

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control Plans)
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 5	Plan
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
TOTAL SHEETS = 140	

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

STATE HIGHWAY REHABILITATION-MAINTENANCE PROJECT

TOMAHAWK - MINOCQUA

USH 8 TO CTH L

USH 51

LINCOLN/ONEIDA COUNTY

STATE PROJECT

1170-16-70

FEDERAL PROJECT

PROJECT

CONTRACT

END PROJECT

STA 2146+00

Y = 189,418.653
X = 165,143.470

STRUCTURE B-43-28 OVER BEARSKIN CREEK

STA 2142+86 - 2144+36

EXCEPTION TO NET & LENGTH
STA 1943+00 - STA 2140+00EXCEPTION TO NET & LENGTH
STA 1852+00 - STA 1918+00

STRUCTURE B-43-20 OVER CTH N

STA 1848+60 - 1849+50

STRUCTURE B-43-18
OVER RR & LITTLE RICE CR
STA 1841+00 - 1842+70EXCEPTION TO NET & LENGTH
STA 1827+00 - STA 1838+00ONEIDA COUNTY
LINCOLN COUNTY

BEGIN PROJECT

STA 1778+00 SB

Y = 132,887.048
X = 197,666.835STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

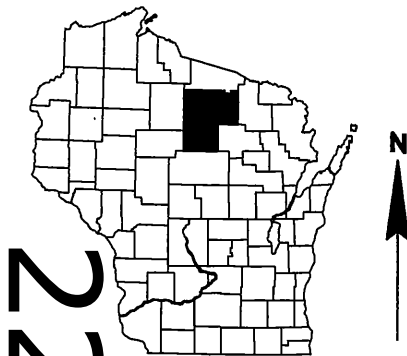
PREPARED BY

Surveyor	_____
Designer	Dave Kircher
Project Manager	Mike Grage
District Examiner	Cheryl Simon
District Supervisor	Robin Stafford
C.O. Examiner	Dan Tyler

APPROVED FOR DISTRICT OFFICE

DATE: 7/18/13  (Signature)

E



DESIGN DESIGNATION	USH 51 (USH 8 - CTH L)
A.A.D.T. (2013)	= 5400
A.A.D.T. 2023	= 6000
D.H.V.	= 834
D.D.	= 63/37
T.	= 14.6
DESIGN SPEED	= 60 MPH
ESALS	= 1,934,500

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
REFERENCE LINE	—
COMBUSTIBLE FLUIDS	CAUTION
UTILITIES	
ELECTRIC	— E —
FIBER OPTIC	— FO —
GAS	— G —
SANITARY SEWER	— SAN —
STORM SEWER	— SS —
TELEPHONE	— T —
WATER	— W —
UTILITY PEDESTAL	⊕
POWER POLE	⊙
TELEPHONE POLE	⊗

USH 51 STATION EQUATION

STA 2003+99.13 BK
= STA 2003+44.35 AH

USH 51 STATION EQUATION

STA 1966+85.39 BK
= STA 1965+75.19 AH

USH 51 STATION EQUATION

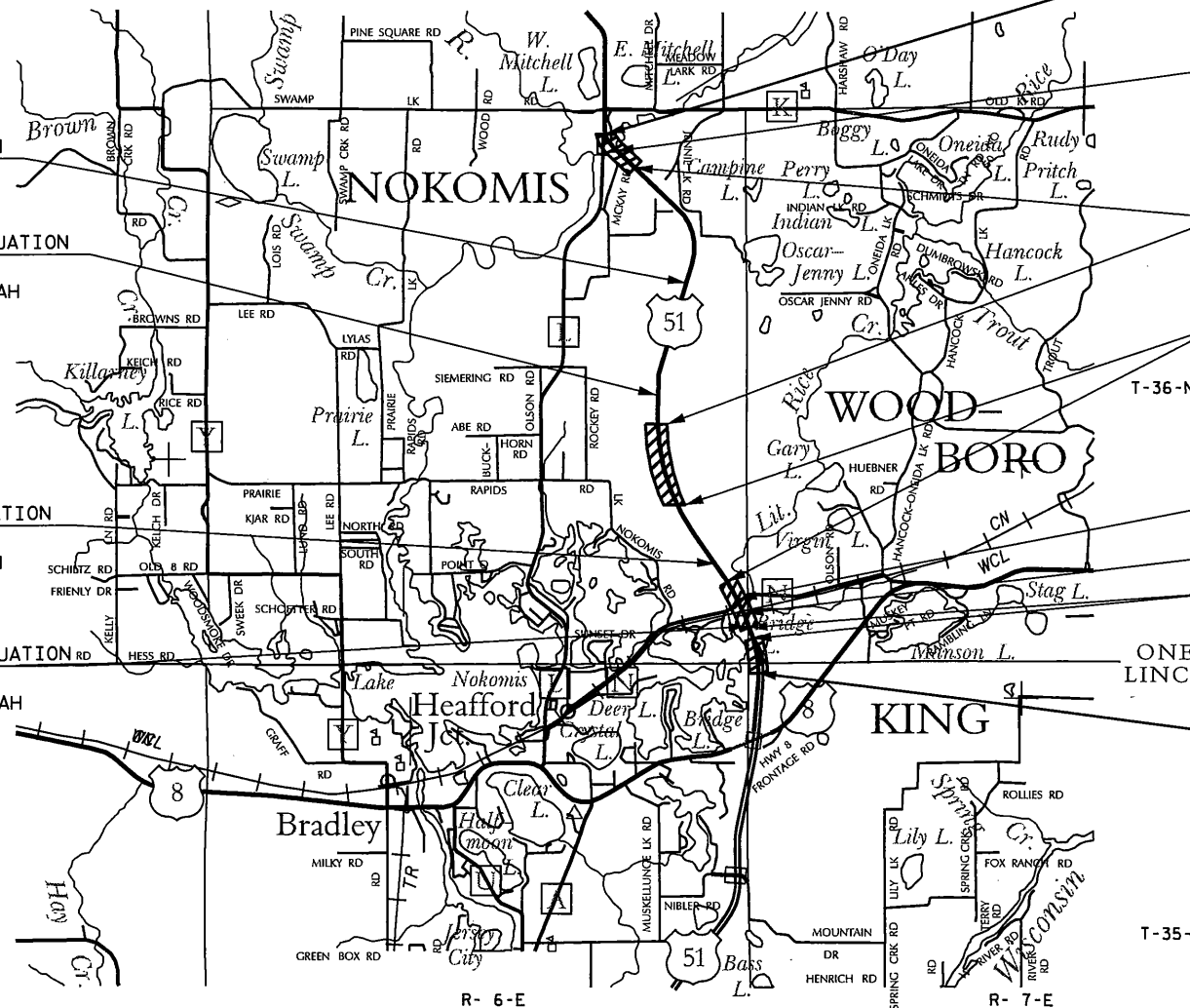
STA 1868+42.83 BK
= STA 1868+68.41 AH

USH 51 STATION EQUATION

STA 1836+04.02 BK
= STA 1837+57.61 AH

STATE PROJECT NUMBER

1170-16-70



LAYOUT

SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.59 MI.

Coordinates on this plan are referenced to the
Wisconsin WCCS (Oneida) NAD 83 (1991) County Coordinate System.
Vertical Datum is NAVD 88 (1991).

GENERAL NOTES

- 1

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- 2

THE CONTRACTOR WILL BE RESPONSIBLE FOR RESTORING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY THEIR OPERATIONS OUTSIDE OF NORMAL CONSTRUCTION LIMITS AT THE CONTRACTORS EXPENSE
- 3

LENGTHS OF TRANSITIONS SHALL BE COMPUTED WITH TWO-THIRDS OF THE RUNOFF ON THE TANGENT APPROACH AND ONE-THIRD WITHIN THE CURVE
- 4

STATIONING FOR USH 51 IS STAMPED EVERY 500 FT ON THE EXISTING PCC PAVEMENT SHOULDER ON THE NORTHBOUND SIDE
- 5

THE EXISTING RANDOM JOINT SPACING FOR USH 51 IS 17-20-18-19

UTILITIES & OTHER CONTACTS

CHARTER COMMUNICATIONS - COMMUNICATION LINE
821 LINCOLN ST
RHINELANDER, WI 54501
715-370-4106
markolejniczak@chartercom.com
MARK OLEJNICZAK

FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
1851 N 19th STREET
WAUSAU, WI 54401
office 715-847-6525
cell 715-573-2110
cal.klade@ftr.com
CAL KLADE

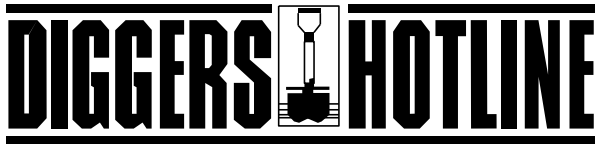
WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRIC
2027 NAVAJO STREET
PO BOX 160
RHINELANDER, WI 54501
715-369-7111
rareitz@wisconsinpublicservice.com
RICHARD REITZ

WISCONSIN PUBLIC SERVICE CORPORATION - GAS/PETROLEUM
2027 NAVAJO STREET
PO BOX 160
RHINELANDER, WI 54501
715-369-7111
rareitz@wisconsinpublicservice.com
RICHARD REITZ

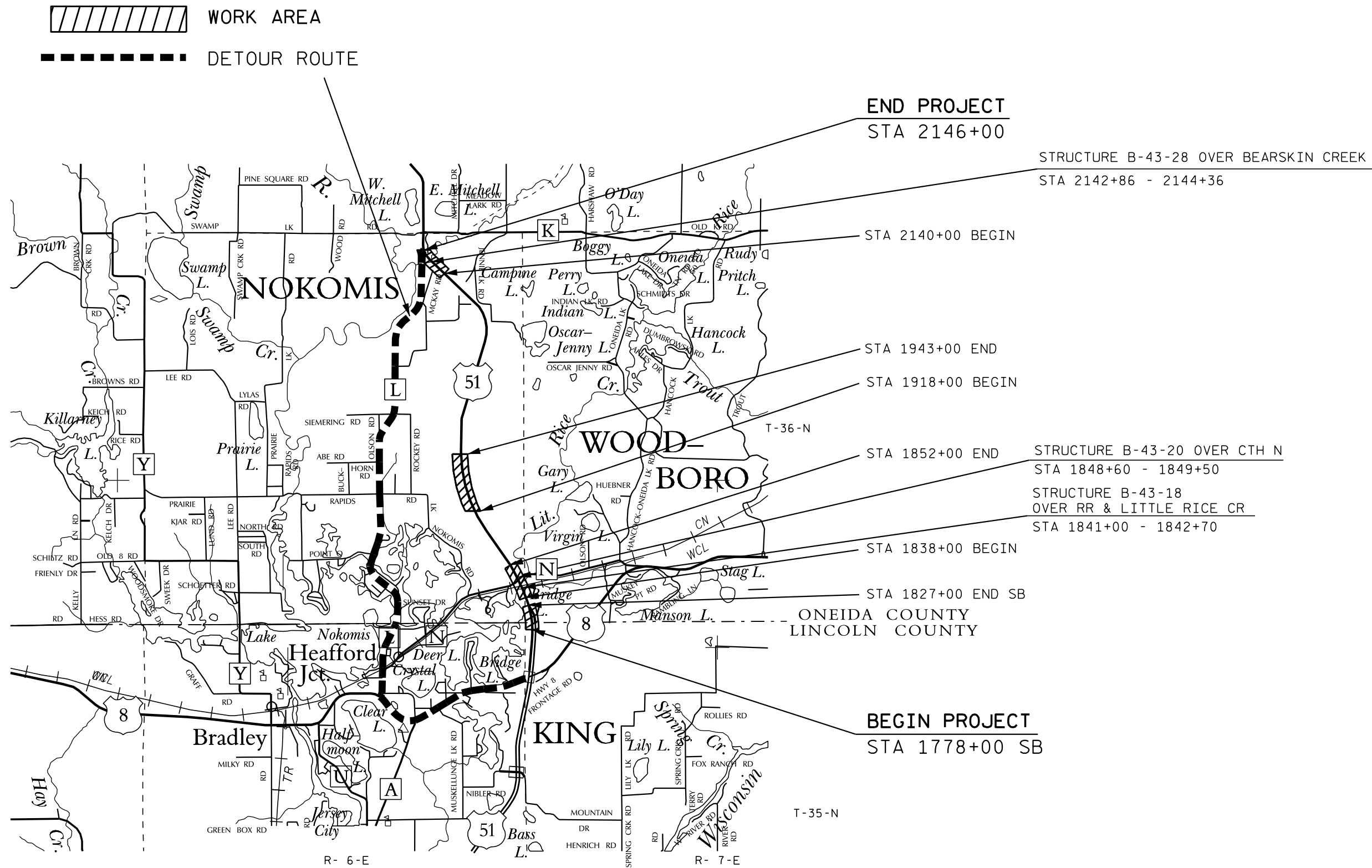
DEPARTMENT OF NATURAL RESOURCES
NORTH CENTRAL DISTRICT
107 SUTLIFF AVENUE
RHINELANDER, WI. 54501
715-365-8916
JON SIMONSEN

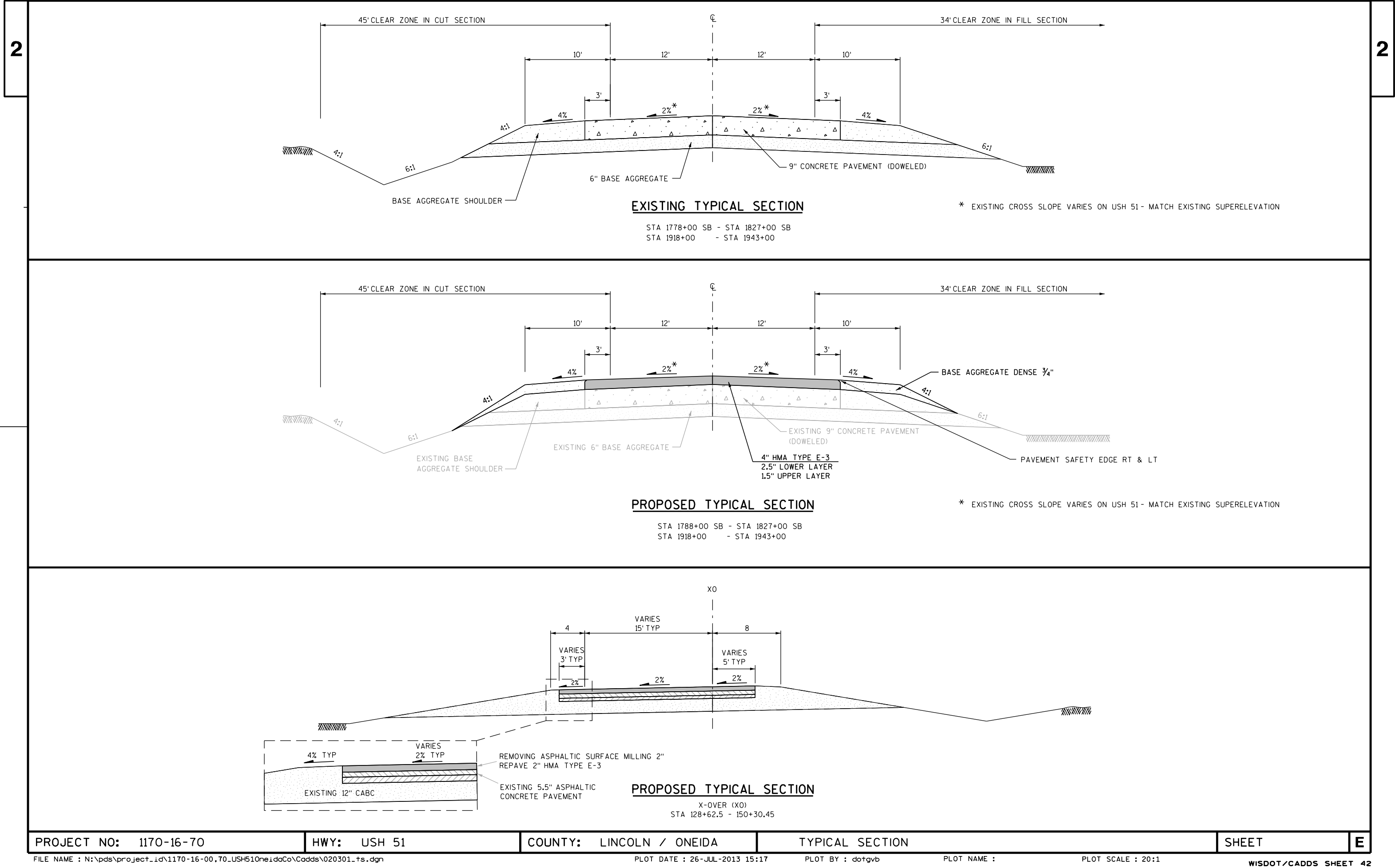
AS-BUILT PLANS USED

1170-16-60
1173-04-74
1173-04-72



Call 811 3 Work Days Before You Dig
Or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com





SOUTH APPROACH

NORTH APPROACH

CONCRETE SURFACE DRAIN REQD
 ABUTTING SOUTH APPROACH SLAB B-43-0028
 3.6 CY - 6 TIE BARS RT SHOULDER
 3.6 CY - 6 TIE BARS LT SHOULDER

REMOVE EXISTING CONCRETE SURFACE DRAINS RT & LT
 REMOVING PAVEMENT 7 SY RT
 REMOVING PAVEMENT 7 SY LT
 RECONSTRUCT INLET RT & LT

REMOVE EXISTING ASPHALTIC PAVEMENT SHOULDERS RT & LT

EXISTING BEAMGUARD

EXISTING ASPHALTIC SHOULDER

2142+00

2145+00

USH 51

USH 51

EXISTING STRUCTURE B-43-28

CONCRETE PAVEMENT APPROACH SLAB
 RAISING AND FILLING VOID

CONCRETE PAVEMENT APPROACH SLAB
 RAISING AND FILLING VOID

1509.68
 FILL VOID
 3 CY est
 SLURRY
 ABUTMENT
 1500.53

INCLUDES APPROACH SLAB RAISING

1511.44
 FILL VOID
 5.5 CY est
 SLURRY
 ABUTMENT
 1501.66

INCLUDES APPROACH SLAB RAISING

POLYMER OVERLAY LIMITS
 44' WIDTH

EXISTING BEAMGUARD

EXISTING ASPHALTIC SHOULDER TO BE REMOVED

EDGE OF EXISTING CONCRETE PAVEMENT PAVEMENT

EXISTING CONCRETE PAVEMENT APPROACH SLAB
 TO BE RAISED

REMOVE EXISTING BASE AGGREGATE UNDER
 EXISTING ASPHALTIC SHOULDER AND CONCRETE SURFACE DRAIN
 TO DEPTH REQUIRED TO PREPARE FOUNDATION
 FOR CONCRETE SURFACE DRAIN.
 THIS MATERIAL IS WASTE AND SHOULD BE HAULED OFFSITE,
 EXCAVATION INCIDENTAL TO CONCRETE SURFACE DRAIN
 (SEE SPECIAL PROVISIONS)

LEGEND

— SILT FENCE

YYY SAWING CONCRETE PAVEMENT FULL DEPTH

XXX SAWING EXISTING PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB RAISING AND FILLING VOID
 (DETAILS NOT SHOWN SHALL CONFORM TO SDD FOR
 CONCRETE PAVEMENT APPROACH SLAB)

INLET

CONCRETE PAVEMENT APPROACH SLAB RAISING AND FILLING VOID

UNDER AND ASIDE ABUTMENT
 AT STRUCTURE B-43-28

EXISTING BEAMGUARD

6" CURB TO CONTROL FLOW OFF OF BRIDGE DECK INTO EXISTING INLET
 CURB IS INCIDENTAL TO CONCRETE SURFACE DRAIN

RECONSTRUCTING INLETS IN SURFACE DRAIN
 ADJUST INLET TO MATCH CONCRETE APPROACH SLAB ELEVATION

CONCRETE PAVEMENT APPROACH SLAB

PROJECT NO: 1170-16-70

HWY: USH 51

COUNTY: LINCOLN / ONEIDA

BEARSKIN DETAIL

SHEET

E

FILE NAME : N:\pds\project_id\1170-16-00,70_USH51oneidaCo\Cadd\021003_cd_bearskin.dgn

PLOT DATE : 10-OCT-2013 15:46

PLOT BY : dotgub

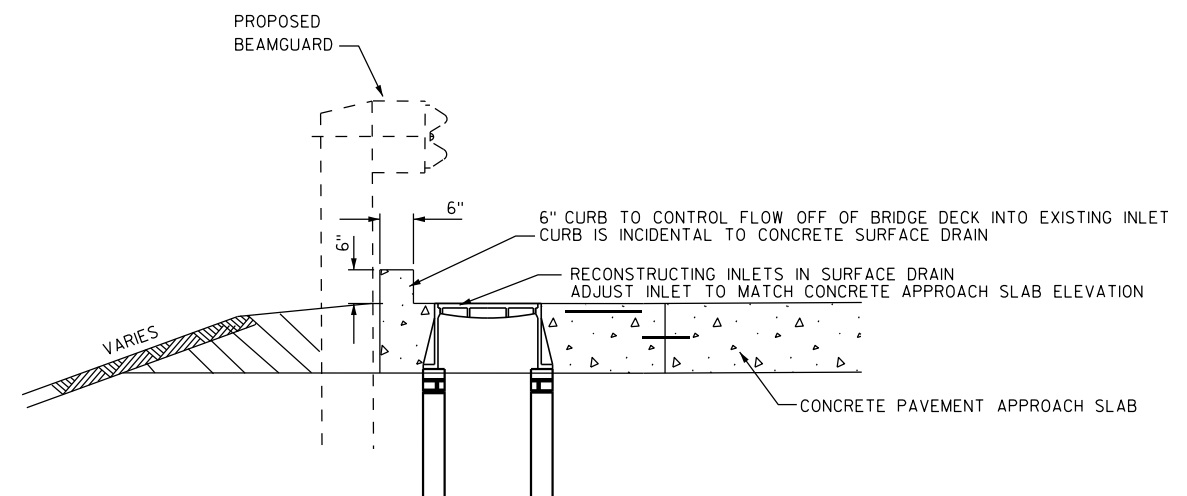
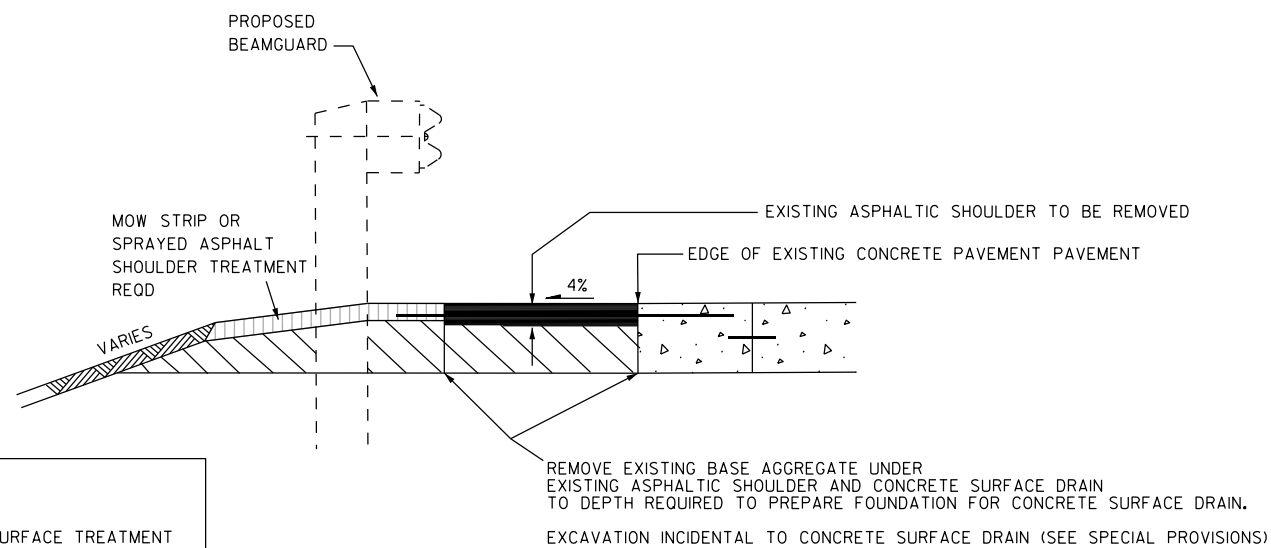
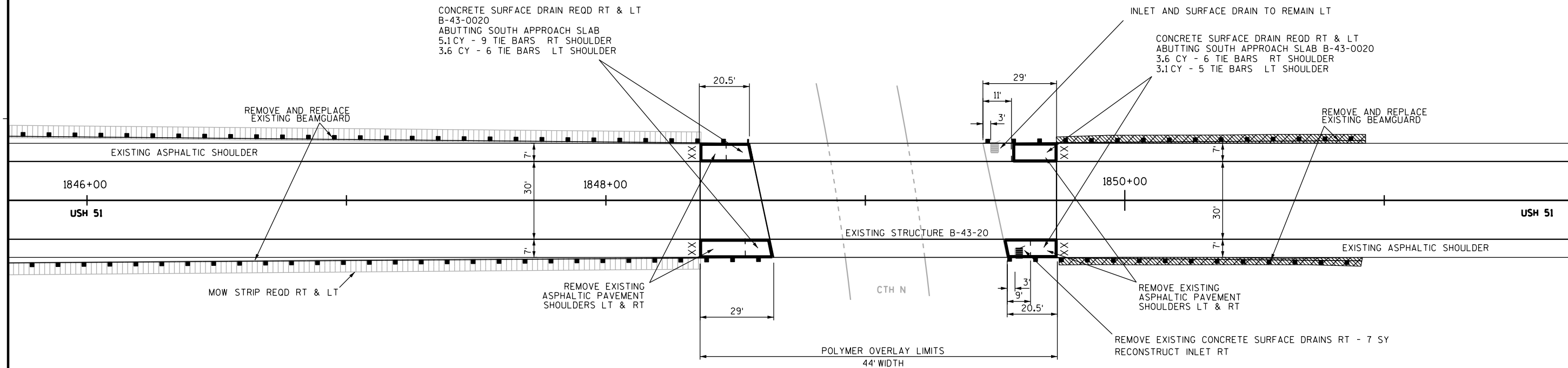
PLOT NAME :

PLOT SCALE : 40:1

WISDOT/CADDS SHEET 42

SOUTH APPROACH

NORTH APPROACH



LEGEND

- SPRAYED ASPHALT SURFACE TREATMENT
- MOW STRIP
- SILT FENCE
- SAWING EXISTING PAVEMENT
- INLET
- INLET (TO REMAIN)

CONCRETE SURFACE DRAIN

AT STRUCTURE B-43-20

PROJECT NO: 1170-16-70

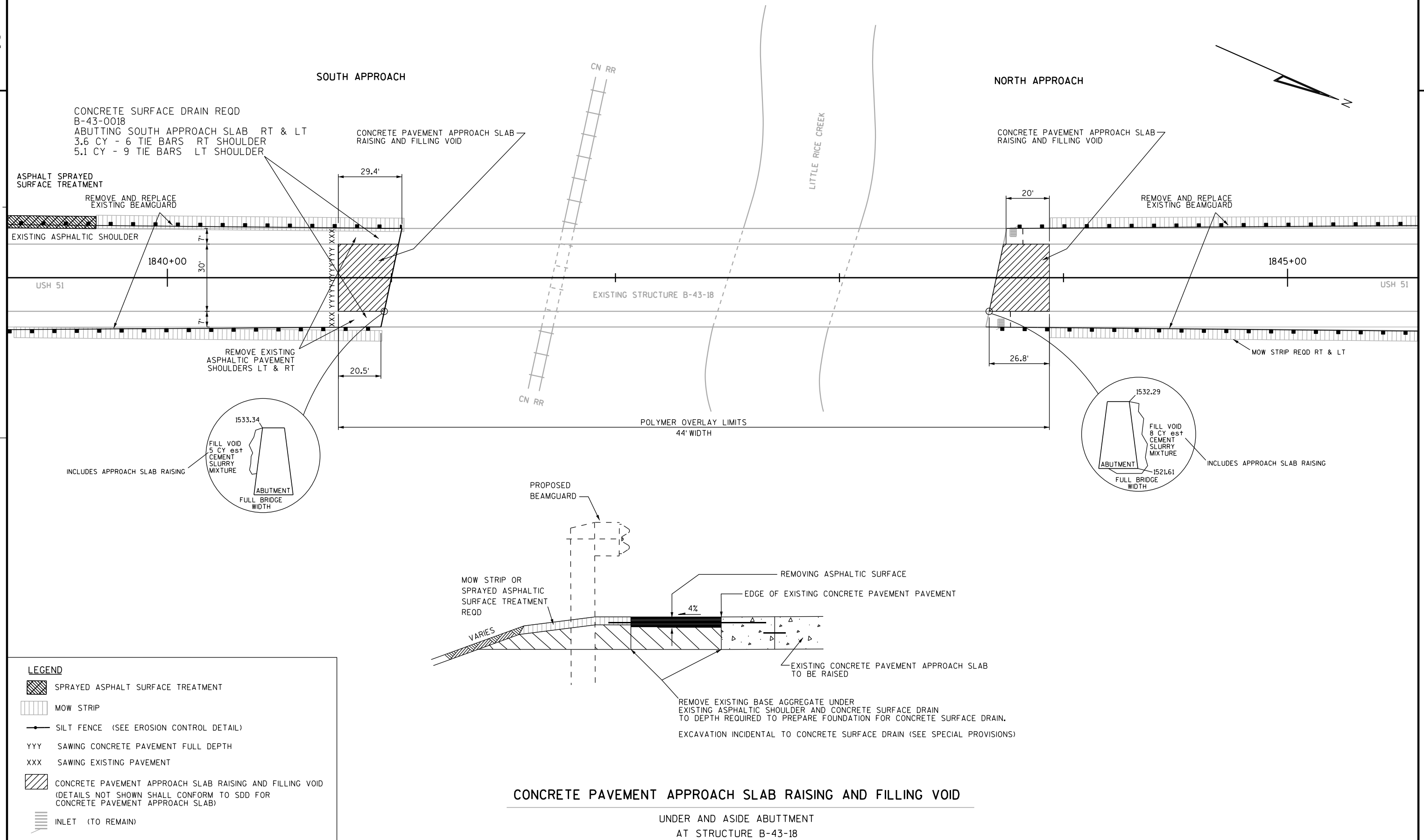
HWY: USH 51

COUNTY: LINCOLN / ONEIDA

CTH N

SHEET

E



PROJECT NO: 1170-16-70

HWY: USH 51

COUNTY: LINCOLN / ONEIDA

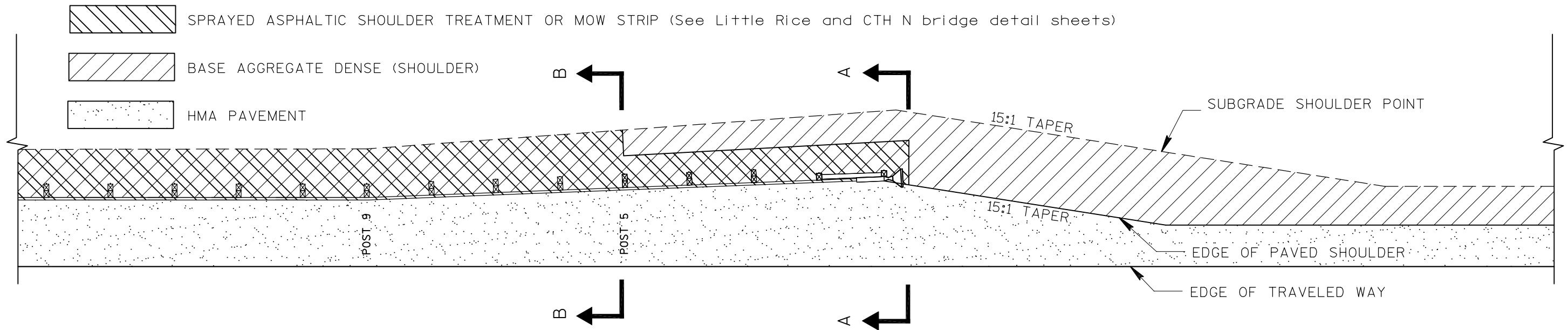
LITTLE RICE

SHEET

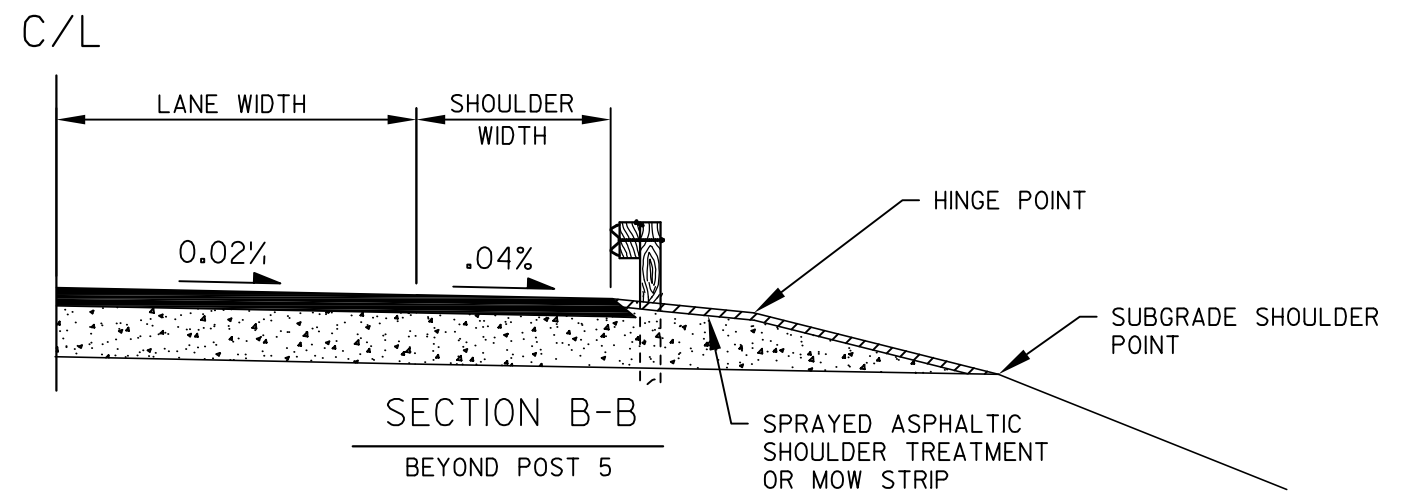
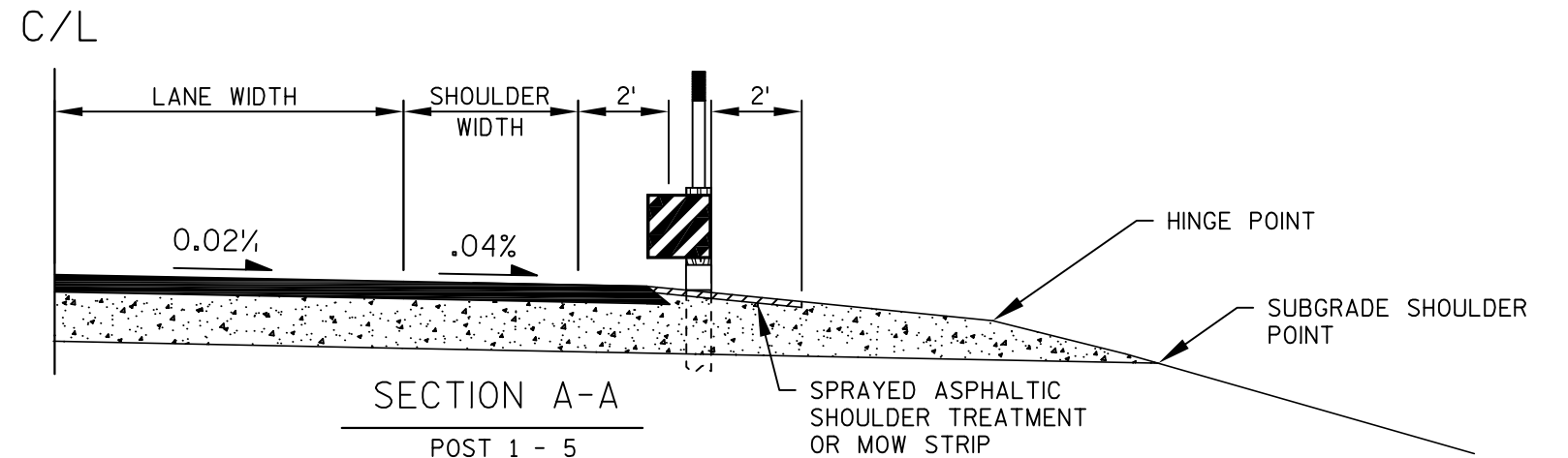
E

2

2



NOTE: SEE STANDARD DETAIL DRAWINGS
 MIDWEST GUARDRAIL SYSTEM SYSTEM (MGS) GUARDRAIL
 MIDWEST GUARDRAIL SYSTEM LONG SPAN (MGS L)
 MIDWEST GUARDRAIL SYSTEM (MGS) EAT
 MIDWEST GUARDRAIL SYSTEM (MGS) THRIE BEAM TRANSITION



GUARDRAIL DETAIL

PROJECT NO:1170-16-70

HWY:USH 51

COUNTY:LINCOLN/ONEIDA

GUARDRAIL DETAIL

SHEET

E

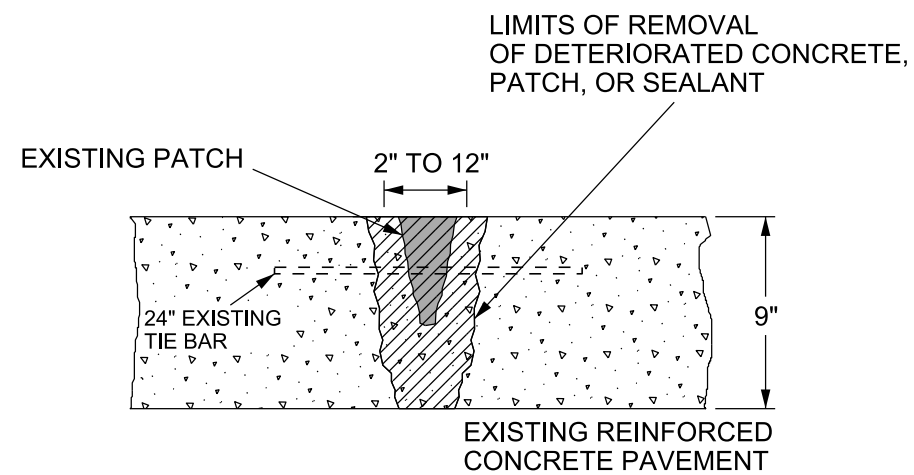
FILE NAME : N:\PDS\C3D\11701600\SHEETPLAN\GUARDRAIL DETAIL1.DWG

PLOT DATE : 7/30/2013 3:10 PM

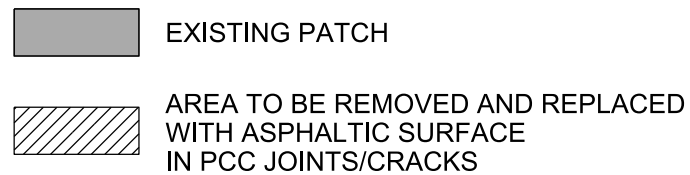
PLOT BY : HOFFMAN, JENNIFER G PLOT NAME :

PLOT SCALE : 1 IN:10 FT

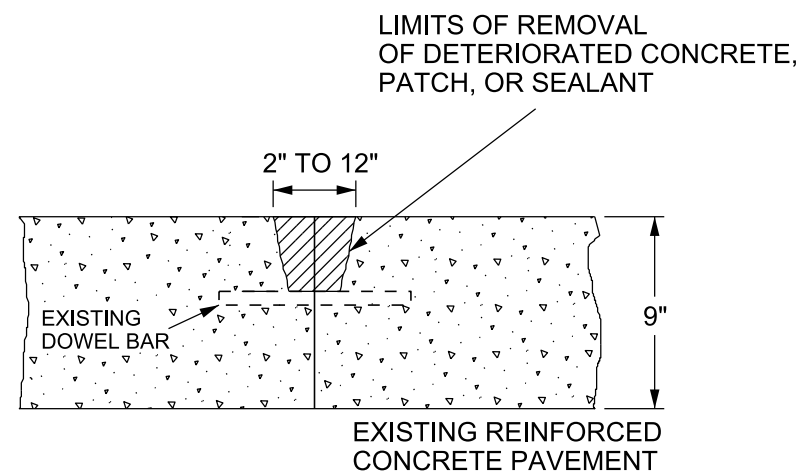
WISDOT/CADDs SHEET 42



KEY



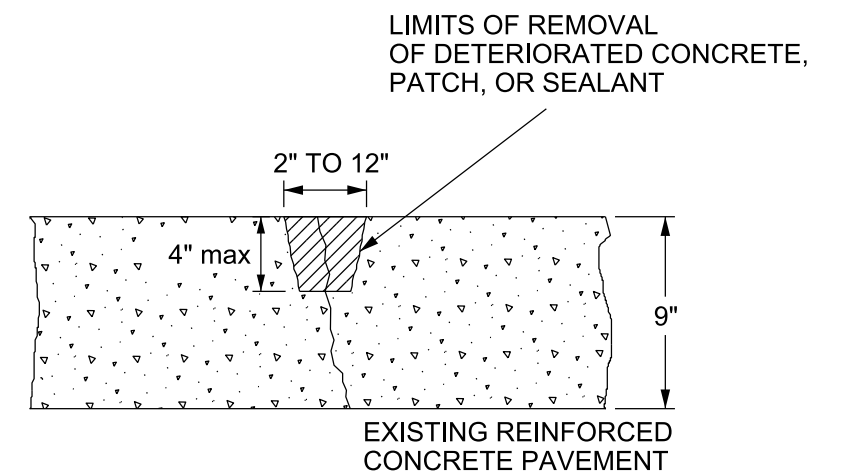
LONGITUDINAL JOINT REPAIR



KEY



TRANSVERSE JOINT REPAIR

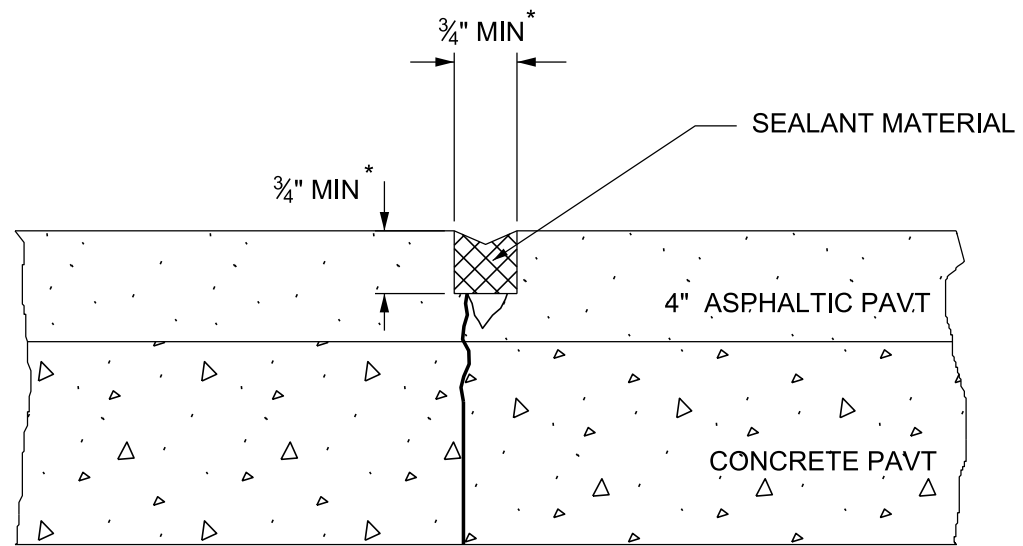


KEY



CRACK REPAIR

ASPHALTIC SURFACE IN PCC CRACKS

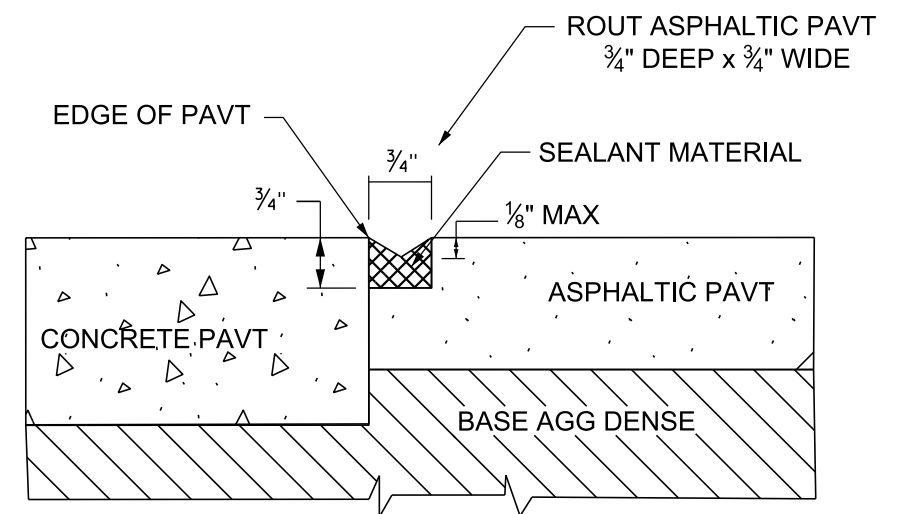


* PROVIDE A 1:1 DEPTH TO WIDTH RATIO FOR ALL CRACKS WITH A WIDTH GREATER THAN 0.75"

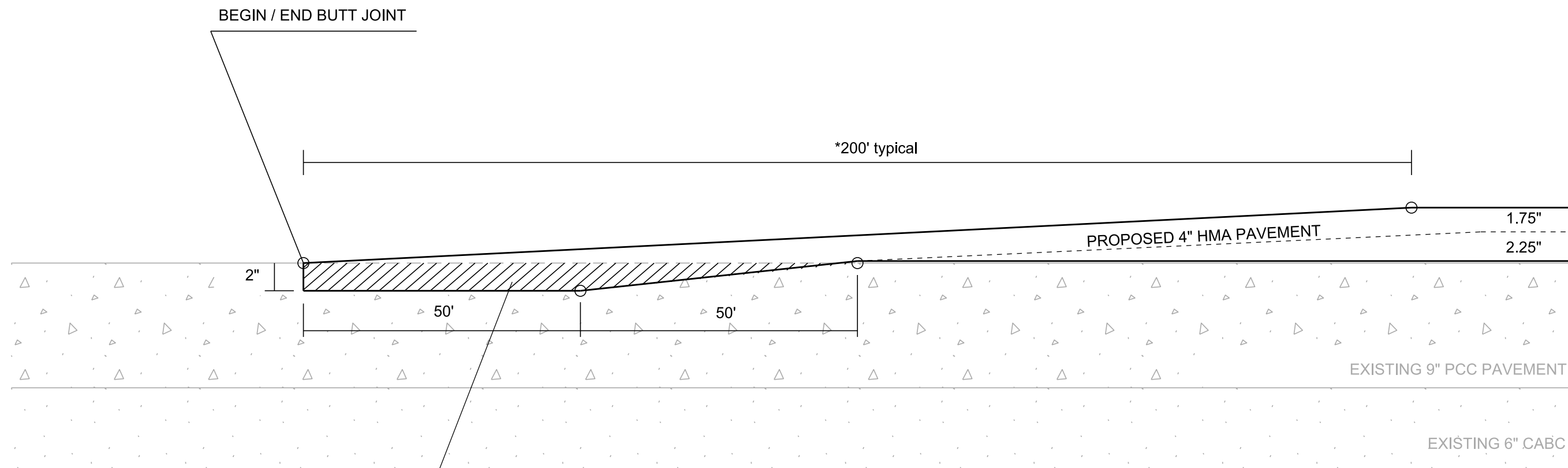
REFLECTIVE CRACK ROUT AND SEAL

REFLECTIVE CONCRETE JOINTS AND CRACKS

(CONSTRUCTION IN FOLLOWING SPRING - AFTER OVERLAY)



ROUT AND SEAL

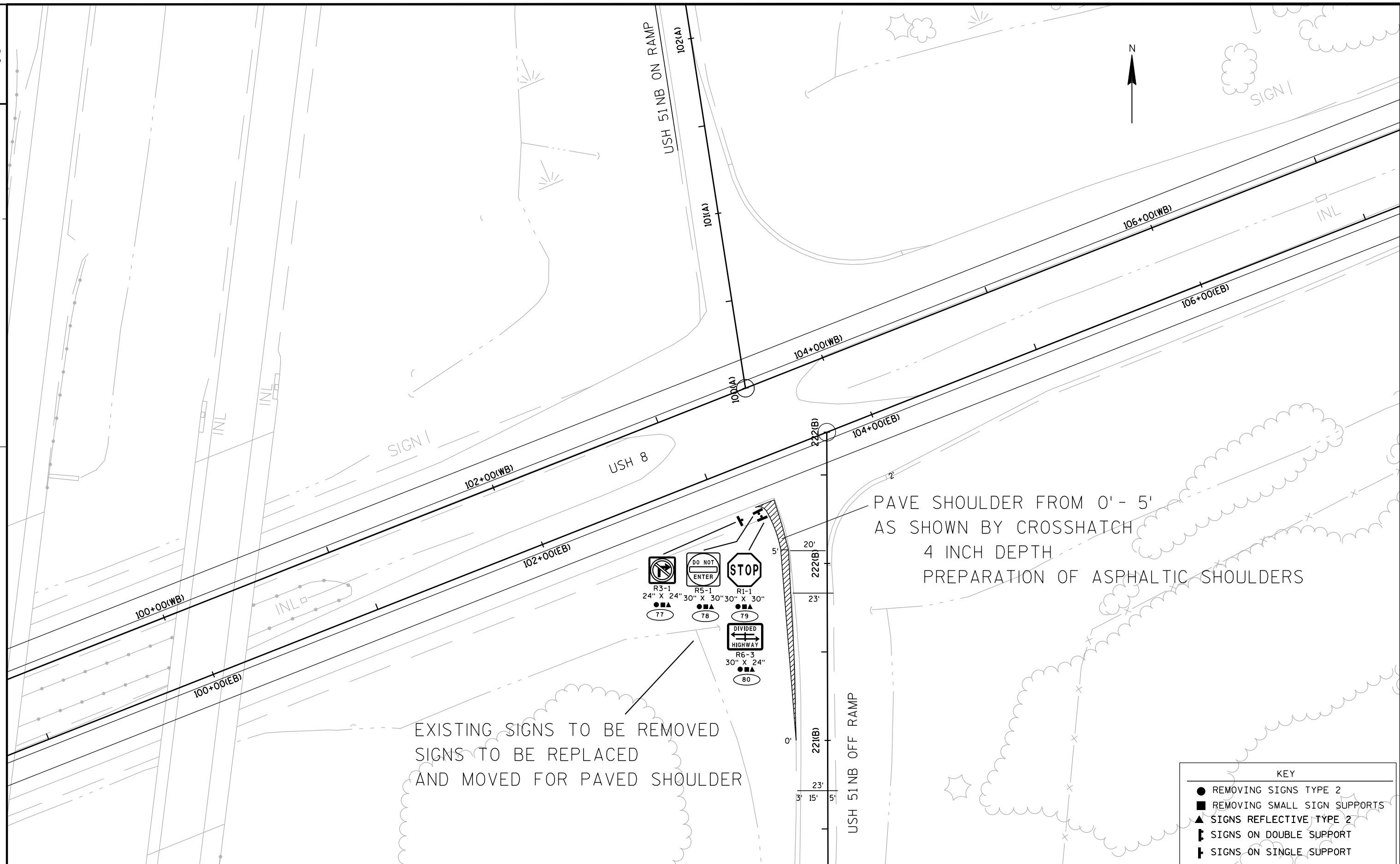


REMOVING PAVEMENT BUTT JOINTS (30' WIDTH)

BUTT JOINT DETAIL

ASPHALT PAVING TRANSITION

STA 1788+00 SB - 1790+00 SB
STA 1822+00 SB - 1827+00 SB *transition length 500'
STA 1918+00 - 1920+00
STA 1941+00 - 1943+00



EPOXY 4-INCH
(DOUBLE YELLOW)
NOTE: EXTEND FROM EXISTING TO NEW STOP LINE

STOP LINE
EPOXY 18-INCH

DIAGONAL EPOXY 12-INCH
(WHITE, 25' C-C SPACING)
NOTE: ADD FOUR DIAGONALS

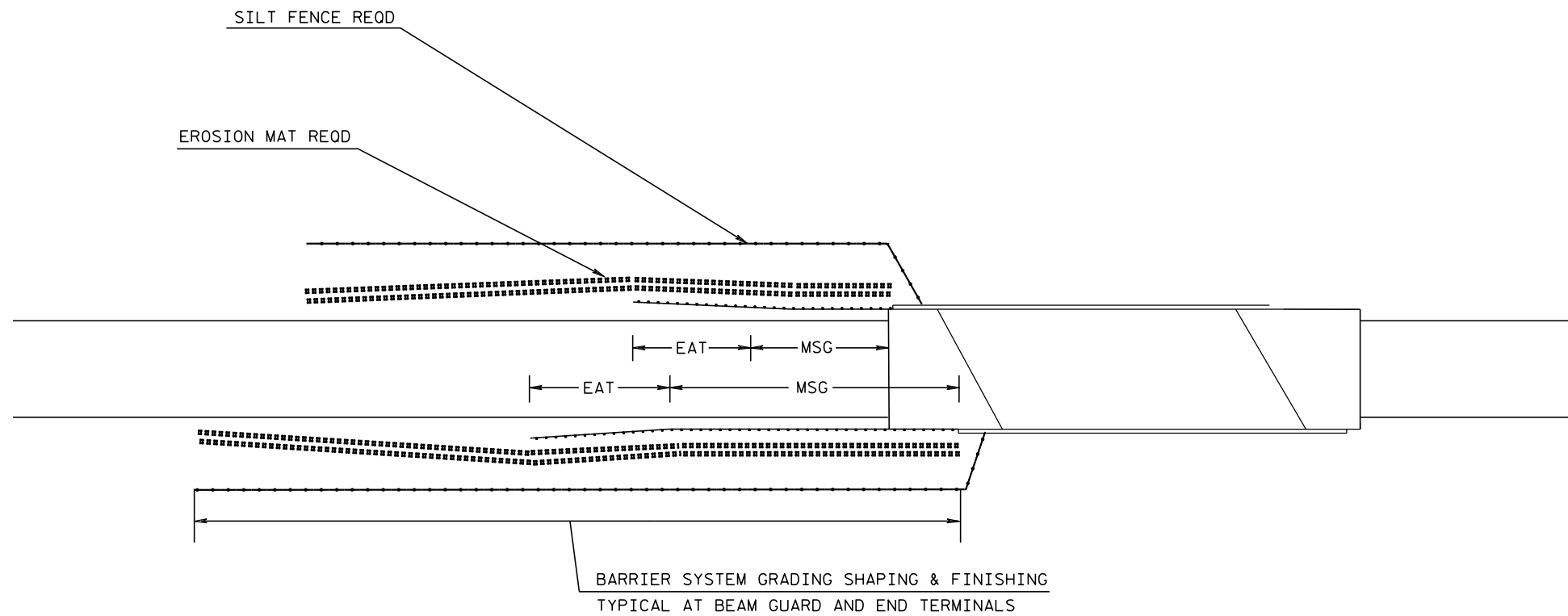
EPOXY 4-INCH
(WHITE LANE LINE)

NOTES:

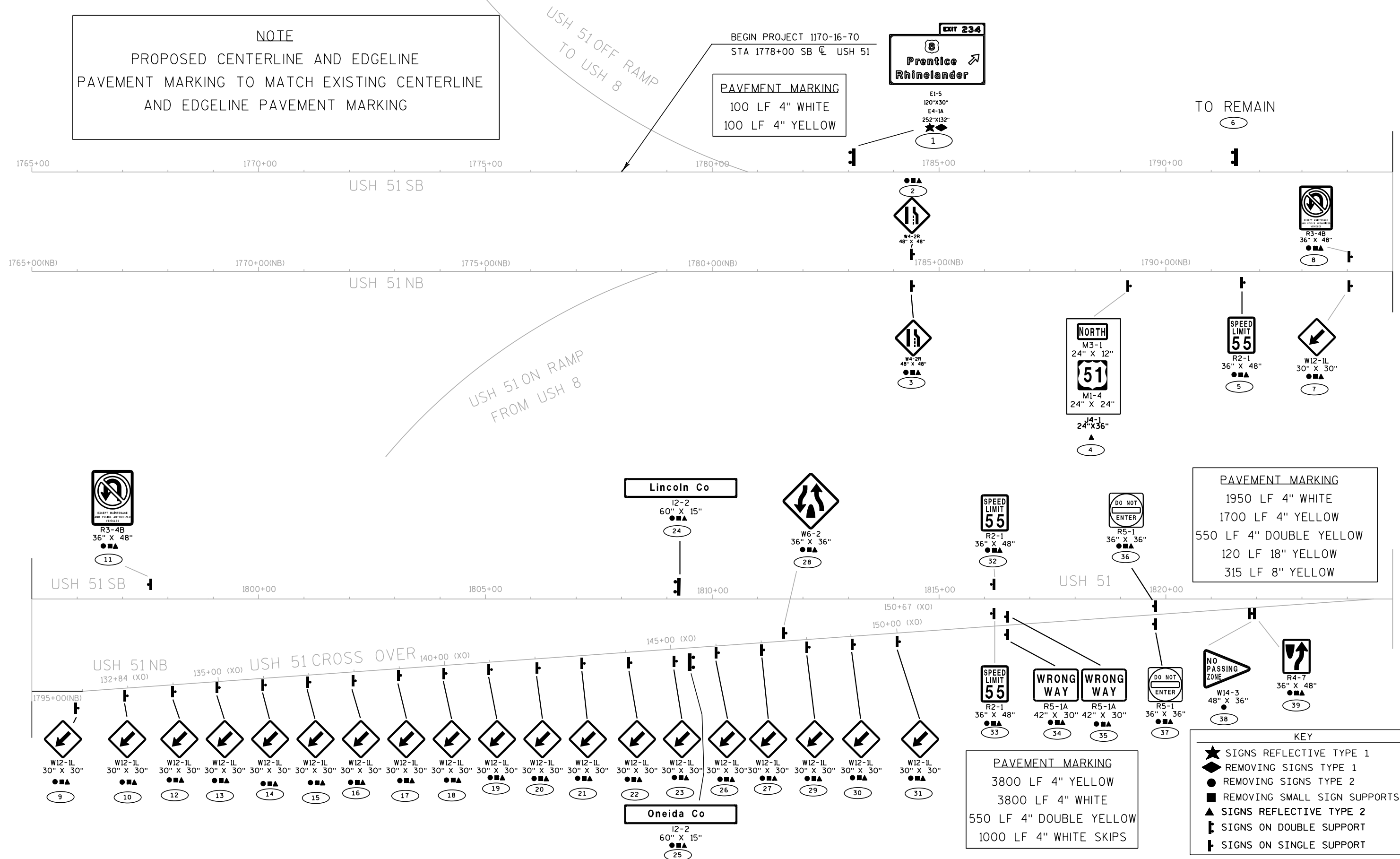
PAVEMENT MARKING TO BE PLACED AFTER DETOUR

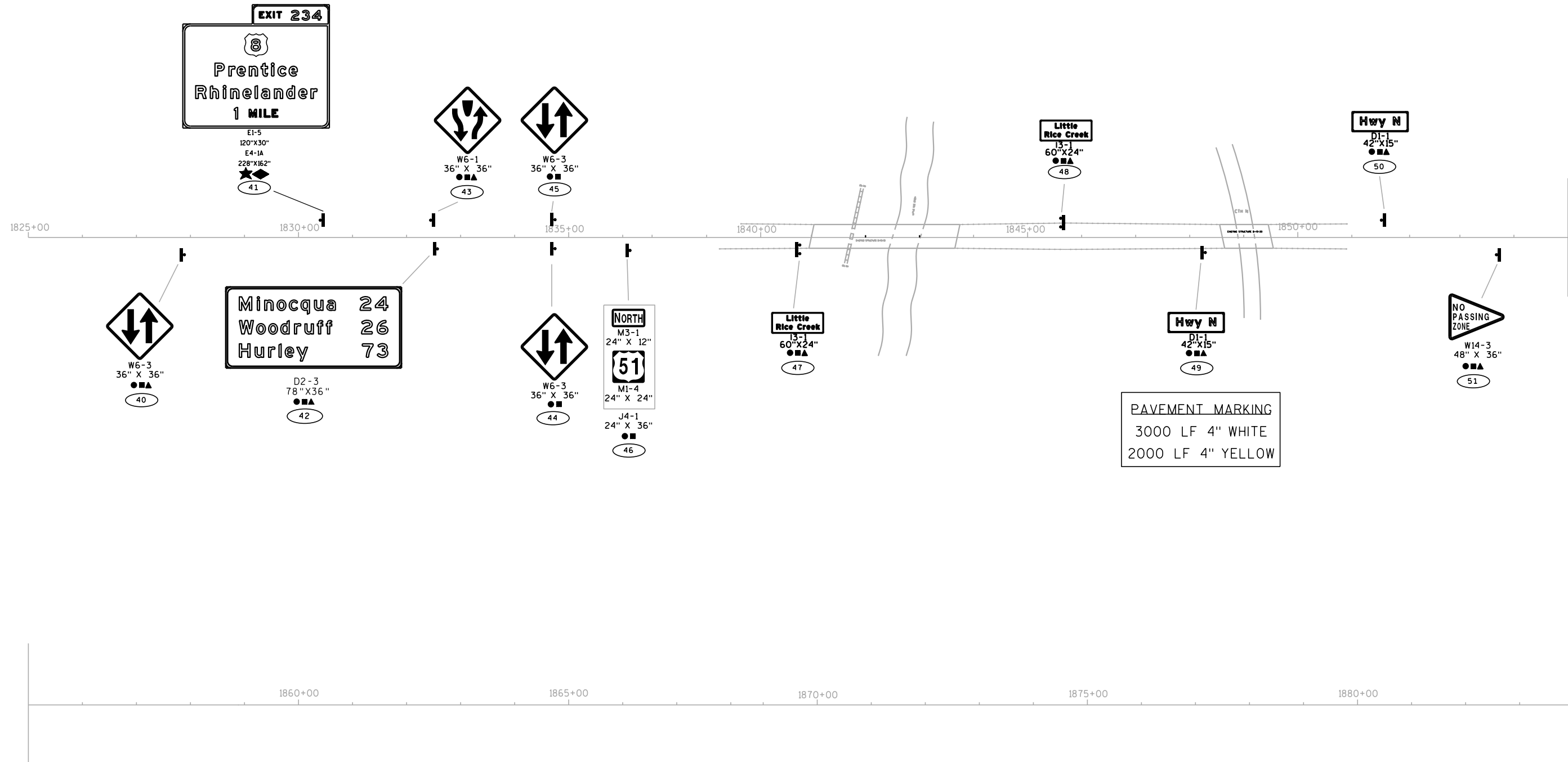
USE SDD PAVEMENT MARKING MAINLINE,
STOP LINE AND CROSSWALK PAVEMENT
MARKING, MEDIAN ISLAND MARKING

USH 8/CTH L INTERSECTION



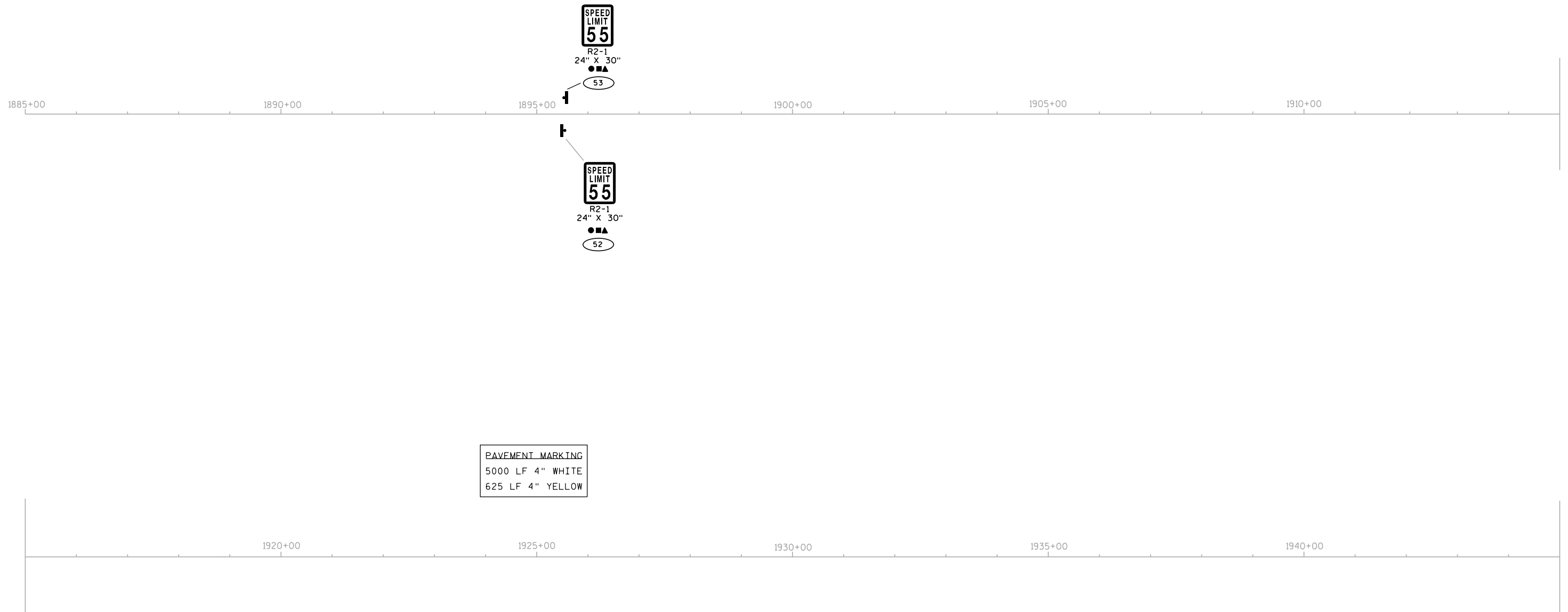
EROSION CONTROL
TYPICAL BRIDGE DETAIL





KEY

- ★ SIGNS REFLECTIVE TYPE 1
- ◆ REMOVING SIGNS TYPE 1
- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ⌋ SIGNS ON DOUBLE SUPPORT
- ⌋ SIGNS ON SINGLE SUPPORT



KEY

- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ⌋ SIGNS ON DOUBLE SUPPORT
- ⌋ SIGNS ON SINGLE SUPPORT

PROJECT NO: 1170-16-70

HWY: USH 51

COUNTY: LINCOLN/ONEIDA

PERMANENT SIGNING AND MARKING

SHEET

E

1945+00 1950+00 1955+00 1960+00 1965+00 1970+00

1980+00 1985+00 1990+00 1995+00 2000+00

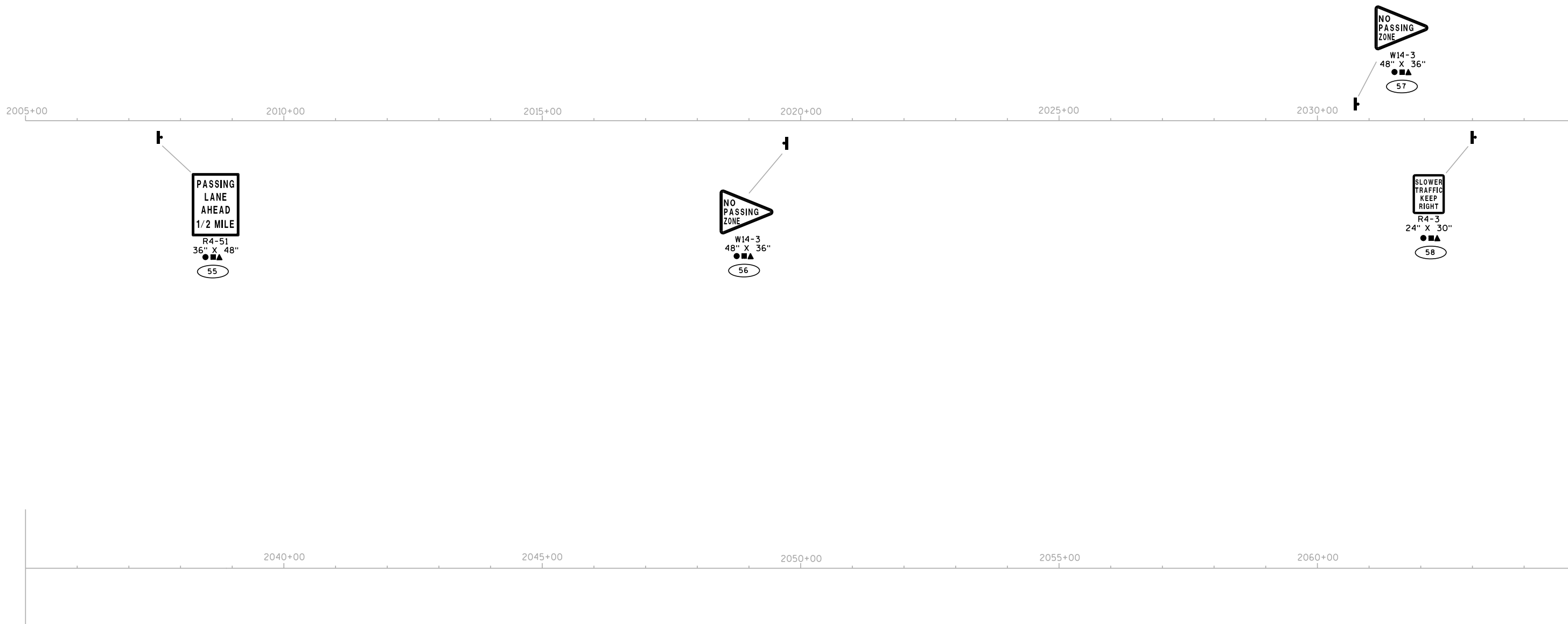


W14-3
48" X 36"
● ■ ▲
54

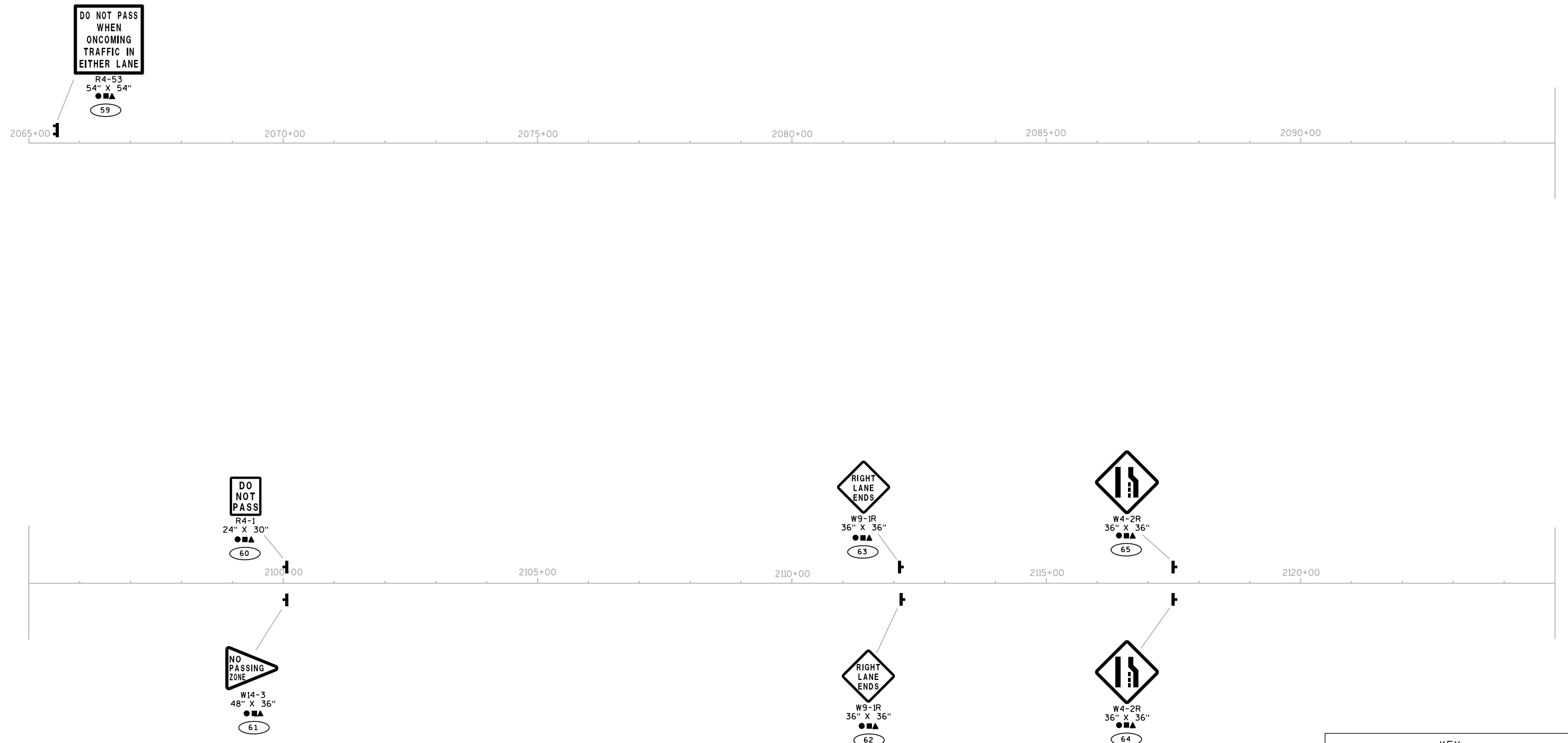


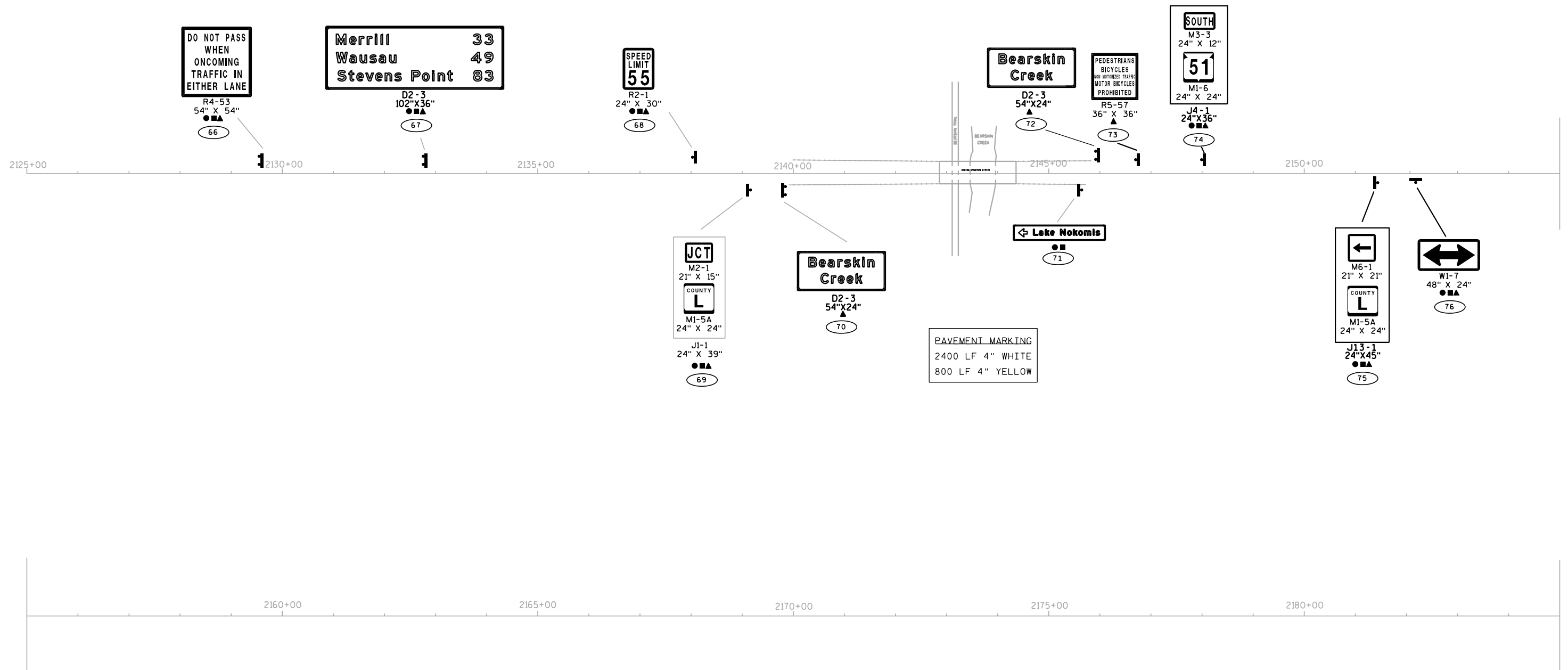
KEY

- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ⌋ SIGNS ON DOUBLE SUPPORT
- ⌋ SIGNS ON SINGLE SUPPORT



KEY	
●	REMOVING SIGNS TYPE 2
■	REMOVING SMALL SIGN SUPPORTS
▲	SIGNS REFLECTIVE TYPE 2
┌	SIGNS ON DOUBLE SUPPORT
└	SIGNS ON SINGLE SUPPORT





KEY

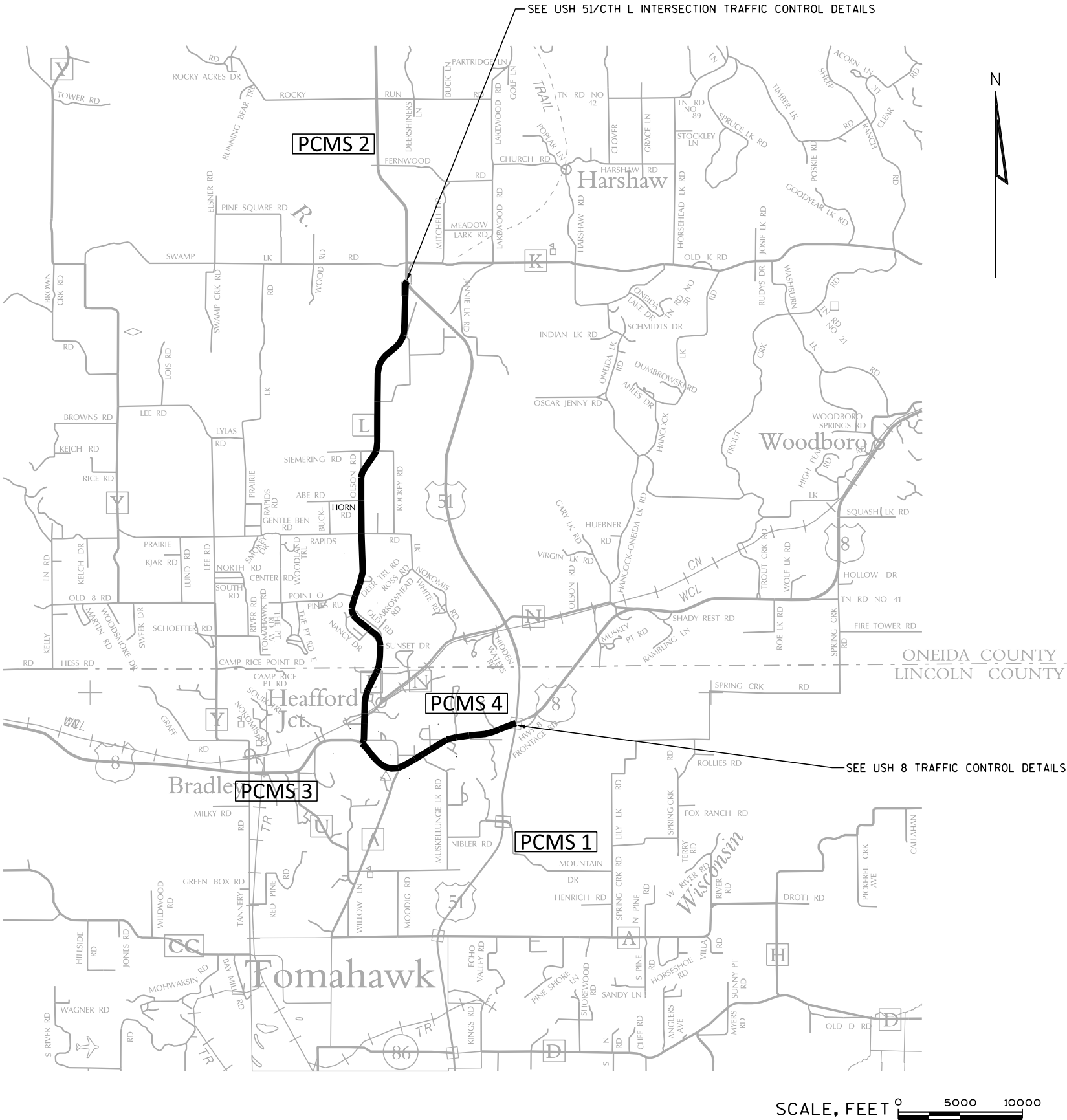
- REMOVING SIGNS TYPE 2
- REMOVING SMALL SIGN SUPPORTS
- ▲ SIGNS REFLECTIVE TYPE 2
- ⌋ SIGNS ON DOUBLE SUPPORT
- ⌋ SIGNS ON SINGLE SUPPORT

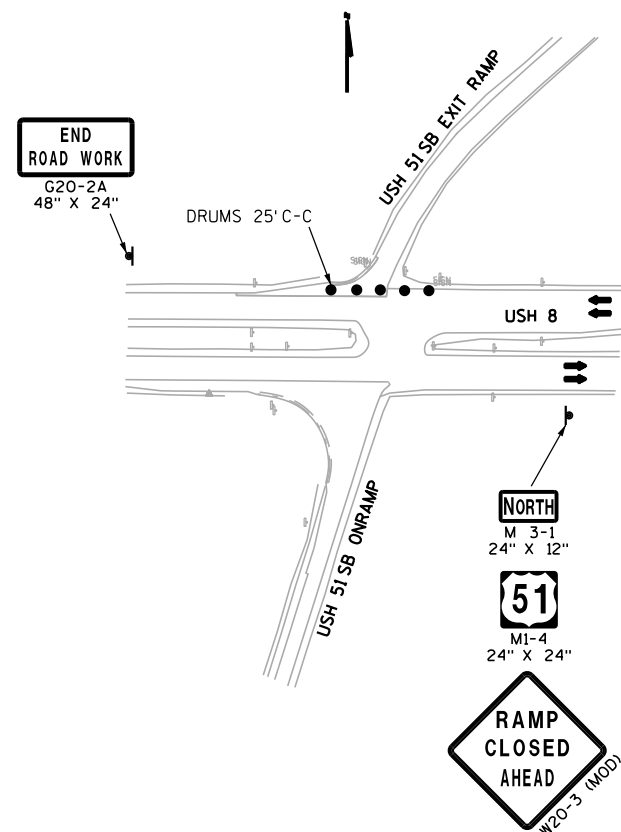
TRAFFIC CONTROL NOTES

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

KEY	
	DETOUR ROUTE
	TRAFFIC CONTROL SIGNS PCMS

PCMS MESSAGES										
PCMS #	ROADWAY CONDITION/ CONSTRUCTION	2014 PRIOR TO CONSTRUCTION		STAGE 1 PRIOR TO DETOUR		STAGE 2 DURING DETOUR		STAGE 3 AFTER DETOUR		STAGE 4 FOLLOWING SPRING
1, 2, 3, 4	INCIDENT MANAGEMENT	TRAFFIC STOPPED AHEAD	USE ALT ROUTE	TRAFFIC STOPPED AHEAD	USE ALT ROUTE	TRAFFIC STOPPED AHEAD	USE ALT ROUTE	TRAFFIC STOPPED AHEAD	USE ALT ROUTE	PCMS IS NOT REQD
1, 2, 3, 4	LANE OR SHOULDER CLOSURE	USH 51 XX LANE/SHLD CLOSED	XX MILES AHEAD	USH 51 XX LANE/SHLD CLOSED	XX MILES AHEAD	USH 51 XX LANE/SHLD CLOSED	XX MILES AHEAD	USH 51 XX LANE/SHLD CLOSED	XX MILES AHEAD	PCMS IS NOT REQD
1, 2, 3, 4	GENERAL	*USH 51 WORK STARTS	DATE	**USH 51 DETOUR STARTS	DATE	USH 51 CLOSED AHEAD	USE DETOUR ROUTE	CONSTRUCTION AHEAD	EXPECT DELAYS	PCMS IS NOT REQD
*MESSAGE BOARD IN OPERATION A MINIMUM OF 7 DAYS PRIOR TO CONSTRUCTION **MESSAGE BOARD TO BE PLACED A MINIMUM OF 7 DAYS PRIOR TO DETOUR 2 SECOND PHASES										





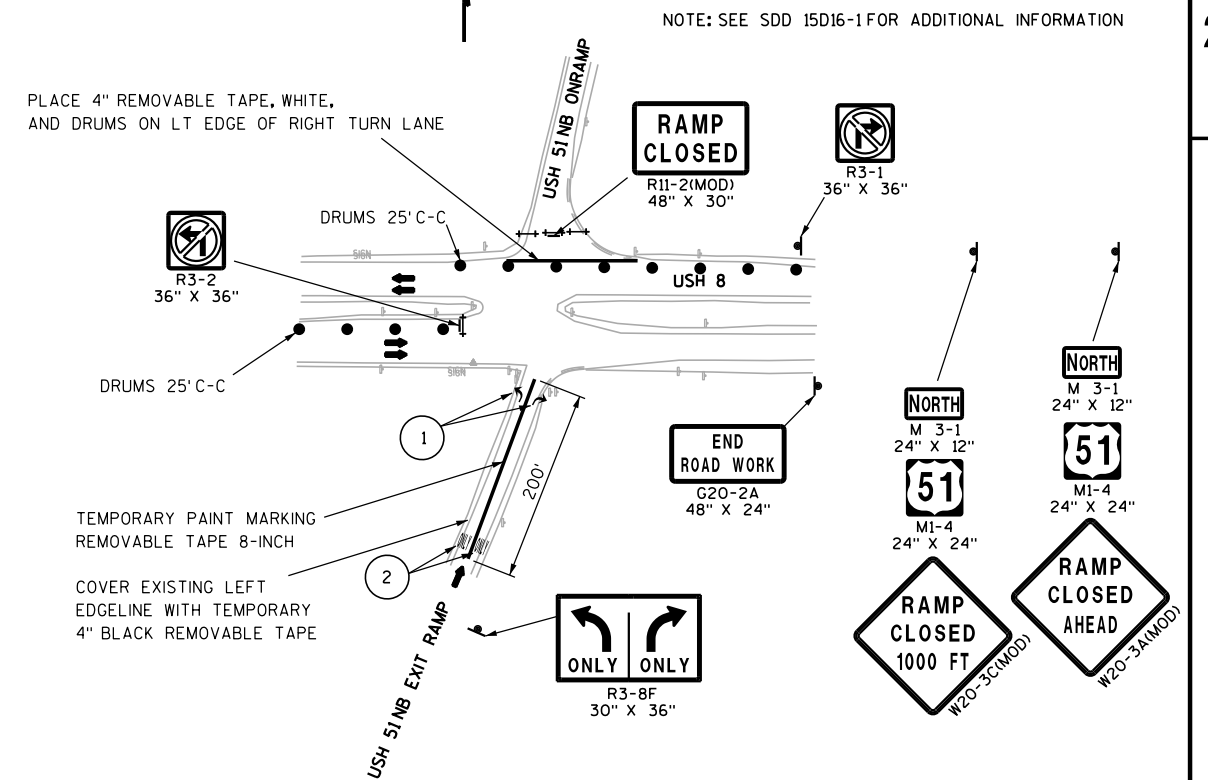
USH 51/USH 8 SOUTHBOUND EXIT RAMP DETAIL

NOTES

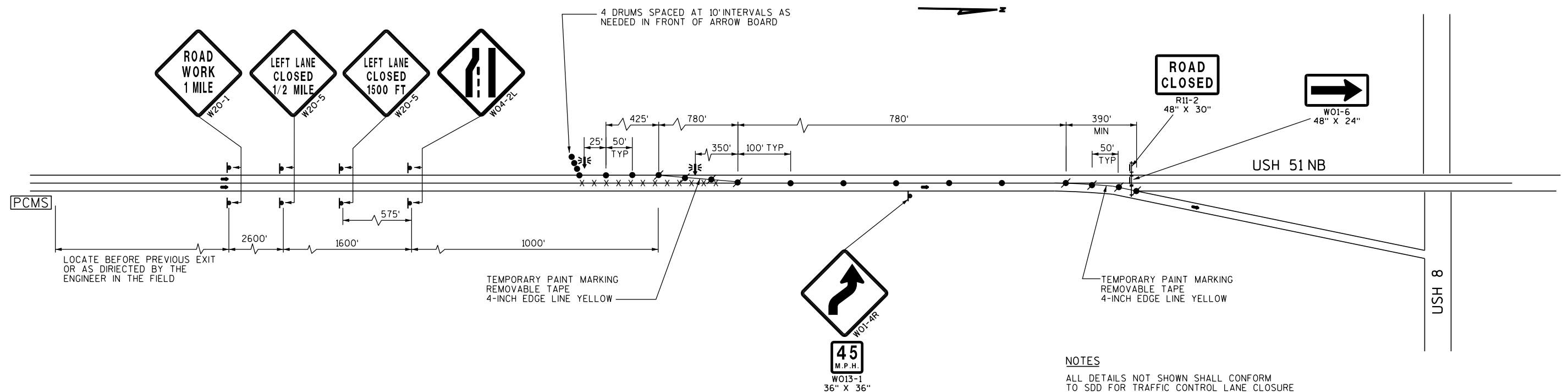
SEE DETOUR PLAN FOR ADDITIONAL SIGNING
DETAILS APPLY DURING PERIOD WHEN DETOUR IS IN AFFECT

LEGEND

- POST WITH ATTACHED SIGN
- DRUM WITH WARNING LIGHT (TYPE C)
- DRUM
- ARROW BOARD
- TYPE III BARRICADE WITH/WITHOUT SIGN (SEE SDD FOR BARRICADE PLACEMENT)
- X X X REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- PCMS TRAFFIC CONTROL SIGNS PCMS
- FLEXIBLE TUBULAR MARKERS
- 1 TEMPORARY PVT MARKING ARROWS REMOVABLE TAPE
- 2 TEMPORARY PVT MARKING WORDS REMOVABLE TAPE



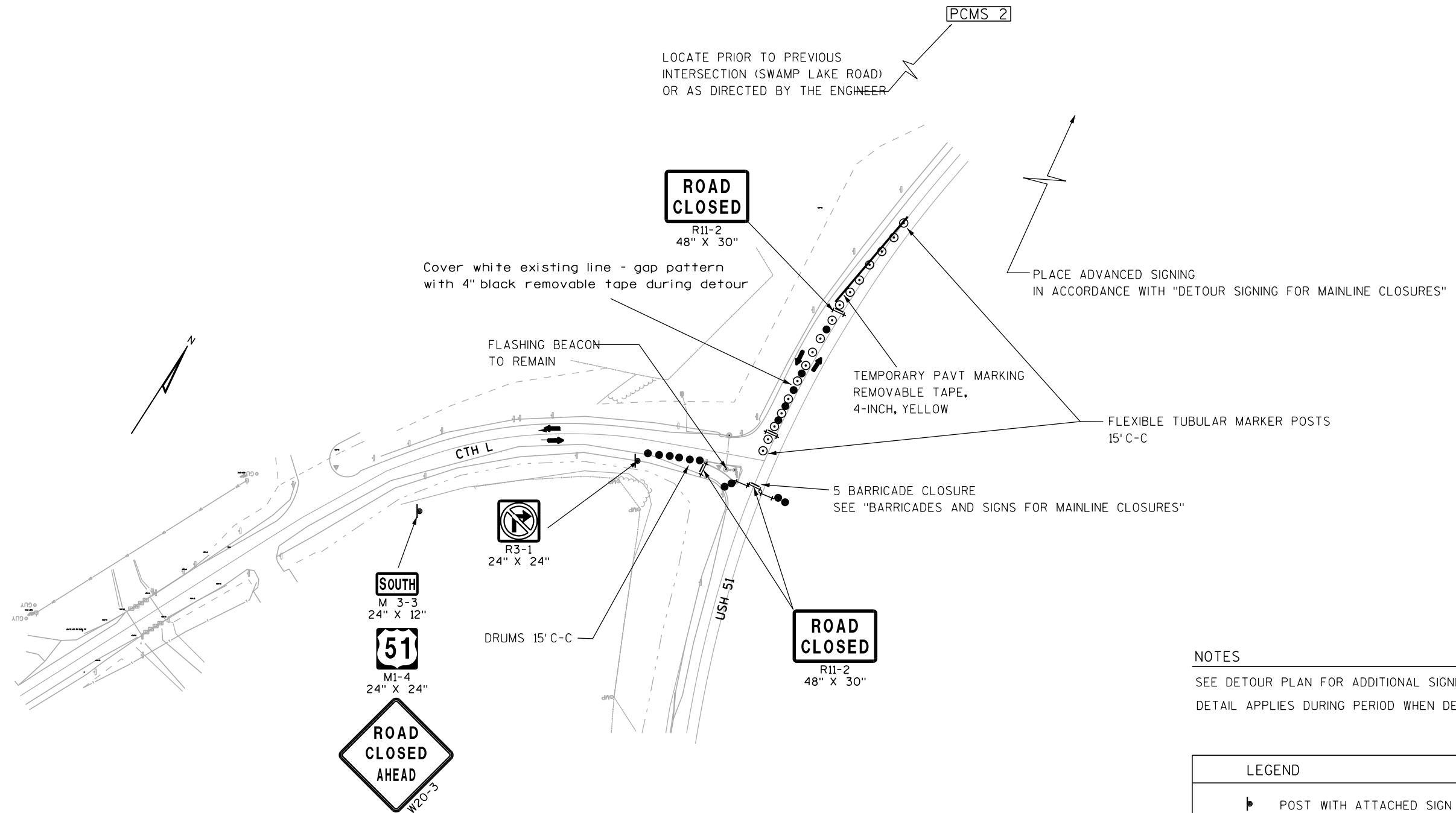
USH 51/USH 8 NORTHBOUND EXIT RAMP DETAIL



MAINLINE CLOSURE DETAIL AT USH 51 NB/USH 8 NB EXIT RAMP

NOTES

ALL DETAILS NOT SHOWN SHALL CONFORM
TO SDD FOR TRAFFIC CONTROL LANE CLOSURE
SPEEDS GREATER THAN 40 M.P.H.



