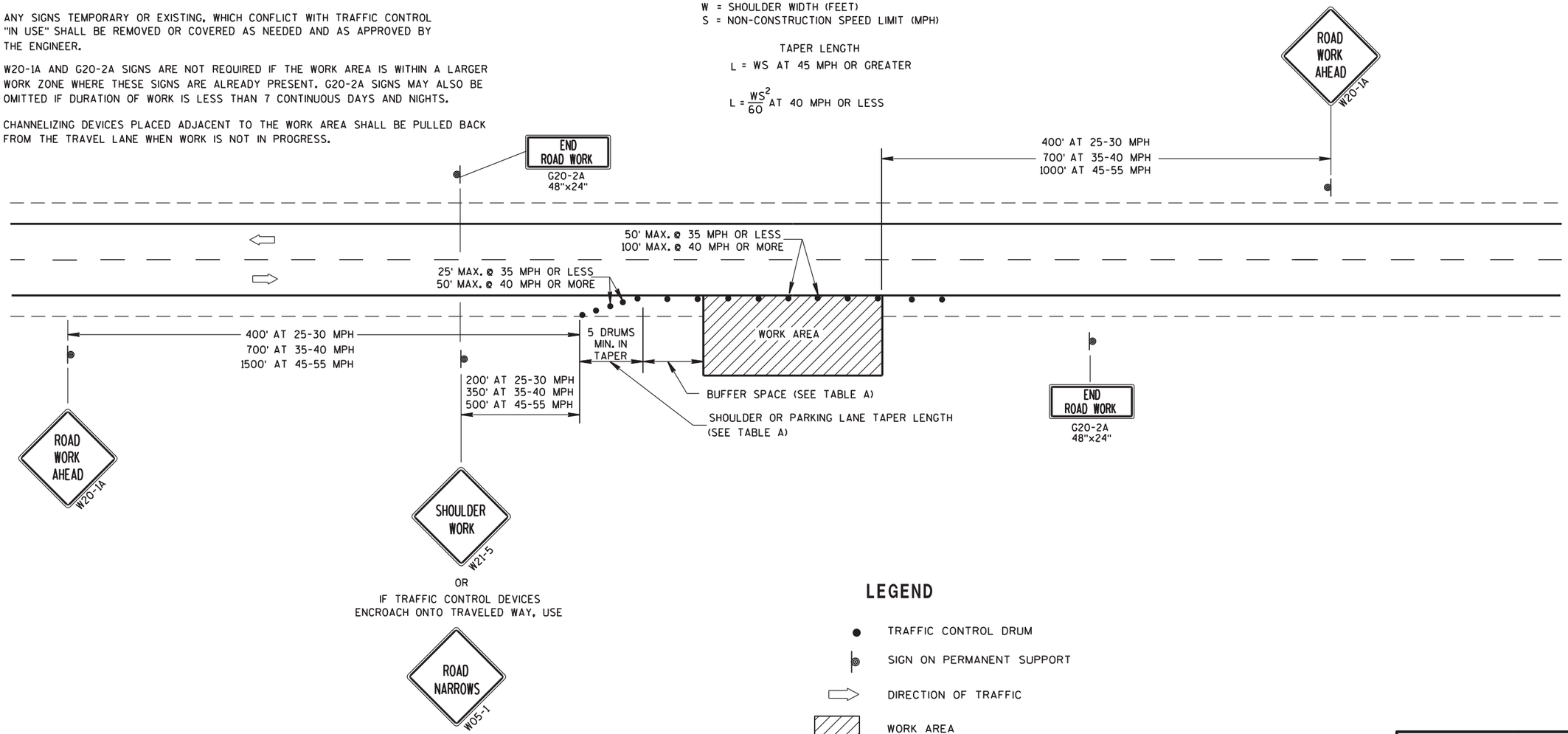
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

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

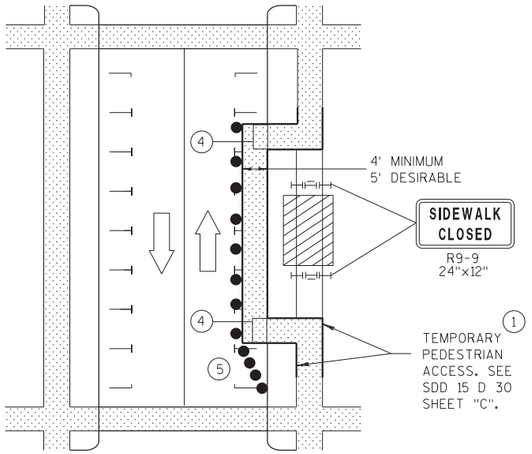
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

6

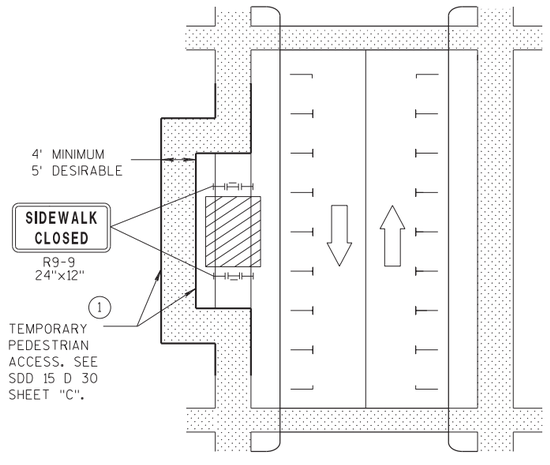
S.D.D. 15 D 28-3

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

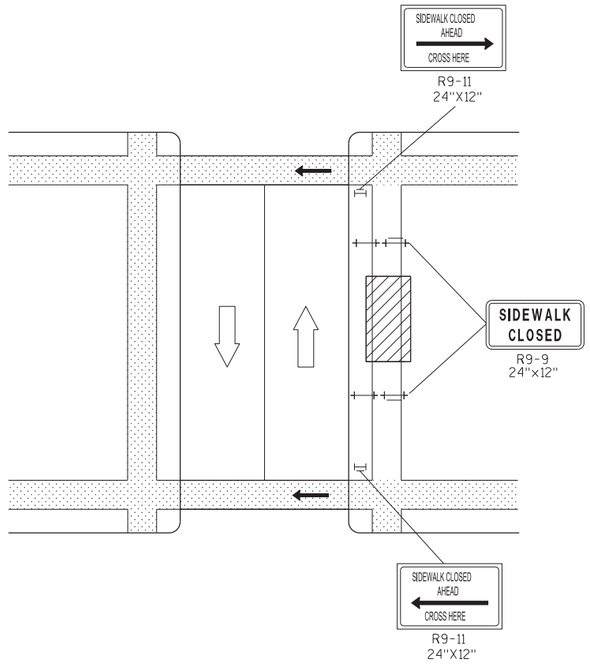


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

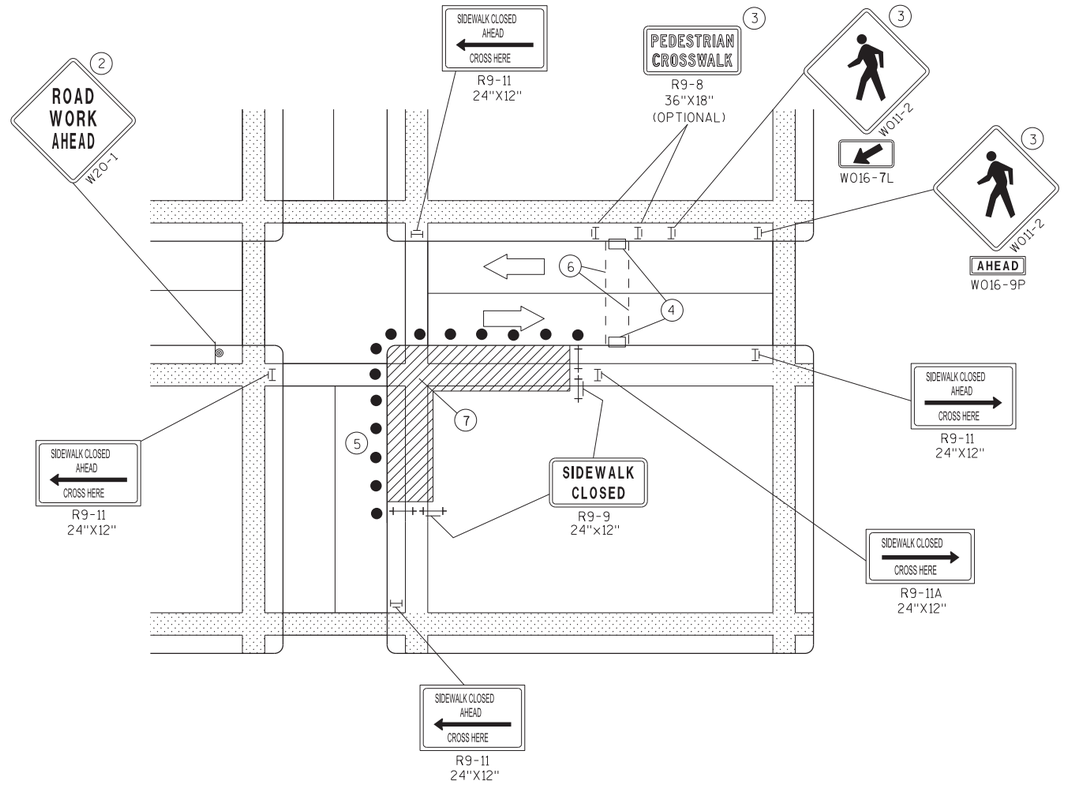
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

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

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

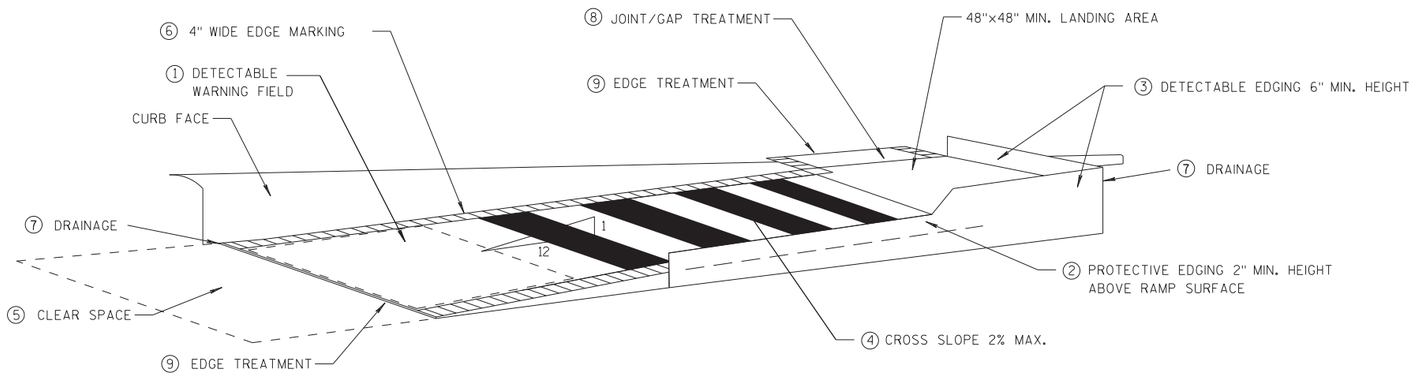
LEGEND

- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

6

S.D.D. 15 D 30-4a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

④ CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

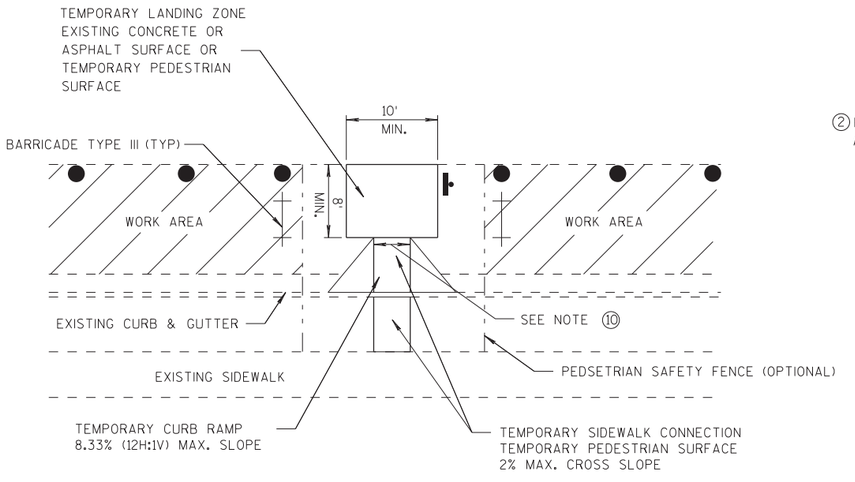
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

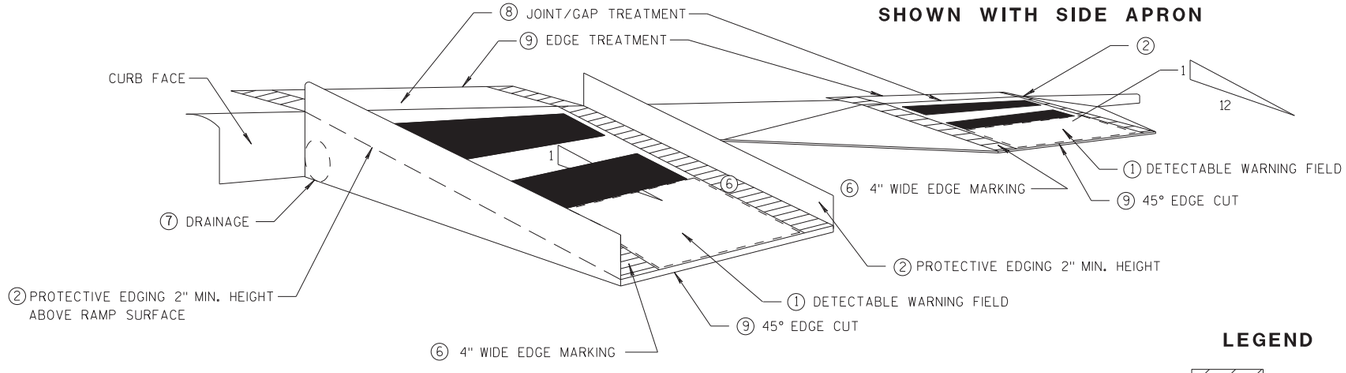
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH SIDE APRON

SHOWN WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

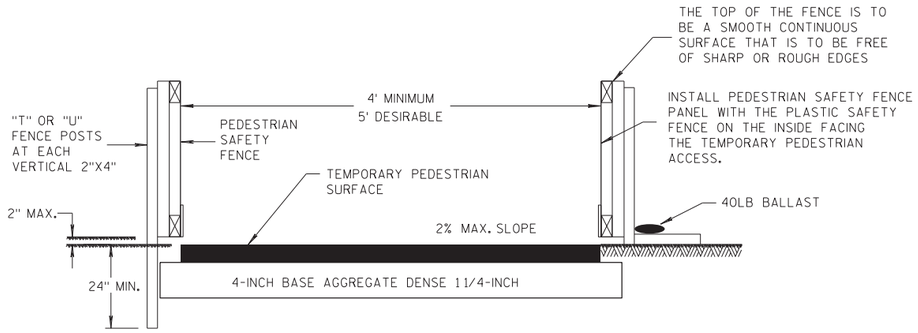
7/2018 DATE

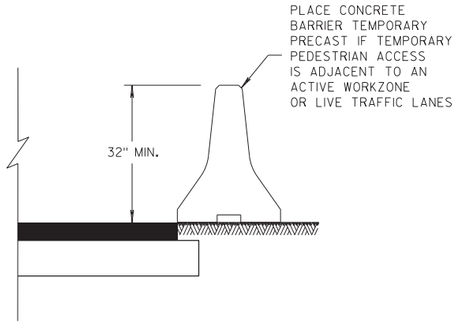
/S/ Andrew Heidtke
WORK ZONE ENG

FHWA

6

S.D.D. 15 D 30-4b

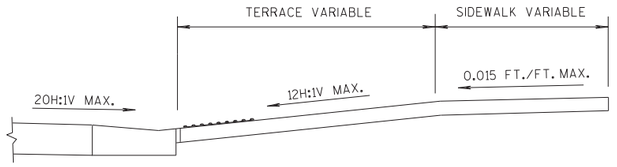




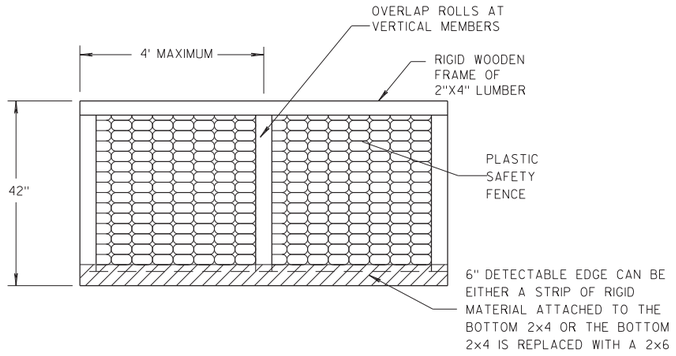
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

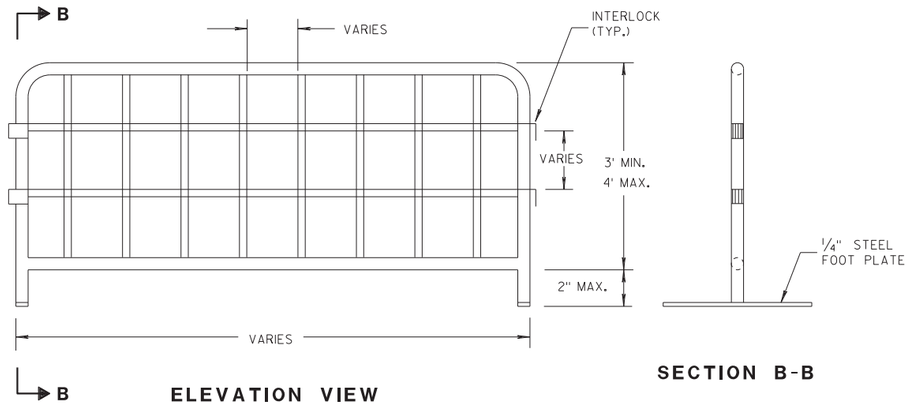
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



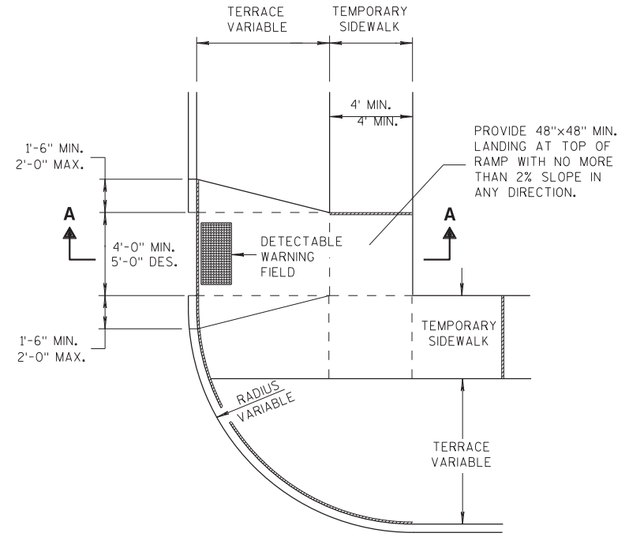
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

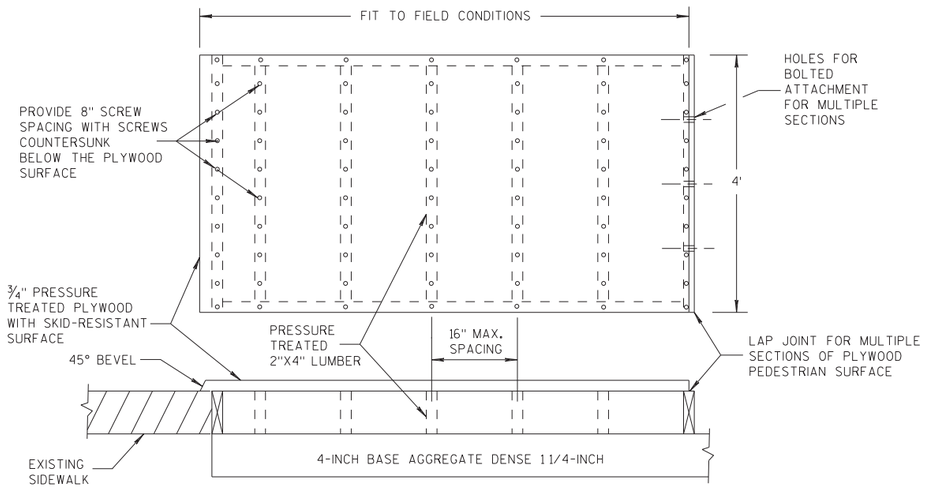
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



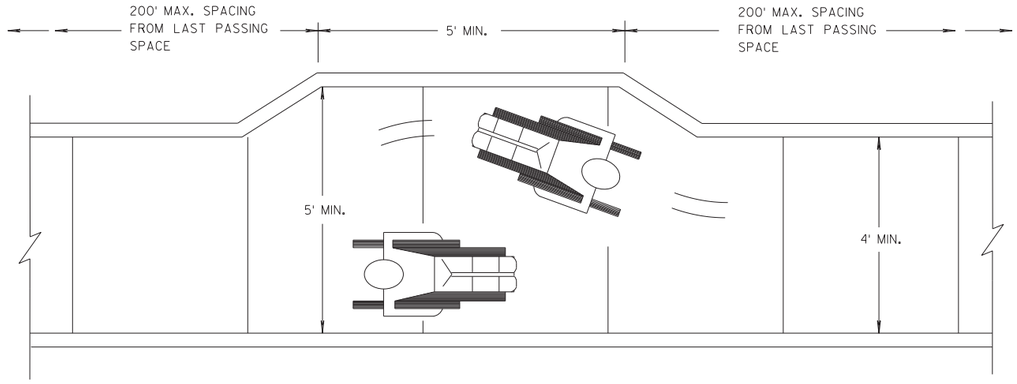
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENG

225

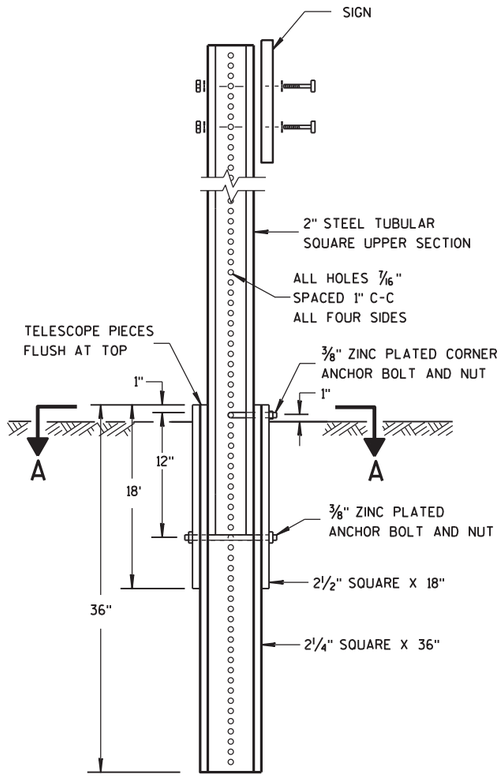
FHWA

6

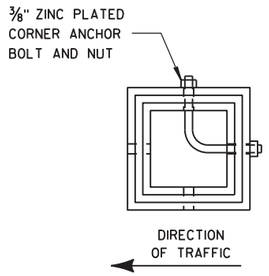
S.D.D. 15 D 30-4c

6

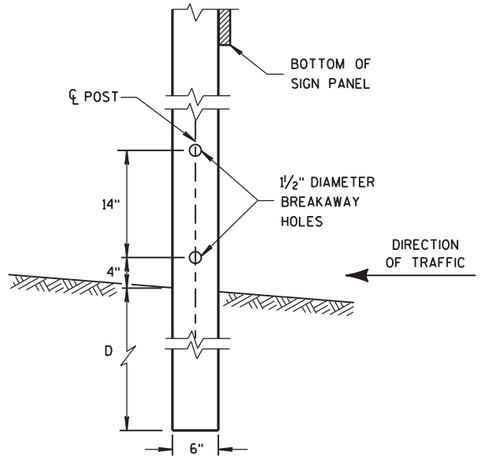
S.D.D. 15 D 30-4c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



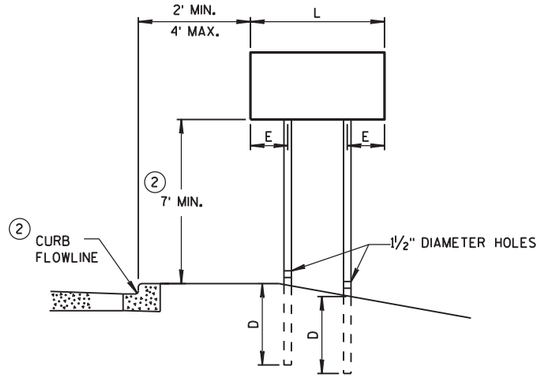
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

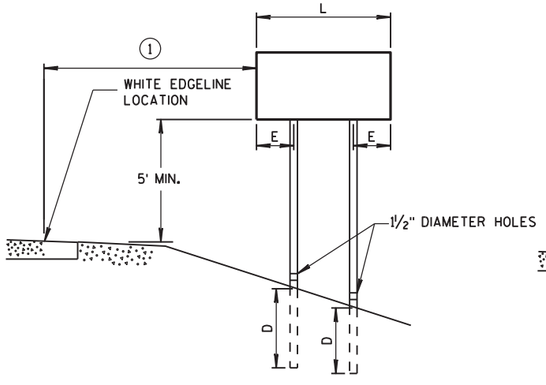
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

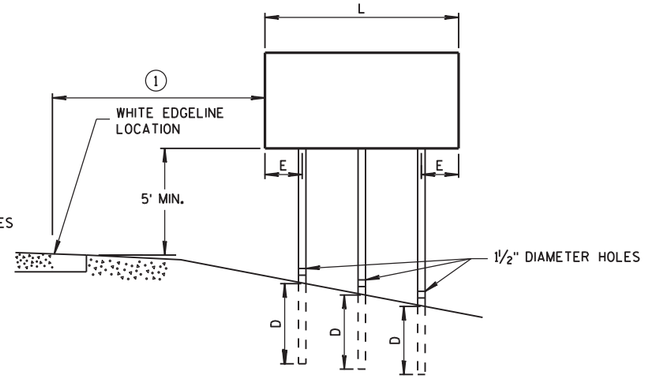
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

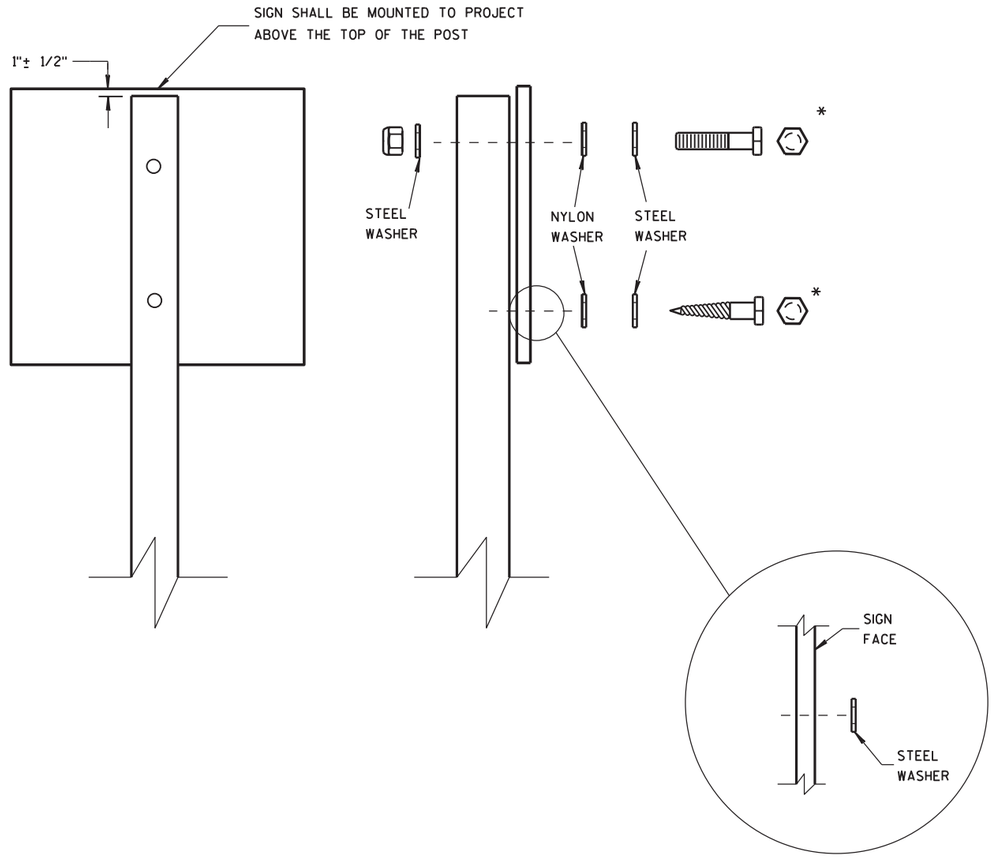
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

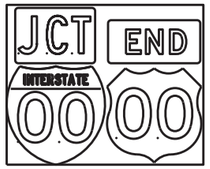
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

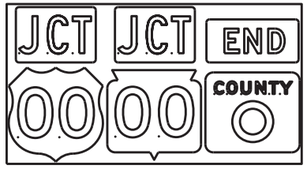
FHWA

TYPICAL ASSEMBLIES

J1-1

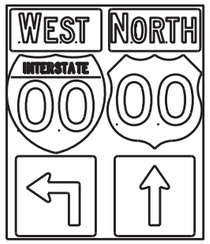


J1-2

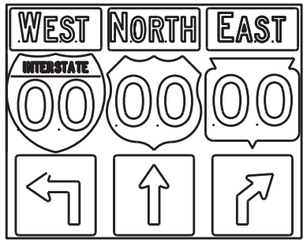


J1-3

J2-1



J2-2

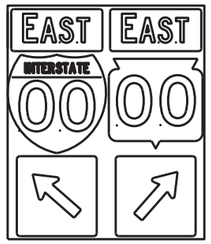


J2-3

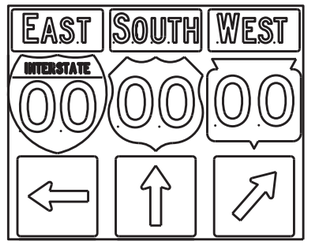
JV

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

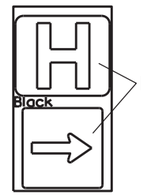
J3-1



J3-2



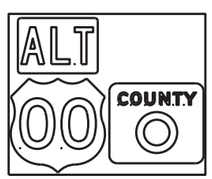
J3-3



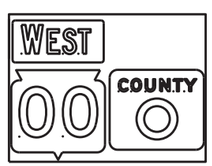
Blue Background

JH-1

J4-1



J4-2



J4-2

J13-1

J12-1

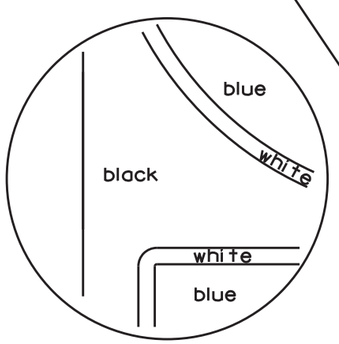
J32-1

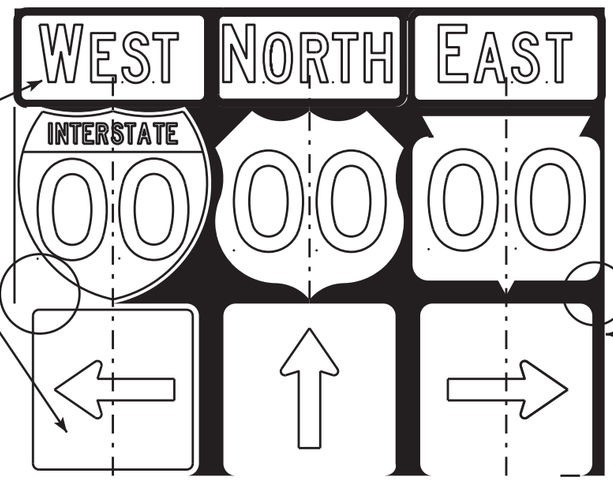
J33-1

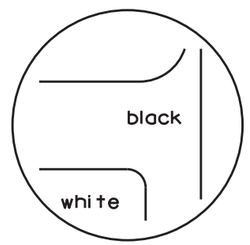
J23-1

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

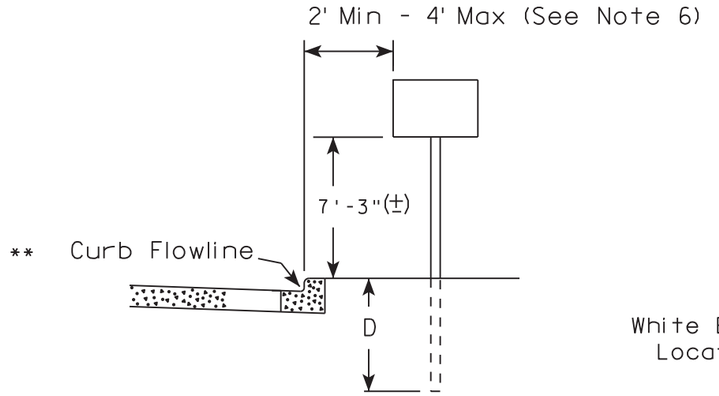
DATE 2/06/14 PL... A2-1S.8

PROJECT NO: | SHEET NO: E

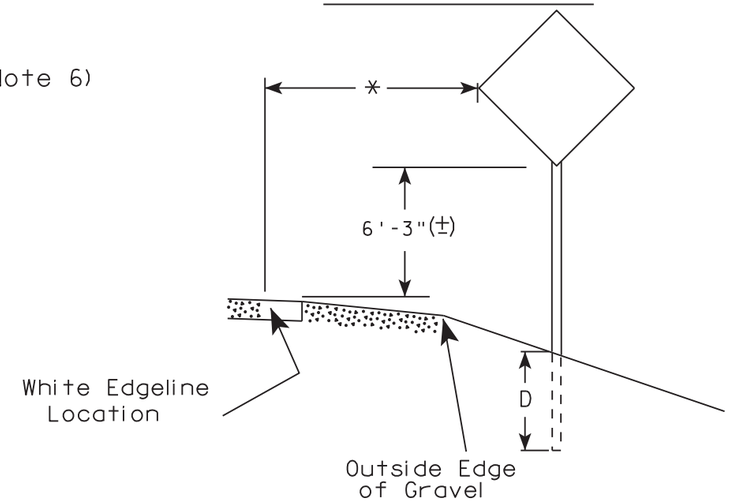
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :

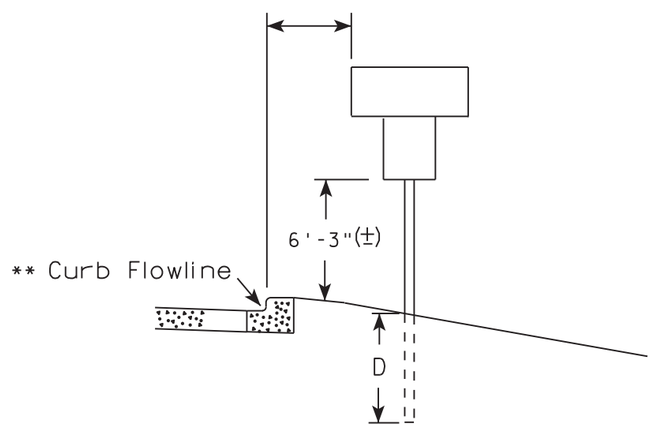
WISDOT/CADDS SHEET 42

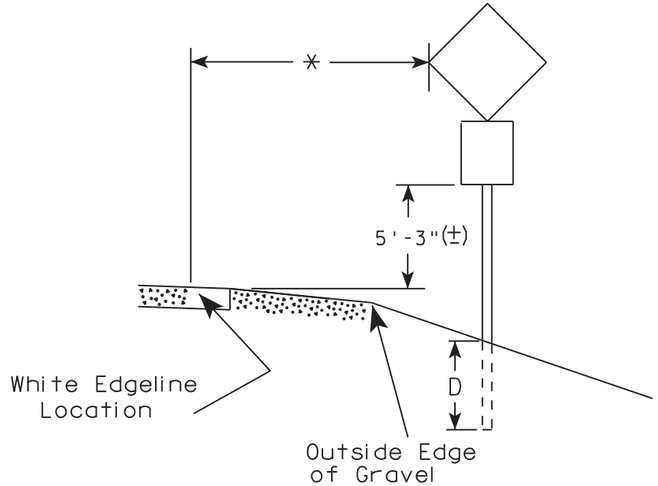
URBAN AREA



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. J-Assemblies are considered to be one sign for mounting height.
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" (±).

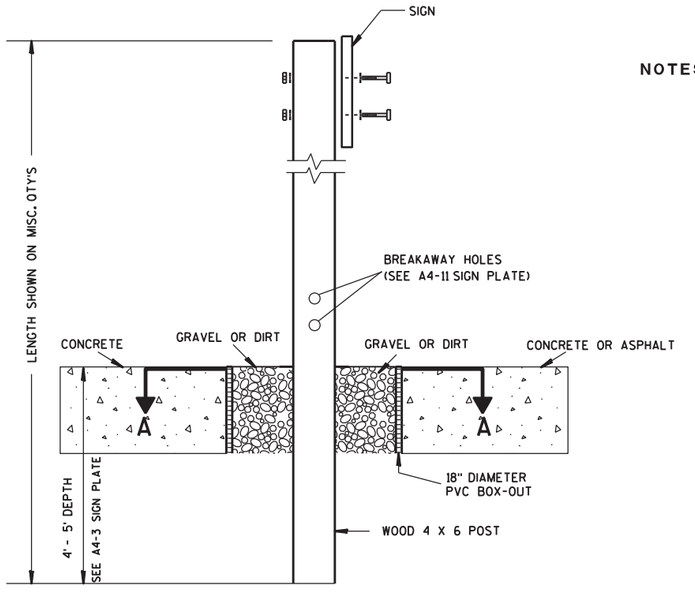
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

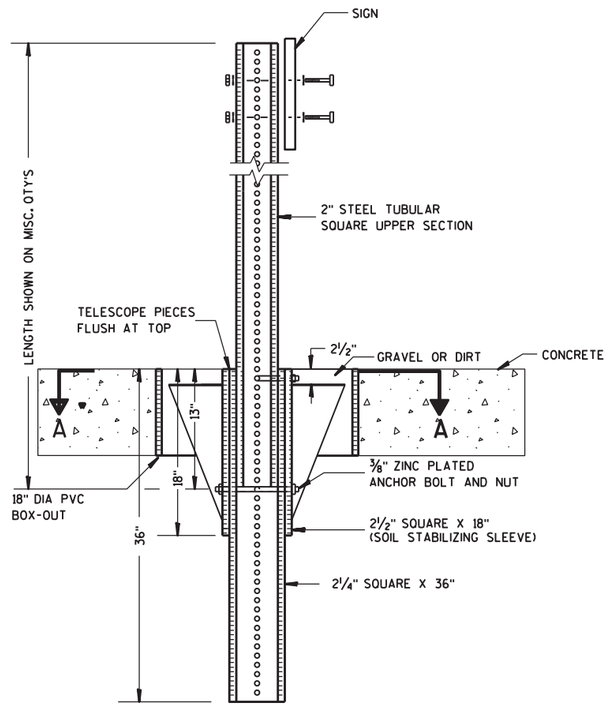
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 229	E



ELEVATION VIEW

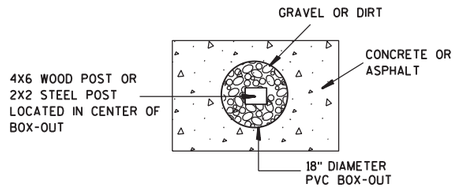
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

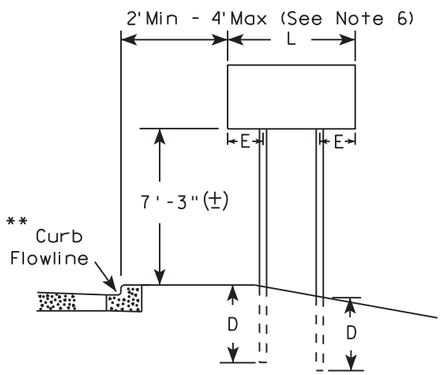
APPROVED Matthew R Rauch
for State Traffic Engineer

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

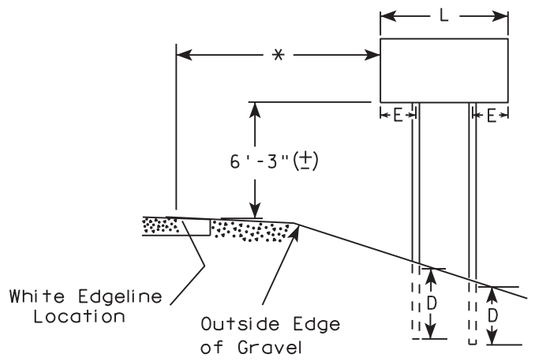
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

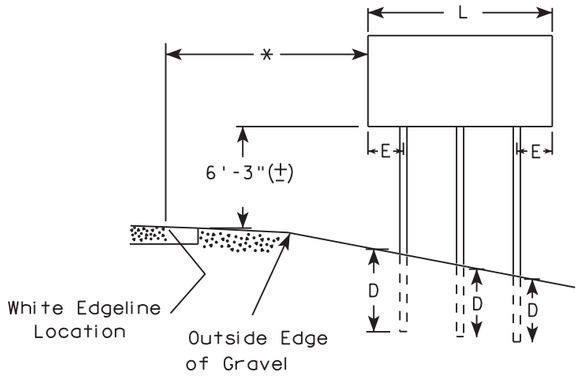
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

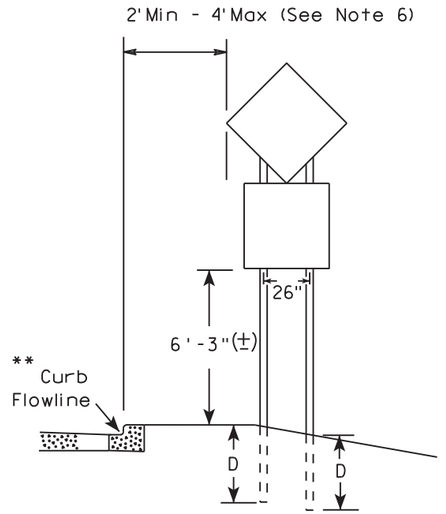
URBAN AREA



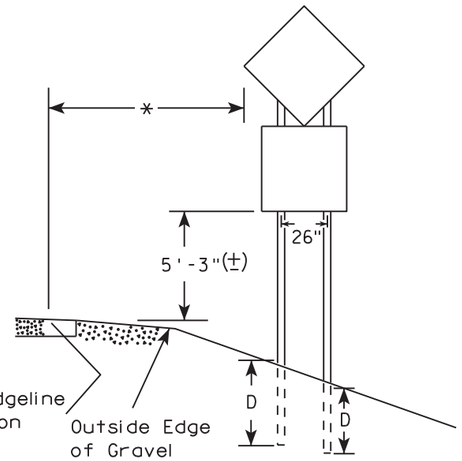
RURAL AREA (See Note 3)







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 108"	L/5

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

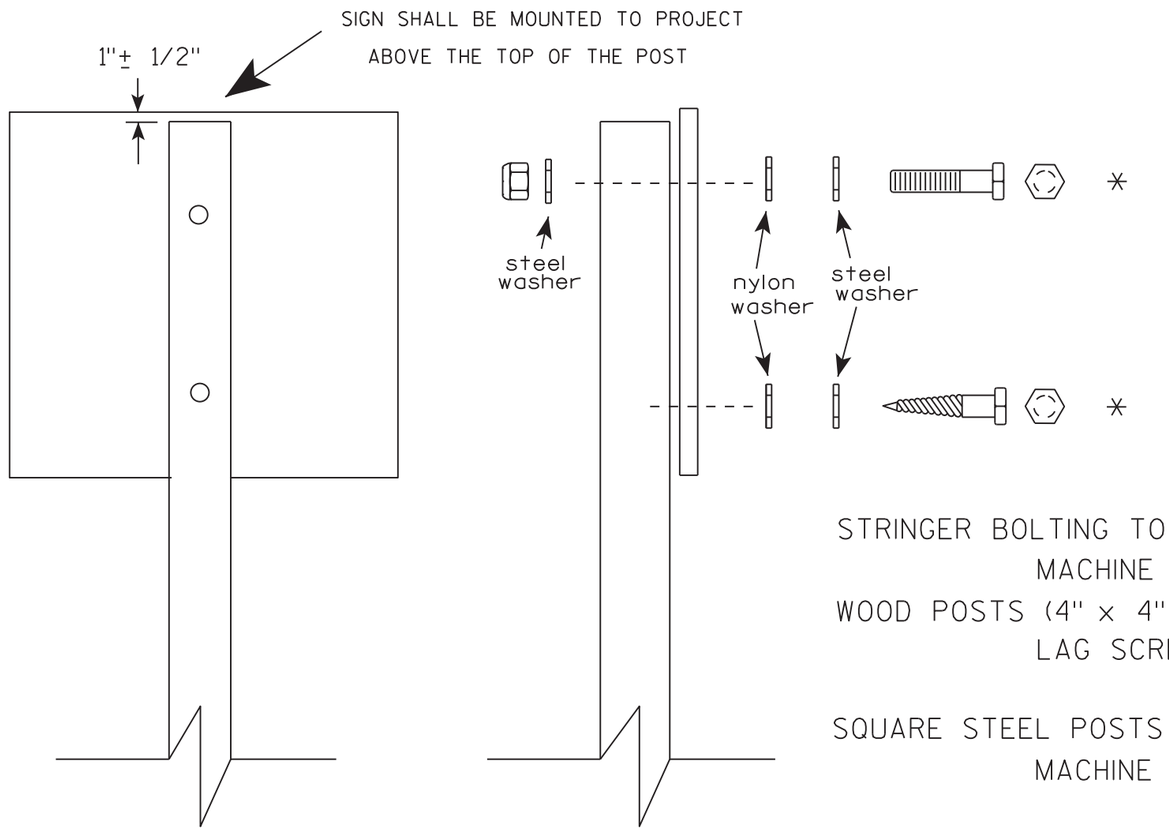
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 231	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 21-AUG-2017 15:54 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 108.188297:1.000000

7



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

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

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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

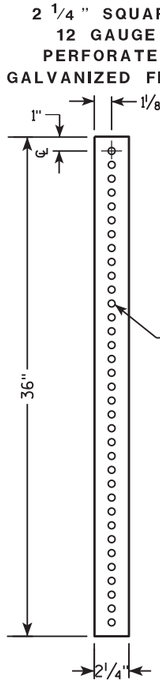
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

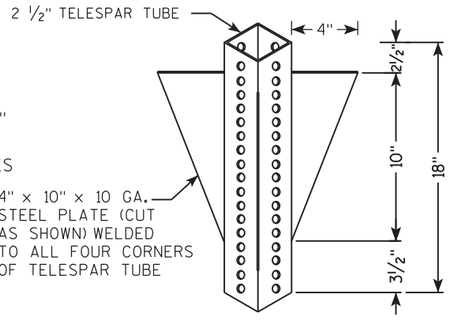
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

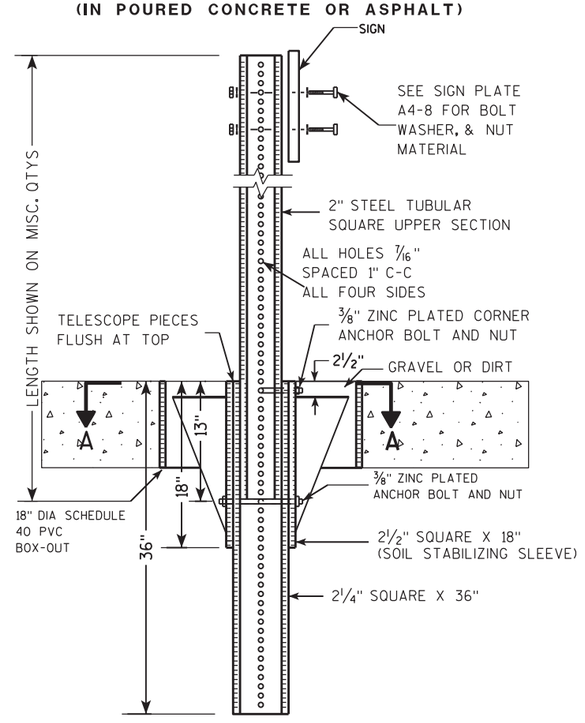
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



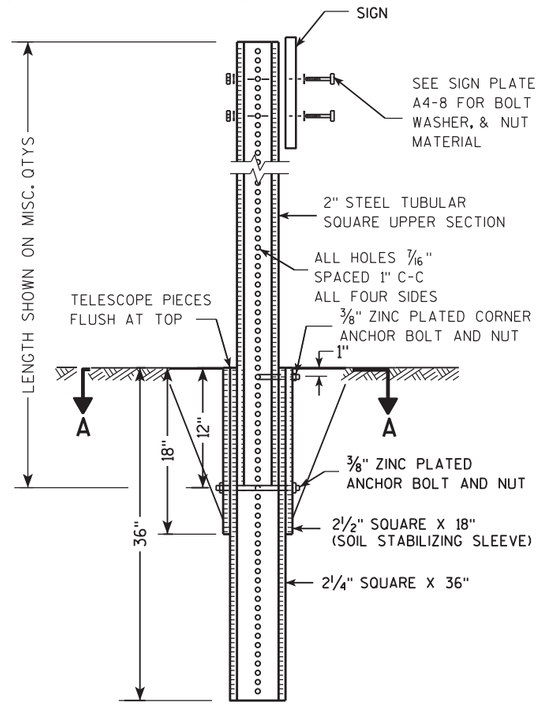
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

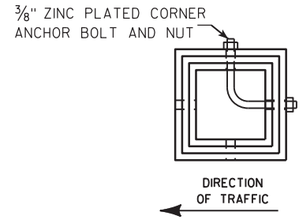


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

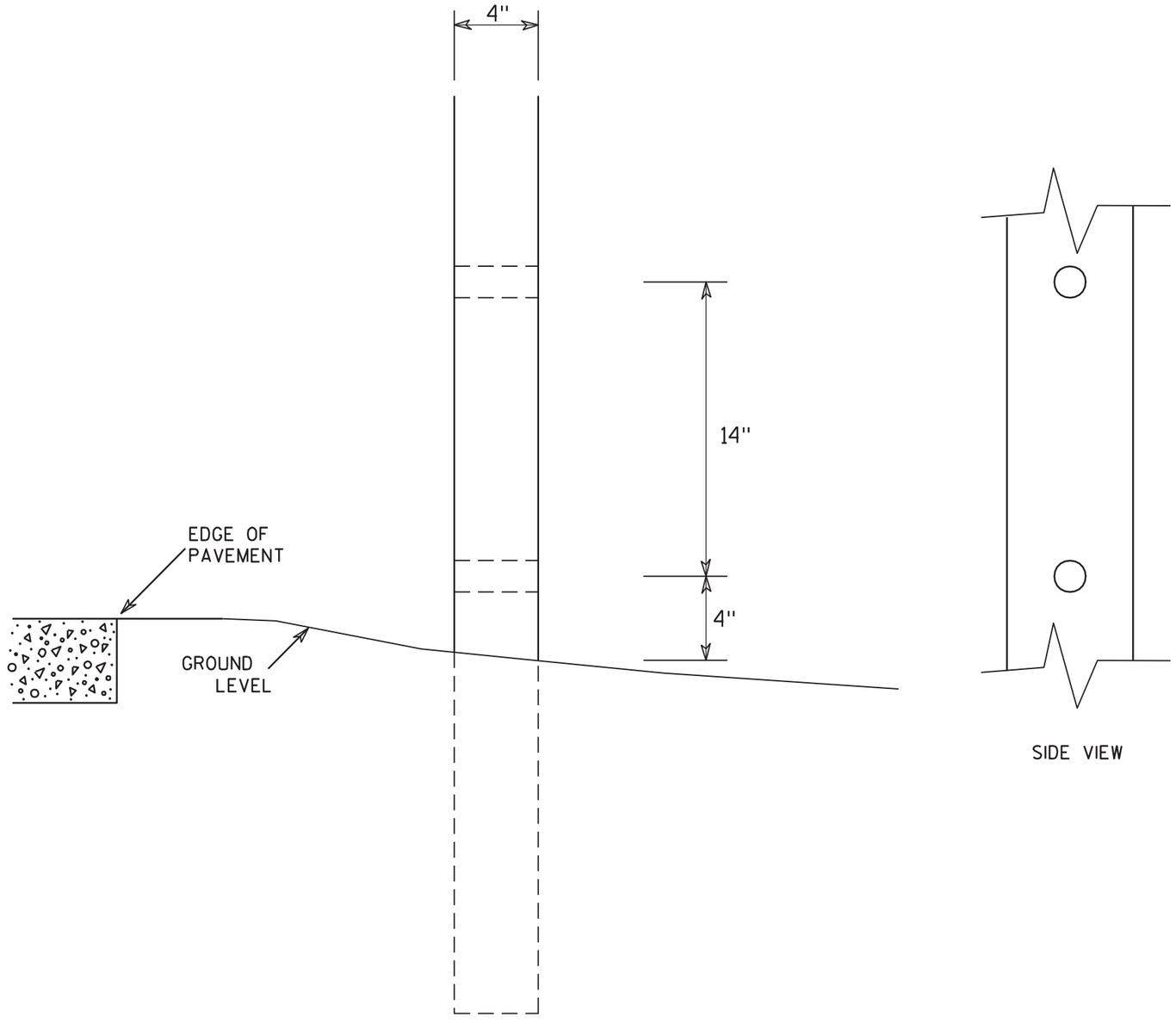
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 233 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

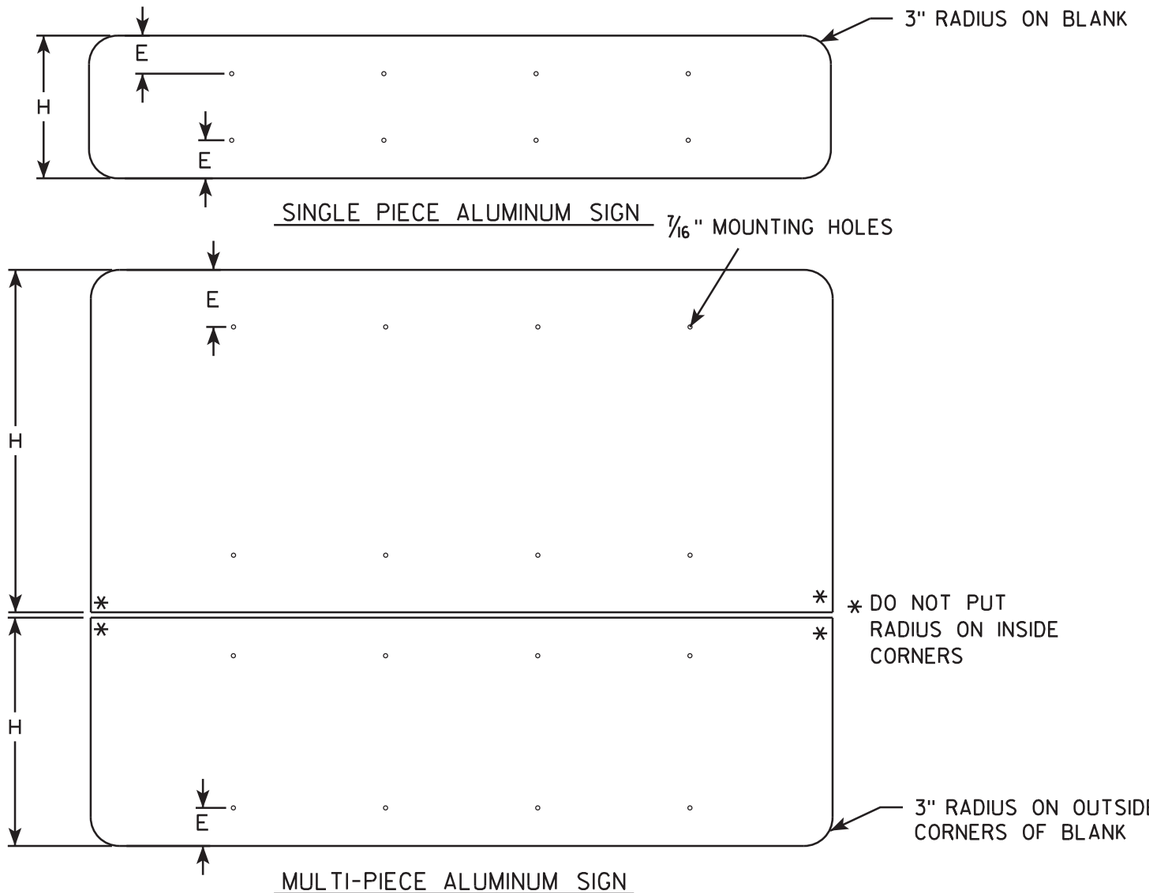
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

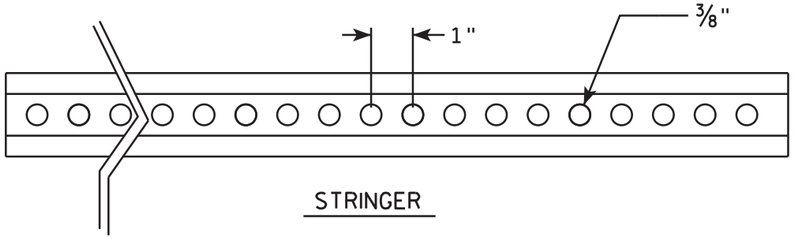
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 234	E



GENERAL NOTES

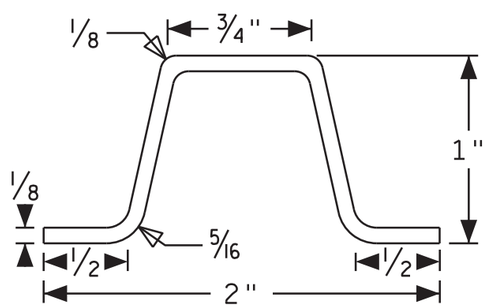
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

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

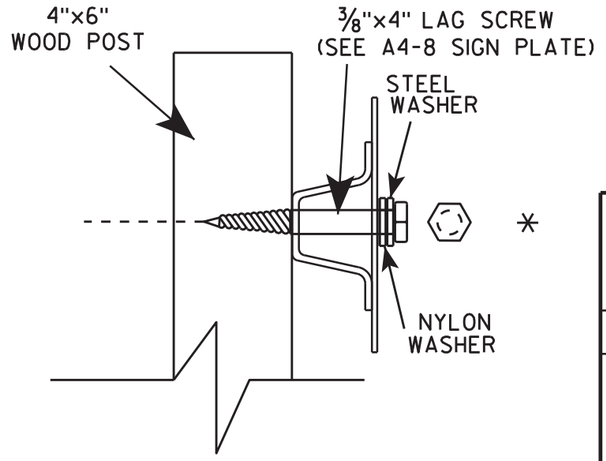


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

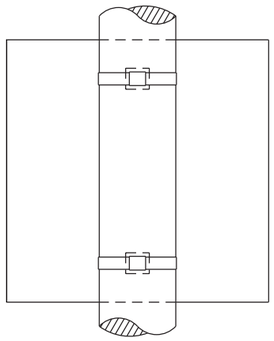
DATE 4/26/16 PLATE NO A4-18.1

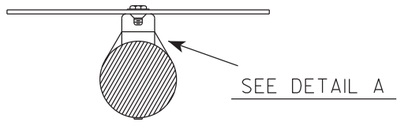
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

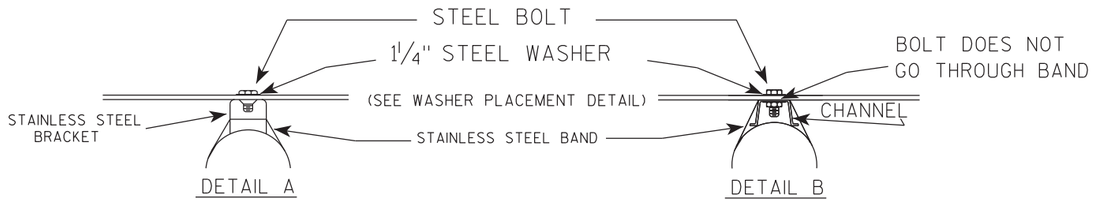
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

BANDING

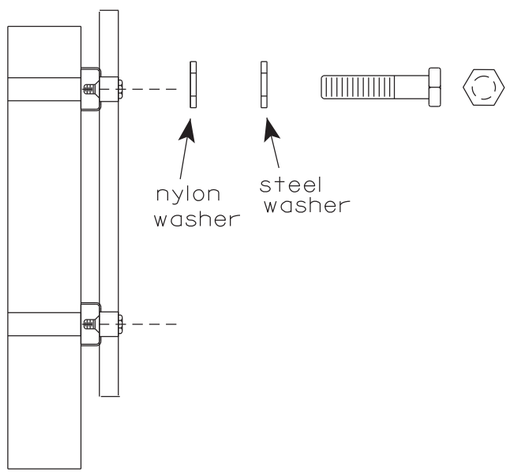
SINGLE SIGN







WASHER PLACEMENT

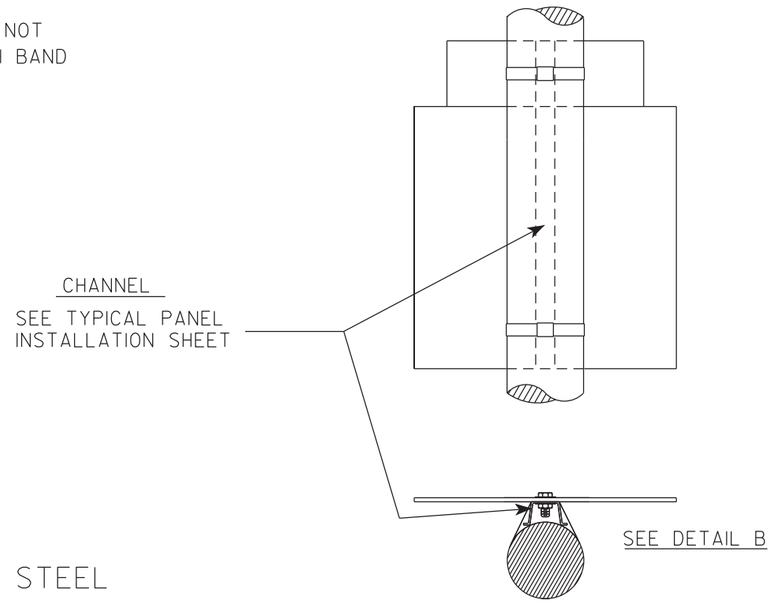


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

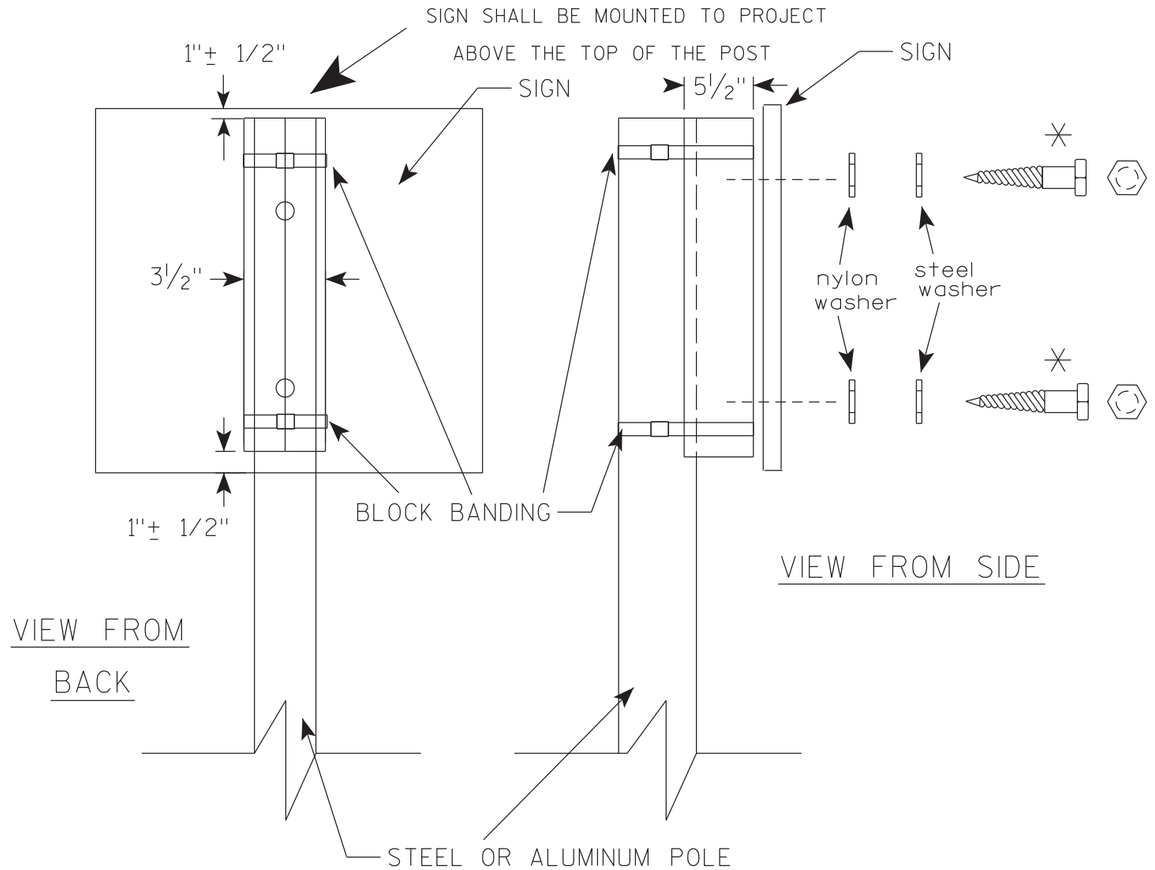
DATE 6/10/19 PLATE NO. A5-9.4

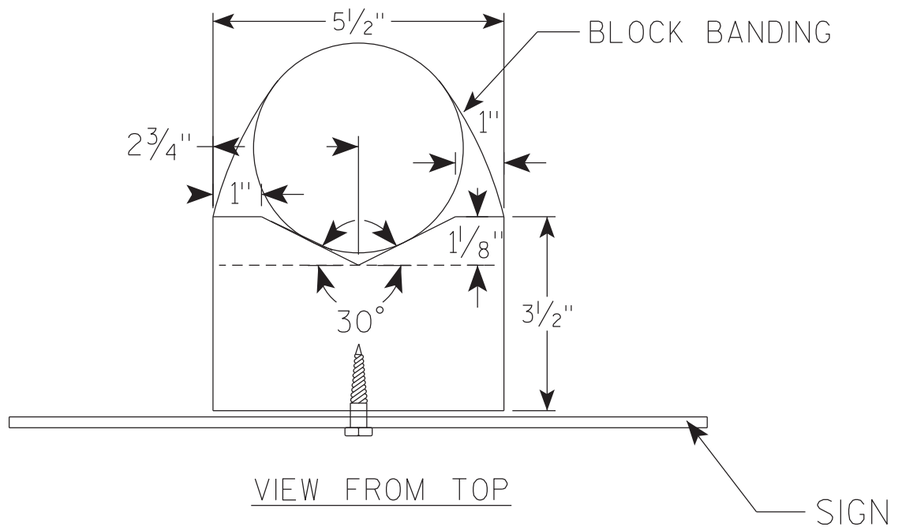
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 236	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

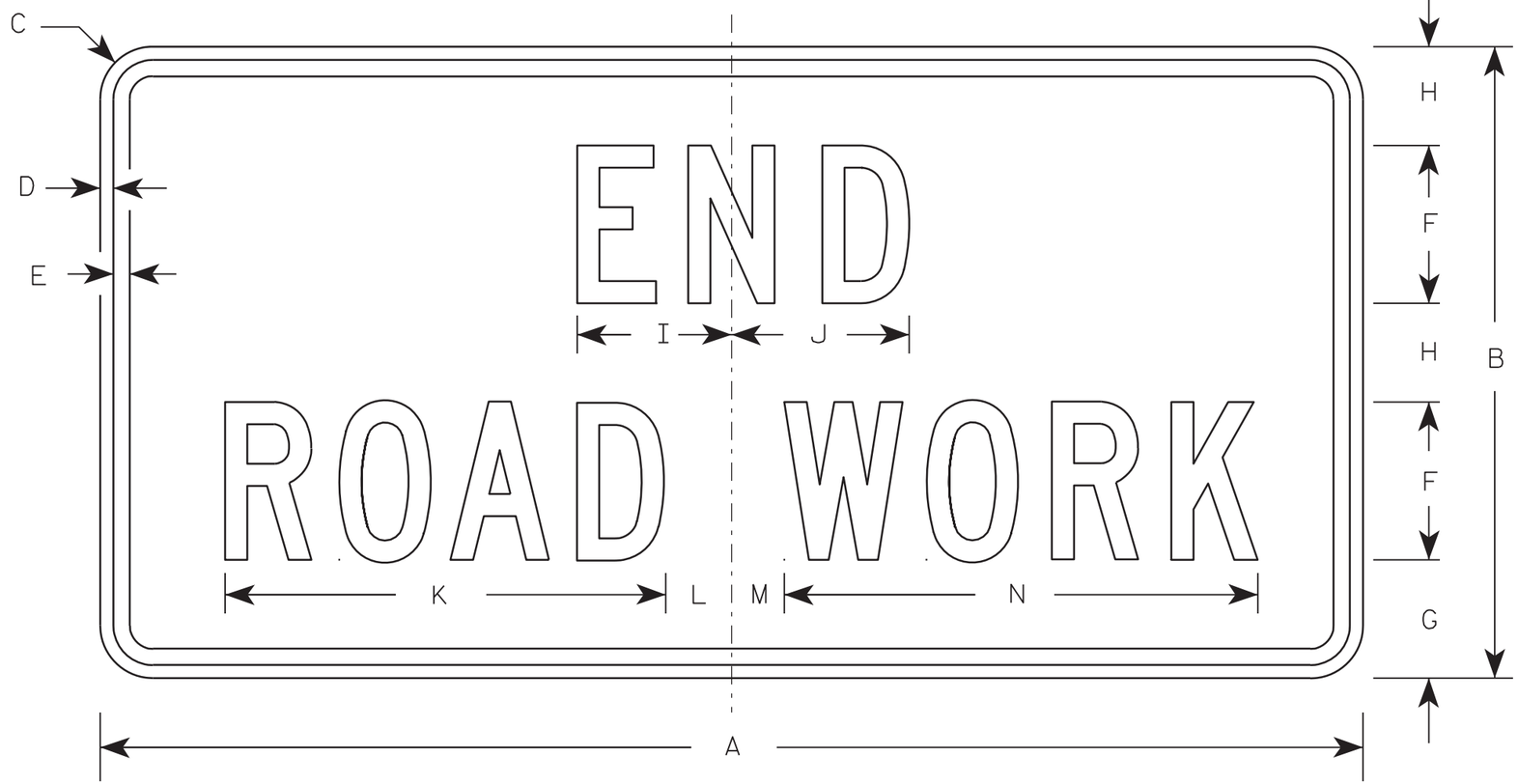
BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO: | SHEET NO: 237 | E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
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.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

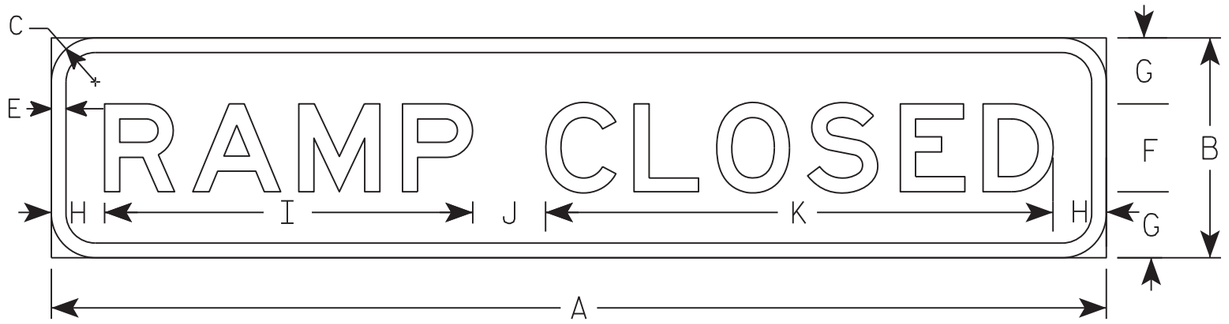
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 238	E

NOTES

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



G20-64

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2																											
3																											
4	144	30	6		2	12	9	7 1/4	50 1/4	10	69 1/4																30.0
5																											

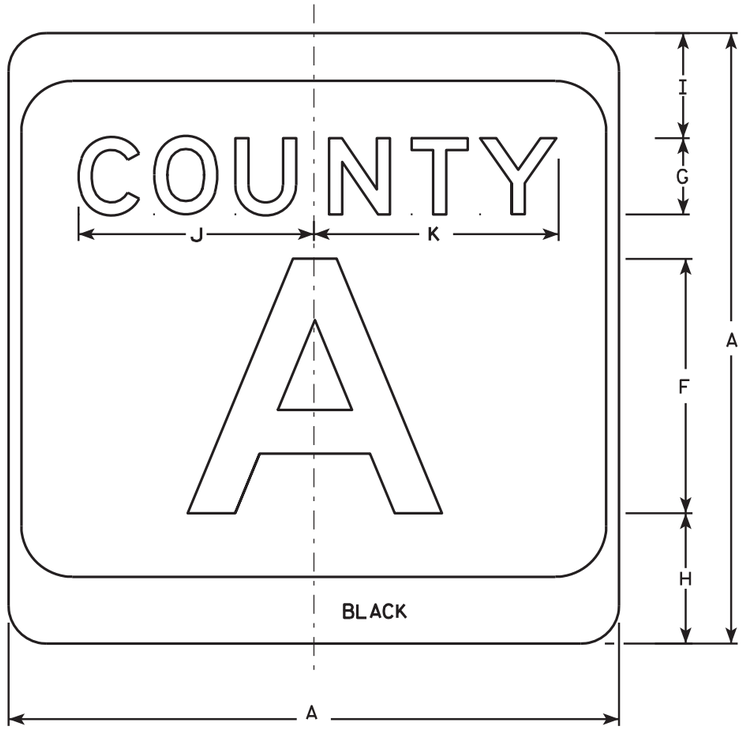
STANDARD SIGN
G20-64

WISCONSIN DEPT OF TRANSPORTATION

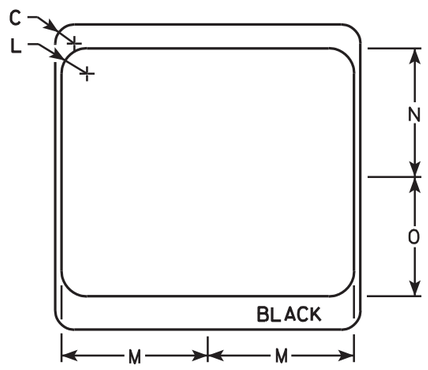
APPROVED Matthew R Rauch
for State Traffic Engineer

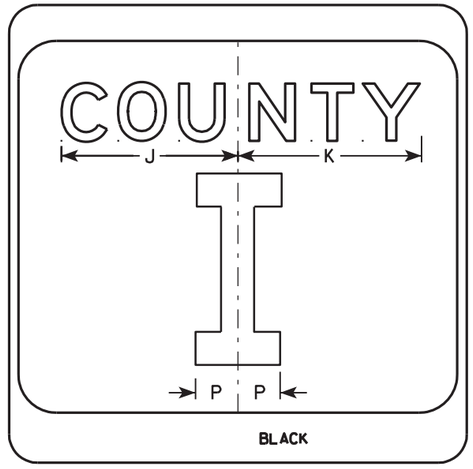
DATE 3/13/18 PLATE NO. G20-64.1

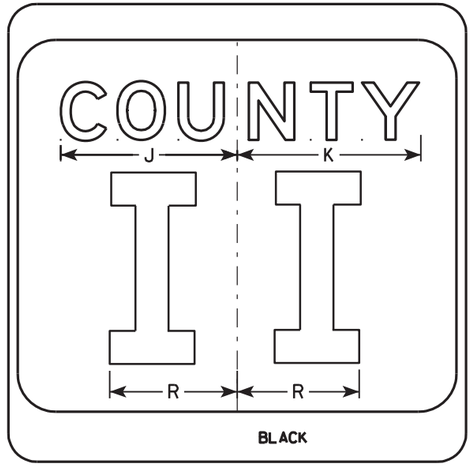
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 239 E



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

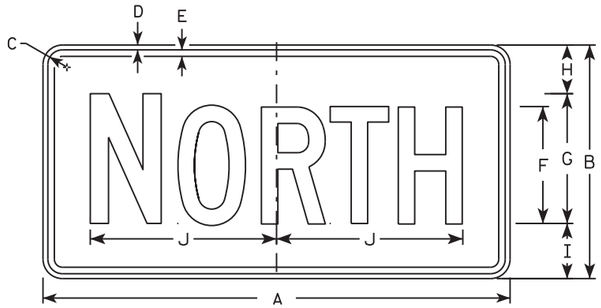
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

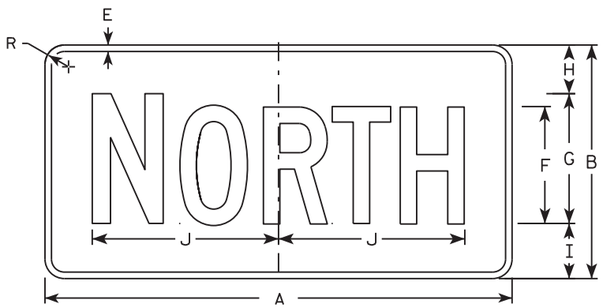
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 240 | E



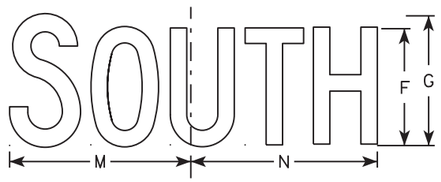
M3-1
MM3-1
MP3-1



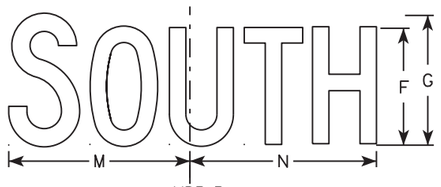
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

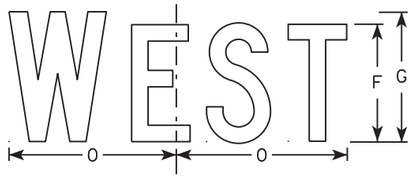
MB3-2
MK3-2
MN3-2



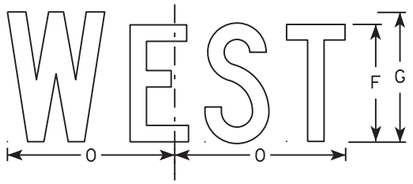
M3-3
MM3-3
MP3-3



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

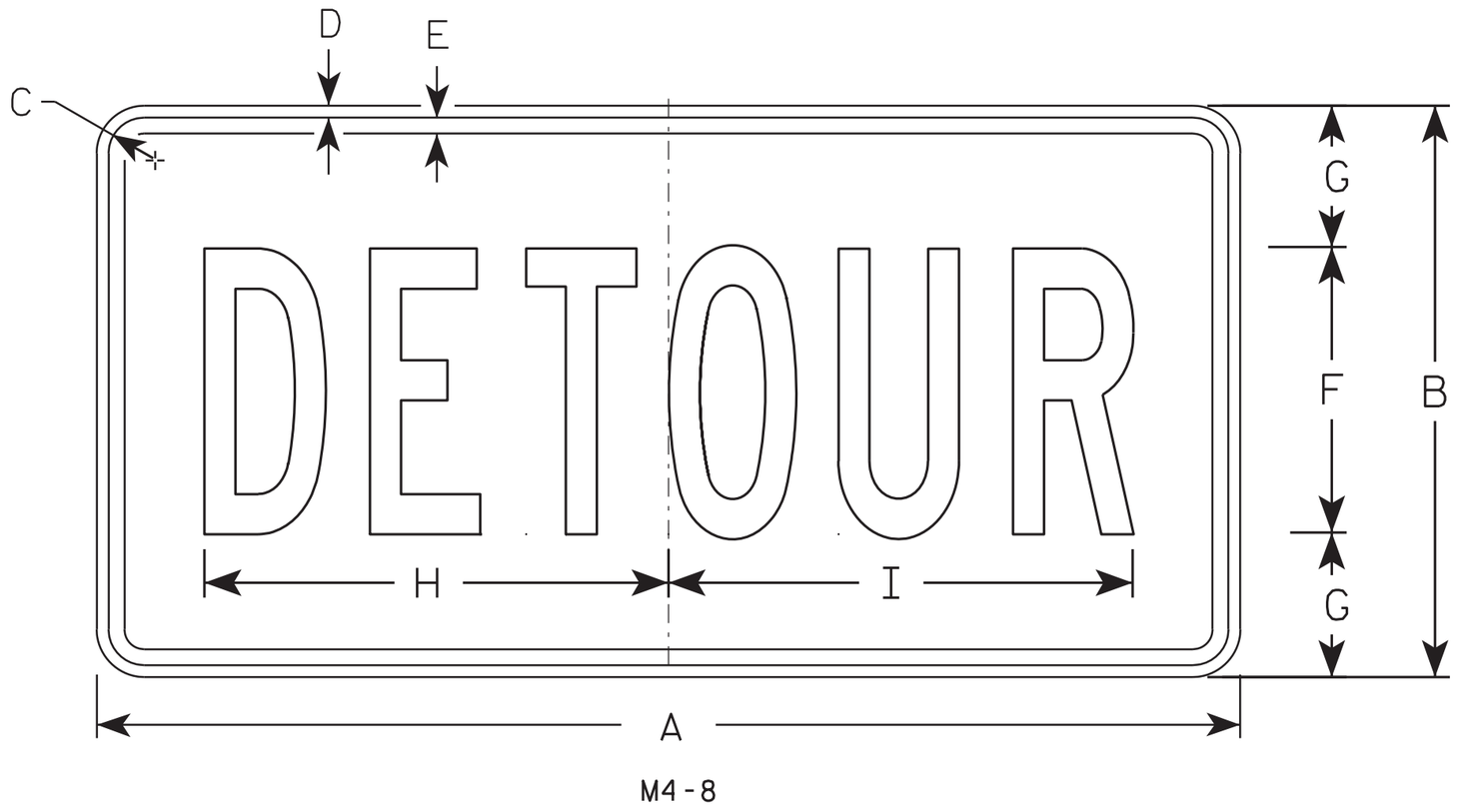
WISCONSIN DEPT OF TRANSPORTATION

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																											

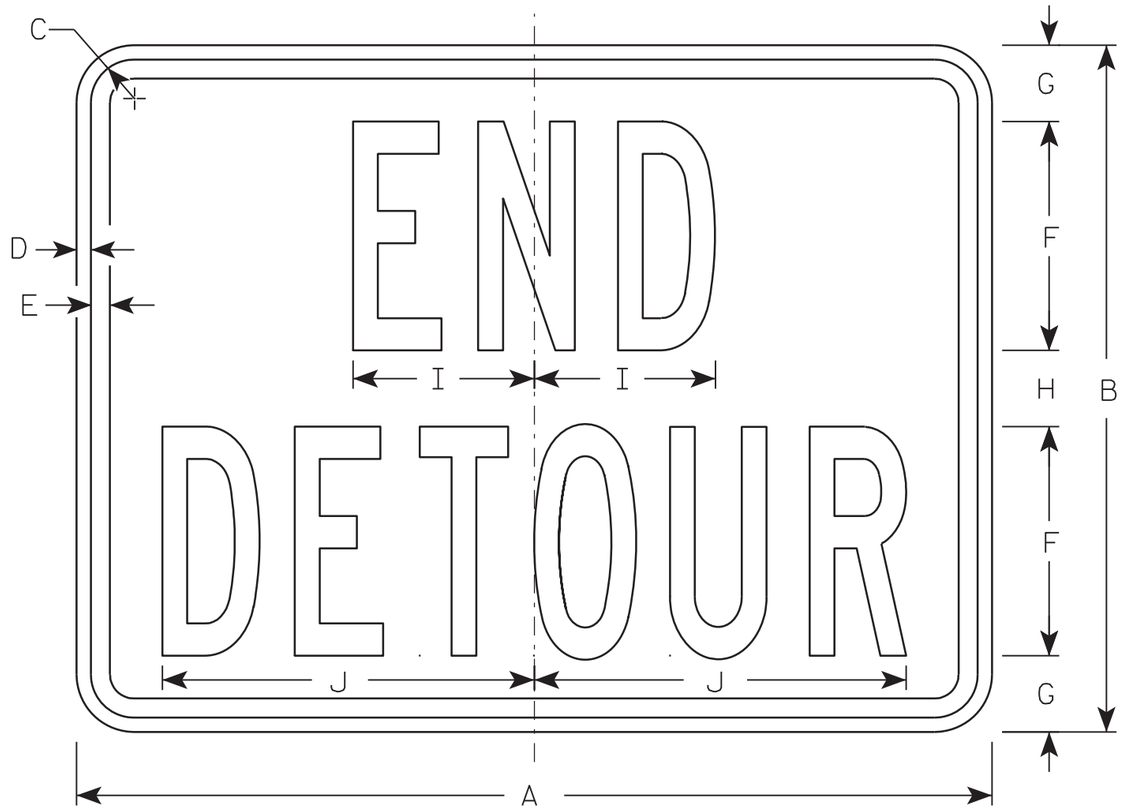
STANDARD SIGN
M4-8

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: 242	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																											

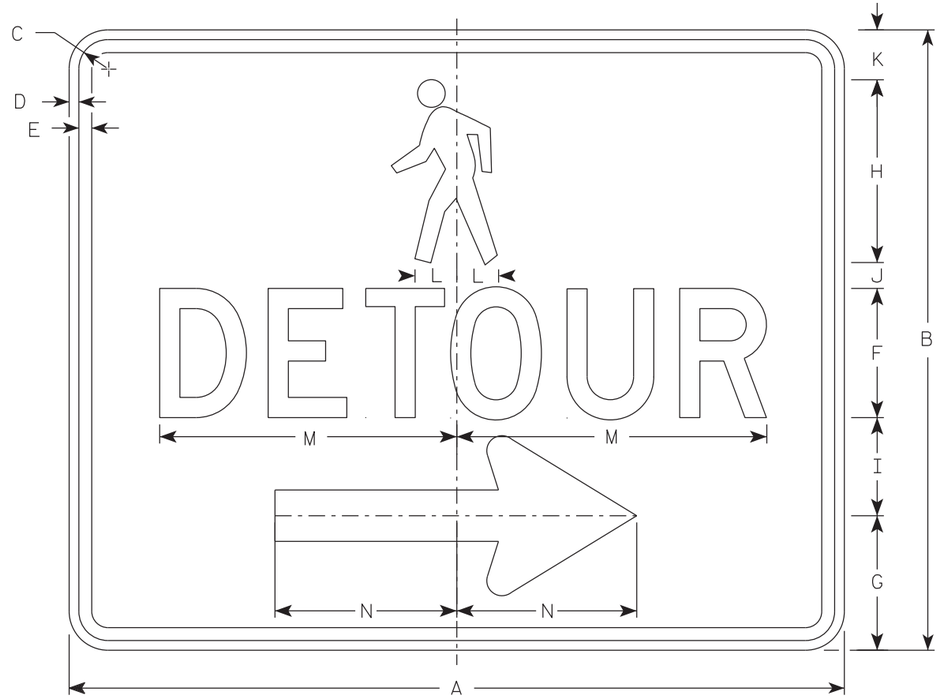
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

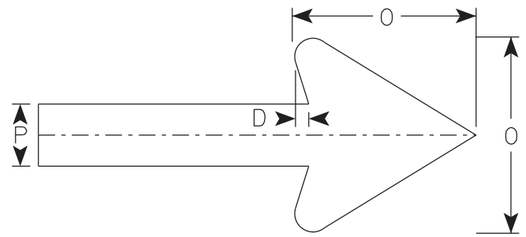
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 243	E



M4-9BR

NOTES

1. Sign is Type II-Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.00
3																											
4																											
5																											

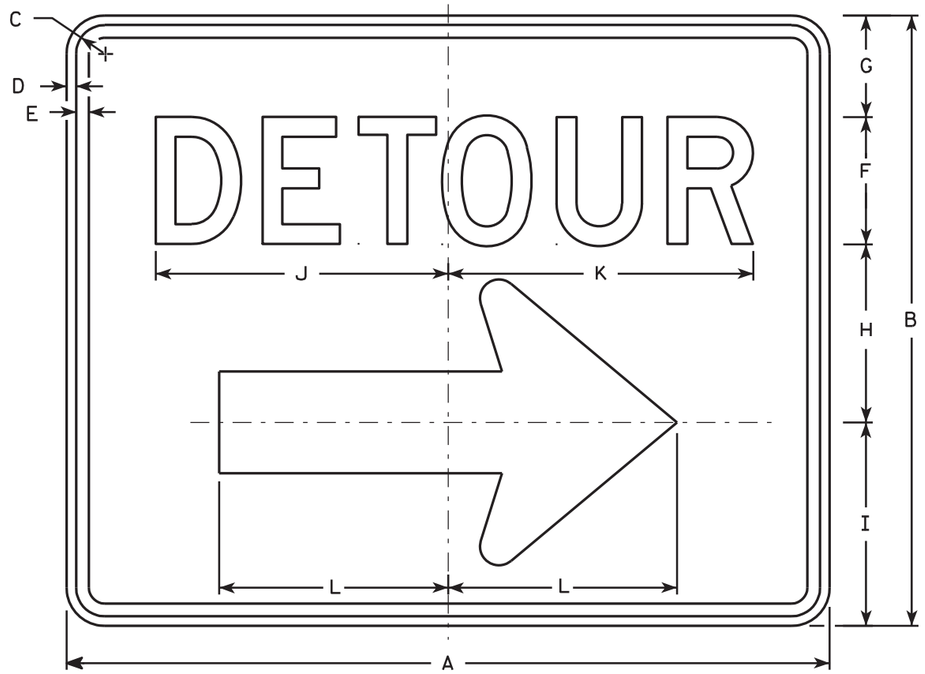
STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 7/1/19 PLATE NO. M4-9B.2

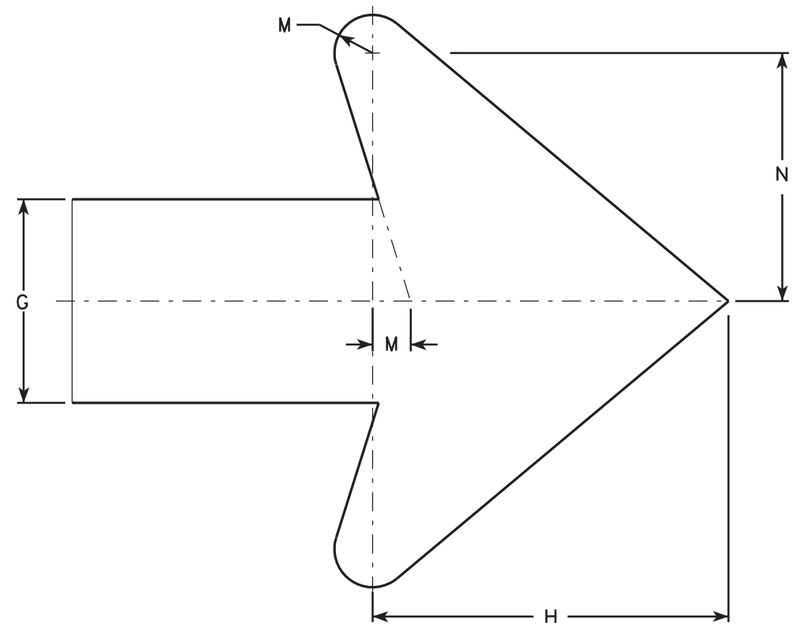
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 244 | E



M4-9R

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 - 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. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

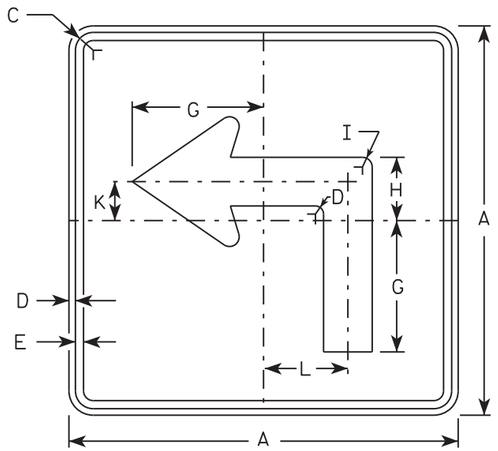
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

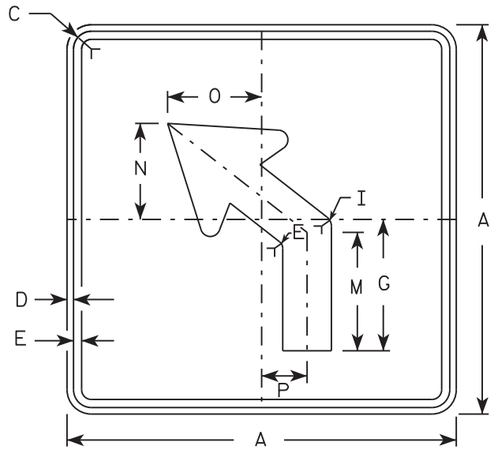
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

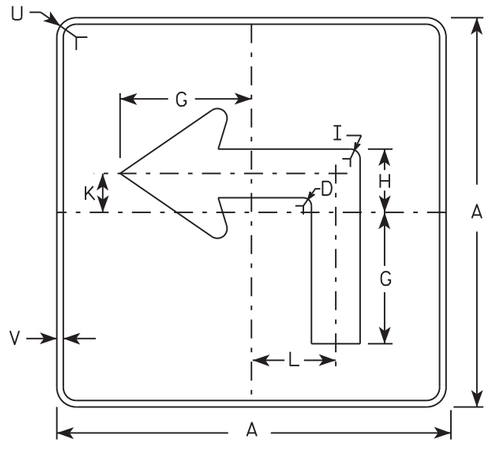
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 245 | E



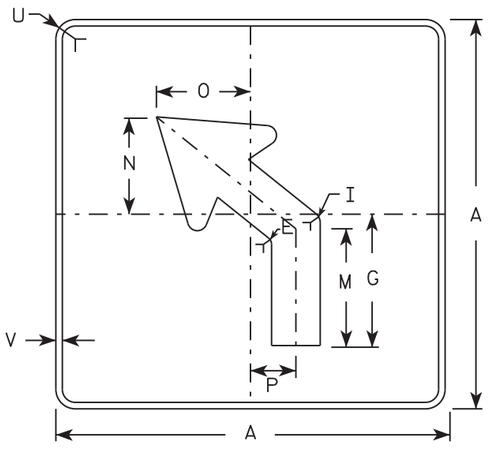
M5-1L
MM5-1L
MO5-1L
MP5-1L



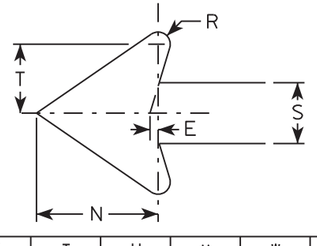
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

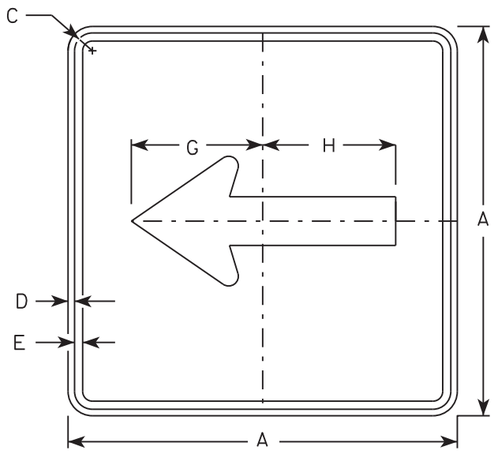
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

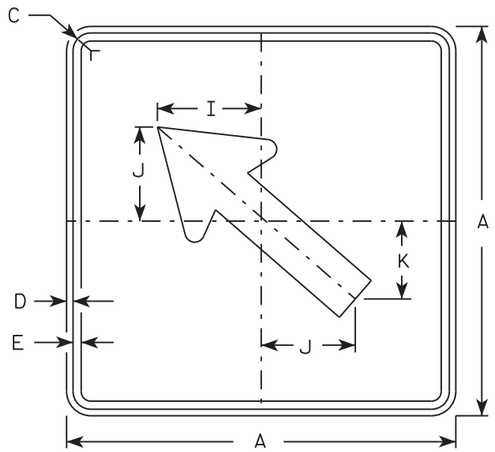
DATE 10/15/15 PLATE NO. M5-1.13

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



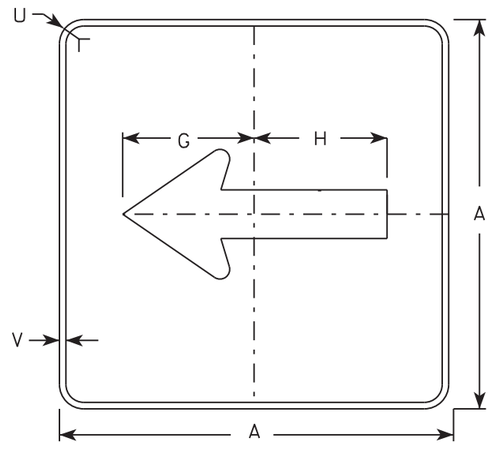
M6-1
MM6-1
MO6-1
MP6-1



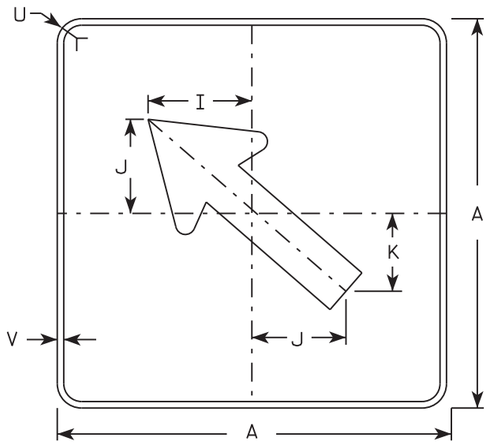
M6-2
MM6-2
MO6-2
MP6-2

NOTES

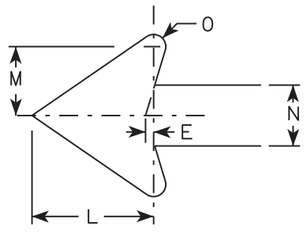
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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

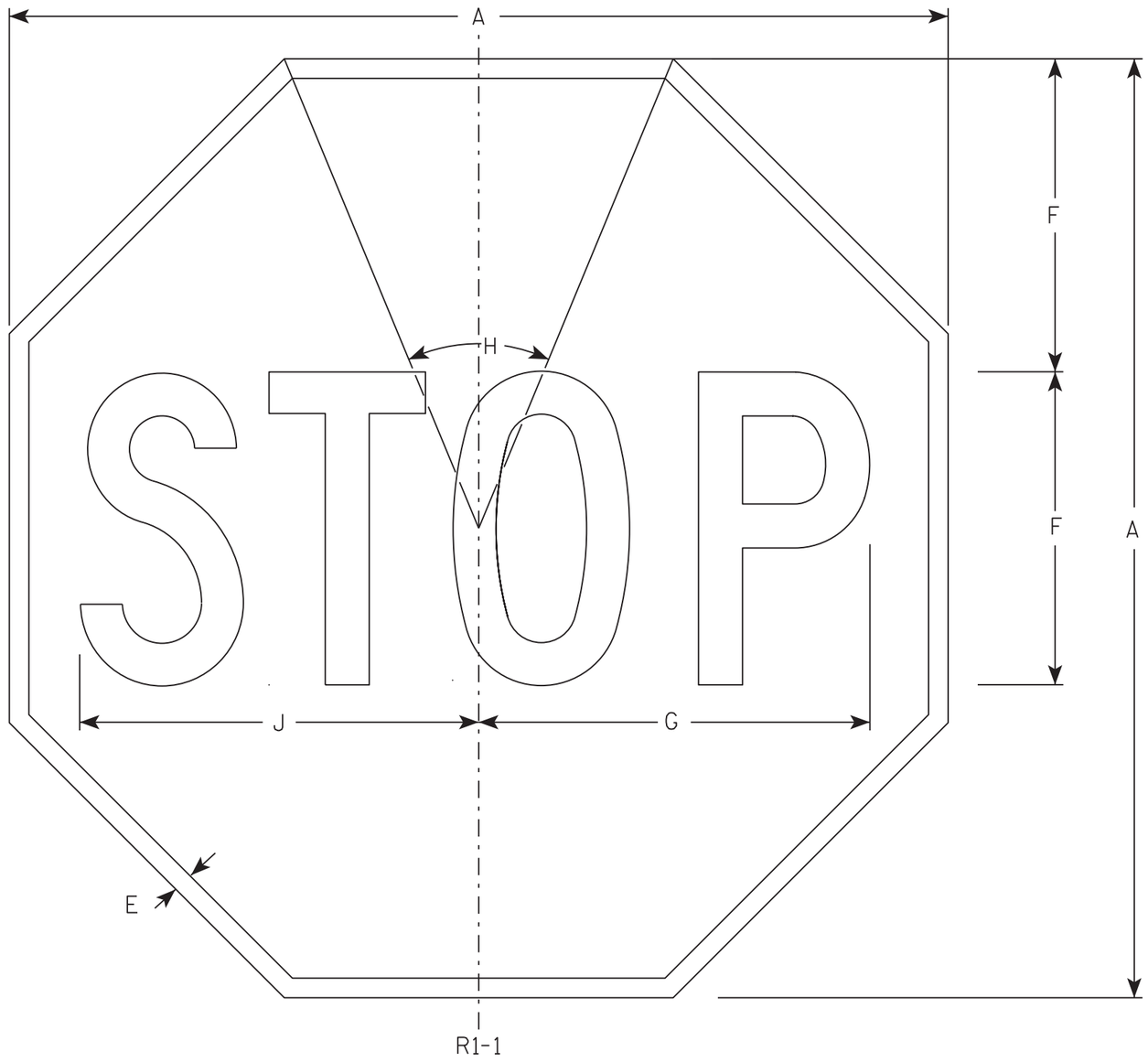
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 247 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



NOTES

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

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

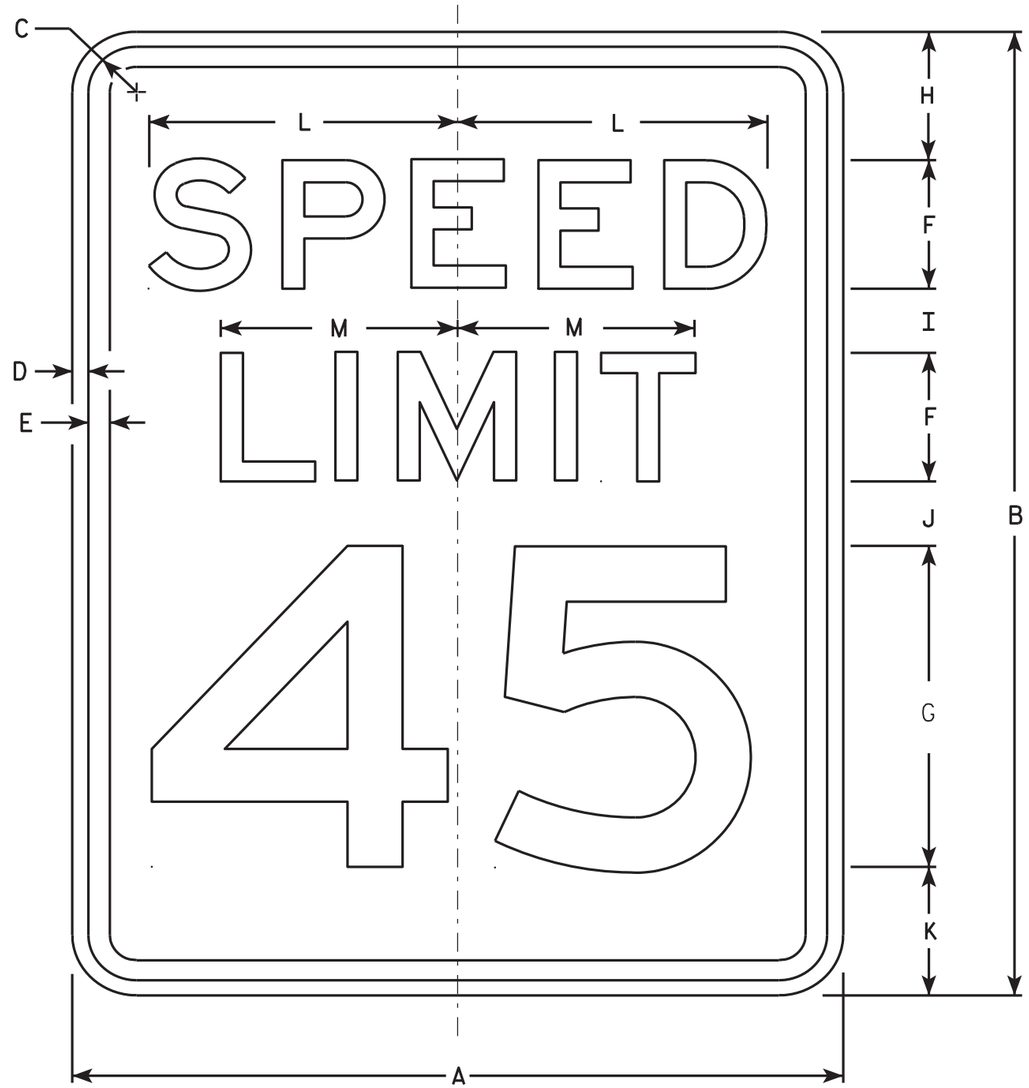
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 248	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

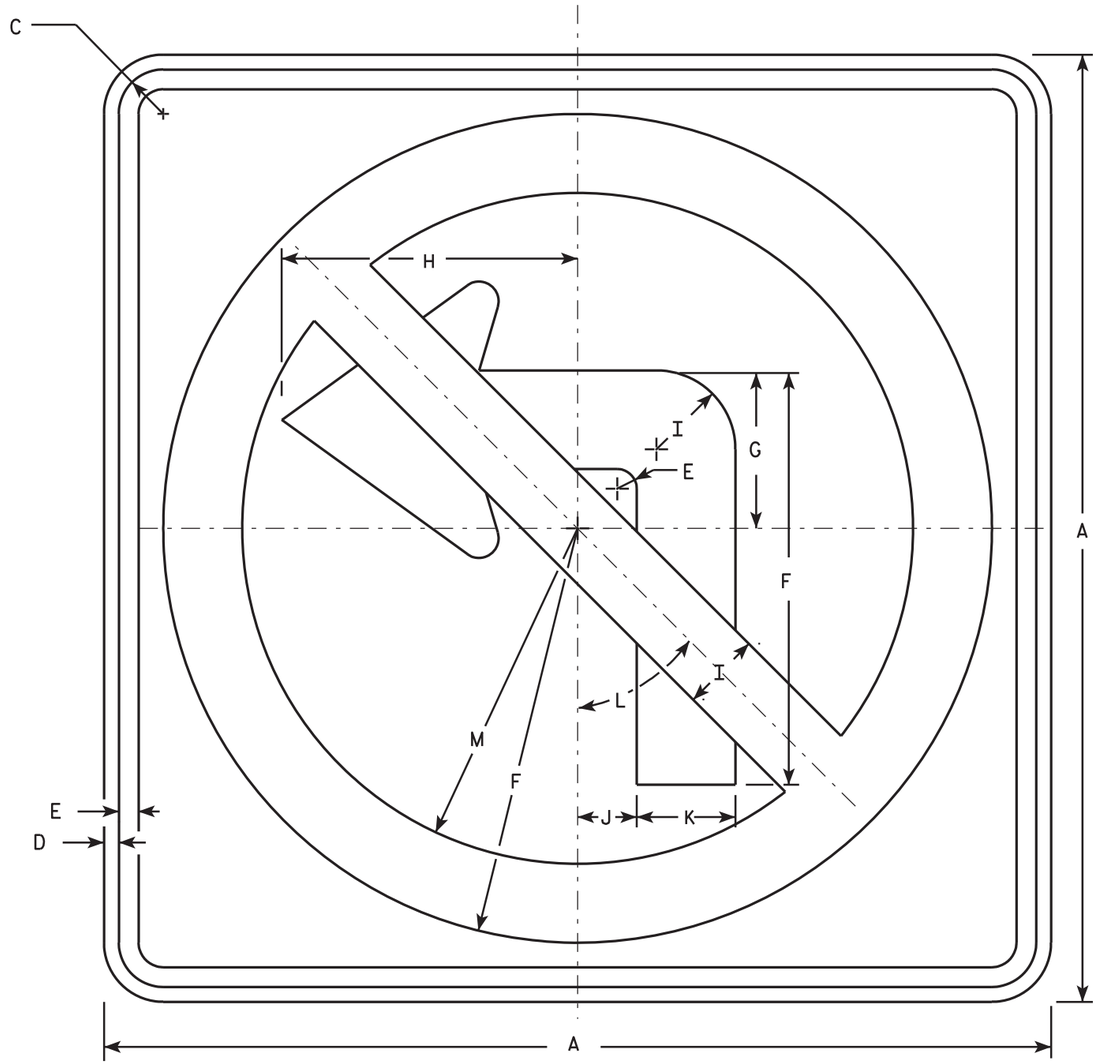
APPROVED Matthew R Rauch
For State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 249 | E

7

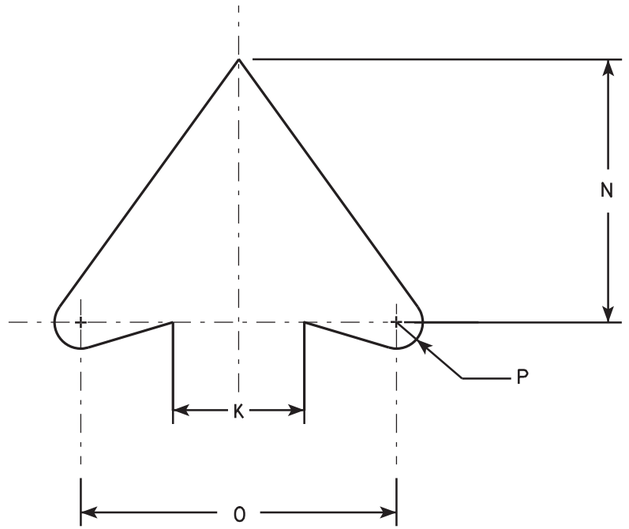
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000
WISDOT/CADDS SHEET 42



R3-2

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

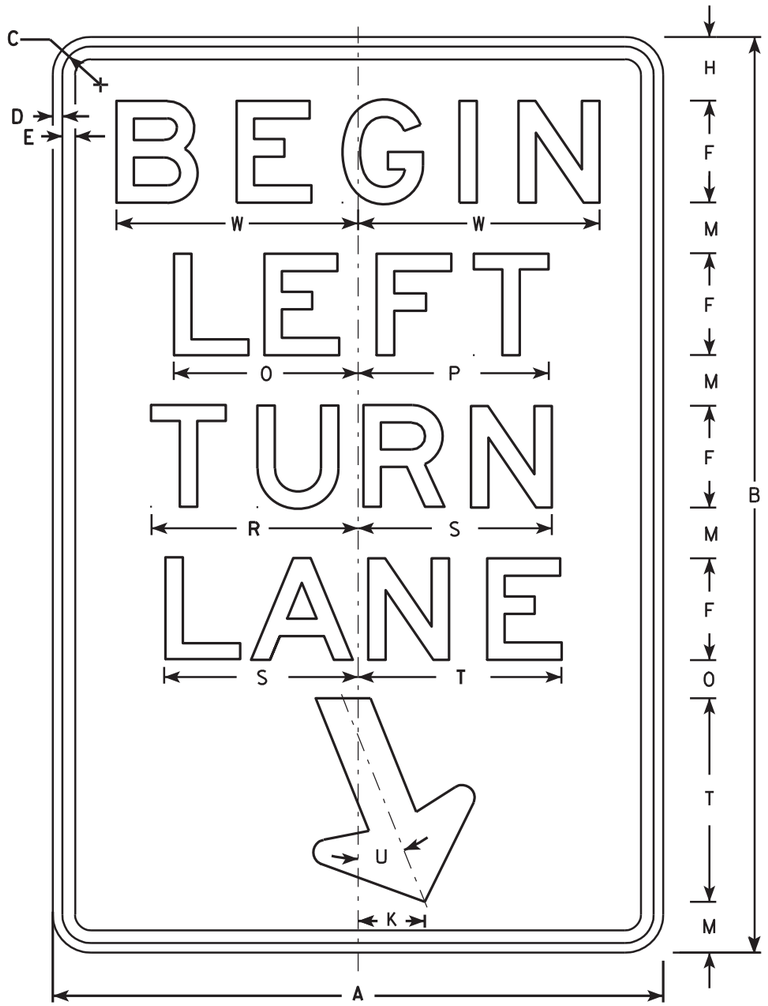
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