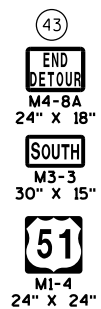
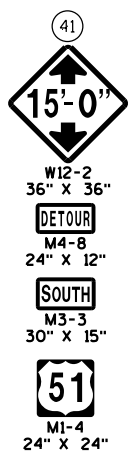
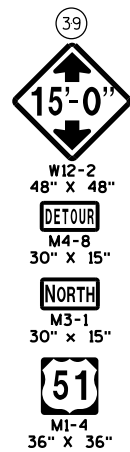
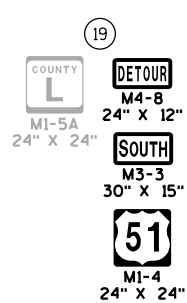
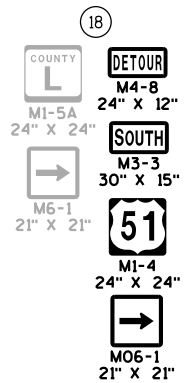
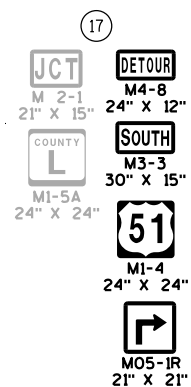
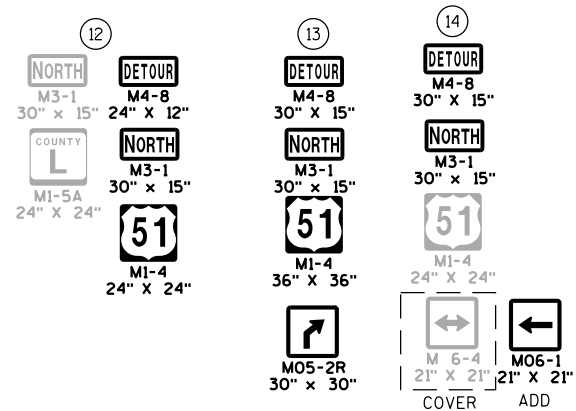
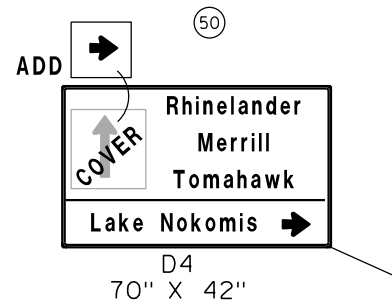
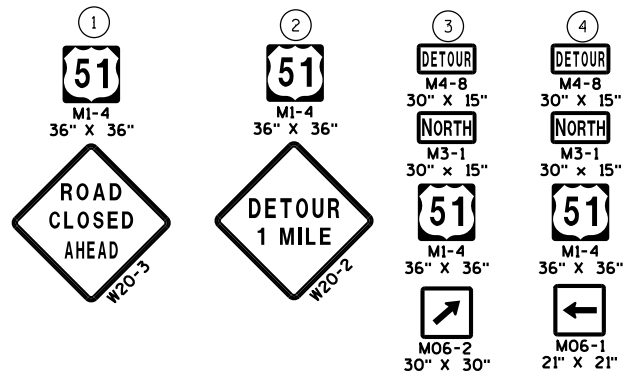
NOTES

SEE DETOUR PLAN FOR ADDITIONAL SIGNING
DETAIL APPLIES DURING PERIOD WHEN DETOUR IS IN AFFECT

LEGEND

	POST WITH ATTACHED SIGN
	DRUM
	TYPE III BARRICADE WITH/WITHOUT SIGN
	DIRECTION OF TRAFFIC
	TRAFFIC CONTROL SIGNS PCMS
	FLEXIBLE TUBULAR MARKERS
	WORK ZONE

USH 51/CTH L TRAFFIC CONTROL DETAIL

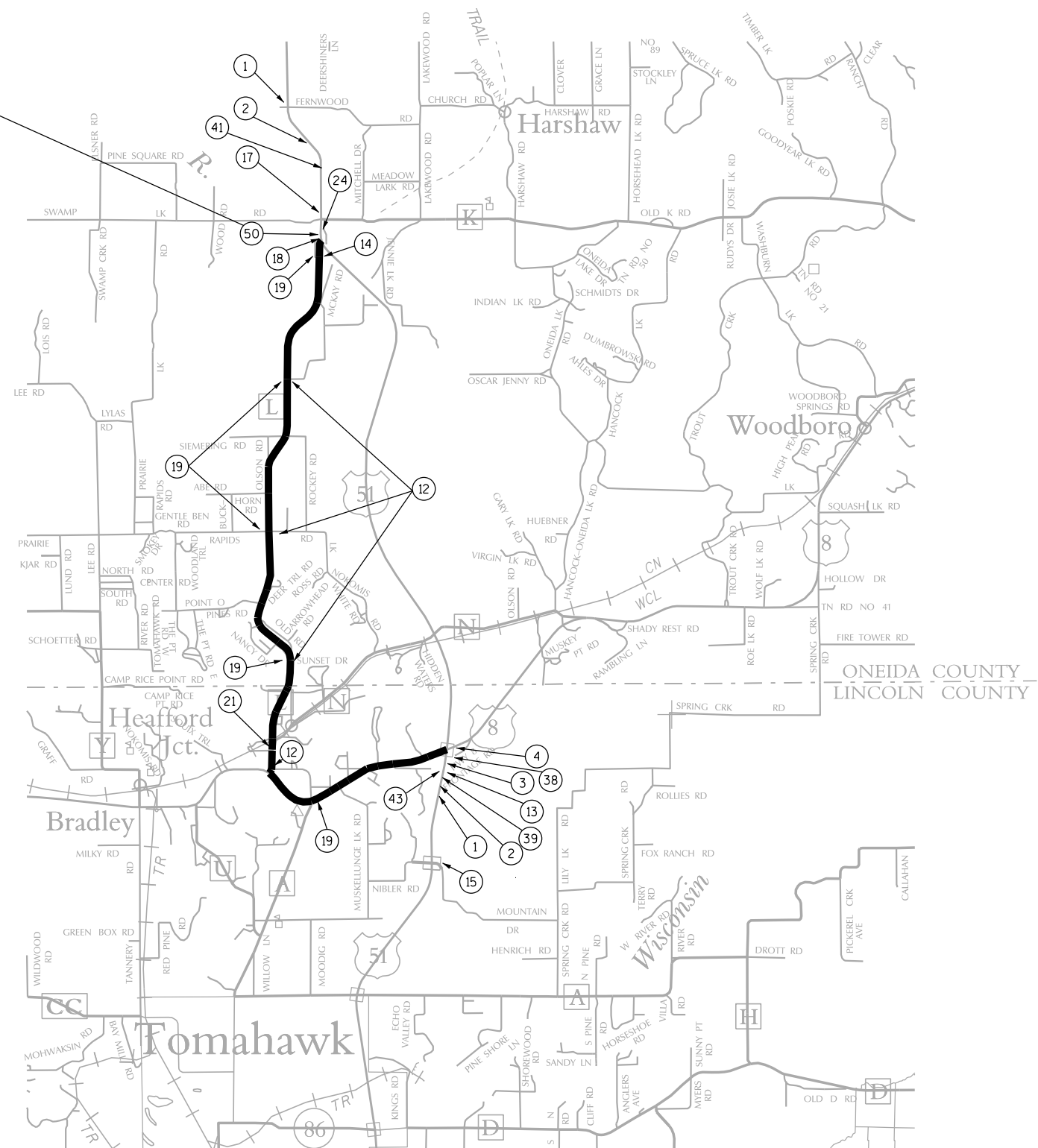


NOTE

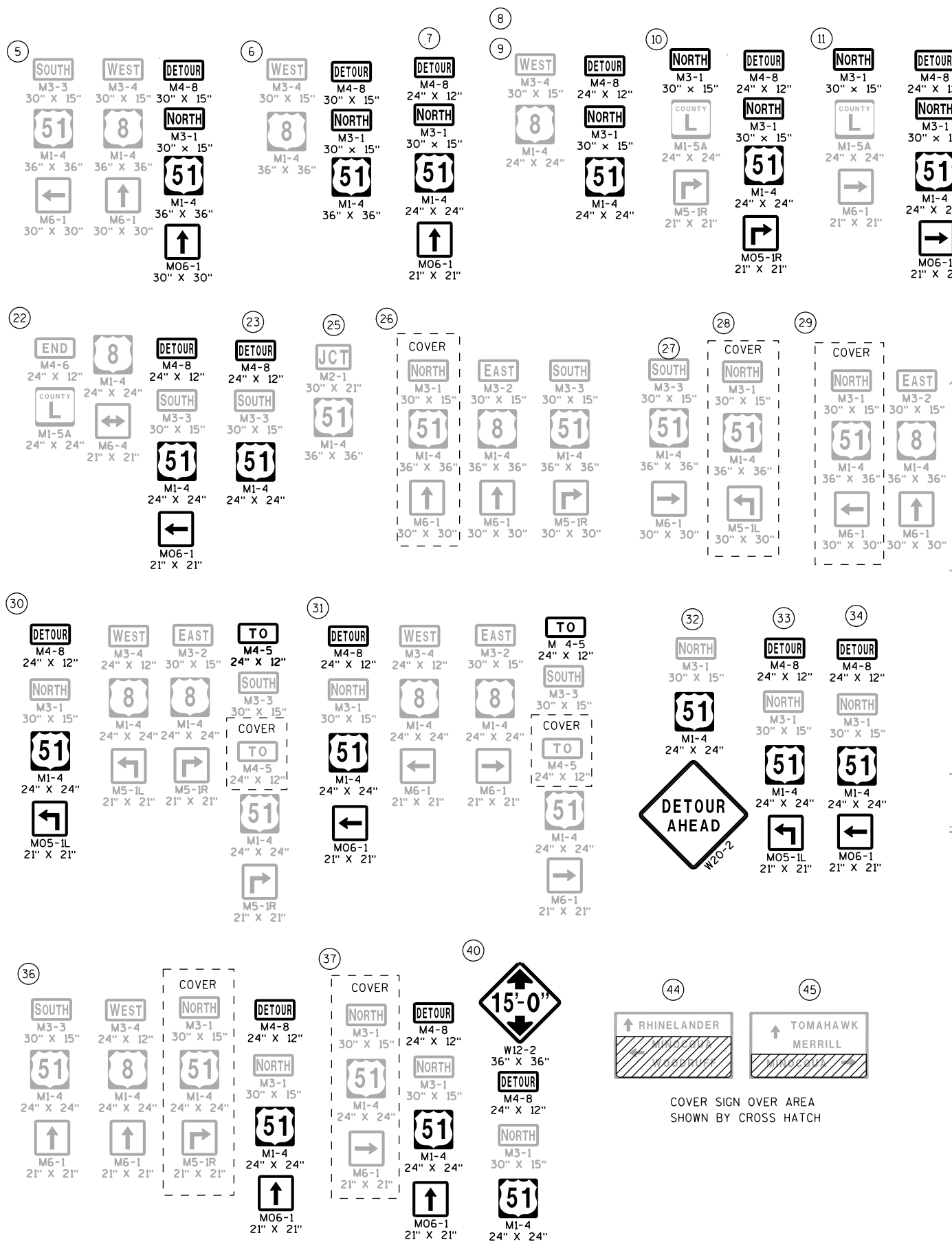
ALL EXISTING ROUTE MARKERS TO REMAIN IN USE
UNLESS NOTED TO BE COVERED

SEE TRAFFIC CONTROL DETAIL FOR ADDITIONAL SIGNING

PLACE VERTICAL CLEARANCE SIGNS ON CTH L PRIOR TO OPENING DETOUR (SEE PERMANENT SIGNING)



SCALE, FEET 0 5000 10000

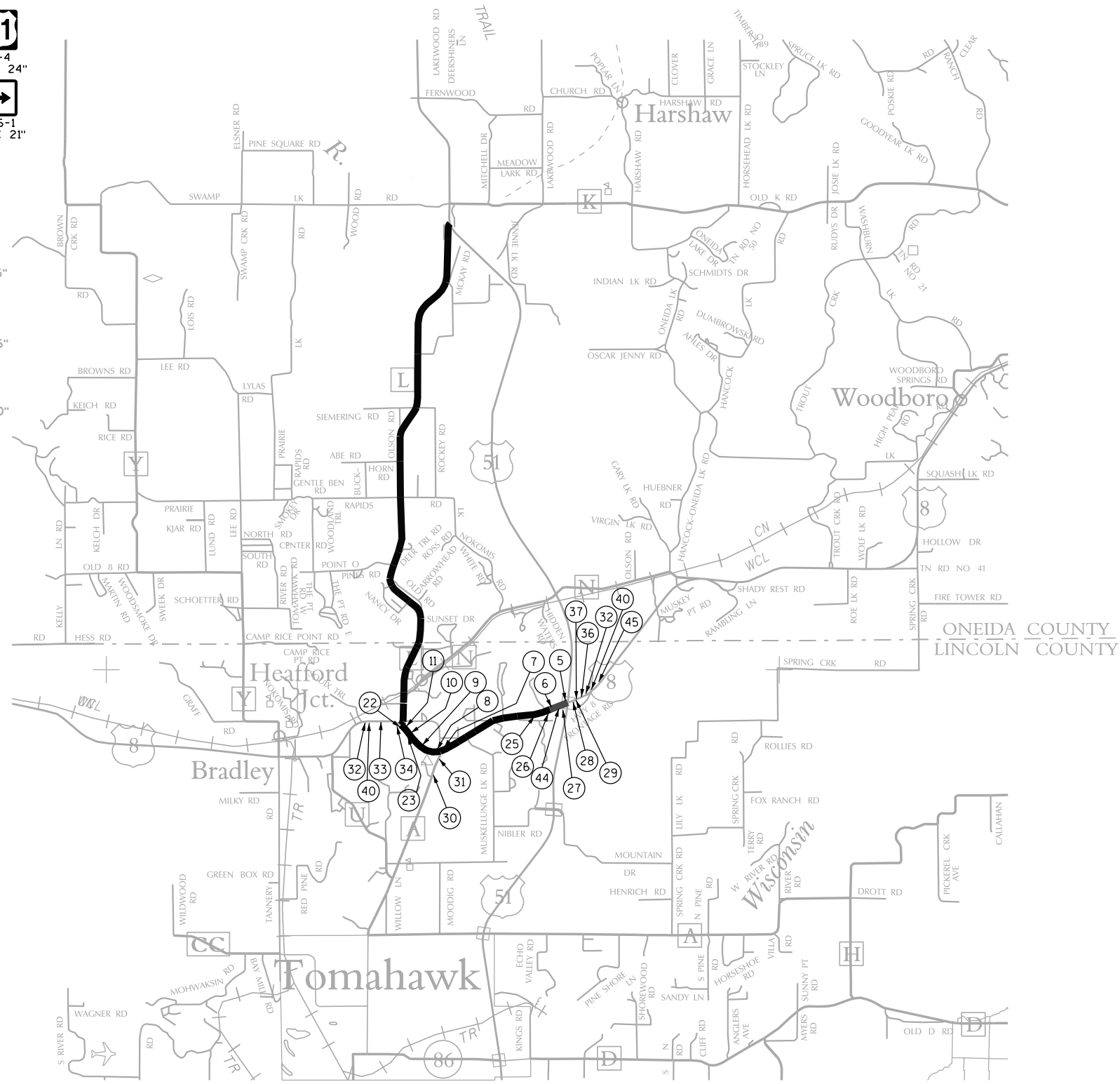


NOTE

ALL EXISTING ROUTE MARKERS TO REMAIN IN USE
UNLESS NOTED TO BE COVERED

SEE TRAFFIC CONTROL DETAIL FOR ADDITIONAL SIGNING

PLACE VERTICAL CLEARANCE SIGNS ON CTH L PRIOR TO OPENING DETOUR (SEE PERMANENT SIGNING)



SCALE, FEET 0 5000 10000

PROJECT NO: 1170-16-70

HWY: USH 51

COUNTY: LINCOLN / ONEIDA

DETOUR PLAN - SIGNS ON USH 8

SHEET

E

FILE NAME : N:\pds\project_id\1170-16-00,70_USH51oneidaCo\Cadd\02T002.dwg

PLOT DATE : 19-JUN-2013 16:57

PLOT BY : dotgvb

PLOT NAME :

PLOT SCALE : 10000:1

WISDOT/CADDs SHEET 42

DATE 21OCT13		E S T I M A T E O F Q U A N T I T I E S			
LINE					1170-16-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	203.0225.S	DEBRIS CONTAINMENT (STRUCTURE) 01. B-43-18	LS	1.000	1.000
0020	204.0100	REMOVING PAVEMENT	SY	28.000	28.000
0030	204.0105	REMOVING PAVEMENT BUTT JOINTS	SY	1,332.000	1,332.000
0040	204.0110	REMOVING ASPHALTIC SURFACE	SY	1,302.000	1,302.000
0050	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	4,400.000	4,400.000
0060	204.0165	REMOVING GUARDRAIL	LF	1,866.000	1,866.000
0070	204.0180	REMOVING DELINEATORS AND MARKERS	EACH	15.000	15.000
0080	211.0400	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS	STA	2.000	2.000
0090	213.0100	FINISHING ROADWAY (PROJECT) 01. 1170-16-70	EACH	1.000	1.000
0100	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	1,350.000	1,350.000
0110	415.6000.S	ROUT AND SEAL	LF	1,660.000	1,660.000
0120	416.0610	DRILLED TIE BARS	EACH	53.000	53.000
0130	416.0620	DRILLED DOWEL BARS	EACH	46.000	46.000
0140	416.1010	CONCRETE SURFACE DRAINS	CY	31.300	31.300
0150	455.0105	ASPHALTIC MATERIAL PG58-28	TON	312.000	312.000
0160	455.0605	TACK COAT	GAL	650.000	650.000
0170	460.1103	HMA PAVEMENT TYPE E-3	TON	5,678.000	5,678.000
0180	509.0301	PREPARATION DECKS TYPE 1	SY	77.000	77.000
0190	509.0302	PREPARATION DECKS TYPE 2	SY	35.000	35.000
0200	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	10.000	10.000
0210	509.5100.S	POLYMER OVERLAY	SY	3,192.000	3,192.000
0220	611.0430	RECONSTRUCTING INLETS	EACH	3.000	3.000
0230	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	4.000	4.000
0240	614.0396	GUARDRAIL MOW STRIP ASPHALT	SY	630.000	630.000
0250	614.2300	MGS GUARDRAIL 3	LF	1,575.000	1,575.000
0260	614.2500	MGS THRIE BEAM TRANSITION	LF	315.000	315.000
0270	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0280	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 1170-16-70	EACH	1.000	1.000
0290	619.1000	MOBILIZATION	EACH	1.000	1.000
0300	628.1504	SILT FENCE	LF	2,195.000	2,195.000
0310	628.1520	SILT FENCE MAINTENANCE	LF	2,195.000	2,195.000
0320	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	2.000	2.000
0330	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	1.000	1.000
0340	628.2023	EROSION MAT CLASS II TYPE B	SY	1,280.000	1,280.000
0350	633.0100	DELINEATOR POSTS STEEL	EACH	15.000	15.000
0360	633.0500	DELINEATOR REFLECTORS	EACH	15.000	15.000
0370	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	23.000	23.000
0380	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	38.000	38.000
0390	634.0808	POSTS TUBULAR STEEL 2X2-INCH X 8-FT	EACH	20.000	20.000
0400	637.1220	SIGNS TYPE I REFLECTIVE SH	SF	538.000	538.000
0410	637.2210	SIGNS TYPE II REFLECTIVE H	SF	355.000	355.000
0420	637.2230	SIGNS TYPE II REFLECTIVE F	SF	258.000	258.000
0430	638.2601	REMOVING SIGNS TYPE I	EACH	2.000	2.000
0440	638.2602	REMOVING SIGNS TYPE II	EACH	72.000	72.000
0450	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	81.000	81.000
0460	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0470	643.0200	TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 01. 1170-16-70	DAY	25.000	25.000
0480	643.0300	TRAFFIC CONTROL DRUMS	DAY	768.000	768.000
0490	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	170.000	170.000

DATE 21OCT13		E S T I M A T E O F Q U A N T I T I E S			
LINE					1170-16-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0500	643.0500	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS	EACH	23.000	23.000
0510	643.0600	TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES	EACH	17.000	17.000
0520	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	120.000	120.000
0530	643.0800	TRAFFIC CONTROL ARROW BOARDS	DAY	25.000	25.000
0540	643.0900	TRAFFIC CONTROL SIGNS	DAY	600.000	600.000
0550	643.0920	TRAFFIC CONTROL COVERING SIGNS TYPE II	EACH	20.000	20.000
0560	643.1050	TRAFFIC CONTROL SIGNS PCMS	DAY	180.000	180.000
0570	643.2000	TRAFFIC CONTROL DETOUR (PROJECT) 01. 1170-16-70	EACH	1.000	1.000
0580	643.3000	TRAFFIC CONTROL DETOUR SIGNS	DAY	1,800.000	1,800.000
0590	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	21,375.000	21,375.000
0600	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	315.000	315.000
0610	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	35.000	35.000
0620	647.0726	PAVEMENT MARKING DIAGONAL EPOXY 12-INCH	LF	48.000	48.000
0630	647.0736	PAVEMENT MARKING DIAGONAL EPOXY 18-INCH	LF	120.000	120.000
0640	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	3,300.000	3,300.000
0650	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	1,980.000	1,980.000
0660	649.0801	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 8-INCH	LF	200.000	200.000
0670	649.1800	TEMPORARY PAVEMENT MARKING ARROWS REMOVABLE TAPE	EACH	2.000	2.000
0680	649.2000	TEMPORARY PAVEMENT MARKING WORDS REMOVABLE TAPE	EACH	2.000	2.000
0690	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	7,700.000	7,700.000
0700	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 1170-16-70	LS	1.000	1.000
0710	690.0150	SAWING ASPHALT	LF	56.000	56.000
0720	690.0250	SAWING CONCRETE	LF	230.000	230.000
0730	715.0415	INCENTIVE STRENGTH CONCRETE PAVEMENT	DOL	1,825.000	1,825.000
0740	SPV.0035	SPECIAL 01. CEMENT SLURRY MIXTURE	CY	21.500	21.500
0750	SPV.0060	SPECIAL 01. REMOVING RAISED PAVEMENT MARKER AND FILLING VOID	EACH	50.000	50.000
0760	SPV.0060	SPECIAL 02. CONCRETE PAVEMENT APPROACH SLAB RAISING AND FILLING VOID	EACH	4.000	4.000
0770	SPV.0090	SPECIAL 01. ASPHALTIC SURFACE IN PCC CRACKS	LF	17,300.000	17,300.000
0780	SPV.0090	SPECIAL 02. REFLECTIVE JOINTS AND CRACKS ROUT AND SEAL	LF	14,000.000	14,000.000
0790	SPV.0090	SPECIAL 03. SAWING PAVEMENT DECK PREPARATION AREAS	LF	770.000	770.000
0800	SPV.0165	SPECIAL 01. SPRAYED ASPHALTIC SURFACE TREATMENT	SF	1,975.000	1,975.000
0810	SPV.0180	SPECIAL 02. CONCRETE PAVEMENT REPAIR SPECIAL	SY	125.000	125.000

3

REMOVING PAVEMENT

							204.0100 REMOVING PAVEMENT (SY)
STATION	OFFSET	STATION	OFFSET	LENGTH	WIDTH	LOCATION	
1849+53	15' RT - 22' RT	1849+71	15' RT - 22' RT	9	7	B-43-0020	7
1849+53	15' LT - 22' LT	1849+71	15' LT - 22' LT	9	7	B-43-0020	7
2142+76	15' RT - 22' RT	2142+85	15' RT - 22' RT	9	7	B-43-0028	7
2142+76	15' LT - 22' LT	2142+85	15' LT - 22' LT	9	7	B-43-0028	7
TOTAL:							28

REMOVING ASPHALTIC SURFACE MILLING

						204.0120 (SY)
STATION	OFFSET	STATION	OFFSET	LOCATION	COMMENTS	
1810+00 NB	LT	1825+00 NB	LT	USH 51 NB	CROSS OVER	4400
TOTAL :						4400

3

REMOVING PAVEMENT BUTT JOINTS

							204.0105 (SY)
STATION	OFFSET	STATION	OFFSET	LENGTH	WIDTH	LOCATION	
1788+00 SB	15' RT - 15' LT	1789+00 SB	15' RT - 15' LT	100	30	SOUTHBOUND	333
1824+00 SB	15' RT - 15' LT	1825+00 SB	15' RT - 15' LT	100	30	SOUTHBOUND	333
1918+00	15' RT - 15' LT	1919+00	15' RT - 15' LT	100	30	NB & SB	333
1942+00	15' RT - 15' LT	1943+00	15' RT - 15' LT	100	30	NB & SB	333
TOTAL:							1332

BASE AGGREGATE DENSE 3/4-INCH

						305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)
STATION	OFFSET	STATION	OFFSET	LOCATION	COMMENTS	
1788+00 SB	LT	1825+00 SB	LT	USH 51 SB	RT SHOULDER	375
1788+00 SB	RT	1821+50 SB	RT	USH 51 SB	LT SHOULDER	350
1918+00	RT	1943+00	RT	USH 51 NB	RT SHOULDER	250
1918+00	LT	1943+00	LT	USH 51 NB	LT SHOULDER	250
-	-	-	-	USH 51	UNDISTRIBUTED	125
TOTAL :						1350

REMOVING ASPHALTIC SURFACE

				REMOVING ASPHALTIC SURFACE (SY)
STATION	TO	STATION	OFFSET	
1837+66	-	1840+96	15' RT - 22' RT	257
1839+66	-	1841+07	15' LT - 22' LT	110
1843+75	-	1848+50	15' RT - 22' RT	369
1843+82	-	1848+50	15' LT - 22' LT	364
1849+75	-	1850+90	15' - 22' LT AND RT	178
2142+65	-	2142+80	15' RT - 22' RT	12
2142+65	-	2142+80	15' LT - 22' LT	12
TOTAL:				1302

DELINEATORS

						204.0180 REMOVING DELINEATORS and MARKERS
			633.0100 DELINEATOR POSTS STEEL EACH	633.0500 DELINEATOR REFLECTORS EACH		
STATION	TO	STATION				
1815+00 NB	-	1825+00 NB	10	10		10
1815+00 SB	-	1778+00 SB	5	5		5
TOTAL			15	15		15

REMOVING GUARDRAIL

					204.0165 REMOVING GUARDRAIL (LF)
STATION	OFFSET	STATION	OFFSET	LOCATION	
1837+66	RT	1840+96	RT	B-43-0018	330
1839+66	LT	1841+07	LT	B-43-0018	141
1843+63	RT	1848+65	RT	B-43-0018	502
1843+75	LT	1848+58	LT	B-43-0018	483
1849+60	RT	1850+90	RT	B-43-0020	130
1849+48	LT	1852+28	LT	B-43-0020	280
TOTAL:					1866

HMA PAVEMENT						455.0105		460.1103		SPV.0060.01	SPV.0090.01	211.0400
						ASPHALTIC	455.0605	HMA	690.0150	REMOVING RAISED	ASPHALTIC SURFACE	PREPARATION
						MATERIAL	TACK	PAVEMENT	SAWING	PAVEMENT MARKER	IN	FOR ASPHALTIC
						PG58-28	COAT	TYPE	ASPHALT	AND FILLING	PCC	SHOULDERS
						(TON)	(GAL)	E-3	(LF)	VOID	CRACKS	(STA)
										(EACH)	(LF)	
STATION	OFFSET	STATION	OFFSET	LOCATION	COMMENTS							
1810+00 NB	LT	1827+00 NB	LT	USH 51 NB	CROSSOVER, 23' TYP	40	100	750				
1788+00 SB	RT	1827+00 SB	RT	USH 51 SB	SB, 30' WIDE	152	309	2,763		50	8,200	
1918+00	LT	1943+00	LT	USH 51 NB	NB, 30' WIDE	103	208	1,867			9,100	
221(B)+00	LT	222(B)+50	LT	USH 51 RAMP NB	LT PAVED SHOULDER, 5' WIDE	1	1	10				2
1840+80	LT/RT	2142+50	LT/RT	BRIDGE SHOULDERS	7' EACH SIDE OF BRIDGES	0	0	0	56			
1837+66	RT	1840+96	RT	GUARDRAIL SHOULDER		3	6	58				
1839+66	LT	1841+07	LT	GUARDRAIL SHOULDER		1	3	25				
1843+75	RT	1848+50	RT	GUARDRAIL SHOULDER		5	9	83				
1843+82	LT	1848+50	LT	GUARDRAIL SHOULDER		5	9	82				
1849+75	LT/RT	1850+90	LT/RT	GUARDRAIL SHOULDER		2	5	40				
TOTAL						312	650	5,678	56	50	17,300	2

CONCRETE ITEMS							203.0225.5	416.1010	416.0610	416.0620	611.0430		SPV.0035.01	SPV.0060.02	SPV.0180.02
							DEBRIS	CONCRETE	DRILLED	DRILLED	RECONSTRUCTING	690.0250	CEMENT	CONCRETE PAVEMENT	CONCRETE
							CONTAINMENT	SURFACE	TIE	DOWEL	INLETS	SAWING	SLURRY	APPROACH SLAB RAISING	PAVEMENT
							B-43-18	DRAINS	BARS	BARS		CONCRETE	MIXTURE	AND FILLING VOID	REPAIR SPECIAL
							(LS)	(CY)	(EACH)	(EACH)	(EACH)	(LF)	(CY)	(EACH)	(SY)
1778+36	15'RT-15'LT	1778+73	15'RT-15'LT	37	30'	USH 51 SB	1	3.6	6	30			5	1 (SOUTH APPROACH) 1 (NORTH APPROACH)	125
1840+77	15' RT - 22' RT	1840+98	15' RT - 22' RT	20.5	7'	B-43-0018									
1840+77	15' RT - 15' LT	1840+98	15' RT - 15' LT	29.4	30'	B-43-0018									
1843+62	15' RT - 15' LT	1843+85	15' RT - 15' LT	26.8	30'	B-43-0018									
1840+77	15' LT - 22' LT	1841+07	15' LT - 22' LT	29.4	7'	B-43-0018									
1848+36	15' RT - 22' RT	1848+65	15' RT - 22' RT	29.4	7'	B-43-0020									
1848+36	15' LT - 22' LT	1848+58	15' LT - 22' LT	20.5	7'	B-43-0020									
1849+60	15' RT - 22' RT	1849+80	15' RT - 22' RT	20.5	7'	B-43-0020					1	1			
1849+62	15' LT - 22' LT	1849+80	15' LT - 22' LT	18	7'	B-43-0020									
2142+65	15' RT - 22' RT	2142+85	15' RT - 22' RT	20.5	7'	B-43-0028					1	1			
2142+65	15' LT - 22' LT	2142+85	15' LT - 22' LT	20.5	7'	B-43-0028		3.6	6	2	1	1			
2142+65	15' RT - 15' LT	2142+85	15' RT - 15' LT	20.5	30'	B-43-0028		3.6	6	2			3	1 (SOUTH APPROACH)	125
2144+35	15' RT - 15' LT	2144+55	15' RT - 15' LT	20.5	30'	B-43-0028							5.5	1 (NORTH APPROACH)	
TOTAL:							1	31.3	53	46	3	230	21.5	4	

MSG GUARDRAIL
GUARDRAIL TERMINAL EAT
BARRIER SYSTEM GRADING SHAPING FINISHING

						614.0010 BARRIER SYSTEM GRADING SHAPING FINISHING (EACH)	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)	614.0396 GUARDRAIL MOW STRIP ASPHALT (SY)	SPV.0165.01 SPRAYED ASPHALTIC SURFACE TREATMENT (SF)	*INFORMATION ONLY AND ARE INCIDENTAL TO 614.0010			
STATION		STATION		LOCATION	COMMENTS							(*) FILL (CY)	(*) TOPSOIL (SY)	(*) SEED NO. 20 (LBS)	(*) FERT TYPE B (CWT)
1837+69	RT	1838+22	RT	B-43-0018	EAT	1	-	-	1	-	186	3	76	2	0.1
1838+22	RT	1840+59	RT	B-43-0018	MGS 3		237.5	-	-	140	-	0	90	3	0.1
1840+59	RT	1840+98	RT	B-43-0018	THRIE		-	39.4	-	15	-	0	20	1	0.1
1838+54	LT	1839+07	LT	B-43-0018	EAT	1	-	-	1	-	186	14	214	6	0.2
1839+07	LT	1840+70	LT	B-43-0018	MGS 3		162.5	-	-	104	-	0	90	3	0.1
1840+70	LT	1841+09	LT	B-43-0018	THRIE		-	39.4	-	15	-	0	20	1	0.1
1843+61	RT	1844+00	RT	B-43-0018	THRIE		-	39.4	-	-	-	0	0	0	0.0
1844+00	RT	1848+28	RT	B-43-0018	MGS 3		422.0	-	-	166	-	0	0	0	0.0
1848+28	RT	1848+67	RT	B-43-0018	THRIE		-	39.4	-	15	-	0	0	0	0.0
1843+73	LT	1844+12	LT	B-43-0018	THRIE		-	39.4	-	-	-	0	0	0	0.0
1844+12	LT	1848+20	LT	B-43-0018	MGS 3		403.0	-	-	159	-	0	0	0	0.0
1848+20	LT	1848+60	LT	B-43-0018	THRIE		-	39.4	-	16	-	0	0	0	0.0
1849+58	RT	1849+97	RT	B-43-0020	THRIE		-	39.4	-	-	-	0	20	1	0.1
1849+97	RT	1851+60	RT	B-43-0020	MGS 3		162.5	-	-	-	571	0	90	3	0.1
1851+60	RT	1852+13	RT	B-43-0020	EAT	1	-	-	1	-	186	14	214	6	0.2
1849+46	LT	1849+85	LT	B-43-0020	THRIE		-	39.4	-	-	-	0	20	1	0.1
1849+85	LT	1851+73	LT	B-43-0020	MGS 3		187.5	-	-	-	660	0	90	3	0.1
1851+73	LT	1852+26	LT	B-43-0020	EAT	1	-	-	1	-	186	3	76	2	0.1
TOTAL						4	1575	315	4	630	1975	34.0	1020.0	32.0	1.4
										(*)	(*)	(*)	(*)		

POLYMER OVERLAY

509.5100.S
POLYMER OVERLAY
APPROACH
SLAB AREA
(SY)

STATION	STATION	LOCATION	COMMENTS	(SY)
1840+77	1843+95	B-43-0018	BRIDGE DECK AND APPROACHES	236
1848+36	1849+80	B-43-0020	BRIDGE DECK AND APPROACHES	241
2142+65	2144+55	B-43-0028	BRIDGE DECK AND APPROACHES	200
				677

See Bridge Sheets for Bridge Deck Areas

ROUT AND SEAL

					415.6000.S ROUT AND SEAL (LF)	SPV.0090.02 REFLECTIVE JOINTS AND CRACKS ROUT AND SEAL (LF)
STATION	STATION	OFFSET	LOCATION	COMMENTS		
132+84 (XO) NB	142+00 (XO) NB	LT/RT	USH 51 NB	BETWEEN HMA AND PCC	1160 500	8000 6000
143+00 (XO) NB	149+00 (XO) NB	LT/RT	USH 51 NB	BETWEEN HMA AND PCC		
1788+00 SB	1827+00 SB	LT/RT	USH 51 SB	LONG and TRANS CRACKS		
1918+00 NB	1943+00 NB	LT/RT	USH 51 SB	LONG and TRANS CRACKS		
TOTAL:					1660	14000

EROSION CONTROL

STATION		STATION		LOCATION		628.1504 SILT FENCE	628.1520 SILT FENCE MAINTENANCE	628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EROSION CONTROL	628.2023 EROSION MAT CLASS II TYPE B
PROJECT		PROJECT LIMITS				(LF)	(LF)	(EACH)	(EACH)	(SY)
BEAM GUARD										
STA. 1838+60	LT	-	STA. 1841+10	LT	B-43-0018	250	250	-	-	135
STA. 1837+70	RT	-	STA. 1841+00	RT	B-43-0018	330	330	-	-	151
STA. 1843+70	LT	-	STA. 1848+60	LT	B-43-0020	490	490	-	-	321
STA. 1843+60	RT	-	STA. 1848+60	RT	B-43-0020	500	500	-	-	334
STA. 1849+50	LT	-	STA. 1852+30	LT	B-43-0020	280	280	-	-	151
STA. 1849+50	RT	-	STA. 1852+15	RT	B-43-0020	265	265	-	-	135
STA. 2142+45	LT	-	STA. 2142+90	LT	B-43-0028	45	45	-	-	30
STA. 2142+55	RT	-	STA. 2142+90	RT	B-43-0028	35	35	-	-	23
TOTALS:						2,195	2,195	2	1	1,280

PAVEMENT MARKING

			649.0400 649.0801 649.1800 649.2000 647.0726											
			647.074 TEMPORARY TEMPORARY TEMPORARY TEMPORARY PAVEMENT											
			646.0106 PAVEMENT MARKING WHITE EPOXY 4-INCH (LF)	646.0106 PAVEMENT MARKING YELLOW EPOXY 4-INCH (LF)	646.0126 PAVEMENT MARKING YELLOW EPOXY 8-INCH (LF)	PAVEMENT MARKING DIAGONAL EPOXY 18-INCH (LF)	PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	PAVEMENT MARKING REMOVABLE TAPE 8-INCH (LF)	PAVEMENT MARKING ARROWS REMOVABLE TAPE (EACH)	PAVEMENT MARKING WORDS REMOVABLE TAPE (EACH)	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18 IN (LF)	647.0726 PAVEMENT DIAGONAL EPOXY 12 INCH (LF)	649.0100 TEMPORARY PAVEMENT MARKING WHITE 4 INCH (LF)	649.0100 TEMPORARY PAVEMENT MARKING YELLOW 4 INCH (LF)
1790+00	1828+00	Crossover	3800	4900	315									
1838+00	1852+00	Little Rice/CTH N	1350	2800										
1775+75	1778+75	USH 51 SB	100	100										
1918+00	1943+00	USH 51	5000											625
2140+00	2146+00	Bearskin	2400	800										
1778+00	1827+00	USH 51 SB				120							1275	1400
-	-	USH 8/CTH L	75	50							35	48		
-	-	USH 51/CTH L					260							
-	-	USH 51/USH 8					1720	200	2	2				
-	-	PROJECT TOTALS	21,375		315	120	1,980	200	2	2	35	48	3,300	

TRAFFIC CONTROL

		643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE (PROJECT) 1170-16-70	643.0300 TRAFFIC CONTROL DRUMS	643.0420 TRAFFIC CONTROL BARRICADES TYPE III	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C	643.0800 TRAFFIC CONTROL ARROW BOARDS	643.0900 TRAFFIC CONTROL SIGNS	643.1050 TRAFFIC CONTROL SIGNS PCMS	643.2000 TRAFFIC CONTROL DETOUR	643.3000 TRAFFIC CONTROL DETOUR SIGNS	643.0500 FLEXIBLE TUBULAR MARKER POSTS	643.0600 FLEXIBLE TUBULAR MARKER BASES	643.0920 COVERING SIGNS TYPE II
STATION	STATION	(DAYS)	(DAYS)	(DAYS)	(DAYS)	(DAYS)	(DAYS)	(DAY)	(EACH)	(DAYS)	(EACH)	(EACH)	(EACH)
1778+00	2152+00	25	768	170	120	25	600	180	1	1800	23	17	20
TOTALS:		25	768	170	120	25	600	180	1	1800	23	17	20

CONSTRUCTION STAKING

CONSTRUCTION STAKING				650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE (LF)	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 1170-16-70 (LS)
STATION	STATION	LOCATION	COMMENTS		
PROJECT			PROJECT	-	1
1810+00 NB	LT	1825+00 NB	LT	1500	-
1788+00 SB	RT	1825+00 SB	RT	3700	-
1918+00	LT	1943+00	LT	2500	-
TOTALS:				7700	1

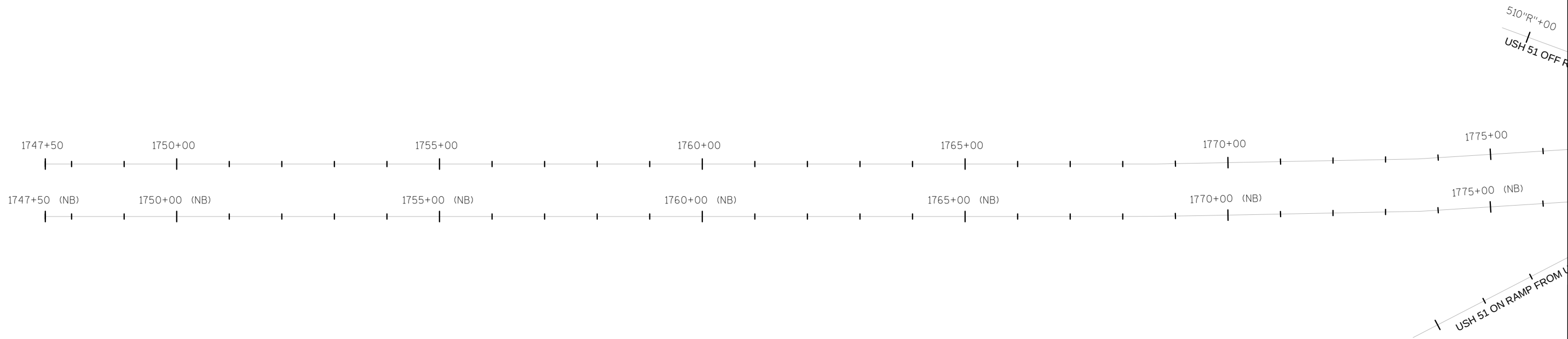
PERMANENT SIGNING

		SIGN			638.2602	638.3000	638.2601	637.2210	637.2230	637.1220	634.0616	634.0618	634.0805		
					REMOVING	REMOVING	REMOVING	SIGNS	SIGNS	SIGNS	WOOD POSTS	WOOD POSTS	TUBULAR STEEL		
					SIGNS	SMALL SIGN	SIGNS	TYPE II	TYPE II	TYPE I	4X6 INCH	4X6 INCH	2X2 INCH		
					TYPE II	SUPPORTS	TYPE I	REFLECTIVE H	REFLECTIVE F	REFLECTIVE SH	16 FOOT	18 FOOT	8 FOOT		
STATION	LOCATION	NUMBE	SIGN CODE	SIZE (IN x IN)	EACH	EACH	EACH	S.F.	S.F.	S.F.	EACH	EACH	EACH	DESCRIPTION	COMMENTS
1783+00	LT	1	E1-5/E4-1A	10'X2.5'/21'X11'	-	-	1	-	-	256.00	-	-	-	PRENTICE, RHINELANDER, HWY 8 TR	
1784+37	RT	2	W4-2R	48"X48"	1	1	-	-	16.00	-	-	1	-	WARNING SIGN	RIGHT LANE ENDS
1784+37	RT	3	W4-2R	24"X36"	1	1	-	-	16.00	-	-	1	-	WARNING SIGN	RIGHT LANE ENDS
1789+10	RT	4	J4-1	24"X36"	-	-	-	6.00	-	-	-	1	-	REASSURANCE ASSEMBLY	
			M3-1	24"X12"	-	-	-	-	-	-	-	-	-	CARDINAL DIRECTION MARKER	NORTH
			M1-4	24"X24"	-	-	-	-	-	-	-	-	-	STH ROUTE MARKER SIGN	51
1791+50	RT	5	R2-1	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
1791+55	LT	6	-	-	-	-	-	-	-	-	-	-	-	ATTRactions, LODGING, CAMPING	TO REMAIN
1794+00	RT	7	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
1794+00	RT	8	R3-4B	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	NO U TURN
131+95	RT	9	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
132+95	RT	10	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
1798+80	LT	11	R3-4B	36"X48"	1	2	-	12.00	-	-	-	1	-	REGULATORY SIGN	NO U TURN
134+00	RT	12	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
134+99	RT	13	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
136+00	RT	14	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
137+00	RT	15	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
138+00	RT	16	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
139+00	RT	17	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
140+00	RT	18	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
141+00	RT	19	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
142+00	RT	20	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
143+00	RT	21	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
144+00	RT	22	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
145+00	RT	23	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
145+45	LT	24	I2-2	60"X15"	1	2	-	6.25	-	-	2	-	-	INFORMATIONAL SIGN	LINCOLN CO
1809+25	RT	25	I2-2	60"X15"	1	2	-	6.25	-	-	2	-	-	INFORMATIONAL SIGN	ONEIDA CO
146+00	RT	26	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
147+00	RT	27	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
1811+40	RT	28	W6-2	36"X36"	1	1	-	9.00	-	-	-	1	-	WARNING SIGN	DIVIDED HIGHWAY ENDS
148+00	RT	29	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
149+00	RT	30	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
150+00	RT	31	W12-1L	30"X30"	1	1	-	-	6.25	-	-	-	1	WARNING SIGN	DIAGONAL LT ARROW
1815+10	LT	32	R2-1	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
1815+10	LT	33	R2-1	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
1815+50	RT	34	R5-1A	42"X30"	1	1	-	8.75	-	-	1	-	-	REGULATORY SIGN	WRONG WAY
1815+50	RT	35	R5-1A	42"X30"	1	1	-	8.75	-	-	1	-	-	REGULATORY SIGN	WRONG WAY
		SHEET 1		SUB-TOTALS:	32	35	1	105	157	256	6	9	20		

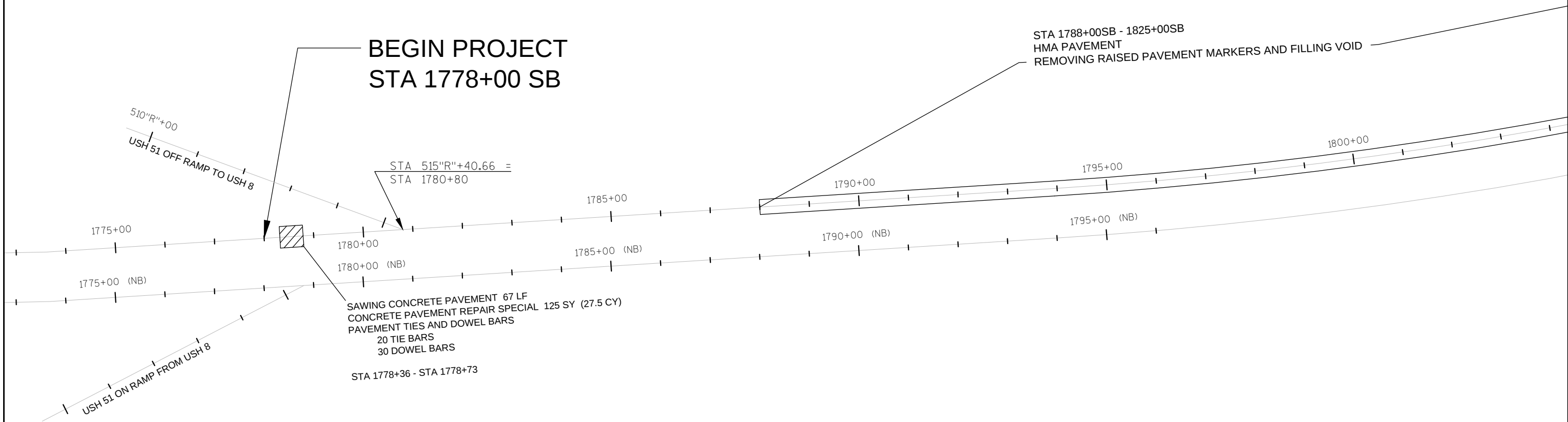
PERMANENT SIGNING

STATION	LOCATION	SIGN NUMBE	SIGN CODE	SIZE (IN x IN)	638.2602	638.3000	638.2601	637.2230	637.2210	637.1220	634.0616	634.0618	634.0816	DESCRIPTION	COMMENTS
					REMOVING	REMOVING	REMOVING	SIGNS	SIGNS	SIGNS	WOOD POSTS	WOOD POSTS	TUBULAR STEEL		
					TYPE II	SMALL SIGN SUPPORTS	SIGNS TYPE I	REFLECTIVE H TYPE II	REFLECTIVE F TYPE II	REFLECTIVE SH TYPE I	4X6 INCH 16 FOOT	4X6 INCH 18 FOOT	2X2 INCH 8 FOOT		
					EACH	EACH	EACH	S.F.	S.F.	S.F.	EACH	EACH	EACH		
1819+80	RT	36	R5-1	36"X36"	1	1	-	9.00	-	-	-	1	-	REGULATORY SIGN	DO NOT ENTER
1819+80	RT	37	R5-1	36"X36"	1	1	-	9.00	-	-	-	1	-	REGULATORY SIGN	DO NOT ENTER
1821+95	RT	38	W14-3	48"X36"	1	-	-	-	-	-	-	1	-	WARNING SIGN	NO PASSING ZONE
1821+95	RT	39	R4-7	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	
1827+95	RT	40	W6-3	36"X36"	1	1	-	-	9.00	-	-	1	-	WARNING SIGN	TWO WAY TRAFFIC SIGNAL
1830+45	LT	41	E1-5/E1-1A	10'X2.5'/19'X13.5'	-	-	1	-	-	281.50	-	-	-	PRENTICE, RHINELANDER, HWY 8	1 MILE
1832+50	RT	42	D2-3	78"X36"	1	2	-	19.50	-	-	-	-	-	DESTINATION SIGN	MINOCQUA 24, WOODRUFF 26, HURLEY 73
1832+50	LT	43	W6-1	36"X36"	1	1	-	-	9.00	-	-	1	-	WARNING SIGN	DIVIDED HIGHWAY AHEAD
1834+70	RT	44	W6-3	36"X36"	-	1	-	-	9.00	-	-	1	-	WARNING SIGN	TWO WAY TRAFFIC SIGNAL
1834+70	LT	45	W6-3	36"X36"	1	1	-	-	-	-	-	-	-	WARNING SIGN	TWO WAY TRAFFIC SIGNAL
1836+10	RT	46	J4-1	24"X36"	1	1	-	-	-	-	-	-	-	REASSURANCE ASSEMBLY	
			M3-1	24"X12"	-	-	-	-	-	-	-	-	-	CARDINAL DIRECTION MARKER	NORTH
			M1-4	24"X24"	-	-	-	-	-	-	-	-	-	STH ROUTE MARKER SIGN	51
1840+75	RT	47	I3-1	60"X24"	1	2	-	10.00	-	-	2	-	-	INFORMATIONAL SIGN	LITTLE RICE CREEK
1845+65	LT	48	I3-1	60"X24"	1	2	-	10.00	-	-	2	-	-	INFORMATIONAL SIGN	LITTLE RICE CREEK
1848+00	RT	49	D1-1	42"X15"	1	1	-	4.38	-	-	1	-	-	DESTINATION SIGN	HWY N
1851+58	LT	50	D1-1	42"X15"	1	1	-	4.38	-	-	1	-	-	DESTINATION SIGN	HWY N
1853+65	RT	51	W14-3	48"X36"	1	1	-	-	6.00	-	-	1	-	WARNING SIGN	NO PASSING ZONE
1895+55	RT	52	R2-1	24"X30"	1	1	-	5.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
1895+55	LT	53	R2-1	24"X30"	1	1	-	5.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
1998+55	LT	54	W14-3	48"X36"	1	1	-	-	6.00	-	-	1	-	WARNING SIGN	NO PASSING ZONE
2007+54	RT	55	R4-51	36"X48"	1	1	-	12.00	-	-	-	1	-	REGULATORY SIGN	PASSING LANE AHEAD 1/2 MILE
2019+73	RT	56	W14-3	48"X36"	1	1	-	-	6.00	-	-	1	-	WARNING SIGN	NO PASSING ZONE
2030+68	LT	57	W14-3	48"X36"	1	1	-	-	6.00	-	-	1	-	WARNING SIGN	NO PASSING ZONE
2033+00	RT	58	R4-3	24"X30"	1	1	-	5.00	-	-	1	-	-	REGULATORY SIGN	SLOWER TRAFFIC KEEP RIGHT
2065+30	LT	59	R4-53	54"X54"	1	2	-	20.25	-	-	-	2	-	REGULATORY SIGN	DO NOT PASS WHEN TRAFFIC EITHER LANE
2100+00	LT	60	R4-1	24"X30"	1	1	-	5.00	-	-	1	-	-	REGULATORY SIGN	DO NOT PASS
2100+00	RT	61	W14-3	48"X36"	1	1	-	-	6.00	-	-	1	-	WARNING SIGN	NO PASSING ZONE
2112+06	RT	62	W9-1R	36"X36"	1	1	-	-	9.00	-	1	-	-	WARNING SIGN	RIGHT LANE ENDS
2112+06	LT	63	W9-1R	36"X36"	1	1	-	-	9.00	-	1	-	-	WARNING SIGN	RIGHT LANE ENDS
2117+44	RT	64	W4-2R	36"X36"	1	1	-	-	9.00	-	-	1	-	WARNING SIGN	RIGHT LANE ENDS
2117+44	LT	65	W4-2R	36"X36"	1	1	-	-	9.00	-	-	1	-	WARNING SIGN	RIGHT LANE ENDS
2129+64	LT	66	R4-53	54"X54"	1	2	-	20.25	-	-	-	2	-	REGULATORY SIGN	DO NOT PASS WHEN TRAFFIC EITHER LANE
2132+75	LT	67	D2-3	102"X36"	1	2	-	25.50	-	-	-	2	-	DESTINATION SIGN	MERRILL 33, WAUSAU 49, STEVENS POINT 63
2138+00	LT	68	R2-1	24"X30"	1	1	-	5.00	-	-	-	1	-	REGULATORY SIGN	SPEED LIMIT 55
2139+00	RT	69	J1-1	24"X39"	1	1	-	6.50	-	-	-	1	-	JUNCTION ASSEMBLY	
			M2-1	21"X15"	-	-	-	-	-	-	-	-	-	MARKER SIGN	JCT
			M1-5A	24"X24"	-	-	-	-	-	-	-	-	-	CTH ROUTH MARKER SIGN	L
2139+90	RT	70	D2-3	54"X24"	-	-	-	9.00	-	-	2	-	-	DESTINATION SIGN	BEARSKIN CREEK
2145+55	RT	71	I3-1	60"X24"	1	2	-	-	-	-	-	-	-	DESTINATION SIGN	LAKE NOKOMIS LA
2146+00	LT	72	D2-3	54"X24"	-	-	-	9.00	-	-	2	-	-	DESTINATION SIGN	BEARSKIN CREEK
2146+70	LT	73	R5-57	36"X36"	-	-	-	9.00	-	-	-	1	-	REGULATORY SIGN	PED, BIKE, NON MOTOR PROHIBITED
2148+00	LT	74	J4-1	24"X36"	1	1	-	6.00	-	-	-	1	-	REASSURANCE ASSEMBLY	
			M3-3	24"X12"	-	-	-	-	-	-	-	-	-	CARDINAL DIRECTION MARKER	SOUTH
			M1-6	24"X24"	-	-	-	-	-	-	-	-	-	STH ROUTE MARKER SIGN	51
2151+40	RT	75	J13-1	24"X45"	1	1	-	7.50	-	-	-	1	-	DIRECTIONAL ASSEMBLY	
			M6-1	21"X21"	-	-	-	-	-	-	-	-	-	DIRECTIONAL ARROW	LA
			M1-5A	24"X24"	-	-	-	-	-	-	-	-	-	CTH ROUTH MARKER SIGN	L
2151+02	RT	76	W1-7	48"X24"	1	1	-	-	8.00	-	1	-	-	WARNING SIGN	TWO DIRECTION LARGE ARROW
103+08	RT	77	R3-1	24"X24"	1	1	-	4.00	-	-	1	-	-	REGULATORY SIGN	NO RIGHT TURN
103+25	RT	78	R5-1	30"X30"	1	1	-	6.25	-	-	1	-	-	REGULATORY SIGN	DO NOT ENTER
103+25	RT	79	R1-1	30"X30"	1	1	-	6.25	-	-	-	1	-	REGULATORY SIGN	STOP SIGN
103+25	RT	80	R6-3	30"X24"	1	-	-	5.00	-	-	-	-	-	REGULATORY SIGN	DIVIDED HIGHWAY
		SHEET 2	SUB-TOTALS:		40	46	1	250	101	282	17	29	0		
			TOTALS:		72	81	2	355	258	538	23	38	20		

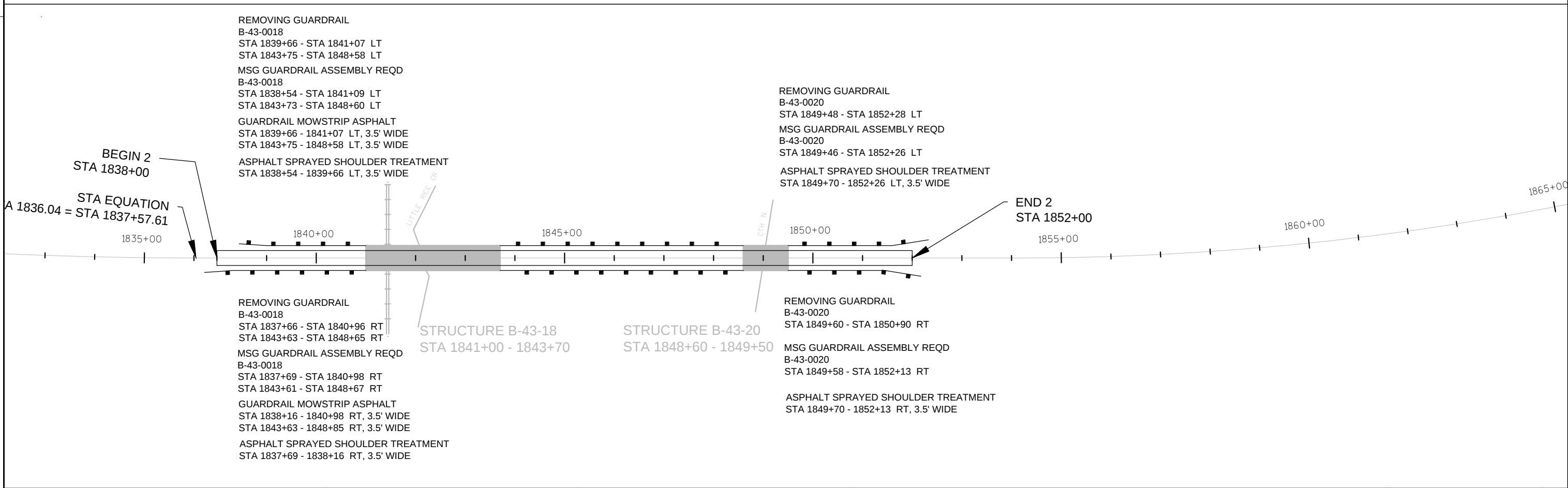
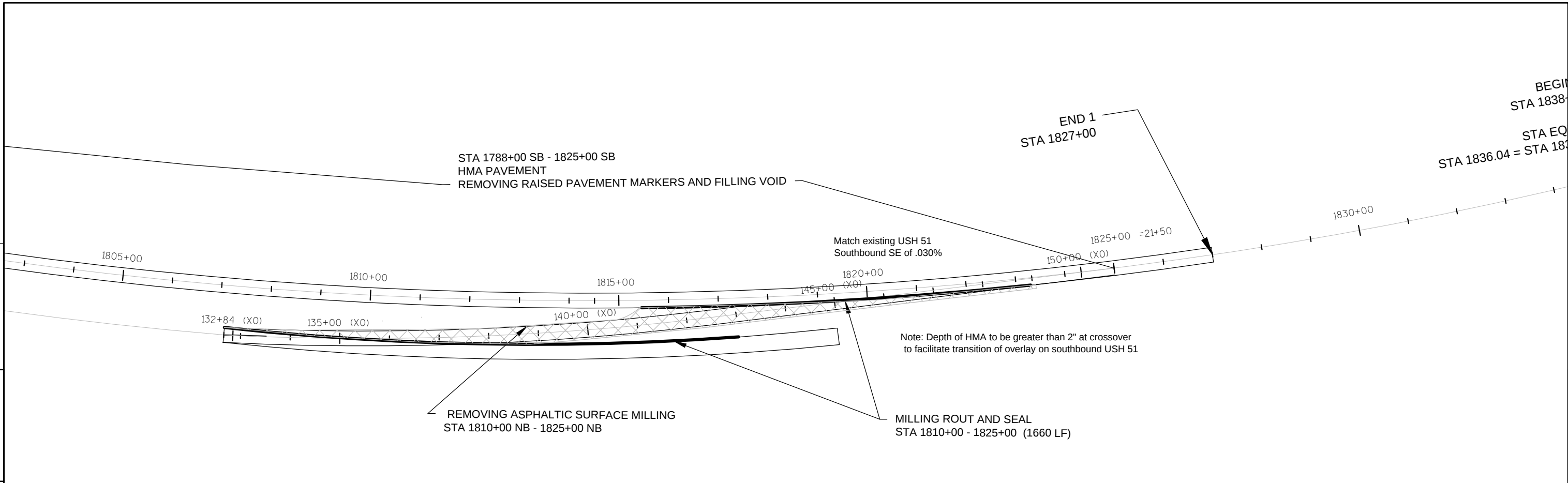
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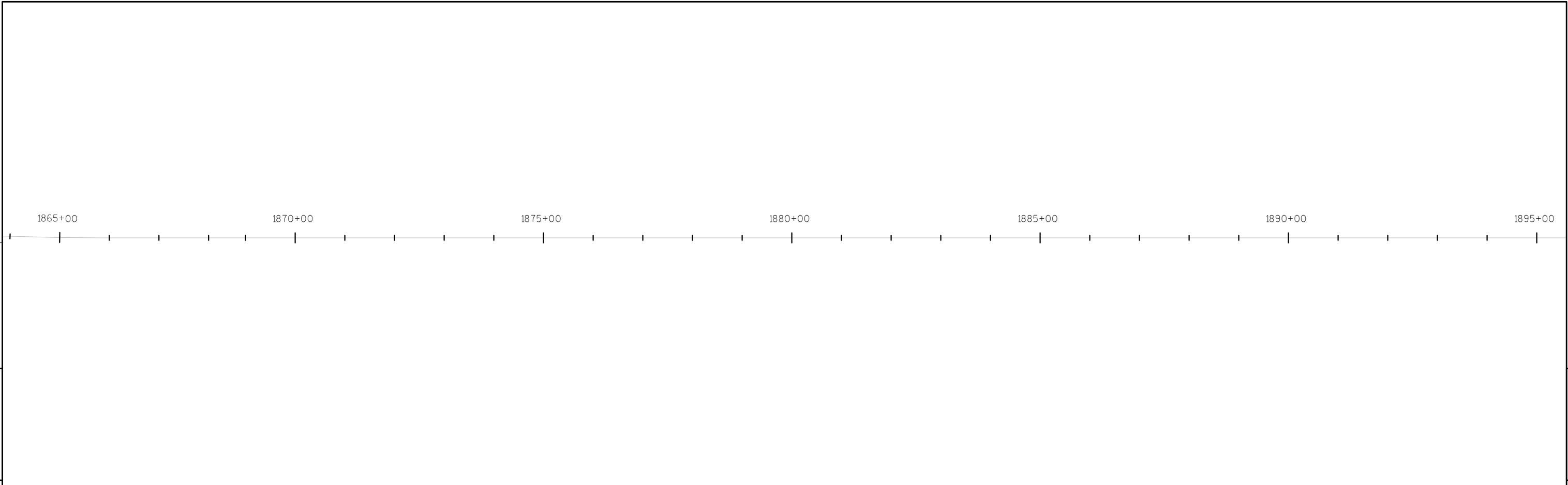


PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET	E
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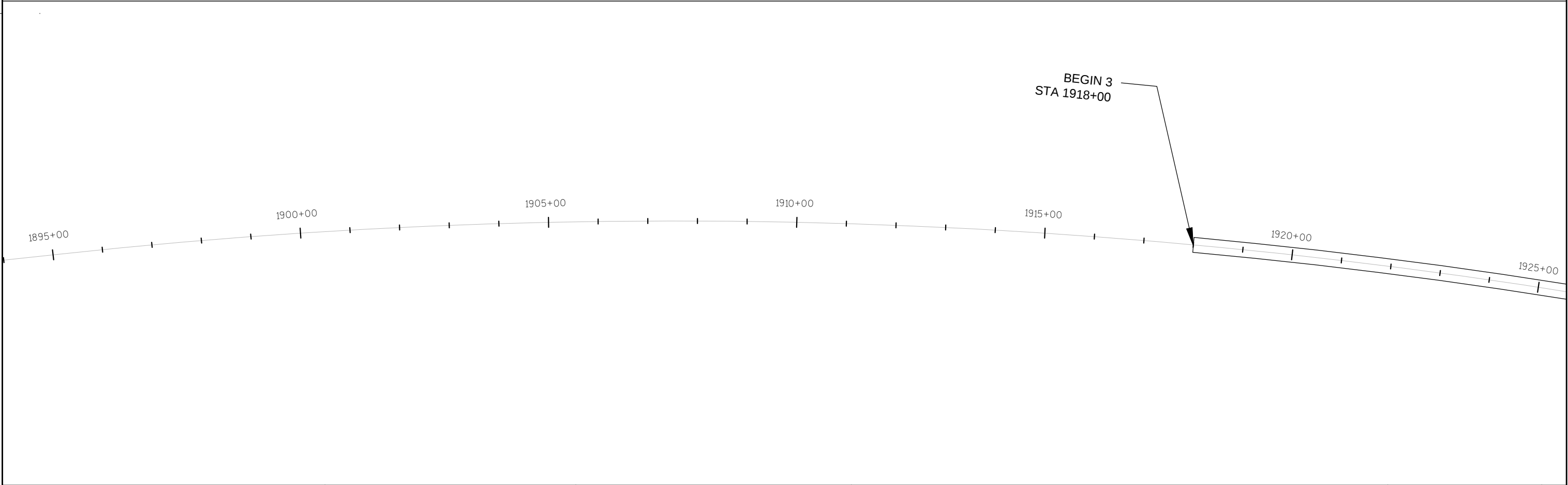


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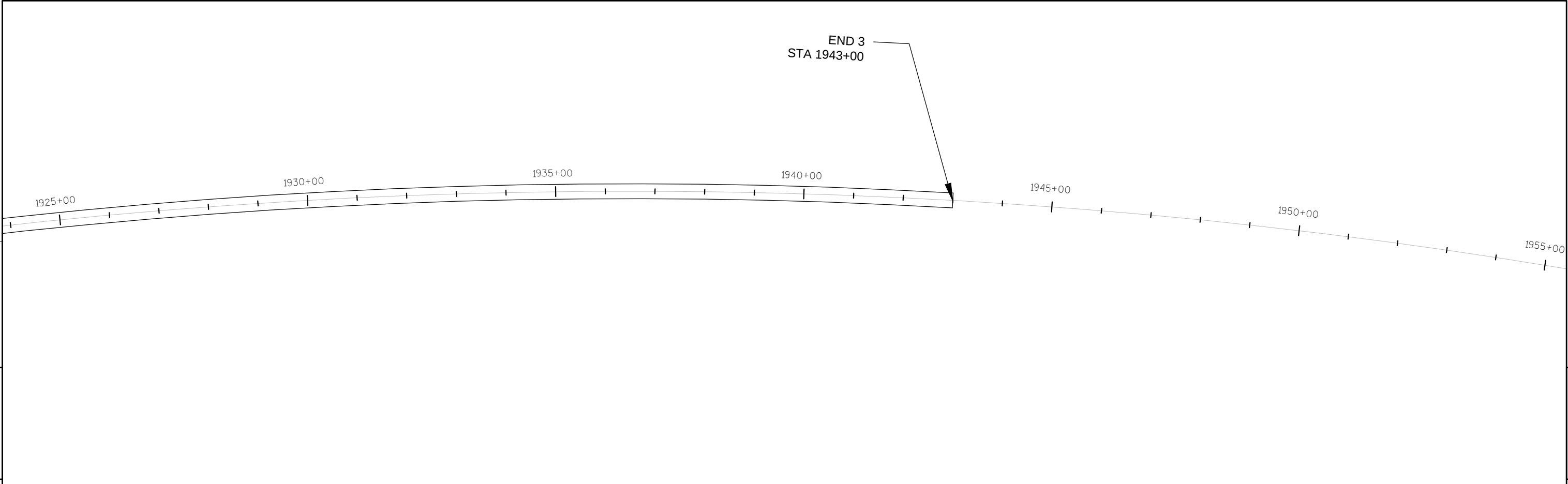


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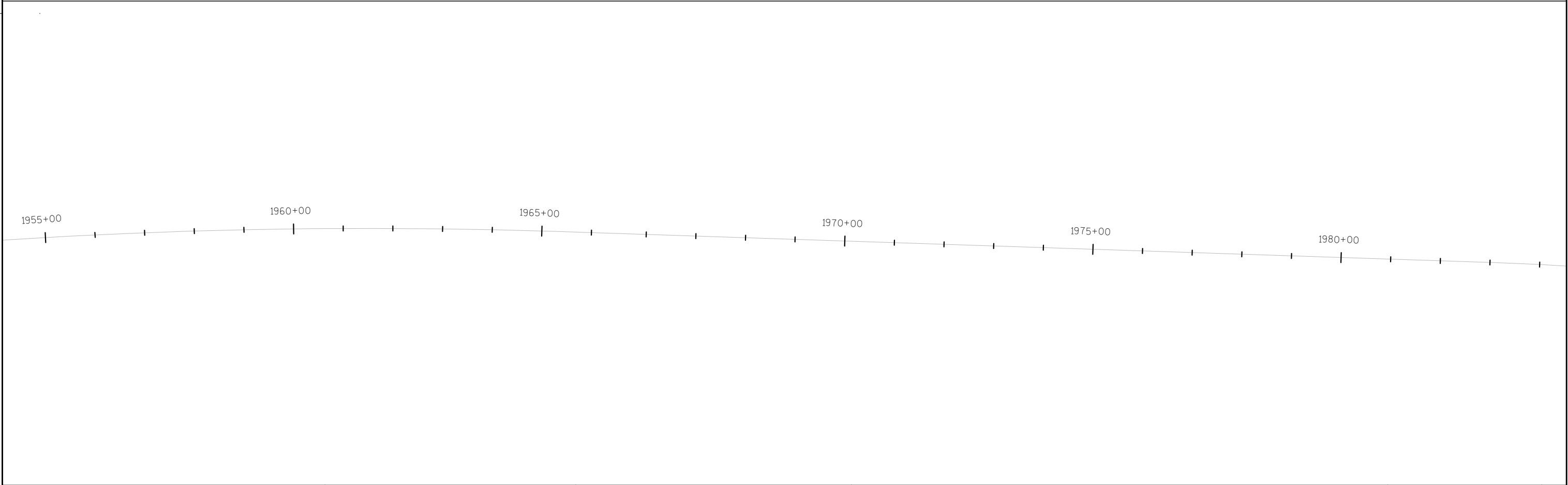


PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET	-----E
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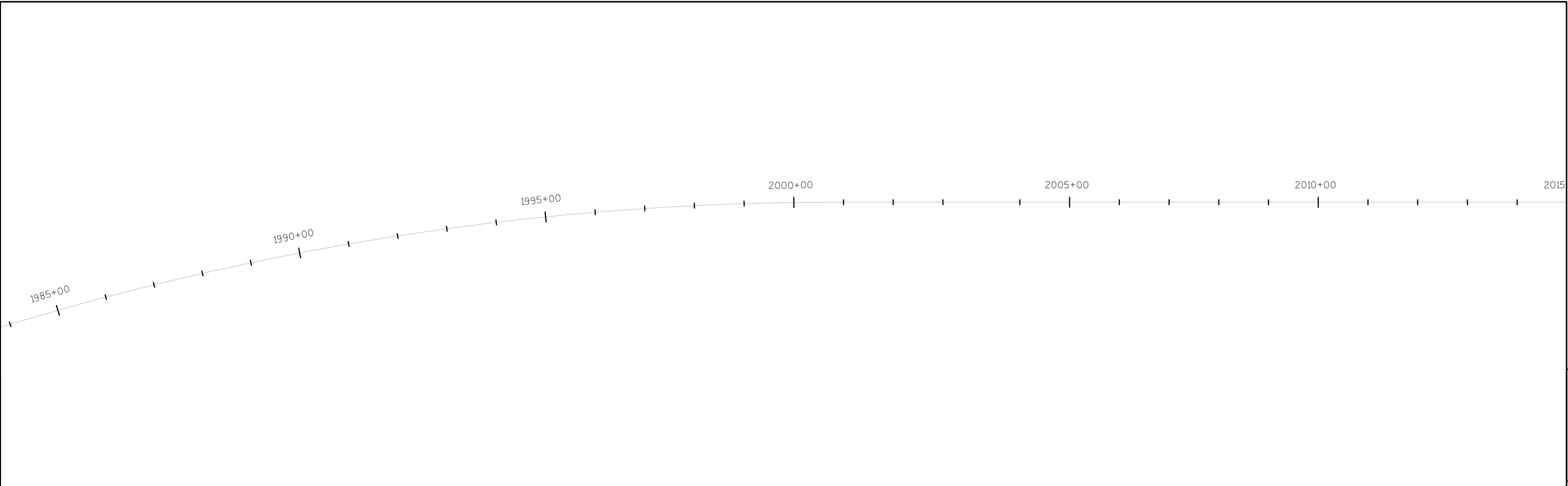


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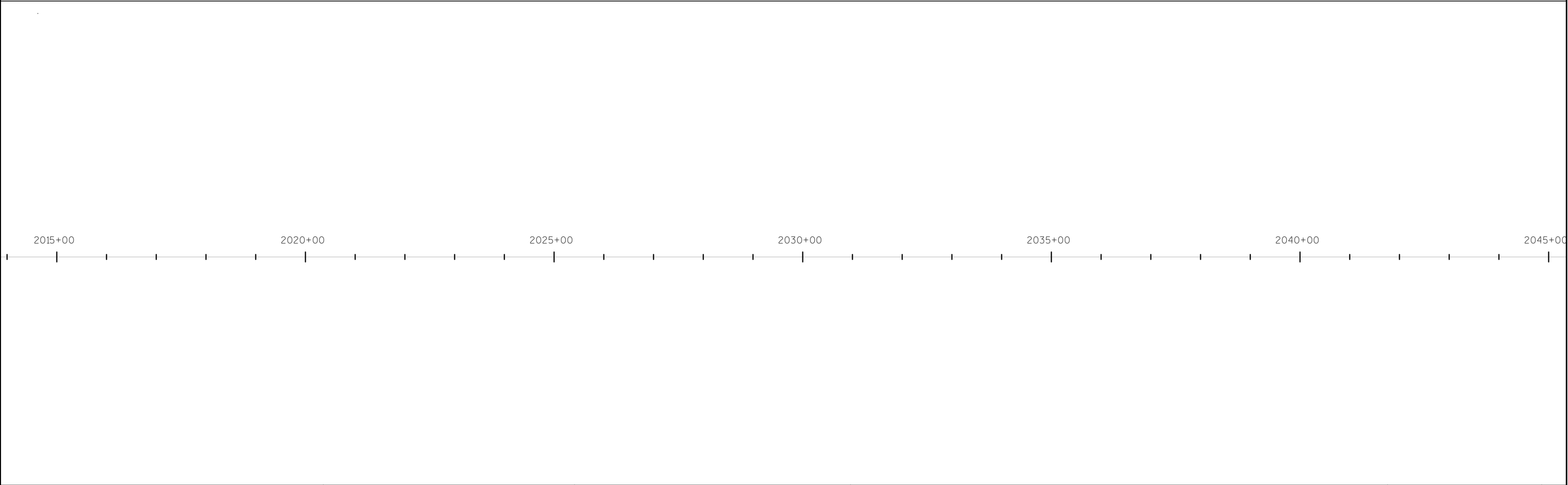


PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET	-----E
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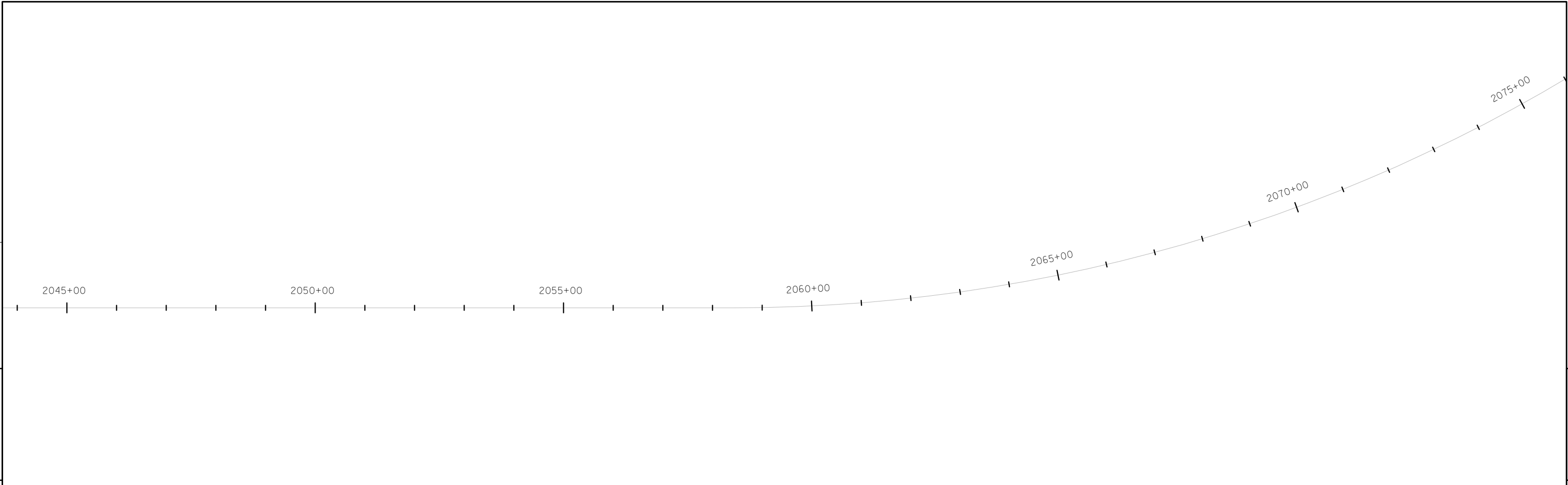


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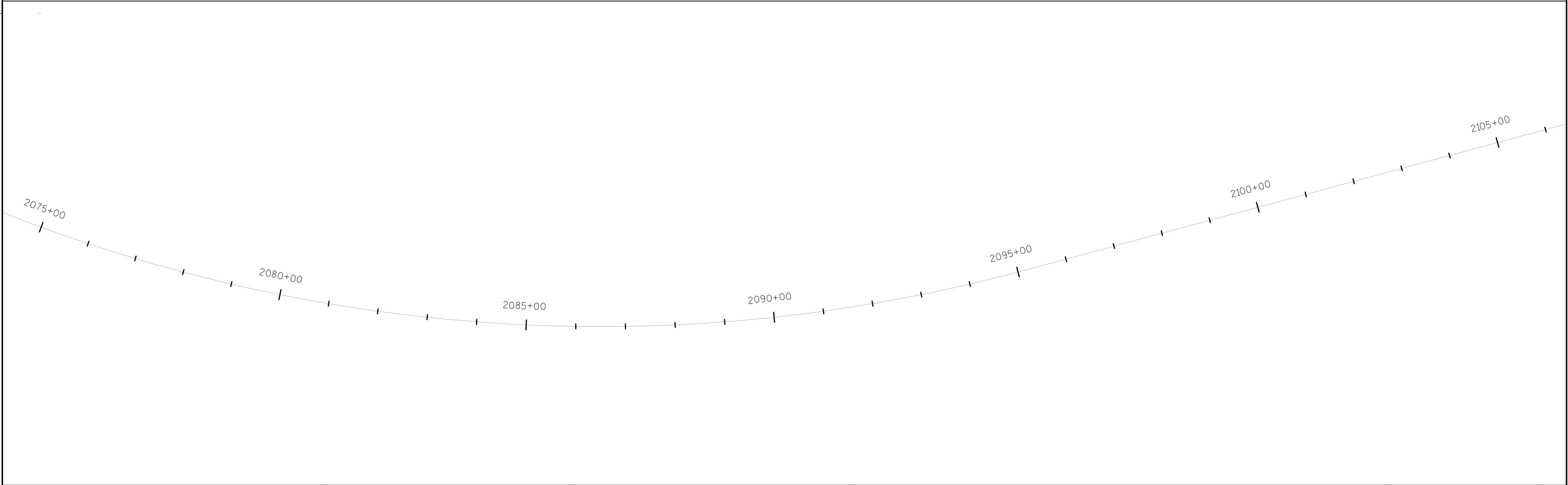


PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET	-----E
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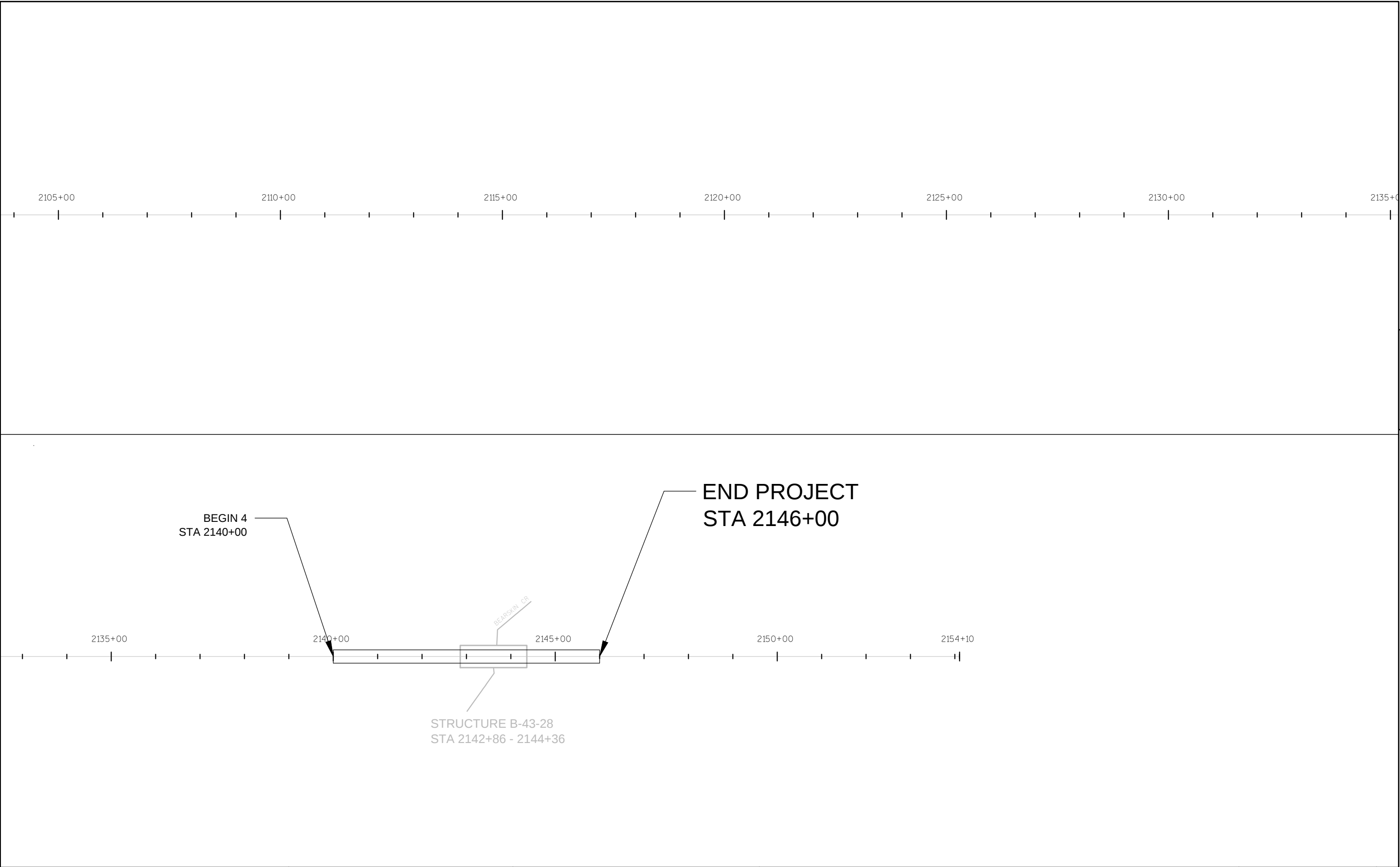
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PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET	-----E
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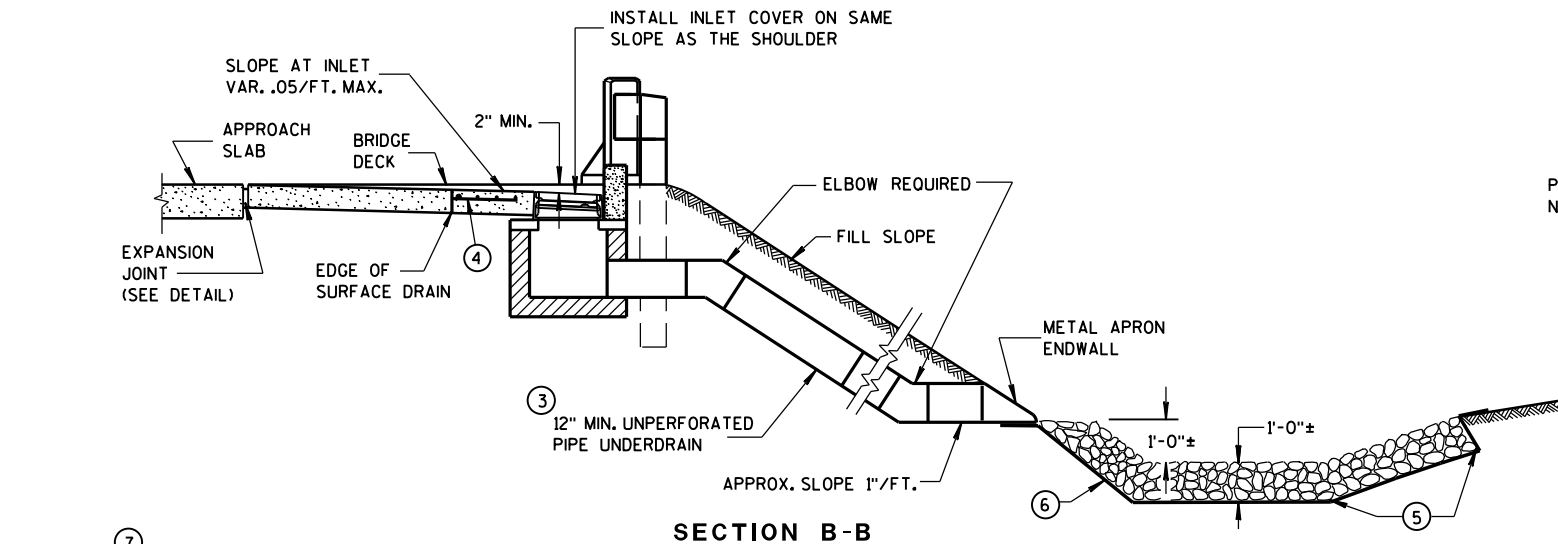
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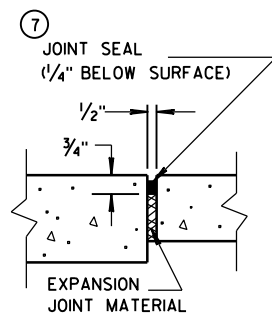
PROJECT NO: 1170-16-70	HWY: USH 51	COUNTY: LINCOLN / ONEIDA	PLAN	SHEET -----	E
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Standard Detail Drawing List

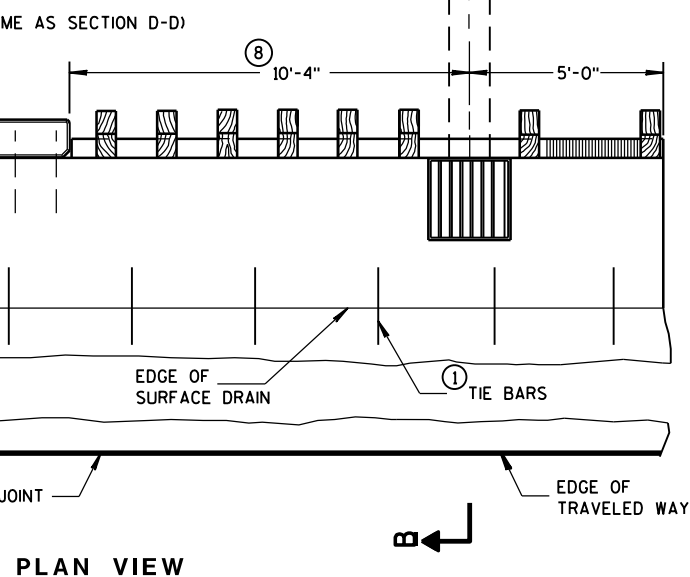
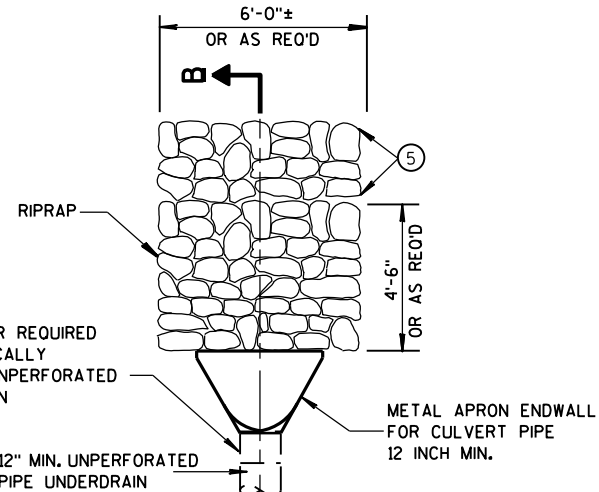
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E09-06	SILT FENCE
13A03-05	CONCRETE PAVEMENT SHOULDERS
13C01-16	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C09-10A	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-10B	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C09-10C	CONCRETE PAVEMENT REPAIR AND REPLACEMENT
13C18-02A	CONCRETE PAVEMENT JOINTING
13C18-02B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-02C	CONCRETE PAVEMENT JOINT TIES
13C18-02D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
14B28-02	GUARDRAIL MOW STRIP
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A02-07	DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR
15A06-02	DELINEATOR LAYOUT
15C02-04A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-04C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-01	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C07-12B	PAVEMENT MARKING WORDS
15C07-12C	PAVEMENT MARKING ARROWS
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-03	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D27-01	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH



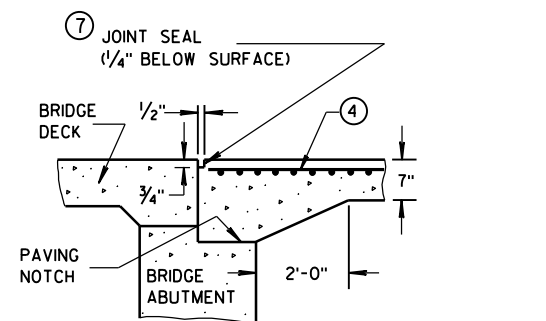
SECTION B-B



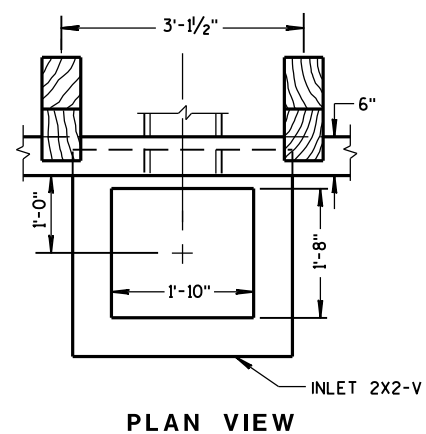
EXPANSION JOINT DETAIL



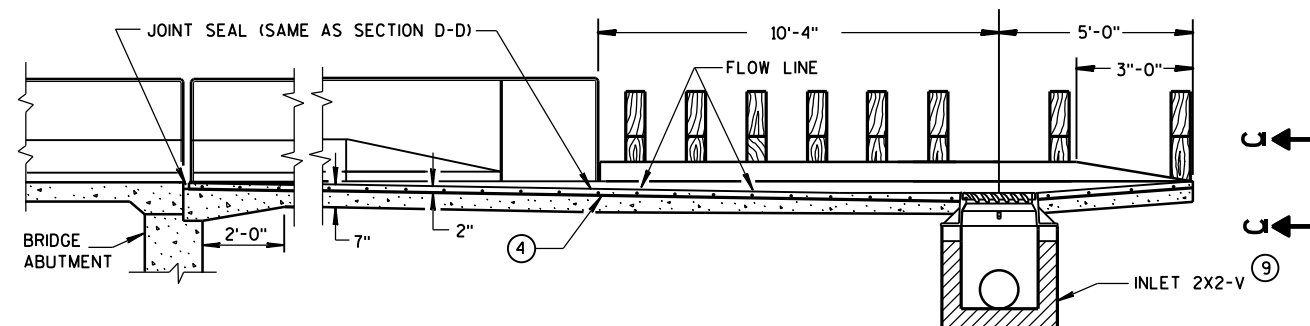
PLAN VIEW



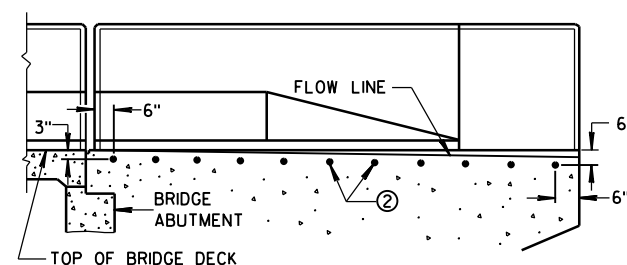
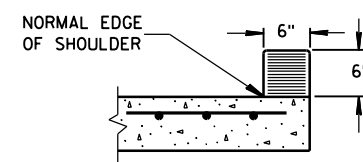
SECTION D-D



PLAN VIEW



SECTION A-A

LOCATION OF
TIE BARS IN WINGWALL

SECTION C-C

GENERAL NOTES

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

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

- ① NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.
- ② NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
- ③ THE PIPE UNDERDRAIN MAY BE ANY ONE OF THE SIX MATERIALS LISTED IN THE STANDARD SPECIFICATIONS SECTION 612.2 EXCEPT DRAIN TILE.
- ④ MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.
- ⑤ LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.
- ⑥ GEOTEXTILE FABRIC, TYPE 'R'
- ⑦ HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.
- ⑧ THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1/2".
- 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
DATE

9/4/08

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/s/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



1 PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

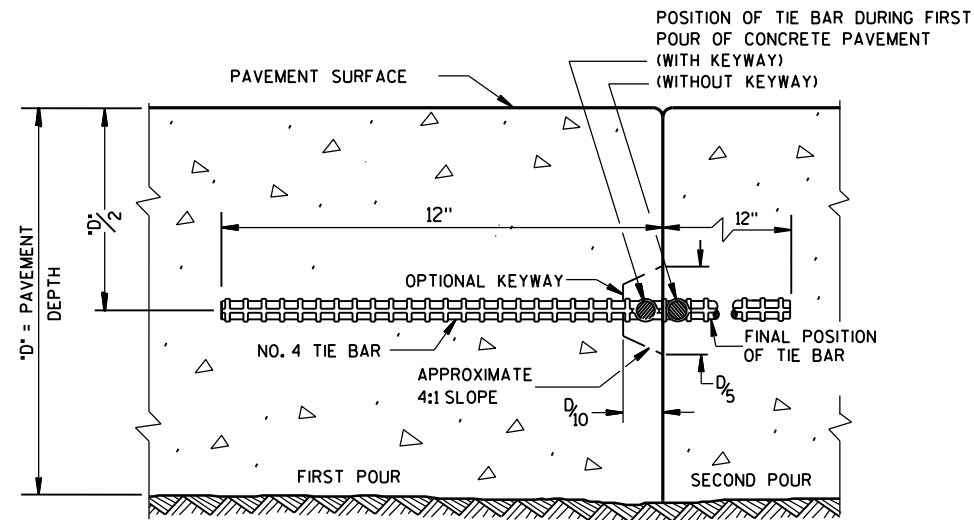
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

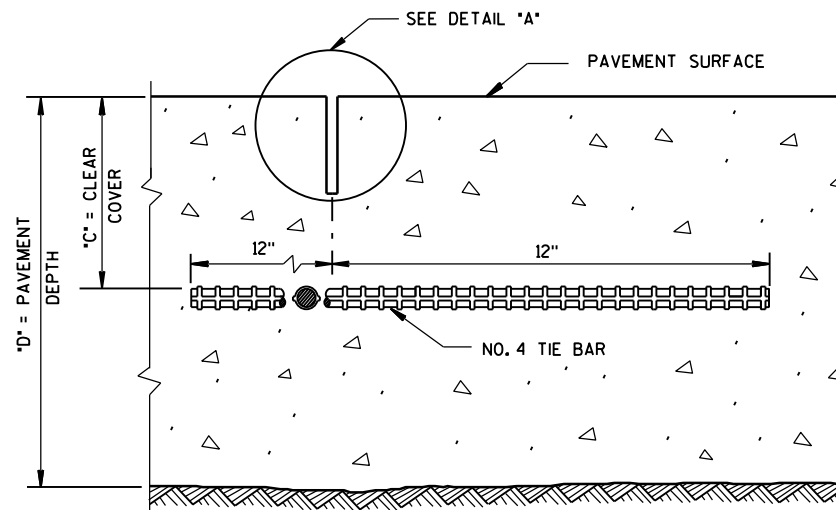
FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE
STANDARD SPECIFICATIONS.

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





CONSTRUCTION JOINT



SAWED JOINT

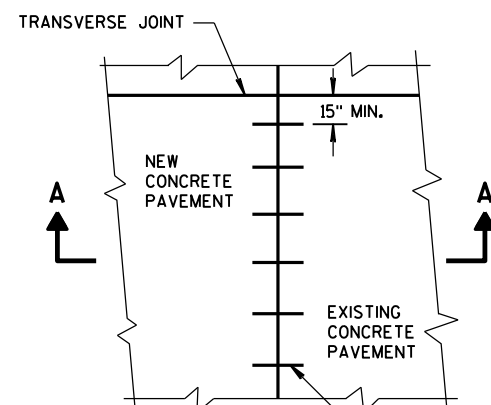
GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

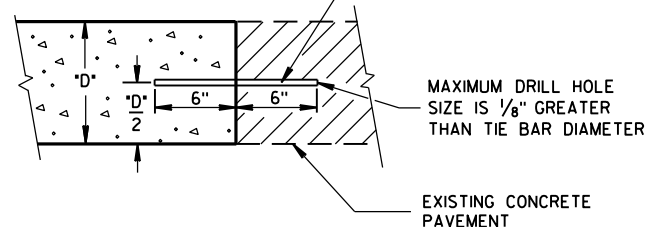
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

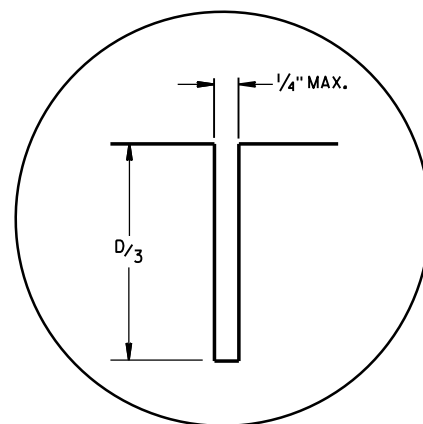


PLAN VIEW

NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



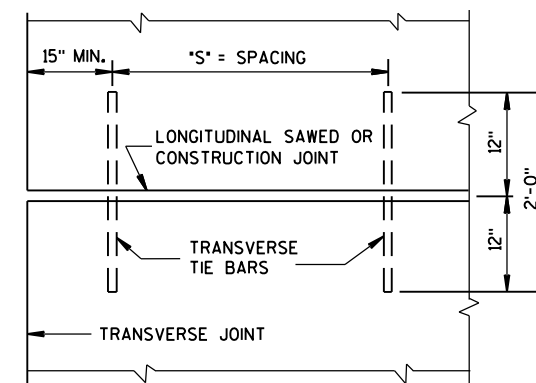
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"



PLAN VIEW
SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

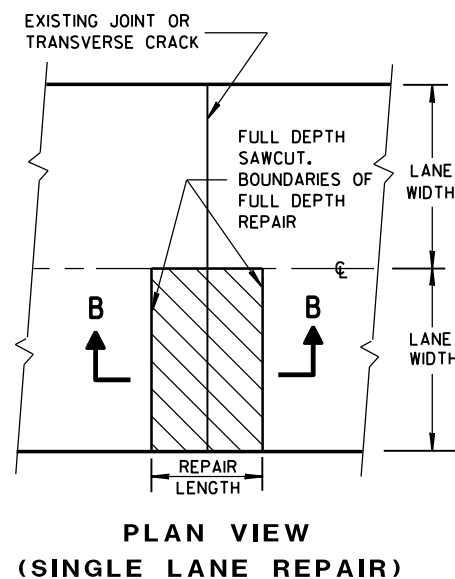
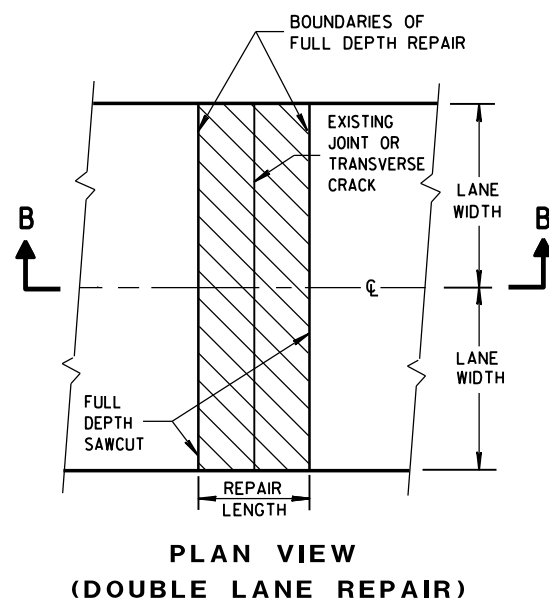
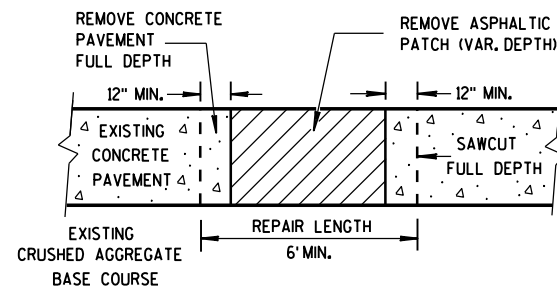
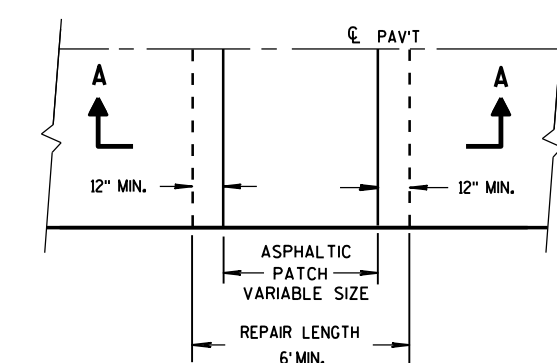
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA



FULL DEPTH CONCRETE PAVEMENT REMOVAL

(SEE NOTE)

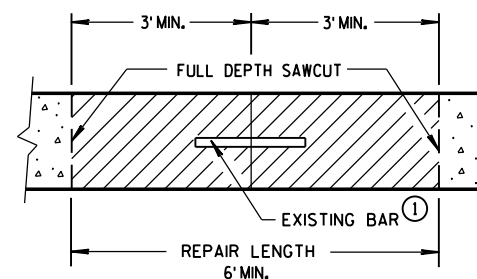
GENERAL NOTES

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. ADDITIONAL SAW CUTS ARE NOT PAID FOR BY THE DEPARTMENT.

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

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

① DOWEL BARS MIGHT NOT EXIST.

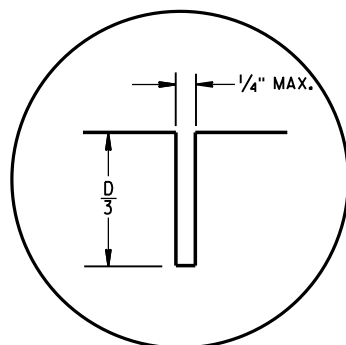


CONCRETE PAVEMENT REPAIR
AND REPLACEMENT

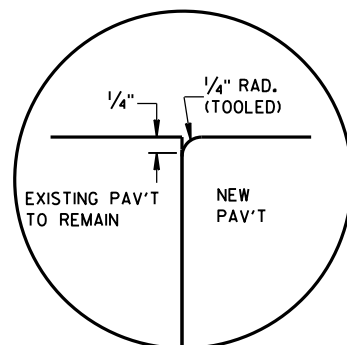
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TIE BAR TABLE

PAVEMENT DEPTH "D"	CLEAR COVER "C"	MAXIMUM TIE BAR SPACING "S"	
		PAVEMENT WIDTH 24' OR 26'	≥ 30'
6, 6 1/2"	3" ± 1/2"	48"	42"
7, 7 1/2"	3 1/4" ± 1"	45"	36"
8, 8 1/2"	3 3/4" ± 1"	39"	30"
9, 9 1/2"	4 1/4" ± 1"	33"	27"
10, 10 1/2"	4 3/4" ± 1"	30"	24"
11, 11 1/2"	5 1/4" ± 1"	27"	21"
12"	5 3/4" ± 1"	24"	21"

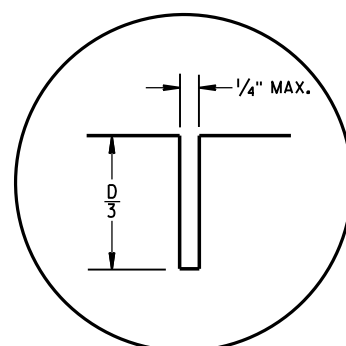


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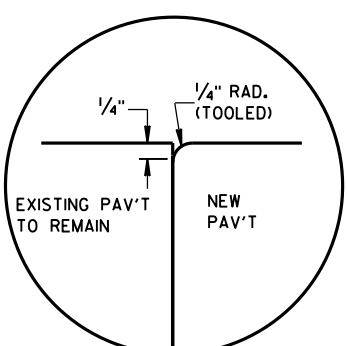


C2

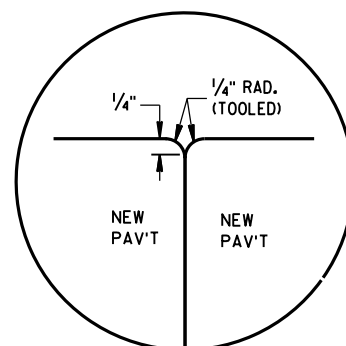
TRANSVERSE JOINTS



L1

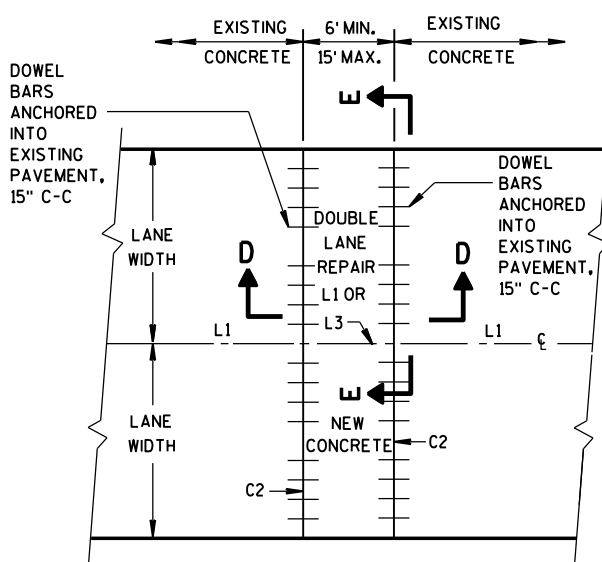


L2



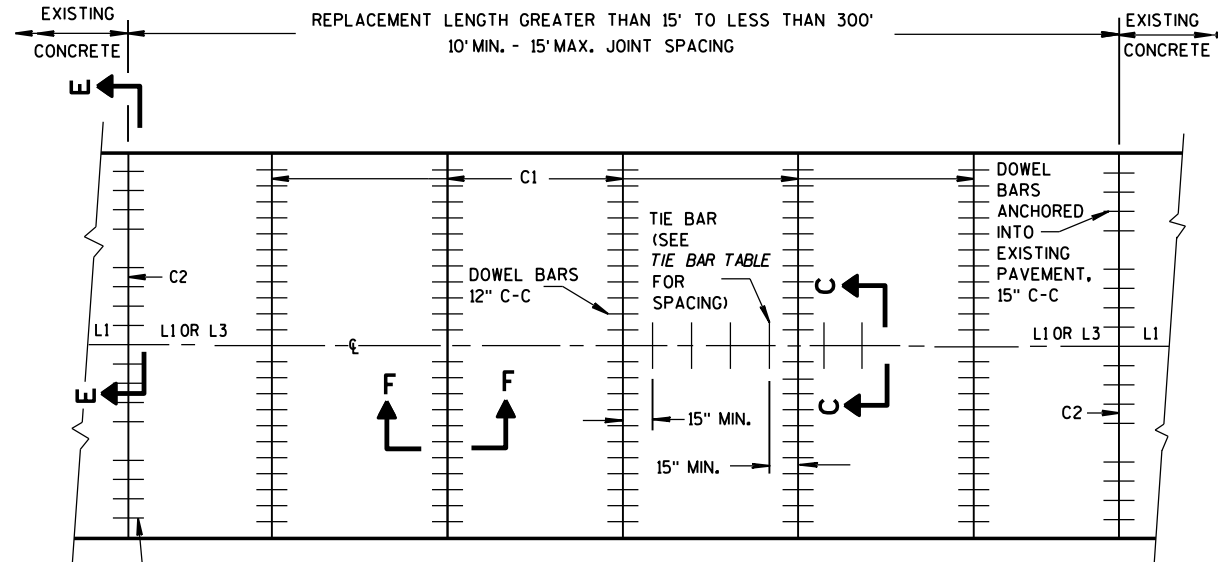
L3

LONGITUDINAL JOINTS



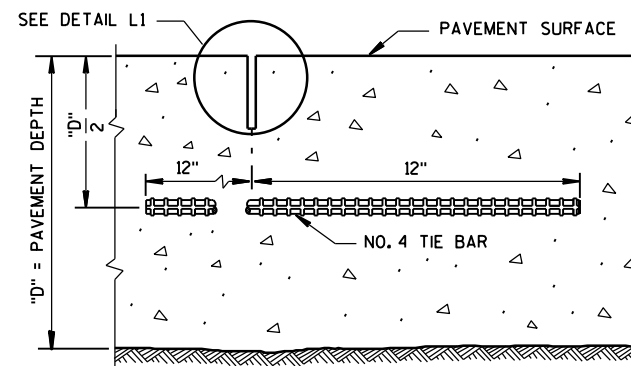
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPAIR



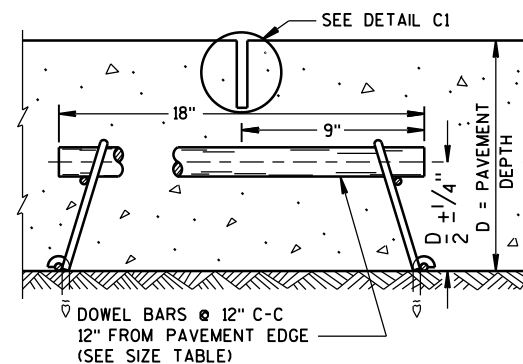
PLAN VIEW

MULTI-LANE CONCRETE PAVEMENT REPLACEMENT



SECTION C-C

SAWED LONGITUDINAL JOINT

SECTION F-F
CONTRACTION JOINT

GENERAL NOTES

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

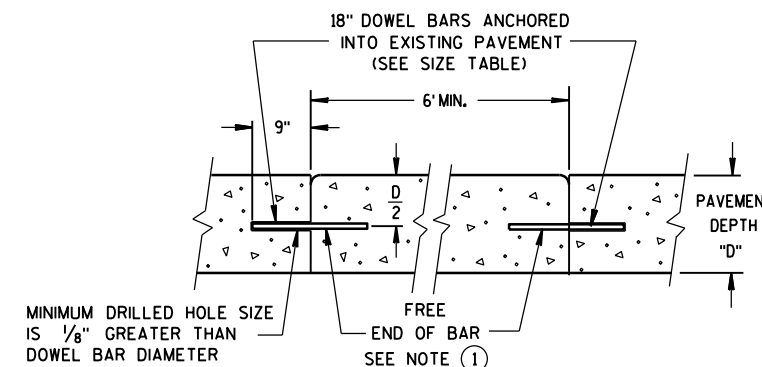
CONCRETE PAVEMENT REPAIRS OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

DO NOT SEAL OR FILL JOINTS.

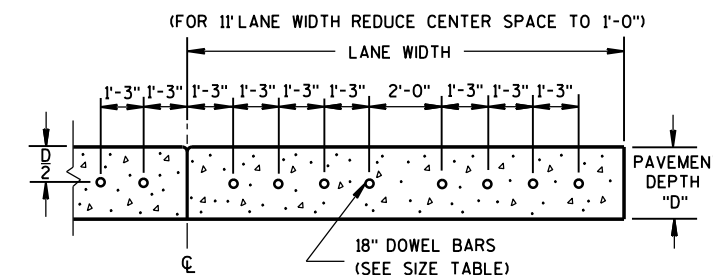
ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

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



SECTION D-D



SECTION E-E

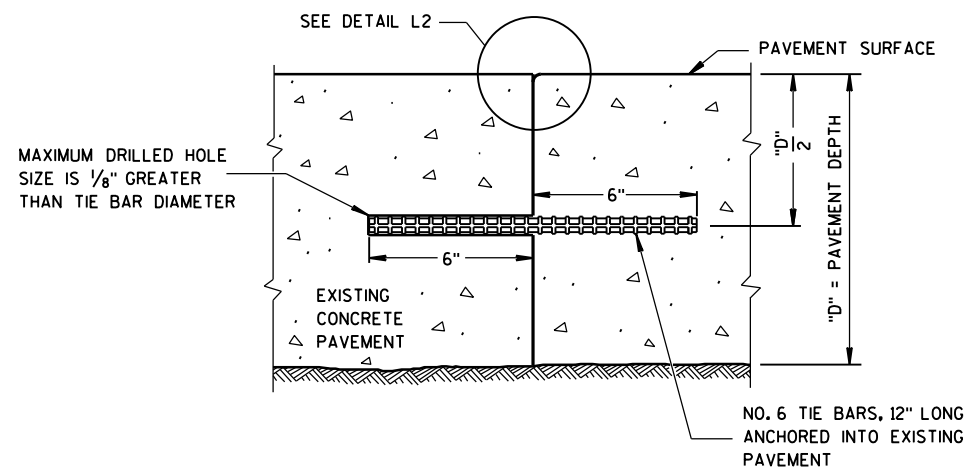
DRILLED DOWEL BAR CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

CONCRETE PAVEMENT
REPAIR AND REPLACEMENT

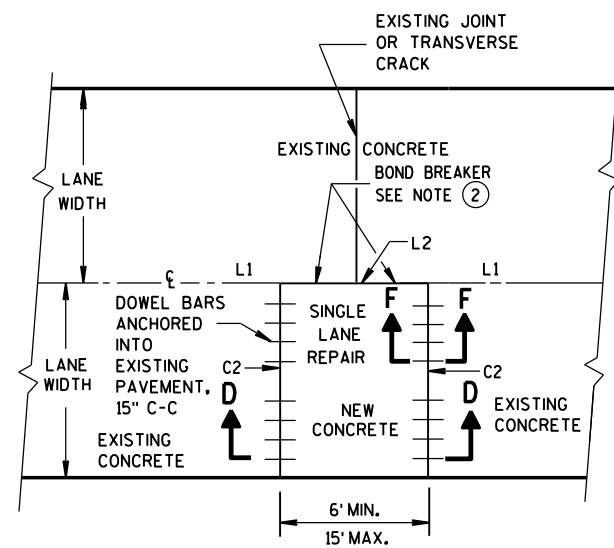
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



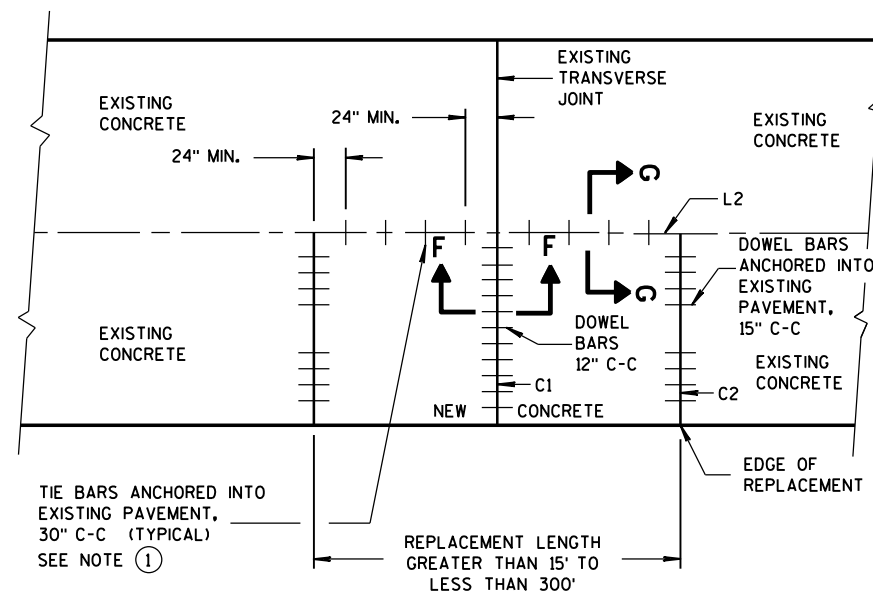
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, THE CONTRACTOR MAY INSTALL DRILLED TIE BARS ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES AND TO SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ② USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE REPAIRS UP TO 15 FEET IN LENGTH.



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPAIR



PLAN VIEW
SINGLE LANE
CONCRETE PAVEMENT REPLACEMENT

CONCRETE PAVEMENT REPAIR AND REPLACEMENT

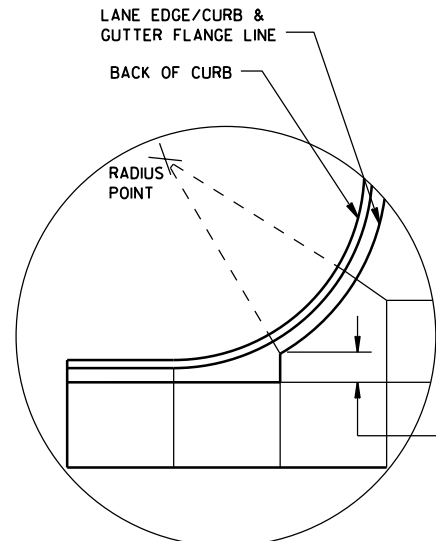
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

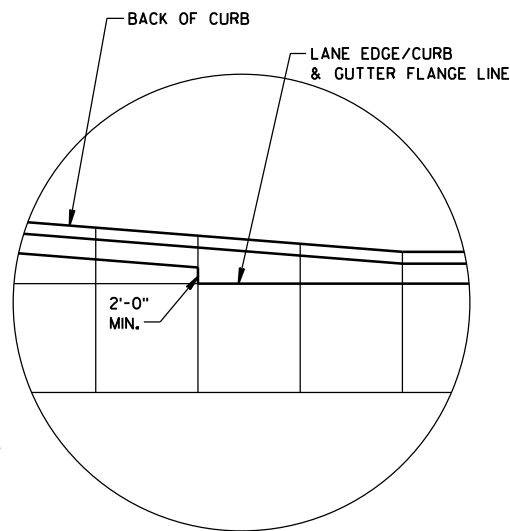
5-3-2013
DATE

FHWA

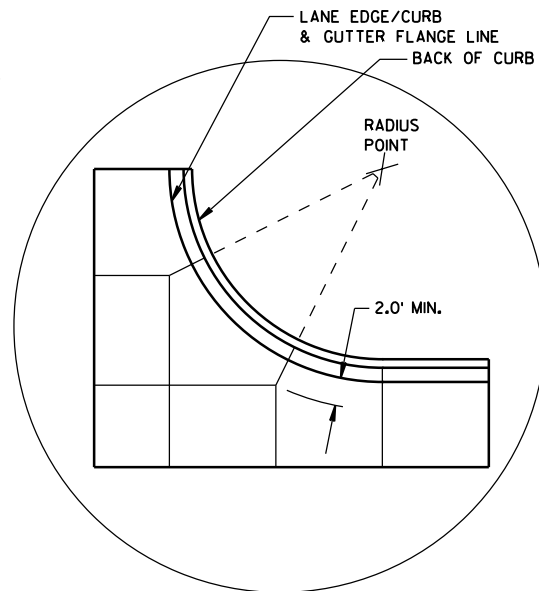
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER



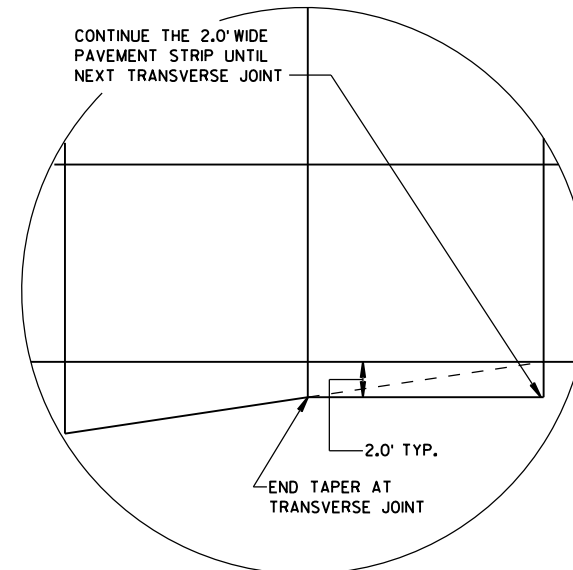
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

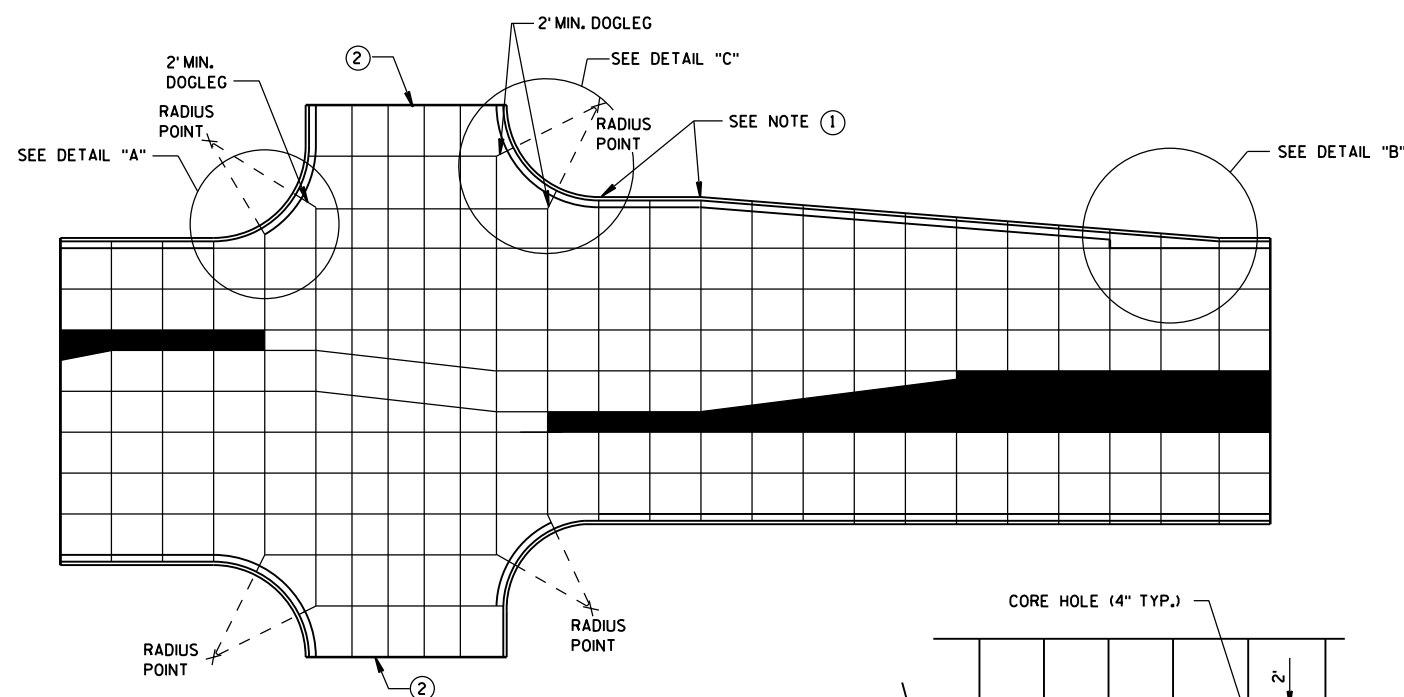
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

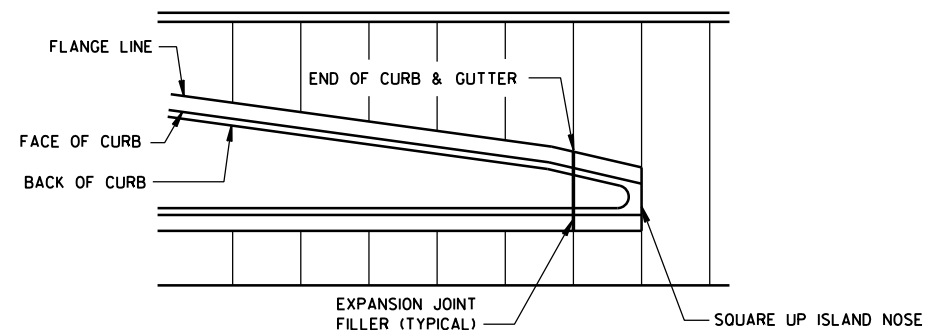
AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

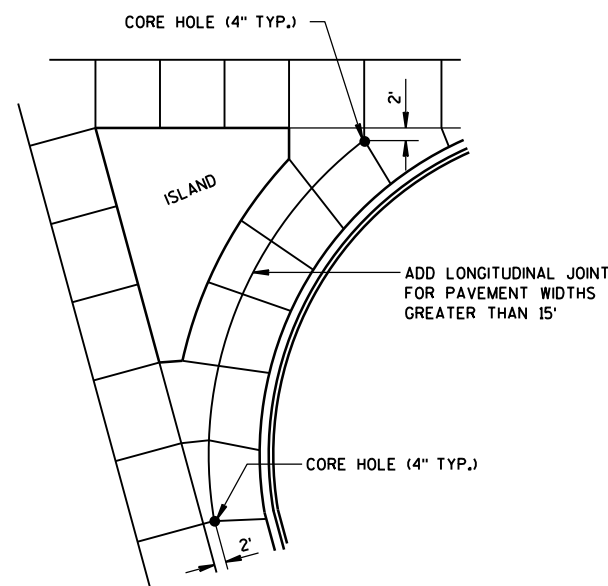
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



STANDARD INTERSECTION



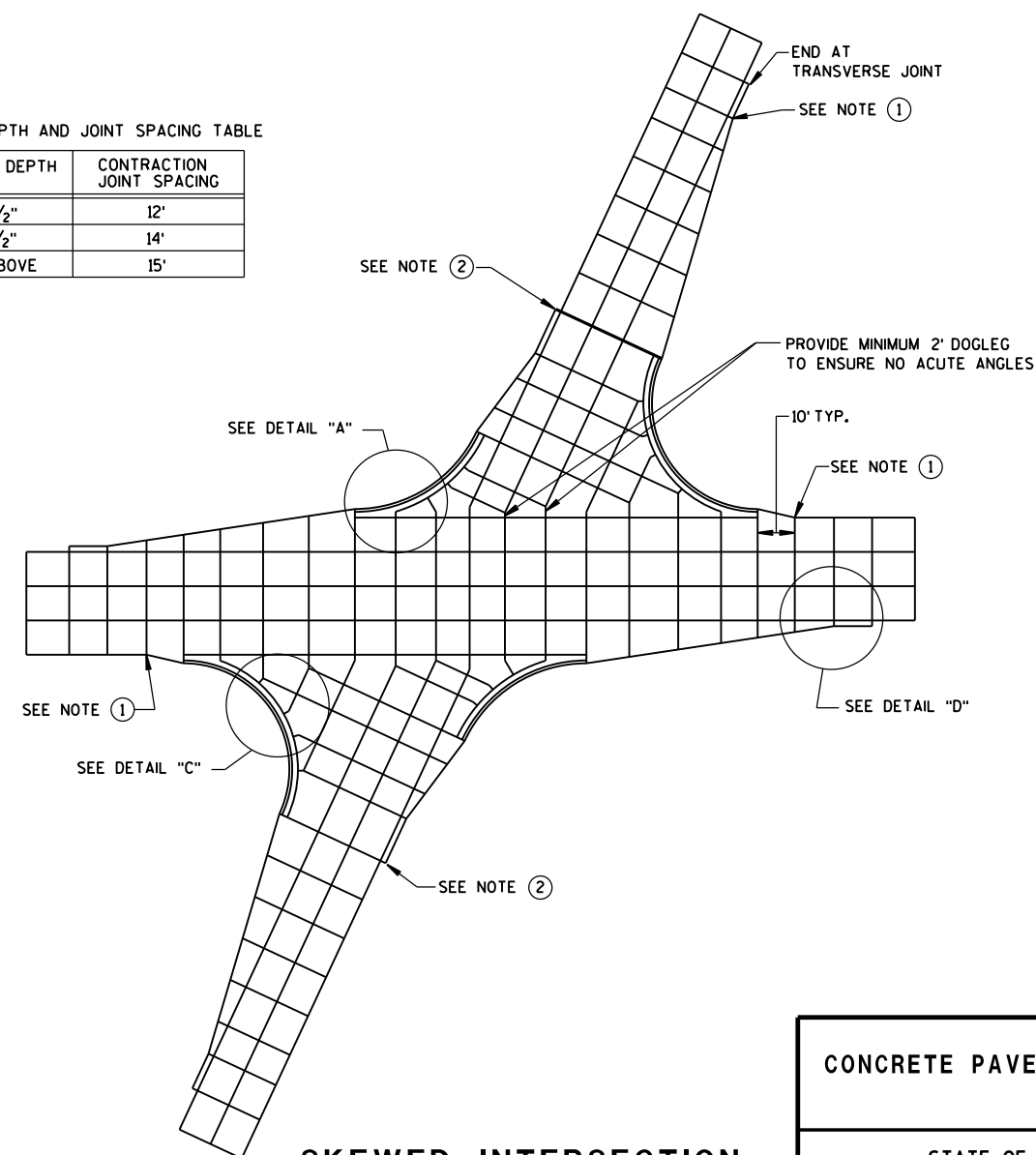
APPROACH TO MEDIAN



LARGE RIGHT TURN

PAVEMENT DEPTH AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



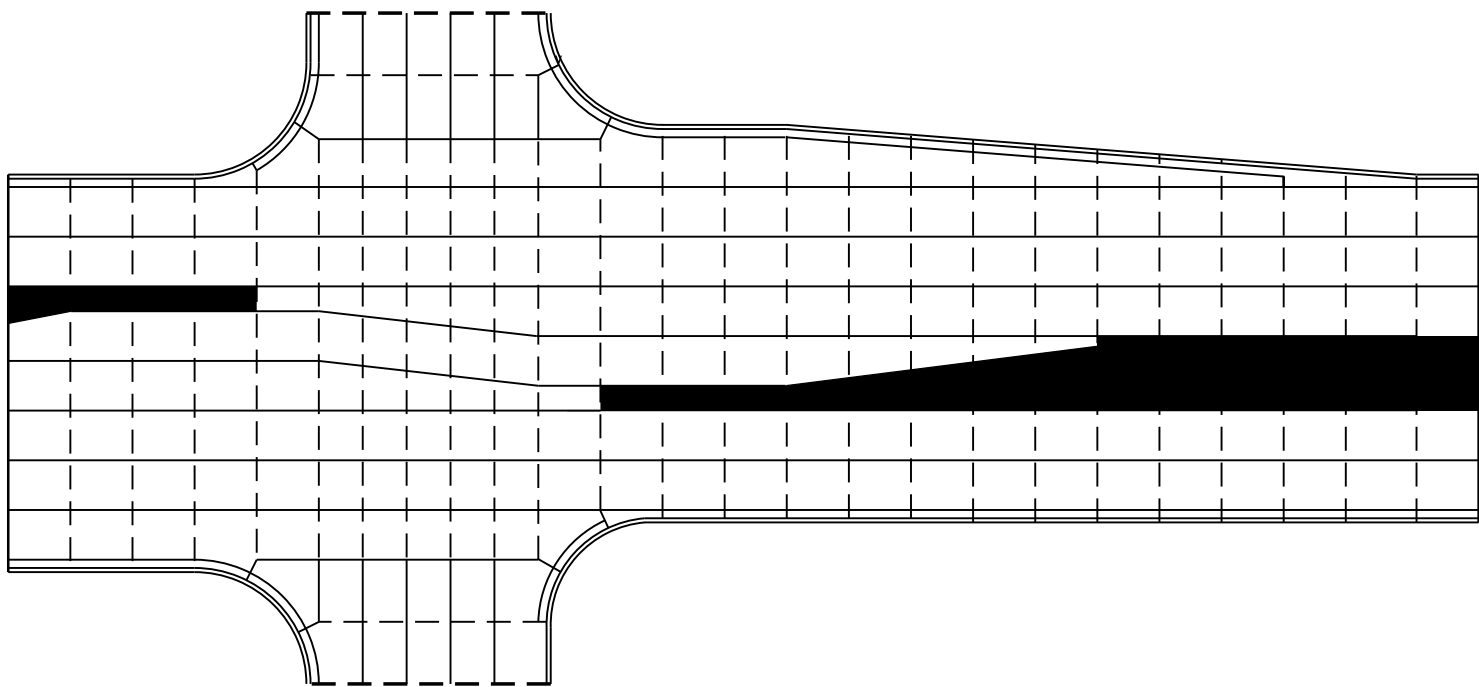
SKewed INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

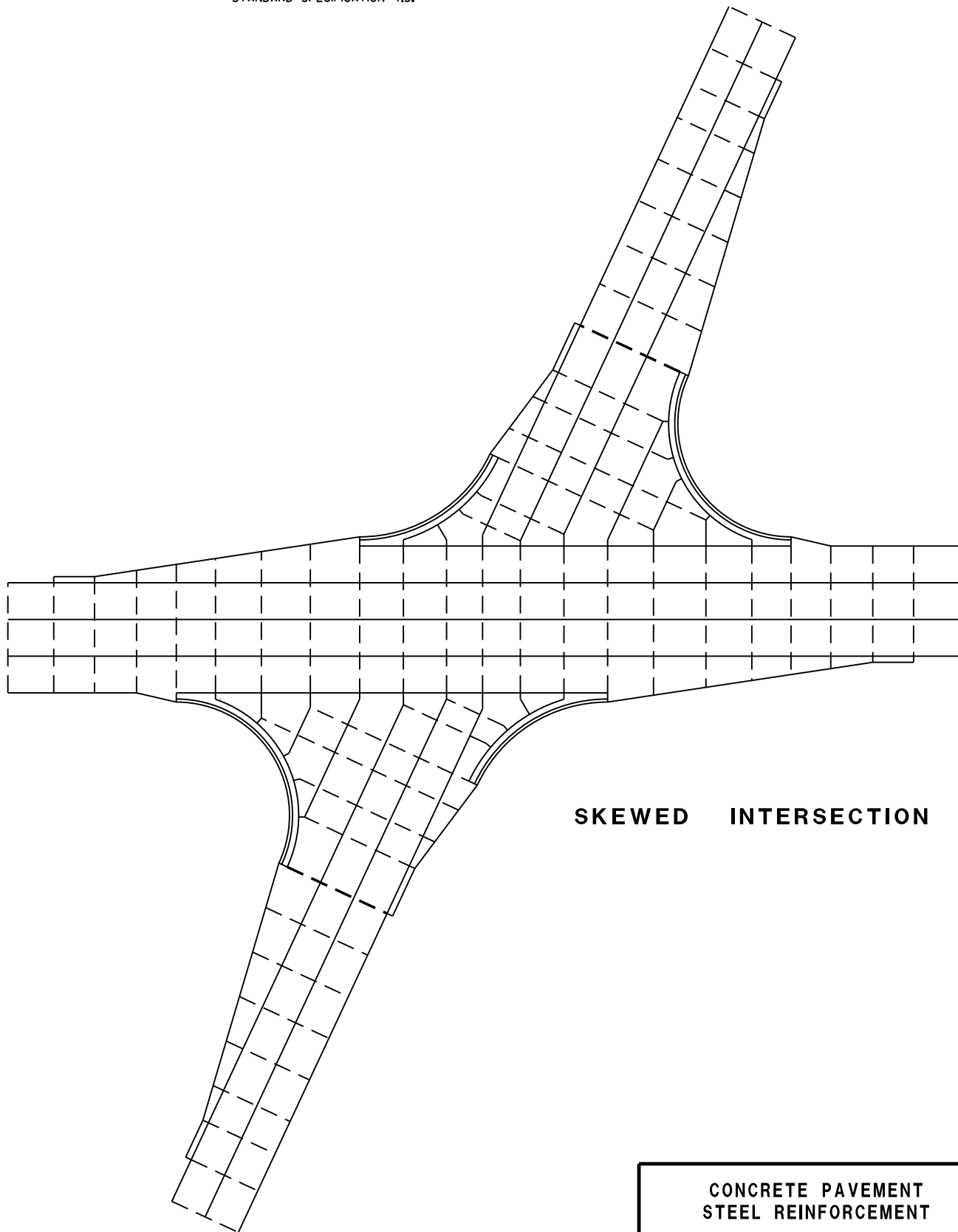
- POTENTIAL DOWELED EXPANSION JOINT
- DOWELED JOINT
- TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

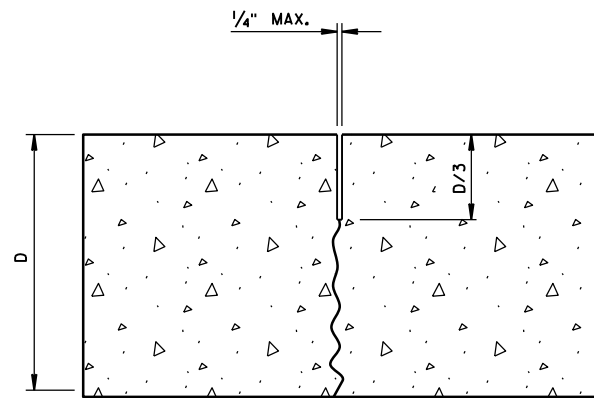
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



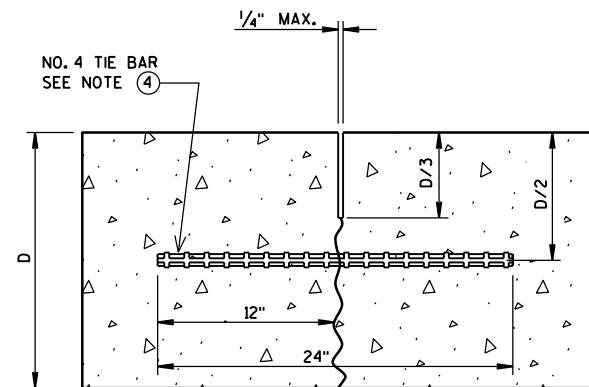
SKewed INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

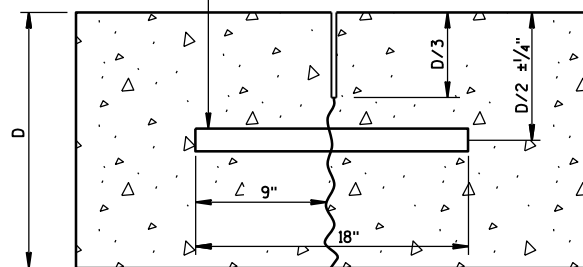


UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

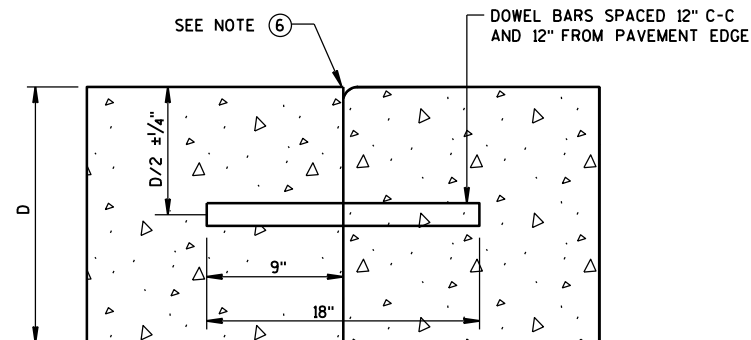
DOWEL BARS AT 12" C-C
12" FROM PAVEMENT EDGE



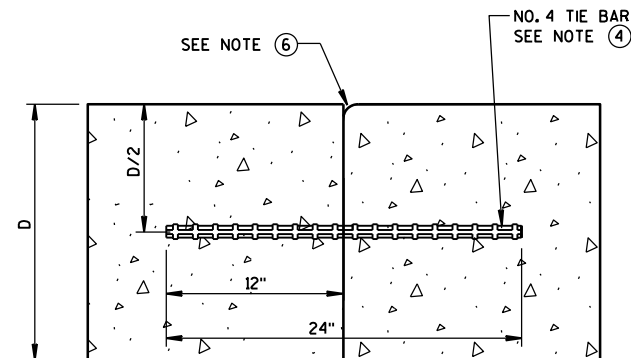
DOWELED-TRANSVERSE

CONTRACTION JOINTS

SEE NOTE ②

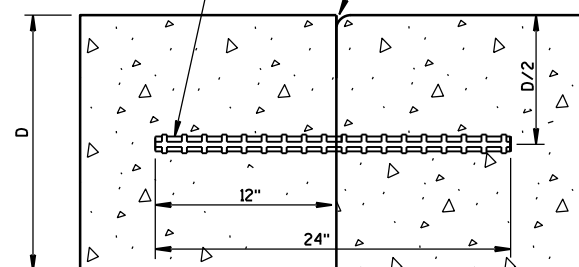
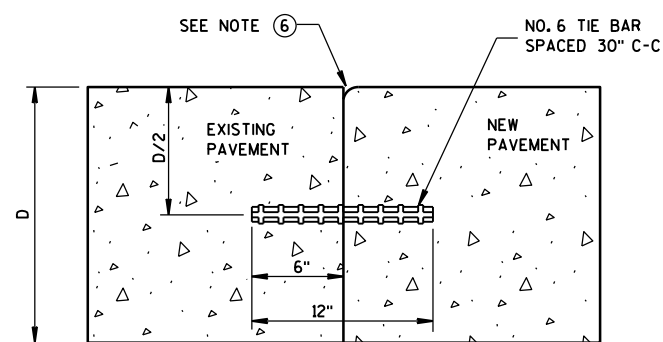


DOWELED TRANSVERSE



TIED LONGITUDINAL

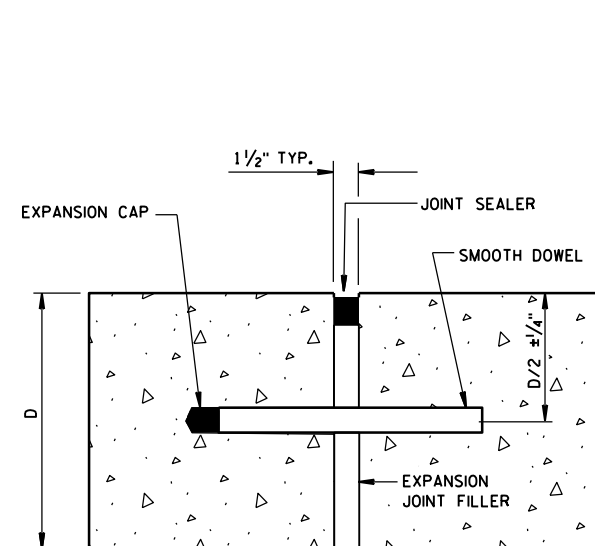
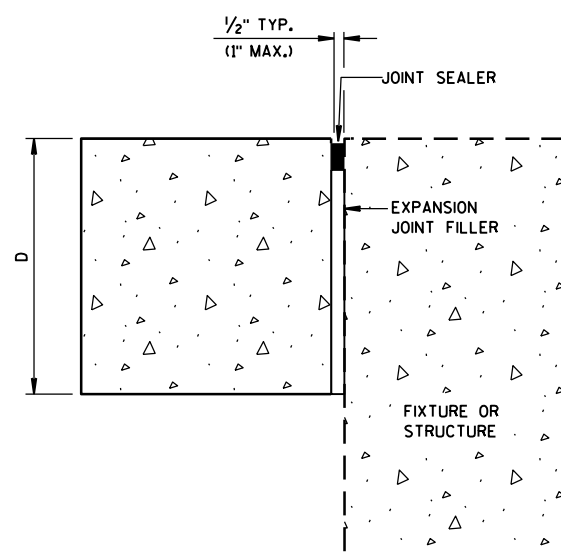
NO. 6 TIE BARS SPACED 12" C-C
AND 12" FROM PAVEMENT EDGE

TIED TRANSVERSE
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)

TIED LONGITUDINAL TO EXISTING

CONSTRUCTION JOINTS

SEE NOTE ⑤

DOWELED-TRANSVERSE
SEE NOTE ①

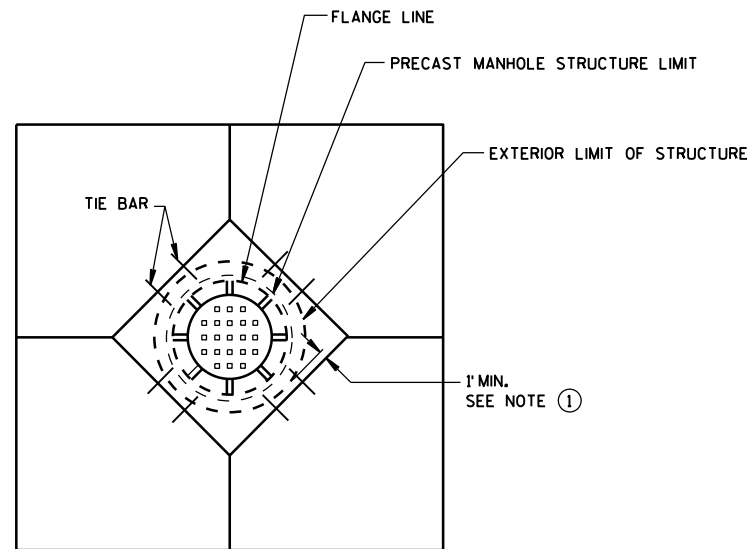
UNTIED-LONGITUDINAL

EXPANSION JOINTS

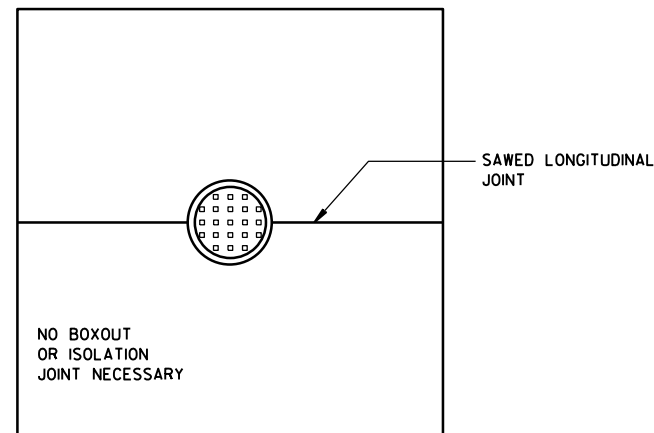
GENERAL NOTES

1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. SPACE TIE BARS AT LONGITUDINAL CONSTRUCTION OR CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C1.
5. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
6. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.

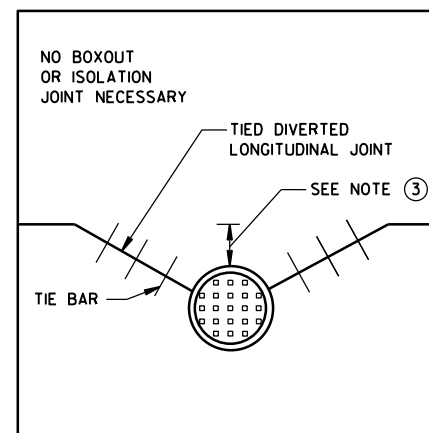
CONCRETE PAVEMENT
JOINT TYPESSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



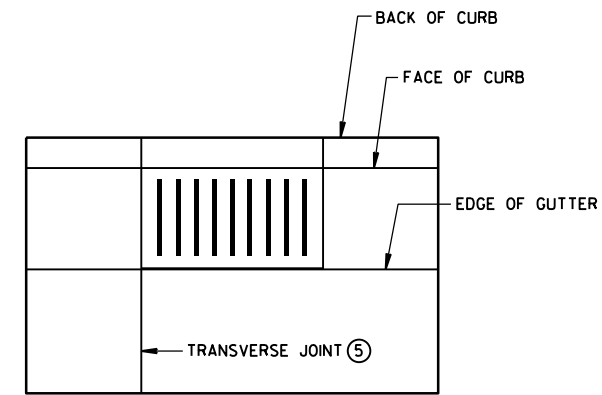
**DIAGONAL MANHOLE BOXOUT
FOR CONSTRUCTION JOINTS**



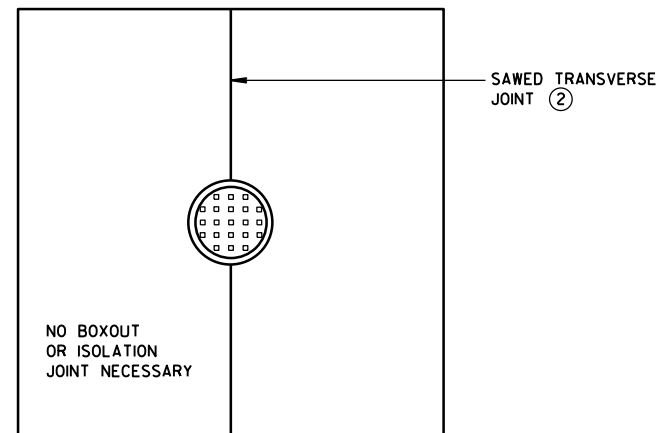
**MANHOLE WITH
LONGITUDINAL JOINT**



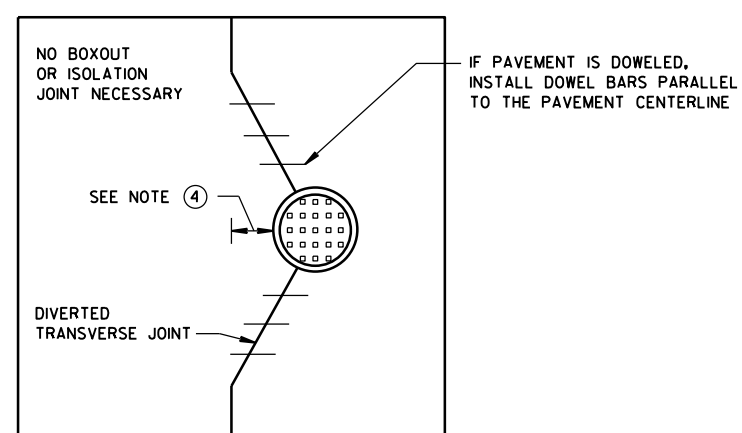
**MANHOLE WITH DIVERTED
LONGITUDINAL CONTRACTION JOINT**



**INLET WITH
TRANSVERSE JOINT**



**MANHOLE WITH
TRANSVERSE JOINT**



**MANHOLE WITH DIVERTED
TRANSVERSE CONTRACTION JOINT**

GENERAL NOTES

- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ④ IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

**CONCRETE PAVEMENT
JOINTING AT UTILITY FIXTURES**

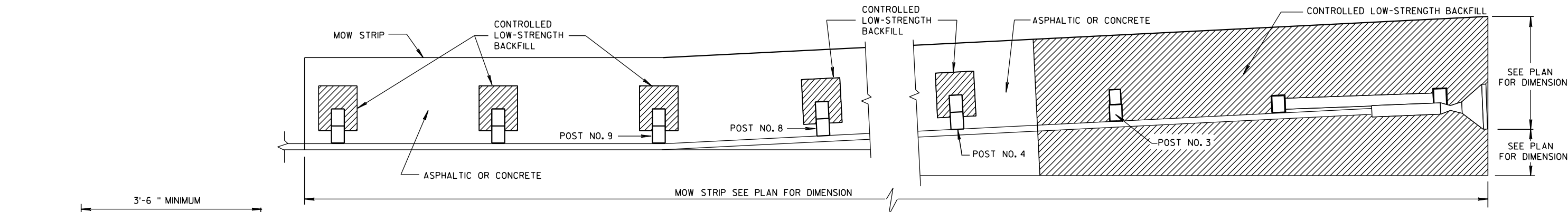
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-3-2013
DATE

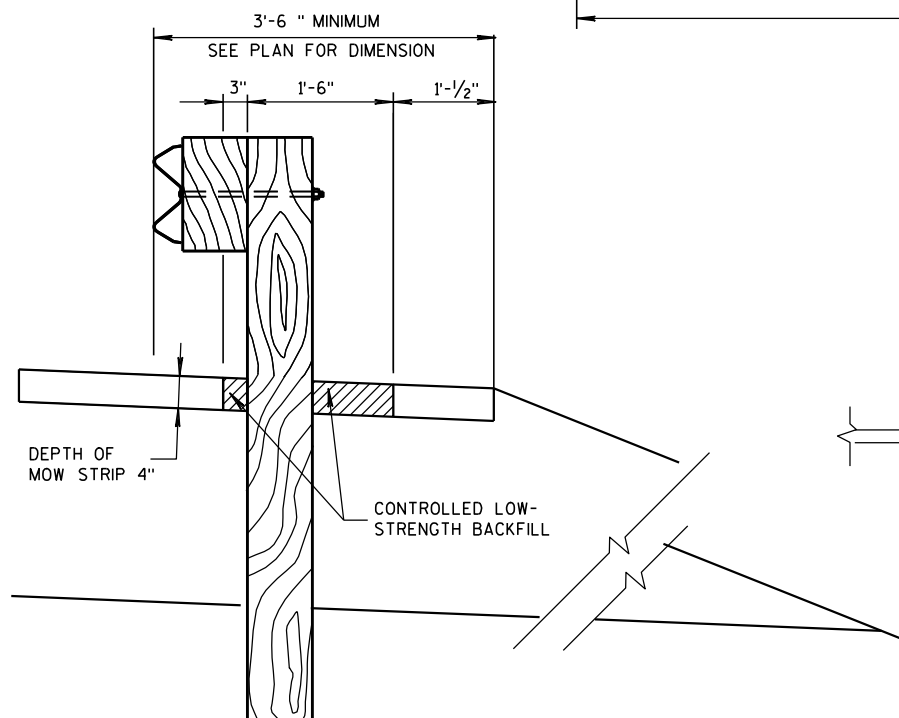
/S/ Deb Bischoff
PAVEMENT POLICY & DESIGN ENGINEER

FHWA

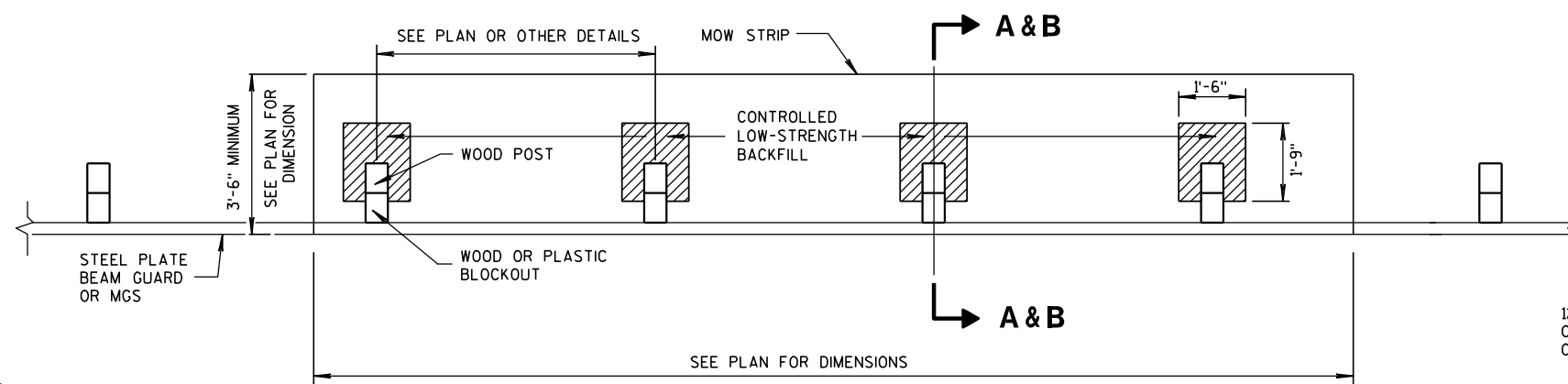


PLAN VIEW

MOW STRIP FOR STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

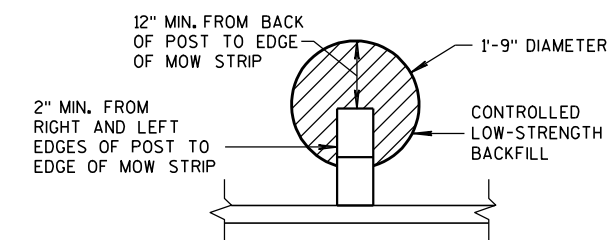
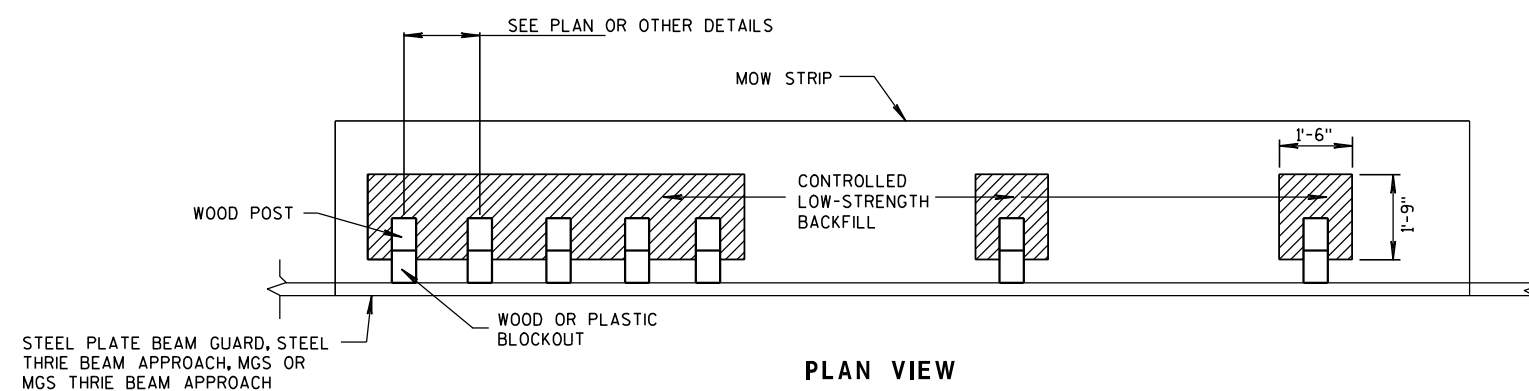


SECTION A-A



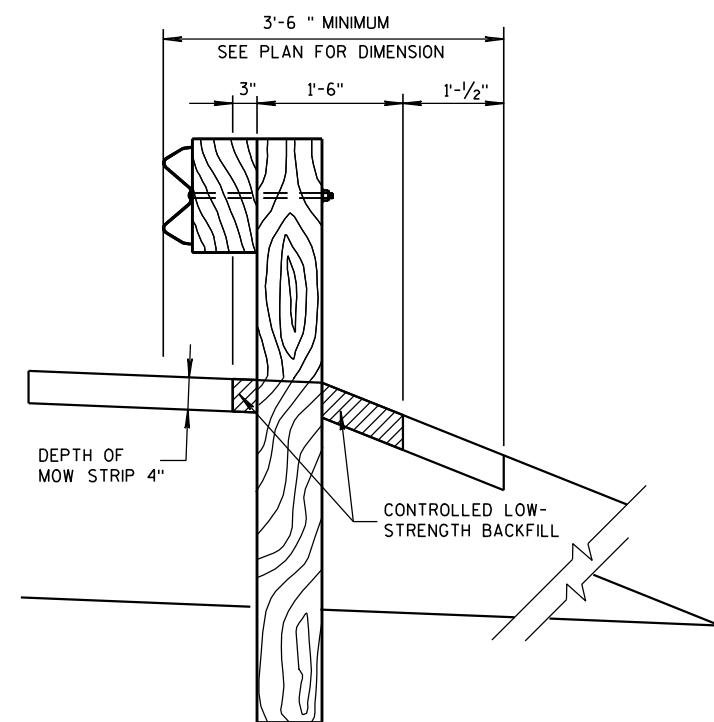
PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT

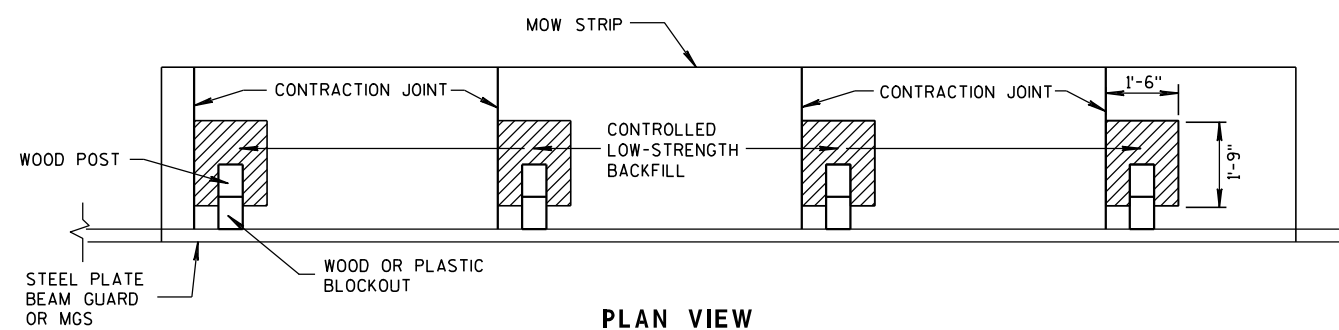
ALTERNATIVE HMA
MOW STRIP DESIGN

PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT



SECTION B-B



PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP

GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

1/27/12

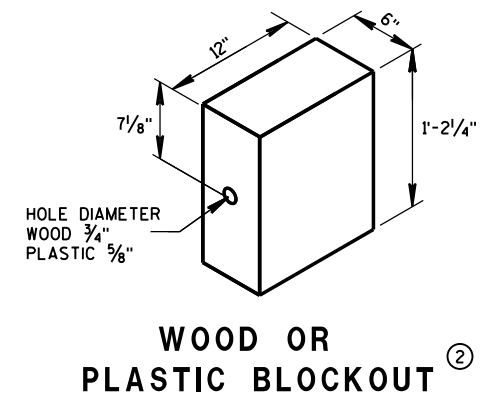
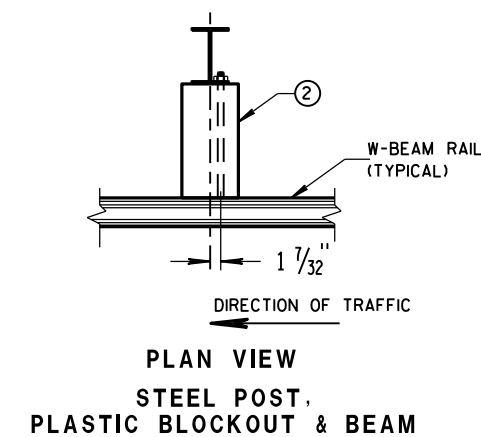
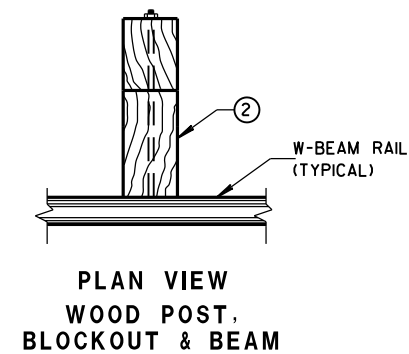
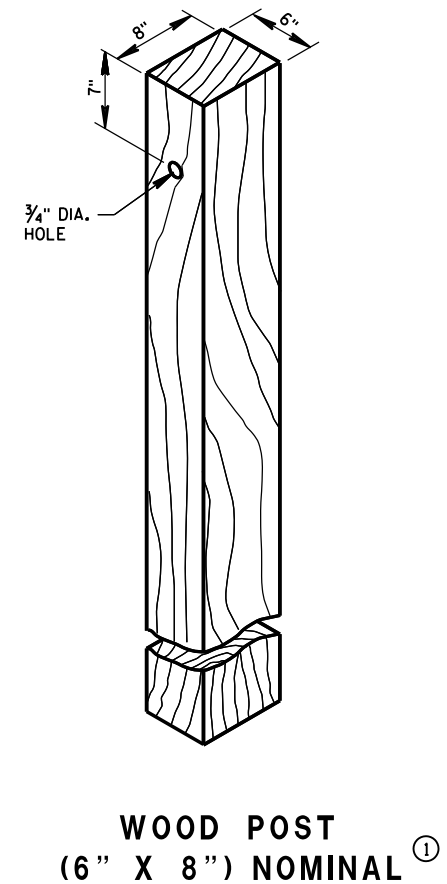
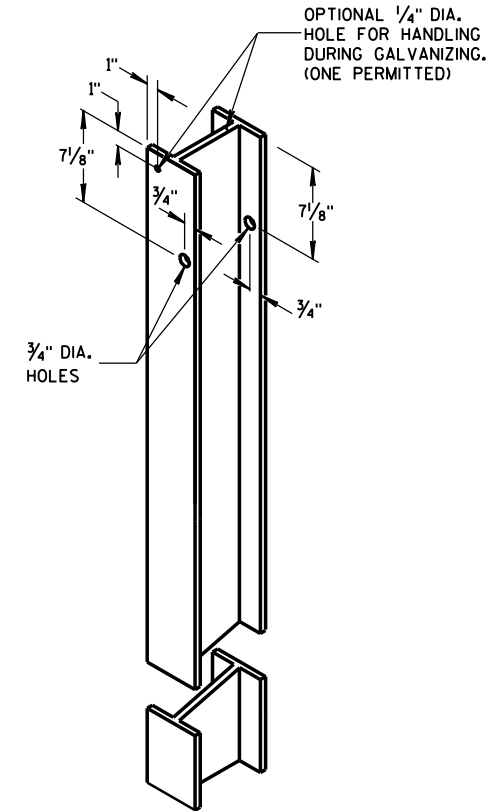
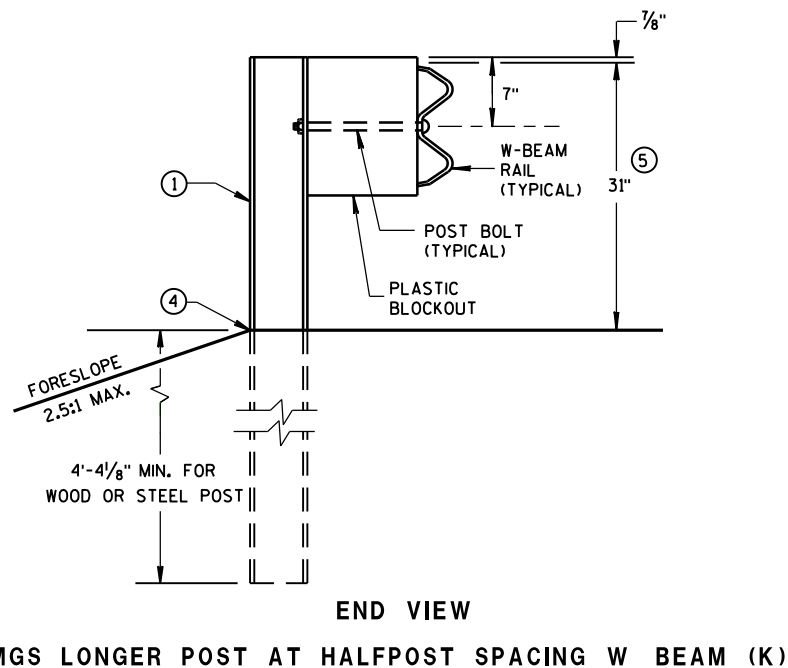
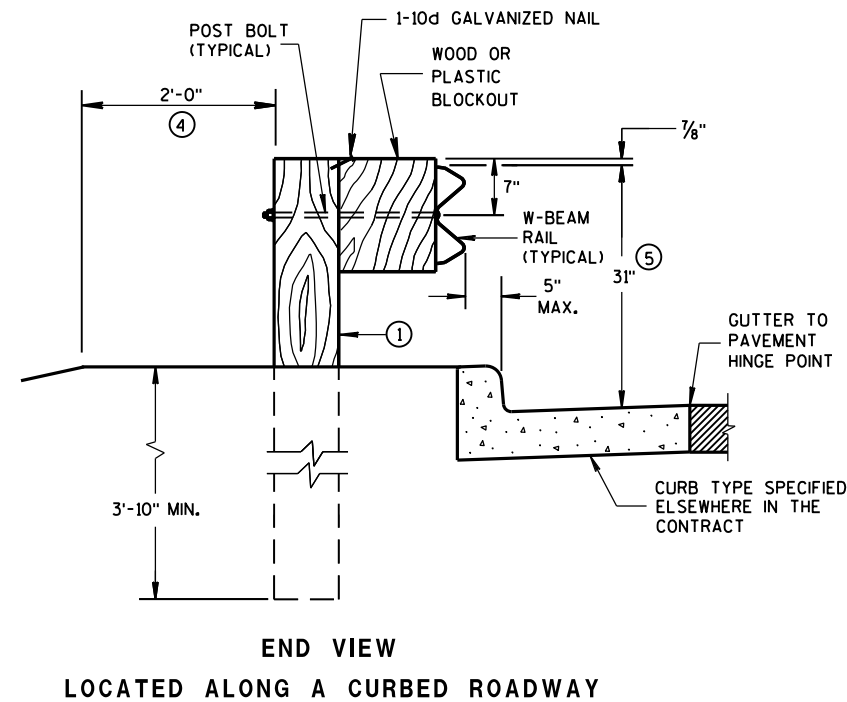
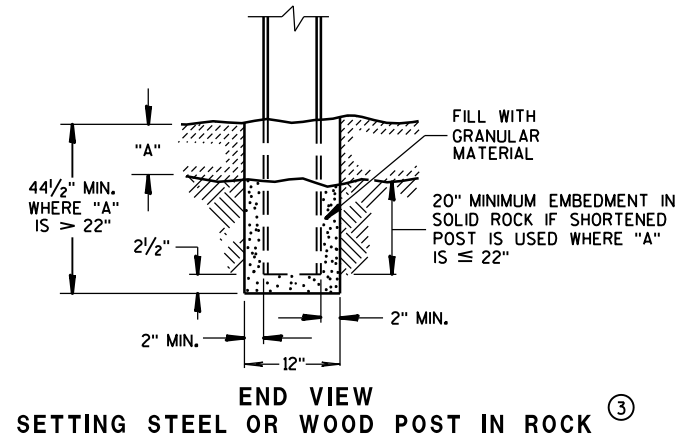
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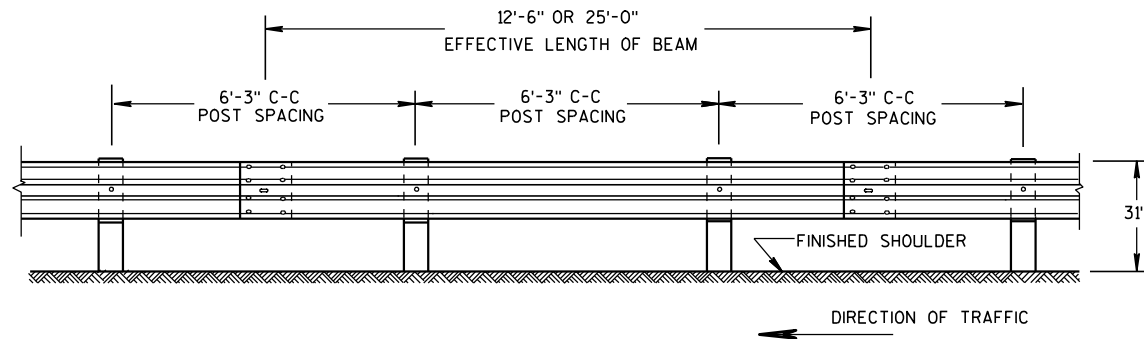
FHWA

/s/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

6

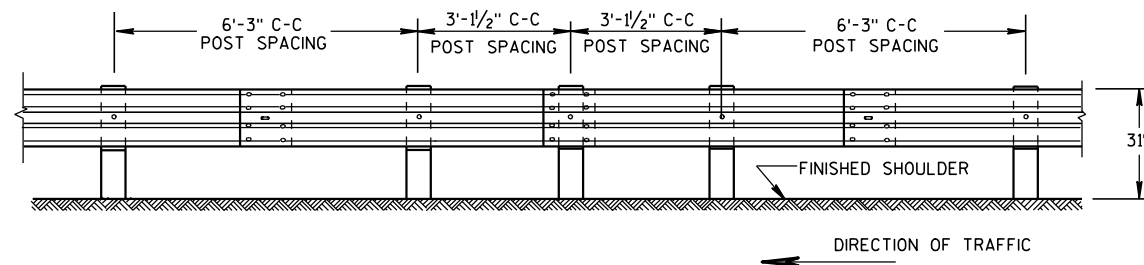
- S.D.D. 14 B 42-2a**





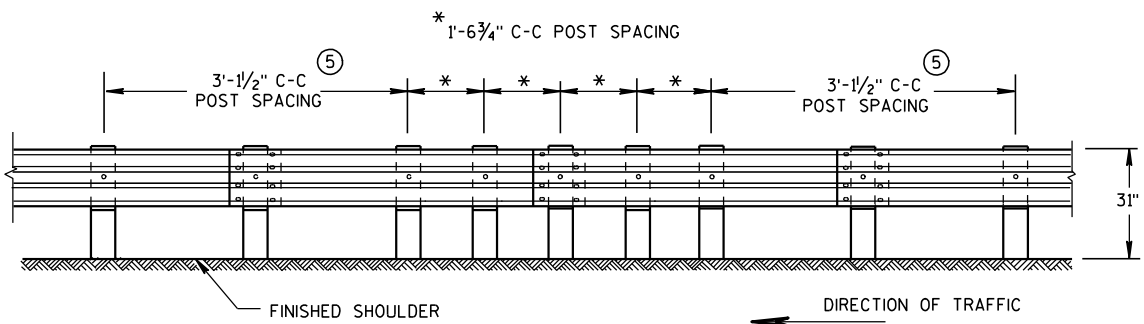
FRONT VIEW

POST SPACING STANDARD INSTALLATION



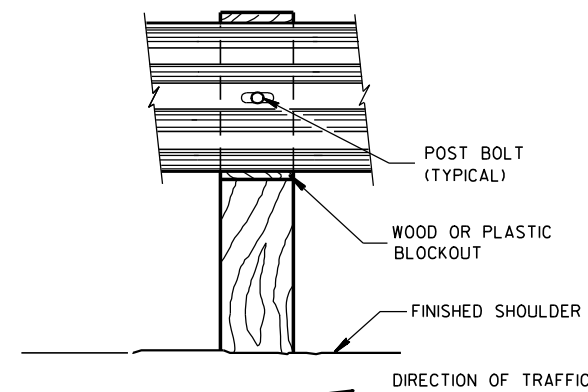
FRONT VIEW

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

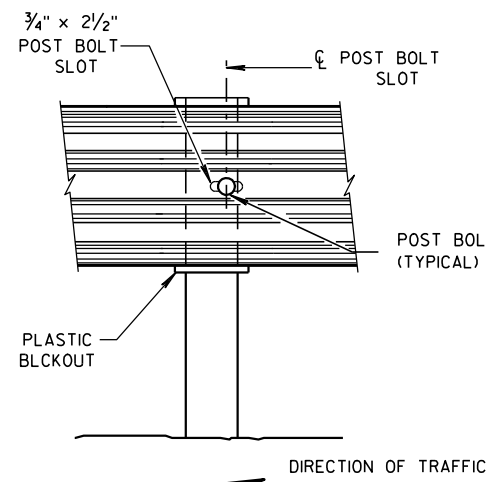


FRONT VIEW

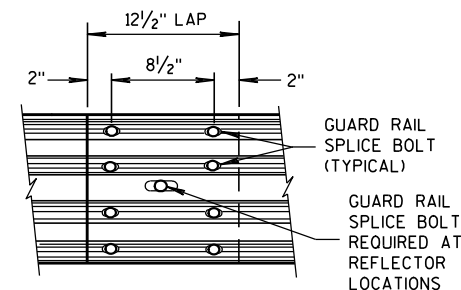
QUARTER POST SPACING (QS)



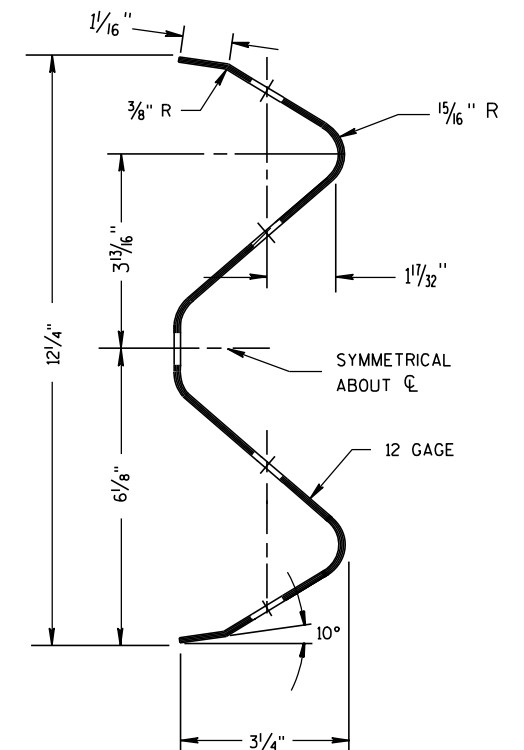
FRONT VIEW AT WOOD POST



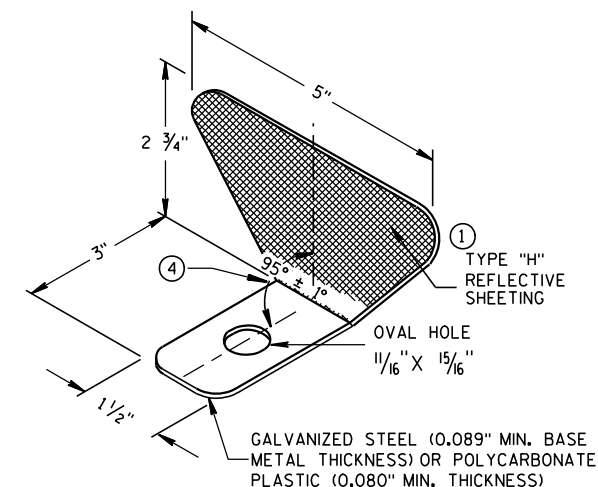
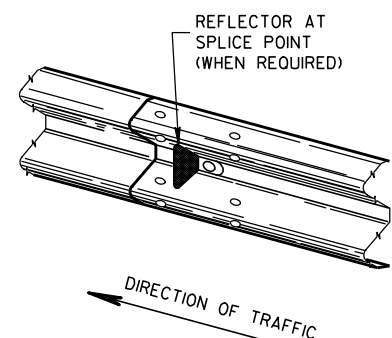
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② 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.
- ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

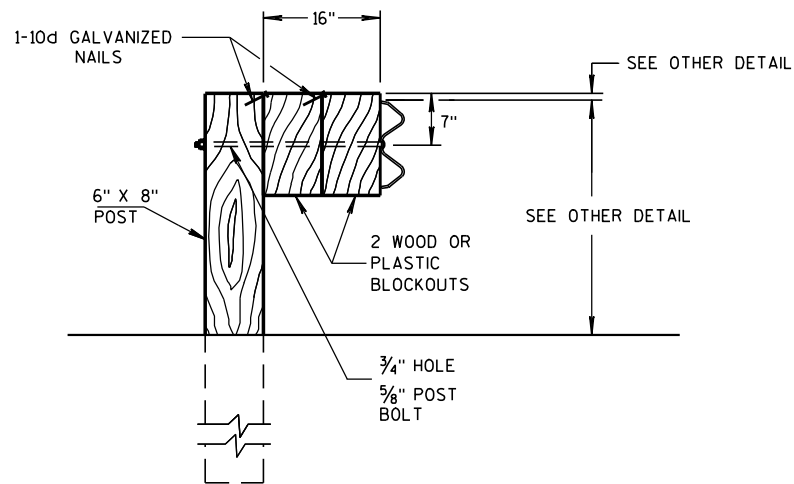
GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ④	3
	> 200'	100' C-C	2	

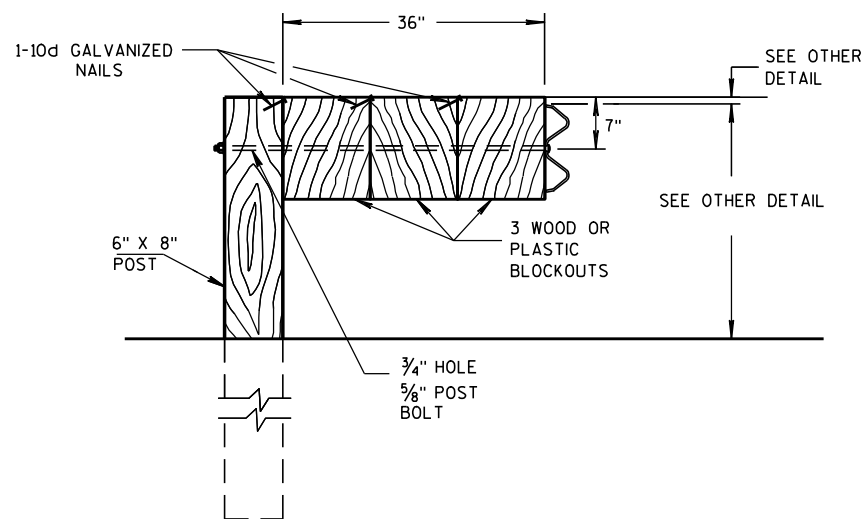
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

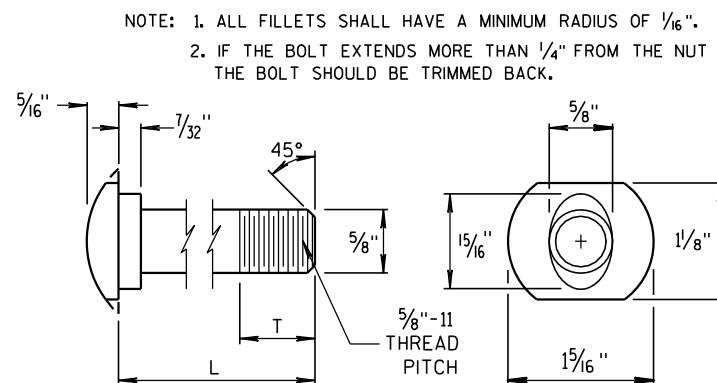
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



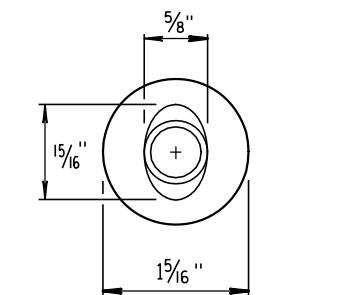
DETAIL FOR 36" BLOCKOUT DEPTH

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.

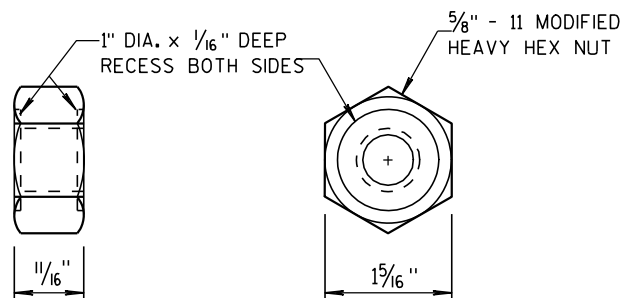
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



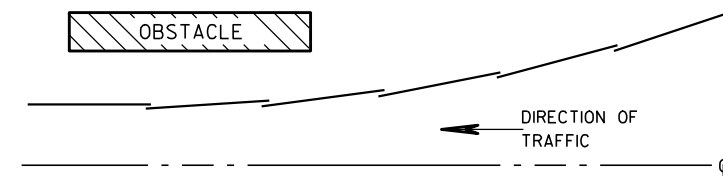
POST BOLT TABLE



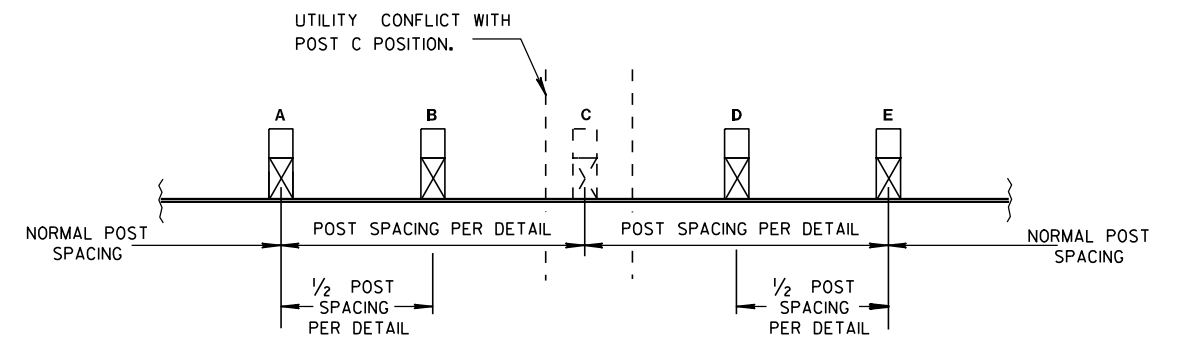
ALTERNATE BOLT HEAD



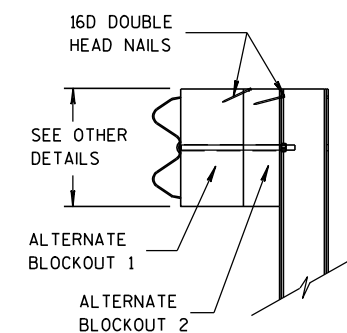
POST BOLT AND RECESS NUT



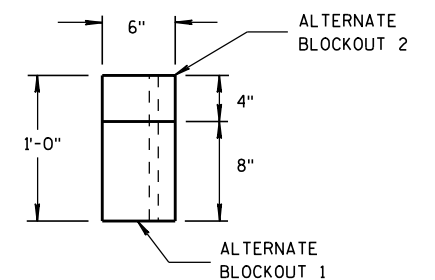
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/15/2011
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), 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.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

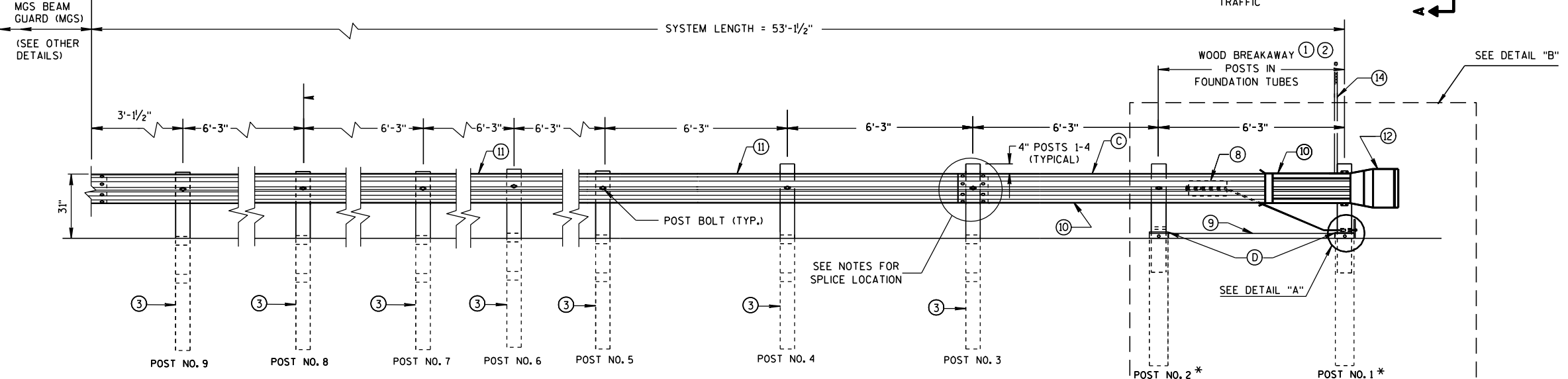
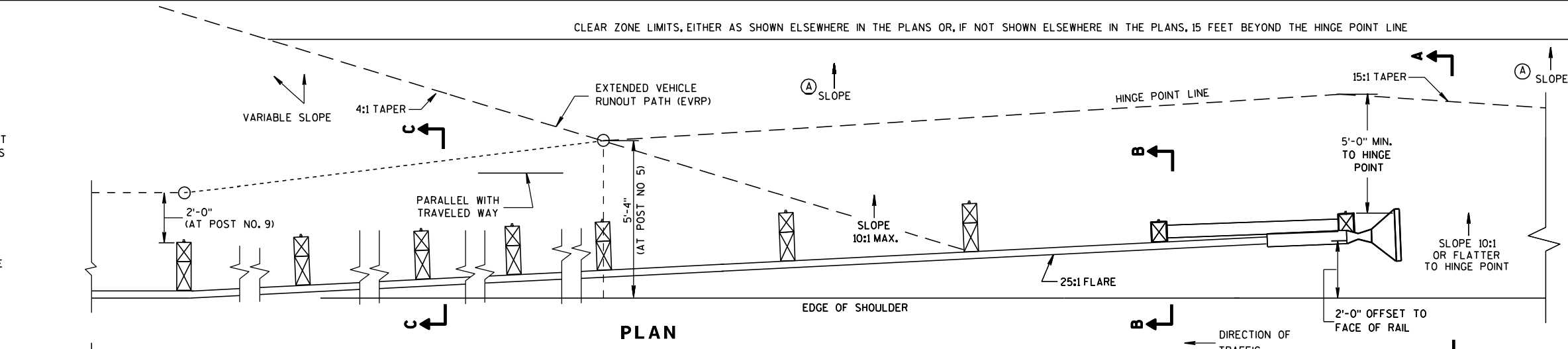
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

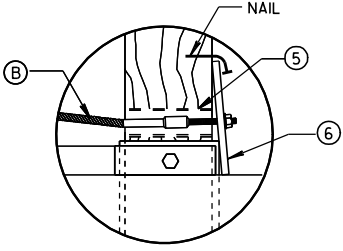
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

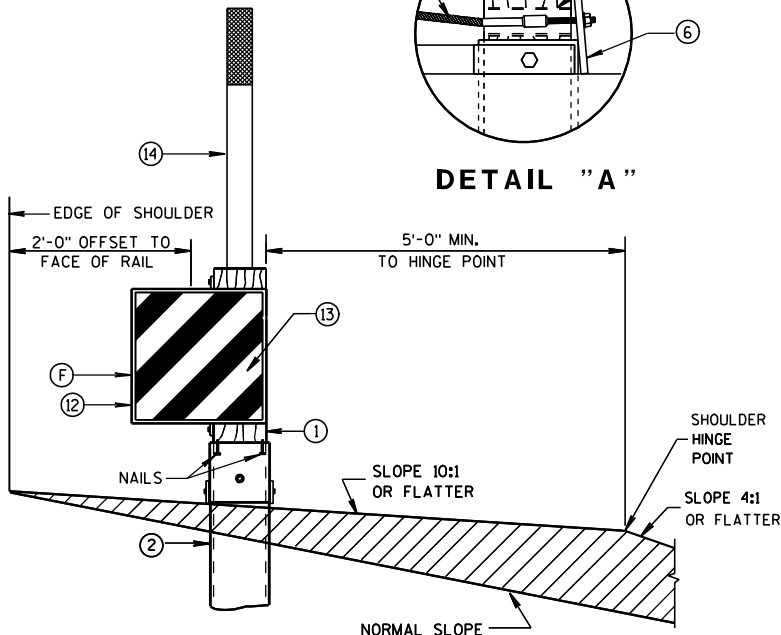
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")



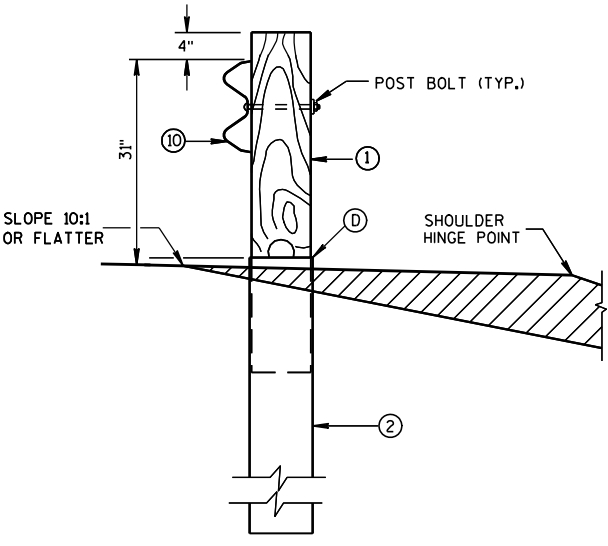
ELEVATION



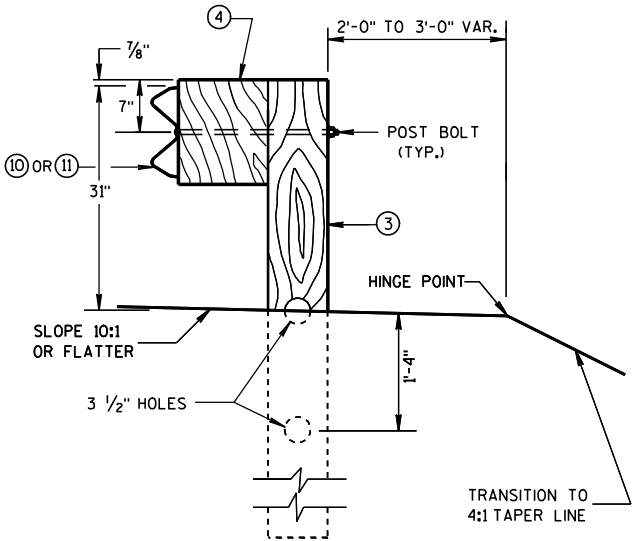
DETAIL "A"



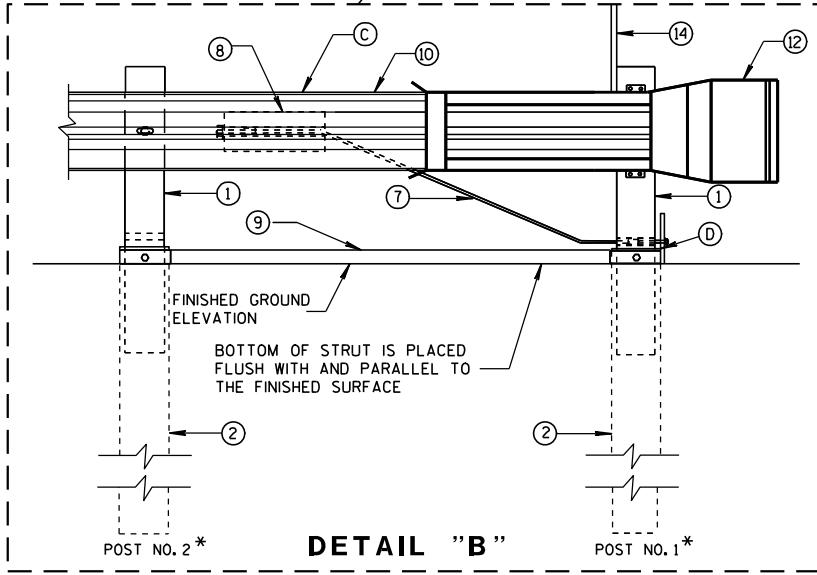
SECTION A-A
TYPICAL AT POST NO. 1*



SECTION B-B
TYPICAL AT POST NO. 2*



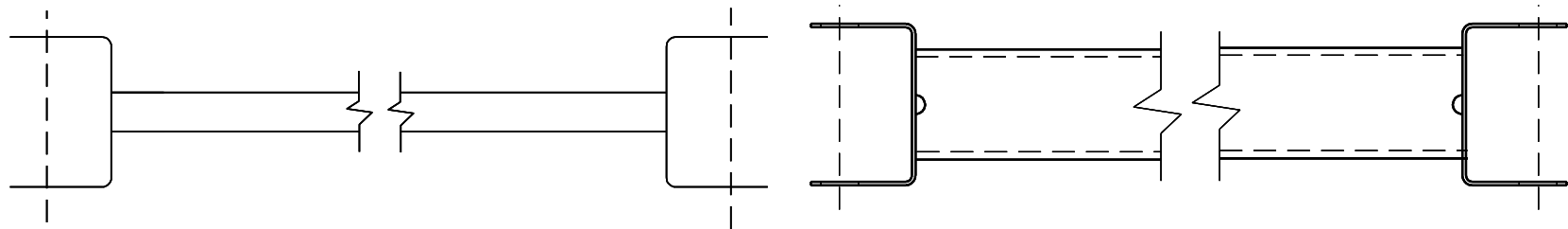
SECTION C-C
TYPICAL AT POST NOS. 3-9



DETAIL "B"

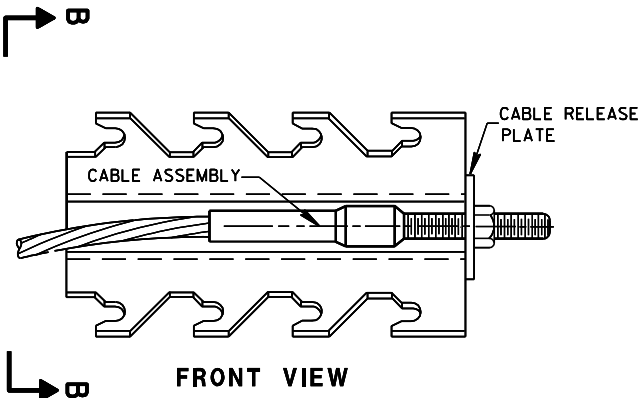
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERIC GROUND STRUT

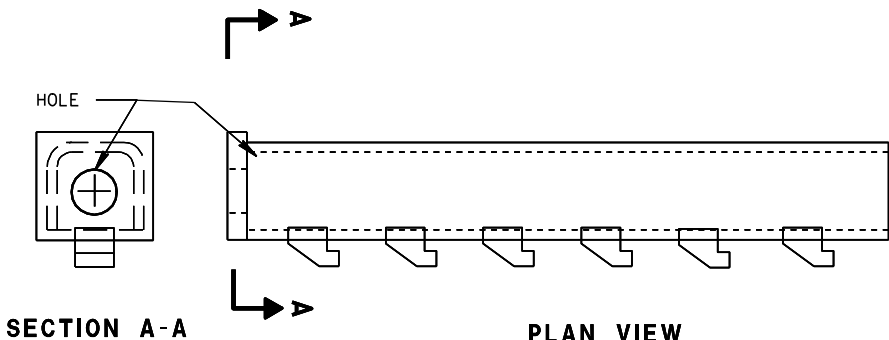
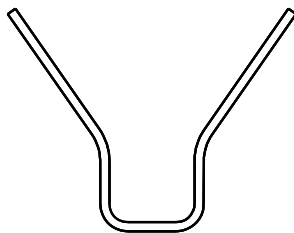
9 H



SECTION B-B

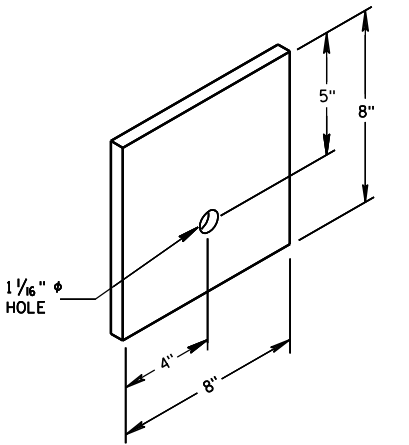
GENERIC ANCHOR CABLE BOX

8 H



BILL OF MATERIALS

PART NO.	DESCRIPTION
	MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
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	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)

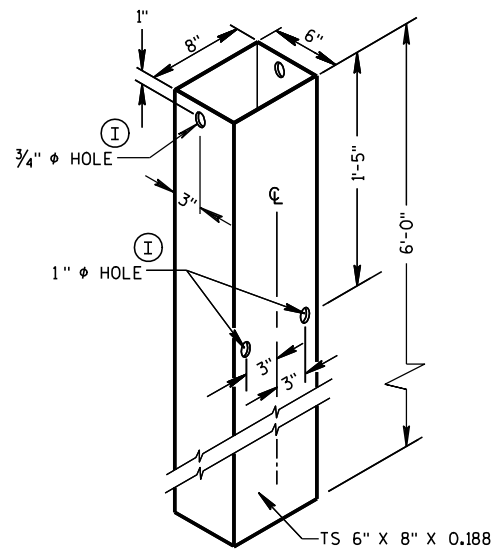


BEARING PLATE

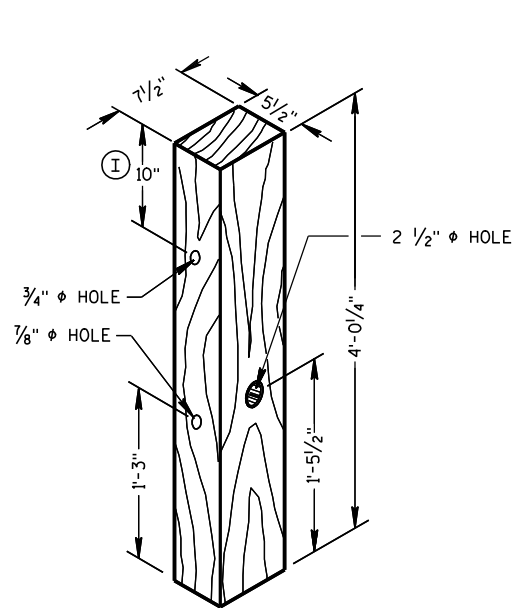
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MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

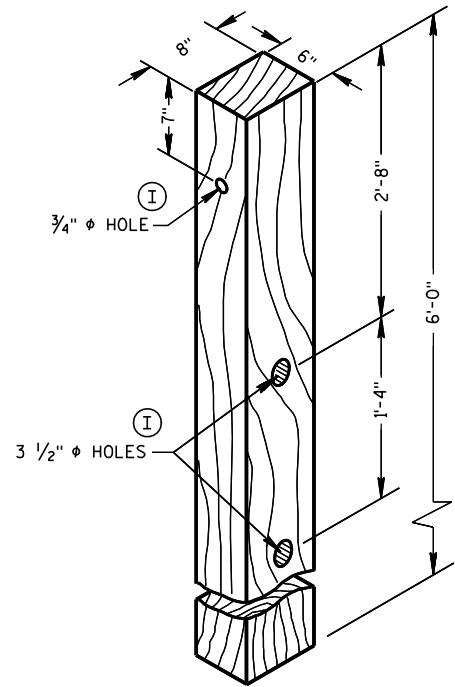
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



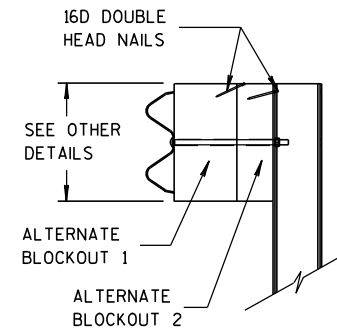
FOUNDATION TUBE^②



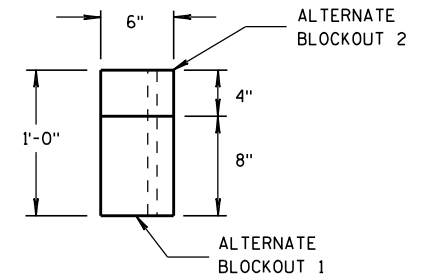
WOOD BREAKAWAY POST^①



WOOD CRT POST^③

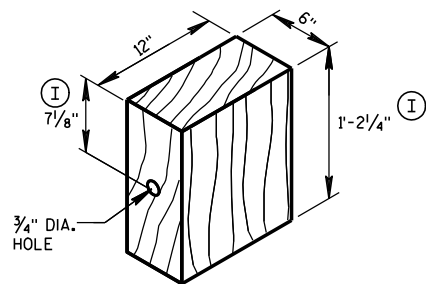


SIDE VIEW



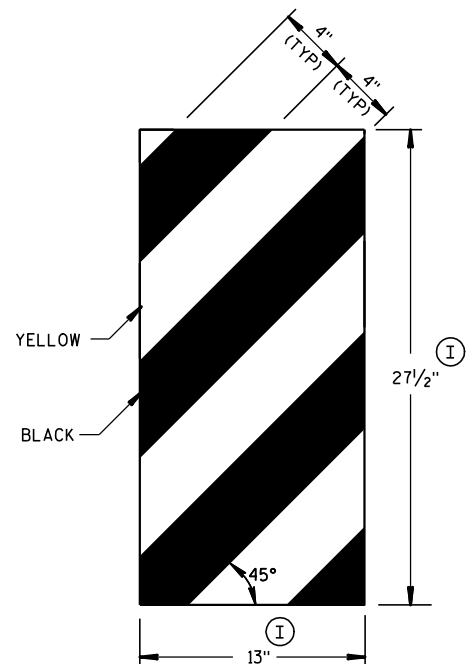
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

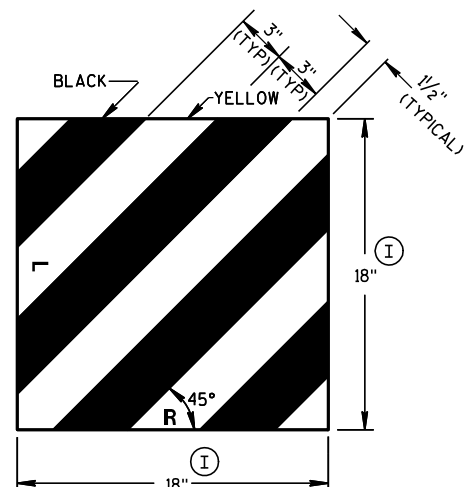


WOOD BLOCKOUT^④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



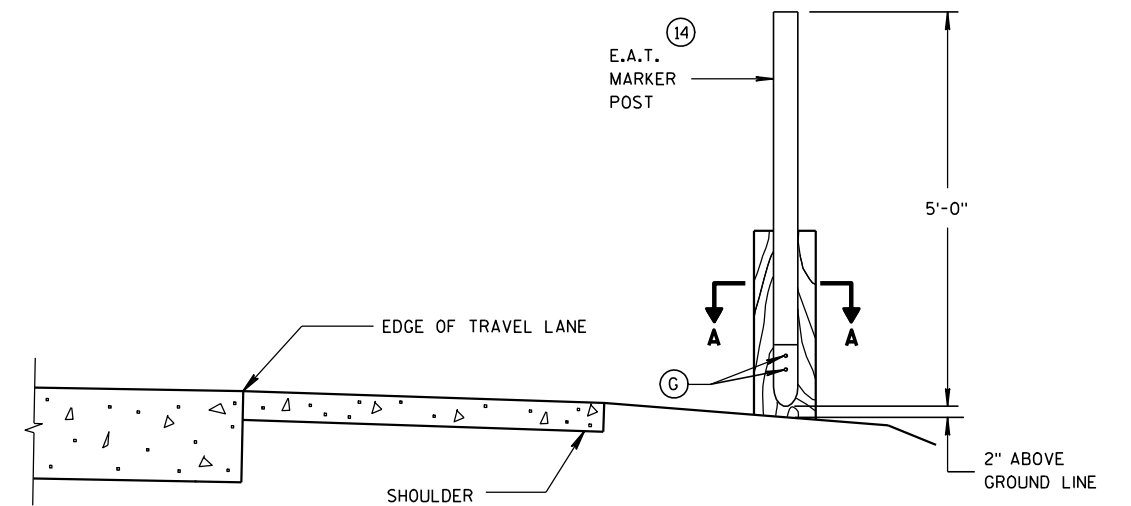
GENERIC REFLECTIVE SHEETING^⑬ ^④



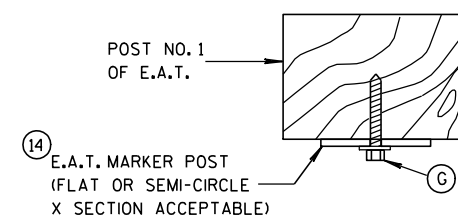
FRONT VIEW

SIDE VIEW

E.A.T. MARKER POST^⑭



TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

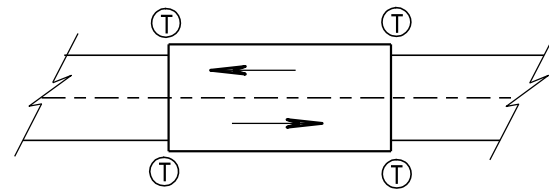
APPROVED

5/23/2011

DATE

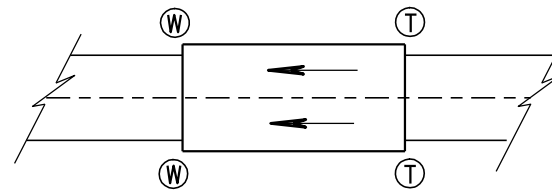
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3".