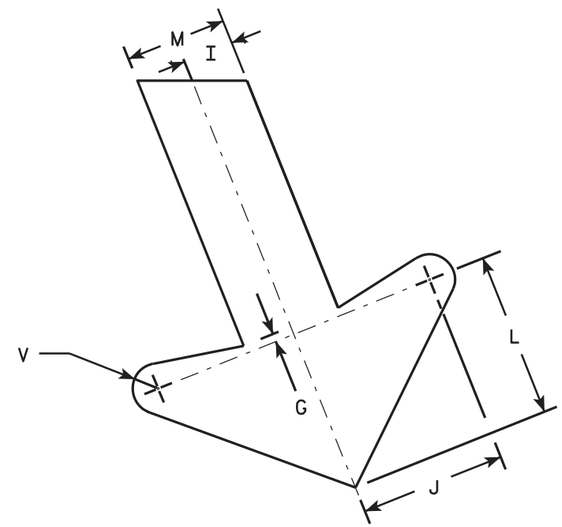
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 250 | E



R3-20L

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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

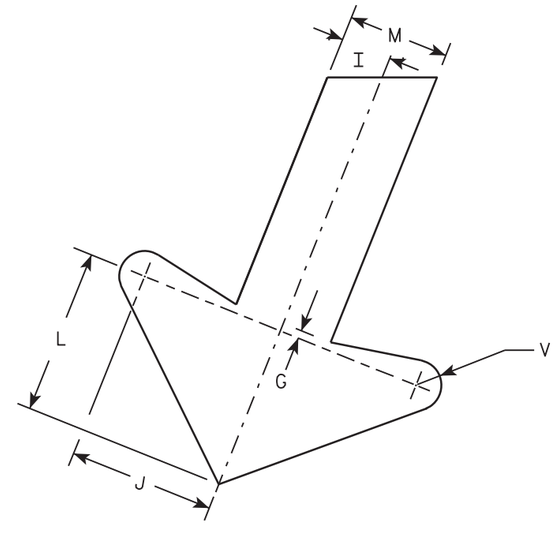
DATE 10/18/10 PLATE NO. R3-20L.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 251 | E

R3-20R

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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	8 1/2	8 1/4		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20R.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 252 | E

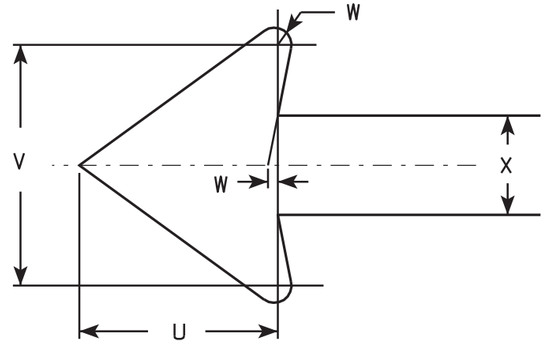
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R320R.DGN PLOT DATE : 15-OCT-2010 14:59 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 5.959043:1.000000

WISDOT/CADDS SHEET 42

R7-1

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 - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

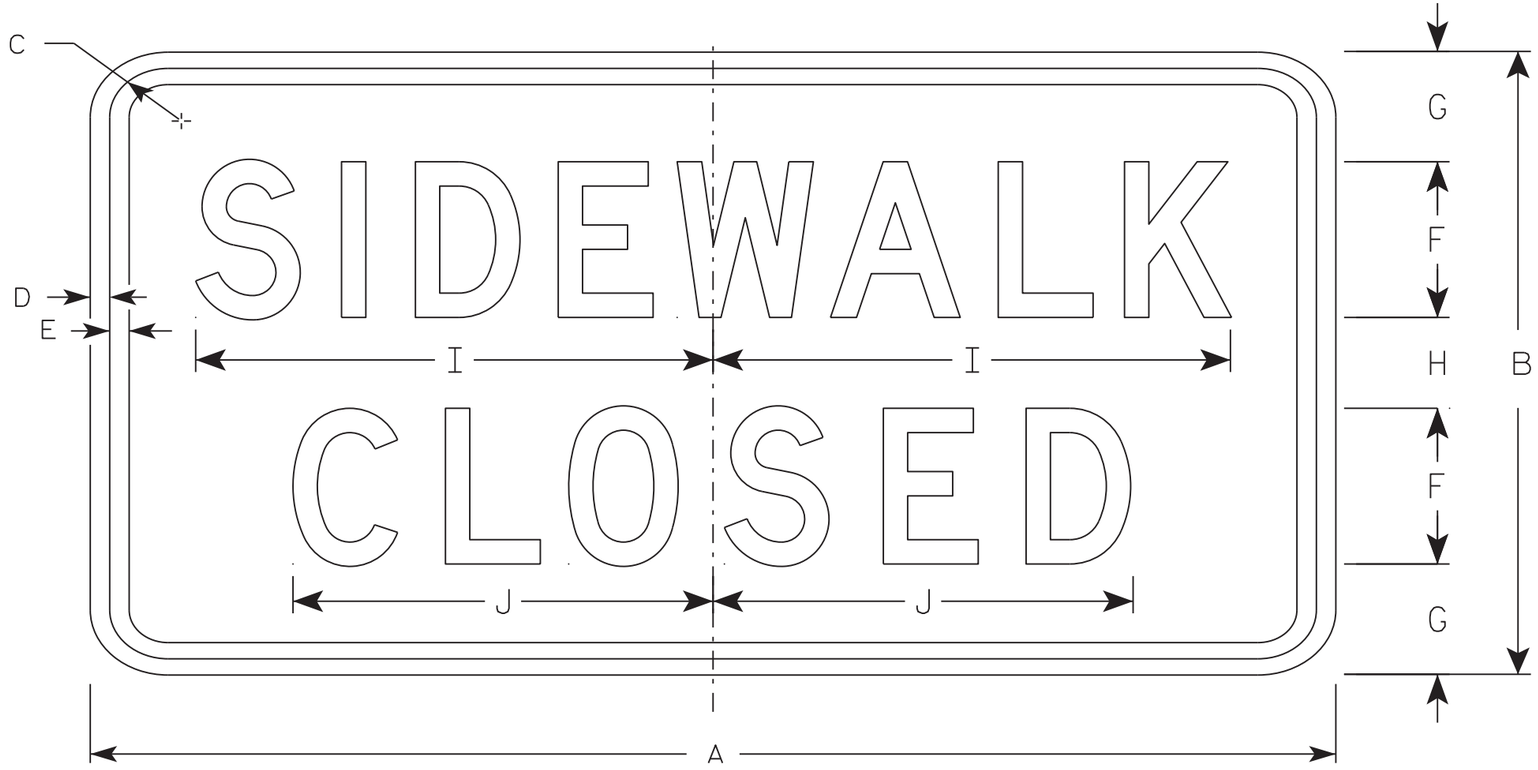
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 253	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

WISDOT/CADDS SHEET 42



R9-9

NOTES

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

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

STANDARD SIGN
R9-9

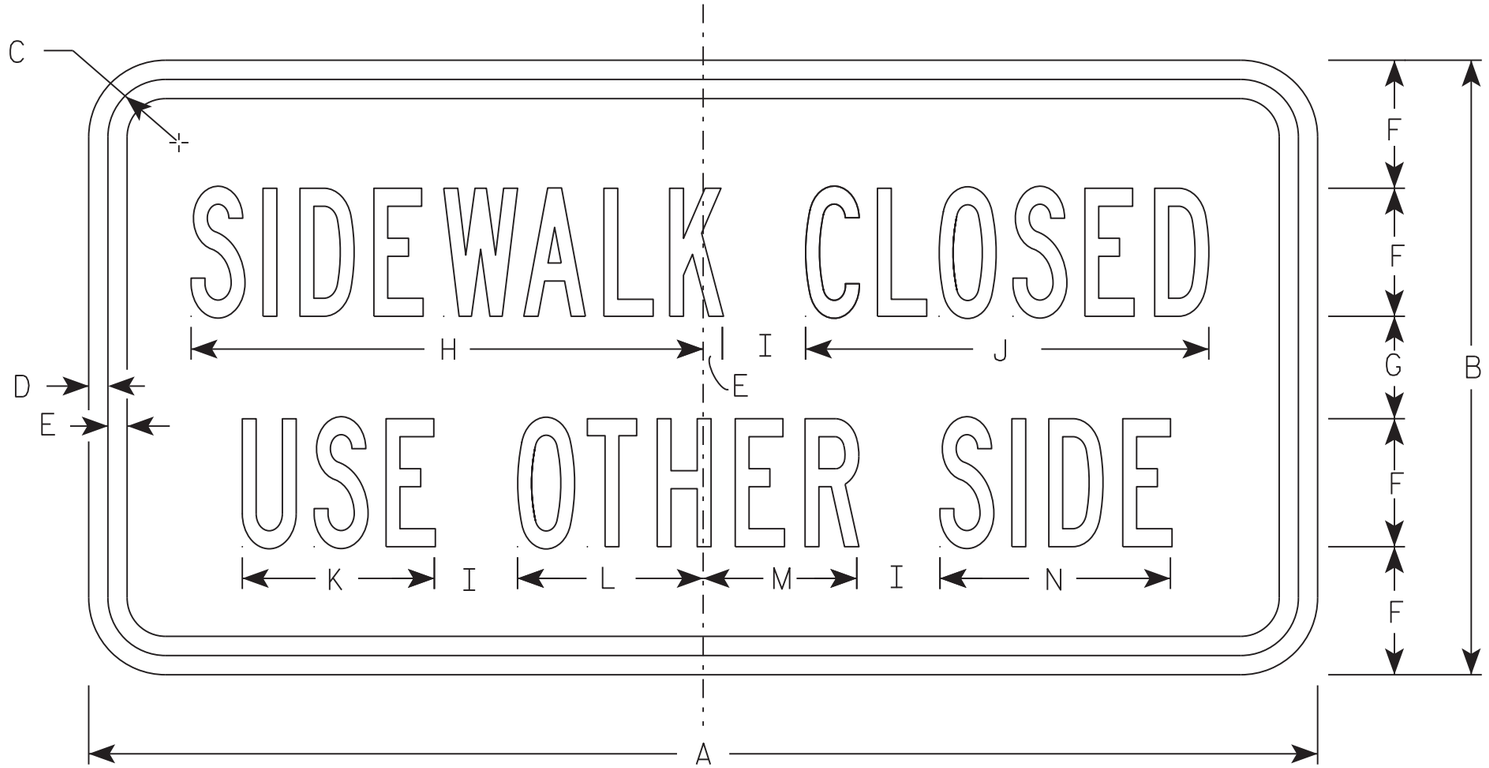
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/11/16 PLATE 254 R9-9.6

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R99.DGN PLOT DATE : 11-AUG-2016 11:33 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 2.918761:1.000000



R9-10

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Use Size 2 for sidewalks. Use Size 3 for paths and trails.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	2 1/2	2	10	1 5/8	7 7/8	3 3/4	3 5/8	3	4 1/2													2.0
2M	24	12	1 1/8	3/8	3/8	2 1/2	2	10	1 5/8	7 7/8	3 3/4	3 5/8	3	4 1/2													2.0
3	30	15	1 1/8	3/8	1/2	3	2 3/4	12	2	9 1/2	4 1/2	4 3/8	3 5/8	5 3/8													3.125
4																											
5																											

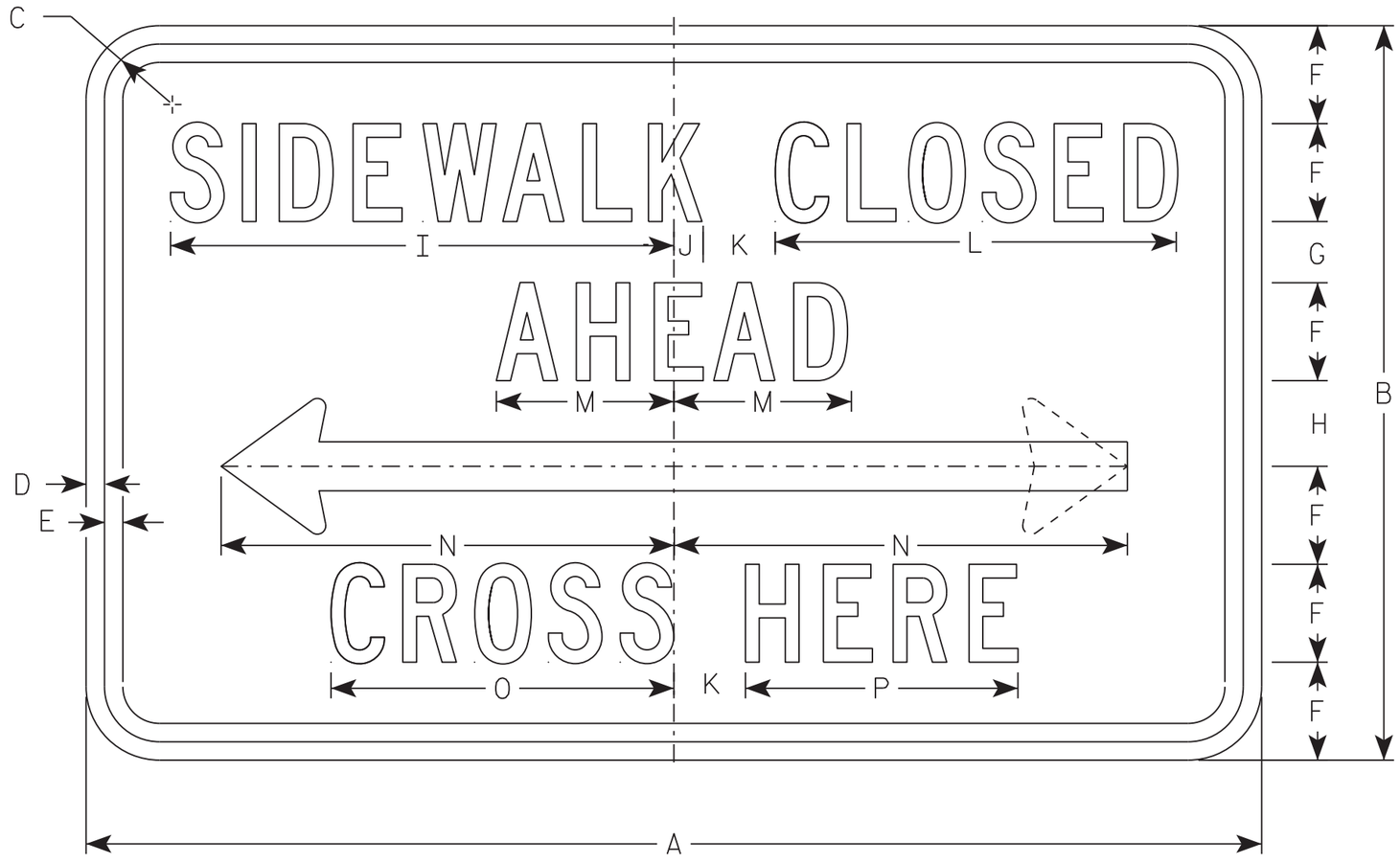
STANDARD SIGN
R9-10

WISCONSIN DEPT OF TRANSPORTATION

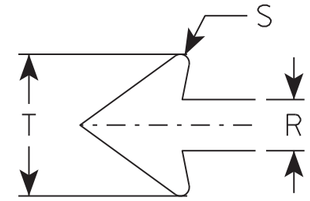
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-10.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 255 E



R9-11



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
2M	24	12	1 1/8	3/8	3/8	1 1/2	1 1/2	1 1/2	9 3/4	5/8	1 1/2	7 5/8	3 1/2	9 1/4	6 5/8	5 1/8		1	1/8	2 3/4							2.0
3	30	15	1 1/8	3/8	1/2	2	1 1/2	1 1/2	13	3/4	2	10 1/4	4 5/8	12 3/8	8 7/8	6 7/8		1 1/4	1/4	3 5/8							3.125
4																											
5																											

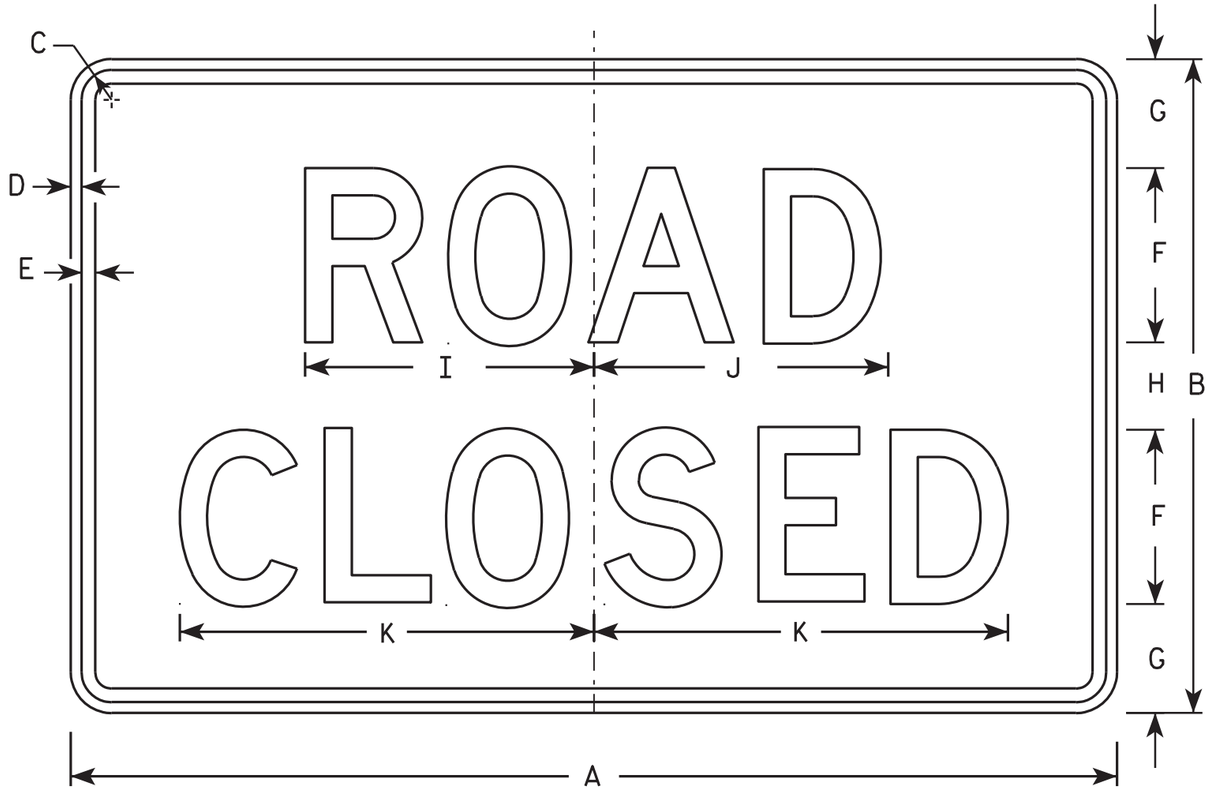
STANDARD SIGN
R9-11

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R9-11.3

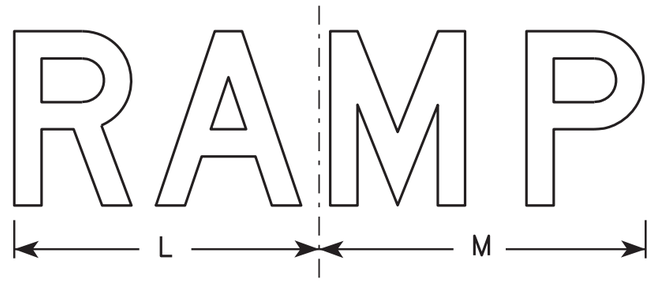
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 256	E



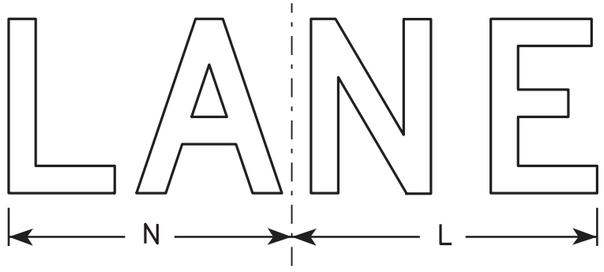
R11-2

NOTES

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



R11-2R



R11-2L

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

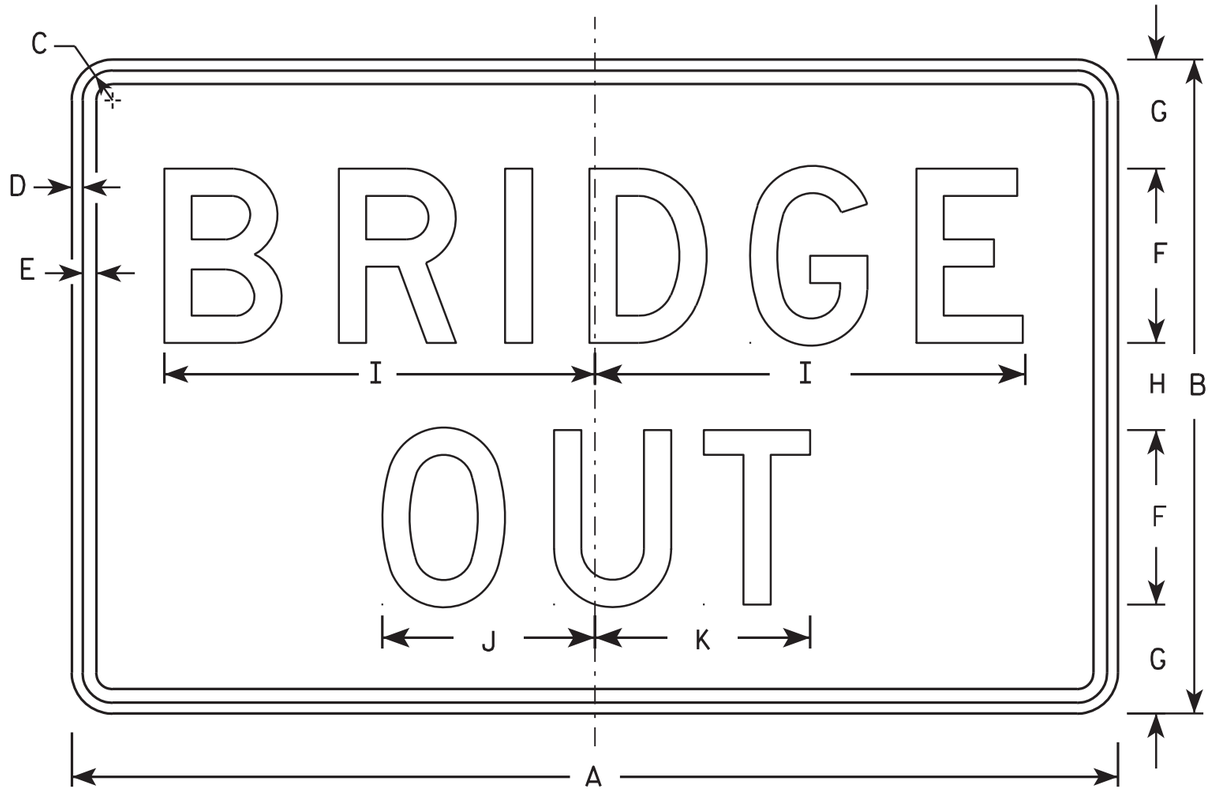
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 257	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

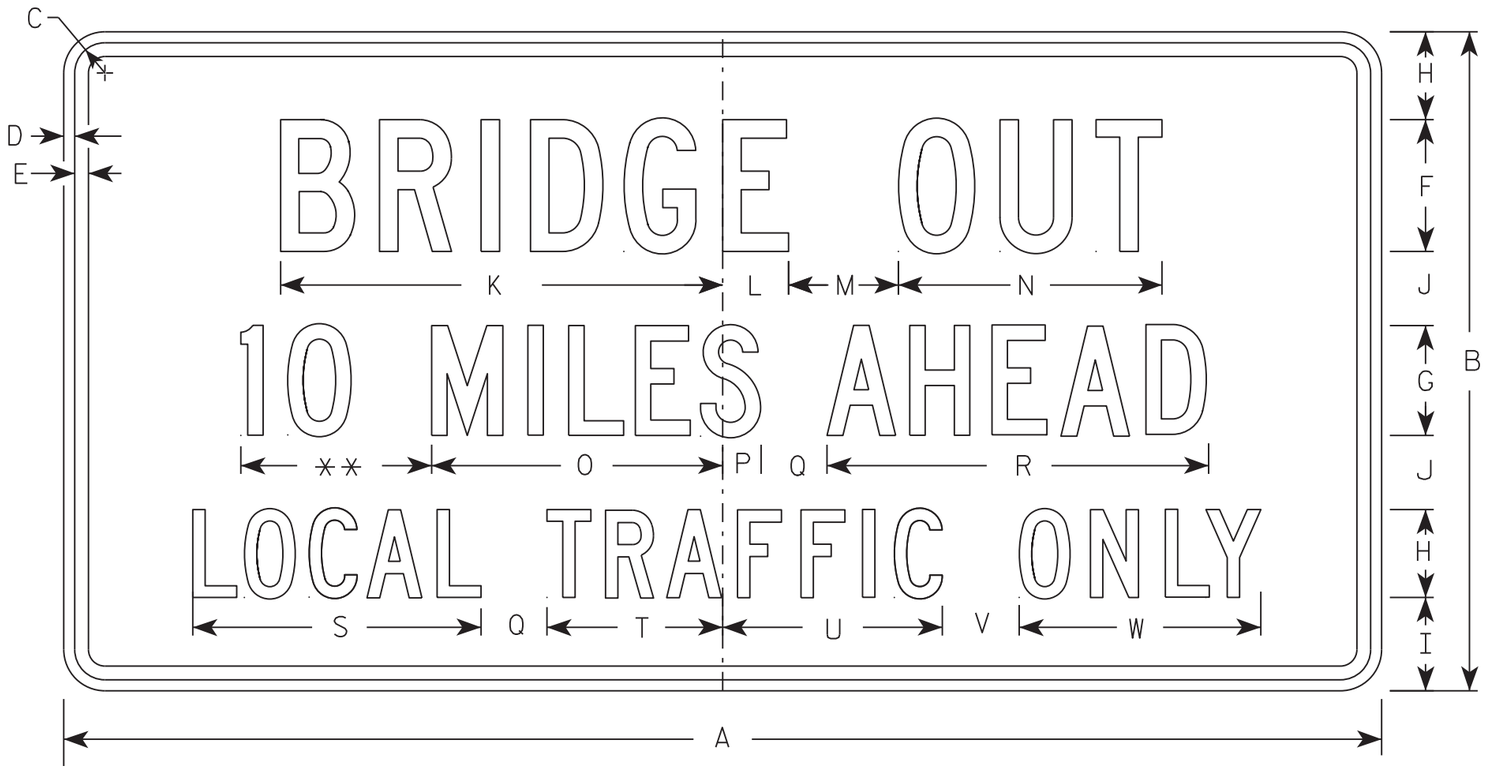
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

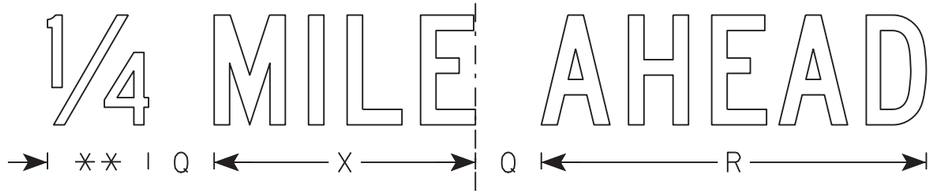
PROJECT NO:

SHEET NO: 258 E



R11-3B

** See Note 5



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

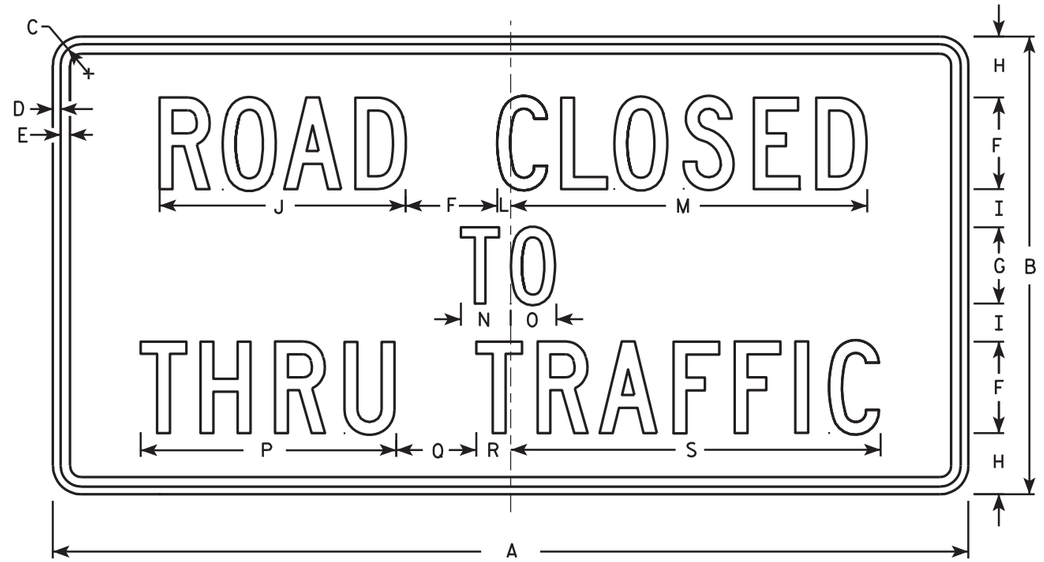
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 259 | E



R11-4

NOTES

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

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

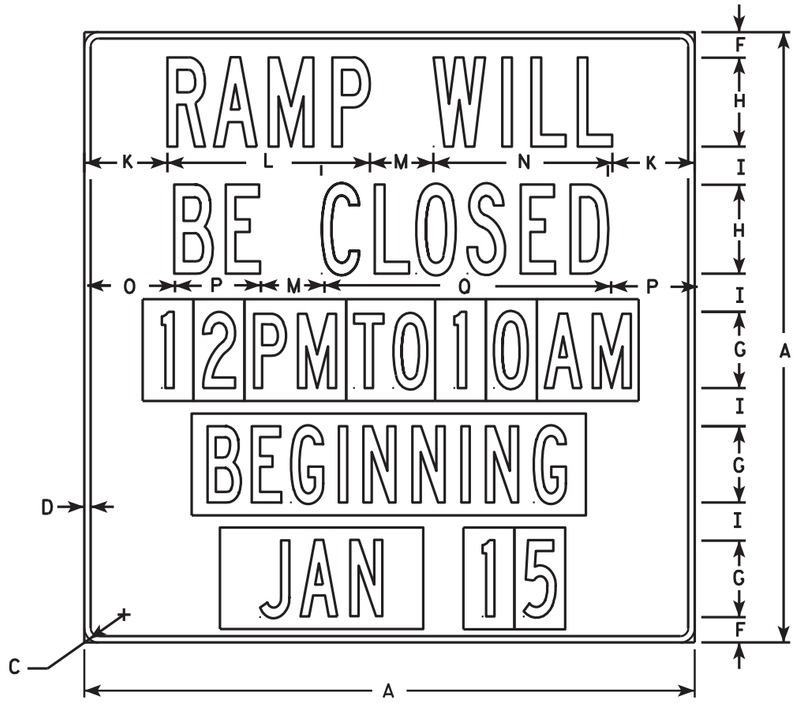
STANDARD SIGN
R11 - 4

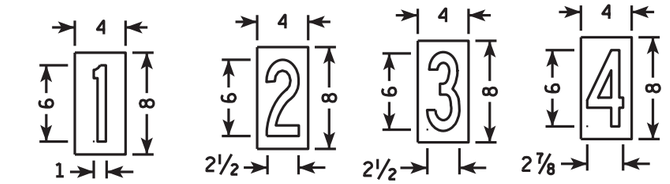
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

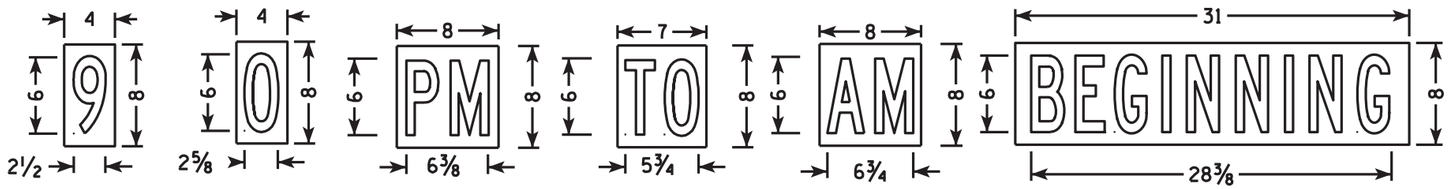
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 260 | E

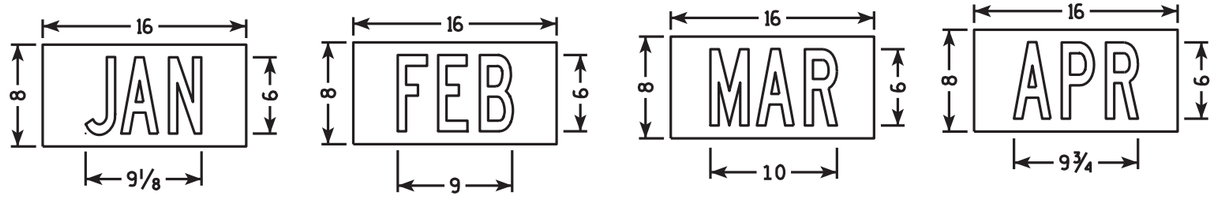


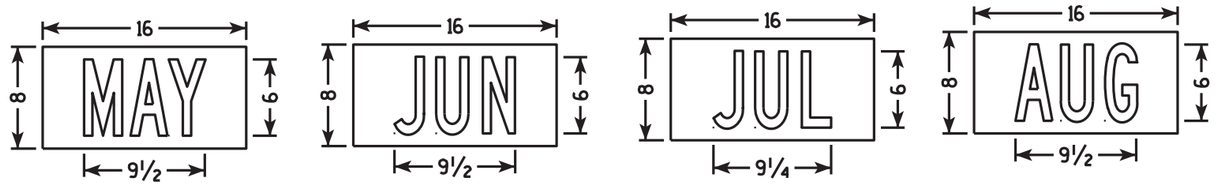


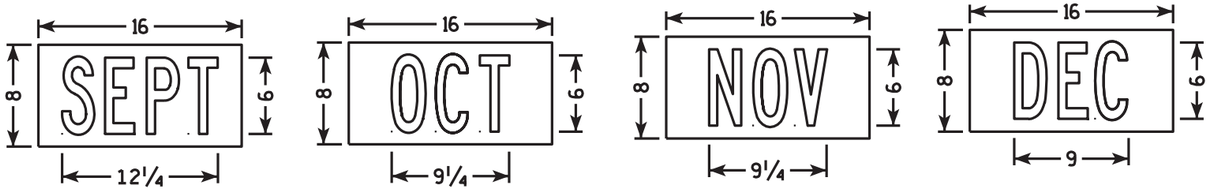
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - B
4. Message plaques consist of Type H Reflective sheeting with the appropriate non-reflective black message applied to .040 aluminum and screwed to the base sign.









SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
2M	48		2 1/4	1/2		2	6	7	3		6 1/2	15 7/8	5	14 1/8	6 7/8	6 3/4	22 1/2										16.0
3																											
4																											
5																											

STANDARD SIGN
R11-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-51.4

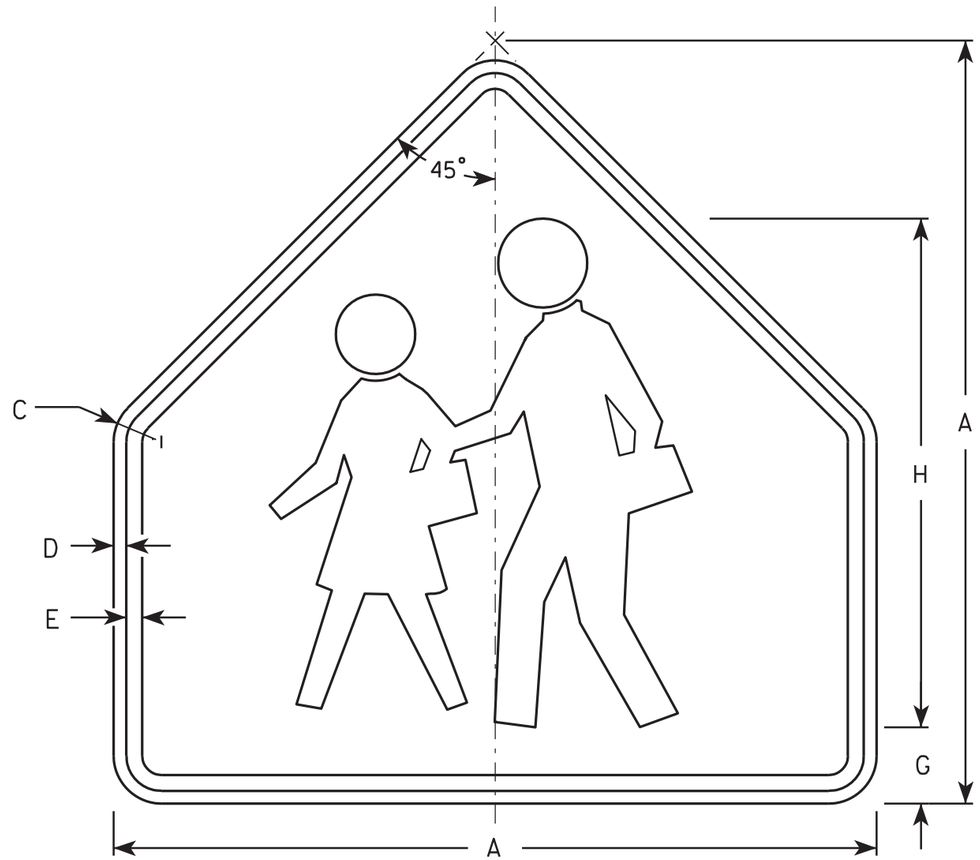
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 261 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R1151.DGN PLOT DATE : 01-APR-2011 14:07 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000

WISDOT/CADDS SHEET 42

7

7



S1-1

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. 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		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

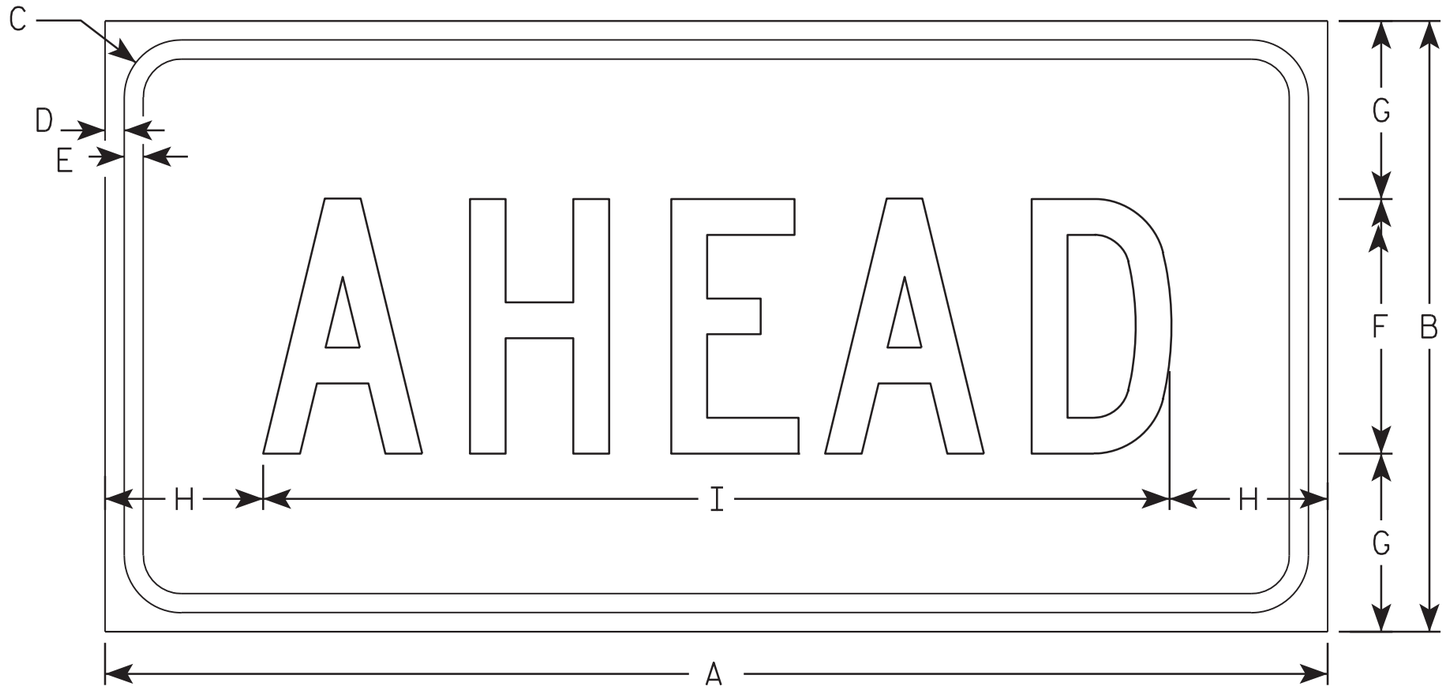
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 262	E



S16-9P

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 - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
S16-9P

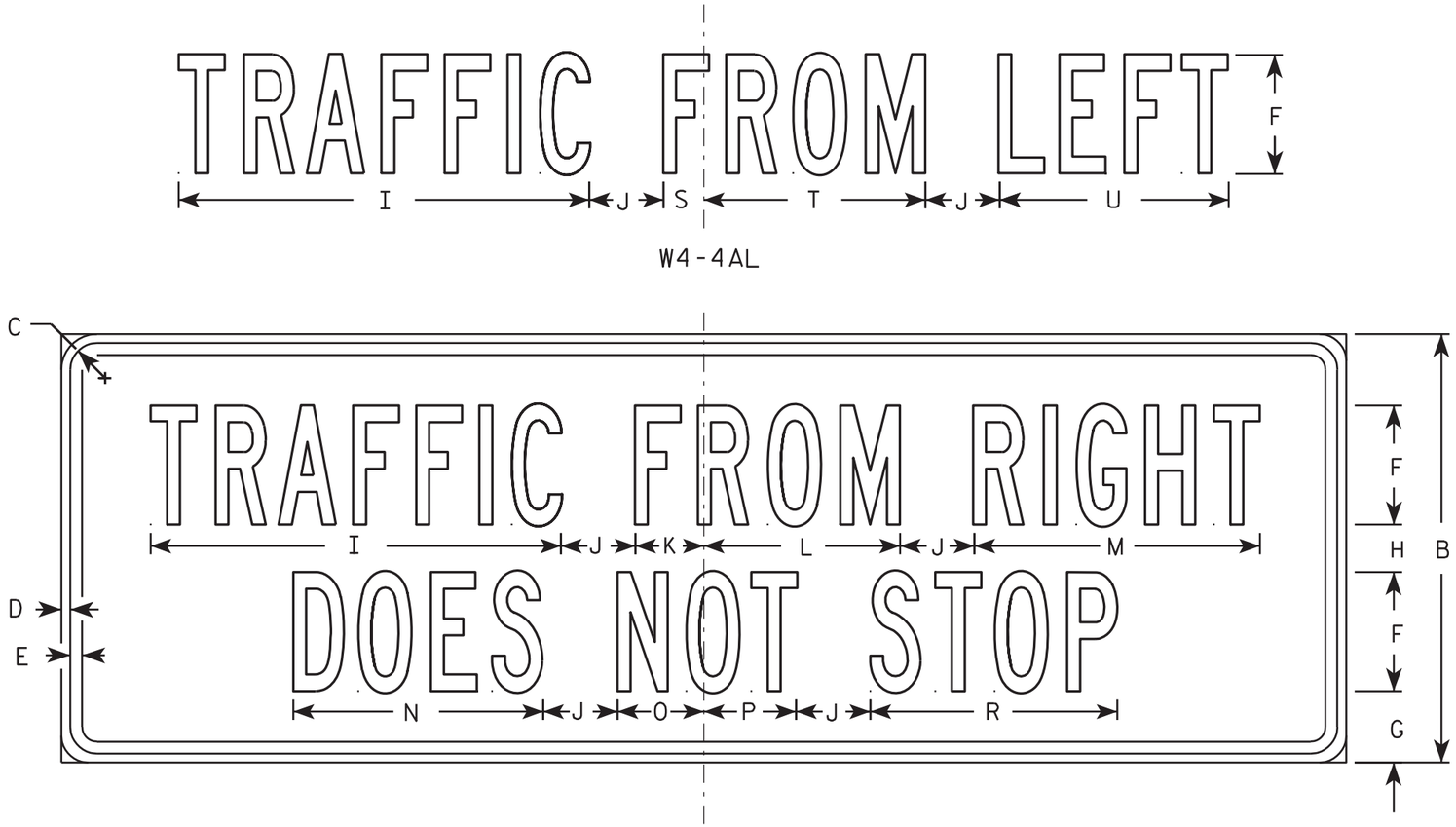
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-9P.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 263 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\S169P.dgn PLOT DATE : 22-JUL-2013 10:32 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 2.977140:1.000000



W4-4AL

W4-4AR

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. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
2M	30	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	10 3/8	1 1/2	1 3/4	4 7/8	7 1/4	6 1/4	2 1/4	2 1/4		6 1/4	1	5 5/8	5 3/4						2.5
3	42	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	13 7/8	2 3/8	2 1/8	6 3/4	9 3/4	8 3/8	2 3/4	3 3/8		8 3/8	1 1/8	7 3/4	7 3/4						4.4
4	54	18	1 1/8	3/8	1/2	5	3	2	17 1/4	3 1/8	2 7/8	8 1/4	12	10 1/2	3 5/8	3 7/8		10 3/8	1 3/4	9 3/8	9 5/8						6.8
5																											

STANDARD SIGN
W4-4AL & W4-4AR

WISCONSIN DEPT OF TRANSPORTATION

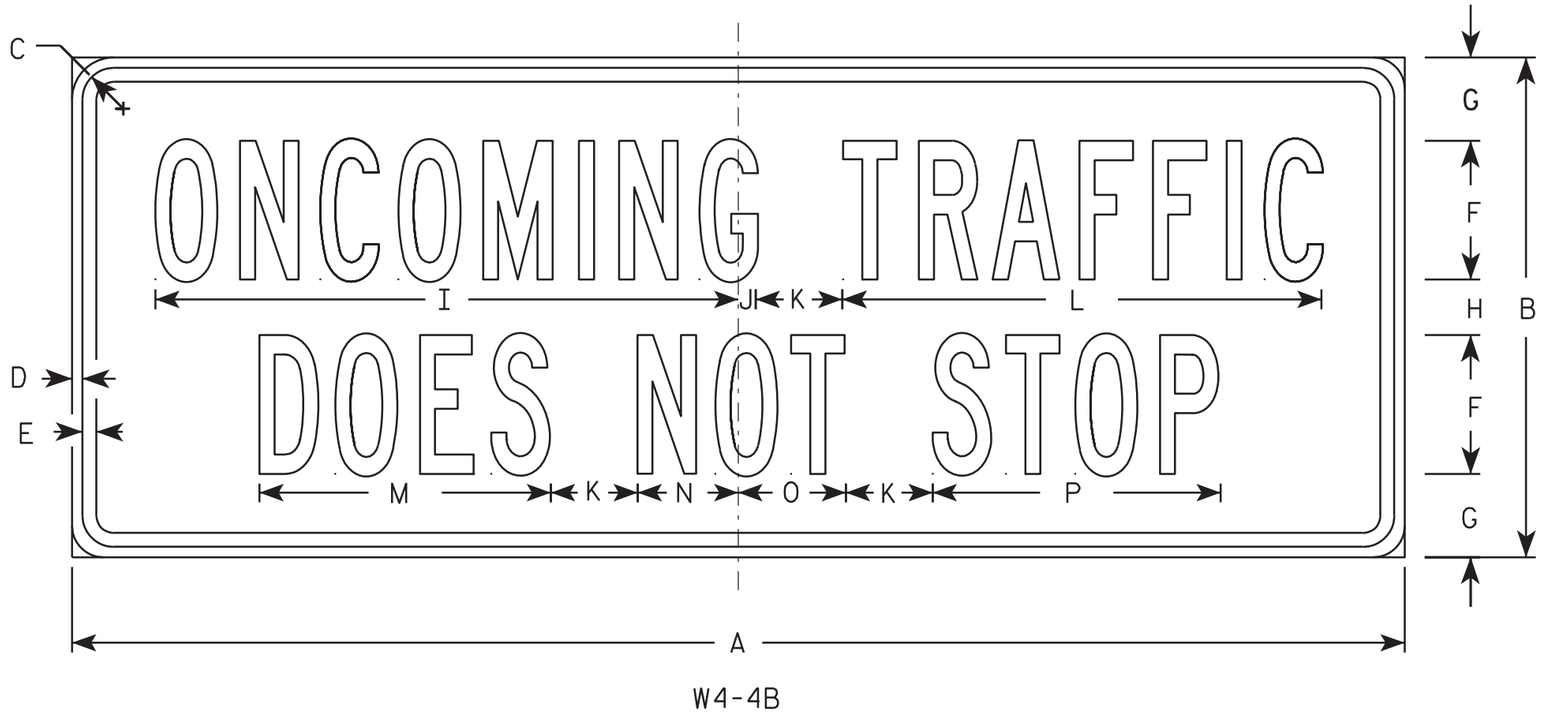
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-4A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 264 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W44A.DGN PLOT DATE : 12-MAR-2013 11:35 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.202372:1.000000

WISDOT/CADDS SHEET 42



W4-4B

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. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	12	1 1/8	3/8	1/2	3	2 1/4	1 1/2	12 3/8	5/8	1 1/2	10 3/8	6 1/4	2 1/4	2 1/4	6 1/4											2.5
2M	30	12	1 1/8	3/8	1/2	3	2 1/4	1 1/2	12 3/8	5/8	1 1/2	10 3/8	6 1/4	2 1/4	2 1/4	6 1/4											2.5
3	42	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	16 7/8	5/8	2 3/8	13 7/8	8 3/8	3	3 1/8	8 3/8											4.17
4	48	18	1 1/8	3/8	1/2	5	3	2	21	5/8	3 1/8	17 1/4	10 1/2	3 5/8	3 7/8	10 3/8											6.0
5																											

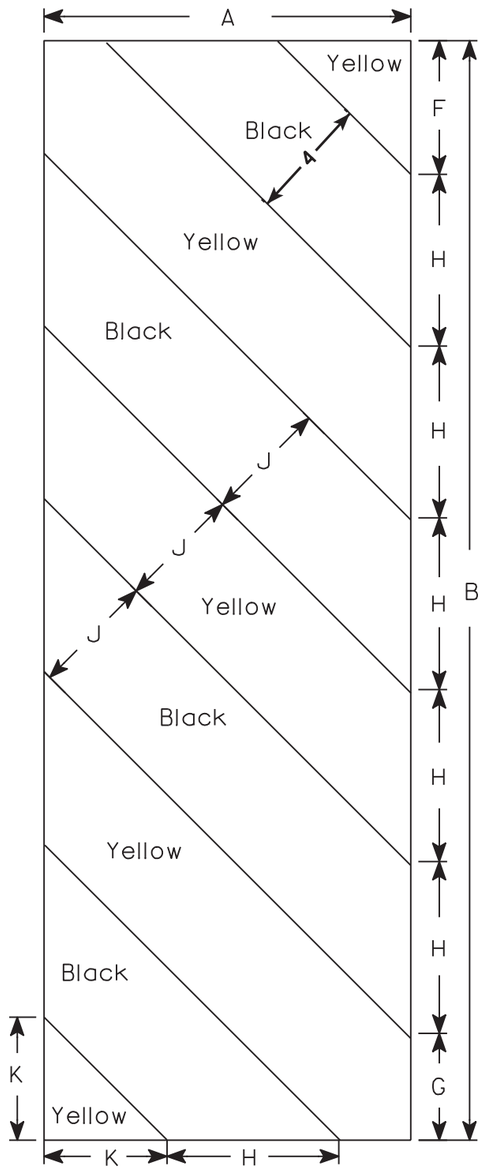
STANDARD SIGN
W4-4B

WISCONSIN DEPT OF TRANSPORTATION

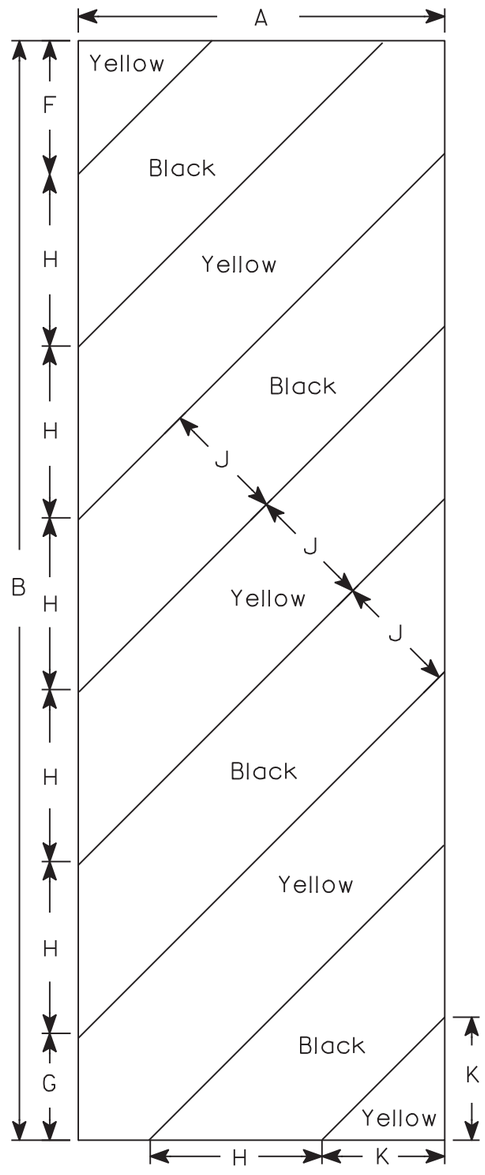
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-4B.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 265	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

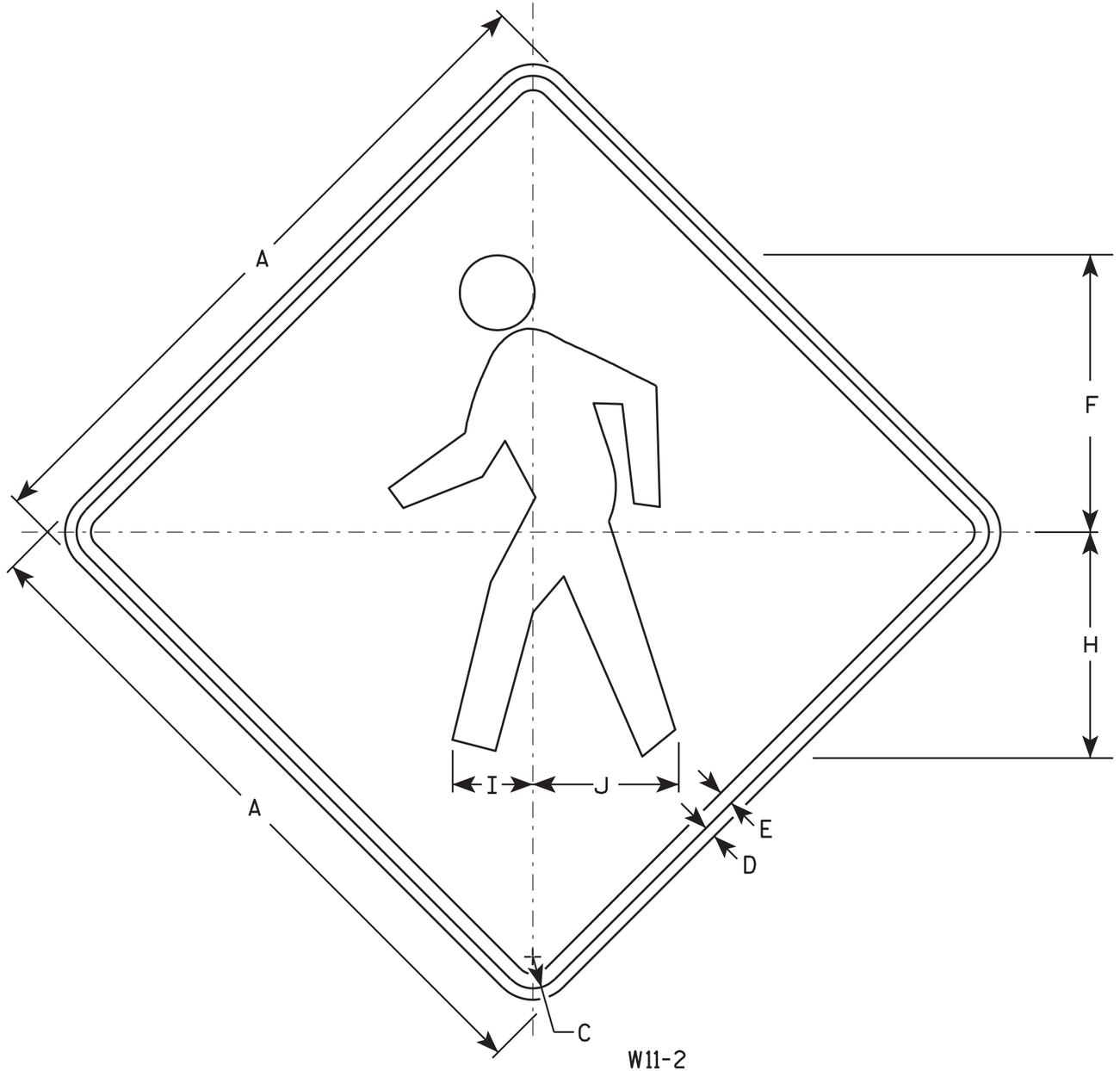
W5-52L & W5-52R

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: 266	E



W11-2

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 3/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		1 5/8	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		2 1/4	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

STANDARD SIGN
W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W11-2.7

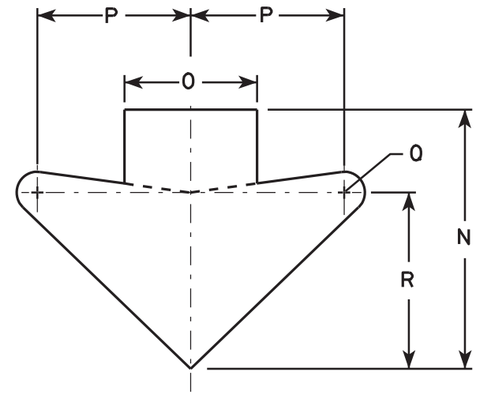
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 267	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W112.DGN PLOT DATE : 07-JUN-2010 13:29 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 5.700818:1.000000 WISDOT/CADDS SHEET 42

W12-52

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

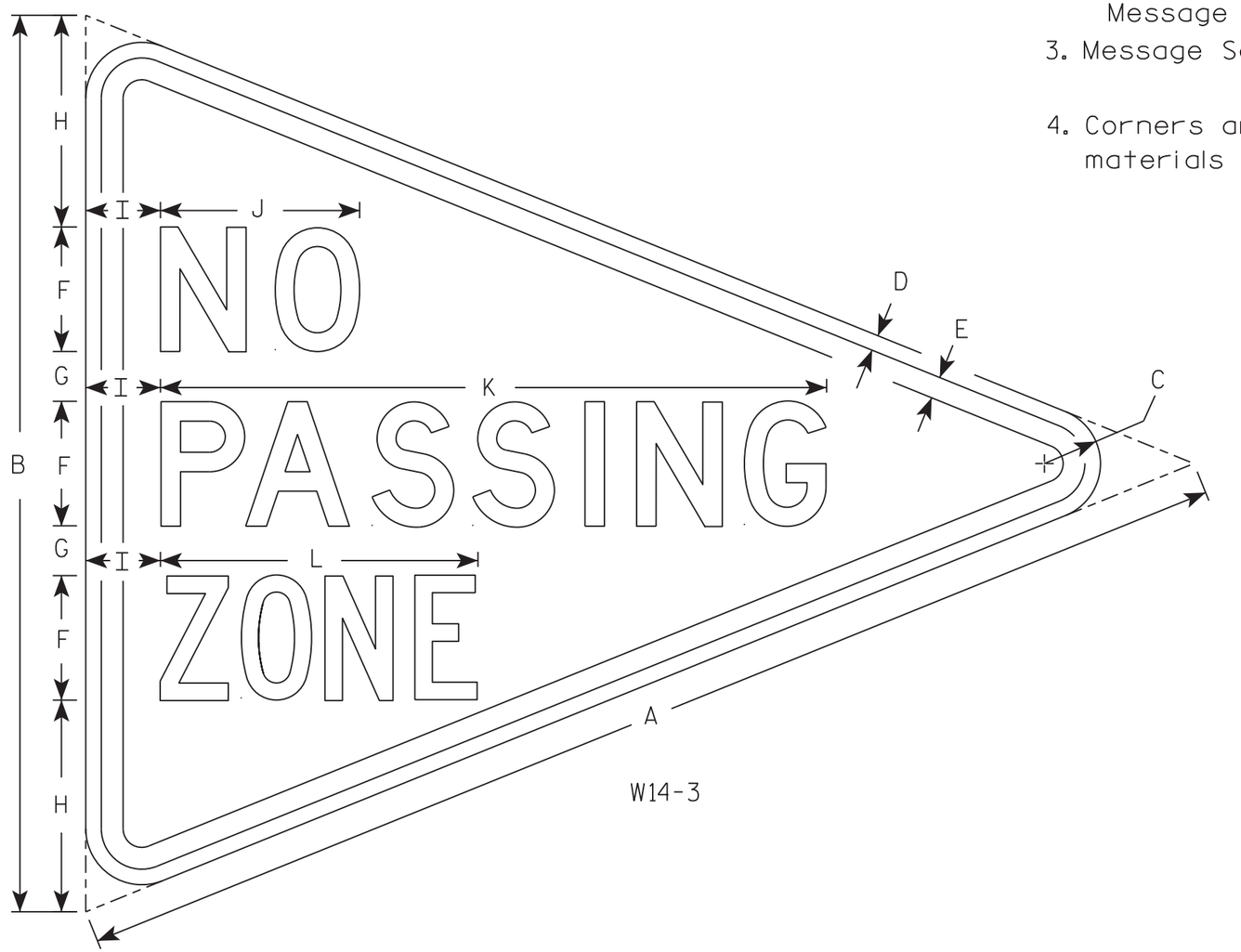
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 268	E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - Lines 1 and 2 are Series D.
   Line 3 is series C.
4. Corners and borders shall be rounded on all base materials for this sign.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															5.56
2M																											
3																											
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

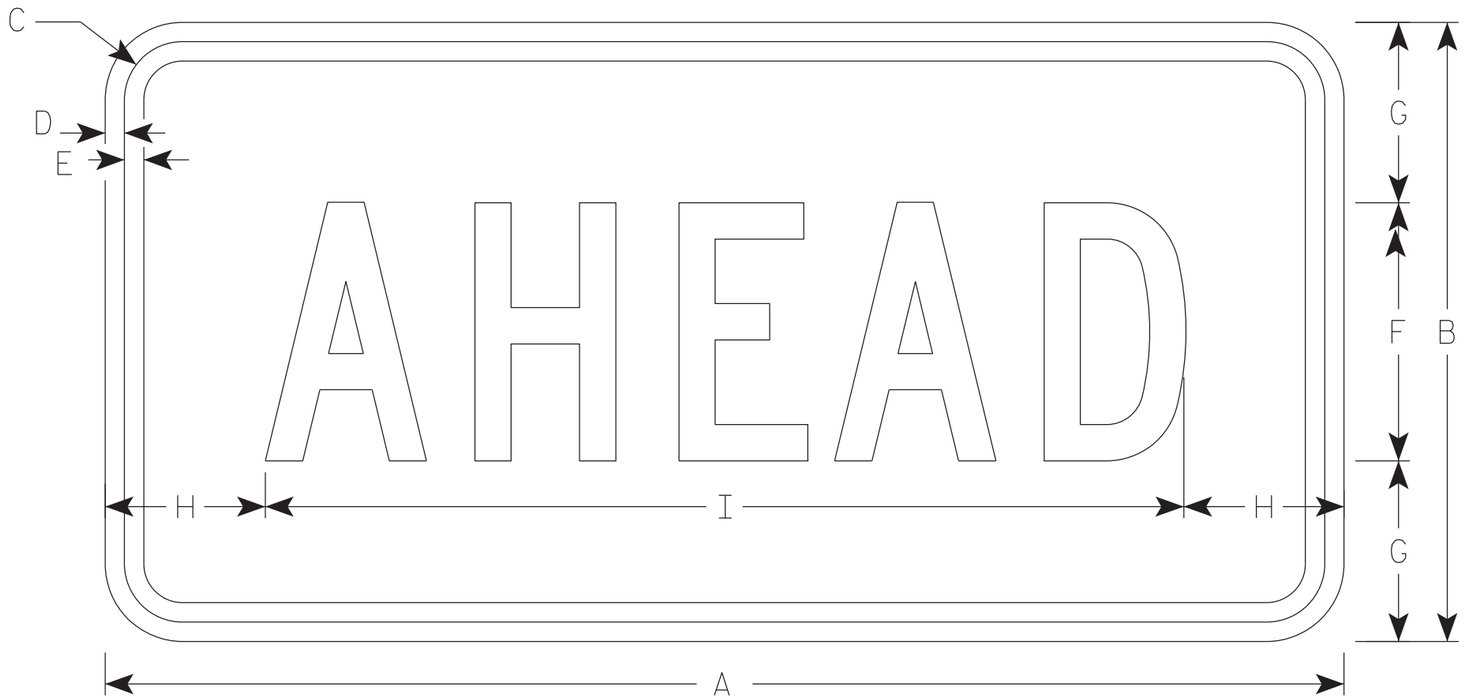
DATE 3/21/17 PLATE NO. W14-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 269 | E

7

NOTES

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



W16-9P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

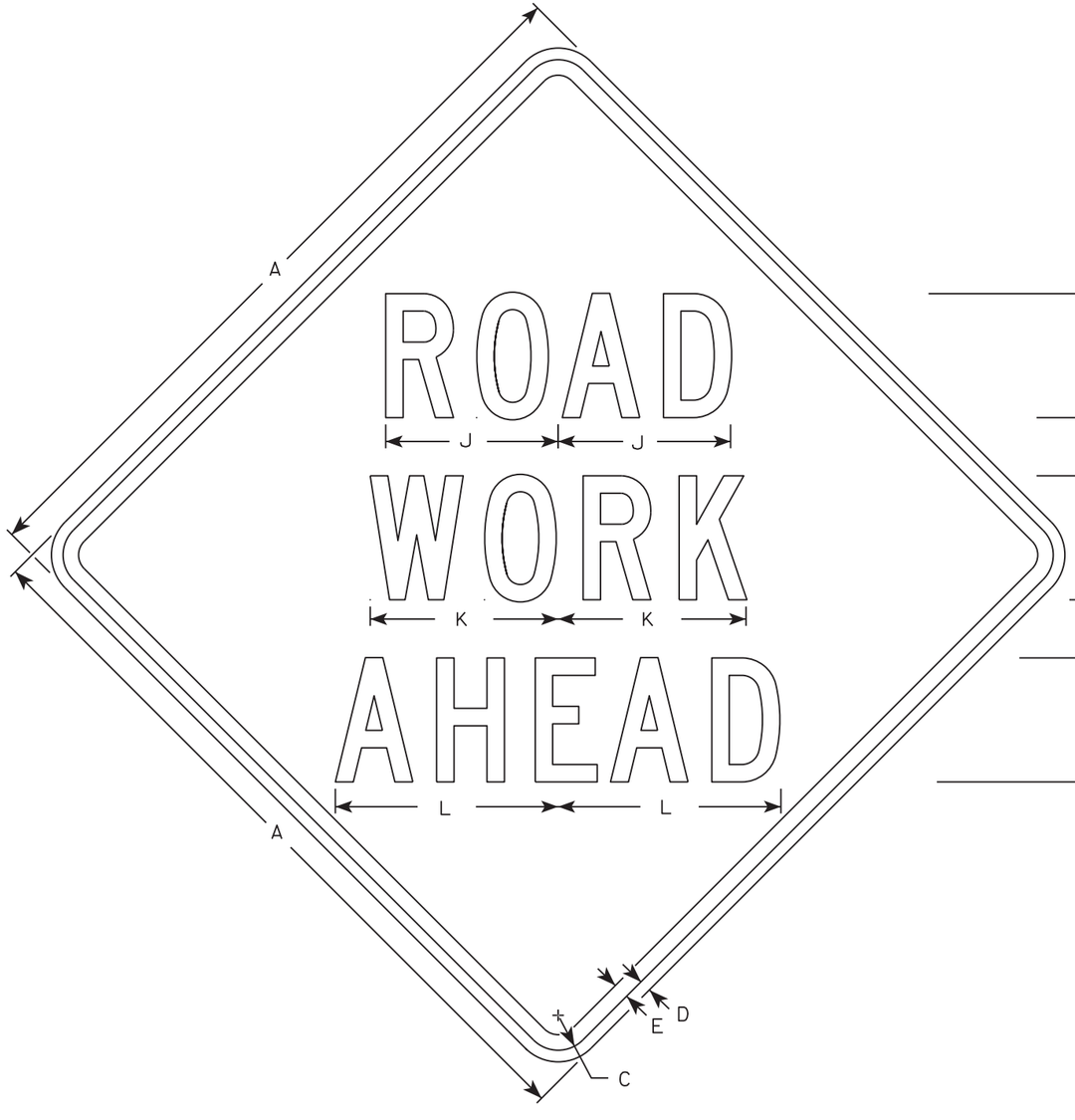
STANDARD SIGN
W16-9P

WISCONSIN DEPT OF TRANSPORTATION

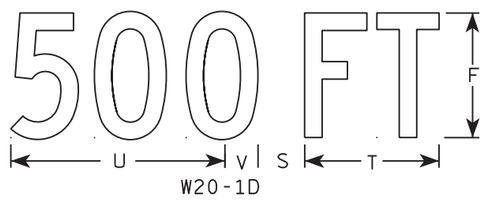
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/7/19 PLATE NO. W16-9P.7

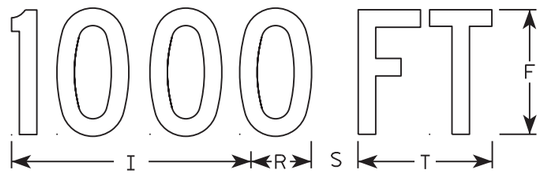
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 270 E



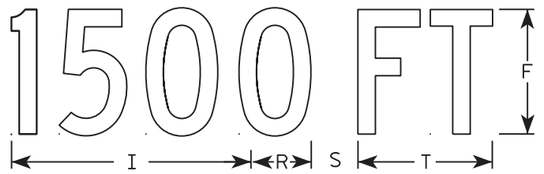
W20-1A



W20-1D



W20-1C



W20-1B

W20-1G

W20-1F

W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

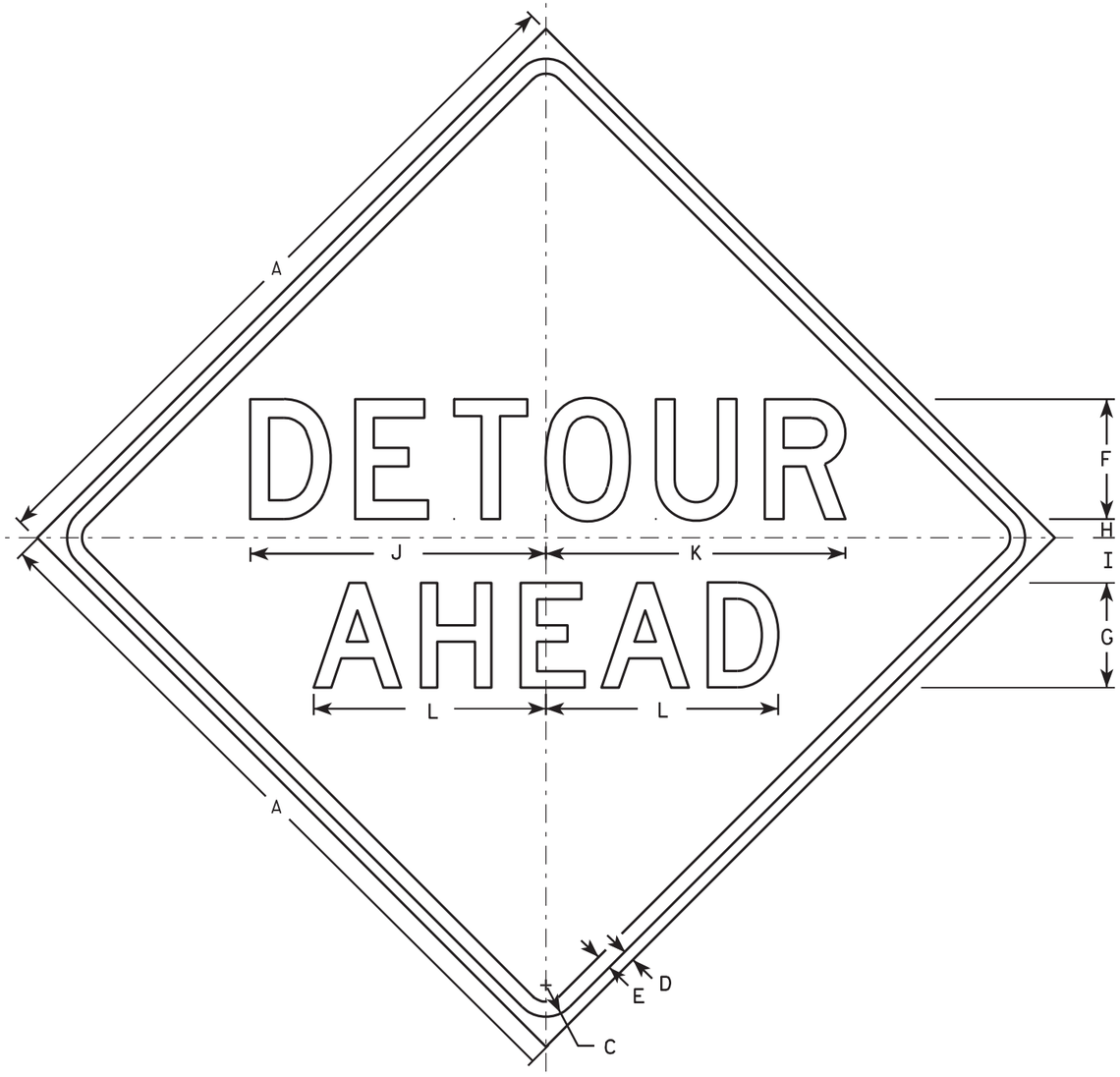
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

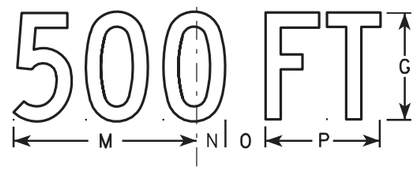
PROJECT NO:

SHEET NO: E

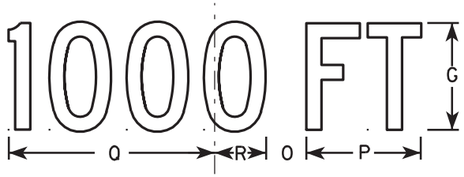
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



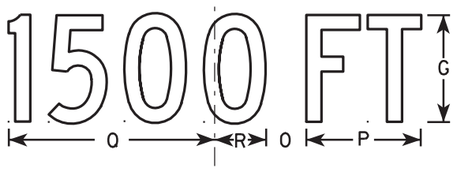
W20-2A



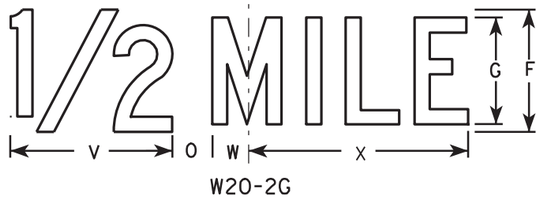
W20-2D



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

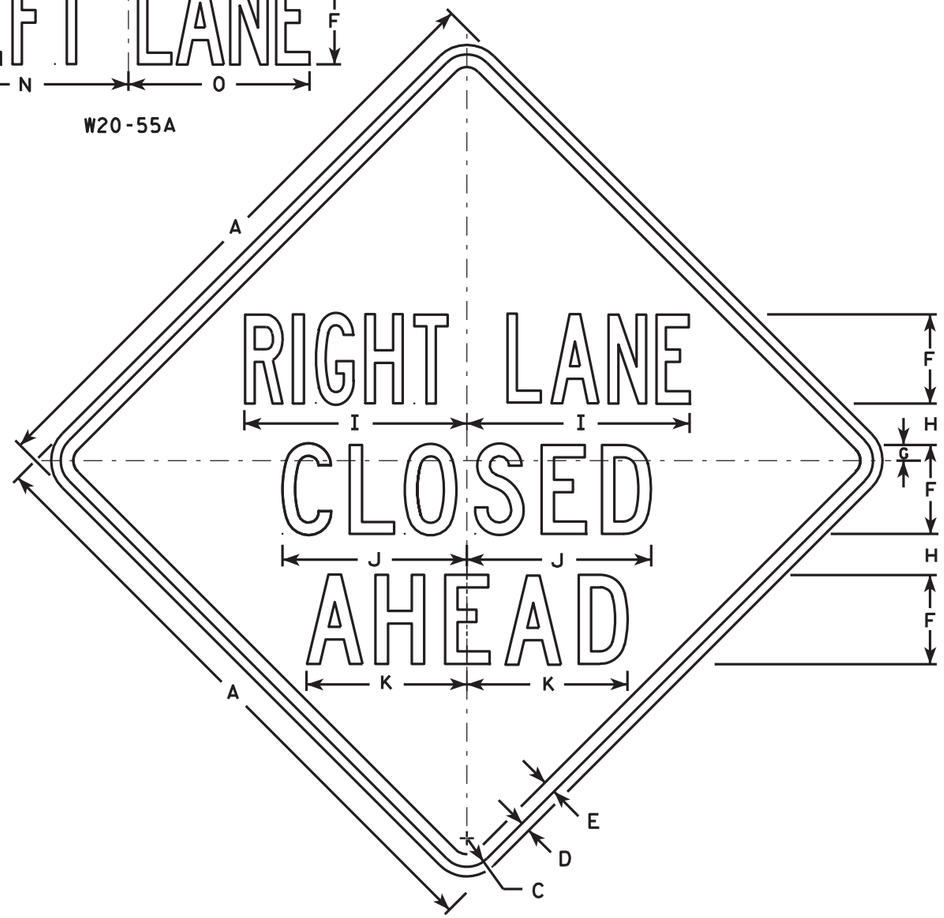
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

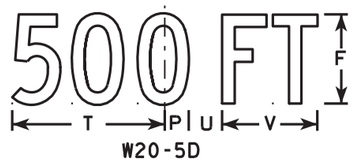
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 272	E

W20-56A

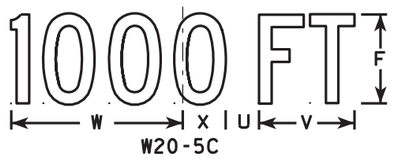
W20-55A



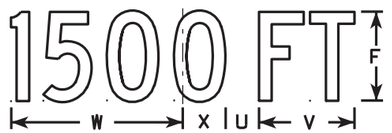
W20-5A



W20-5D



W20-5C



W20-5B

W20-5G

W20-5F

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	6	1 5/8	5/8	3/4	5	7/8	2 1/2	13 1/8	10 3/4	9 1/2	14 1/4	13 5/8	12	12	1 3/8	1 1/8	4 1/2	3 1/2	9	1 1/8	5 5/8	10 1/8	2 1/2	1 3/4	8	9.0
2S	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
2M	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
3	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
4	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0
5	48	8	2 1/4	3/4	1	7	1 1/4	3 1/4	17 1/2	14 3/8	12 5/8	19	18 3/8	16	14 1/4	1 7/8	1 1/2	6	4 5/8	12	2 5/8	7 1/2	13 1/2	3 3/8	2 3/8	10 5/8	16.0

STANDARD SIGN
W20-5A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

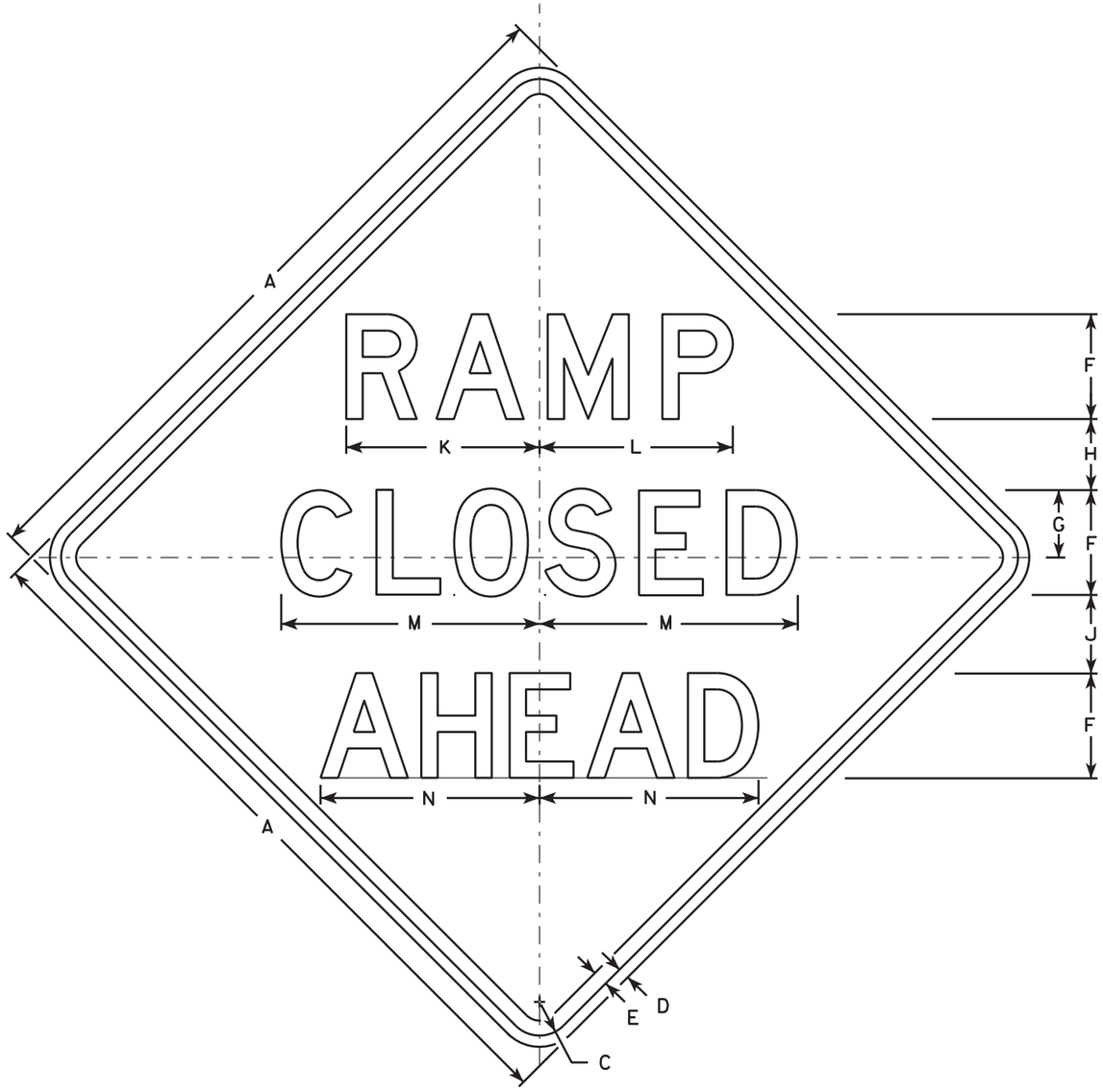
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-5.11

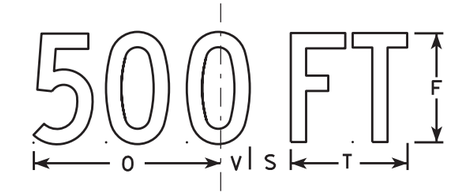
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 273 | E

7

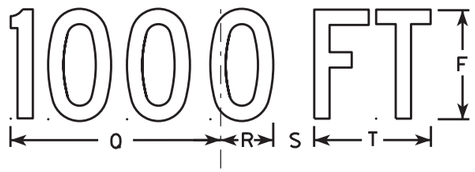
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W205.DGN PLOT DATE : 18-MAR-2011 12:15 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.918087:1.000000
WISDOT/CADDS SHEET 42



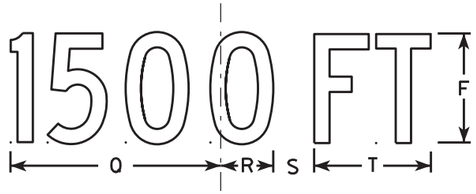
W20-53A



W20-53D



W20-53C



W20-53B

W20-53G

W20-53F

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. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

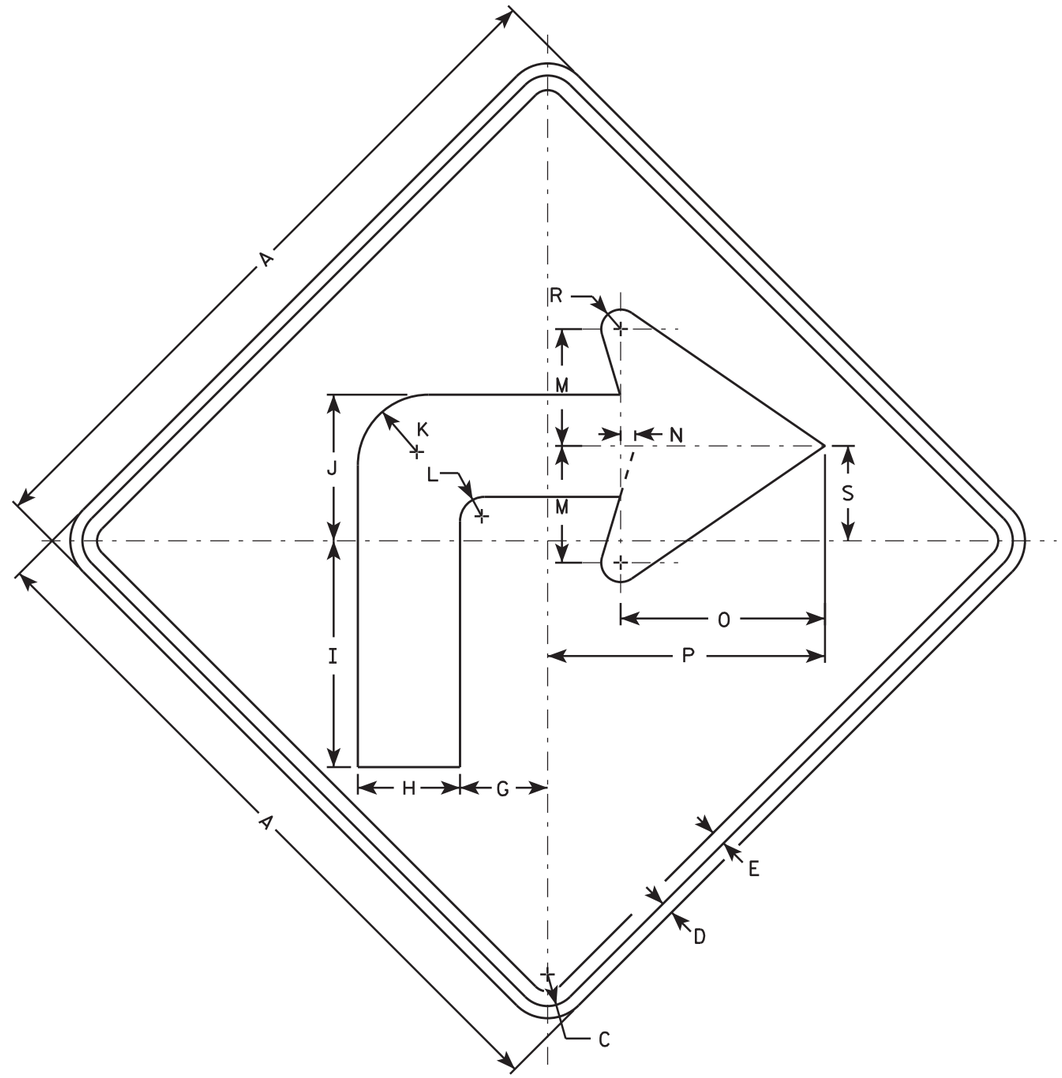
STANDARD SIGN
W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1

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



W01-1R

NOTES

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

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

STANDARD SIGN
W01-1

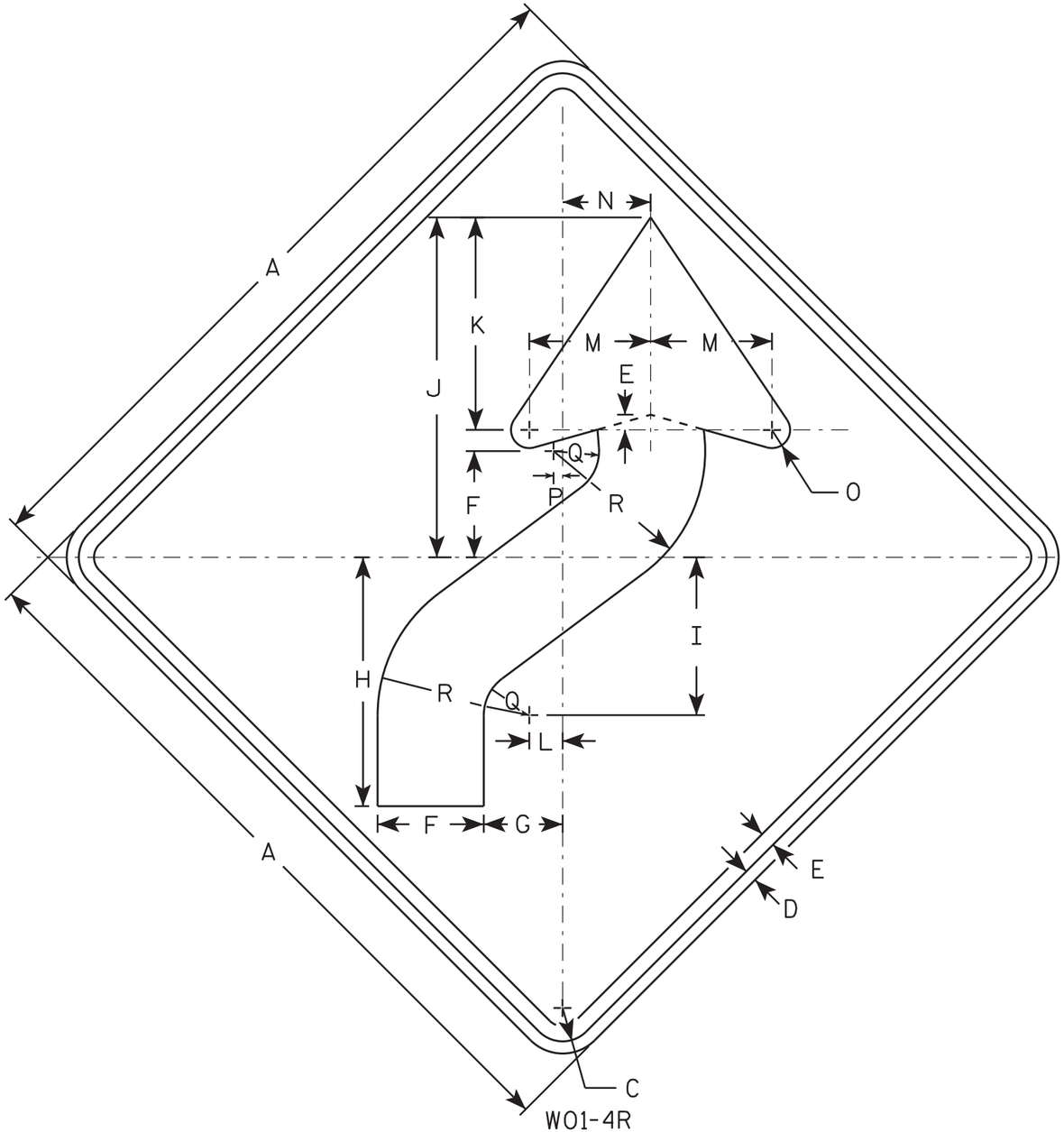
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-1.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W011.DGN PLOT DATE : 28-FEB-2014 11:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 7.783368:1.000000 WISDOT/CADDS SHEET 42



WO1-4R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. WO1-4L is the same as WO1-4R except the arrow is reversed along the vertical centerline.

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

STANDARD SIGN
WO1-4

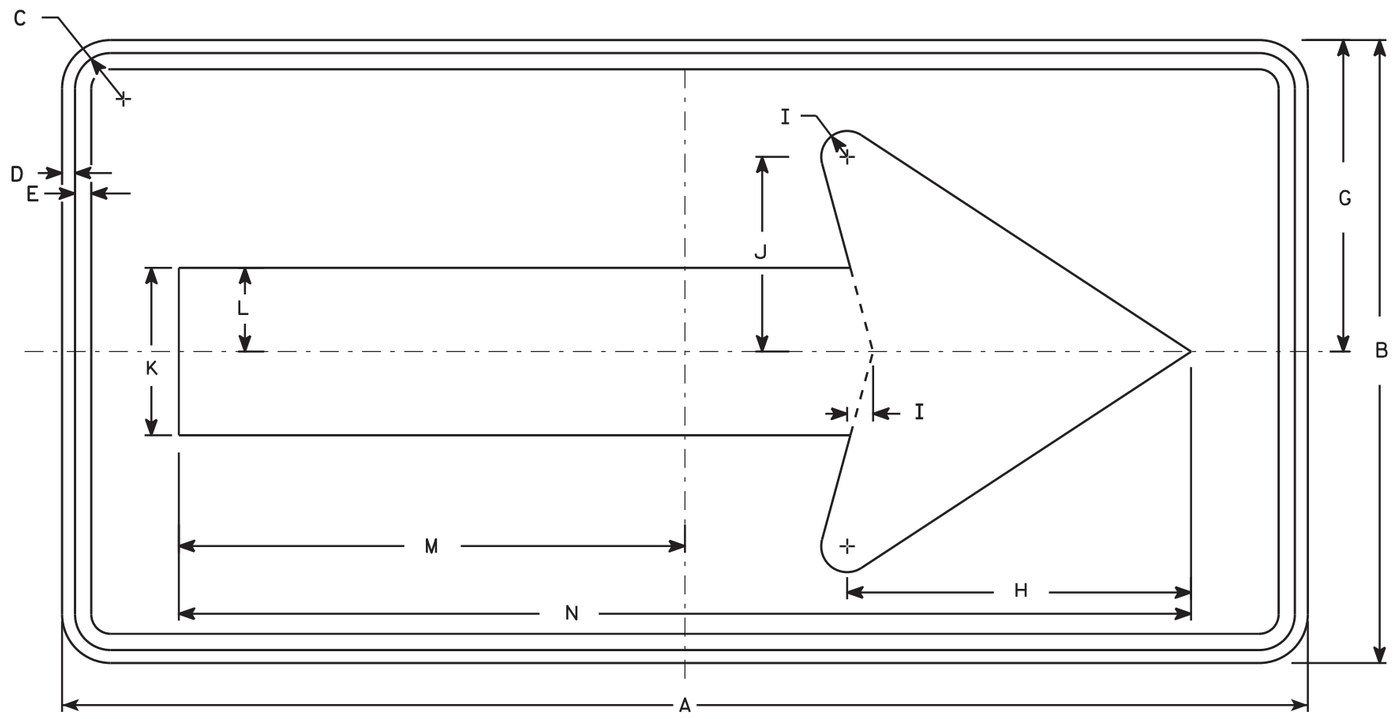
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO WO1-4.1

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\WO14.DGN PLOT DATE : 28-FEB-2014 11:35 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.755110:1.000000 WISDOT/CADDS SHEET 42



W01-6

NOTES

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

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

STANDARD SIGN
W01-6

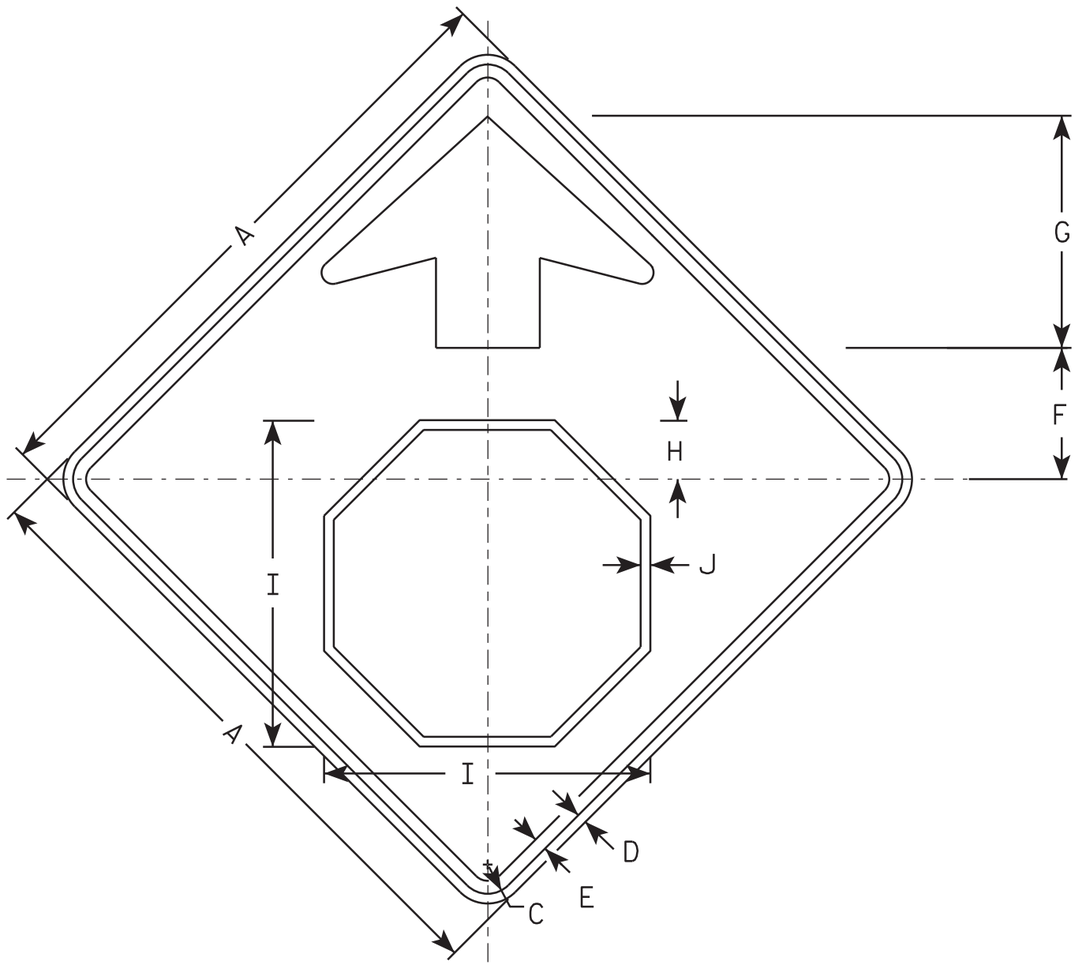
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1

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

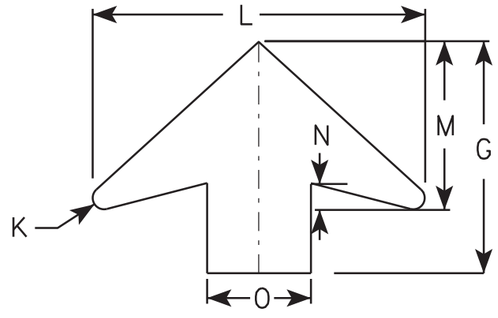
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W016.DGN PLOT DATE : 28-FEB-2014 11:37 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42



W03-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - ORANGE
   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	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
2S	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
2M	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
3	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
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
W03-1

WISCONSIN DEPT OF TRANSPORTATION

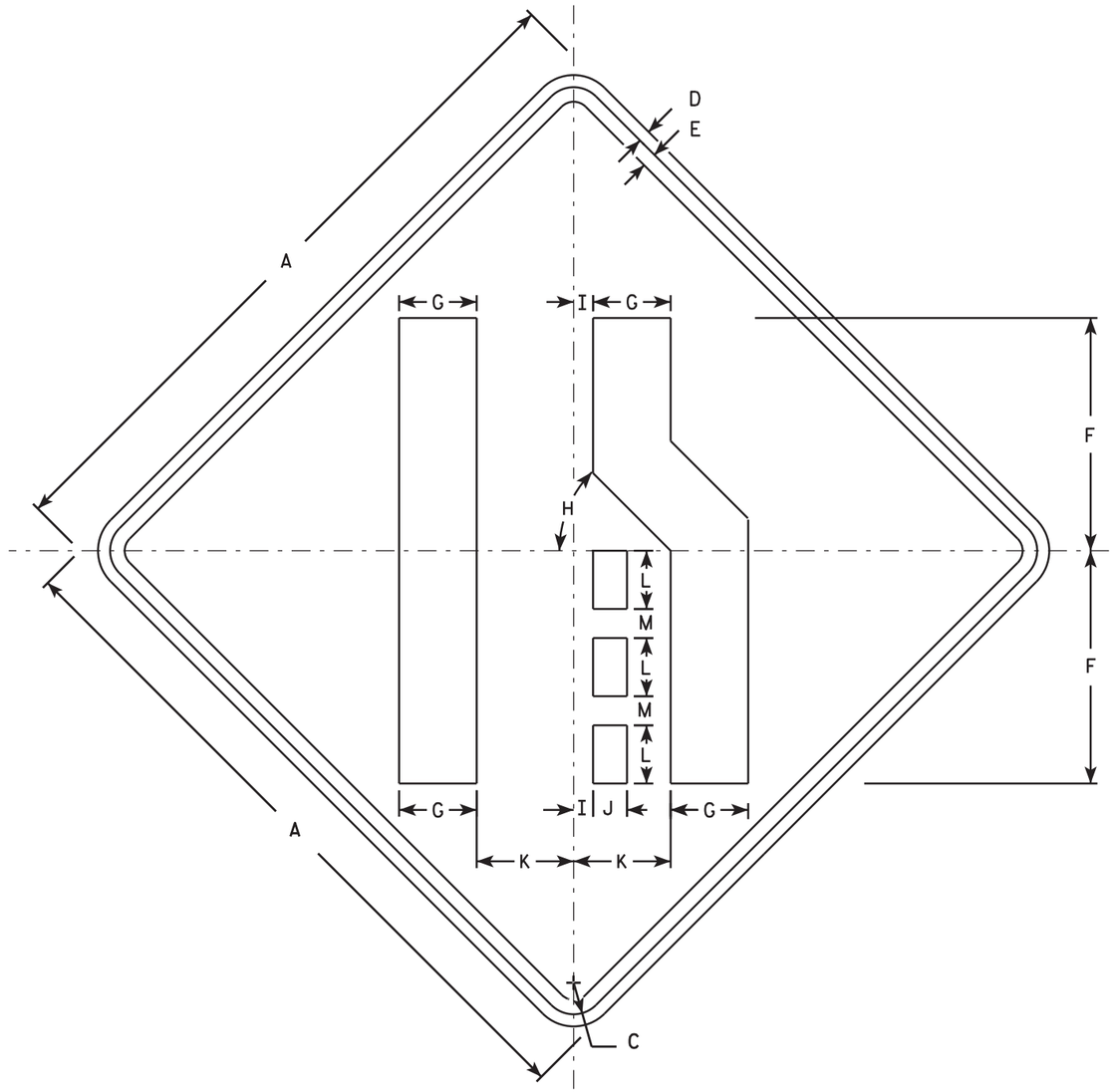
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 278 03-1.1

PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W031.DGN PLOT DATE : 20-NOV-2013 10:54 PLOT BY : mscsja

WISDOT/CADDS SHEET 42



W04-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	12	4	45°	1	1 3/4	5	3	1 1/2														9.0
2S	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
2M	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
3	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
4	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0
5	48		2 1/4	3/4	1	16	5 3/8	45°	1 1/4	2 3/8	6 3/4	4	2														16.0

STANDARD SIGN
W04-2

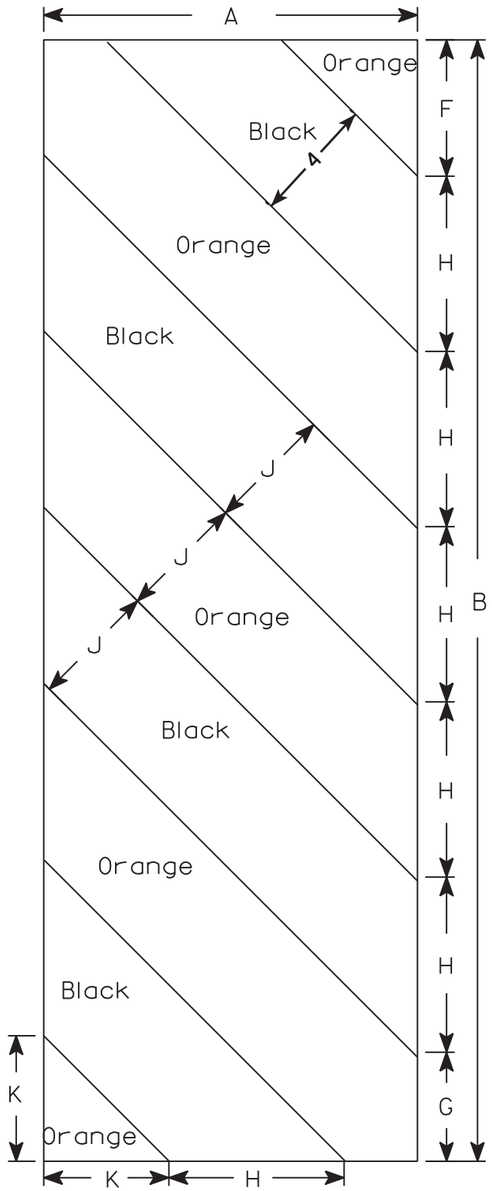
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

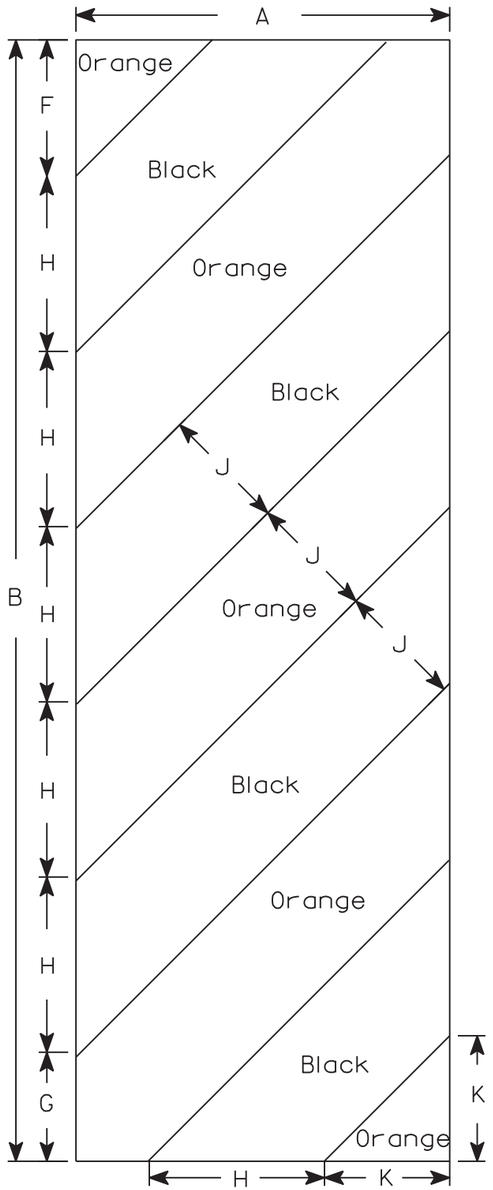
DATE 11/20/13 PLATE 279 W04-2.1

PROJECT NO:

SHEET NO: E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

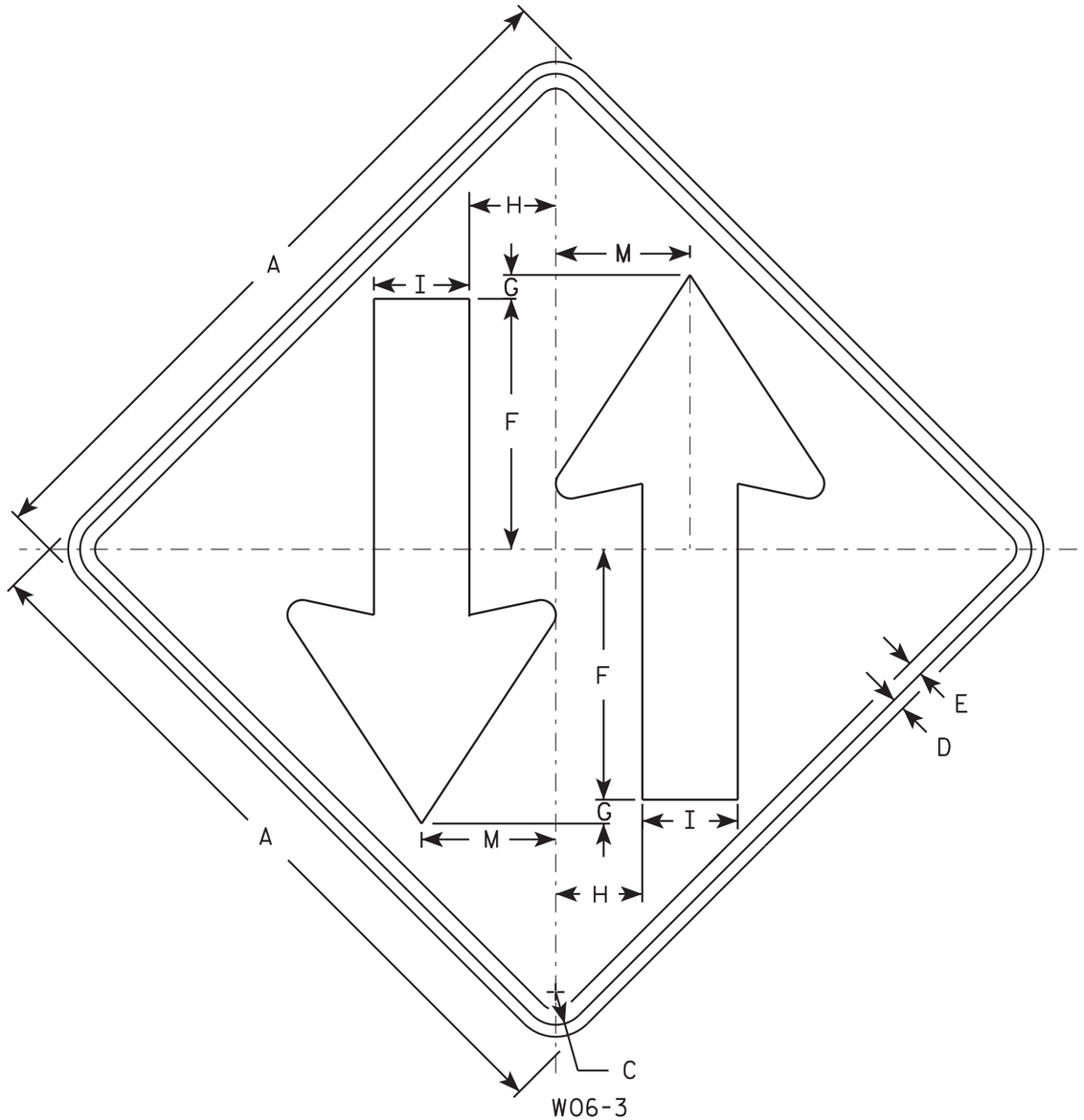
W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE No. W05-52.1

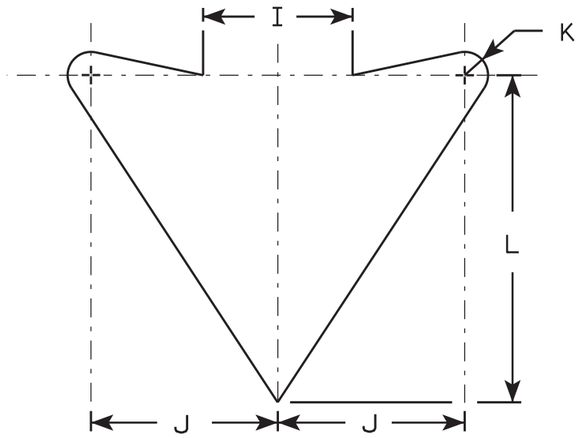
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W06-3

NOTES

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



ARROW DETAIL

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

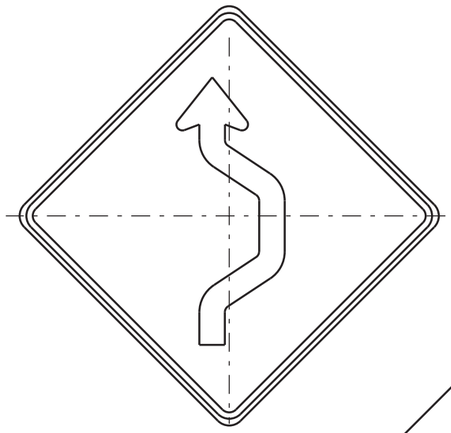
STANDARD SIGN
W06-3

WISCONSIN DEPT OF TRANSPORTATION

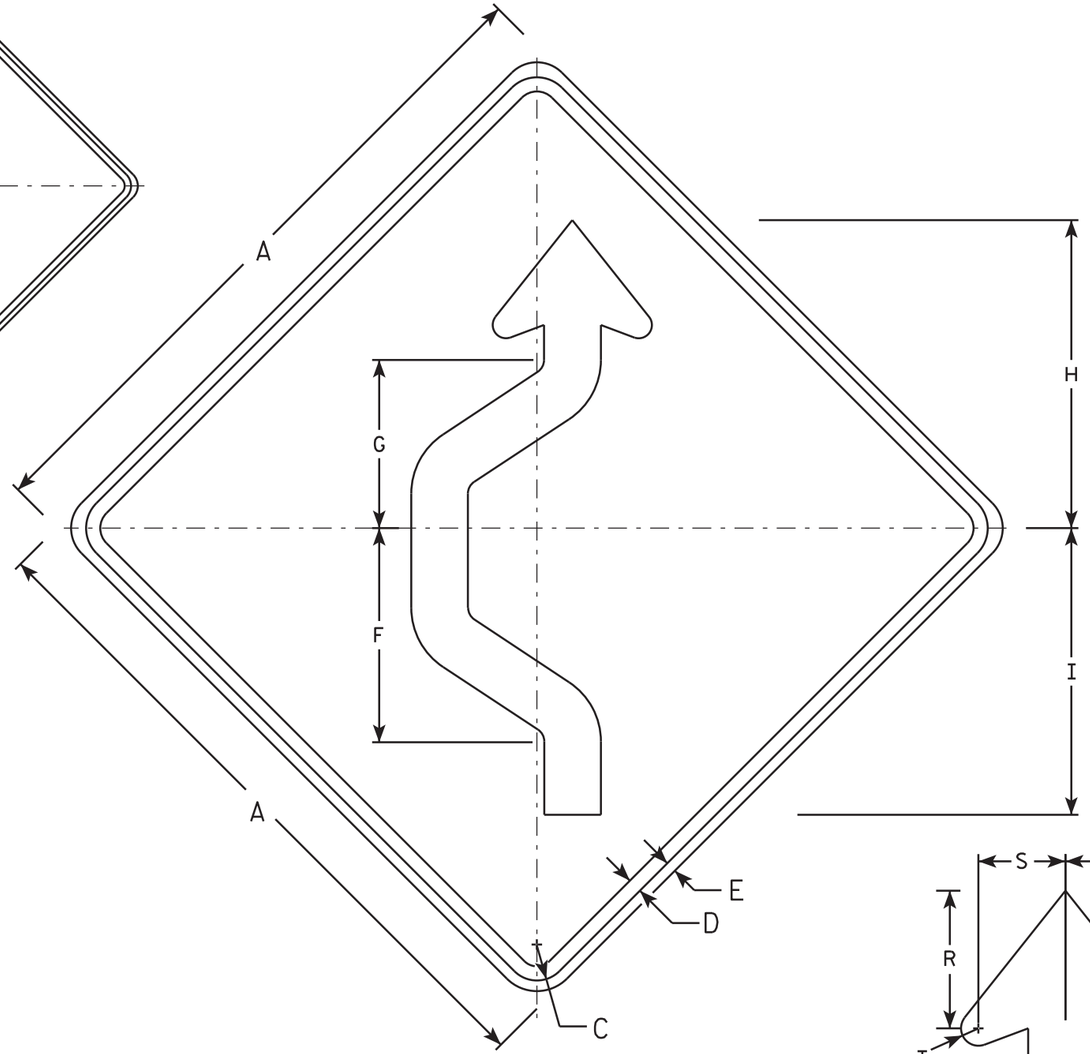
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 281 W06-3.1

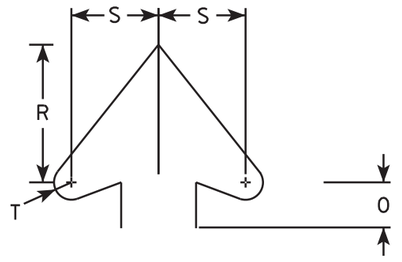
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



W024-1R



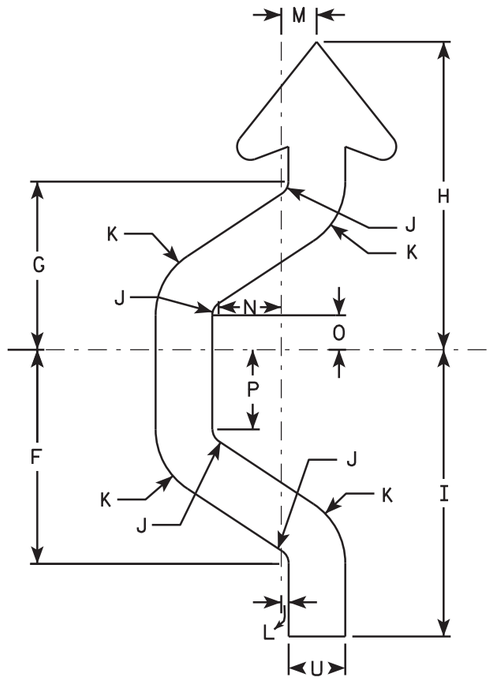
W024-1L



Arrowhead Detail

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W024-1R is the same as W024-1L except reversed along the vertical centerline.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	5/8	1/2	11 3/8	8 7/8	16 3/8	15 1/4	3/4	3 3/4	3/8	2	3 3/8	1 7/8	4 1/4		5 1/2	3 1/2	5/8	3						9
2S	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
2M	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
3	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
4	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16
5	48		2 1/4	1	3/4	15 1/8	11 7/8	21 3/4	20 1/4	1	5	1/2	2 1/2	4 3/8	2 3/8	5 5/8		7 3/8	4 3/4	7/8	4						16

STANDARD SIGN
W024-1 L & R

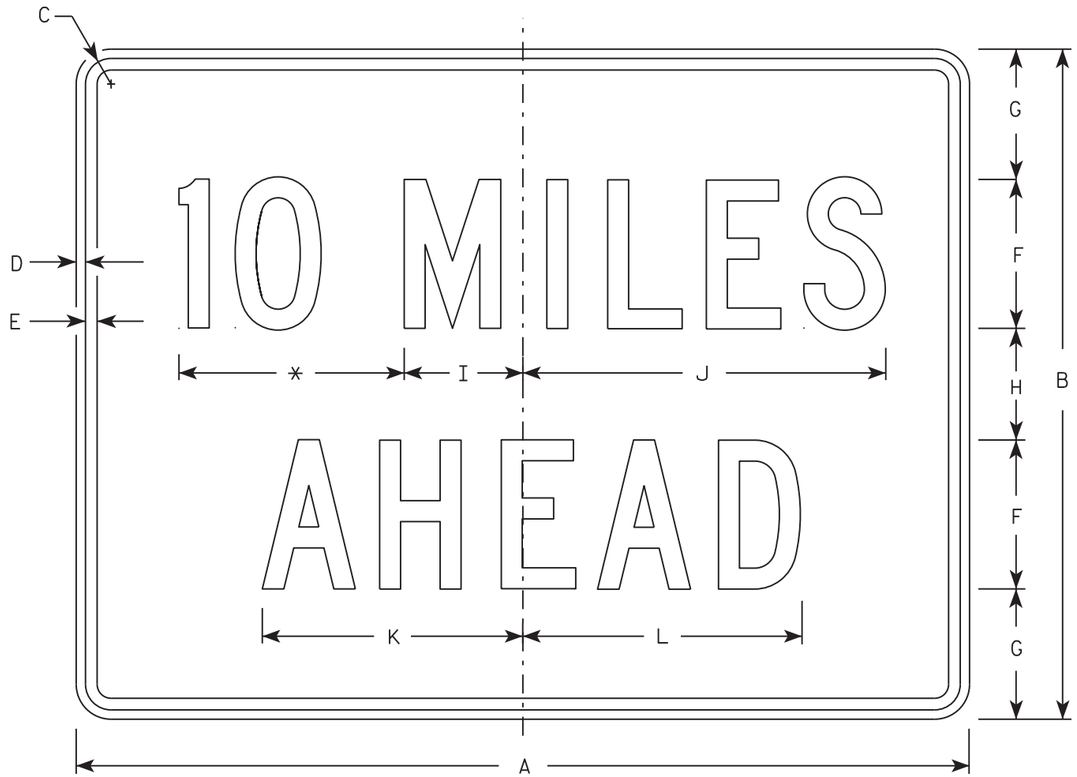
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

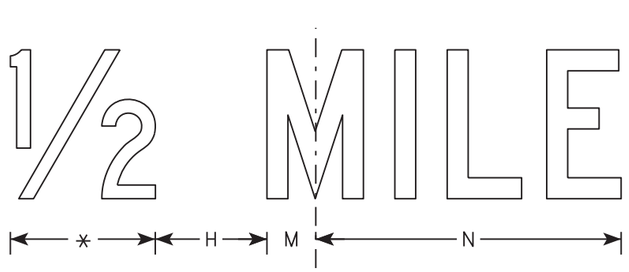
DATE 9/25/2013 PLATE NO. W024-1.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0241.DGN PLOT DATE : 25-SEP-2013 13:08 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 10.702132:1.000000 WISDOT/CADDS SHEET 42



W057-52



NOTES

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

* See note 5

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

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

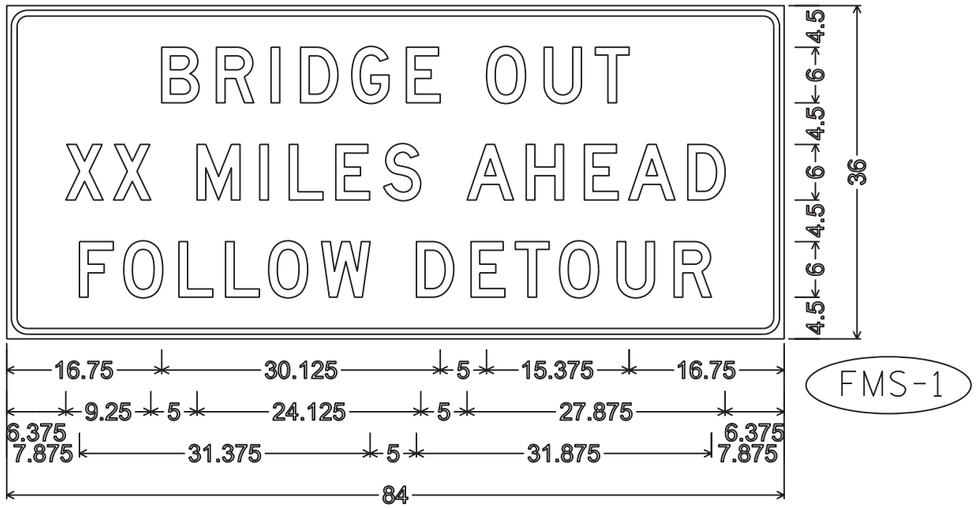
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 283	E

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



FMS-1

2.250" Radius, 0.625" Border, 0.500" Indent,

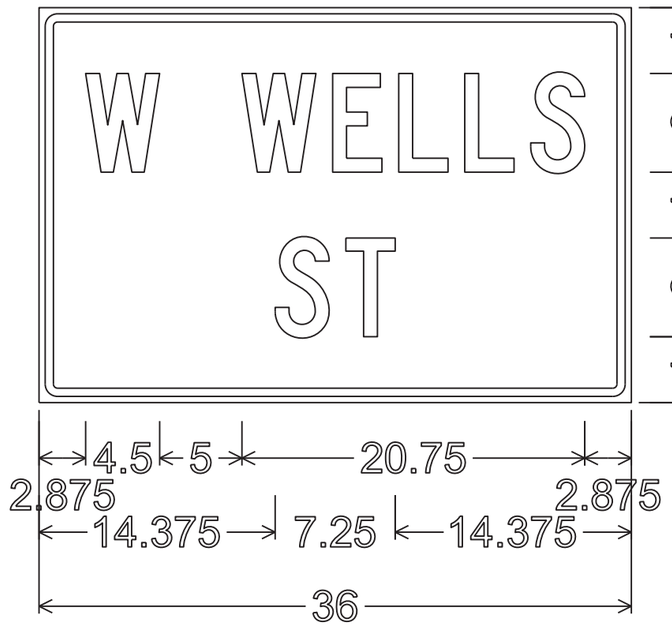
7

7

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: SE REGION	TEMPORARY SIGNING	SHEET NO: 284	E

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C

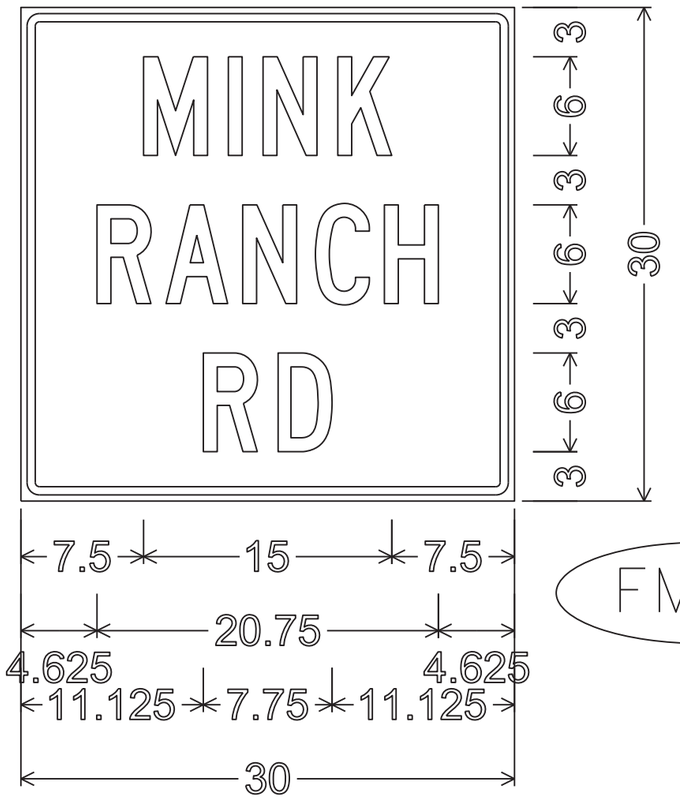


1.125" Radius, 0.500" Border, 0.375" Indent

FMS-2

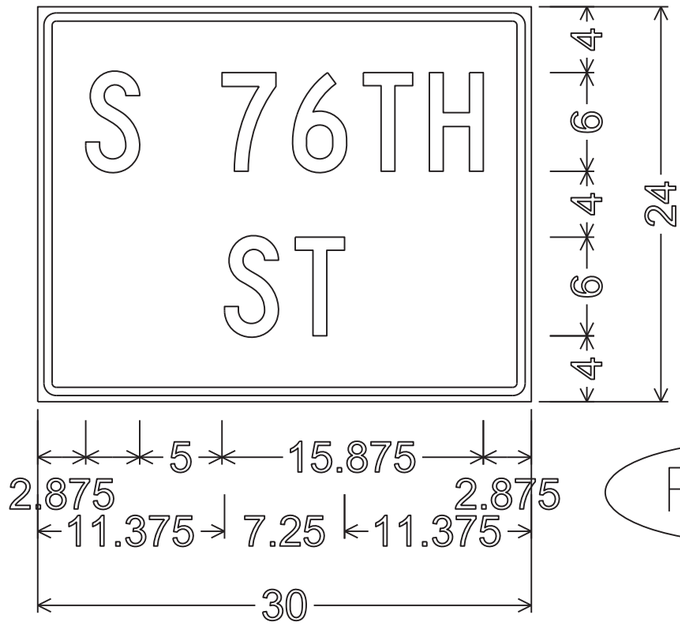
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



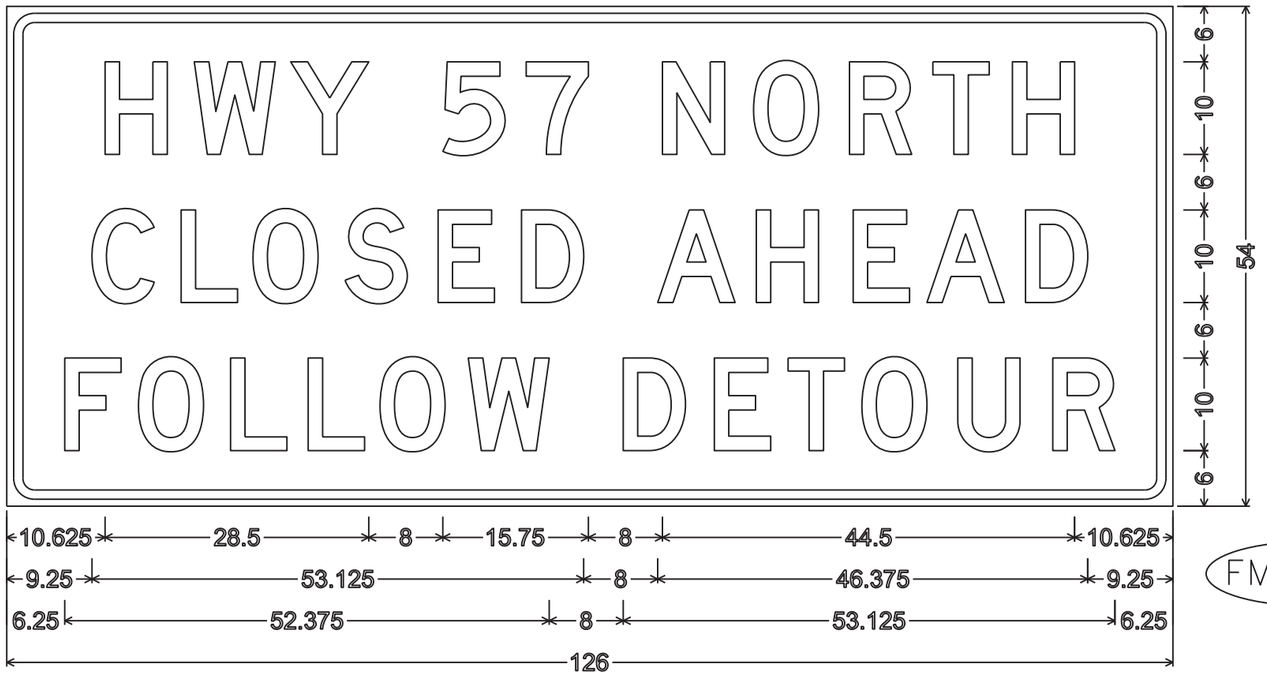
FMS-3

1.125" Radius, 0.500" Border, 0.375" Indent



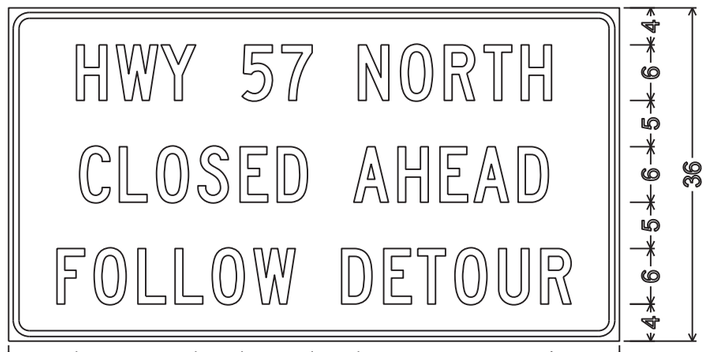
FMS-4

1.125" Radius, 0.500" Border, 0.375" Indent



FMS-57-2

3.000" Radius, 1.000" Border, 0.750" Indent,
"HWY" D; "57" D; "NORTH" D; "CLOSED" D; "AHEAD" D; "FOLLOW" D; "DETOUR" D

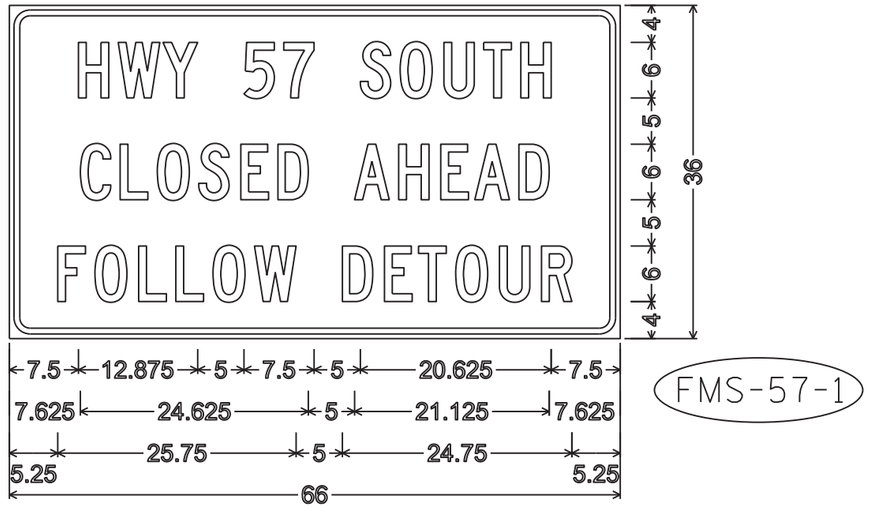


FMS-57-3

2.250" Radius, 0.625" Border, 0.500" Indent

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C except as noted



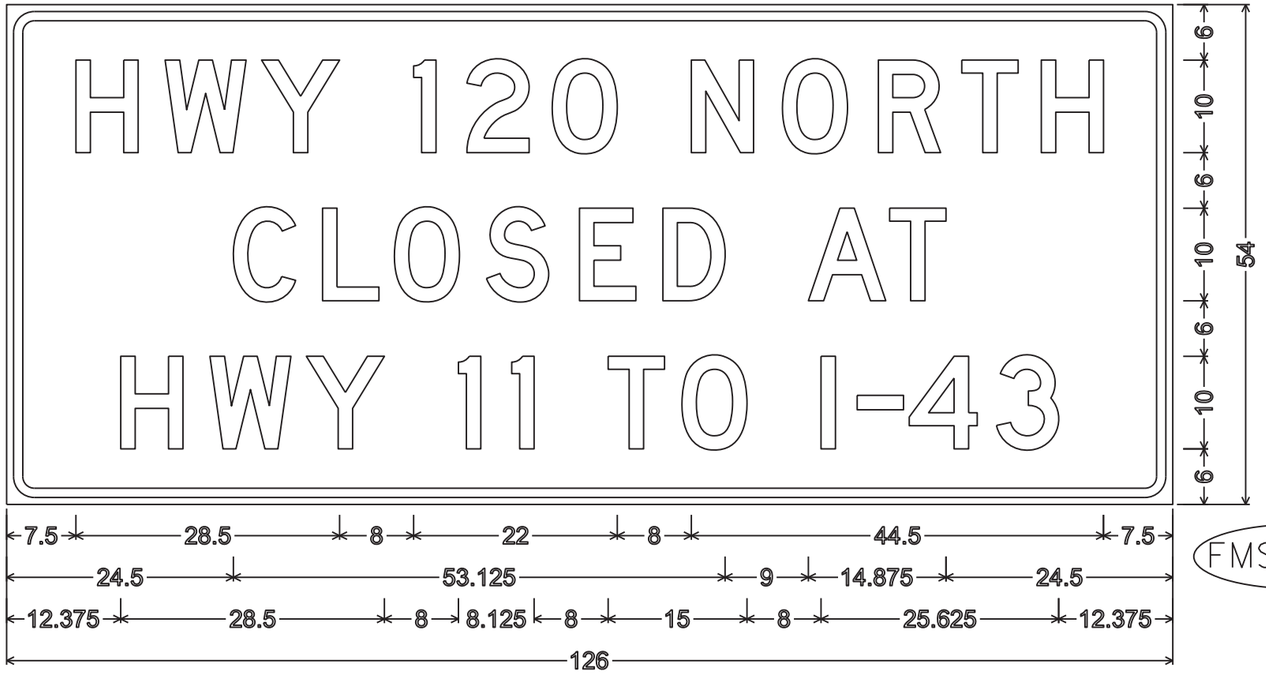
FMS-57-1

2.250" Radius, 0.625" Border, 0.500" Indent

7

7

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	TEMPORARY SIGNING	SHEET NO: 287	E

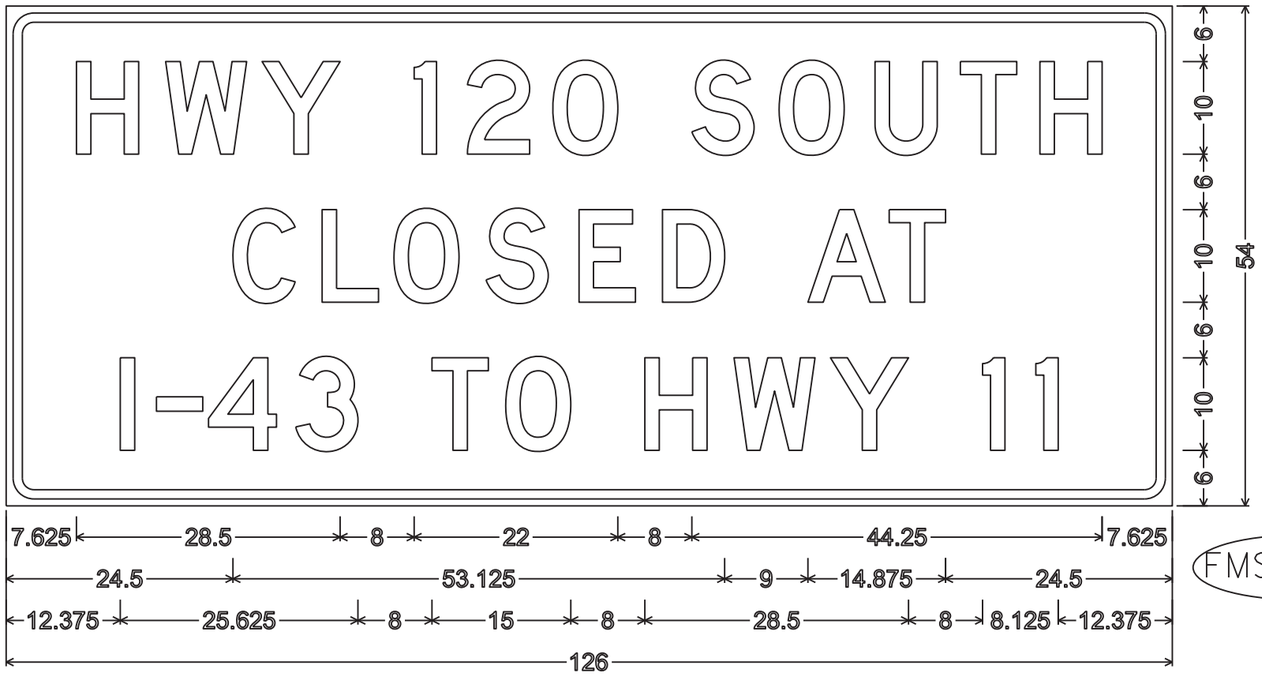


3.000" Radius, 1.000" Border, 0.750" Indent

FMS-120-1

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



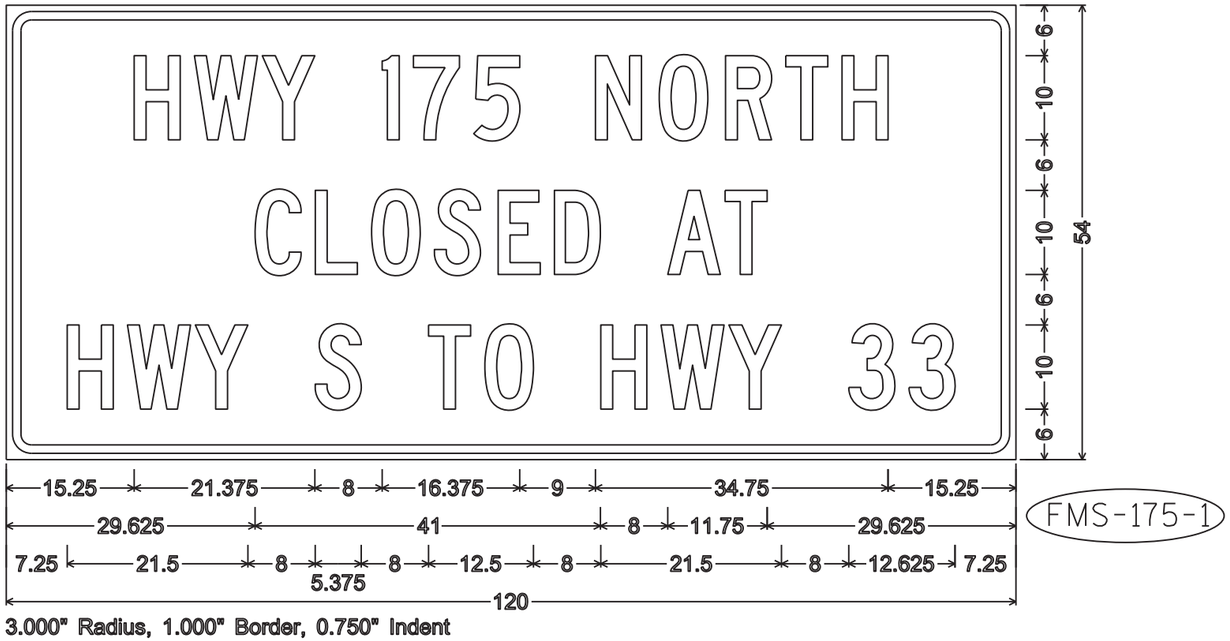
3.000" Radius, 1.000" Border, 0.750" Indent

FMS-120-2

7

7

PROJECT NO: 1000-51-72	HWY: VARIOUS BRIDGES	COUNTY: WALWORTH	TEMPORARY SIGNING	SHEET NO: 288	E

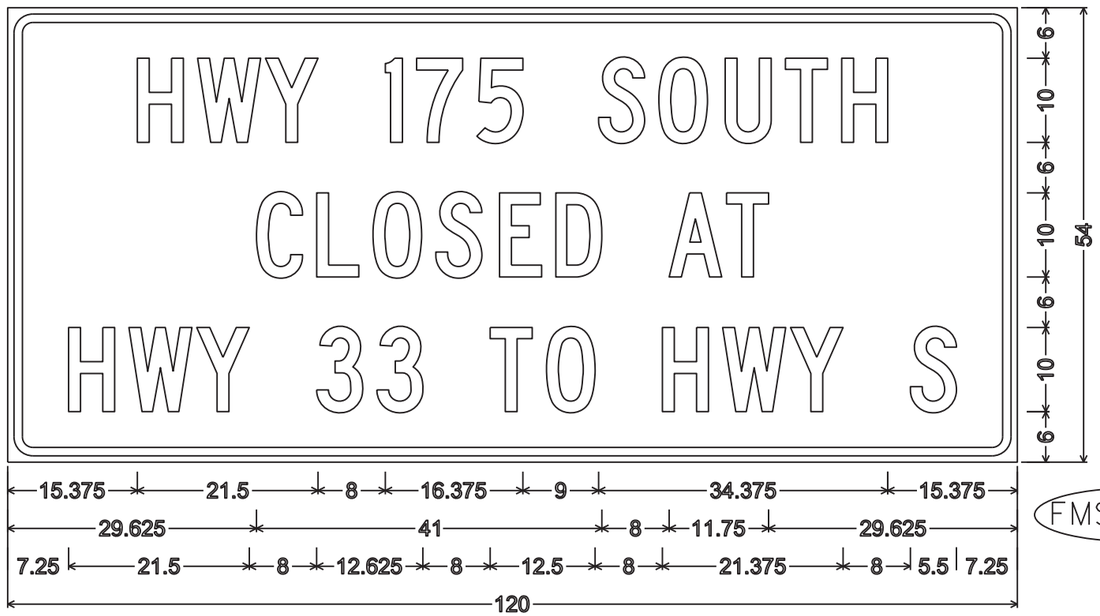


3.000" Radius, 1.000" Border, 0.750" Indent

FMS-175-1

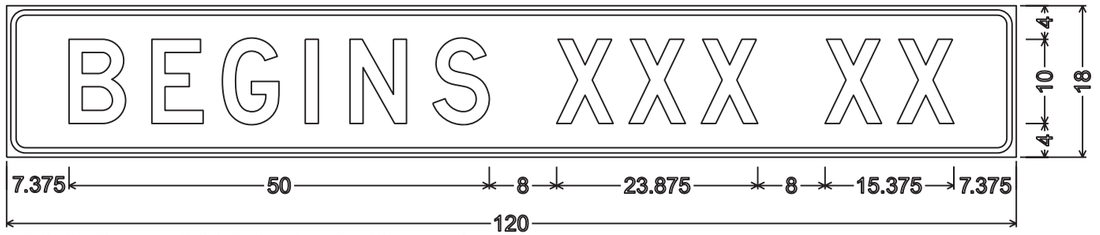
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C except as noted



3.000" Radius, 1.000" Border, 0.750" Indent

FMS-175-2

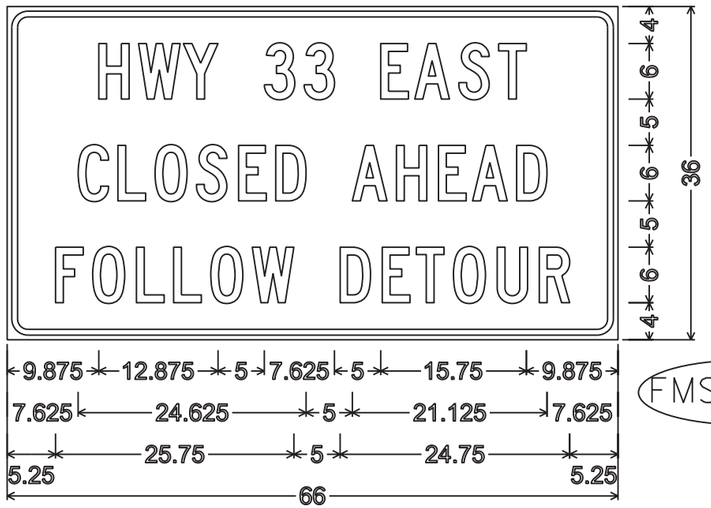


2.250" Radius, 0.625" Border, 0.500" Indent,
"BEGINS" D; "XXX" D; "XX" D

FMS-5

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



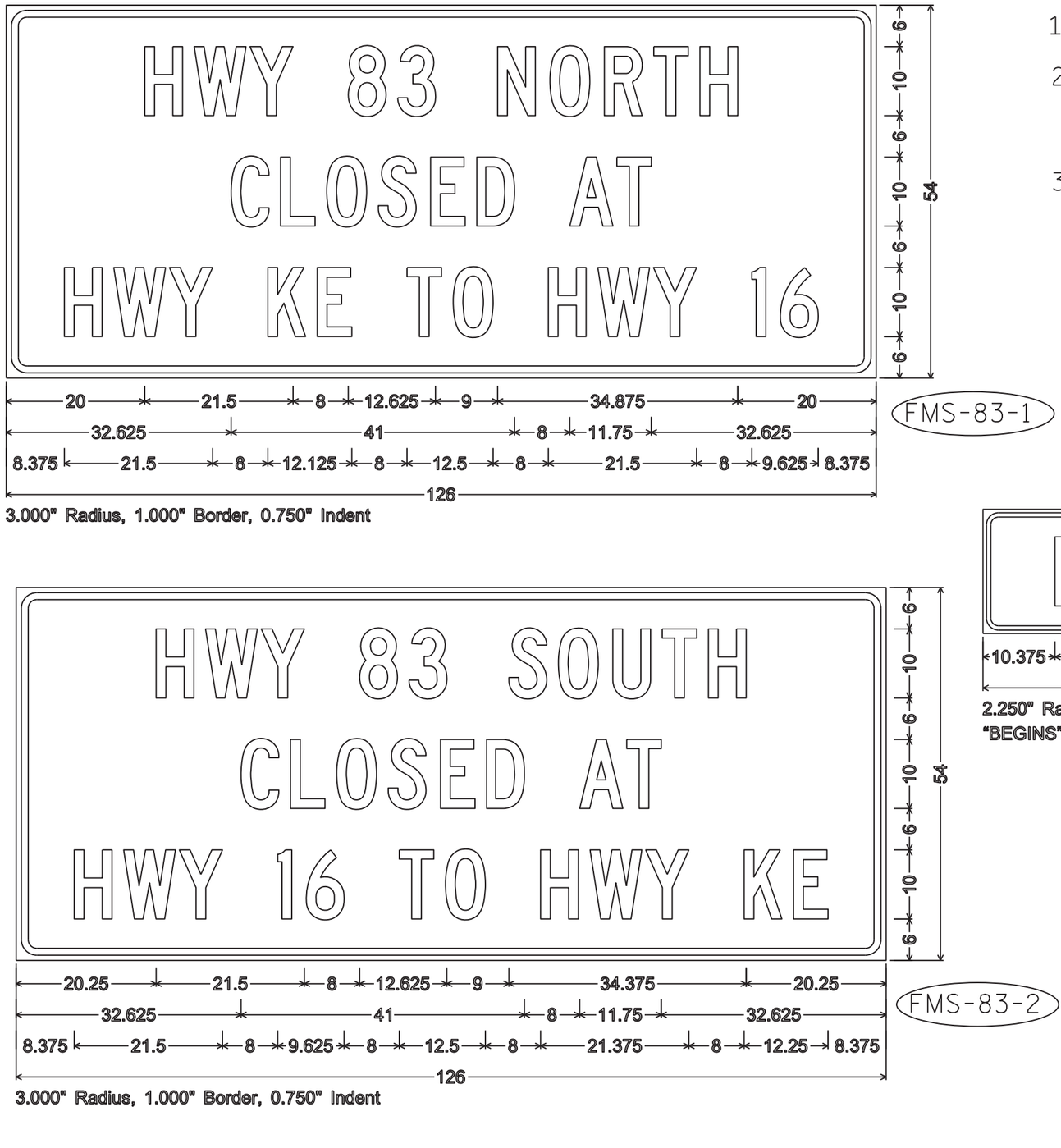
2.250" Radius, 0.625" Border, 0.500" Indent

FMS-33-1

7

7

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	TEMPORARY SIGNING	SHEET NO: 290	E



3.000" Radius, 1.000" Border, 0.750" Indent

FMS-83-1

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C except as noted

2.250" Radius, 0.625" Border, 0.500" Indent,
"BEGINS" D; "XXX" D; "XX" D

FMS-5

3.000" Radius, 1.000" Border, 0.750" Indent

FMS-83-2

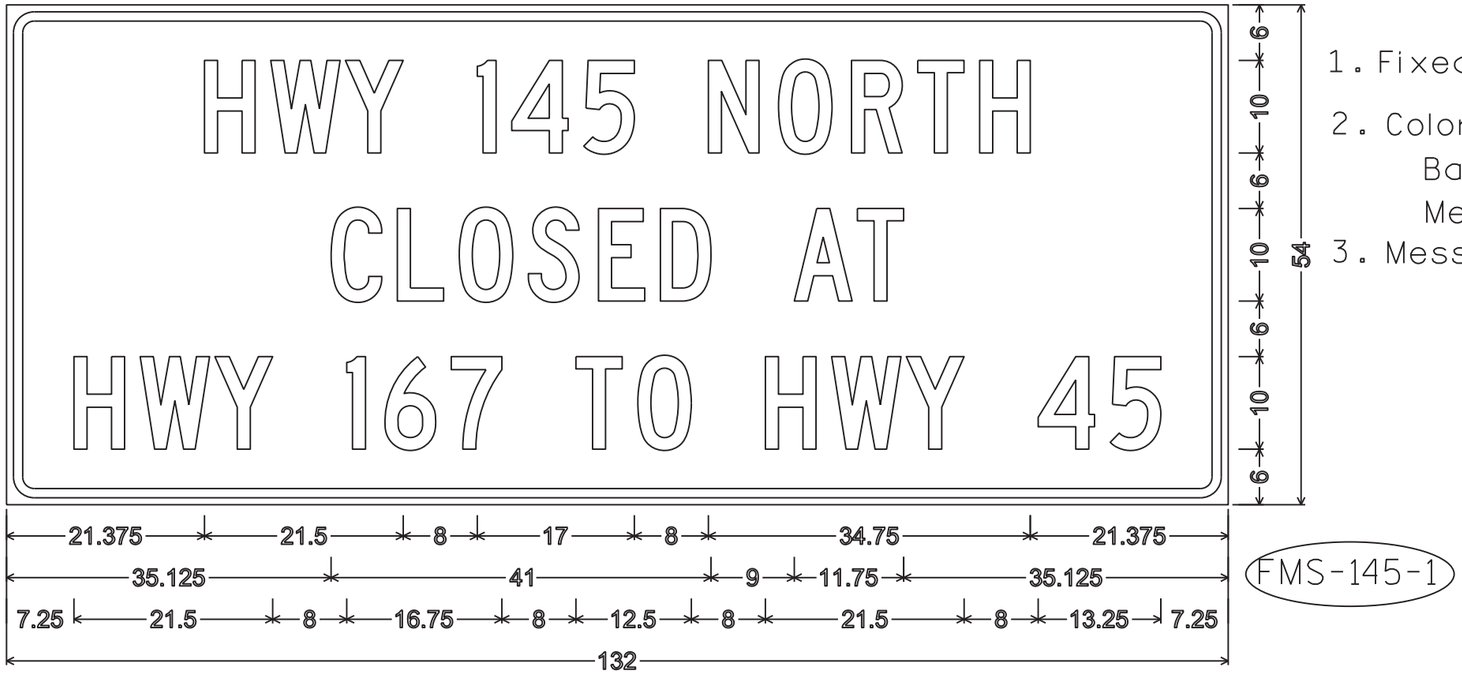
7

7

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TEMPORARY SIGNING	SHEET NO: 291	E

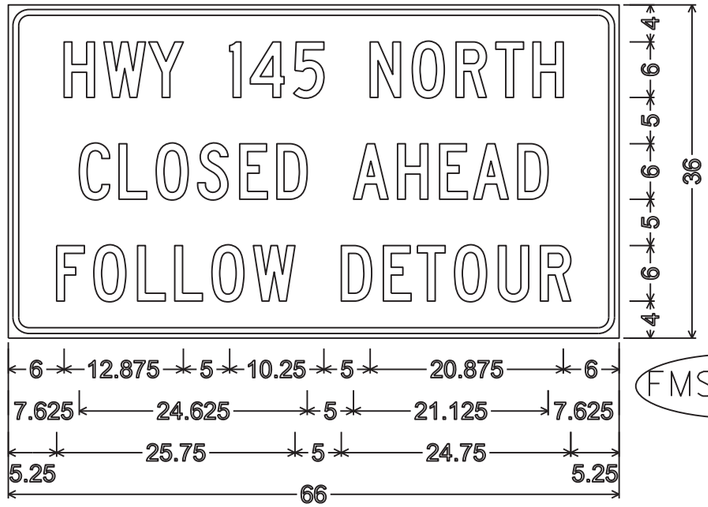
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C



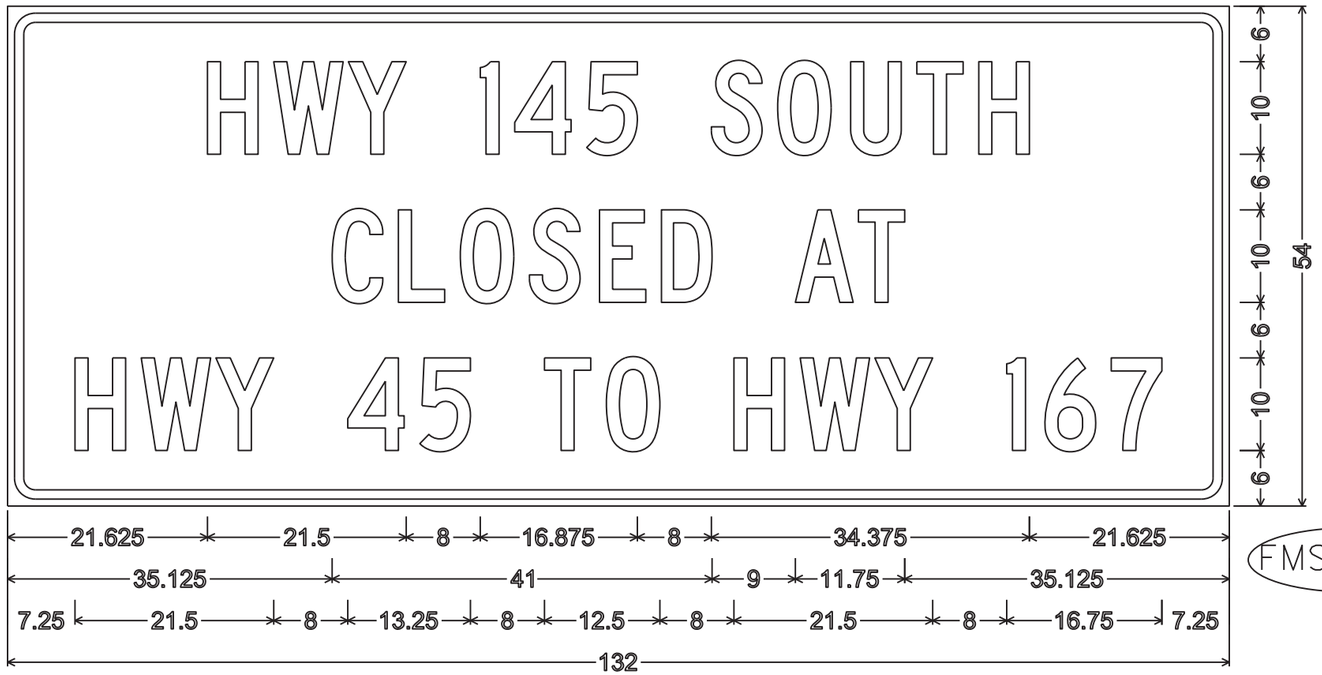
3.000" Radius, 1.000" Border, 0.750" Indent

FMS-145-1



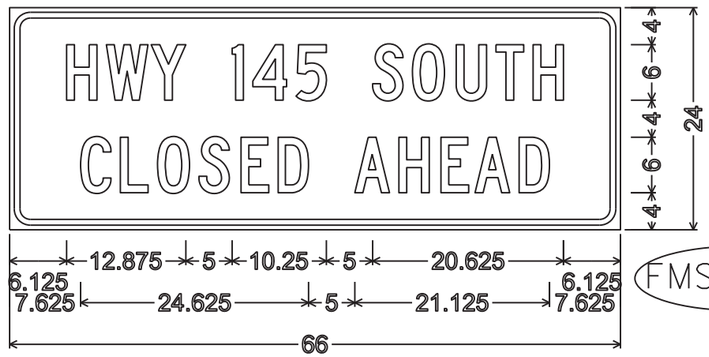
2.250" Radius, 0.625" Border, 0.500" Indent

FMS-145-3



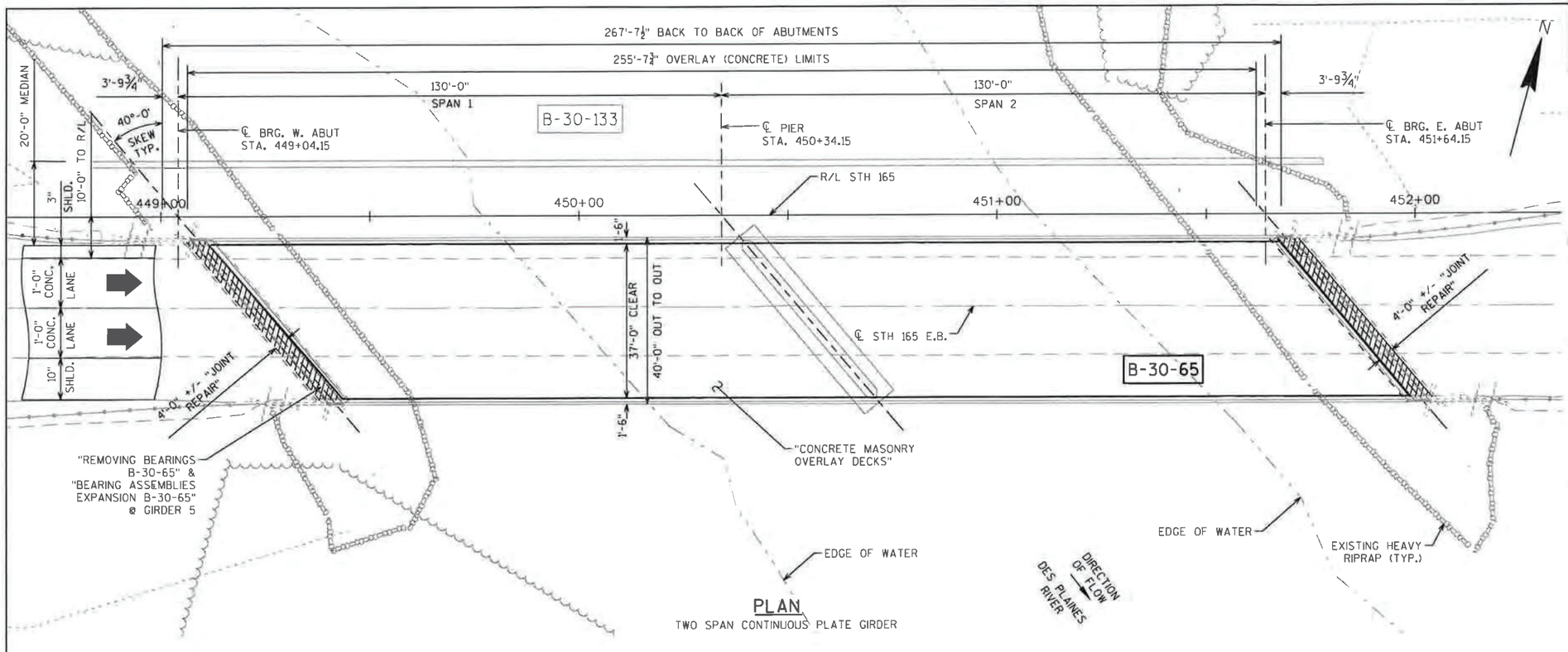
3.000" Radius, 1.000" Border, 0.750" Indent

FMS-145-2

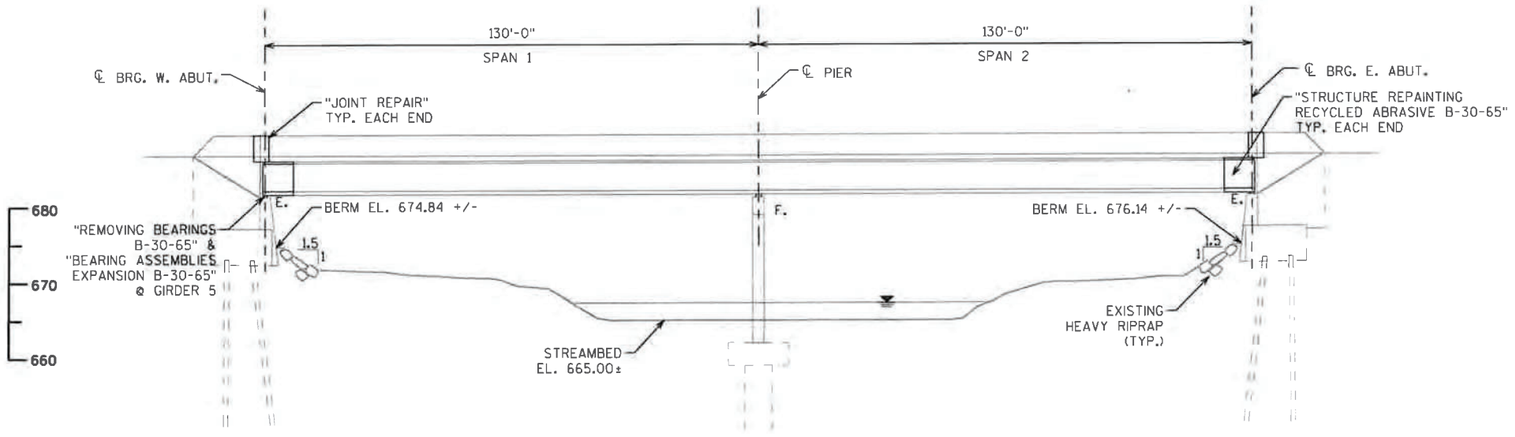


2.250" Radius, 0.625" Border, 0.500" Indent

FMS-145-4



PLAN
TWO SPAN CONTINUOUS PLATE GIRDER



ELEVATION
LOOKING NORTH

STATE PROJECT NUMBER
1000-51-72

DESIGN DATA

LIVE LOAD:

DESIGN LOADING:	HS-20
INVENTORY RATING:	HS-23
OPERATING RATING:	HS-38
WIS. STD. PERMIT VEHICLE (Wis-SPV):	250 KIPS

MATERIAL PROPERTIES

CONCRETE MASONRY SUPERSTRUCTURE ___ f'c = 4,000 PSI
ALL OTHERS ___ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 ___ fy = 60,000 PSI

SCOPE OF WORK B-30-65

1. PLACE OVERLAY ON SLAB
2. CONCRETE SURFACE REPAIR
3. JOINT REPLACEMENT
4. BEARING REPLACEMENT
5. GIRDER END REPAINTING

TRAFFIC DATA

STH 165
ADT = 16,600 (2019)
RDS = 55 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. EXPANSION BEARING REPLACEMENT DETAILS
5. CONCRETE DETAILS & DECK BILL OF BARS
6. STRIP SEAL EXP. JT. & ABUT. BILL OF BARS
7. STRIP SEAL COVER PLATE & DETAILS
8. BAR SPLICER (COUPLER) DETAILS
9. INFRARED DECK SURVEY

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
1-29-19

BUREAU OF STRUCTURES CONTACT:
BILL DREHER (608) 266-8489

CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRÄEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259-1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 07/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-30-65

STH 165 EB OVER DES PLAINES RIVER

COUNTY	~~TOWN/CITY/~~VILLAGE
KENOSHA	PLEASANT PRAIRIE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

GENERAL PLAN & ELEVATION

SHEET 1 OF 9

293

I.D.

DATE:

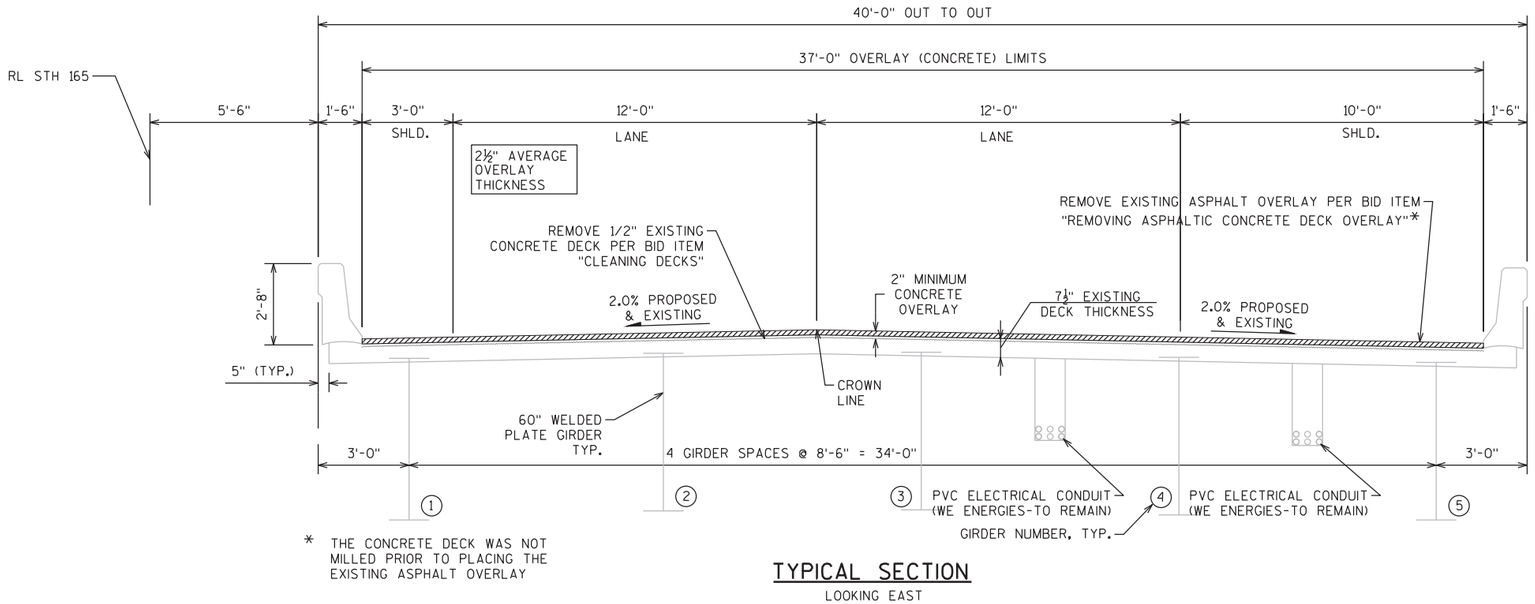
SCALE = ###

8

8

STATE PROJECT NUMBER

1000-51-72



* THE CONCRETE DECK WAS NOT MILLED PRIOR TO PLACING THE EXISTING ASPHALT OVERLAY

TYPICAL SECTION

LOOKING EAST

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER.	TOTAL
203.0210.S.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-30-65	LS	-	-	-	-	1
502.3100	EXPANSION DEVICE B-30-65	LS	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	6	-	6	1,083	1,095
502.3210	PIGMENTED SURFACE SEALER	SY	2	-	2	6	10
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EA	53	-	53	-	106
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	530	-	530	1,730	2,790
505.0904	BAR COUPLERS NO. 4	EA	-	-	-	8	8
505.0905	BAR COUPLERS NO. 5	EA	3	-	3	-	6
505.0906	BAR COUPLERS NO. 6	EA	-	-	-	14	14
506.6000	BEARING ASSEMBLIES EXPANSION B-30-65	EA	-	-	-	1	1
506.7050.S	REMOVING BEARINGS B-30-65	EA	-	-	-	1	1
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	10	10
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	4	4
509.0500	CLEANING DECKS	SY	-	-	-	1,051	1,051
509.1000	JOINT REPAIR	SY	7	-	7	34	48
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	25	25
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	3	-	3	88	94
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-30-65	SY	-	-	-	1,051	1,051
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-30-65	LS	-	-	-	-	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-30-65	LS	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	-	-	-	-	1
SPV.0105.03	DEBRIS CONTAINMENT OVER WATERWAYS B-30-65	LS	-	-	-	1	1

FOR INFORMATIONAL PURPOSES ONLY: APPROXIMATELY 1,211 SF OF STRUCTURAL STEEL TO BE PAINTED, SEE GENERAL NOTES.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS ARE IN FEET.

ROADWAY ALIGNMENT PROVIDED BY WISDOT SE REGION. STRUCTURE STATIONING PROPOSED IS BASED ON ORIGINAL STRUCTURE PLAN DIMENSIONS.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING STRUCTURE B-30-65 IS A 2 SPAN CONTINUOUS STEEL GIRDER BRIDGE WITH A CLEAR WIDTH OF 37'-0" AND A END-OF-DECK TO END-OF-DECK LENGTH OF 266'-1⅛". THE ENTIRE BRIDGE DECK IS TO BE PREPARED FOR A NEW CONCRETE OVERLAY.

"PROTECTIVE SURFACE TREATMENT" SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE DECK OVERLAY. "PIGMENTED SURFACE SEALER" TO BE APPLIED TO THE TOP AND INSIDE FACE OF NEW PARAPETS AT JOINT REPAIR.

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

1/2" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2 1/2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE. BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-30-65".

ALL STRUCTURAL STEEL SURFACES WITHIN 8 FEET OF GIRDER ENDS ARE TO BE CLEANED AND PAINTED UNDER THE BID ITEM FOR "STRUCTURAL REPAINTING RECYCLED ABRASIVE B-30-65." THE SURFACES INCLUDE GIRDERS, DIAPHRAGMS, STIFFENERS, BEARINGS AND CONNECTIONS. PAINT COLOR TO BE FEDERAL STANDARD COLOR NO. 20059 (BROWN).

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

CROSS SECTION & QUANTITIES

SHEET 2 OF 9

294

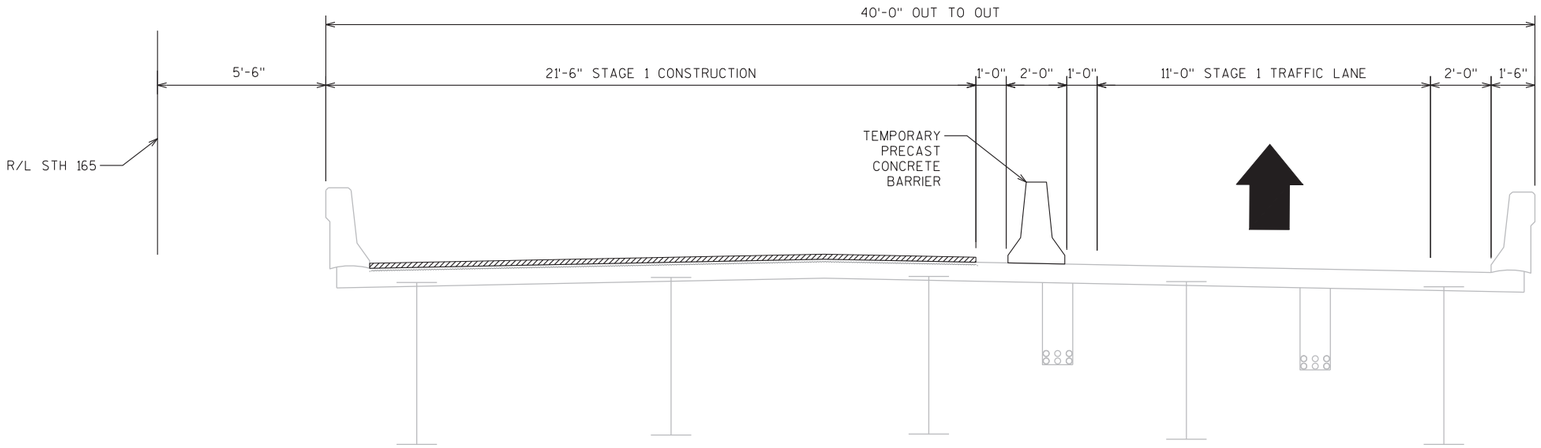
I.D.

DATE:

SCALE = ###

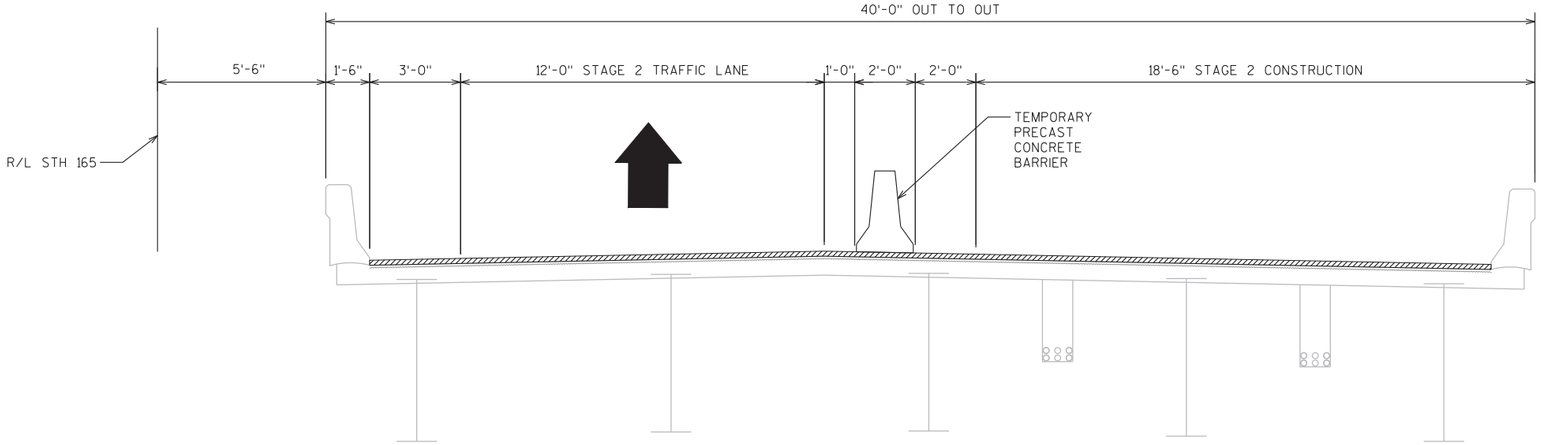
STATE PROJECT NUMBER

1000–51–72



STAGE 1 CONSTRUCTION

LOOKING EAST



STAGE 2 CONSTRUCTION

LOOKING EAST

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

CONSTRUCTION STAGING

SHEET 3 OF 9

295

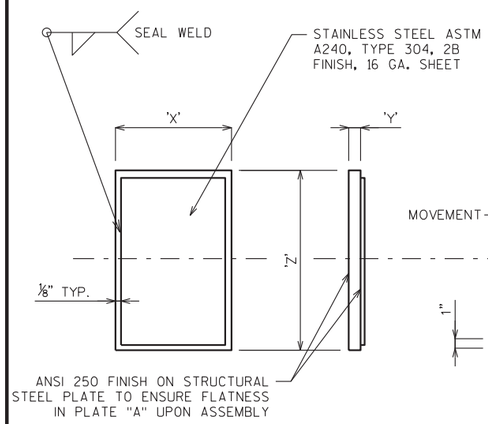
I.D.

DATE:

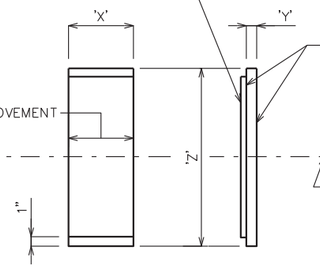
SCALE = ###

STATE PROJECT NUMBER

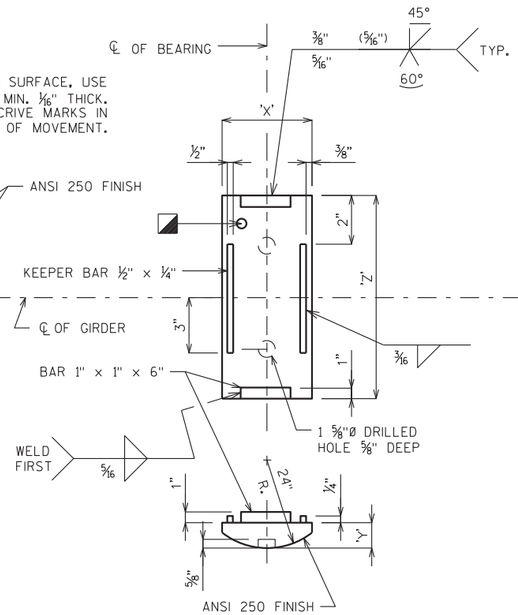
1000-51-72



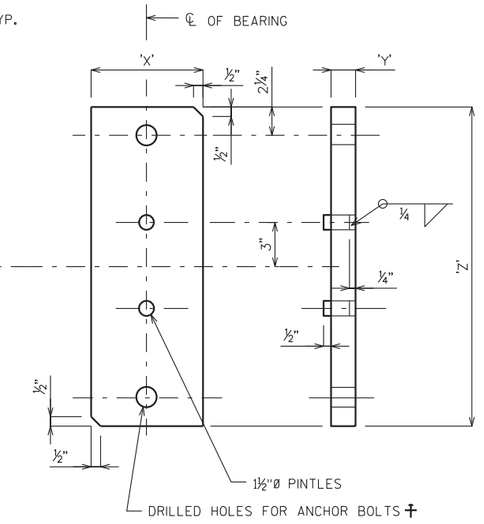
TOP PLATE 'A'



TEFLON COATED PLATE 'B'

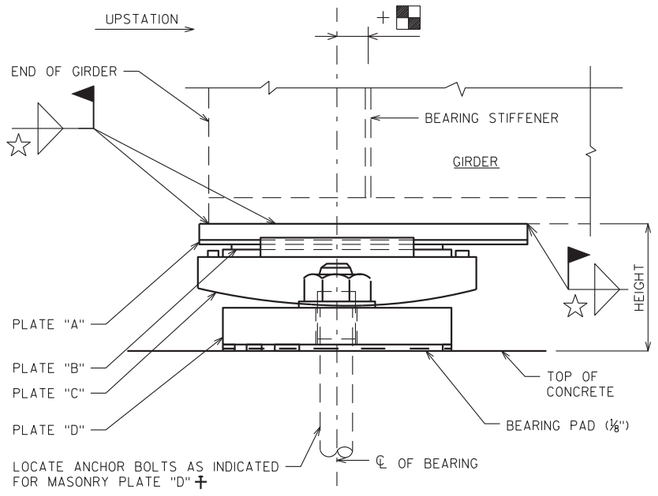


ROCKER PLATE 'C'



TYPE I

MASONRY PLATE 'D'



EXPANSION BEARING ASSEMBLY

18" BEARING AT ABUTMENTS

CAP. KIPS	PLATE A			PLATE B			PLATE C			PLATE D			HEIGHT FEET
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	
245	1'-1"	5/8"	1'-6"	7"	½"	1'-6"	9"	1 15/16"	1'-8¼"	8"	1½"	2'-8"	0.401

USED AT WEST ABUTMENT GIRDER 5 - 1 REQUIRED

°F	W. ABUT.
30	0.1
45	0
60	-0.1
75	-0.2
90	-0.4

BEARING OFFSET TABLE

ALL DIMENSIONS IN INCHES
AMBIENT TEMPERATURE DURING GIRDER INSTALLATION

☆ TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	⬠ MIN. SIZE OF FILLET WELD
TO ½" INCLUSIVE	3/16"
OVER ½" TO ¾"	¼"
OVER ¾" TO 1 ½"	△ 5/16"
OVER 1 ½"	△ 3/8"

⬠ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION A153, CLASS C.

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACES, PINTLES. ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

IN LIEU OF USING SHIM PLATES FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE PLATE "A" OR MASONRY PLATE "D" BY THE SHIM PLATE THICKNESS.

ALL MATERIALS IN TYPE "A-T" BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-30-65", EACH.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE ⅛" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS +2¼", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE 'X' AND 'Z' DIMENSIONS THAT MATCH MASONRY PLATE "D".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

◭ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING THE REQUIREMENTS FOUND IN THE STANDARD SPECIFICATIONS.

✝ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT. TWO BOLTS ARE REQUIRED.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, OR ANY OTHER FOREIGN MATTER.

ANCHOR BOLTS TO BE (2) 1½" DIA x 1'-10" LONG.

HEIGHT OF BEARINGS GIVEN IN TABLES INCLUDES ⅛" BEARING PAD, 16 GAGE STAINLESS STEEL SHEET AND ⅛" TEFLON SURFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION BEARING REPLACEMENT DETAILS

SHEET 4 OF 9

296

I.D.

DATE:

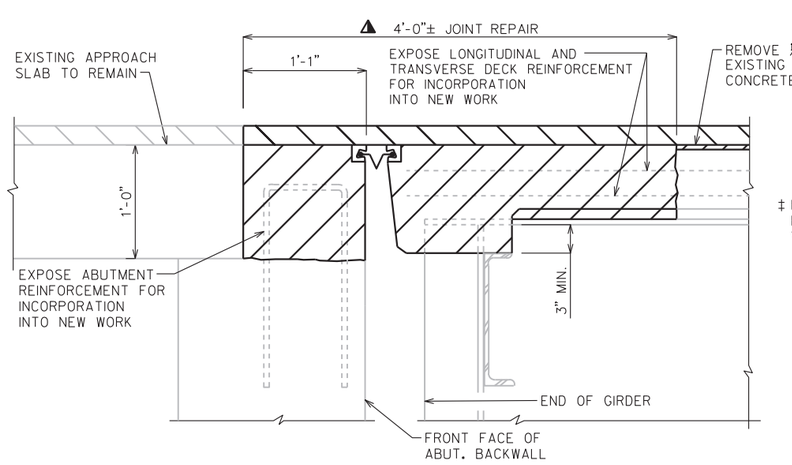
SCALE - ###

8

8

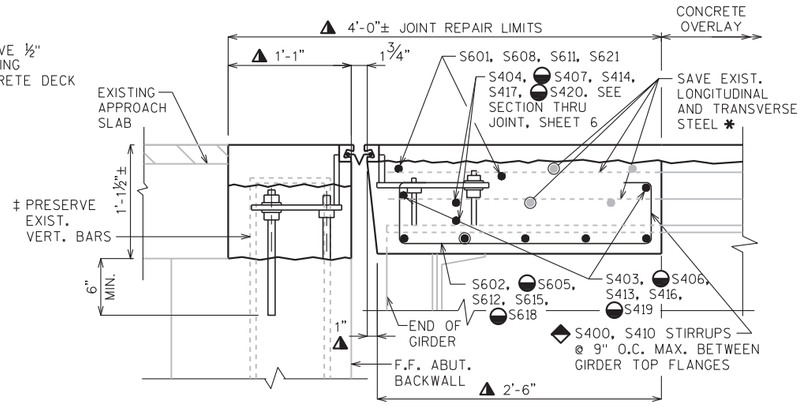
STATE PROJECT NUMBER

1000-51-72



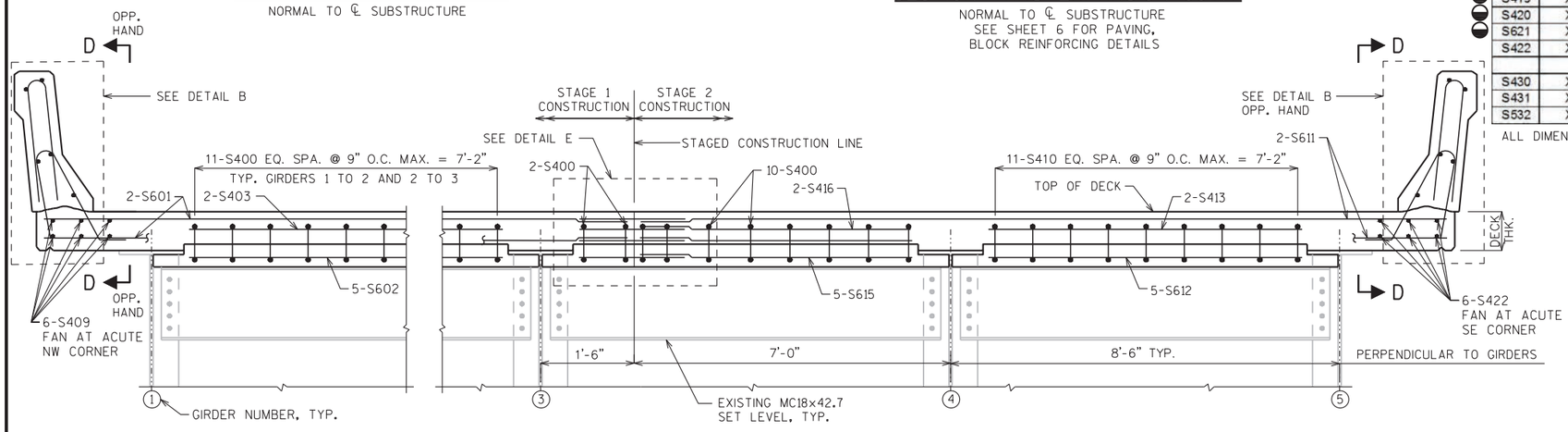
JOINT REPAIR - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU EXPANSION JOINT

NORMAL TO ℄ SUBSTRUCTURE
SEE SHEET 6 FOR PAVING, BLOCK REINFORCING DETAILS



PART TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

(LOOKING EAST AT EAST ABUTMENT, WEST ABUTMENT SIMILAR OPPOSITE HAND)

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

- BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S400	X	48	5'-3"		X	DIAPHRAGM STIRRUP STAGE 1
S601	X	4	27'-4"			DECK TRANSVERSE END STAGE 1
S602	X	20	9'-6"			DIAPHRAGM BOTTOM STAGE 1
S403	X	8	9'-6"			DIAPHRAGM TOP STAGE 1
S404	X	8	9'-6"			EXPANSION JOINT TRANSV. STAGE 1
S605	X	10	1'-2"			DIAPHRAGM BOTTOM STAGE 1 DOWEL
S406	X	4	1'-2"			DIAPHRAGM TOP STAGE 1 DOWEL
S407	X	4	1'-2"			EXPANSION JOINT TRANSV. STAGE 1 DOWEL
S608	X	4	3'-10"			DECK TRANSVERSE END STAGE 1 DOWEL
S409	X	6	4'-0"			DECK FAN BARS NW CORNER TOP & BOTT.
S410	X	42	5'-3"		X	DIAPHRAGM STIRRUP STAGE 2
S611	X	4	23'-5"			DECK TRANSVERSE END STAGE 2
S612	X	10	9'-6"			DIAPHRAGM BOTTOM STAGE 2
S413	X	4	9'-6"			DIAPHRAGM TOP STAGE 2
S414	X	4	9'-6"			EXPANSION JOINT TRANSV. BARS STAGE 2
S615	X	10	8'-4"			DIAPHRAGM BOTTOM SPLICE STAGE 2
S416	X	4	8'-4"			DIAPHRAGM TOP SPLICE STAGE 2
S417	X	4	8'-4"			EXPANSION JOINT TRANSV. SPLICE STAGE 2
S618	X	10	3'-9"			DIAPHRAGM BOTTOM STAGE 2 DOWEL
S419	X	4	2'-8"			DIAPHRAGM TOP STAGE 2 DOWEL
S420	X	4	2'-8"			EXPANSION JOINT TRANSV. STAGE 2 DOWEL
S621	X	4	3'-10"			DECK TRANSVERSE END STAGE 2 DOWEL
S422	X	6	4'-0"			DECK FAN BARS SE CORNER TOP & BOTT.
S430	X	20	4'-3"		X	PARAPET DOWEL
S431	X	20	4'-10"		X	PARAPET VERTICAL
S532	X	20	3'-0"			PARAPET HORIZONTAL

ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.

NOTES

FOR DETAIL B AND SECTION D-D SEE SHEET 7.

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT. SEE SHEET 6.

◭ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

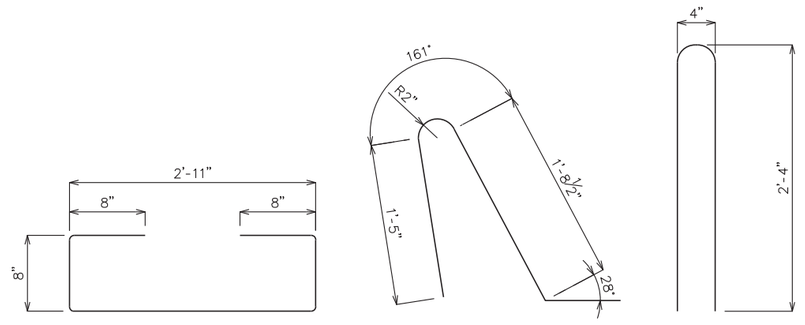
* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRANSVERSE REINFORCING BARS.

◆ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO GIRDERS.

EXISTING 2" ASPHALT OVERLAY TO BE REMOVED.

EXISTING CONCRETE TO BE REMOVED.

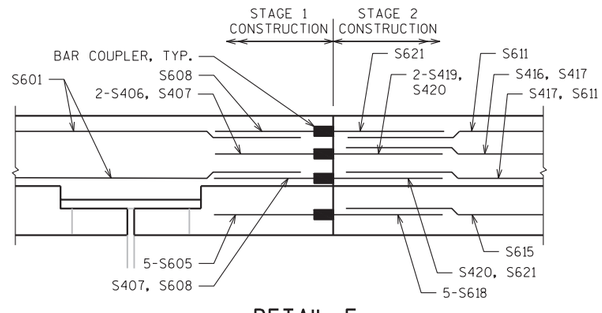
BAR COUPLERS REQUIRED, SEE SHEET 8 FOR DETAILS.



S400
S410

S430

S431



DETAIL E

STIRRUPS NOT SHOWN FOR CLARITY

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

CONCRETE DETAILS & DECK BILL OF BARS

SHEET 5 OF 9

297

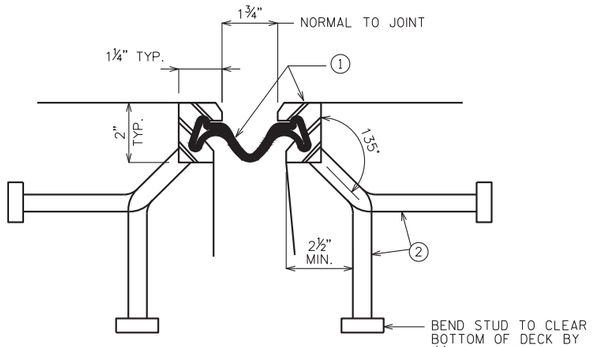
I.D.

DATE:

SCALE = ###

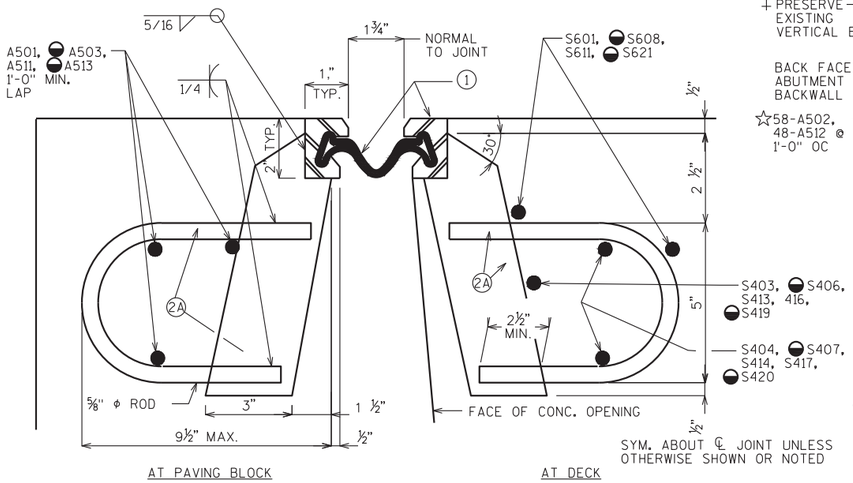
8

8



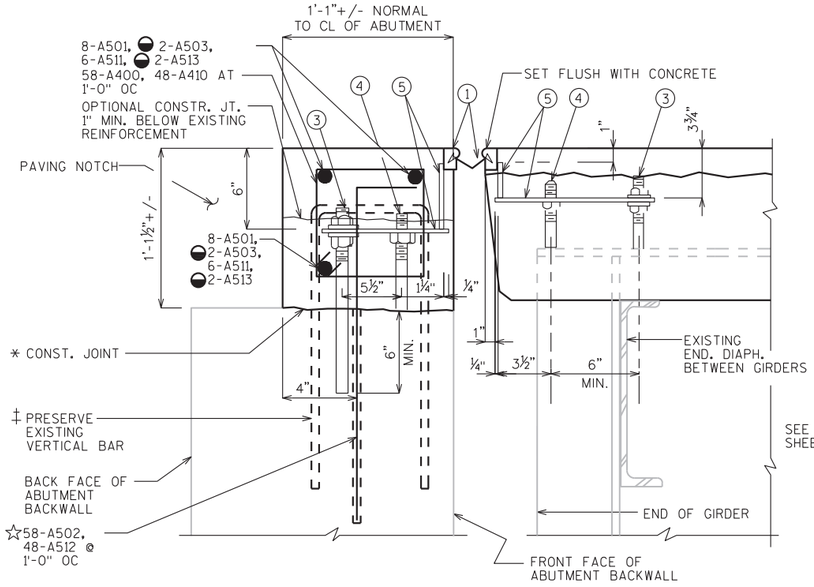
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS.



SECTION THRU JOINT

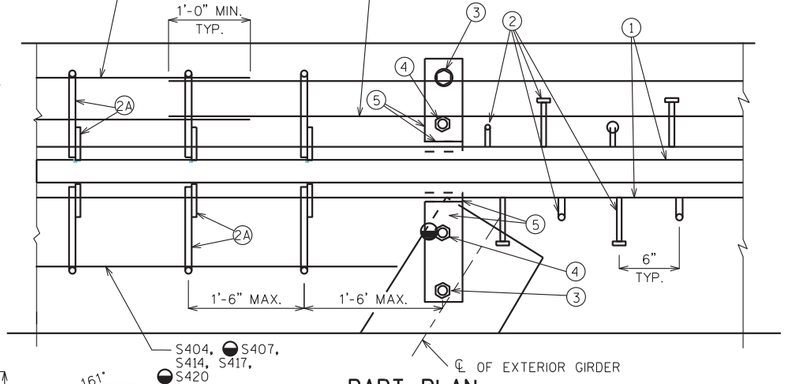
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



TYPICAL SECTION THRU JOINT AT STEEL GIRDER

NORMAL TO ℄ SUBSTRUCTURE AT ABUTMENT

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.



PART PLAN

LEGEND

(1) NEOPRENE STRIP SEAL (5-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.

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

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

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

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

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

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

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

(8) ¾" ϕ x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) ¾" ϕ x 2¼", GALVANIZED THREADED COUPLING.

(11) 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

SEE SHEET 7

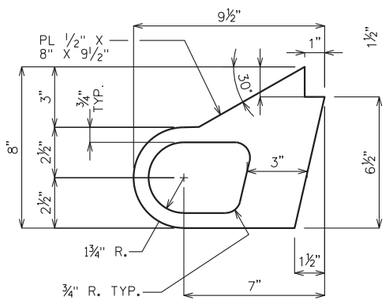
☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◒ BAR COUPLERS REQUIRED. SEE SHEET 8 FOR DETAILS.

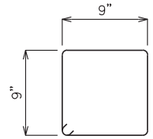
‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

NOTES

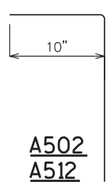
1. ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
2. AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.
3. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
4. SANDBLAST PLATES AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.
5. ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 153 CLASS C AND D.
6. STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-30-65."



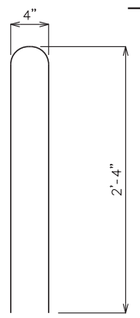
ALTERNATE STRIP SEAL ANCHOR



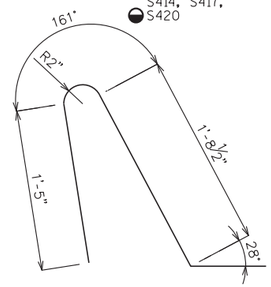
A400
A410



A502
A512



A421



A420

- BILL OF BARS

	MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
	A400	X	58	3'-6"		X	PAVING BLOCK STIRRUP STAGE 1
	A501	X	24	7'-8"			PAVING BLOCK TRANSV. STAGE 1
☆	A502	X	58	3'-1"		X	PAVING BLOCK VERTICAL STAGE 1
◒	A503	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 1 DOWEL
	A410	X	48	3'-6"		X	PAVING BLOCK STIRRUP STAGE 2
	A511	X	18	8'-8"			PAVING BLOCK TRANSV. STAGE 2
☆	A512	X	48	3'-1"		X	PAVING BLOCK VERTICAL STAGE 2
◒	A513	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 2 DOWEL
	A420	X	12	4'-3"		X	PARAPET DOWEL
	A421	X	12	4'-10"		X	PARAPET VERTICAL
	A522	X	20	1'-1"			PARAPET HORIZONTAL

STATE PROJECT NUMBER

1000-51-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL EXP. JT. & ABUT. BILL OF BARS

SHEET 6 OF 9

298

I.D.

DATE:

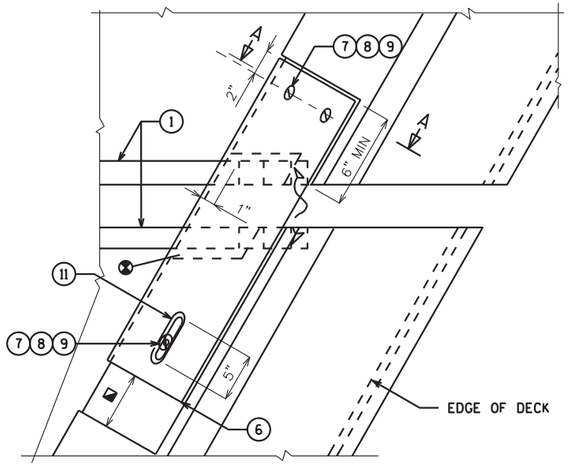
SCALE = # # # #

8

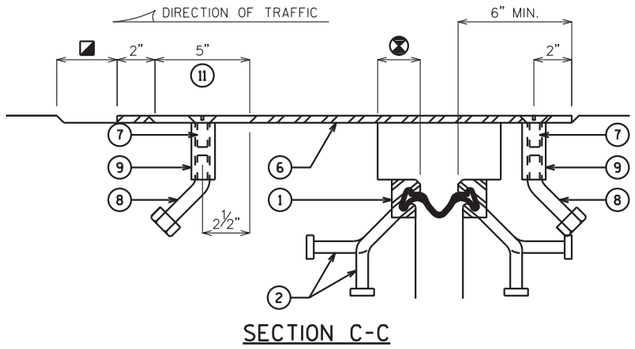
8

STATE PROJECT NUMBER

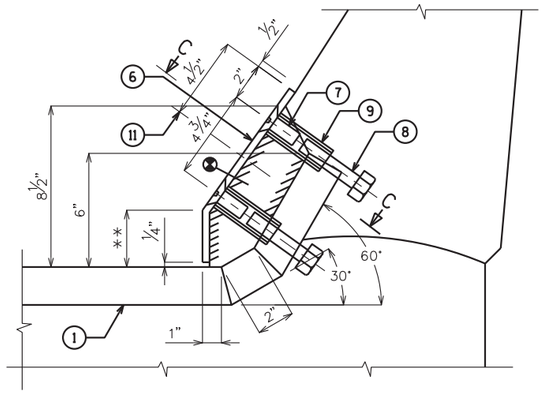
1000–51–72



PLAN

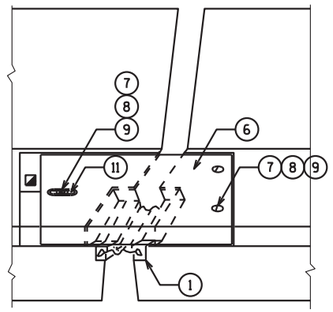


SECTION C-C

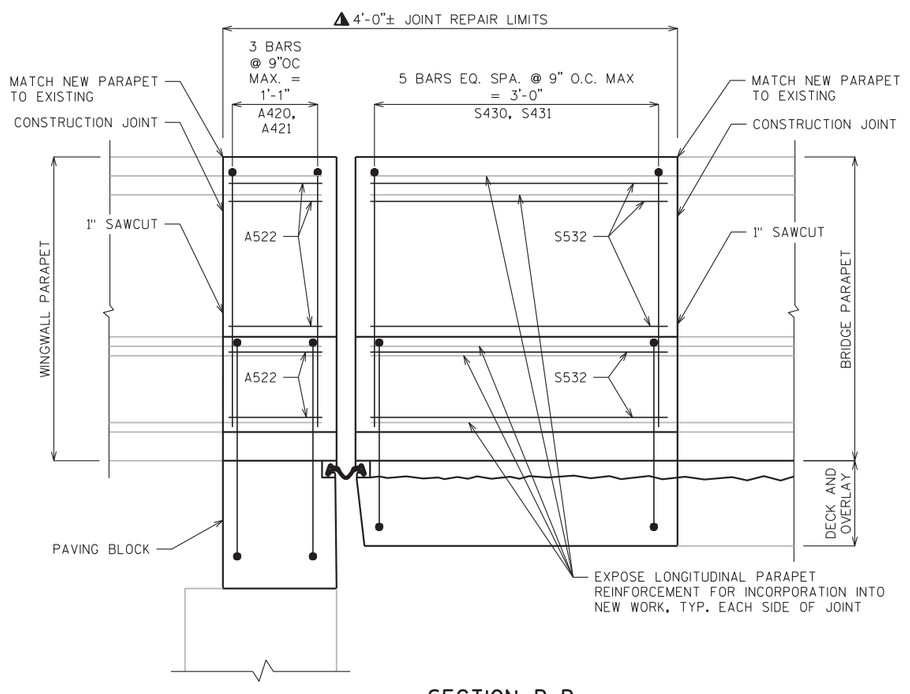


SECTION A-A

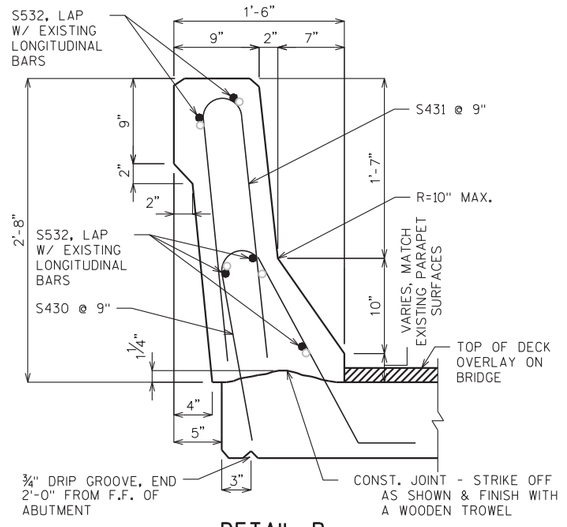
** AS REQUIRED FOR OVERLAY. COORDINATE WITH EXPANSION JOINT MANUFACTURER.



VIEW OF PARAPET PLATES FROM ROADWAY



SECTION D-D



DETAIL B

NOTES

SEE SHEET 6 LEGEND FOR MATERIAL NOTES.

LEGEND

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

▲ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL COVER PLATE & DETAILS

SHEET 7 OF 9

299

I.D.

DATE:

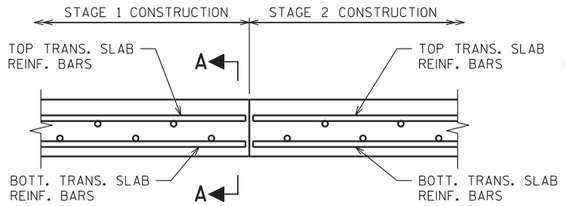
SCALE = ### ###

8

8

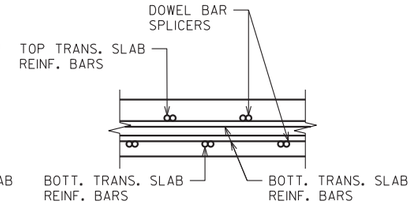
STATE PROJECT NUMBER

1000-51-72



SECTION THRU DECK

(LOOKING EAST)



SECTION A-A

DOWEL BAR SPLICER LAP LENGTHS

BAR SIZE	4	5	6
f'c = 4000	2'-3"	2'-11"	3'-6"

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

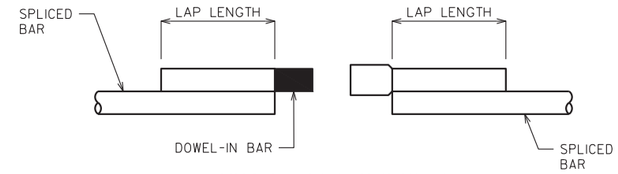
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

(1) MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

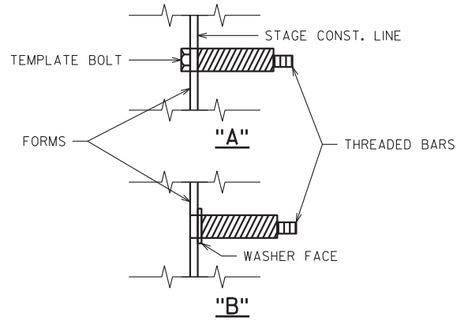
WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

BAR SPLICER (COUPLER) DETAILS

SHEET 8 OF 9

300

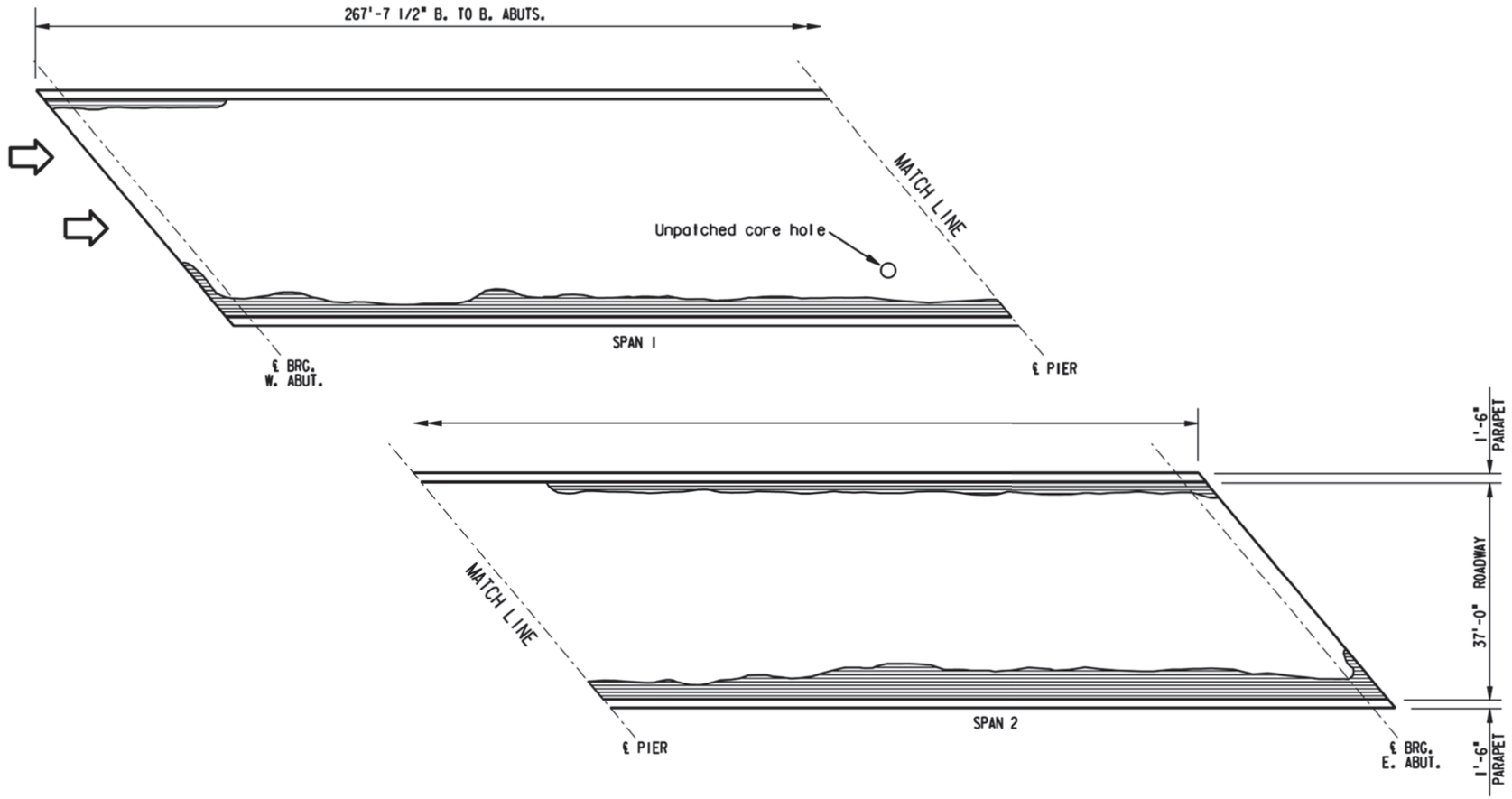
I.D.

DATE:

SCALE = ###

STATE PROJECT NUMBER

1000–51–72



PLAN

PROPOSED REHABILITATION AREAS

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-30-65	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	1100.1	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	0	0
PREPARATION, DECKS, TYPE 2	yd^2	0	0
FULL DEPTH DECK REPAIR	yd^2	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND/SCALING

ASPHALT PATCH

CONCRETE PATCH

SURFACE TYPE: PMA OVERLAY

INFRARED INSPECTION DATE: 3/15/18

INFRARED SURVEY TAKEN BY AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-30-65

DRAWN BY WAR | PLANS CK'D. KWG

INFRARED DECK SURVEY

SHEET 9 OF 9

301

I.D.

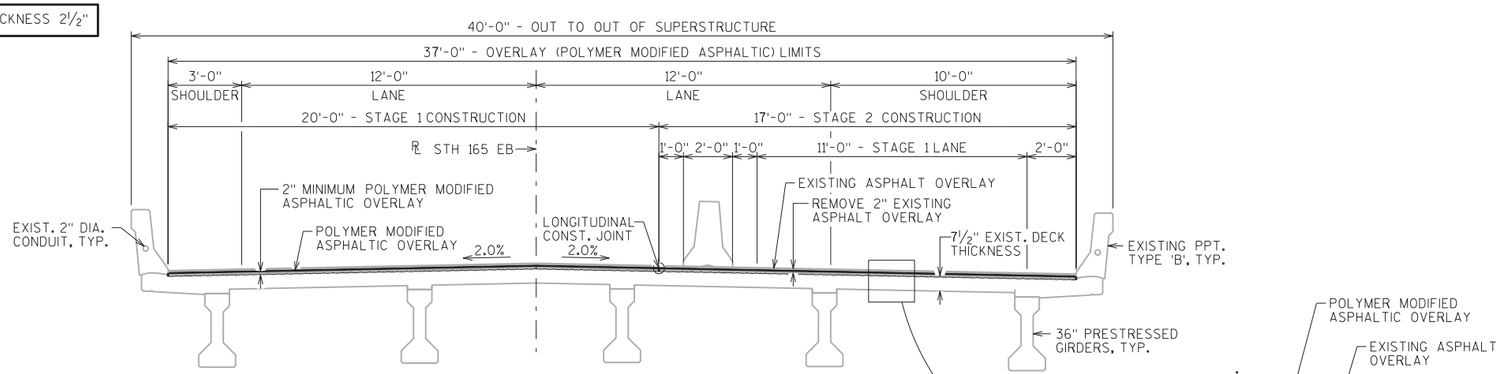
DATE:

SCALE = ###

8

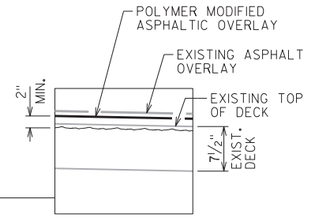
8

AVERAGE OVERLAY THICKNESS 2½"

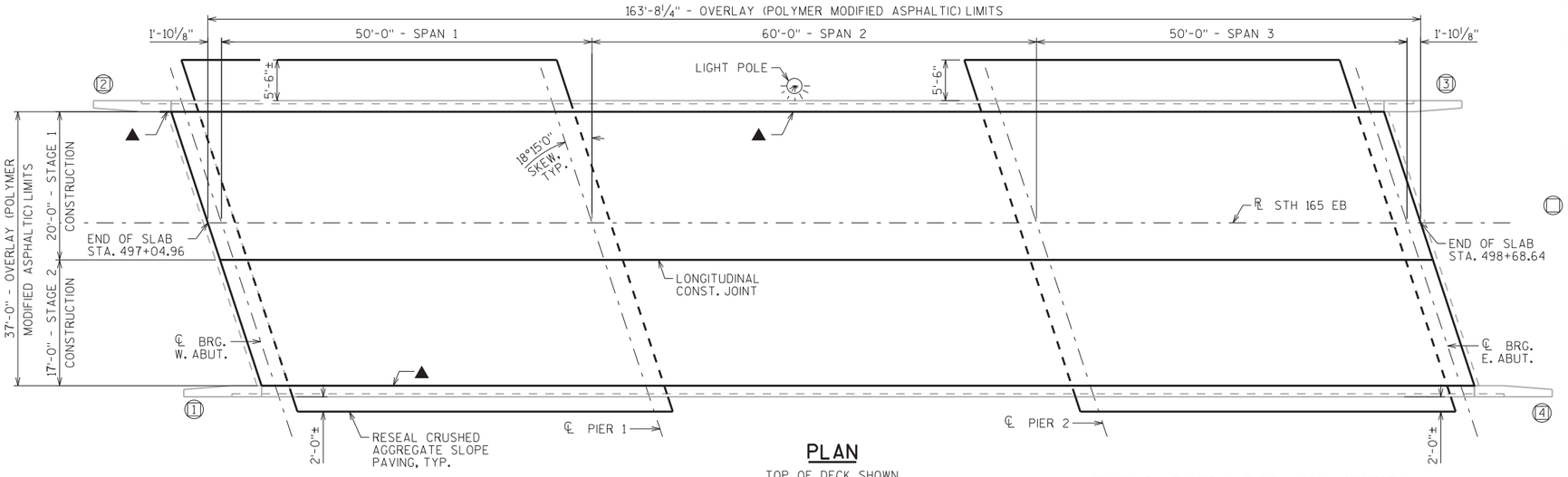


CROSS SECTION THRU ROADWAY

STAGE 1 SHOWN, SEE ROADWAY PLANS FOR STAGE 2
LOOKING EAST



DECK DETAIL



PLAN

TOP OF DECK SHOWN

⬡ INDICATES WING NUMBER

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS-33
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 180 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-30-66".

TRAFFIC VOLUME

STH 165 EB

ADT = 7,200 (2016)
R.D.S. = 45 M.P.H.

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-30-66	LS	1
	203.0225.S	DEBRIS CONTAINMENT B-30-66	LS	1
	509.0301	PREPARATION DECKS TYPE 1	SY	10
	509.0302	PREPARATION DECKS TYPE 2	SY	4
	509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲	509.1500	CONCRETE SURFACE REPAIR	SF	20
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
	509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	93
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-30-66	SY	673
⬡	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	2
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	600

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED:
6 SF NORTH PPT., 6 SF SOUTH PPT., 2 SF WEST ABUT. AND 1 SF EAST ABUT.

⬡ SLOPE PAVING REPAIR ESTIMATED 2 CY ALONG FACE OF EAST ABUTMENT

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

STATE PROJECT NUMBER

1000-51-72

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/30/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-30-66

STH 165 EB OVER SOO LINE RR

COUNTY: KENOSHA | VILLAGE: PLEASANT PRAIRIE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK		EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 1

302

I.D. 1000-51-02A

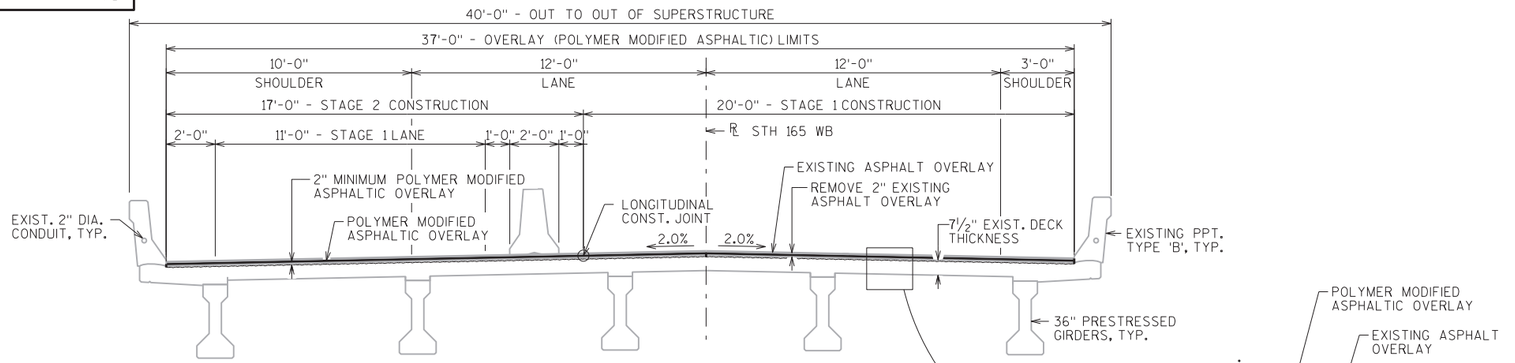
DATE: APRIL 2018

SCALE = 3.00

8

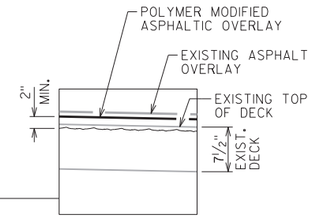
8

AVERAGE OVERLAY THICKNESS 2½"

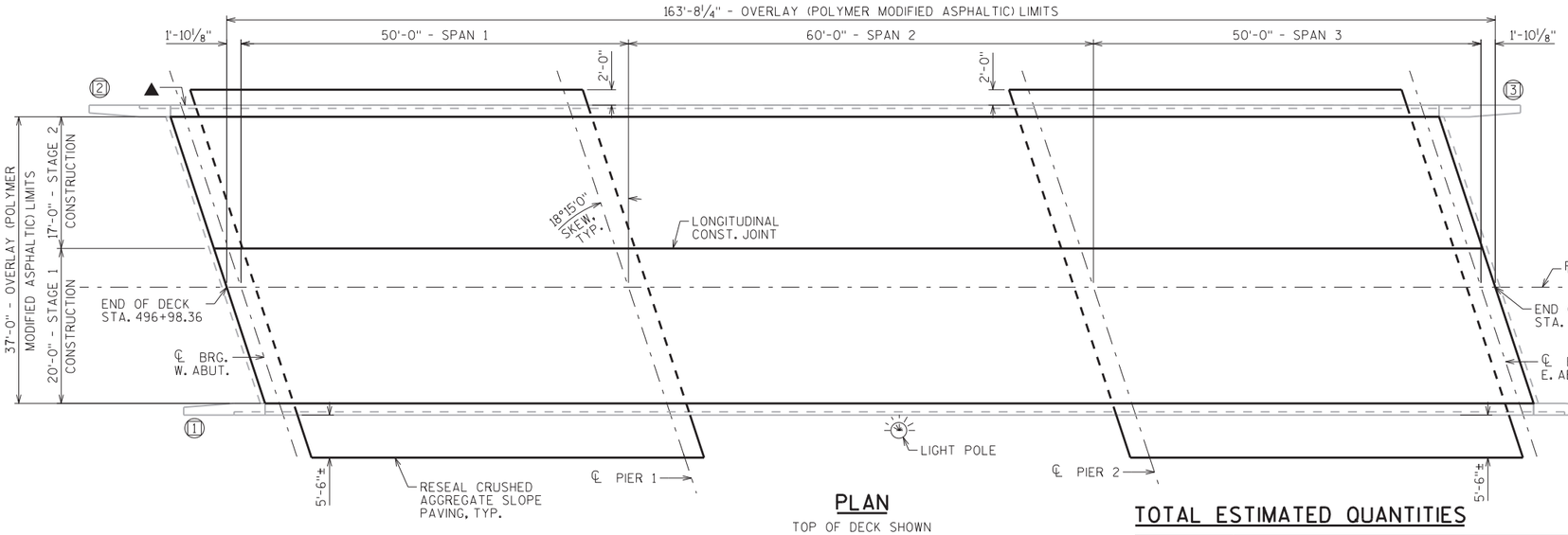


CROSS SECTION THRU ROADWAY

STAGE 1 SHOWN, SEE ROADWAY PLANS FOR STAGE 2 LOOKING EAST



DECK DETAIL



PLAN

TOP OF DECK SHOWN

INDICATES WING NUMBER

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-30-67	LS	1
	203.0225.S	DEBRIS CONTAINMENT B-30-67	LS	1
	509.0301	PREPARATION DECKS TYPE 1	SY	10
	509.0302	PREPARATION DECKS TYPE 2	SY	4
	509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲	509.1500	CONCRETE SURFACE REPAIR	SF	5
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
	509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	93
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-30-67	SY	673
⬭	604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	2
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	600

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 2 SF NORTH PPT. AND 1 SF WEST ABUT.

⬭ SLOPE PAVING REPAIR ESTIMATED 2 CY ALONG FACE OF EAST ABUTMENT

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS- 33
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 180 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-30-67".

TRAFFIC VOLUME

STH 165 WB

ADT = 8,200 (2016)
R.D.S. = 45 M.P.H.