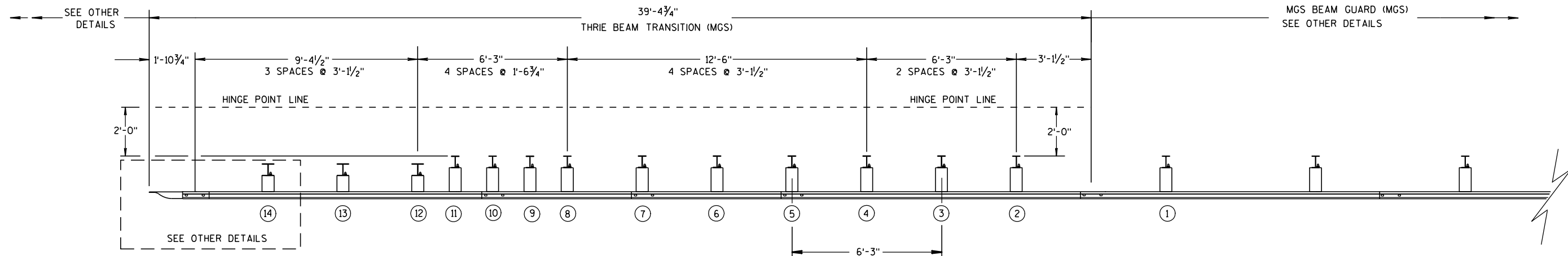
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

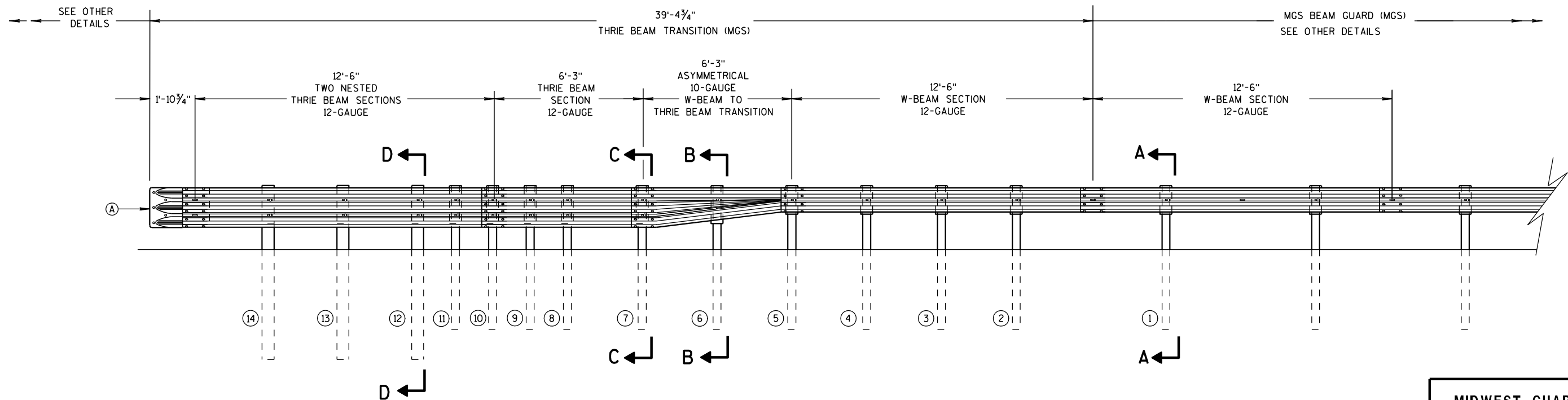
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

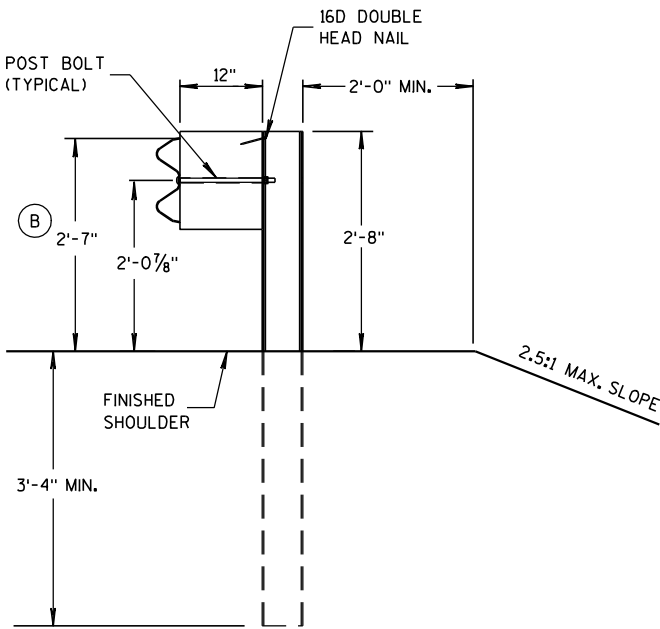
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

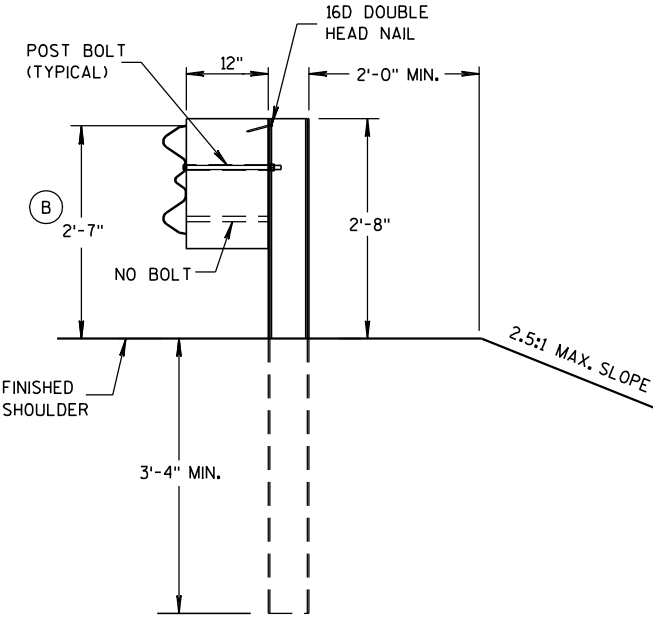
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

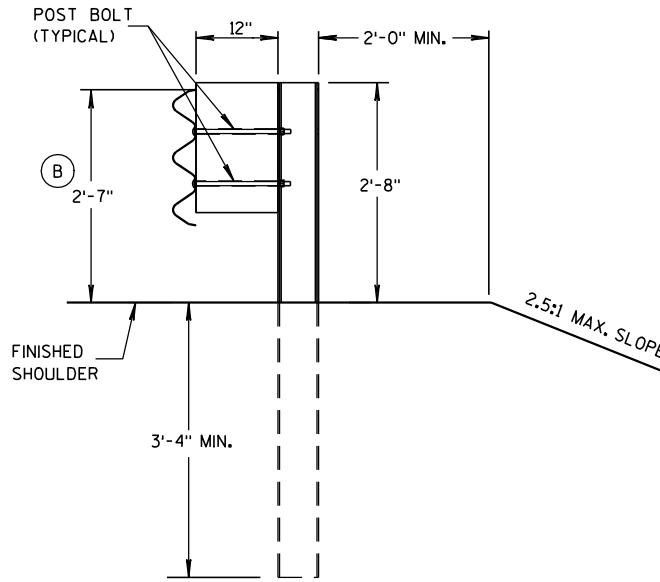
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



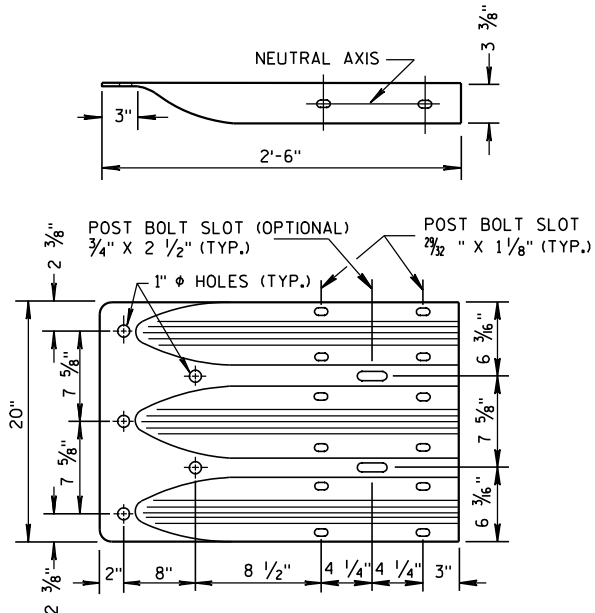
SECTION A-A
POSTS 1-5



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11



THRIE BEAM
TERMINAL CONNECTOR

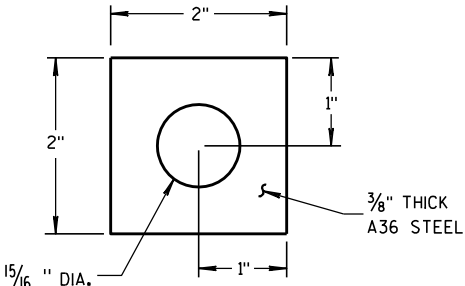
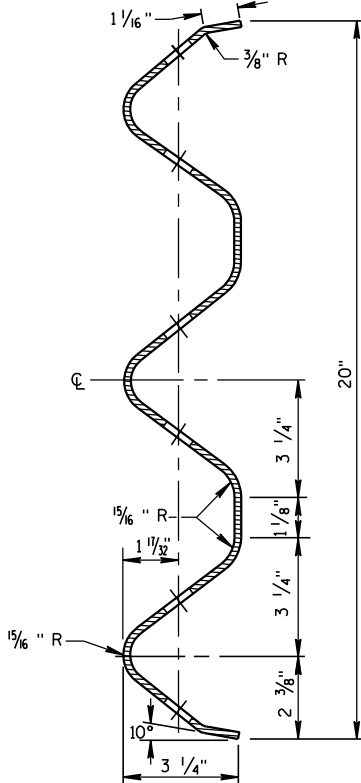
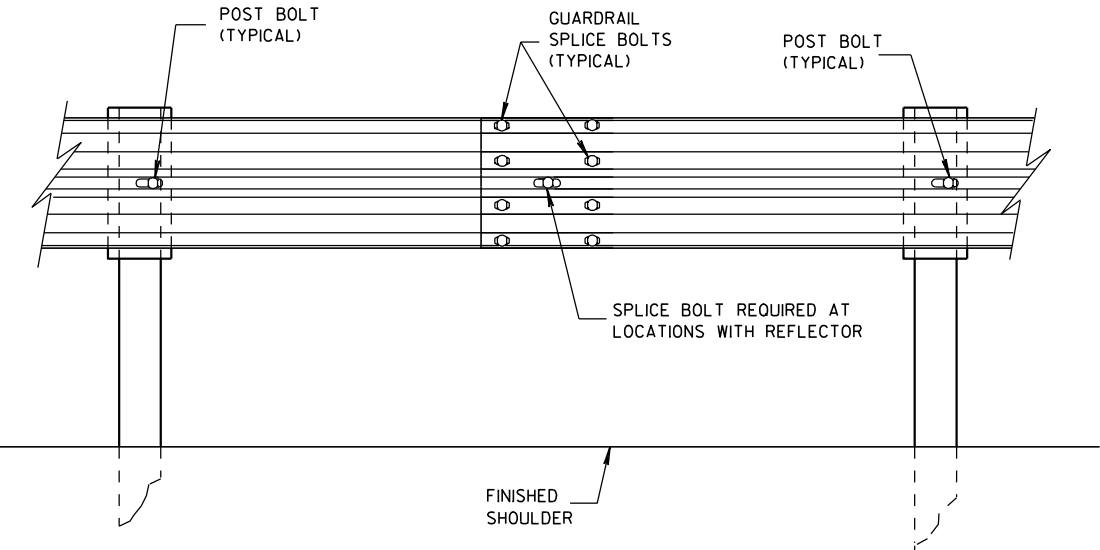


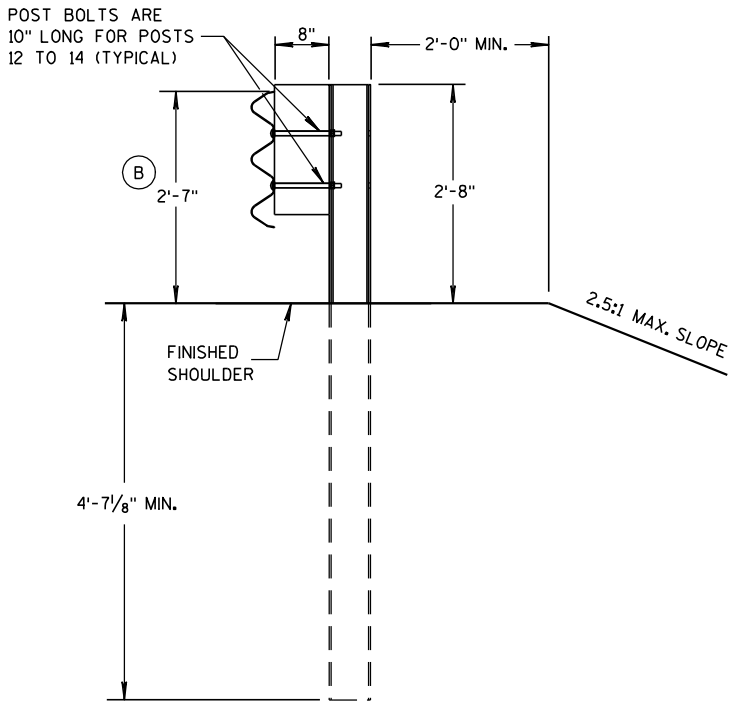
PLATE WASHER DETAIL



SECTION THRU THRIE
BEAM RAIL ELEMENT



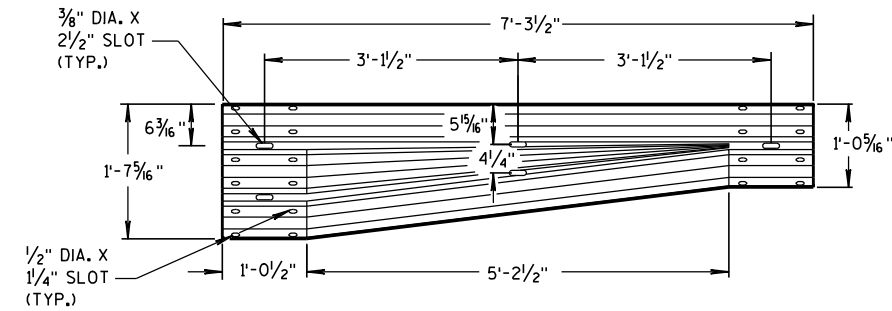
SPLICE DETAIL



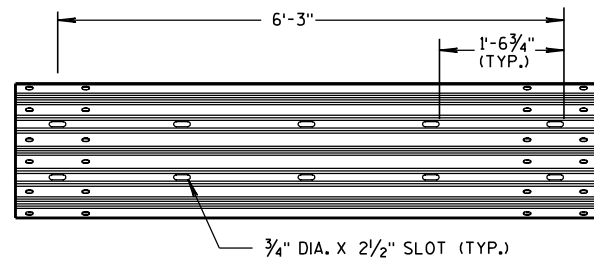
SECTION D-D
POSTS 12-14

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

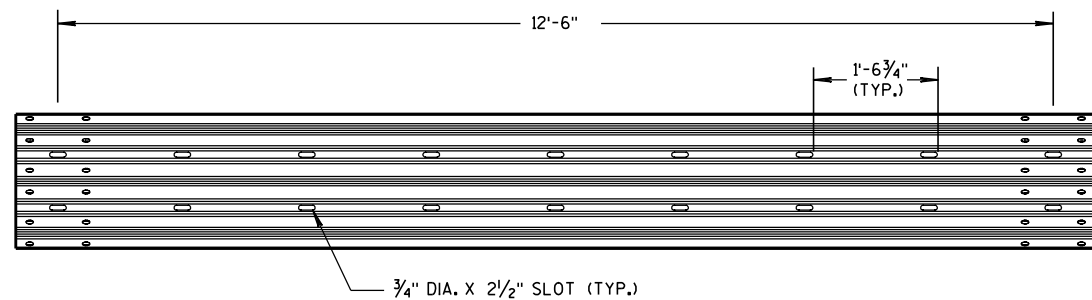
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



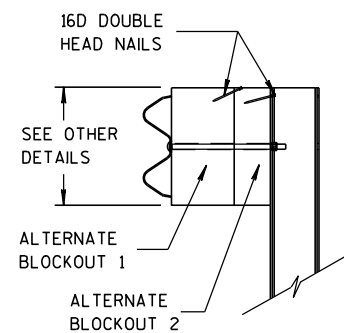
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

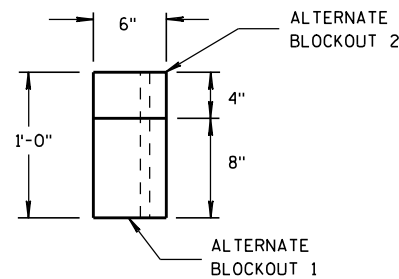


12'-6" THRIE BEAM SECTION

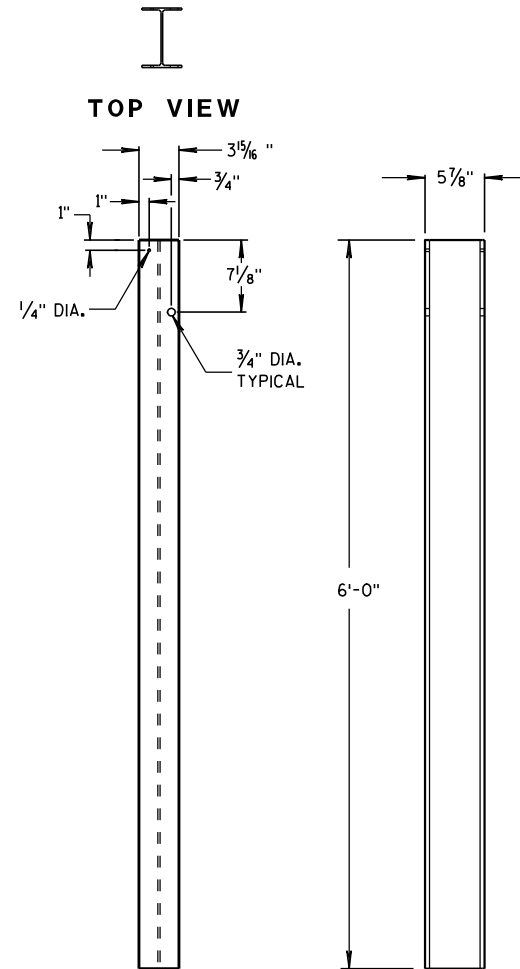


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



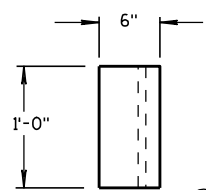
TOP VIEW



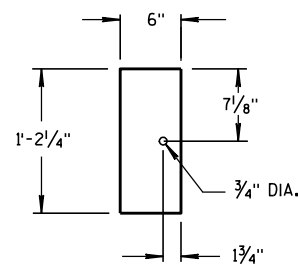
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

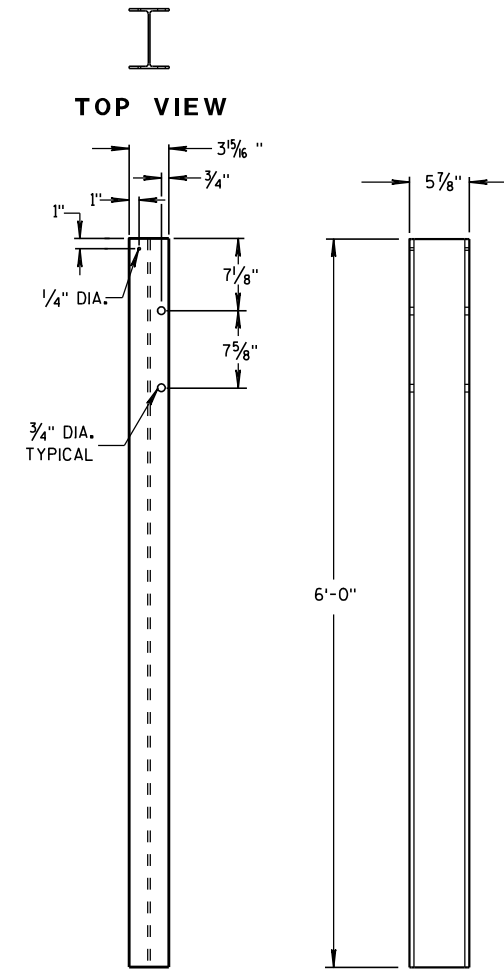


TOP VIEW



FRONT VIEW

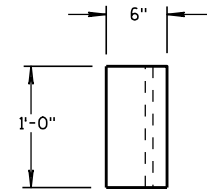
BLOCKOUT POSTS 1-5



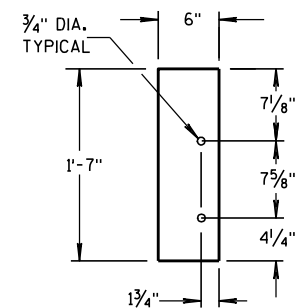
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

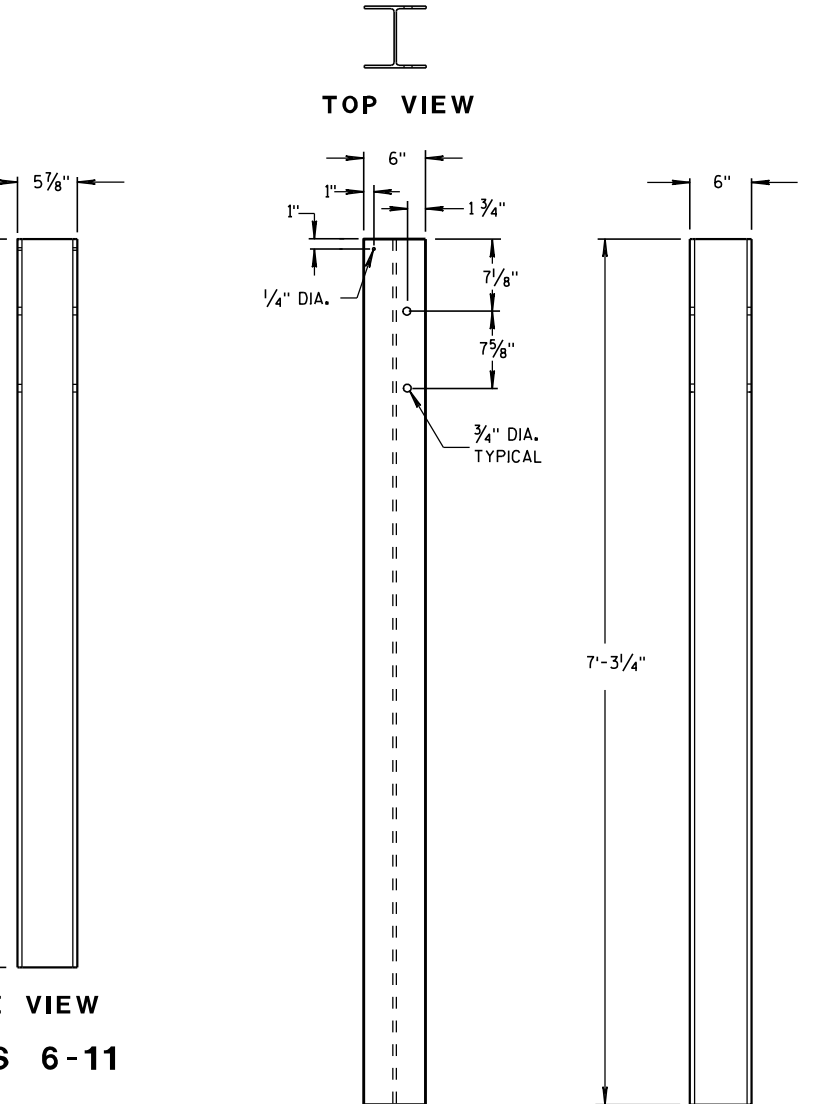


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-11



FRONT VIEW

SIDE VIEW

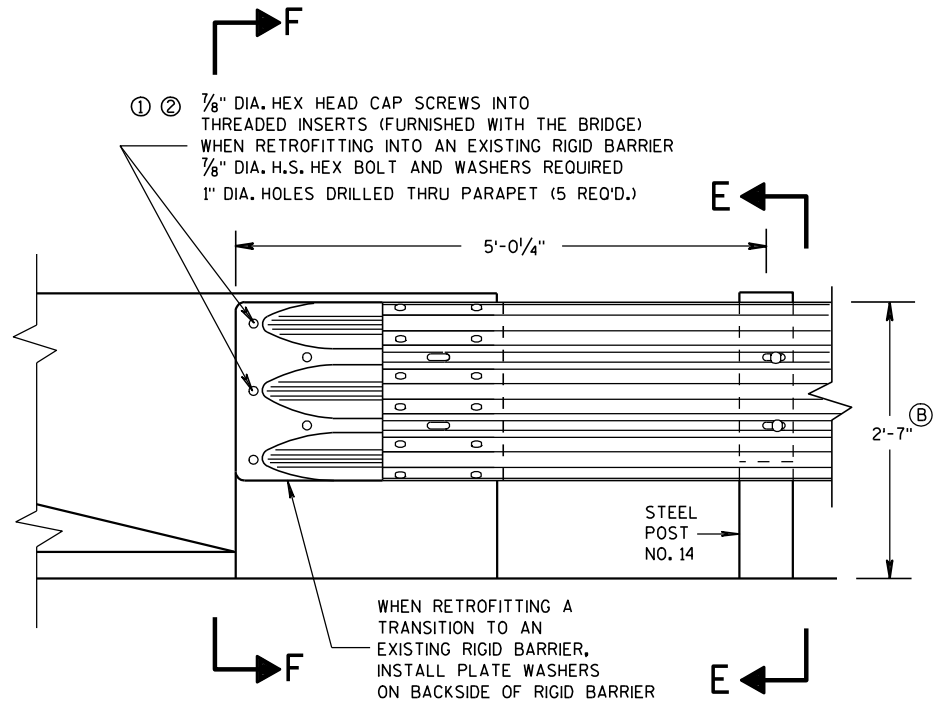
STEEL POSTS 12-14

STEEL POST SIZES

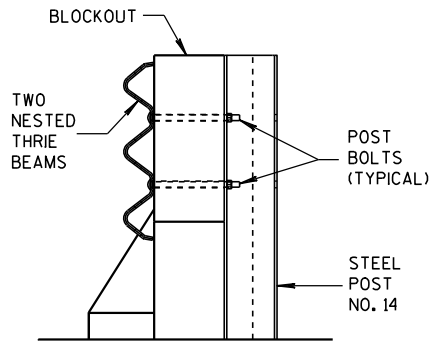
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 1/8"
⑬	W6x15	87 1/8"
⑭	W6x15	87 1/8"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



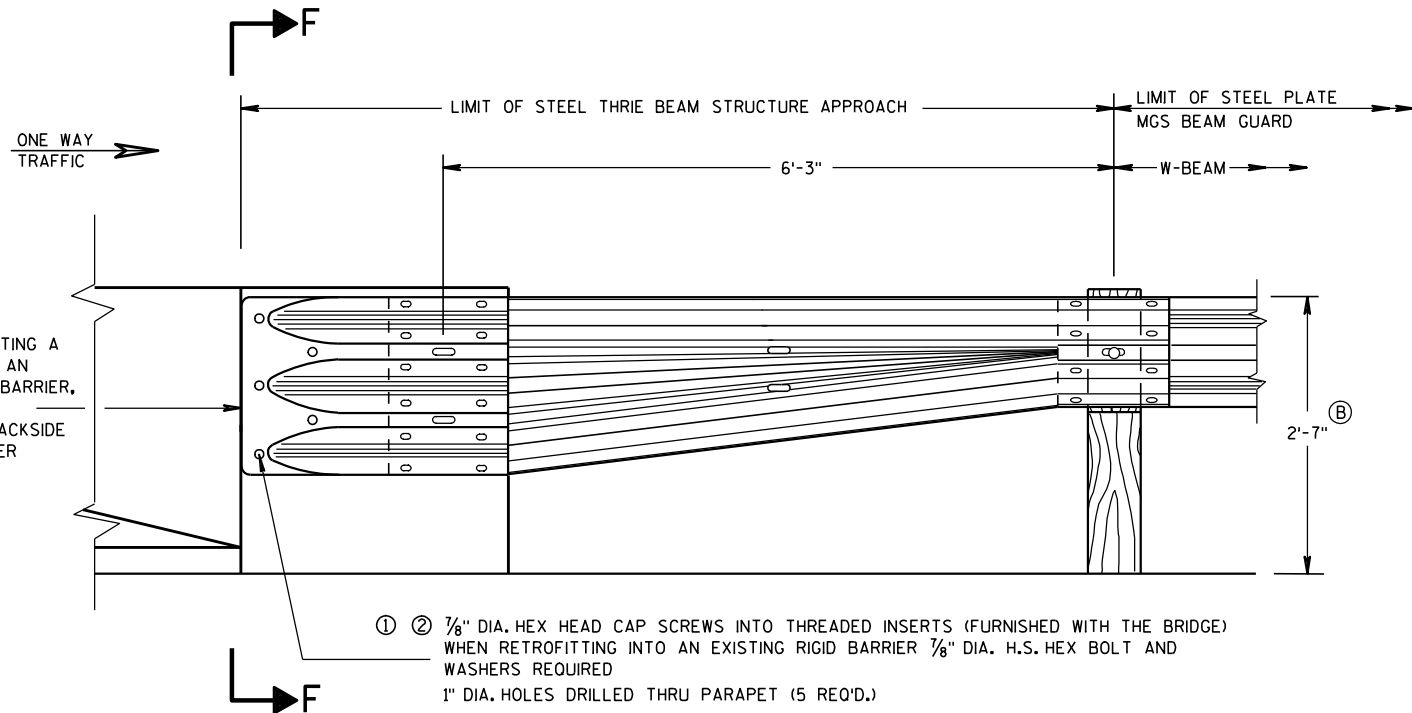
FRONT VIEW
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



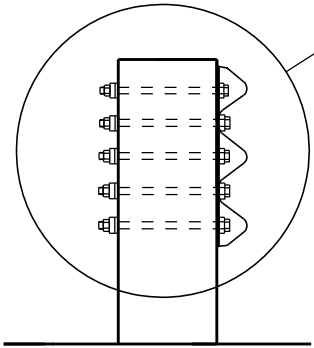
SECTION E-E

GENERAL NOTES

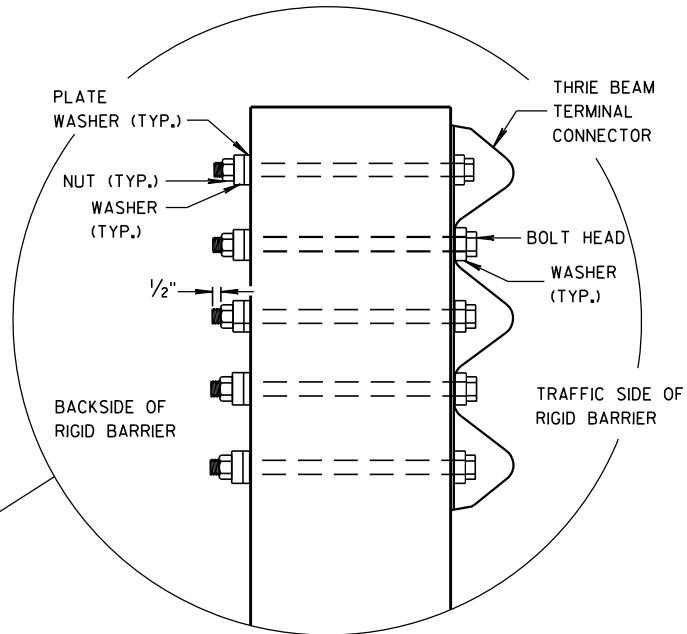
- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - ② BOLTS MAY BE A325 BOLTS OR 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.
 - ③ 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".
- ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".



FRONT VIEW
W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F

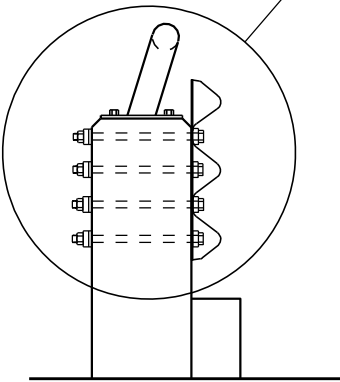
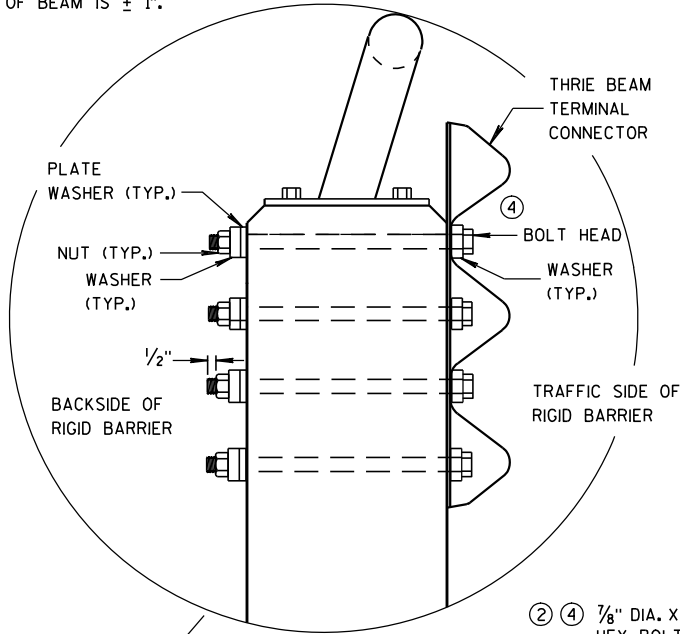


MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 8/31/2012 DATE	/S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

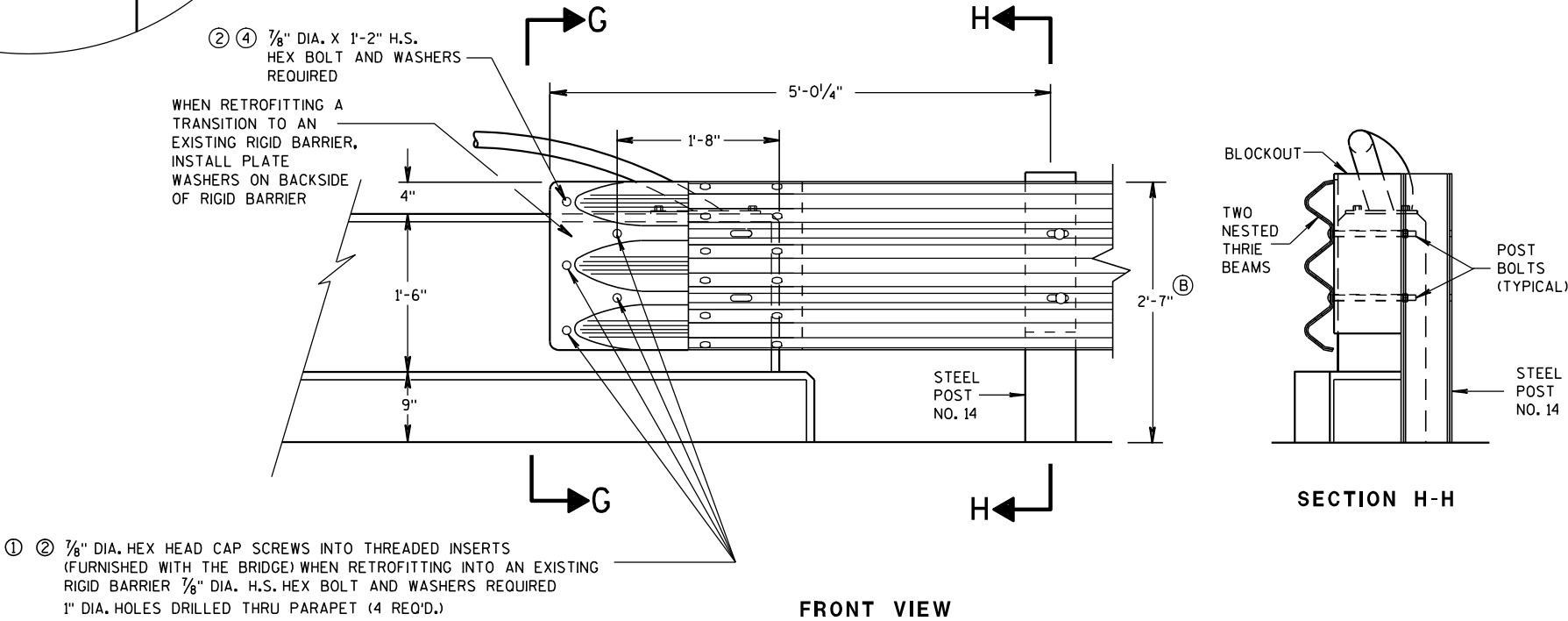
GENERAL NOTES

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

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② 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 $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ 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 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- Ⓑ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

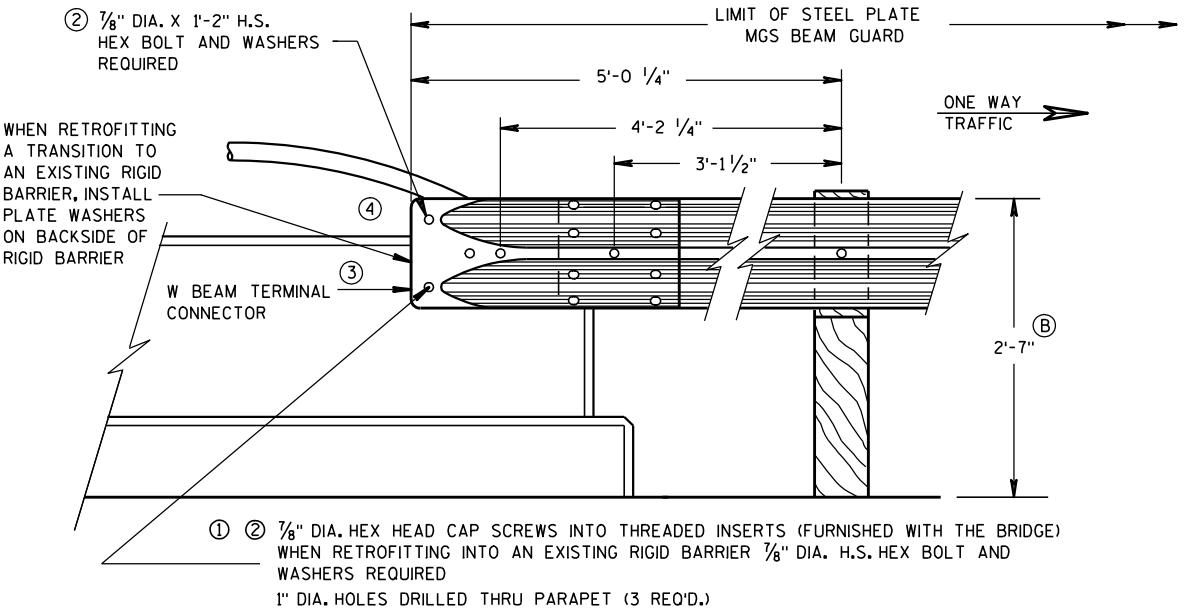


SECTION G-G



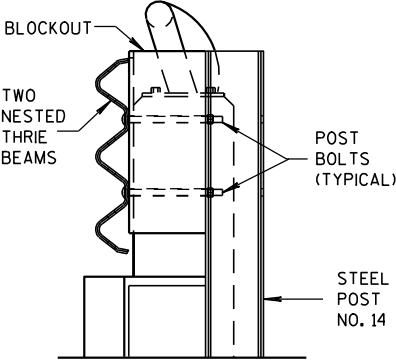
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

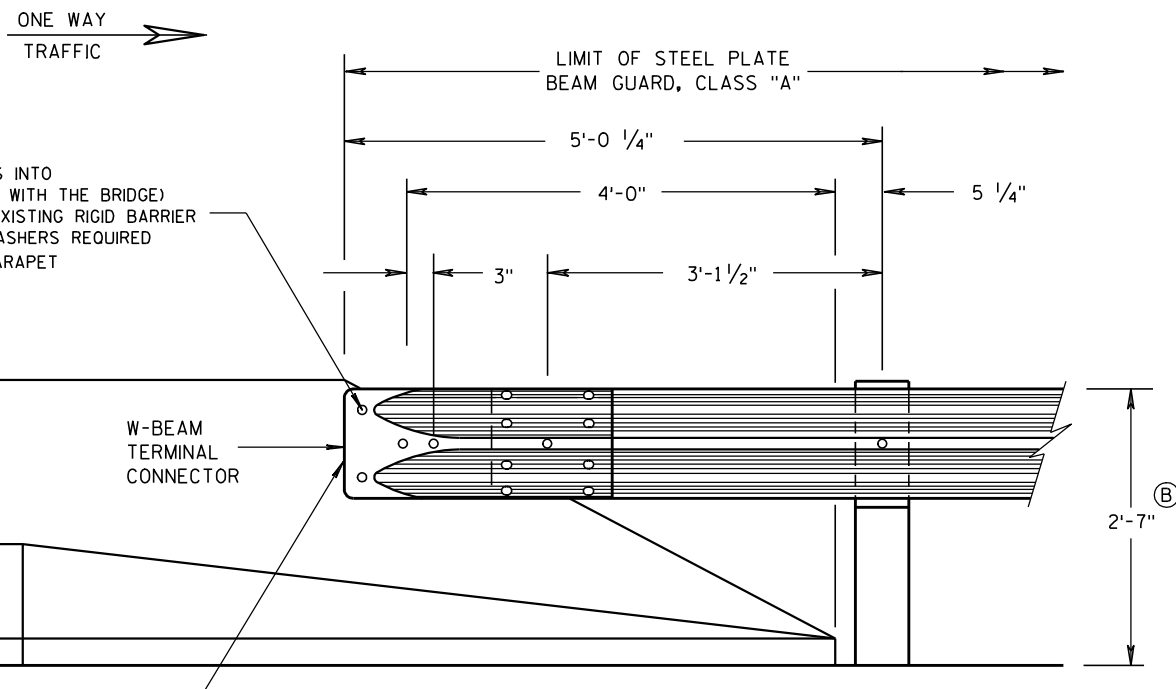


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



FRONT VIEW

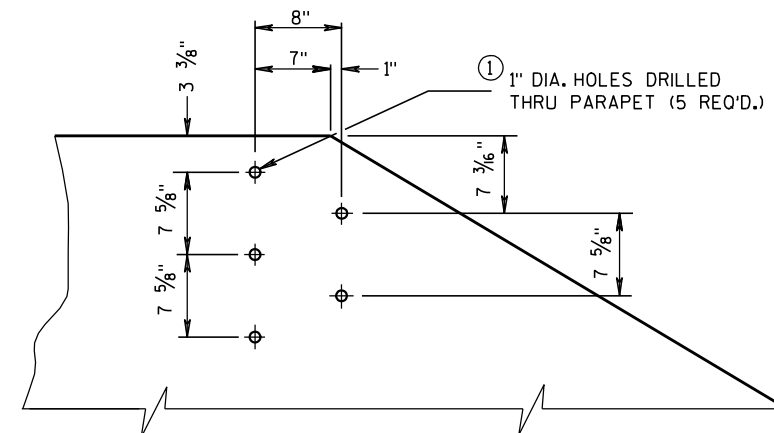
W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.

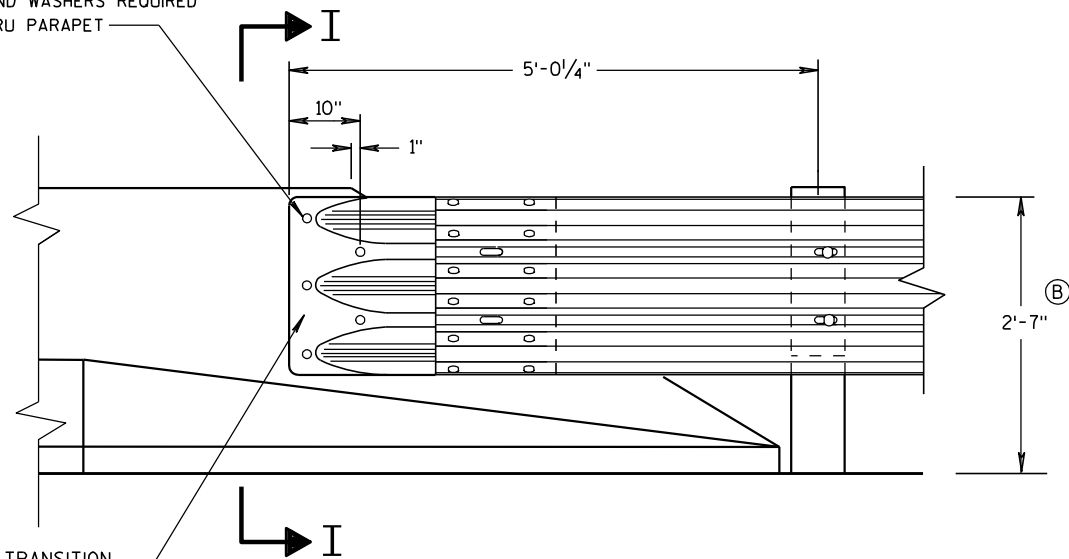
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② 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.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

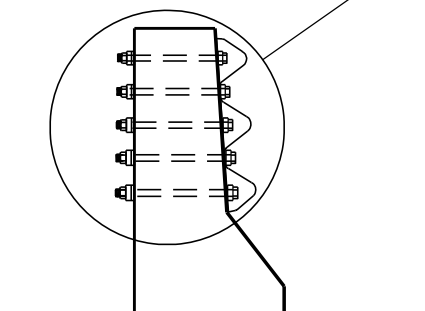
- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER. 7/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED. 1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.).



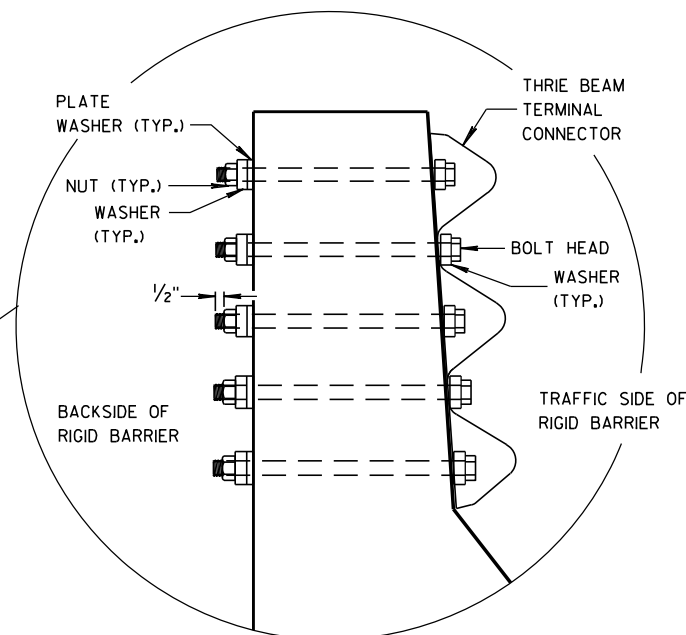
FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

WHEN RETROFITTING A TRANSITION
TO AN EXISTING RIGID BARRIER,
INSTALL PLATE WASHERS ON
BACKSIDE OF RIGID BARRIER.



SECTION I-I

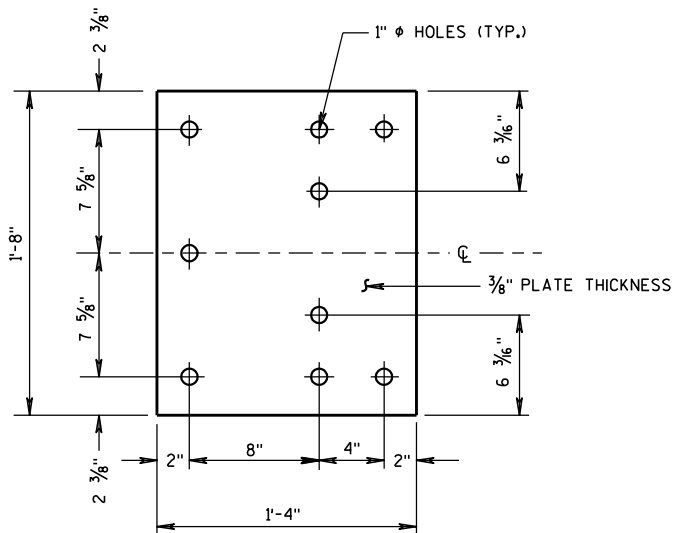


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

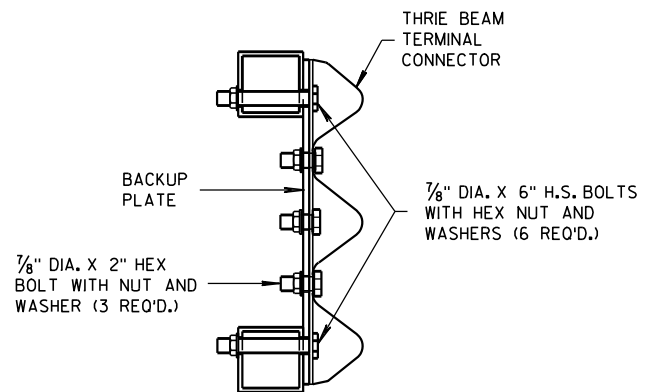
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

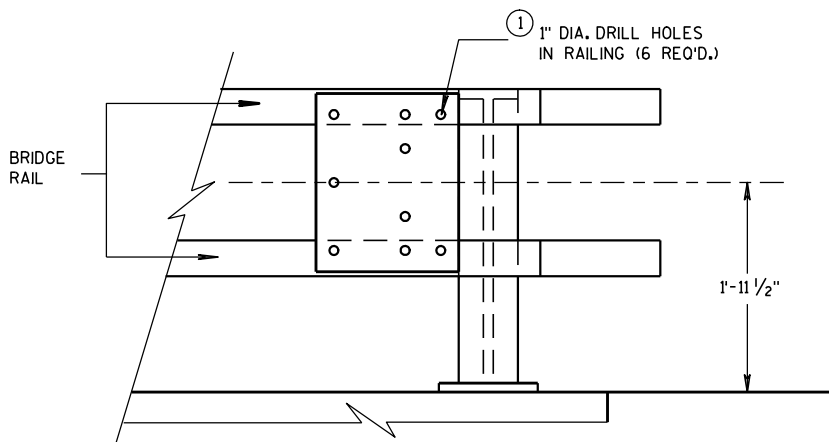
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



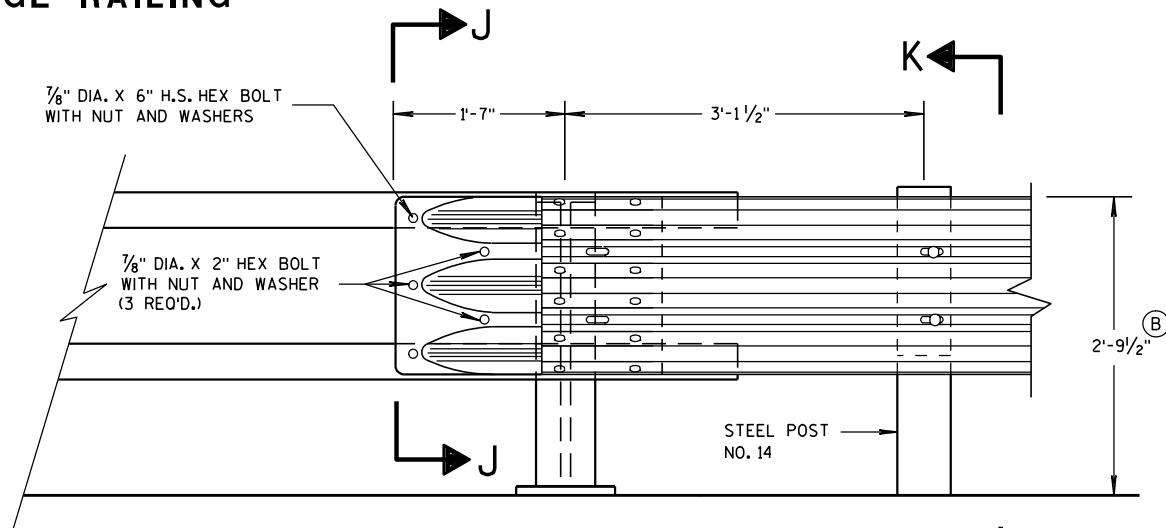
BACK-UP PLATE DETAIL



SECTION J-J

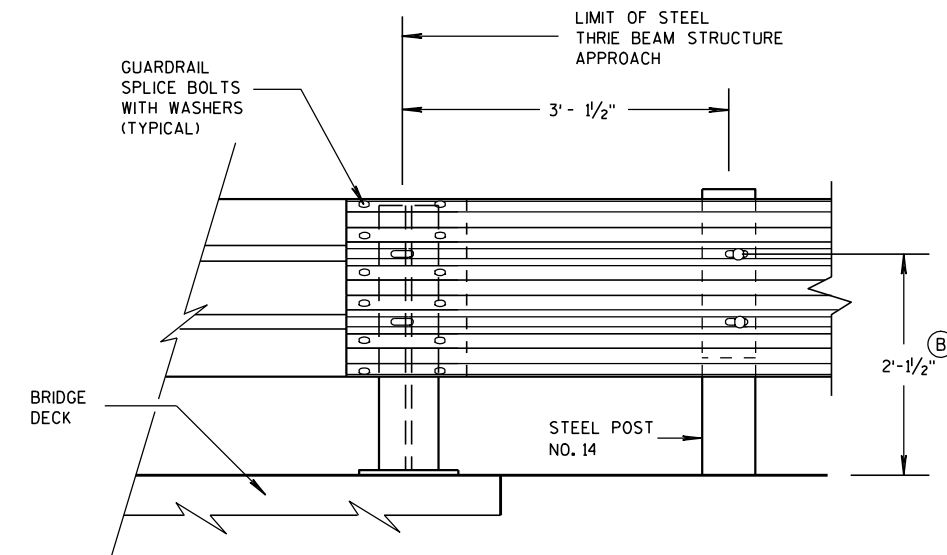


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



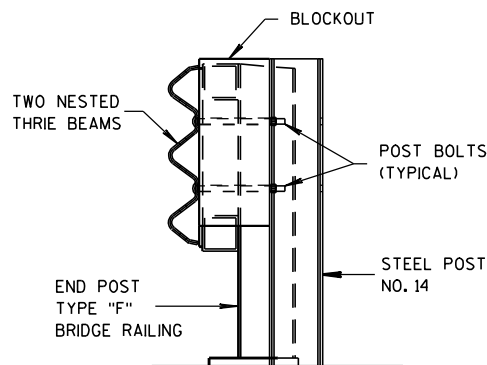
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

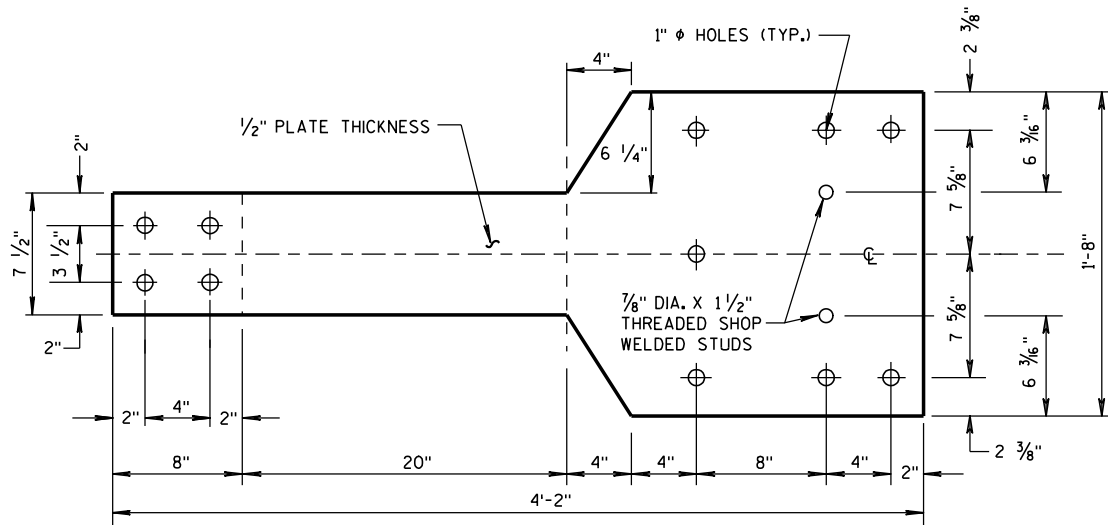
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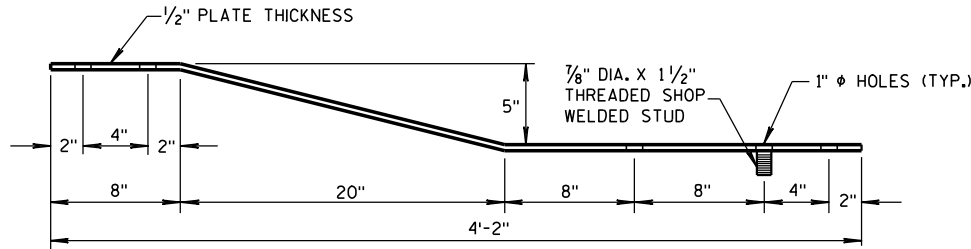
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

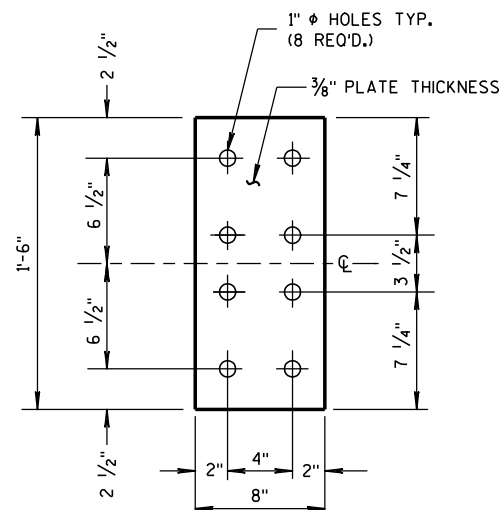
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

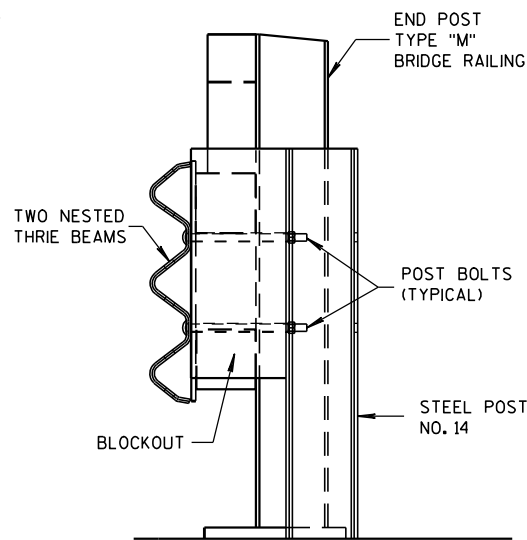


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

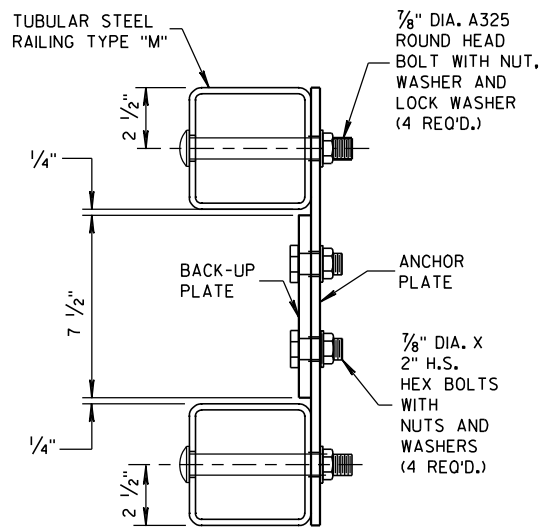


FRONT VIEW

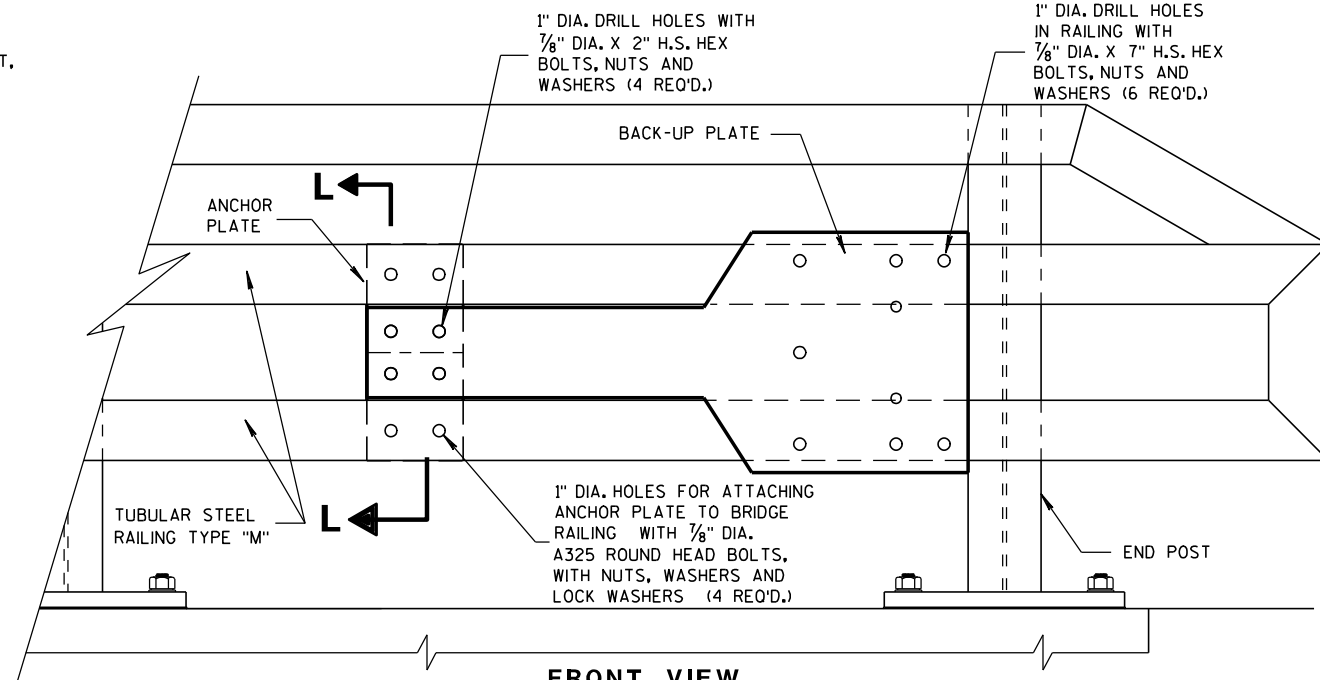
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

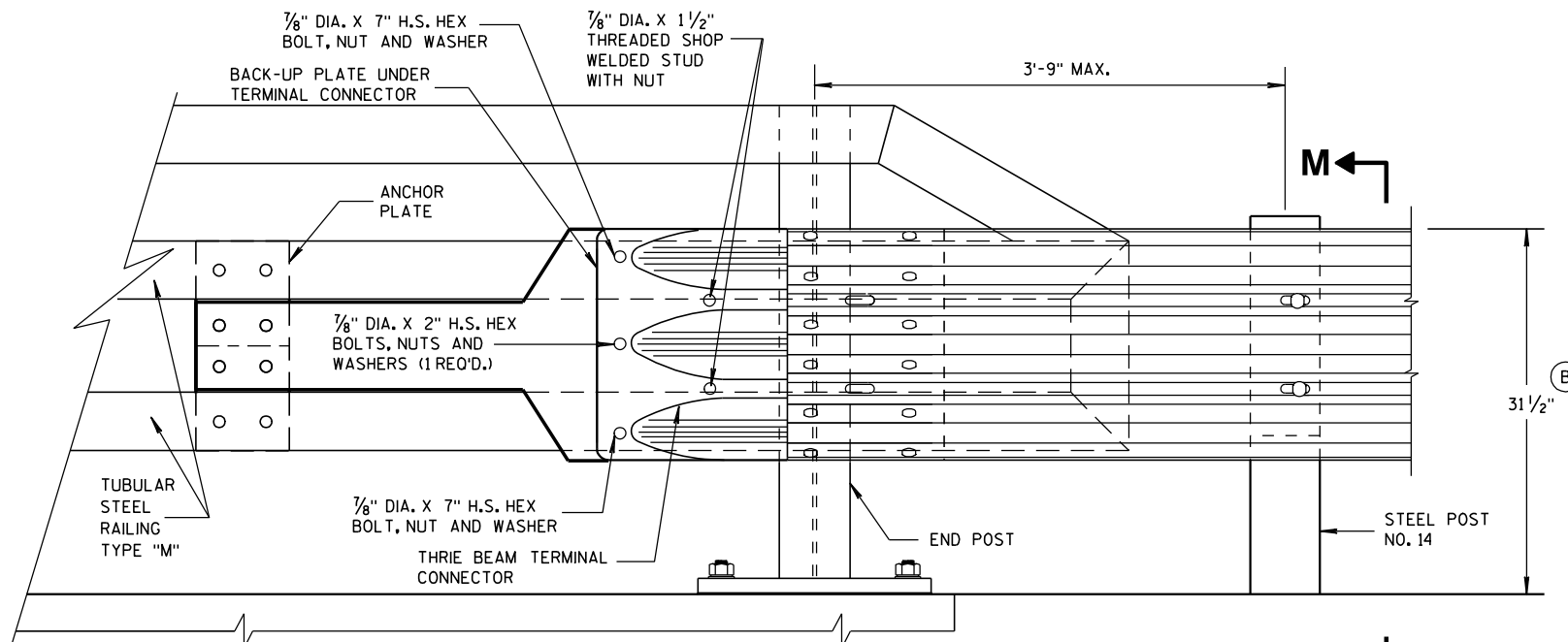


SECTION L-L

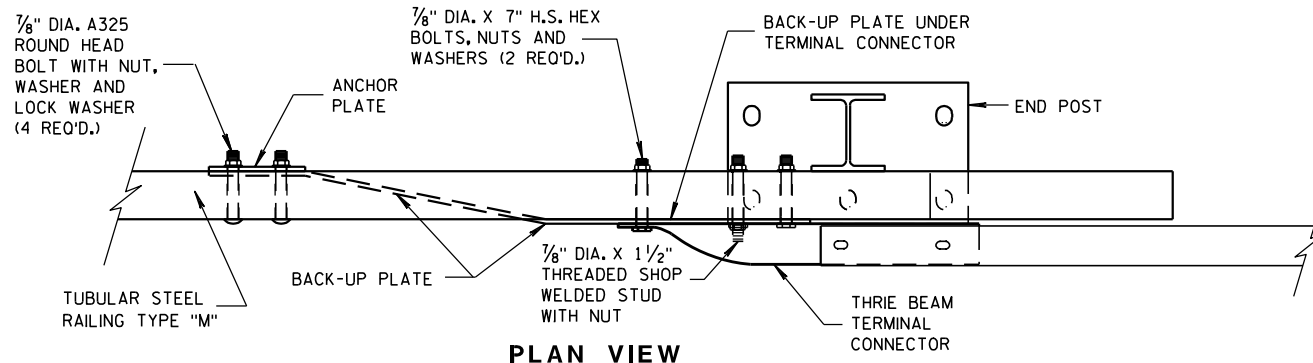


FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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8-31-2012

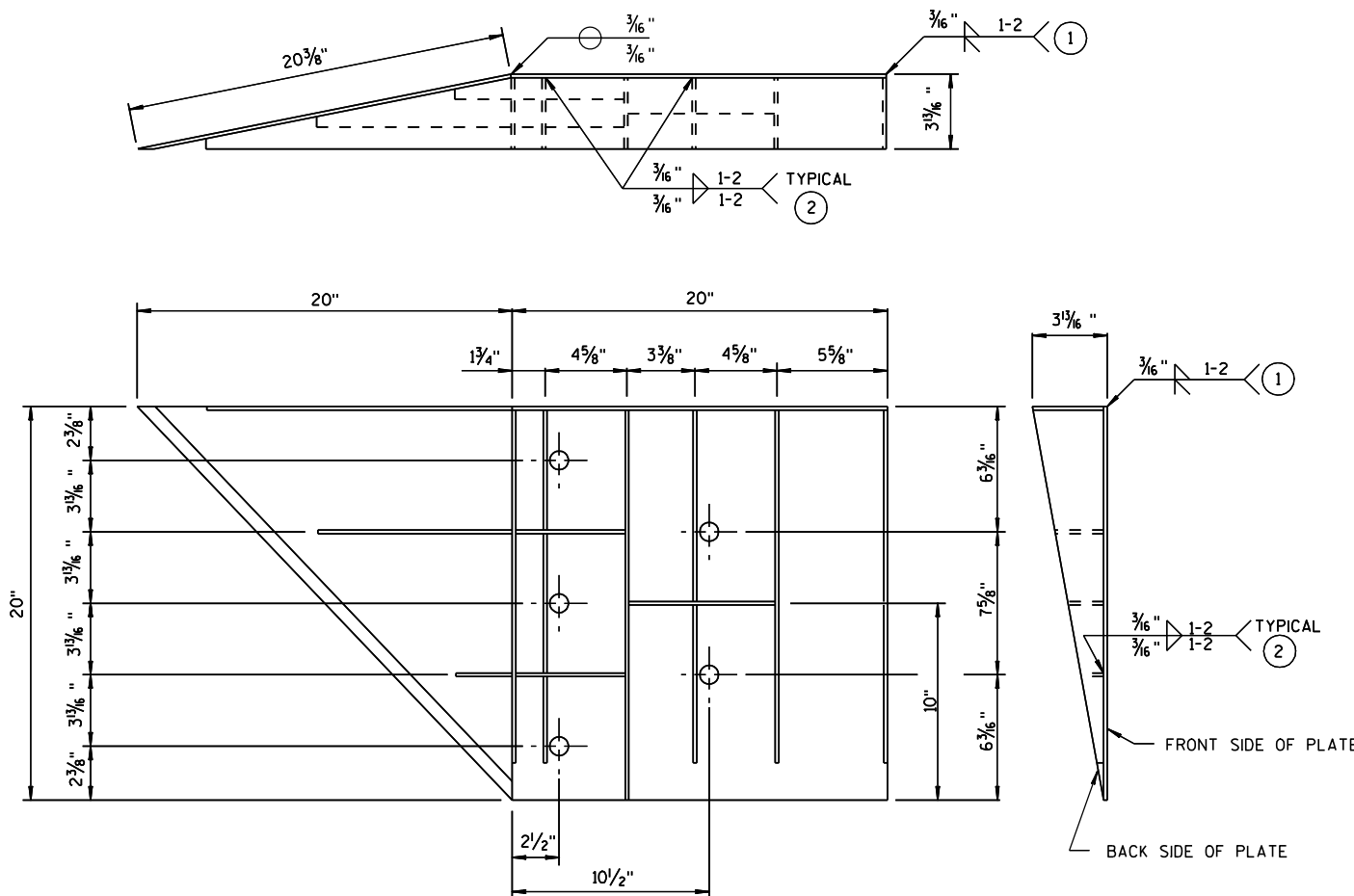
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

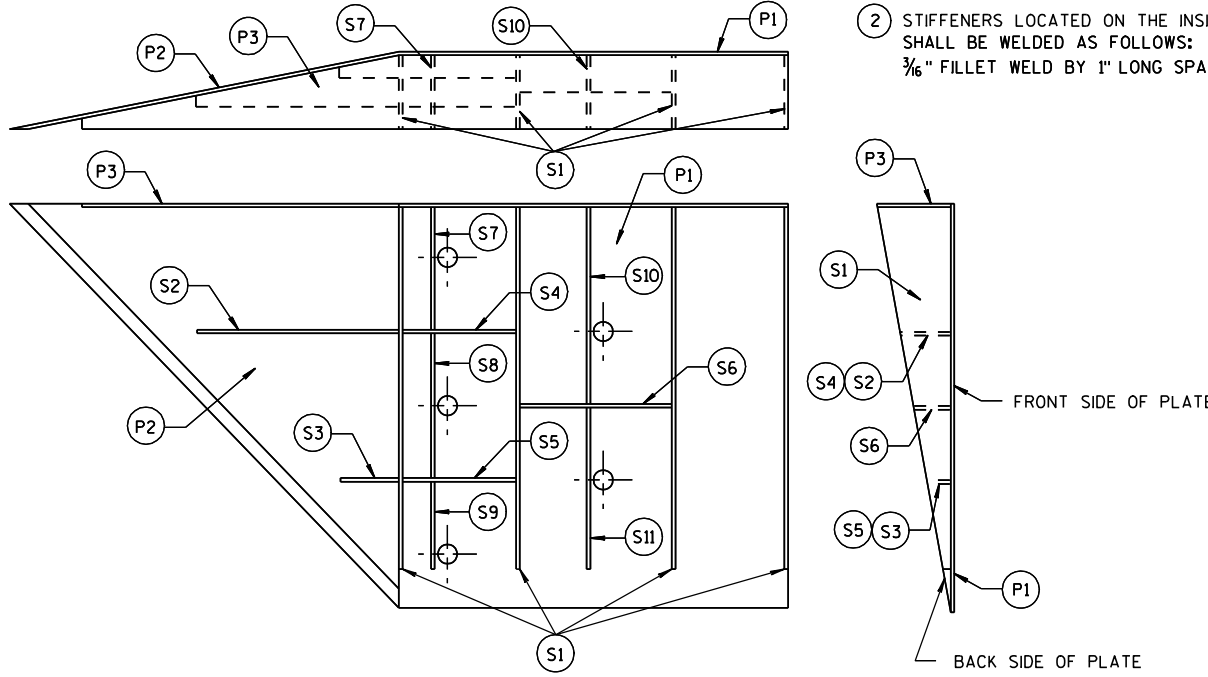


WELDING INSTRUCTION
(VIEWED FROM BACK SIDE OF PLATE)

SINGLE SLOPE CONNECTION PLATE

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 5/16"	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 1/16"	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 7/32" 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 1/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 1/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 1/16"	1/4"

PLATE AND STIFFENER IDENTIFICATION
(VIEWED FROM BACK SIDE OF PLATE)



GENERAL NOTES

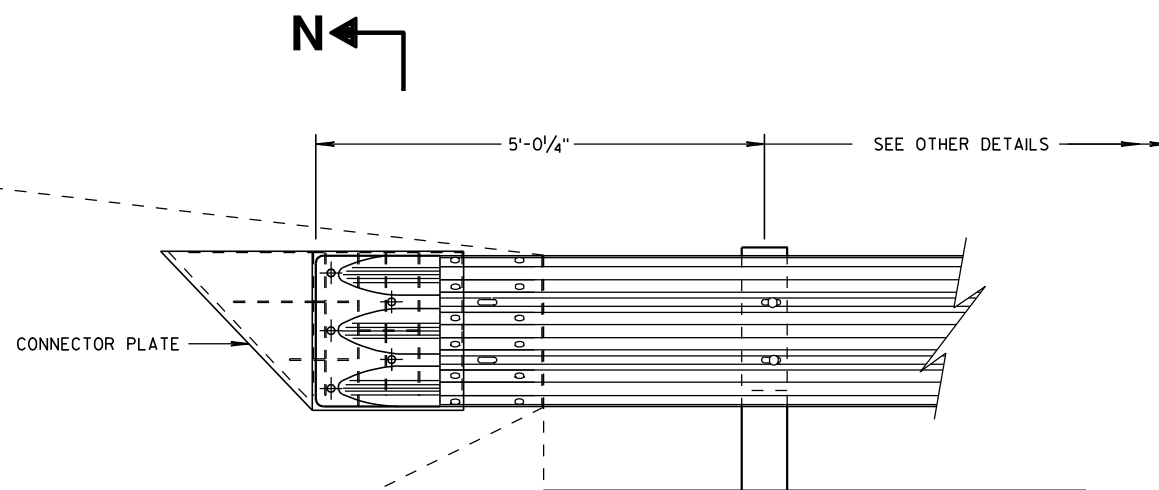
- COVER PLATE PANELS ARE 3/16" THICK.
- ALL STIFFENERS ARE 1/4" THICK.
- CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.
- FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.
- ALL HOLE DIAMETERS SHALL BE 1".
- FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- 1 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.
- 2 STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".

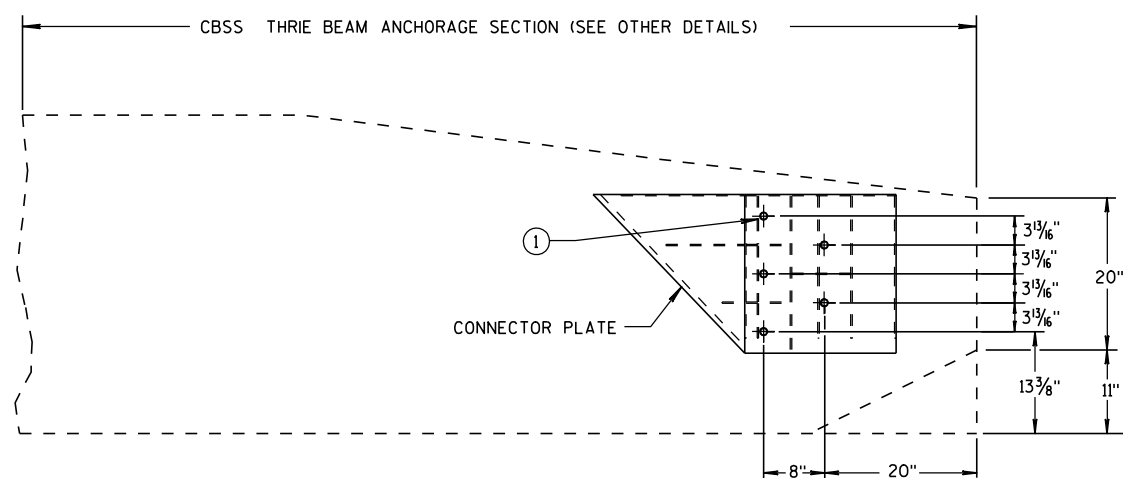
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. Zogg
FHWA ROADWAY STANDARDS DEVELOPMENT ENGINEER



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

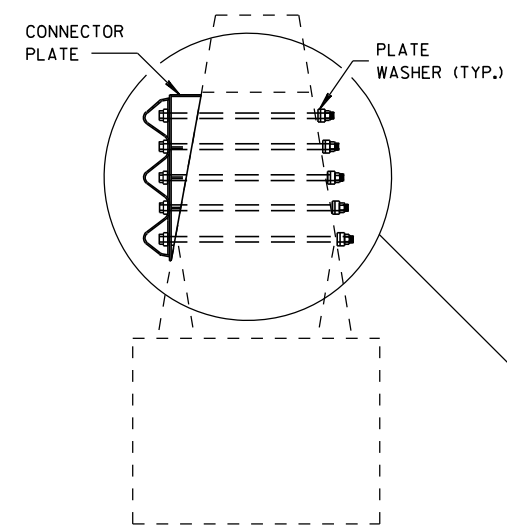


SINGLE SLOPE CONNECTION PLATE PLACEMENT

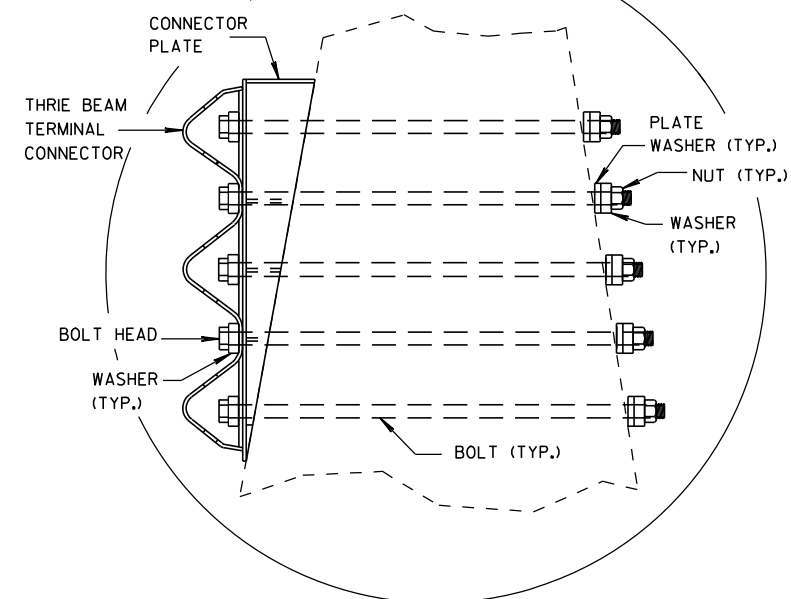
GENERAL NOTES

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

- ① 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.



SECTION N-N



**MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)**

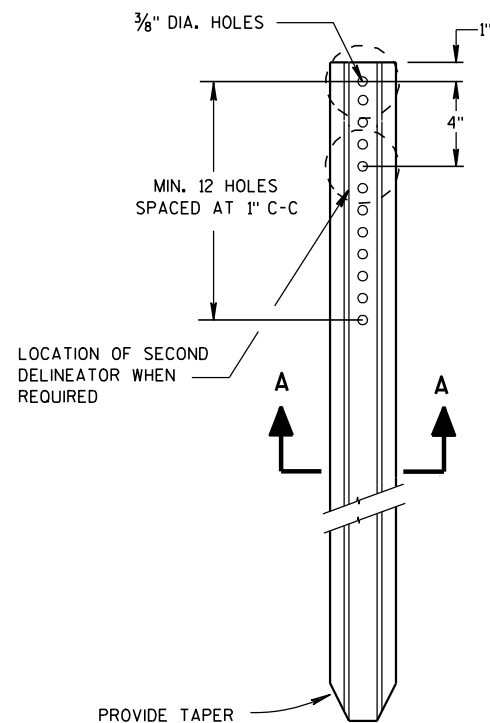
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

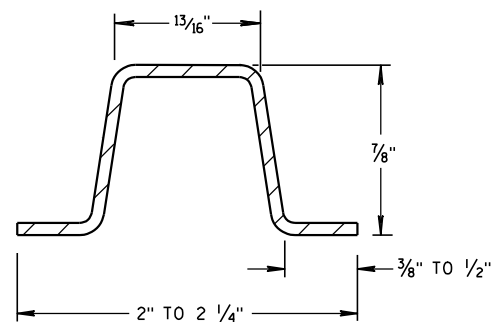
8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

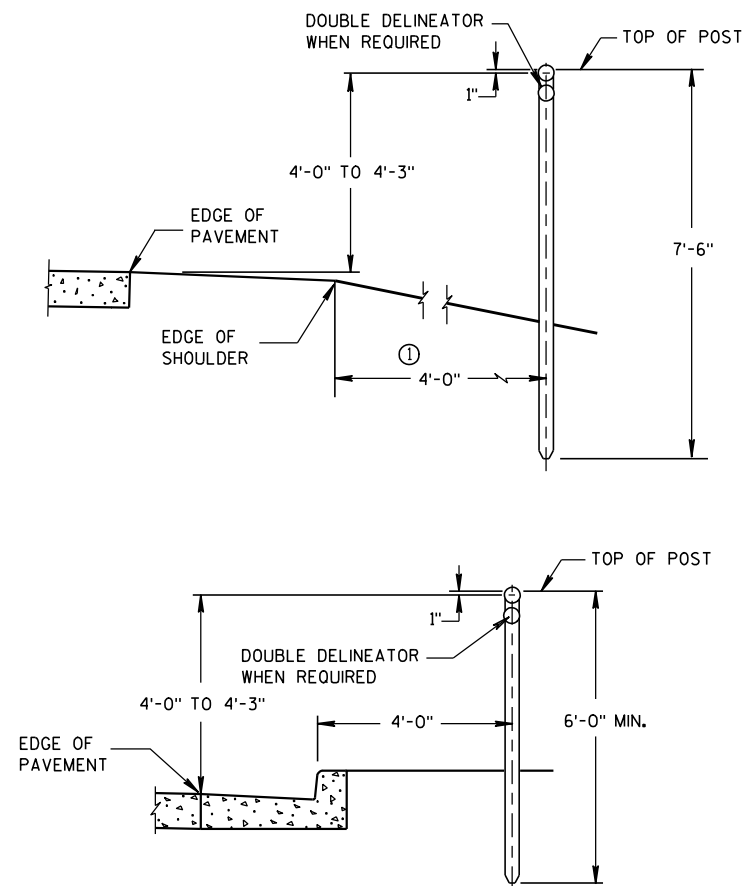


DELINEATOR POST



SECTION A-A

WEIGHT 1.12 LBS PER FT. $\pm$ 0.1 LB.