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-30-67

SHT 165 WB OVER SOO LINE RR

COUNTY	VILLAGE
KENOSHA	PLEASANT PRAIRIE

DESIGN SPEC.
REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
EMK	RATINGS	EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 1

303

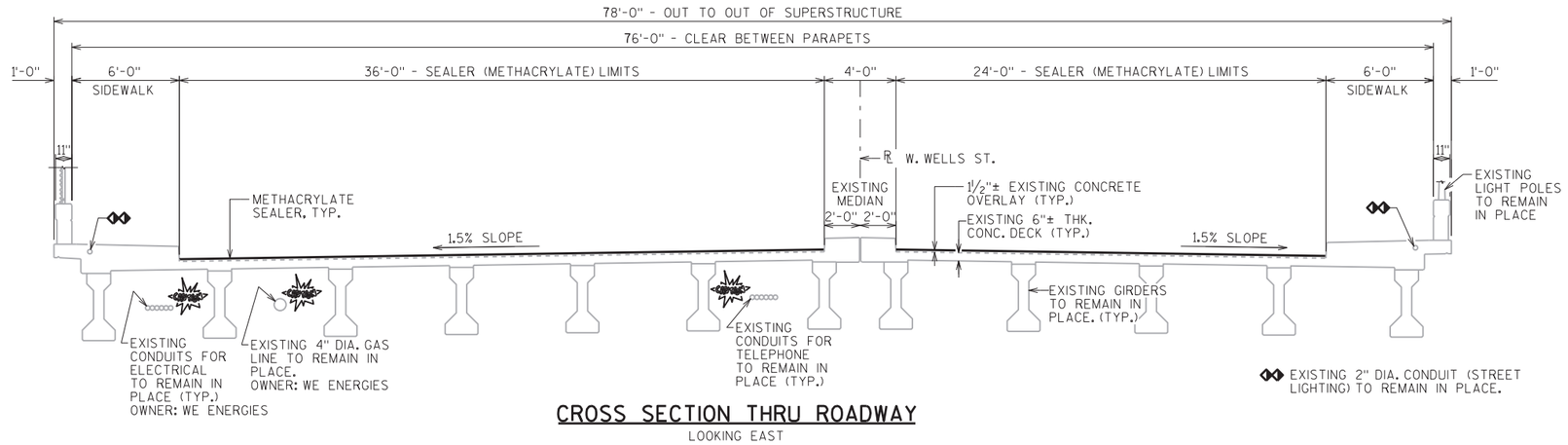
I.D. 1000-51-02B

DATE: APRIL 2018

SCALE = 3.00

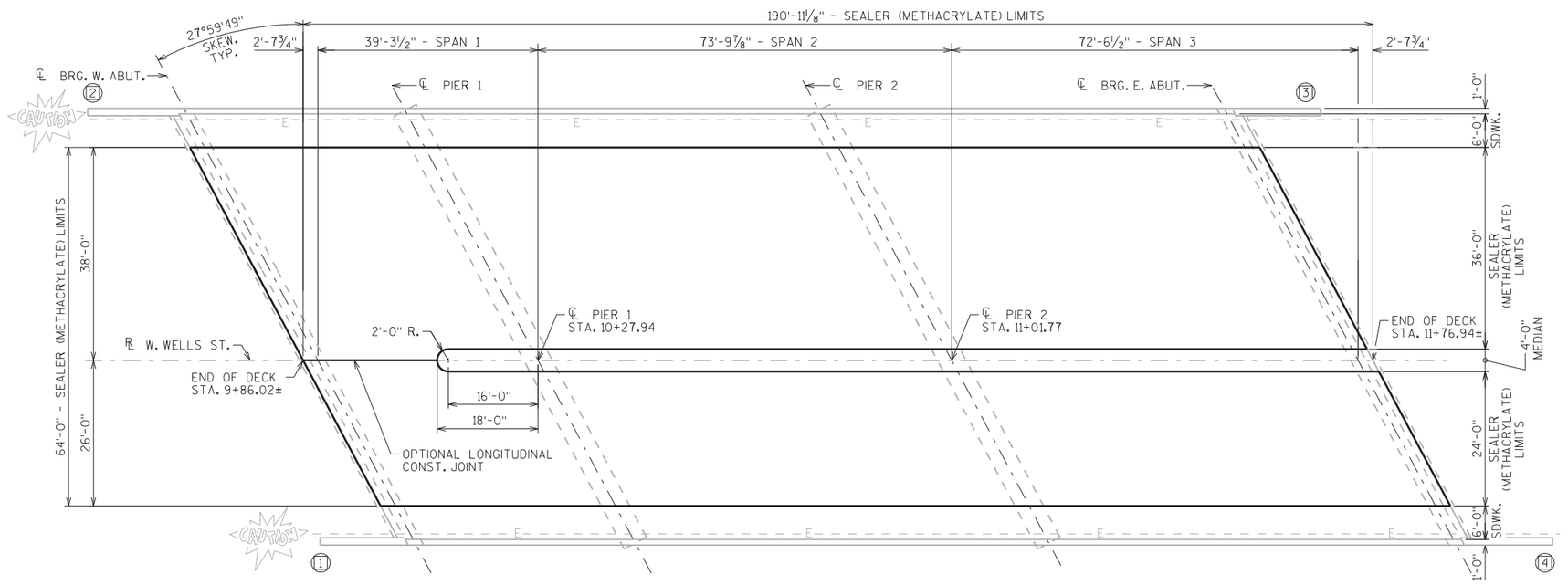
8

8



CROSS SECTION THRU ROADWAY

LOOKING EAST



PLAN

TOP OF DECK SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	5
SPV.0180	METHACRYLATE SEALER	SY	1,285

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 1 SF EAST ABUT. AND 2 SF UNDERSIDE DECK

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-13
OPERATING RATING: HS- 23
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 190 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

TRAFFIC VOLUME

W. WELLS ST.

ADT = 2,800 (2015)
R.D.S. = 30 M.P.H.

⬡ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/30/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-52

W. WELLS ST. OVER STH 175

COUNTY MILWAUKEE | CITY MILWAUKEE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. RATINGS | DRAWN BY EMK | PLANS CK'D. NAR

METHACRYLATE SEALER

SHEET 1 OF 1

304

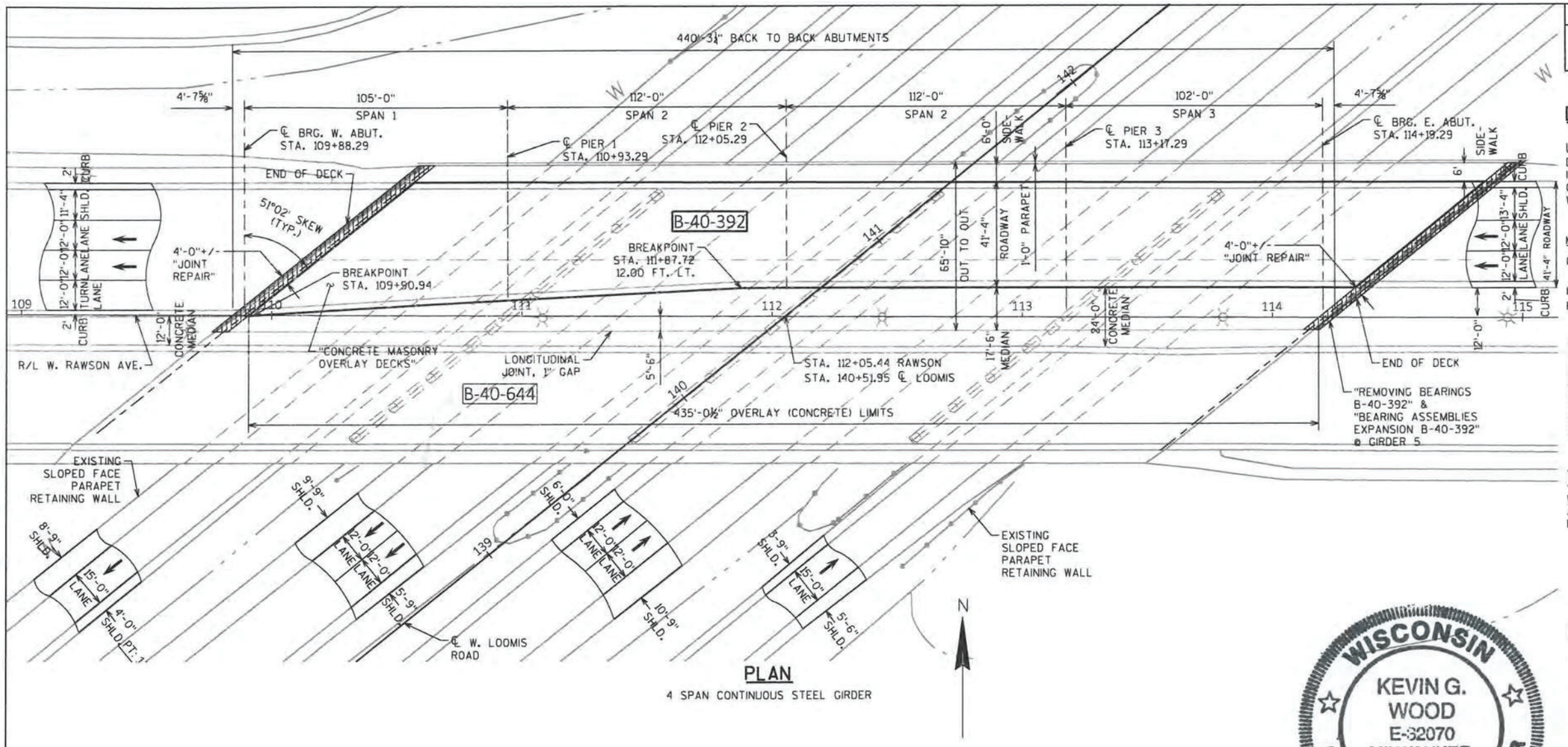
I.D. 1000-51-02E

DATE: APRIL 2018

SCALE = 3.00

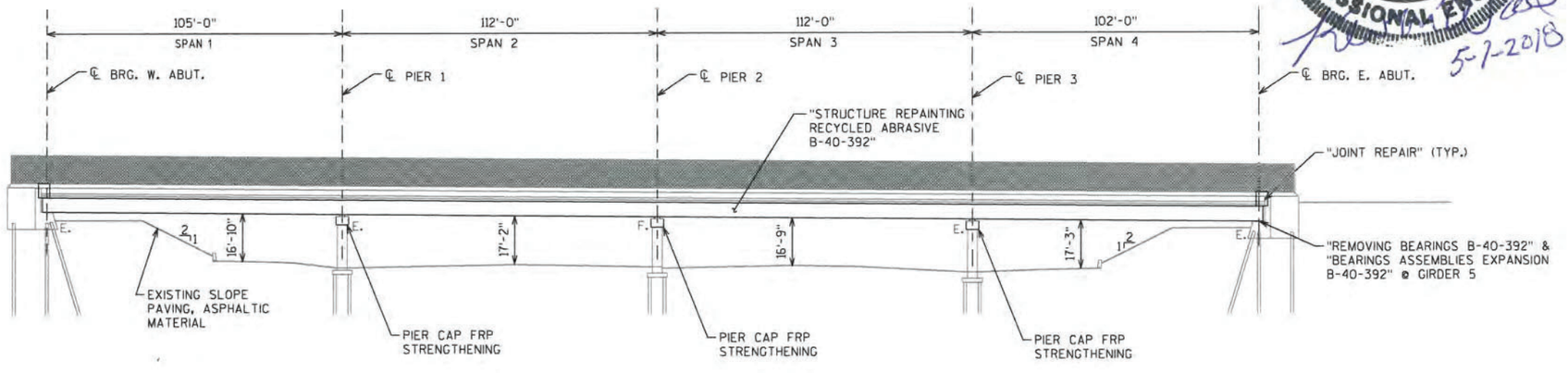
8

8



PLAN

4 SPAN CONTINUOUS STEEL GIRDER



ELEVATION

NORMAL TO SUBSTRUCTURE UNITS

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

DESIGN LOADING:	HS-20
INVENTORY RATING:	HS-16
OPERATING RATING:	HS-27
WIS. STD. PERMIT VEHICLE (Wis-SPV):	150 KIPS

MATERIAL PROPERTIES

CONCRETE MASONRY SUPERSTRUCTURE ___ f'c = 4,000 PSI
ALL OTHERS ___ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 ___ fy = 60,000 PSI

SCOPE OF WORK B-40-392

1. PLACE OVERLAY ON SLAB
2. CONCRETE SURFACE REPAIR
3. JOINT REPLACEMENT
4. BEARING REPLACEMENT
5. GIRDER REPAINTING
6. PIER CAP STRENGTHENING

TRAFFIC DATA

WEST RAWSON AVENUE
ADT = 9200 (2019)
RDS = 40 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. REMOVAL DETAILS
5. EXPANSION JOINT DETAILS 1 & BILL OF BARS
6. EXPANSION JOINT DETAILS 2
7. STRIP SEAL EXP. JT. & ABUTMENT BILL OF BARS
8. STRIP SEAL COVER PLATES
9. BAR SPLICER (COUPLER) DETAILS
10. EXPANSION BEARING REPLACEMENT DETAILS
11. PIER STRENGTHENING
12. INFRARED DECK SURVEY

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
5-7-2018

BUREAU OF STRUCTURES CONTACT:
BILL DREHER (608) 266-8489

CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRAEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 05/08/18
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-40-392

WB WEST RAWSON AVE. OVER WEST LOOMIS ROAD

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	FRANKLIN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

GENERAL PLAN & ELEVATION

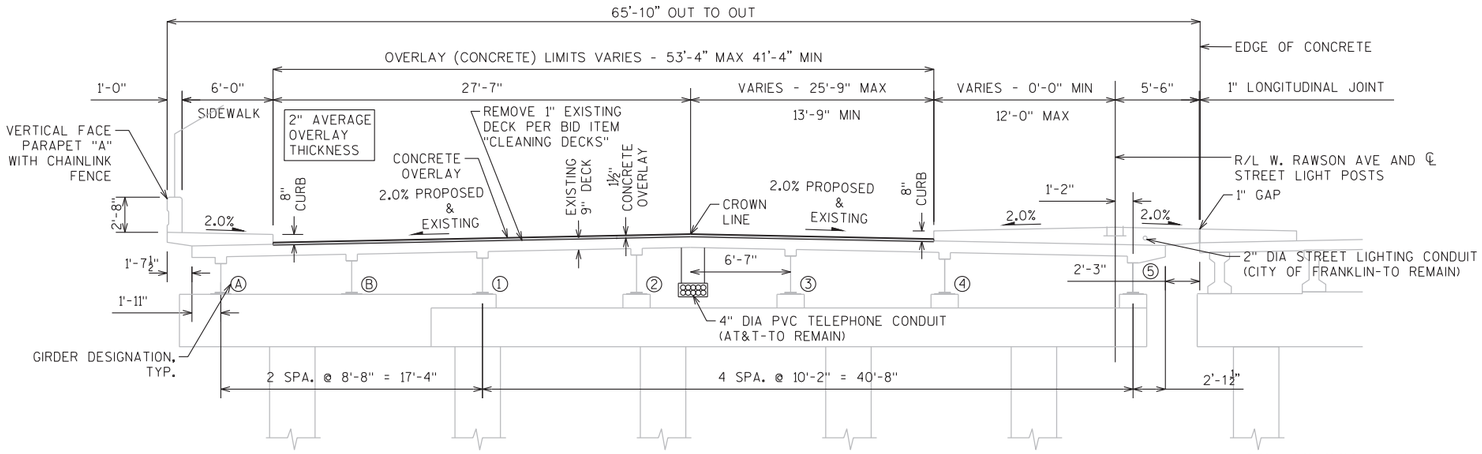
SHEET 1 OF 12

305

I.D.

DATE:

SCALE = ###



WESTBOUND LANES
B-40-392

EASTBOUND LANES
B-40-644

TYPICAL SECTION
LOOKING EAST

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	SUPER.	TOTAL
203.0225.S	DEBRIS CONTAINMENT B-40-392	LS	-	-	-	-	-	-	1
502.3100	EXPANSION DEVICE B-40-392	LS	-	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	12	-	-	-	12	2,154	2,178
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EA	105	-	-	-	105	-	210
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	900	-	-	-	970	3,250	5,120
505.0904	BAR COUPLERS NO. 4	EA	-	-	-	-	-	8	8
505.0905	BAR COUPLERS NO. 5	EA	3	-	-	-	3	4	10
505.0906	BAR COUPLERS NO. 6	EA	-	-	-	-	-	10	10
506.6000	BEARING ASSEMBLIES EXPANSION B-40-392	EA	-	-	-	-	-	1	1
506.7050.S	REMOVING BEARINGS B-40-392	EA	-	-	-	-	-	1	1
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	-	22	22
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	-	9	9
509.0500	CLEANING DECKS	SY	-	-	-	-	-	2,112	2,112
509.1000	JOINT REPAIR	SY	-	-	-	-	-	92	92
509.1200	CURB REPAIR	LF	-	-	-	-	-	33	33
509.1500	CONCRETE SURFACE REPAIR	SF	13	-	16	24	7	2	62
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	5	-	-	-	5	137	147
514.0900	ADJUSTING FLOOR DRAINS	EA	-	-	-	-	-	6	6
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-40-392	LS	-	-	-	-	-	-	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-40-392	LS	-	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	-	-	-	-	-	-	1
SPV.0060.03	CLEANING AND PAINTING BEARINGS	EA						34	34
SPV.0165.01	FIBER WRAP REINFORCING STRUCTURAL	SF	-	289	289	289	-	-	867

FOR INFORMATIONAL PURPOSES ONLY: APPROXIMATELY 42,492 SF OF STRUCTURAL STEEL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCE TO THE NAVD 88 2012 DATUM.

ROADWAY ALIGNMENT PROVIDED BY WISDOT SE REGION. STRUCTURE STATIONING PROPOSED IS BASED ON ORIGINAL STRUCTURE PLAN DIMENSIONS.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING STRUCTURE B-40-392 IS A 4 SPAN CONTINUOUS STEEL GIRDER BRIDGE WITH A OVERALL WIDTH OF 65'-11" AND A END-OF-DECK TO END-OF-DECK LENGTH OF 435'-0 1/2". THE ENTIRE BRIDGE DECK IS TO BE PREPARED FOR A NEW CONCRETE OVERLAY.

"PROTECTIVE SURFACE TREATMENT" SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE DECK OVERLAY.

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE. BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-392".

ALL STRUCTURAL STEEL SURFACES UNDERNEATH THE BRIDGE ARE TO BE CLEANED AND PAINTED UNDER THE BID ITEM FOR "STRUCTURE REPAINTING RECYCLED ABRASIVE B-40-392." THE SURFACES INCLUDE GIRDERS, DIAPHRAGMS, STIFFENERS, AND CONNECTIONS. PAINT COLOR TO BE FEDERAL STANDARD COLOR NO. 26293 (GRAY).

GALVANIZED COATINGS ON THE BEARINGS SHALL NOT BE SANDBLASTED.

REMOVAL AND REINSTALLATION OF FENCE POST ANCHORAGES, IF REQUIRED, SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR "EXPANSION DEVICE B-40-392"

STATE PROJECT NUMBER
1000-51-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

CROSS SECTION & QUANTITIES

SHEET 2 OF 12

306

I.D.

DATE:

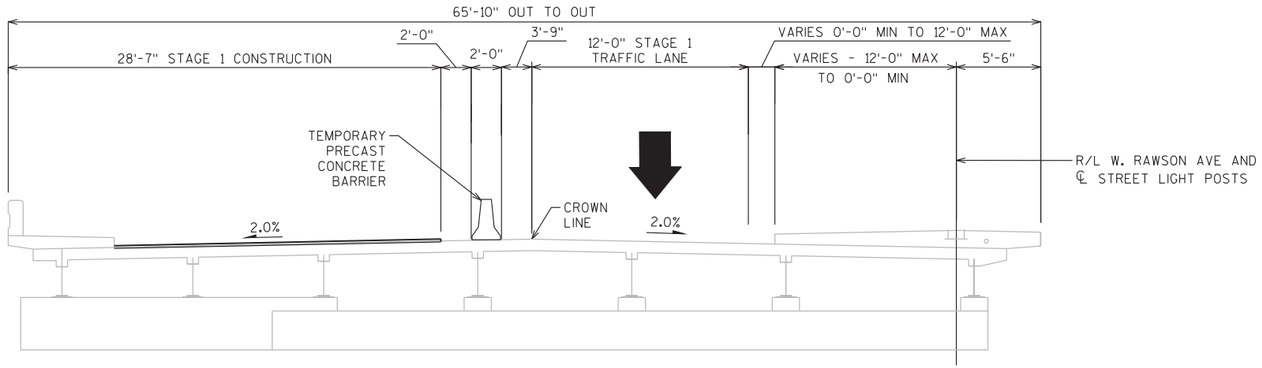
SCALE = ####

8

8

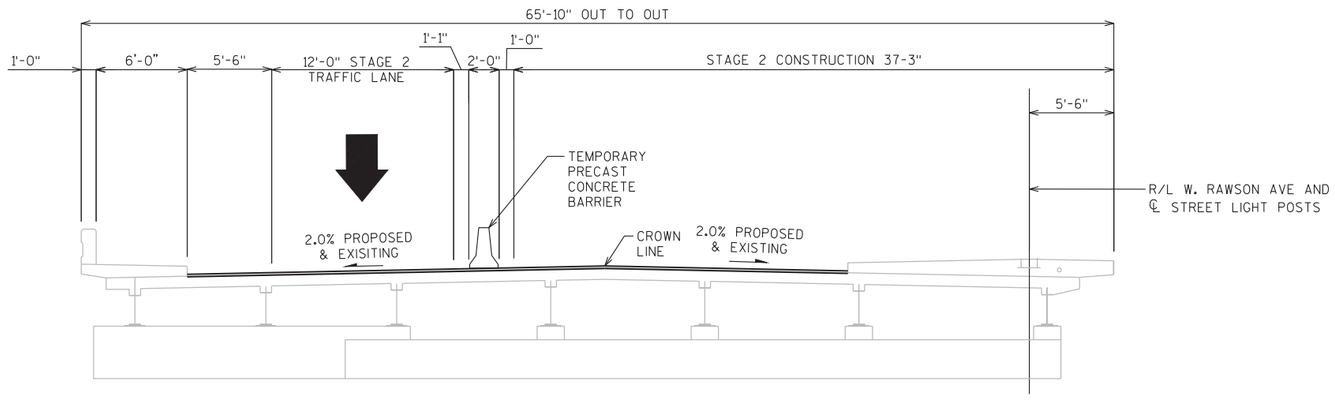
STATE PROJECT NUMBER

1000–51–72



STAGE 1 CONSTRUCTION

LOOKING EAST



STAGE 2 CONSTRUCTION

LOOKING EAST

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–40–392

DRAWN BY WAR | PLANS CK'D. KWG

CONSTRUCTION STAGING

SHEET 3 OF 12

307

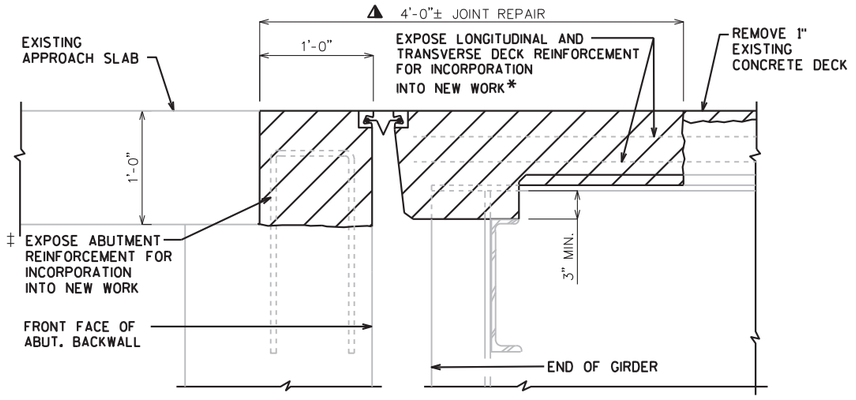
I.D.

DATE:

SCALE = ###

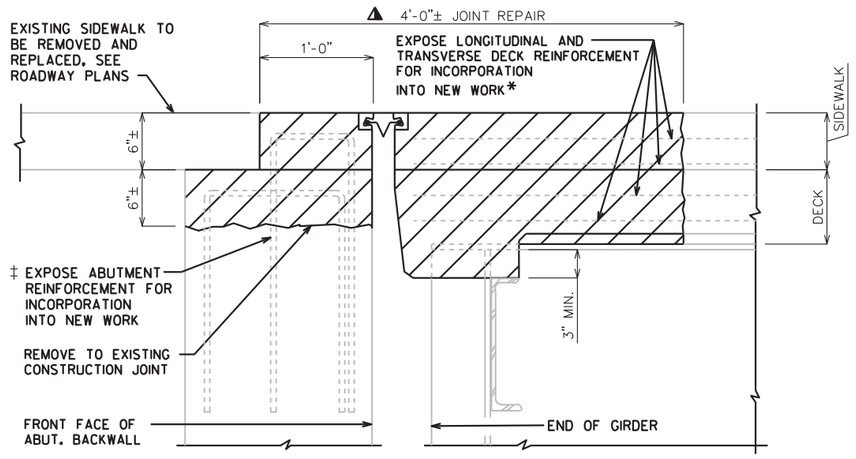
STATE PROJECT NUMBER

1000-51-72



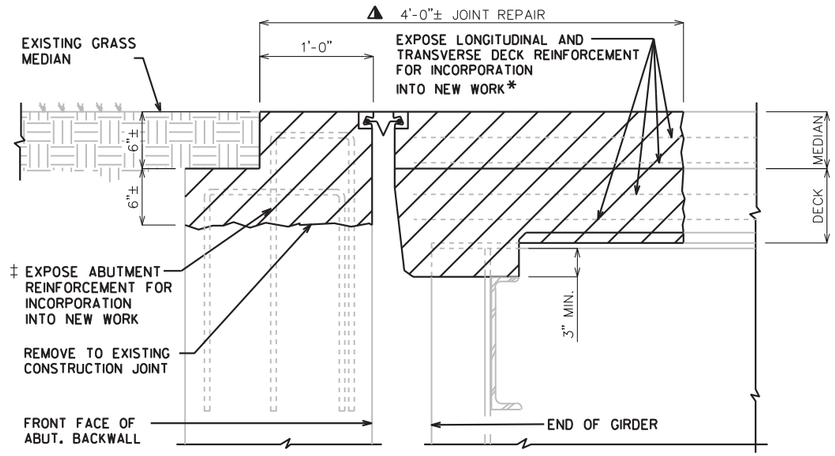
JOINT REPAIR AT DECK - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



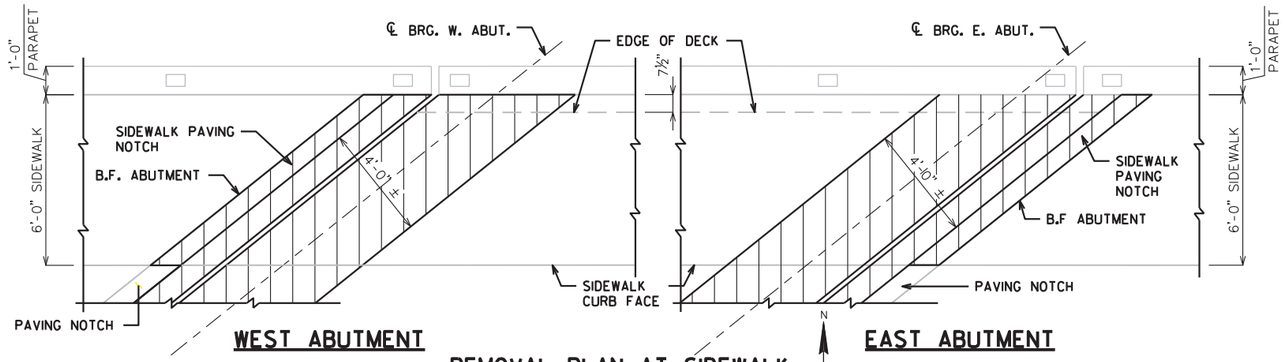
JOINT REPAIR AT SIDEWALK - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



JOINT REPAIR AT MEDIAN - REMOVAL

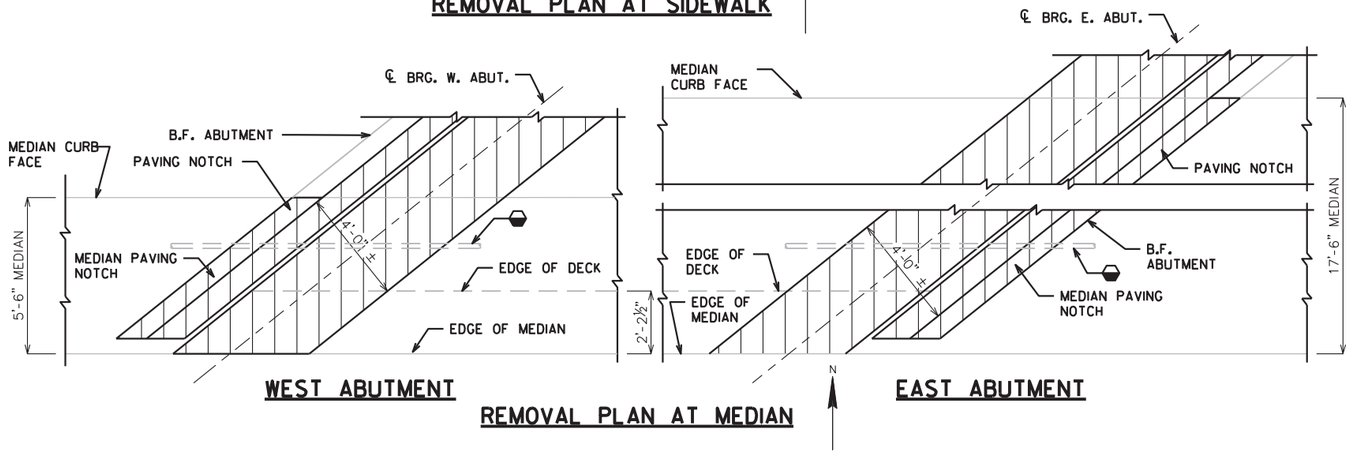
NORMAL TO ℄ SUBSTRUCTURE



WEST ABUTMENT

EAST ABUTMENT

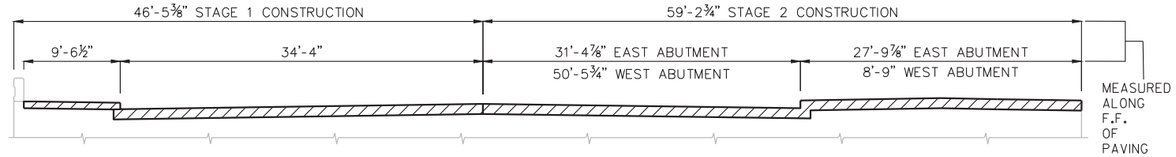
REMOVAL PLAN AT SIDEWALK



WEST ABUTMENT

EAST ABUTMENT

REMOVAL PLAN AT MEDIAN



PAVING BLOCK REMOVAL

LOOKING EAST

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS AS SHOWN ON SHEET 7.

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

EXISTING CONCRETE TO BE REMOVED.

EXISTING 2" DIA. NON-METALLIC STREET LIGHTING CONDUIT TO REMAIN IN PLACE. PROTECT AND AVOID DAMAGE AT JOINT REPAIRS.

▲ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

REMOVAL DETAILS

SHEET 4 OF 12

308

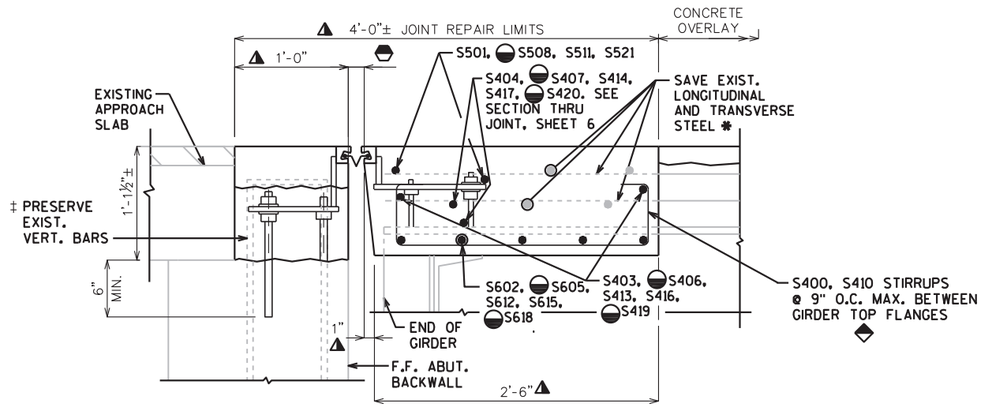
I.D.

DATE:

SCALE = ###

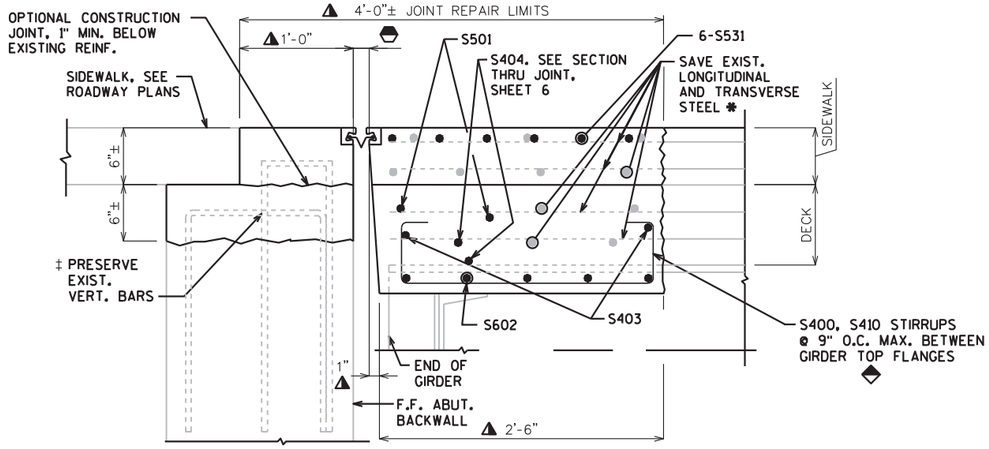
8

8



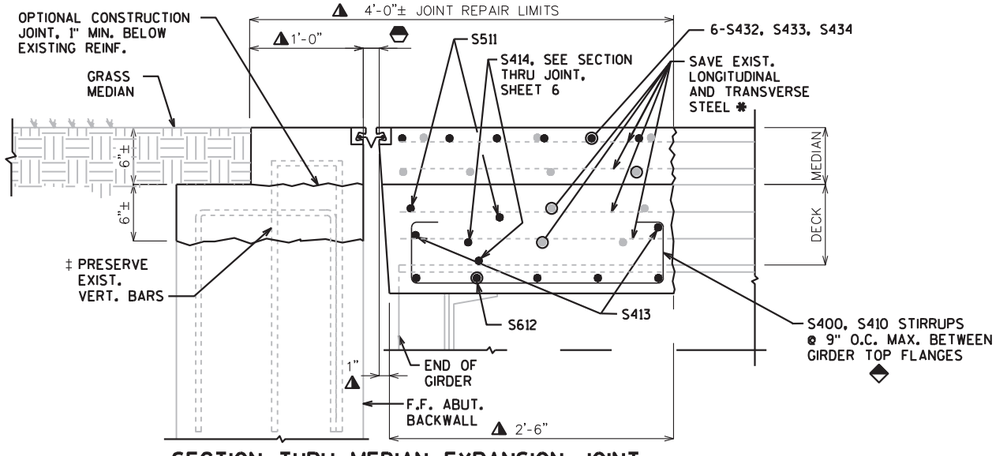
SECTION THRU DECK EXPANSION JOINT

NORMAL TO ℄ SUBSTRUCTURE
SEE SHEET 7 FOR PAVING, BLOCK REINFORCING DETAILS



SECTION THRU SIDEWALK EXPANSION JOINT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU MEDIAN EXPANSION JOINT

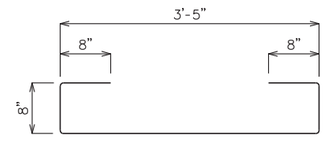
NORMAL TO ℄ SUBSTRUCTURE

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

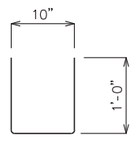
- BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S400	X	66	5'-9"		X	DIAPHRAGM STIRRUP STAGE 1
S501	X	8	23'-0"			DECK TRANSVERSE END STAGE 1
S602	X	20	11'-11"			DIAPHRAGM BOTTOM STAGE 1
S403	X	8	11'-11"			DIAPHRAGM TOP STAGE 1
S404	X	8	11'-11"			EXPANSION JOINT TRANSV. STAGE 1
S605	X	10	3'-9"			DIAPHRAGM BOTTOM STAGE 1 DOWEL
S406	X	4	2'-8"			DIAPHRAGM TOP STAGE 1 DOWEL
S407	X	4	2'-8"			EXPANSION JOINT TRANSV. STAGE 1 DOWEL
S508	X	4	3'-3"			DECK TRANSVERSE END STAGE 1 DOWEL
S409	X	6	4'-0"			SIDEWALK FAN BARS NE CORNER TOP & BOTT.
S410	X	86	5'-9"		X	DIAPHRAGM STIRRUP STAGE 2
S511	X	8	29'-6"			DECK TRANSVERSE END STAGE 2
S612	X	30	14'-3"			DIAPHRAGM BOTTOM STAGE 2
S413	X	12	14'-3"			DIAPHRAGM TOP STAGE 2
S414	X	12	14'-3"			EXPANSION JOINT TRANSV. BARS STAGE 2
S615	X	10	11'-3"			DIAPHRAGM BOTTOM SPLICE STAGE 1
S416	X	4	11'-3"			DIAPHRAGM TOP SPLICE STAGE 1
S417	X	4	11'-3"			EXPANSION JOINT TRANSV. SPLICE STAGE 1
S618	X	10	2'-11"			DIAPHRAGM BOTTOM STAGE 2 DOWEL
S419	X	4	2'-11"			DIAPHRAGM TOP STAGE 2 DOWEL
S420	X	4	2'-11"			EXPANSION JOINT TRANSV. STAGE 2 DOWEL
S521	X	4	3'-3"			DECK TRANSVERSE END STAGE 2 DOWEL
S422	X	6	4'-0"			MEDIAN FAN BARS SW CORNER TOP & BOTT.
S423	X	6	4'-0"			DECK FAN BARS NE CORNER TOP & BOTT.
S424	X	6	4'-0"			DECK FAN BARS SW CORNER TOP & BOTT.
S430	X	48	2'-8"		X	SIDEWALK & MEDIAN DOWEL
S531	X	12	11'-4"		X	SIDEWALK TRANSVERSE
S432	X	6	14'-10"			MEDIAN TRANSVERSE SE CORNER
S433	X	6	19'-6"		X	MEDIAN TRANSVERSE SE CORNER
S434	X	6	13'-1"		X	MEDIAN TRANSVERSE SW CORNER

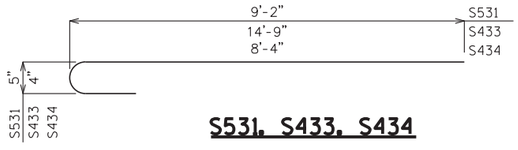
ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.



S400, S410



S430



S531, S433, S434

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

▲ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

◆ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO GIRDERS.

◒ BAR COUPLERS REQUIRED, SEE SHEET 9 FOR DETAILS.

TEMPERATURE TABLE		
TEMPERATURE	JOINT OPENING	
	W. ABUT.	E. ABUT.
5°	2⅝"	2⅝"
15°	2⅜"	2⅜"
25°	2½"	2½"
35°	2⅜"	2⅜"
45°	2¼"	2¼"
55°	2⅛"	2⅛"
65°	2"	2"
75°	1⅞"	1⅞"
85°	1⅞"	1⅞"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

STATE PROJECT NUMBER

1000-51-72

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION JOINT DETAILS 1 & BILL OF BARS

SHEET 5 OF 12

309

I.D.

DATE:

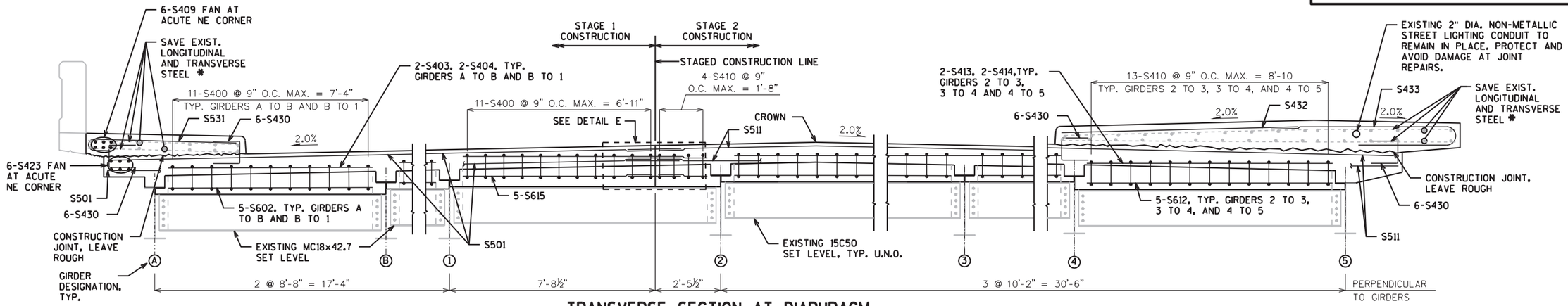
SCALE = ###

8

8

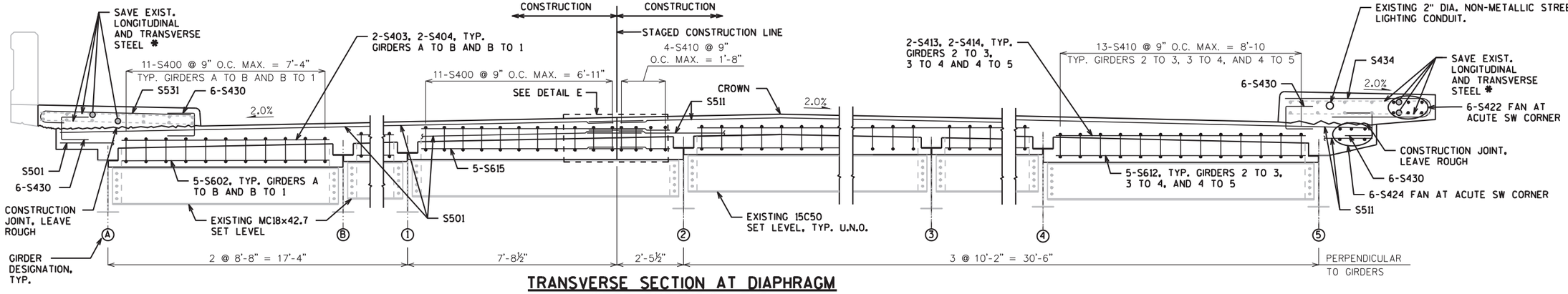
STATE PROJECT NUMBER

1000-51-72



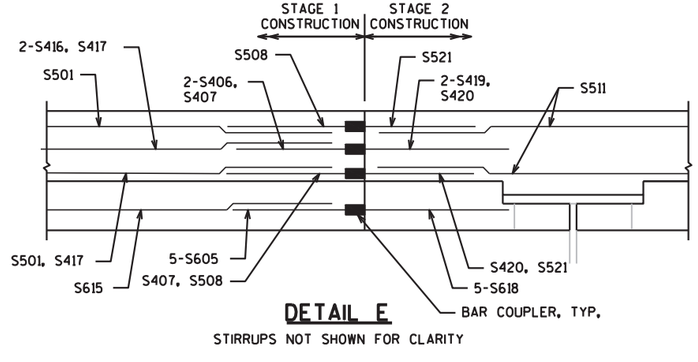
TRANSVERSE SECTION AT DIAPHRAGM EAST EXPANSION END

(LOOKING EAST AT EAST ABUTMENT)



TRANSVERSE SECTION AT DIAPHRAGM WEST EXPANSION END

(LOOKING EAST AWAY FROM WEST ABUTMENT)



DETAIL E

STIRRUPS NOT SHOWN FOR CLARITY

LEGEND

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION JOINT DETAILS 2

SHEET 6 OF 12

310

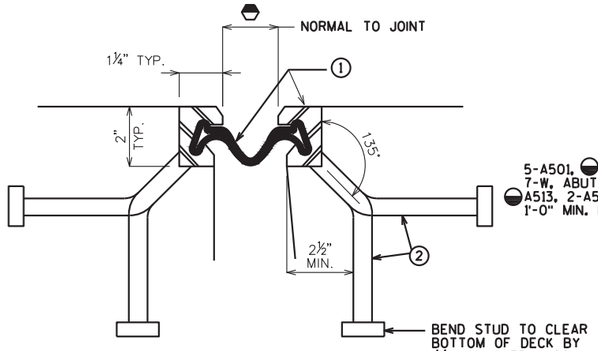
I.D.

DATE:

SCALE = ###

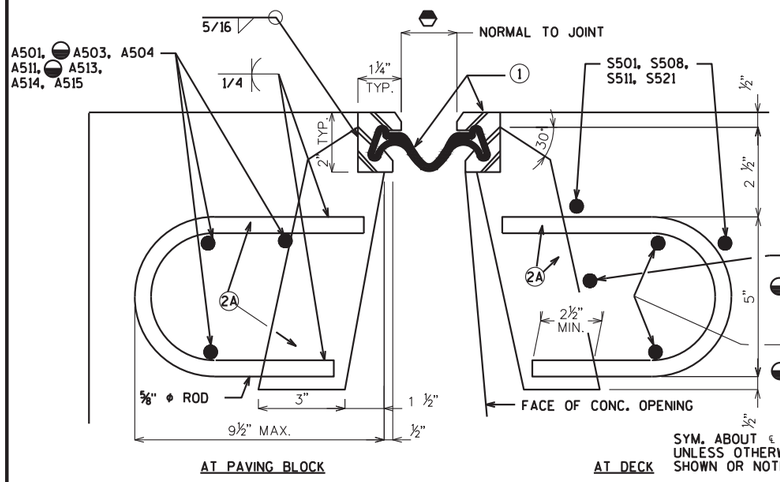
STATE PROJECT NUMBER

1000-51-72



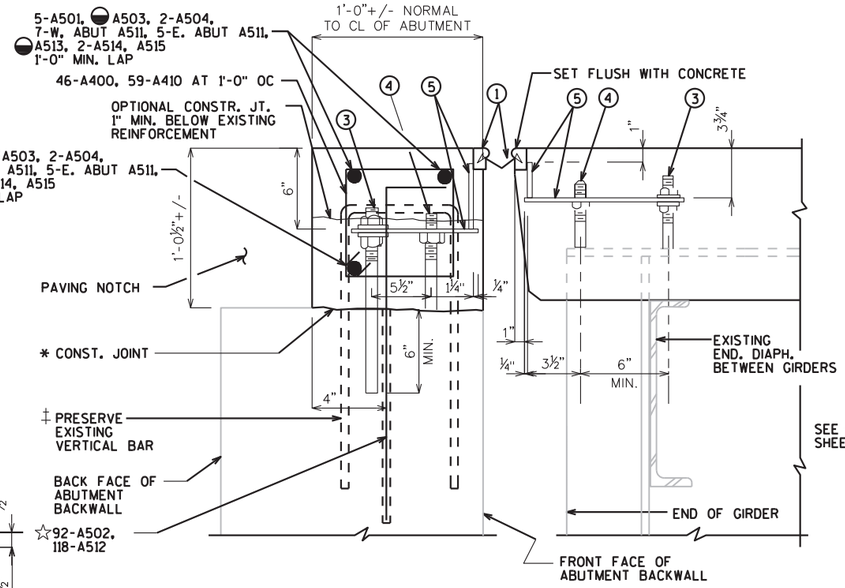
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT MEDIANS AND SIDEWALKS.



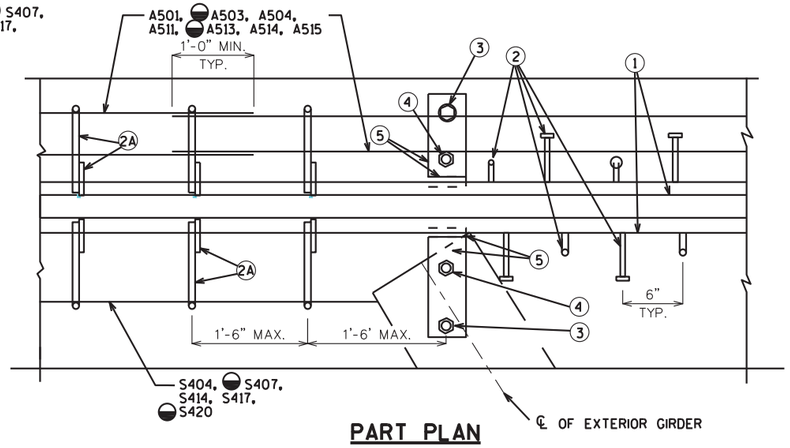
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



TYPICAL SECTION THRU JOINT AT STEEL GIRDER

NORMAL TO ℄ SUBSTRUCTURE AT ABUTMENT



PART PLAN

LEGEND

1. NEOPRENE STRIP SEAL (5-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.
2. STUDS ⅝" ø x 6⅜" LONG AT 6" ALTERNATE CENTERS, WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½"X" THICK ANCHOR PLATE WITH ⅝" ø ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ø THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" ø THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x X½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ø HOLE FOR NO. 3 AND 1" ø HOLE FOR NO. 4.
6. NOT USED
7. ¾" ø x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" ø x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" ø x 2¼". GALVANIZED THREADED COUPLING.
10. SIDEWALK COVER PLATE ⅜" X 3'-0" WIDE X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZED PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.
11. 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

SEE SHEET 8

☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS, EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◒ BAR COUPLERS REQUIRED, SEE SHEET 9 FOR DETAILS.

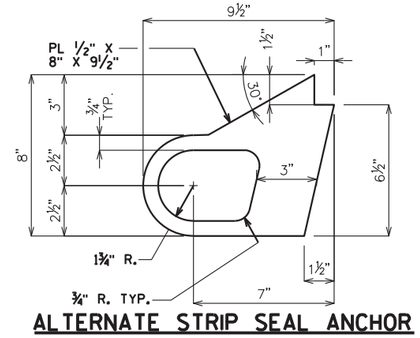
* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

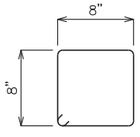
◒ SEE SHEET 5 FOR JOINT WIDTH.

NOTES

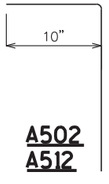
1. ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
2. AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.
3. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
4. SANDBLAST PLATES AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED. SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.
5. ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 153 CLASS C AND D.
6. STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-392.



ALTERNATE STRIP SEAL ANCHOR



A400
A410



A502
A512

- BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A400	X	92	3'-2"		X	PAVING BLOCK STIRRUP STAGE 1
A501	X	30	8'-0"			PAVING BLOCK TRANSV. ROAD STAGE 1
☆◒ A502	X	92	3'-1"		X	PAVING BLOCK VERTICAL STAGE 1
A503	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 1 DOWEL
A504	X	12	5'-1"			PAVING BLOCK TRANSV. SIDEWALK STAGE 1
A410	X	118	3'-2"		X	PAVING BLOCK STIRRUP STAGE 2
A511	X	36	8'-1"			PAVING BLOCK TRANSV. ROAD STAGE 2
☆◒ A512	X	118	3'-1"		X	PAVING BLOCK VERTICAL STAGE 2
A513	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 2 DOWEL
A514	X	12	7'-8"			PAVING BLOCK TRANSV. MEDIAN SE STAGE 2
A515	X	3	8'-4"			PAVING BLOCK TRANSV. MEDIAN SW STAGE 2

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL, EXP. JT. & ABUT. BILL OF BARS

SHEET 7 OF 12

311

I.D.

DATE:

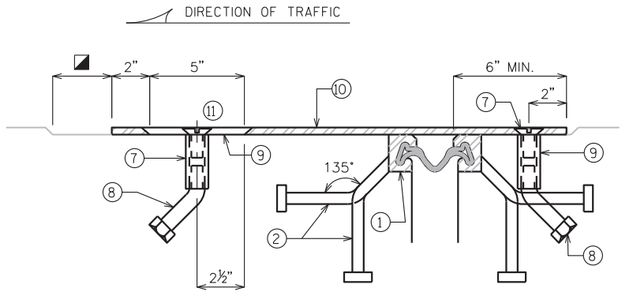
SCALE = ####

8

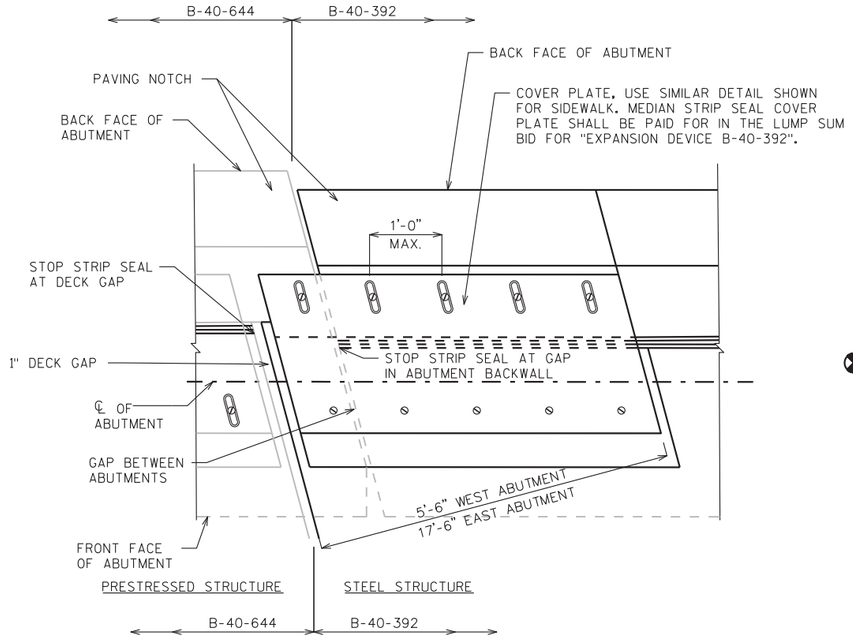
8

STATE PROJECT NUMBER

1000-51-72

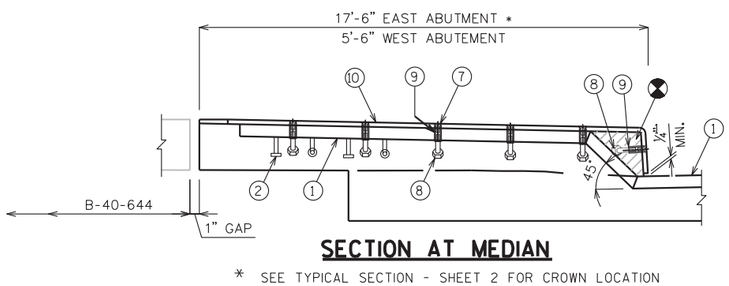


SECTION B-B



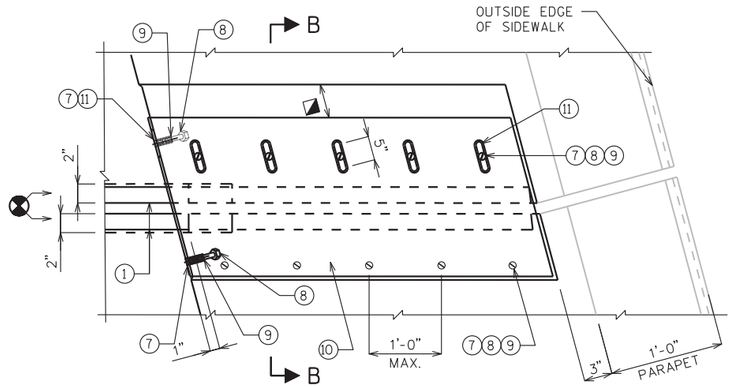
EXPANSION JOINT PLAN AT MEDIAN

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR



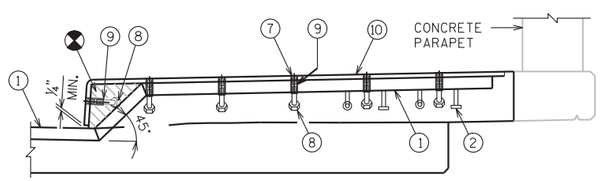
SECTION AT MEDIAN

* SEE TYPICAL SECTION - SHEET 2 FOR CROWN LOCATION

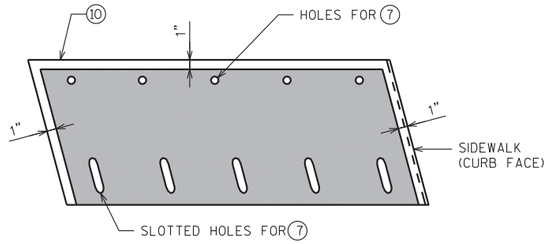


PLAN AT SIDEWALK

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR



SECTION AT SIDEWALK



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE)

APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NOTES

SEE SHEET 7 LEGEND FOR MATERIAL NOTES.

LEGEND

- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIM. ALONG SKEW PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL COVER PLATE

SHEET 8 OF 12

312

I.D.

DATE:

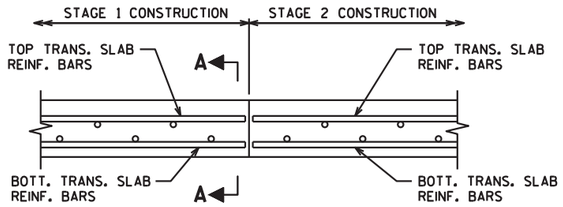
SCALE = # # #

8

8

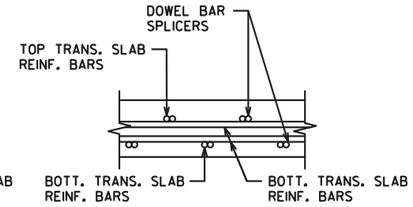
STATE PROJECT NUMBER

1000-51-72



SECTION THRU DECK

(LOOKING EAST)



SECTION A-A

DOWEL BAR SPLICER LAP LENGTHS

BAR SIZE	4	5	6
f'c = 4000	2'-3"	2'-11"	3'-6"

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

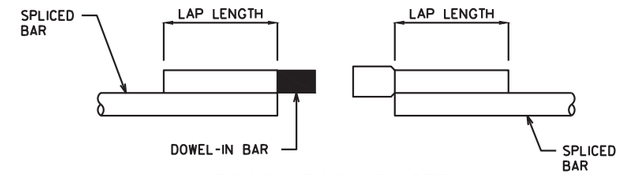
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

(1) MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

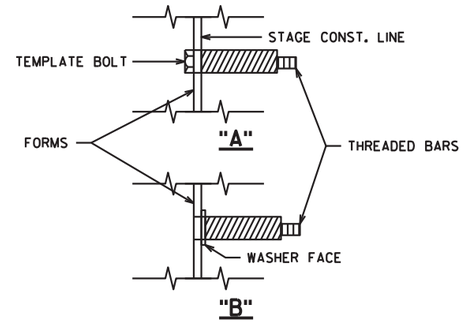
WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

BAR SPLICER (COUPLER) DETAILS

SHEET 9 OF 12

313

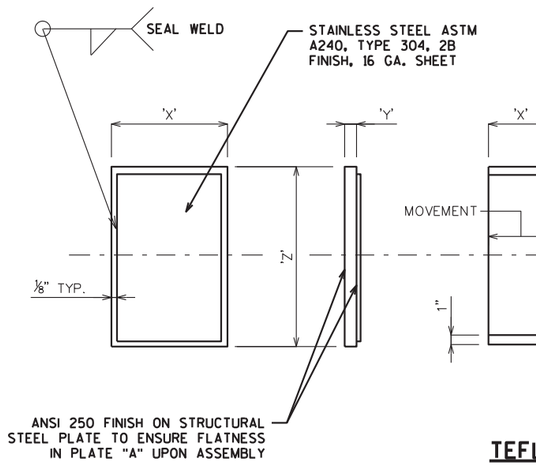
I.D.

DATE:

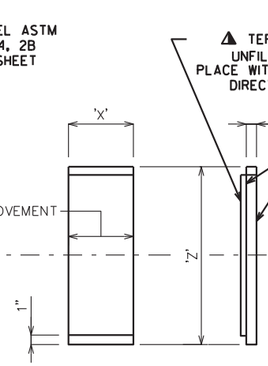
SCALE = ###

STATE PROJECT NUMBER

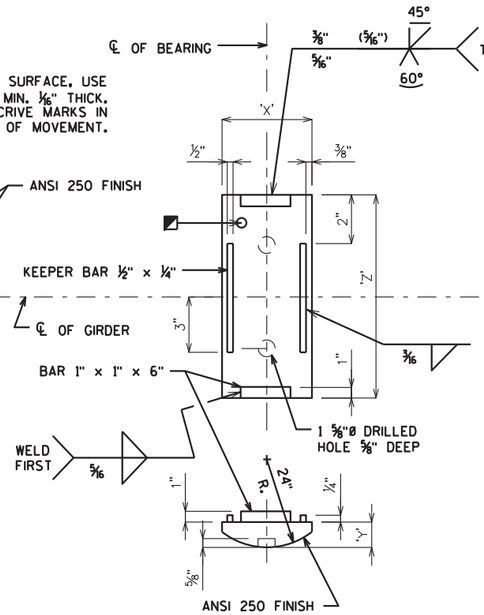
1000-51-72



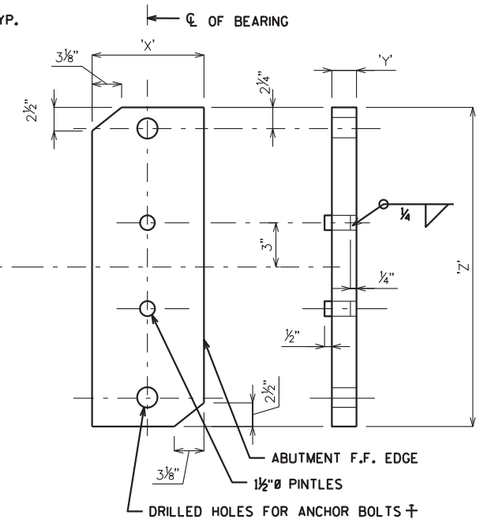
TOP PLATE 'A'



TEFLON COATED PLATE 'B'

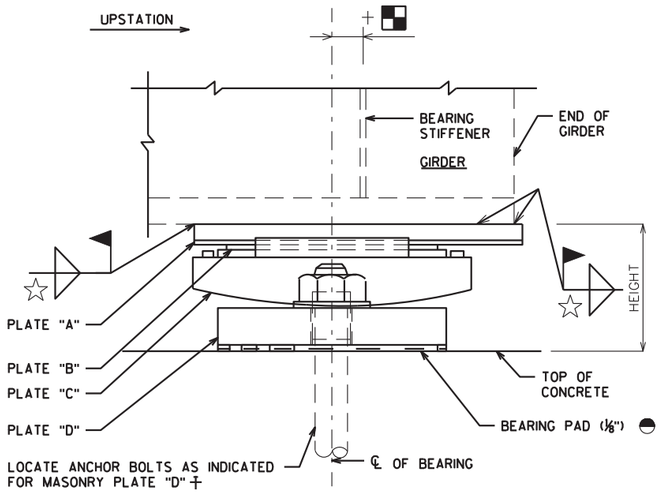


ROCKER PLATE 'C'



TYPE I

MASONRY PLATE 'D'



EXPANSION BEARING ASSEMBLY

◓ 5/16" SHIM PLATE REQUIRED

18" BEARING AT ABUTMENT

CAP. KIPS	PLATE A			PLATE B			PLATE C			PLATE D			HEIGHT FEET
	X	Y	Z	X	Y	Z	X	Y	Z	X	Y	Z	
245	1'-1"	⅝"	1'-6"	7"	½"	1'-6"	9"	1 15/16"	1'-8¼"	8"	1½"	2'-8"	0.401

USED AT EAST ABUTMENT GIRDER 5 - 1 REQUIRED

°F	E. ABUT.
30	-0.2
45	0
60	0.2
75	0.3
90	0.5

◪ BEARING OFFSET TABLE

ALL DIMENSIONS IN INCHES
AMBIENT TEMPERATURE DURING GIRDER INSTALLATION

☆ TABLE OF FILLET WELD SIZES

MATERIAL THICKNESS OF THICKER PART JOINED.	⬠ MIN. SIZE OF FILLET WELD
TO ½" INCLUSIVE	3/16"
OVER ½" TO ¾"	¼"
OVER ¾" TO 1 ½"	△ 5/16"
OVER 1 ½"	△ 3/8"

⬠ EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

△ MIN. PASS SIZE IS 5/16"

NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION A153, CLASS C.

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACES, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

IN LIEU OF USING SHIM PLATES FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE PLATE "A" OR MASONRY PLATE "D" BY THE SHIM PLATE THICKNESS.

ALL MATERIALS IN TYPE "A-T" BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-40-392", EACH.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE ⅛" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS +2¼", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE 'X' AND 'Z' DIMENSIONS THAT MATCH MASONRY PLATE "D".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

⚠ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING THE REQUIREMENTS FOUND IN THE STANDARD SPECIFICATIONS.

✝ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT. TWO BOLTS ARE REQUIRED.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, OR ANY OTHER FOREIGN MATTER.

ANCHOR BOLTS TO BE (2) 1½" DIA x 1'-10" LONG.

HEIGHT OF BEARINGS GIVEN IN TABLES INCLUDES ⅛" BEARING PAD, 16 GAGE STAINLESS STEEL SHEET AND ⅛" TEFLON SURFACE.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION BEARING REPLACEMENT

SHEET 10 OF 12

314

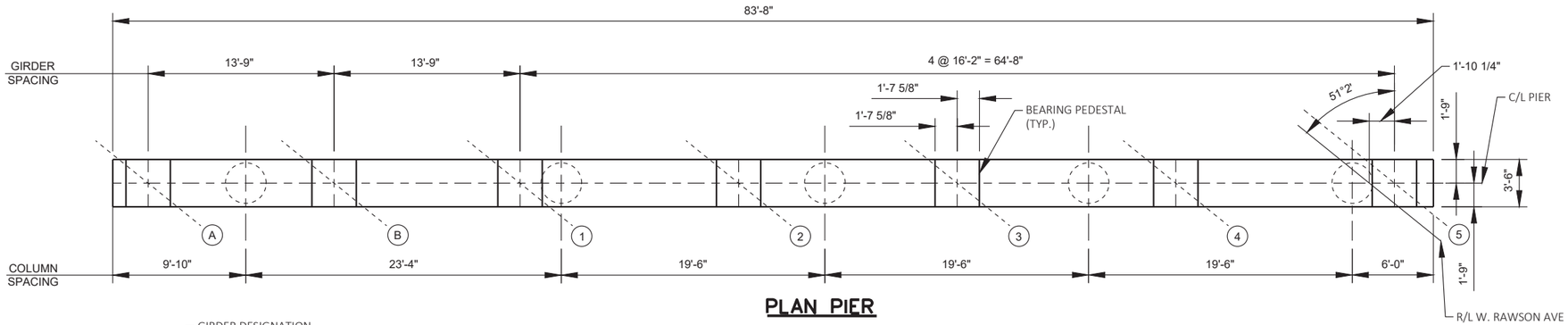
I.D.

DATE:

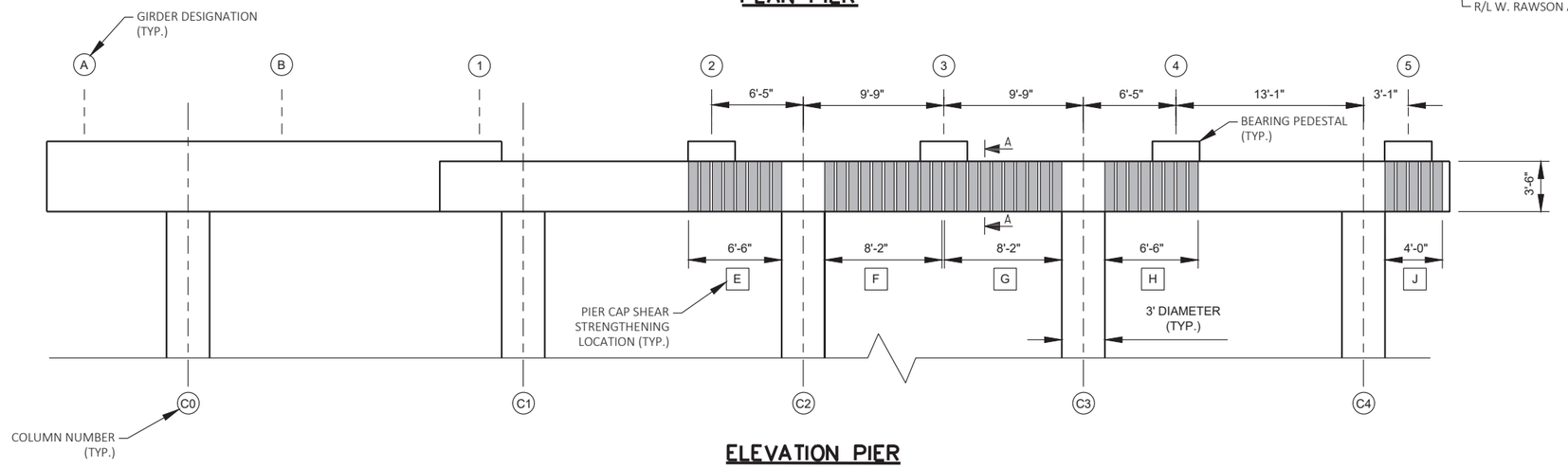
SCALE - ### ###

STATE PROJECT NUMBER

1000-51-72



PLAN PIER



ELEVATION PIER

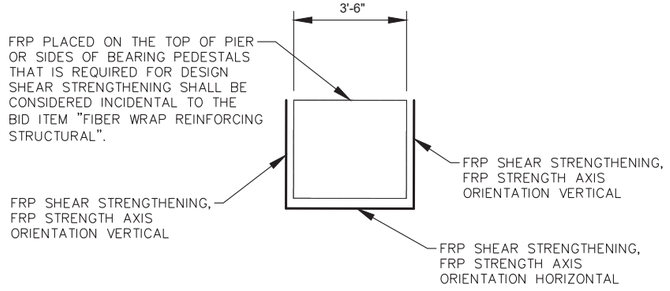
LOOKING EAST

PIERS 1 AND 3

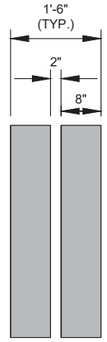
SHEAR STRENGTHENING LOCATION	REQ'D FACTORED SHEAR CAPACITY (KIPS)	EXISTING FACTORED SHEAR CAPACITY (KIPS)	ADDT'L FACTORED SHEAR CAPACITY REQ'D (KIPS)
E	416	338	78
F	320	217	103
G	320	217	103
H	416	338	78
J	600	434	166

PIER 2

SHEAR STRENGTHENING LOCATION	REQ'D FACTORED SHEAR CAPACITY (KIPS)	EXISTING FACTORED SHEAR CAPACITY (KIPS)	ADDT'L FACTORED SHEAR CAPACITY REQ'D (KIPS)
E	381	280	101
F	294	192	102
G	294	192	102
H	381	280	101
J	558	434	124



SECTION A-A



FRP SHEAR STRENGTHENING STRIP SPACING

NOTES

AREAS AND LOCATIONS FOR CONCRETE SURFACE REPAIR ARE APPROXIMATE. PERFORM REPAIRS AS DIRECTED BY THE FIELD ENGINEER.

THE FINISHED CONCRETE SURFACE SHALL MATCH THE SHAPE AND FINISH OF THE ORIGINAL CONCRETE SURFACE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER TO PROVIDE ADDITIONAL CONCRETE.

DIMENSIONS ARE TAKEN FROM EXISTING STRUCTURE PLANS.

FRP NOTES

IN REGION WHERE FRP IS TO BE APPLIED, THE FIELD ENGINEER TO DETERMINE LOCATIONS WHERE "CONCRETE SURFACE REPAIR" IS REQUIRED. WORK TO BE DONE BEFORE FIBER WRAPS APPLIED, IF NEEDED.

"CONCRETE SURFACE REPAIR" MATERIAL MUST BE ON THE DEPARTMENTS APPROVED PRODUCTS LIST AND SHOULD BE SUITABLE FOR VERTICAL AND OVERHEAD APPLICATIONS.

REMOVE AND REPLACE UNSOUND CONCRETE FROM PIER CAP PER "CONCRETE SURFACE REPAIR" ITEM.

ONLY THE THEORETICAL LIMITS OF FRP REPAIR ARE GIVEN. ANY ADDITIONAL FRP LENGTH FOR CONSTRUCTIBILITY, DEVELOPMENT, OR OFFSET IS TO BE DETERMINED BY THE FRP MANUFACTURER. THE FRP IS TO BE UNIFORMLY DISTRIBUTED ALONG THE PIER CAP.

THE ADDITIONAL FACTORED SHEAR CAPACITY REQUIRED SHOWN IN THE TABLE IS THE FACTORED SHEAR FORCE, IN KIPS, TO BE PROVIDED BY THE FRP FABRIC INSTALLATION.

PIER EXISTING MATERIAL STRENGTHS: CONCRETE f'c = 3.5 KSI, REINFORCING STEEL fy = 40 KSI.

EXISTING FACTORED SHEAR CAPACITY IS BASED ON AS-BUILT PLANS.

PROVIDE 2" MINIMUM CLEAR DISTANCE BETWEEN VERTICAL WRAPS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

PIER STRENGTHENING

SHEET 11 OF 12

315

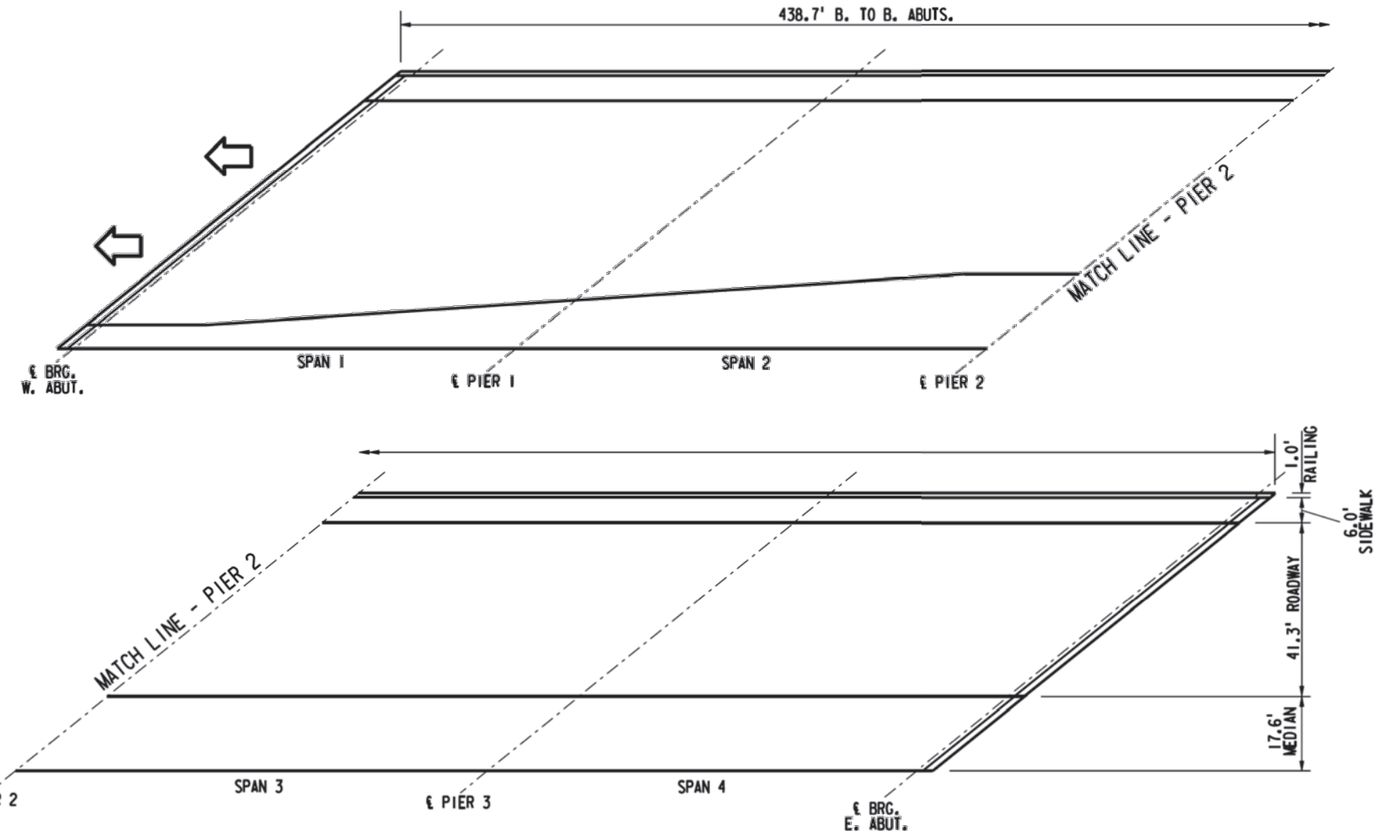
I.D.

DATE:

SCALE = # # # #

STATE PROJECT NUMBER

1000-51-72



PLAN

NOTE: NO DEFECTS WERE OBSERVED ON THIS DECK AT THE TIME OF THE SURVEY.

N

PROPOSED REHABILITATION AREAS

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-40-392	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd²	2136.7	
SHADE/DEBRIS	yd²	0	
PREPARATION, DECKS, TYPE 1	yd²	0	0
PREPARATION, DECKS, TYPE 2	yd²	0	0
FULL DEPTH DECK REPAIR	yd²	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY
INFRARED INSPECTION DATE: 10/19/17
INFRARED SURVEY TAKEN BY AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-392

DRAWN BY WAR | PLANS CK'D. KWG

INFRARED DECK SURVEY

SHEET 12 OF 12

316

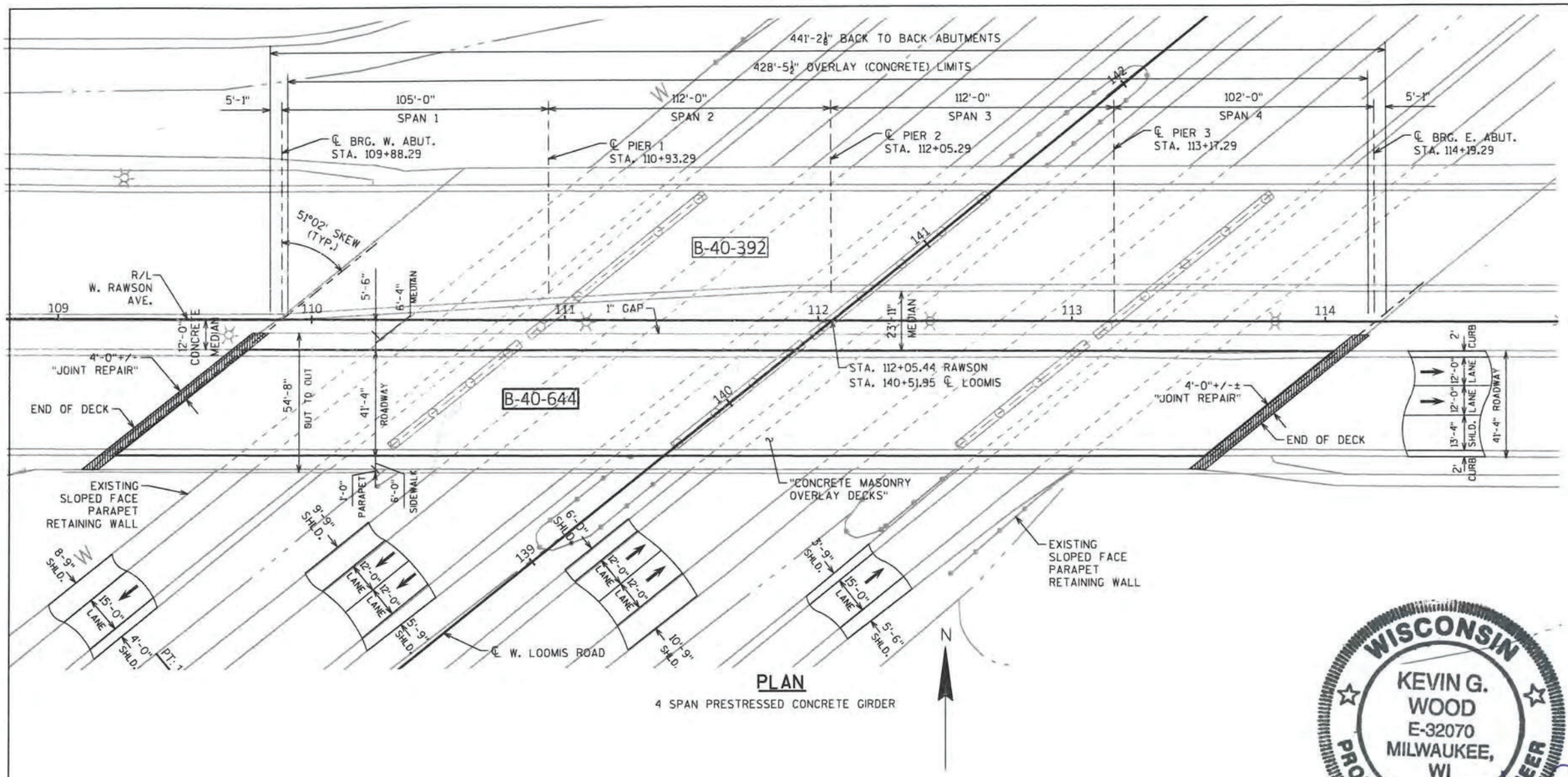
I.D.

DATE:

SCALE = ###

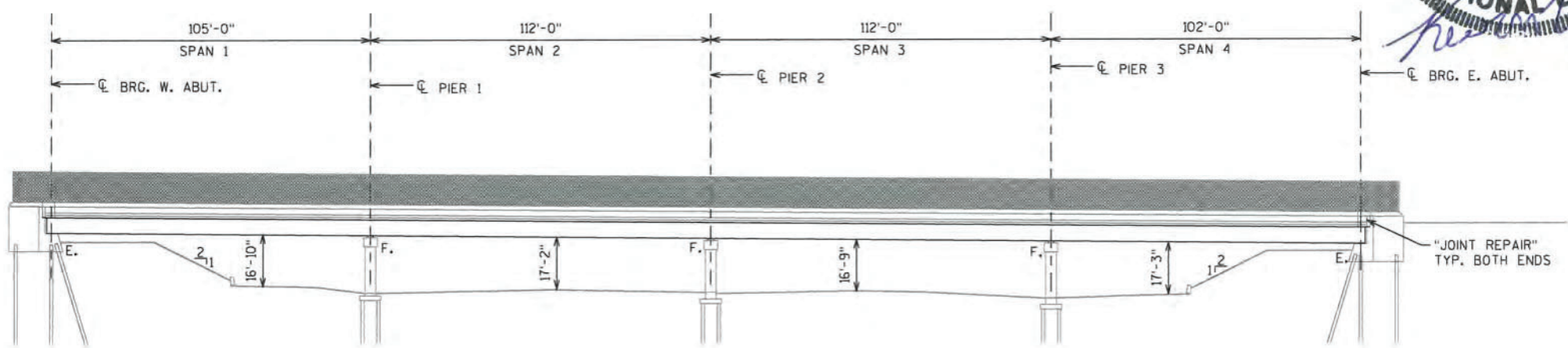
8

8



PLAN

4 SPAN PRESTRESSED CONCRETE GIRDER



ELEVATION

NORMAL TO SUBSTRUCTURE UNITS

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20

NORTH FASCIA GIRDER
INVENTORY RATING: HS-11
OPERATING RATING: HS-18

INTERIOR GIRDER
INVENTORY RATING: HS-23
OPERATING RATING: HS-41
WIS. STD. PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES

CONCRETE MASONRY SUPERSTRUCTURE ___ f'c = 4,000 PSI
ALL OTHERS ___ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 ___ fy = 60,000 PSI

SCOPE OF WORK B-40-644

1. PLACE OVERLAY ON SLAB
2. CONCRETE SURFACE REPAIR
3. JOINT REPLACEMENT

TRAFFIC DATA

WEST RAWSON AVENUE
ADT = 9200 (2019)
RDS = 40 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. CONSTRUCTION STAGING
4. REMOVAL DETAILS
5. EXPANSION JOINT DETAILS 1 & BILL OF BARS
6. EXPANSION JOINT DETAILS 2
7. STRIP SEAL EXP. JT. & ABUTMENT BILL OF BARS
8. STRIP SEAL COVER PLATES
9. BAR SPLICER (COUPLER) DETAILS
10. INFRARED DECK SURVEY

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
5-1-2018

BUREAU OF STRUCTURES CONTACT:
BILL DREHER (608) 266-8489

CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRÄEF
One Honey Creek Corporate Center
125 South 84th Street,
Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 05/08/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-40-644

EB WEST RAWSON AVE. OVER WEST LOOMIS ROAD

COUNTY	~~TOWN~~/CITY/~~VILLAGE~~
MILWAUKEE	FRANKLIN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
WAR	KGW	WAR	KGW

GENERAL PLAN & ELEVATION

SHEET 1 OF 10

317

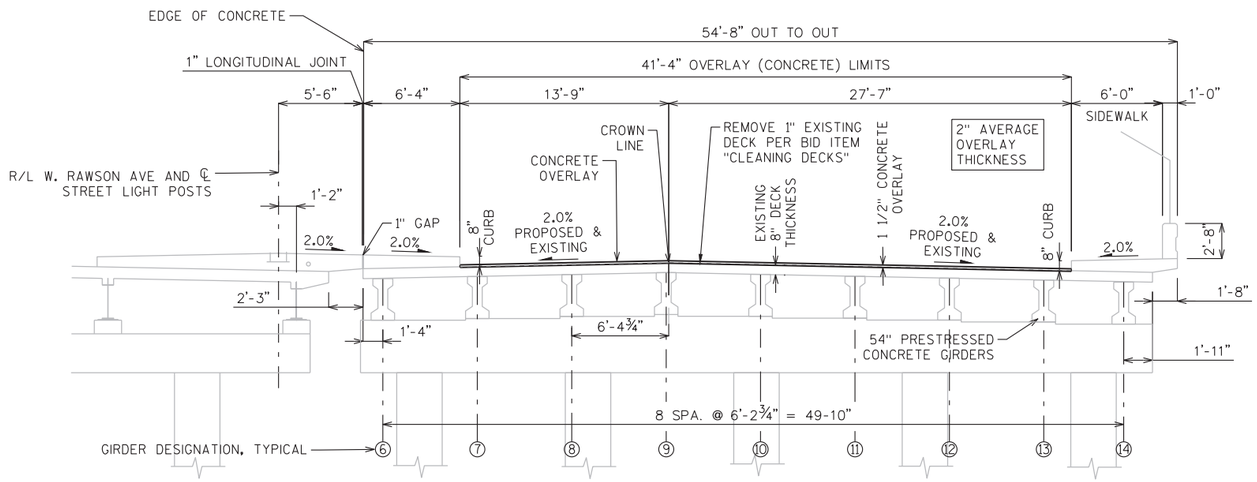
I.D.

DATE:

SCALE = ###

8

8



WESTBOUND LANES
B-40-392

EASTBOUND LANES
B-40-644

TYPICAL SECTION
LOOKING EAST

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	PIER 3	EAST ABUT.	SUPER.	TOTAL
203.0225.S	DEBRIS CONTAINMENT B-40-644	LS	-	-	-	-	-	-	1
502.3100	EXPANSION DEVICE B-40-644	LS	-	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	10	-	-	-	10	2,010	2,030
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EA	91	-	-	-	91	-	182
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	800	-	-	-	800	2,820	4,420
505.0904	BAR COUPLERS NO. 4	EA	-	-	-	-	-	8	8
505.0905	BAR COUPLERS NO. 5	EA	3	-	-	-	3	4	10
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	-	20	20
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	-	8	8
509.0500	CLEANING DECKS	SY	-	-	-	-	-	1,956	1,956
509.1000	JOINT REPAIR	SY	-	-	-	-	-	76	76
509.1200	CURB REPAIR	LF	-	-	-	-	-	8	8
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	-	-	-	9	9
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	4	-	-	-	4	140	148
514.0900	ADJUSTING FLOOR DRAINS	EA	-	-	-	-	-	6	6

STATE PROJECT NUMBER
1000-51-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCE TO THE NAVD 88 2012 DATUM.

ROADWAY ALIGNMENT PROVIDED BY WISDOT SE REGION. STRUCTURE STATIONING PROPOSED IS BASED ON ORIGINAL STRUCTURE PLAN DIMENSIONS.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING STRUCTURE B-40-644 IS A 4 SPAN CONTINUOUS PRESTRESSED CONCRETE GIRDER BRIDGE WITH A CLEAR WIDTH OF 41'-4" AND A END-OF-DECK TO END-OF-DECK LENGTH OF 435'-11 1/2". THE ENTIRE BRIDGE DECK IS TO BE PREPARED FOR A NEW CONCRETE OVERLAY.

"PROTECTIVE SURFACE TREATMENT" SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE DECK OVERLAY. "PIGMENTED SURFACE SEALER" TO BE APPLIED TO THE TOP AND INSIDE FACE OF NEW PARAPETS NEAR JOINTS.

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

TOP OF EXISTING DECK ELEVATIONS SHALL BE DETERMINED FROM A FIELD SURVEY AT LOCATIONS DEEMED NECESSARY FOR ESTABLISHING OVERLAY THICKNESS FOR ACCURATE RATINGS AND POINT OF MINIMUM THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE. BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-40-644".

REMOVAL AND REINSTALLATION OF FENCE POST ANCHORAGES, IF REQUIRED, SHALL BE INCIDENTAL TO THE LUMP SUM BID FOR "EXPANSION DEVICE B-40-644"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

CROSS SECTION & QUANTITIES

SHEET 2 OF 10

318

I.D.

DATE:

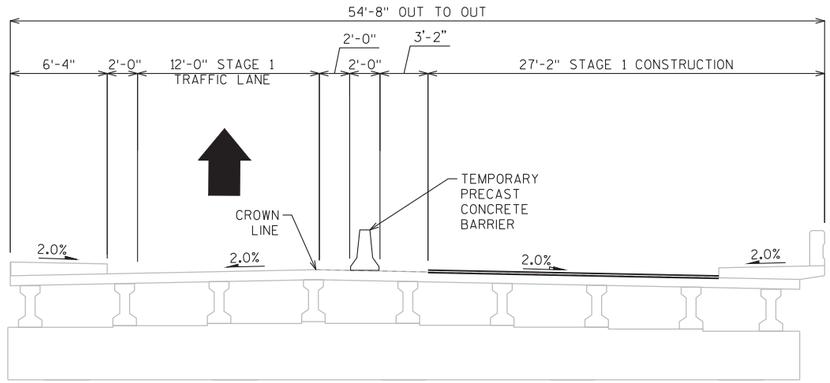
SCALE = ###

8

8

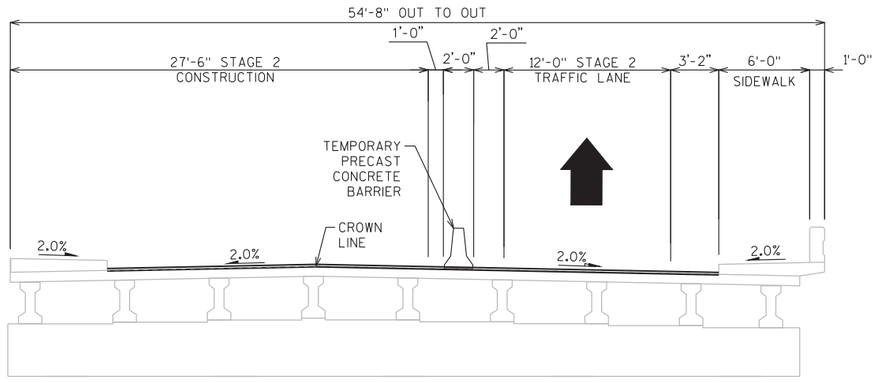
STATE PROJECT NUMBER

1000–51–02



STAGE 1 CONSTRUCTION

LOOKING EAST



STAGE 2 CONSTRUCTION

LOOKING EAST

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–40–644

DRAWN BY WAR | PLANS CK'D. KWG

CONSTRUCTION STAGING

SHEET 3 OF 10

319

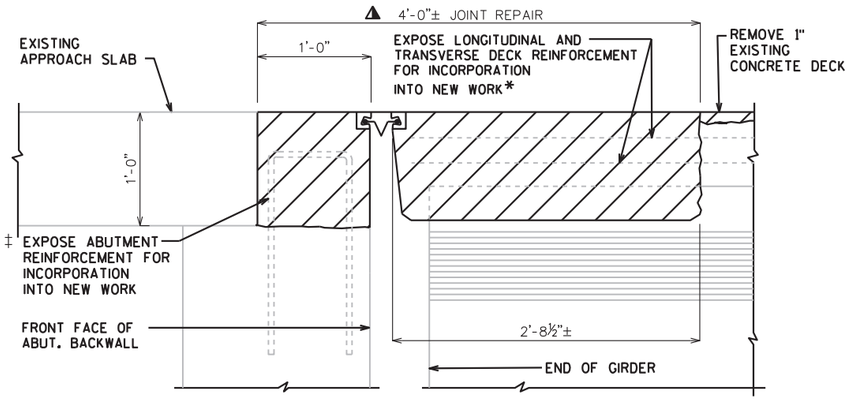
I.D.

DATE:

SCALE = ###

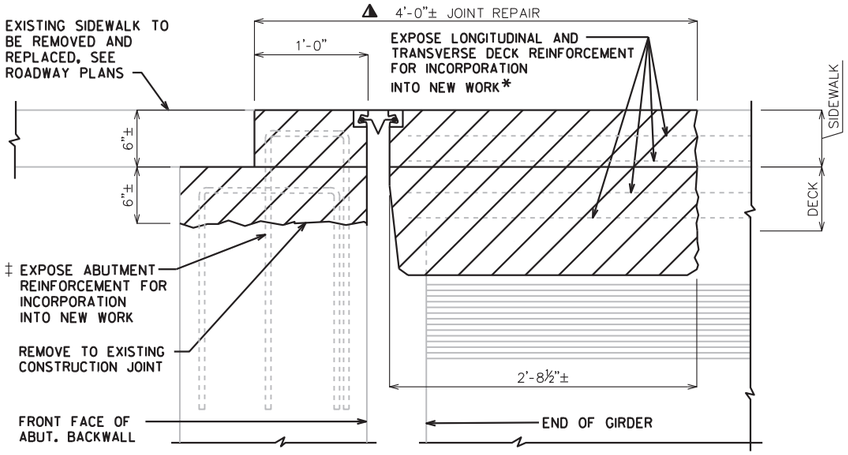
STATE PROJECT NUMBER

1000-51-02



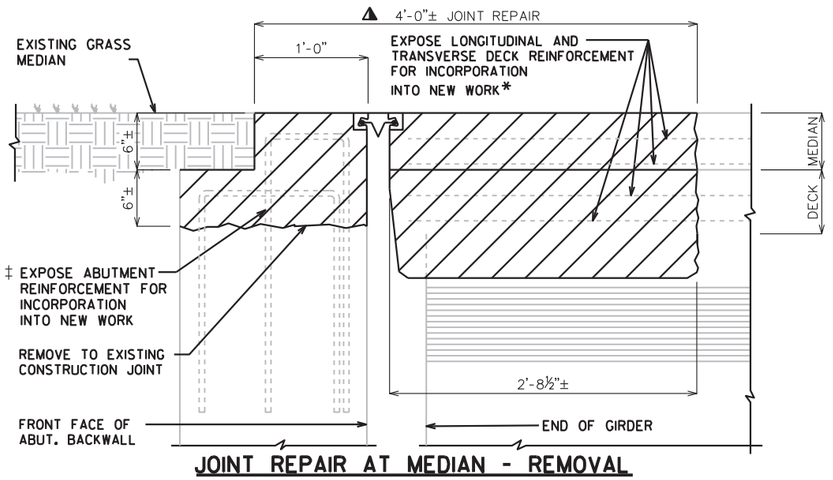
JOINT REPAIR AT DECK - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



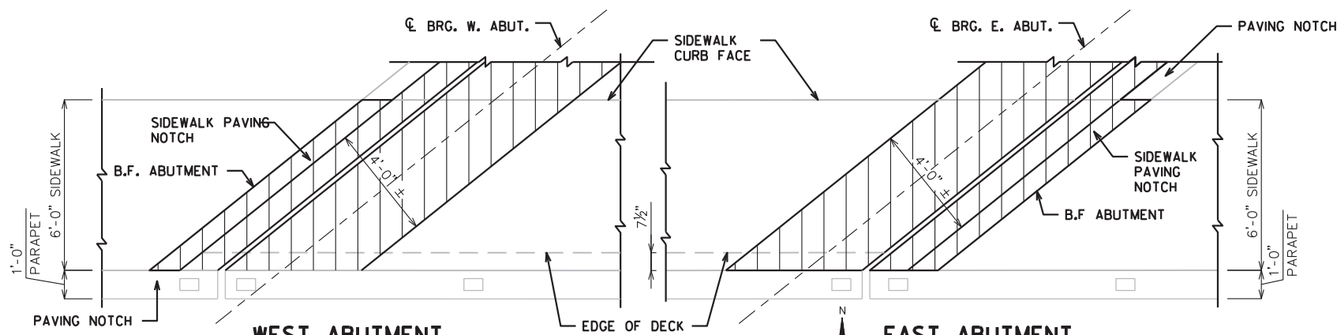
JOINT REPAIR AT SIDEWALK - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



JOINT REPAIR AT MEDIAN - REMOVAL

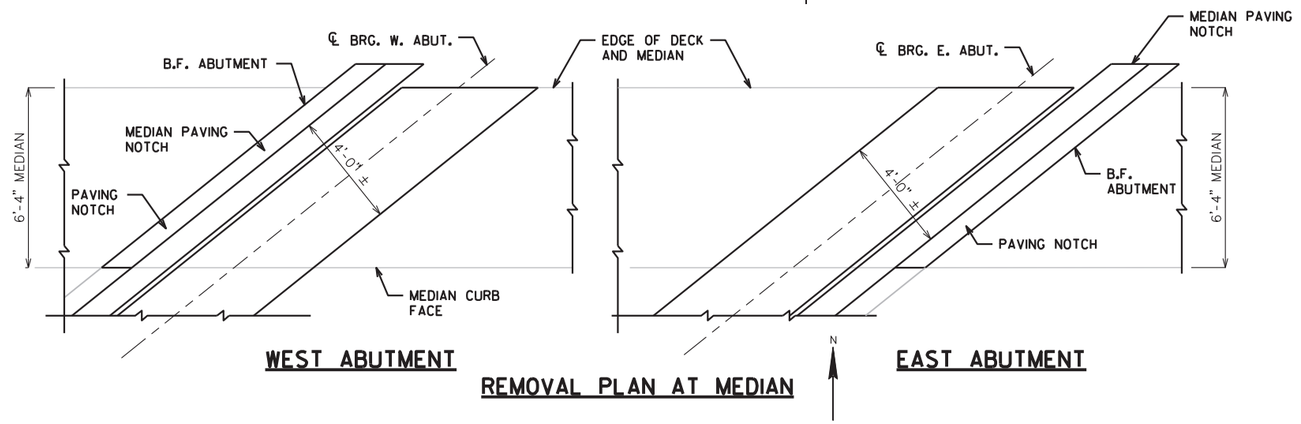
NORMAL TO ℄ SUBSTRUCTURE



WEST ABUTMENT

EAST ABUTMENT

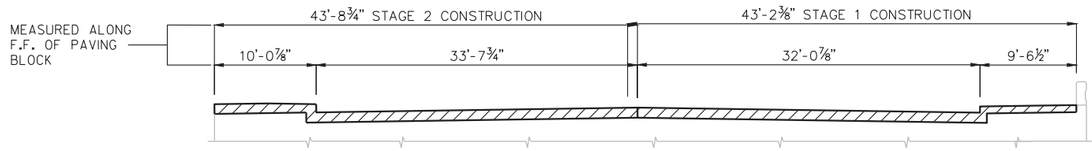
REMOVAL PLAN AT SIDEWALK



WEST ABUTMENT

EAST ABUTMENT

REMOVAL PLAN AT MEDIAN



PAVING BLOCK REMOVAL

LOOKING EAST

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS AS SHOWN ON SHEET 7.

⚠ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

▨ EXISTING CONCRETE TO BE REMOVED.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

REMOVAL DETAILS

SHEET 4 OF 10

320

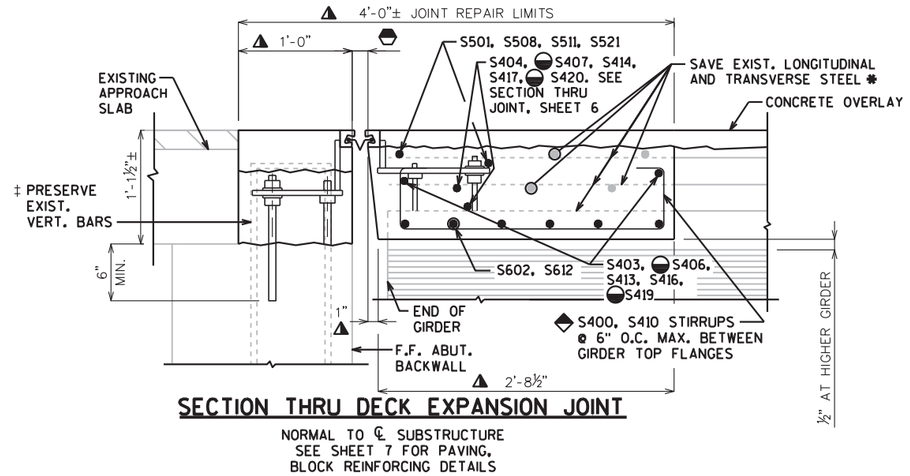
I.D.

DATE:

SCALE = ###

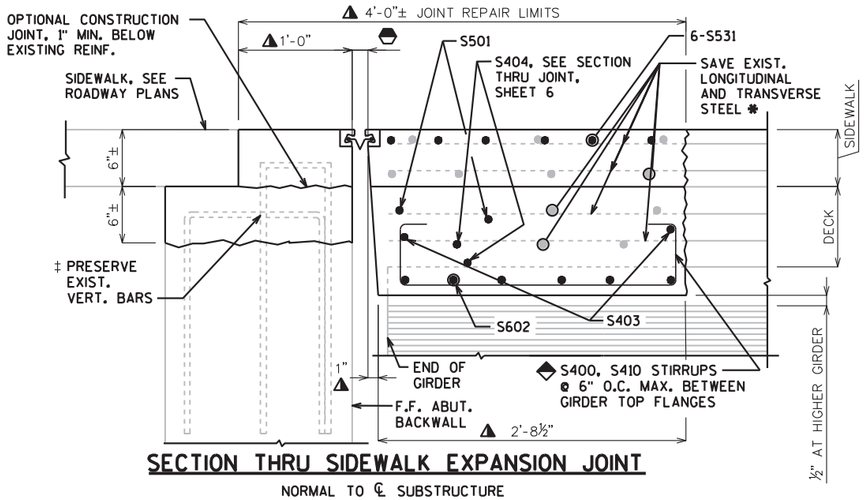
8

8



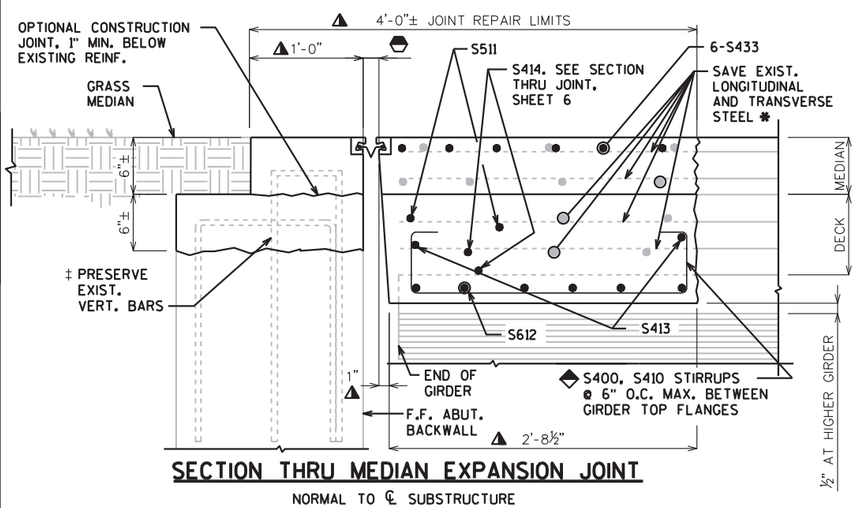
SECTION THRU DECK EXPANSION JOINT

NORMAL TO ℄ SUBSTRUCTURE
SEE SHEET 7 FOR PAVING, BLOCK REINFORCING DETAILS



SECTION THRU SIDEWALK EXPANSION JOINT

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU MEDIAN EXPANSION JOINT

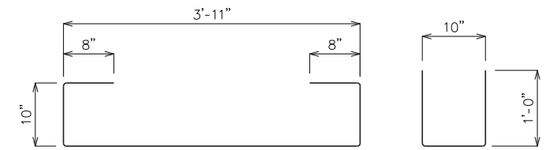
NORMAL TO ℄ SUBSTRUCTURE

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

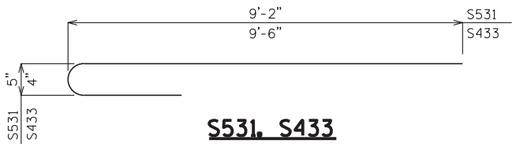
- BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S400	X	82	6'-7"		X	DIAPHRAGM STIRRUP STAGE 1
S501	X	4	40'-0"			DECK TRANSVERSE END STAGE 1
S602	X	48	7'-0"			DIAPHRAGM BOTTOM STAGE 1
S403	X	12	7'-3"			DIAPHRAGM TOP STAGE 1
S404	X	12	7'-3"			EXPANSION JOINT TRANSV. STAGE 1
S405	X	6	4'-0"			DECK FAN BARS SW CORNER TOP & BOTT.
S406	X	4	2'-8"			DIAPHRAGM TOP STAGE 1 DOWEL
S407	X	4	2'-8"			EXPANSION JOINT TRANSV. STAGE 1 DOWEL
S508	X	4	3'-8"			DECK TRANSVERSE END STAGE 1 DOWEL
S409	X	6	4'-0"			SIDEWALK FAN BARS SW CORNER TOP & BOTT.
S410	X	80	6'-7"		X	DIAPHRAGM STIRRUP STAGE 2
S511	X	8	23'-6"			DECK TRANSVERSE END STAGE 2
S612	X	48	7'-0"			DIAPHRAGM BOTTOM STAGE 2
S413	X	16	7'-3"			DIAPHRAGM TOP STAGE 2
S414	X	16	7'-3"			EXPANSION JOINT TRANSV. BARS STAGE 2
S415	X	6	4'-0"			DECK FAN BARS NE CORNER TOP & BOTT.
S416	X	4	6'-7"			DIAPHRAGM TOP SPLICE STAGE 1
S417	X	4	6'-7"			EXPANSION JOINT TRANSV. SPLICE STAGE 1
S419	X	4	1'-11"			DIAPHRAGM TOP STAGE 2 DOWEL
S420	X	4	1'-11"			EXPANSION JOINT TRANSV. STAGE 2 DOWEL
S521	X	4	3'-3"			DECK TRANSVERSE END STAGE 2 DOWEL
S422	X	6	4'-0"			MEDIAN FAN BARS NE CORNER TOP & BOTT.
S430	X	48	2'-8"		X	SIDEWALK & MEDIAN DOWEL
S531	X	12	11'-4"		X	SIDEWALK TRANSVERSE
S433	X	12	11'-1"		X	MEDIAN TRANSVERSE

ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.



S400, S410 **S430**



S531, S433

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

⚠ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

◆ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO GIRDERS.

◒ BAR COUPLERS REQUIRED, SEE SHEET 9 FOR DETAILS.

TEMPERATURE TABLE		
TEMPERATURE	JOINT OPENING	
	W. ABUT.	E. ABUT.
5°	2⅝"	2⅝"
15°	2⅜"	2⅜"
25°	2½"	2½"
35°	2⅜"	2⅜"
45°	2¼"	2¼"
55°	2⅛"	2⅛"
65°	2"	2"
75°	1⅞"	1⅞"
85°	1⅞"	1⅞"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION JOINT DETAILS 1 & BILL OF BARS

SHEET 5 OF 10

321

I.D.

DATE:

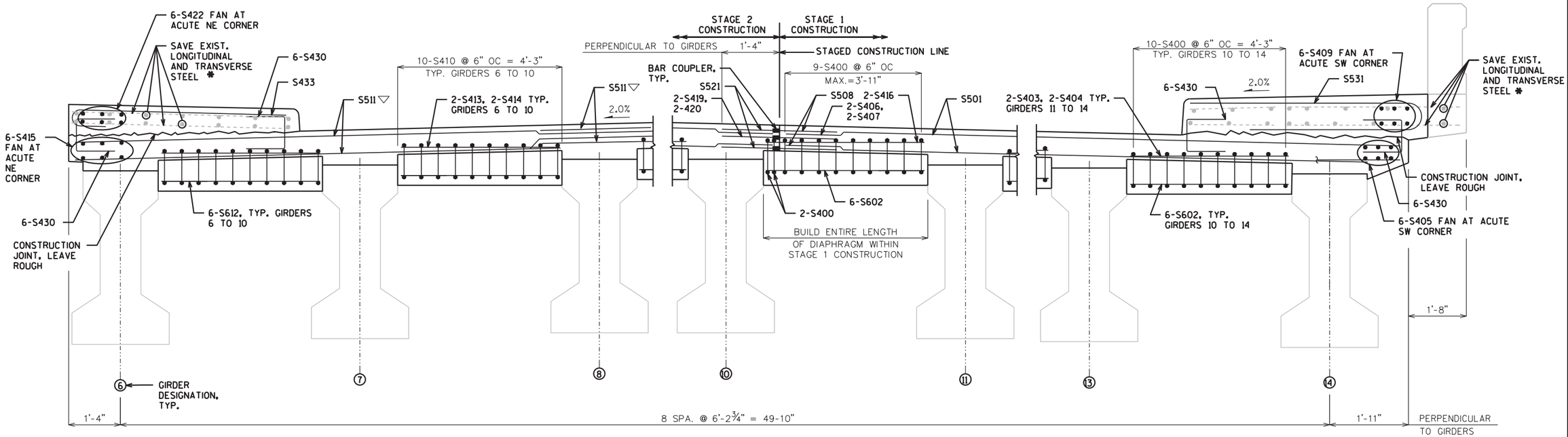
SCALE = ###

8

8

STATE PROJECT NUMBER

1000-51-02



TRANSVERSE SECTION AT DIAPHRAGM EXPANSION END

(LOOKING EAST)

LEGEND

* SAVE AND INCORPORATE 1'-6" MINIMUM OF TRAVERSE REINFORCING BARS.

▽ 3'-1" MIN. LAP #5 BAR.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

EXPANSION JOINT DETAILS 2

SHEET 6 OF 10

322

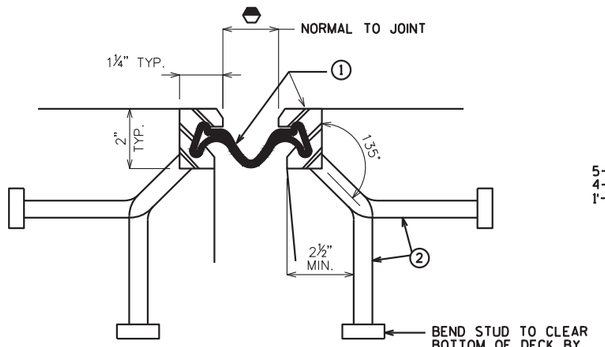
I.D.

DATE:

SCALE = ###

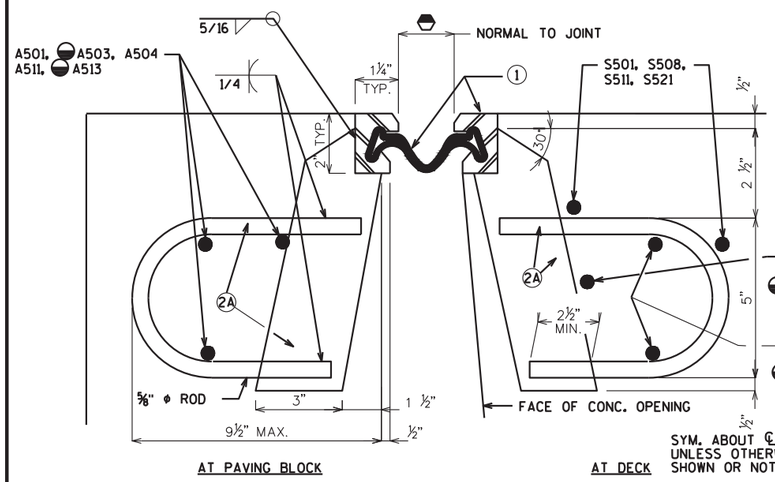
STATE PROJECT NUMBER

1000-51-02



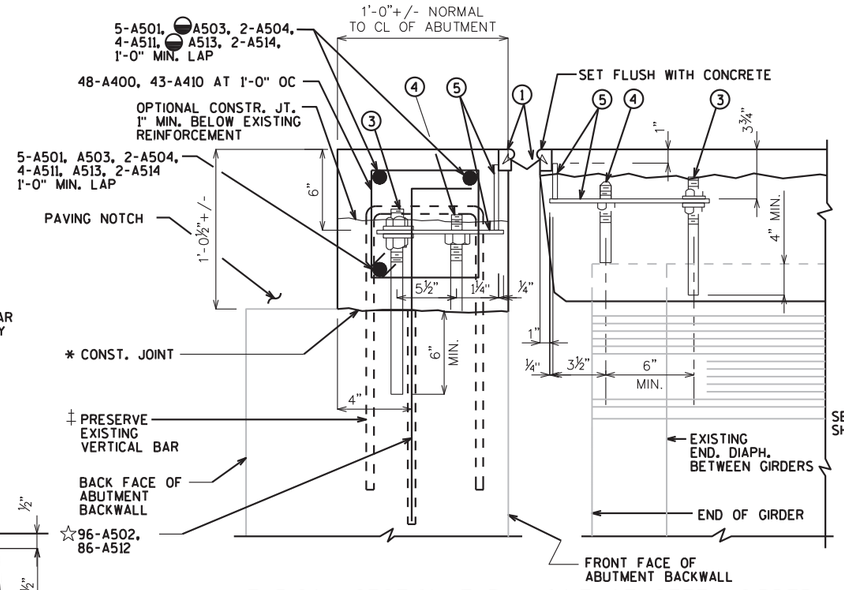
SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT MEDIANS AND SIDEWALKS.



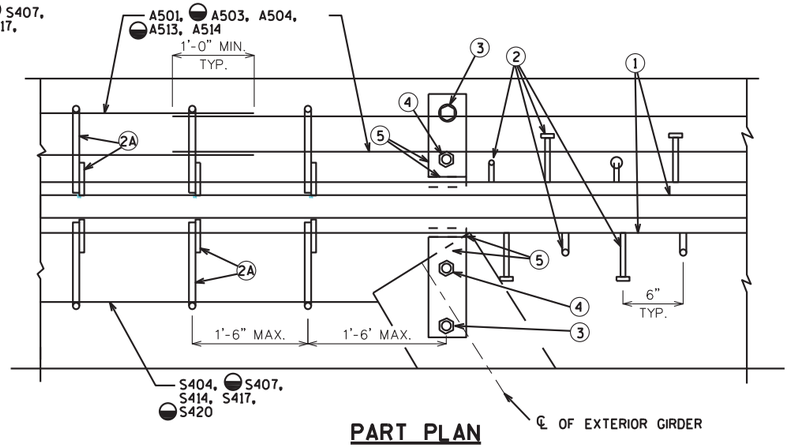
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

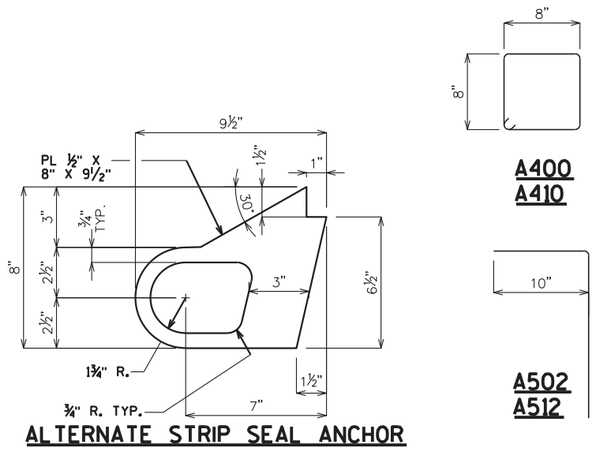


TYPICAL SECTION THRU JOINT AT STEEL GIRDER

NORMAL TO ℄ SUBSTRUCTURE AT ABUTMENT



PART PLAN



ALTERNATE STRIP SEAL ANCHOR

- BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A400	X	96	3'-2"		X	PAVING BLOCK STIRRUP STAGE 1
A501	X	30	7'-6"			PAVING BLOCK TRANSV. ROAD STAGE 1
☆ ◒ A502	X	96	3'-1"		X	PAVING BLOCK VERTICAL STAGE 1
A503	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 1 DOWEL
A504	X	12	5'-1"			PAVING BLOCK TRANSV. SIDEWALK STAGE 1
A410	X	86	3'-2"		X	PAVING BLOCK STIRRUP STAGE 2
A511	X	30	7'-9"			PAVING BLOCK TRANSV. ROAD STAGE 2
☆ ◒ A512	X	86	3'-1"		X	PAVING BLOCK VERTICAL STAGE 2
A513	X	6	1'-2"			PAVING BLOCK TRANSV. STAGE 2 DOWEL
A514	X	12	6'-0"			PAVING BLOCK TRANSV. MEDIAN STAGE 2

LEGEND

1. NEOPRENE STRIP SEAL (5-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.
2. STUDS ⅝" ø x 6⅜" LONG AT 6" ALTERNATE CENTERS, WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½"X" THICK ANCHOR PLATE WITH ⅝" ø ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ø THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" ø THREADED ROD WITH NUT, TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" x X½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE, SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ø HOLE FOR NO. 3 AND 1" ø HOLE FOR NO. 4.
6. NOT USED.
7. ¾" ø x 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" ø x 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" ø x 2¼", GALVANIZED THREADED COUPLING.
10. SIDEWALK COVER PLATE ⅜" X 3'-0" WIDE X LIMITS SHOWN. BEND DOWN FACE OF SIDEWALK WITH HOLES FOR NO. 7. GALVANIZED PLATE AFTER SLIP-RESISTANT SURFACE IS APPLIED.
11. 1" x 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

☆ A502, A512 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◒ BAR COUPLERS REQUIRED, SEE SHEET 9 FOR DETAILS.

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆.

◓ SEE SHEET 5 FOR JOINT WIDTH.

NOTES

1. ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
2. AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.
3. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
4. SANDBLAST PLATES AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED SLIP-RESISTANT SURFACE IS APPLIED TO SIDEWALK COVER PLATES BY THE MANUFACTURER AND THEN HOT DIPPED GALVANIZED TO THEIR RECOMMENDATIONS TO MAINTAIN THE INTEGRITY OF THIS SURFACE.
5. ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 153 CLASS C AND D.
6. STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-30-644.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL, EXP. JT. & ABUT. BILL OF BARS

SHEET 7 OF 10

323

I.D.

DATE:

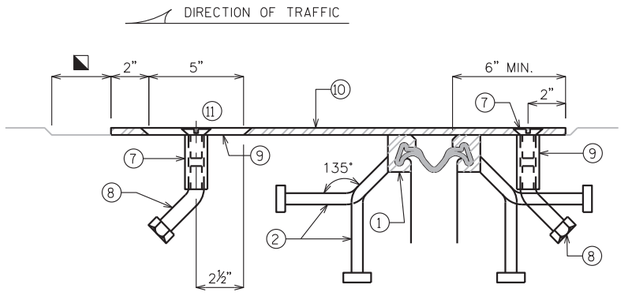
SCALE = # # #

8

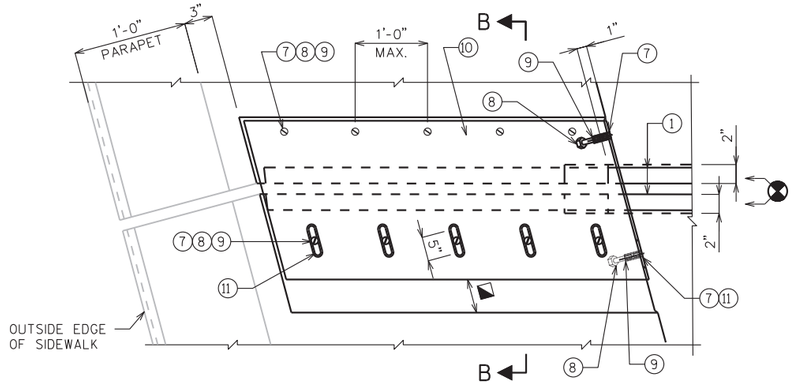
8

STATE PROJECT NUMBER

1000-51-02



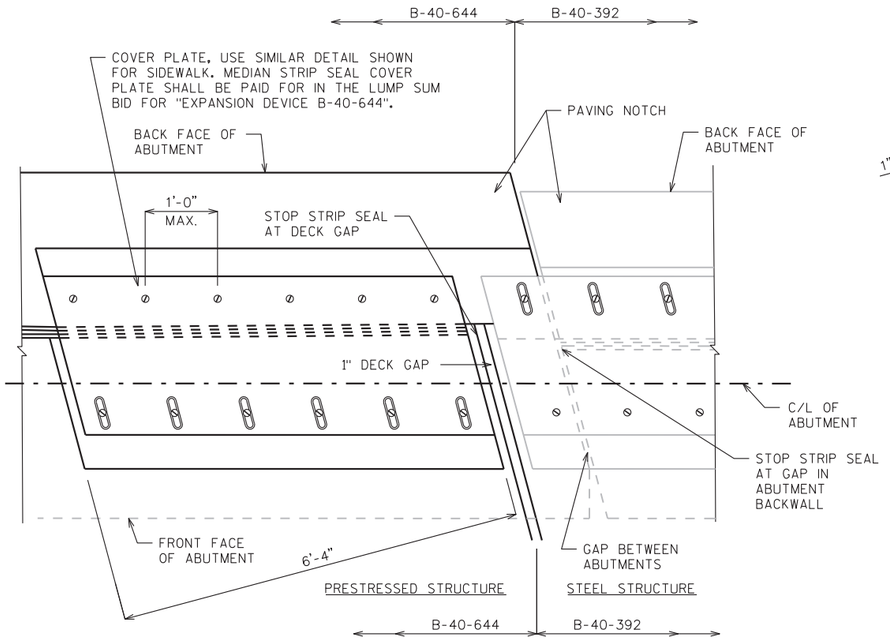
SECTION B-B



PLAN AT SIDEWALK

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR

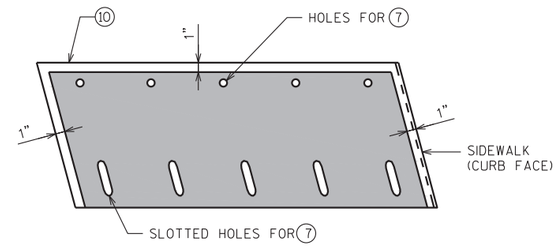
N



EXPANSION JOINT PLAN AT MEDIAN

WEST ABUTMENT SHOWN
EAST ABUTMENT SIMILAR

N



PLAN OF SIDEWALK COVER PLATE WITH SLIP-RESISTANT SURFACE

PLACE SLIP-RESISTANT SURFACE ON TOP WALKING SURFACE IN SHADED AREA ONLY (NOT ON CURB FACE)

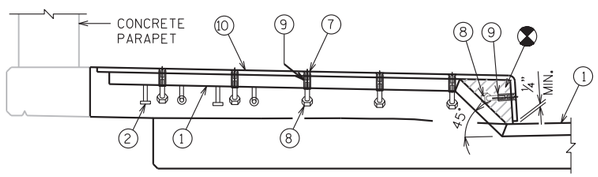
APPROVED SLIP-RESISTANT APPLIED SURFACES FOR STEEL PLATES		
PRODUCT	MANUFACTURER	CONTACT AT
SLIPNOT GRADE 2, STEEL	W. S. MOLNAR COMPANY	1-800-SLIPNOT
ALGRIP, STEEL	ROSS TECHNOLOGY CORP.	1-800-345-8170

NOTES

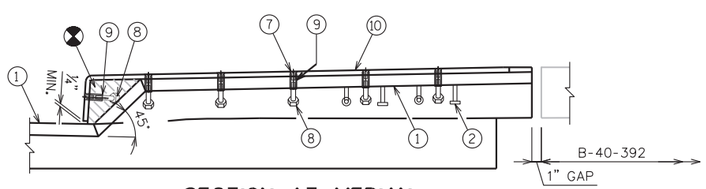
SEE SHEET 7 LEGEND FOR MATERIAL NOTES.

LEGEND

- BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.
- JOINT OPENING DIM. ALONG SKEW PLUS ½"



SECTION AT SIDEWALK



SECTION AT MEDIAN

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL COVER PLATE

SHEET 8 OF 10

324

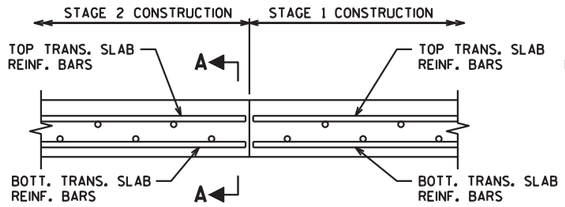
I.D.

DATE:

SCALE = # # # #

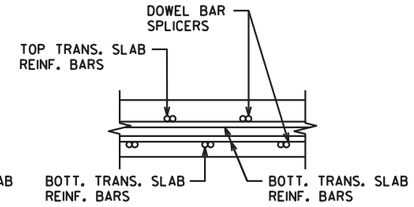
STATE PROJECT NUMBER

1000-51-02



SECTION THRU DECK

(LOOKING EAST)



SECTION A-A

DOWEL BAR SPLICER LAP LENGTHS

BAR SIZE	4	5	6
f'c = 4000	2'-3"	2'-11"	3'-6"

NOTES

STEEL SPLICE (COUPLER) ASSEMBLY SHALL BE AN APPROVED TYPE AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE YIELD STRENGTH OF THE SPLICED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL BE OF MINIMUM 60 ksi YIELD STRENGTH, AND HAVE TENSILE STRENGTH AREA EQUAL OR GREATER THAN THAT OF THE LAPPED REINFORCEMENT BARS.

DOWEL BAR SPLICERS SHALL MEET THE DEFORMATION REQUIREMENTS FOR STANDARD ASTM DEFORMED REINFORCING BARS.

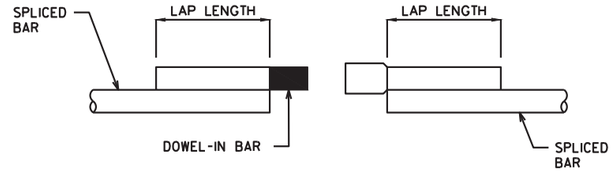
FOR DOWEL BAR SPLICERS, ALL REINFORCEMENT SHALL BE LAPPED AND TIED TO THE SPLICER BARS.

SPLICER (COUPLER) ASSEMBLY IN THE SLAB SHALL BE EPOXY COATED IN ACCORDANCE WITH THE REQUIREMENTS FOR REINFORCEMENT BARS.

OTHER SYSTEMS OF SIMILAR DESIGN MAY BE SUBMITTED TO THE ENGINEER FOR APPROVAL. APPROVAL SHALL BE BASED ON CERTIFIED TEST RESULTS FROM AN APPROVED TESTING LABORATORY THAT THE PROPOSED SPLICER (COUPLER) ASSEMBLY SATISFIES THE FOLLOWING REQUIREMENT:

(1) MINIMUM CAPACITY = 1.25 X fy X AREA OF SPLICED REINFORCEMENT BAR.

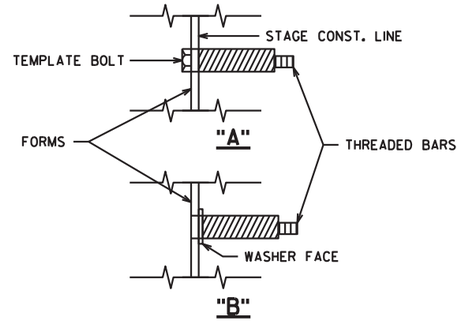
WHERE fy = YIELD STRENGTH OF SPLICED REINFORCEMENT BARS



DOWEL BAR SPLICER

ONE PIECE THREADED SPLICER

SPLICER ALTERNATIVES



INSTALLATION AND SETTING METHODS

"A" SET SPLICER BY MEANS OF A TEMPLATE BOLT
"B" SET SPLICER BY NAILING TO WOOD FORMS OR CEMENTING TO STEEL FORMS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

BAR SPLICER (COUPLER) DETAILS

SHEET 9 OF 10

325

I.D.

DATE:

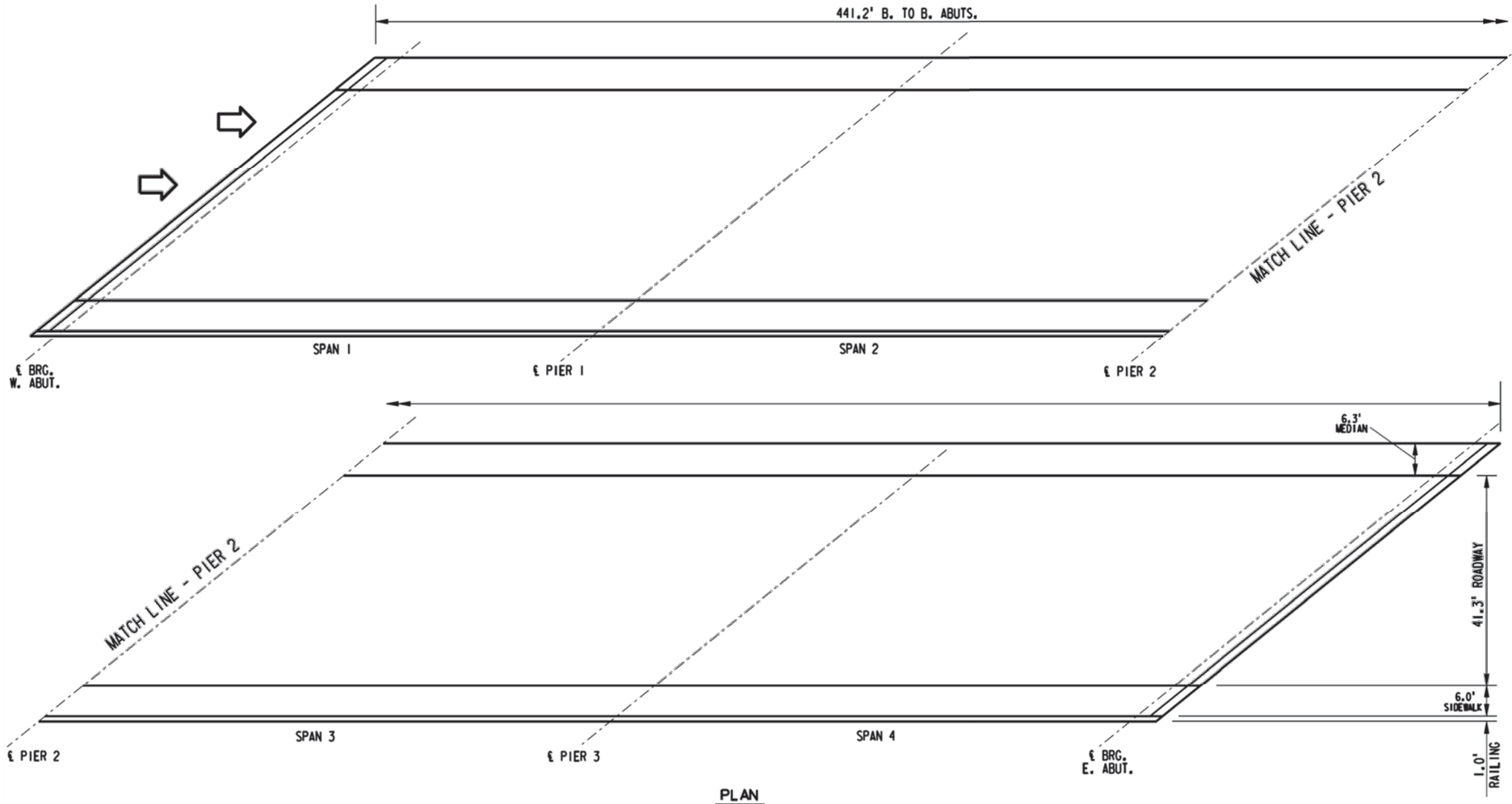
SCALE = ###

8

8

STATE PROJECT NUMBER

1000-51-02



PLAN

NOTE: NO DEFECTS WERE OBSERVED ON THIS DECK AT THE TIME OF THE SURVEY.

N

PROPOSED REHABILITATION AREAS

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-40-644	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	2024.7	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	0	0
PREPARATION, DECKS, TYPE 2	yd^2	0	0
FULL DEPTH DECK REPAIR	yd^2	0	0

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: CONCRETE - NO OVERLAY

INFRARED INSPECTION DATE: 10/19/17

INFRARED SURVEY TAKEN BY AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-644

DRAWN BY WAR | PLANS CK'D. KWG

INFRARED DECK SURVEY

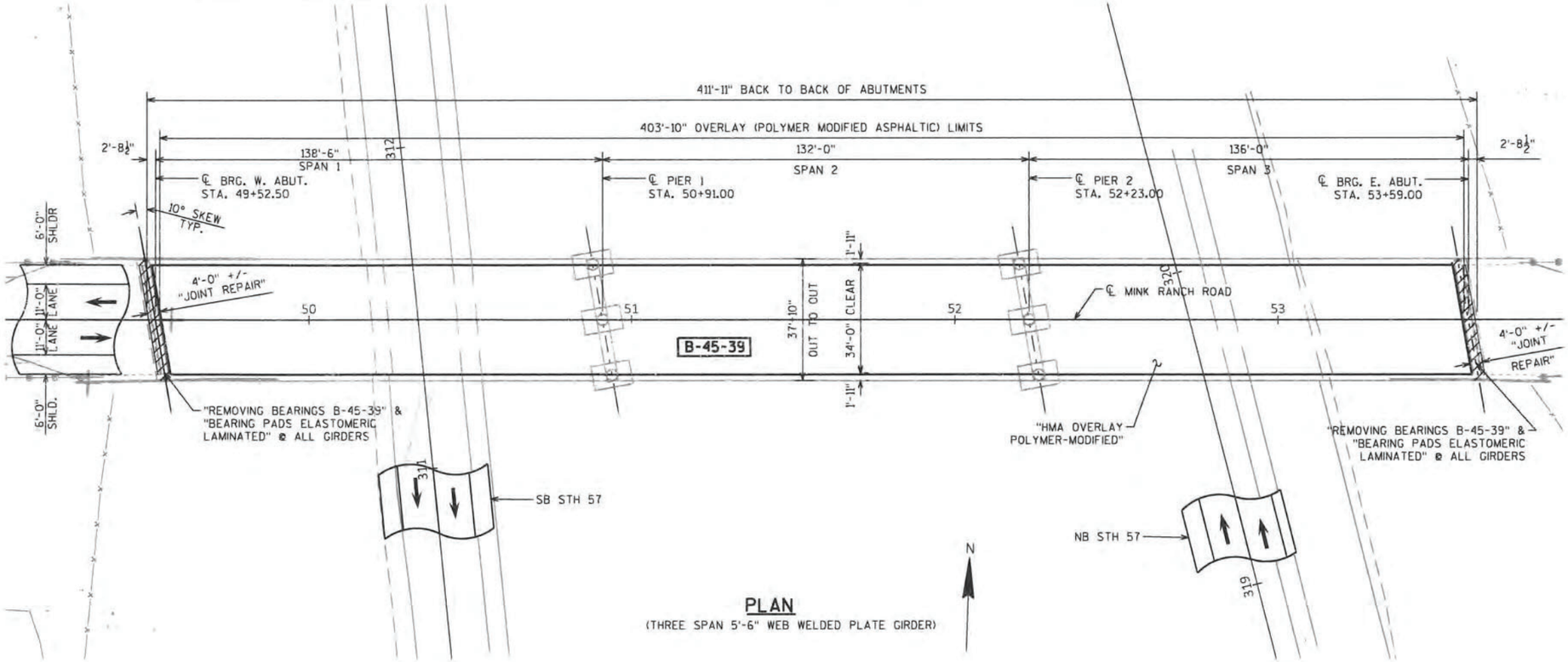
SHEET 10 OF 10

326

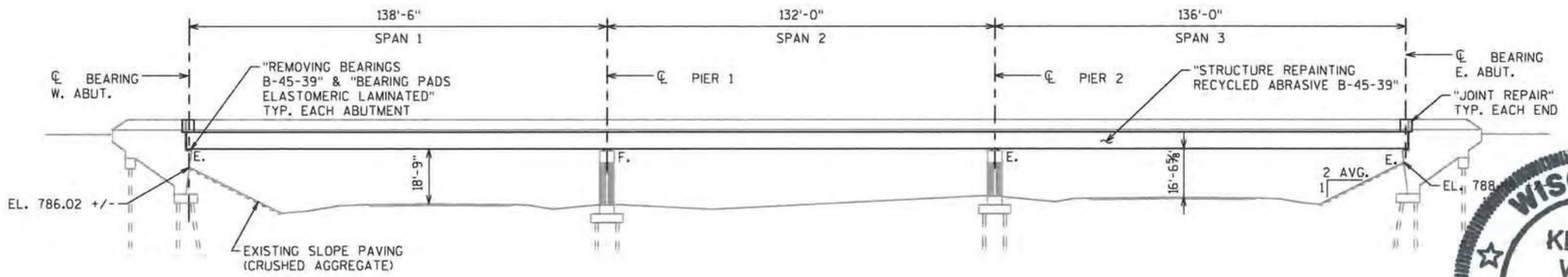
I.D.

DATE:

SCALE = ###



PLAN
(THREE SPAN 5'-6" WEB WELDED PLATE GIRDER)



ELEVATION
NORMAL TO SUBSTRUCTURE UNITS

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

DESIGN LOADING:	HS-20
INVENTORY RATING:	HS-23
OPERATING RATING:	HS-38
WIS. STD. PERMIT VEHICLE (Wis-SPV):	210 KIPS

MATERIAL PROPERTIES

CONCRETE MASONRY - SUPERSTRUCTURE. f'c = 4,000 PSI
ALL OTHERS _____ f'c = 3,500 PSI
HIGH STRENGTH BAR STEEL
REINFORCEMENT GRADE 60 _____ fy = 60,000 PSI

SCOPE OF WORK B-45-39

1. PLACE OVERLAY ON DECK
2. CONCRETE SURFACE REPAIR
3. JOINT REPLACEMENT
4. BEARING REPLACEMENT
5. GIRDER REPAINTING

TRAFFIC DATA

MINK RANCH ROAD
ADT = 350 (2019)
RDS = 55 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & QUANTITIES
3. ELASTOMERIC BEARING DETAILS
4. CONCRETE DETAILS & DECK BILL OF BARS
5. STRIP SEAL EXP. JT. & ABUT. BILL OF BARS
6. STRIP SEAL COVER PLATE & DETAILS
7. INFRARED DECK SURVEY

WISCONSIN
KEVIN G. WOOD
E-32070
MILWAUKEE, WI
PROFESSIONAL ENGINEER
5-1-2018

BUREAU OF STRUCTURES CONTACT:
BILL DREHER (608) 266-8489

CONSULTANT CONTACT:
KEVIN WOOD (414) 259-1500

NO.	DATE	REVISION	BY

GRÄEF
One Honey Creek Corporate Center
125 South 84th Street, Suite 401
Milwaukee, WI 53214-1470
414 / 259 1500
414 / 259 0037 fax
www.graef-usa.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 05/08/18
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-39

MINK RANCH ROAD OVER STH 57

COUNTY OZAUKEE	TOWN ~~CITY / VILLAGE~~ SAUKVILLE
DESIGN SPEC. REHABILITATION N/A	

DESIGNED BY WAR	DESIGN CK'D. KGW	DRAWN BY WAR	PLANS CK'D. KGW

GENERAL PLAN & ELEVATION

SHEET 1 OF 7

327

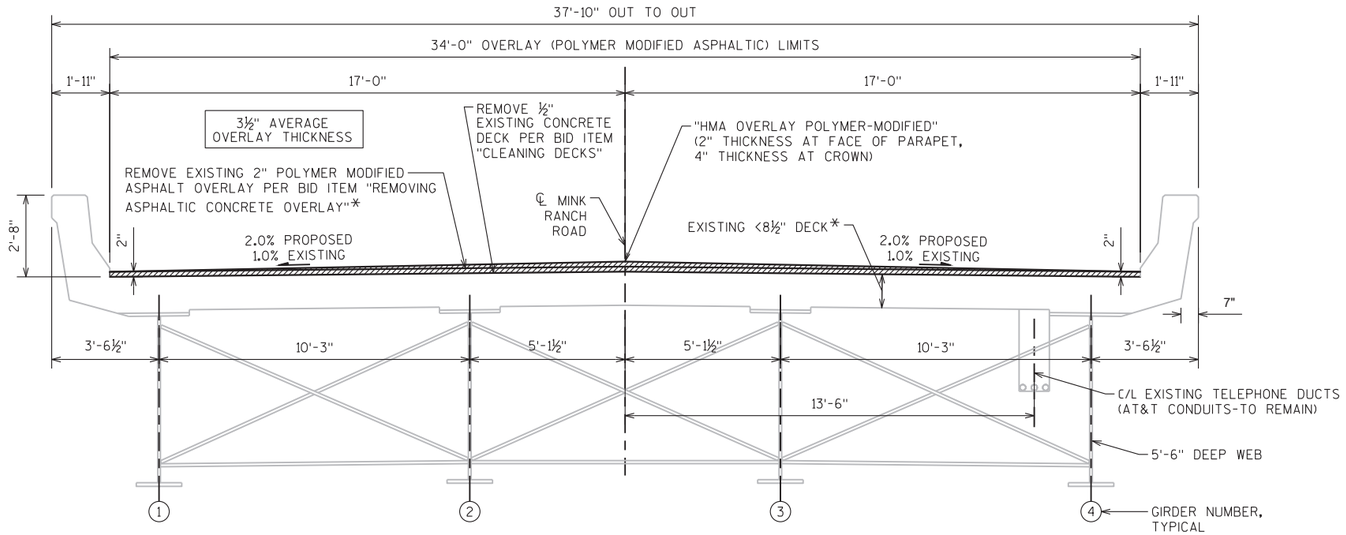
I.D.

DATE:

SCALE = ###

8

8



*NOTE: CONCRETE DECK WAS MILLED AN UNKNOWN THICKNESS PRIOR TO PLACING EXISTING OVERLAY. 8½" DECK THICKNESS WAS TAKEN FROM ORIGINAL STRUCTURE PLANS.

CROSS SECTION
(LOOKING EAST)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER 1	PIER 2	EAST ABUT.	SUPER	TOTAL
203.0225.S	DEBRIS CONTAINMENT B-45-39	LS	-	-	-	-	-	1
502.3100	EXPANSION DEVICE B-45-39	LS	-	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	5	-	-	5	23	33
502.3210	PIGMENTED SURFACE SEALER	SY	1	-	-	1	5	7
502.4205	ADHESIVE ANCHORS NO. 5 BARS	EA	38	-	-	38	-	76
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	400	-	-	400	2,110	2,910
506.2610	BEARING PADS ELASTOMERIC LAMINATED	EA	-	-	-	-	8	8
506.7050.S	REMOVING BEARINGS B-45-39	EA	-	-	-	-	8	8
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	-	17	17
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	-	7	7
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	-	-	-	-	170	170
509.0500	CLEANING DECKS	SY	-	-	-	-	1,526	1,526
509.1000	JOINT REPAIR	SY	5	-	-	5	25	35
509.1500	CONCRETE SURFACE REPAIR	SF	6	1	1	9	5	22
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	-	2	2
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2	-	-	2	13	17
509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	-	-	-	-	291	291
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-45-39	SY	-	-	-	-	1,526	1,526
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-45-39	LS	-	-	-	-	-	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-45-39	LS	-	-	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EA	-	-	-	-	-	1

FOR INFORMATIONAL PURPOSES ONLY: APPROXIMATELY 31,300 SF OF STRUCTURAL STEEL

STATE PROJECT NUMBER

1000-51-72

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCE TO THE NAVD 88 2012 DATUM.

ROADWAY ALIGNMENT PROVIDED BY WISDOT SE REGION. STRUCTURE STATIONING PROPOSED IS BASED ON ORIGINAL STRUCTURE PLAN DIMENSIONS.

ALL DETAILS, MATERIALS AND FABRICATION SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE SPECIFICATIONS OF THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

EXISTING STRUCTURE B-45-39 IS A 3 SPAN CONTINUOUS STEEL GIRDER BRIDGE WITH A CLEAR WIDTH OF 34'-0" AND A END-OF-DECK TO END-OF-DECK LENGTH OF 408'-6⅜". THE ENTIRE BRIDGE DECK IS TO BE PREPARED FOR A NEW HMA OVERLAY.

"PIGMENTED SURFACE SEALER" TO BE APPLIED TO THE TOP AND INSIDE FACE OF NEW PARAPETS AT JOINT REPAIR.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, AND FULL DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT THE ABUTMENTS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

1/2" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A VARYING OVERLAY THICKNESS RANGING FROM 2" MINIMUM TO 4" MINIMUM PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 3½". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

CONCRETE SURFACE REPAIR AS DIRECTED BY THE FIELD ENGINEER. QUANTITIES SHOWN ON PLANS ARE APPROXIMATE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

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

THE FIRST DIGIT OF A THREE DIGIT AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE. BEVEL ALL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-45-39".

ALL STRUCTURAL STEEL SURFACES UNDERNEATH THE BRIDGE ARE TO BE CLEANED AND PAINTED UNDER THE BID ITEM FOR "STRUCTURE REPAINTING RECYCLED ABRASIVE B-45-39." THE SURFACES INCLUDE GIRDERS, DIAPHRAGMS, STIFFENERS, BEARINGS AND CONNECTIONS. PAINT COLOR TO BE FEDERAL STANDARD COLOR NO. 26293 (GRAY).

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

CROSS SECTION & QUANTITIES

SHEET 2 OF 7

328

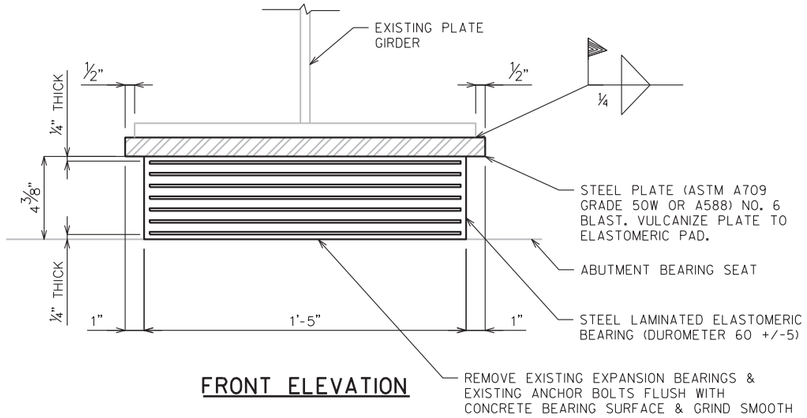
I.D.

DATE:

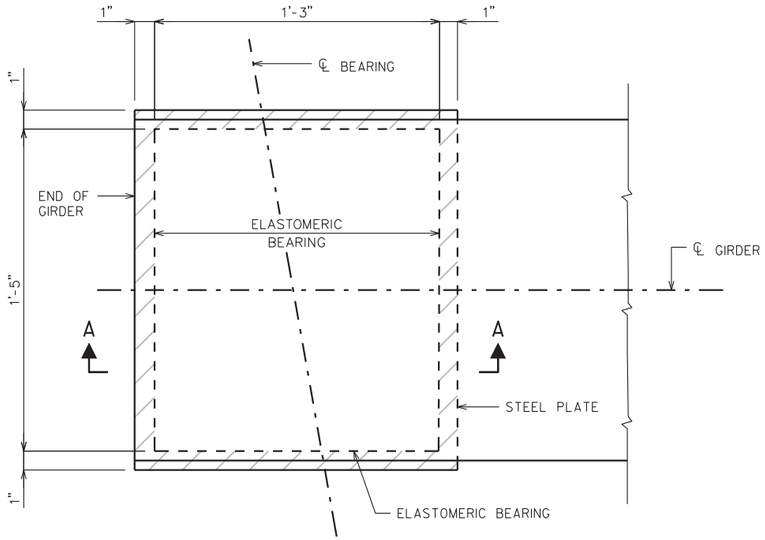
SCALE = ###

STATE PROJECT NUMBER

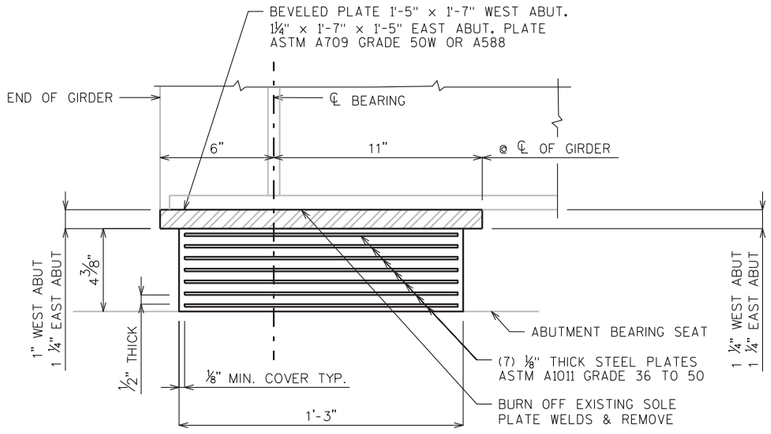
1000-51-72



FRONT ELEVATION



PLAN VIEW



SECTION A-A THRU ELASTOMERIC BEARING

USED AT W. ABUTMENT & E. ABUTMENT – 8 REQUIRED

NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

GRIND EXIST. WELD THAT ATTACHED EXIST. BEARING TO EXIST. BOT. FLANGE. GRIND AFFECTED AREAS SMOOTH.

WELDING PROCEDURES SHALL BE ESTABLISHED BY THE CONTRACTOR TO RESTRICT THE MAXIMUM TEMPERATURE REACHED BY SURFACES IN CONTACT WITH ELASTOMER TO 200° F (93°C). TEMPERATURES SHALL BE CONTROLLED BY TEMPERATURE INDICTING WAX PENCILS OR OTHER SUITABLE MEANS APPROVED BY THE ENGINEER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

ELASTOMERIC BEARING DETAILS

SHEET 3 OF 7

329

I.D.

DATE:

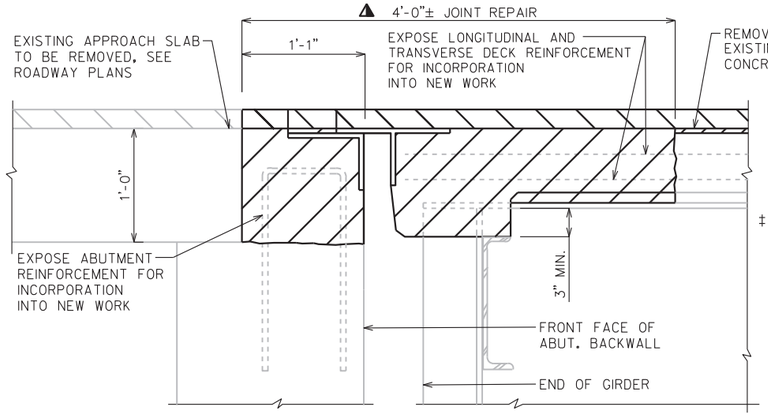
SCALE = ###

8

8

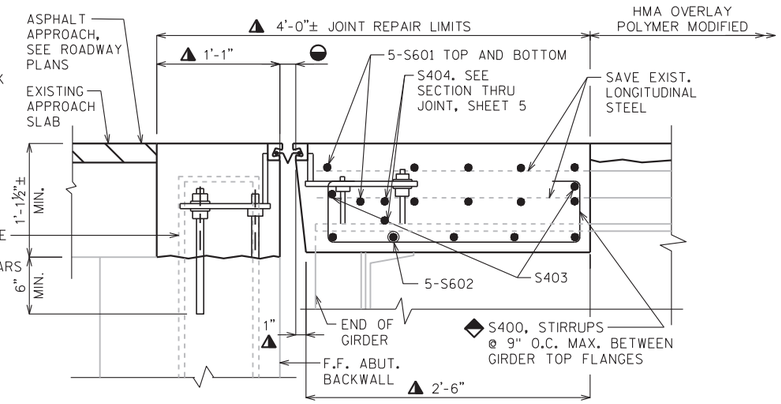
STATE PROJECT NUMBER

1000-51-72



JOINT REPAIR - REMOVAL

NORMAL TO ℄ SUBSTRUCTURE



SECTION THRU EXPANSION JOINT

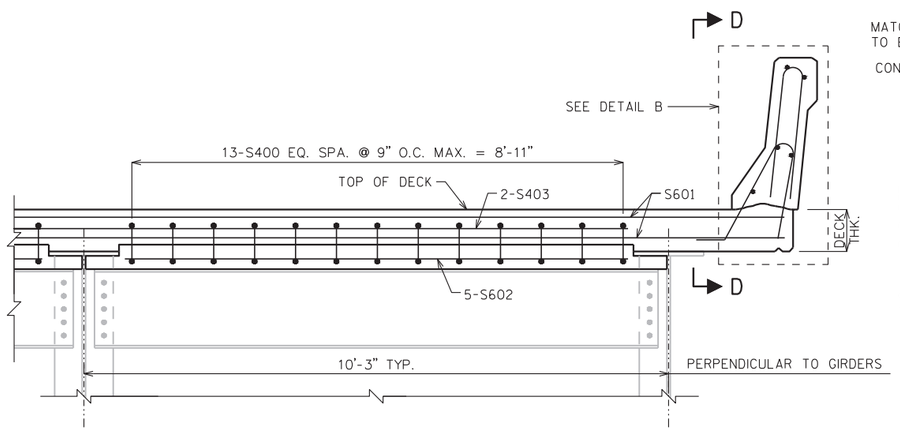
NORMAL TO ℄ SUBSTRUCTURE
SEE SHEET 5 FOR PAVING, BLOCK REINFORCING DETAILS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

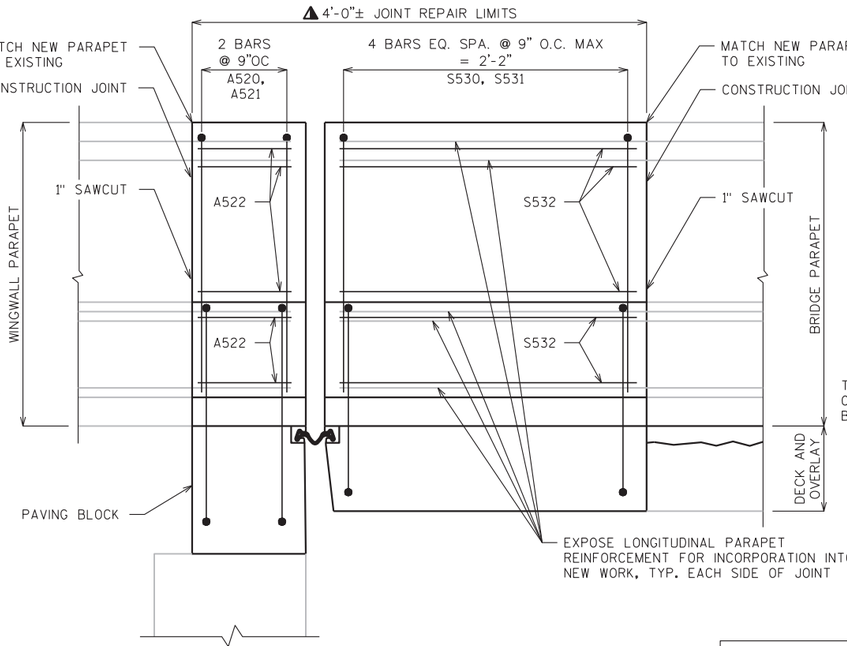
BILL OF BARS

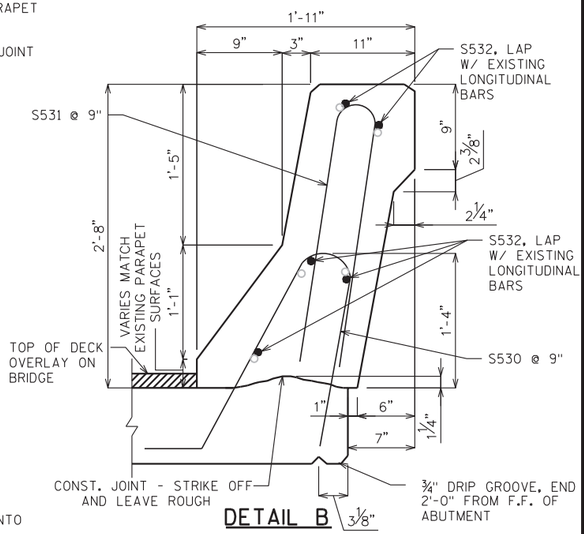
MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
S400	X	78	4'-6"		X	DIAPHRAGM STIRRUP
S601	X	20	36'-10"			DECK TRANSVERSE
S602	X	30	9'-1"			DIAPHRAGM BOTTOM
S403	X	12	9'-1"			DIAPHRAGM TOP
S404	X	12	9'-1"			EXPANSION JOINT TRANSVERSE
S530	X	16	4'-9"		X	PARAPET DOWEL
S531	X	16	5'-0"		X	PARAPET VERTICAL
S532	X	20	2'-3"			PARAPET HORIZONTAL

ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.

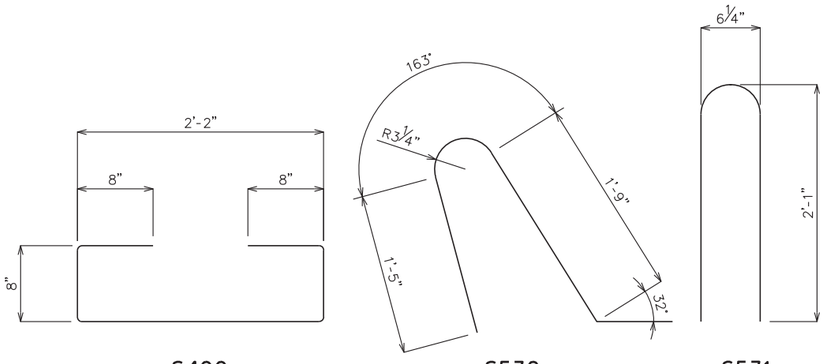


PART TRANSVERSE SECTION AT DIAPHRAGM





DETAIL B



S400 S530 S531

SECTION D-D

LEGEND

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. SUPPLEMENT WITH THE BARS INDICATED BY ☆ ON SHEET 5.

☆ A502, ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

◭ DIMENSIONS GIVEN ARE NORMAL TO ℄ OF SUBSTRUCTURE UNIT. INCORPORATE EXISTING REINFORCEMENT.

◆ BARS PLACED PARALLEL TO GIRDERS. SPACING PERPENDICULAR TO GIRDERS.

▨ EXISTING 2" ASPHALT OVERLAY TO BE REMOVED.

▨ EXISTING CONCRETE TO BE REMOVED.

TEMPERATURE TABLE

TEMPERATURE	JOINT OPENING W. ABUT.	JOINT OPENING E. ABUT.
5°	1¾"	3"
15°	1¾"	2⅞"
25°	1¾"	2⅝"
35°	1¾"	2½"
45°	1¾"	2¼"
55°	1¾"	2"
65°	1¾"	1⅞"
75°	1¾"	1⅝"
85°	1¾"	1½"

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

CONCRETE DETAILS & DECK BILL OF BARS

SHEET 4 OF 7

330

I.D.

DATE:

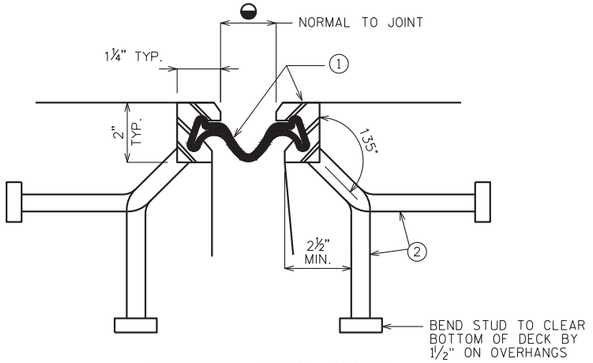
SCALE = ###

8

8

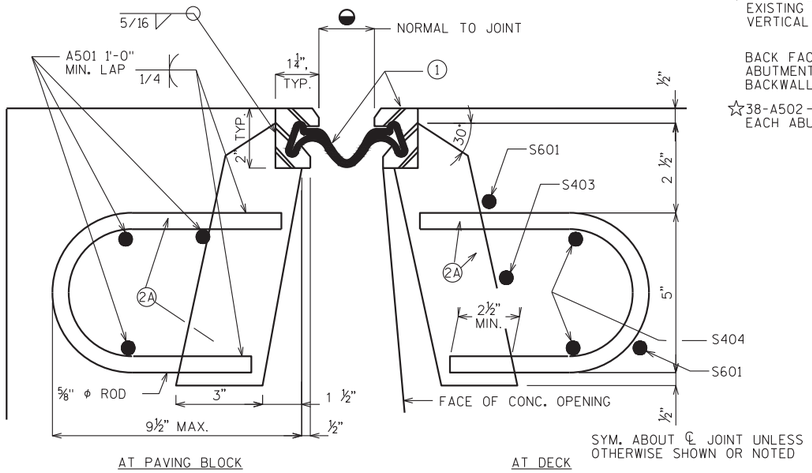
STATE PROJECT NUMBER

1000-51-72



SECTION THRU JOINT

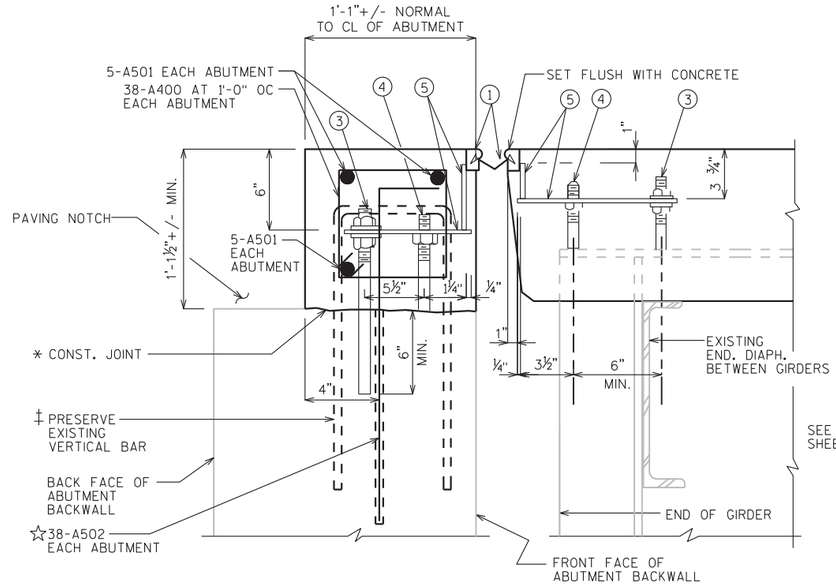
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS.



SYM. ABOUT ℄ JOINT UNLESS OTHERWISE SHOWN OR NOTED

SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



SEE SHEET 6

TYPICAL SECTION THRU JOINT AT STEEL GIRDER

NORMAL TO ℄ SUBSTRUCTURE AT ABUTMENT

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE.

LEGEND

1. NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS. JOINT OPENINGS GIVEN NORMAL TO JOINT.
2. STUDS ⅝" ϕ × 6⅜" LONG AT 6" ALTERNATE CENTERS, WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. ½" THICK ANCHOR PLATE WITH ⅝" ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. ¾" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE, GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. ¾" ϕ THREADED ROD WITH NUT, TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" × ½" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1½" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE ⅜" × 10½" × 2'-2" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
7. ¾" ϕ × 1½" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. ¾" ϕ × 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. ¾" ϕ × 2¼", GALVANIZED THREADED COUPLING.
11. 1" × 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

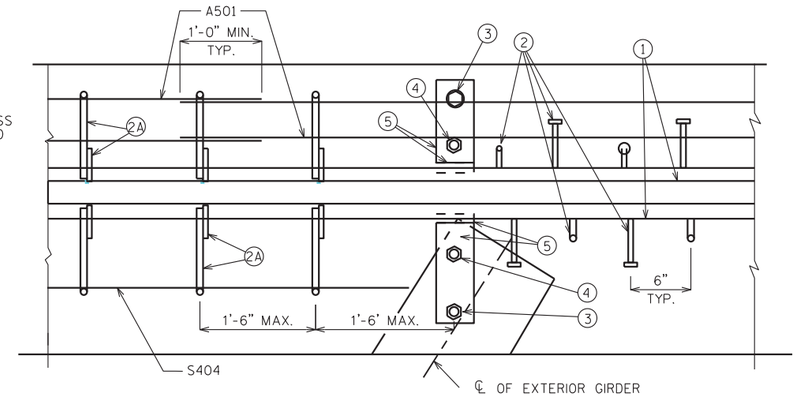
☆ A502 ADHESIVE ANCHORS NO. 5 BARS. EMBED 1'-6" INTO CONCRETE. SPACE AT 1'-0". TURN 10" LEG AS NECESSARY TO FIT.

‡ EXISTING BARS ARE LIKELY TO BE CORRODED AND/OR DAMAGED DURING CONCRETE REMOVAL. PRESERVE AND INCORPORATE AS MUCH REBAR AS PRACTICAL.

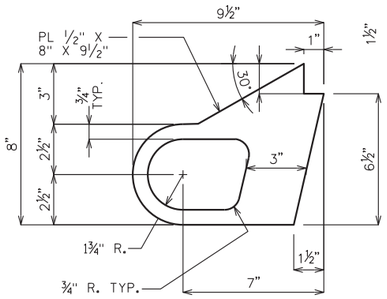
◒ SEE TEMPERATURE TABLE SHEET 4.

NOTES

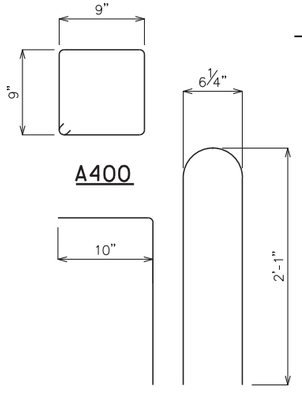
1. ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR HANDLING, OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.
2. AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.
3. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.
4. SANDBLAST PLATES AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.
5. ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 AND SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM 153 CLASS C AND D.
6. STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-45-39."



PART PLAN



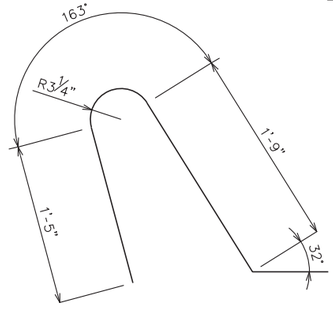
ALTERNATE STRIP SEAL ANCHOR



A400

A502

A521



A520

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BILL OF BARS

MARK	COATED	NO. REQ'D	LENGTH	BAR SERIES	BENT	LOCATION
A400	X	76	3'-6"		X	PAVING BLOCK STIRRUP
A501	X	30	8'-3"			PAVING BLOCK TRANSVERSE
A502	X	76	3'-3"		X	PAVING BLOCK VERTICAL
A520	X	8	4'-9"		X	PARAPET DOWEL
A521	X	8	5'-0"		X	PARAPET VERTICAL
A522	X	20	0'-9"			PARAPET HORIZONTAL

ALL DIMENSIONS OF THE BAR BENDS ARE OUT TO OUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL EXP. JT. & ABUT. BILL OF BARS

SHEET 5 OF 7

331

I.D.

DATE:

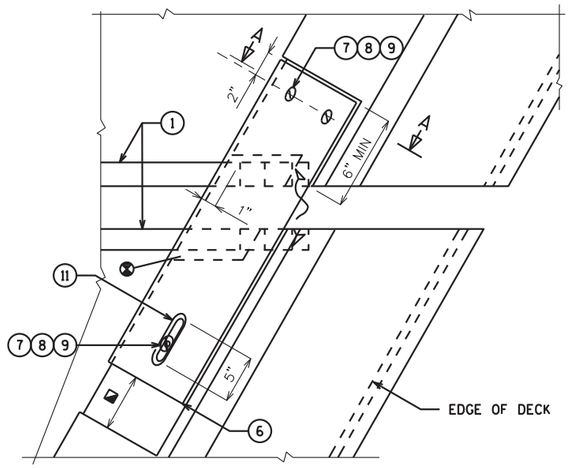
SCALE = ###

8

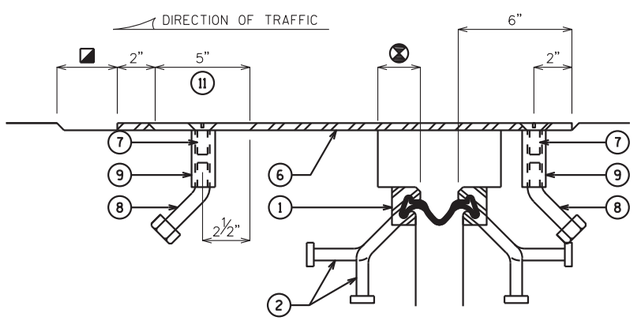
8

STATE PROJECT NUMBER

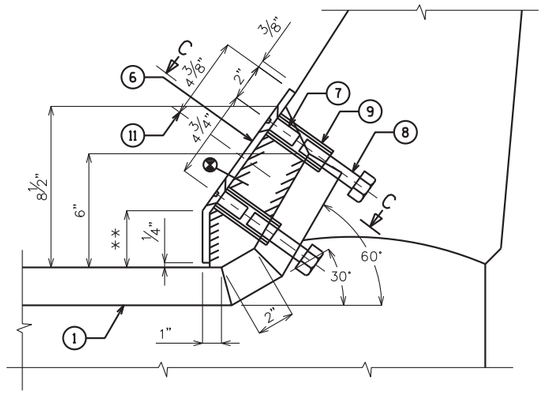
1000-51-72



PLAN

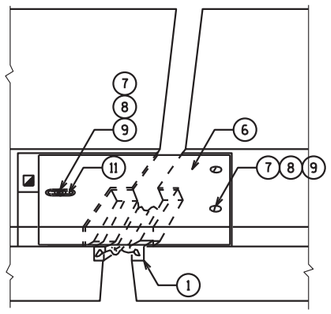


SECTION C-C



SECTION A-A

** AS REQUIRED FOR OVERLAY. COORDINATE WITH EXPANSION JOINT MANUFACTURER.



VIEW OF PARAPET PLATES FROM ROADWAY

NOTES

SEE SHEET 5 LEGEND FOR MATERIAL NOTES.

LEGEND

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIM. ALONG SKEW PLUS ½"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

STRIP SEAL COVER PLATE & DETAILS

SHEET 6 OF 7

332

I.D.

DATE:

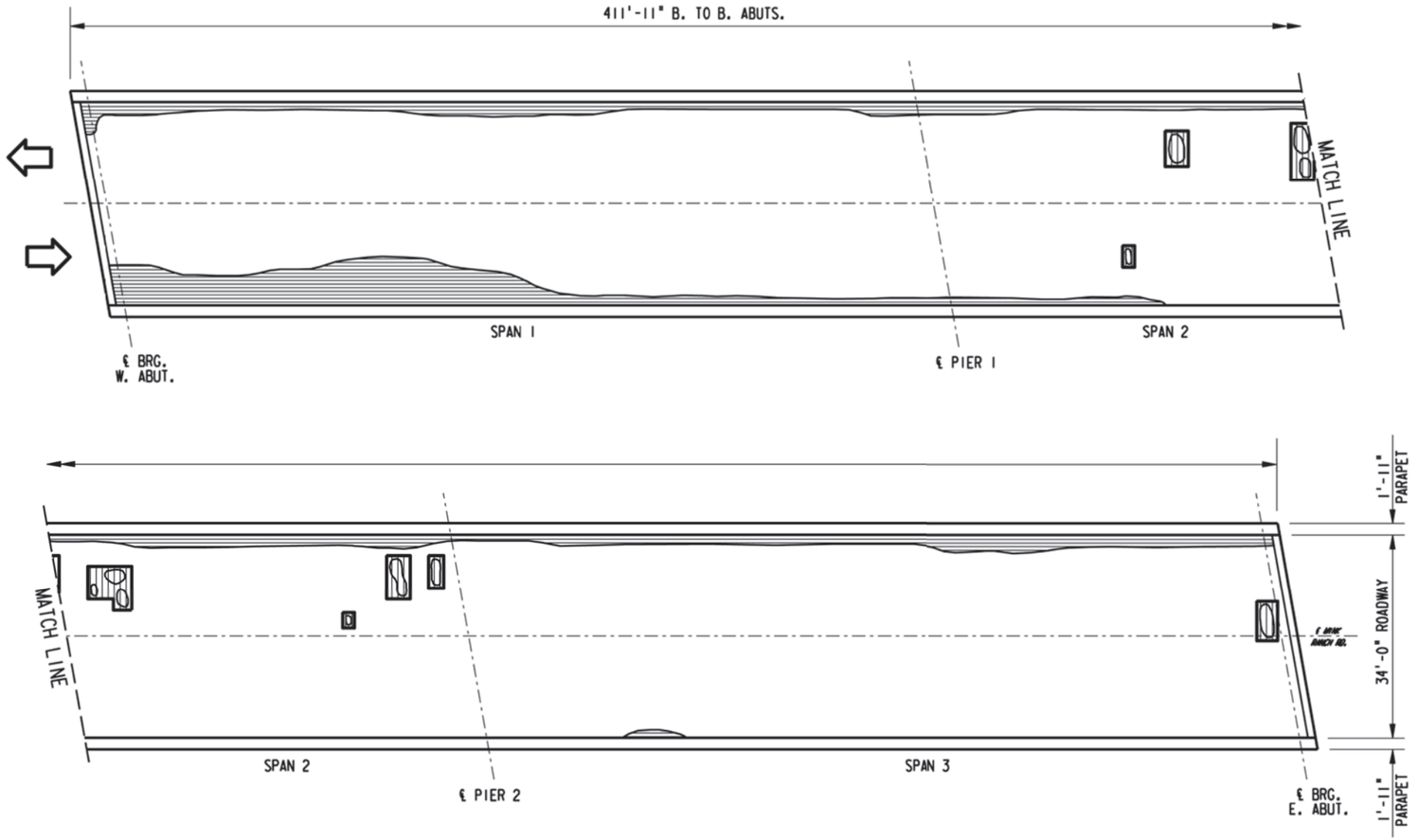
SCALE = ####

8

8

STATE PROJECT NUMBER

1000-51-72



PLAN

PROPOSED REHABILITATION AREAS

N

REHABILITATION AREA SUMMARY		STRUCTURE NO. B-45-39	
ITEM	UNIT	QUANT.	%
TOTAL AREA	yd^2	1551.9	
SHADE/DEBRIS	yd^2	0	
PREPARATION, DECKS, TYPE 1	yd^2	16.2	1.0
PREPARATION, DECKS, TYPE 2	yd^2	1.6	0.1
FULL DEPTH DECK REPAIR	yd^2	2.0	0.1

LEGEND

DECK PREPARATION AREA

SHADE/DEBRIS

DELAMINATION

SPALL

DEBOND/SCALING

ASPHALT PATCH

CONCRETE PATCH

SCALE 0' 5' 10' 20'

SURFACE TYPE: PMA OVERLAY AND CHIP SEAL

INFRARED INSPECTION DATE: 12/6/17

INFRARED SURVEY TAKEN BY AECOM

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-45-39

DRAWN BY WAR | PLANS CK'D. KWG

INFRARED DECK SURVEY

SHEET 7 OF 7

333

I.D.

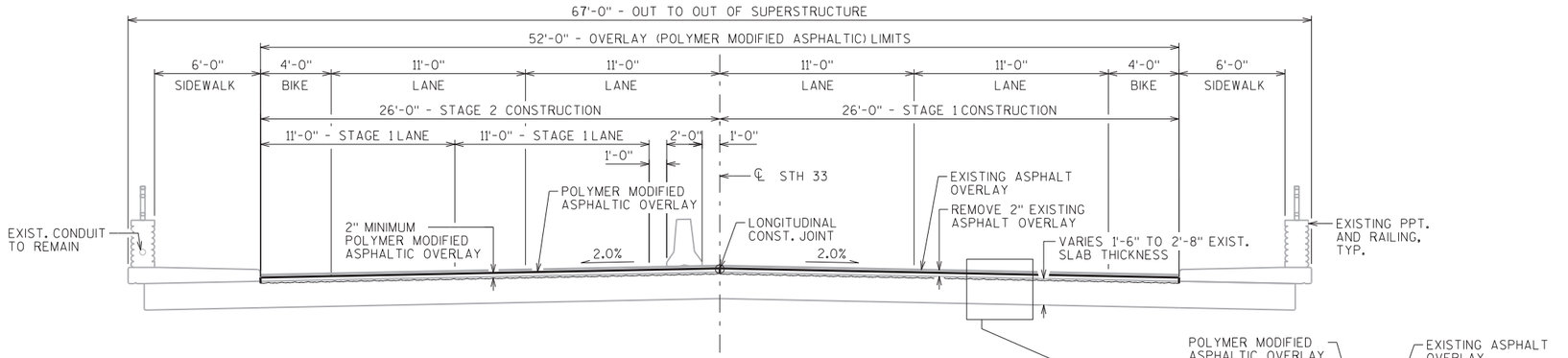
DATE:

SCALE = ###

8

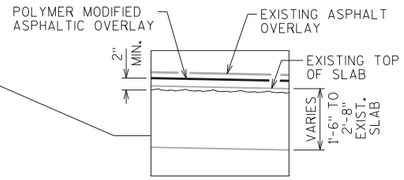
8

AVERAGE OVERLAY THICKNESS 2½"

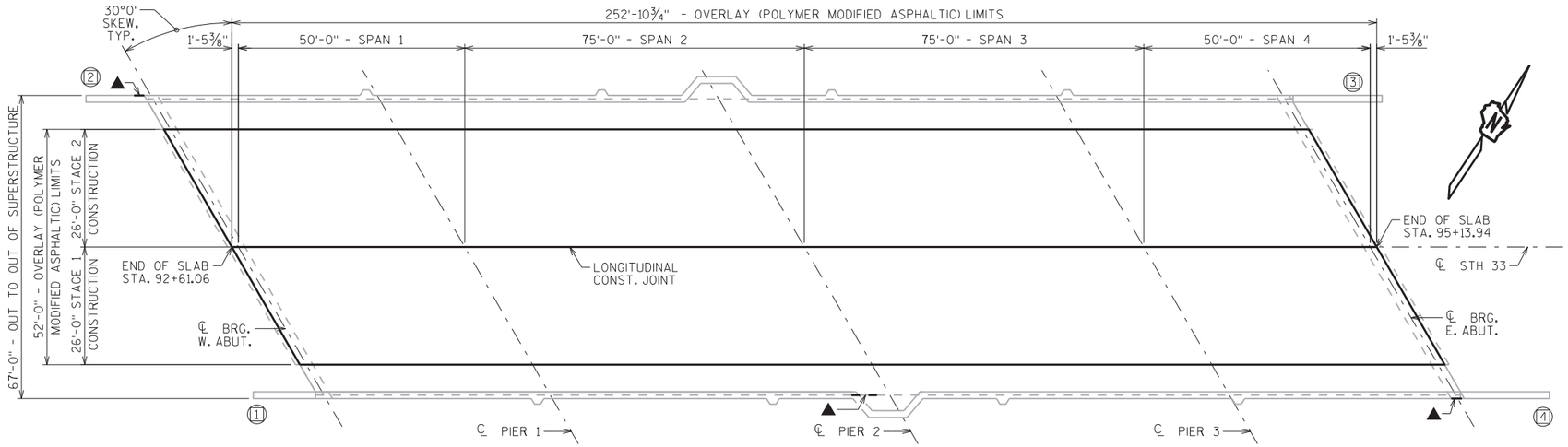


CROSS SECTION THRU ROADWAY

STAGE 1 SHOWN, SEE ROADWAY PLANS FOR STAGE 2
LOOKING EAST



SLAB DETAIL



PLAN

TOP OF SLAB SHOWN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-22
OPERATING RATING: HS-36
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

☆ BRIDGE HAS POST-TENSIONED DECK. DO NOT MILL MORE THAN NECESSARY TO COMPLETELY REMOVE EXISTING ASPHALT OVERLAY. IF TYPE 1 OR 2 DECK PREPARATION IS REQUIRED, CONTACT SE REGION MAINTENANCE FOR GUIDANCE BEFORE BEGINNING WORK.

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-45-95".

TRAFFIC VOLUME

STH 33

ADT = 18,600 (2013)
R.D.S. = 25 M.P.H.

⬡ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
☆	509.0301	PREPARATION DECKS TYPE 1	SY	10
☆	509.0302	PREPARATION DECKS TYPE 2	SY	4
	509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲	509.1500	CONCRETE SURFACE REPAIR	SF	15
☆	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
	509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	201
	509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-45-95	SY	1,462
	SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-45-95	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 2 SF NORTH PPT., 4 SF SOUTH PPT., 2 SF WEST ABUT., 1 SF EAST ABUT. AND 2 SF UNDERSIDE DECK

STATE PROJECT NUMBER

1000-51-72

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-45-95

STH 33 OVER MILWAUKEE RIVER

COUNTY	VILLAGE
OZAUKEE	SAUKVILLE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK		EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

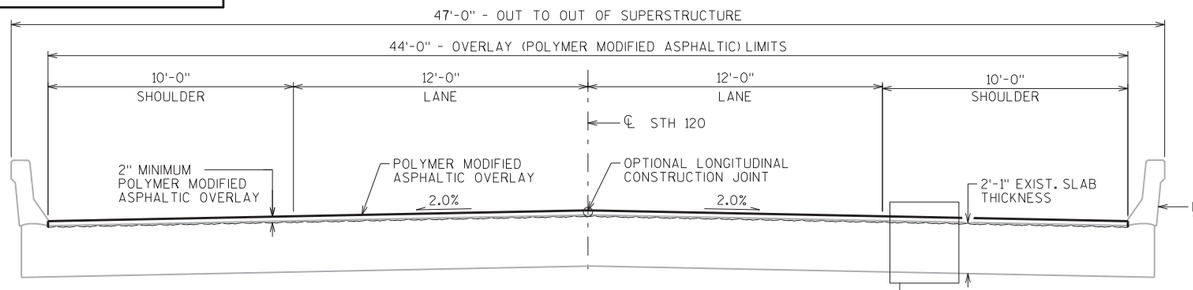
SHEET 1 OF 1

334

I.D. 1000-51-02F DATE: JULY 2019

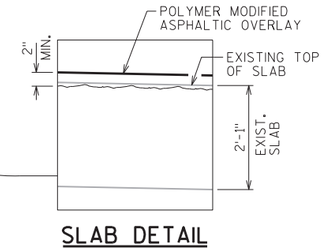
SCALE = 3.00

AVERAGE OVERLAY THICKNESS 2½"

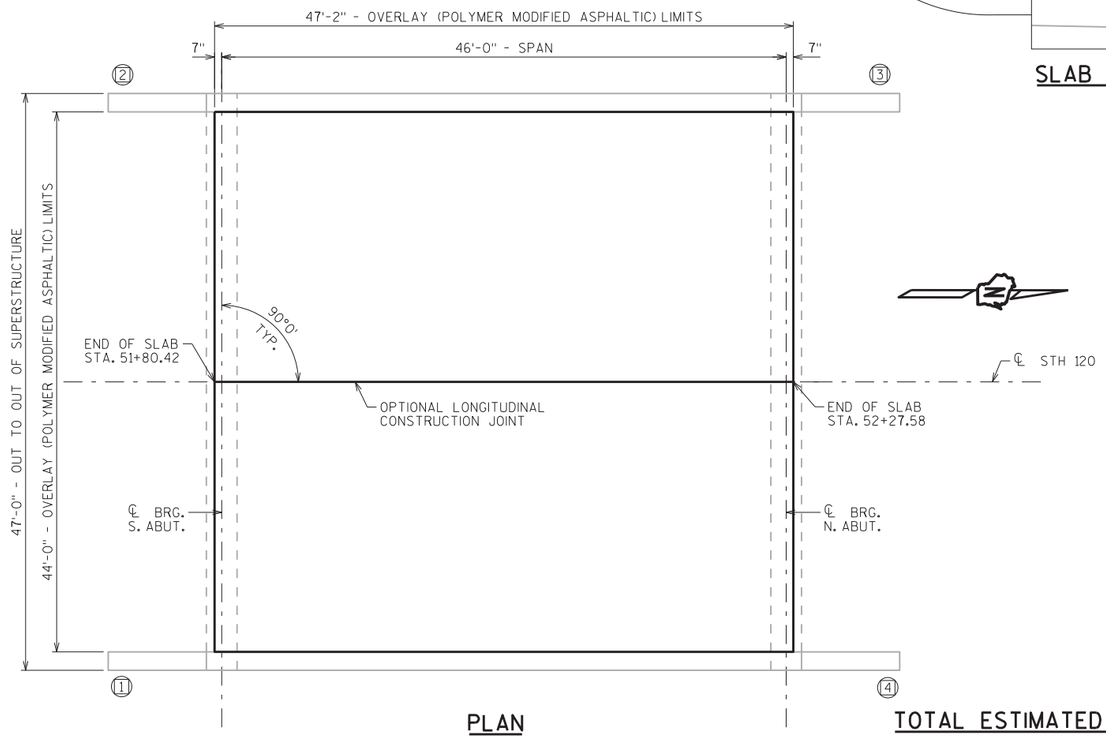


CROSS SECTION THRU ROADWAY

LOOKING NORTH



SLAB DETAIL



PLAN

TOP OF SLAB SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-64-80	LS	1
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.0302	PREPARATION DECKS TYPE 2	SY	4
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	32
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-64-80	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 1 SF WEST PPT., 1 SF EAST PPT., 1 SF NORTH ABUT. AND 1 SF UNDERSIDE SLAB

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-19
OPERATING RATING: HS-33
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

TRAFFIC VOLUME

STH 120

ADT = 5,000 (2013)
R.D.S. = 55 M.P.H.

⬡ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-64-80

STH 120 OVER SUGAR CREEK

COUNTY	TOWN
WALWORTH	SPRING PRAIRIE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK	EMK	EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 1

335

I.D. 1000-51-021 DATE: JULY 2019

SCALE = 2.00

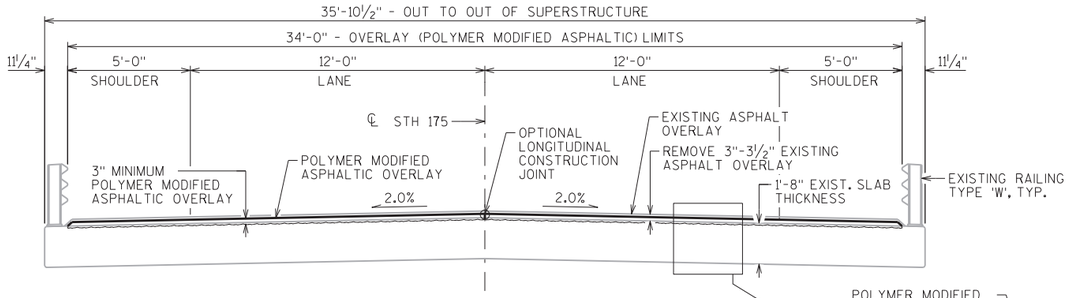
8

8

STATE PROJECT NUMBER

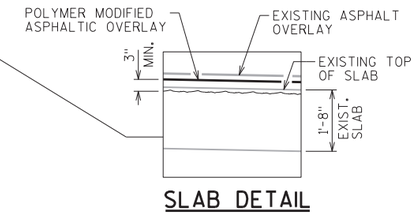
1000-51-72

AVERAGE OVERLAY THICKNESS 3½"

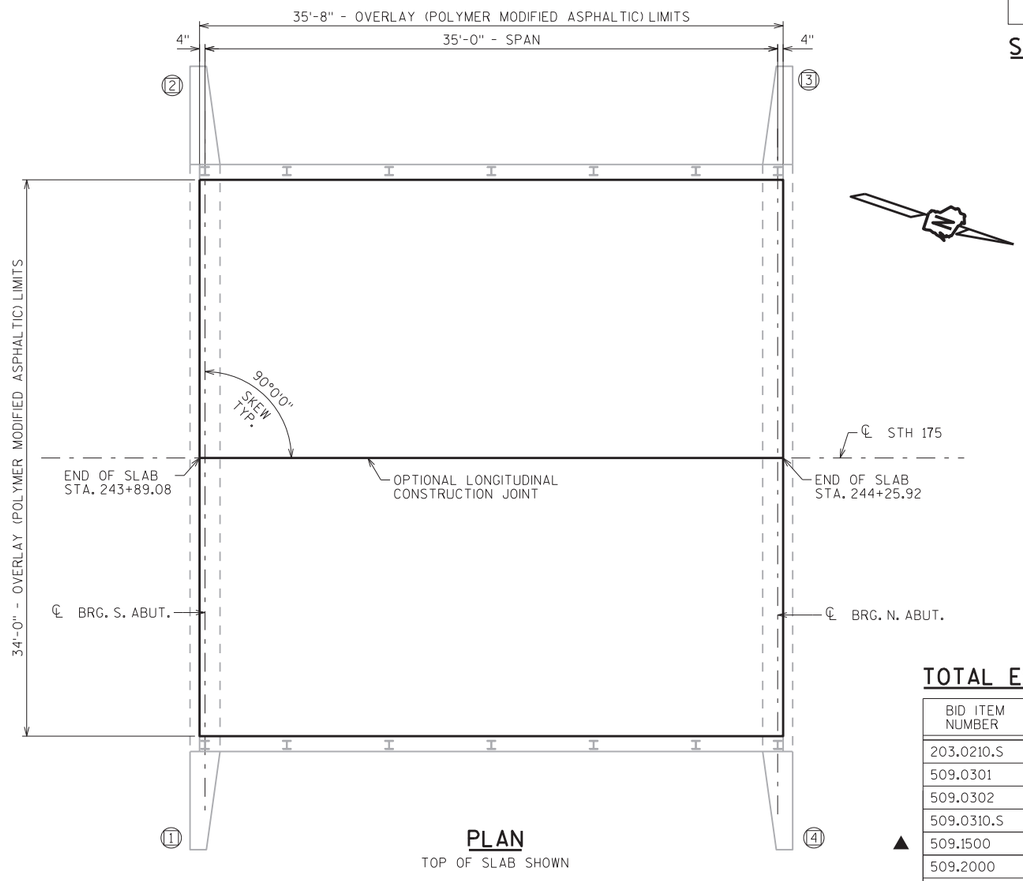


CROSS SECTION THRU ROADWAY

LOOKING NORTH



SLAB DETAIL



PLAN

TOP OF SLAB SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-66-27	LS	1
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.0302	PREPARATION DECKS TYPE 2	SY	4
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
509.1500	CONCRETE SURFACE REPAIR	SF	5
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	26
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-66-27	SY	135
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-66-27	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER. ESTIMATED: 3 SF UNDERSIDE SLAB

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS-36
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 3" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 3½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-66-27".

TRAFFIC VOLUME

STH 33

ADT = 2,000 (2013)
R.D.S. = 55 M.P.H.

⬭ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-27

STH 175 OVER LIMESTONE CREEK

COUNTY: WASHINGTON | TOWN: ADDISON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. RATINGS | DRAWN BY EMK | PLANS CK'D. NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 1

336

I.D. 1000-51-02J

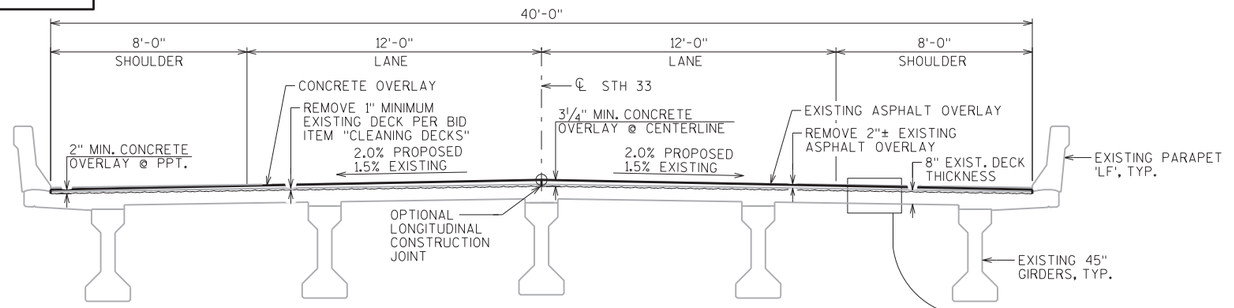
DATE: JULY 2019

SCALE = 3.00

8

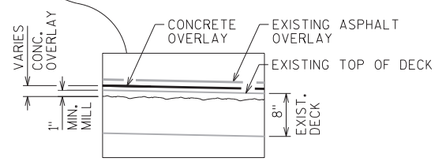
8

AVERAGE OVERLAY THICKNESS 3"

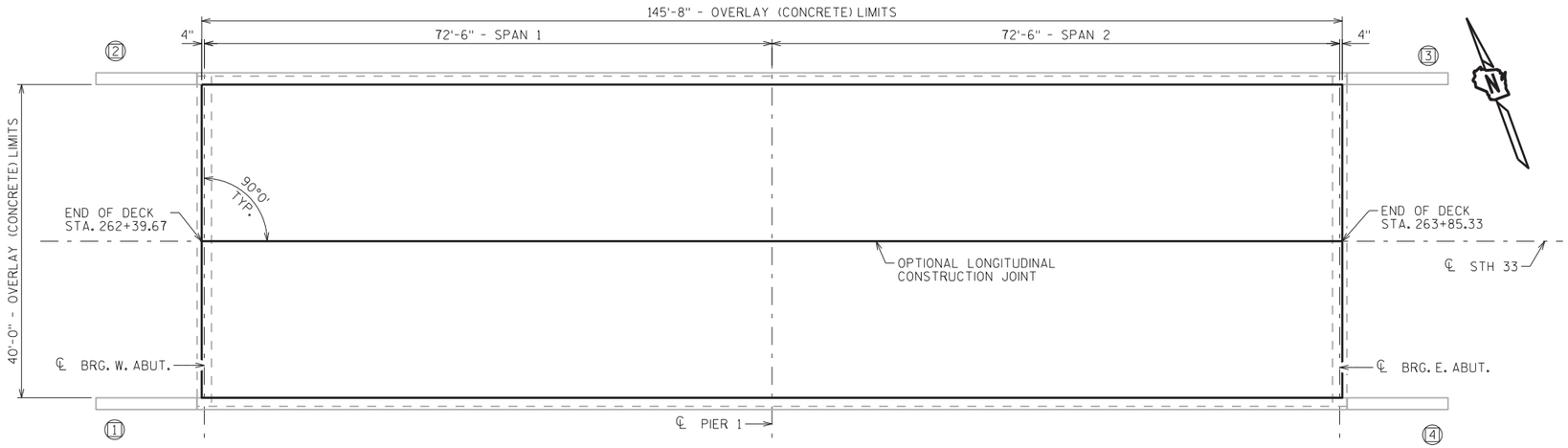


CROSS SECTION THRU ROADWAY

LOOKING EAST



DECK DETAIL



PLAN

TOP OF DECK SHOWN

INDICATES WING NUMBER

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	648
509.0301	PREPARATION DECKS TYPE 1	SY	90
509.0302	PREPARATION DECKS TYPE 2	SY	45
509.0500	CLEANING DECKS	SY	648
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	10
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	61
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-66-93	SY	648
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-66-93	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 4 SF NORTH PPT., 4 SF SOUTH PPT. AND 1 SF WEST ABUT.

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-19
OPERATING RATING: HS-39
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" AT THE PARAPETS AND 3¼" AT THE BRIDGE CENTERLINE PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 3" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-66-93".

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

TRAFFIC VOLUME

STH 33

ADT = 6,100 (2016)
R.D.S. = 55 M.P.H.

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-66-93

STH 33 OVER MILWAUKEE RIVER

COUNTY: WASHINGTON | TOWN: TRENTON

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. RATINGS | DRAWN BY EMK | PLANS CK'D. NAR

CONCRETE OVERLAY

SHEET 1 OF 1

337

I.D. 1000-51-02K

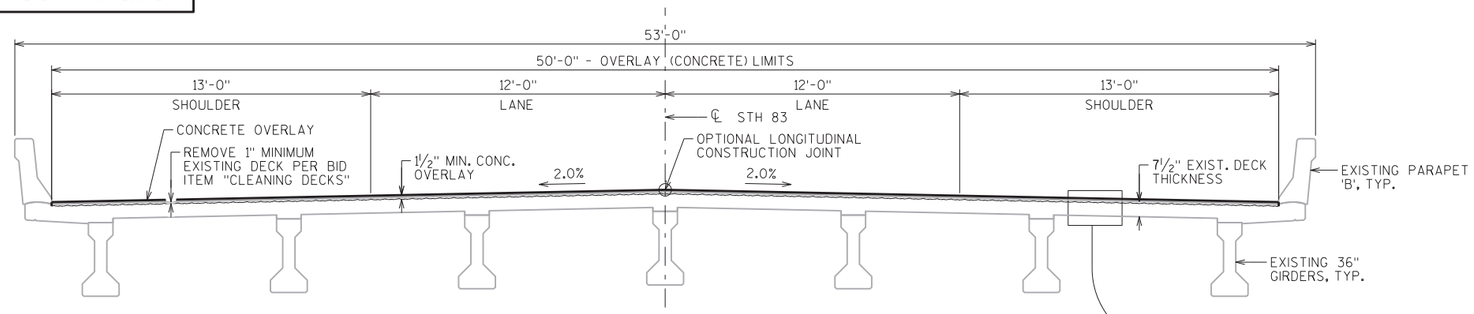
DATE: JULY 2019

SCALE = 3.00

8

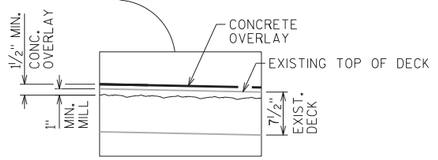
8

AVERAGE OVERLAY THICKNESS 2"

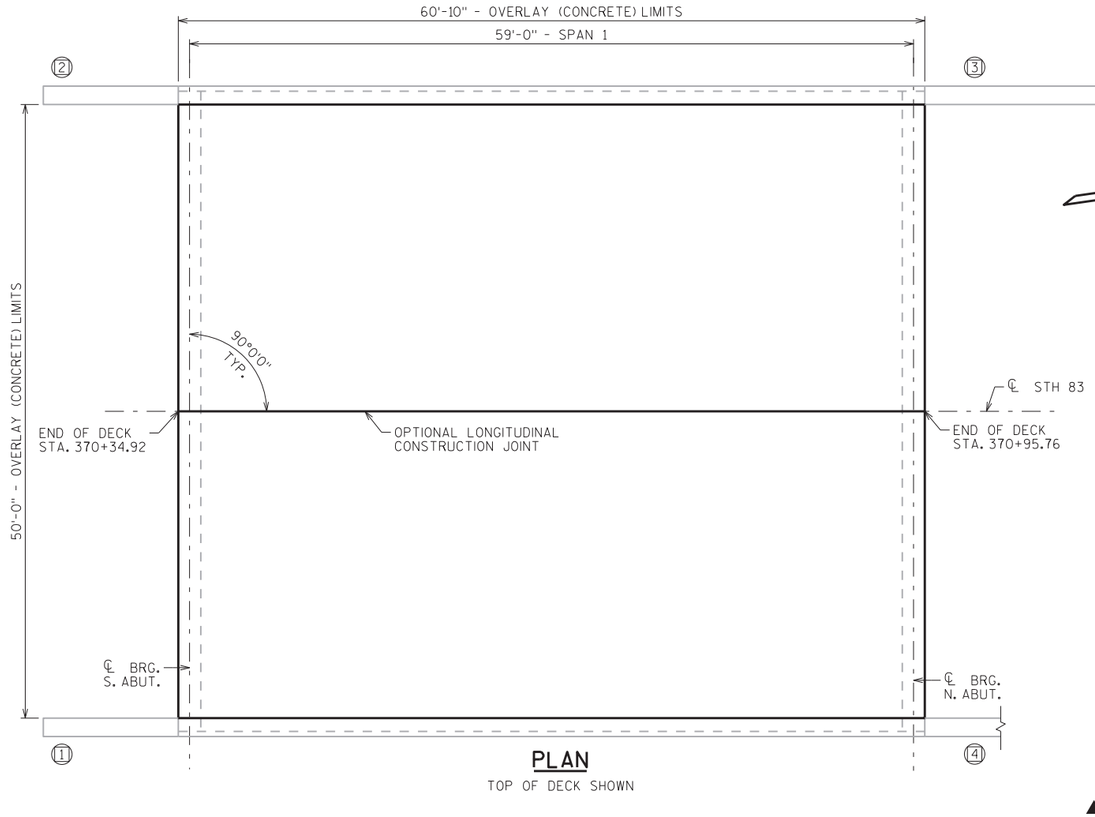


CROSS SECTION THRU ROADWAY

LOOKING NORTH



DECK DETAIL



PLAN

TOP OF DECK SHOWN

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS-36
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

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

TRAFFIC VOLUME

STH 83

ADT = 15,400 (2015)
R.D.S. = 45 M.P.H.

⬡ INDICATES WING NUMBER

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	338
	509.0301	PREPARATION DECKS TYPE 1	SY	15
	509.0302	PREPARATION DECKS TYPE 2	SY	5
	509.0500	CLEANING DECKS	SY	338
▲	509.1500	CONCRETE SURFACE REPAIR	SF	5
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	20
	SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-67-220	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 4 SF WEST PPT.

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

STATE PROJECT NUMBER

1000-51-72

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-67-220

STH 83 OVER BARK RIVER

COUNTY	CITY
WAUKESHA	DELAFIELD

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK		EMK	NAR

CONCRETE OVERLAY

SHEET 1 OF 1

338

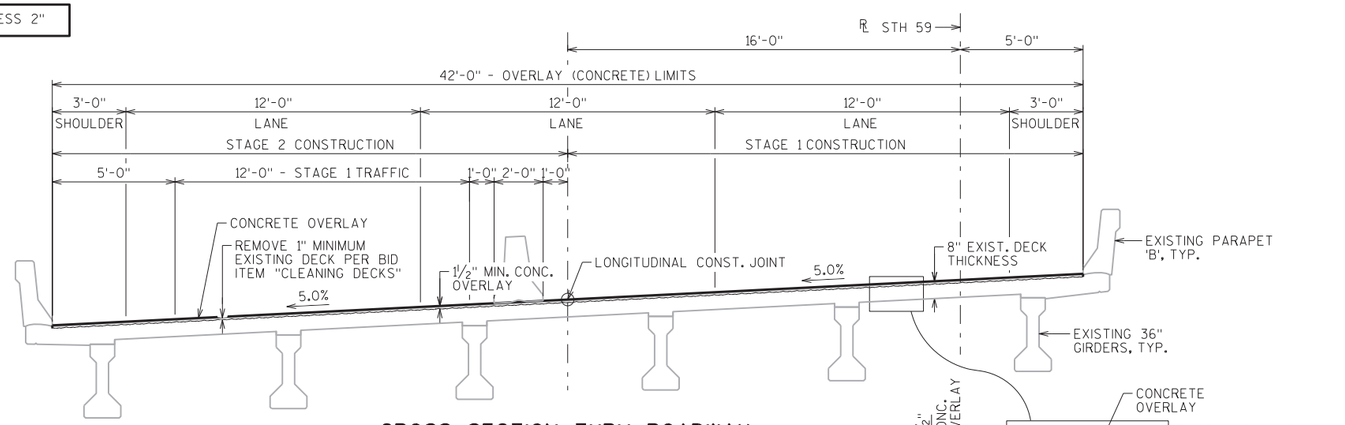
I.D. 1000-51-020 DATE: JULY 2019

SCALE = 3.00

8

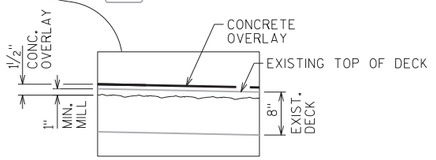
8

AVERAGE OVERLAY THICKNESS 2"

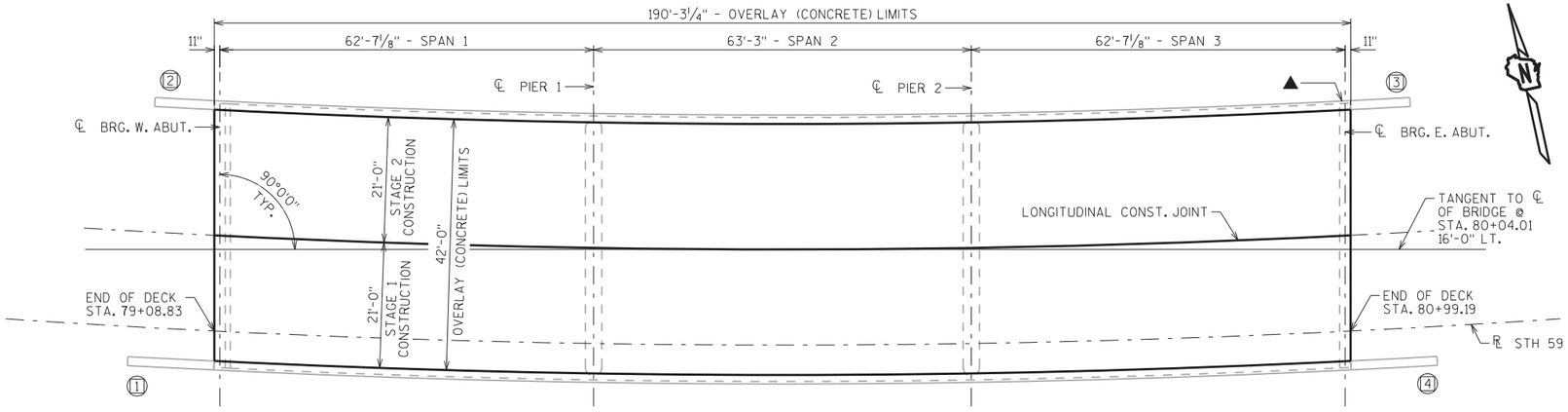


CROSS SECTION THRU ROADWAY

STAGE 1 CONSTRUCTION SHOWN, SEE ROADWAY PLANS FOR STAGE 2
DIMENSIONS MEASURED RADIALLY
LOOKING EAST



DECK DETAIL



PLAN

TOP OF DECK SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	890
509.0301	PREPARATION DECKS TYPE 1	SY	15
509.0302	PREPARATION DECKS TYPE 2	SY	5
509.0500	CLEANING DECKS	SY	890
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	15
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	51
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-67-230	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED:
10 SF WEST ABUT. AND 2 SF EAST ABUT.

STATE PROJECT NUMBER

1000-51-72

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-17
OPERATING RATING: HS-30
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 230 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

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

TRAFFIC VOLUME

STH 59

ADT = 8,250 (2015)
R.D.S. = 45 M.P.H.

⬡ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-230

STH 59 OVER FOX RIVER

COUNTY: WAUKESHA | CITY: WAUKESHA

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. RATINGS | DRAWN BY EMK | PLANS CK'D. NAR

CONCRETE OVERLAY

SHEET 1 OF 1

339

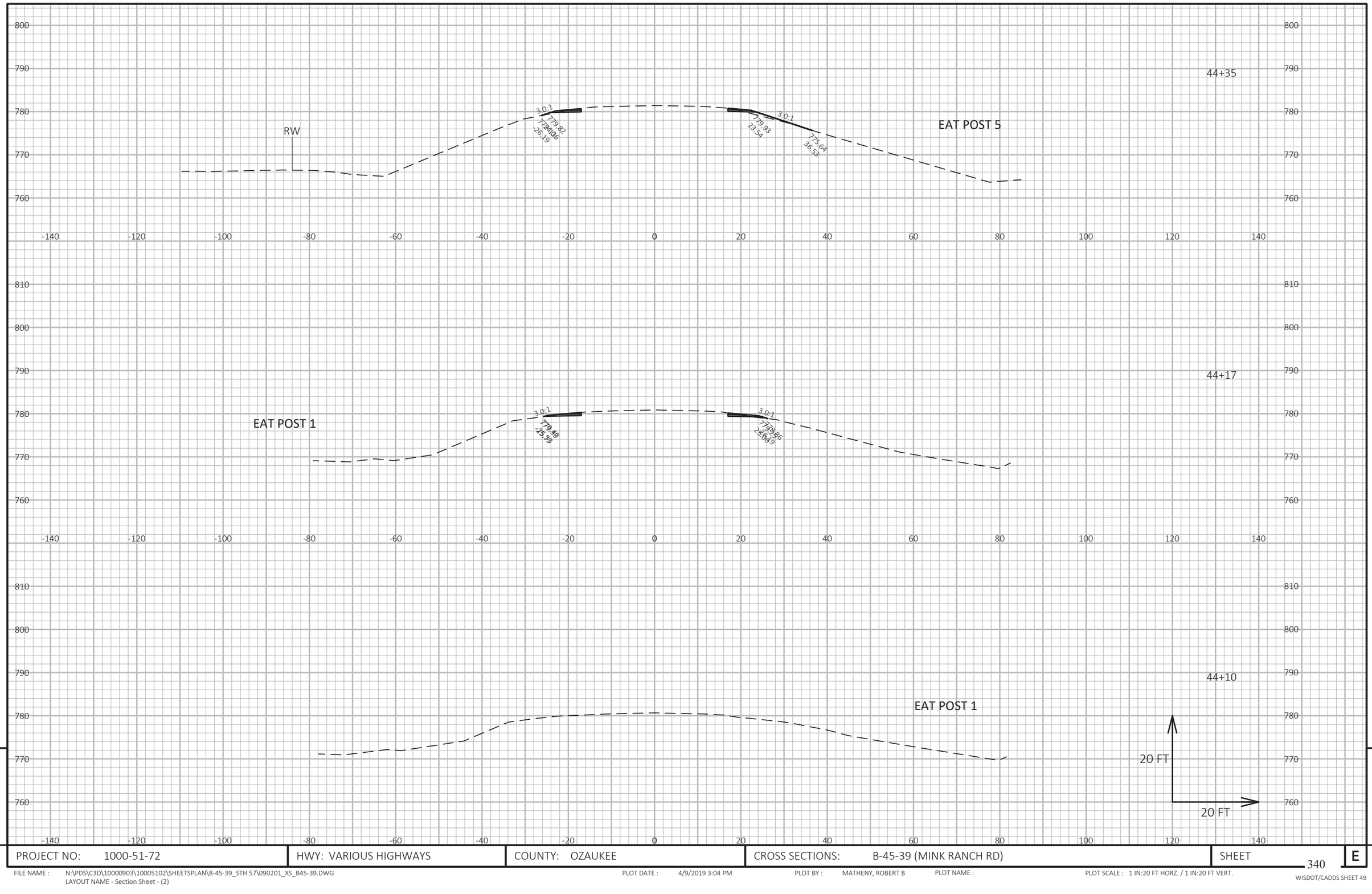
I.D. 1000-51-02P

DATE: JULY 2019

SCALE = 3.00

8

8



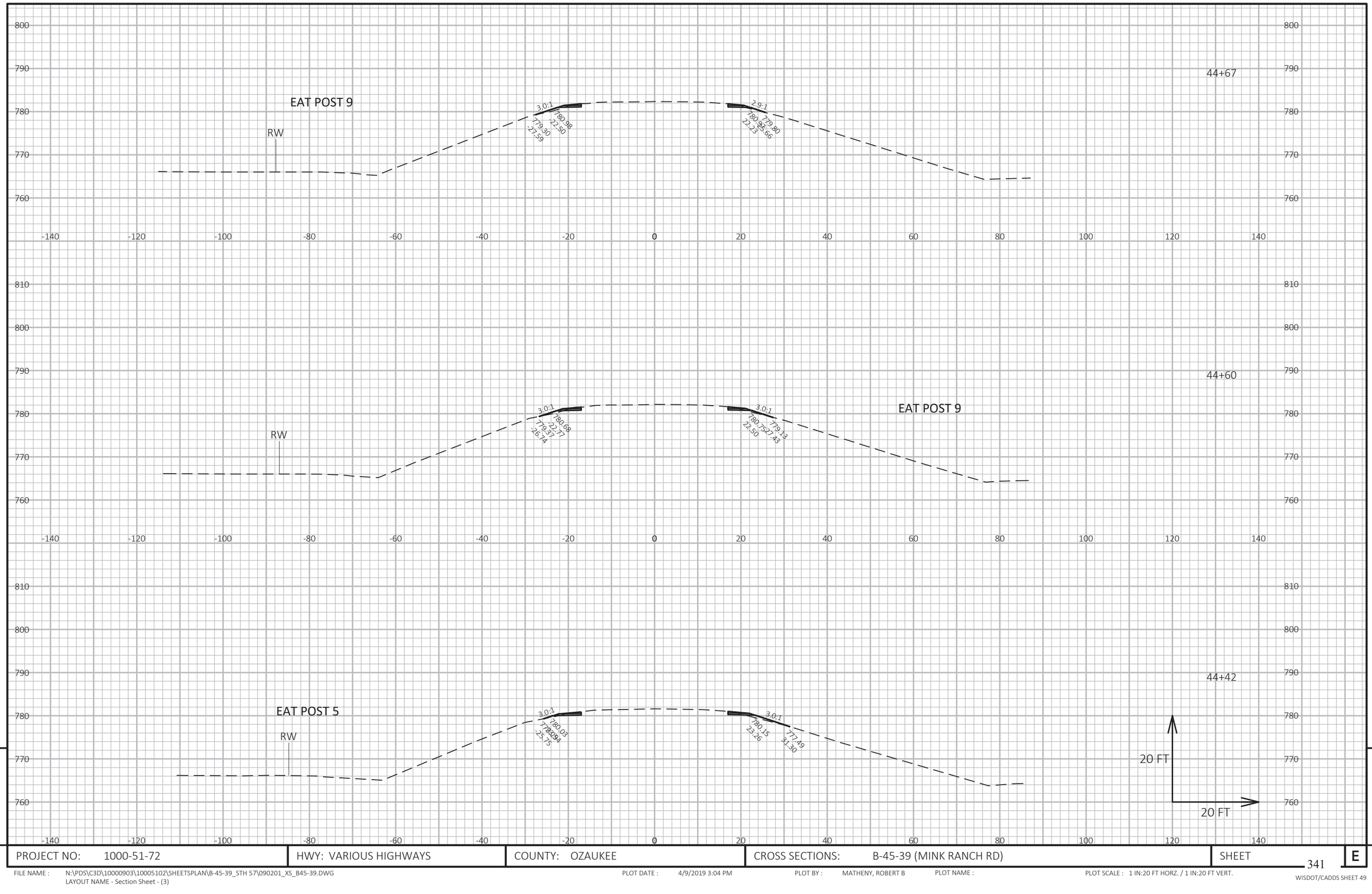
9

9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 340	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (2)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

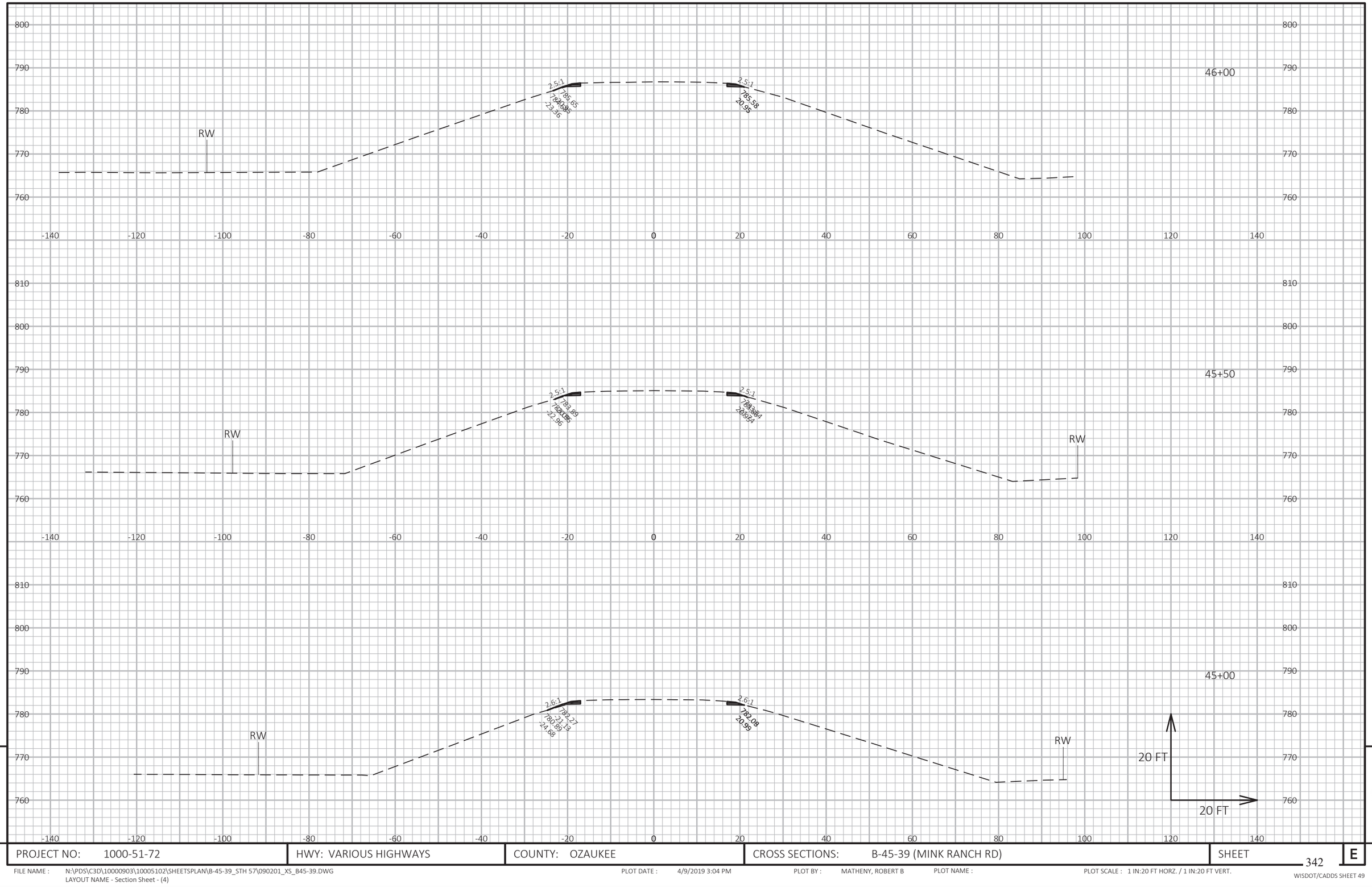
9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 341	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (3)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



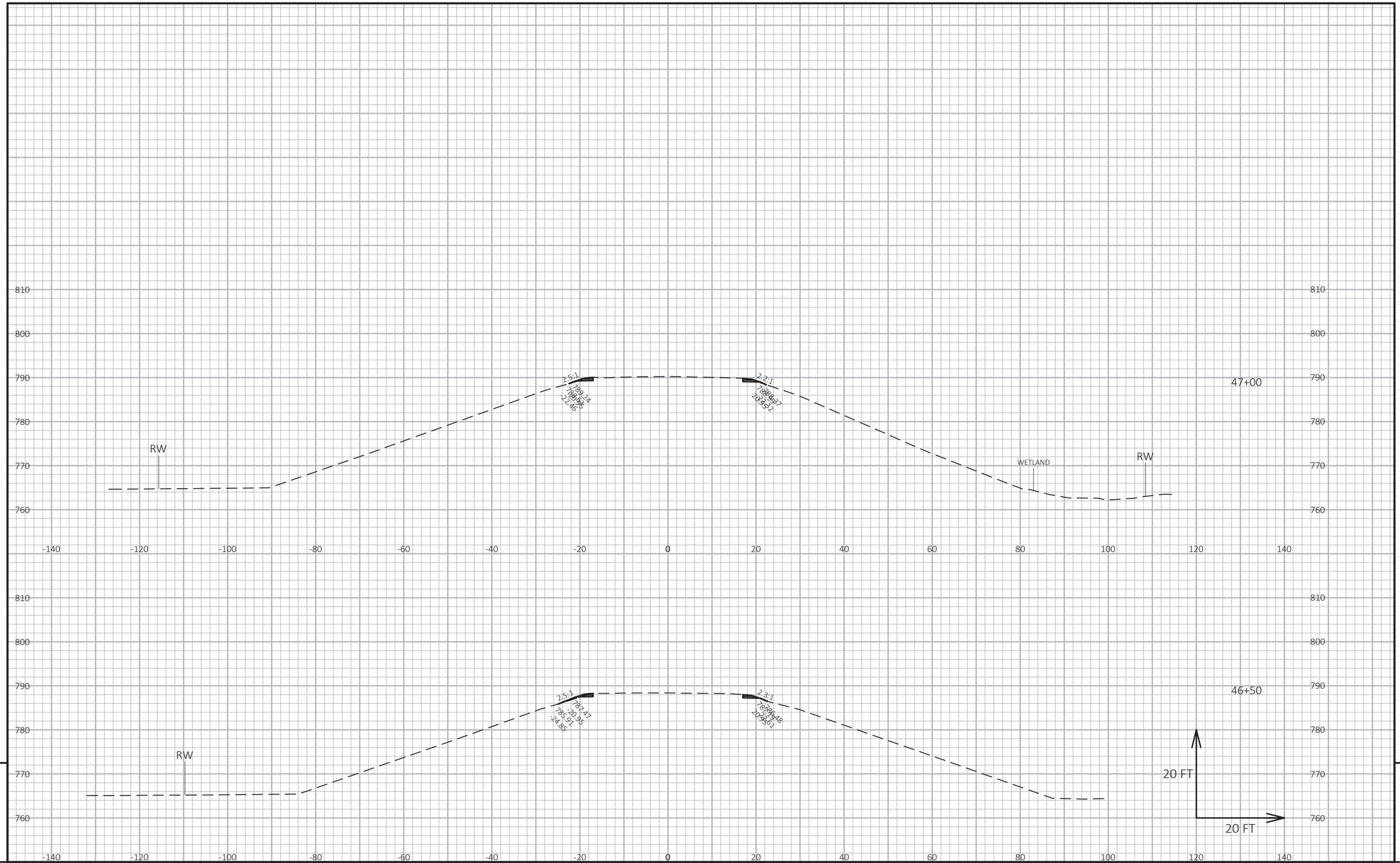
9

9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 342	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (4)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

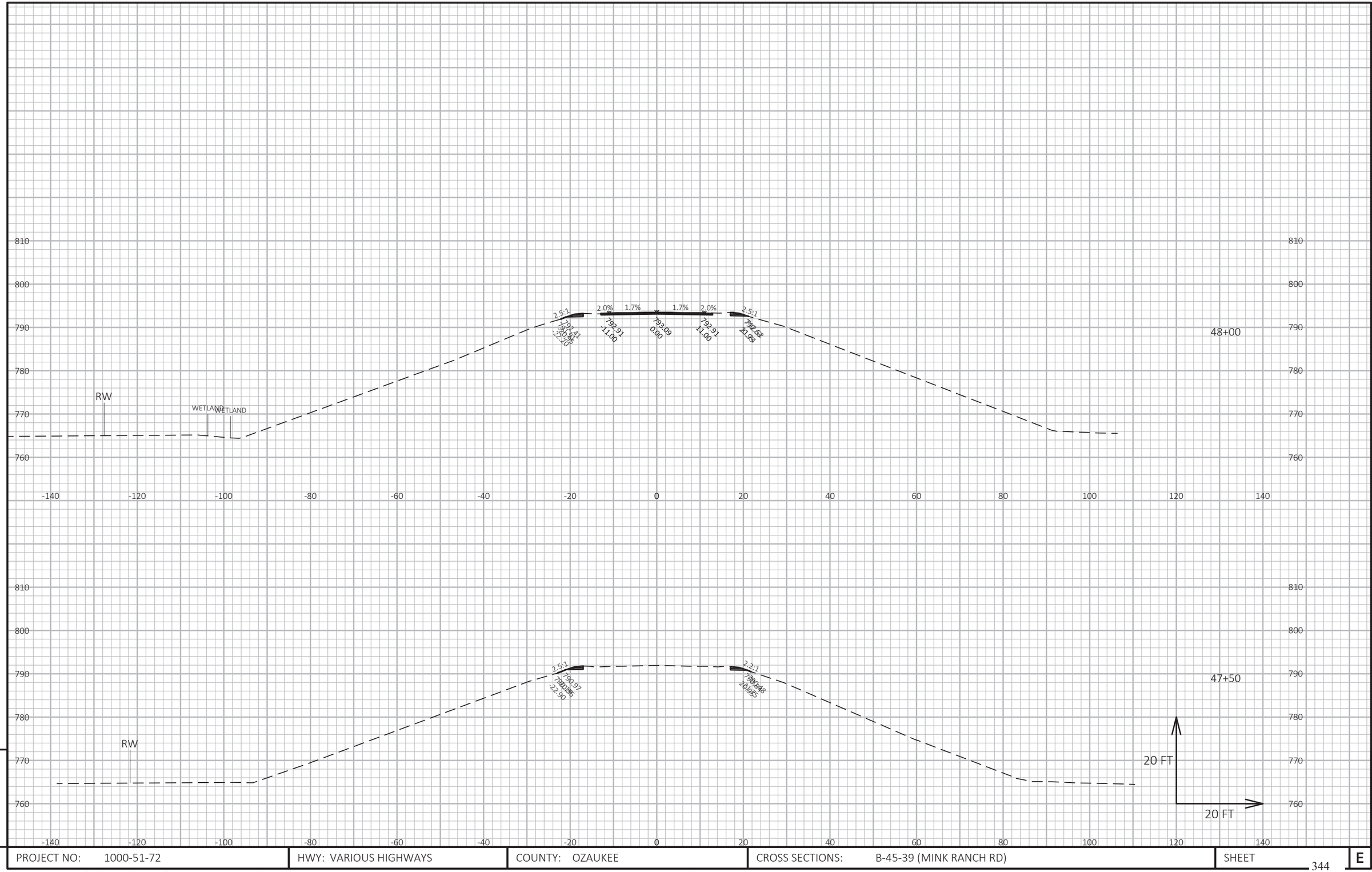
9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 343	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (5)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