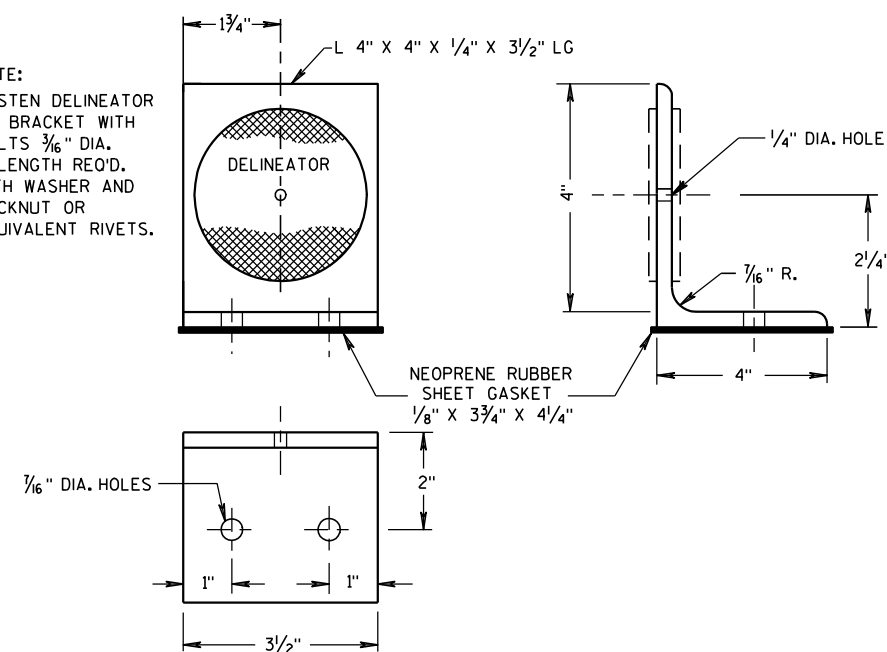
TYPICAL INSTALLATIONS OF DELINEATOR POSTS

GENERAL NOTES

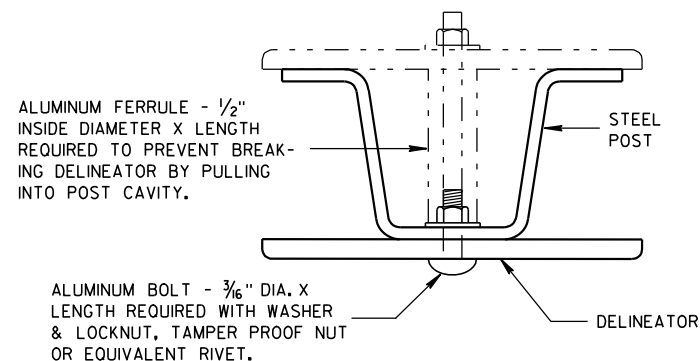
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

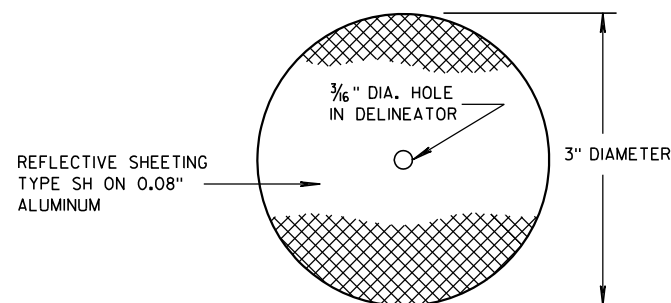
NOTE:
FASTEN DELINEATOR TO BRACKET WITH BOLTS 3/16" DIA. X LENGTH REQ'D. WITH WASHER AND LOCKNUT OR EQUIVALENT RIVETS.



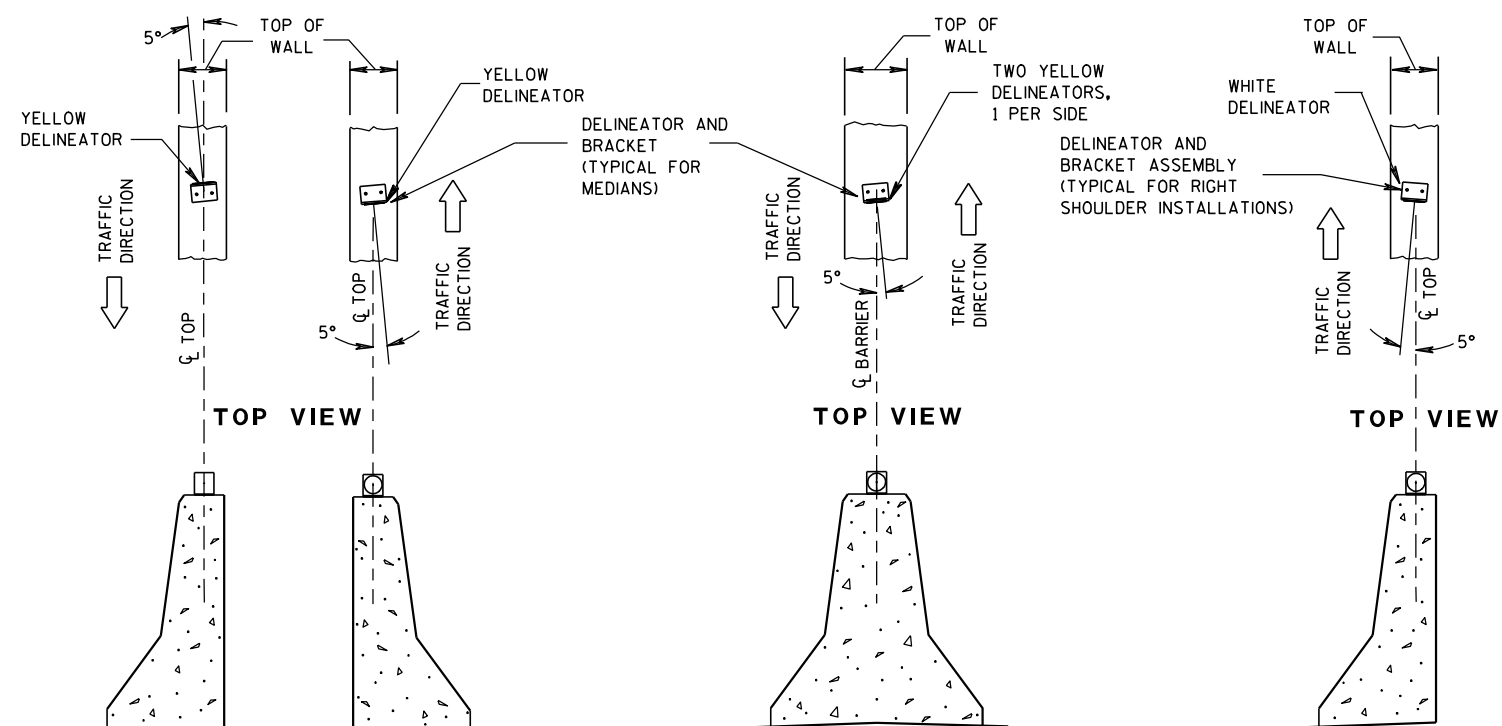
DELINEATOR BRACKET



MOUNTING DETAIL FOR DELINEATOR



DELINEATOR

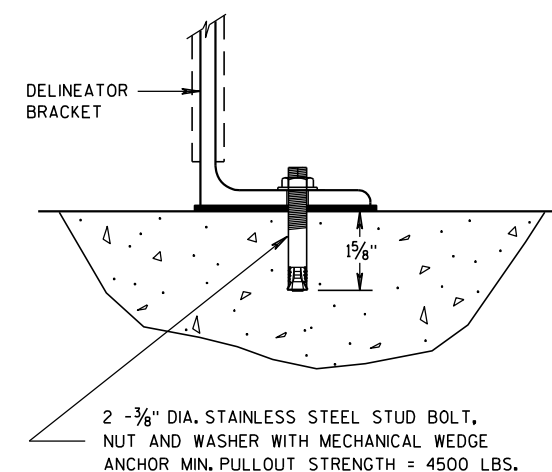


DOUBLE BARRIERS IN MEDIAN

MEDIAN BARRIER

BARRIER LOCATED TO RT. OF TRAFFIC FLOW

LOCATION AND AIMING DETAILS FOR DELINEATORS MOUNTED ON CONCRETE BARRIERS



DELINEATOR BRACKET MOUNTING DETAIL

DELINEATOR POST, DELINEATOR BRACKET AND DELINEATOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

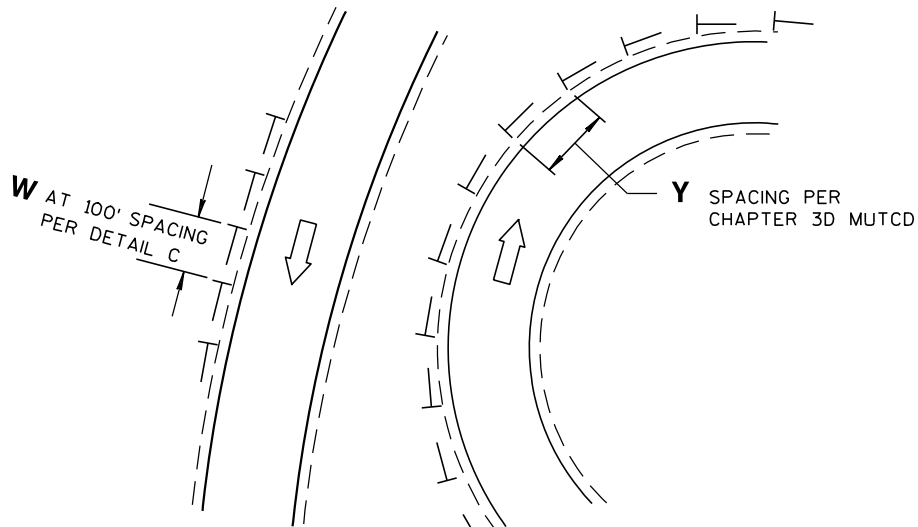
APPROVED

1/25/2011

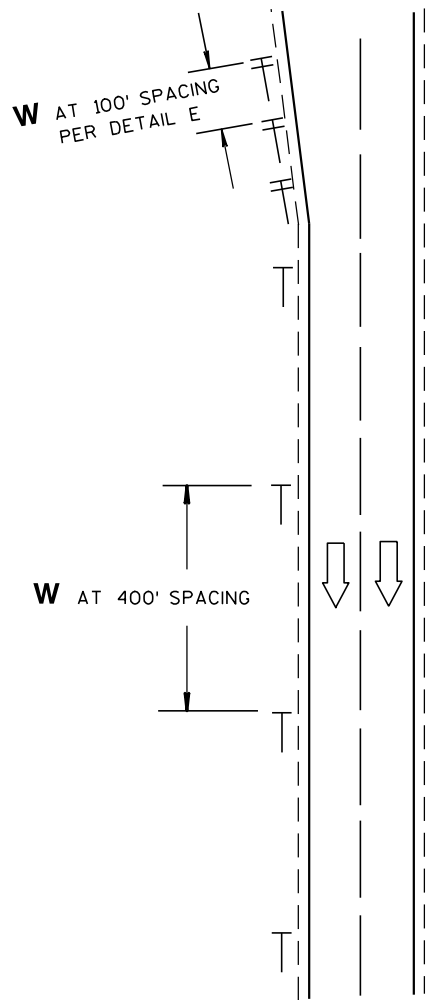
DATE

FHWA

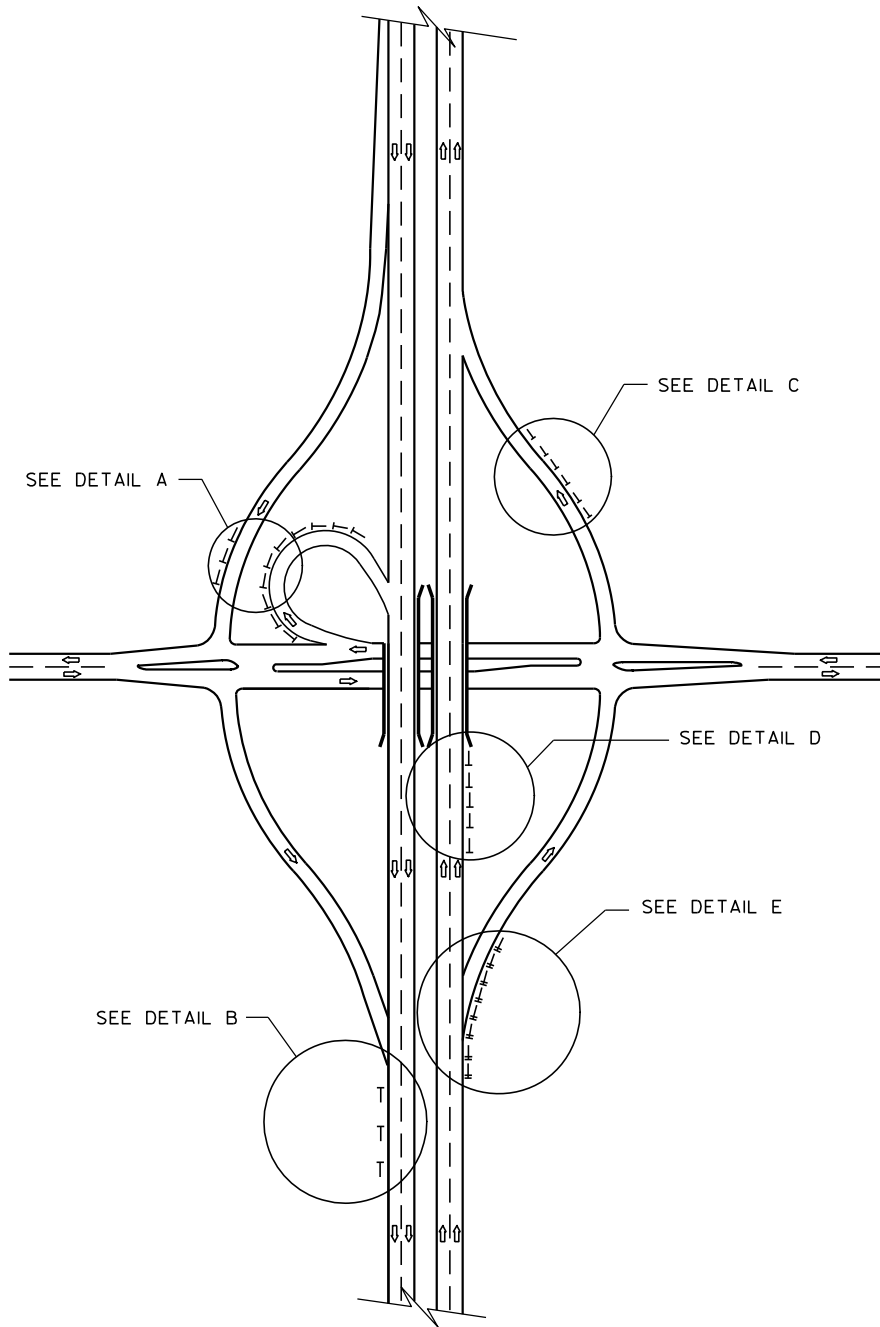
/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN



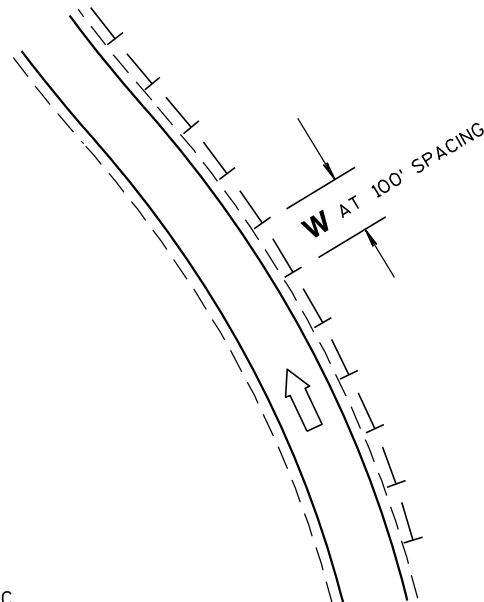
DETAIL A
DELINEATOR LAYOUT AT CURVED RAMP



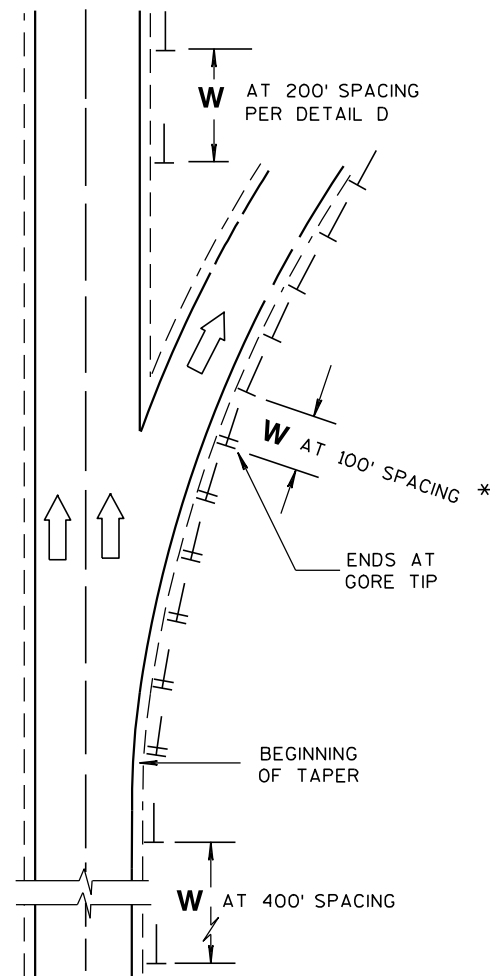
DETAIL B
DELINEATOR LAYOUT
ALONG MAINLINE



DELINEATOR LAYOUT



DETAIL C
DELINEATOR LAYOUT ALONG RAMP



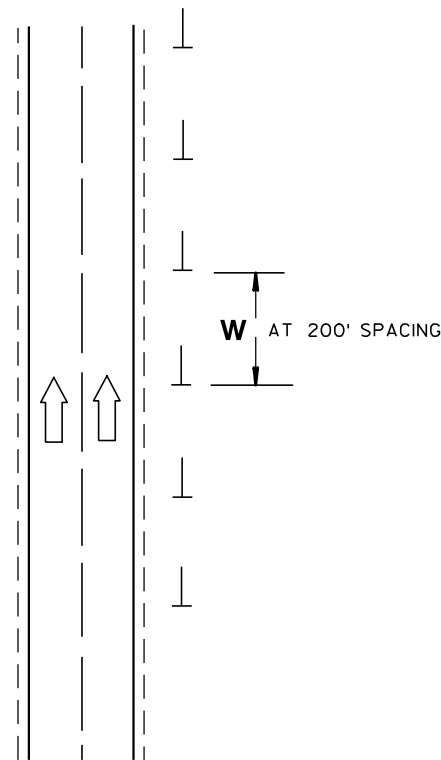
DETAIL E
DELINEATOR LAYOUT FOR ACCELERATION
- DECELERATION LANES AND TAPERS AT RAMPS

GENERAL NOTES

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

LEGEND

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

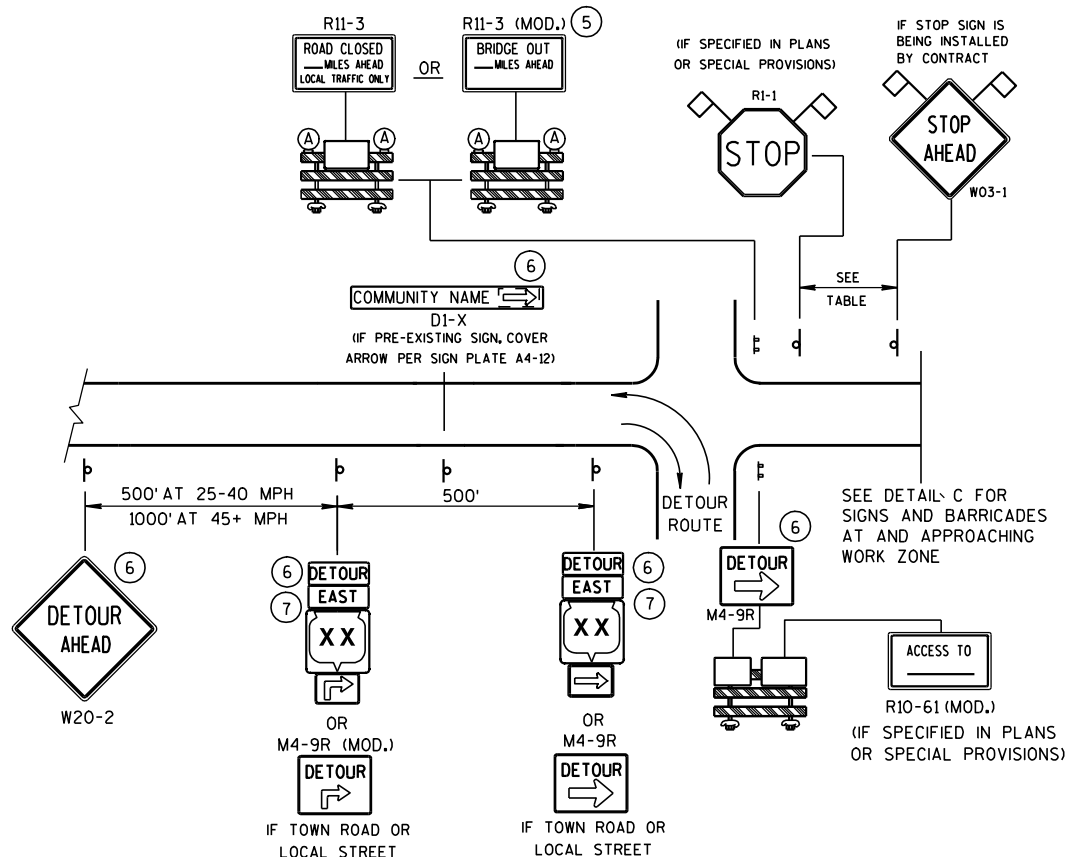


DETAIL D
DELINEATOR LAYOUT
BETWEEN INTERCHANGE RAMPS

DELINEATOR LAYOUT

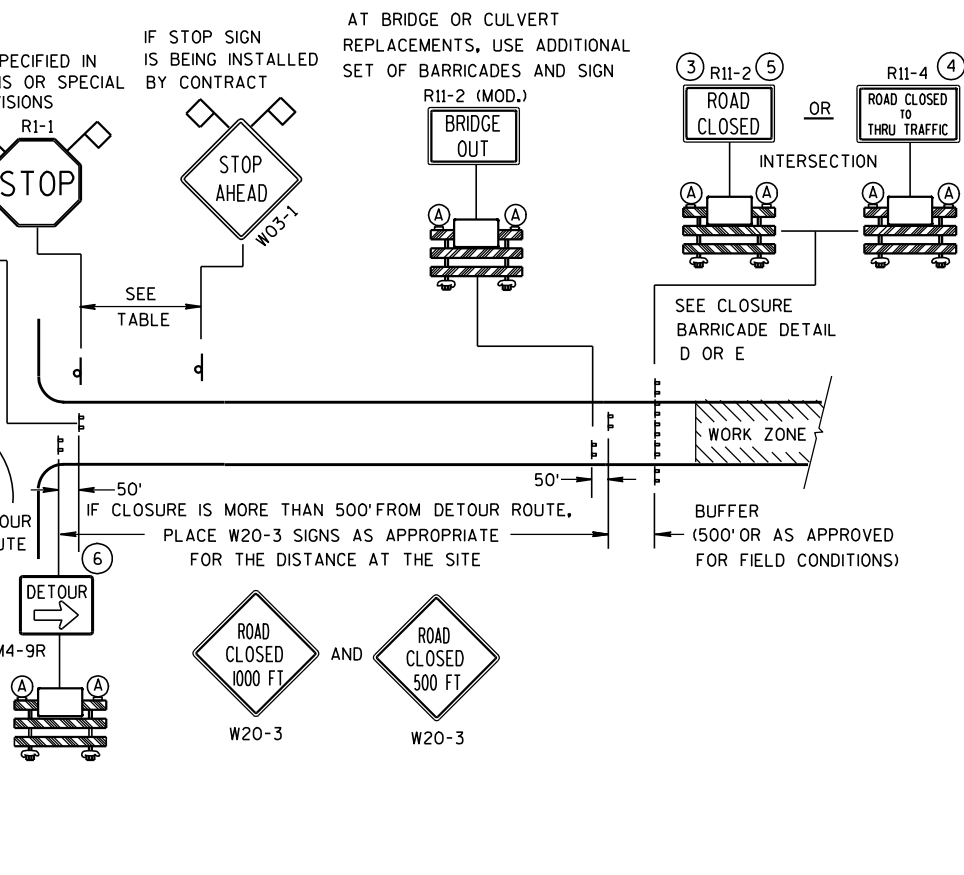
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 /S/ Thomas N. Notbohm
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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

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

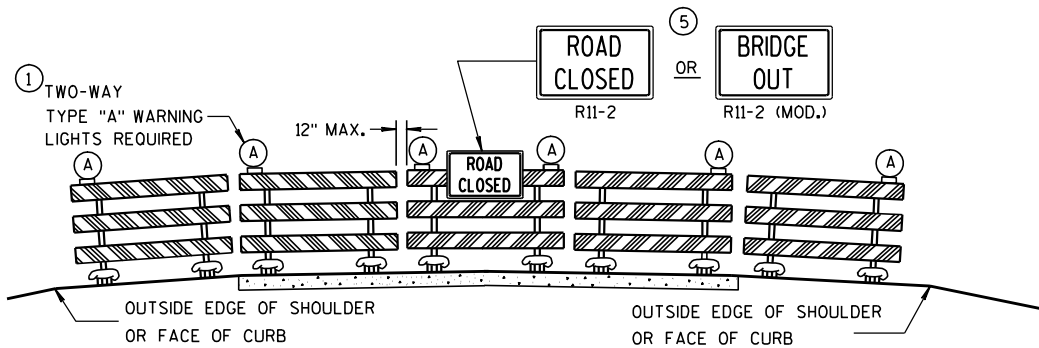
SEE SDD 15C2-4b
FOR GENERAL NOTES
AND FOOTNOTES ① THROUGH ⑦

LEGEND

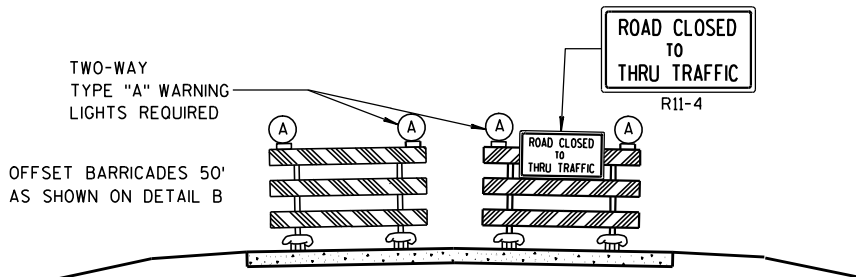
- POST MOUNTED SIGN
- TYPE III BARRICADES
- TYPE "A" LOW INTENSITY FLASHING WARNING LIGHT (FOR NIGHT USE)
- WORK ZONE
- DETOUR EAST M4-8 M3-X
- MI-4 OR MI-5A OR MI-6
- MO5-1 OR MO6-1
- FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-4a FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

THE REFLECTIVE SHEETING USED ON R11-2, R11-3, R11-4, R10-61 AND R1-1 SIGNS SHALL COMPLY WITH SUBSECTION 637.2.2.2 OF THE STANDARD SPECIFICATIONS.

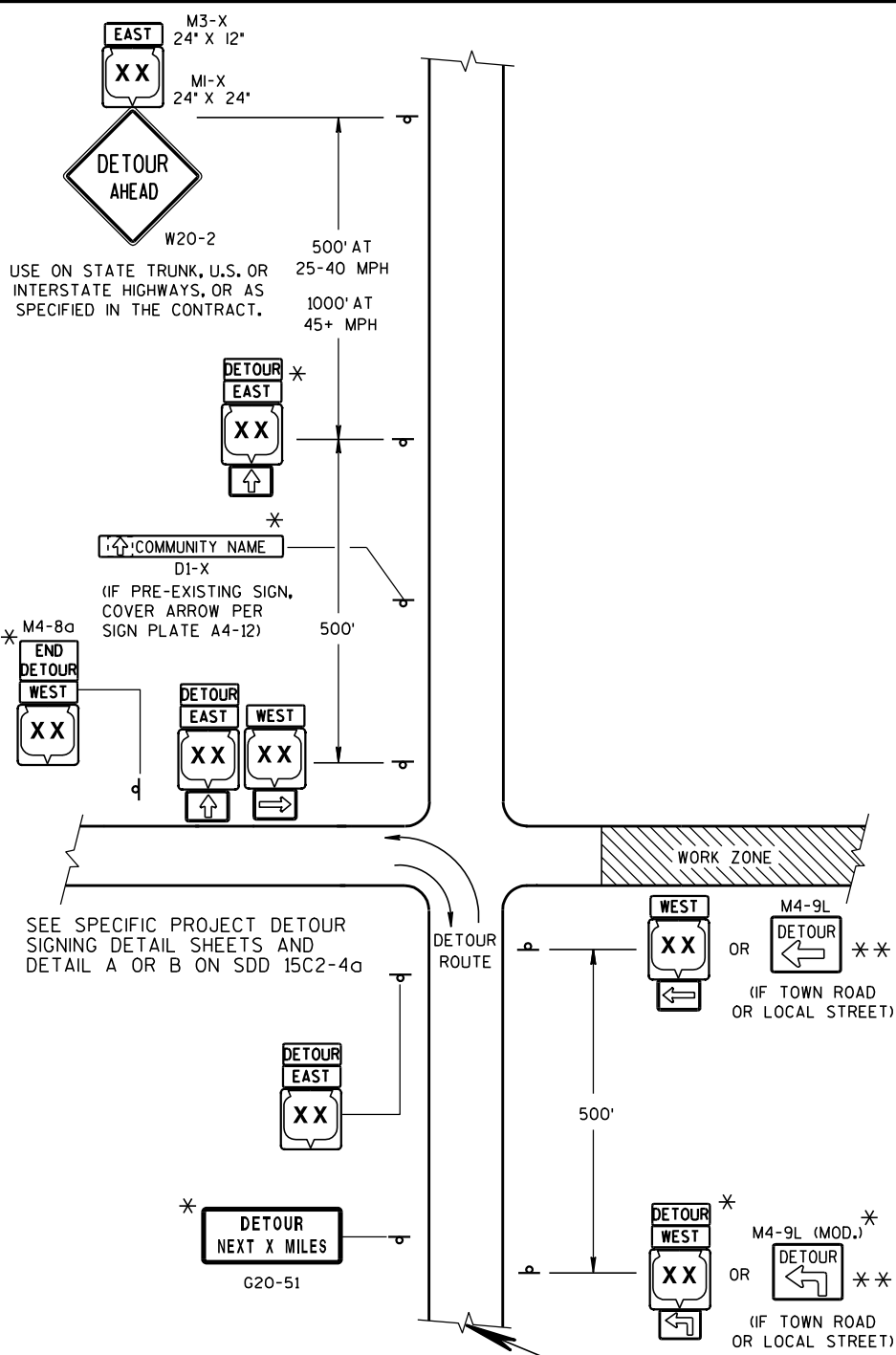
"WO AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
9/16/03 DATE	/S/ Thomas N. Notbohm CHIEF SIGNS AND MARKING ENGINEER
FHWA	



LEGEND

POST MOUNTED SIGN

WORK ZONE

DETOUR EAST M4-8 M3-X

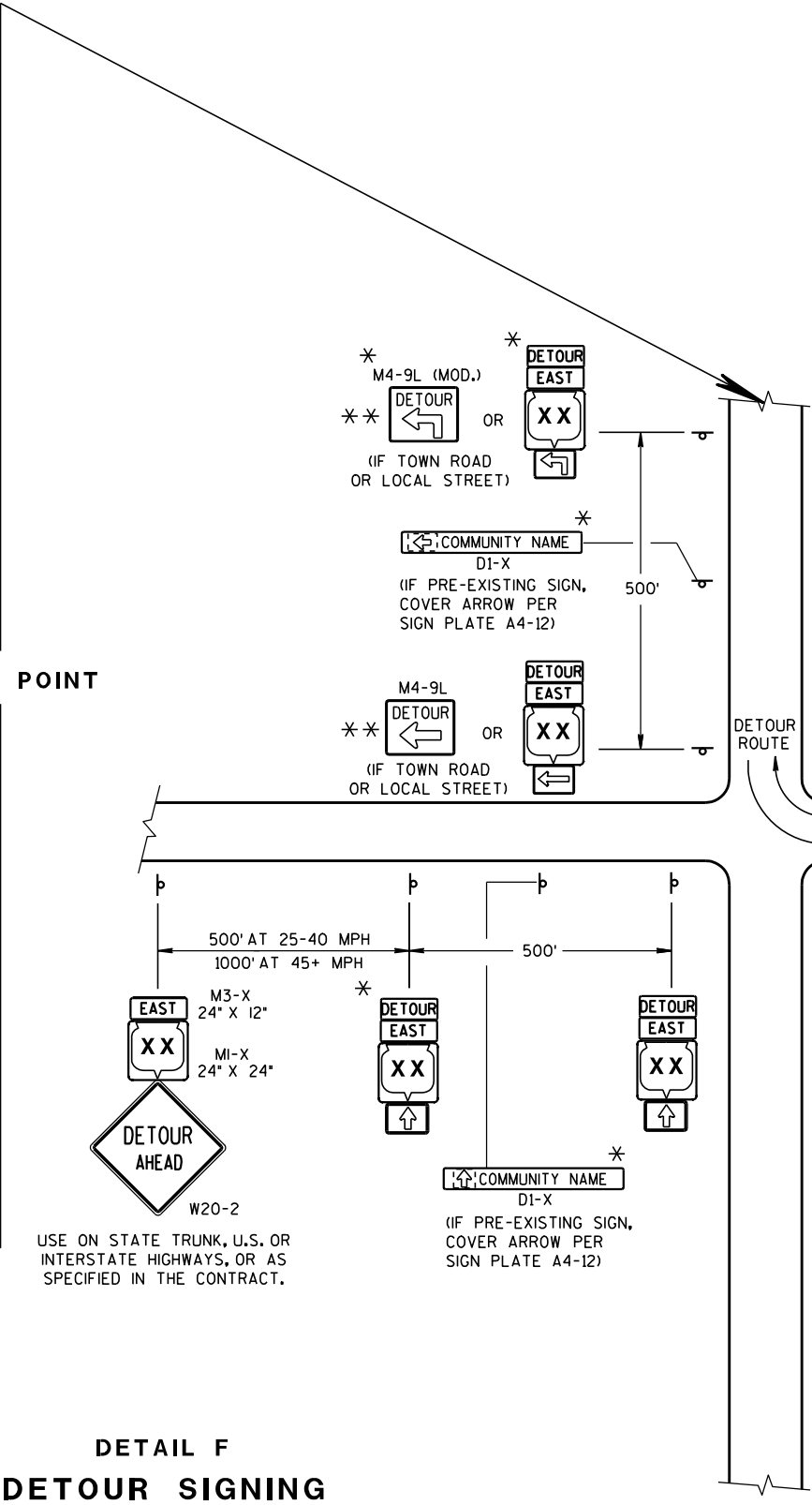
M1-4 OR COUNTY M1-5A OR M1-6

M05-1 OR M06-1 OR M06-1

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

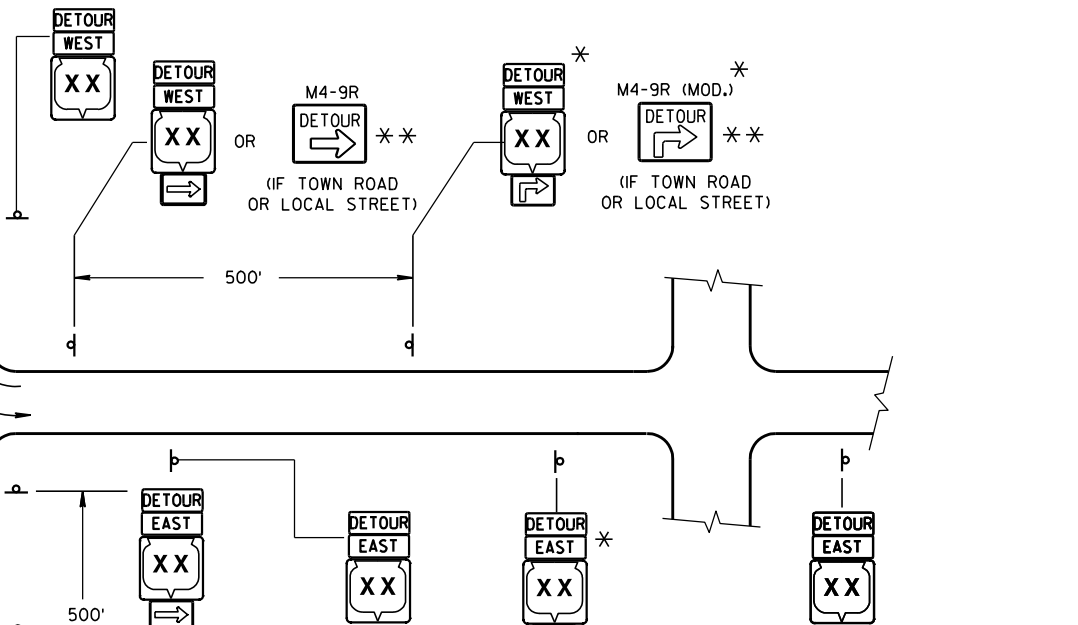
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.
- THE SPACING BETWEEN TRAFFIC CONTROL AND DETOUR SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE", SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- SIGN SIZES SHALL BE AS FOLLOWS:
- M3-X AND M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
 - M4-9 SHALL BE 30" X 24".
 - M4-8a SHALL BE 24" X 18".
 - G20-51 SHALL BE 60" X 24".
 - W20-2 SHALL BE 48" X 48".
 - D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

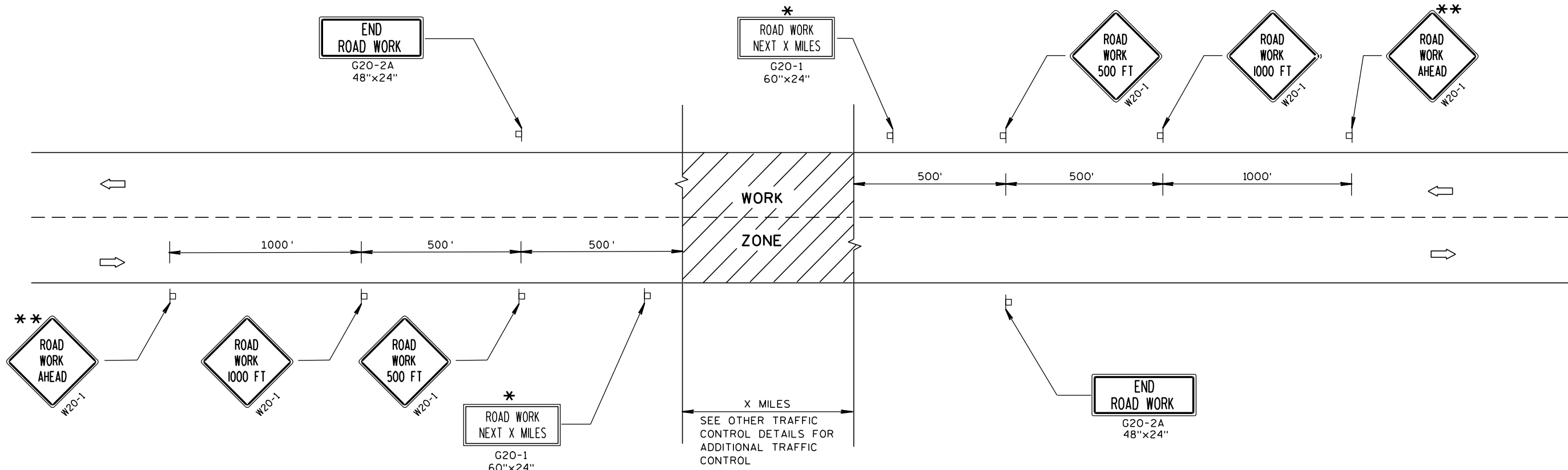


PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA.)

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-16-03
DATE /S/ Thomas N. Notbohm
CHIEF SIGNS AND MARKING ENGINEER
FHWA



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.

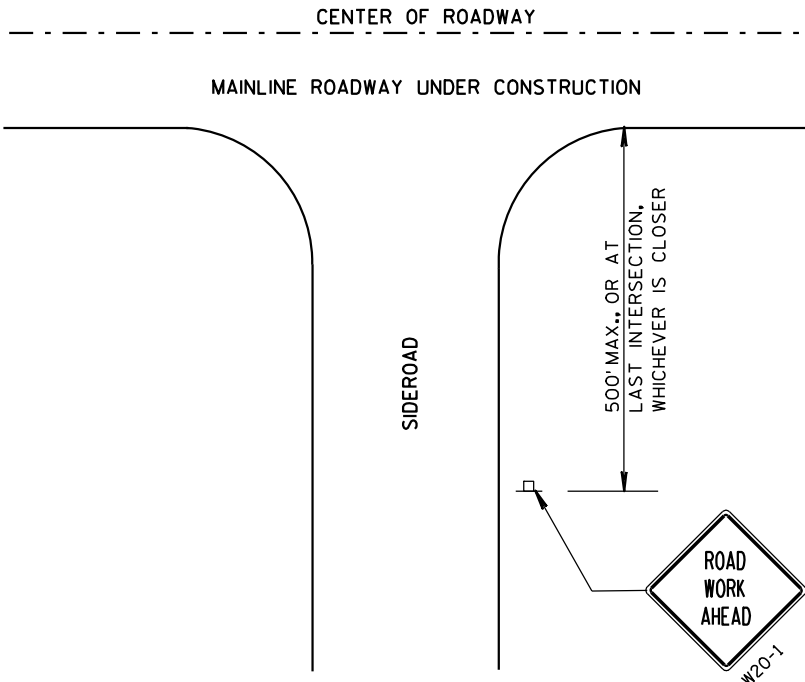
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING.



LEGEND

- POST MOUNTED SIGN
- DIRECTION OF TRAFFIC FLOW

TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

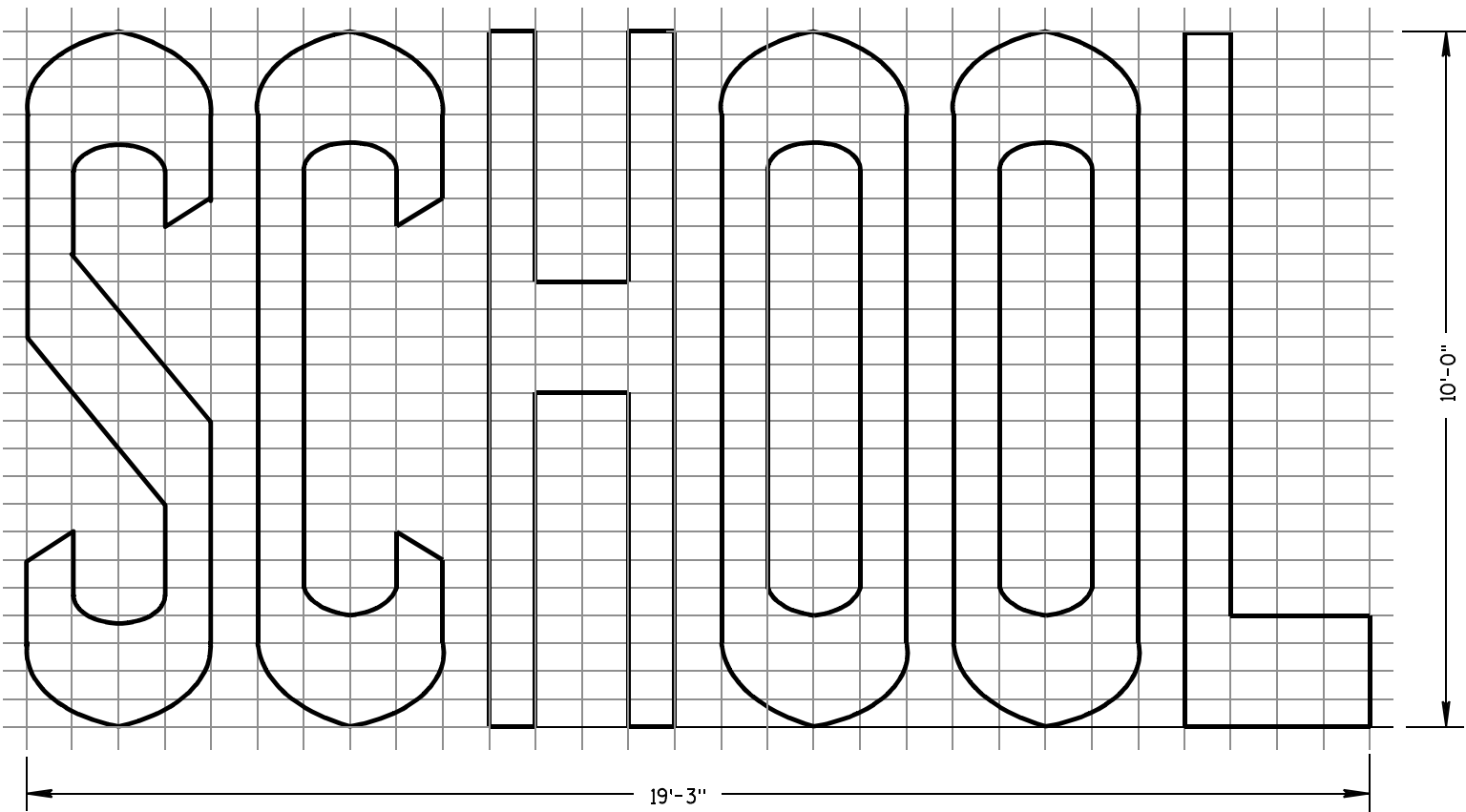
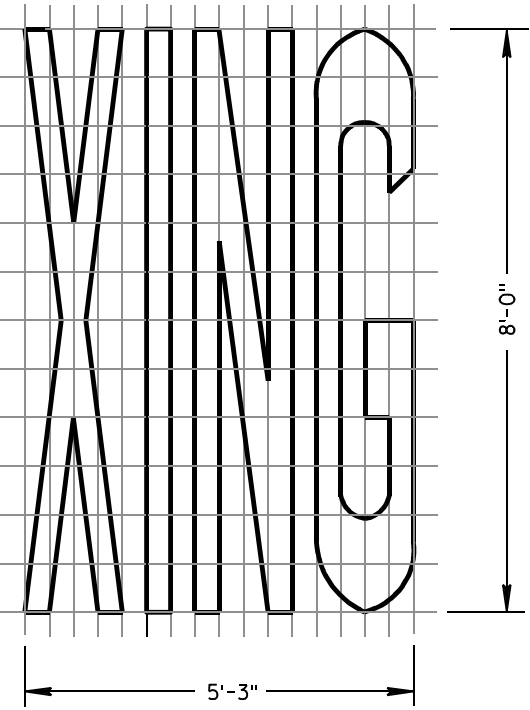
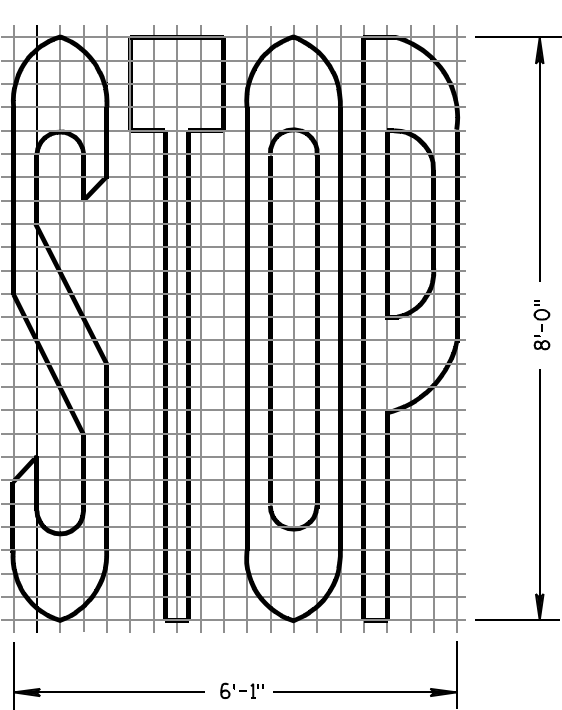
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

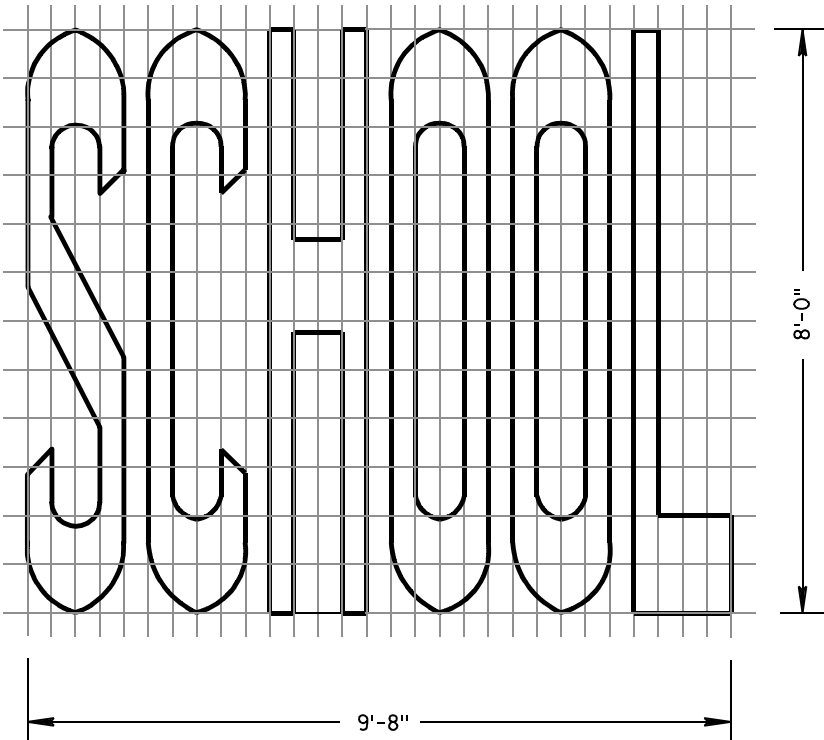
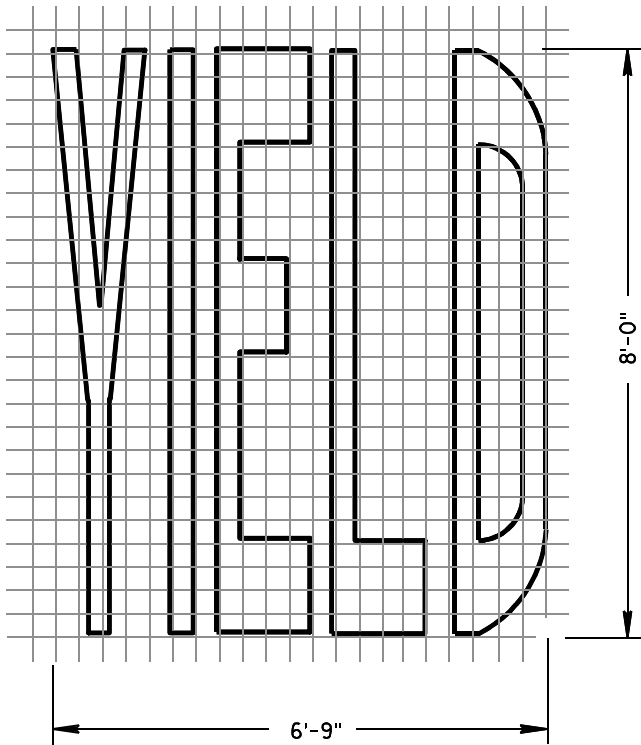
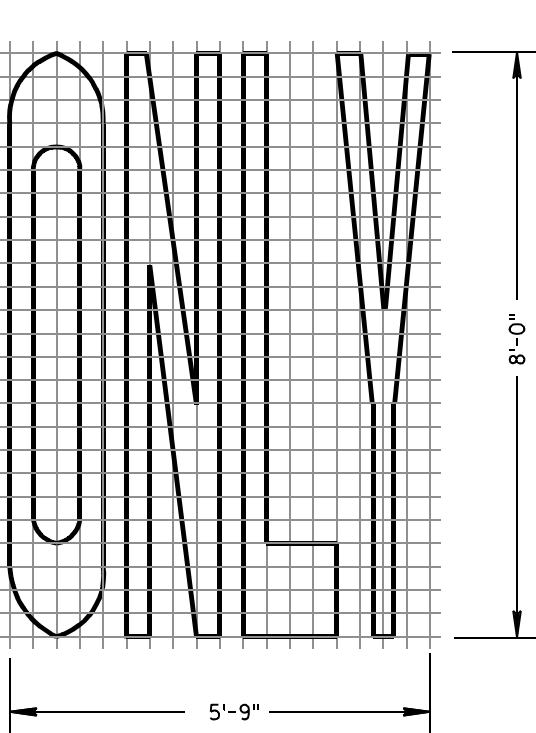
GENERAL NOTES

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

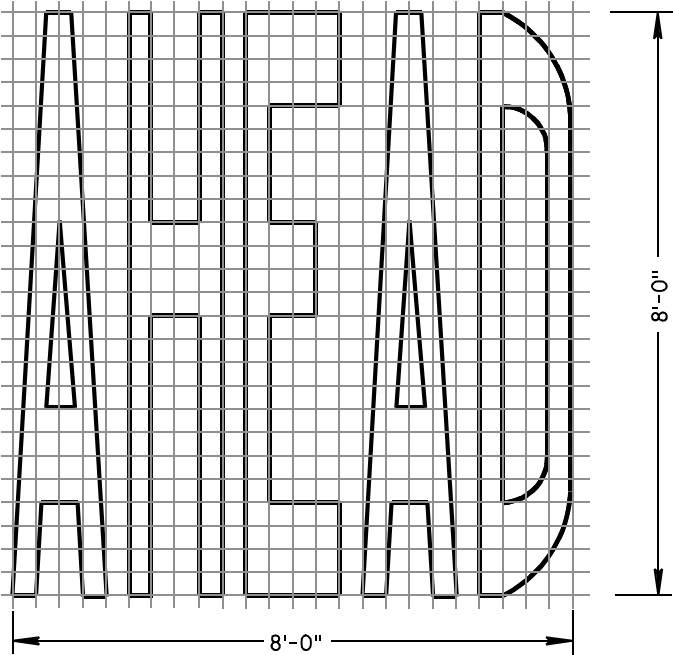
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



TWO-LANE



SINGLE-LANE



PAVEMENT MARKING WORDS

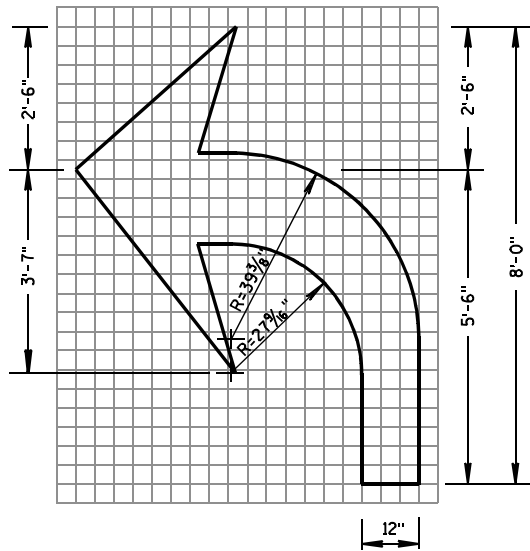
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

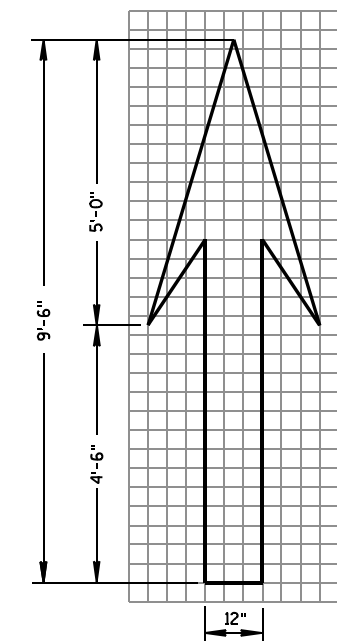
7-1-11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

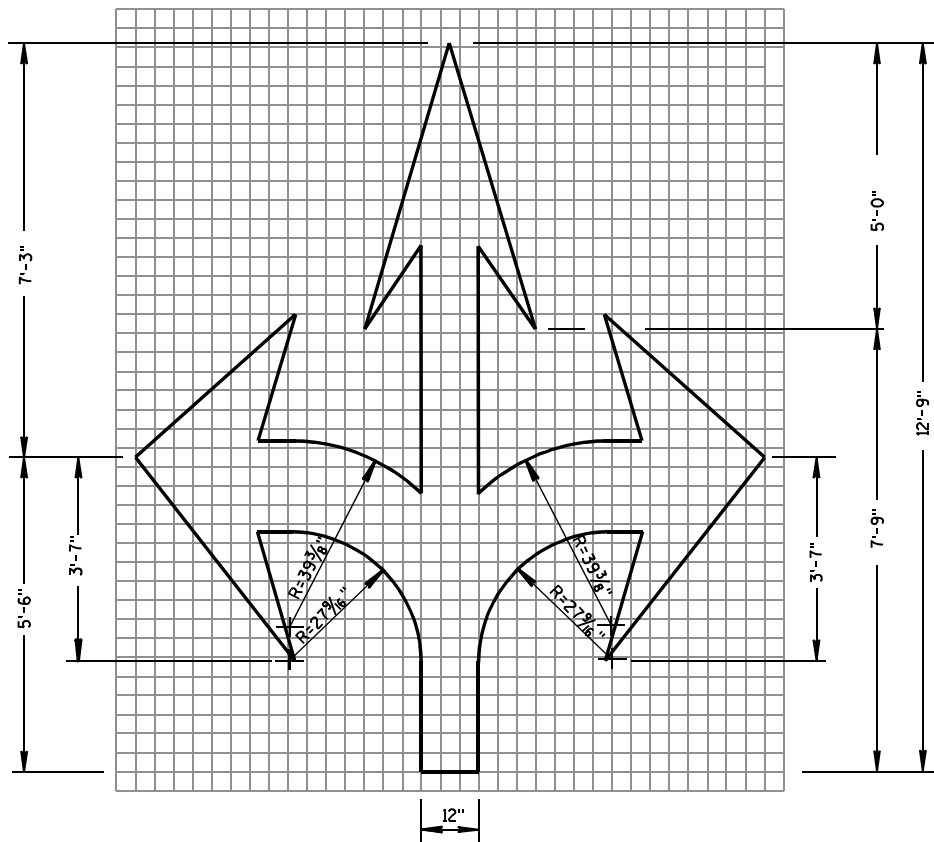
FHWA



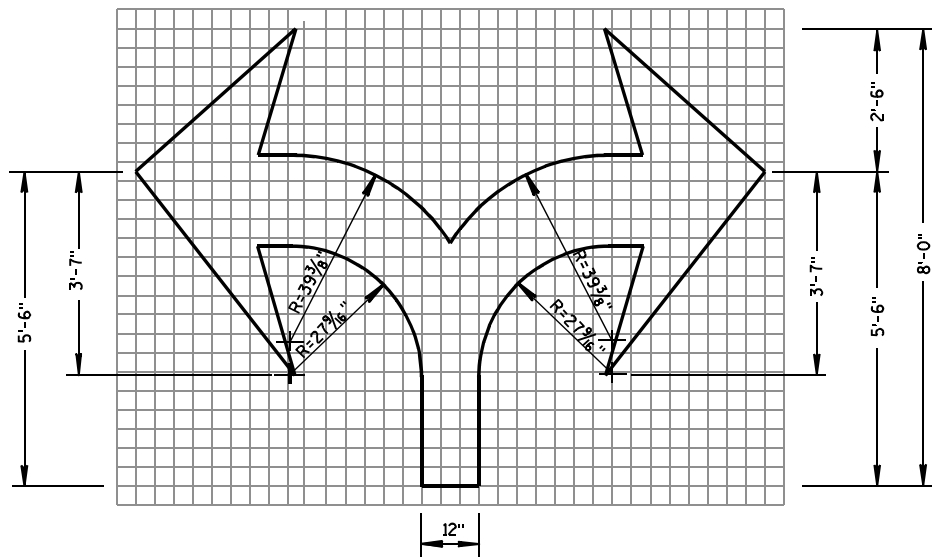
TYPE 2



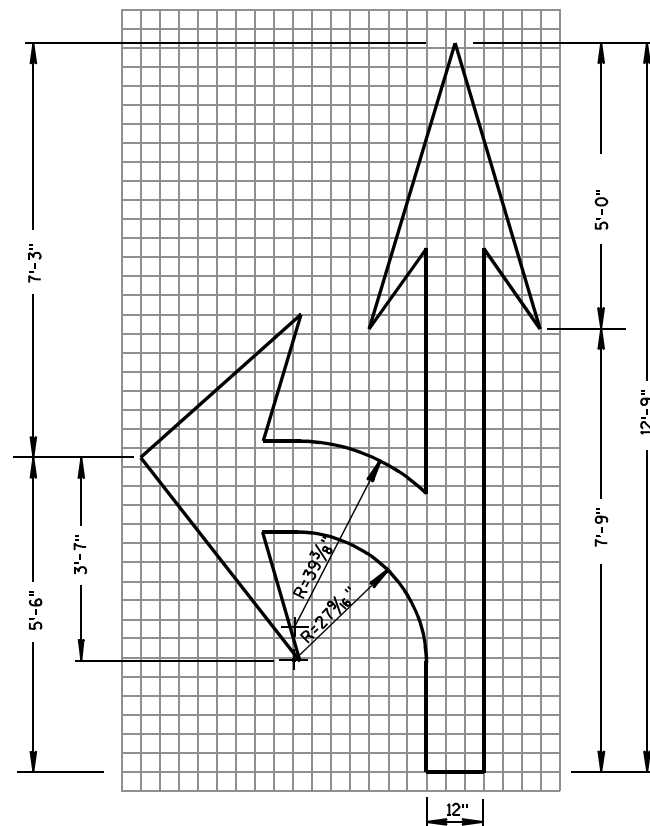
TYPE 1



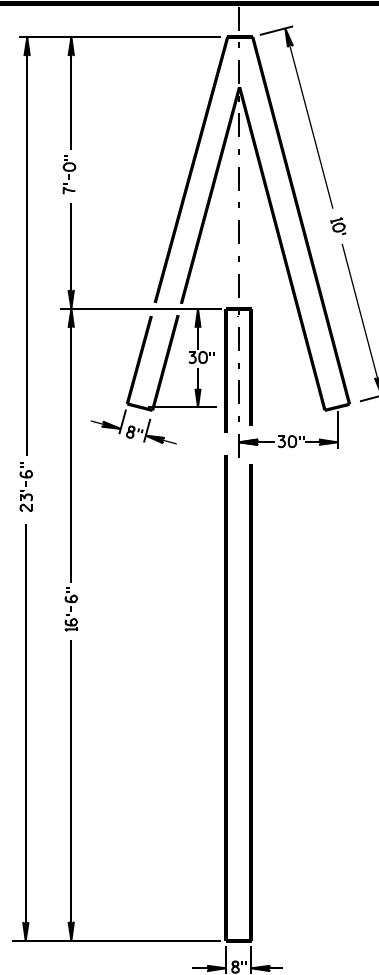
TYPE 6



TYPE 7



TYPE 3

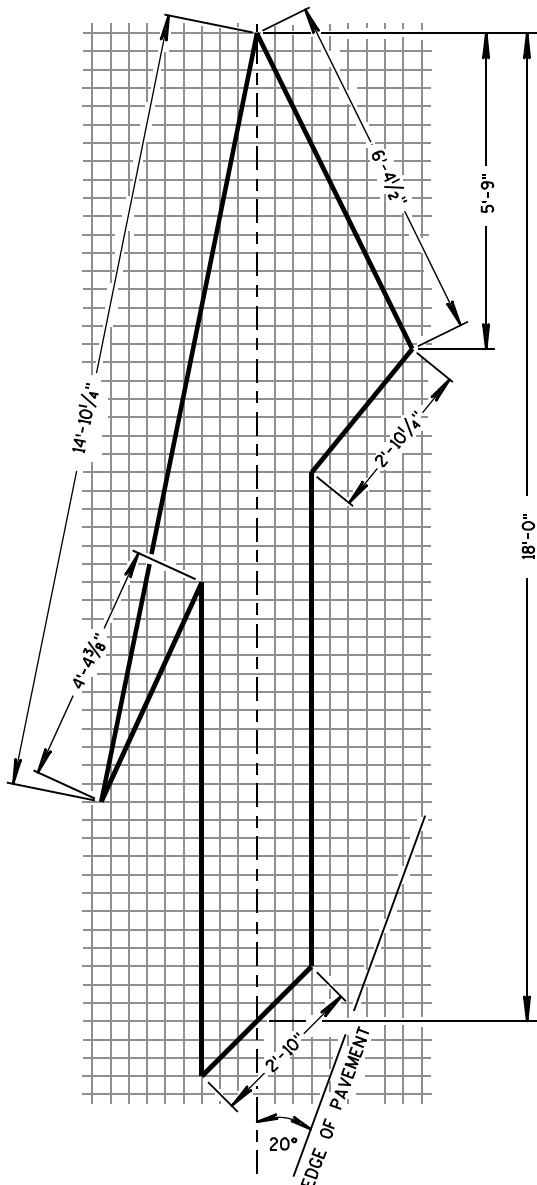


TYPE 4

GENERAL NOTES

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

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



TYPE 5 LANE DROP ARROW

PAVEMENT MARKING ARROWS

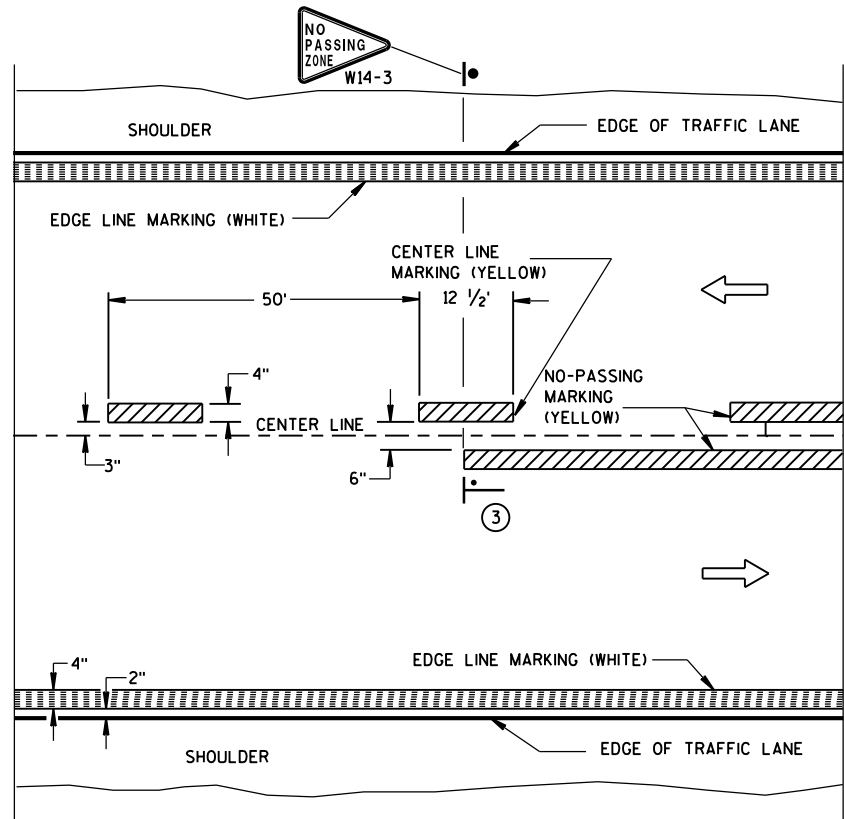
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

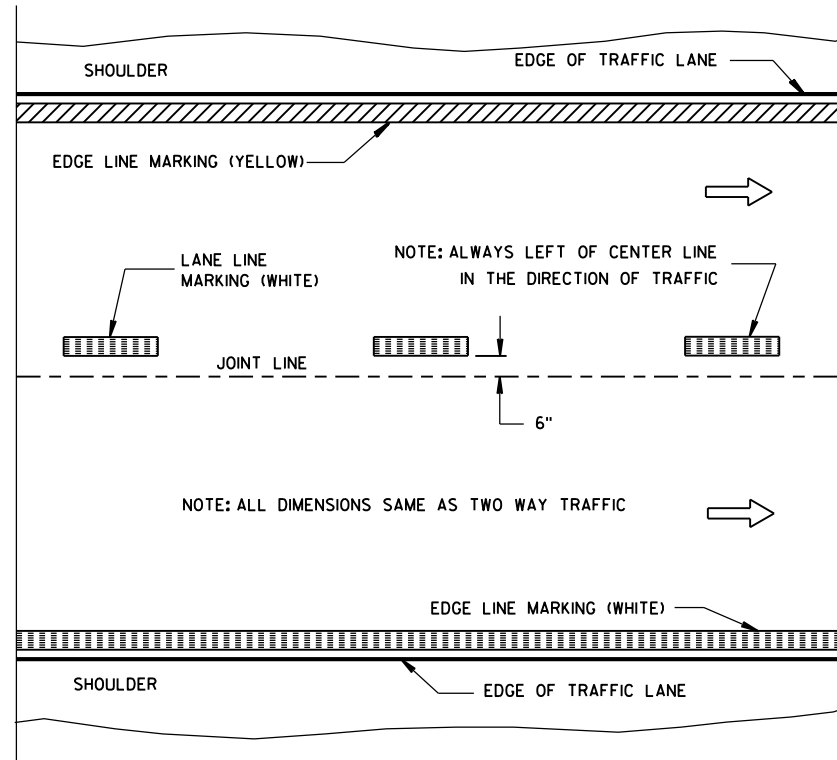
7/1/11
DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER OF DESIGN

FHWA

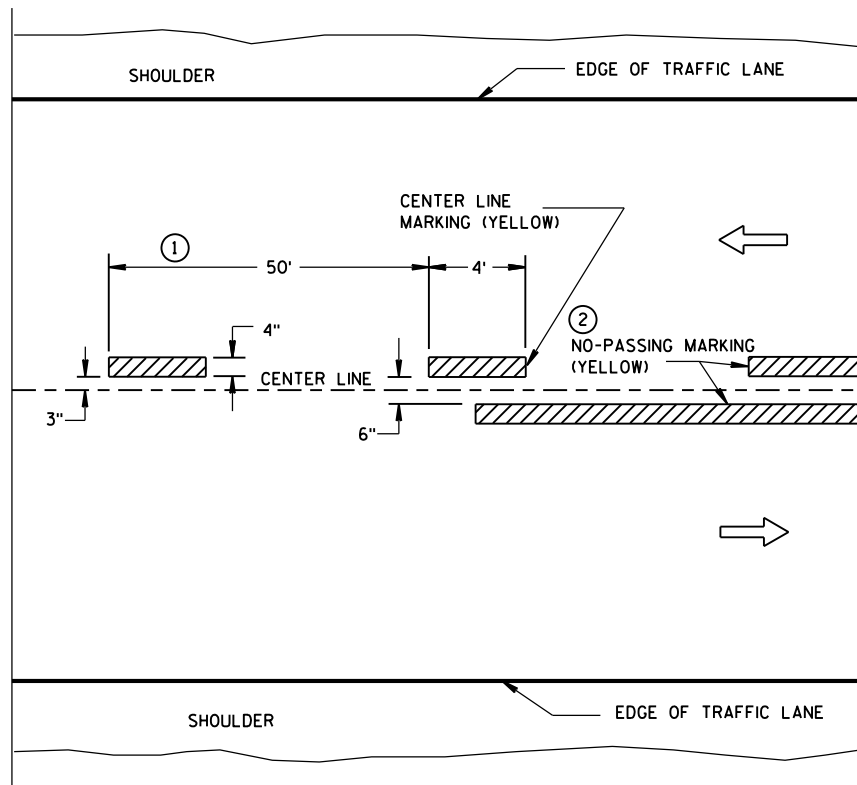


TWO WAY TRAFFIC

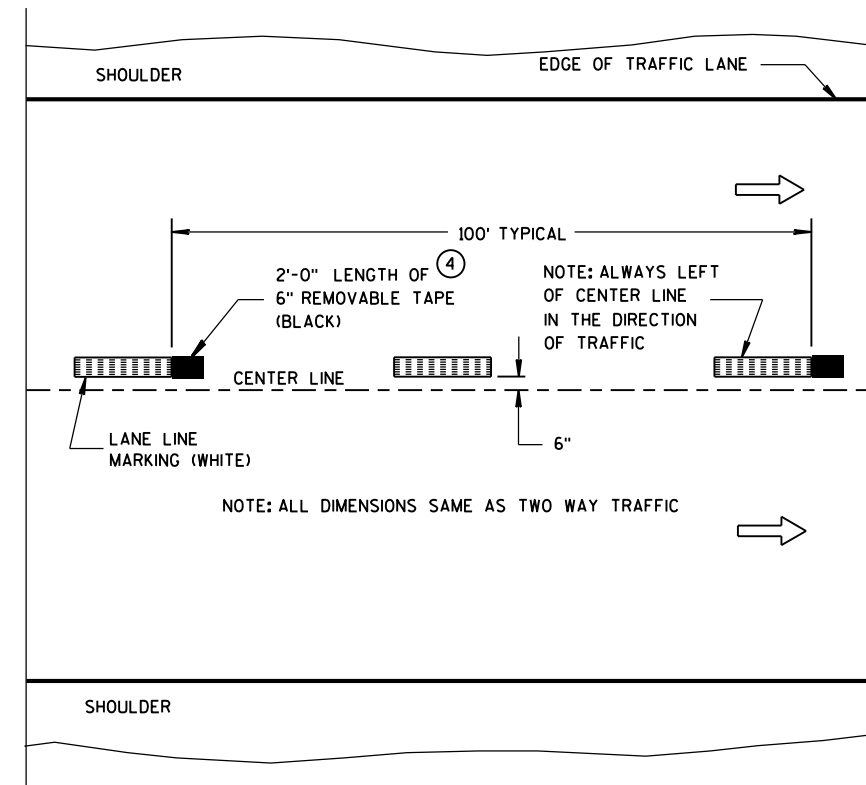


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

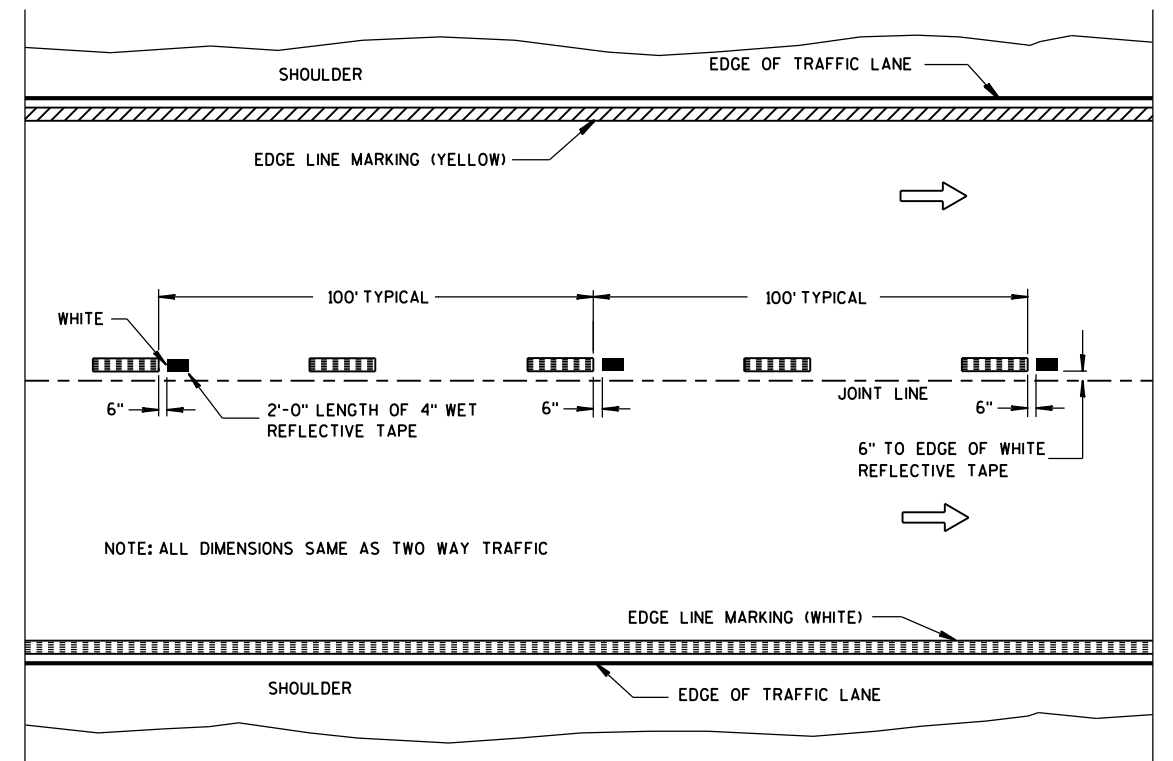
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

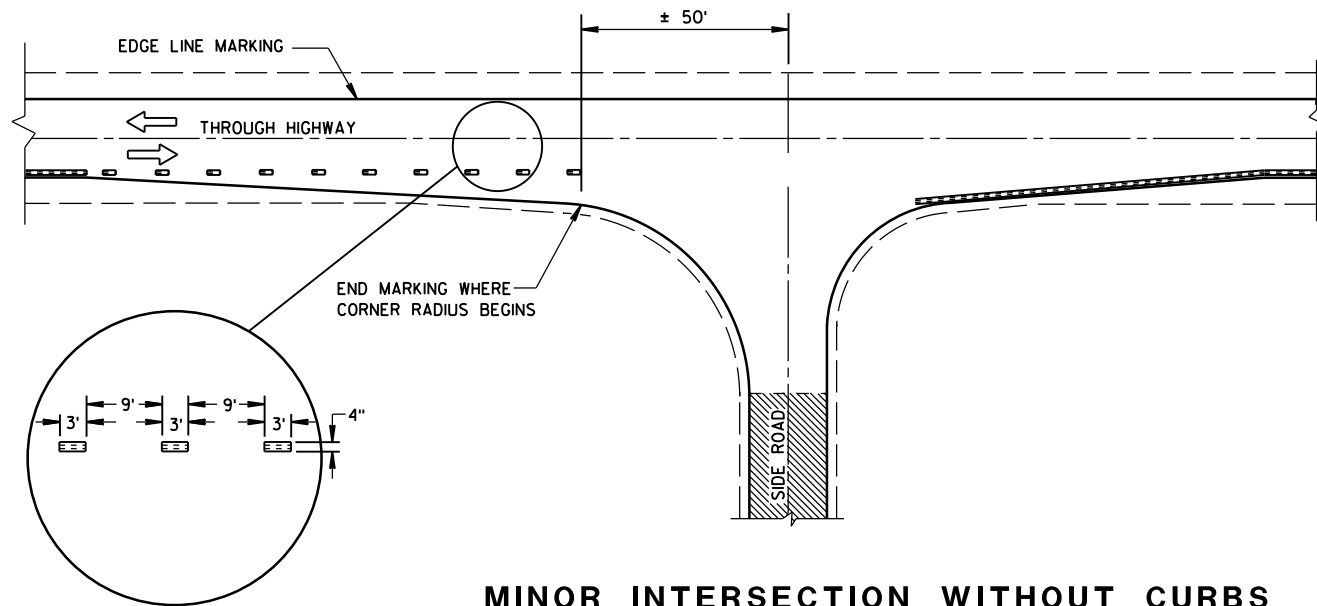
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

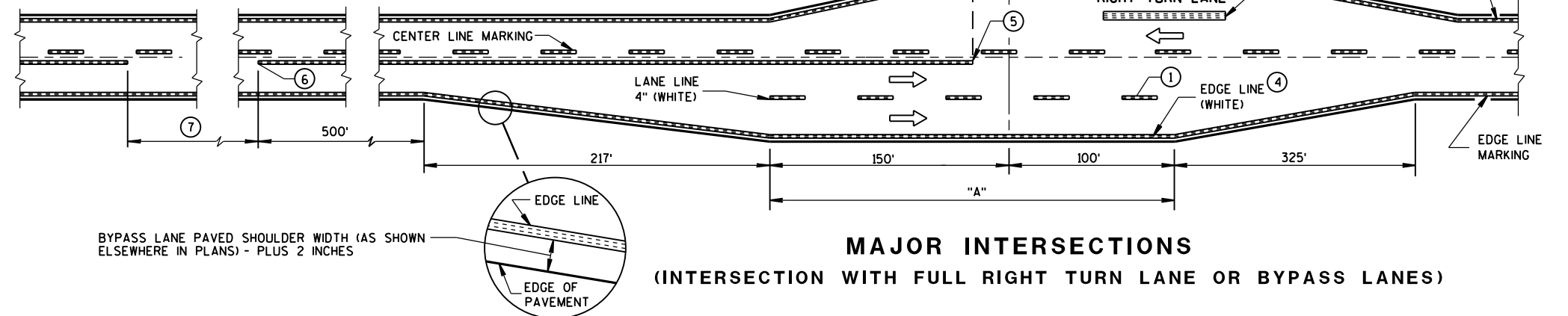
APPROVED
5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER
FHWA



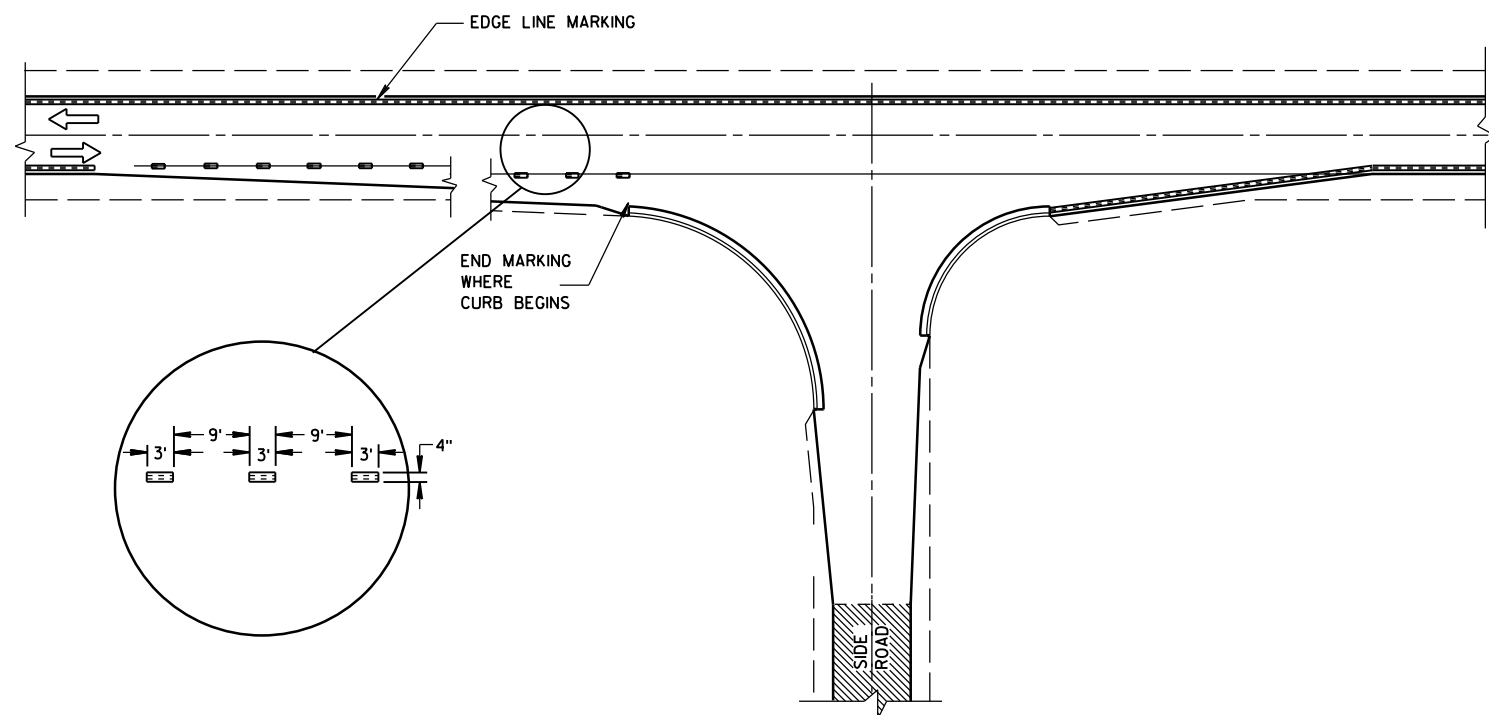
MINOR INTERSECTION WITHOUT CURBS

⑦

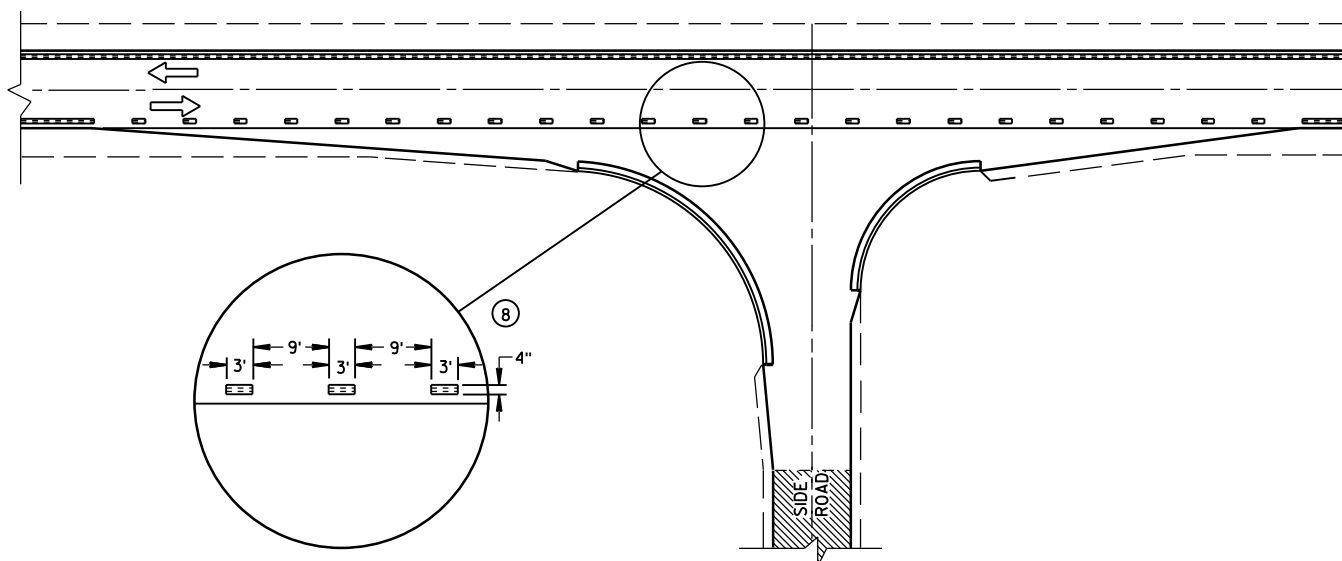
POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



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



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



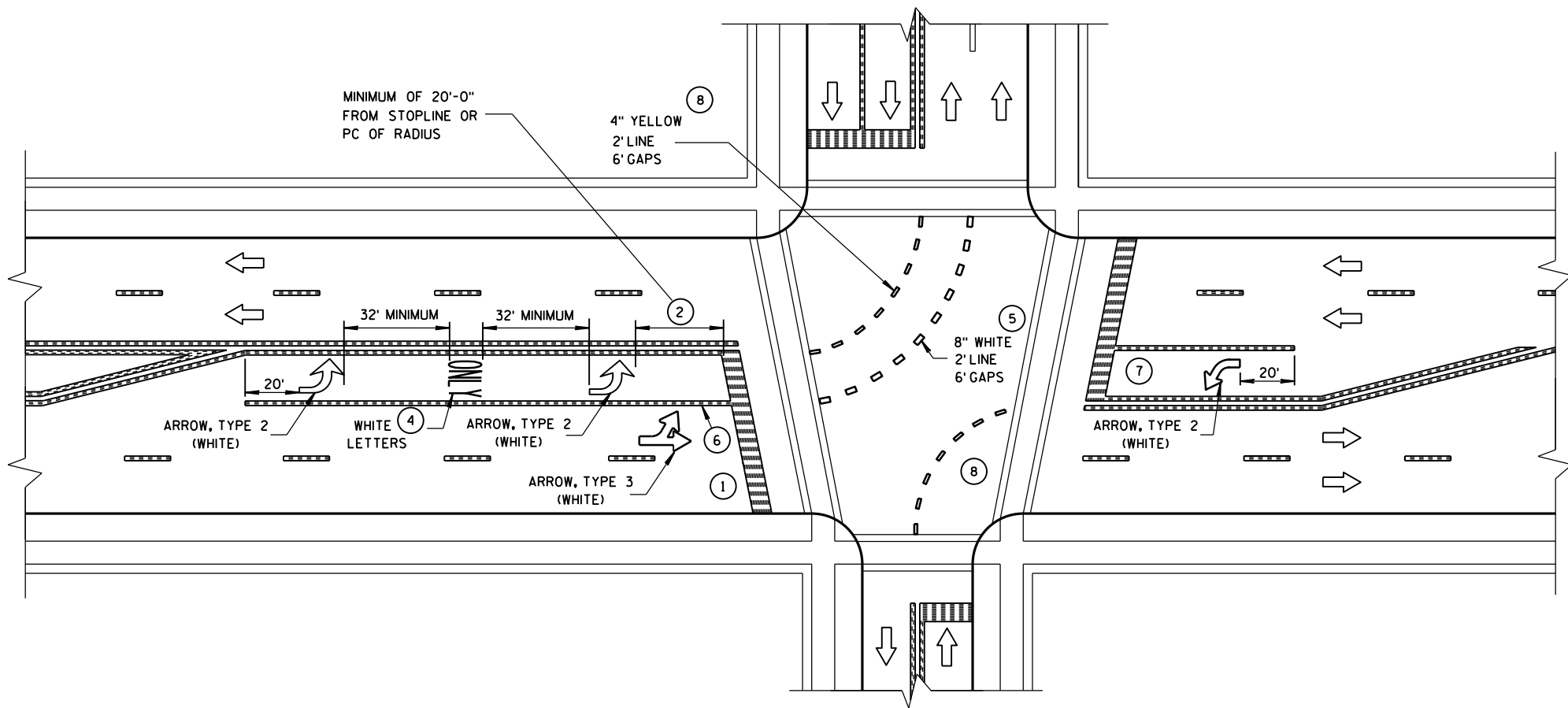
MINOR INTERSECTION WITH CURBS
③ (FOR SPECIAL CONDITIONS AS SPECIFIED)

GENERAL NOTES

- EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED THROUGH DRIVEWAYS.
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
 - ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
 - ③ ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.
 - ④ THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.
 - ⑤ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.
 - ⑥ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
 - ⑦ IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.
 - ⑧ 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

PAVEMENT MARKING
(INTERSECTIONS)

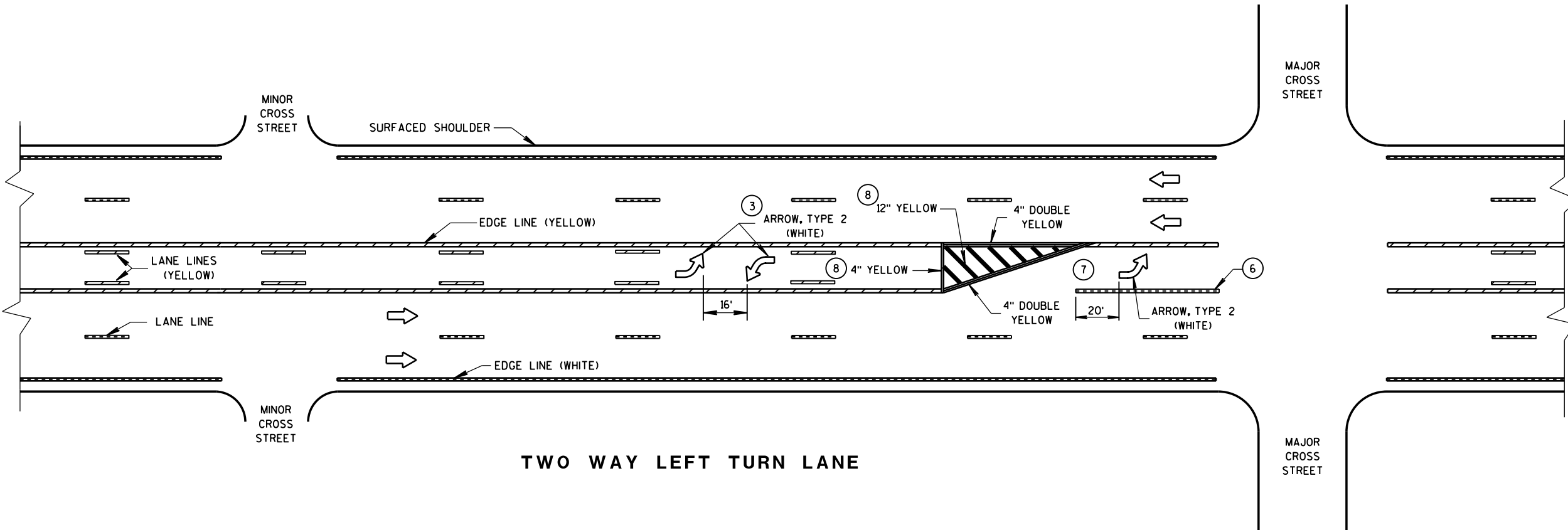
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

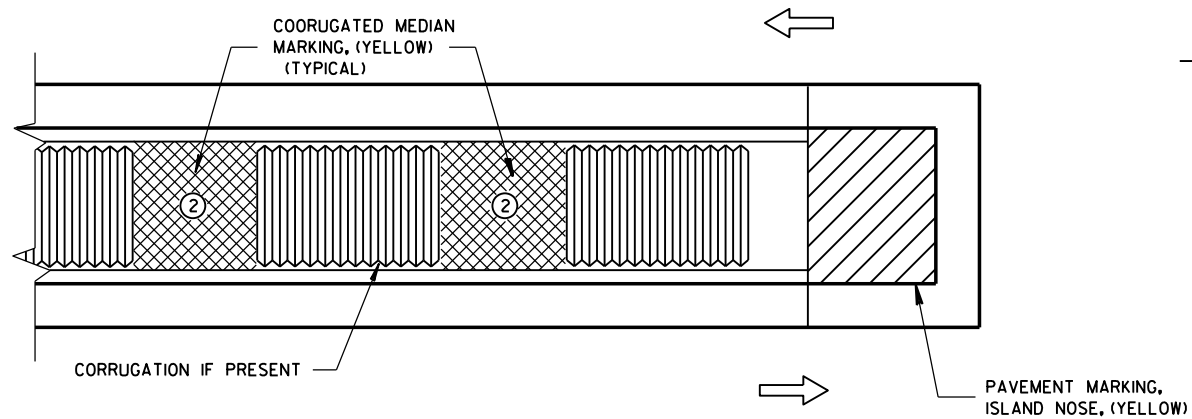
- 1 STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
- 2 DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
- 3 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 4 ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
- 5 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
- 6 8" WHITE
- 7 ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
- 8 REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (➡)
SHOWS DIRECTION OF TRAVEL

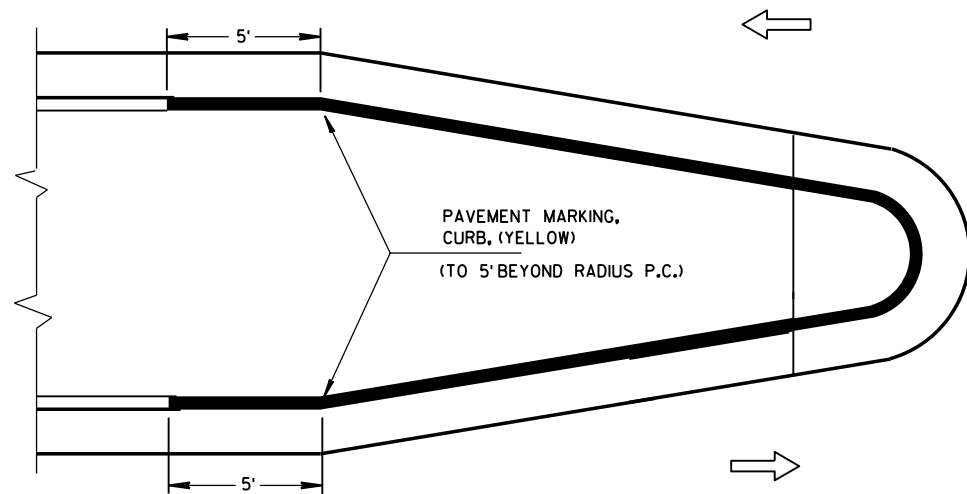


PAVEMENT MARKING
(LEFT TURN LANE)