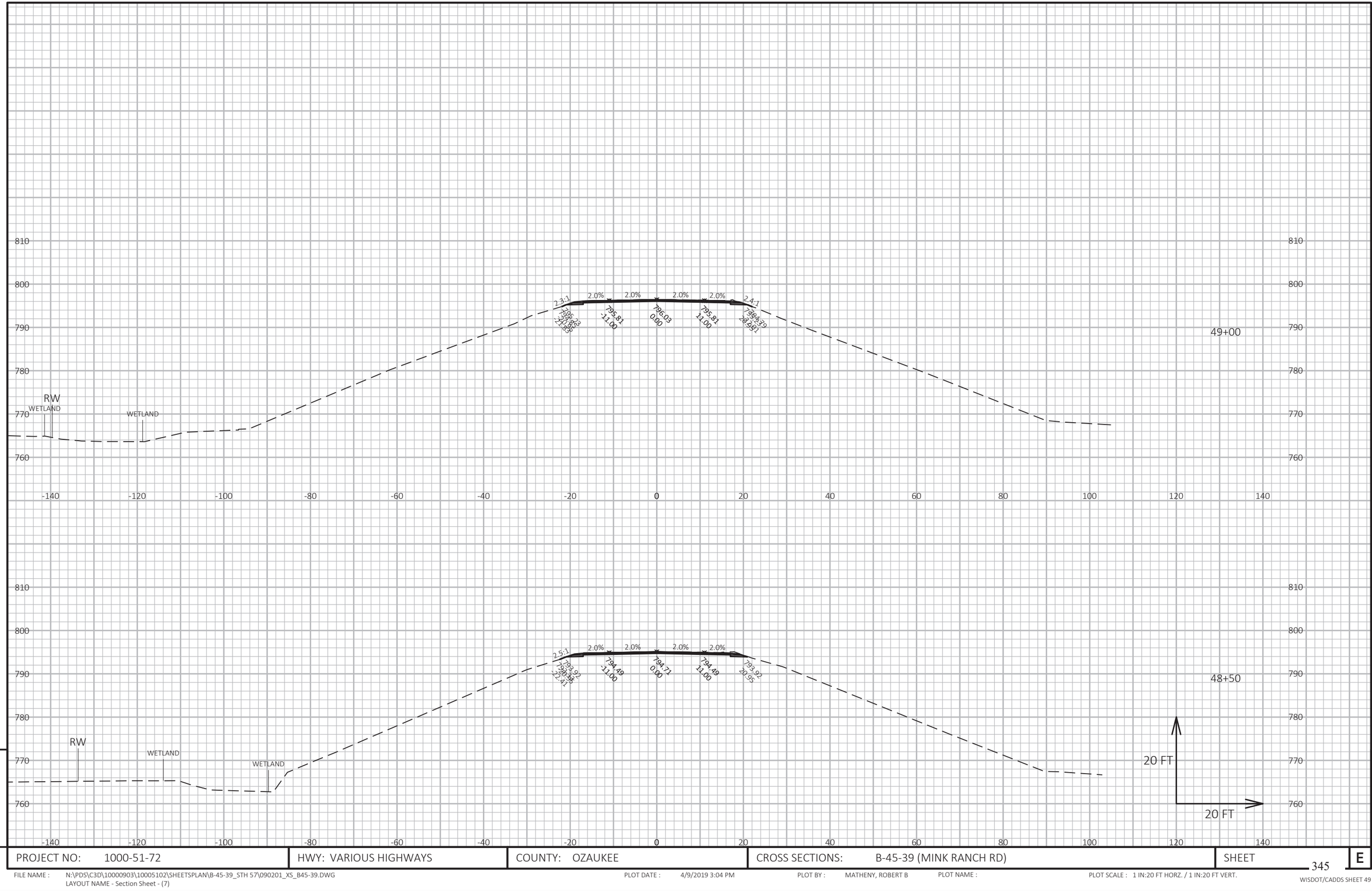


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 344 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (6)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

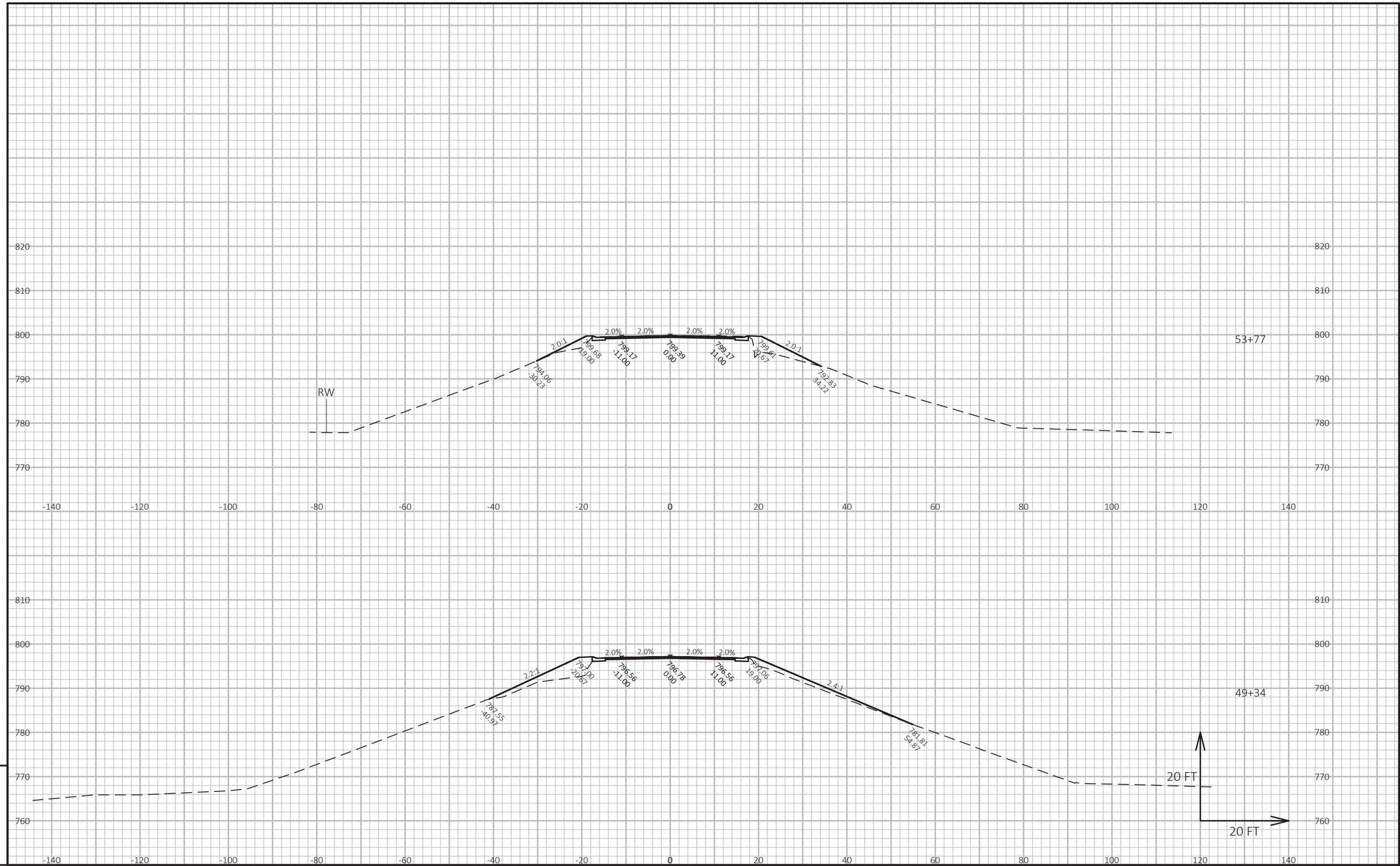
9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 345	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (7)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

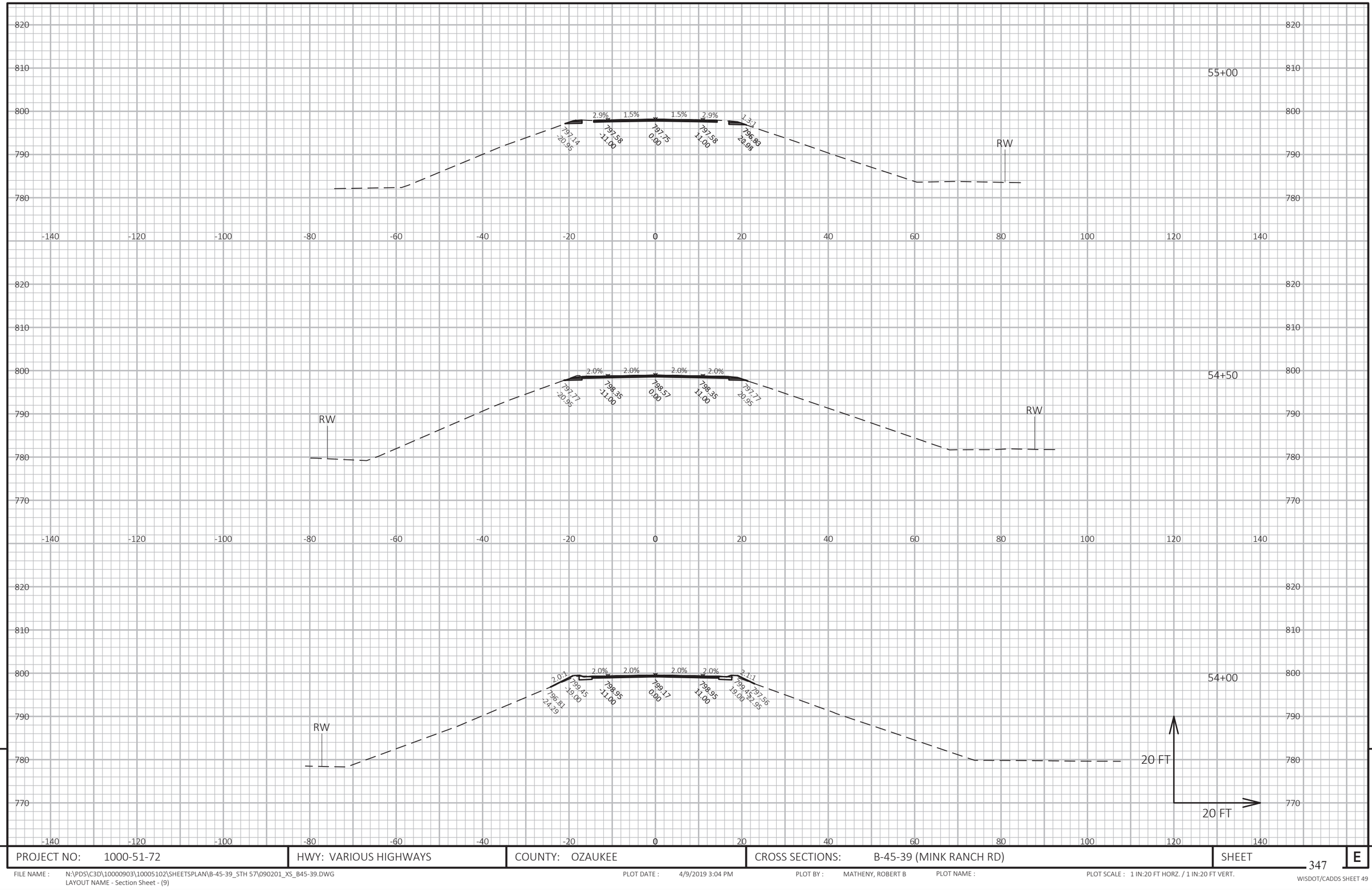


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 346 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (8)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



9

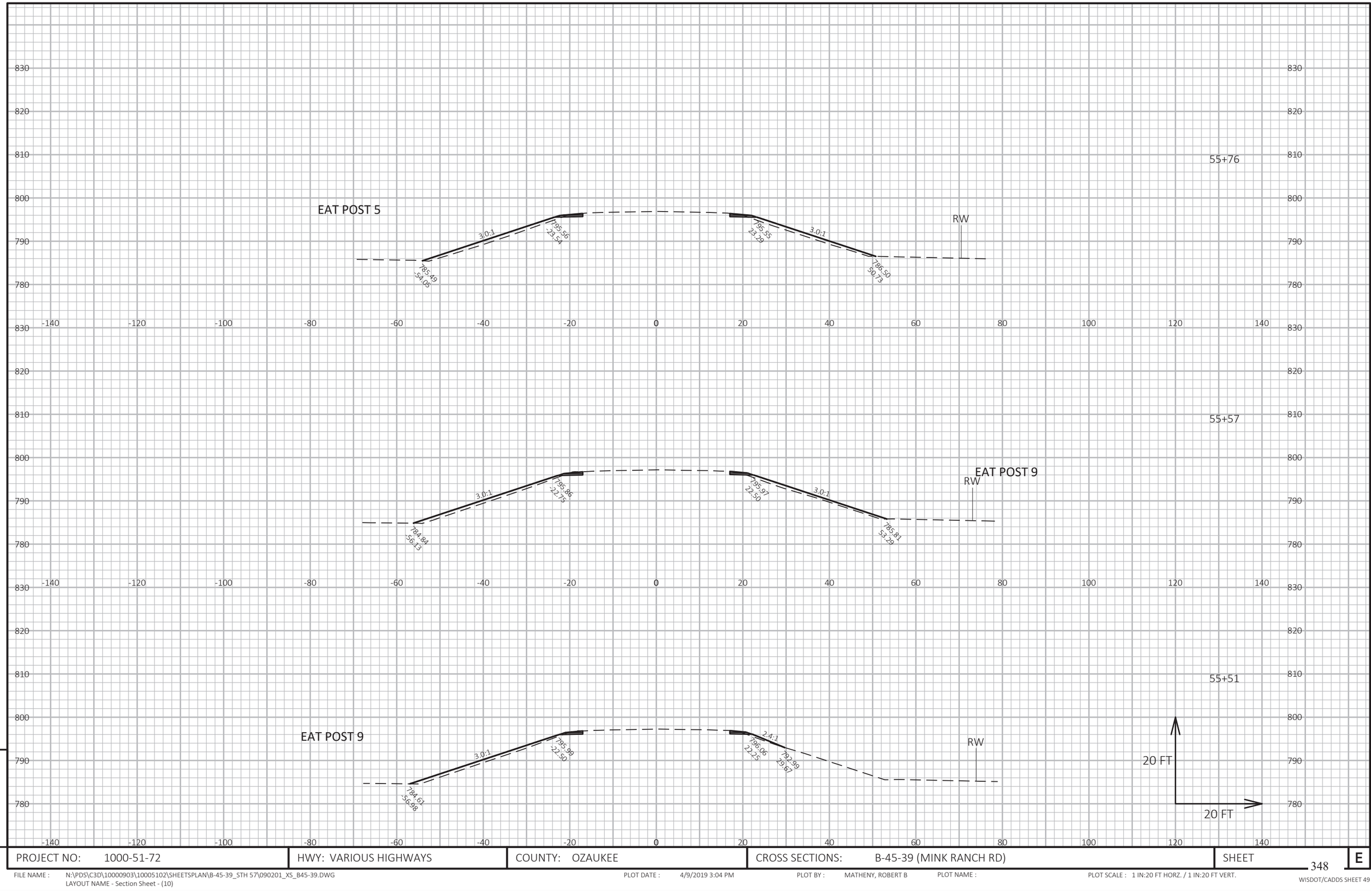
9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 347	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (9)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

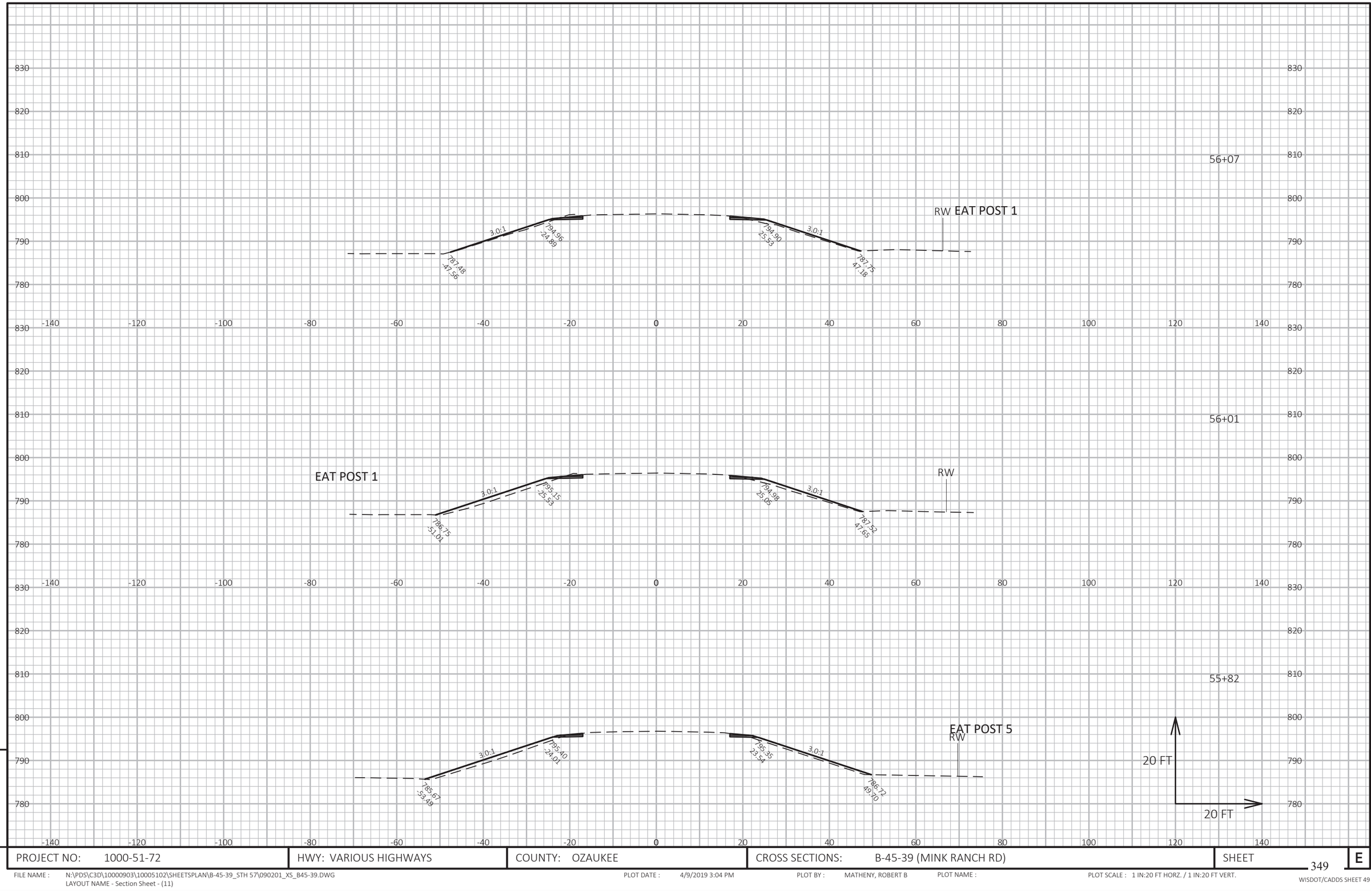


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 348 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (10)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

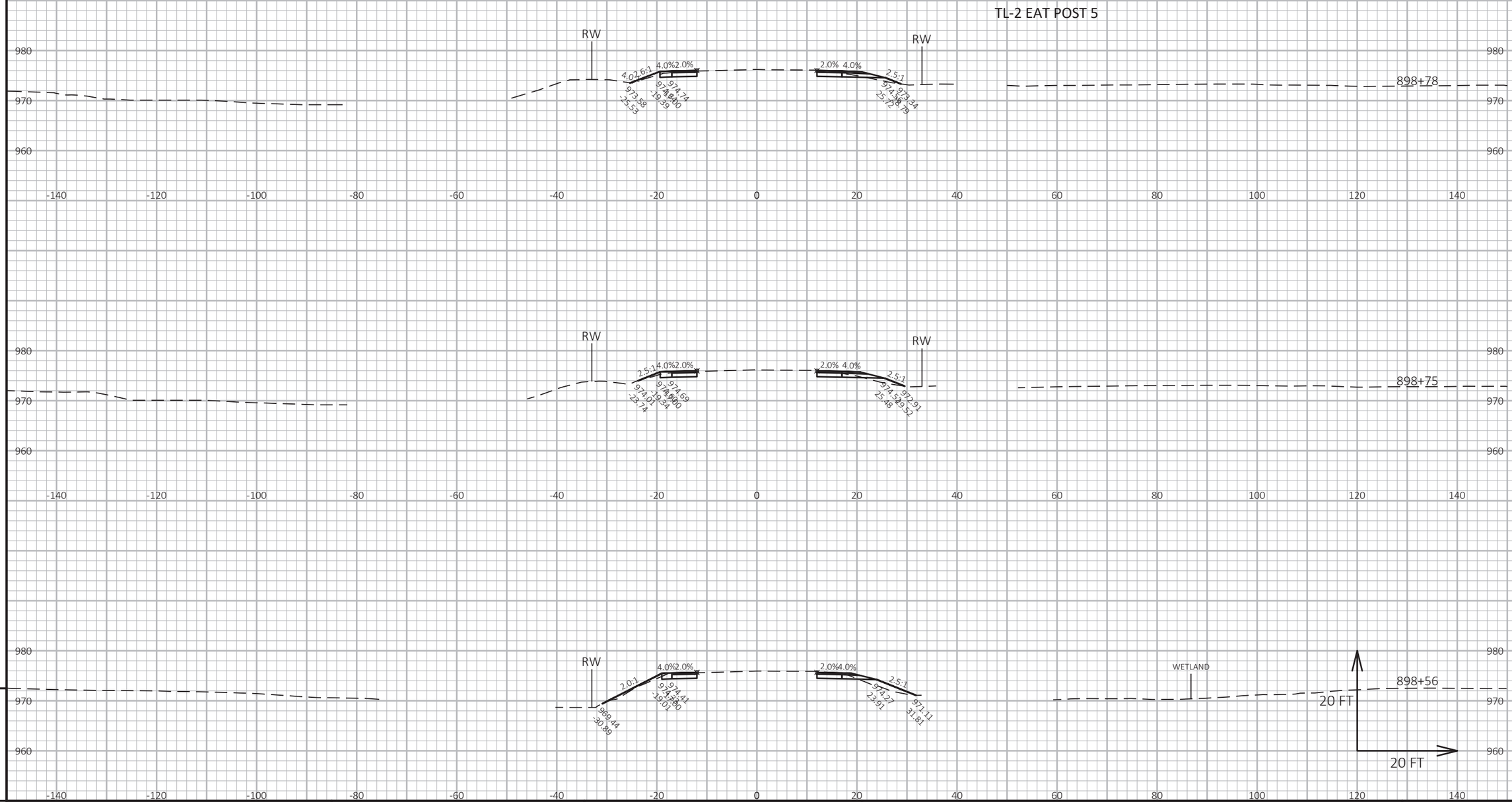


PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: OZAUKEE	CROSS SECTIONS: B-45-39 (MINK RANCH RD)	SHEET 349 E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-45-39_STH 57\090201_XS_B45-39.DWG
LAYOUT NAME - Section Sheet - (11)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49



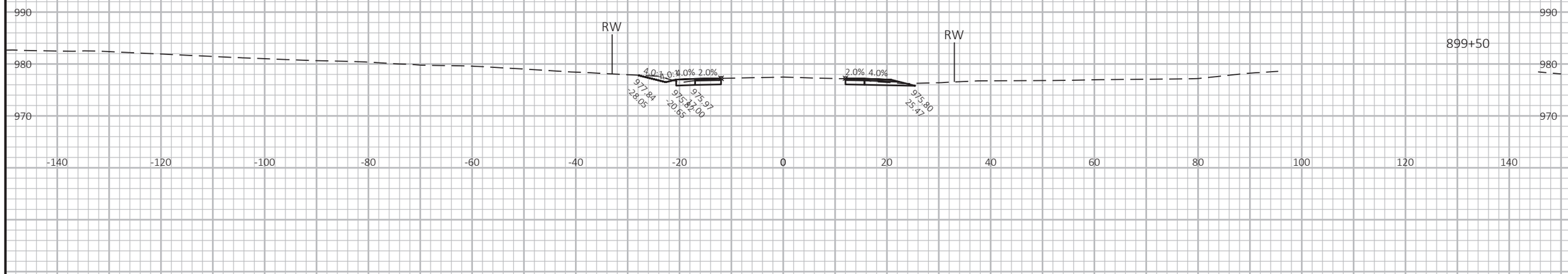
9

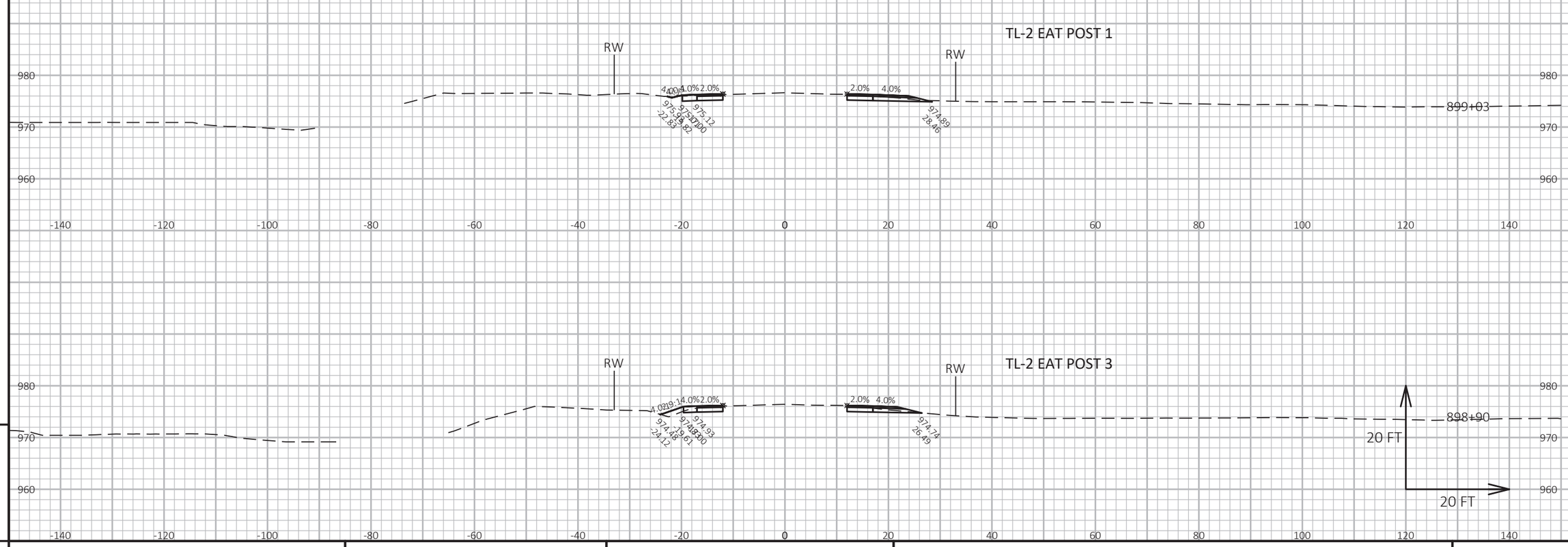
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	CROSS SECTIONS: B-66-27 (STH 175)	SHEET 350	E

9

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-27_STH 175\090201_XS_B66-27.DWG
LAYOUT NAME - Section Sheet - (1)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.





9

9

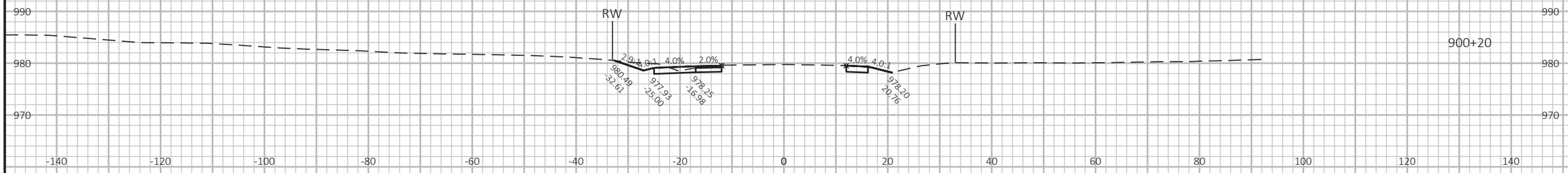
PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	CROSS SECTIONS: B-66-27 (STH 175)	SHEET 351	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-27_STH 175\090201_XS_B66-27.DWG
LAYOUT NAME - Section Sheet - (2)

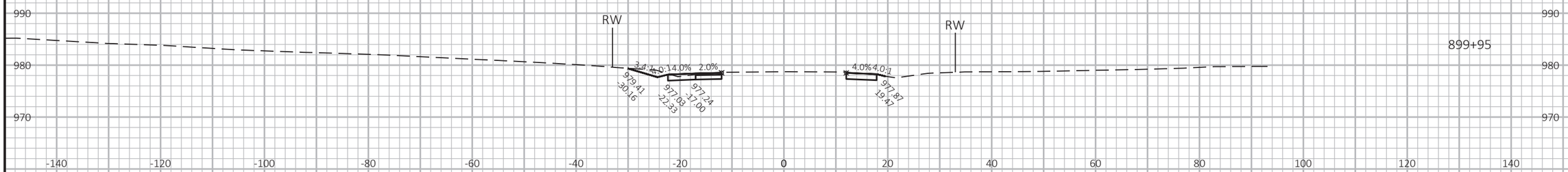
PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

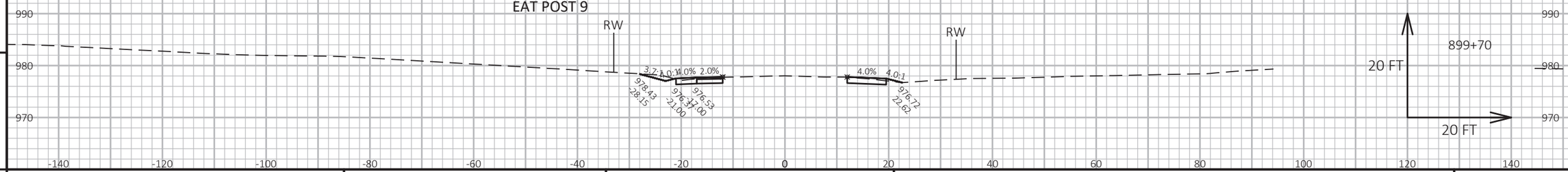
EAT POST 1



EAT POST 5



EAT POST 9



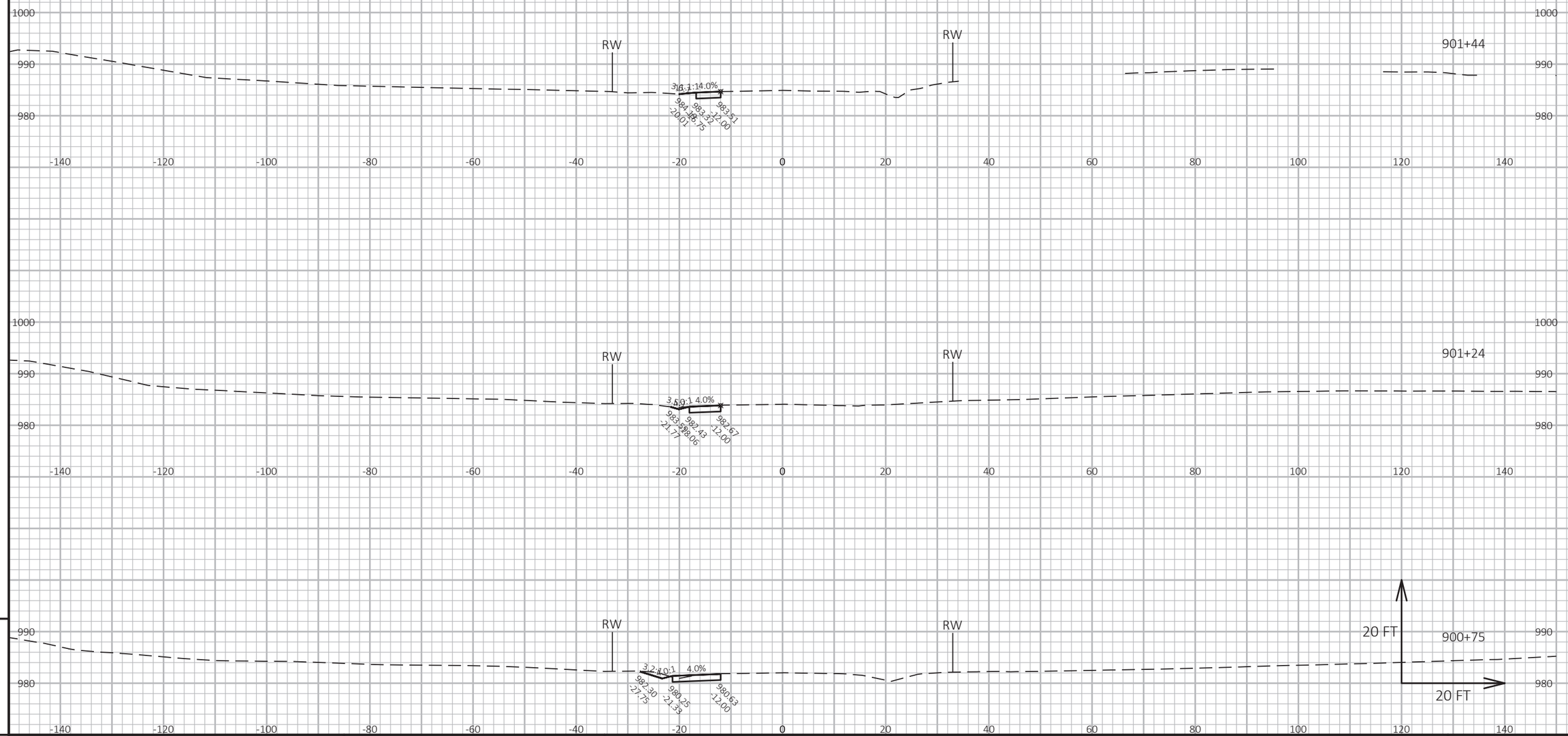
9

9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	CROSS SECTIONS: B-66-27 (STH 175)	SHEET 352	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-27_STH 175\090201_XS_B66-27.DWG
LAYOUT NAME - Section Sheet - (3)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.



9

9

PROJECT NO: 1000-51-72	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	CROSS SECTIONS: B-66-27 (STH 175)	SHEET 353	E

FILE NAME : N:\PDS\C3D\10000903\10005102\SHEETSPLAN\B-66-27_STH 175\090201_XS_B66-27.DWG
LAYOUT NAME - Section Sheet - (4)

PLOT DATE : 4/9/2019 3:04 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:20 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

WKE

NOVEMBER 2019

PROJECT ID: 1000-54-72

WITH: 1000-51-72

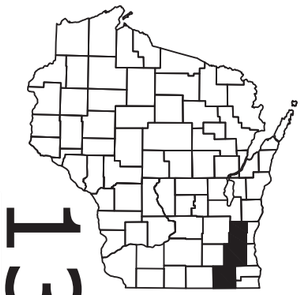
1000-54-73

COUNTY: SE REGION WIDE

ORDER OF SHEETS

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

TOTAL SHEETS = 78



13

N

DESIGN DESIGNATION

A.A.D.T.	=
A.A.D.T.	=
D.H.V.	=
D.D.	=
T.	=
DESIGN SPEED	=
ESALS	=

SEE GENERAL NOTES FOR MORE INFORMATION

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

VARIOUS HIGHWAYS

VARIOUS BRIDGES SE REGION

VAR HWY

SOUTHEAST REGION WIDE

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1000-54-73	WISC 2019683	1

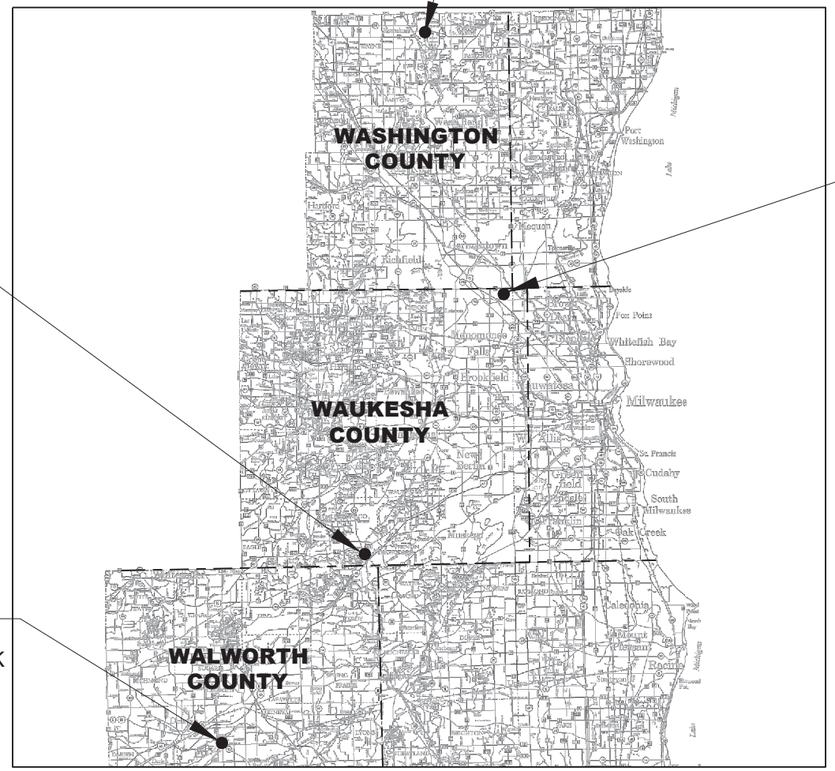
STATE PROJECT NUMBER
1000-54-73

B-66-122
STH 28
OVER E BR MILWAUKEE RIVER

B-67-217
STH 145
OVER ABANDONED RR

B-67-216
STH 83
OVER MUKWONAGO RIVER

B-64-71
STH 50
OVER JACKSON CREEK



LAYOUT

SCALE 0 9 MI

REFER TO ALIGNMENT PLAN FOR COORDINATE SYSTEM SPECIFIC TO EACH STRUCTURE

TOTAL NET LENGTH OF CENTERLINE = 0.000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	N/A
Designer	NENG YANG
Project Manager	BRIAN PLUEMER
Regional Examiner	
Regional Supervisor	REEM SHAHIN

APPROVED FOR THE DEPARTMENT

DATE: 5/1/2019 Brian Pluemer (Signature)

E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 4/12/2018 5:38 PM

PLOT BY : MATHENY, ROBERT B

PLOT NAME :

2

STANDARD ABBREVIATIONS

AP	ACCESS POINT
AC	ACRE
ADJ	ADJUST
AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE
AH	AHEAD
AC	ASPHALT CEMENT
ASPH	ASPHALTIC
ACP	ASPHALTIC CONCRETE PAVEMENT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BK	BACK
BAD	BASE AGGREGATE DENSE
BM	BENCHMARK
CB	CATCH BASIN
C/L	CENTER LINE
C/L CONST	CENTER LINE CONSTRUCTION
Δ	CENTRAL ANGLE OR DELTA
CL	CLASS
CONC	CONCRETE
CONST	CONSTRUCTION
CMCP	CORRUGATED METAL CULVERT PIPE
CTH	COUNTY TRUNK HIGHWAY
CABC	CRUSHED AGGREGATE BASE COURSE
CFS	CUBIC FEET PER SECOND
CY	CUBIC YARD
CP	CULVERT PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
C & G	CURB AND GUTTER
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FPS	FEET PER SECOND
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FT	FOOT
GN	GRID NORTH
HES	HIGH EARLY STRENGTH
HP HW	HIGH POINT
HW	HIGH WATER
HMA	HOT MIX ASPHALT
CWT	HUNDREDWEIGHT
HWD	HYDRANT
INL	INLET
ID	INSIDE DIAMETER
I	INTERSECTION ANGLE
INV	INVERT
IP	IRON PIPE OR PIN
JT	JOINT
LT	LEFT
LT	LENGTH OF CURVE
LF	LINEAR FOOT
LP	LOW POINT
LS	LUMP SUM
MH	MANHOLE
MAX	MAXIMUM
Mgal	MEGAGALLON
MPH	MILES PER HOUR
MIN	MINIMUM
MON	MONUMENT
NOM	NOMINAL
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
NO	NUMBER
OPT	OPTIONAL
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PACS	PIPE ARCH CORRUGATED STEEL
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
LB	POUND
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PL	PROPERTY LINE
Q100	100-YEAR FLOW RATE
R	RADIUS
RR	RAILROAD
R	RANGE
R/L	R/L
REINF	REINFORCING OR REINFORCEMENT
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SEC	SECTION
SHLDR	SHOULDER
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
SF	SQUARE FEET
SW	SIDEWALK
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
ST	STREET
STR	STRUCTURE OR STRUCTURAL
SEC	SUPERELEVATION
T	TANGENT
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
t	TON
T	TOWN
T/L	TRANSIT LINE
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
V	VELOCITY OF DESIGN SPEED
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WM	WATERMAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
YD	YARD

GENERAL NOTES

UTILITES NOTE SURVEYED OR SHOWN ON PLAN DETAIL SHEET DUE TO SCOPE OF WORK.

THE CONTRACTOR WILL COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A CALL TO THE UTILITIES THAT HAVE INSTALLATIONS WITHIN THE PROJECT AREA.

MAINTAIN ACCESSS TO ALL DRIVEWAYS AND ALL BUSINESSES AT ALL TIMES.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

TRAFFIC CONTROL LOCATIONS AS SHOWN IN THE PLAN ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

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

PROTECT FROM DAMAGE AND AROUND ANY EXISTING SIGNS OR MAILBOXES THAT ARE TO REMAIN IN PLACE.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
PLAN DETAILS & EROSION CONTROL
PAVEMENT MARKING
DETOUR
ALIGNMENT

2

HMA PAVEMENT LOCATION	ASPHALT MIX	UPPER LAYER	GRADATION
STH 28	4 MT 58-28 S	2-INCH	12.5 MM
STH 50 STH 83 STH 145	4 LT 58-28 S	2-INCH	12.5 MM

DESIGN DESIGNATION	B-64-71 STH 50	B-66-122 STH 28	B-67-216 STH 83	B-67-217 STH 145
A.A.D.T. (2019)	12900	2800	13300	6700
A.A.D.T. (2039)	14400	3300	14600	7700
D.H.V.	1656	386	1810	932
D.D.	59/41	60/40	59/41	59/41
T.	2.6%	8.9%	4.4%	9.9%
DESIGN SPEED (MPH)	40	50	30	45

2

UTILITY CONTACTS

ALLIANT ENERGY - ELECTRICITY
DEAN COPP
935 WBR TOWNLINE RD
BELOIT, WI 53511
(608) 364-6431
DEANCOPP@ALLIANTENERGY.COM

AT&T LOCAL NETWORK - COMMUNICATION LINE
JENNIFER NAVARRO
6070 N FLINT RD
GLENDALE, WI 53209
(414) 459-3564
J.NAVARRO@NORTHWINDTECH.COM

CENTURYLINK - COMMUNICATION LINE
SASHA DEMIAN
3235 INTERTECH DR
BROOKFIELD, WI 53045
(414) 908-1042
SASHA.DEMIAN@LEVEL3.COM

CHARTER COMMUNICATIONS - COMMUNICATION LINE
STEVEN CRAMER
1320 N DR MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212-4002
(414) 277-4045
STEVE.CRAMER@CHARTER.COM

VILLAGE OF MUKWONAGO - COMMUNICATION LINE
RON BITTNER
P.O. BOX 206
MUKWONAGO, WI 53149
(262) 363-6447
RBITTNER@VILLAGEOFMUKWONAGO.COM

WE ENERGIES - ELECTRICITY
AL SCHMITT
245 SAND DR
WEST BEND, WI 53095
(262) 338-7662
ALAN.SCHMITT@WE-ENERGIES.COM

WE ENERGIES - GAS/PETROLEUM
ALEX DANTINNE
500 S 116TH ST
WEST ALLIS, WI 53214
(920) 621-6903
ALEX.DANTINNE@WE-ENERGIES.COM

OTHER CONTACTS

SEWRPC
JOHN WASHBURN
W239 N1812 ROCKWOOD DR
P.O. BOX 1607
WAUKESHA, WI 53187-1607
PHONE: (262) 953-4295
JWASHBURN@SEWRPC.ORG

WAUKESHA COUNTY
CAROLYNN GELLINGS
515 W MORELAND BLVD
WAUKESHA, WI 53188
PHONE: (262) 548-7740
CGELLINGS@WAUKESHACOUNTY.GOV

WISDNR CONTACT
WALWORTH, & WAUKESHA COUNTIES
CRAIG WEBSTER
141 NW BARSTOW ST, ROOM 180
WAUKESHA, WI 53188
PHONE: (262) 574-2141
CRAIG.WEBSTER@WISCONSIN.GOV

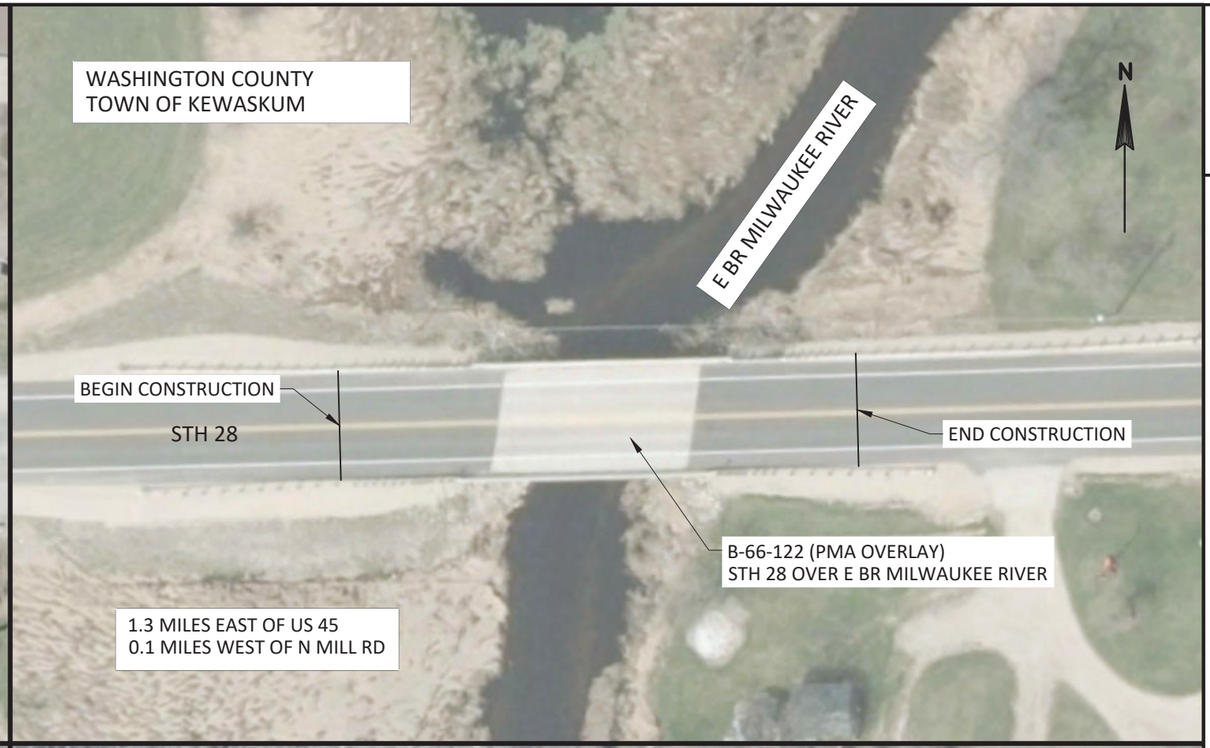
WISDNR CONTACT
WASHINGTON COUNTY
KRISTINA BETZOLD
2300 N MARTIN LUTHER KING JR DR
MILWAUKEE, WI 53212
PHONE: (414) 263-8517
KRISTINA.BETZOLD@WISCONSIN.GOV

WISDOT REGION CONTACT
BRIAN PLUEMER
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 548-6721
BRIAN.PLUEMER@DOT.WI.GOV

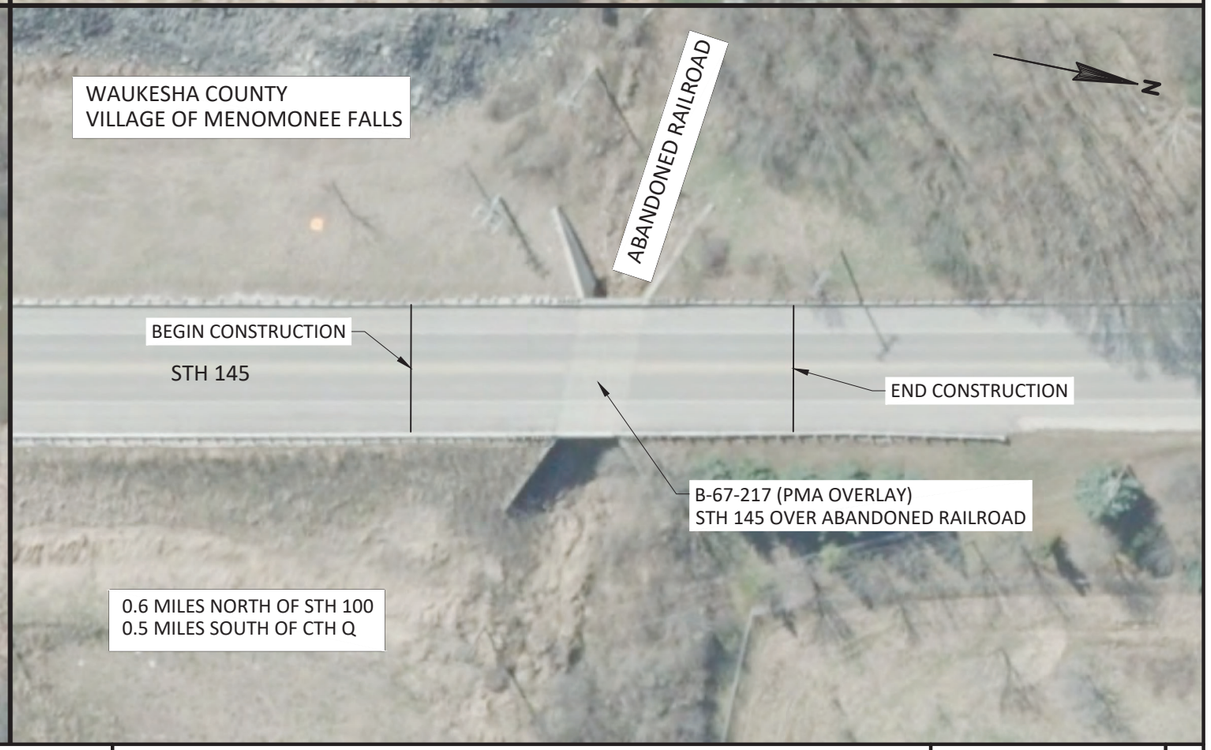
WISDOT SIGNALS
DAVID BRANTNER
141 NW BARSTOW ST
WAUKESHA, WI 53188
PHONE: (262) 548-8736
DAVID.BRANTNER@DOT.WI.GOV

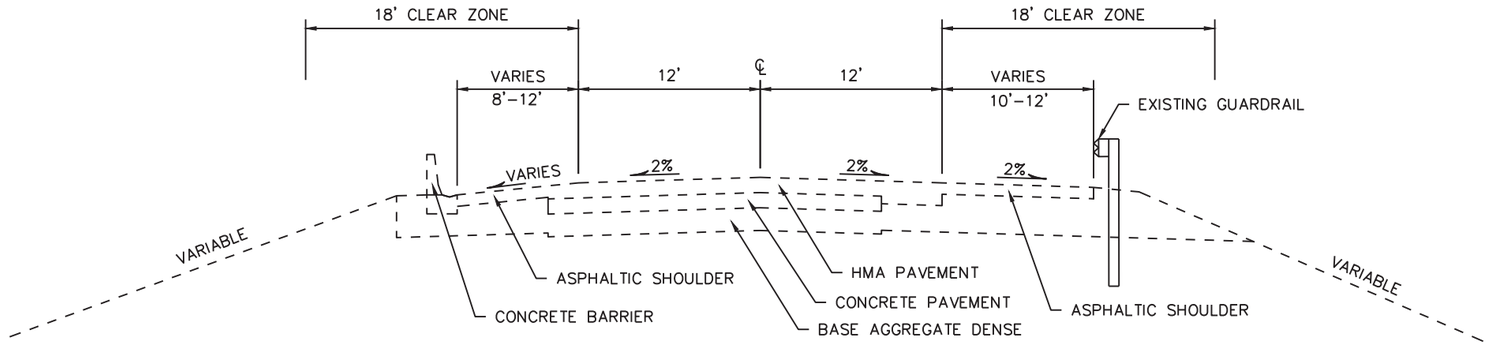
DIGGERS HOTLINE
Dial 811 or (800) 242-8511
www.DiggersHotline.com

WALWORTH COUNTY
TOWN OF DELAVAN
JACKSON CREEK
N
BEGIN CONSTRUCTION
STH 50
END CONSTRUCTION
B-64-71 (CONC. OVERLAY)
STH 50 OVER JACKSON CREEK
2.0 MILES EAST OF I-43
2.6 MILES WEST OF STH 67

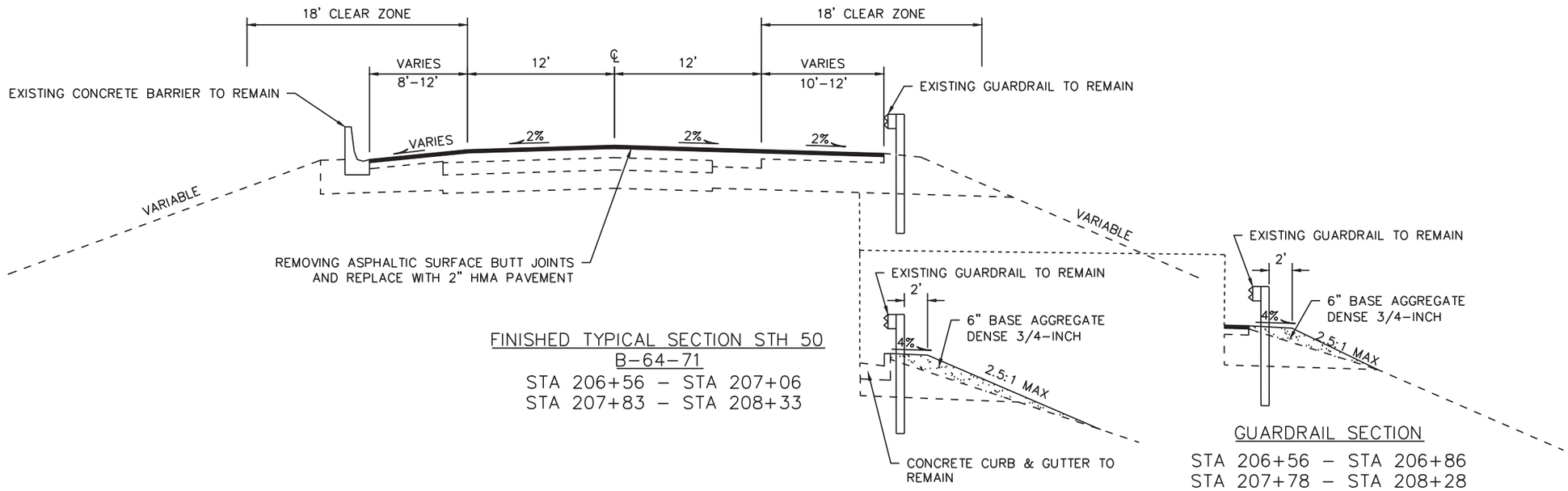

WASHINGTON COUNTY
TOWN OF KEWASKUM
E BR MILWAUKEE RIVER
N
BEGIN CONSTRUCTION
STH 28
END CONSTRUCTION
B-66-122 (PMA OVERLAY)
STH 28 OVER E BR MILWAUKEE RIVER
1.3 MILES EAST OF US 45
0.1 MILES WEST OF N MILL RD

WAUKESHA COUNTY
VILLAGE OF MUKWONAGO
N
B-67-216 (CONC. OVERLAY)
STH 83 OVER MUKWONAGO RIVER
BEGIN CONSTRUCTION
MUKWONAGO RIVER
STH 83
END CONSTRUCTION
0.5 MILES NORTHWEST OF I-43
0.25 MILES EAST OF CTH ES


WAUKESHA COUNTY
VILLAGE OF MENOMONEE FALLS
ABANDONED RAILROAD
N
BEGIN CONSTRUCTION
STH 145
END CONSTRUCTION
B-67-217 (PMA OVERLAY)
STH 145 OVER ABANDONED RAILROAD
0.6 MILES NORTH OF STH 100
0.5 MILES SOUTH OF CTH Q



EXISTING TYPICAL SECTION STH 50
B–64–71
STA 206+56 – STA 207+06
STA 207+83 – STA 208+33



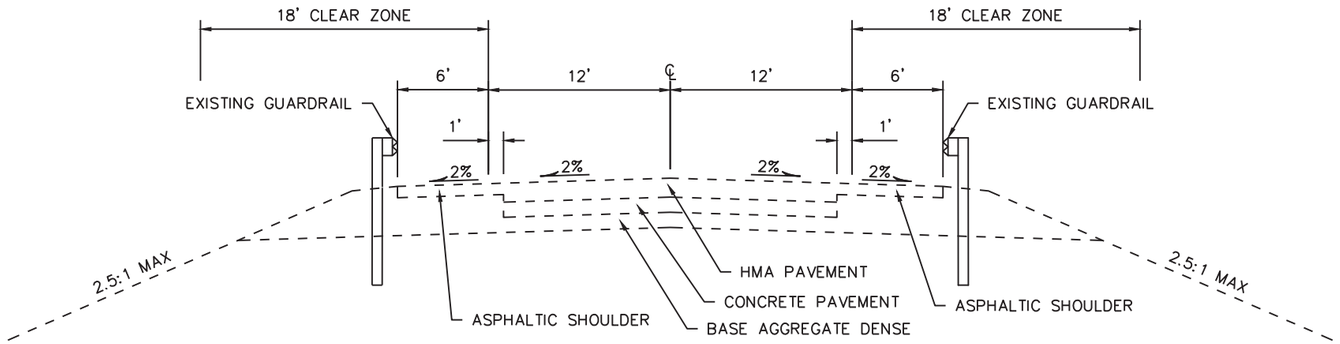
FINISHED TYPICAL SECTION STH 50
B–64–71
STA 206+56 – STA 207+06
STA 207+83 – STA 208+33

GUARDRAIL SECTION
STA 206+86 – STA 207+06

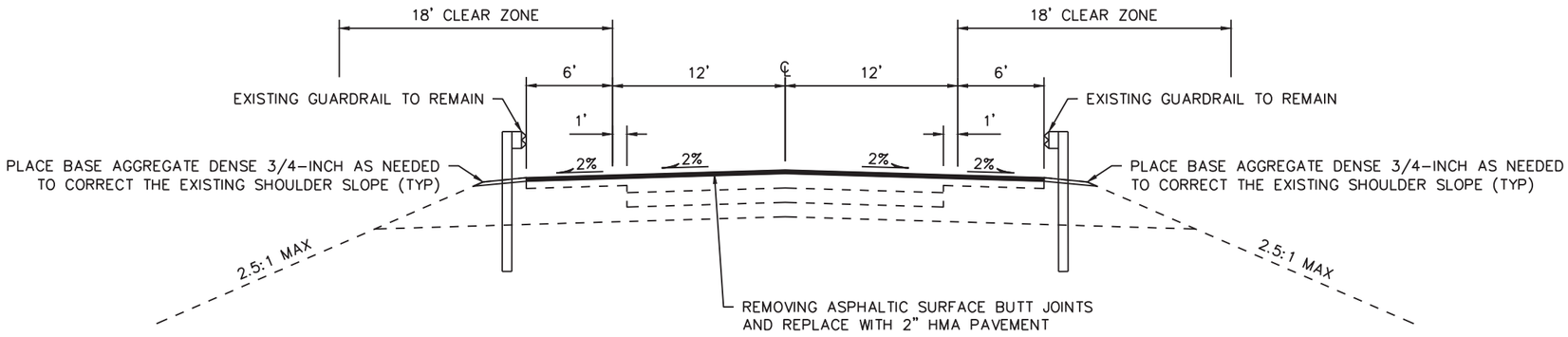
GUARDRAIL SECTION
STA 206+56 – STA 206+86
STA 207+78 – STA 208+28

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON & WALWORTH	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\020301_TS.DWG
LAYOUT NAME - B64-71 TS
PLOT DATE : 4/12/2018 5:39 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

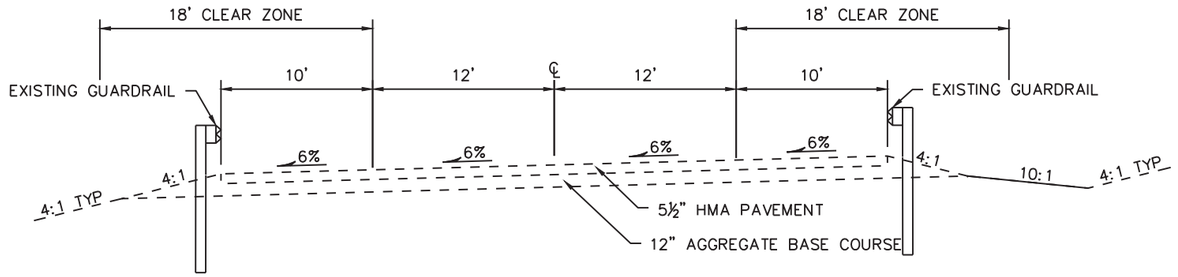


EXISTING TYPICAL SECTION STH 28
B-66-122
STA 146+10 – STA 146+64
STA 147+29 – STA 147+82

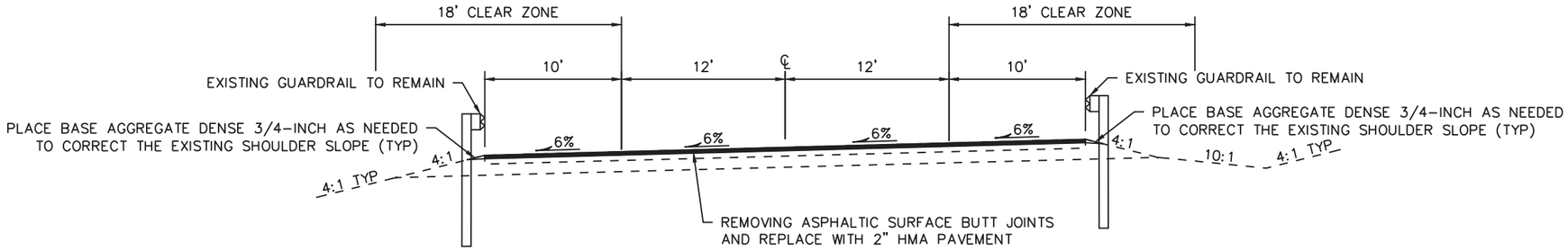


FINISHED TYPICAL SECTION STH 28
B-66-122
STA 146+10 – STA 146+64
STA 147+29 – STA 147+82

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 6	E

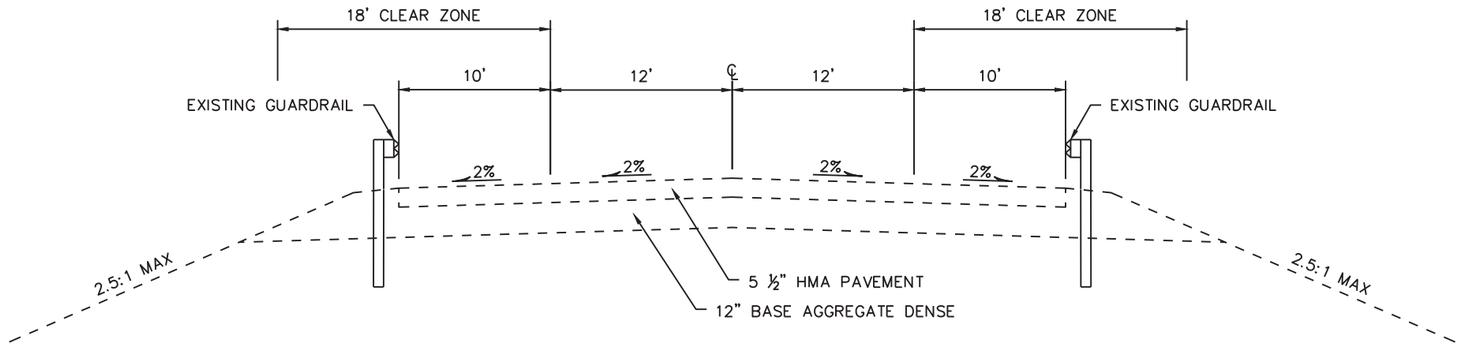


EXISTING SUPERELEVATED TYPICAL SECTION STH 83
B-67-216
STA 100+94 – STA 101+48
STA 102+06 – STA 102+67

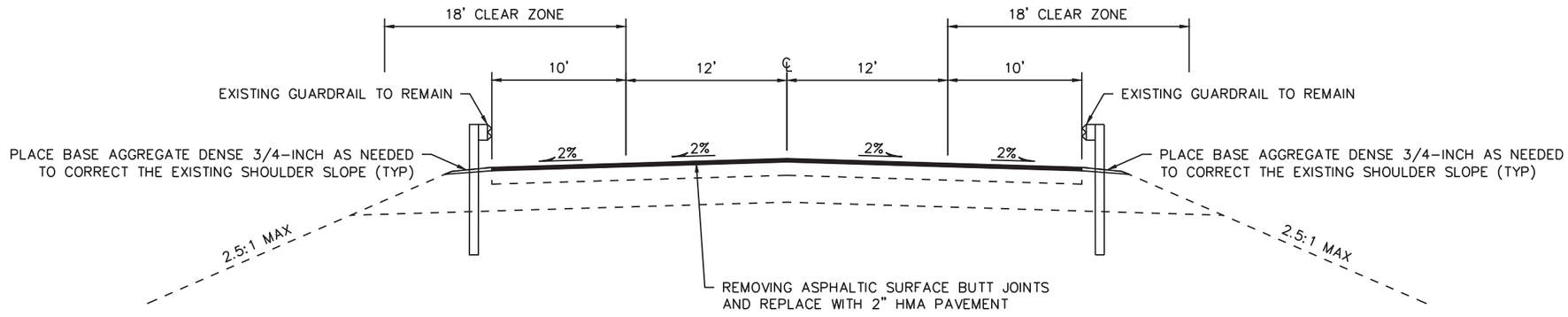


FINISHED SUPERELEVATED TYPICAL SECTION STH 83
B-67-216
STA 100+94 – STA 101+48
STA 102+06 – STA 102+67

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON & WALWORTH	TYPICAL SECTIONS	SHEET 7	E

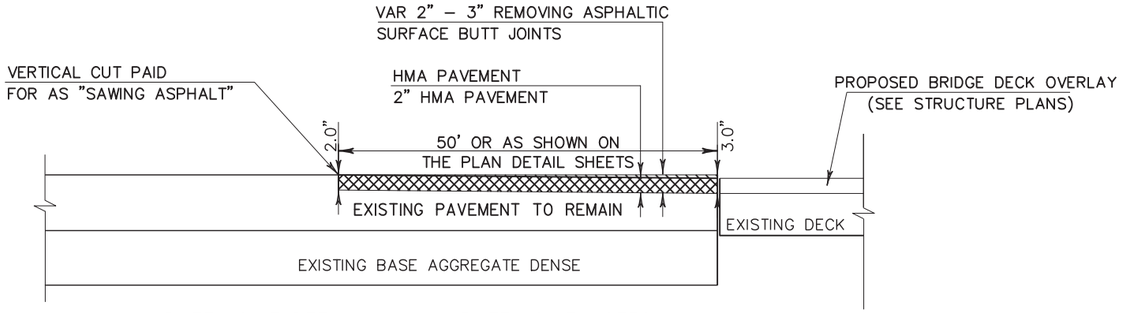


EXISTING TYPICAL SECTION STH 145
B-67-217
STA 44+64 – STA 45+18
STA 45+41 – STA 45+95



FINISHED TYPICAL SECTION STH 145
B-67-217
STA 44+64 – STA 45+18
STA 45+41 – STA 45+95

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TYPICAL SECTIONS	SHEET 8	E

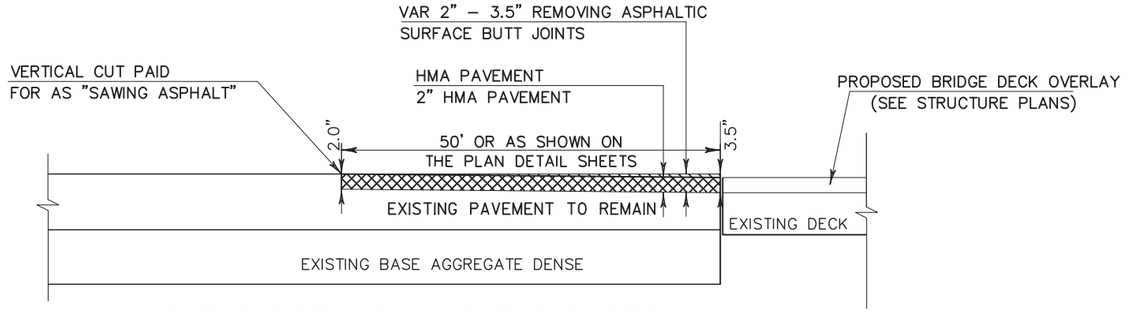


BUTT JOINT DETAIL 1

STH 50 (B–64–71)

BUTT JOINT NOTES

CONCRETE OVERLAY – REMOVE EXISTING BITUMINOUS OVERLAY

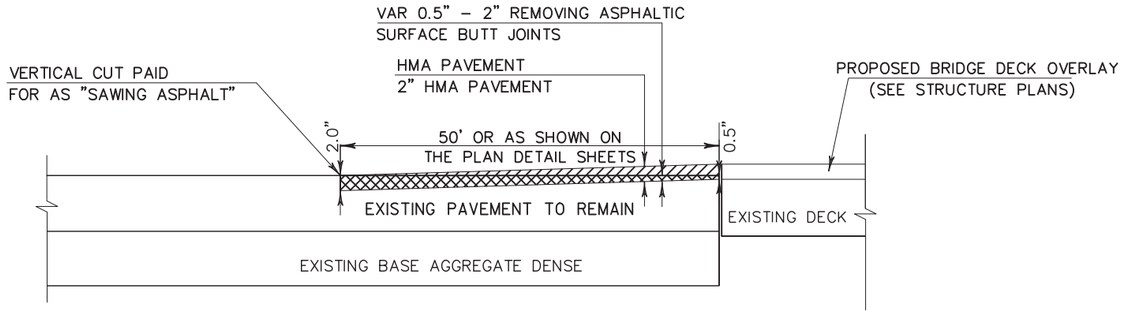


BUTT JOINT DETAIL 3

STH 83 (B–67–216)

BUTT JOINT NOTES

CONCRETE OVERLAY – REMOVE EXISTING BITUMINOUS OVERLAY

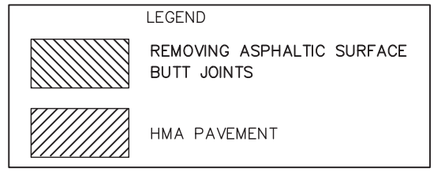


BUTT JOINT DETAIL 2

STH 28 (B–66–122)
STH 145 (B–67–217)

BUTT JOINT NOTES

PMA OVERLAY ON BARE DECK

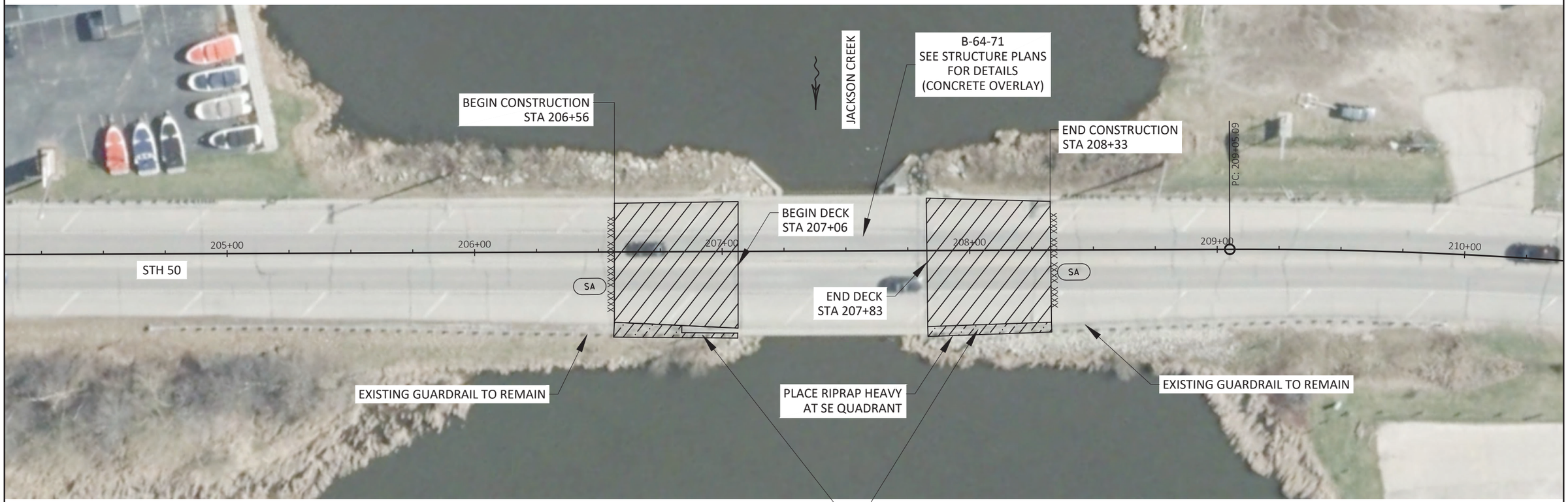


BUTT JOINTS DETAILS

SEE PLAN DETAIL FOR LOCATIONS

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAY	COUNTY: VARIOUS COUNTIES	CONSTRUCTION DETAIL	SHEET 9	E

2



LEGEND

(SA) SAWING ASPHALT

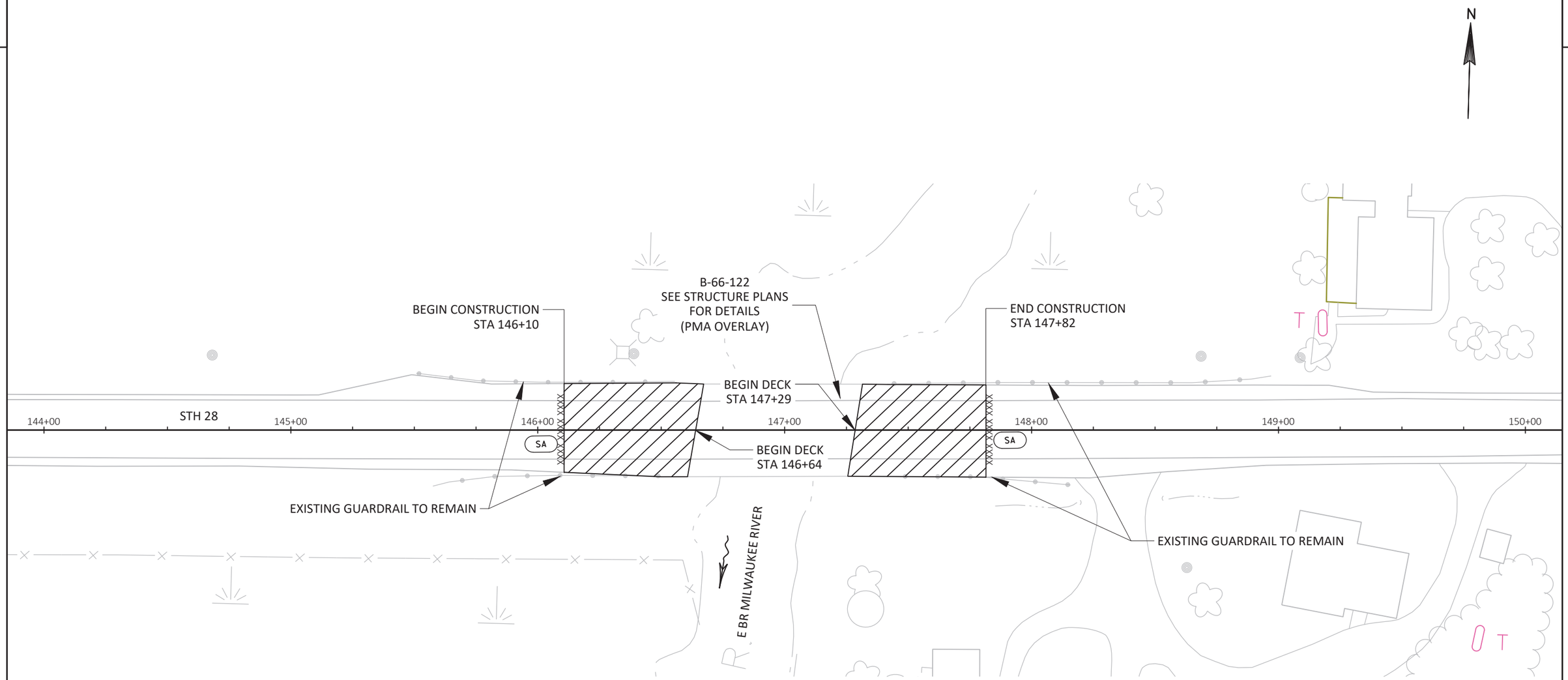
XXXX XXXX SAW CUT LINE

REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PLAN DETAILS/EROSION CONTROL: B-64-71 (STH 50 OVER JACKSON CREEK)	SHEET 10	E

2



LEGEND

SA — SAWING ASPHALT

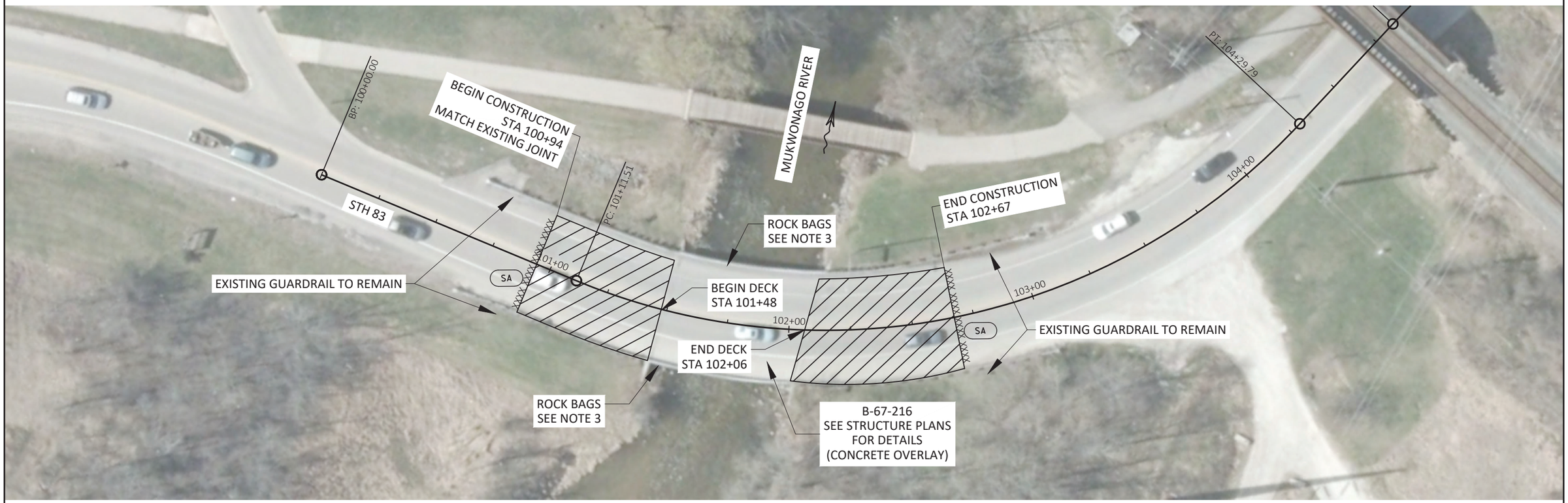
XXXX XXXX — SAW CUT LINE

REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	PLAN DETAILS/EROSION CONTROL: B-66-122 (STH 28 OVER E BR MILWAUKEE RIVER)	SHEET 11	E

2



LEGEND

(SA) SAWING ASPHALT

XXXX XXXX SAW CUT LINE

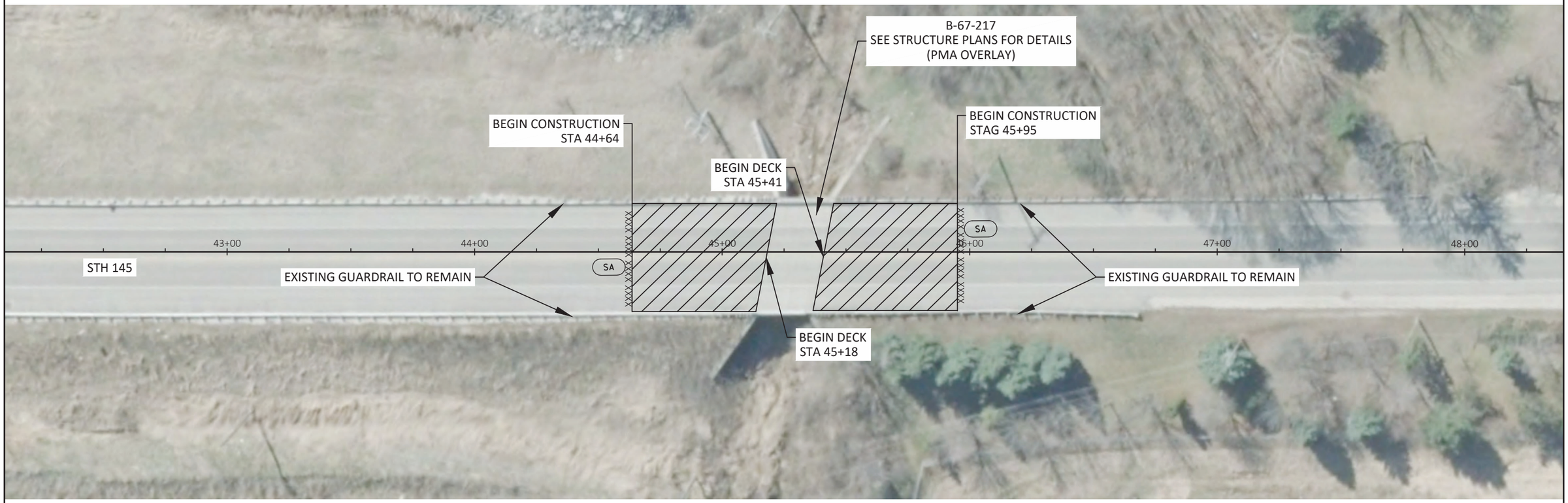
REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. PLACE ROCK BAGS BETWEEN GUARDRAIL POSTS FOR THE ENTIRE STRUCTURE LENGTH.
4. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PLAN DETAILS/EROSION CONTROL: B-67-216 (STH 83 OVER MUKWONAGO RIVER)	SHEET 12	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-67-216_STH 83\021203_PD_B67-216.DWG
LAYOUT NAME - B67-216 PD
PLOT DATE : 7/29/2019 8:07 AM PLOT BY : YANG, VANG NENG PLOT NAME : _____ PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



LEGEND

SA — SAWING ASPHALT

XXXX XXXX — SAW CUT LINE

REMOVING ASPHALTIC SURFACE BUTT JOINTS AND REPLACE WITH HMA PAVEMENT

NOTES:
1. SEE CONSTRUCTION DETAILS FOR PAVEMENT THICKNESS.
2. SAW CUT LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED BY THE FIELD ENGINEER.
3. STATIONING/ALIGNMENT SHOWN FOR REFERENCE ONLY. CONSTRUCTION TO OCCUR RELATIVE TO EXISTING BRIDGE LOCATION.

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PLAN DETAILS/EROSION CONTROL: B-67-217 (STH 145 OVER ABANDONED RAILROAD)	SHEET 13	E

2

PAVEMENT MARKING LEGEND

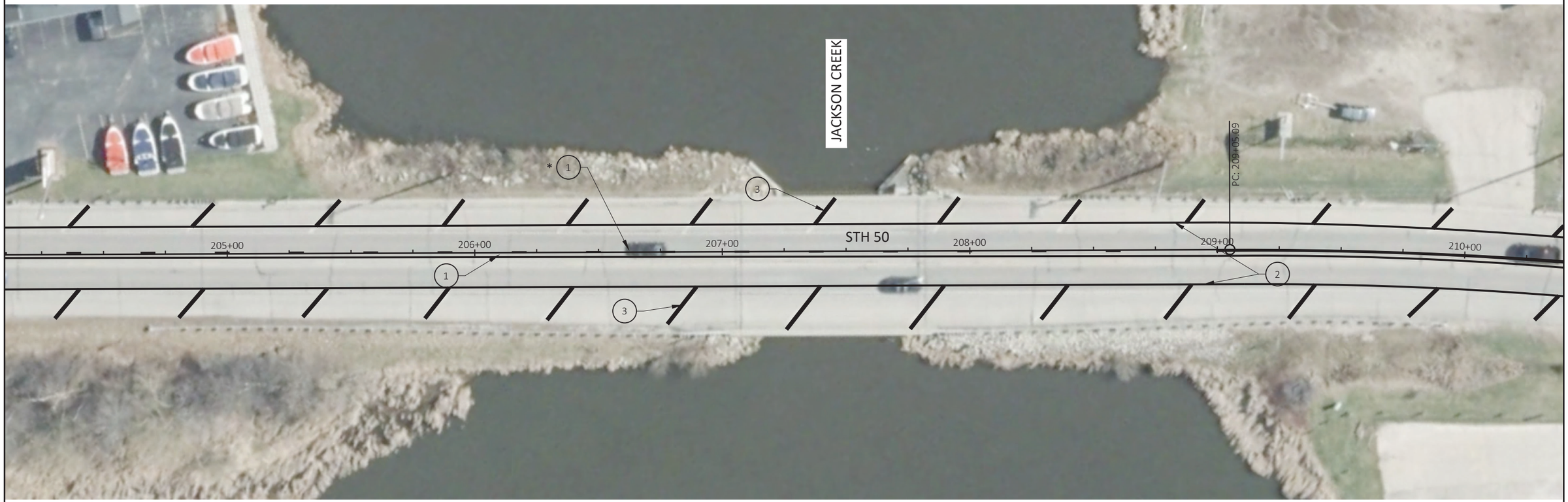
1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

NOTE:

* LEFT SIDE: 12.5' LINE, 37.5' GAP
  RIGHT SIDE: SOLID LINE

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PAVEMENT MARKING - STH 50 (B-64-71)	SHEET 14	E

2



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

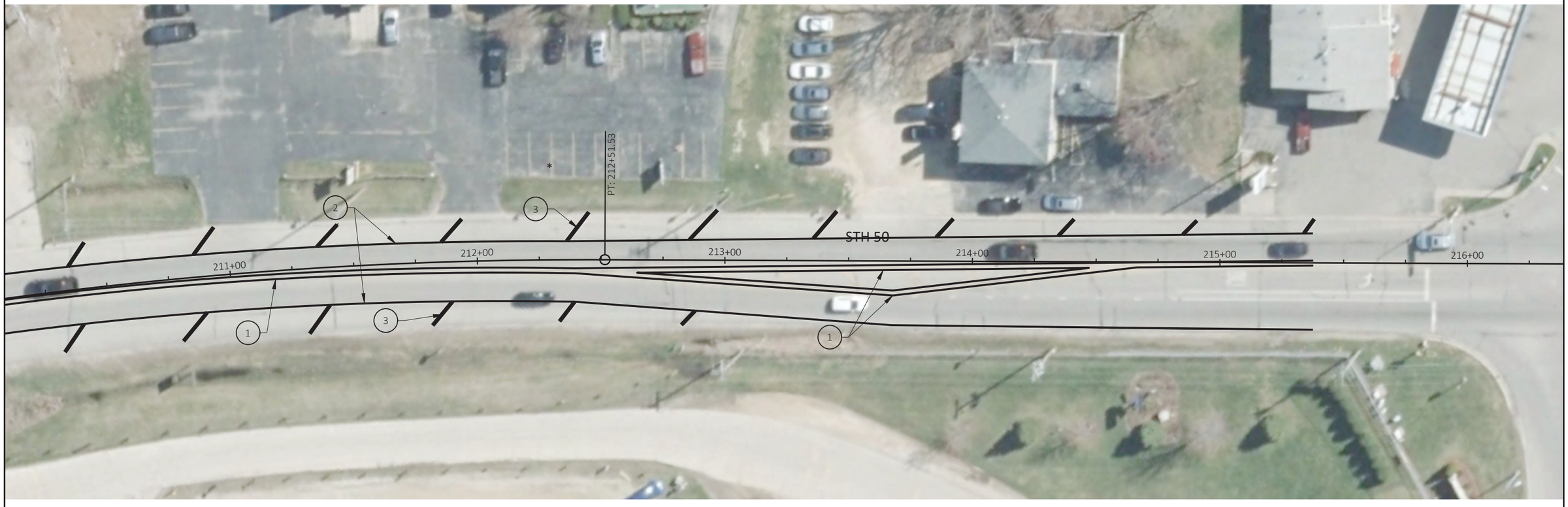
NOTE:

* LEFT SIDE: 12.5' LINE, 37.5' GAP
RIGHT SIDE: SOLID LINE

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PAVEMENT MARKING - STH 50 (B-64-71)	SHEET 15	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-64-71_STH50\024501_PM_B64-71.DWG
LAYOUT NAME - 024502_pm
PLOT DATE : 4/12/2018 5:47 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

NOTE:

* LEFT SIDE: 12.5' LINE, 37.5' GAP
  RIGHT SIDE: SOLID LINE

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	PAVEMENT MARKING - STH 50 (B-64-71)	SHEET 16	E

2

N

STH 28

144+00 145+00 146+00 147+00 148+00 149+00 150+00

E BR MILWAUKEE RIVER

1 2 3

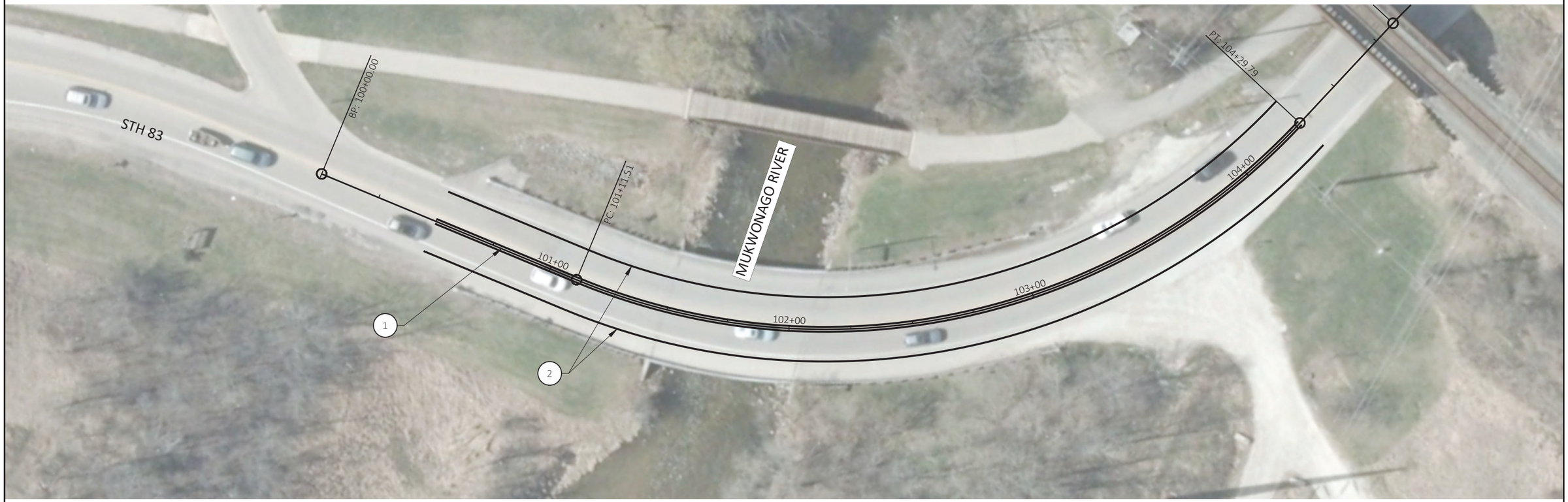
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	PAVEMENT MARKING - STH 28 (B-66-122)	SHEET 17	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-66-122_STH28\024501_PM_B66-122.DWG
LAYOUT NAME - 024501_pm
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2



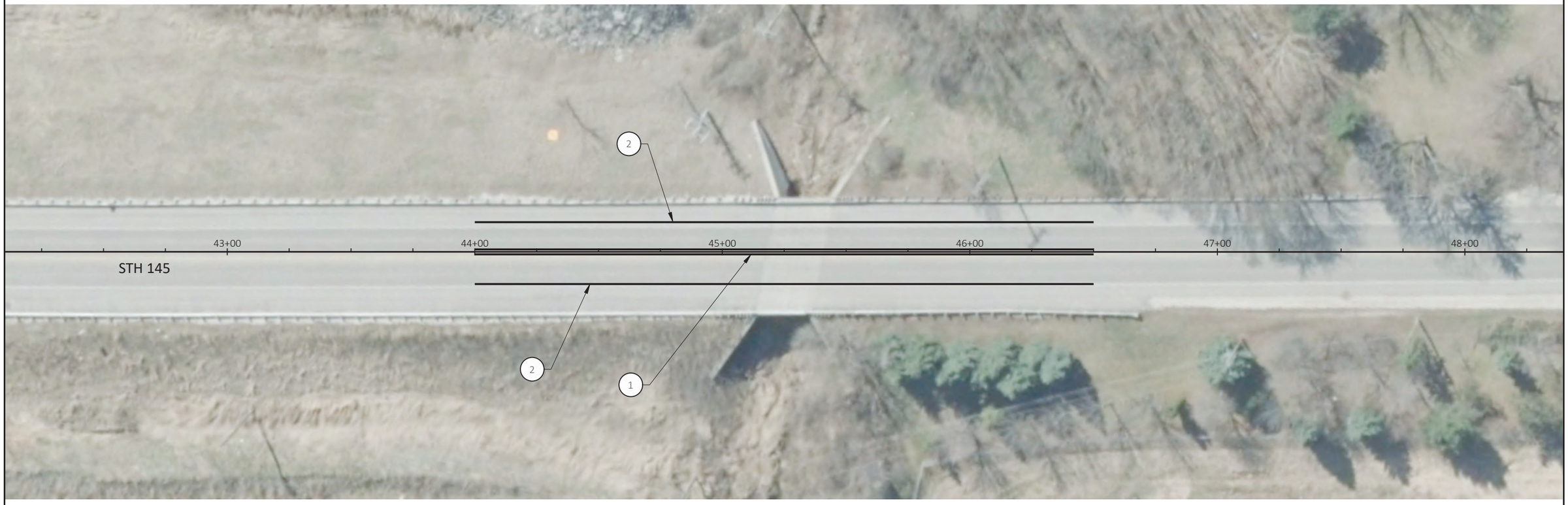
PAVEMENT MARKING LEGEND

1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PAVEMENT MARKING - STH 83 (B-67-216)	SHEET 18	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-67-216_STH 83\024501_PM_B67-216.DWG
LAYOUT NAME - 024501_pm
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

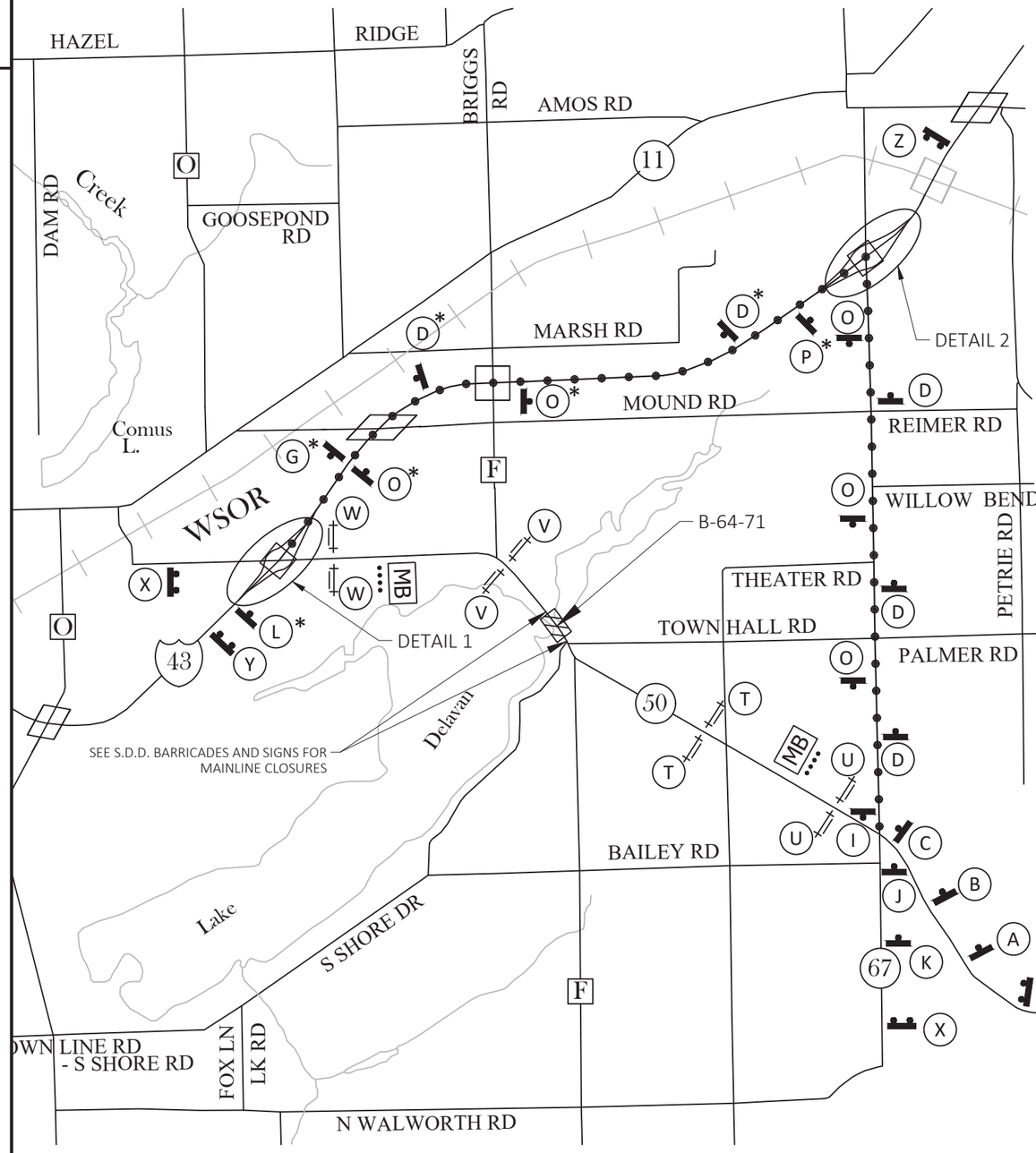


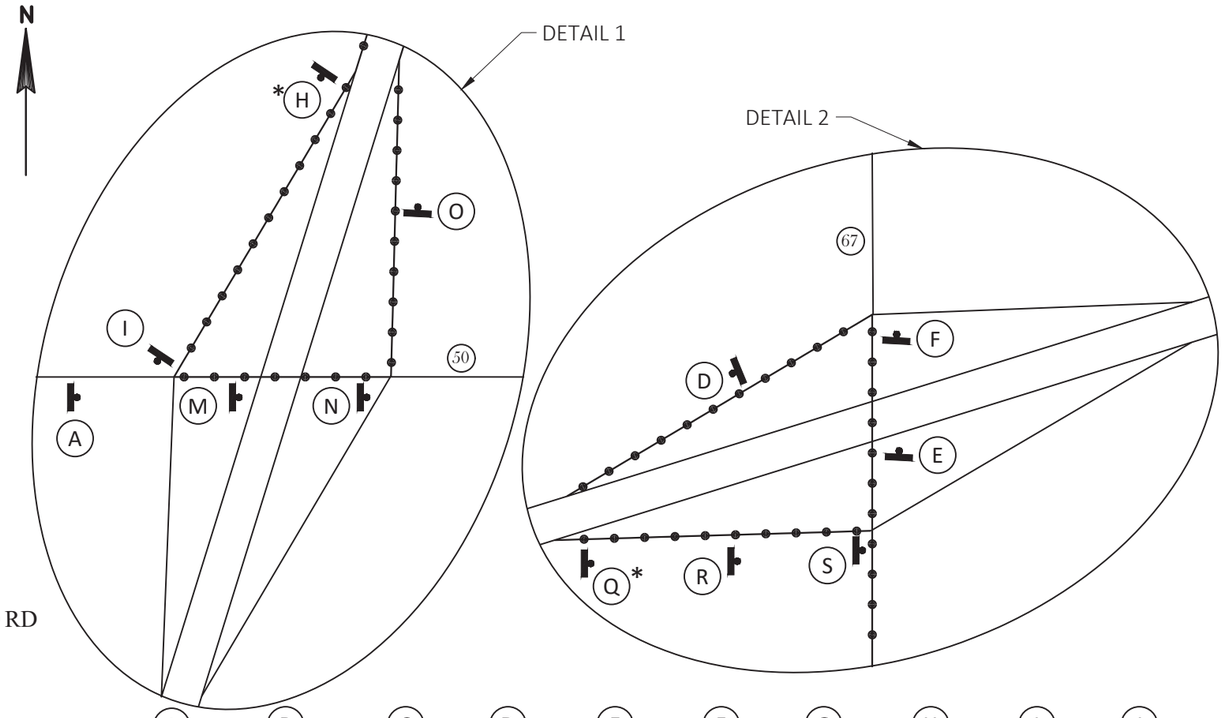
PAVEMENT MARKING LEGEND

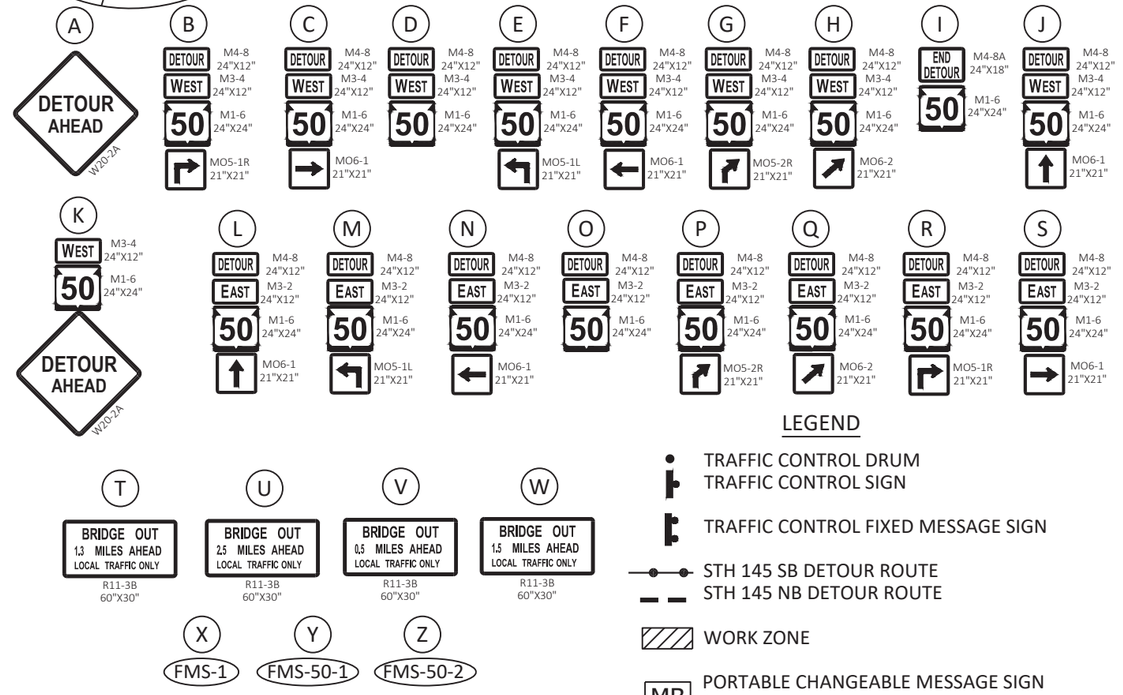
1. MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)
2. MARKING LINE EPOXY 4-INCH (WHITE)
3. MARKING DIAGONAL EPOXY 12-INCH

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	PAVEMENT - STH 145 (B-67-217)	SHEET 19	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-67-217_STH 145\025401_PM_B67-217.DWG
LAYOUT NAME - 025401_pm
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME : _____
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42







LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- STH 145 SB DETOUR ROUTE
- STH 145 NB DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

NOTE:

* SIZE 3 SIGNS ARE REQUIRED

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	DETOUR - STH 50 (B-64-71)	SHEET 20	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-64-71_STH50\027001_DT_B64-71.DWG
LAYOUT NAME - B64-71 DT

PLOT DATE : 4/12/2018 5:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

1 — ROAD CLOSED AHEAD W20-3A

2 — ROAD CLOSED 500 FT W20-3D

3 — ROAD WORK AHEAD W20-1A

4 — END ROAD WORK G20-2A 48"X24"

5 — ROAD CLOSED TO THRU TRAFFIC R11-4 60"X30"

6 — Downtown Delavan / Lake Geneva

7 — Lake Geneva / Downtown Delavan

COVERING SIGNS TYPE I

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- BRIDGE OUT

EXIT 21 — 50 — Delavan — Lake Geneva — 1 MILE

COVERING SIGNS TYPE I

SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

HARD CLOSED AT THE EAST SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

EXIT 21 — 50 — Delavan — Lake Geneva — 1 MILE

SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

HARD CLOSED AT THE WEST SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

MOUND RD

THEATER RD

TOWN HALL RD

BAILEY RD

NORTH SHORE RD

LAKE LAWN DR

INLET SHORE DR

PRARIE DR

S SHORE DR

THEATER RD

Delavan

Lake

43

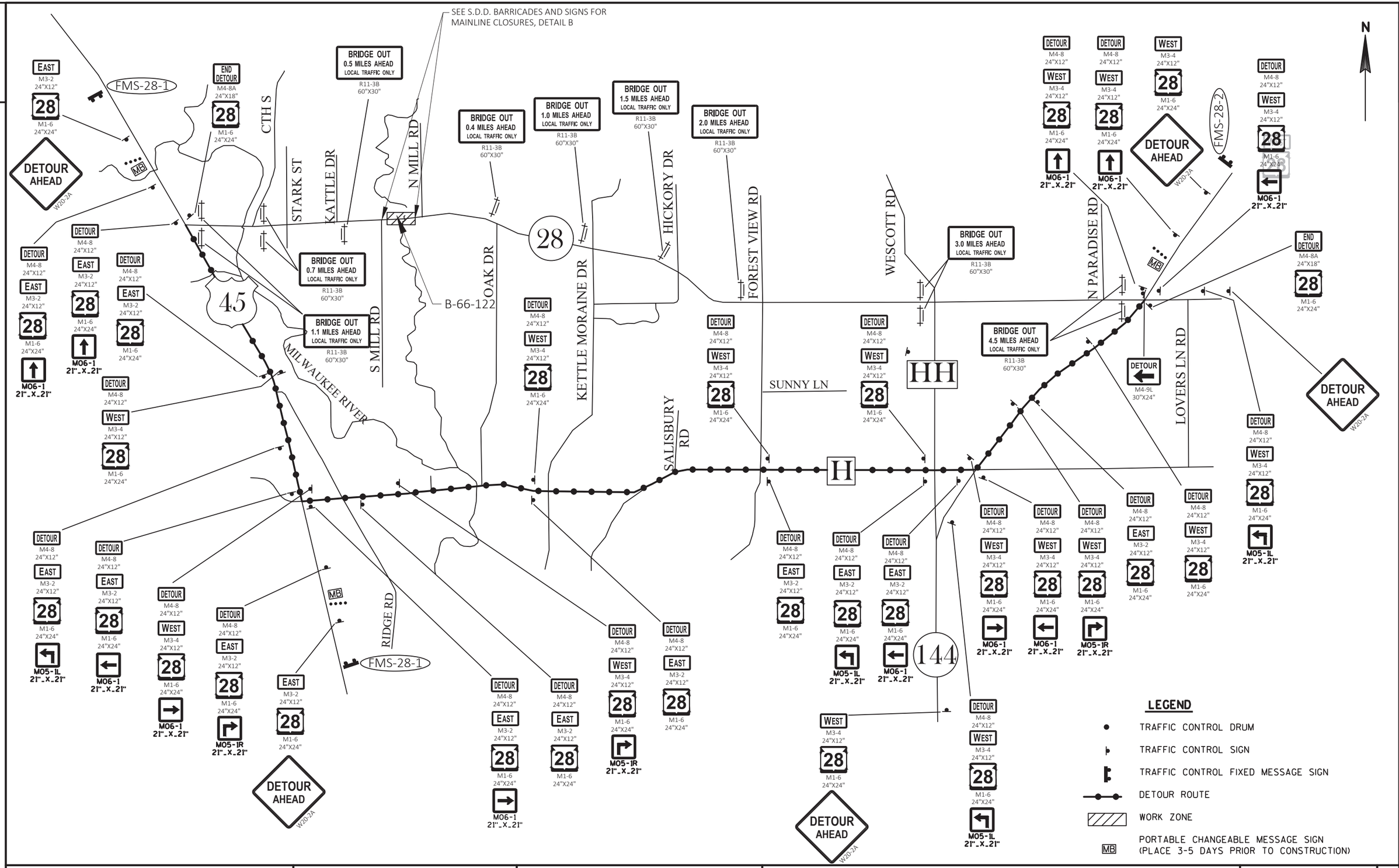
50

67

F

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	DETOUR OVERVIEW - STH 50 (B-64-71)	SHEET 21	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-64-71_STH50\027001_DT_B64-71.DWG
LAYOUT NAME - B64-71 DT OV
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



PROJECT NO: 1000-54-73	HWY: VARIOUS BRIDGES	COUNTY: WASHINGTON	DETOUR - STH 28 (B-66-122)	SHEET 22	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-66-122_STH28\027001_DT_B66-122.DWG
LAYOUT NAME - B66-122 DT

PLOT DATE : 4/12/2018 5:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

N

SEE S.D.D. BARRICADES AND SIGNS FOR
MAINLINE CLOSURES, DETAIL B
HARD CLOSED AT THE EAST SIDE OF N MILL RD INTERSECTION.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 4 (W20-3A, W20-3D, R11-2B, & R11-2)

B-66-122

Kewaskum

45 V S E MORAINE DR. KARA CT. N MILL RD. 28 H SAND RIDGE RD PROSPECK DR S MILL RD. OAK DR. SHAGBARK DR. SALISBURY RD. SALISBURY LN. FOREST VIEW DR. SUNNY LN HICKORY E MORAINE DR. FOREST VIEW RD. SCENIC DR. MAPLE TREE RD. MORAINE DR. WESCOTT RD. WINDY ACRES N PARADISE RD. DD SCENIC DR. HH 144 28 HIGHLAND DR. VALLEY VISTA LN. LOVERS LAND RD. BOLTONVILLE RD VALLEY RD.

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- BRIDGE OUT

SEE S.D.D. BARRICADES AND SIGNS FOR
MAINLINE CLOSURES, DETAIL B
HARD CLOSED AT THE WEST SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 4 (W20-3A, W20-3D, R11-2B, & R11-2)

1 — ROAD CLOSED AHEAD — W20-3A

2 — ROAD CLOSED 500 FT — W20-3D

3 — ROAD WORK AHEAD — W20-1A

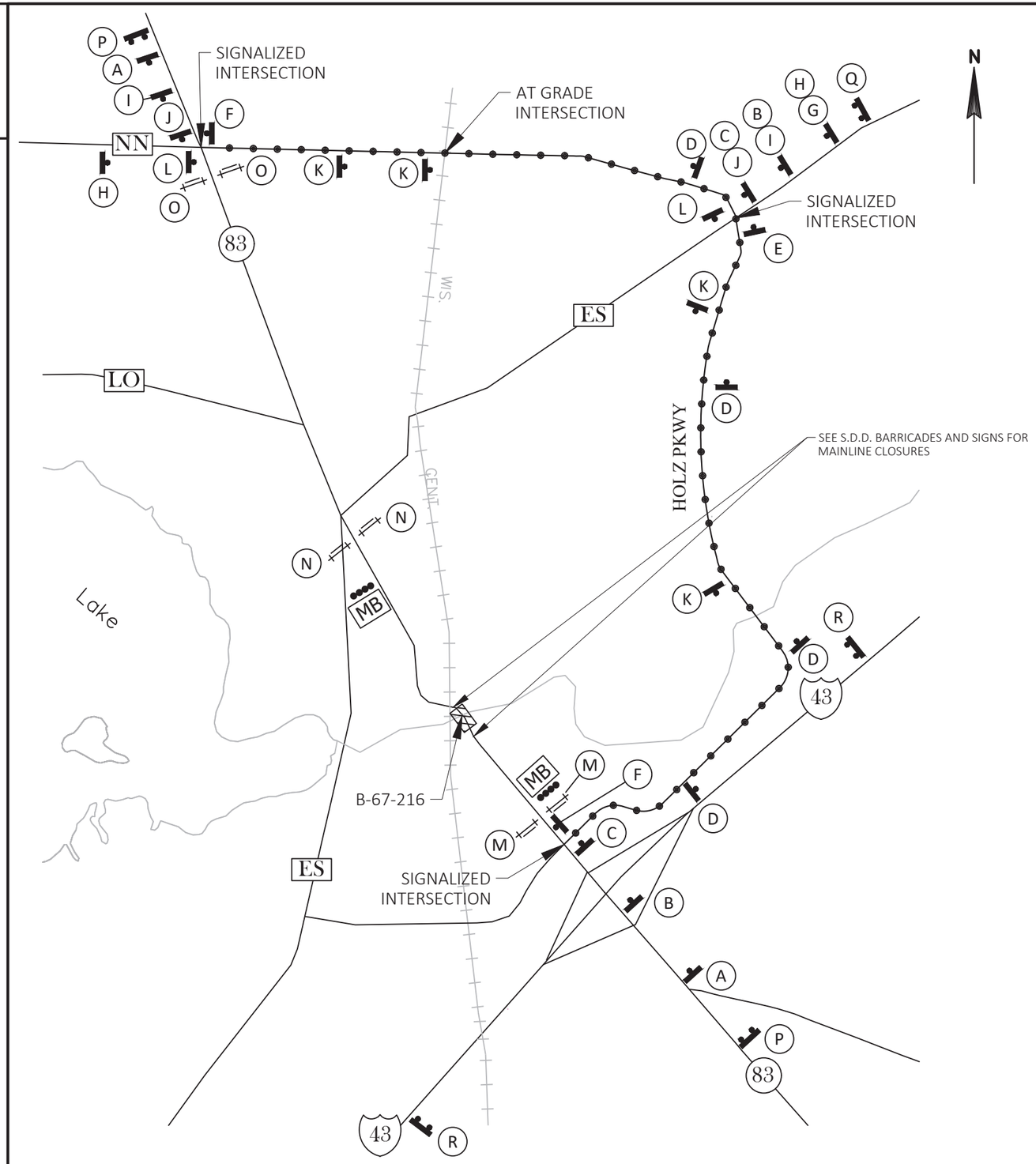
4 — END ROAD WORK — G20-2A 48"X24"

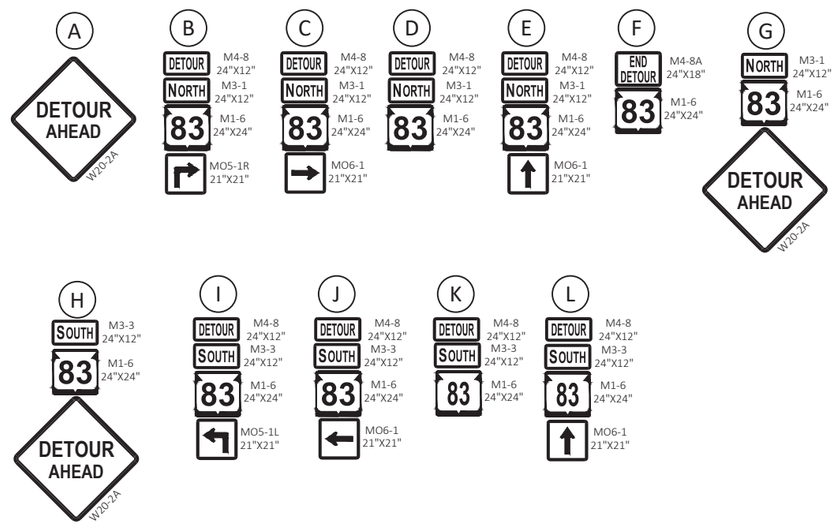
5 — ROAD CLOSED TO THRU TRAFFIC — R11-4 60"X30"

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WASHINGTON	DETOUR OVERVIEW - STH 28 (B-66-122)	SHEET 23	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-66-122_STH28\027001_DT_B66-122.DWG
LAYOUT NAME - B66-122 DT OV

PLOT DATE : 4/12/2018 5:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT





LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- STH 145 SB DETOUR ROUTE
- STH 145 NB DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR - STH 83 (B-67-216)	SHEET 24	E

2

1 — ROAD CLOSED AHEAD — W20-3A

2 — ROAD CLOSED 500 FT — W20-3D

3 — ROAD WORK AHEAD — W20-1A

4 — END ROAD WORK — G20-2A 48"X24"

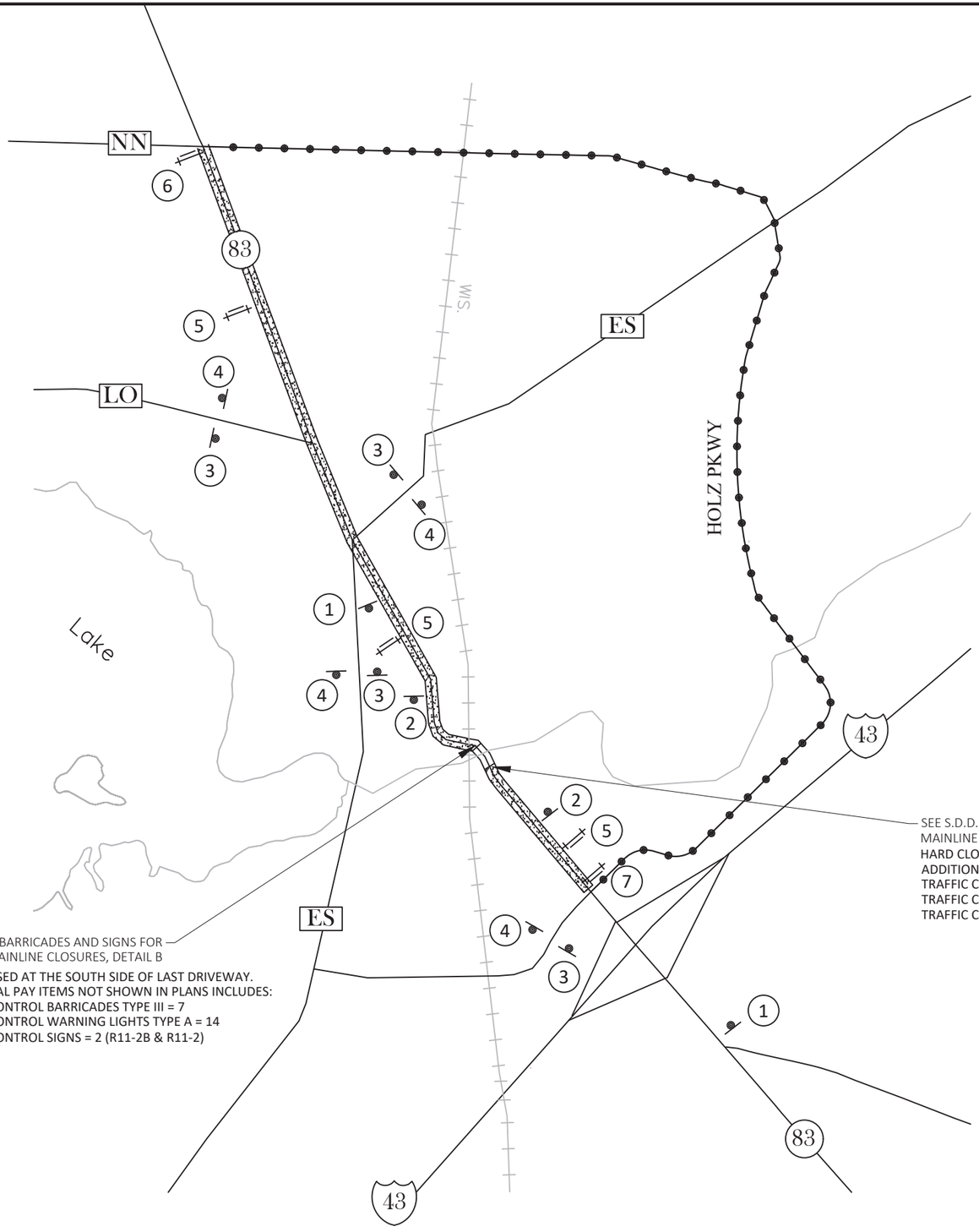
5 — ROAD CLOSED TO THRU TRAFFIC — R11-4 60"X30"

6 — DETOUR — M4-9L 30"X24"

7 — DETOUR — M4-9R 30"X24"

LEGEND

- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL BARRICADES TYPE III WITH SIGN
- DETOUR ROUTE
- ROAD OPEN TO LOCAL TRAFFIC
- BRIDGE OUT



SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

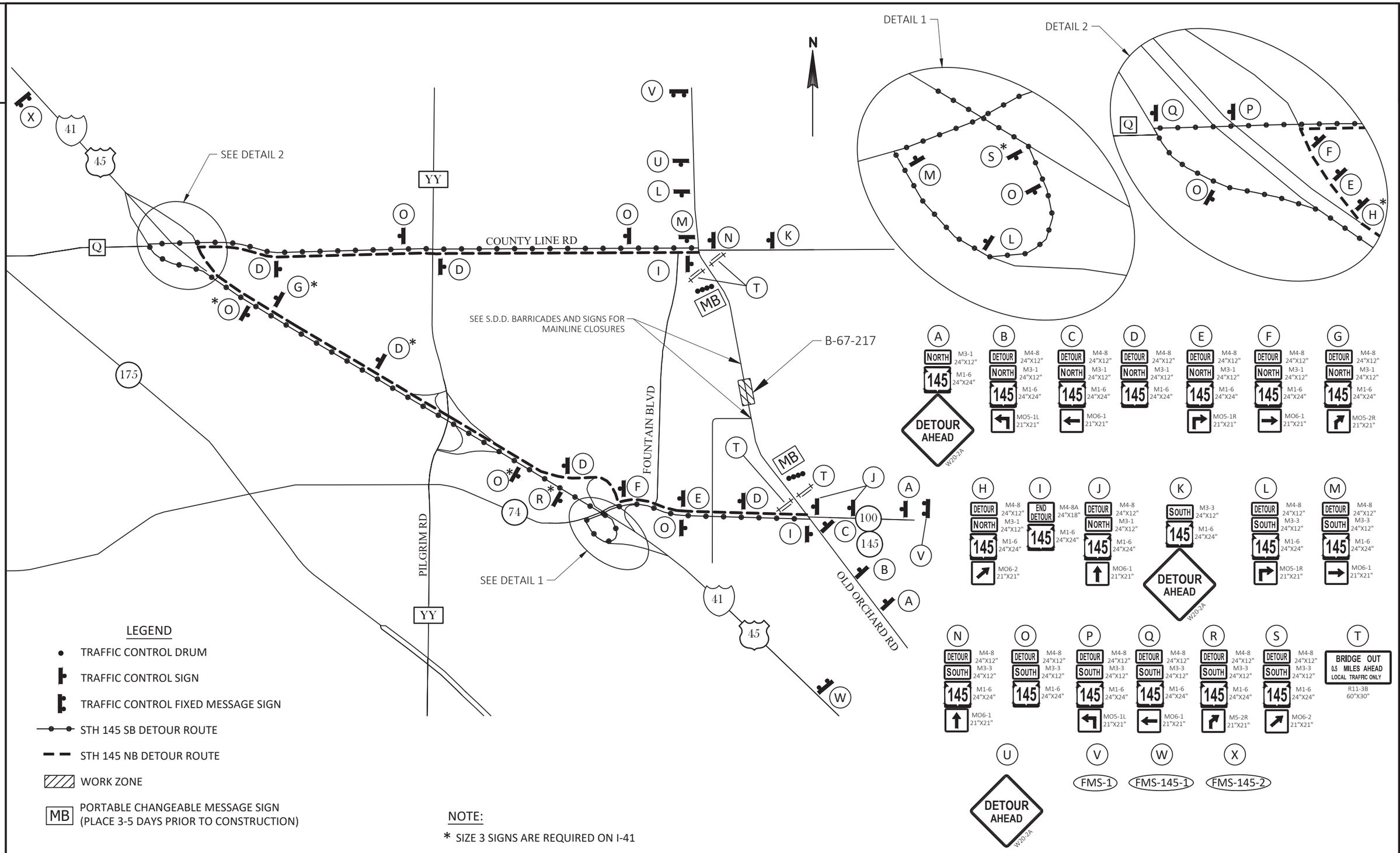
HARD CLOSED AT THE SOUTH SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL B

HARD CLOSED AT THE NORTH SIDE OF LAST DRIVEWAY.
ADDITIONAL PAY ITEMS NOT SHOWN IN PLANS INCLUDES:
TRAFFIC CONTROL BARRICADES TYPE III = 7
TRAFFIC CONTROL WARNING LIGHTS TYPE A = 14
TRAFFIC CONTROL SIGNS = 2 (R11-2B & R11-2)

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR OVERVIEW - STH 83 (B-67-216)	SHEET 25	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-67-216_STH 83\027001_DT_B67-216.DWG
LAYOUT NAME - B67-216 DT OV
PLOT DATE : 4/12/2018 5:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42



LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN
- TRAFFIC CONTROL FIXED MESSAGE SIGN
- STH 145 SB DETOUR ROUTE
- STH 145 NB DETOUR ROUTE
- WORK ZONE
- MB — PORTABLE CHANGEABLE MESSAGE SIGN (PLACE 3-5 DAYS PRIOR TO CONSTRUCTION)

NOTE:

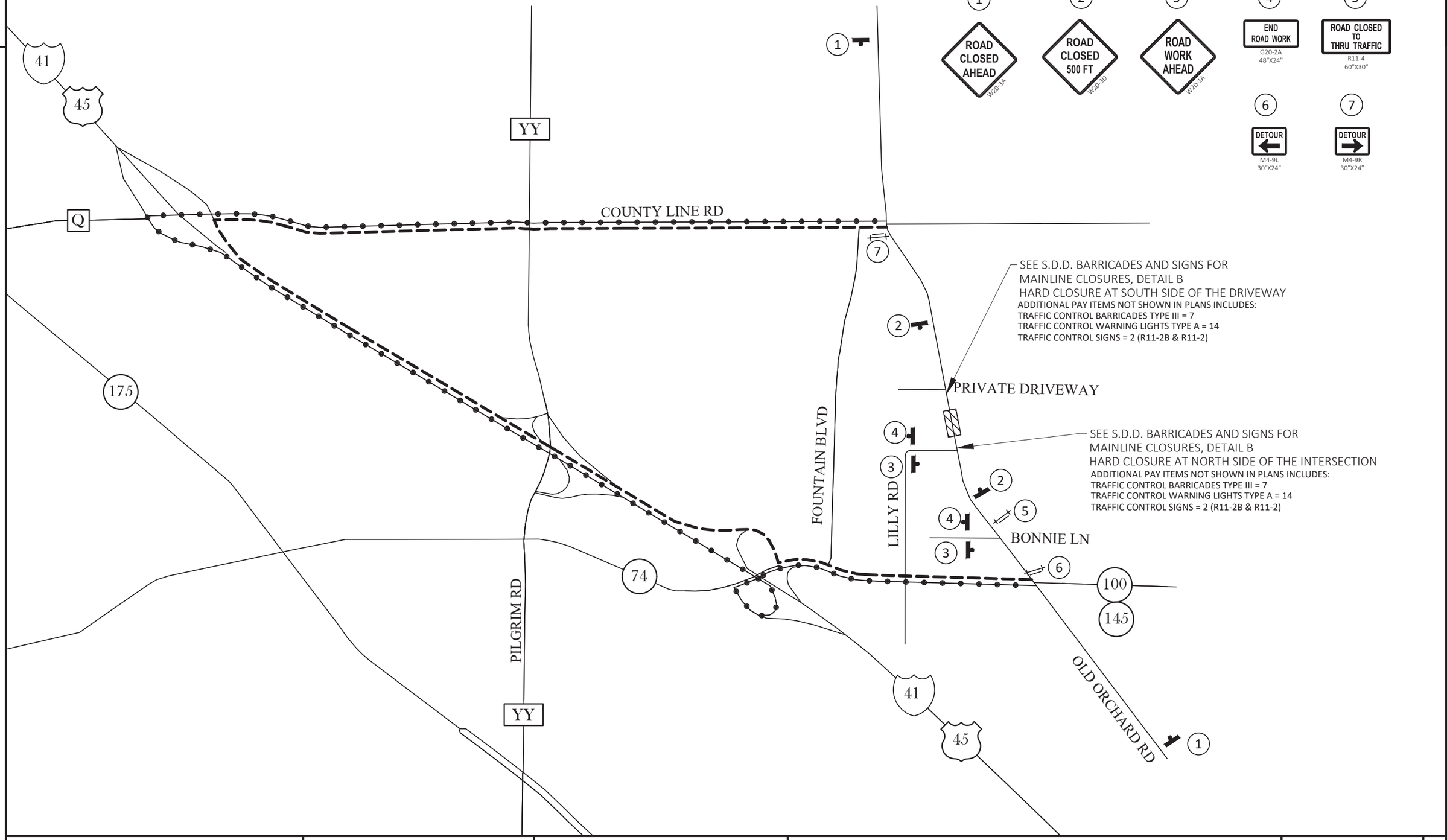
* SIZE 3 SIGNS ARE REQUIRED ON I-41

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR - STH 145 (B-67-217)	SHEET E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\B-67-217_STH 145\027001_DT_B67-217.DWG
LAYOUT NAME - B67-217 DT

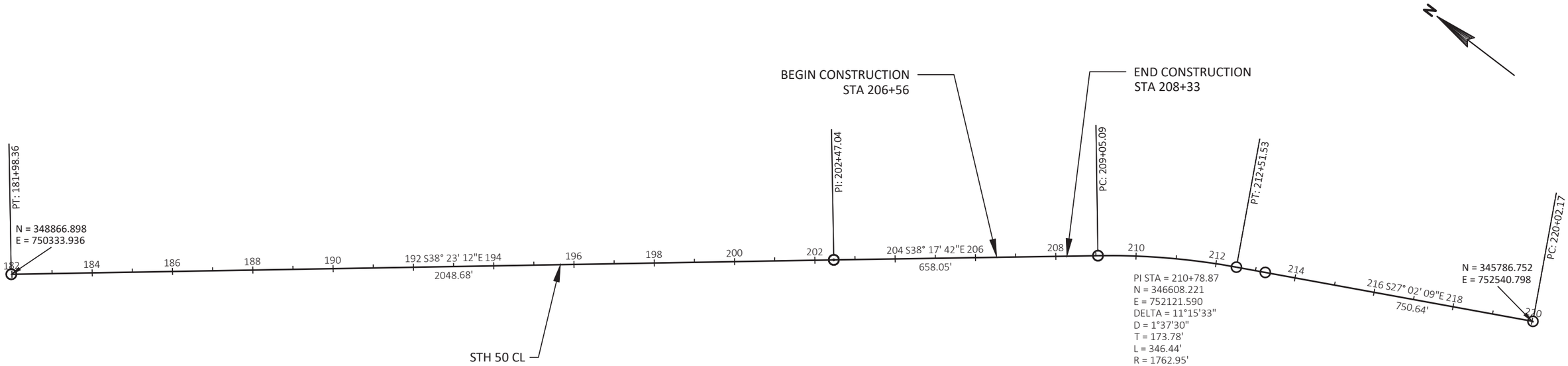
PLOT DATE : 4/12/2018 5:48 PM PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:200 FT

2

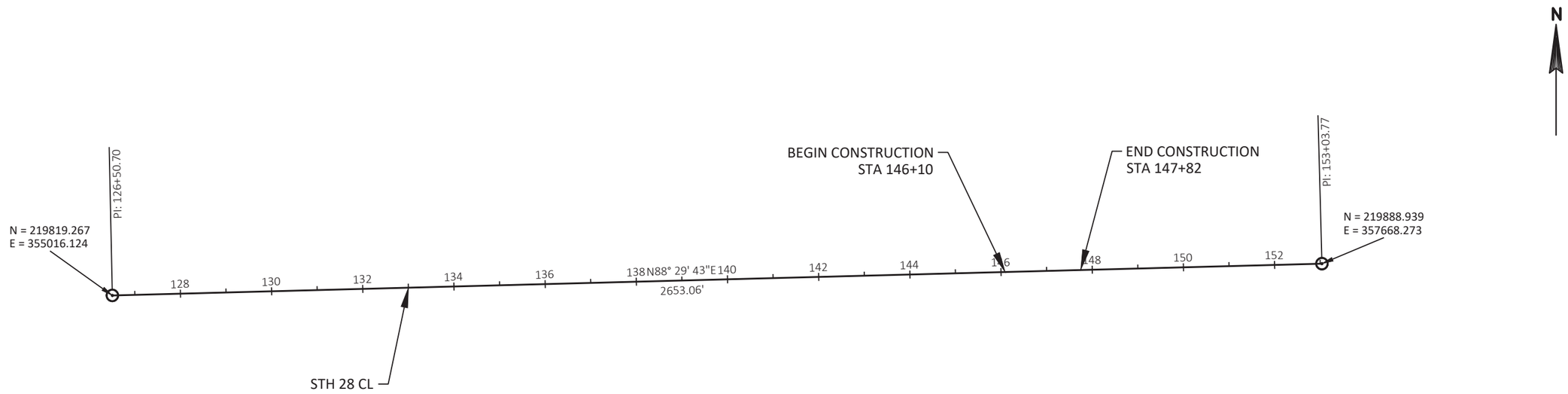


PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	DETOUR OVERVIEW - STH 145 (B-67-217)	SHEET 27	E

2



B-64-71
WALWORTH COUNTY
HORIZONTAL DATUM: NAD83(1997)

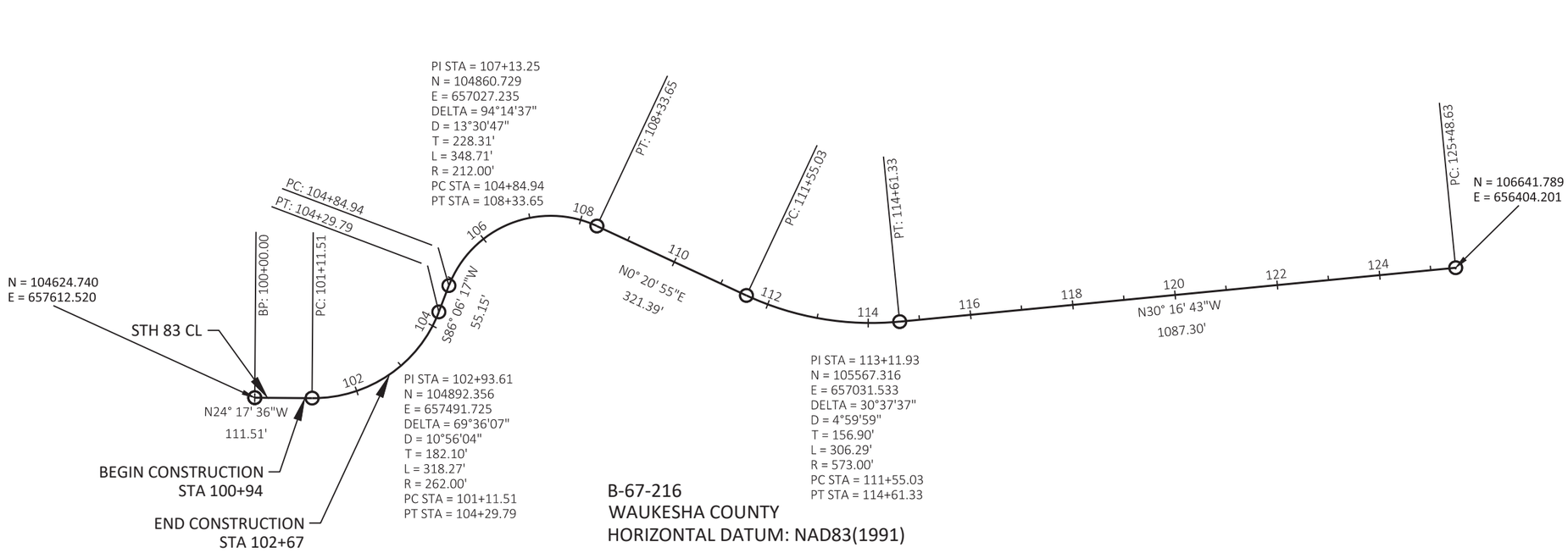


B-66-122
WASHINGTON COUNTY
HORIZONTAL DATUM: NAD83(1997)

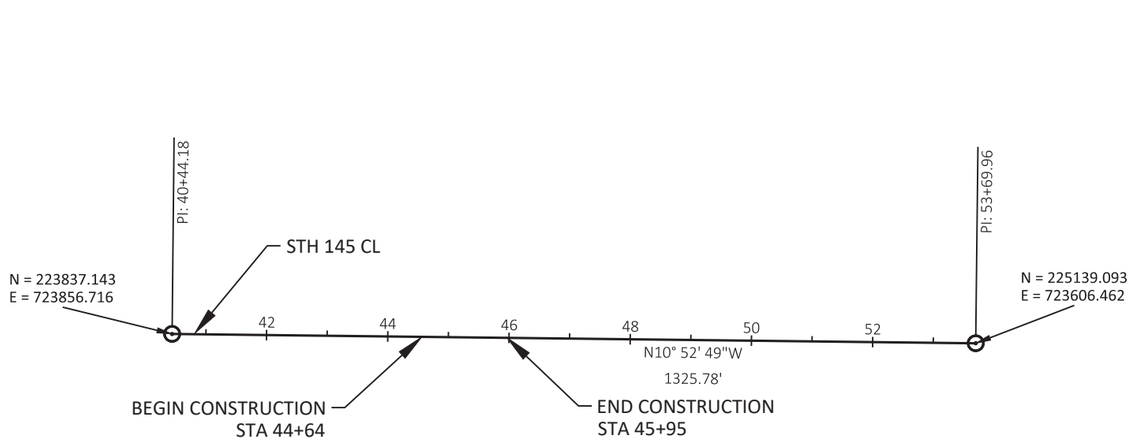
PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET 28	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - Sheet 1 AD
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:250 FT
WISDOT/CADDS SHEET 44

2



B-67-216
WAUKESHA COUNTY
HORIZONTAL DATUM: NAD83(1991)



B-67-217
WAUKESHA COUNTY
HORIZONTAL DATUM: NAD83(1997)

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: VARIOUS COUNTIES	ALIGNMENT	SHEET	E

FILE NAME : N:\PDS\C3D\10005403\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - Sheet 2 AD
PLOT DATE : 4/12/2018 5:48 PM
PLOT BY : MATHENY, ROBERT B
PLOT NAME :
PLOT SCALE : 1 IN:250 FT

1000-54-73

Line	Item	Item Description	Unit	Total	Qty
0020	203.0210.S	Abatement of Asbestos Containing Material (structure) 07. B-64-71	LS	1.000	1.000
0022	203.0210.S	Abatement of Asbestos Containing Material (structure) 08. B-67-216	LS	1.000	1.000
0040	204.0115	Removing Asphaltic Surface Butt Joints	SY	2,059.000	2,059.000
0062	213.0100	Finishing Roadway (project) 02. 1000-54-73	EACH	1.000	1.000
0064	305.0110	Base Aggregate Dense 3/4-Inch	TON	50.000	50.000
0068	305.0410	Aggregate Detours	TON	60.000	60.000
0084	455.0605	Tack Coat	GAL	145.000	145.000
0086	460.2000	Incentive Density HMA Pavement	DOL	170.000	170.000
0088	460.5224	HMA Pavement 4 LT 58-28 S	TON	200.000	200.000
0090	460.6224	HMA Pavement 4 MT 58-28 S	TON	55.000	55.000
0094	465.0115	Asphaltic Surface Detours	TON	40.000	40.000
0106	502.3200	Protective Surface Treatment	SY	764.000	764.000
0110	502.4204	Adhesive Anchors No. 4 Bar	EACH	70.000	70.000
0114	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	570.000	570.000
0134	509.0301	Preparation Decks Type 1	SY	45.000	45.000
0136	509.0302	Preparation Decks Type 2	SY	18.000	18.000
0138	509.0310.S	Sawing Pavement Deck Preparation Areas	LF	140.000	140.000
0140	509.0500	Cleaning Decks	SY	718.000	718.000
0146	509.1500	Concrete Surface Repair	SF	295.000	295.000
0148	509.2000	Full-Depth Deck Repair	SY	4.000	4.000
0150	509.2100.S	Concrete Masonry Deck Repair	CY	4.000	4.000
0152	509.2500	Concrete Masonry Overlay Decks	CY	54.000	54.000
0156	509.3500.S	HMA Overlay Polymer-Modified	TON	51.000	51.000
0172	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 08. B-64-71	SY	414.000	414.000
0174	509.9010.S	Removing Asphaltic Concrete Deck Overlay (structure) 09. B-67-216	SY	304.000	304.000
0216	606.0300	Riprap Heavy	CY	2.000	2.000
0248	618.0100	Maintenance And Repair of Haul Roads (project) 02. 1000-54-73	EACH	1.000	1.000
0250	619.1000	Mobilization	EACH	0.100	0.100
0254	624.0100	Water	MGAL	1.000	1.000
0264	628.1905	Mobilizations Erosion Control	EACH	1.000	1.000
0266	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0276	628.7570	Rock Bags	EACH	194.000	194.000
0304	643.0300	Traffic Control Drums	DAY	756.000	756.000
0306	643.0420	Traffic Control Barricades Type III	DAY	1,862.000	1,862.000
0312	643.0705	Traffic Control Warning Lights Type A	DAY	3,724.000	3,724.000
0318	643.0900	Traffic Control Signs	DAY	10,639.000	10,639.000

1000-54-73

Line	Item	Item Description	Unit	Total	Qty
0320	643.0910	Traffic Control Covering Signs Type I	EACH	4.000	4.000
0322	643.0920	Traffic Control Covering Signs Type II	EACH	96.000	96.000
0324	643.1000	Traffic Control Signs Fixed Message	SF	595.500	595.500
0326	643.1050	Traffic Control Signs PCMS	DAY	189.000	189.000
0328	643.5000	Traffic Control	EACH	0.200	0.200
0340	646.1020	Marking Line Epoxy 4-Inch	LF	8,630.000	8,630.000
0346	646.7120	Marking Diagonal Epoxy 12-Inch	LF	623.000	623.000
0362	690.0150	Sawing Asphalt	LF	341.000	341.000
0368	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	240.000	240.000
0370	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	200.000	200.000
0388	SPV.0090	Special 06. 16 Gauge Galvanized Metal Flashing	LF	100.000	100.000
0392	SPV.0105	Special 02. Survey Project 1000-54-73	LS	1.000	1.000
0410	SPV.0105	Special 11. Debris Containment Over Waterways B-64-71	LS	1.000	1.000
0412	SPV.0105	Special 12. Debris Containment Over Waterways B-66-122	LS	1.000	1.000
0414	SPV.0105	Special 13. Debris Containment Over Waterways B-67-	LS	1.000	1.000

3

REMOVING ASPHALTIC SURFACE BUTT JOINTS

LOCATION	204.0115 SY	REMARKS
B-64-71	556	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-122	440	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-216	540	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-217	523	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	2,059	

BASE AGGREGATE DENSE 3/4-INCH

LOCATION	305.0110 TON	REMARKS
B-64-71	20	SHOULDERS
B-66-122	10	SEE NOTE BELOW
B-67-216	10	SEE NOTE BELOW
B-67-217	10	SEE NOTE BELOW
TOTAL 0010	50	

NOTE: PLACE AGGREGATE AS NEEDED TO CORRECT THE EXISTING SHOULDER SLOPE WITHIN THE CONSTRUCTION LIMITS

DETOUR ROUTES

DETOUR ROUTE	LOCATION	305.0410 AGGREGATE DETOURS TON	465.0115 ASPHALTIC SURFACE DETOURS TON
STH 50/B-64-71	UNDISTRIBUTED	20	10
STH 28/B-66-122	UNDISTRIBUTED	20	10
STH 83/B-67-216	UNDISTRIBUTED	--	10
STH 145/B-67-217	UNDISTRIBUTED	20	10
	TOTAL 0010	60	40

3

ASPHALT ITEMS

LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	REMARKS
B-64-71	39	70	--	BUTT JOINTS
B-66-122	31	--	55	BUTT JOINTS
B-67-216	38	65	--	BUTT JOINTS
B-67-217	37	65	--	BUTT JOINTS
TOTAL 0010	145	200	55	

RIPRAP HEAVY

LOCATION	606.0300 CY	REMARKS
B-64-71	2	SE QUADRANT
TOTAL 0010	2	

NOTE: ADD TO EXISTING RIPRAP. NO FABRIC REQUIRED. PLACE APPROXIMATELY 5 TO 10 STONES AROUND WINGWALL.

WATER

LOCATION	624.0100 MGAL	REMARKS
PROJECT	1	BASE AGGREGATE DENSE LOCATIONS
TOTAL 0010	1	

EROSION CONTROL

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.7570 ROCK BAGS EACH	REMARKS
B-67-216	1	1	155	PLACE BETWEEN RAILING POSTS
UNDISTRIBUTED	--	--	39	
TOTAL 0010	1	1	194	

3

TRAFFIC CONTROL

FROM	TO	LOCATION	643.0300 TRAFFIC CONTROL DRUMS EACH*	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH*	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH*	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0900 TRAFFIC CONTROL SIGNS EACH*	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH*	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.5000 TRAFFIC CONTROL EACH
		PROJECT 1000-54-73	--	--	--	--	--	--	--	--	--	--	--	0.2
STH 67 -	IH-43	STH 50	8	208	27	567	54	1,134	56	1,176	42.0	2	52	--
STH 50 -	IH-43	STH 67	--	--	--	--	--	--	35	735	21.0	--	--	--
STH 14 -	STH 67	IH-43 & RAMPS	--	--	--	--	--	--	48	1,008	94.5	--	--	--
USH 45 -	STH 144	STH 28	--	--	34	476	68	952	50	700	--	--	--	--
CTH H -	STH 28	USH 45	8	136	--	--	--	--	38	532	72.0	2	34	--
USH 45 -	STH 144	CTH H	--	--	--	--	--	--	34	476	36.0	--	--	--
CTH H -	STH 28	STH 144 & HIGHLAND	4	68	--	--	--	--	48	672	--	1	17	--
IH-43 -	CTH NN	STH 83	8	208	25	525	50	1,050	45	945	42.0	2	52	--
STH 83 -	CTH ES	HOLZ PKWY	--	--	--	--	--	--	21	441	--	--	--	--
CTH ES -	STH 83	CTH NN	--	--	--	--	--	--	22	462	--	--	--	--
STH 83 -	CTH NN	CTH ES	--	--	--	--	--	--	22	462	22.5	--	--	--
STH 20 -	STH 164	IH-43	--	--	--	--	--	--	--	--	94.5	--	--	--
STH 100 -	CTH Q	STH 145 & OLD ORCHARD	8	136	21	294	42	588	39	546	42.0	2	34	--
STH 145 -	CTH Q	IH-41 & Ramps	--	--	--	--	--	--	58	812	108.0	--	--	--
IH-41 -	STH 145	CTH Q	--	--	--	--	--	--	21	294	--	--	--	--
IH-41 -	STH 145	STH 74/100	--	--	--	--	--	--	27	378	21.0	--	--	--
		UNDISTRIBUTED	--	--	--	--	--	--	--	1,000	--	--	--	--
		TOTAL 0010		756		1,862		3,724		10,639	595.5		189	0.2

*FOR INFORMATION ONLY. ACTUAL NUMBER OF DEVICES TO BE DETERMINED IN THE FIELD BY ENGINEER.

3

TRAFFIC CONTROL COVERING SIGNS TYPE I

FROM	TO	LOCATION	NUMBER OF SIGNS	NUMBER OF CYCLES	643.0910 EACH	REMARKS
STH 14	STH 67	IH-43 & RAMPS	4	1	4	SEE DETOUR SHEET FOR LOCATIONS
				TOTAL 0010	4	

TRAFFIC CONTROL COVERING SIGNS TYPE II

FROM	TO	LOCATION	NUMBER OF SIGNS	NUMBER OF CYCLES	643.0920 EACH
STH 50	IH-43	STH 67	12	1	12
STH 14	STH 67	IH-43 & RAMPS	12	1	12
CTH H	STH 28	USH 45	12	1	12
CTH H	STH 28	STH 144 & HIGHLAND	12	1	12
CTH ES	STH 83	CTH NN	12	1	12
STH 83	CTH NN	CTH ES	12	1	12
IH-41	STH 145	CTH Q	12	1	12
IH-41	STH 145	STH 74/100	12	1	12
				TOTAL 0010	96

3

PAVEMENT MARKING

STATION TO STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF WHITE	646.1020 MARKING LINE EPOXY 4-INCH LF YELLOW	646.7120 MARKING DIAGONAL EPOXY 12-INCH LF WHITE
203+00 - 215+40	STH 50 (B-64-71)	2,480	2,030	623
212+50 - 214+50	STH 50 (B-64-71)	--	400	--
145+50 - 148+50	STH 28 (B-66-122)	600	600	--
100+50 - 104+30	STH 83 (B-67-216)	760	760	--
44+00 - 46+50	STH 145 (B-67-217)	500	500	--
	SUBTOTAL =	4,340	4,290	
	TOTAL 0010	8,630		623

SAWING ASPHALT

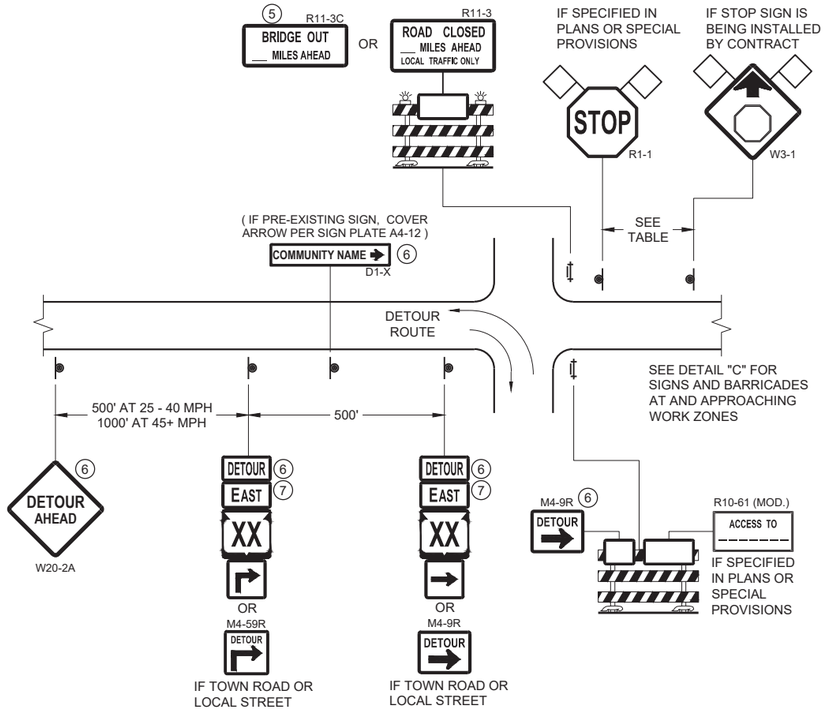
LOCATION	690.0150 LF	REMARKS
B-64-71	97	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-66-122	73	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-216	84	SEE PLAN DETAIL SHEET FOR LOCATIONS
B-67-217	87	SEE PLAN DETAIL SHEET FOR LOCATIONS
TOTAL 0010	341	

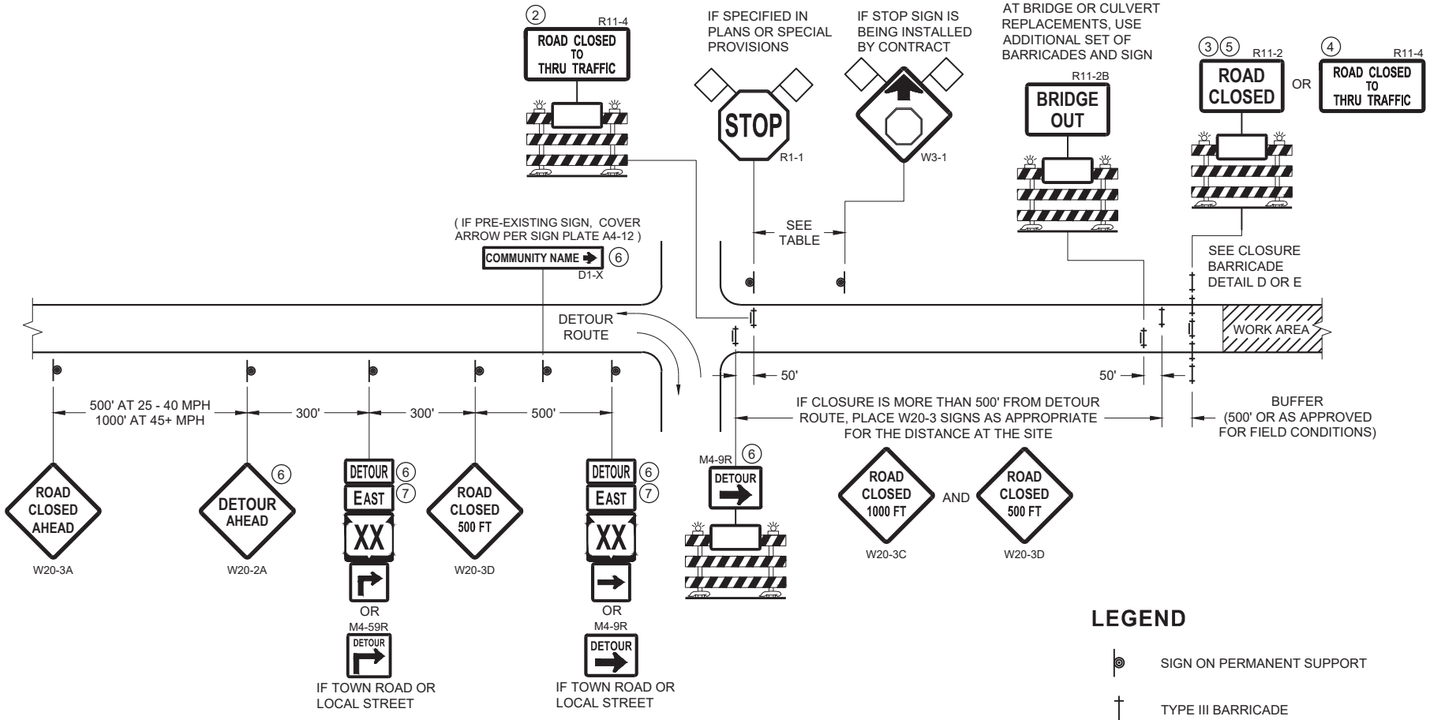
SURVEY PROJECT 1000-54-73

LOCATION	SPV.0105.02 LS
Project	1
TOTAL 0010	1

Standard Detail Drawing List

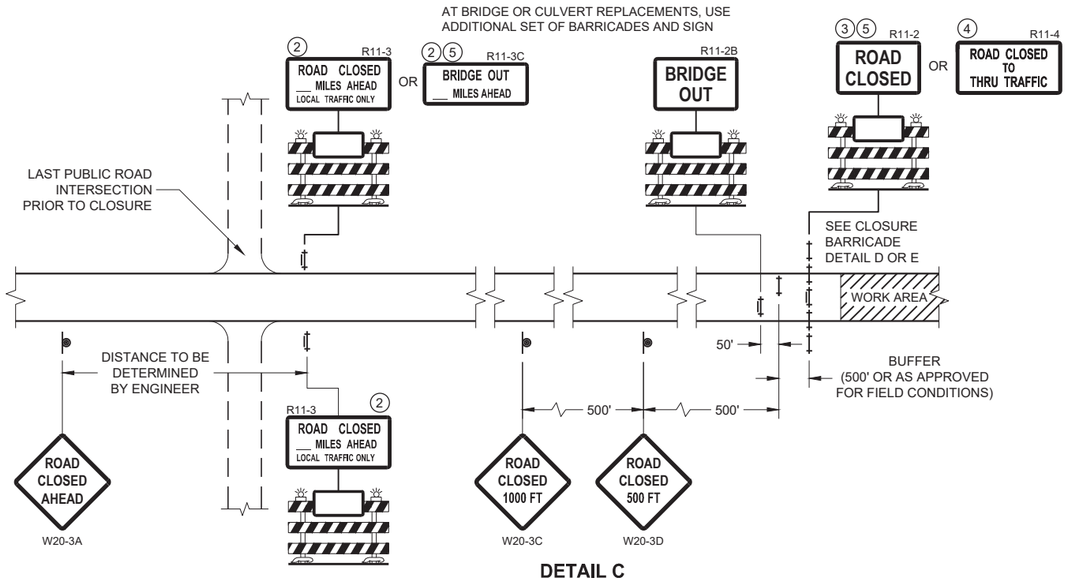
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-09	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-06	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C18-04	MEDIAN ISLAND MARKING
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS





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

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



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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

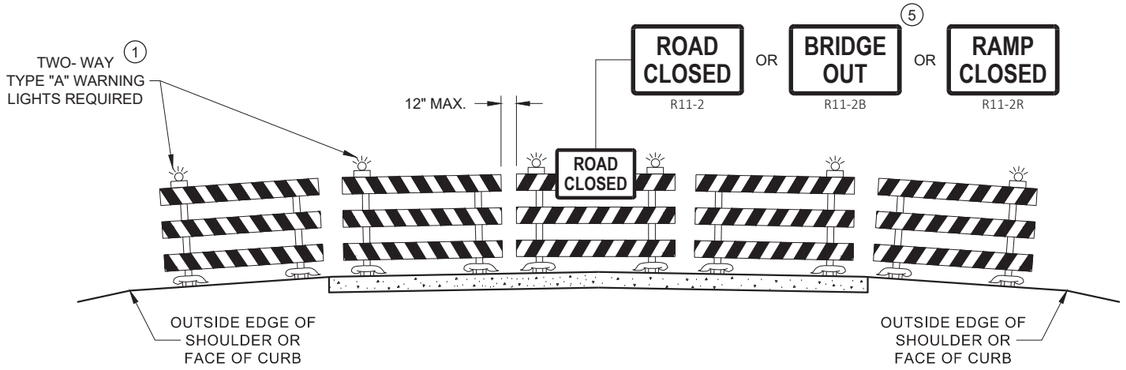
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

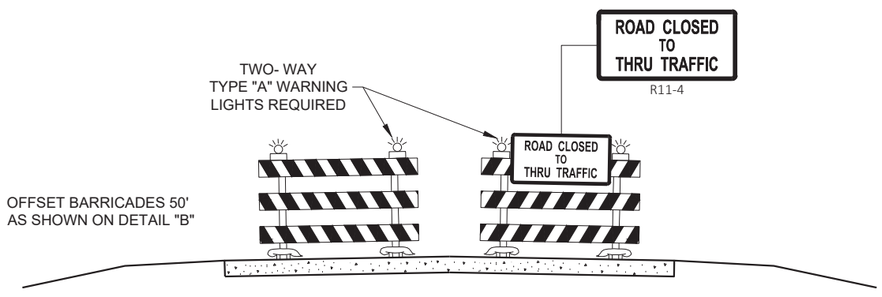
FHWA

6

SDD 15C02 - 07a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

6

SDD 15C02 - 07b

6

SDD 15C02 - 07b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4
- OR XX — M1 - 6
- OR COUNTY X — M1 - 5A
- M05 - 1
- OR M06 - 1
- OR M06 - 1

GENERAL NOTES

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

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

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

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

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

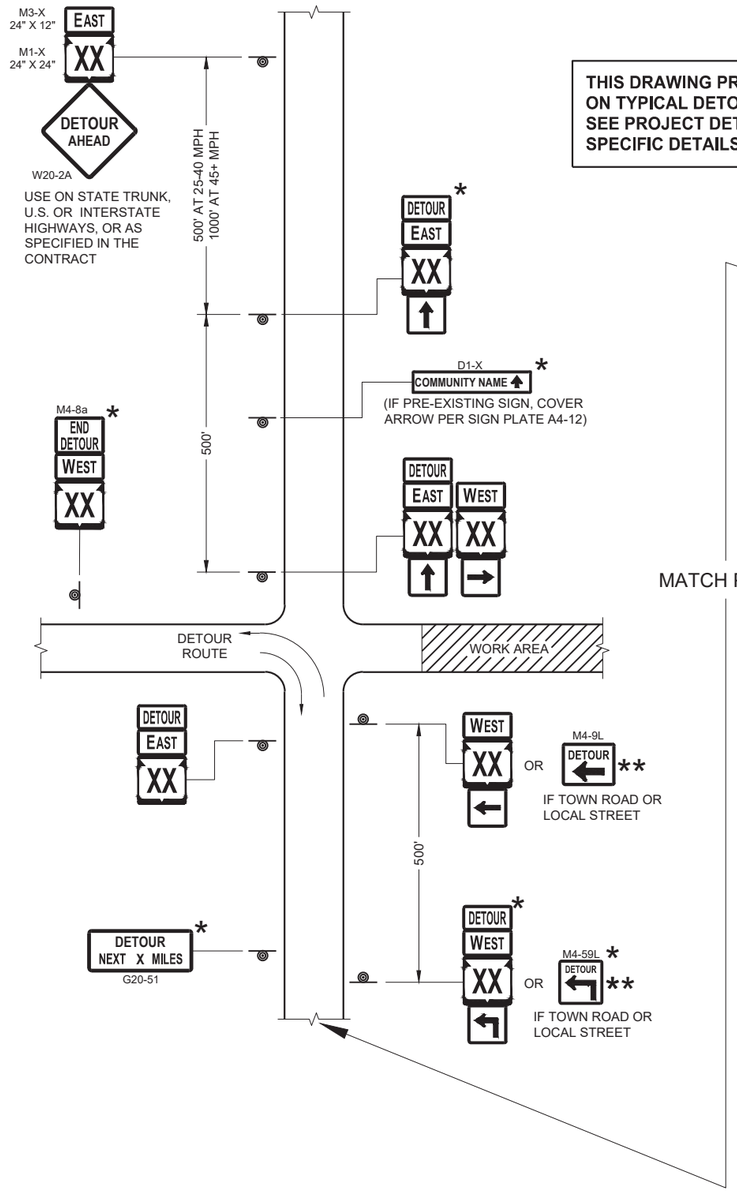
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

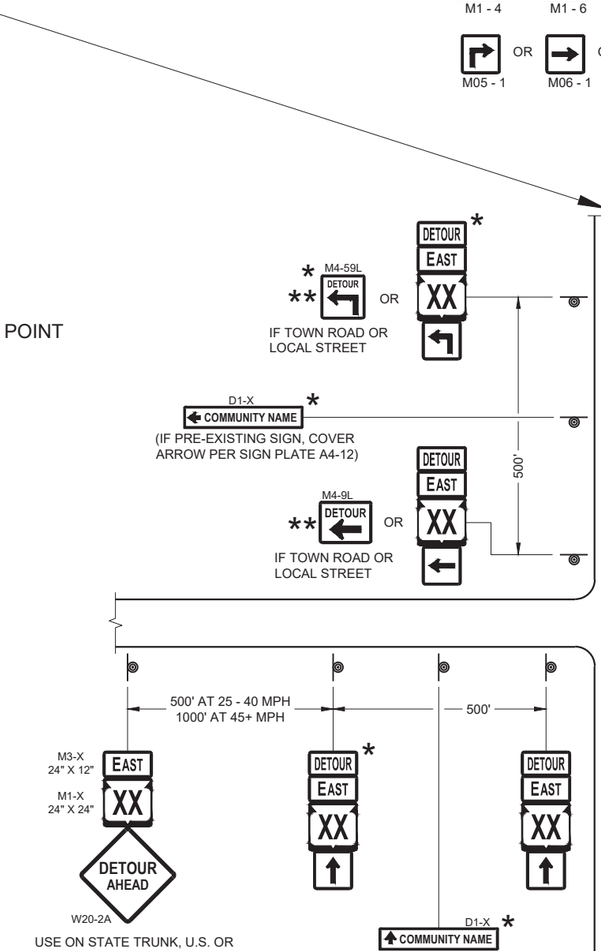
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2 SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

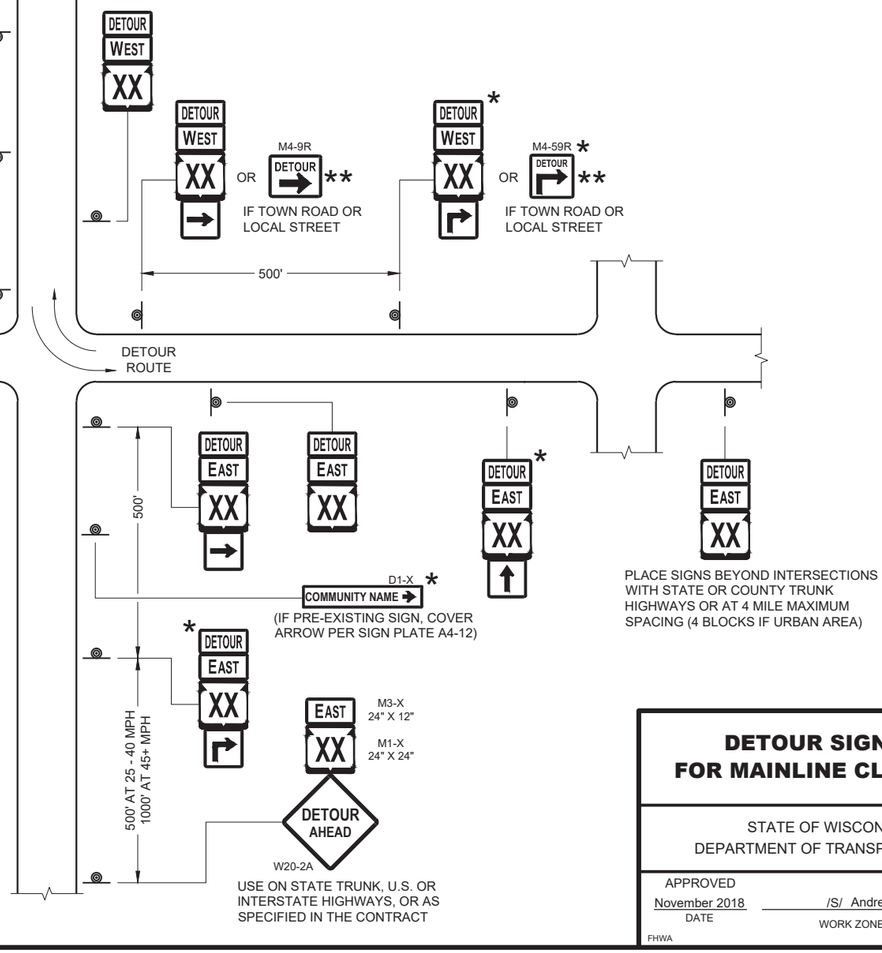
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** 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.



MATCH POINT





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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

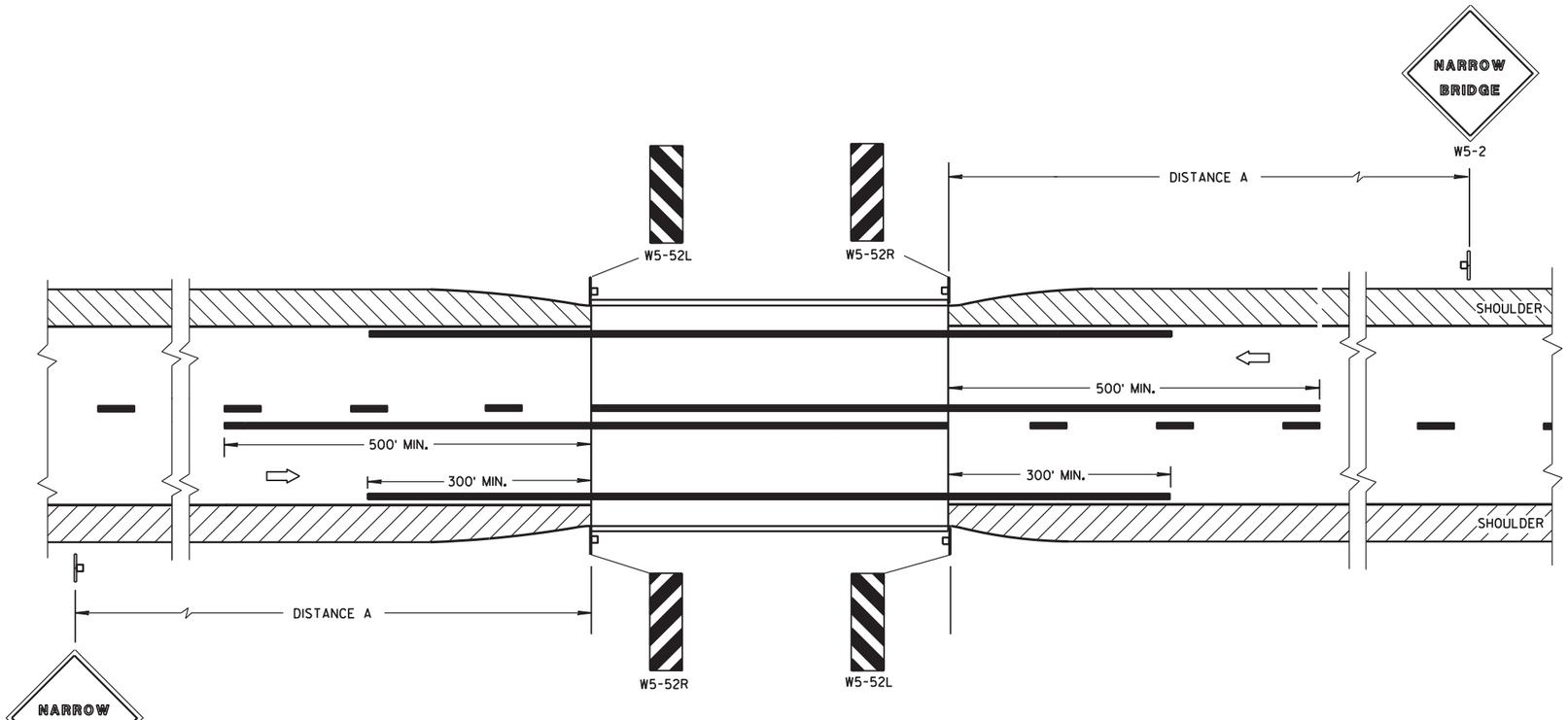
APPROVED
November 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 07c



SITUATION 1

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

DISTANCE TABLE

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

GENERAL NOTES

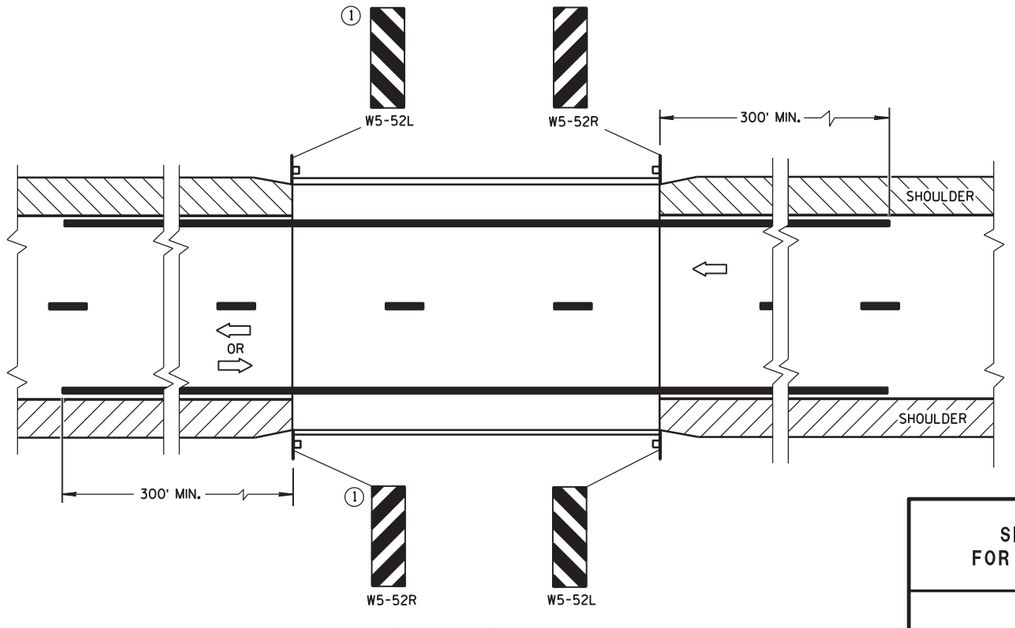
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC



SITUATION 2

WARRANTING CRITERIA:

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

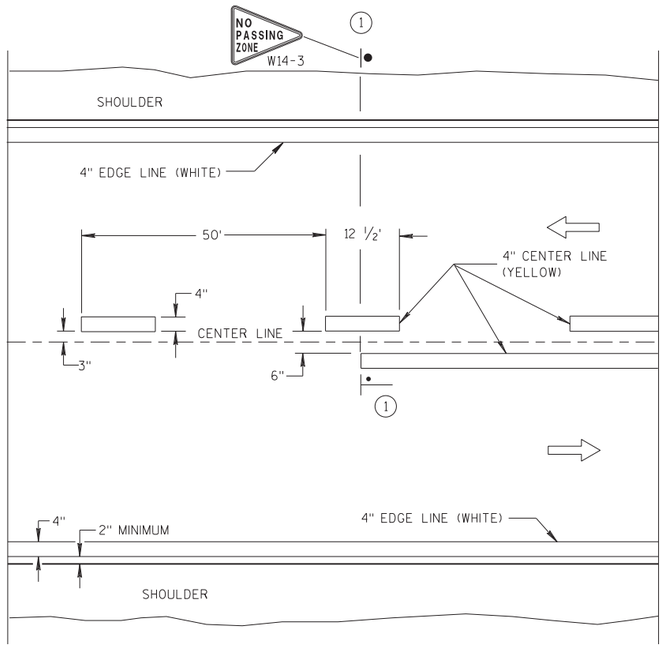
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

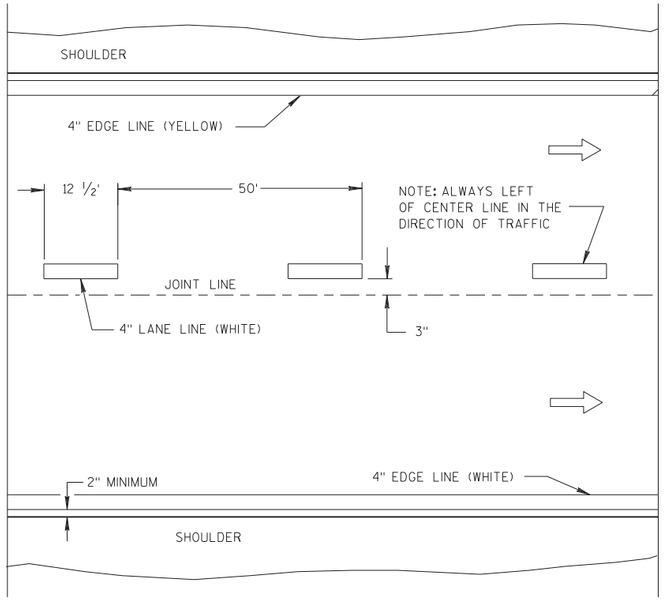
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]EER
FHWA

6

S.D.D. 15 C 6-9



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING.

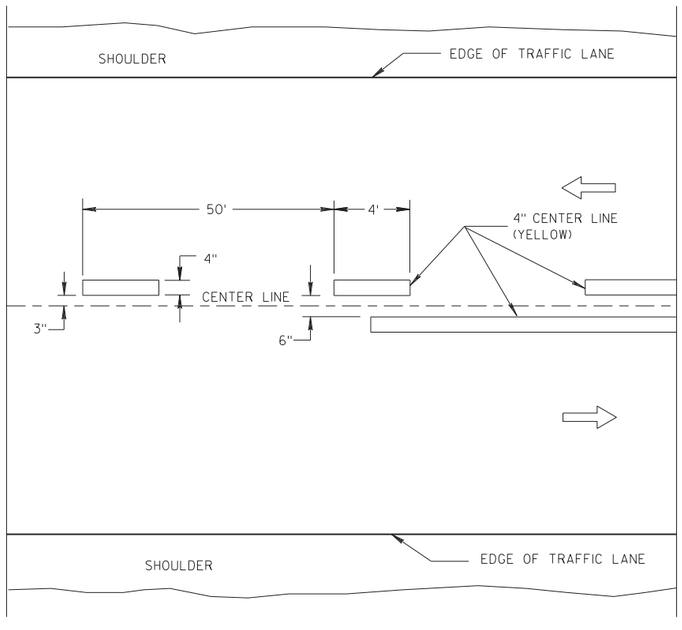
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

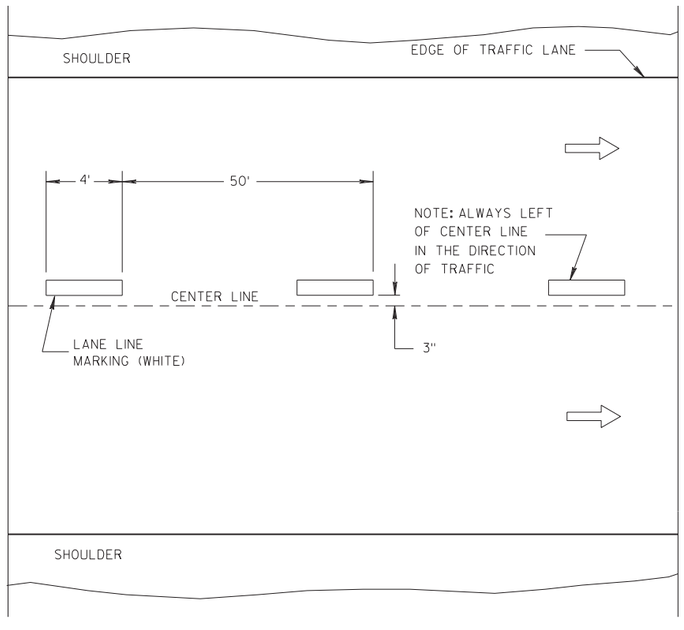
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

7/2018 — DATE

/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER

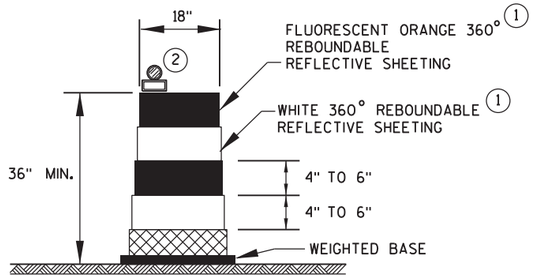
FHWA

6

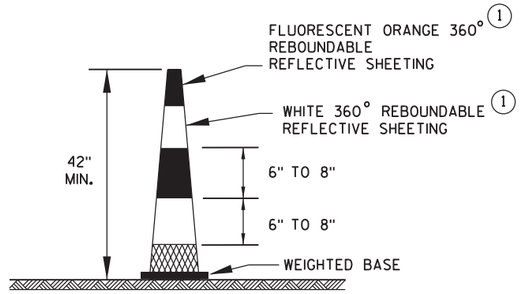
S.D.D. 15 C 8-19a

6

S.D.D. 15 C 8-19a



DRUM

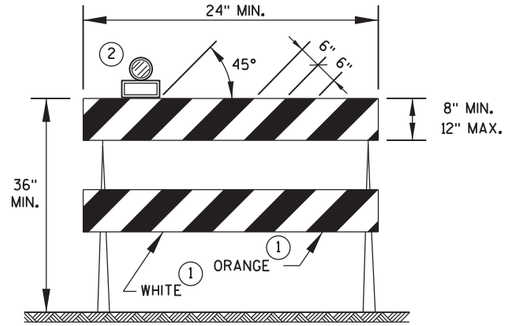


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

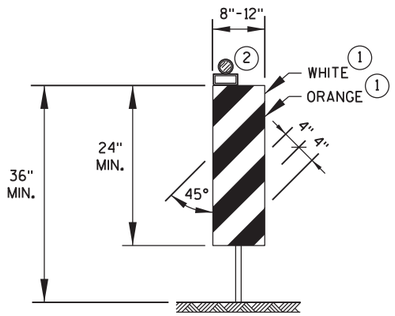
GENERAL NOTES

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



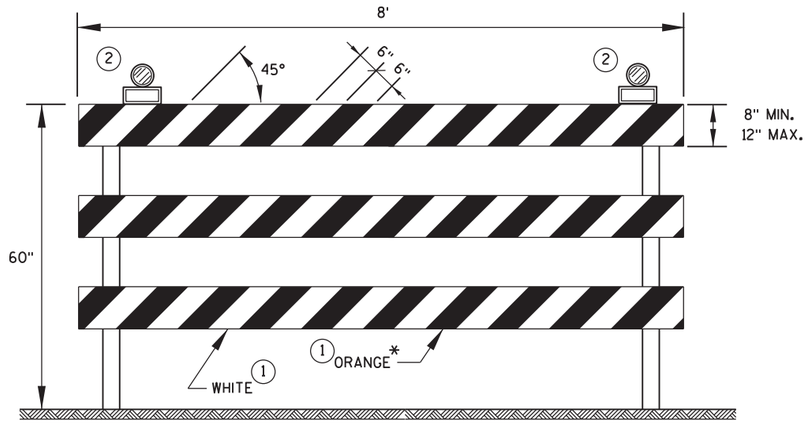
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
June 2017 DATE	/S/ Andrew Heidtke WORK ZONE ENG
FHWA	

6

S.D.D. 15 C 11-7b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

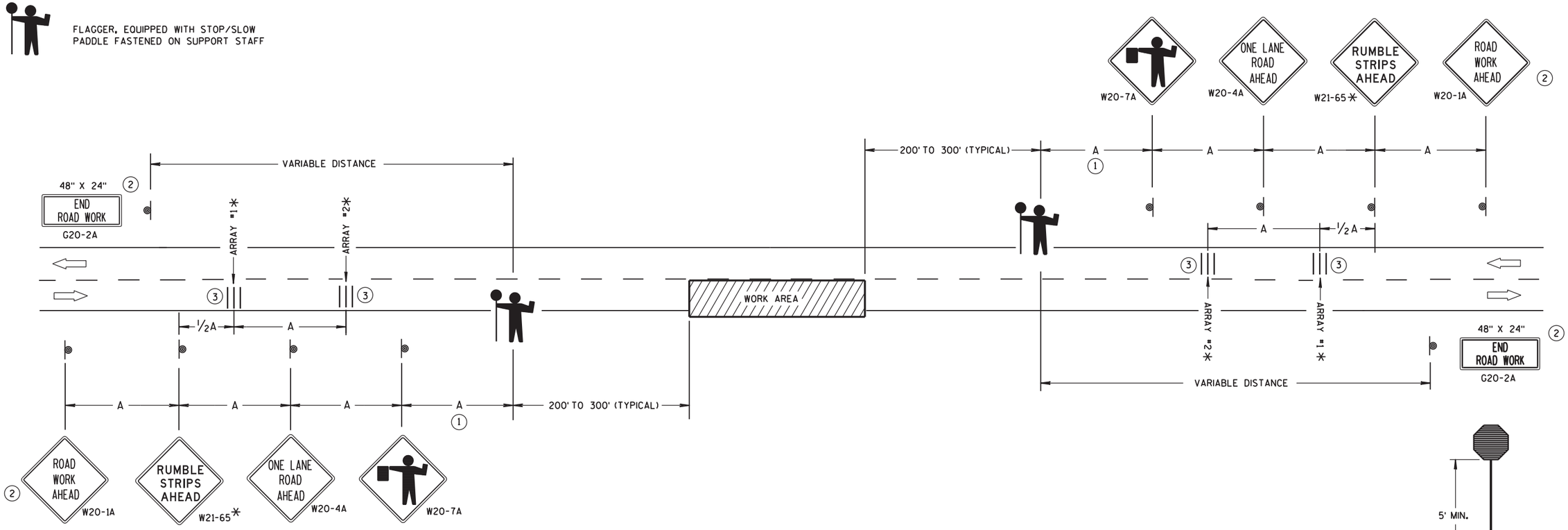
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

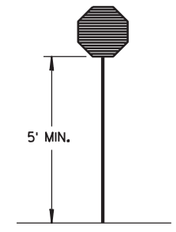
SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

W03-4

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





STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

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

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

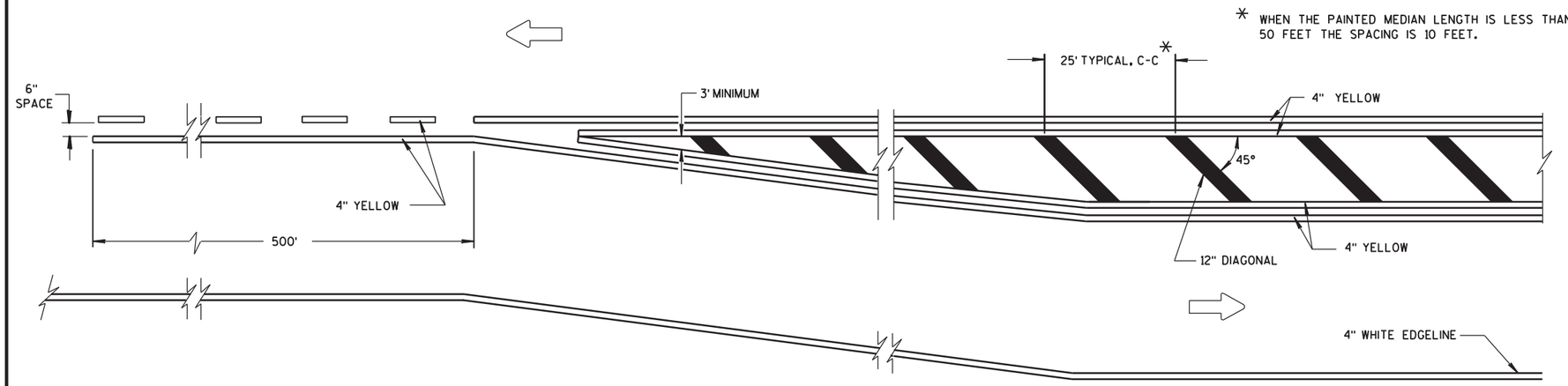
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Andrew Heldtke — WORK ZONE ENG
FHWA

6

S.D.D. 15 C 12-6

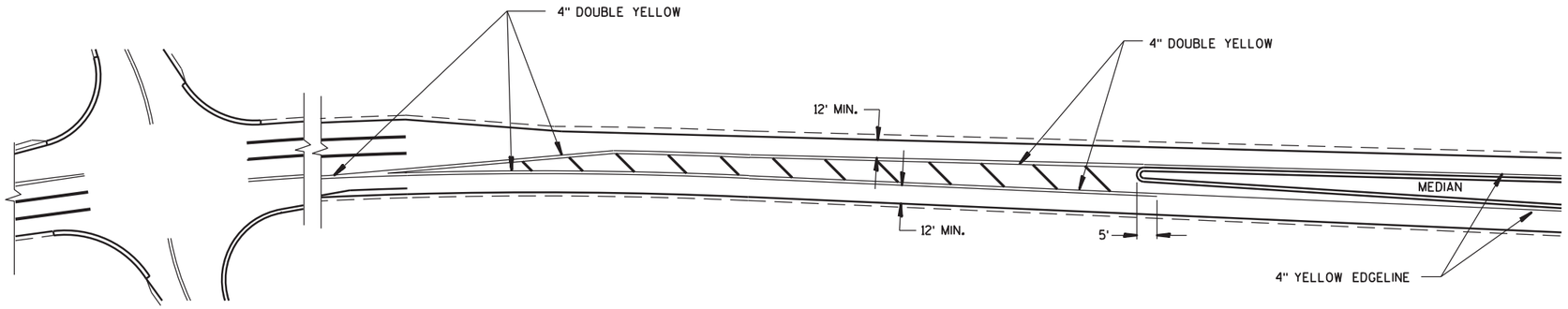


MEDIAN ISLAND DETAIL

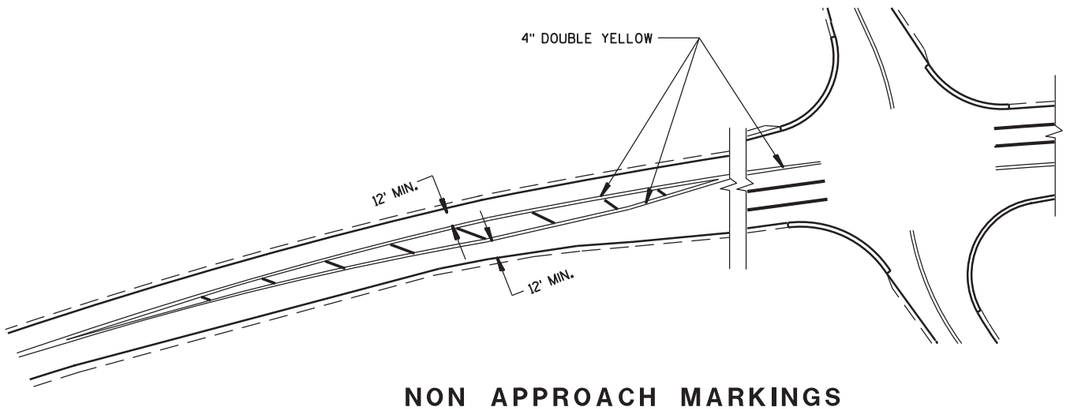
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES

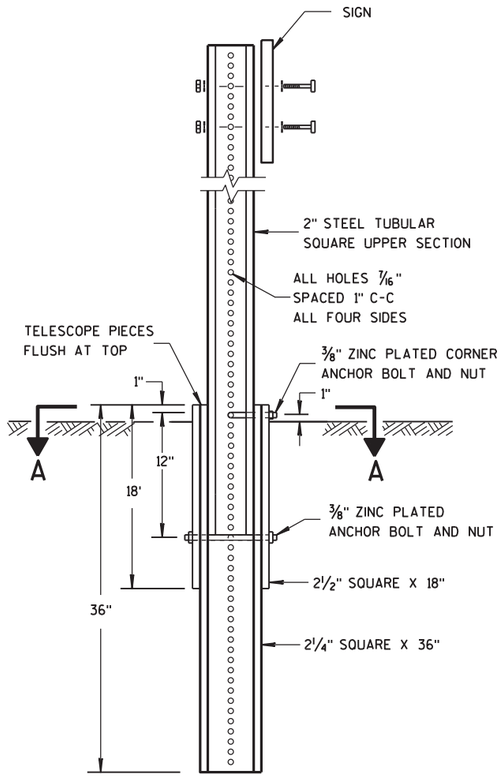


NON APPROACH MARKINGS

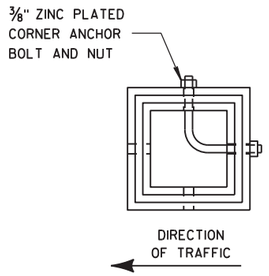
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE FHWA	/S/ Matthew Rauch STATE SIGNING AND MARK ... EER

6

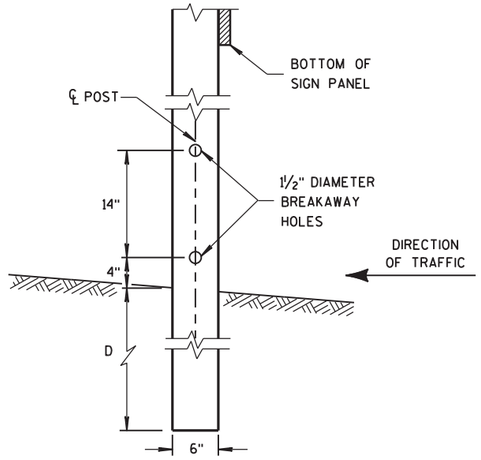
S.D.D. 15 C 18-4



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



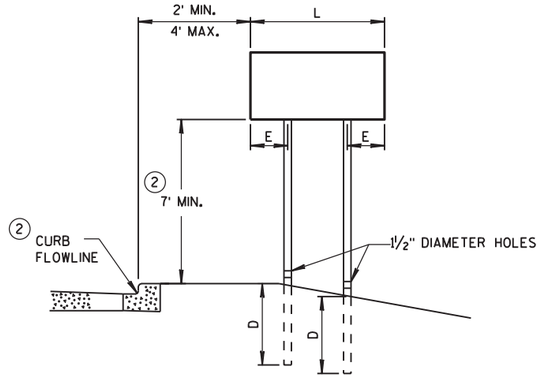
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

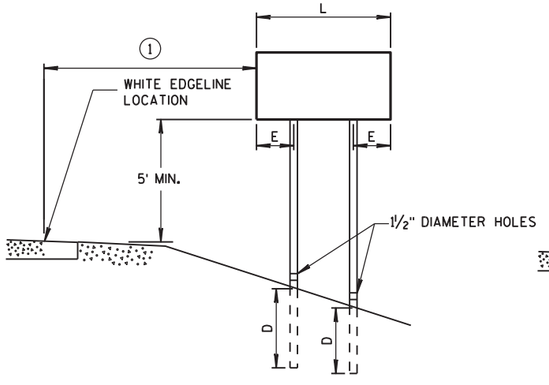
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

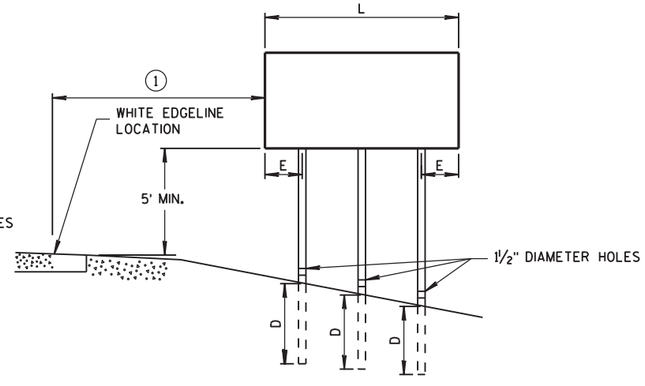
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

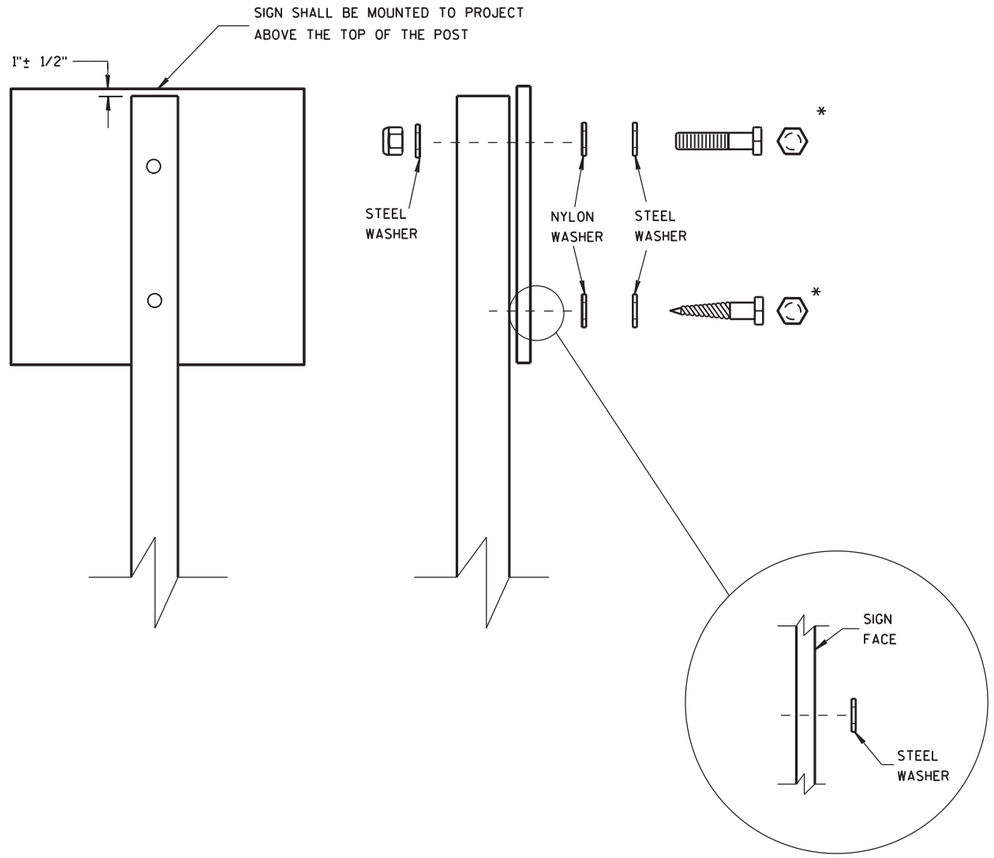
POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

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

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

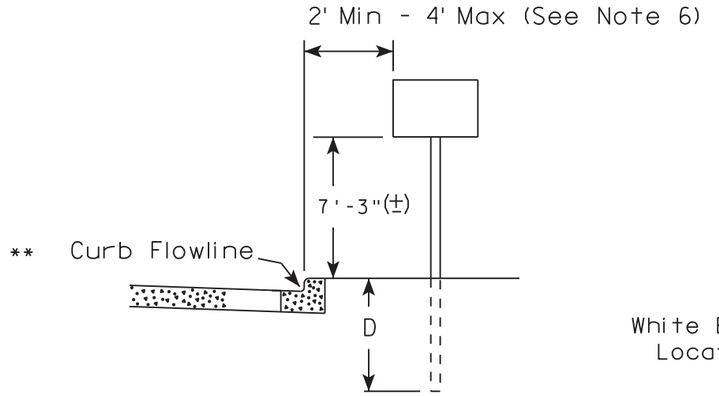
APPROVED

June 2017
DATE

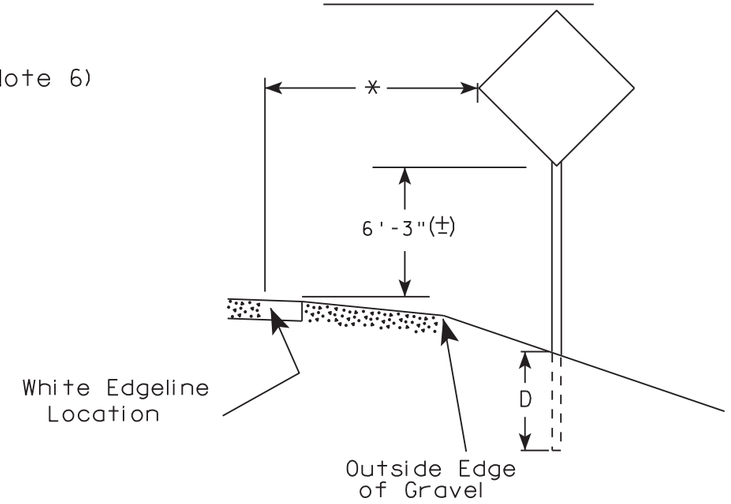
/S/ Andrew Heldtke
WORK ZONE ENG

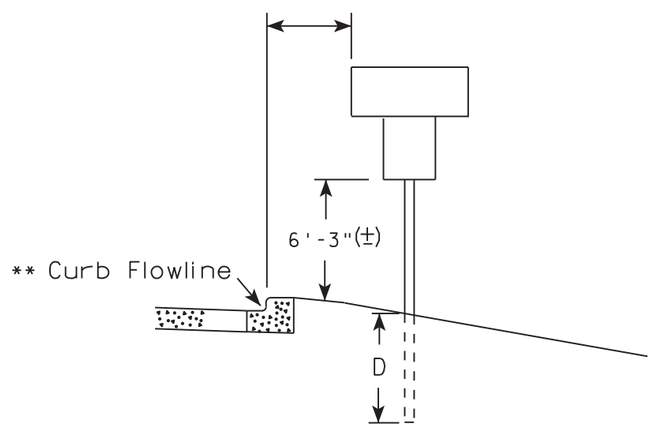
FHWA

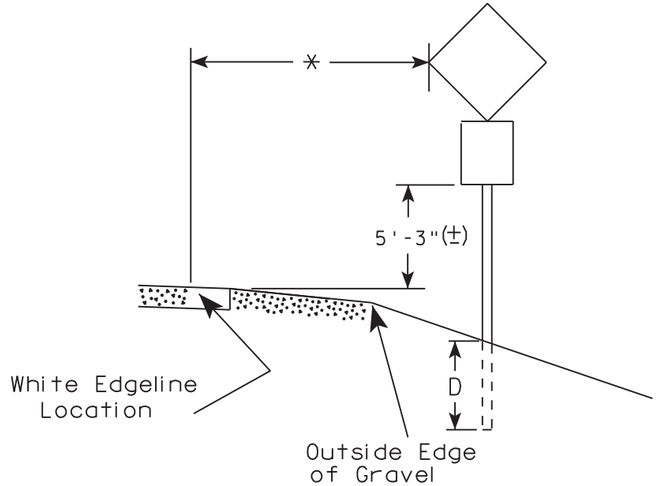
URBAN AREA



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. J-Assemblies are considered to be one sign for mounting height.
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" (±).

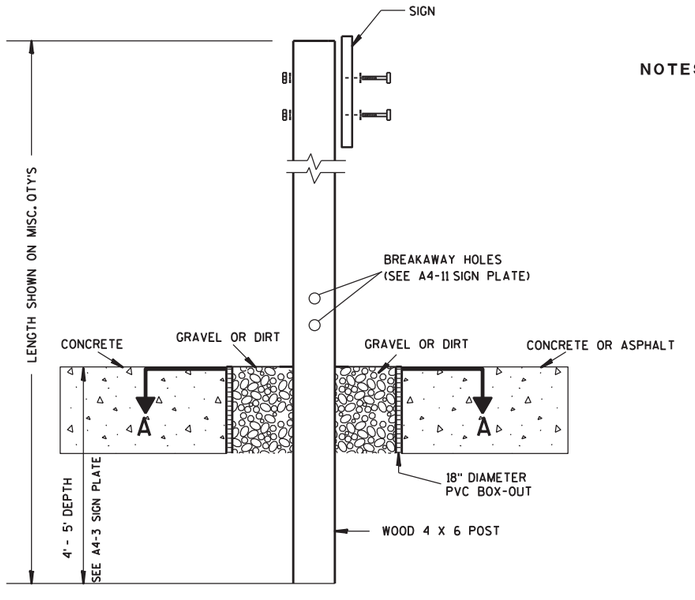
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21

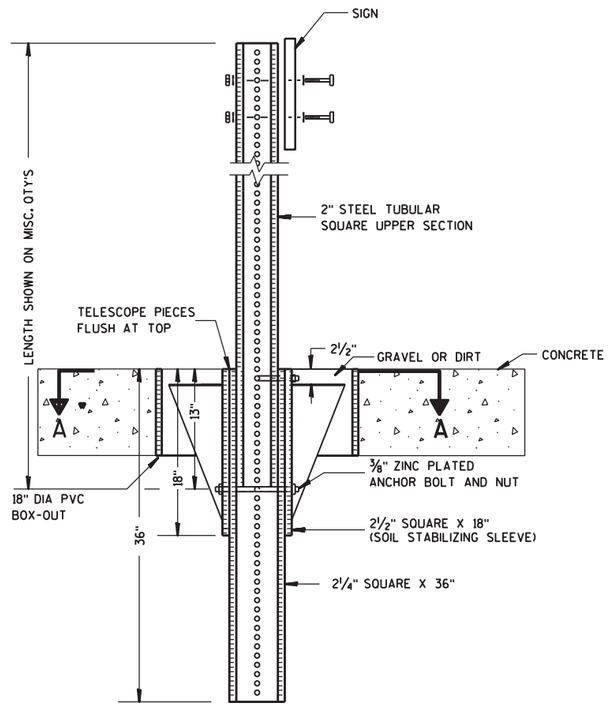
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 46	E



ELEVATION VIEW

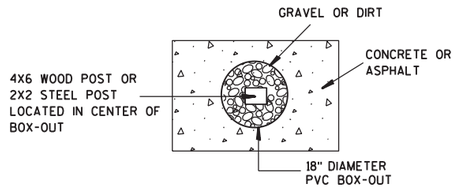
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

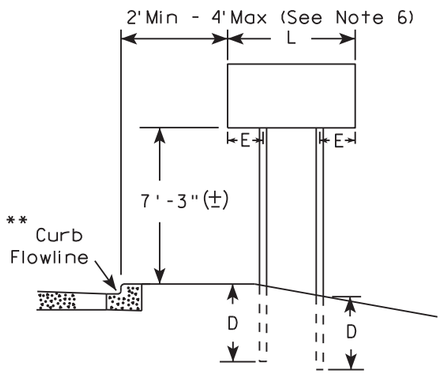
APPROVED Matthew R Rauch
for State Traffic Engineer

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

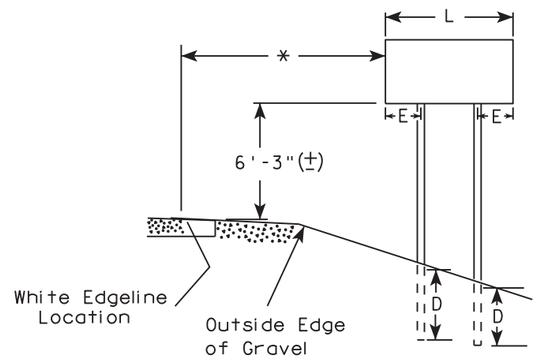
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

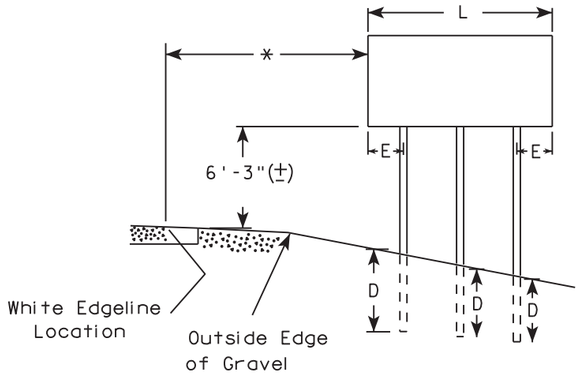
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

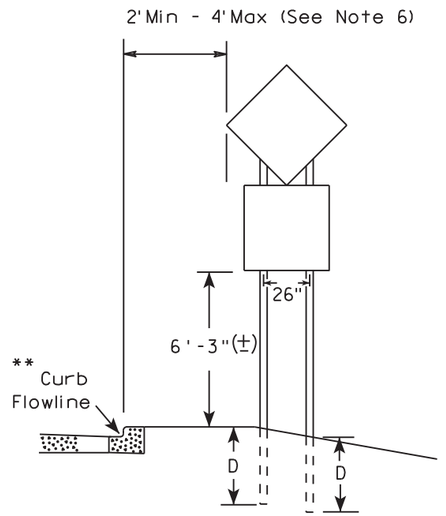
URBAN AREA



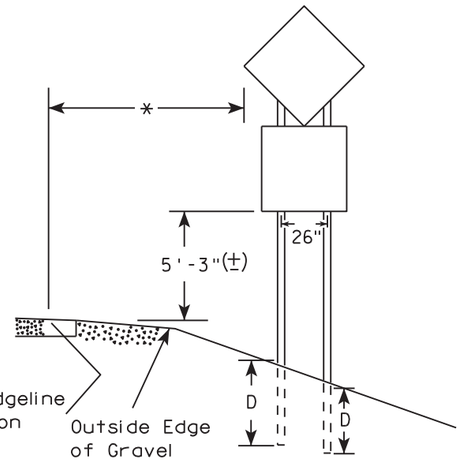
RURAL AREA (See Note 3)







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 108"	L/5

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

GENERAL NOTES

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

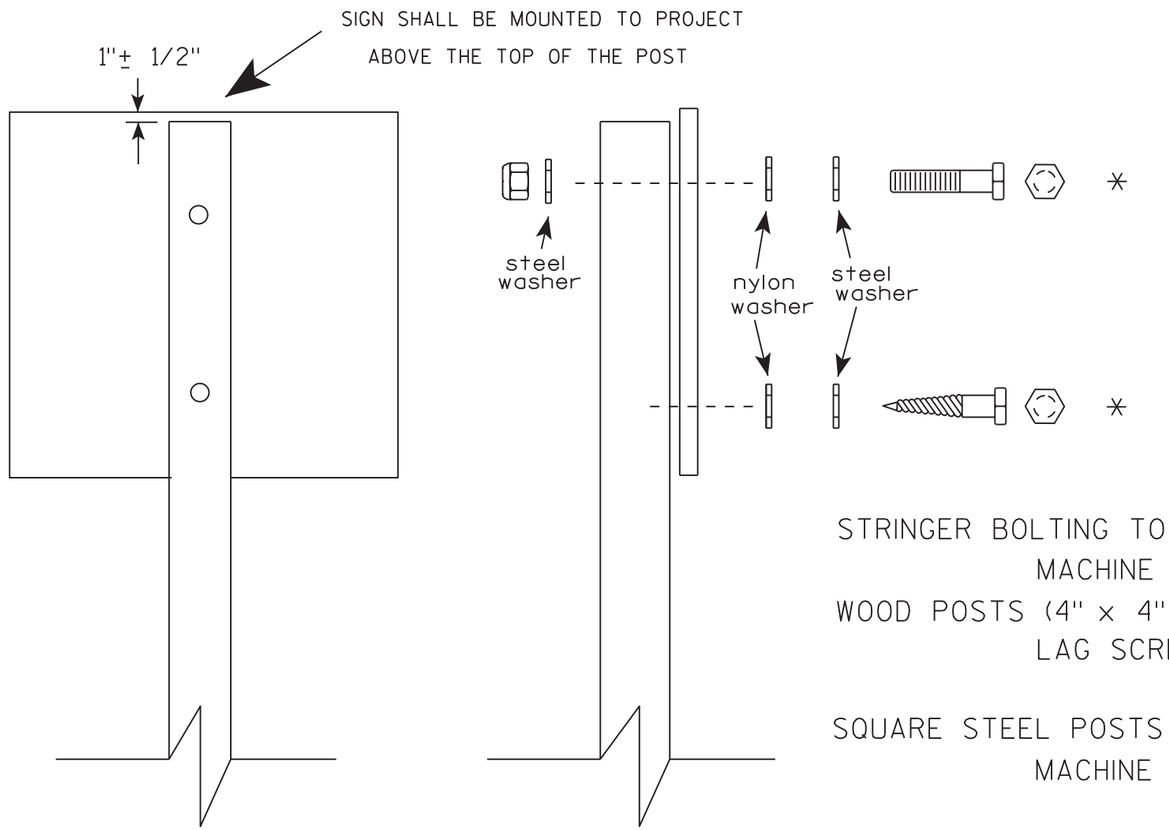
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 48	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 21-AUG-2017 15:54 PLOT BY : $$...plotuser...$$ PLOT NAME : PLOT SCALE : 108.188297:1.000000

7



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

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

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

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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

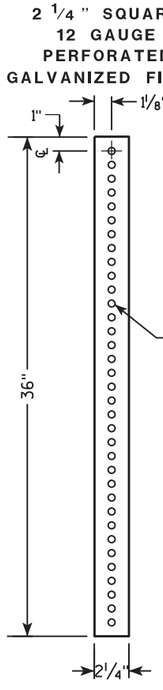
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

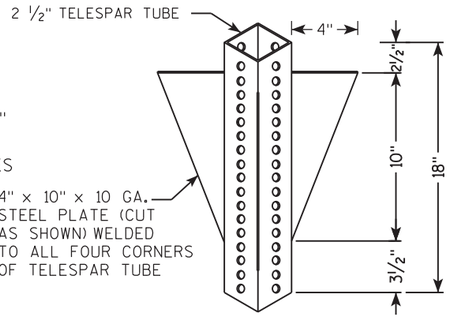
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

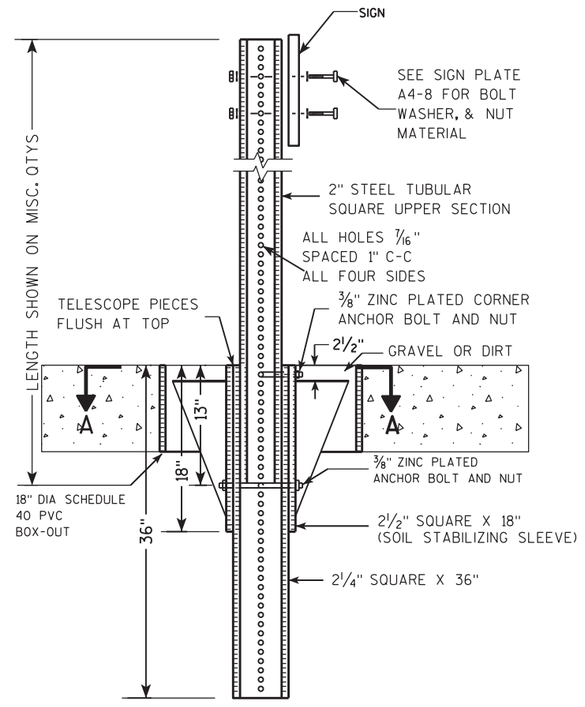
2 ¼ " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



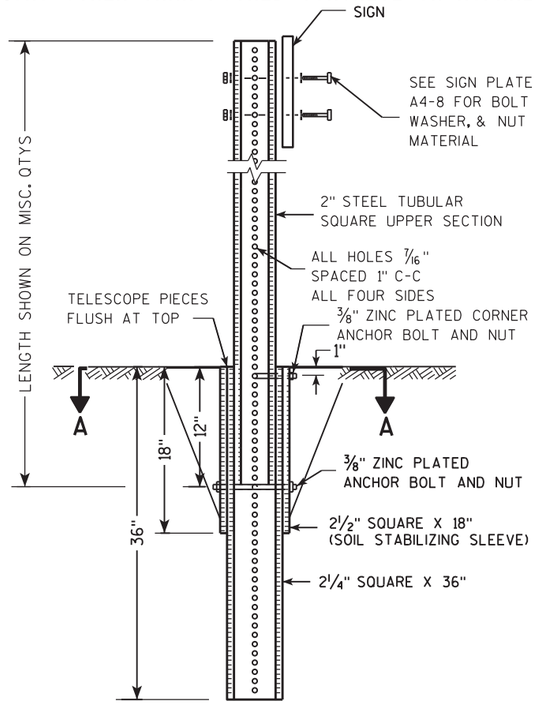
2 ½ " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

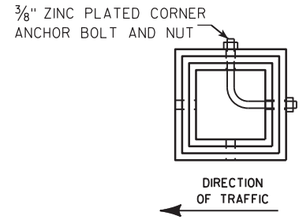


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

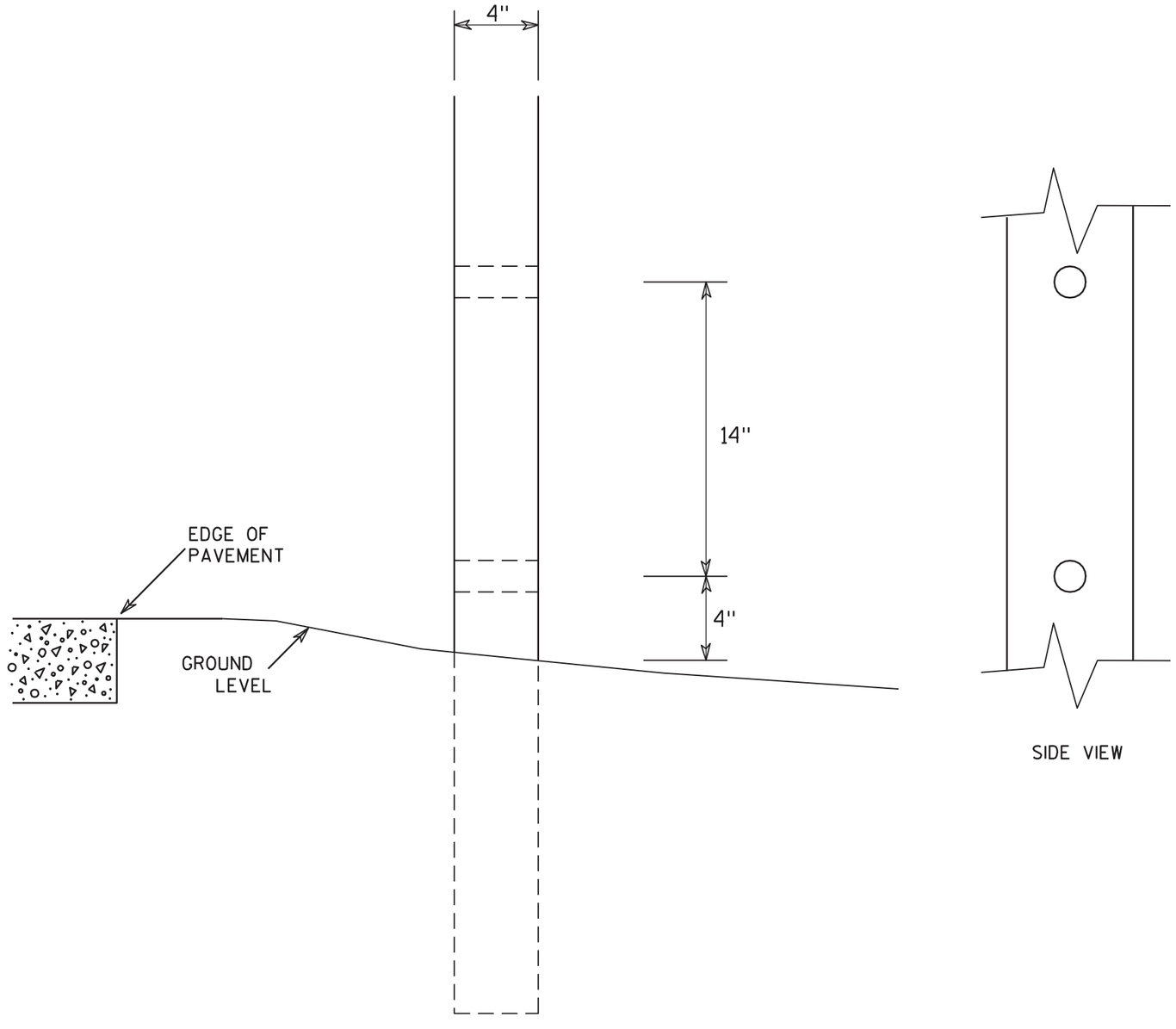
TUBULAR STEEL SIGN POST A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 50 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

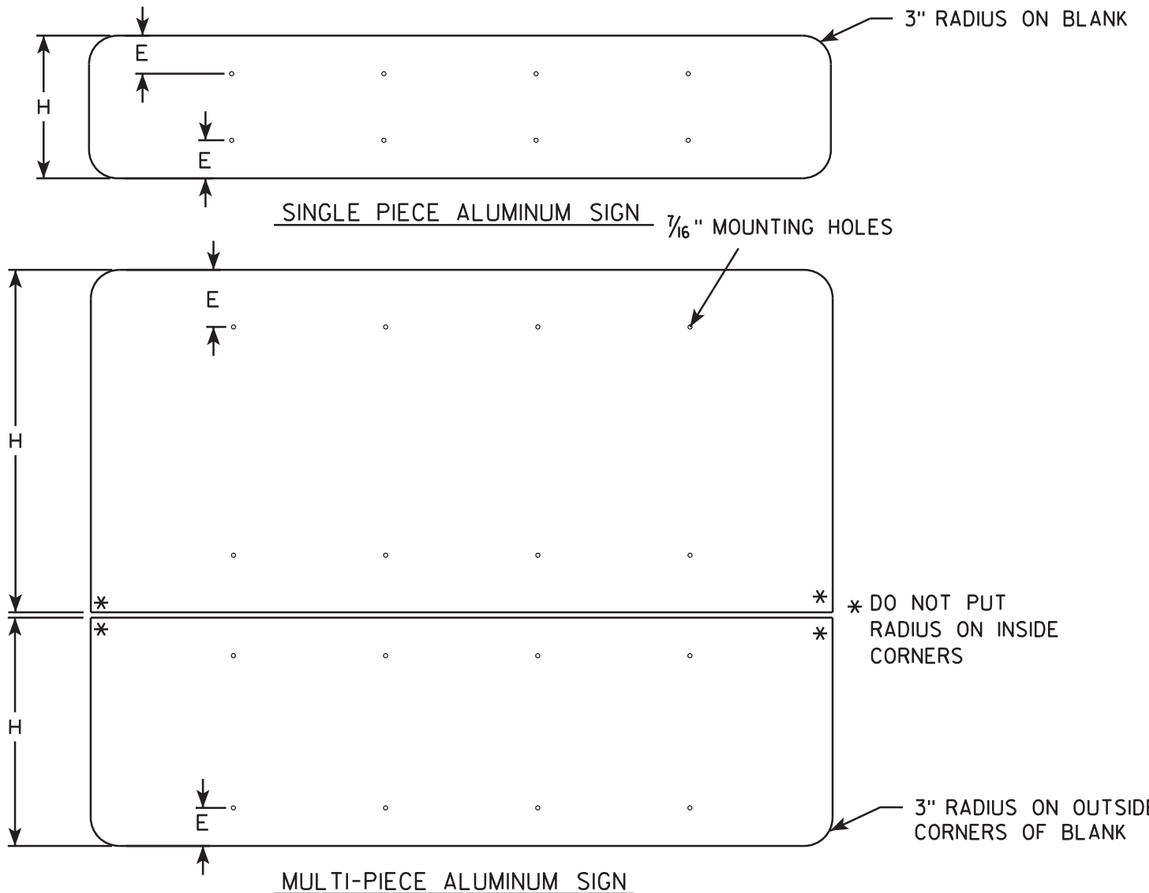
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

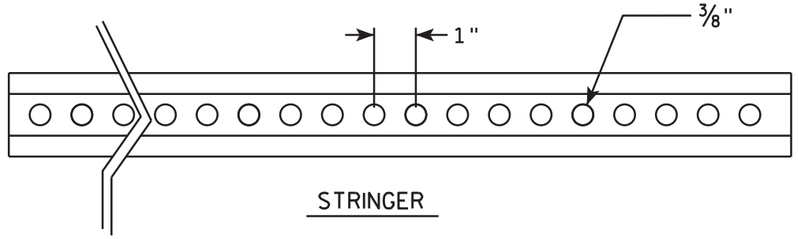
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 51	E



GENERAL NOTES

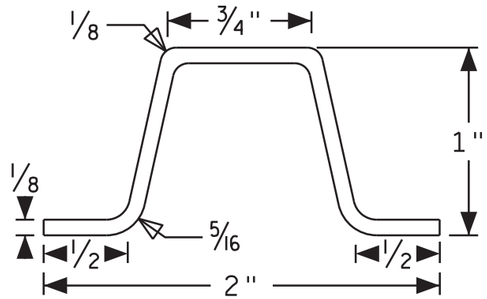
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER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

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

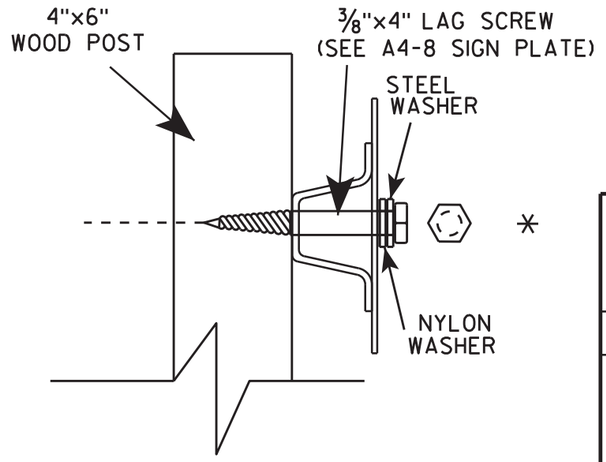


STRINGER

CROSS SECTION VIEW OF CHANNEL



POST MOUNTING



SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

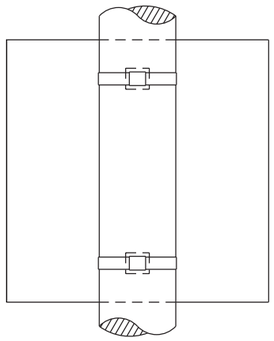
DATE 4/26/16 PLATE NO A4-18.1

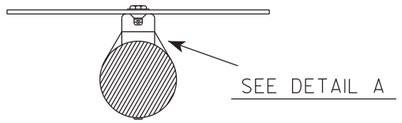
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

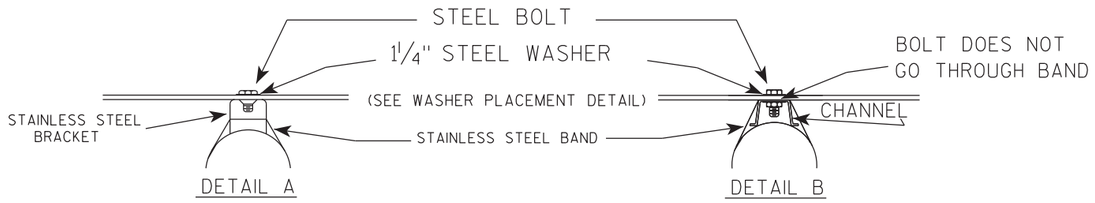
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

BANDING

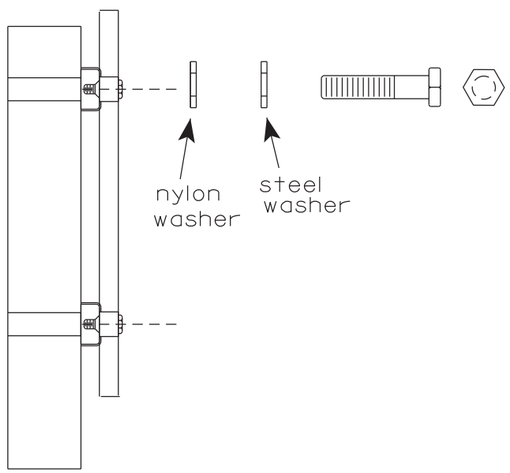
SINGLE SIGN







WASHER PLACEMENT

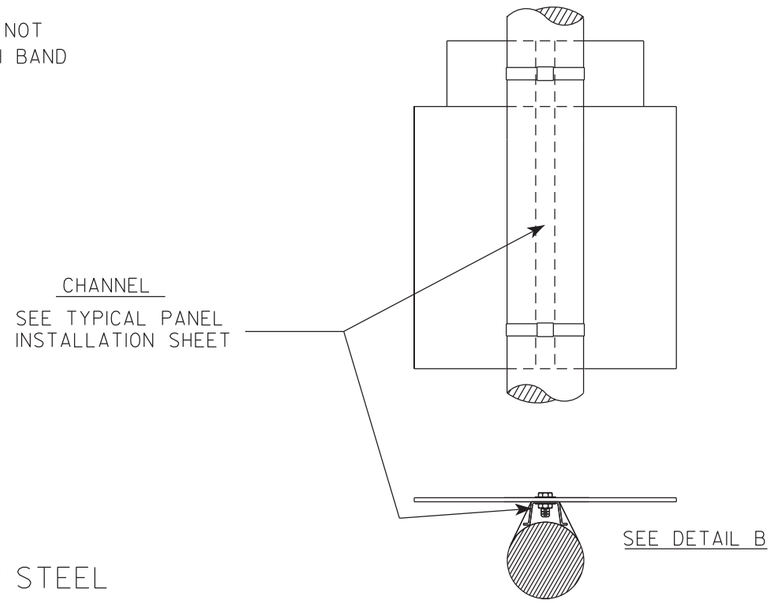


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

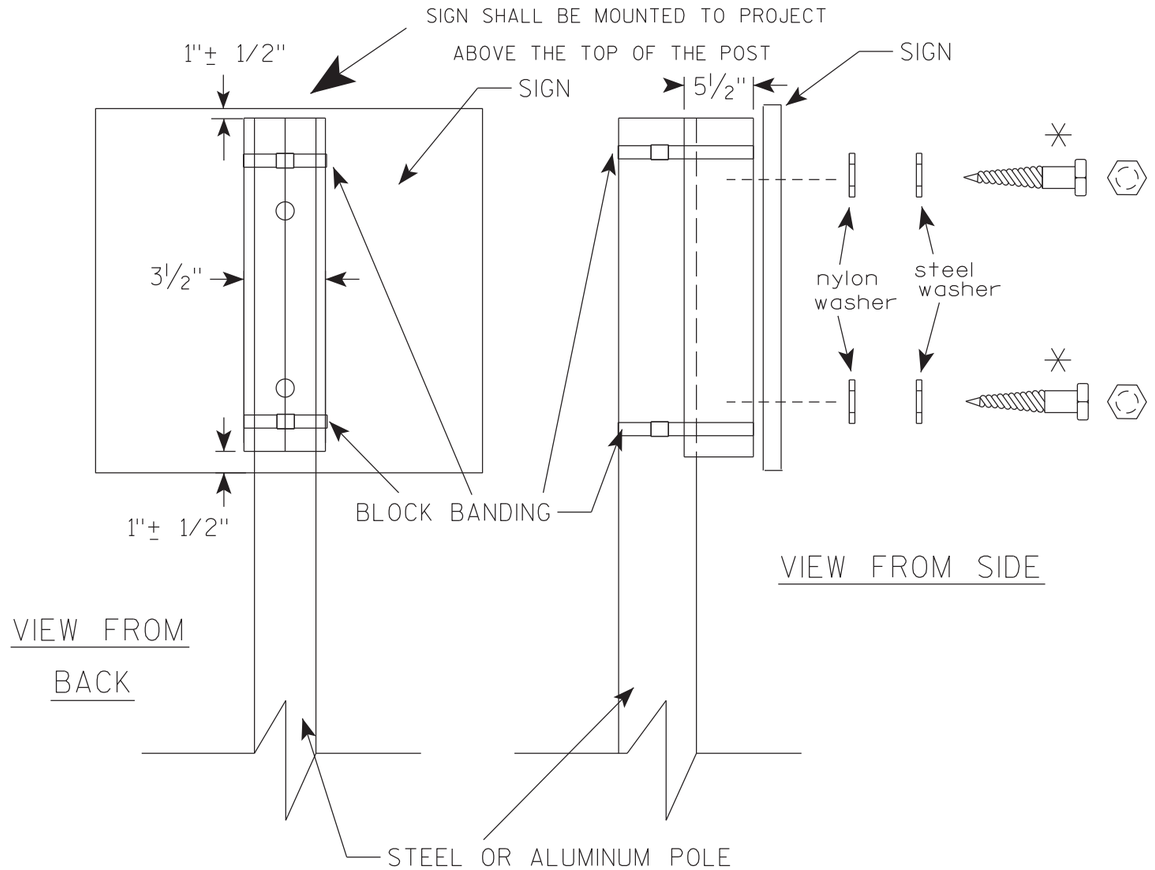
DATE 6/10/19 PLATE NO. A5-9.4

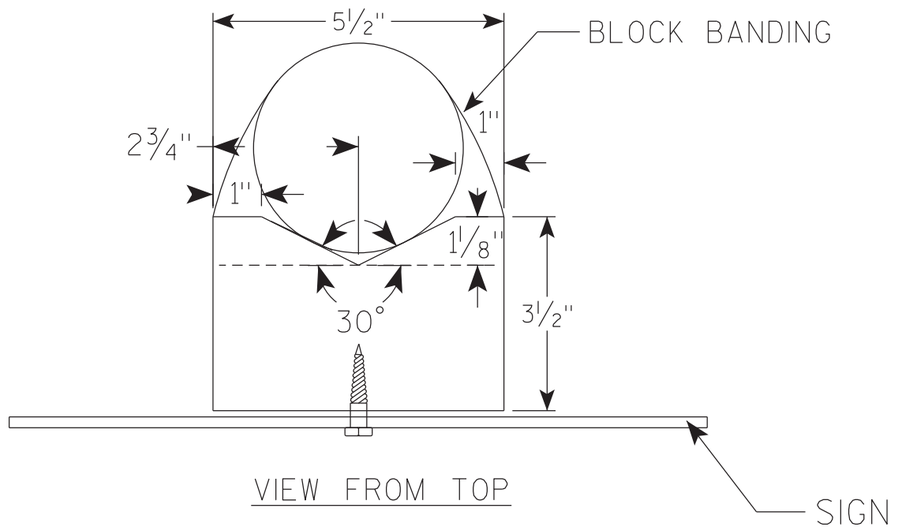
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 53	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

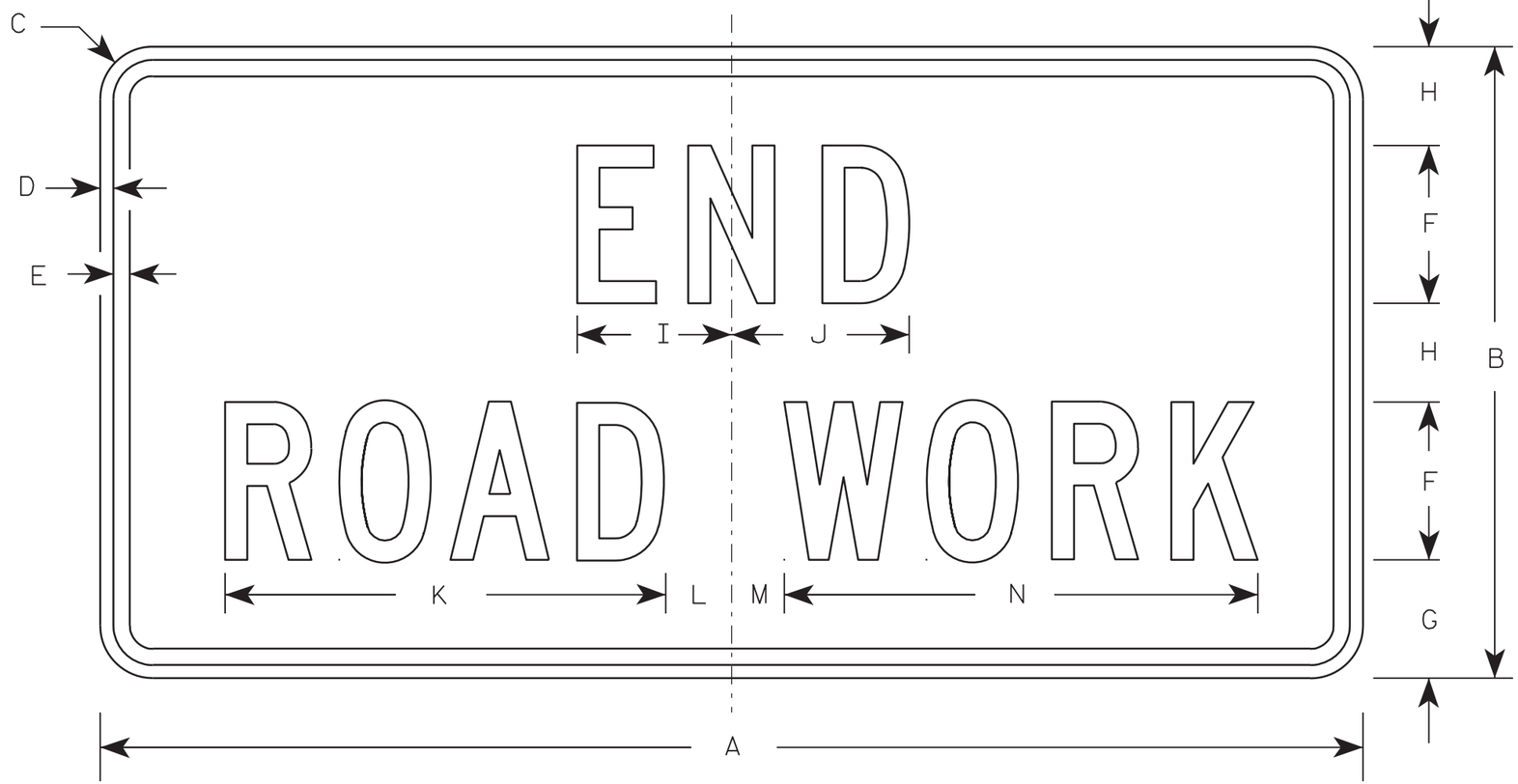
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO: 54 E



G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
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.