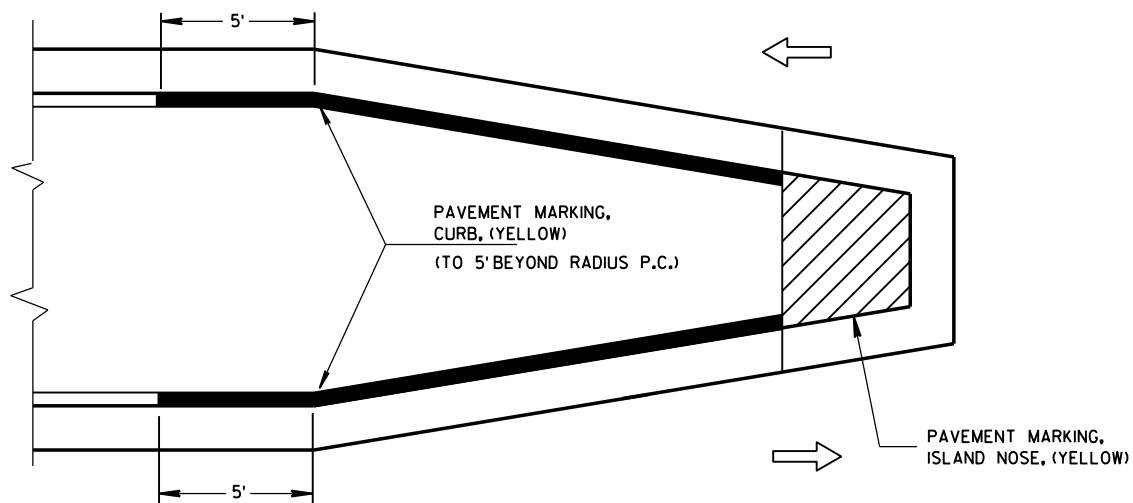
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

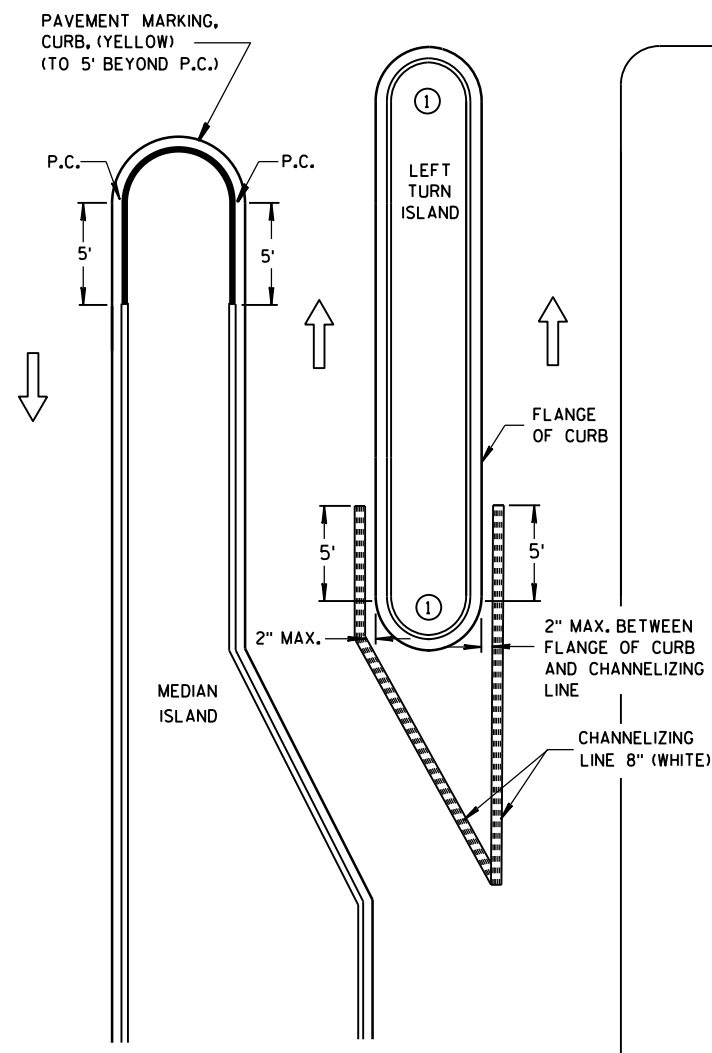


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

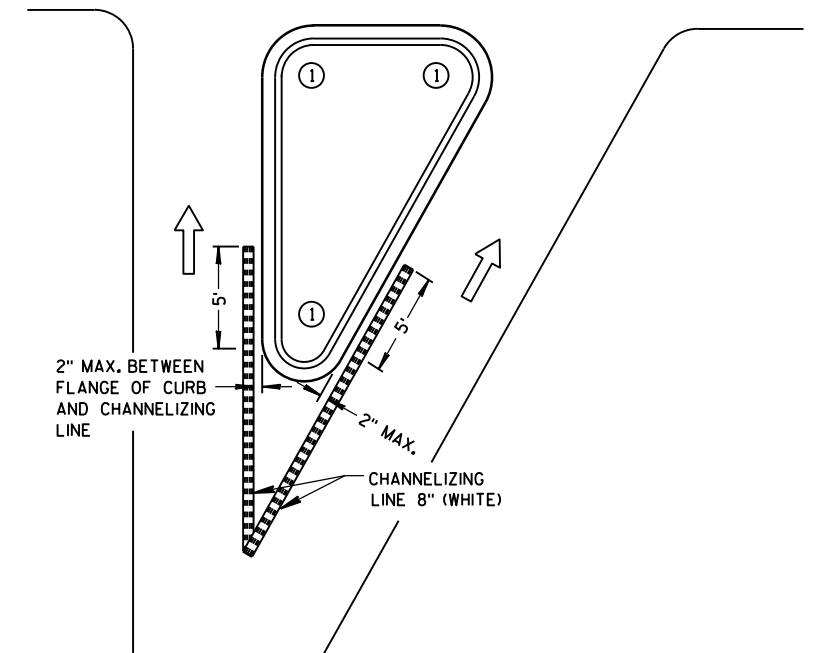
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN, THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



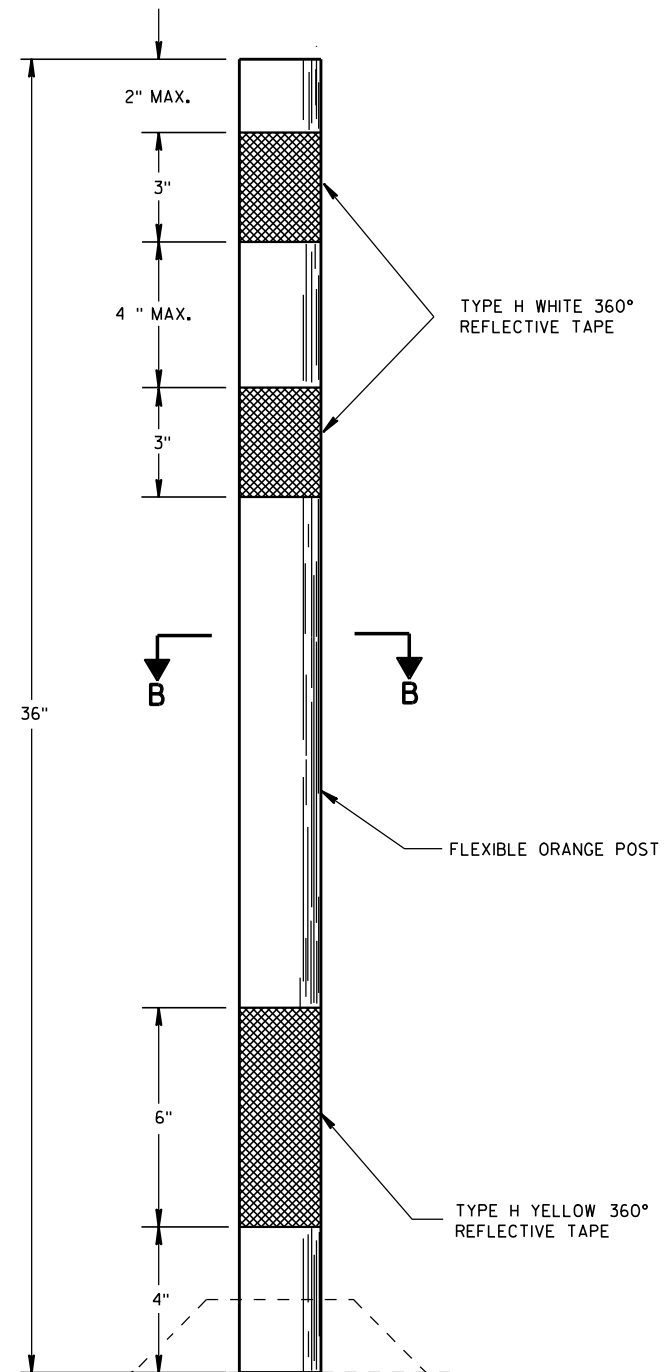
RIGHT TURN ISLAND

LEGEND

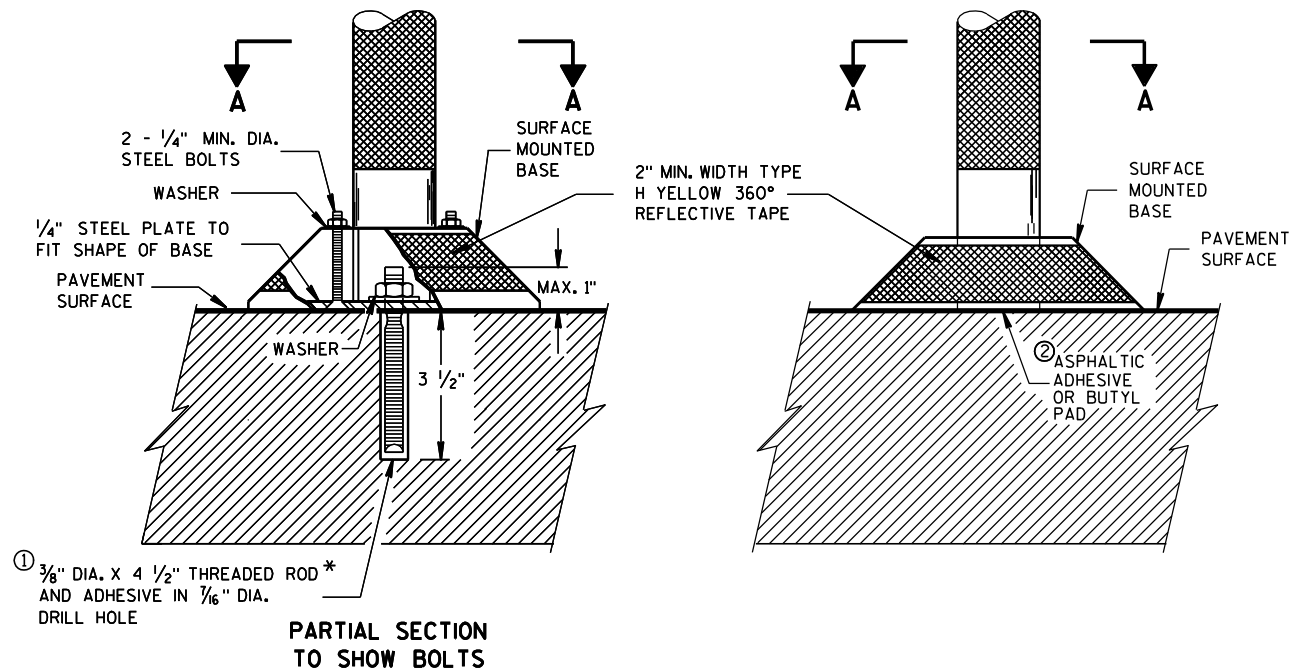
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

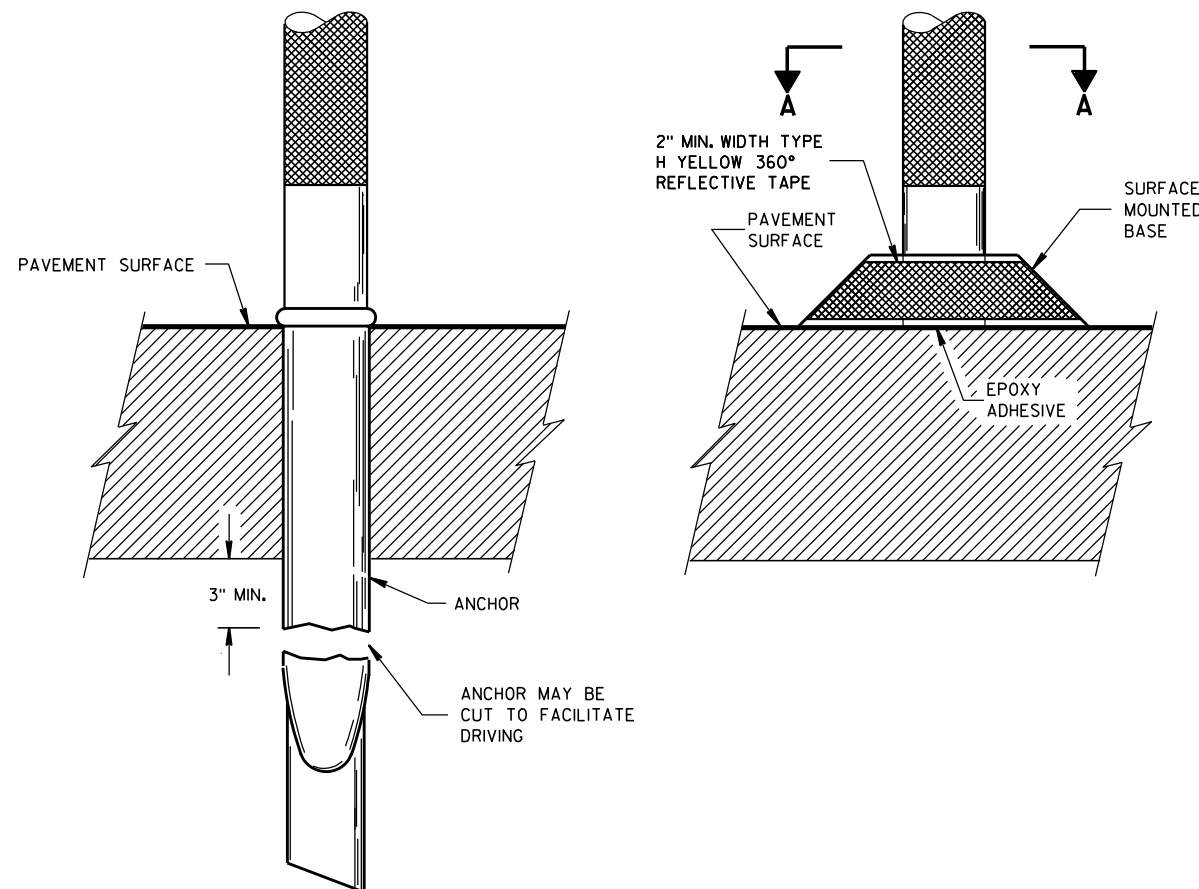
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FLEXIBLE TUBULAR MARKER POST

PARTIAL SECTION
TO SHOW BOLTS

POST BASES ON NEW OR EXISTING PAVEMENT



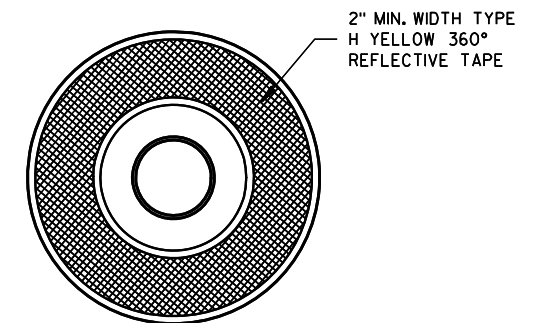
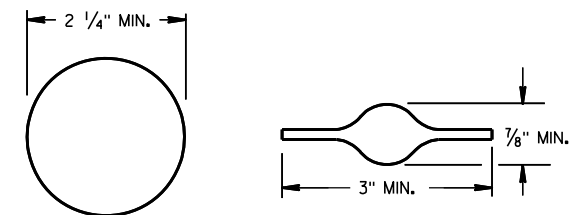
POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

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.

- ① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.
- ② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

SECTION A-A
SURFACE MOUNTED BASESECTION B-B
ALTERNATIVE SHAPES

FLEXIBLE TUBULAR MARKER
POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94
DATE

FHWA

/S/ Chester J. Spang
DIRECTOR, OFFICE OF TRAFFIC

TWO-LANE ROADWAY

SYMBOLS

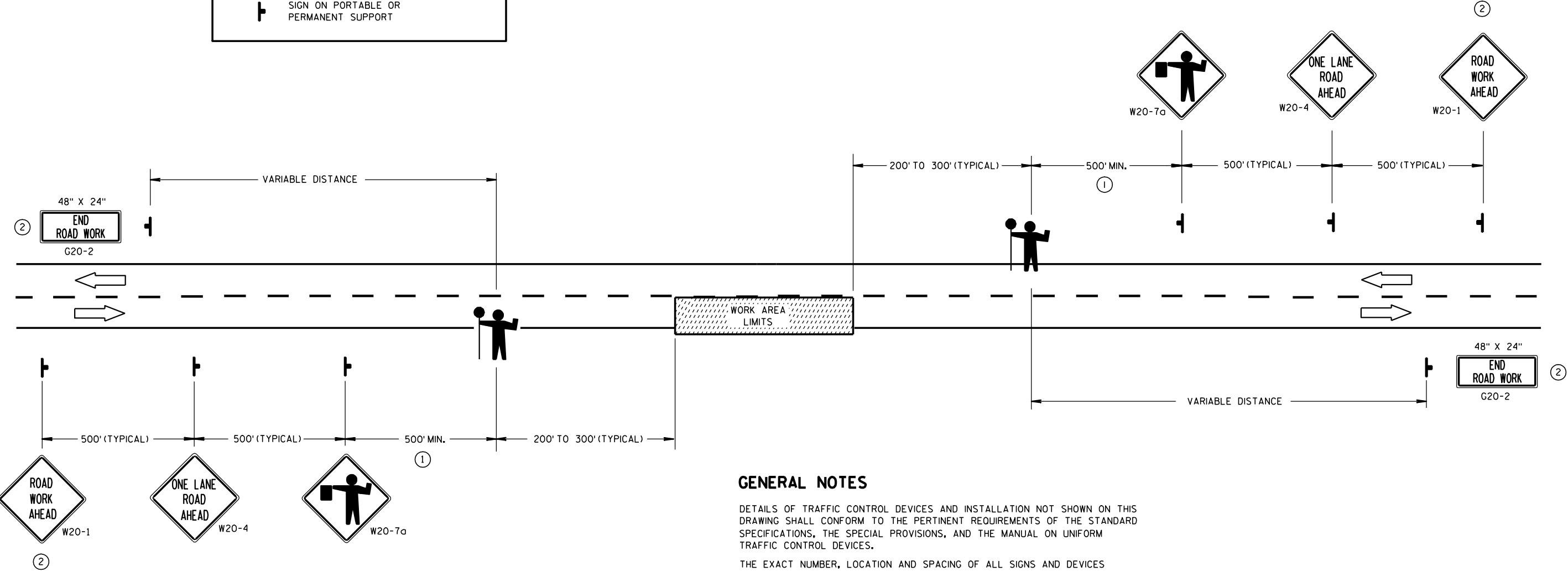
WORK AREA

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

SIGN ON PORTABLE OR PERMANENT SUPPORT



USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



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.

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.

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, THE "FLAGGER AHEAD", THE "ROAD WORK AHEAD" AND THE ONE LANE ROAD AHEAD" SIGNS SHALL BE COVERED OR REMOVED AND THE HIGHWAY RESTORED TO NORMAL OPERATION.

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

- ①

FOR A MOVING WORK OPERATION, SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 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.

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

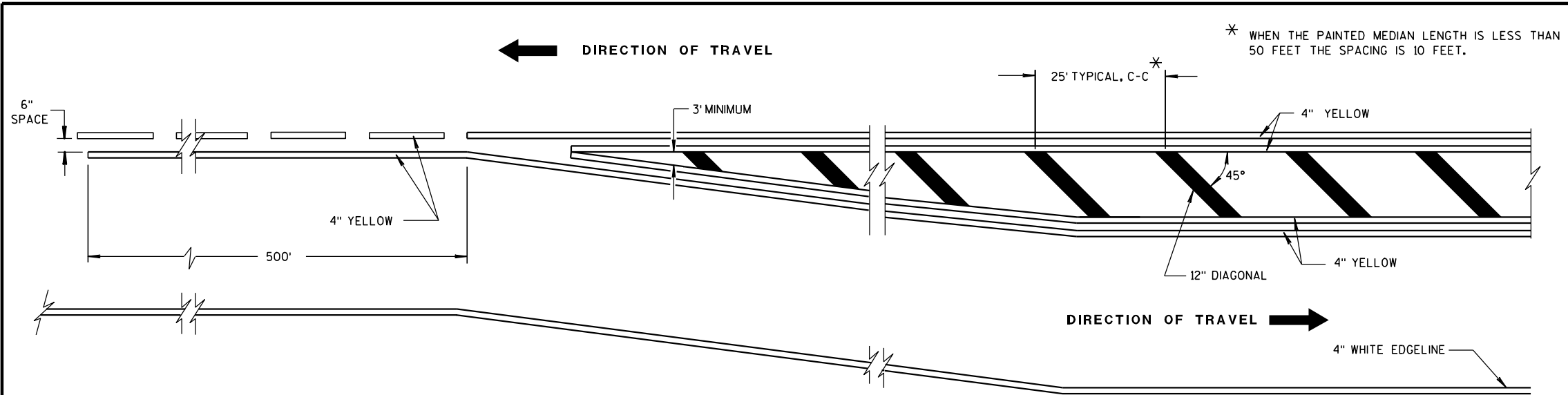
9/5/06

DATE

/S/ Thomas N. Notbohm

STATE TRAFFIC ENGINEER OF DESIGN

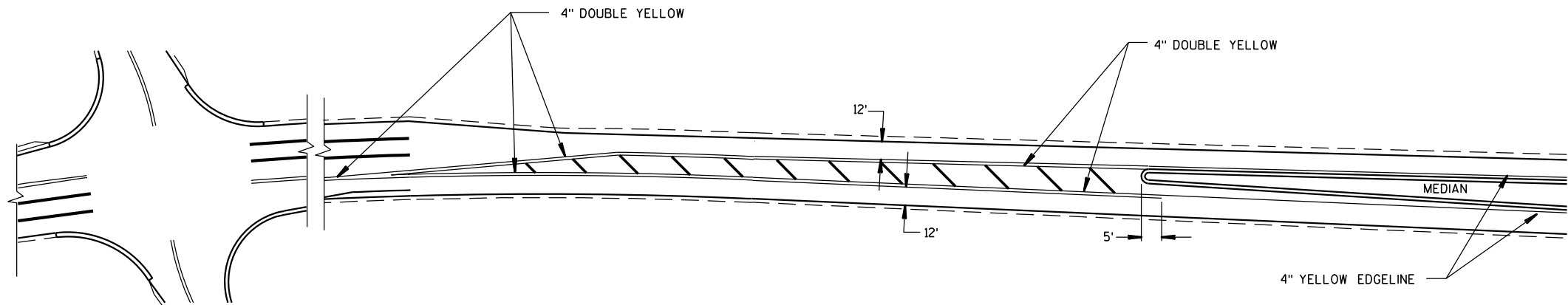
FHWA



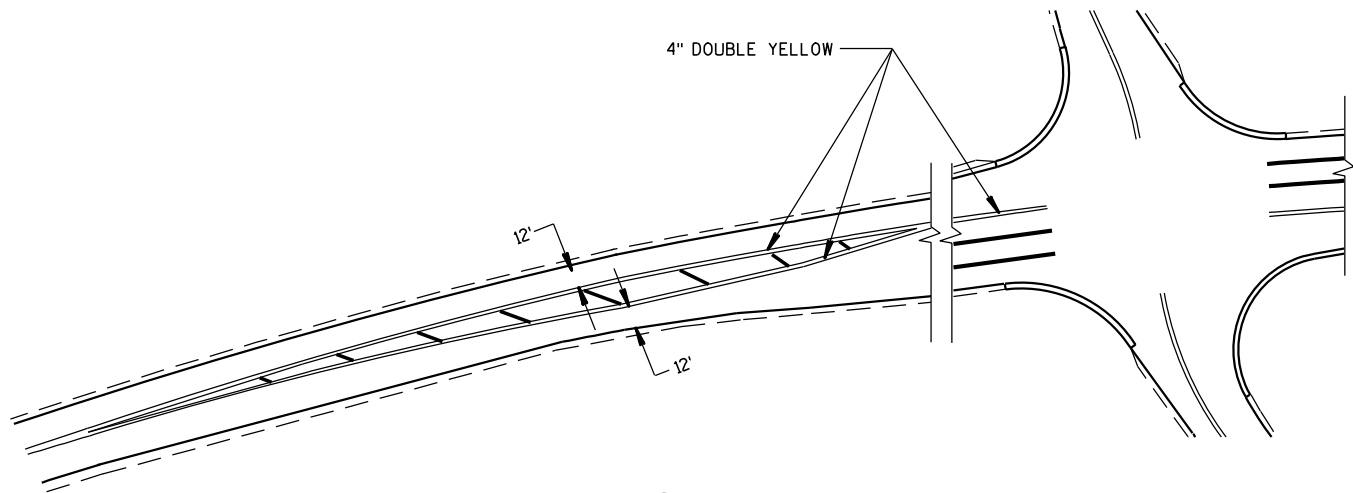
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

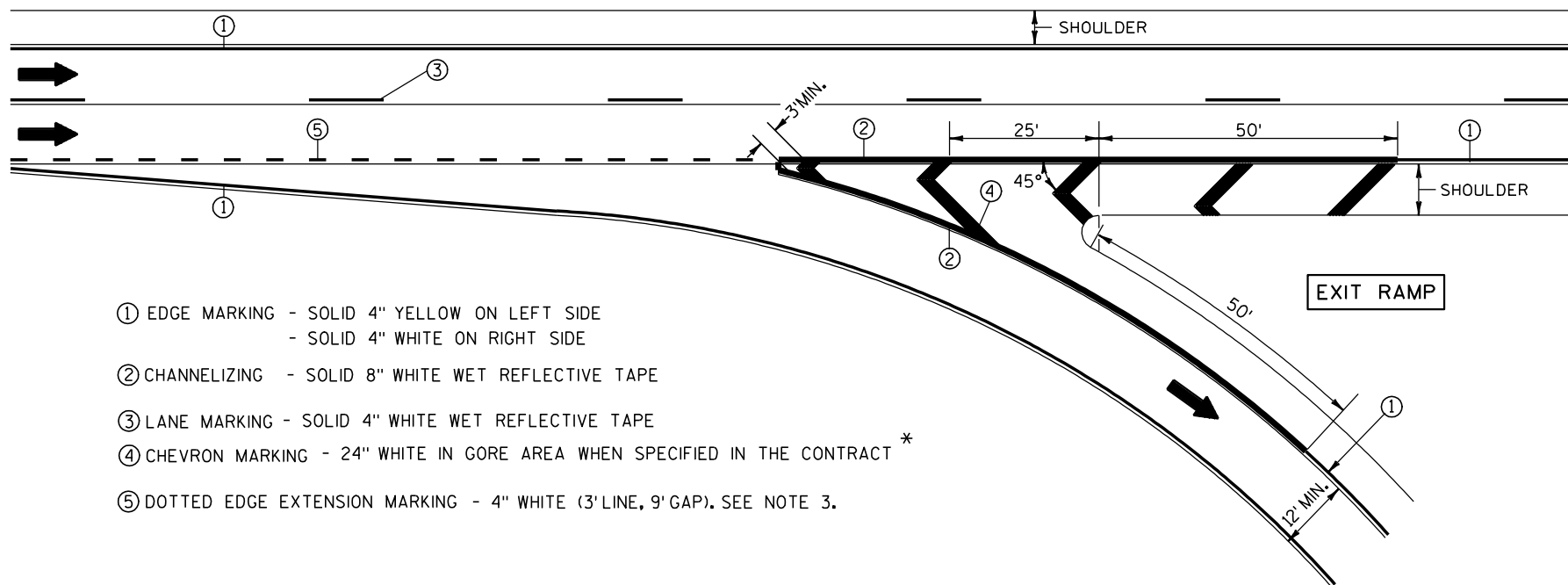


APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Notbohm STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

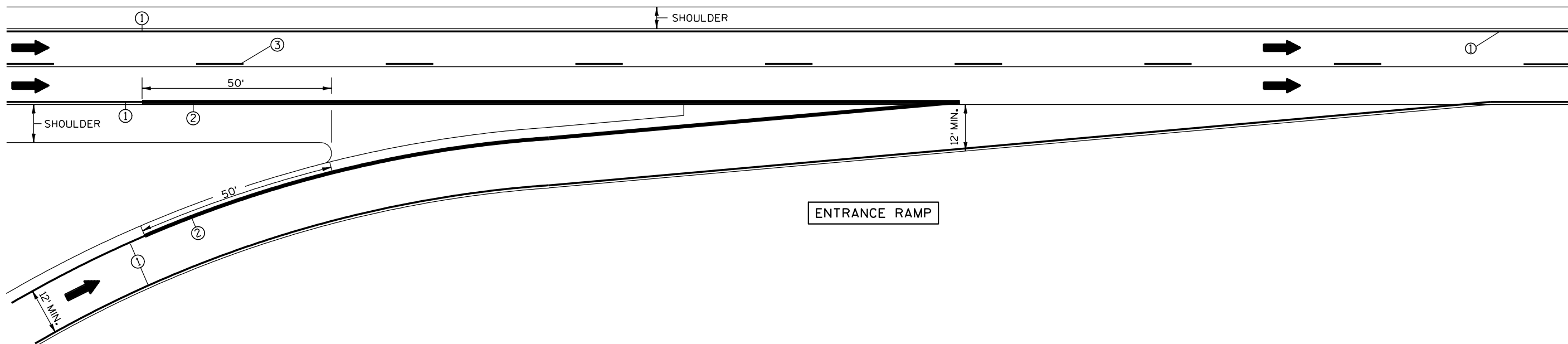


- ① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE
- ② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE
- ③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE
- ④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *
- ⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

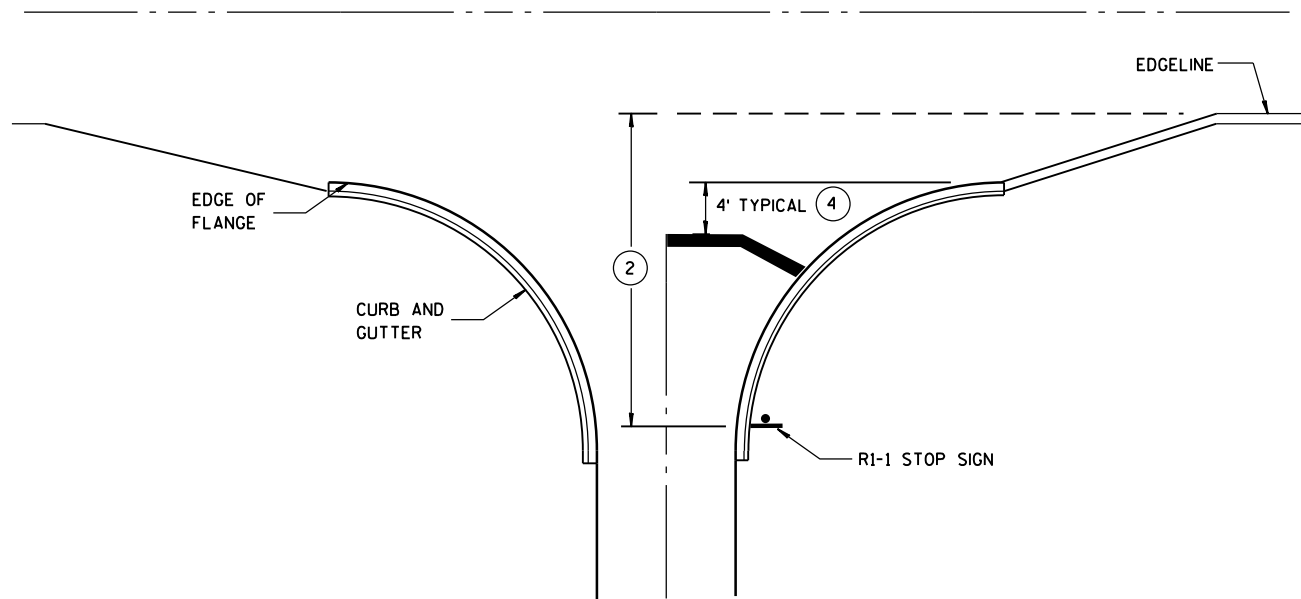
- 1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
- 2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
- 3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.

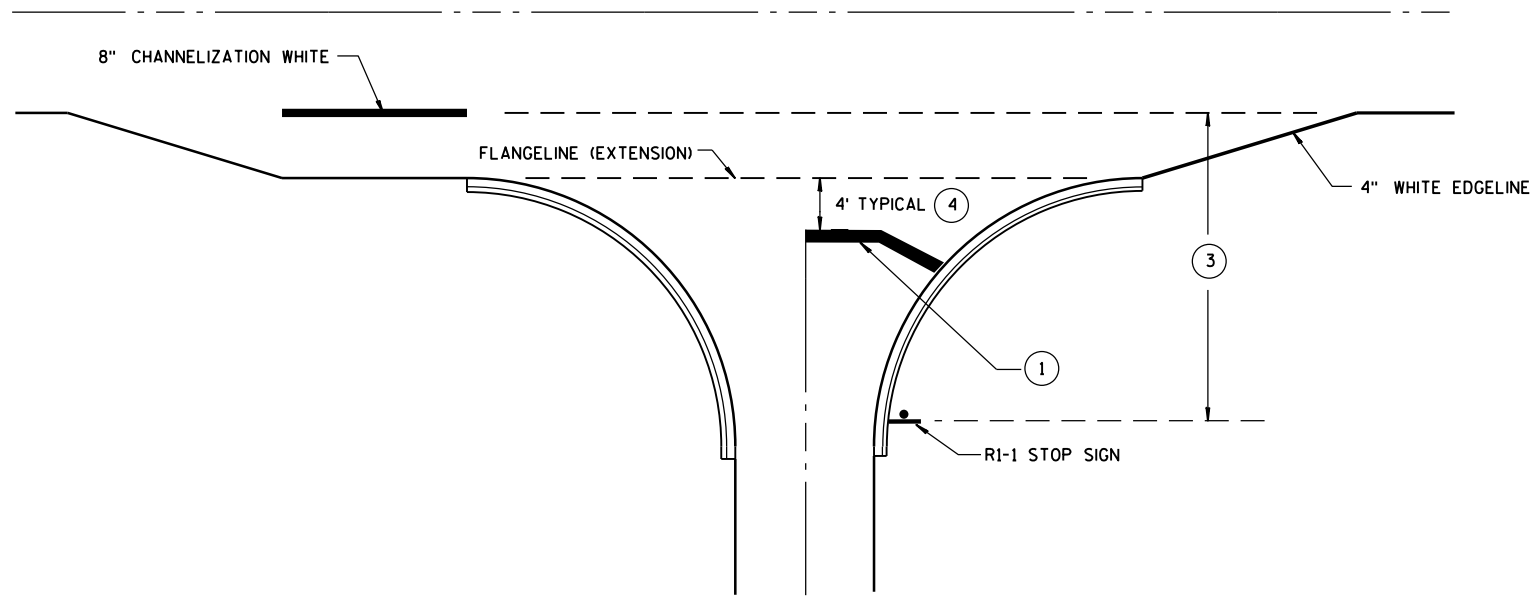


PAVEMENT MARKING
(RAMPS AND GORES)

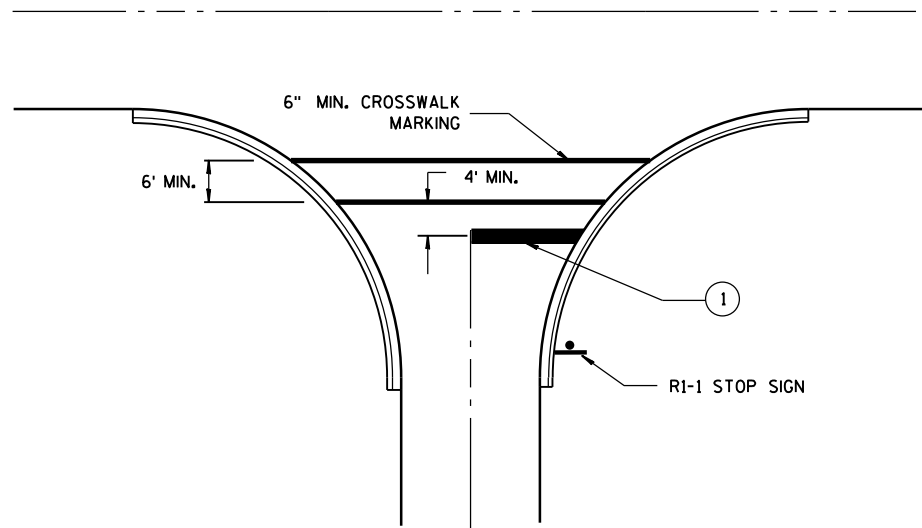
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



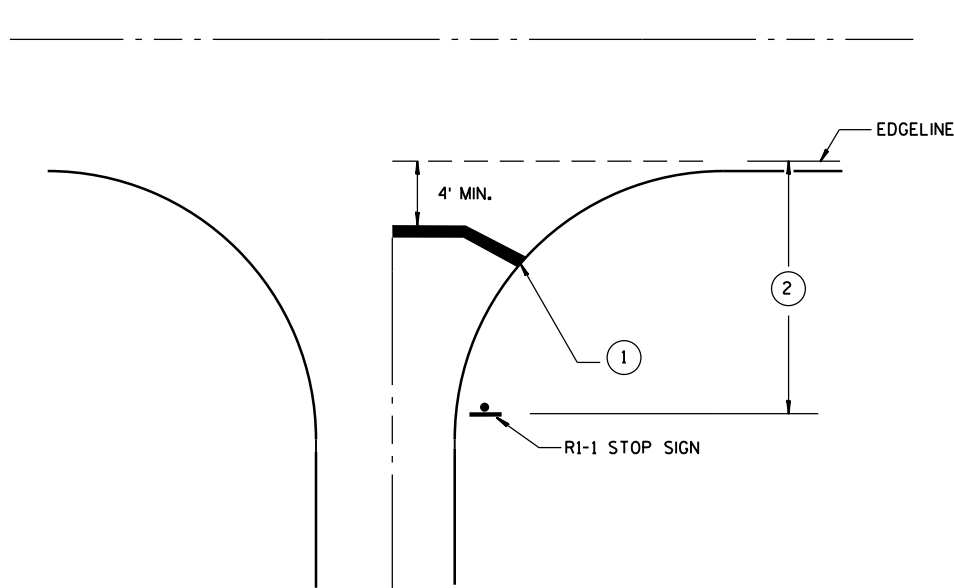
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA

SYMBOLS

- TRAFFIC CONTROL DRUM
- ┐ POST MOUNTED SIGN
- ➡ DIRECTION OF TRAFFIC FLOW
- ⏏ ARROW BOARD IN CAUTION MODE

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.

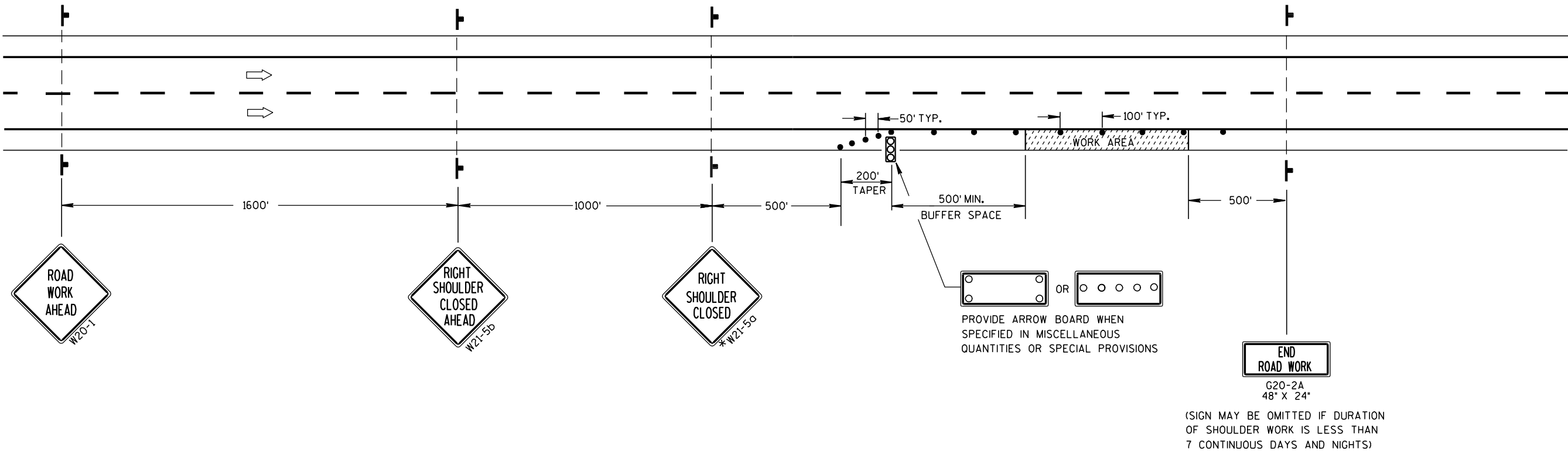
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.



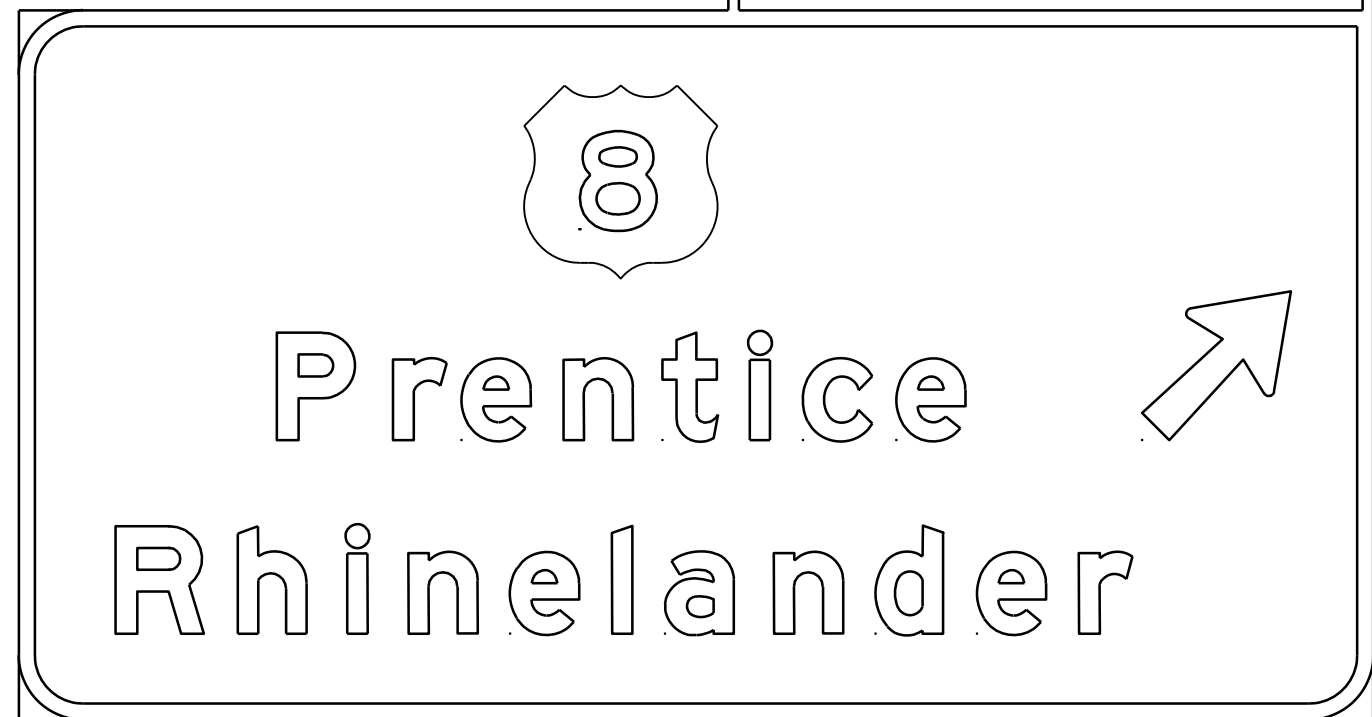
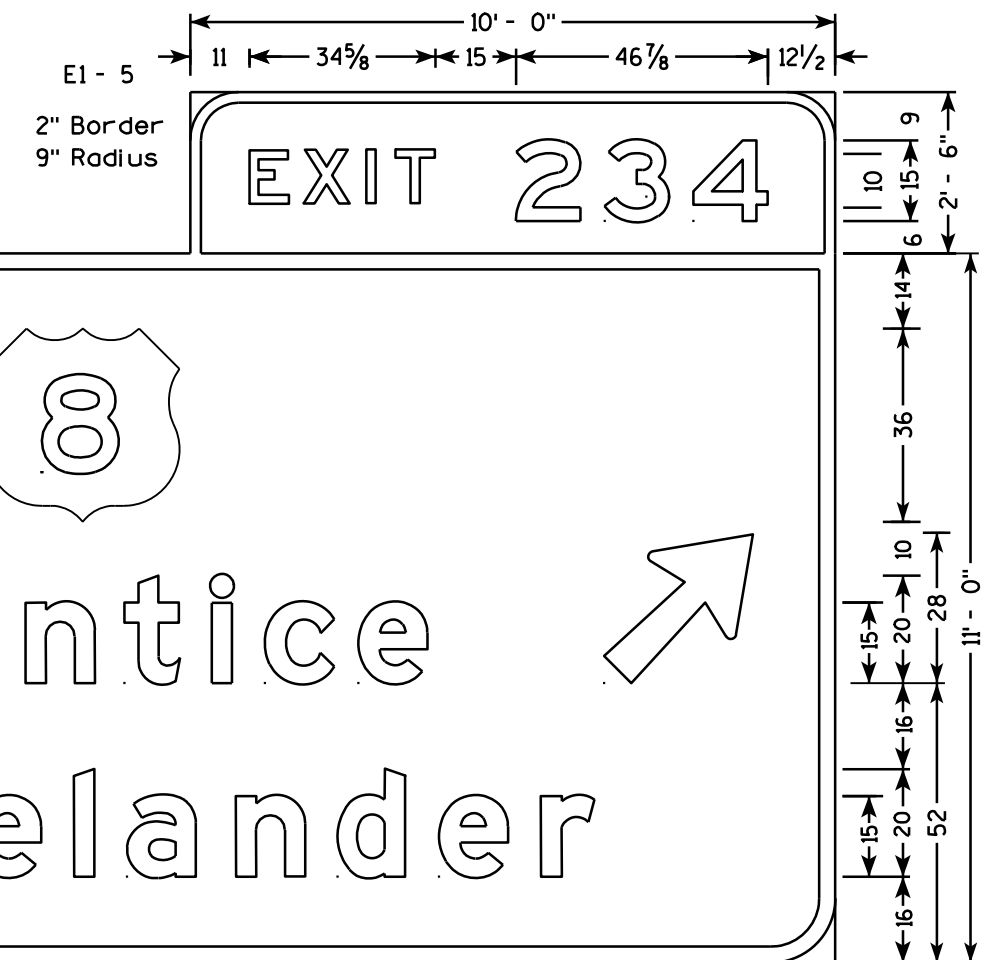
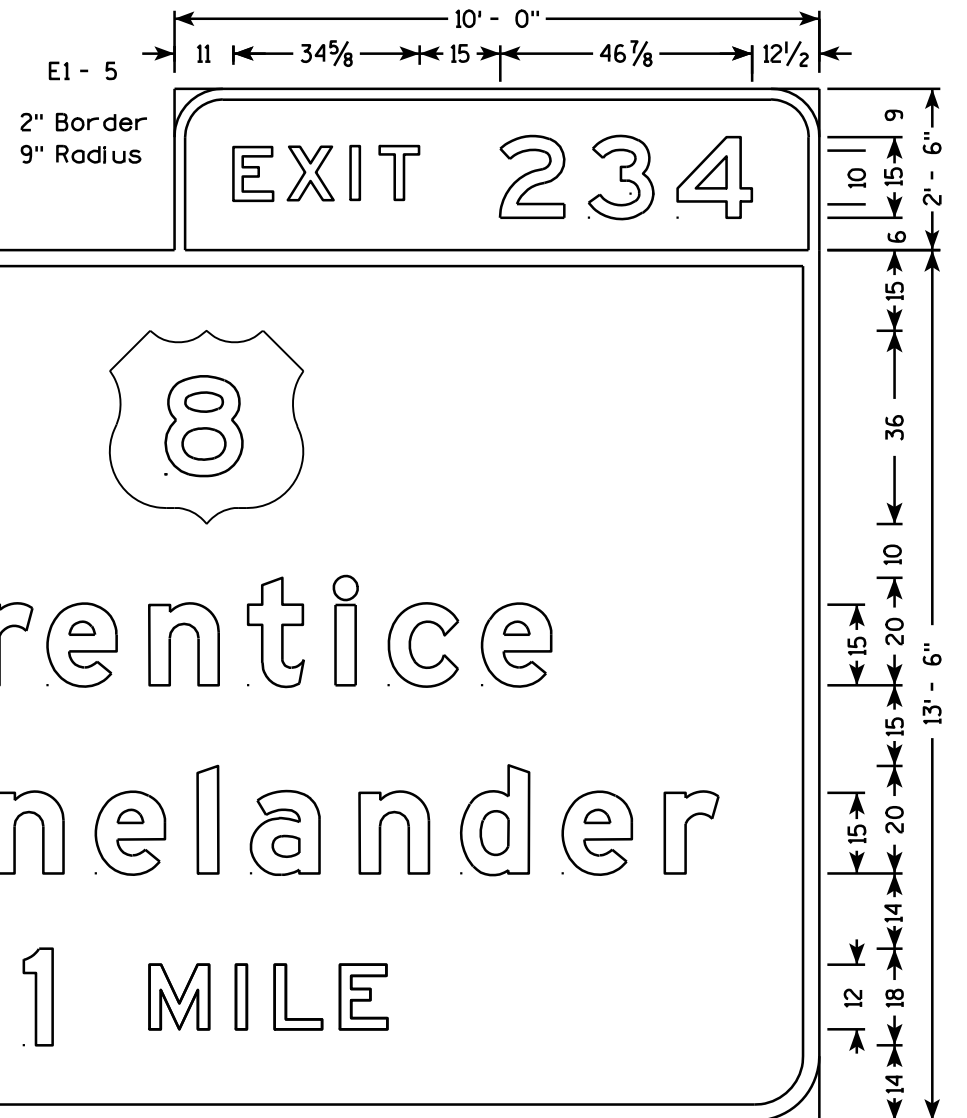
TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

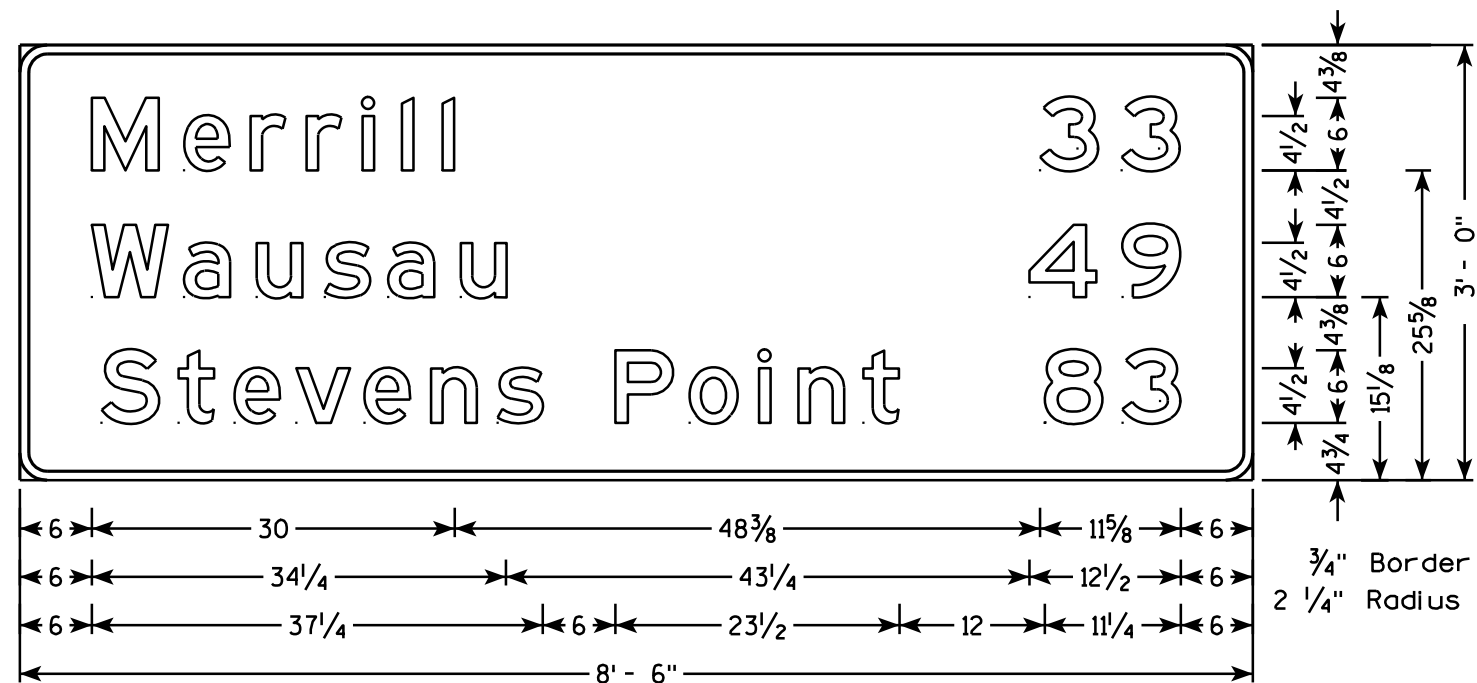
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/00 /S/ Chester J. Spang
DATE CHIEF SIGNS AND MARKING ENGINEER
FHWA

NOTES

1. Sign is Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Green
Message - White
3. Message Series - E Modified except all cap Words are Series E

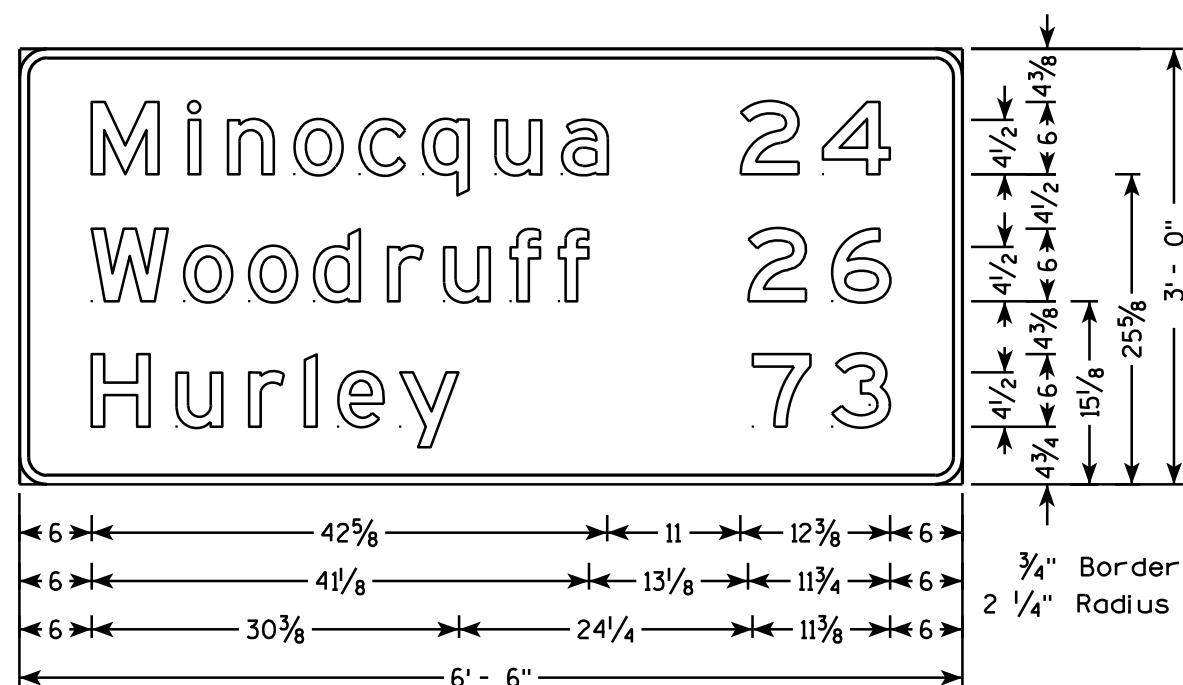




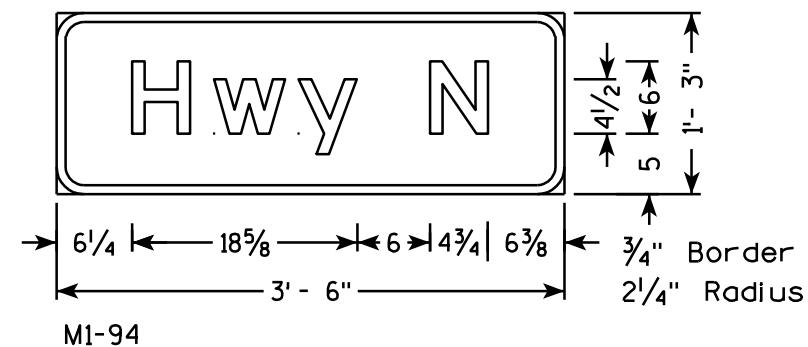
D2-3

NOTES

1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - GREEN
Message - WHITE
3. Message Series - E



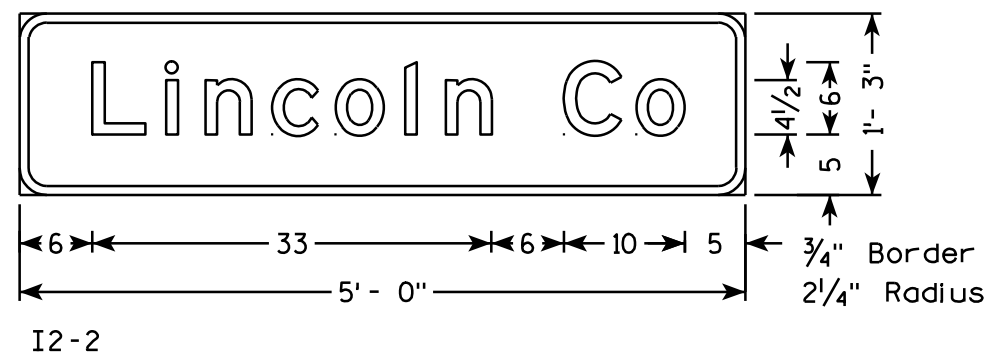
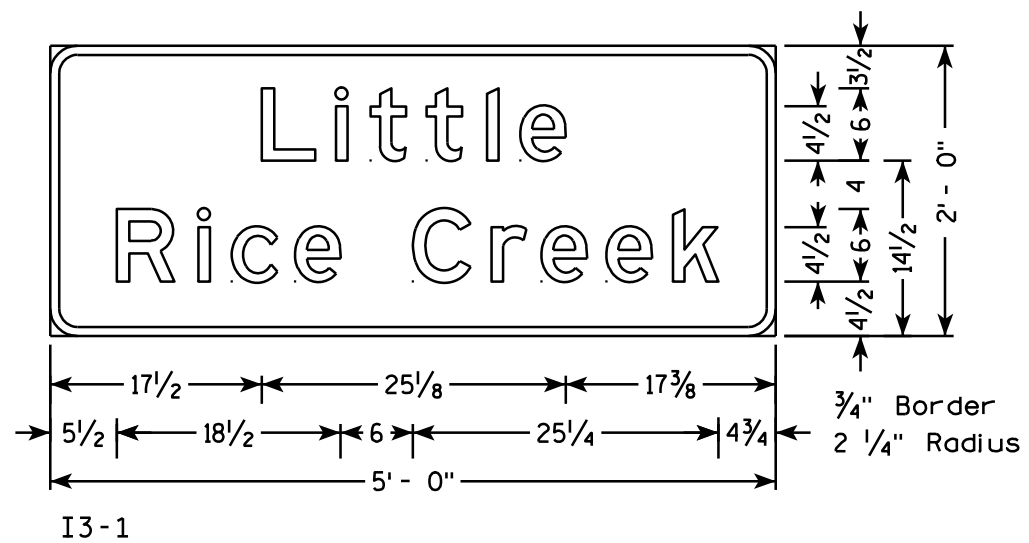
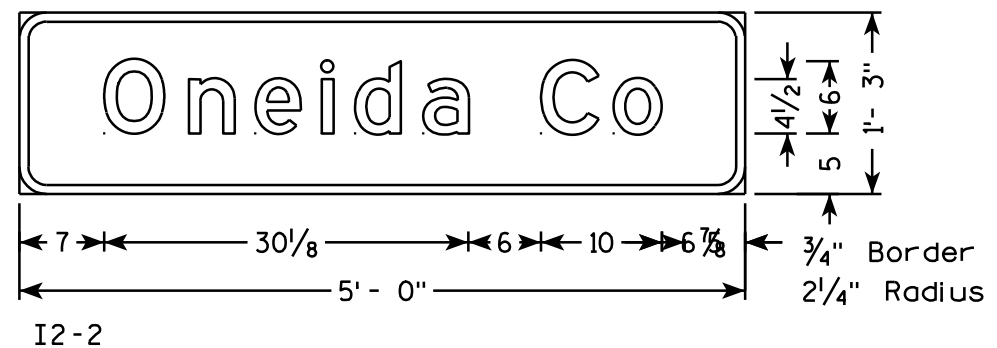
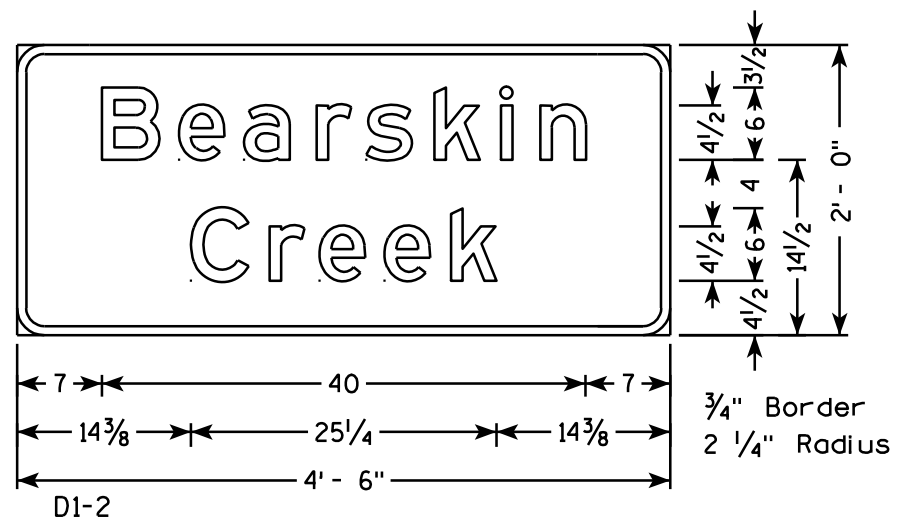
D2-3



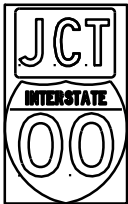
M1-94

NOTES

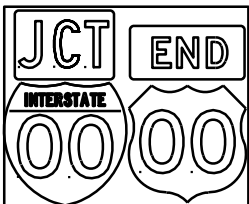
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
 - Background - GREEN
 - Message - WHITE
3. Message Series - E



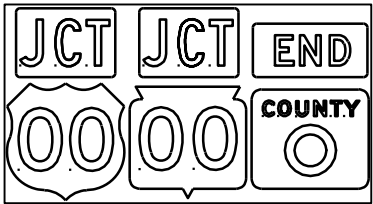
TYPICAL ASSEMBLIES



J1-1



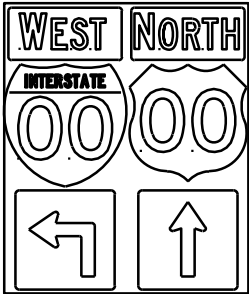
J1-2



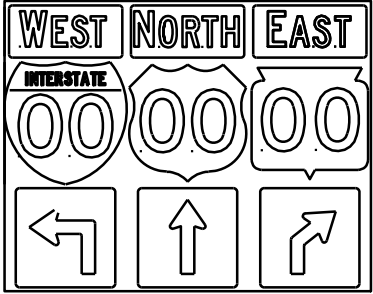
J1-3



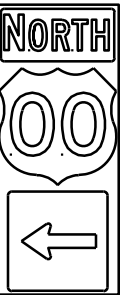
J2-1



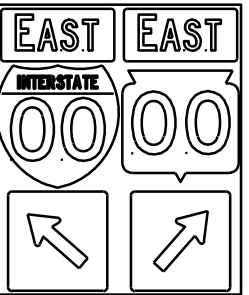
J2-2



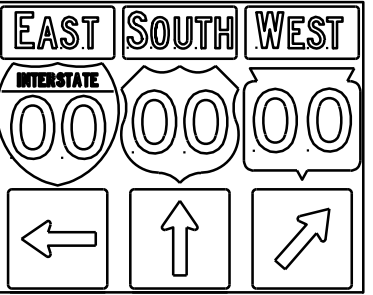
J2-3



J3-1



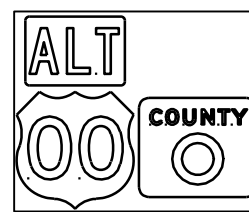
J3-2



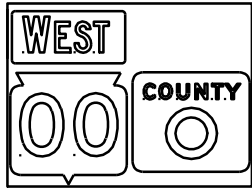
J3-3



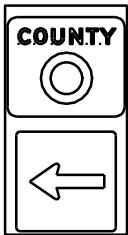
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1



J23-1

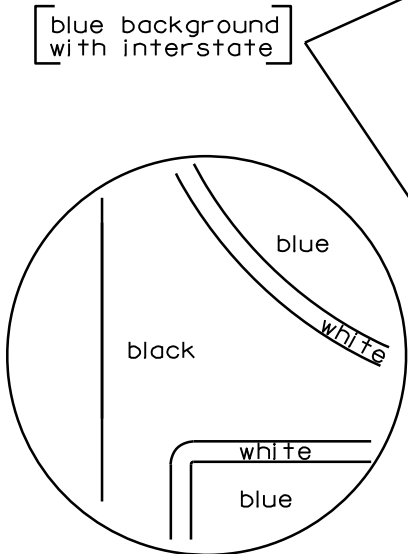


J22-1



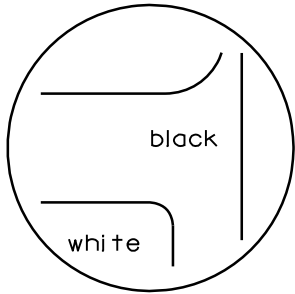
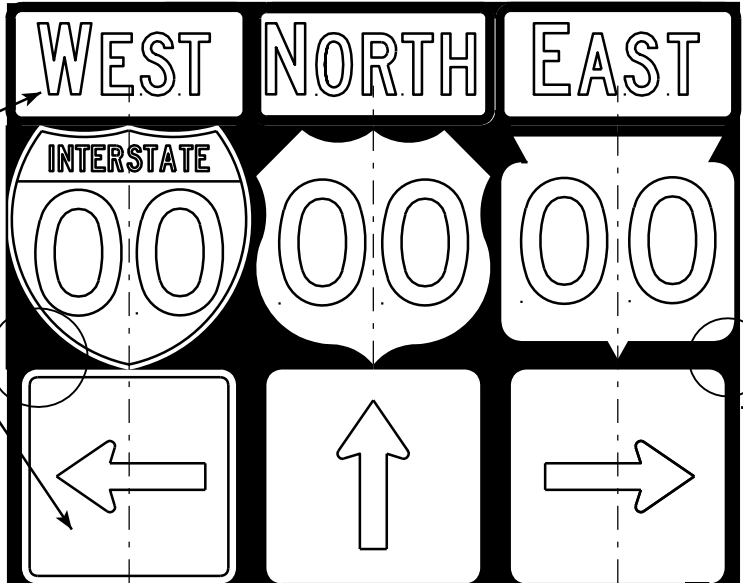
JV

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



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 inches (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.



[black background]

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

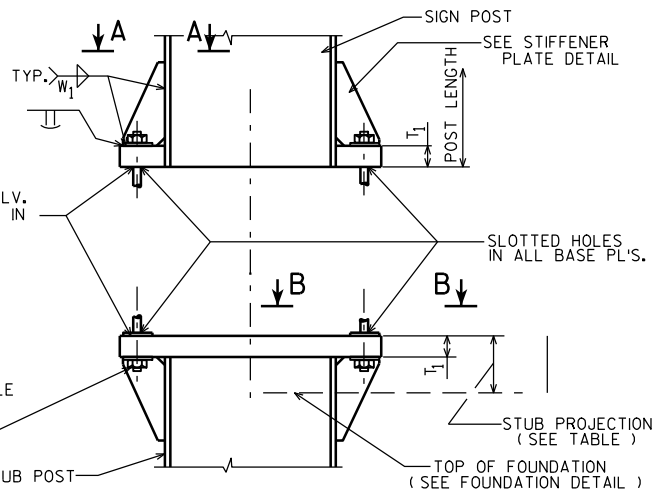
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

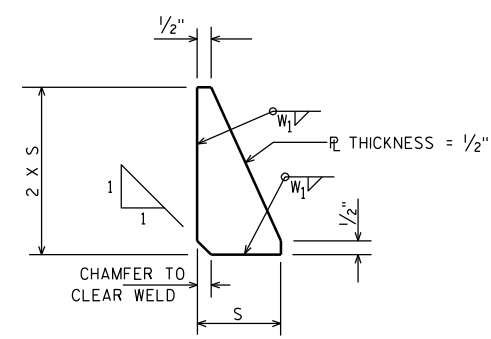
Matthew R. Rauch
For State Traffic Engineer

DATE 3/25/13

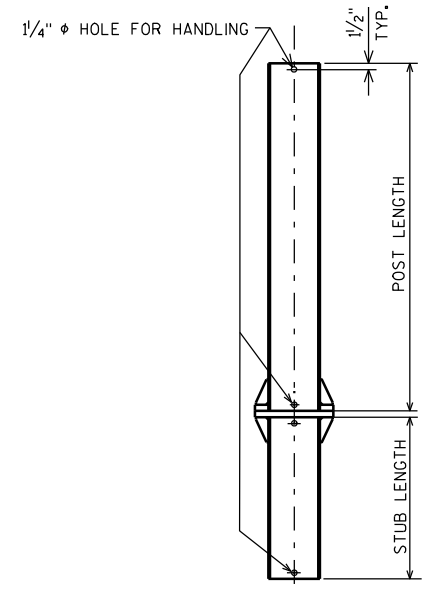
PLATE NO. A2-1S.7



SIGN POST AND STUB POST ELEVATION



STIFFENER PLATE DETAIL
(SEE TABLE FOR DIMENSIONS)



POST DETAIL

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

SHIM DETAIL

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

⑦

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

④

④

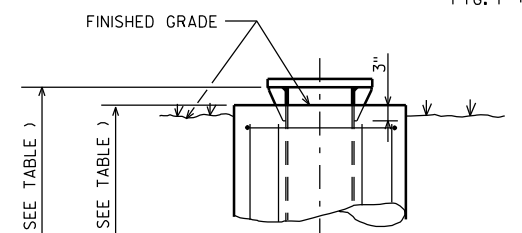
③

		BASE CONNECTION DATA TABLE											FOUNDATION DATA				
TYPE	DIMENSION	BOLT SIZE & TORQUE	A	B	C	D	E	T ₁	T ₄	W ₁	R	S	STUB LENGTH	STUB PROJECTION	SHAFT DIAMETER	SHAFT LENGTH	
	POST SIZE																
④	A	W10"X12.0 #/FT.	¾" φ @ 75#-FT.	5¼"	1'-0 ⅜"	⅞"	3½"	⅞"	1"	⅜"	⅝"	13/32 "	2⅛"	3'-6	3"	2'-0 φ	5'-0
④	B	W12"X16.0 #/FT.	⅞" φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1¼"	¼"	⅝"	⅝/32 "	3"	5'-6	3"	2'-0 φ	7'-0
	C	W12"X19.0 #/FT.	⅞" φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	⅝"	⅝"	⅝/32 "	3"	6'-0	3"	2'-0 φ	7'-6
	D	W12"X22.0 #/FT.	⅞" φ @ 85#-FT.	5½"	1'-4¼"	1"	3½"	1"	1½"	⅜"	⅝"	⅝/32 "	3"	6'-6	3"	2'-0 φ	8'-0
③	E	W12"X26.0 #/FT.	1" φ @ 90#-FT.	7"	1'-4¼"	1¼"	4"	1½"	1½"	⅜"	⅝"	1/32 "	3"	7'-0	3"	2'-0 φ	8'-6

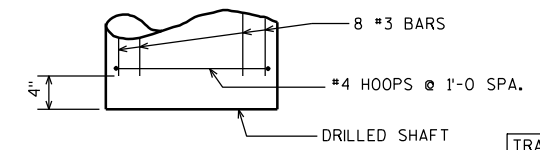
① ⑥ ①

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

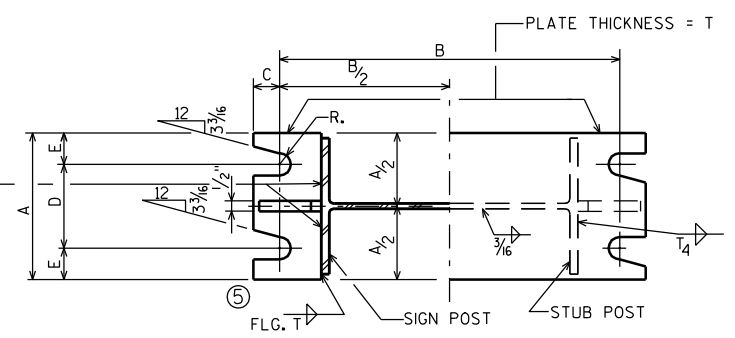
FTG. T + 1/16
FTG. T + 1/16



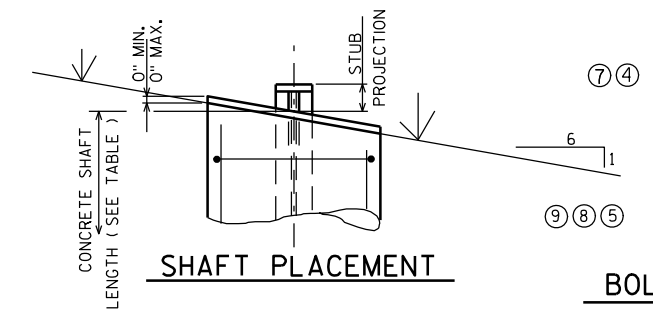
SECTION



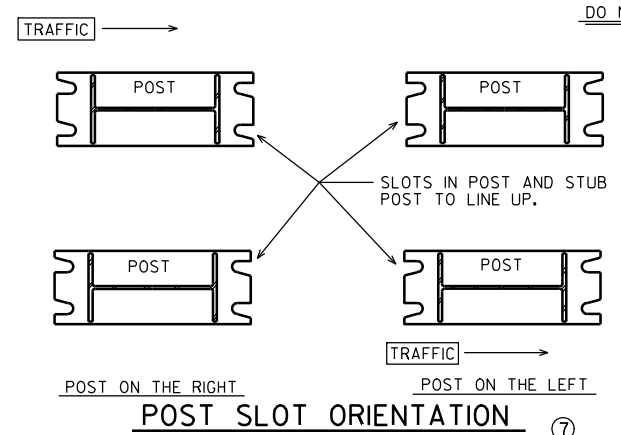
FOUNDATION DETAIL



SECTION A-A SECTION B-B



SHAFT PLACEMENT



POST SLOT ORIENTATION

DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.
GROUP LOADS PERCENT OF ALLOWABLE STRESS
1. DEAD 100
2. DEAD & WIND 140
3. DEAD, ICE & 1/2 WIND 140 Δ25 P.S.F. MIN.
ALLOWABLE SOIL PRESSURE = 1/2 T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50.
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
H.S. BOLTS, WASHERS & NUTS SHALL BE A325 GALVANIZED WHEN POSTS, POST STUBS AND ATTACHMENTS ARE A709 GRADE 50 AND GALVANIZED.

BOLTING PROCEDURE - BASE CONNECTION

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

DATE 4/26/11

⑨ 4-26-11 REMOVE NON-GALVANIZED

⑧ 10-30-96 NOT GALVANIZED/GALVANIZED

⑦ 10-30-92 QUANT., A588 EXCEPT., ADD SLOT VIEW

⑥ 8-24-87 BASE CONN. WELD

⑤ 10-13-81 BASE CONN. WELD & FUSE PL. WASHERS

④ 10-19-79 POST A & B, A572 GR. 50, & K

② 11-28-78 "K" ③ 4-23-79 TYPE "E"

① 5-4-78 T₁ · T₂ & W₁

NO. DATE REVISION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

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

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

SHEET

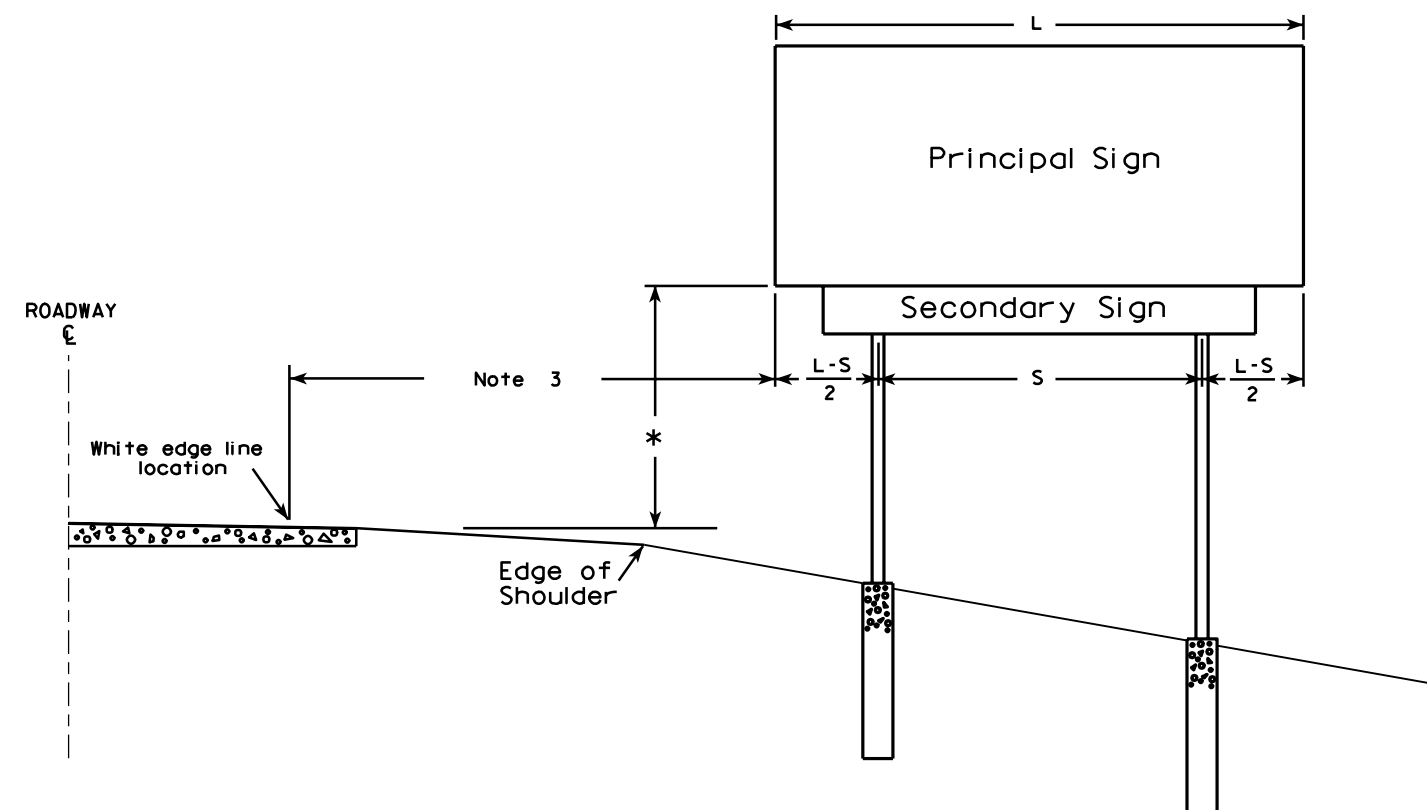
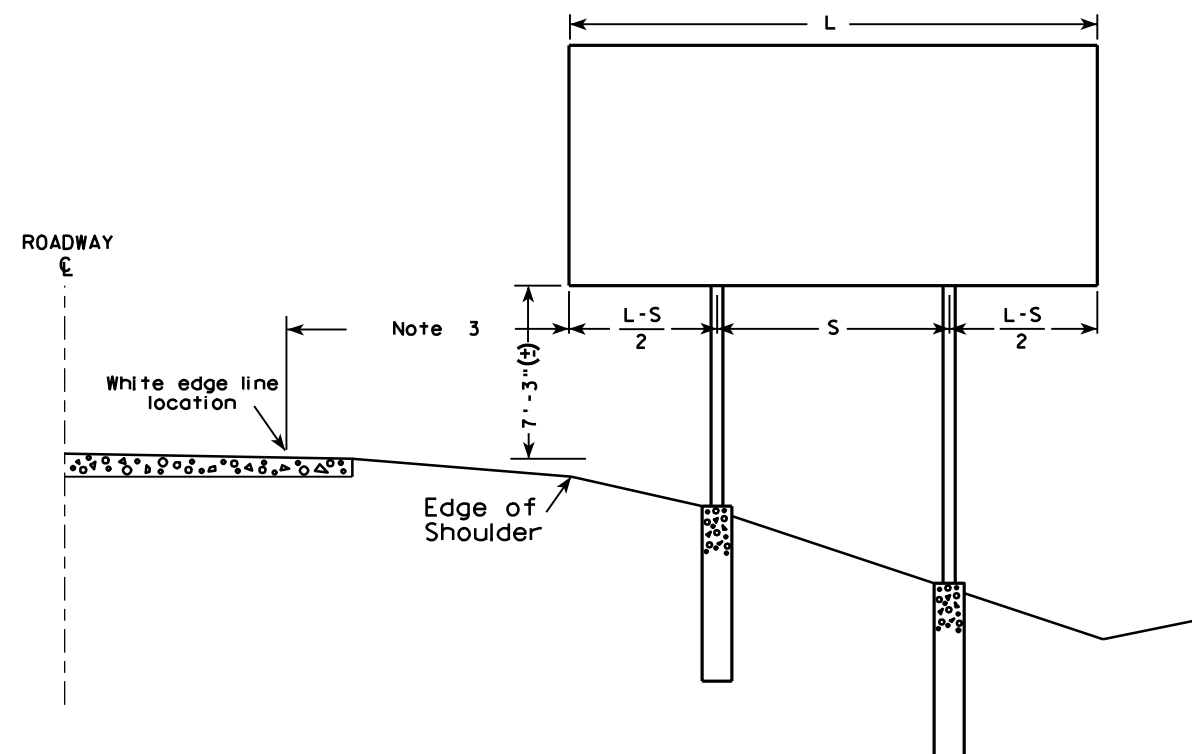
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

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

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

TYPICAL INSTALLATION OF TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

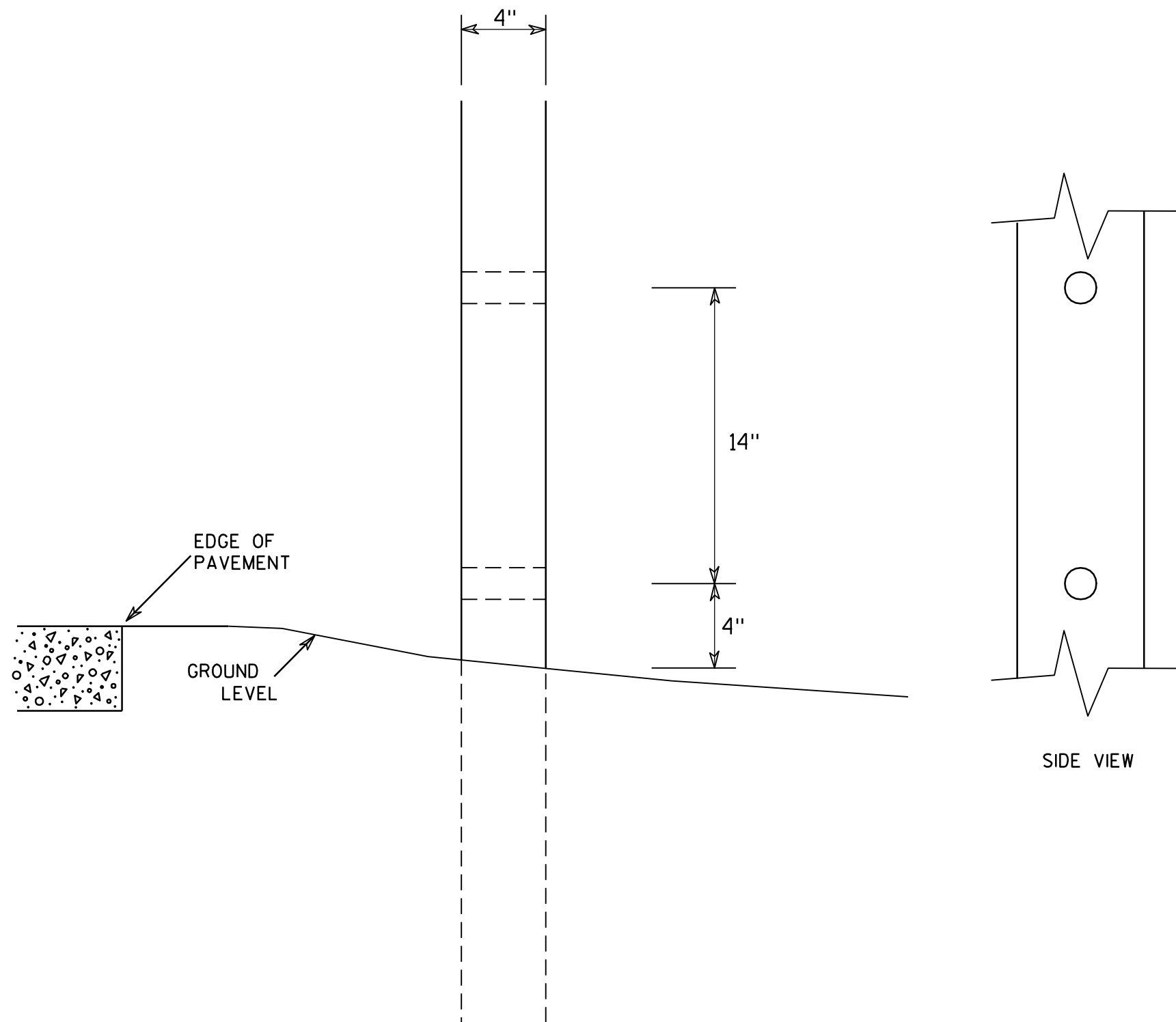
DATE 4/02/08 PLATE NO. A4-1.9

PROJECT NO:

SHEET NO:

E

7

GENERAL NOTES

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

7

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

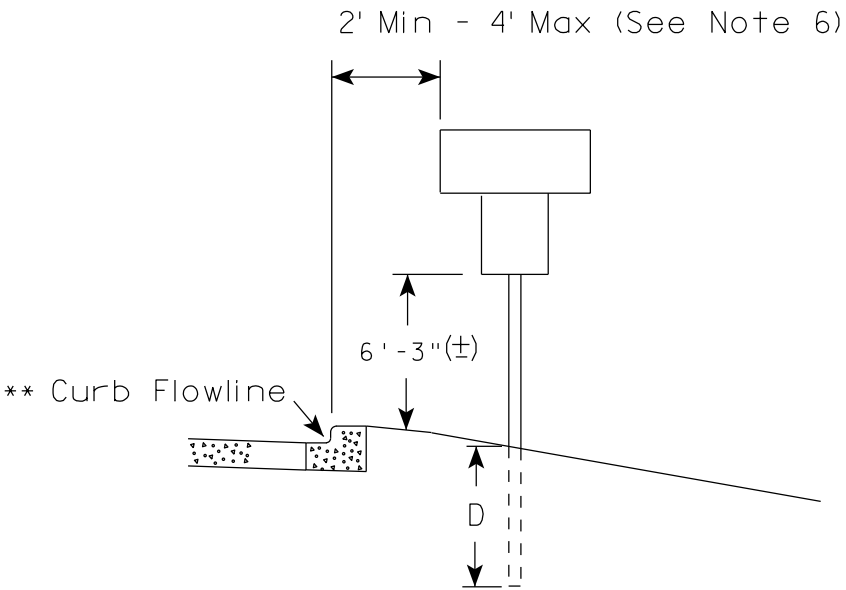
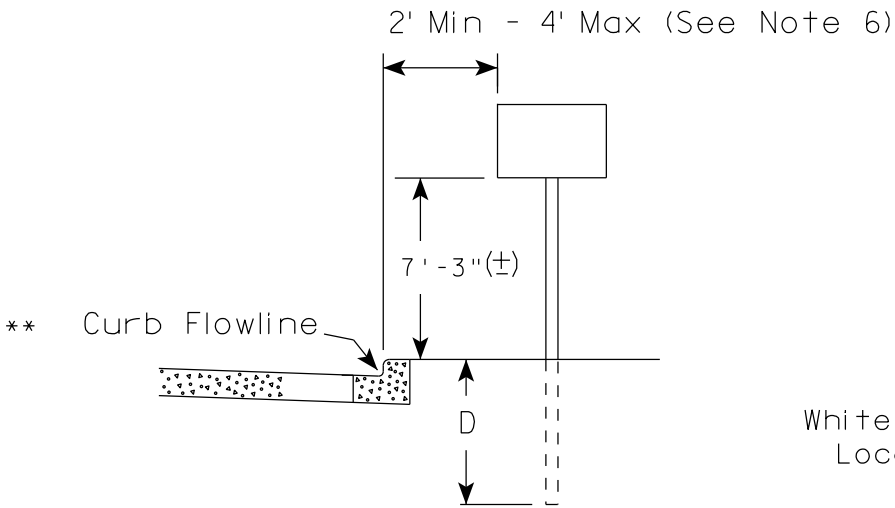
HWY:

COUNTY:

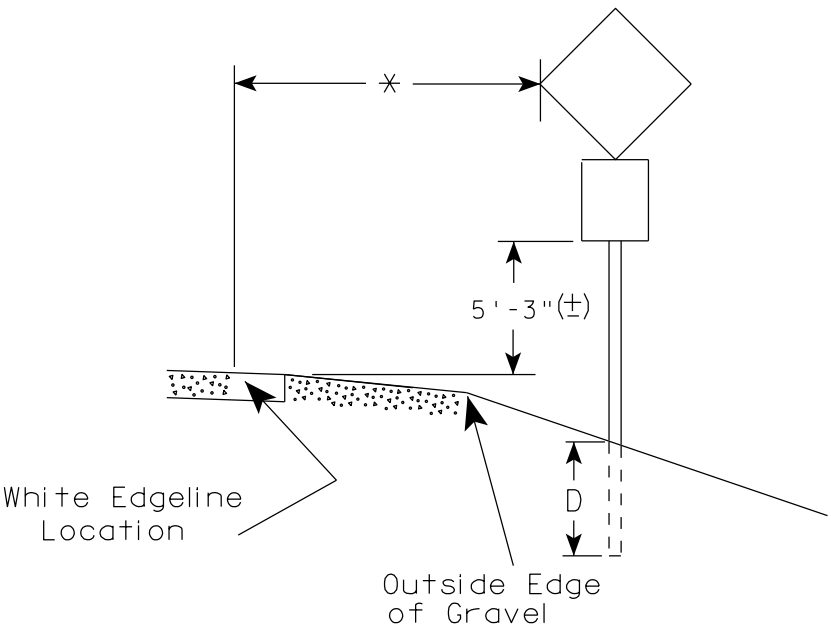
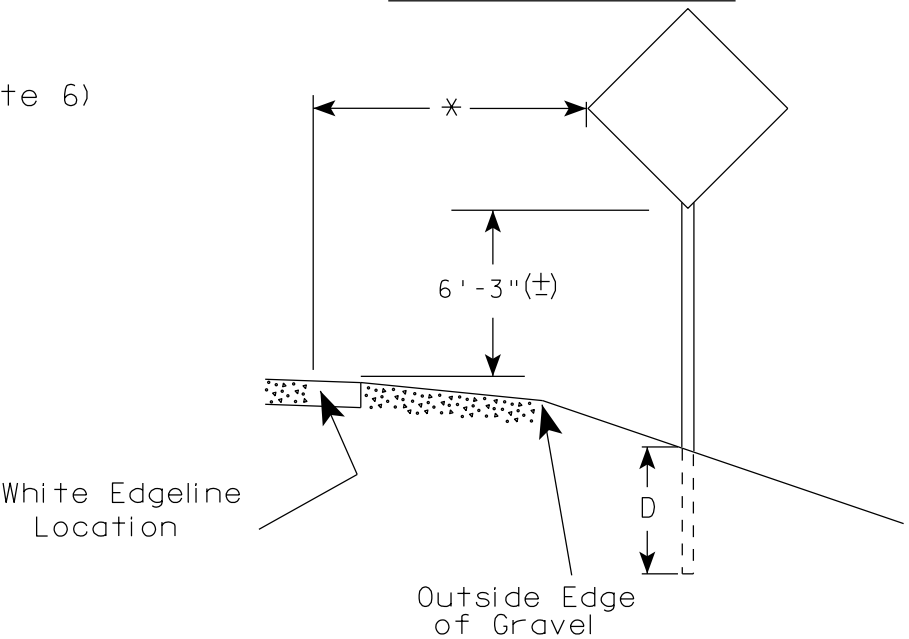
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

×× 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.

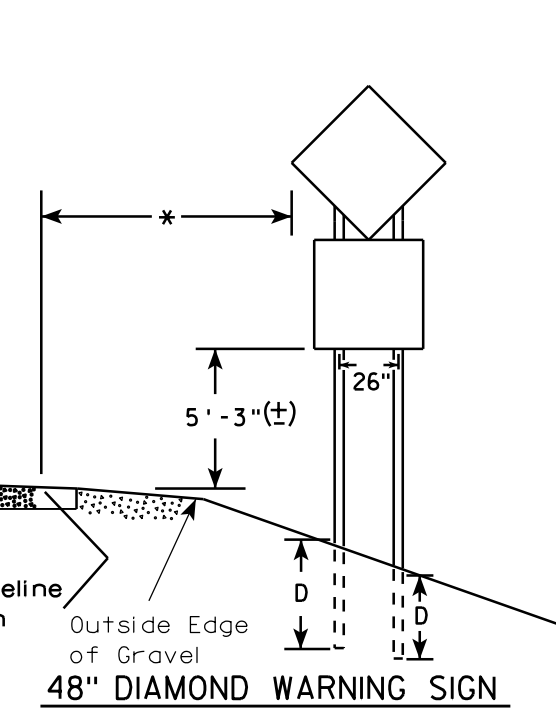
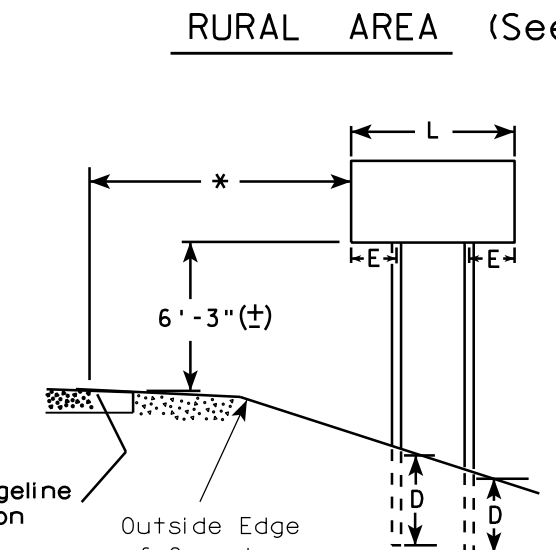
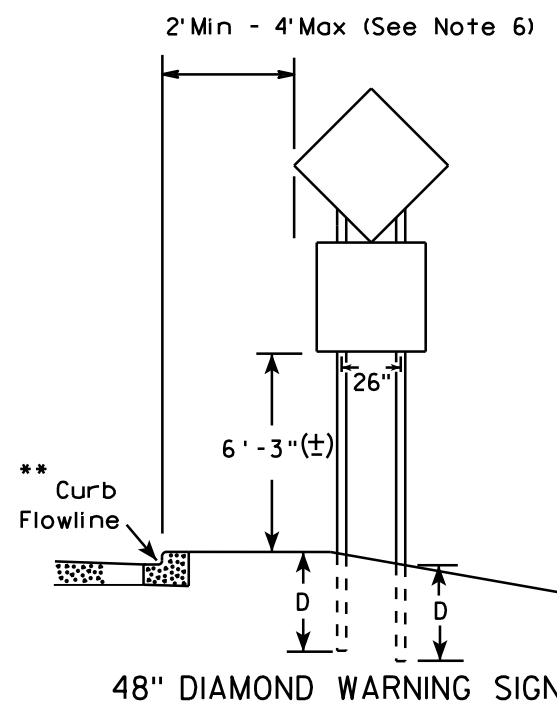
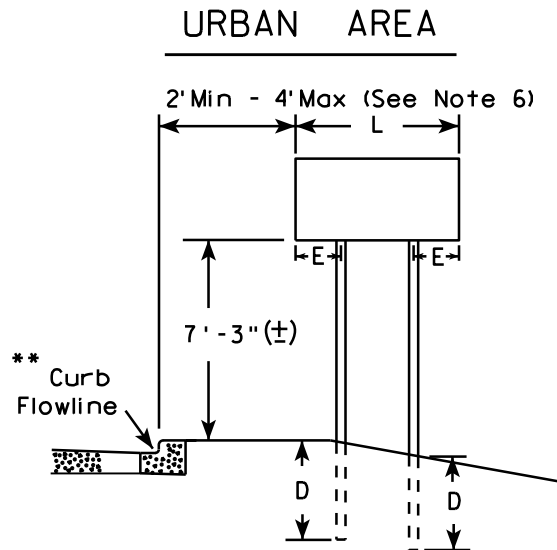
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18



GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding stop signs (R1-1F) 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) & End of Road Markers (W5-56 & W5-56A) 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 or 20 S.F. or less in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

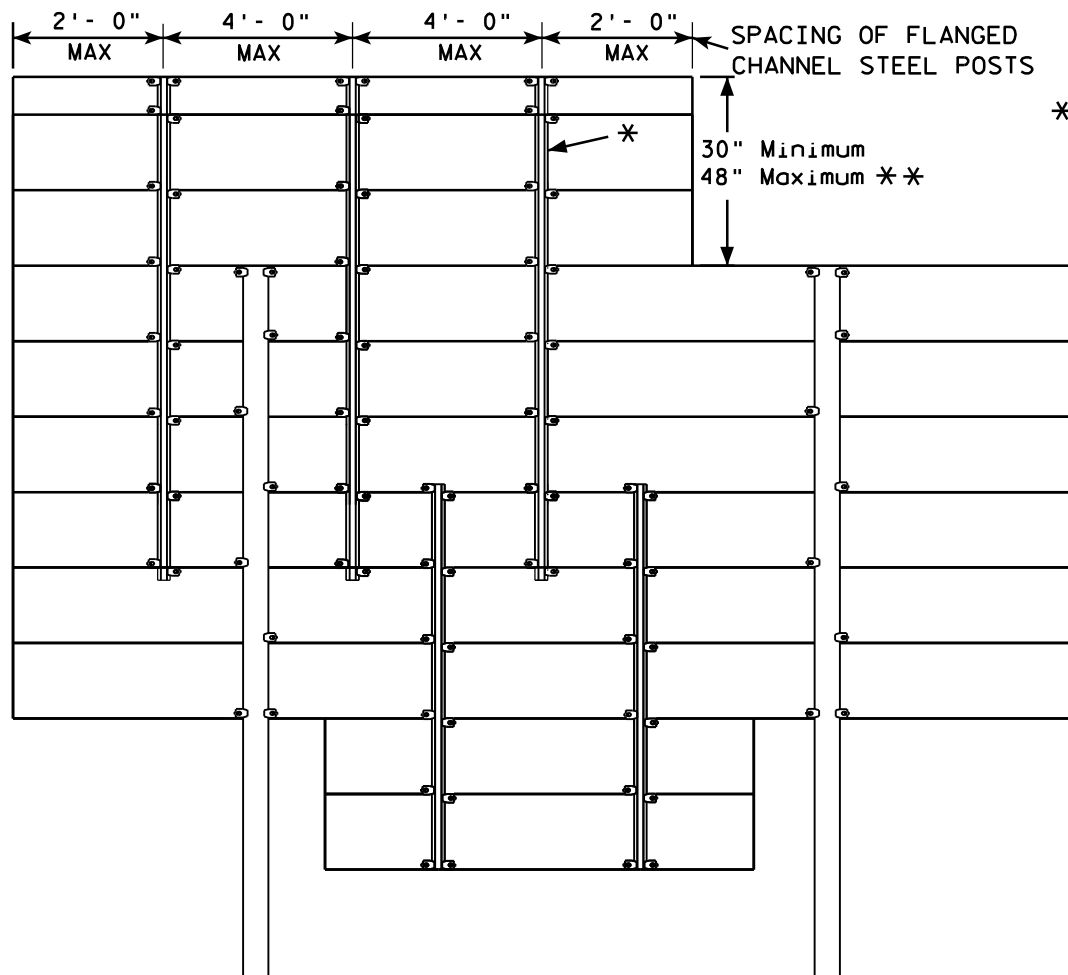
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

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

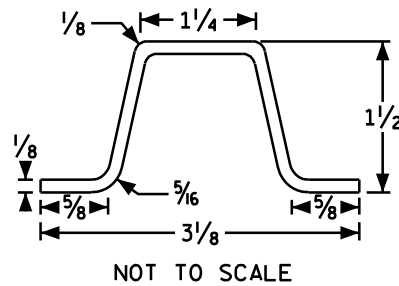
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 9/30/13	PLATE NO. A4-4.12

GROUND MOUNTED SIGN



* = 2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED
* * = FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

FLANGE CHANNEL DETAIL

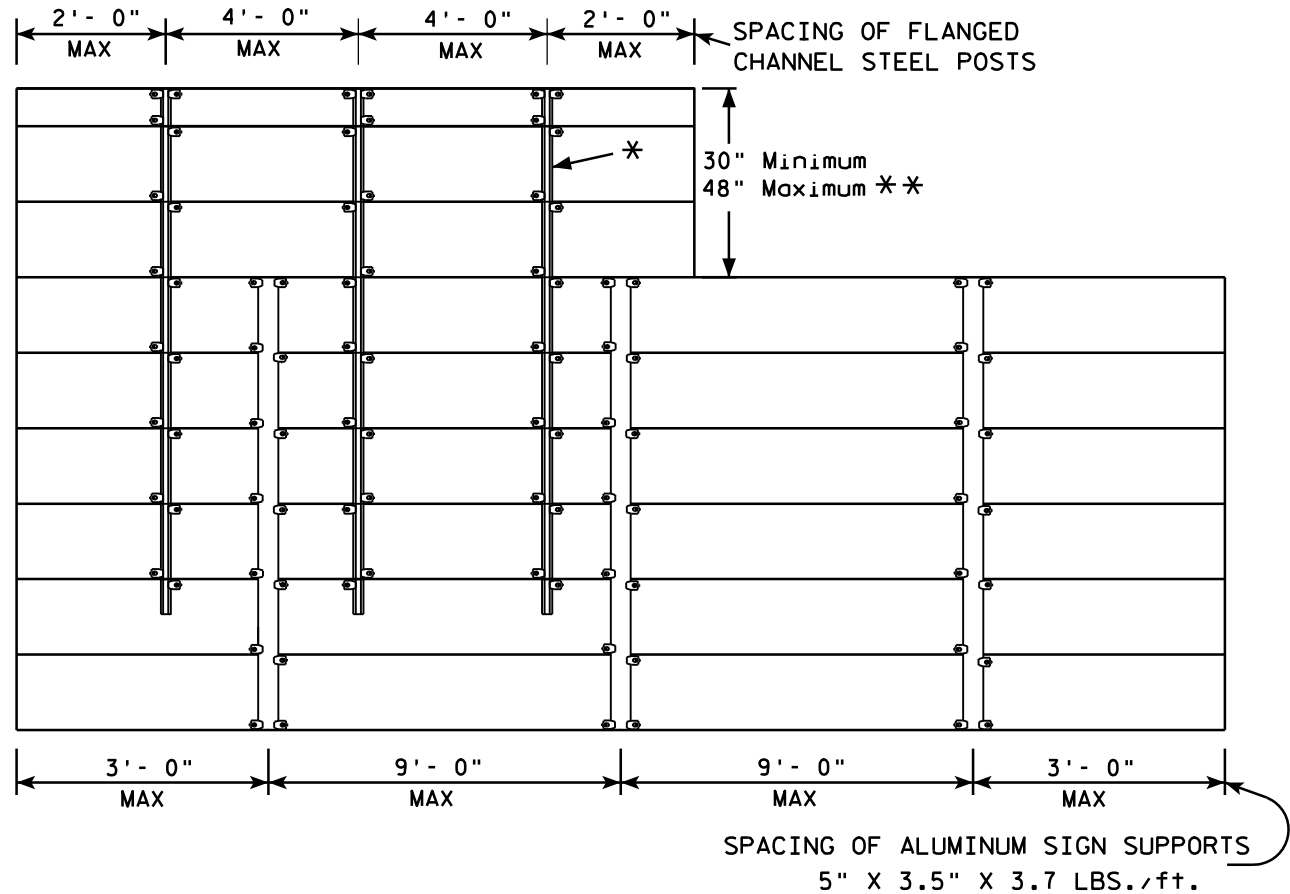


GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:
PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
PANEL LENGTH 9'-0" - 12'-0" = 3 CHANNELS
PANEL LENGTH 13'-0" OR MORE = 4 CHANNELS
If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.

3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)

SIGN BRIDGE MOUNTED SIGN



ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

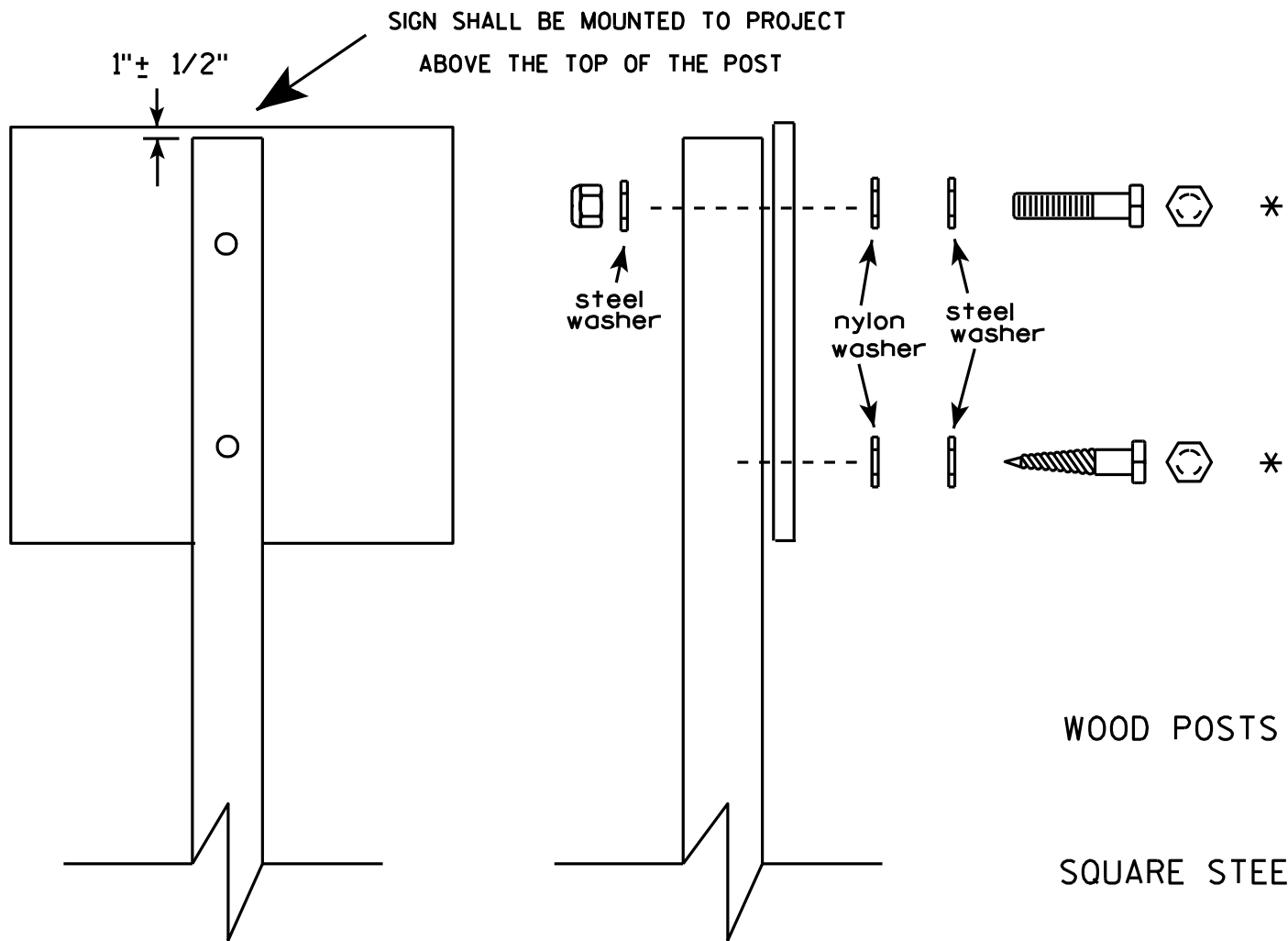
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. A4-6.11

PROJECT NO:

SHEET NO:

E

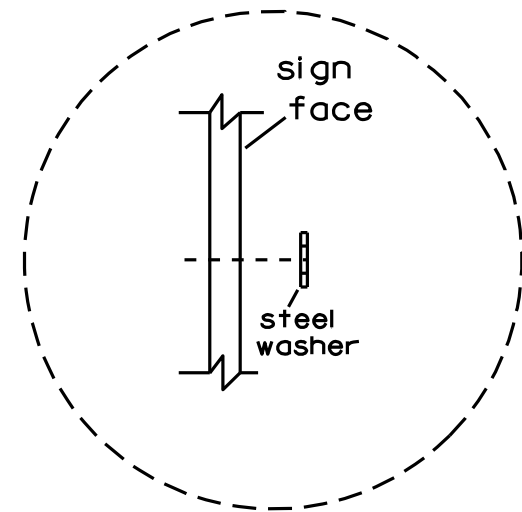


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

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

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

- WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.

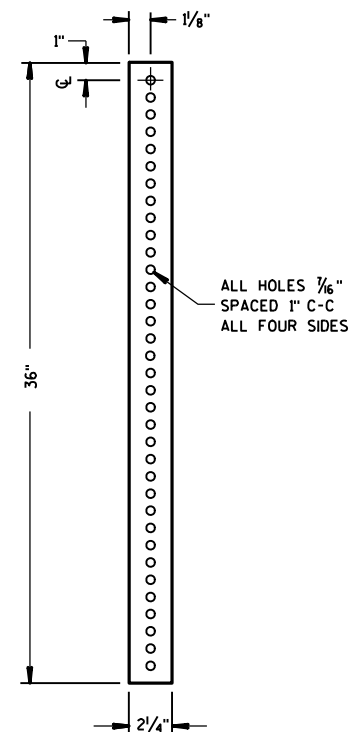


Washer Placement when Sign Has Other Than Type H or Type F Face

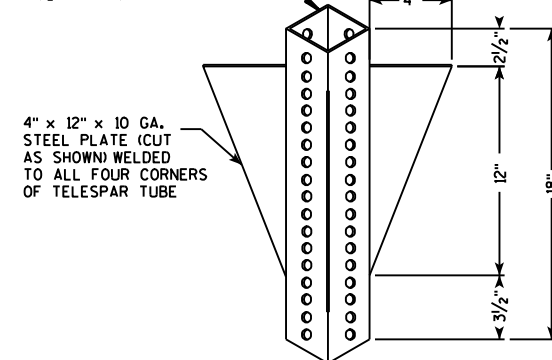
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

**2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



2 1/2" or 2 1/4" TELESPAR TUBE



LENGTH SHOWN ON MISC. QTY'S

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL

TELESCOPE PIECES FLUSH AT TOP

$\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " GRAVEL OR DIRT

$\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT

$2\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)

$2\frac{1}{4}$ " SQUARE X 36"

18" DIA PVC BOX-OUT

13"

18"

36"

Diagram illustrating the construction of a sign post assembly. The assembly consists of a 2" steel tubular square upper section and a 2 1/4" square x 36" lower section. The upper section has all holes 7/16" spaced 1" center-to-center on all four sides. The lower section is made of 2 1/4" square x 36" material. The assembly is anchored into the ground using 3/8" zinc plated corner anchor bolts and nuts, and 3/8" zinc plated anchor bolts and nuts. The lower section is surrounded by 2 1/2" square x 18" soil stabilizing sleeves. The top of the assembly is flush with the ground, and the sign plate is attached to the top. The diagram also shows a cross-section of the assembly, indicating the use of 18" diameter PVC box-out and 2 1/2" gravel or dirt. Dimensions shown include 13", 18", and 36".

LENGTH SHOWN ON MISC. QTY'S

TELESCOPE PIECES FLUSH AT TOP

1"

12"

18"

36"

2" STEEL TUBULAR SQUARE UPPER SECTION

ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES

3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT

1"

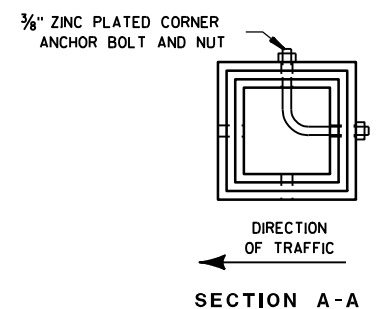
3/8" ZINC PLATED ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

SIGN

SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL



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

DATE 5/30/12 PLATE NO. A4-9.7

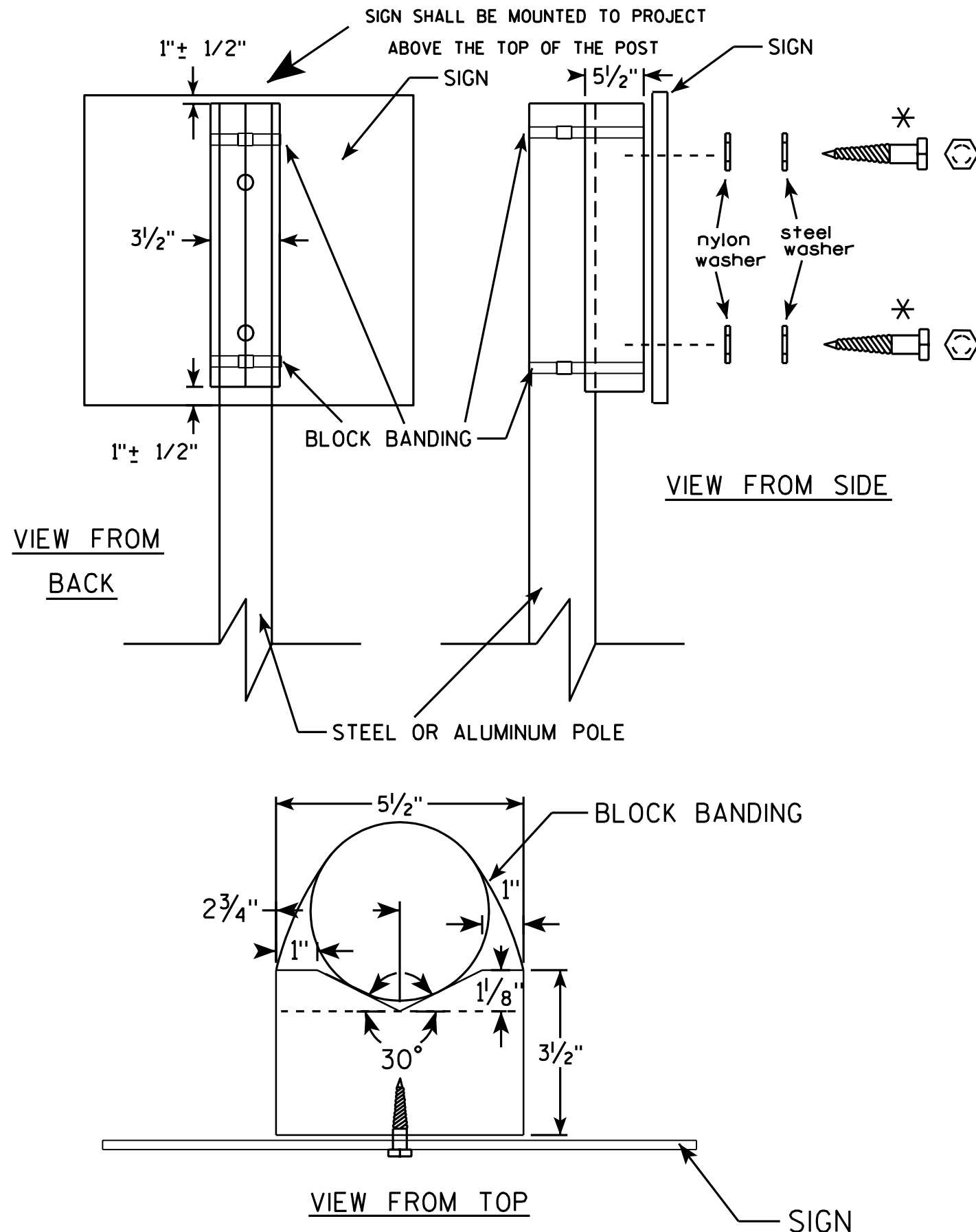
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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, 3/4" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. 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 1 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1 1/4" O.D. X 3/8" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/12/07 PLATE NO. A5-10.1

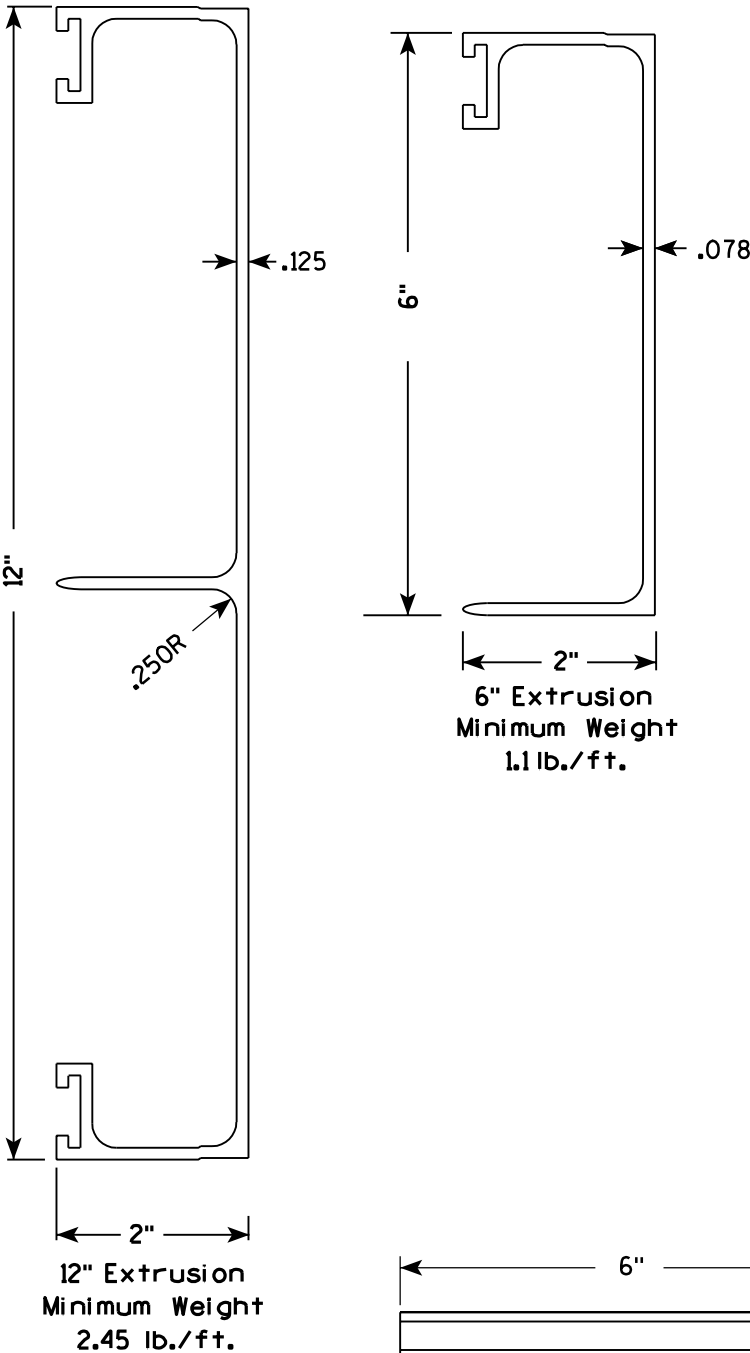
PROJECT NO:

SHEET NO:

E

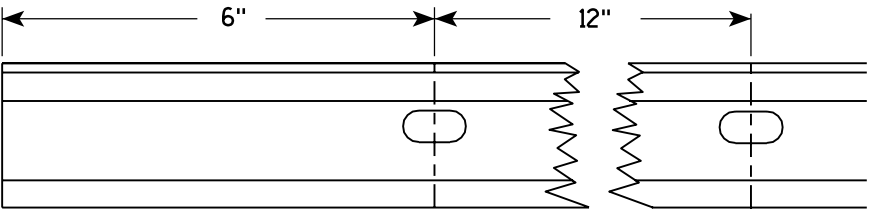
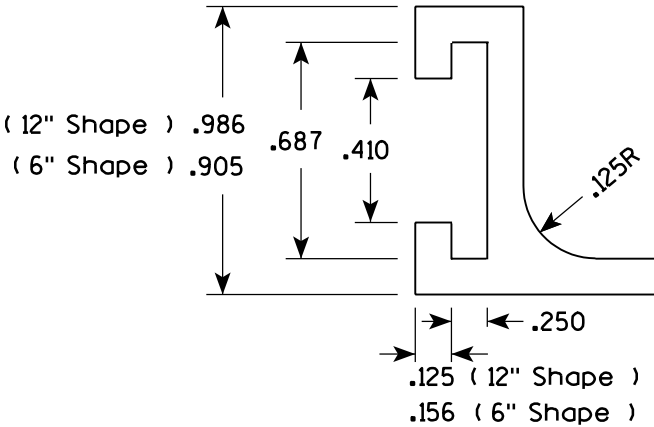
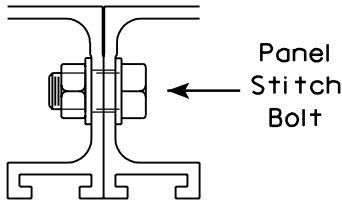
Extruded Shape

Hardware

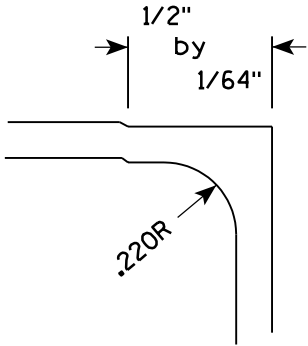


STITCH BOLT, WASHER & NUT

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

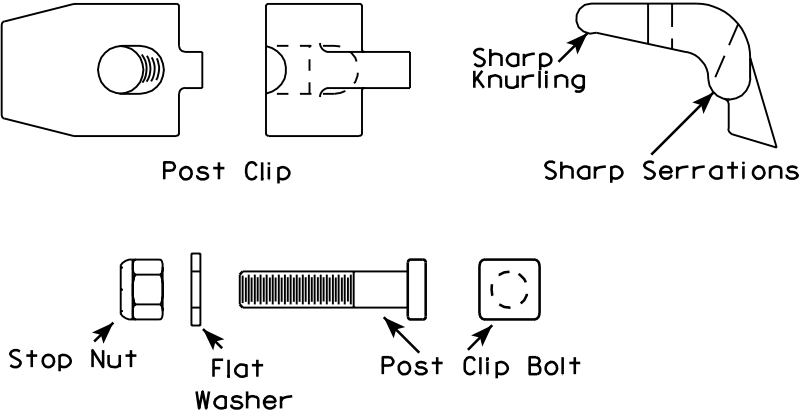


Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.



POST CLIP, POST CLIP BOLT, WASHER & NUT

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



NOTES

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

ALUMINUM EXTRUSIONS FOR
TYPE I SIGNS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*
for State Traffic Engineer
DATE 11/18/99 PLATE NO. A5-2.9

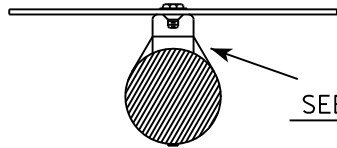
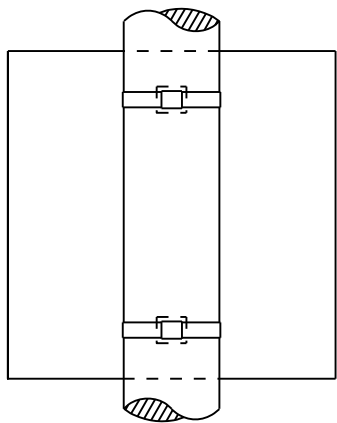
PROJECT NO:

SHEET NO:

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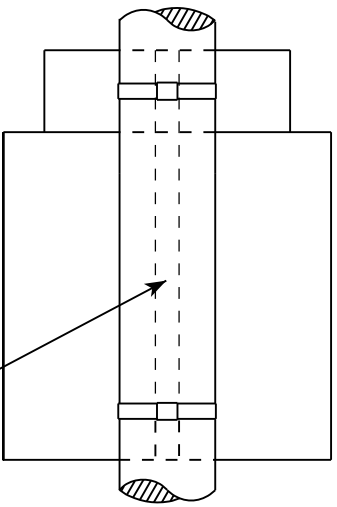
BANDING

SINGLE SIGN

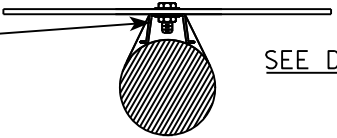


SEE DETAIL A

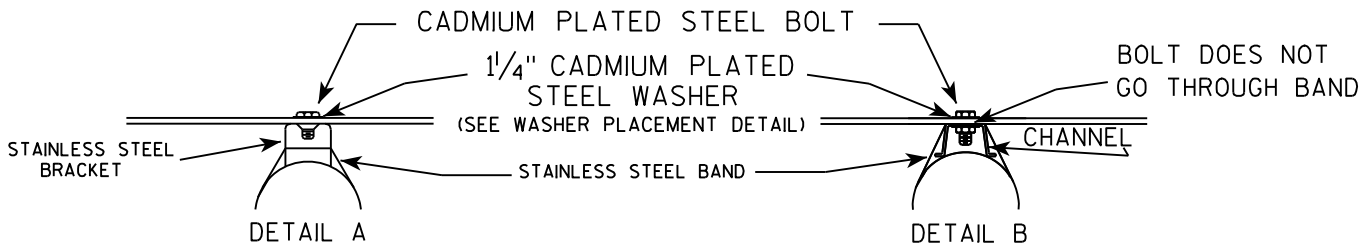
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



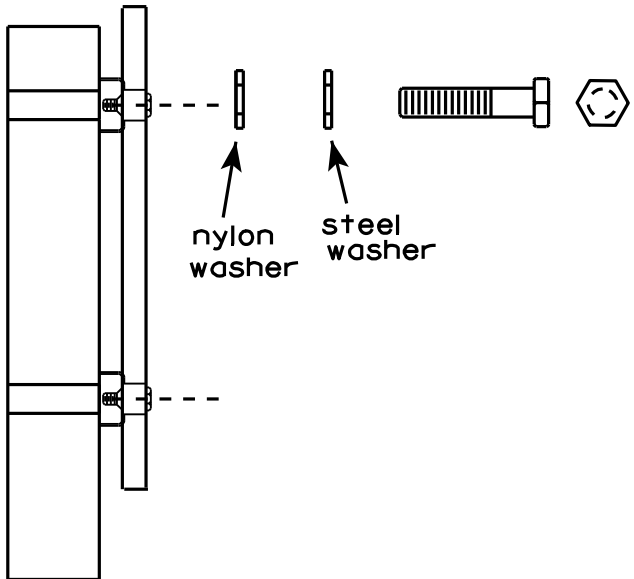
SEE DETAIL B



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 $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



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

STANDARD SIGN
SIGN BANDING DETAILS

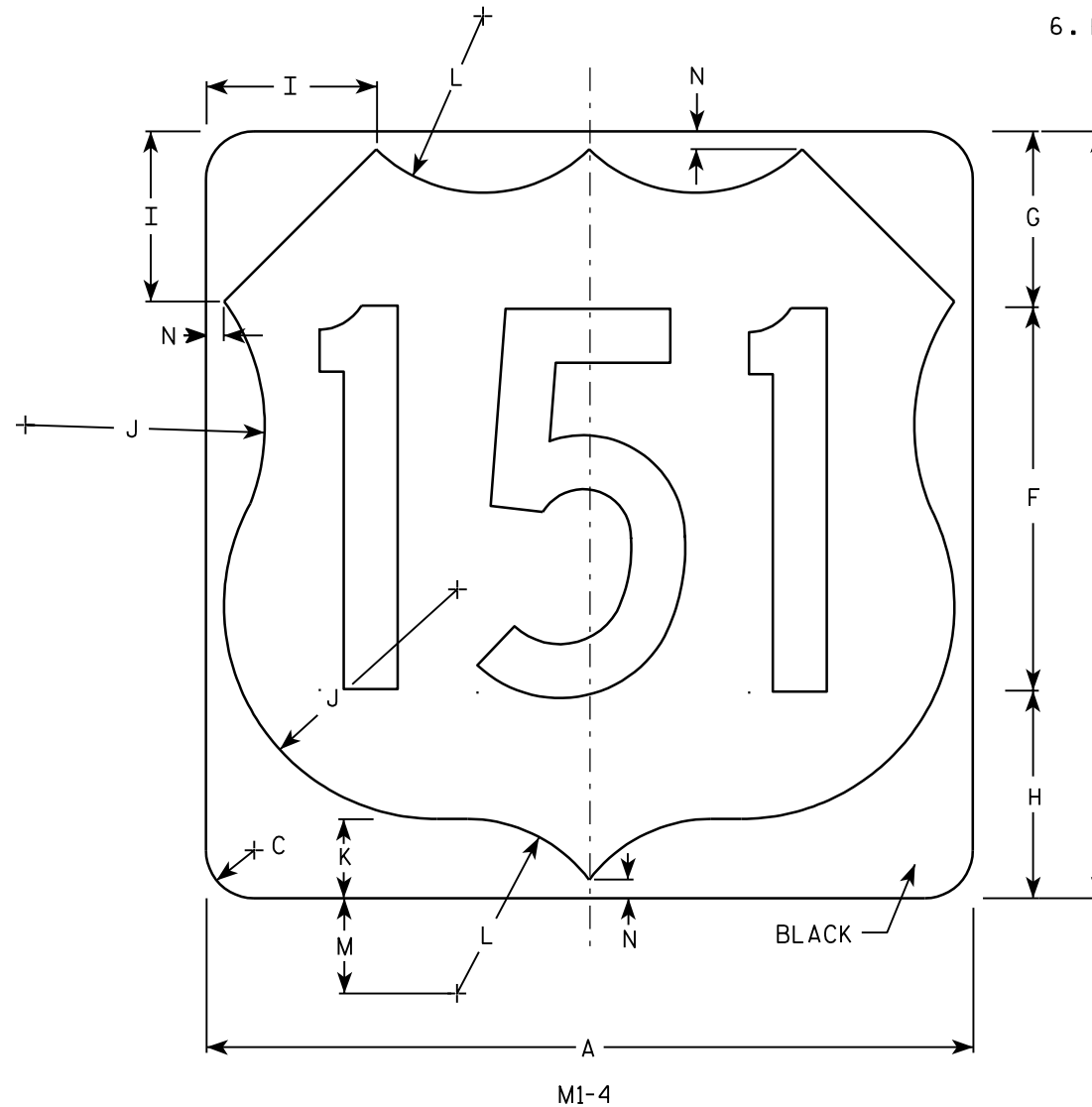
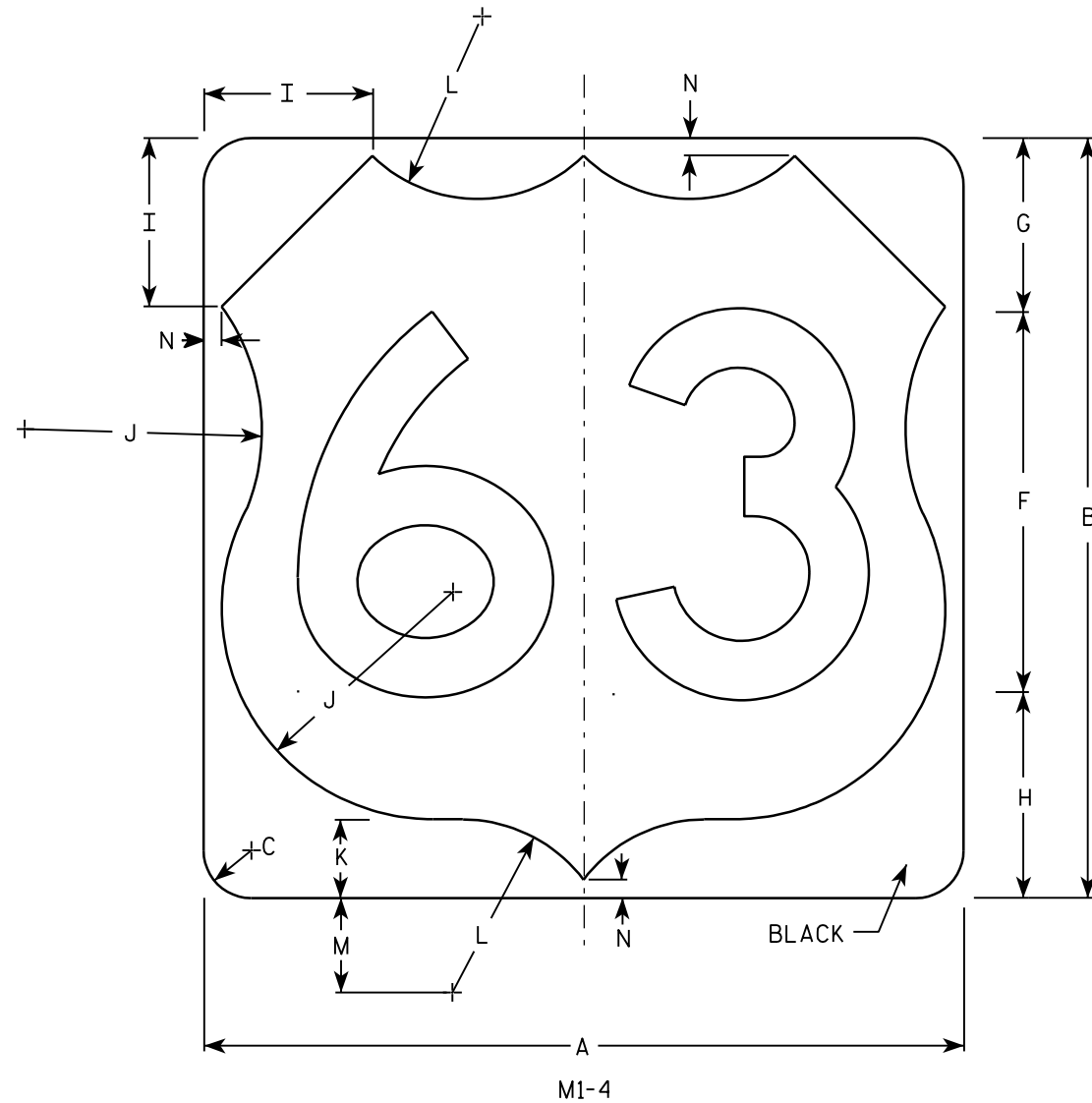
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/16/13 PLATE NO. A5-9.3

NOTES

1. Sign is Type II - See Note 6 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base
material is plywood but borders shall be rounded
as shown. When base material is metal, the
corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust
spacing as per Plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or other temporary signs
Background - Reflective



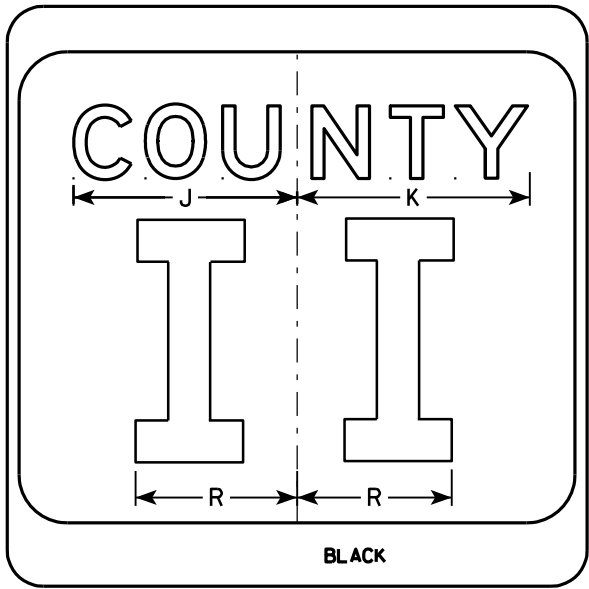
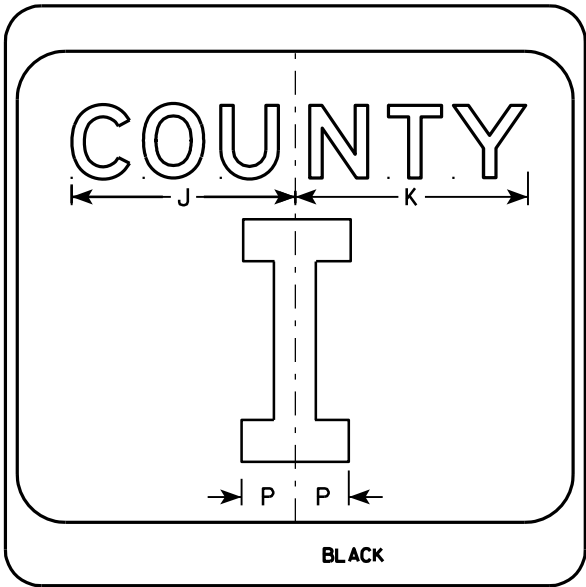
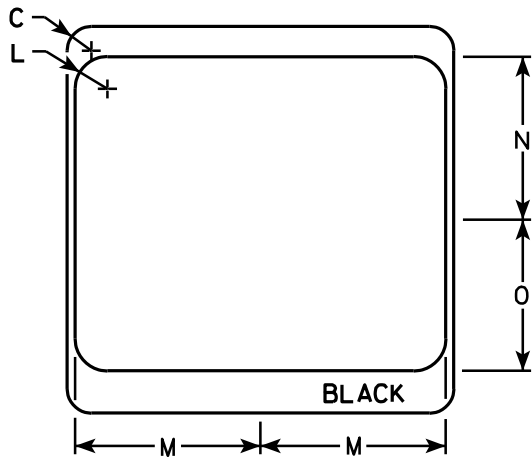
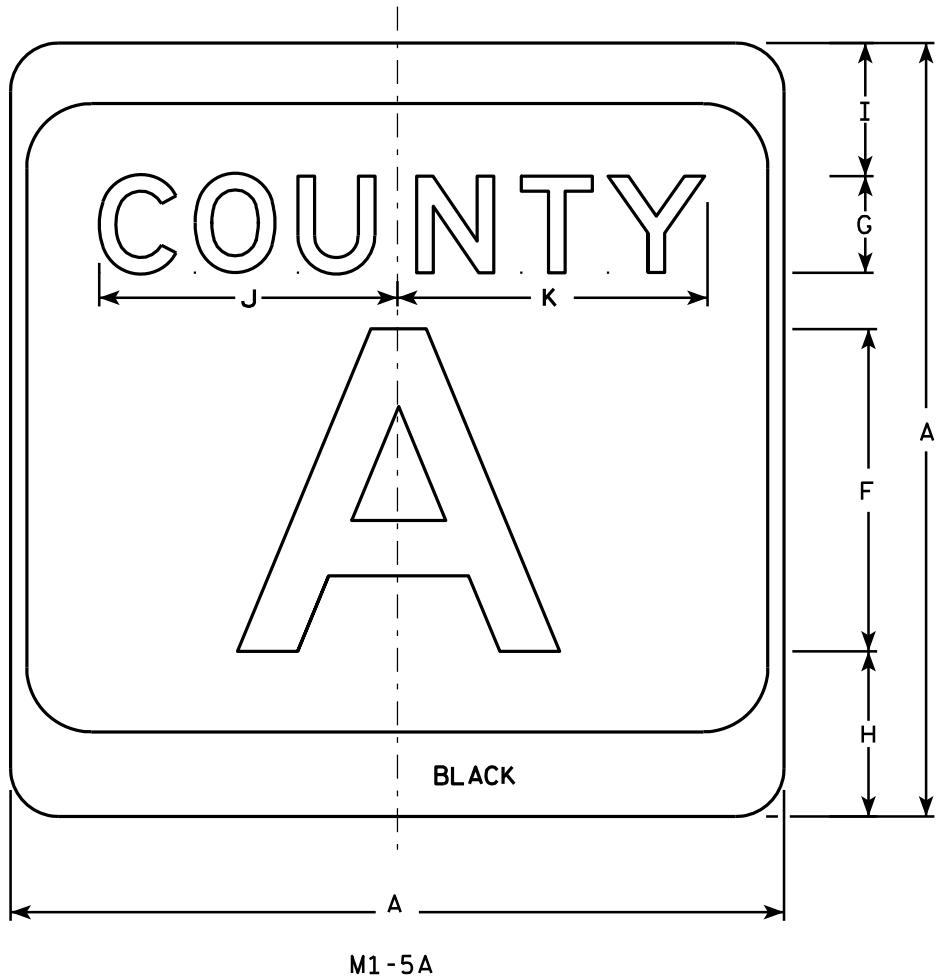
Metric equivalent
for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Areq sq. ft.	Areq m ²
1																												
2	24	24	1 1/2			12	5 1/2	6 1/2	5	7 1/2	2 1/2	5 1/2	3	1/2													4.0	.36
3	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
4	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81
5	36	36	2 1/4			18	8 1/4	9 1/4	7 1/4	11 1/4	3 3/4	8 1/4	4 1/2	3/4													9.0	.81

PROJECT NO: HWY: COUNTY: SHEET NO: E

7



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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

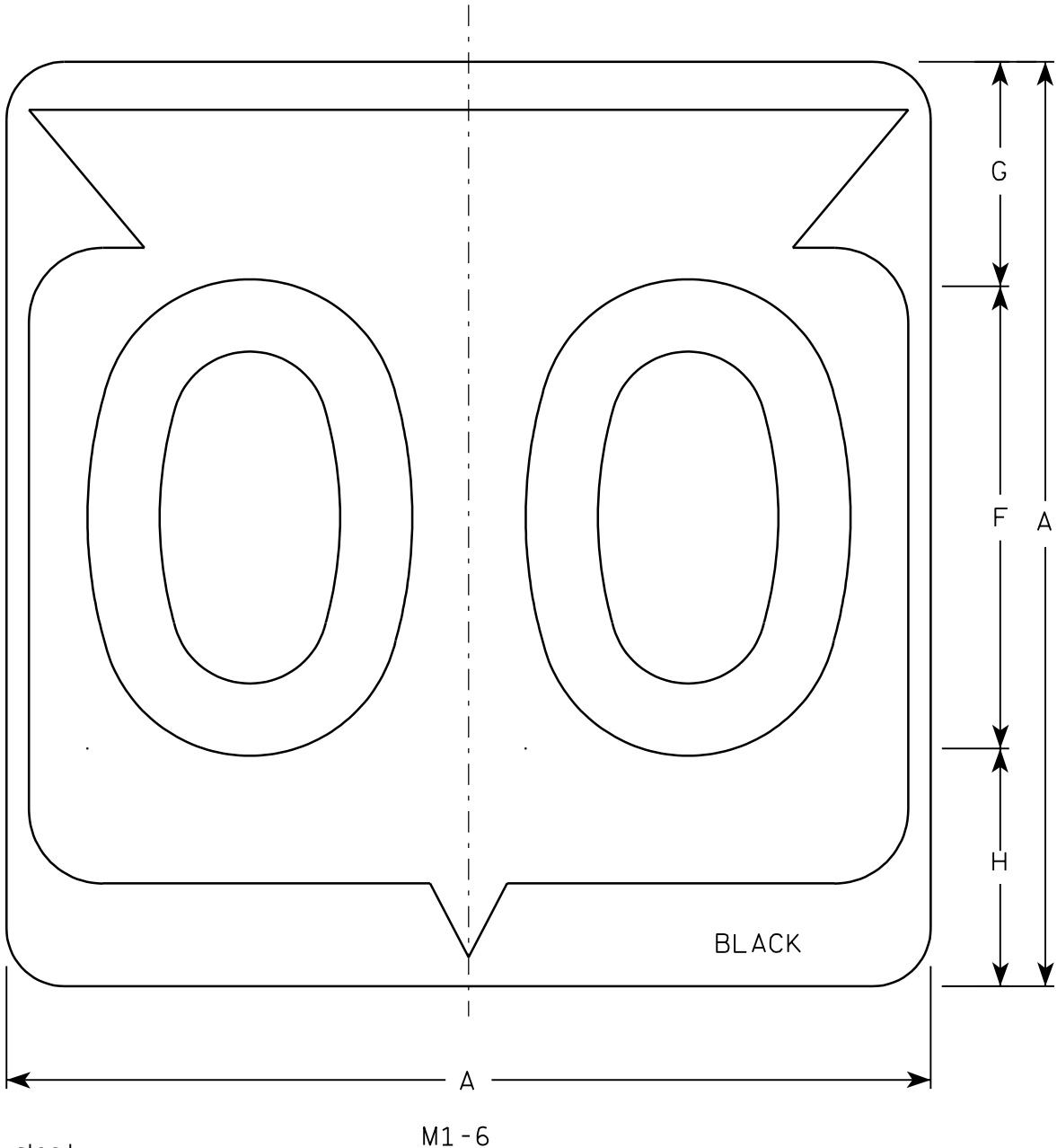
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

7



Metric equivalent
for this sign is:

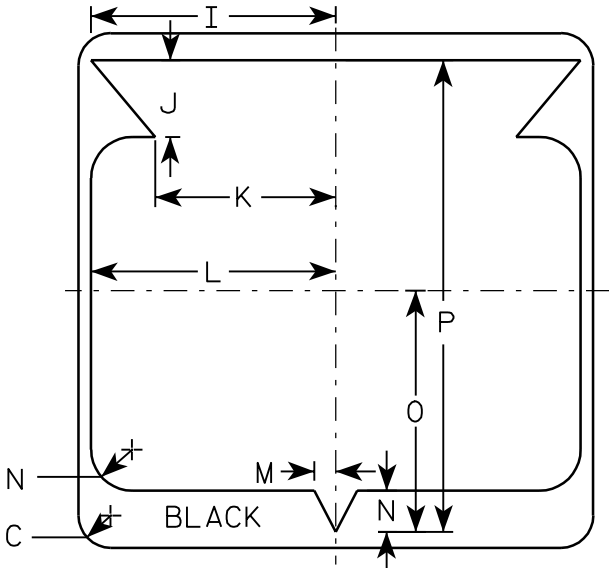
SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m ²
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

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

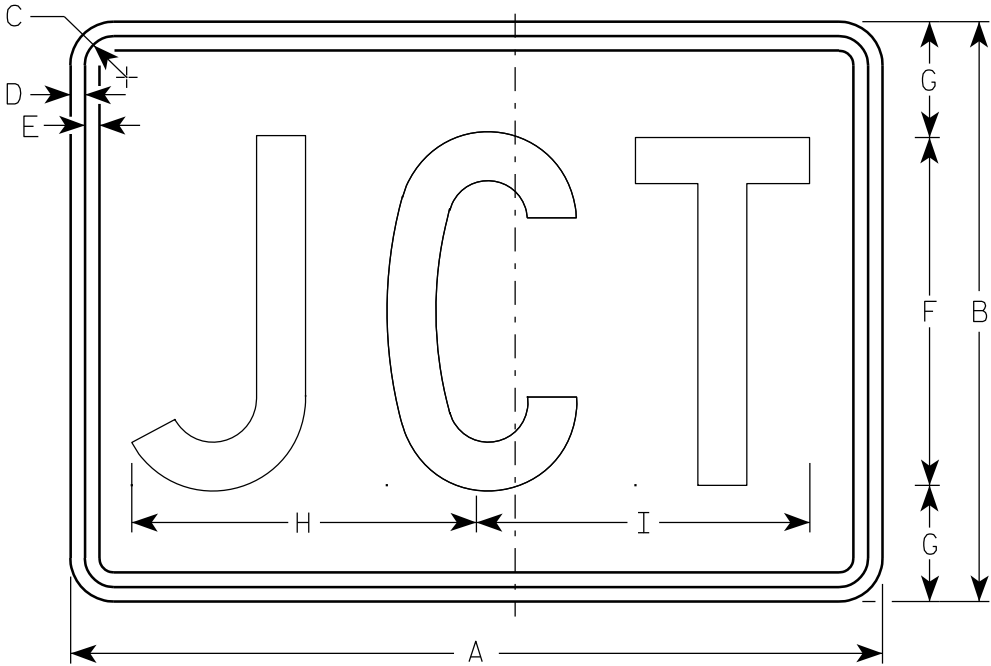
- Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - White & Black - See Note 6
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
- Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



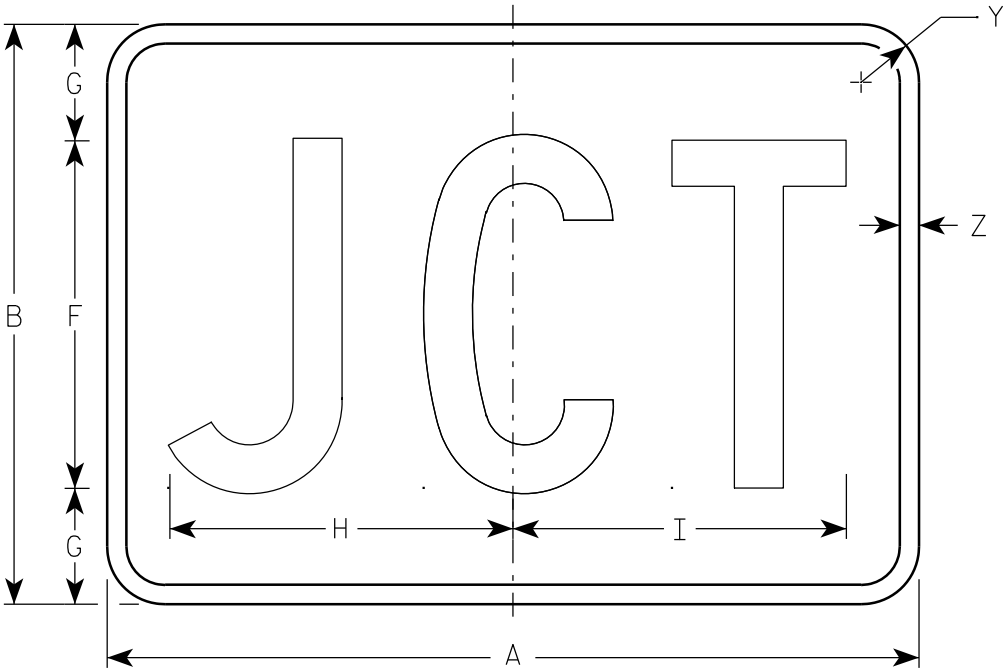
7

NOTES

1. Sign is Type II - See Note 5 - reference
WIS DOT Standard Specification for HIGHWAY
and STRUCTURE CONSTRUCTION latest edition.
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. M2-1 Background - White - Type H Reflective
(Detour or temporary Signs - Reflective)
Message - Black
MB2-1 Background - Blue
Message - White - Type H Reflective
(Detour or temporary Signs - Reflective)
MG2-1 Background - Green
Message - White - Type H Reflective
MK2-1 Background - Green
Message - White - Type H Reflective
MM2-1 Background - White - Type H Reflective
Message - Green
MN2-1 Background - Brown
Message - White - Type H Reflective
MR2-1 Background - Brown
Message - Yellow - Type H Reflective



M2-1
MK2-1
MM2-1
MR2-1



MB2-1
MG2-1
MN2-1

Metric equivalent
for this sign is:

SIZE	
1	
2	525 mm X 375 mm
3	750 mm X 525 mm
4	750 mm X 525 mm
5	750 mm X 525 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 m ²
1																												
2	21	15	1 1/8	3/8	3/8	9	3	8 7/8	8 5/8																1 1/2	1/2	2.20	0.20
3	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
4	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20
5	30	21	1 1/8	3/8	3/8	13	4	12 7/8	12 3/8																1 1/2	1/2	4.40	0.20

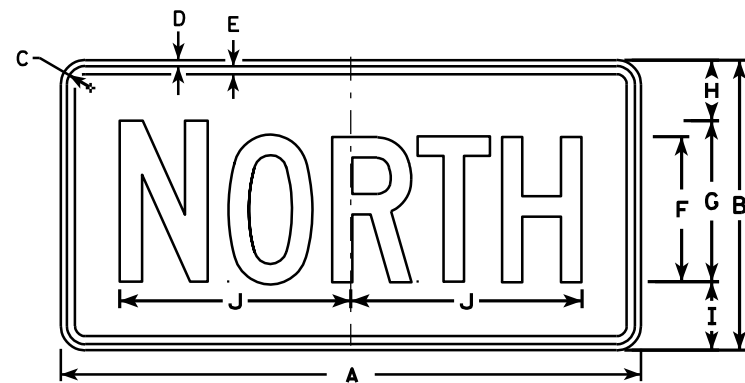
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/16/10 PLATE NO. M2-1.10

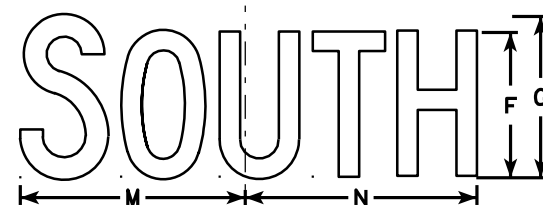
PROJECT NO: HWY: COUNTY: SHEET NO: E



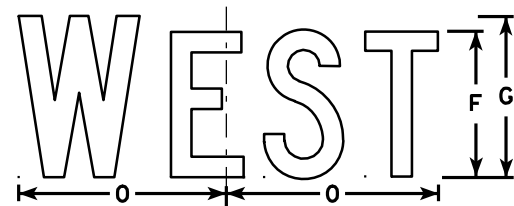
M3-1
MK3-1
M03-1



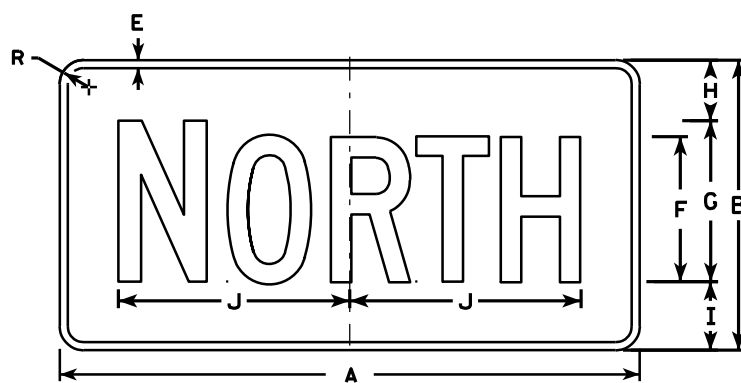
M3-2
MK3-2
M03-2



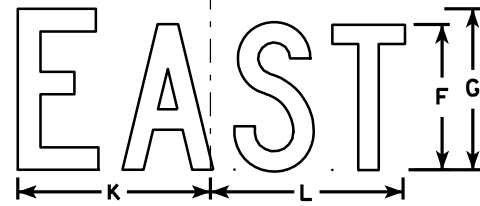
M3-3
MK3-3
M03-3



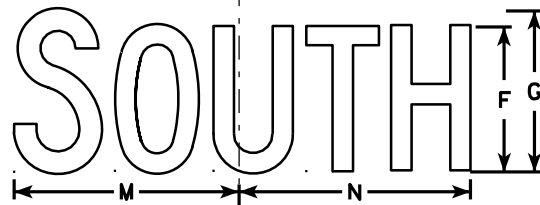
M3-4
MK3-4
M03-4



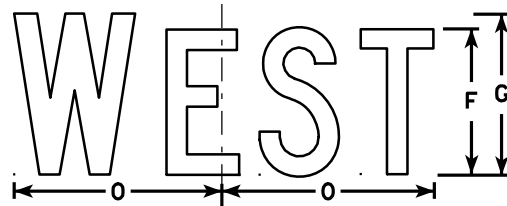
MB3-1
MG3-1
MM3-1
MN3-1



MB3-2
MG3-2
MM3-2
MN3-2



MB3-3
MG3-3
MM3-3
MN3-3



MB3-4
MG3-4
MM3-4
MN3-4

NOTES

1. All Signs Type II - See Note 5 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
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 - Type H Reflective (Detour or temporary signs - Reflective)
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White - Type H Reflective (Detour or temporary signs - Reflective)
MG3-1 thru MG3-4 Background - Green
Message - White - Type H Reflective
MK3-1 thru MK3-4 Background - Green
Message - White - Type H Reflective
MM3-1 thru MM3-4 Background - White - Type H Reflective
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White - Type H Reflective
M03-1 thru M03-4 Background - Orange - Reflective
Message - Black
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

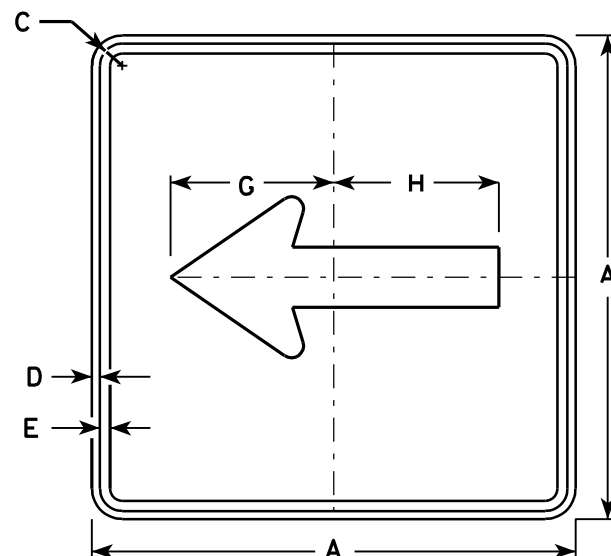
PROJECT NO: HWY: COUNTY: SHEET NO: E

STANDARD SIGNS
M3-1 thru M3-4
SERIES

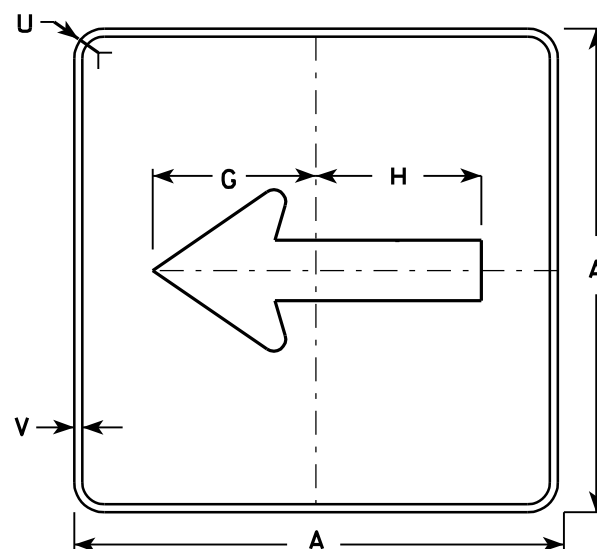
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

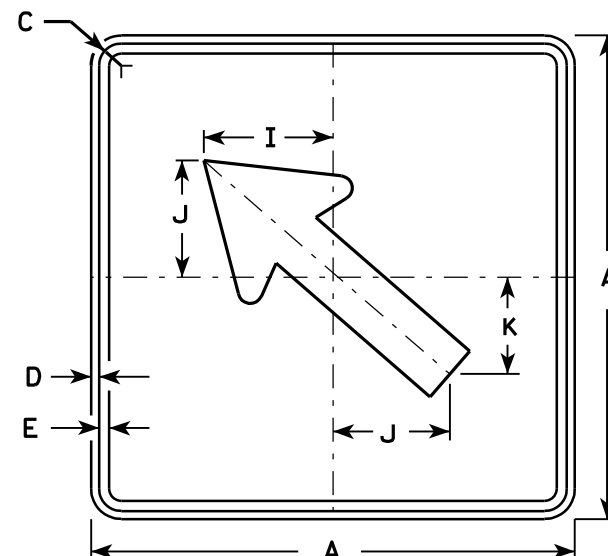
DATE 11/10/10 PLATE NO. M3-1.12



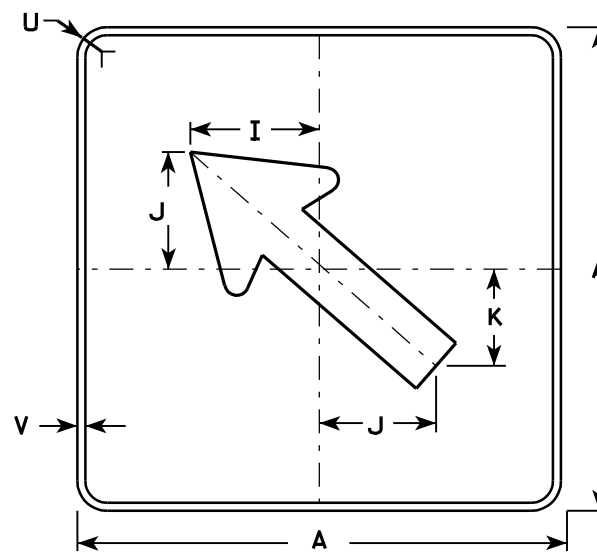
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



MB6-1
MG6-1
MN6-1



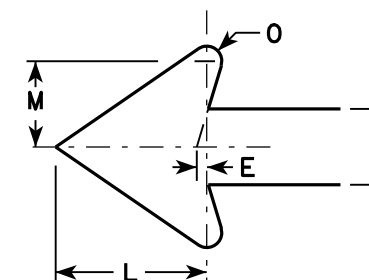
M6-2
MK6-2
MM6-2
MO6-2
MP6-2
MR6-2



MB6-2
MG6-2
MN6-2

NOTES

- Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
 - Background - See note 4
 - Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M6-1 and M6-2 Background - White - Type H Reflective
Message - Black
 MB6-1 and MB6-2 Background - Blue
Message - White - Type H Reflective
 MG6-1 and MG6-2 Background - Green
Message - White - Type H Reflective
 MK6-1 and MK6-2 Background - Green
Message - White - Type H Reflective
 MM6-1 and MM6-2 Background - White - Type H Reflective
Message - Green
 MN6-1 and MN6-2 Background - Brown
Message - White - Type H Reflective
 MO6-1 and MO6-2 Background - Orange - Type F Reflective
Message - Black
 MP6-1 and MP6-2 Background - White - Type H Reflective
Message - Blue
 MR6-1 and MR6-2 Background - Brown
Message - Yellow - Type H 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	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 7/29/13 PLATE NO. M6-1.13

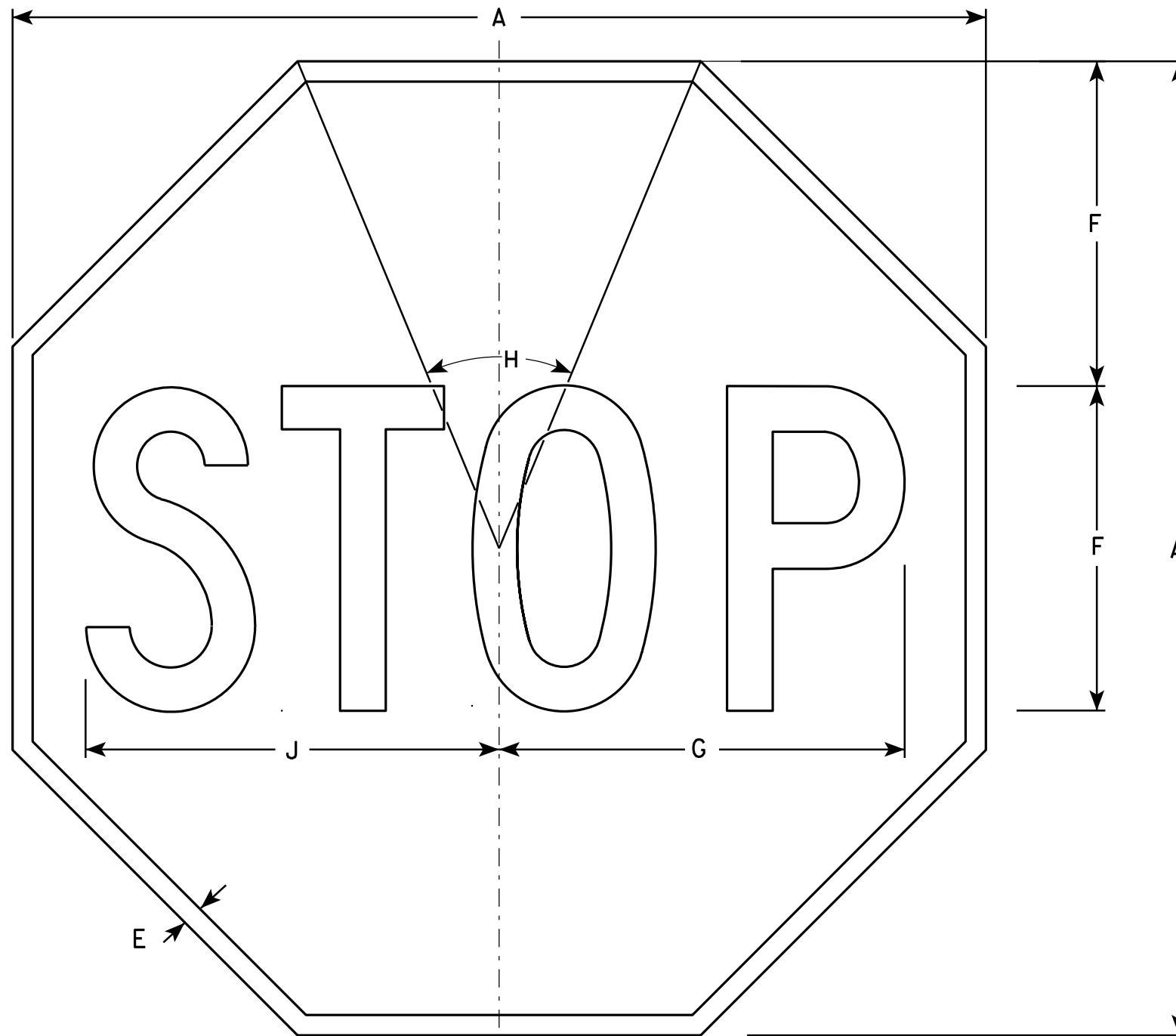
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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 - Red
 - Message - White
- 3. Message Series - C

R1-1

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
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

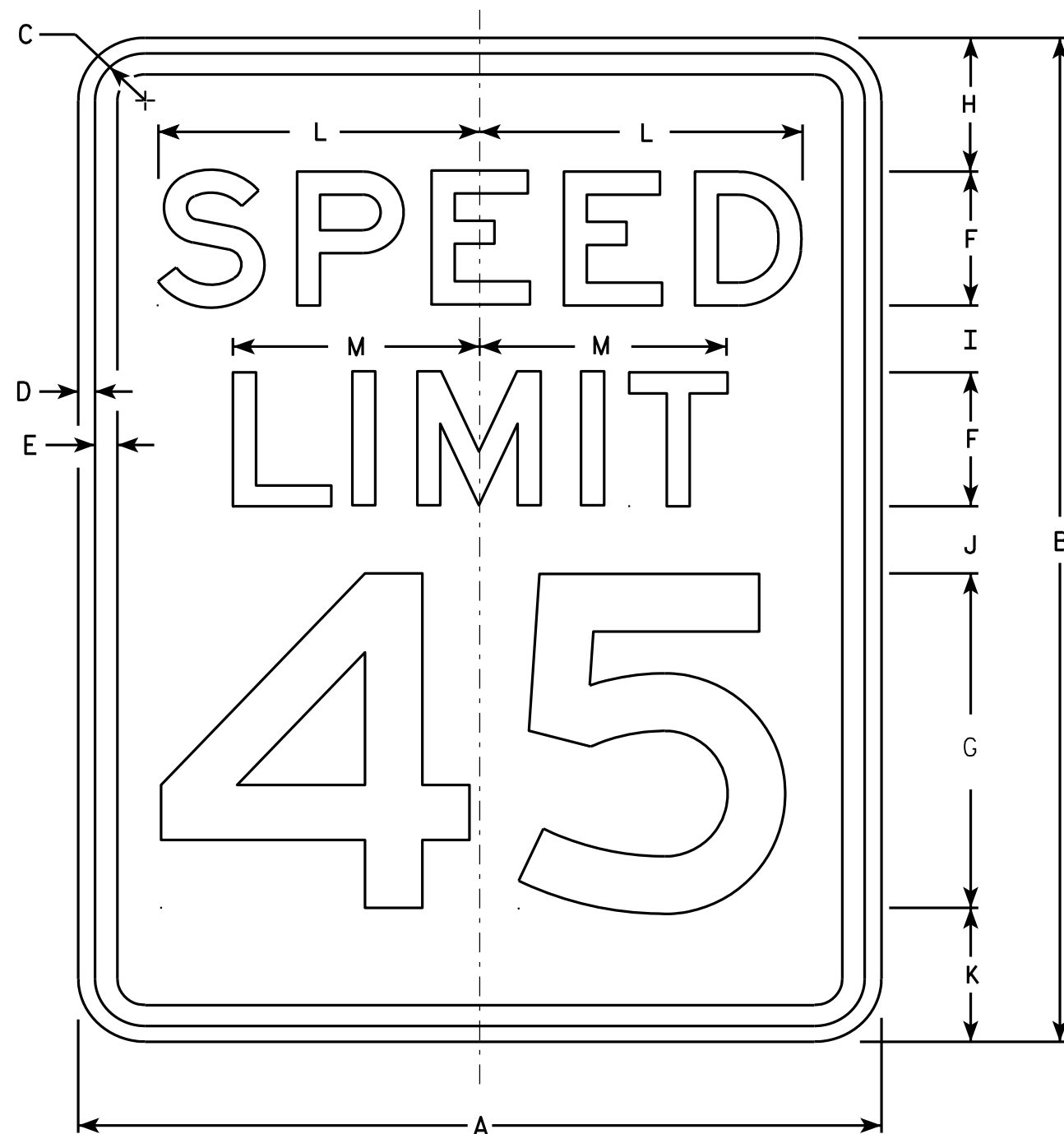
STANDARD SIGN
R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R2-1

NOTES

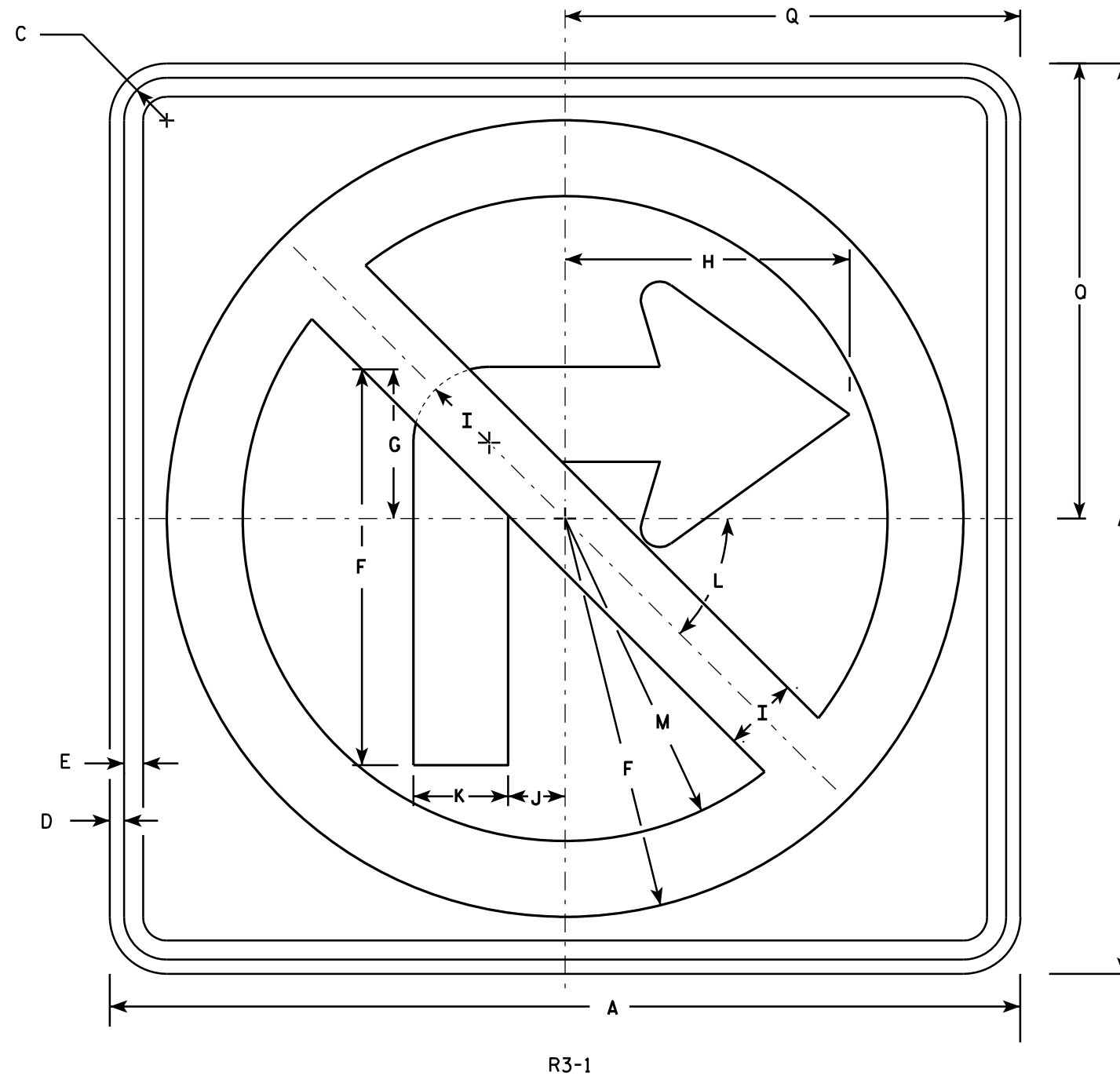
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

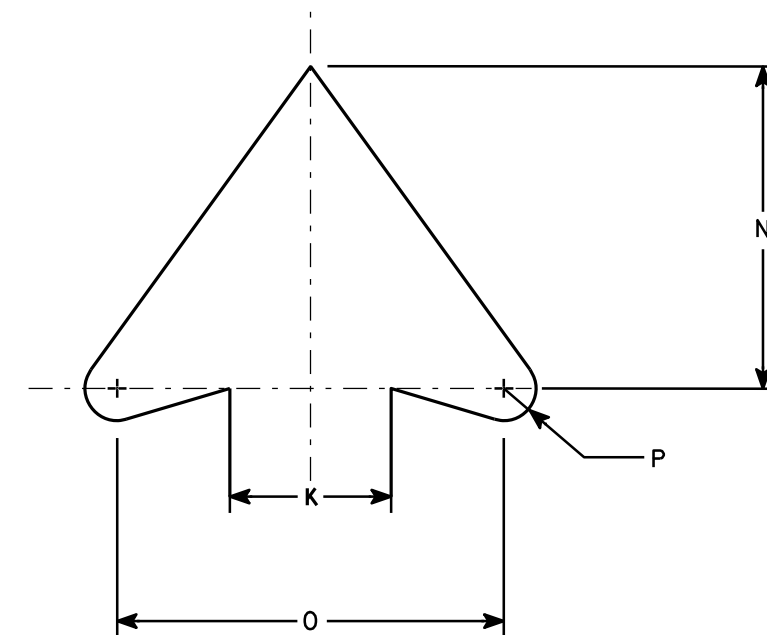
WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: 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 - 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	12										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	12										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	18										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	18										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	18										9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1	24										16.0

STANDARD SIGN

R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

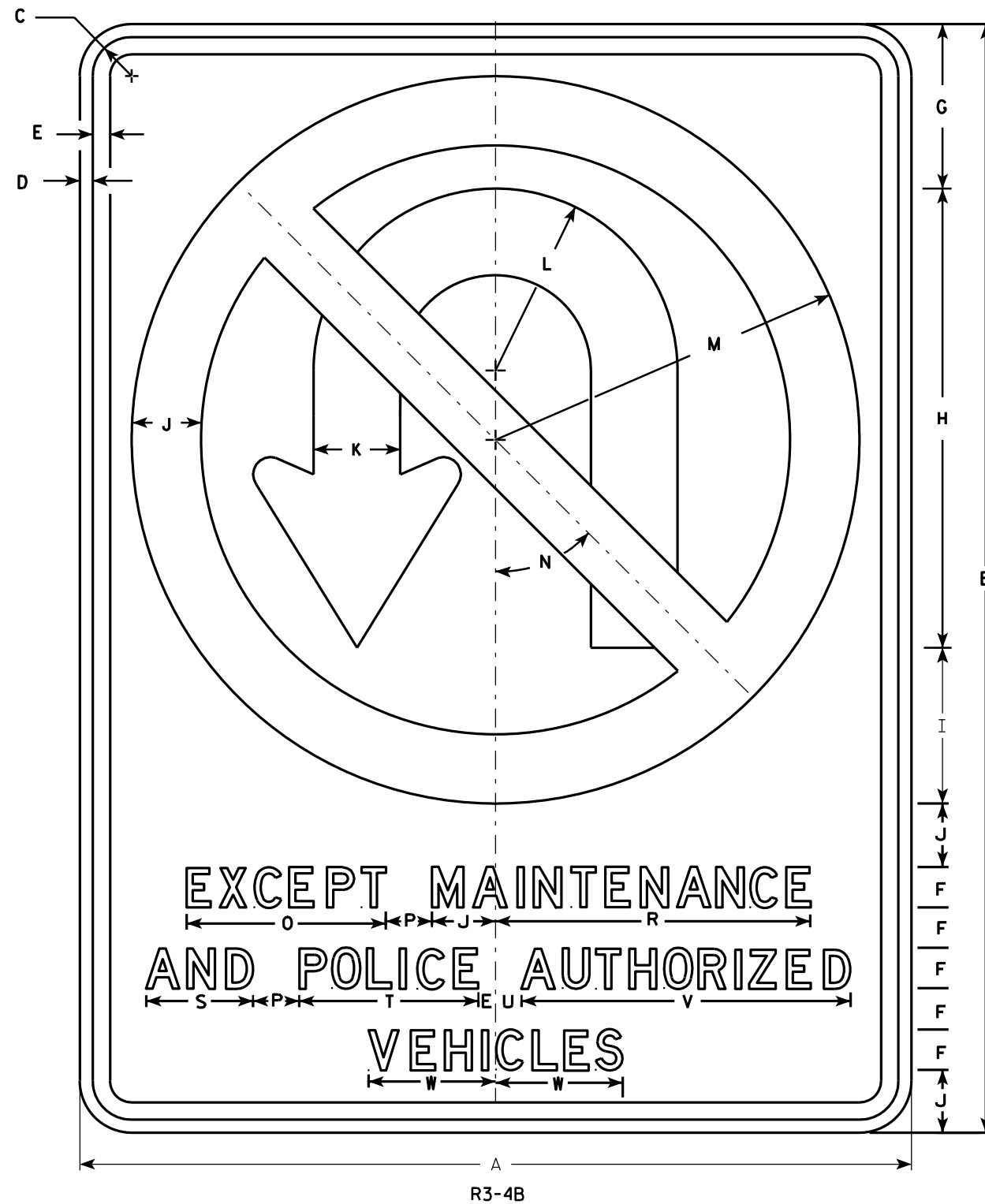
PROJECT NO:

HWY:

COUNTY:

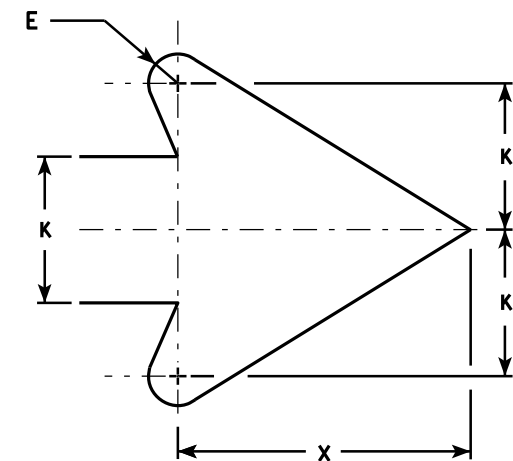
SHEET NO:

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 - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S																											
2M																											
3																											
4	36	48	1 5⁄8	5⁄8	3⁄4	1 3⁄4	7 1⁄8	19 7⁄8	6 3⁄4	2 3⁄4	3 3⁄4	7 7⁄8	15 3⁄4	45°	8 5⁄8	2		13 5⁄8	4 5⁄8	7 3⁄4	1 1⁄8	14 1⁄4	5 1⁄2	7 5⁄8			12.0
5	36	48	1 5⁄8	5⁄8	3⁄4	1 3⁄4	7 1⁄8	19 7⁄8	6 3⁄4	2 3⁄4	3 3⁄4	7 7⁄8	15 3⁄4	45°	8 5⁄8	2		13 5⁄8	4 5⁄8	7 3⁄4	1 1⁄8	14 1⁄4	5 1⁄2	7 5⁄8			12.0

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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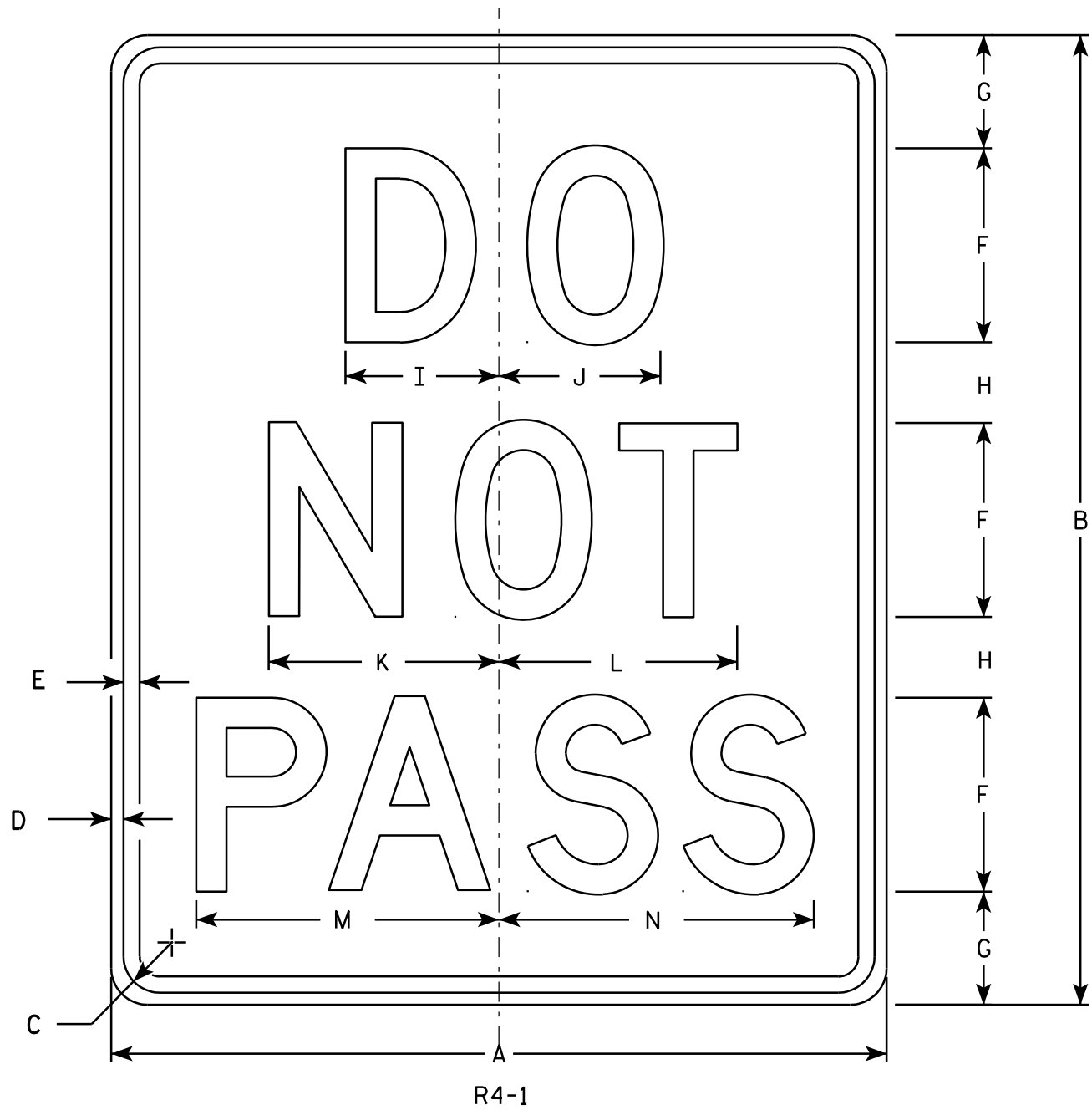
STANDARD SIGN R3-4B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/17/2011 PLATE NO. R3-4B.2

7



NOTES

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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	4	3 1/2	2 1/2	3 1/8	3 1/4	4 3/4	4 7/8	6 1/4	6 1/2													3.0
2S	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
2M	24	30	1 1/8	3/8	1/2	6	3 1/2	2 1/2	4 3/4	5	7 1/8	7 3/8	9 3/8	9 3/4													5.0
3																											
4	36	48	1 5/8	5/8	3/4	8	7	5	6 1/4	6 5/8	9 1/2	9 3/4	12 1/2	13													12.0
5	48	60	2 1/4	3/4	1	10	8	7	7 3/4	8 3/8	11 7/8	12 1/4	15 5/8	16 1/4													20.0

STANDARD SIGN
R4 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-1.7

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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R4-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
2M	24	30	1 1/8	3/8	1/2	4	3 5/8	2 1/4	9 3/4	10	6 1/4	6 3/4	7 1/8	7 5/8													5.0
3	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
4	36	48	1 5/8	5/8	3/4	6	6	4	14 5/8	15	9 3/8	10	10 3/4	11 3/8													12.0
5	48	60	2 1/4	3/4	1	8	7 1/4	4 1/2	19 1/2	20	12 1/2	13 1/2	14 1/4	15 1/4													20.0

STANDARD SIGN

R4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-3.8

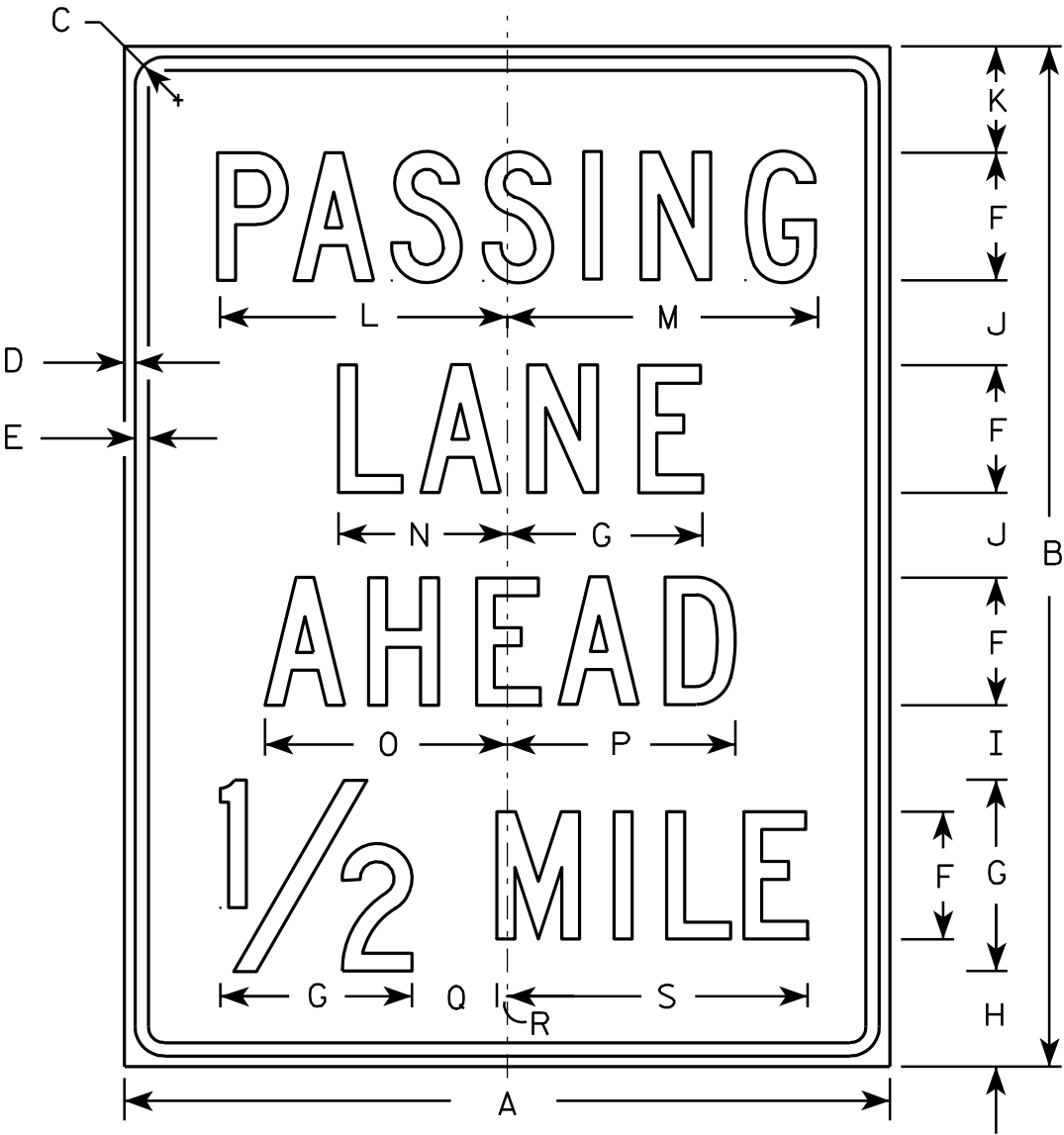
PROJECT NO:

SHEET NO:

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 - 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.



R4-51

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36	48	1 ³ / ₈	1/2	⁵ / ₈	6	9	4 1/2	3 1/2	4	5	13 ⁵ / ₈	14 1/2	8	11 ³ / ₈	10 ³ / ₄	4	1/2	14 1/8								12.0
2M	36	48	1 ³ / ₈	1/2	⁵ / ₈	6	9	4 1/2	3 1/2	4	5	13 ⁵ / ₈	14 1/2	8	11 ³ / ₈	10 ³ / ₄	4	1/2	14 1/8								12.0
3																											
4																											
5																											

STANDARD SIGN
R4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R4-51.4

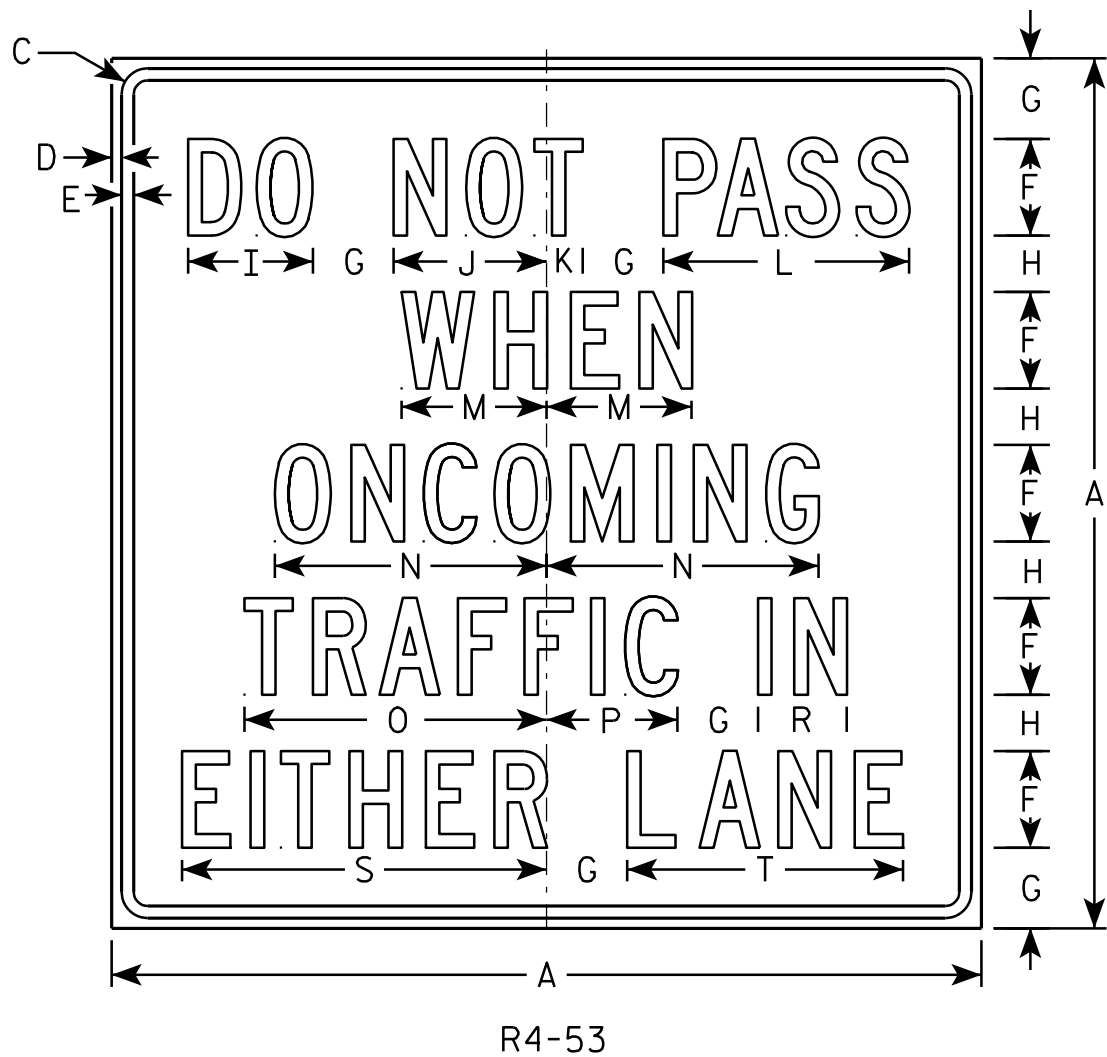
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

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 - 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.

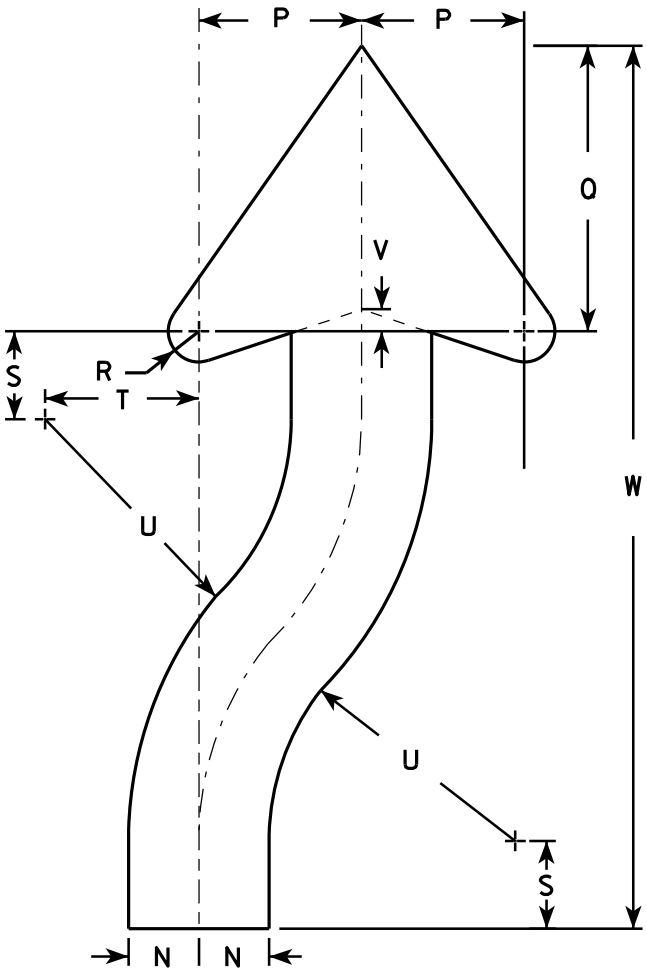
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	54		1 5/8	5/8	3/4	6	5	3 1/2	7 3/4	9 1/2	2 1/4	15 1/4	9	16 7/8	18 3/4	8 1/8		5 1/2	22 5/8	17 1/8						20.25	
2M	54		1 5/8	5/8	3/4	6	5	3 1/2	7 3/4	9 1/2	2 1/4	15 1/4	9	16 7/8	18 3/4	8 1/8		5 1/2	22 5/8	17 1/8						20.25	
3																											
4																											
5																											

STANDARD SIGN R4-53	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 6/2/10	PLATE NO. R4-53.1

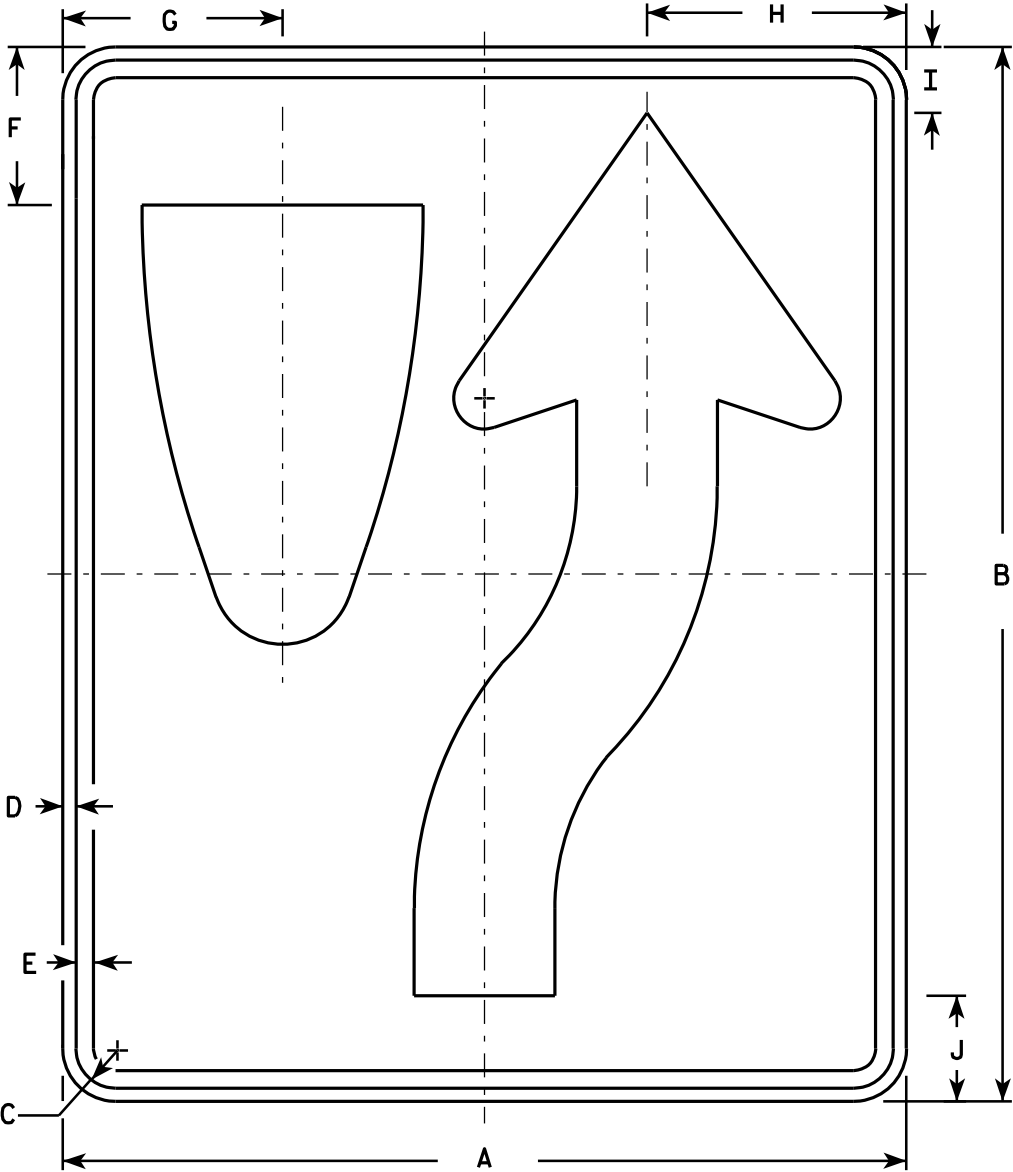
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
- 2. Color:
Background - White
Message - Black
- 3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
- 4. R4-8 is the same as R4-7 except Legend is reversed.



ARROW DETAIL



R4-7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN

R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

PROJECT NO:

HWY:

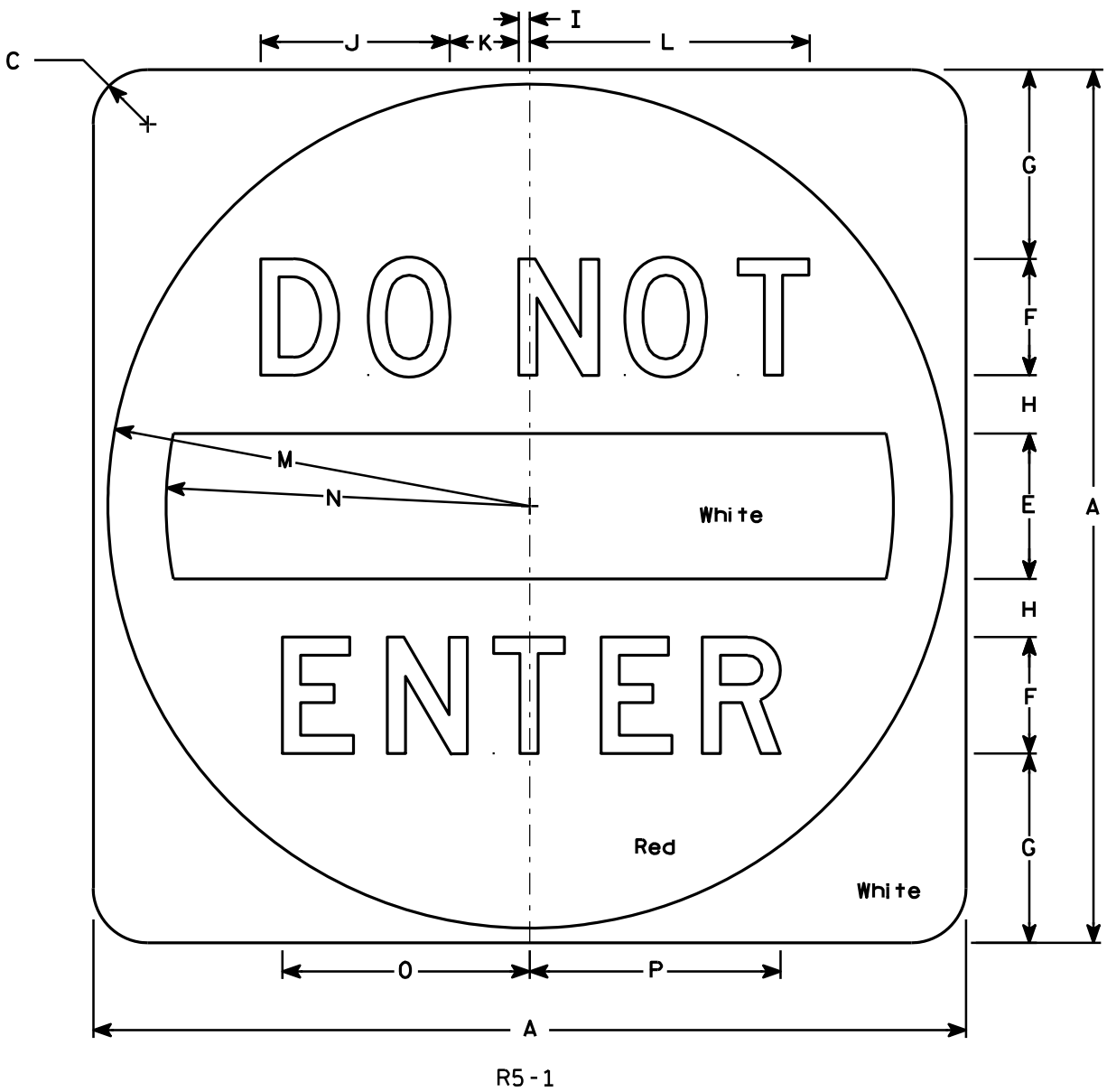
COUNTY:

SHEET NO:

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 - See detail
 - Message - White - Type H Reflective
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but when base material is metal, the corners 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		1 7⁄8		5	4	6 1⁄2	2	3⁄8	6 1⁄2	2 3⁄8	9 5⁄8	14 1⁄2	12 1⁄2	8 1⁄2	8 5⁄8											6.26
2M	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
3	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
4	36		2 1⁄4		6	5	7 1⁄2	2 1⁄2	1⁄2	8 1⁄8	3	12 1⁄8	17 1⁄2	15	10 5⁄8	10 3⁄4											9.0
5	48		3		8	6	11	3	5⁄8	9 3⁄4	3 5⁄8	14 1⁄2	23 1⁄2	20	12 3⁄4	12 7⁄8											16.0

STANDARD SIGN

R5 - 1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1.15

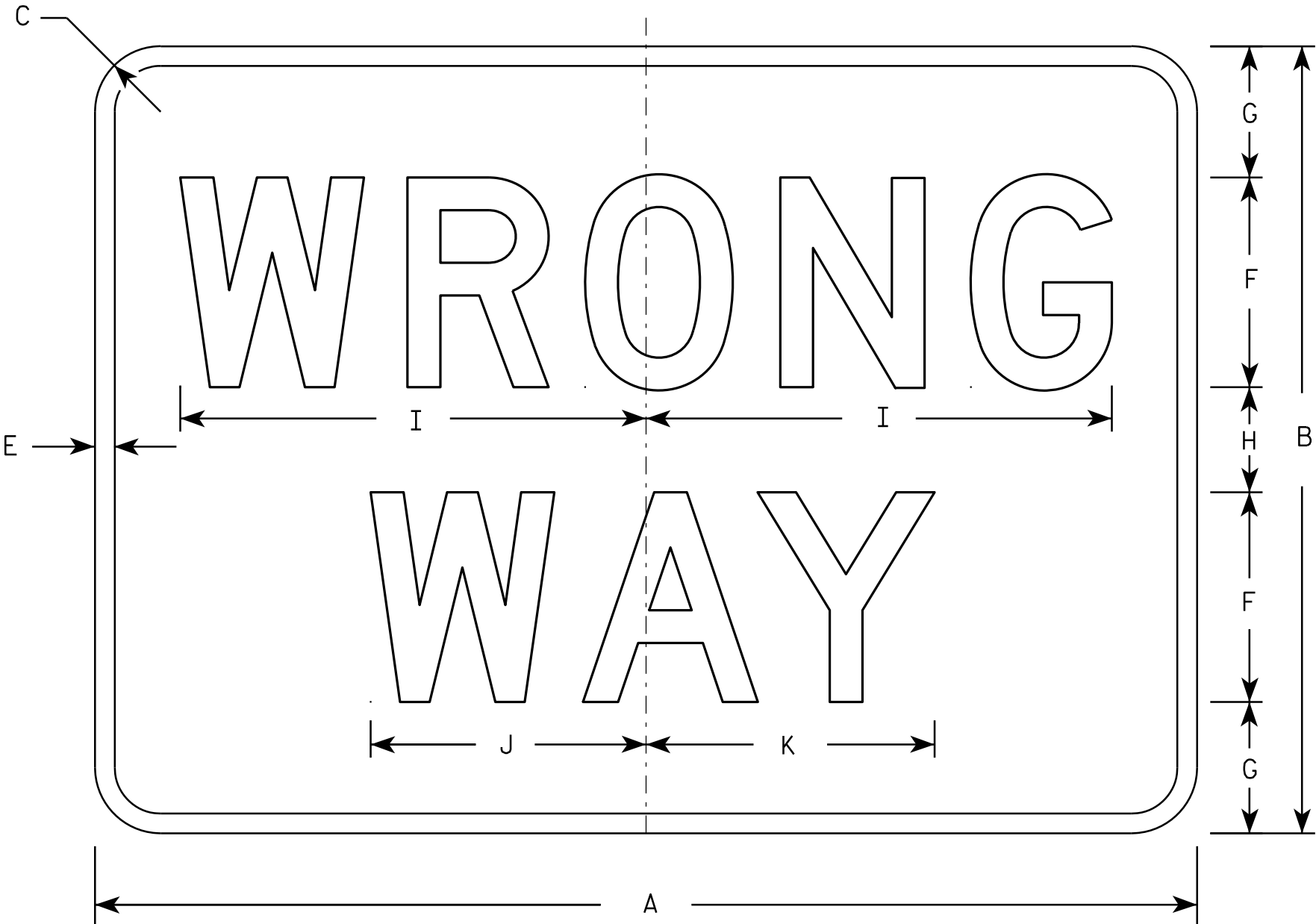
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R5-1A

NOTES

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

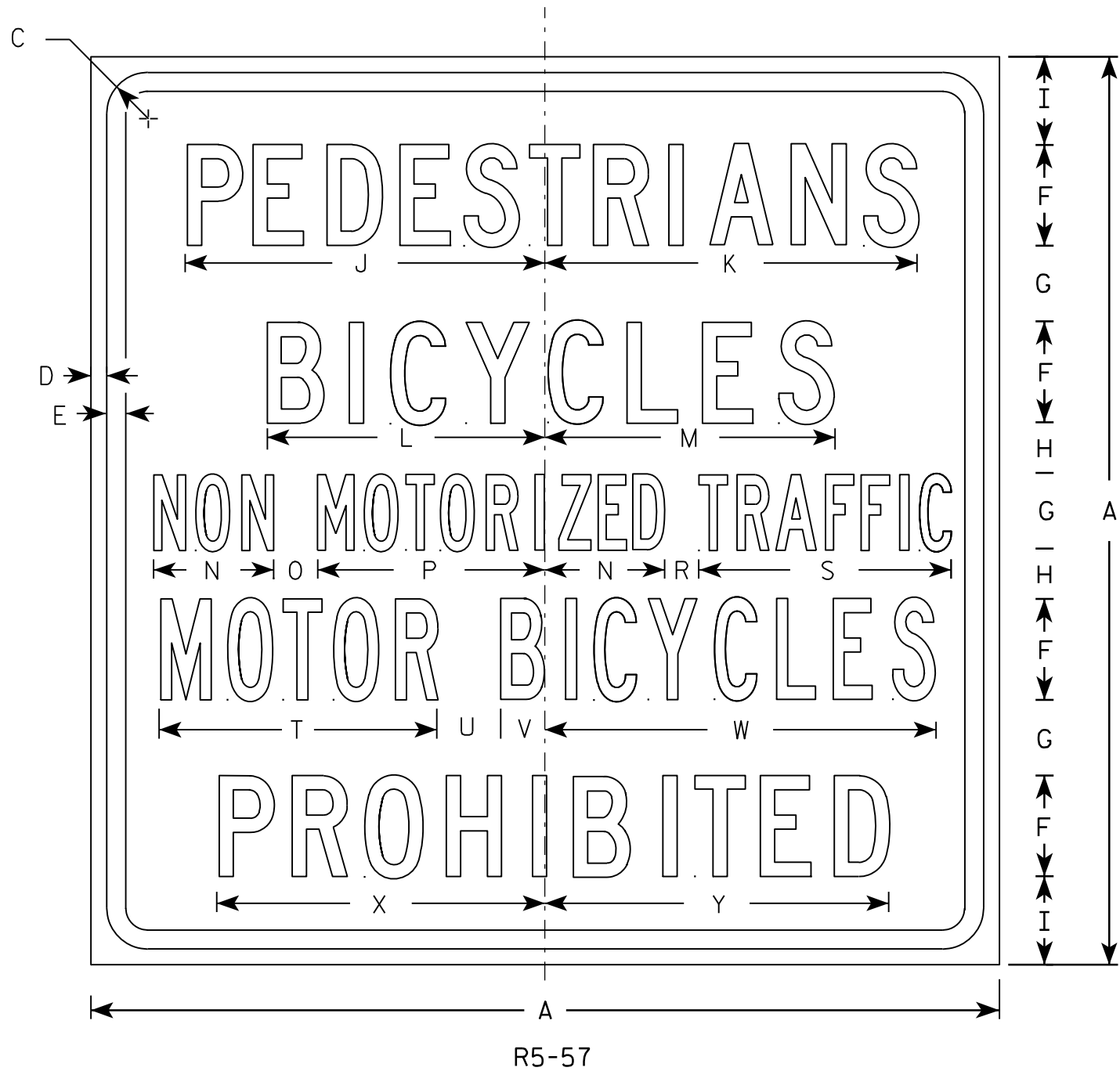
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	18	1 1/2		1/2	5	3	2	11	6 1/2	6 7/8																3.75
2S	36	24	2		5/8	6	4 1/2	3	13 1/4	7 7/8	8 1/4																6.00
2M	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
3	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
4	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75
5	42	30	2 1/2		3/4	8	5	4	17 3/4	10 1/2	11																8.75

STANDARD SIGN
R5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/17/10 PLATE NO. R5-1A.2



NOTES

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

7

7

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

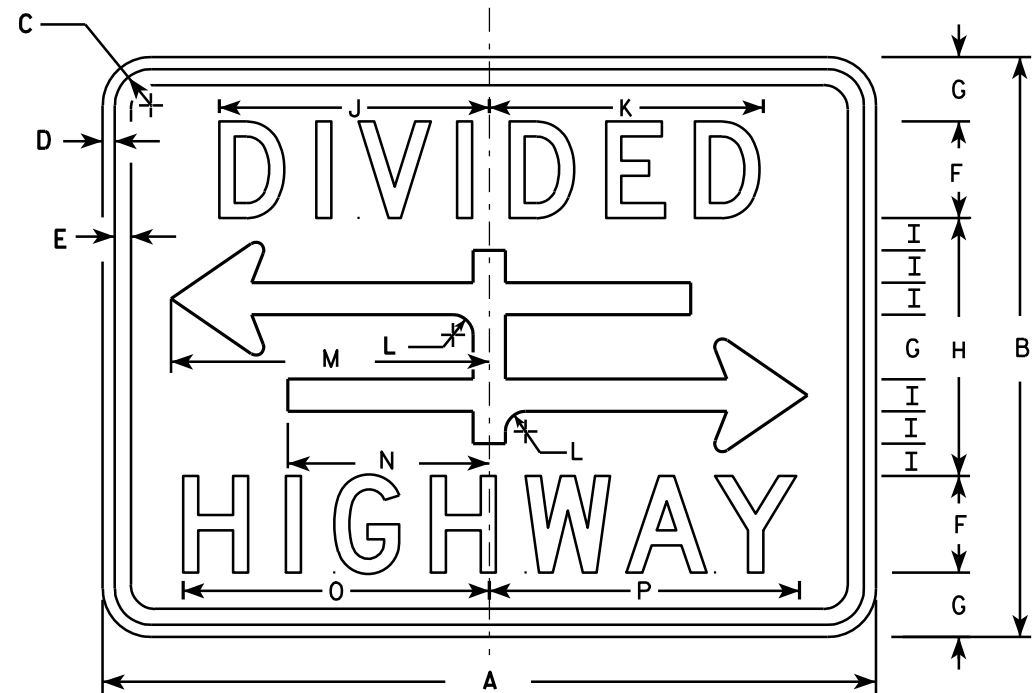
STANDARD SIGN
R5-57

WISCONSIN DEPT OF TRANSPORTATION

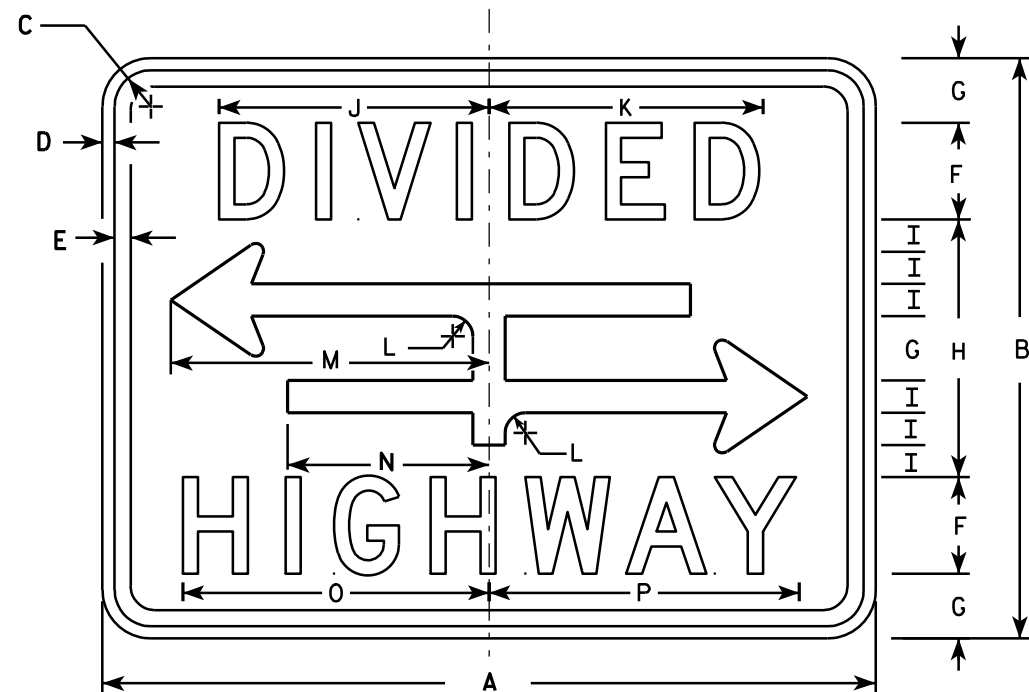
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/29/2011 PLATE NO. R5-57.10

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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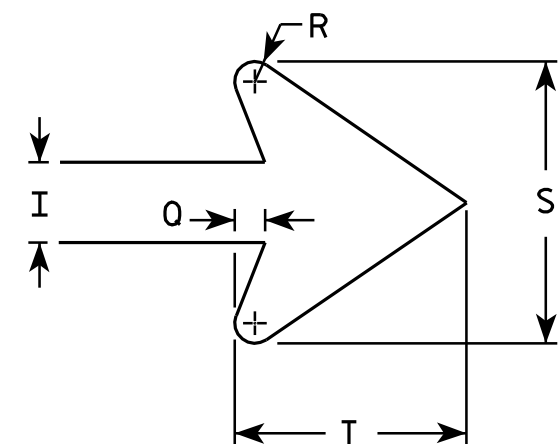
R6-3



R6-3A

NOTES

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



ARROW DETAIL

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

STANDARD SIGN R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

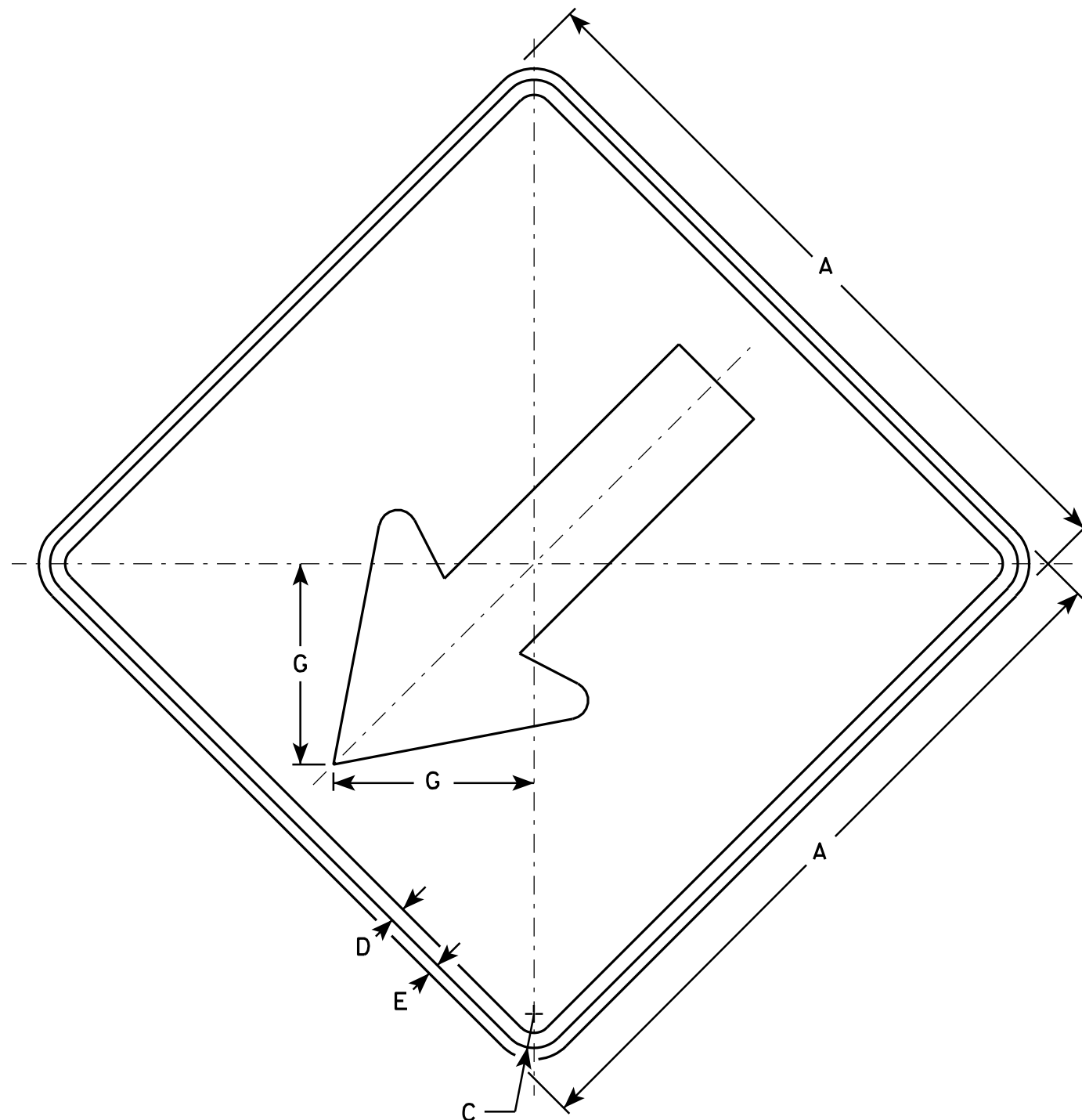
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO:

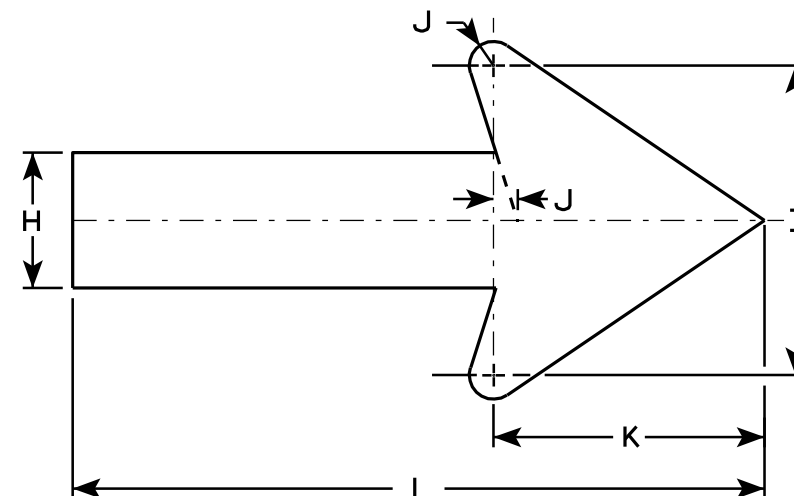
E



W12-1

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
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

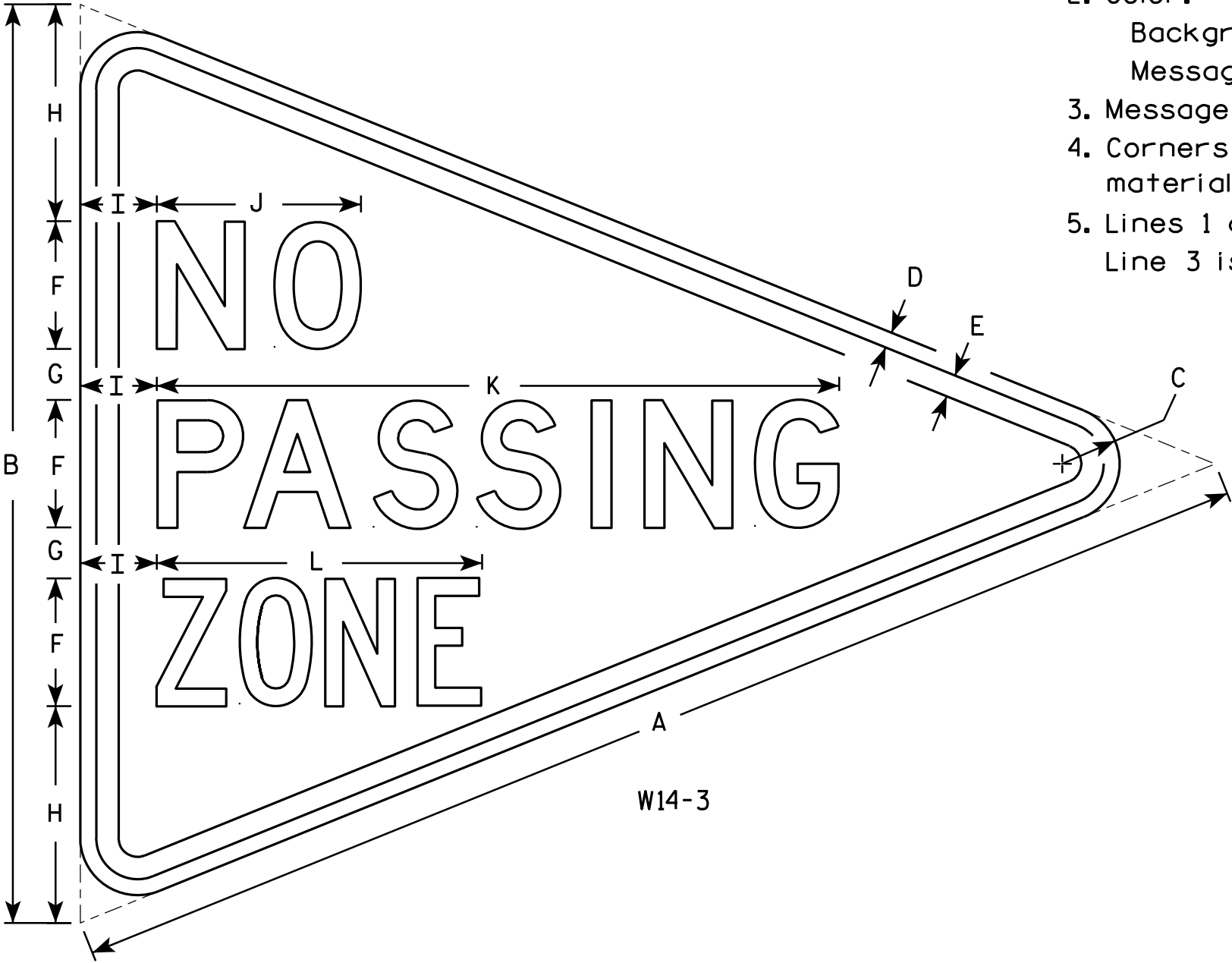
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		6 5/8	3 1/2	8	5/8	7	18															4
2M	24		1 1/8	1/2	3/8		6 5/8	3 1/2	8	5/8	7	18															4
3	30		1 3/8	5/8	1/2		8 1/4	4 3/8	10	3/4	8 3/4	22 3/8															6.25
4	36		1 3/4	3/4	5/8		10 3/8	5 1/2	12 1/2	1	11	27 7/8															9.0
5	48		2 1/4	3/4	1		12 1/2	6 5/8	15	1 1/4	13 1/4	33 1/2															16

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN	
W12-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/13/13	PLATE NO. W12-1.12

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 - See note 5
- 4. Corners and borders shall be rounded on all base materials for this sign.
- 5. Lines 1 and 2 are Series D.
Line 3 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																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

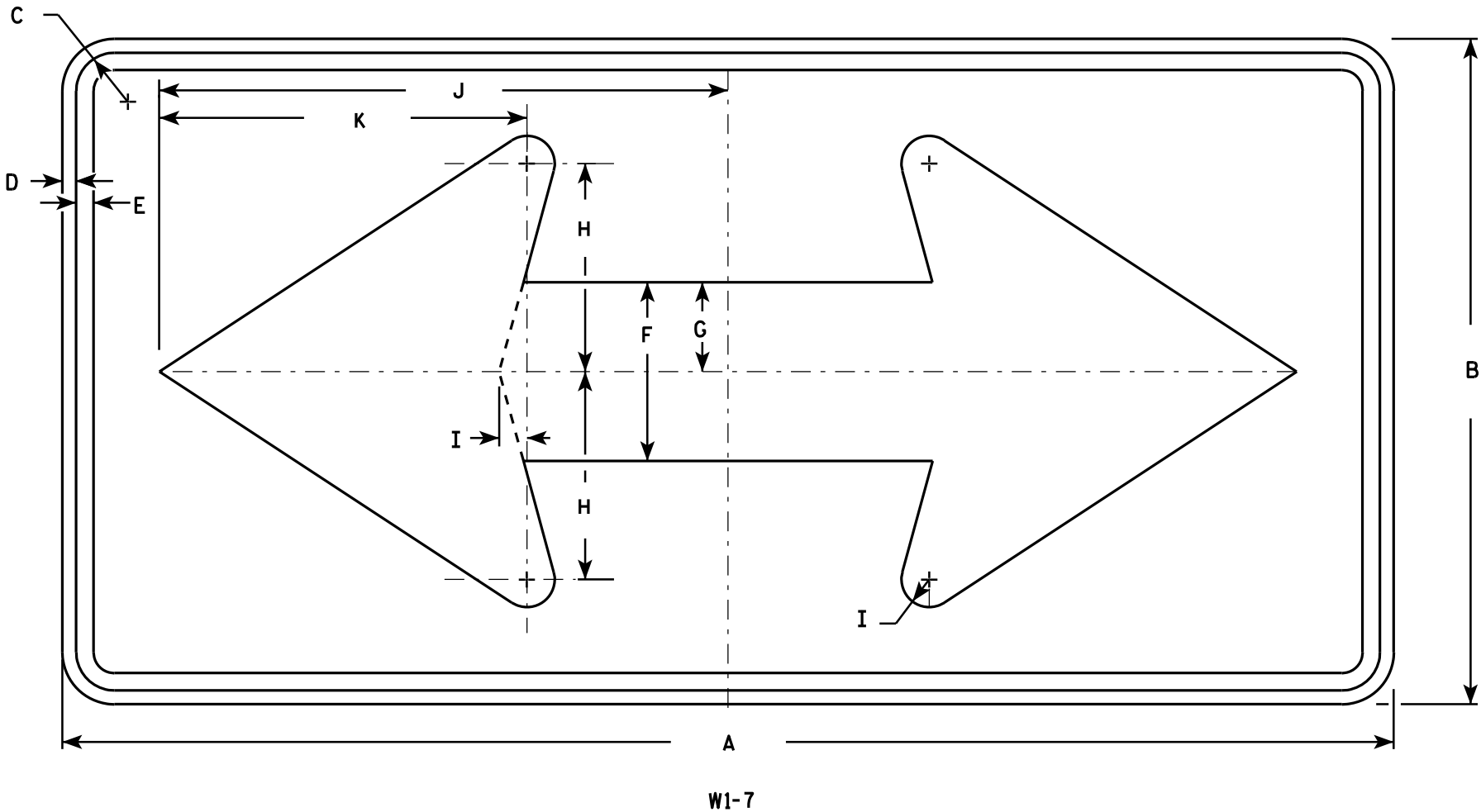
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

STANDARD SIGN
W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

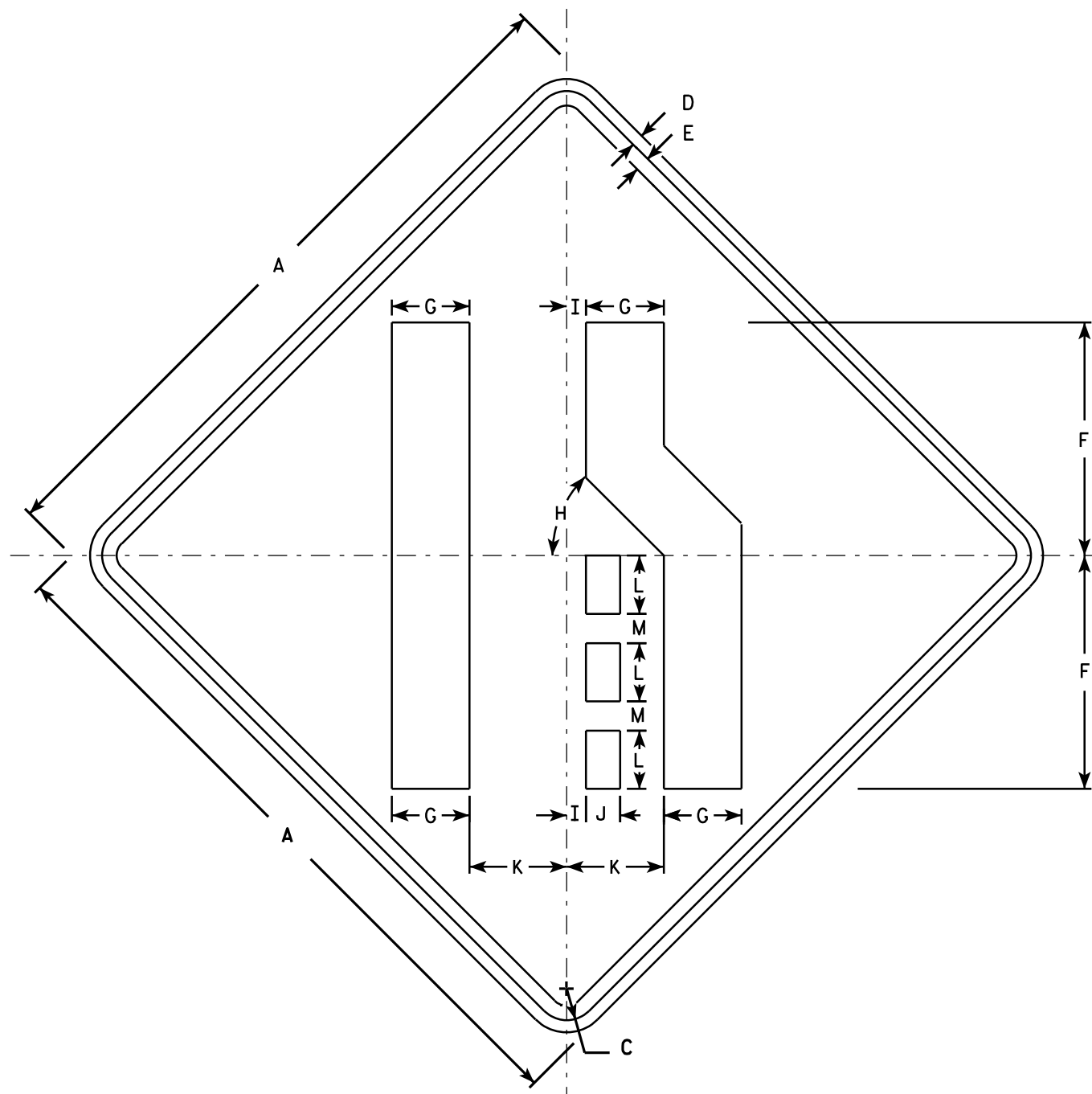
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



W4-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Yellow
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-2L is the same as W4-2R except the symbols is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3⁄8	1⁄2	5⁄8	10	3 3⁄8	45°	7⁄8	1 1⁄2	4 1⁄4	2 1⁄2	1 1⁄4														6.25
2S	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
2M	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
3	36		1 5⁄8	5⁄8	3⁄4	12	4	45°	1	1 3⁄4	5	3	1 1⁄2														9.0
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 W4-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

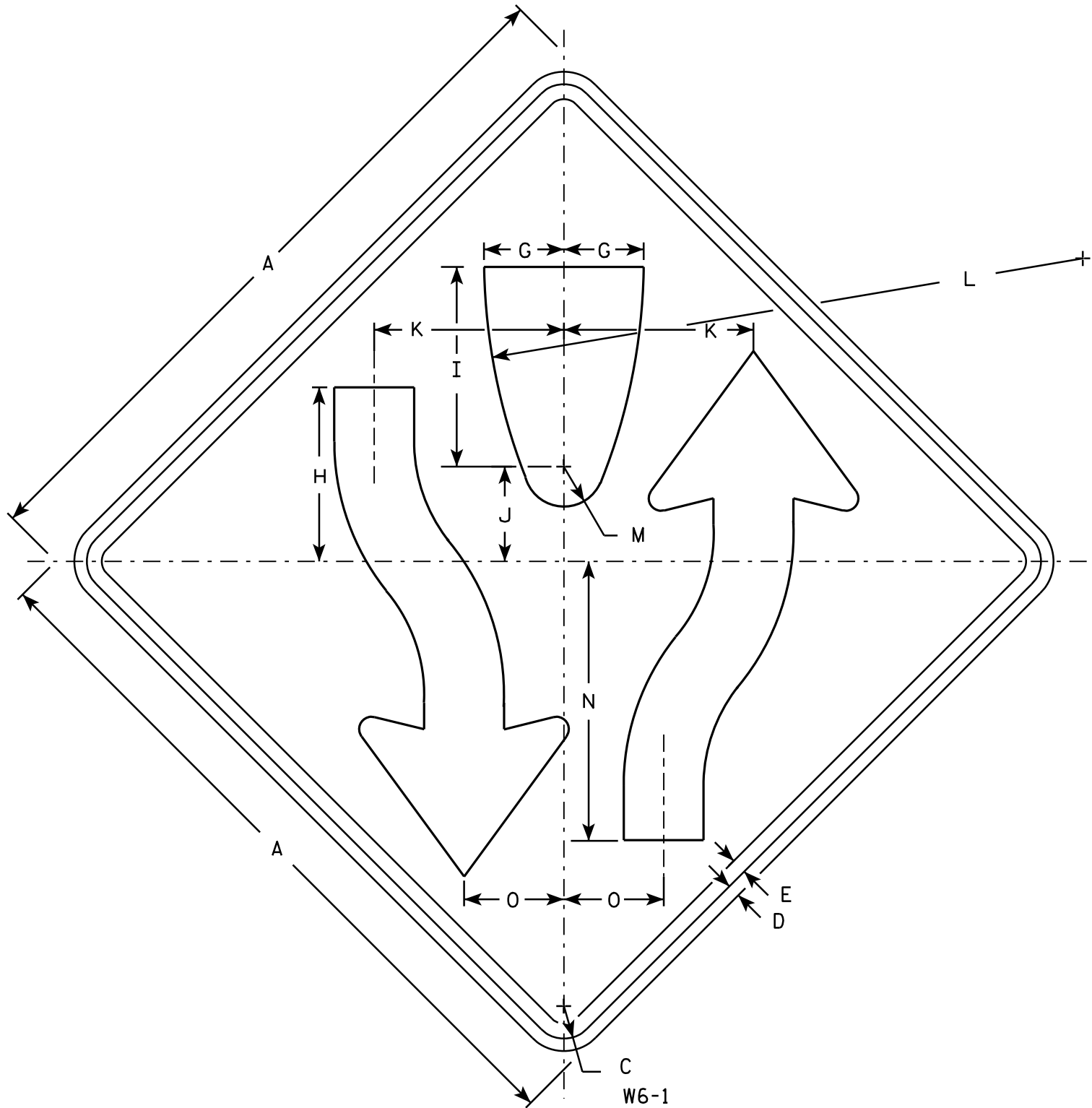
DATE 3/12/13

PLATE NO. W4-2.14

PROJECT NO:

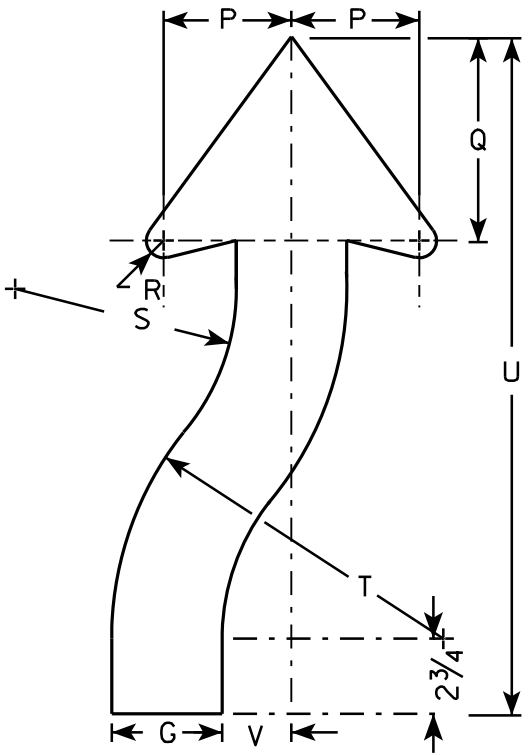
SHEET NO:

E



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. W6-2 same as W6-1 but is rotated 180° when mounted.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3 1/4	8	8 1/4	4 1/8	7 7/8	25	1 3/4	11 5/8	4 1/8	3 7/8	6 3/4	5/8	6 5/8	9 7/8	21 5/8	2					6.25
2S	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
2M	36		1 5/8	5/8	3/4		4	8 3/4	10	4 3/4	9 1/2	30	2	14	5	4 5/8	7 3/8	7/8	8	12	24 1/2	2 1/2					9.0
3																											
4	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0
5	48		2 1/4	3/4	1		5 3/8	11 5/8	13 3/8	6 3/8	12 5/8	40	2 5/8	18 5/8	6 5/8	6 1/4	9 7/8	1 1/4	10 5/8	16	32 5/8	3 3/8					16.0

STANDARD SIGN
W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

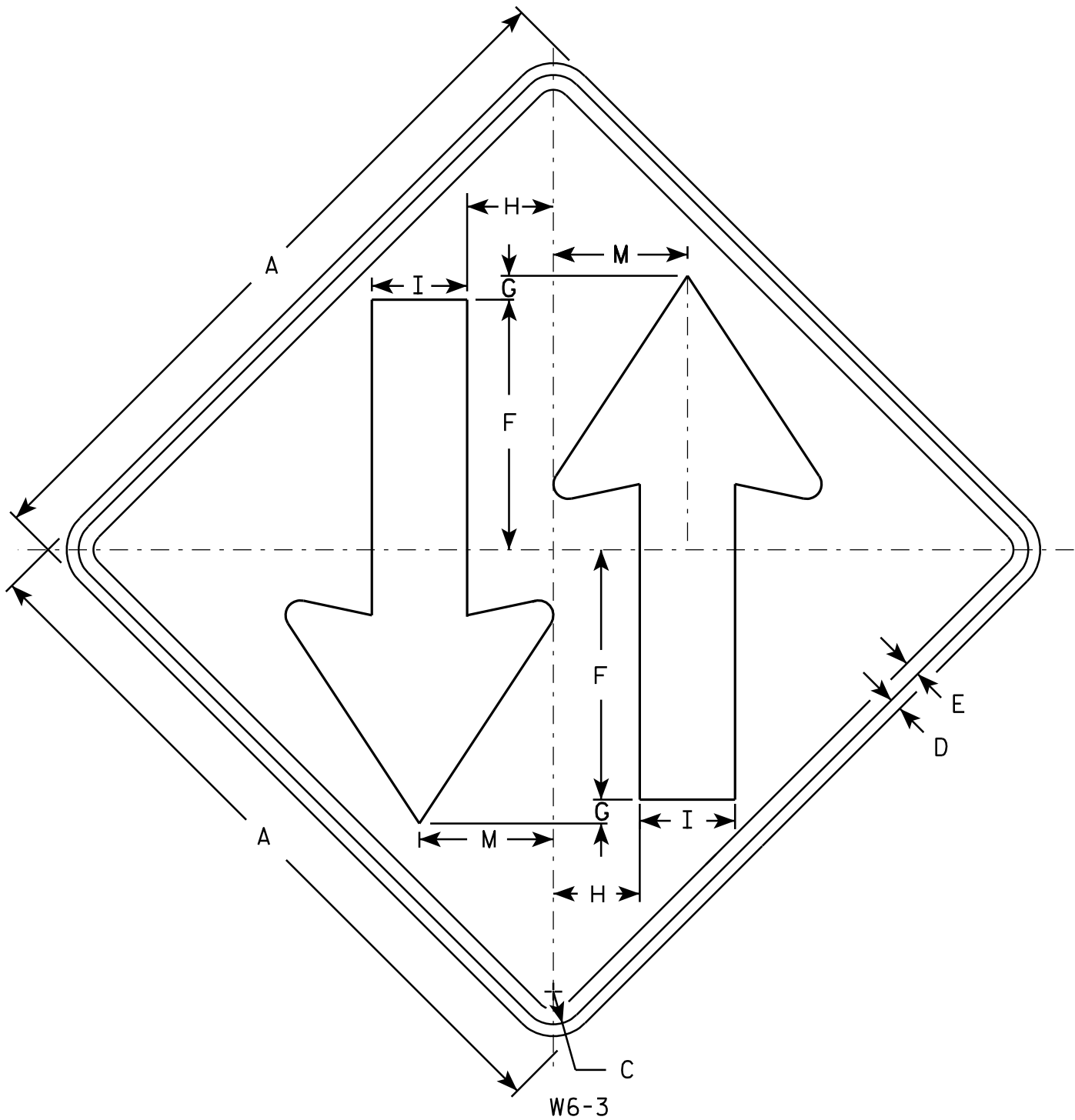
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

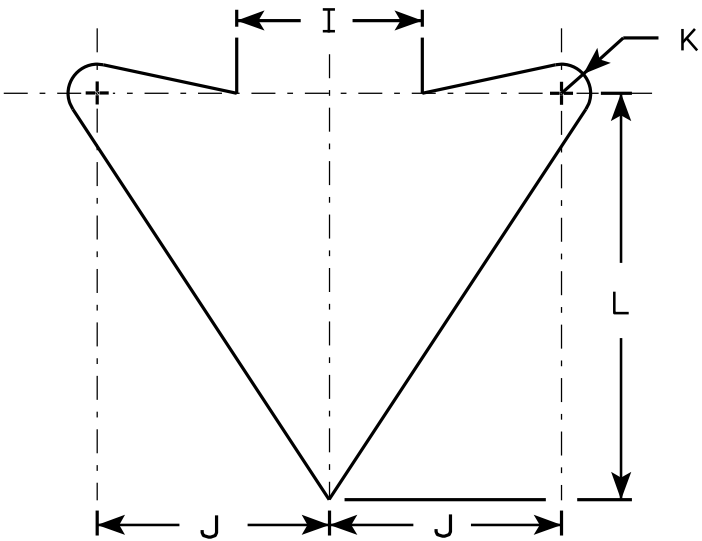
E



W6-3

NOTES

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



ARROW DETAIL

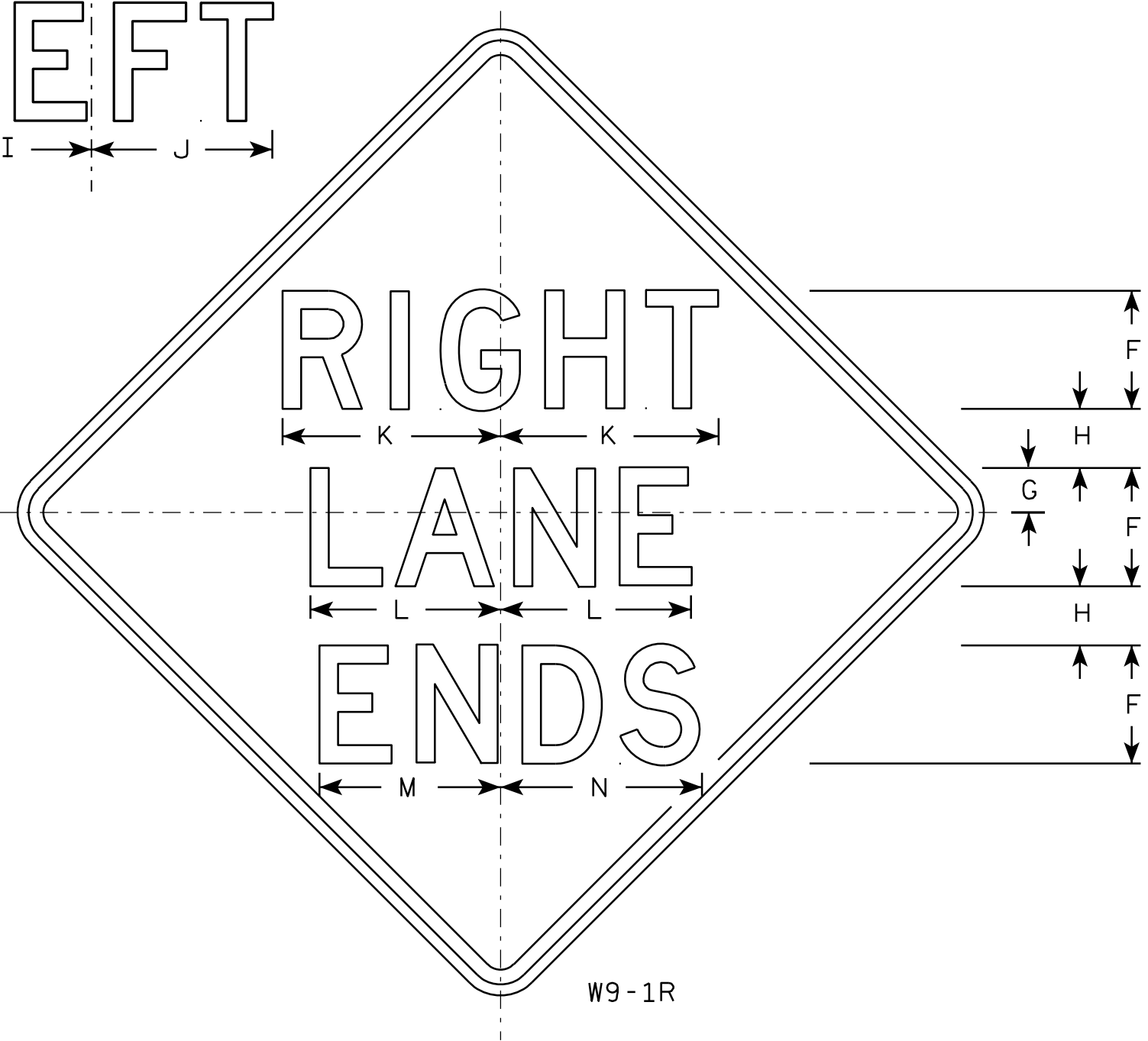
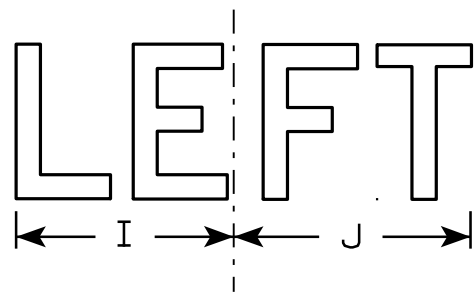
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10 1/2	1	3 5/8	4	5	5/8	8 3/4	5 5/8														6.25
2S	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
2M	36		1 5/8	5/8	3/4	12	1	4 1/4	5	6	3/4	10 1/2	6 3/4														9.0
3																											
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
W6 - 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-3.10



W9-1R

NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Yellow
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. W9-1L same as W9-1R except the word Left replaces Right.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	1 1/2	2 1/2	7 1/8	7 5/8	9 1/4	8 1/8	7 5/8	8 5/8													6.25
2S	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
2M	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
3	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
4	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
5	48		2 1/4	3/4	1	8	3	4	11 1/4	12 1/4	14 3/4	12 7/8	12 1/4	13 5/8													16.0

STANDARD SIGN

W9-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 03/18/13 PLATE NO. W9-1.8

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

DEFINE LIMITS OF "PREPARATION DECKS TYPE 1" WITH A 1/2" DEEP SAW CUT BEFORE REMOVING THE DETERIORATED CONCRETE. THE SAW CUT IS INCLUDED IN "SAWING PAVEMENT DECK PREPARATION AREAS".

BLAST CLEAN THE ENTIRE SURFACE AND ALL EXPOSED REINFORCING STEEL OF ALL "PREPARATION DECKS TYPE 1 & TYPE 2" AREAS BY MECHANICALLY DISLODGING CONTAMINATION OR DEBRIS AND REMOVING LOOSE PARTICLES AND DUST WITH HIGH PRESSURE WATER OR AIR. ENSURE THAT NO FREE-STANDING WATER REMAINS BEFORE PLACING GROUT AND THAT CLEANING WATER CONFORMS TO 5012.4. CLEANING OF EXPOSED AREAS IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

CONCRETE FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS" SHALL MEET THE REQUIREMENTS OF SECTION 509.2(4) OF THE STANDARD SPECIFICATIONS.

DESIGN DATA

LIVE LOAD:

DESIGN RATING: HS-20
INVENTORY RATING: HS-18
OPERATIONAL RATING: HS-31
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 230 (KIPS)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE SLAB: $f'_c = 4,000$ P.S.I.

LEGEND

- ① PREPARATION DECKS TYPE 1
② PREPARATION DECKS TYPE 2

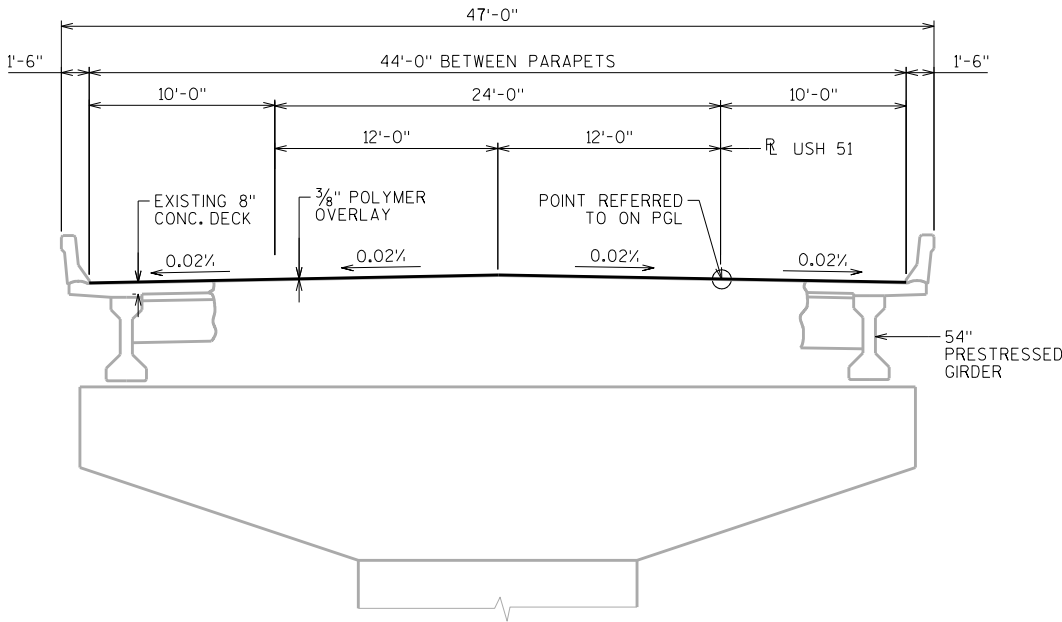
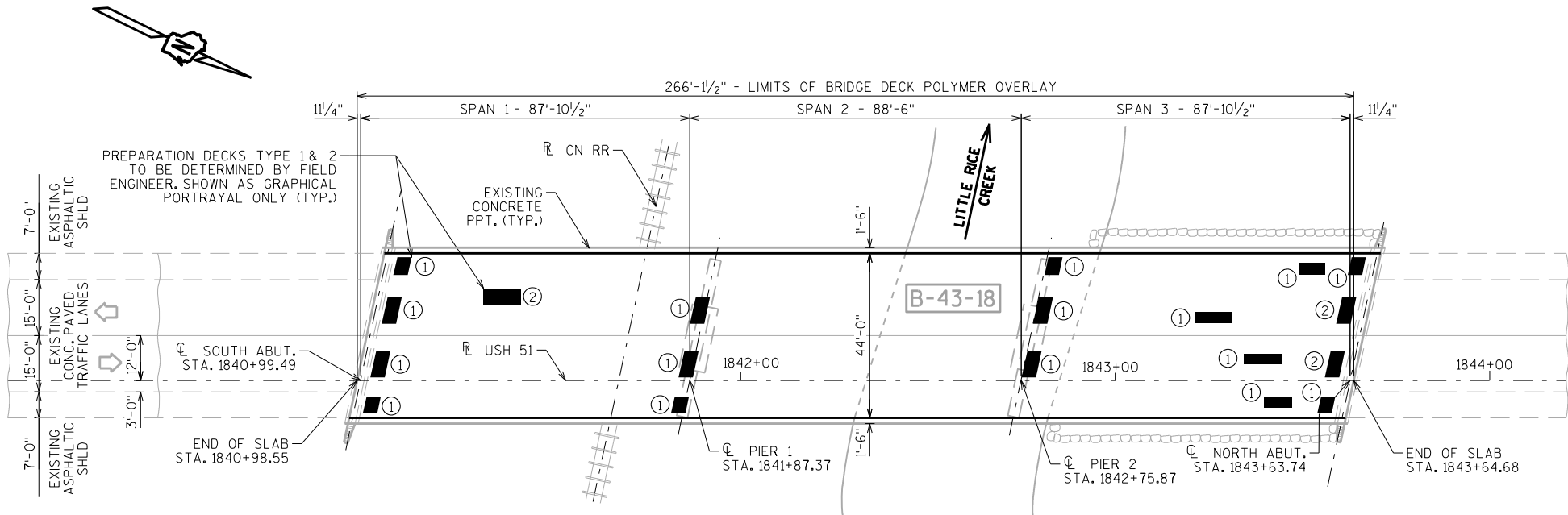
LIST OF DRAWINGS

1. POLYMER OVERLAY

STRUCTURE DESIGN CONTACTS:

ADAM SWIERCZEK (608) 267-4593
DAVE KIEKBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES			
ACCEPTED	<i>William C. Diehn</i> CHIEF STRUCTURES DESIGN ENGINEER		10/15/13 DATE
STRUCTURE B-43-18			
USH 51 OVER LITTLE RICE CREEK & CN RR			
COUNTY	ONEIDA	TOWN/CITY/VILLAGE	NOKOMIS
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	ABS	DESIGN CK'D.	DRAWN BY
ABS	CK'D.	ABS	PLANS CK'D.
POLYMER OVERLAY			SHEET 1 OF 1



CROSS SECTION THRU ROADWAY

LOOKING SOUTH

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
509.0301	PREPARATION DECKS TYPE 1	SY	65
509.0302	PREPARATION DECKS TYPE 2	SY	35
509.2500	CONCRETE MASONRY OVERLAY DECKS **	CY	8
509.5100.S	POLYMER OVERLAY	SY	1305
SPV.0090	SAWING PAVEMENT DECK PREPARATION AREAS	LF	650

** BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1" & "PREPARATION DECKS TYPE 2".

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

DEFINE LIMITS OF "PREPARATION DECKS TYPE 1" WITH A 1/2" DEEP SAW CUT BEFORE REMOVING THE DETERIORATED CONCRETE. THE SAW CUT IS INCLUDED IN "SAWING PAVEMENT DECK PREPARATION AREAS".

BLAST CLEAN THE ENTIRE SURFACE AND ALL EXPOSED REINFORCING STEEL OF ALL "PREPARATION DECKS TYPE 1" AREAS BY MECHANICALLY DISLODGING CONTAMINATION OR DEBRIS AND REMOVING LOOSE PARTICLES AND DUST WITH HIGH PRESSURE WATER OR AIR. ENSURE THAT NO FREE-STANDING WATER REMAINS BEFORE PLACING GROUT AND THAT CLEANING WATER CONFORMS TO 5012.4. CLEANING OF EXPOSED AREAS IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

CONCRETE FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS" SHALL MEET THE REQUIREMENTS OF SECTION 509.2(4) OF THE STANDARD SPECIFICATIONS.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-26
OPERATIONAL RATING: HS-43
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SUPERSTRUCTURE SLAB: f'c = 4,000 P.S.I.

LEGEND

① PREPARATION DECKS TYPE 1

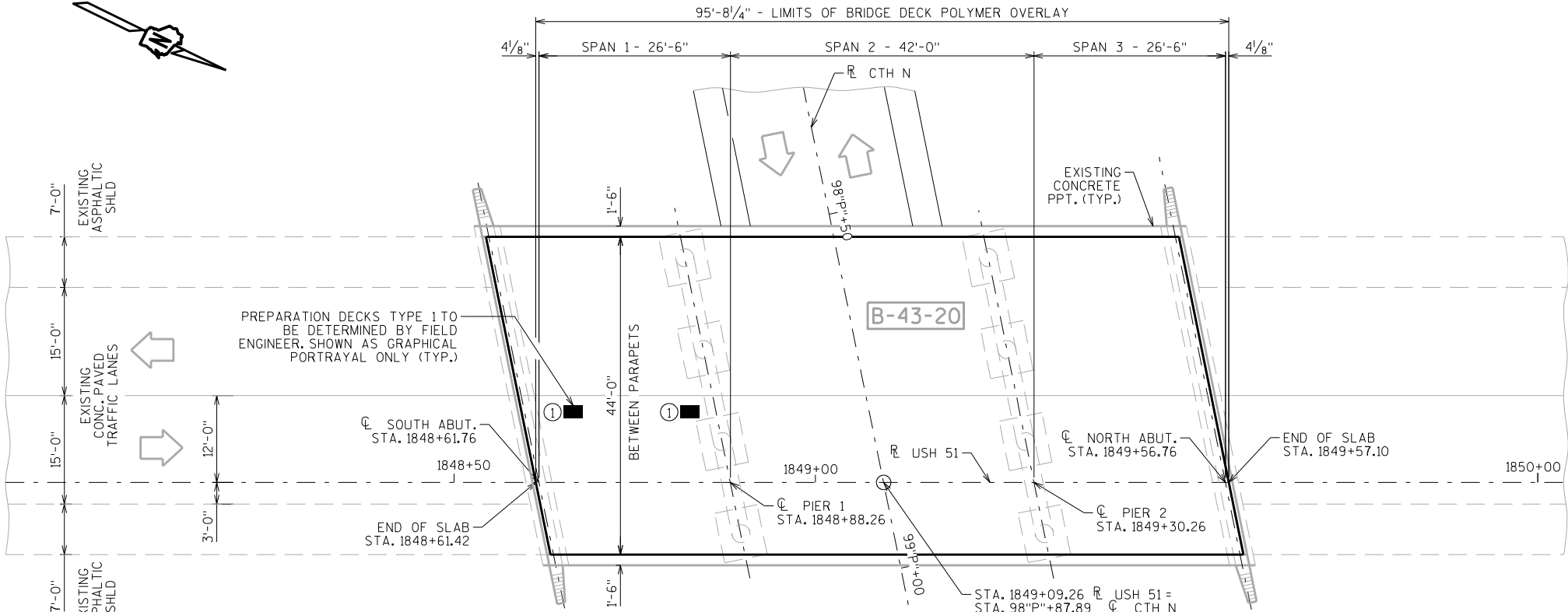
LIST OF DRAWINGS

1. POLYMER OVERLAY

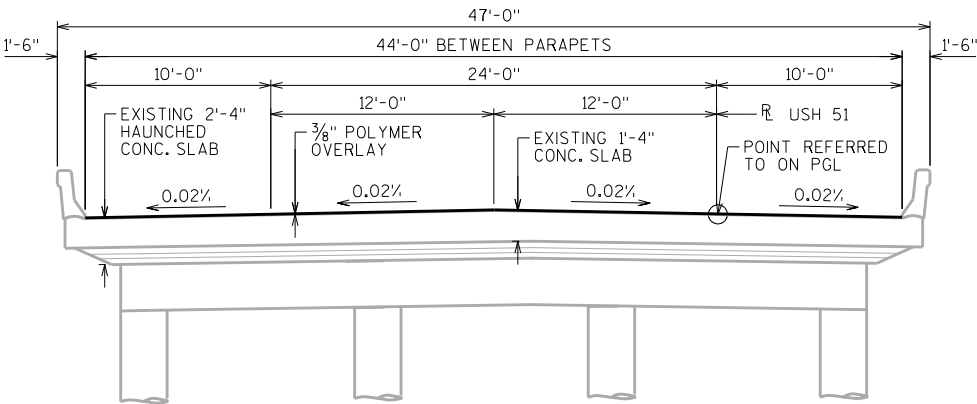
STRUCTURE DESIGN CONTACTS:

ADAM SWIERCZEK (608) 267-4593
DAVE KIEKBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <i>William C. Diehn</i> 10/15/13 CHIEF STRUCTURES DESIGN ENGINEER DATE STRUCTURE B-43-20 USH 51 OVER CTH N COUNTY ONEIDA TOWN/CITY/VILLAGE NOKOMIS DESIGN SPEC. REHABILITATION N/A DESIGNED BY ABS DESIGN CK'D. DRAWN BY ABS PLANS CK'D. MSC POLYMER OVERLAY SHEET 1 OF 1			



PLAN



CROSS SECTION THRU ROADWAY

LOOKING SOUTHEAST

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
509.0301	PREPARATION DECKS TYPE 1	SY	2
509.2500	CONCRETE MASONRY OVERLAY DECKS **	CY	1
509.5100.S	POLYMER OVERLAY	SY	470
SPV.0090	SAWING PAVEMENT DECK PREPARATION AREAS	LF	20

** BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1".

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.
DEFINE LIMITS OF "PREPARATION DECKS TYPE 1" WITH A 1/2" DEEP SAW CUT BEFORE REMOVING THE DETERIORATED CONCRETE. THE SAW CUT IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

BLAST CLEAN THE ENTIRE SURFACE AND ALL EXPOSED REINFORCING STEEL OF ALL "PREPARATION DECKS TYPE 1" AREAS BY MECHANICALLY DISLODGING CONTAMINATION OR DEBRIS AND REMOVING LOOSE PARTICLES AND DUST WITH HIGH PRESSURE WATER OR AIR. ENSURE THAT NO FREE-STANDING WATER REMAINS BEFORE PLACING GROUT AND THAT CLEANING WATER CONFORMS TO 5012.4. CLEANING OF EXPOSED AREAS IS INCIDENTAL TO "PREPARATION DECKS TYPE 1".

CONCRETE FOR BID ITEM "CONCRETE MASONRY OVERLAY DECKS" SHALL MEET THE REQUIREMENTS OF SECTION 509.2(4) OF THE STANDARD SPECIFICATIONS.

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING: HS-22
OPERATIONAL RATING: HS-44
MAXIMUM STANDARD PERMIT VEHICLE LOAD: 250 (KIPS)

ULTIMATE DESIGN STRESSES:
CONCRETE MASONRY SUPERSTRUCTURE SLAB: f'c = 4,000 P.S.I.

LEGEND

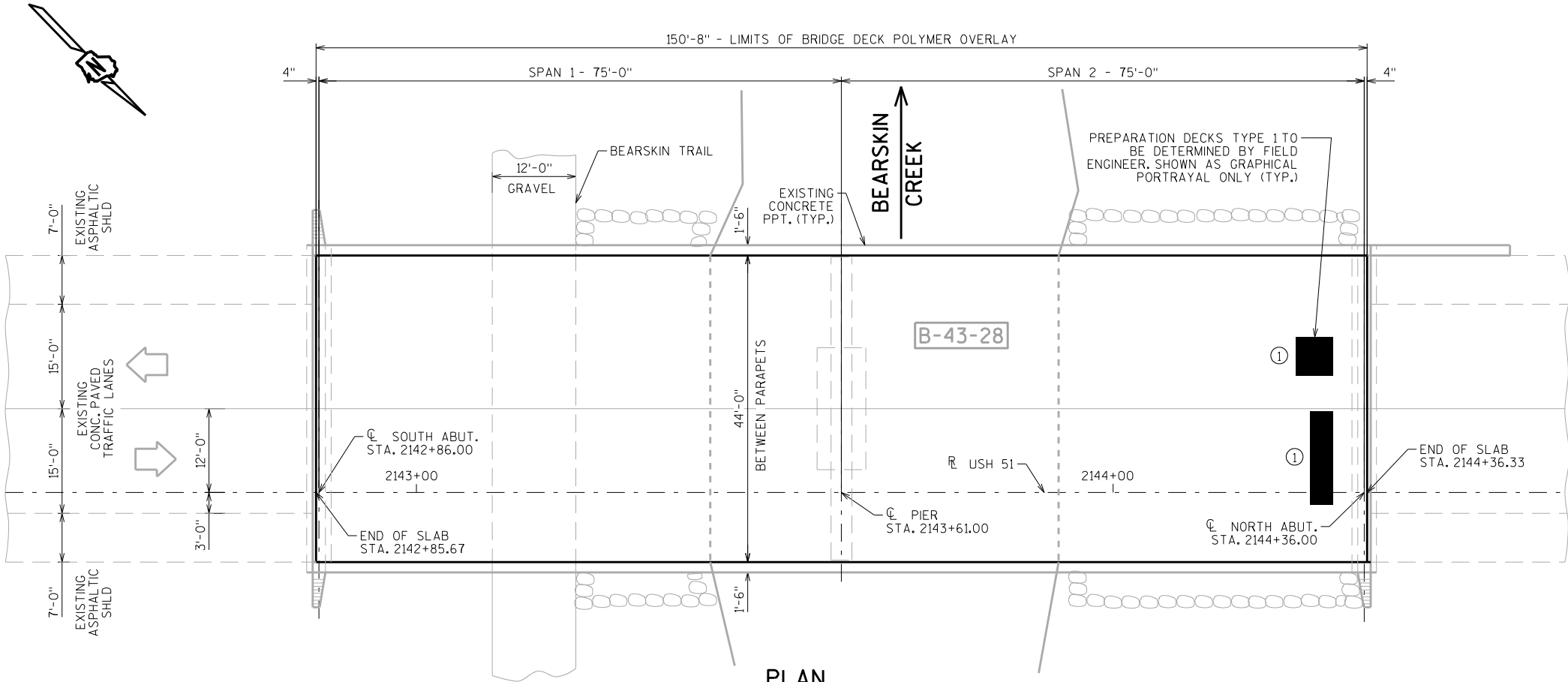
① PREPARATION DECKS TYPE 1

LIST OF DRAWINGS

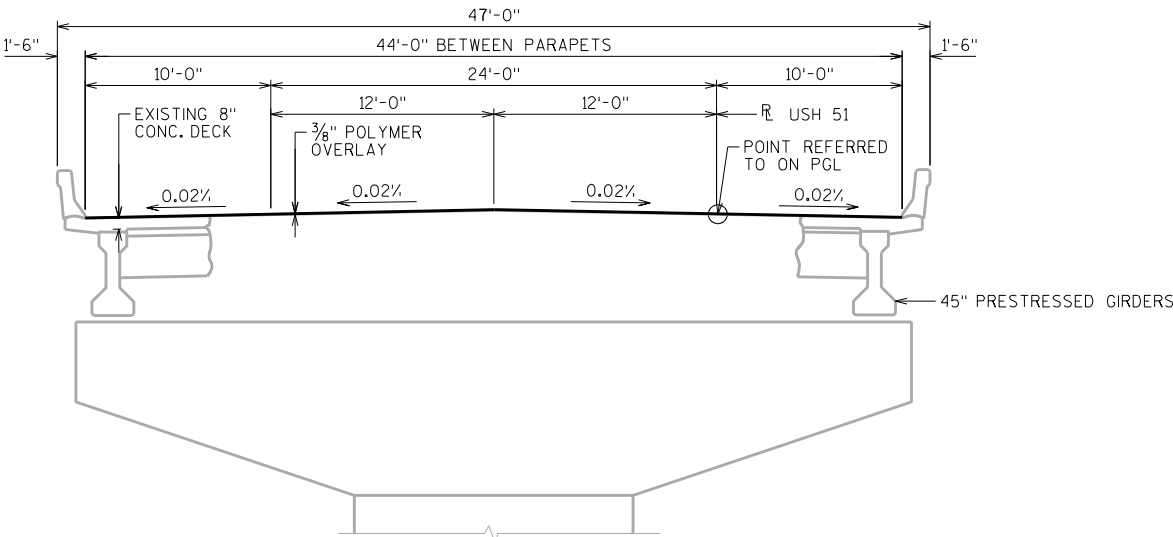
POLYMER OVERLAY

STRUCTURE DESIGN CONTACTS:
ADAM SWIERCZEK (608) 267-4593
DAVE KIEKBUSCH (608) 266-5084

NO.	DATE	REVISION	BY
 Plans Prepared By WISDOT BUREAU OF STRUCTURES ACCEPTED <i>William C. Diehn, SR.</i> 10/15/13 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-43-28			
USH 51 OVER BEARSKIN CREEK & BEARSKIN TRAIL			
COUNTY	ONEIDA	TOWN/CITY/VILLAGE	NOKOMIS
DESIGN SPEC.	REHABILITATION	N/A	
DESIGNED BY	ABS	DESIGN CK'D.	DRAWN BY
ABS	CK'D.	ABS	PLANS CK'D.
POLYMER OVERLAY			SHEET 1 OF 1



PLAN



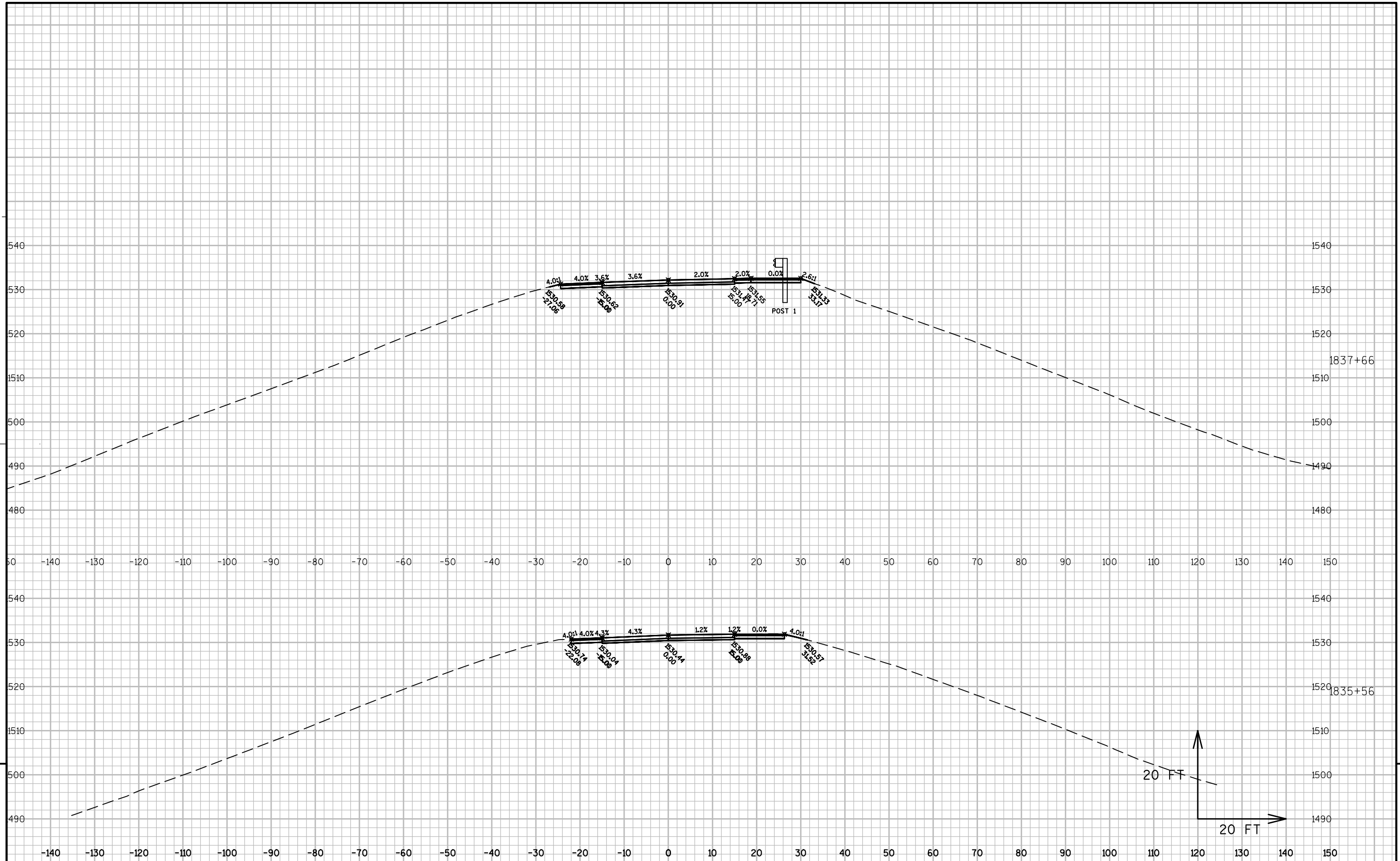
CROSS SECTION THRU ROADWAY

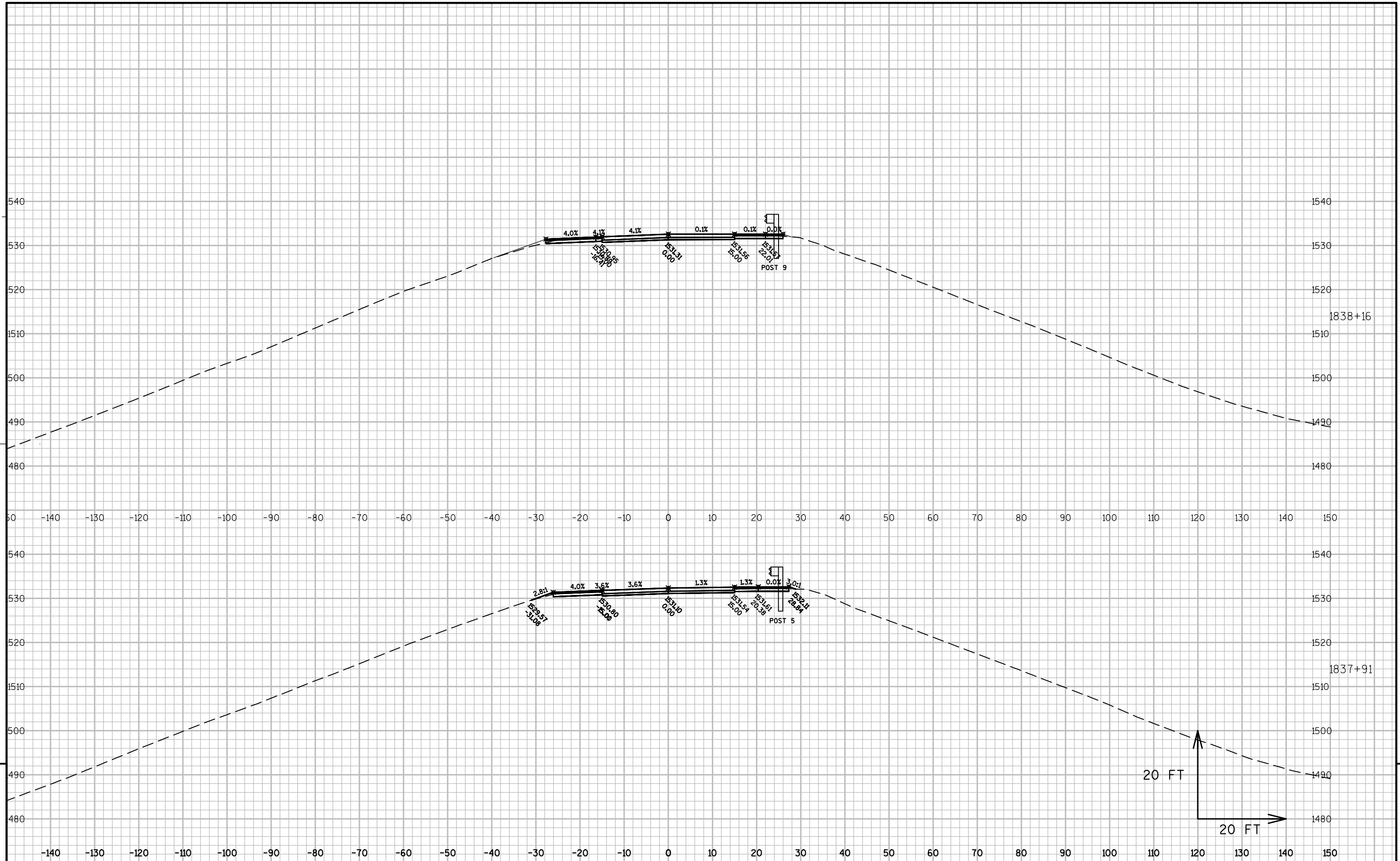
LOOKING SOUTHEAST

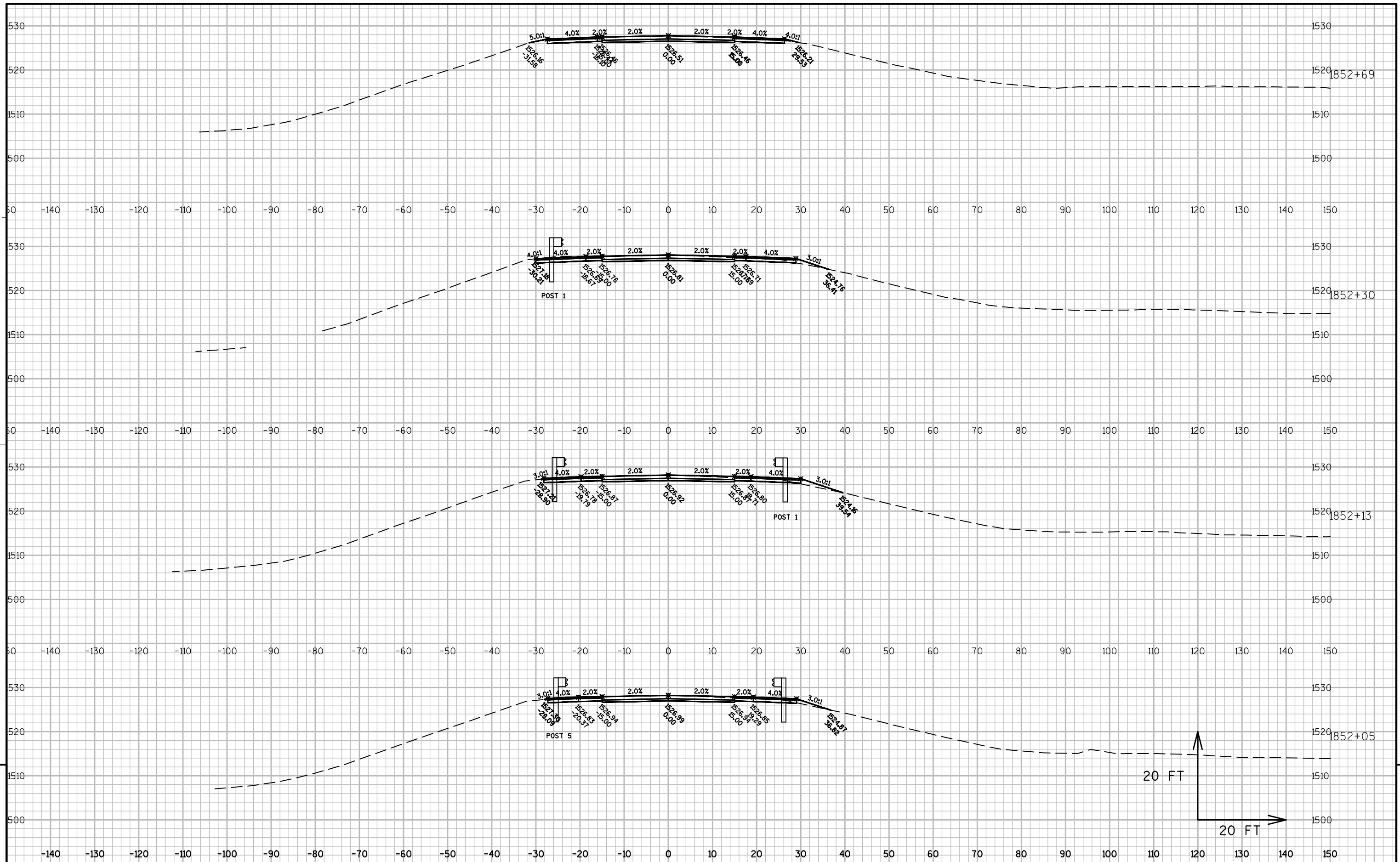
TOTAL ESTIMATED QUANTITIES

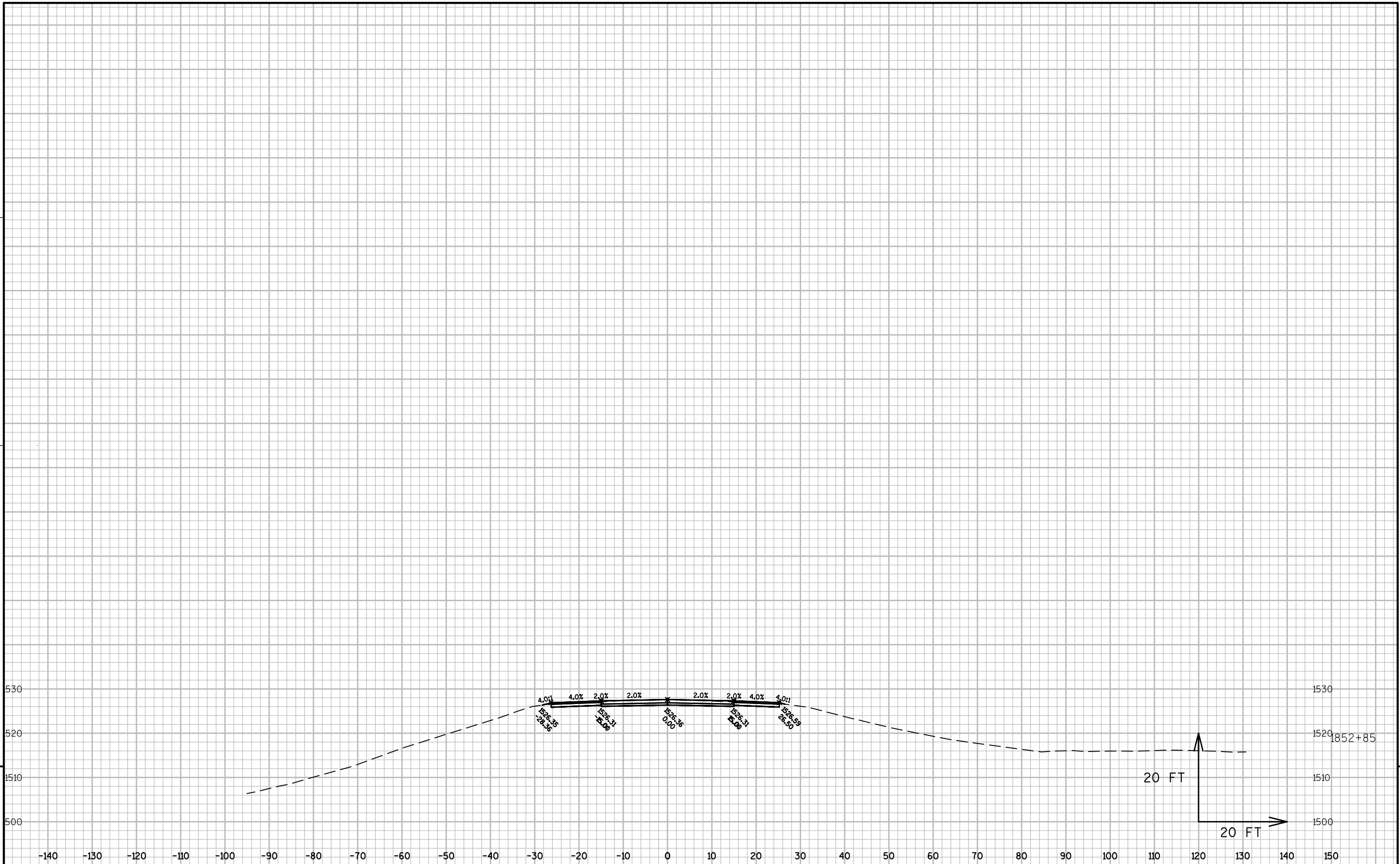
BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
509.0301	PREPARATION DECKS TYPE 1	SY	10
509.2500	CONCRETE MASONRY OVERLAY DECKS **	CY	1
509.5100.S	POLYMER OVERLAY	SY	740
SPV.0090	SAWING PAVEMENT DECK PREPARATION AREAS	LF	100

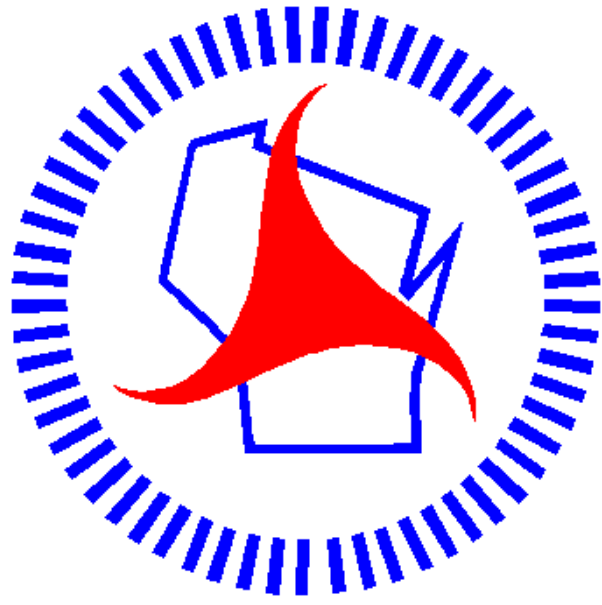
** BID ITEM INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1".











Wisconsin Department of Transportation

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through innovation and exceptional service.

<http://www.dot.wisconsin.gov>