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 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	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

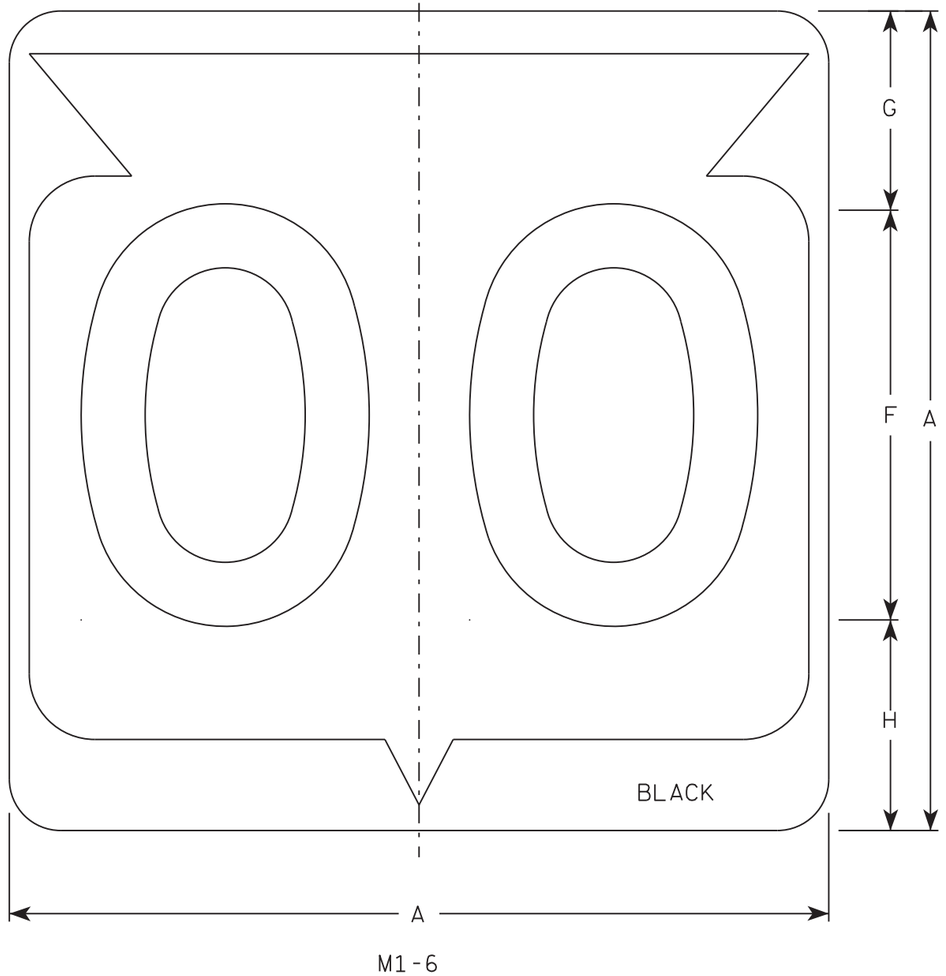
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

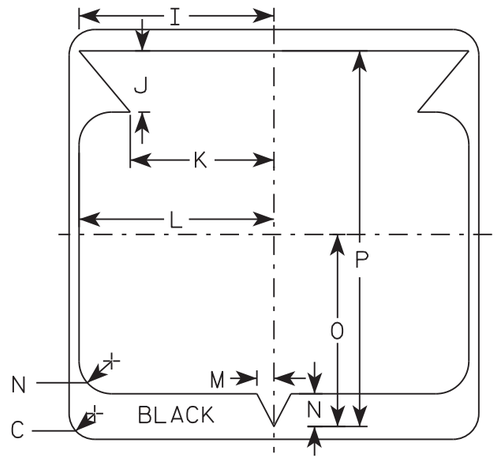
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 55	E



M1-6

NOTES

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



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

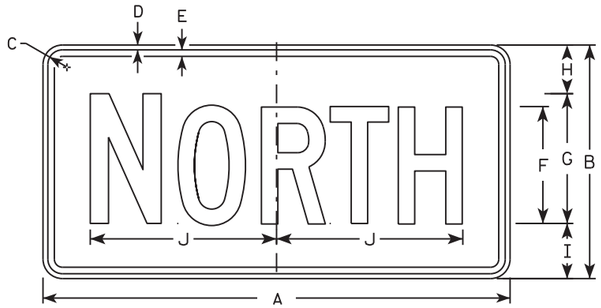
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

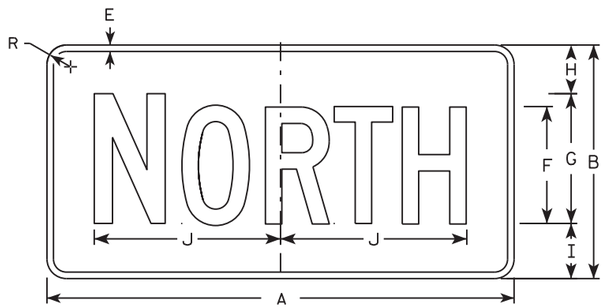
APPROVED Matthew R Rauch for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 56	E



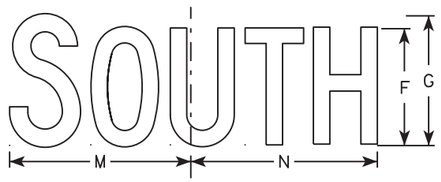
M3-1
MM3-1
MP3-1



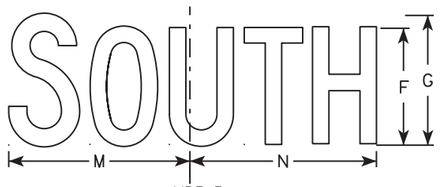
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

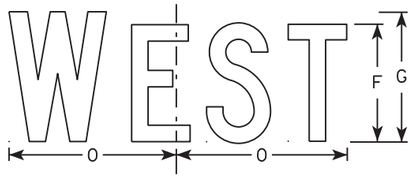
MB3-2
MK3-2
MN3-2



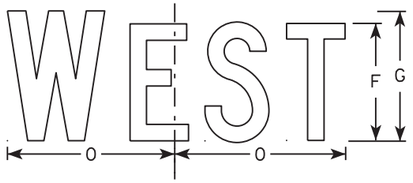
M3-3
MM3-3
MP3-3



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

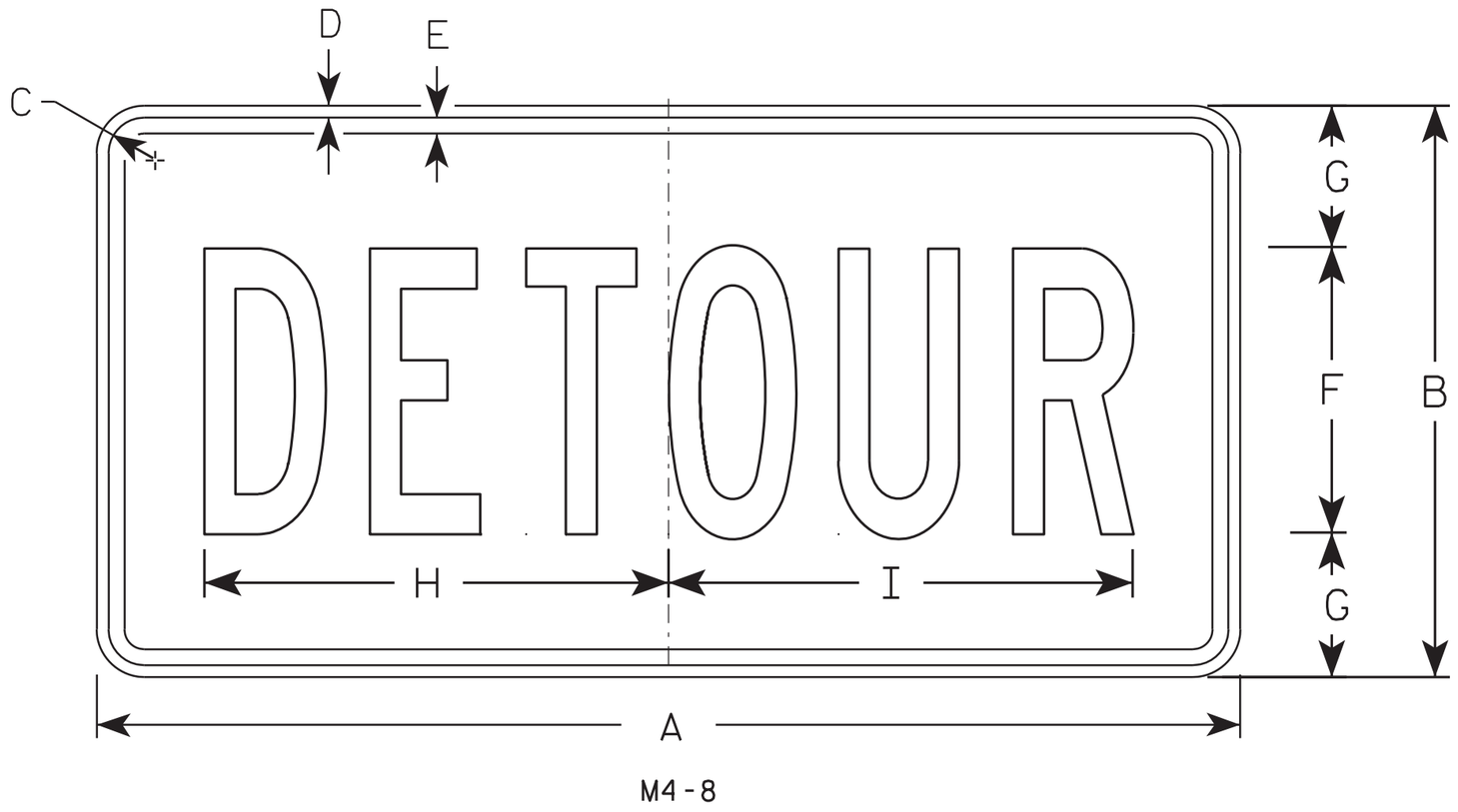
WISCONSIN DEPT OF TRANSPORTATION

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																											

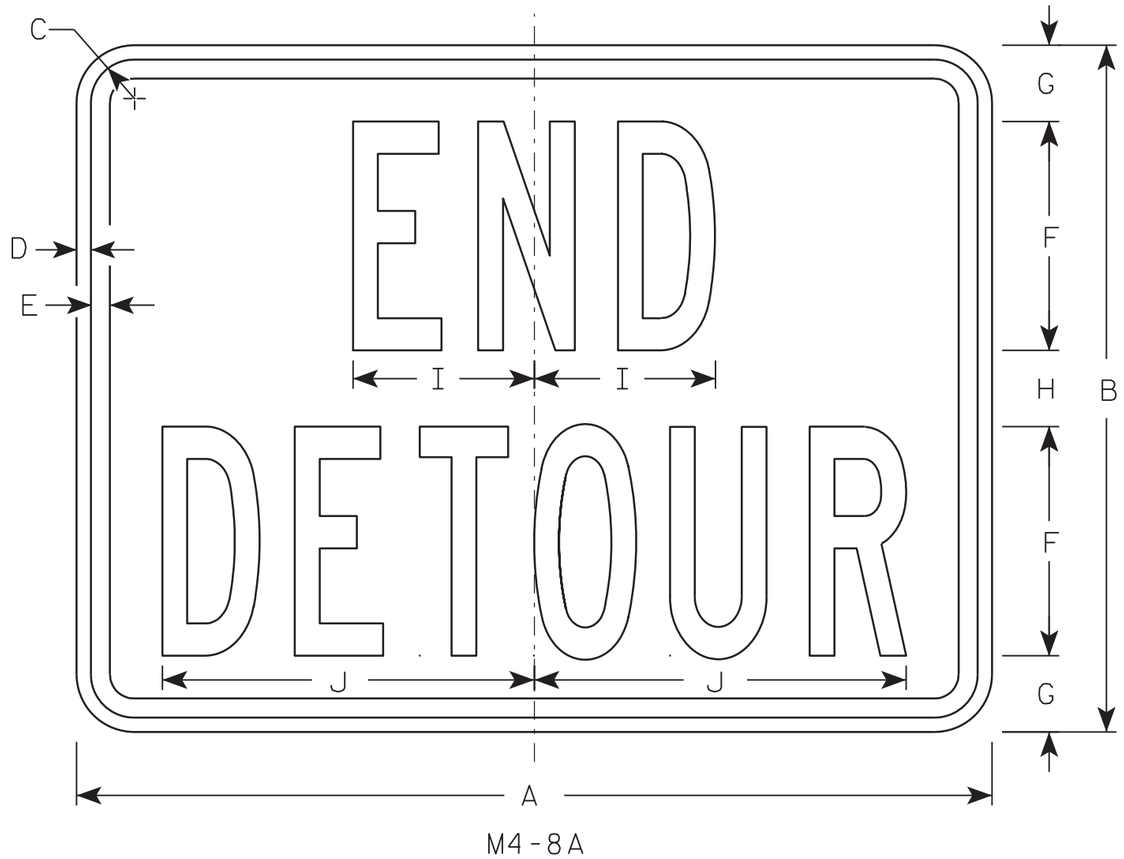
STANDARD SIGN
M4-8

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: 58	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																											

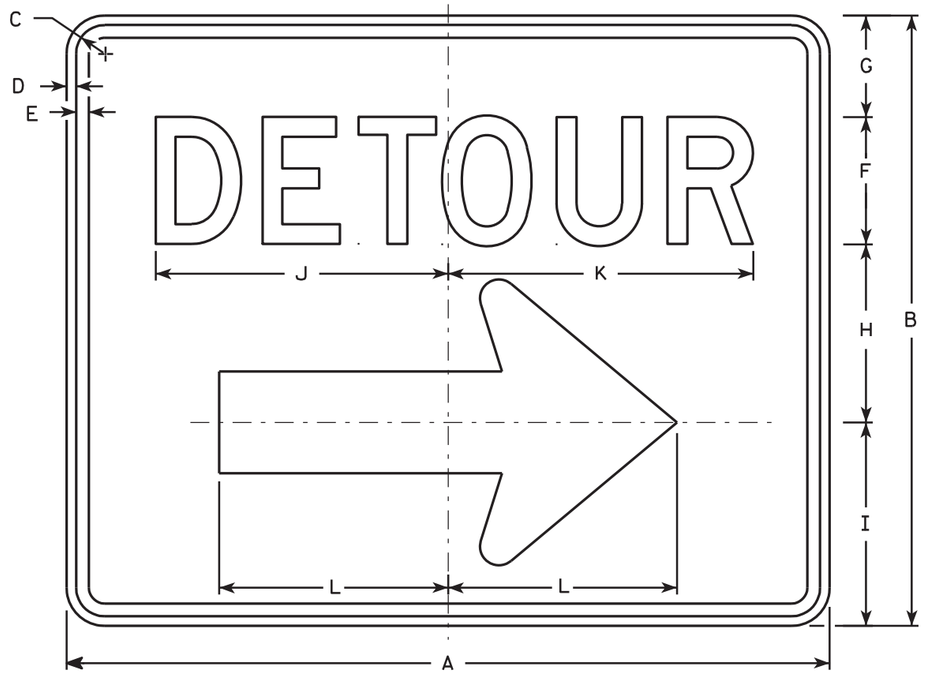
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

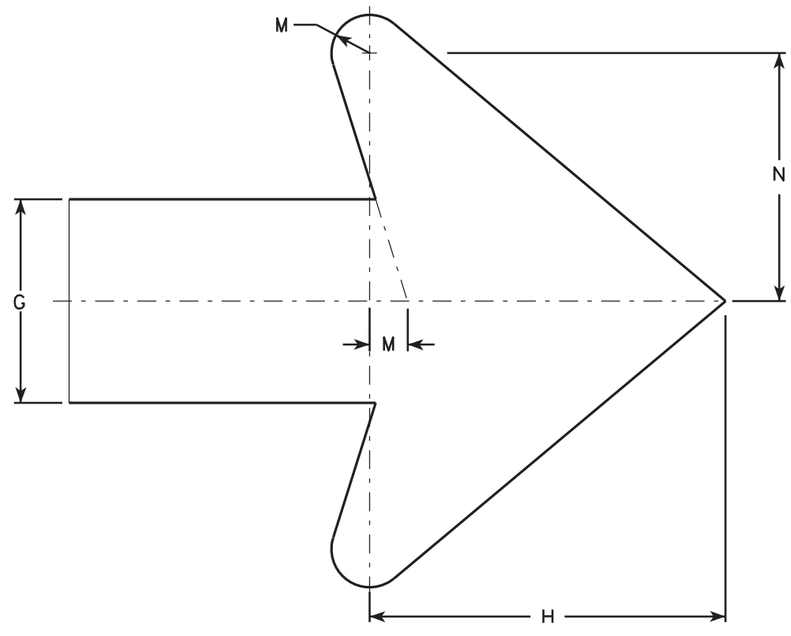
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 59	E



M4-9R

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 - 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. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

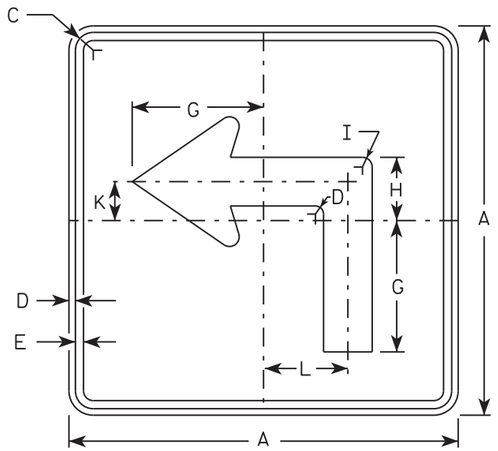
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

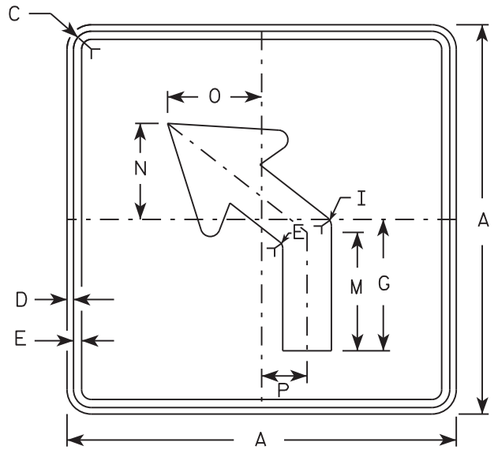
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

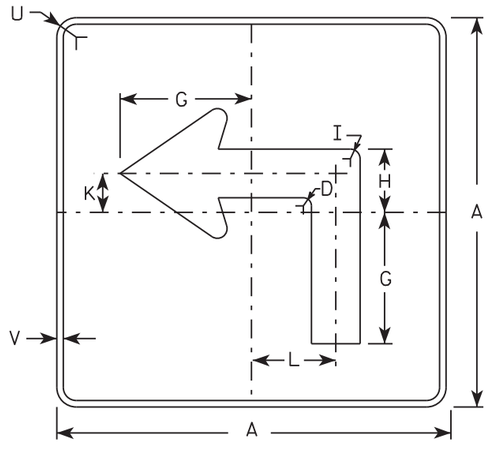
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 60 | E



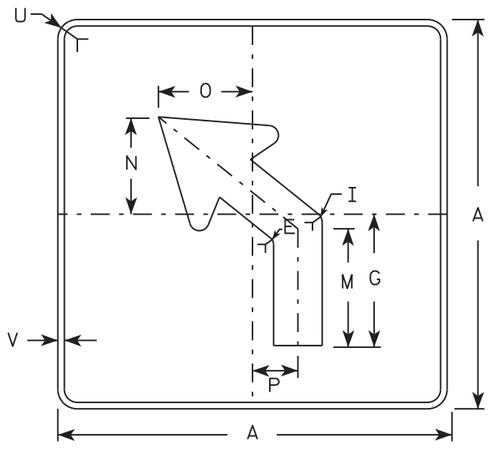
M5-1L
MM5-1L
MO5-1L
MP5-1L



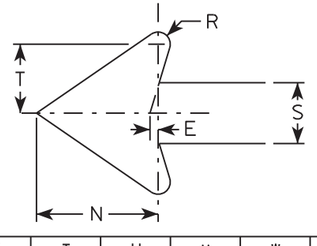
M5-2L
MM5-2L
MO5-2L
MP5-2L



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

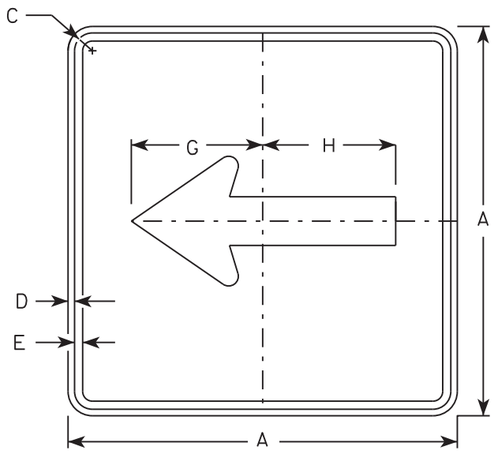
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

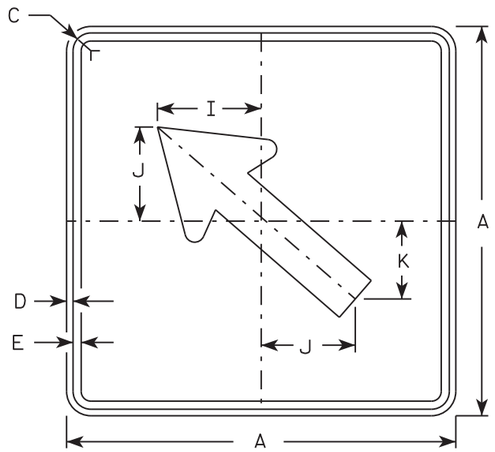
DATE 10/15/15 PLATE NO. M5-1.13

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



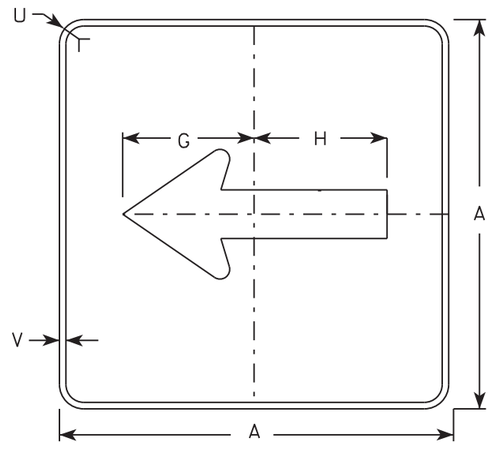
M6-1
MM6-1
MO6-1
MP6-1



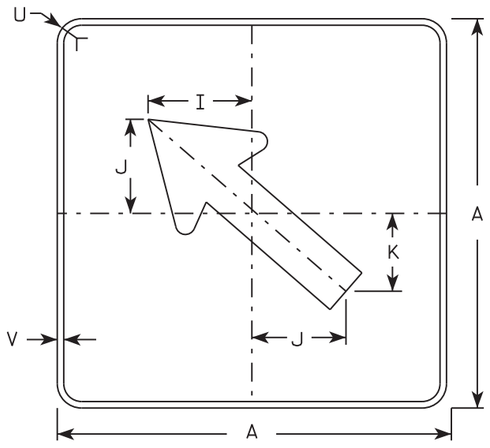
M6-2
MM6-2
MO6-2
MP6-2

NOTES

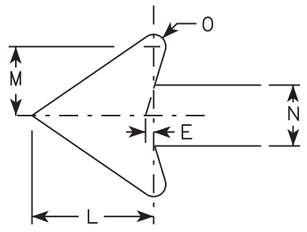
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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

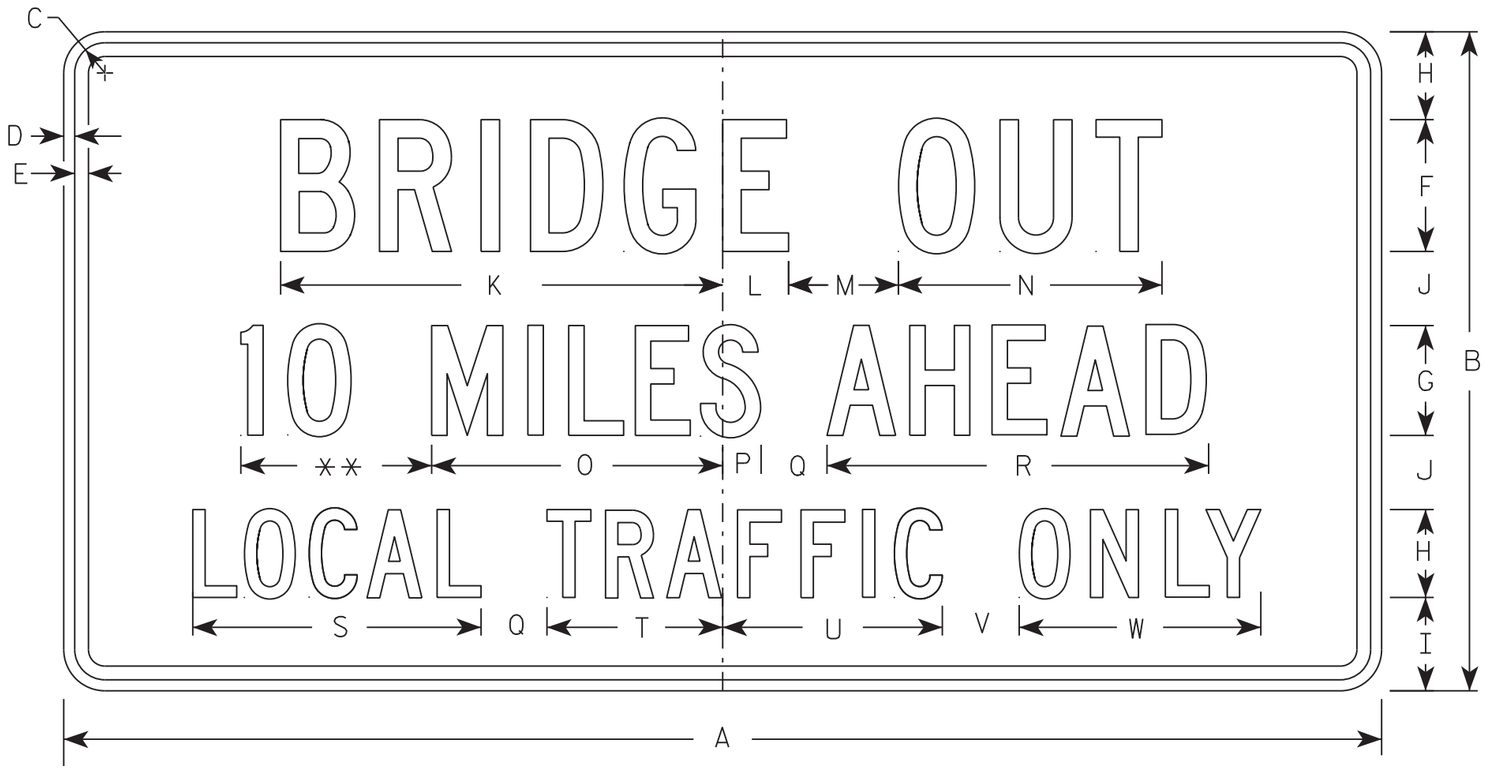
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATI 62 M6-1.15

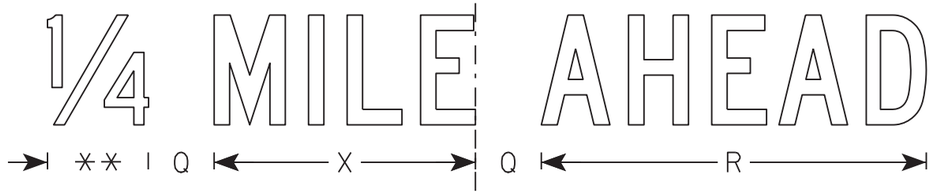
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R11-3B

** See Note 5



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

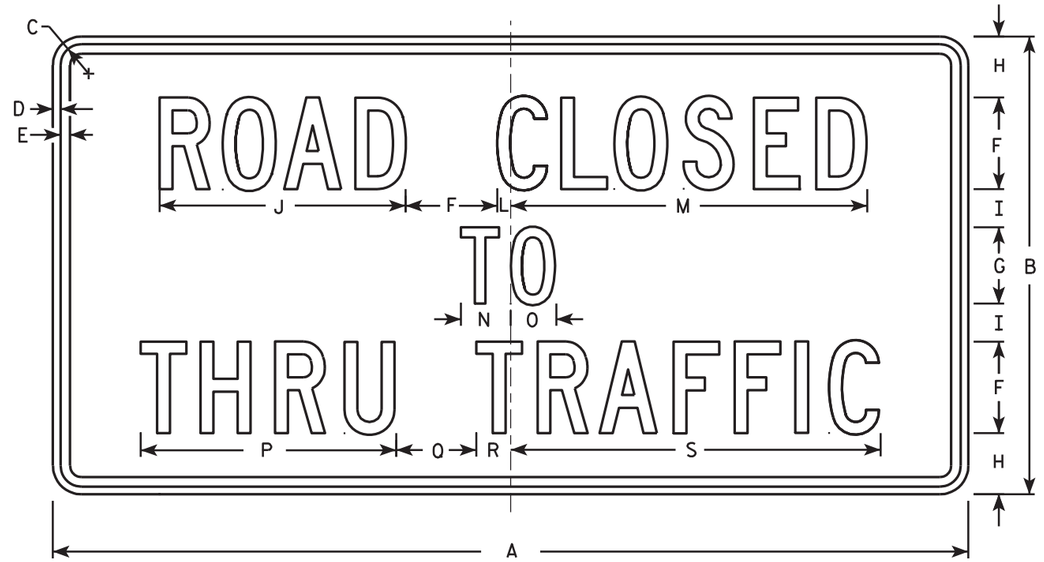
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 63 | E



R11-4

NOTES

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

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	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	2 1/2	16 1/8		7/8	23 3/8	3 1/4	3	16 3/4	5 1/4	2 1/4	24 1/4								12.5
3																											
4																											
5																											

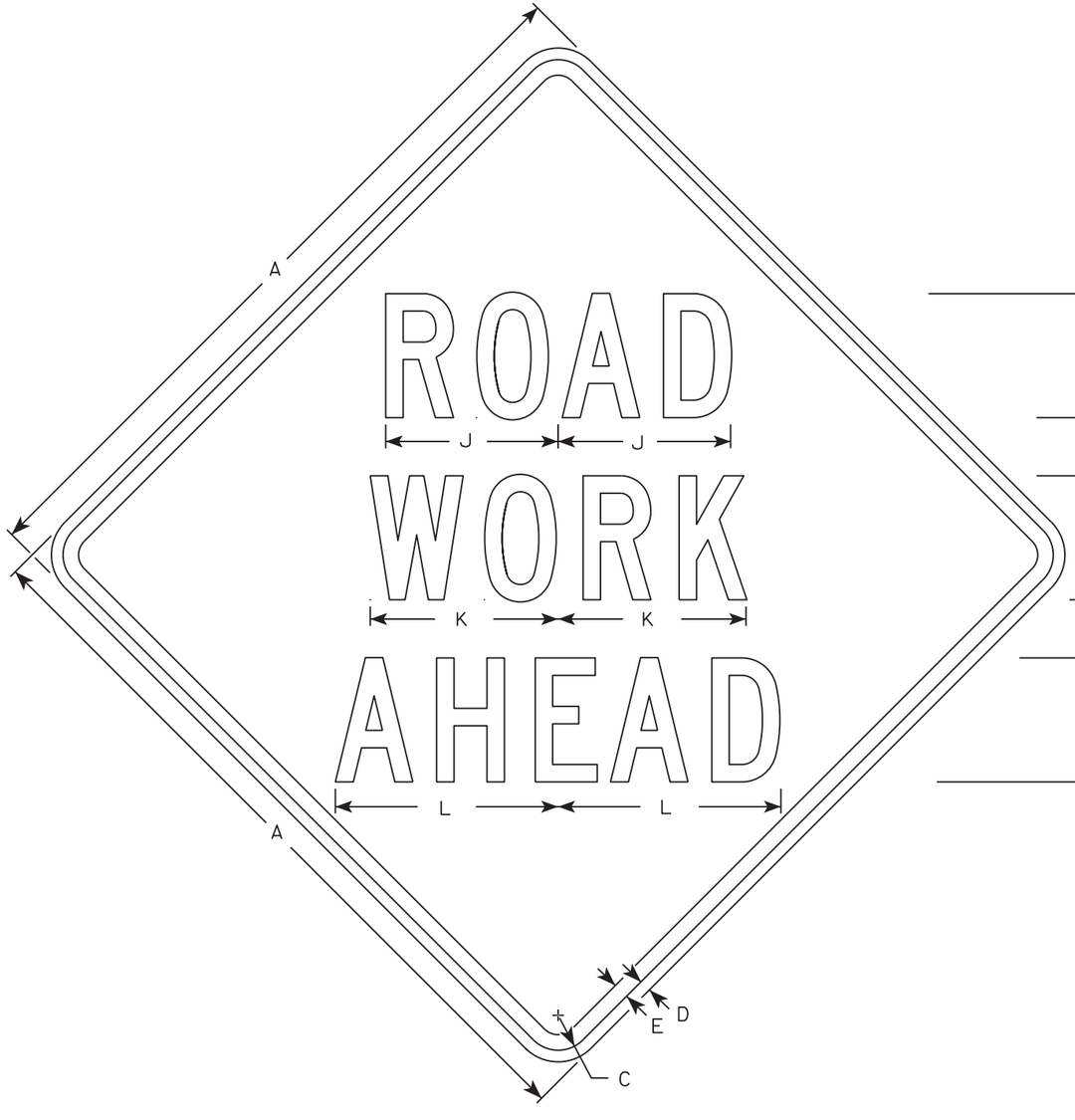
STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

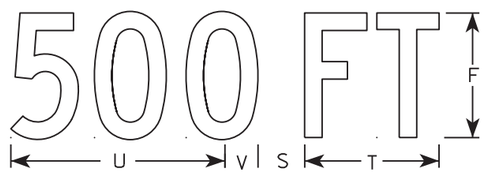
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

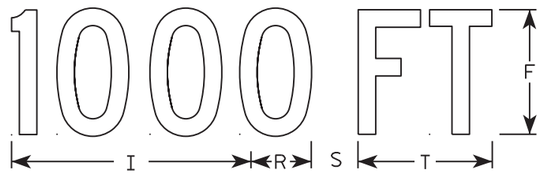
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 64 | E



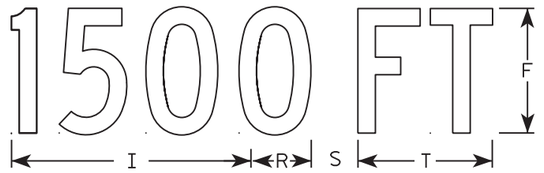
W20-1A



W20-1D



W20-1C



W20-1B

W20-1G

W20-1F

W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

WISCONSIN DEPT OF TRANSPORTATION

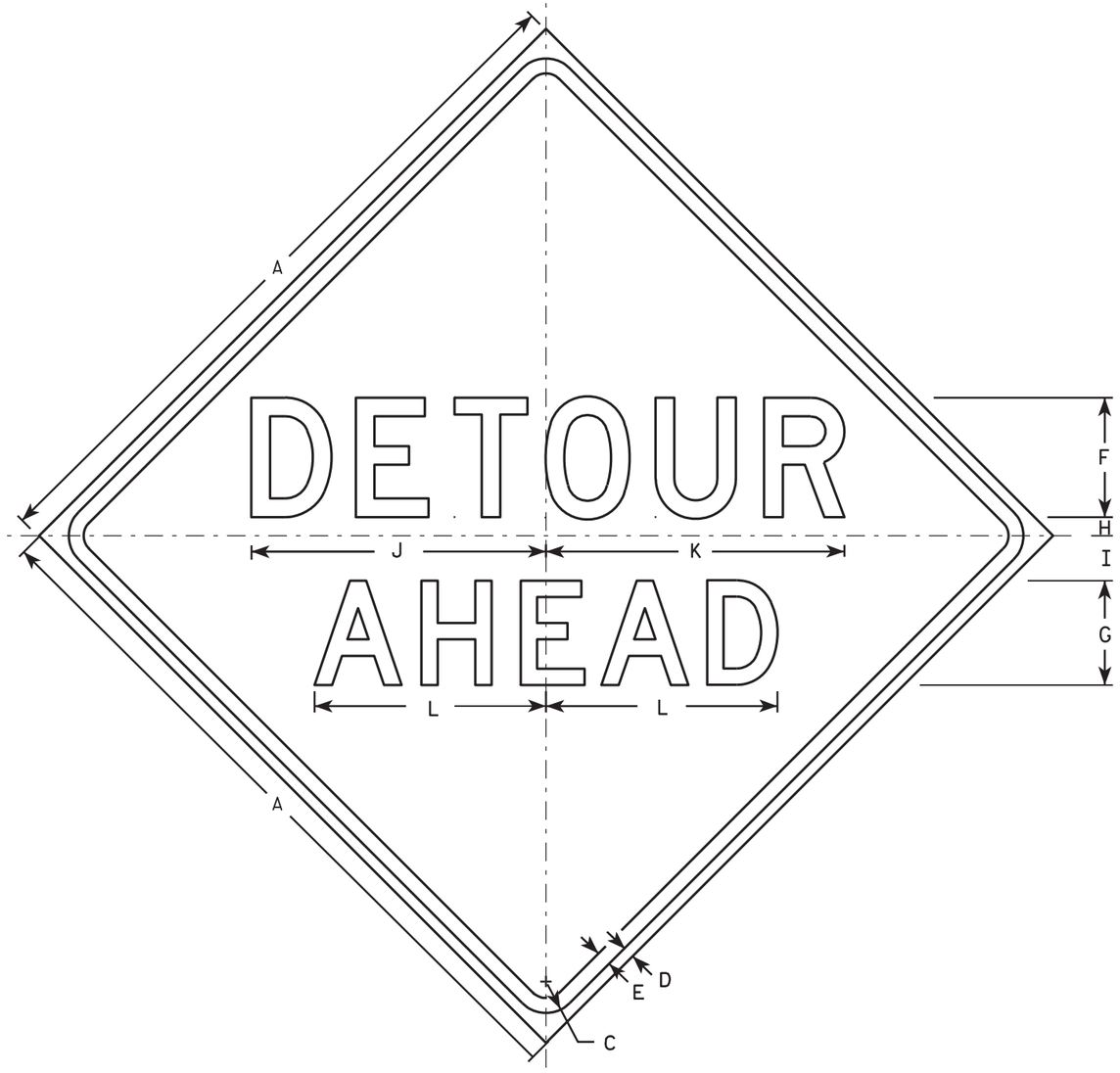
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

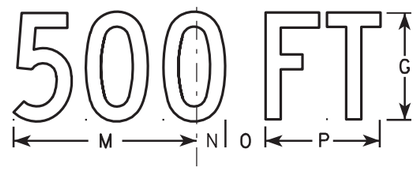
PROJECT NO:

SHEET NO: E

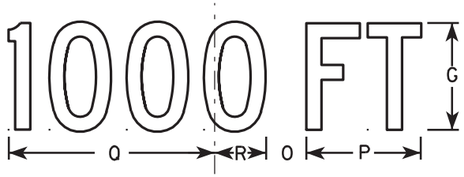
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



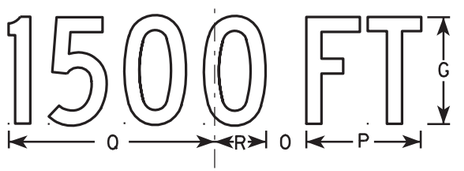
W20-2A



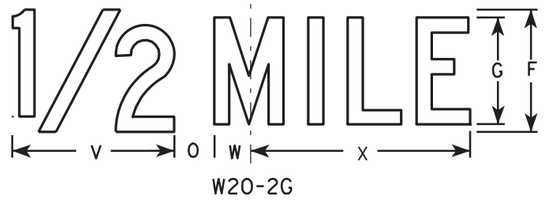
W20-2D



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

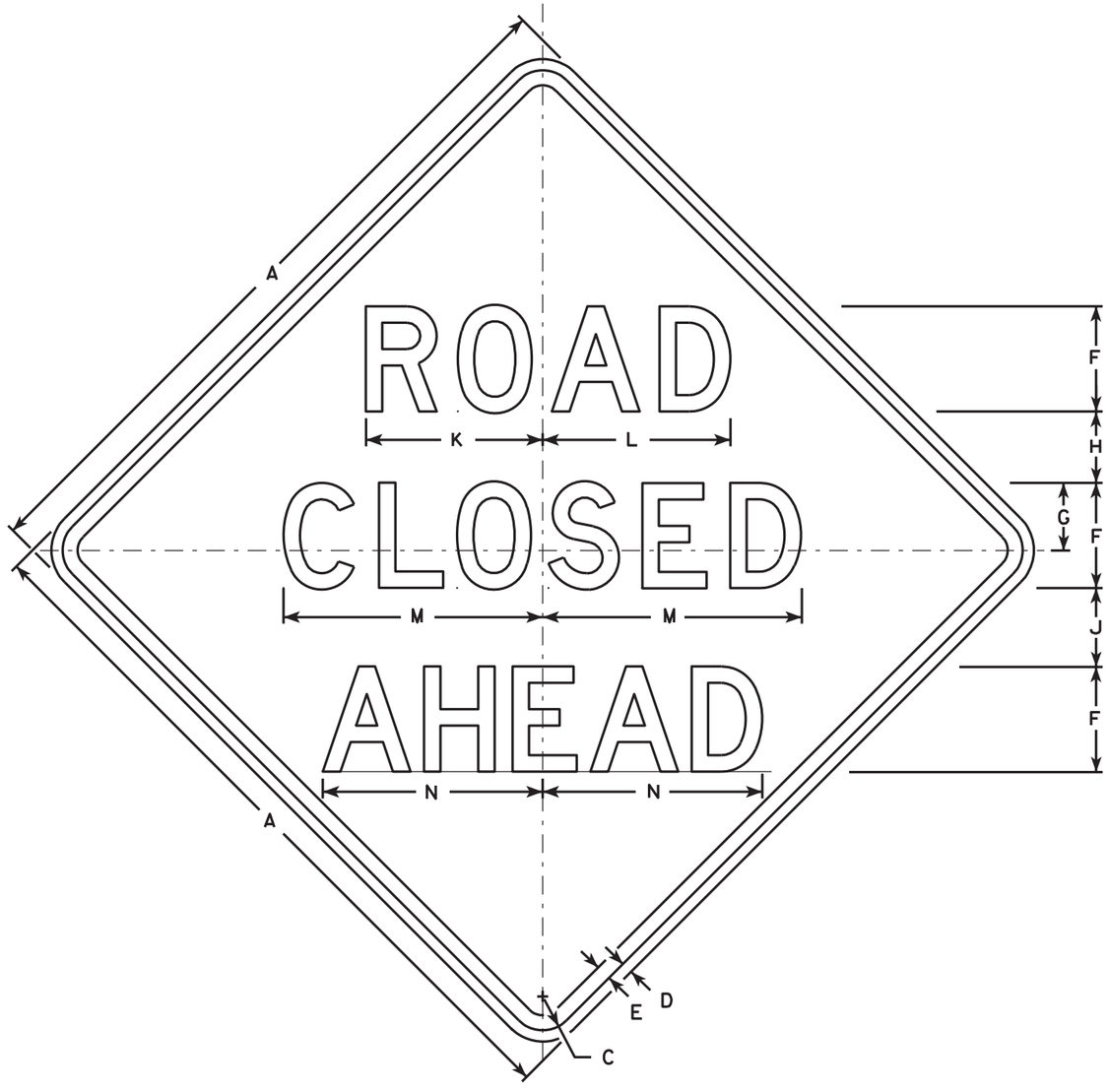
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

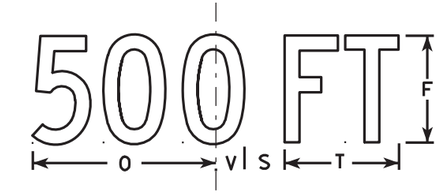
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

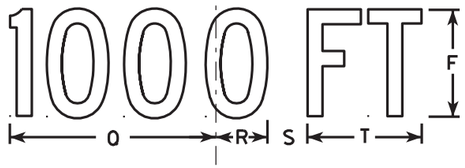
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



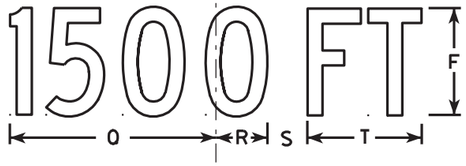
W20-3A



W20-3D



W20-3C



W20-3B

W20-3G

W20-3F

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. Lines 1 and 2 are Series D.
   Line 3 is Series D for AHEAD and Series C for all other distances.

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

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

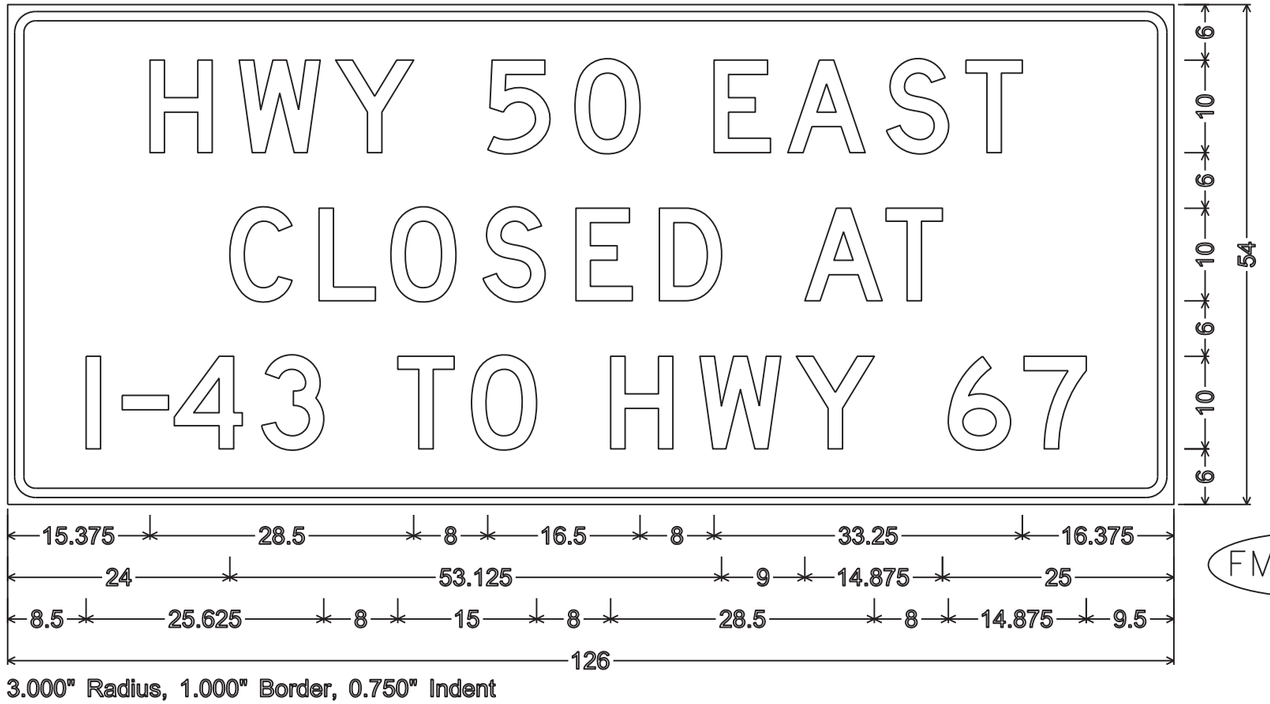
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 67 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W203.DGN PLOT DATE : 18-MAR-2011 12:08 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000

WISDOT/CADDS SHEET 42

7

7



3.000" Radius, 1.000" Border, 0.750" Indent

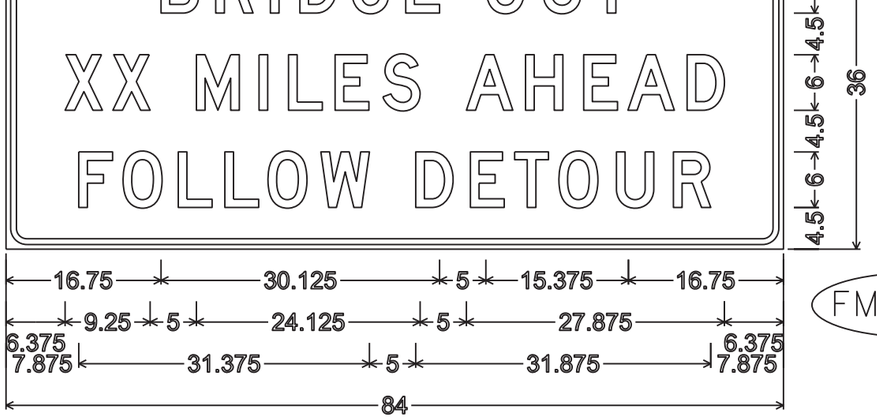
FMS-50-1

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D

3.000" Radius, 1.000" Border, 0.750" Indent

FMS-50-2



2.250" Radius, 0.625" Border, 0.500" Indent

FMS-1

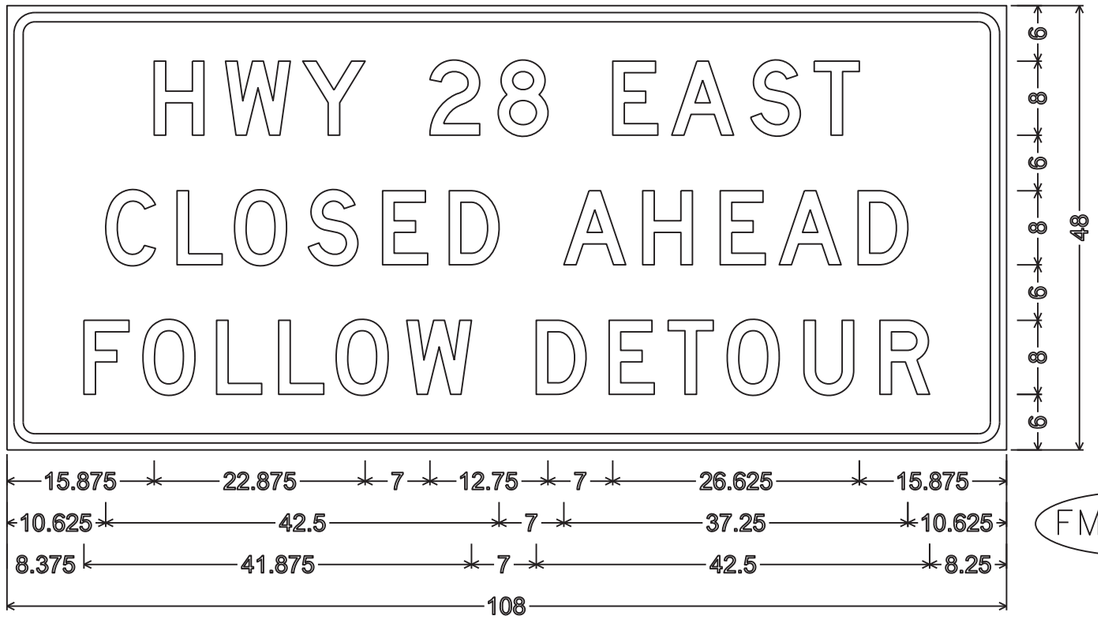
7

7

PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WALWORTH	TEMPORARY SIGNING	SHEET NO: 68	E

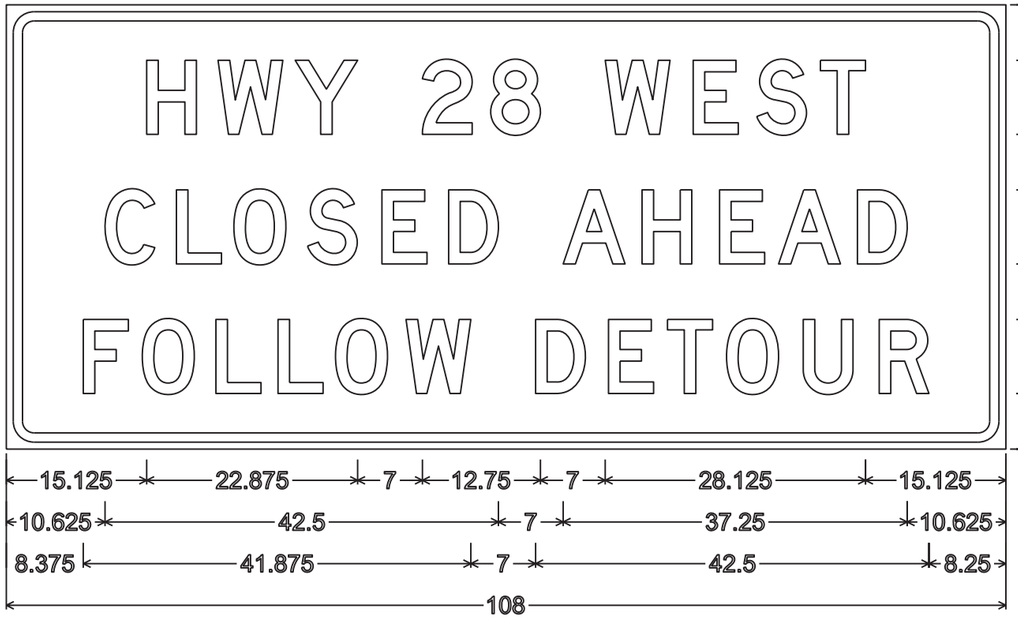
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



3.000" Radius, 1.000" Border, 0.750" Indent

FMS-28-1



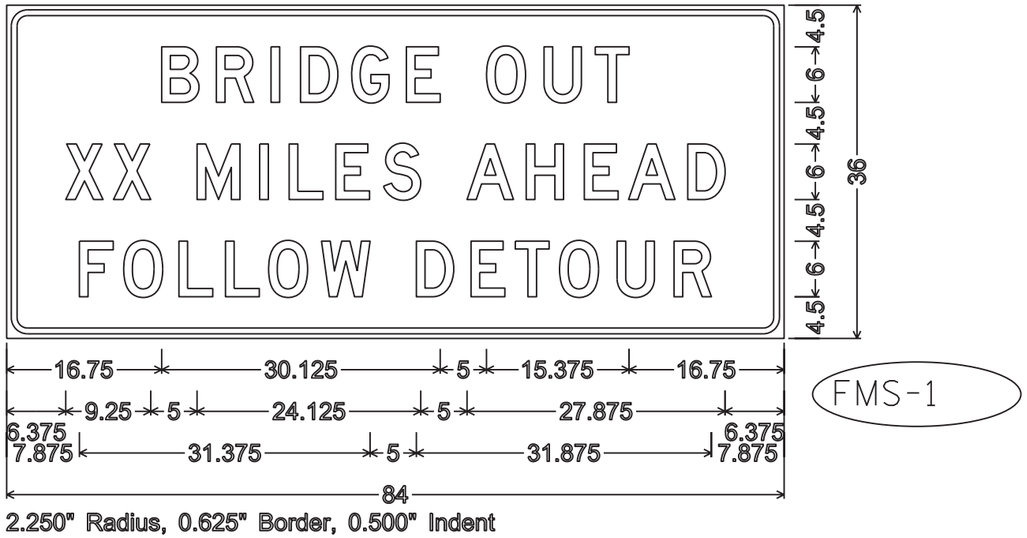
3.000" Radius, 1.000" Border, 0.750" Indent

FMS-28-2

7

7

PROJECT NO: 1000-54-73	HWY: VARIOUS BRIDGES	COUNTY: WASHINGTON	TEMPORARY SIGNING	SHEET NO: 69	E

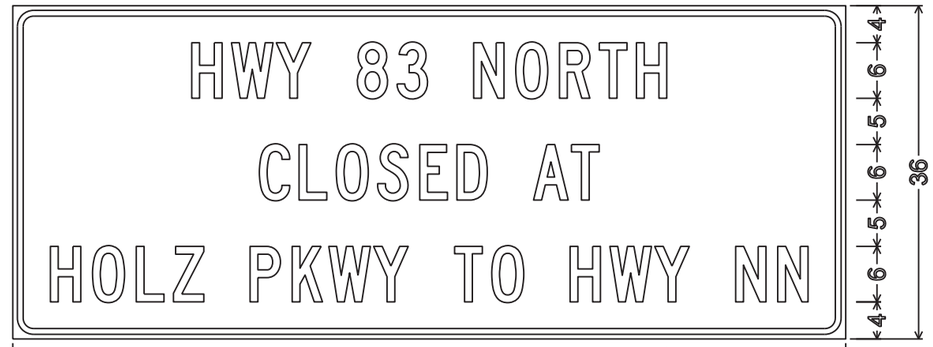


2.250" Radius, 0.625" Border, 0.500" Indent

FMS-1

NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D except as noted

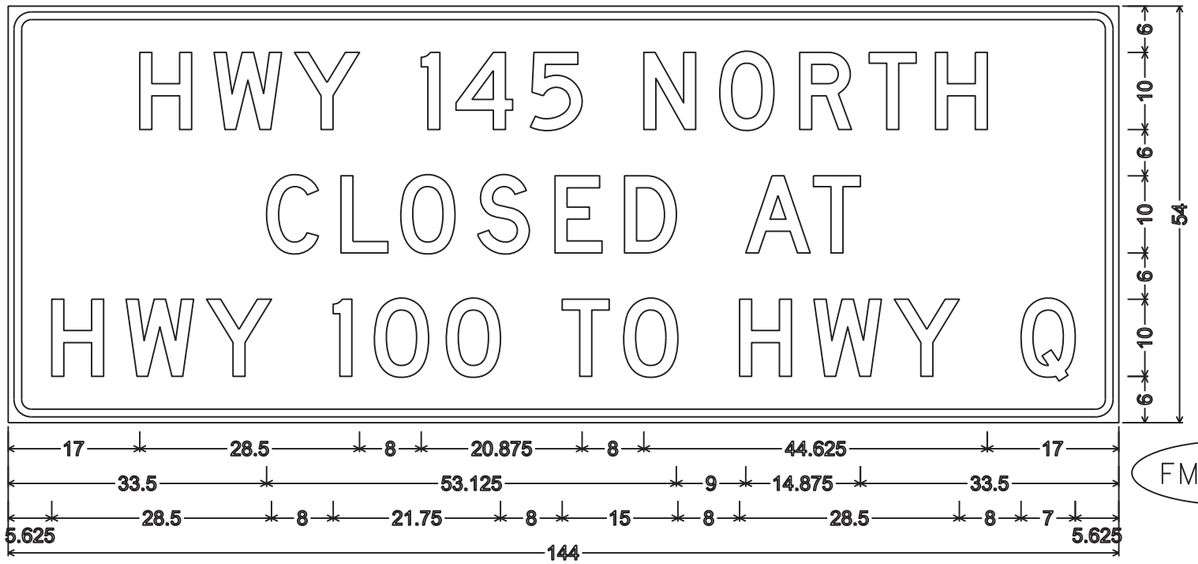


2.250" Radius, 0.625" Border, 0.500" Indent,
"HWY" C; "83" C; "NORTH" C; "CLOSED" C; "AT" C; "HOLZ" C;
"PKWY" C; "TO" C; "HWY" C; "NN" C

FMS-83-1

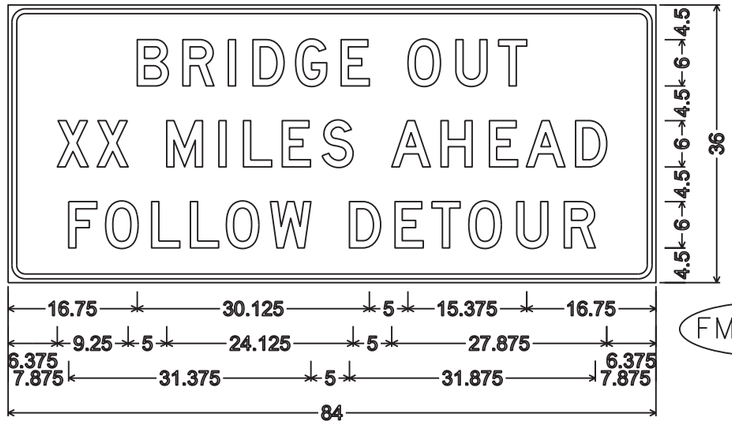
NOTES

1. Fixed Message Type II Signs - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D



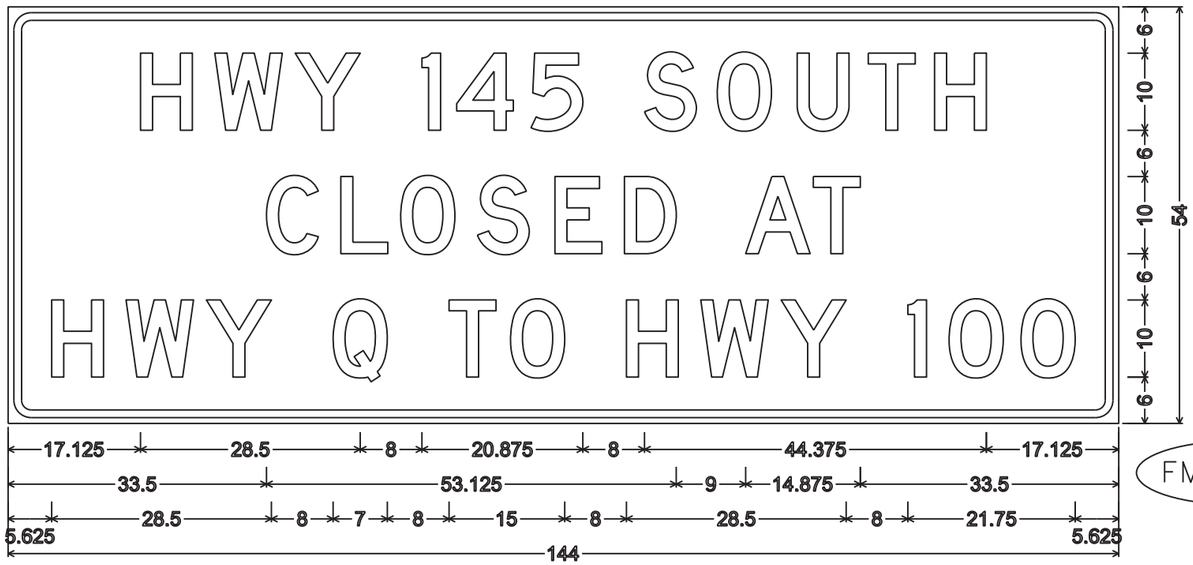
3.000" Radius, 1.000" Border, 0.750" Indent

FMS-145-1



2.250" Radius, 0.625" Border, 0.500" Indent

FMS-1



3.000" Radius, 1.000" Border, 0.750" Indent

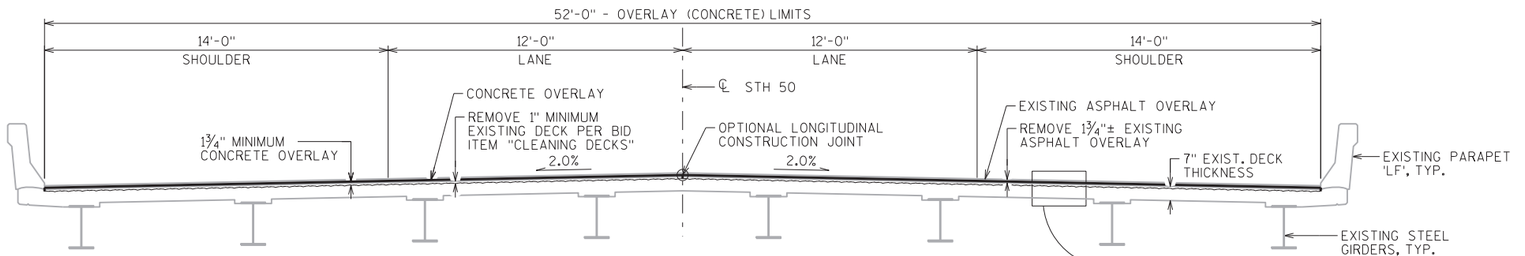
FMS-145-2

7

7

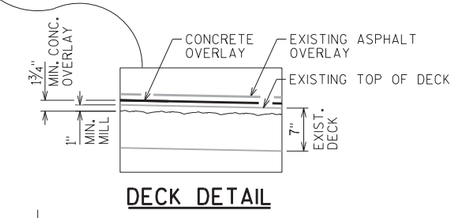
PROJECT NO: 1000-54-73	HWY: VARIOUS HIGHWAYS	COUNTY: WAUKESHA	TEMPORARY SIGNING	SHEET NO: 71	E

AVERAGE OVERLAY THICKNESS 2¼"

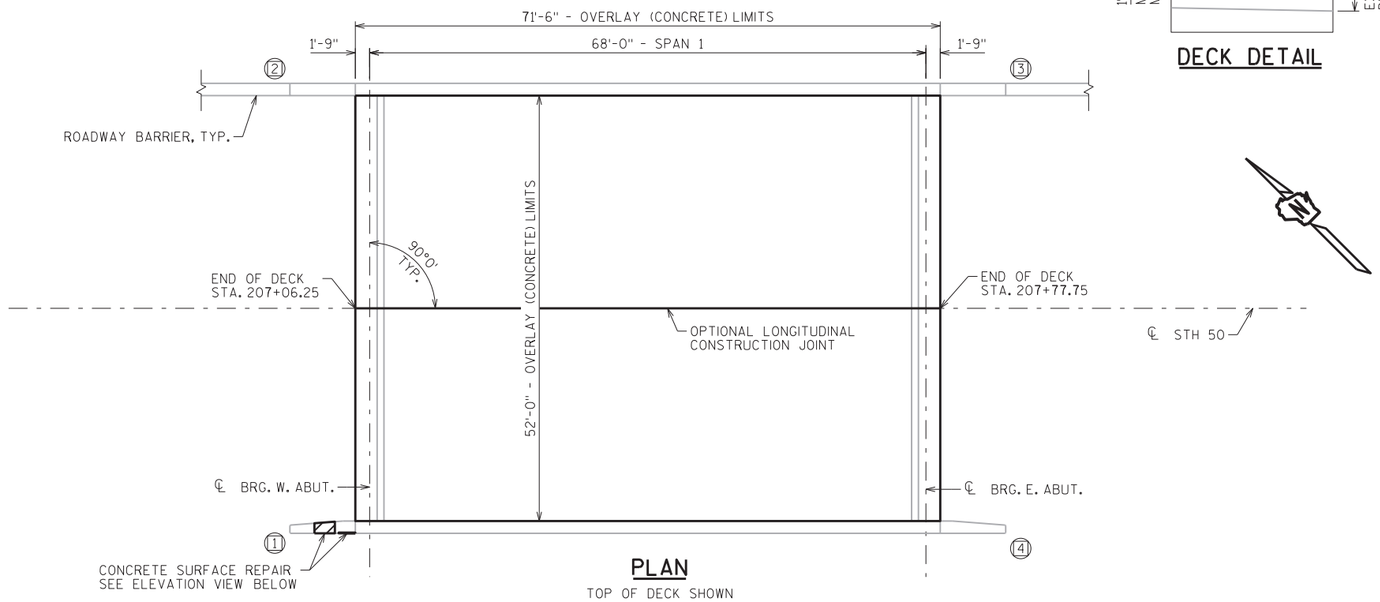


CROSS SECTION THRU ROADWAY

LOOKING SOUTH

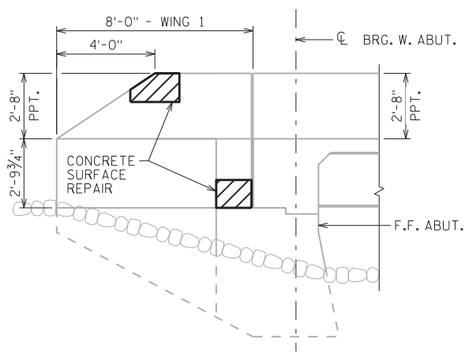


DECK DETAIL



PLAN

TOP OF DECK SHOWN



ELEVATION WING 1

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-22
OPERATING RATING: HS-37
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1¾" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2¼" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-64-71".

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

TRAFFIC VOLUME

STH 50

ADT = 12,600 (2015)
R.D.S. = 55 M.P.H.

⬡ INDICATES WING NUMBER

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-64-71	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	414
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.0302	PREPARATION DECKS TYPE 2	SY	4
509.0500	CLEANING DECKS	SY	414
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	15
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	27
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-64-71	SY	414
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-64-71	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED:
1 SF NORTH PPT., 2 SF SOUTH PPT., 4 SF WEST ABUT., 1 SF EAST ABUT. AND 4 SF UNDERSIDE DECK

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

STATE PROJECT NUMBER

1000-54-73

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-64-71

STH 50 OVER JACKSON CREEK

COUNTY	TOWN
WALWORTH	DELAVAN

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK		EMK	NAR

CONCRETE OVERLAY

SHEET 1 OF 1

72

I.D. 1000-54-03B

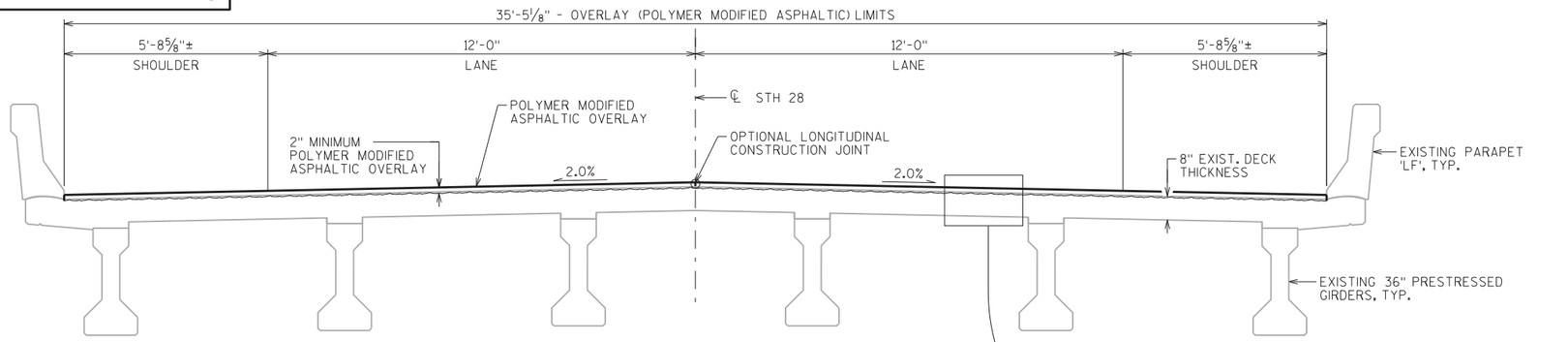
DATE: JULY 2019

SCALE = 3.00

8

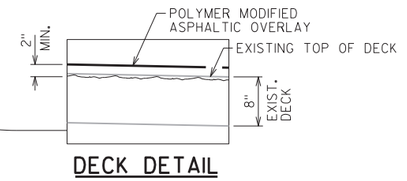
8

AVERAGE OVERLAY THICKNESS 2½"

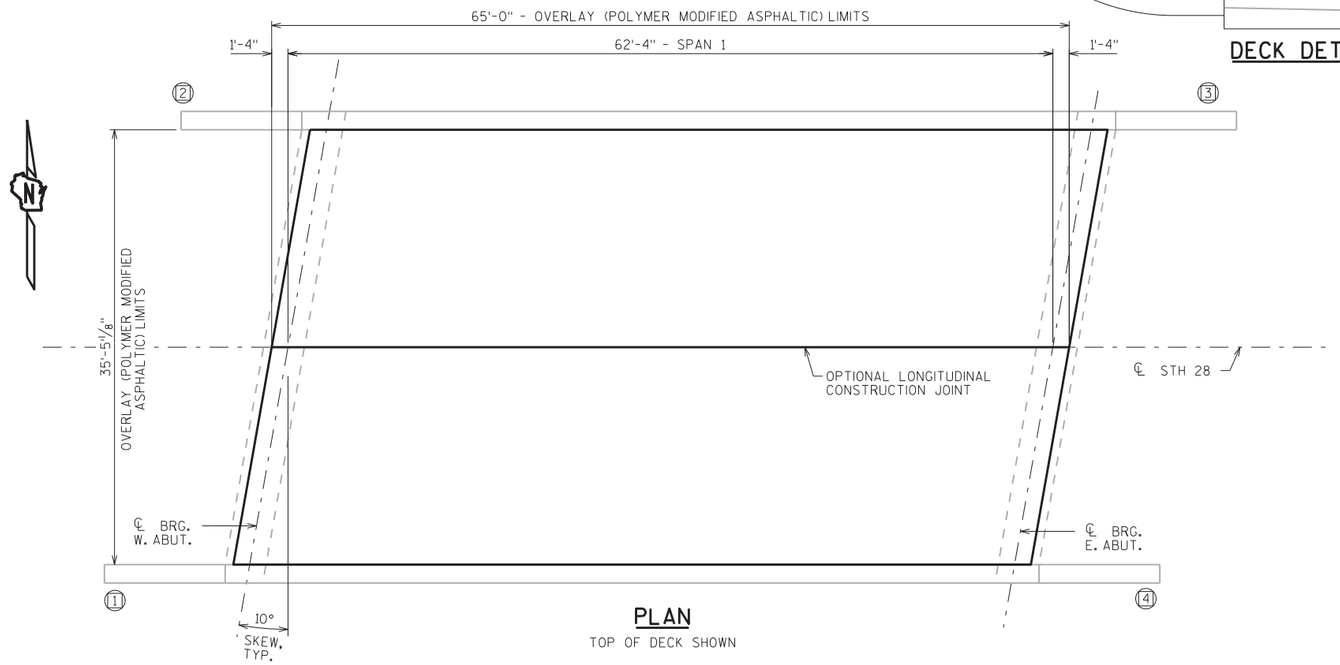


CROSS SECTION THRU ROADWAY

LOOKING EAST



DECK DETAIL



PLAN

TOP OF DECK SHOWN

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
	509.0301	PREPARATION DECKS TYPE 1	SY	10
	509.0302	PREPARATION DECKS TYPE 2	SY	4
	509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲	509.1500	CONCRETE SURFACE REPAIR	SF	5
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
	509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
	509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	35
	SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-66-122	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER

STATE PROJECT NUMBER

1000-54-73

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS-38
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DES GIN SECTION.

TRAFFIC VOLUME

STH 28

ADT = 2,700 (2013)
R.D.S. = 50 M.P.H.

⬡ INDICATES WING NUMBER

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-66-122

STH 28 OVER E. BR. MILWUAKEE RIVER

COUNTY	TOWN
WASHINGTON	KEWASKUM

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK	EMK	EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 1

73

I.D. 1000-54-03C

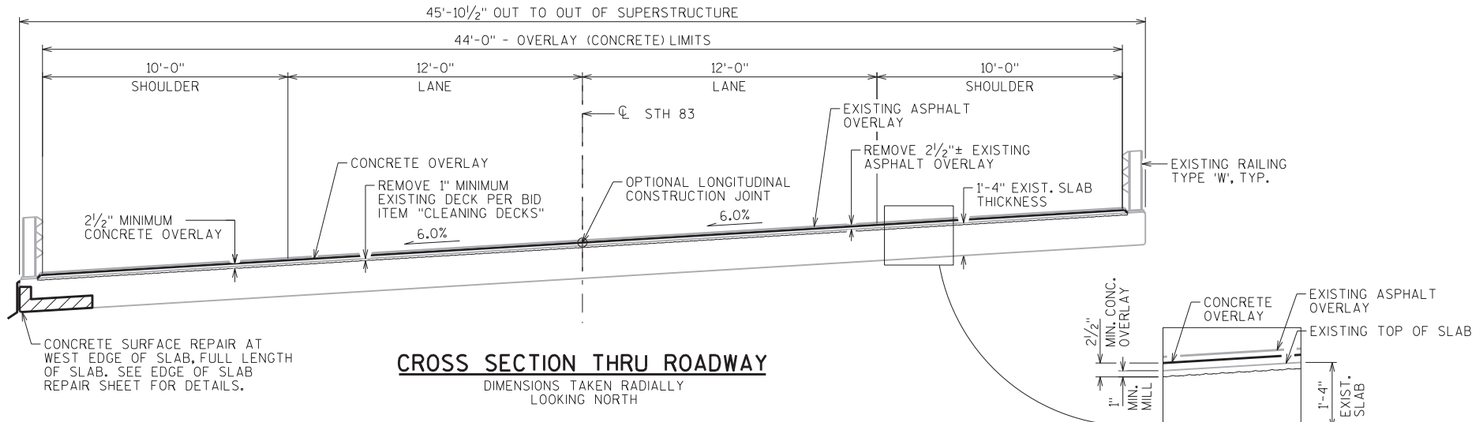
DATE: JULY 2019

SCALE = 2.00

8

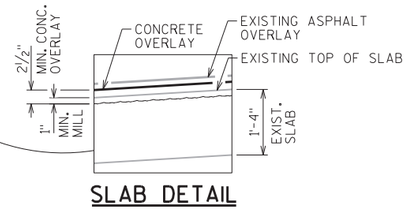
8

AVERAGE OVERLAY THICKNESS 3"

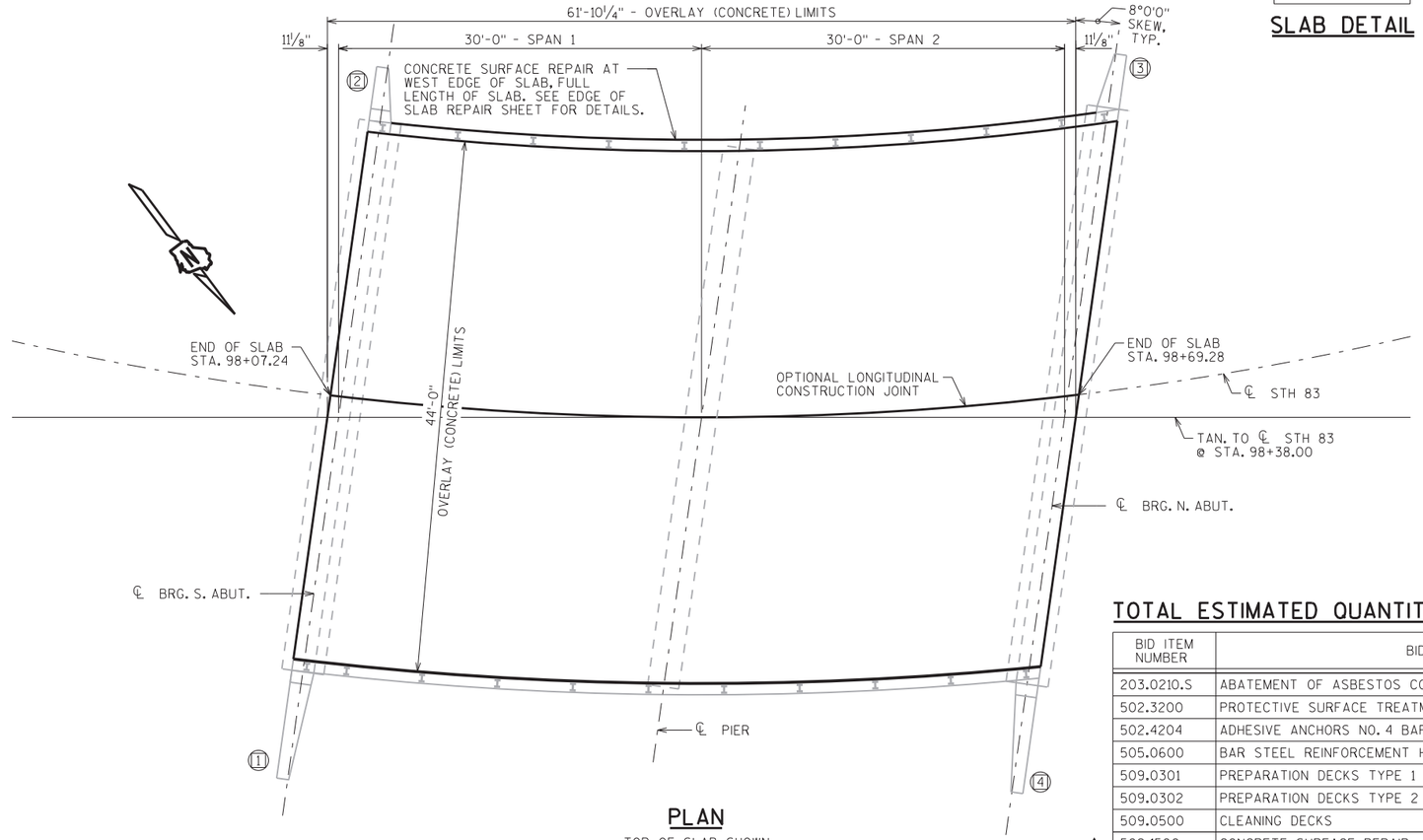


CROSS SECTION THRU ROADWAY

DIMENSIONS TAKEN RADIALLY LOOKING NORTH



SLAB DETAIL



PLAN

TOP OF SLAB SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-216	LS	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	330
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	40
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	410
509.0301	PREPARATION DECKS TYPE 1	SY	15
509.0302	PREPARATION DECKS TYPE 2	SY	6
509.0500	CLEANING DECKS	SY	304
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	220
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	27
509.9010.S	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-67-216	SY	304
SPV.0090	16 GAUGE GALVANIZED METAL FLASHING	LF	59
SPV.0105	DEBRIS CONTAINMENT OVER WATERWAYS B-67-216	LS	1

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 4 SF SOUTH ABUT., 1 SF PIER AND 201 SF ALONG WEST EDGE OF SLAB

STATE PROJECT NUMBER

1000-54-73

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-21
OPERATING RATING: HS-35
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY OVERLAY DECKS ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE WEST EDGE OF SLAB AND A PORTION OF THE UNDERSIDE OF SLAB (SEE PROTECTIVE SURFACE TREATMENT DETAIL) PRIOR TO INSTALLATION OF THE FLASHING AS DIRECTED BY THE ENGINEER.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2½" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 3" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

THE EXISTING OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-67-216".

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

TRAFFIC VOLUME

STH 83

ADT = 14,600 (2009)
R.D.S. = 30 M.P.H.

⬡ INDICATES WING NUMBER

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. EDGE OF SLAB REPAIR

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 7/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-216

STH 83 OVER MUKWONAGO RIVER

COUNTY: WAUKESHA | VILLAGE: MUKWONAGO

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY EMK | DESIGNED CK'D. RATINGS | DRAWN BY EMK | PLANS CK'D. NAR

CONCRETE OVERLAY

SHEET 1 OF 2

74

I.D. 1000-54-03D DATE: JULY 2019

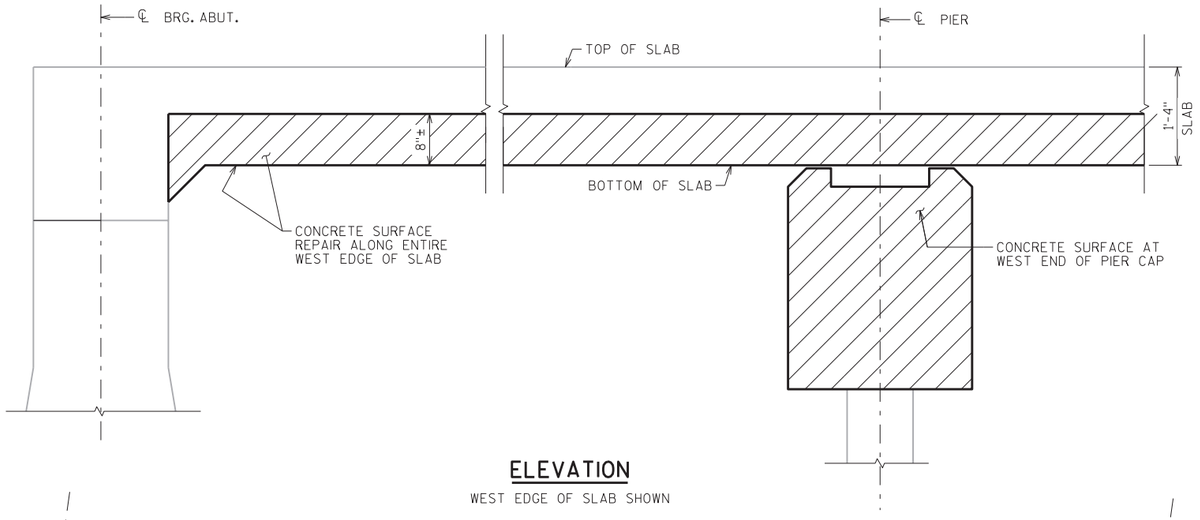
SCALE = 2.00

8

8

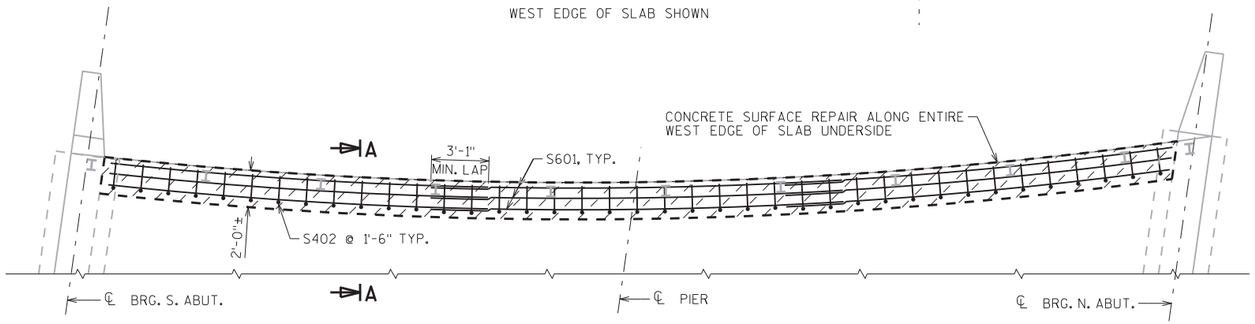
STATE PROJECT NUMBER

1000-54-73



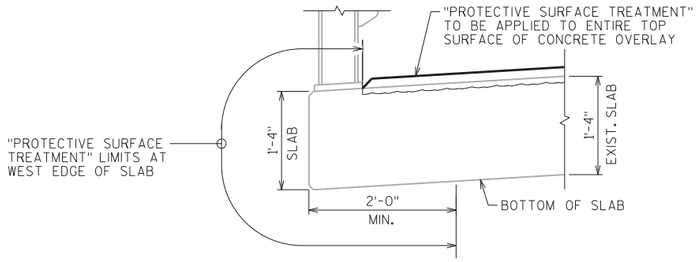
ELEVATION

WEST EDGE OF SLAB SHOWN



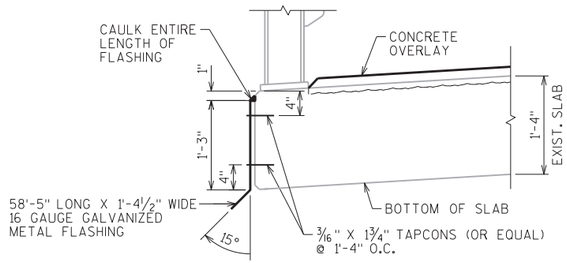
PLAN

SHOWING CONCRETE SURFACE REPAIR AREA TO UNDERSIDE OF SLAB AT WEST EDGE OF SLAB



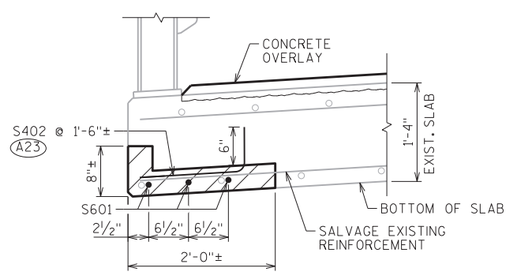
PROTECTIVE SURFACE TREATMENT DETAIL

AT WEST EDGE OF SLAB
(PRIOR TO INSTALLATION OF THE FLASHING)



FLASHING DETAIL

THE BID ITEM "16 GAUGE GALVANIZED METAL FLASHING" SHALL INCLUDE THE METAL FLASHING, CAULK, TAPCONS (OR EQUAL), CLEANING THE EDGE OF SLAB PRIOR TO ATTACHMENT OF THE FLASHING. AS WELL AS THE ATTACHMENT OF THE FLASHING TO THE SIDE OF SLAB. THE BID ITEM ALSO INCLUDES FURNISHING ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.



SECTION A-A

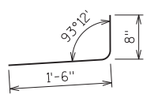
SHOWING WEST EDGE OF SLAB REPAIR

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	S601	X	9	21'-6"			SLAB - BOTTOM - LONGIT.
A23	S402	X	40	2'-1"	X		SLAB - BOTTOM - VERT.

A23 NO. 4 ADHESIVE ANCHORS, EMBED 6" INTO EXISTING CONCRETE. ROTATE LEG OF BAR AS NECESSARY TO FIT.



S402

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-216

DRAWN BY EMK | PLANS CK'D. NAR

EDGE OF SLAB REPAIR

SHEET 2

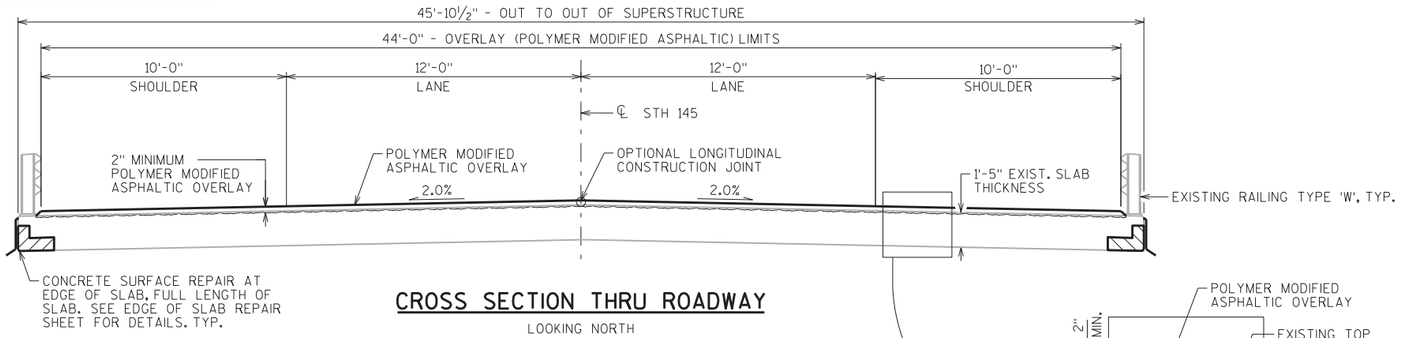
75

SCALE = 1.00

8

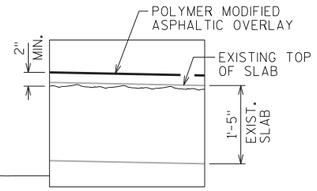
8

AVERAGE OVERLAY THICKNESS 2½"

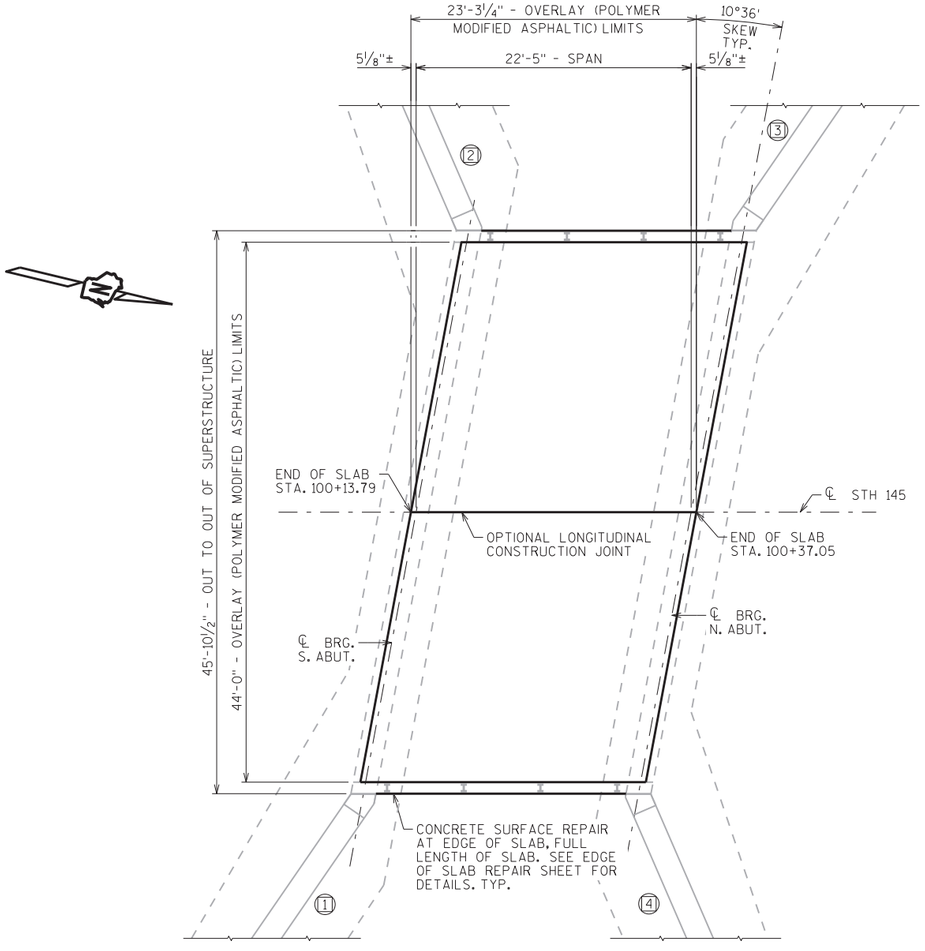


CROSS SECTION THRU ROADWAY

LOOKING NORTH



SLAB DETAIL



PLAN

TOP OF SLAB SHOWN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	30
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	160
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.0302	PREPARATION DECKS TYPE 2	SY	4
509.0310.S	SAWING PAVEMENT DECK PREPARATION AREAS	LF	70
▲ 509.1500	CONCRETE SURFACE REPAIR	SF	55
509.2000	FULL-DEPTH DECK REPAIR	SY	1
509.2100.S	CONCRETE MASONRY DECK REPAIR	CY	2
509.3500.S	HMA OVERLAY POLYMER-MODIFIED	TON	16
SPV.0090	16 GAUGE GALVANIZED METAL FLASHING	LF	41

▲ CONCRETE SURFACE REPAIR AS DIRECTED BY THE ENGINEER, ESTIMATED: 1 SF NORTH ABUT., 4 SF SOUTH ABUT. AND 44 SF ALONG EDGES OF SLAB

STATE PROJECT NUMBER

1000-54-73

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-20
OPERATING RATING: HS-34
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

MATERIAL PROPERTIES:

CONCRETE MASONRY DECK REPAIR ——— f'c = 4,000 P.S.I.
CONCRETE MASONRY OTHER ——— f'c = 3,500 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

AREAS OF "PREPARATION DECKS TYPE 1" SHALL BE DEFINED BY A SAW CUT.

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2 AND FULL-DEPTH DECK REPAIR AREAS ARE BASED ON THE PLANS AND AS DETERMINED BY THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIR AREAS SHALL BE FILLED WITH "CONCRETE MASONRY DECK REPAIR".

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED".

THE PLAN QUANTITY FOR THE BID ITEM "HMA OVERLAY POLYMER-MODIFIED" IS BASED ON THE AVERAGE OVERLAY THICKNESS.

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2½" TO ACCOUNT FOR DECK VARIABILITY. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE WEST AND EAST EDGE OF SLAB AND A PORTION OF THE UNDERSIDE OF SLAB ON EACH SIDE OF THE SUPERSTRUCTRE (SEE PROTECTIVE SURFACE TREATMENT DETAIL) PRIOR TO INSTALLATION OF THE FLASHING AS DIRECTED BY THE ENGINEER.

TRAFFIC VOLUME

STH 145

ADT = 4,800 (2012)
R.D.S. = 45 M.P.H.

⬡ INDICATES WING NUMBER

LIST OF DRAWINGS

1. POLYMER MODIFIED ASPHALT OVERLAY
2. EDGE OF SLAB REPAIR

STRUCTURE DESIGN CONTACTS:

EMILY KUEHNE (608) 266-5089
AARON BONK (608) 261-0261

NO.	DATE	REVISION	BY

WISCONSIN DEPARTMENT OF TRANSPORTATION
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher 4/29/19
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-67-217

STH 145 OVER ABANDONED RAILROAD

COUNTY	VILLAGE
WAUKESHA	MENOMONEE FALLS

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	DESIGNED CK'D. RATINGS	DRAWN BY	PLANS CK'D.
EMK		EMK	NAR

POLYMER MODIFIED ASPHALT OVERLAY

SHEET 1 OF 2

76

I.D. 1000-54-03E

DATE: APRIL 2018

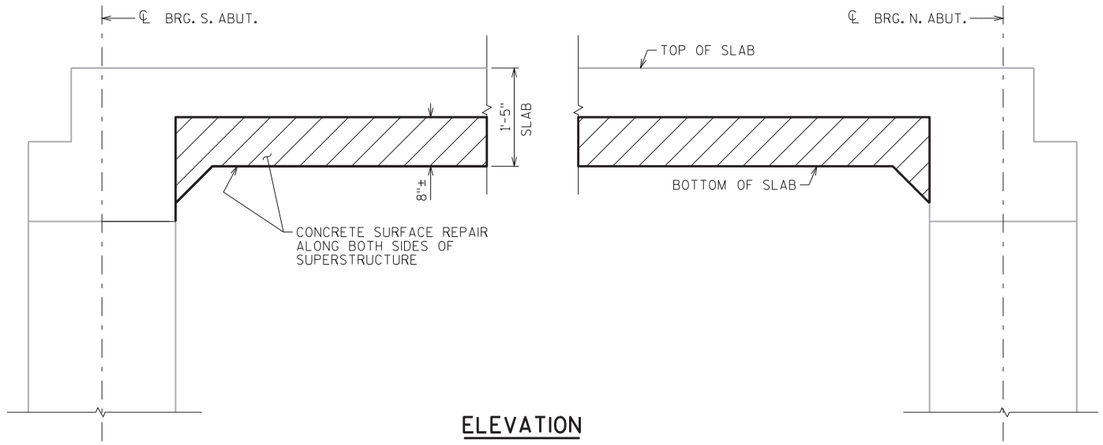
SCALE = 2.00

8

8

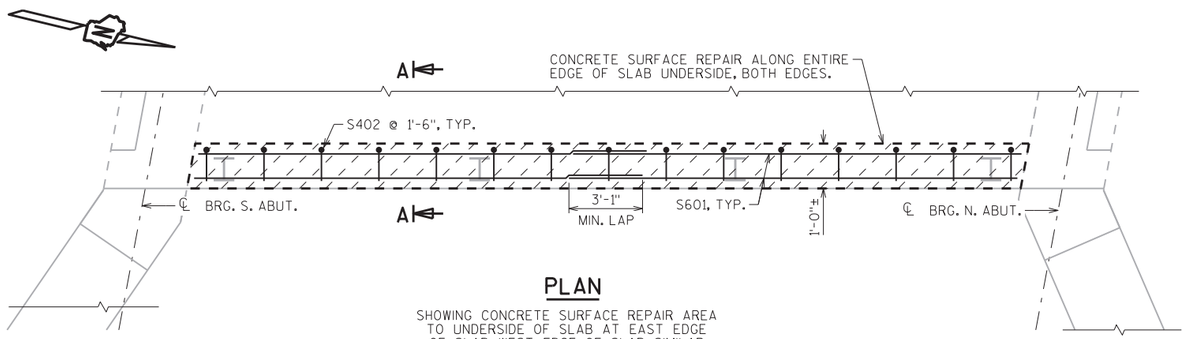
STATE PROJECT NUMBER

1000-54-73



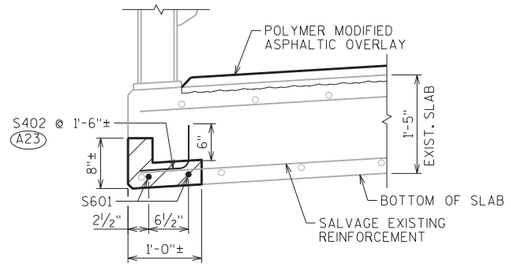
ELEVATION

EAST EDGE OF SLAB SHOWN,
WEST EDGE OF SLAB SIMILAR



PLAN

SHOWING CONCRETE SURFACE REPAIR AREA
TO UNDERSIDE OF SLAB AT EAST EDGE
OF SLAB, WEST EDGE OF SLAB SIMILAR



SECTION A-A

SHOWING EAST EDGE OF SLAB REPAIR,
WEST EDGE SIMILAR

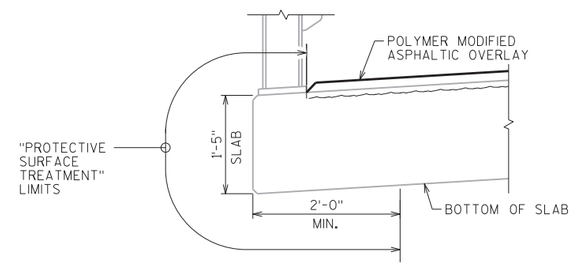
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

	BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
	S601	X	8	11'-6"			SLAB - BOTTOM - LONGIT.
A23	S402	X	30	1'-3"	X		SLAB - BOTTOM - VERT.

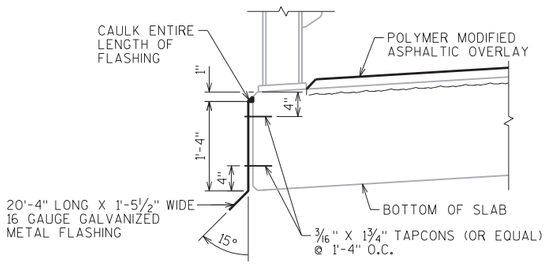
A23 NO. 4 ADHESIVE ANCHORS, EMBED 6" INTO EXISTING CONCRETE. ROTATE LEG OF BAR AS NECESSARY TO FIT.

S402



PROTECTIVE SURFACE TREATMENT DETAIL

AT WEST AND EAST EDGE OF SLAB
(PRIOR TO INSTALLATION OF THE FLASHING)



FLASHING DETAIL

THE BID ITEM "16 GAUGE GALVANIZED METAL FLASHING" SHALL INCLUDE THE METAL FLASHING, CAULK, TAPCONS (OR EQUAL), CLEANING THE EDGE OF SLAB PRIOR TO ATTACHMENT OF THE FLASHING. AS WELL AS THE ATTACHMENT OF THE FLASHING TO THE SIDE OF SLAB. THE BID ITEM ALSO INCLUDES FURNISHING ALL LABOR, TOOLS, EQUIPMENT, MATERIALS AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-217

DRAWN BY EMK | PLANS CK'D. NAR

EDGE OF SLAB REPAIR

SHEET 2

77

SCALE = 1.00

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov