EAU AUGUST 2014

PROJECT ID: 7105-03-72

COUNTY: PIERCE

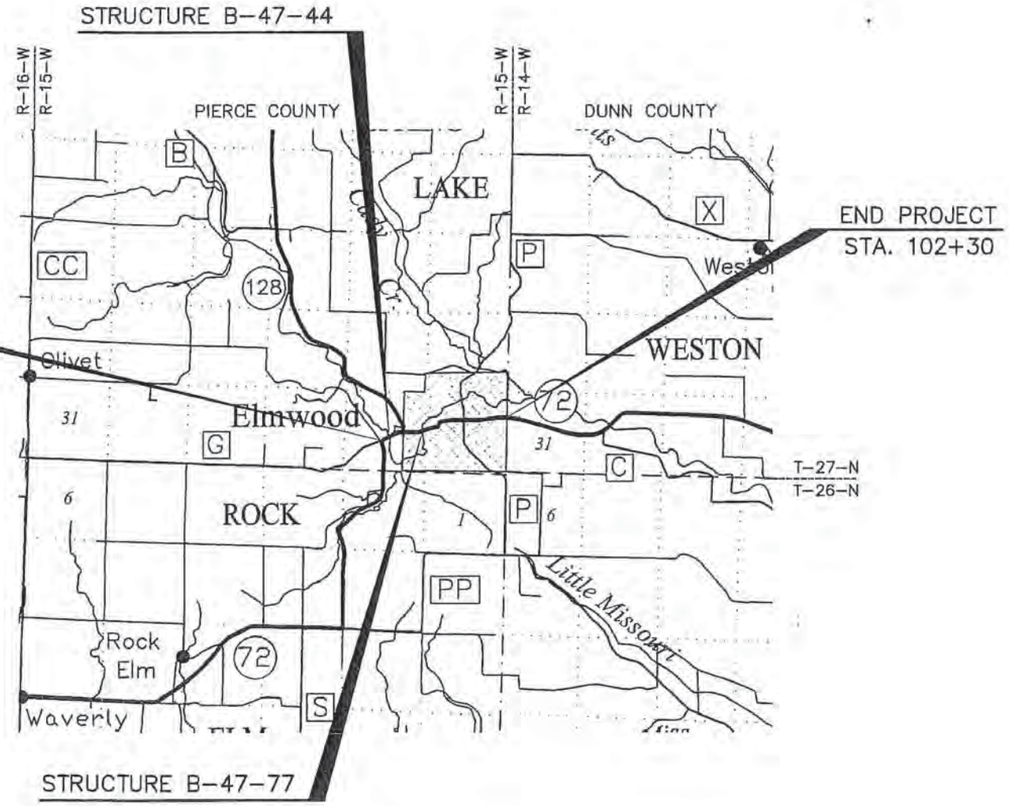
ORDER OF SHEETS

TOTAL SHEETS = 174

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
ELLSWORTH - DOWNSVILLE
CTH G TO EAST COUNTY LINE
STH 72
PIERCE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7105-03-72	WISC 2014313	1

STATE PROJECT NUMBER
7105-03-72



N

BEGIN PROJECT
STA. 14+25
Y = 333,200.76
X = 565,903.94

END PROJECT
STA. 102+30

DESIGN DESIGNATION

A.A.D.T.	2015	= 2550
A.A.D.T.	2035	= 3200
D.H.V.	2035	= 155
D.D.		= 60/40
T.		= 5.9%
DESIGN SPEED		= 55 MPH (STA. 14+25 - STA. 26+70) 35 MPH (STA. 26+70 - STA. 46+10) 25 MPH (STA. 46+10 - STA. 66+10) 30 MPH (STA. 66+10 - STA. 88+10) 55 MPH (STA. 88+10 - STA. 102+30)
ESALS		= 386,900

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE		ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 1.668 MI.

Coordinates on this plan are referenced to the Wisconsin County Coordinate System (WCCS), Pierce County.

ORIGINAL PLANS PREPARED BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

PATRICK A. ECKELBERG E-38776 WISCONSIN RAPIDS, WIS. — WISCONSIN PROFESSIONAL ENGINEER

04/30/2014 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JEWELL ASSOCIATES ENGINEERS, INC.
Designer	JEWELL ASSOCIATES ENGINEERS, INC.
Project Manager	W. MAVES
Regional Examiner	D. OJIBWAY
Regional Supervisor	T. MASON
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 6/11/14 (Signature)

E

UTILITIES

COMMUNICATIONS

CELECT COMMUNICATIONS LLC
PO BOX 189
SPRING VALLEY, WI 54767–0189
PH: (715) 778–6121
ATTENTION: MIKE DEMARCE
EMAIL: mdemarce@celectcom.com

ELECTRIC

DISTRIBUTION
XCEL ENERGY
320 HELLER RD
MENOMONIE, WI 54751–1364
PH: (715) 232–7412
ATTENTION: MEGAN BOLDIG
EMAIL: megan.m.boldig@xcelenergy.com

TRANSMISSION
XCEL ENERGY
8701 MONTICELLO LANE
MAPLE GROVE, MN 55369–4550
PH: (615) 955–1089
ATTENTION: CHARLES DIENGER
EMAIL: charles.g.dienger@xcelenergy.com

COPY ALL CORRESPONDENCE TO:
XCEL ENERGY
1414 WEST HAMILTON AVENUE
PO BOX 8
EAU CLAIRE, WI 54702–0008
PH: (715) 737–2482
ATTENTION: DAWN SCHULTZ
EMAIL: dawn.schultz@xcelenergy.com

NATURAL GAS

WE ENERGIES
104 WEST SOUTH STREET
RICE LAKE, WI 54868–2418
PH: (715) 221–4578
ATTENTION: LEWIS KNAPP
EMAIL: lewis,knapp@we–energies.com
WE ENERGIES EMERGENCY CONTACT
PH: (800) 261–5325

TELEPHONE

CENTURYLINK
20 SOUTH WILSON AVENUE
RICE LAKE, WI 54868–2248
PH: (715) 234–5528
ATTENTION: MONTY PARKER
EMAIL: monty.parker@centurytel.com

SANITARY & WATER

VILLAGE OF ELMWOOD
PO BOX 26
ELMWOOD, WI 54740–0026
PH: (715) 639–2400
ATTENTION: JAMIE REITZ
EMAIL: villelm@celectcom.net

WEST WISCONSIN TELECOM COOPERATIVE

5808 OLD MILL PLAZA
EAU CLAIRE, WI 54703–7309
PH: (715) 231–0504
ATTN: BRAD SCHMIDTKNECHT
EMAIL: brads@wwt.coop

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
310 EAST JACKSON STREET
WISCONSIN RAPIDS, WI 54494
ATTN: PATRICK ECKELBERG, P.E.
PH: (715) 424–2424
FAX: (715) 424–2421
E–MAIL: patrick.eckelberg@jewellassoc.com

WDNR LIASON:

STATE OF WISCONSIN
DEPT. OF NATURAL RESOURCES
1300 CLAIREMONT AVENUE
PO BOX 4001
EAU CLAIRE, WI 54702–4001
PH: (715) 839–1609
ATTN: CHRIS WILLGER
E–MAIL: christopherj.willger@wisconsin.gov

WISDOT NW REGION

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION
718 W CLAIREMONT AVE.
EAU CLAIRE, WI 54701–5108
PH: (715) 836–3902
ATTN: WENDY MAVES, P.E.
E–MAIL: wendy.maves@dot.wi.gov

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

* DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE

ORDER OF DETAIL SHHETS

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment
AC	Acre
AGG	Aggregate
AH	Ahead
<	Angle
ASPH	Asphaltic
AVG	Average
ADT	Average Daily Traffic
BK	Back
BF	Back Face
BM	Bench Mark
BR	Bridge
CLRNC	Clearance
CL or C/L	Center Line
CC	Center to Center
CTH	County Trunk Highway
CR	Creek
CR	Crushed
CY or CU YD	Cubic Yard
CP	Culvert Pipe
C & G	Curb and Gutter
D	Degree of Curve
DHV	Design Hour Volume
DIA	Diameter
E	East
X	East Grid Coordinate
EB	Eastbound
ELEC	Electric (al)
EL or ELEV	Elevation
ESALS	Equivalent Single Axle Loads
EBS	Excavation Below Subgrade
FF	Face to Face
FE	Field Entrance
F	Fill
FG	Finished Grade
FL or F/L	Flow Line
FTG	Footing
GN	Grid North
HT	Height
CWT	Hundredweight
HYD	Hydrant
INL	Inlet
ID	Inside Diameter
INV	Invert
IP	Iron Pipe or Pin
IRS	Iron Rod Set
JT	Joint
JCT	Junction
LHF	Left–Hand Forward
L	Length of Curve
LIN FT or LF	Linear Foot
LC	Long Chord of Curve
MH	Manhole
MB	Mailbox
ML or M/L	Match Line
N	North
NC	Normal Crown
Y	North Grid Coordinate
NB	Northbound
OD	Outside Diameter
PLE	Permanent Limited Easement
PT	Point
PC	Point of Curvature
PI	Point of Intersection
PRC	Point of Reverse Curvature
PT	Point of Tangency
POC	Point On Curve
POT	Point on Tangent
PVC	Polyvinyl Chloride
PCC	Portland Cement Concrete
LB	Pound
PSI	Pounds Per Square Inch
PE	Private Entrance
R	Radius
RR	Railroad
R	Range
RL or R/L	Reference Line
RP	Reference Point
RCCP	Reinforced Concrete Culvert Pipe
REQD	Required
RES	Residence or Residential
RW	Retaining Wall
RT	Right
RHF	Right–Hand Forward
R/W	Right–of–Way
R	River
RD	Road
RDWY	Roadway
SALV	Salvaged
SAN S	Sanitary Sewer
SEC	Section
SHLDR	Shoulder
SHR	Shrinkage
SW	Sidewalk
S	South
SB	Southbound
SQ	Square
SF or SQ FT	Square Feet
SY or SQ YD	Square Yard
STD	Standard
SDD	Standard Detail Drawings
STH	State Trunk Highways
STA	Station
SS	Storm Sewer
SG	Subgrade
SE	Superelevation
SL or S/L	Survey Line
SV	Septic Vent
T	Tangent
TEL	Telephone
TEMP	Temporary
TI	Temporary Interest
TLE	Temporary Limited Easement
t	Ton
TC	Top Of Curb
T or TN	Town
TRANS	Transition
TL or T/L	Transit Line
T	Trucks (percent of)
TYP	Typical
UNCL	Unclassified
UG	Underground Cable
USH	United States Highway
VAR	Variable
V	Velocity or Design Speed
VERT	Vertical
VC	Vertical Curve
VOL	Volume
WM	Water Main
WV	Water Valve
W	West
WB	Westbound
YD	Yard

GENERAL NOTES

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

COORDINATES AND BEARINGS ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM PIERCE COUNTY (ENGLISH) NAD 1983 WITH 2011 ADJUSTMENT (NAD83(2011)). ALL PLAN DISTANCES ARE GROUND LENGTH.

CURVE DATA IS BASED ON THE ARC DEFINITION.

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.

ALL RADII DIMENSIONS ON THE PLAN FOR CURB & GUTTER ARE TO THE FLANGE OF THE CURB & GUTTER, UNLESS OTHERWISE NOTED ON THE PLANS.

CURB & GUTTER GRADES ARE GIVEN ON THE FLANGE LINE, UNLESS INDICATED OTHERWISE. CURB & GUTTER JOINT SPACING SHALL MATCH THE ABUTTING PAVEMENT JOINTS (WHERE APPLICABLE) UNLESS OTHERWISE DESIGNATED BY THE ENGINEER.

EXPANSION JOINTS SHALL BE CONSTRUCTED AT ALL RADII POINTS IN THE CURB & GUTTER.

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

FILL EXPANSION OF EARTHWORK IS VARIABLE AND IS ESTIMATED AT 25%.

ALL NEW CONCRETE PIPE SHALL HAVE JOINT TIES INSTALLED ON THE LAST TWO PIPE–TO–PIPE JOINTS AND AT THE PIPE–TO–ENDWALL JOINT AT BOTH THE INLET AND DISCHARGE ENDS. THE NUMBER OF TIES REQUIRED IS LISTED IN THE MISCELLANEOUS QUANTITIES. JOINT TIES ARE A NON BID ITEM; THE COST SHALL BE INCLUDED IN THE PRICE PER LINEAR FOOT OF PIPE.

CROSS DRAIN PIPE INVERT ELEVATIONS, LENGTHS AND LOCATIONS AS SHOWN ON THE PLANS AND CROSS SECTIONS MAY BE ADJUSTED TO FIT FIELD CONDITIONS.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE OR HMA PAVEMENT IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE MATERIAL SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO CONSTRUCTION. EROSION CONTROL ITEMS ON THE PLAN ARE AT SUGGESTED LOCATIONS. THE EXACT LOCATIONS AND DIMENSIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL EROSION CONTROL DEVICES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER IN THE FIELD DEEMS THE DEVICES NO LONGER NECESSARY.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE EROSION CONTROL PLAN AND MISCELLANEOUS QUANTITY SHEET OR AS DIRECTED BY THE ENGINEER IN THE FIELD. SILT FENCE SHALL BE PLACED PRIOR TO CONSTRUCTION.

DISTURBED AREAS SHOWN WITHIN THE RIGHT–OF–WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE FERTILIZED (TYPE B), MULCHED, SEEDED (SEEDING MIXTURE NO. 20) AND TEMPORARY SEEDED AS DIRECTED BY THE ENGINEER IN THE FIELD.

RURAL PAVEMENT STRUCTURE
3 3/4–INCH HMA PAVEMENT TYPE E–3 SPECIAL SHALL BE PAVED WITH 1 3/4–INCH LOWER LAYER AND A 2–INCH UPPER LAYER. THE NOMINAL SIZE OF THE AGGREGATE USED FOR BOTH LAYERS SHALL BE 12.5 MM.

URBAN PAVEMENT STRUCTURE
3 1/2–INCH HMA PAVEMENT TYPE E–3 SPECIAL SHALL BE PAVED WITH 1 1/2–INCH LEVELING LAYER AND A 2–INCH UPPER LAYER. THE NOMINAL SIZE OF THE AGGREGATE USED FOR BOTH LAYERS SHALL BE 12.5 MM.

2–INCH HMA PAVEMENT TYPE E–3 SPECIAL SHALL BE PAVED WITH A SINGLE 2–INCH LAYER. THE NOMINAL SIZE OF THE AGGREGATE USED SHALL BE 12.5 MM.

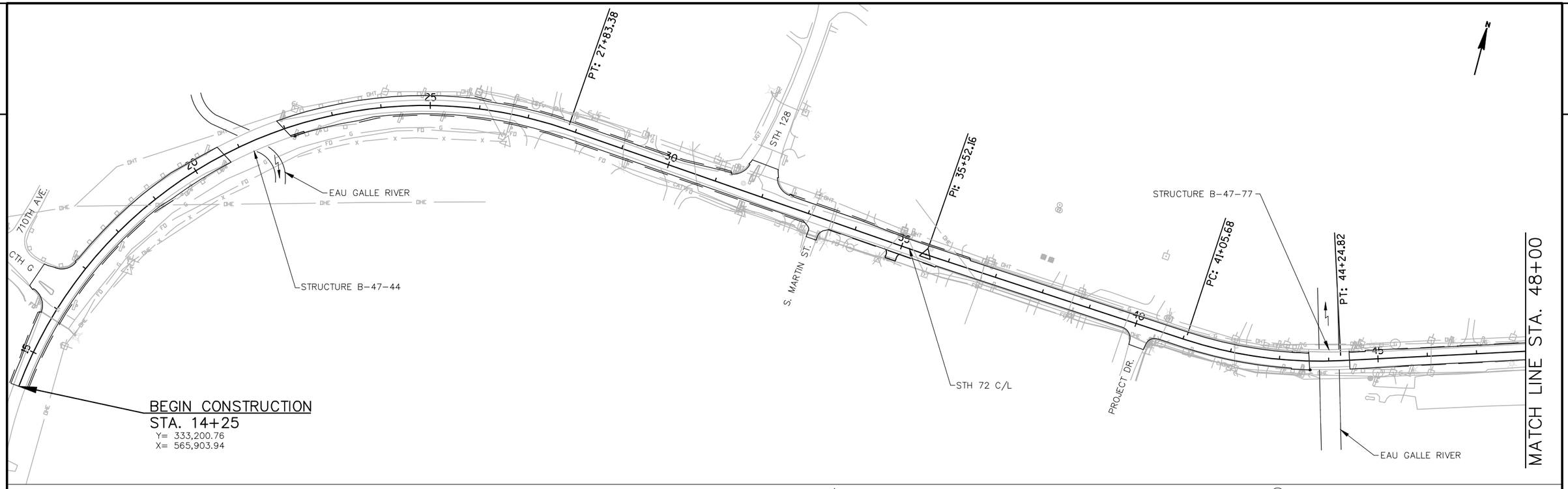
HMA PAVEMENT TYPE E–3 SPECIAL QUANTITIES WERE CALCULATED BASED ON A DENSITY OF 115 LBS/SY/IN

REMOVAL OF ASPHALTIC SURFACE WHERE AN ABUTTING ASPHALTIC SURFACE IT TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

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

TOTAL PROJECT AREA = 13.34 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 8.05 ACRES

2



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PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

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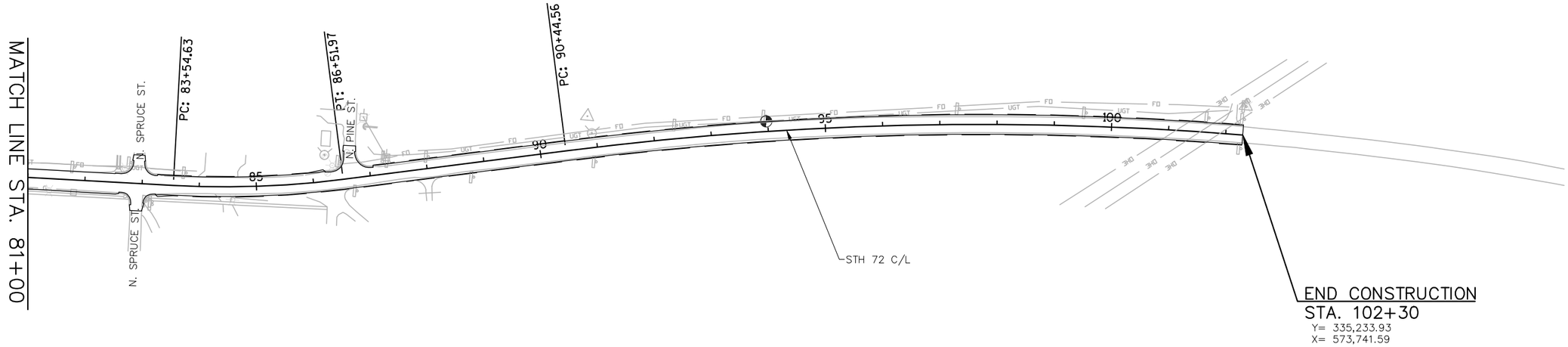

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WISDOT/CADDS SHEET 42

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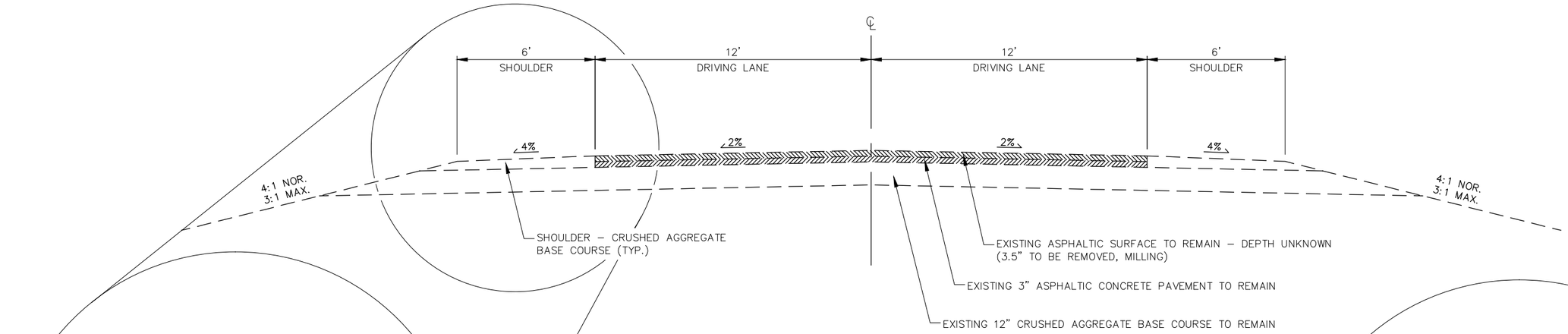
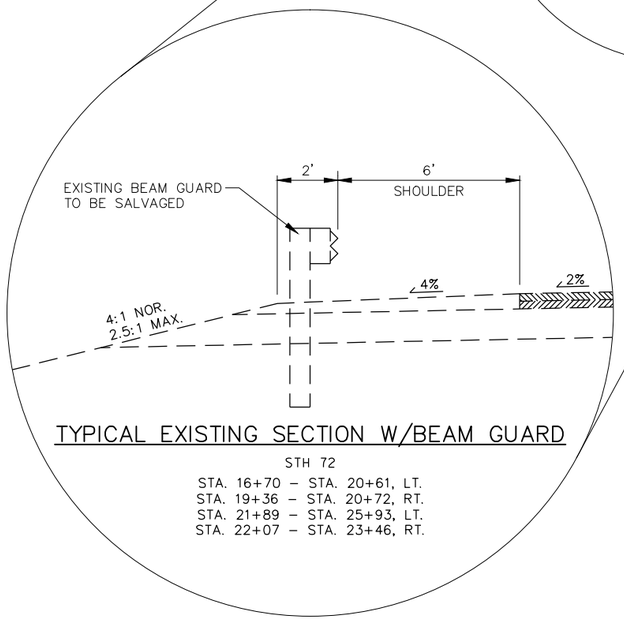


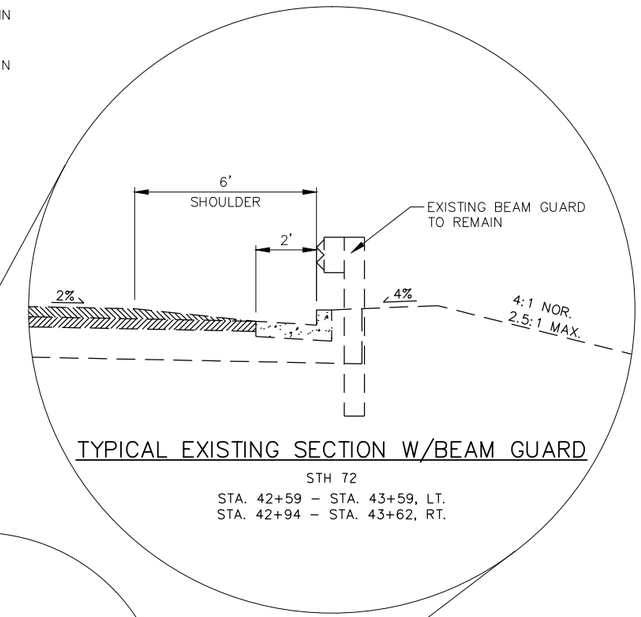
TYPICAL EXISTING SECTION

STH 72
STA. 14+25 – STA. 20+66
STA. 21+98 – STA. 35+80



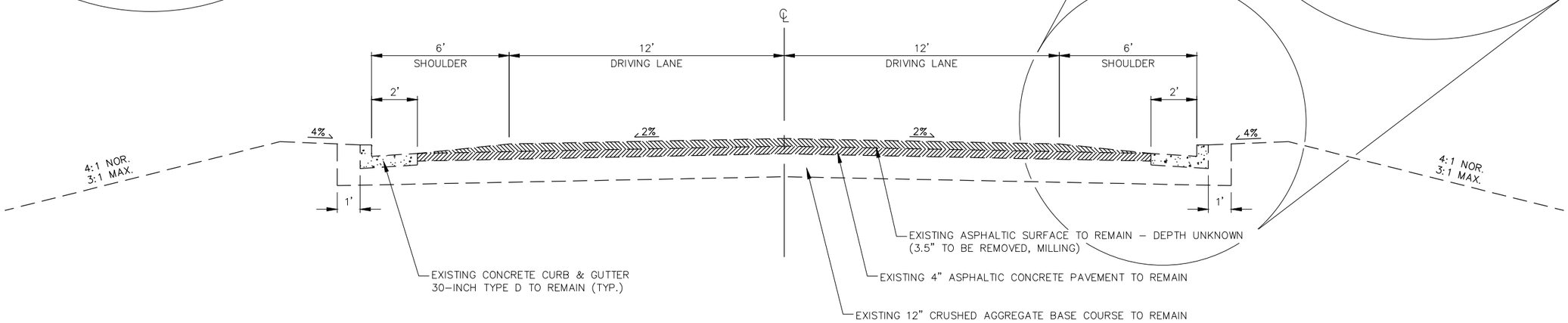
TYPICAL EXISTING SECTION W/BEAM GUARD

STH 72
STA. 16+70 – STA. 20+61, LT.
STA. 19+36 – STA. 20+72, RT.
STA. 21+89 – STA. 25+93, LT.
STA. 22+07 – STA. 23+46, RT.



TYPICAL EXISTING SECTION W/BEAM GUARD

STH 72
STA. 42+59 – STA. 43+59, LT.
STA. 42+94 – STA. 43+62, RT.



TYPICAL EXISTING SECTION

STH 72
STA. 35+80 – STA. 43+60

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - EXISTING	SHEET 5	E

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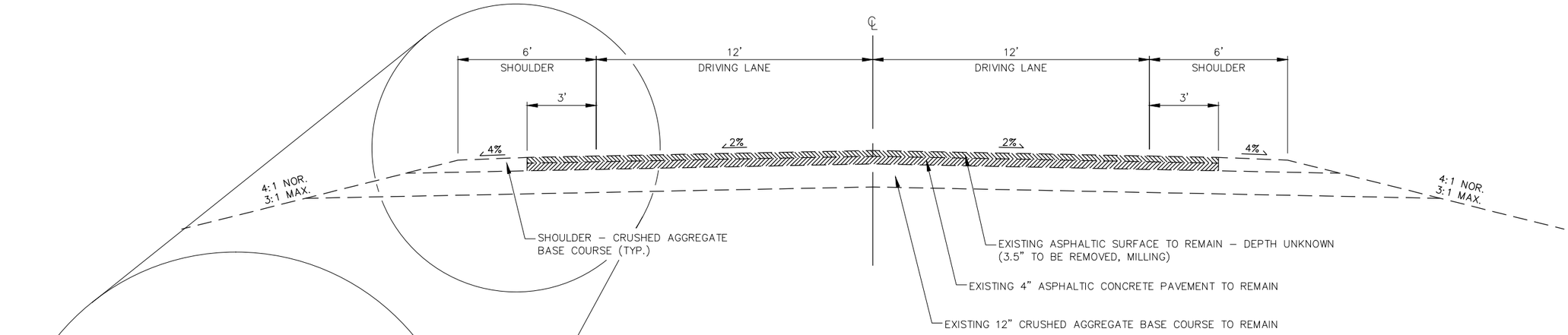

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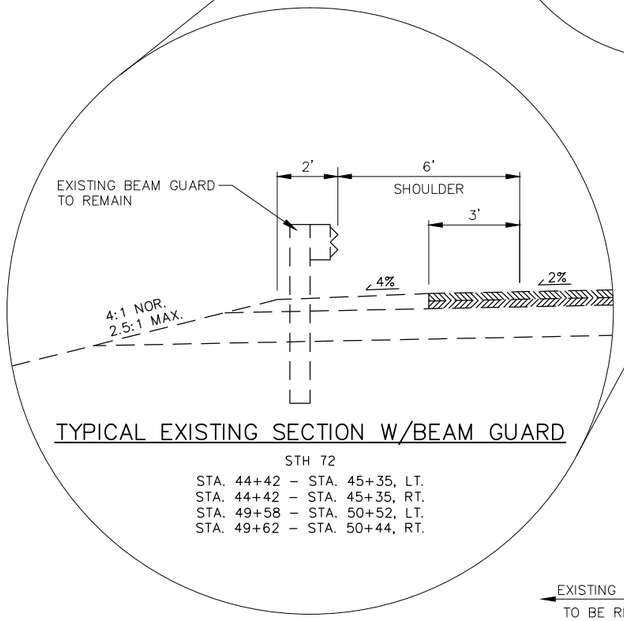
STH 72
STA. 44+42 – STA. 54+40



TYPICAL EXISTING SECTION W/BEAM GUARD

STH 72
STA. 44+42 – STA. 45+35, LT.
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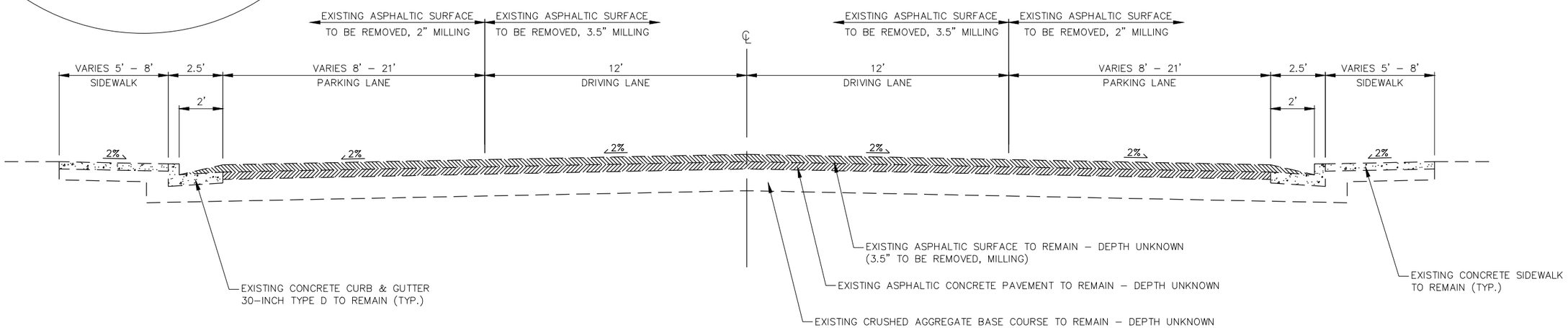
STA. 49+58 – STA. 50+52, LT.
STA. 49+62 – STA. 50+44, RT.



TYPICAL EXISTING SECTION

STH 72
STA. 54+40 – STA. 66+60

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - EXISTING	SHEET 6	E

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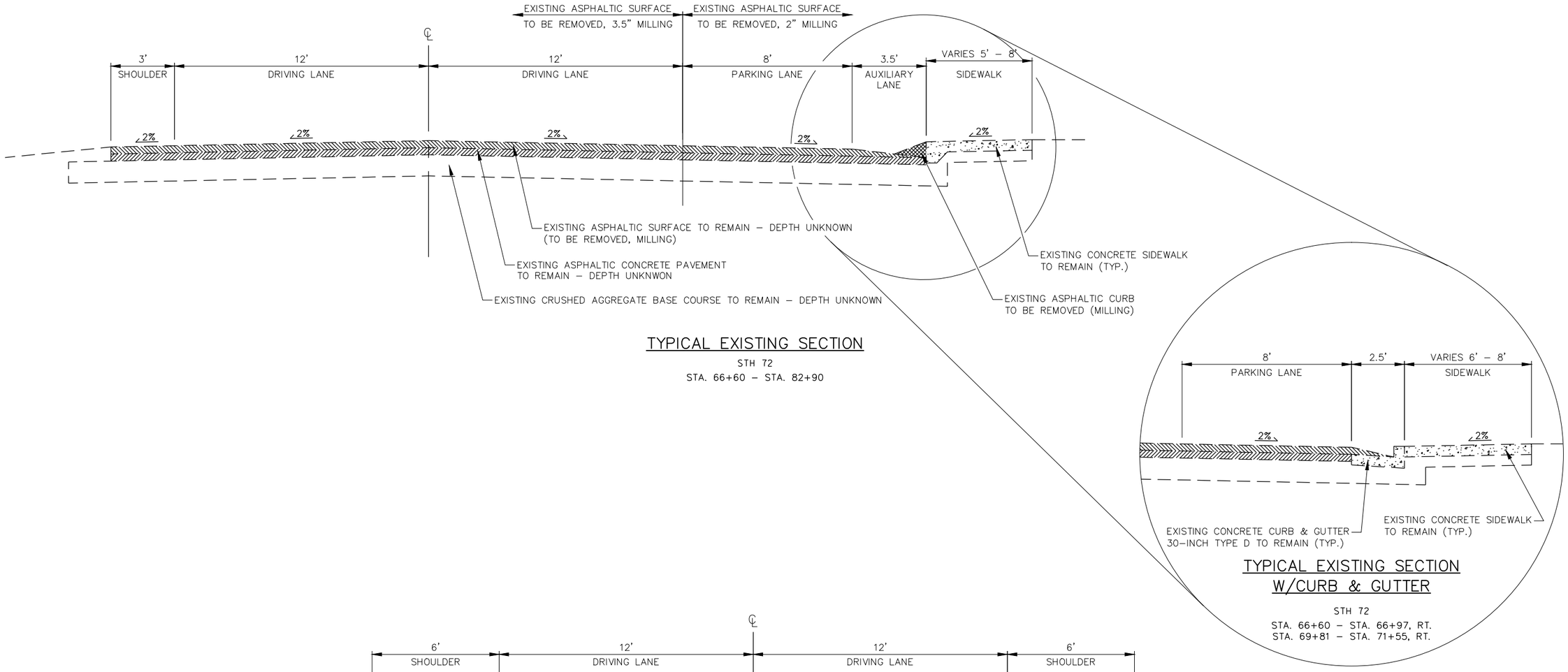
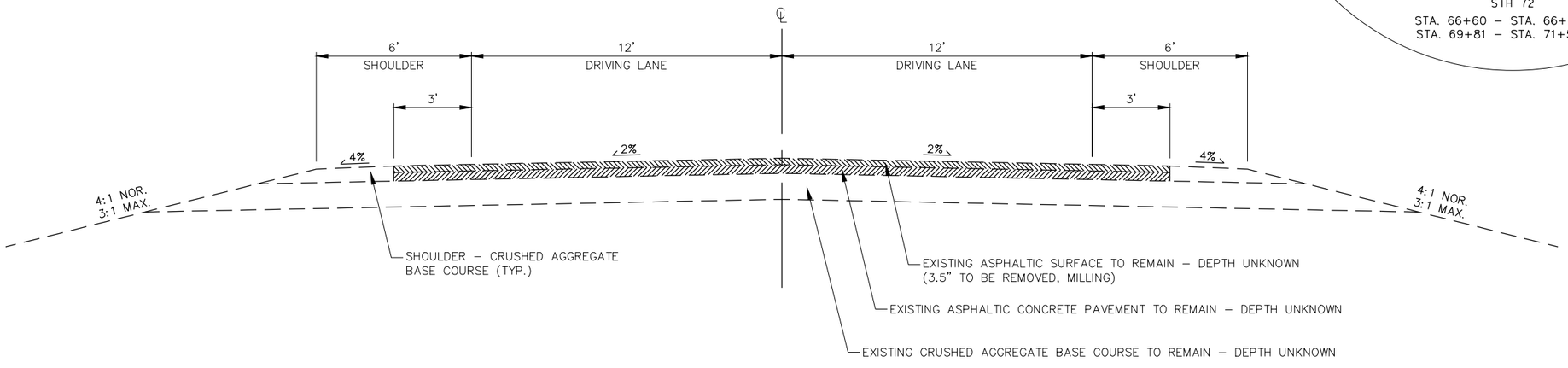


TYPICAL EXISTING SECTION

STH 72
STA. 66+60 – STA. 82+90

TYPICAL EXISTING SECTION W/CURB & GUTTER

STH 72
STA. 66+60 – STA. 66+97, RT.
STA. 69+81 – STA. 71+55, RT.



TYPICAL EXISTING SECTION

STH 72
STA. 82+90 – STA. 102+30

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - EXISTING	SHEET 7	E

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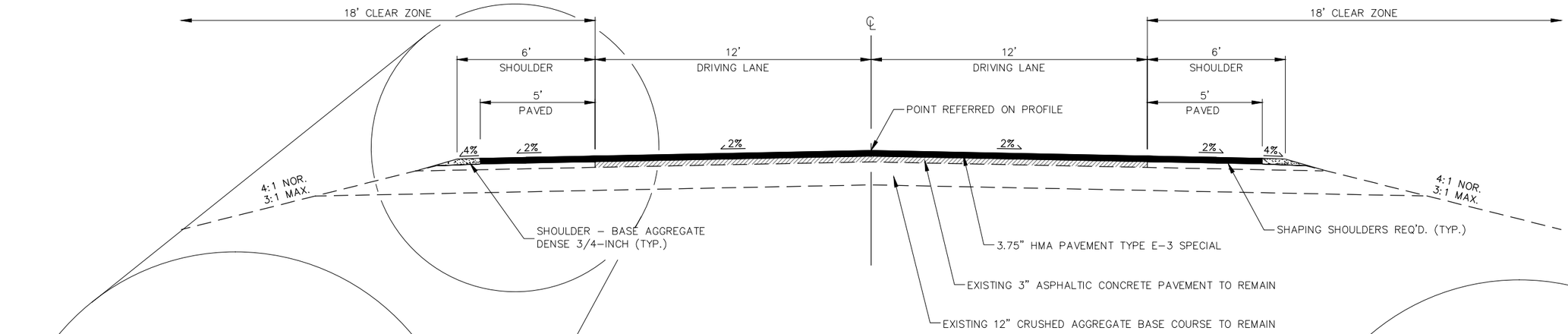
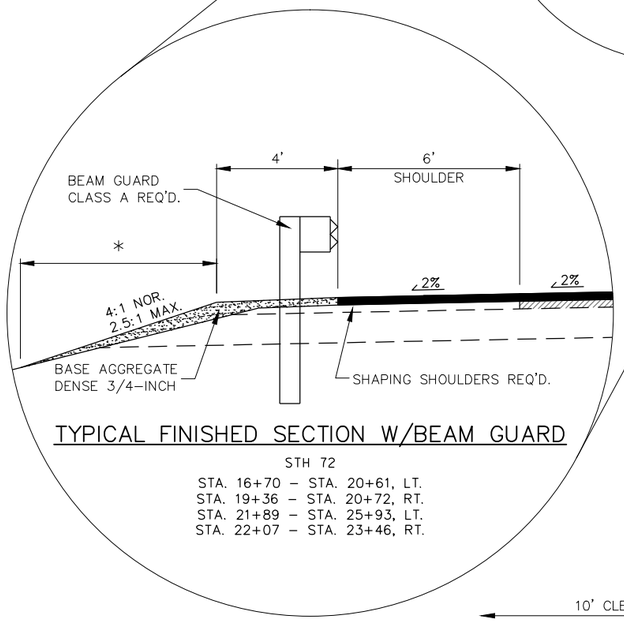


TYPICAL FINISHED SECTION

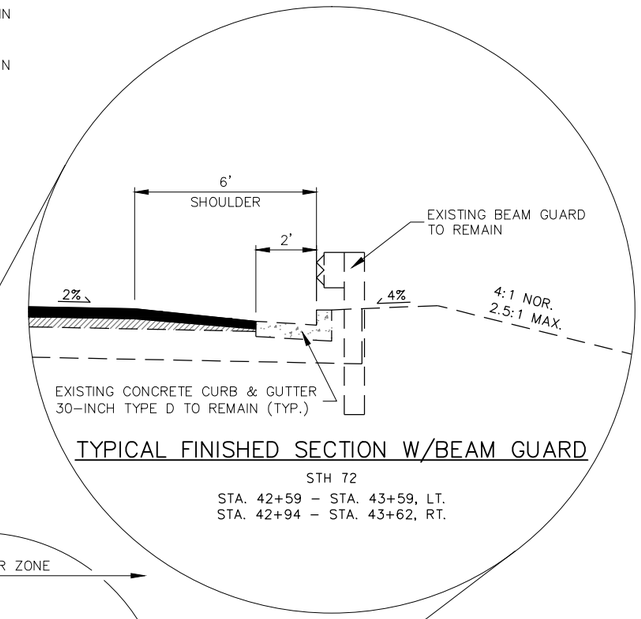
STH 72
STA. 14+25 – STA. 20+66
STA. 21+98 – STA. 35+80



TYPICAL FINISHED SECTION W/BEAM GUARD

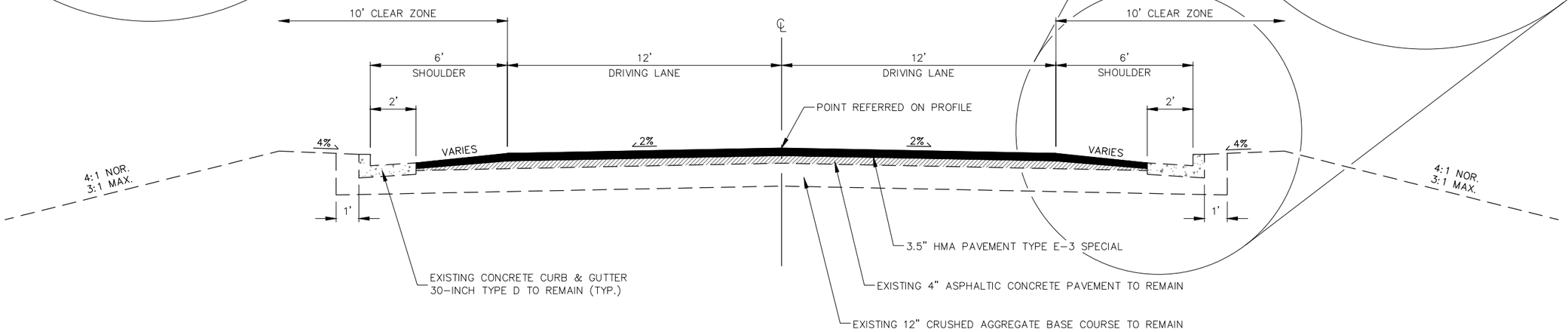
STH 72
STA. 16+70 – STA. 20+61, LT.
STA. 19+36 – STA. 20+72, RT.
STA. 21+89 – STA. 25+93, LT.
STA. 22+07 – STA. 23+46, RT.

* LIMITS OF SEEDING MIXTURE NO. 20, FERTILIZER TYPE B, AND MULCH



TYPICAL FINISHED SECTION W/BEAM GUARD

STH 72
STA. 42+59 – STA. 43+59, LT.
STA. 42+94 – STA. 43+62, RT.

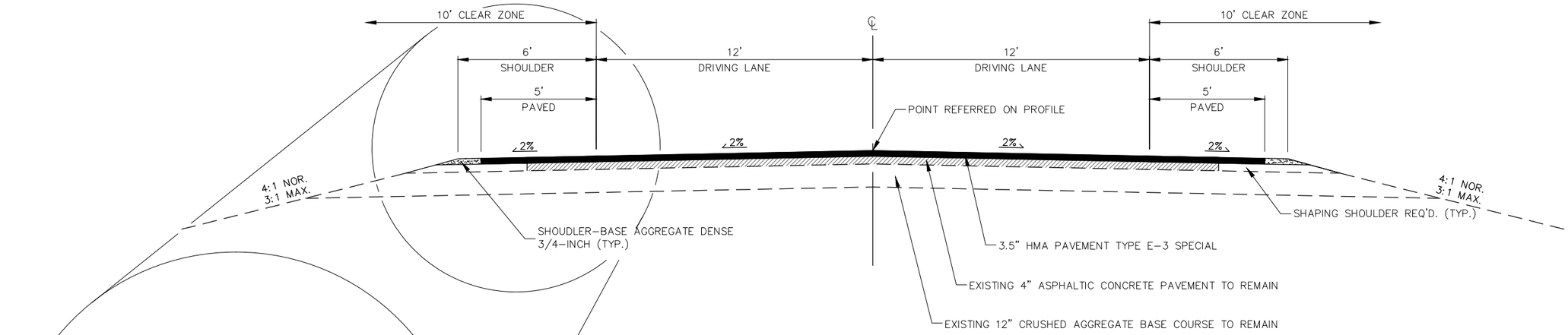


TYPICAL FINISHED SECTION

STH 72
STA. 35+80 – STA. 43+60

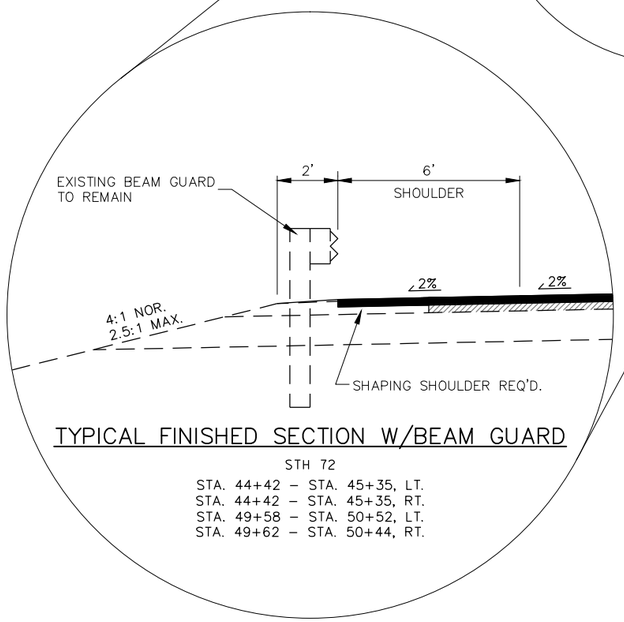
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - FINISHED	SHEET 8	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TYPICALS\TYPICAL SECTIONS-FINISHED.DWG
LAYOUT : LAYOUT1
PLOT DATE : 4/30/2014
PLOT TIME : 9:33:26 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'



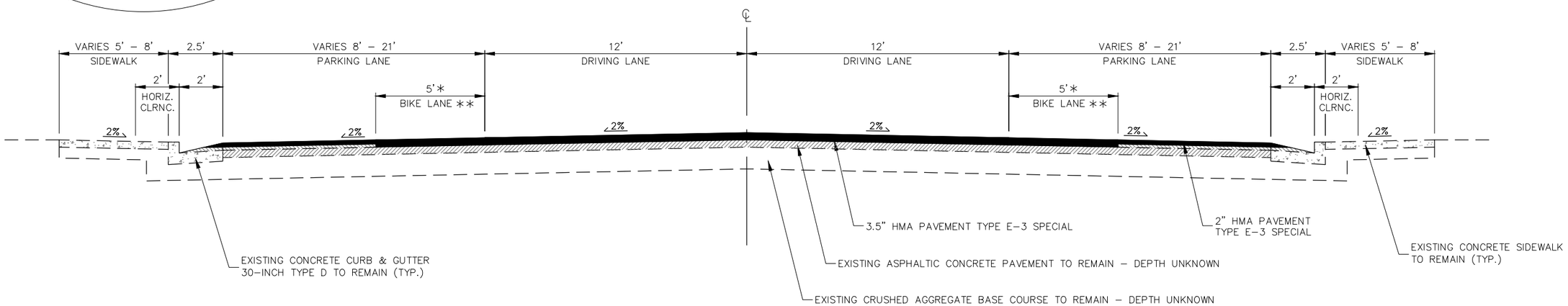
TYPICAL FINISHED SECTION

STH 72
STA. 44+42 – STA. 54+40



TYPICAL FINISHED SECTION W/BEAM GUARD

STH 72
STA. 44+42 – STA. 45+35, LT.
STA. 44+42 – STA. 45+35, RT.
STA. 49+58 – STA. 50+52, LT.
STA. 49+62 – STA. 50+44, RT.



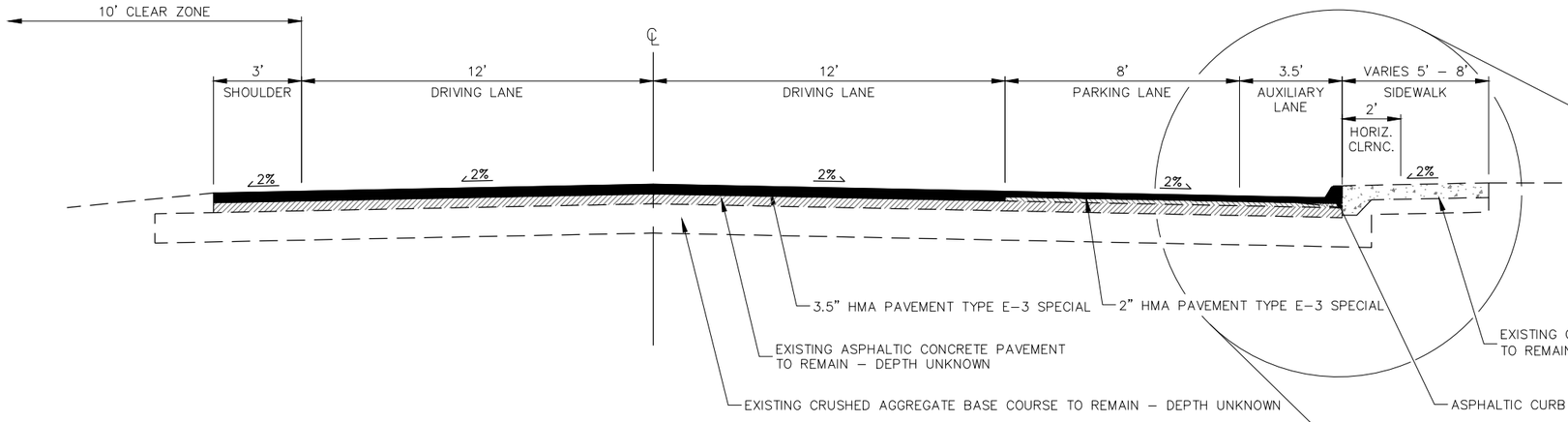
TYPICAL FINISHED SECTION

STH 72
STA. 54+40 – STA. 66+60

* DIMENSION IS 0' FROM STA. 58+85 TO STA. 66+60
** FROM STA. 54+40 TO STA. 58+85

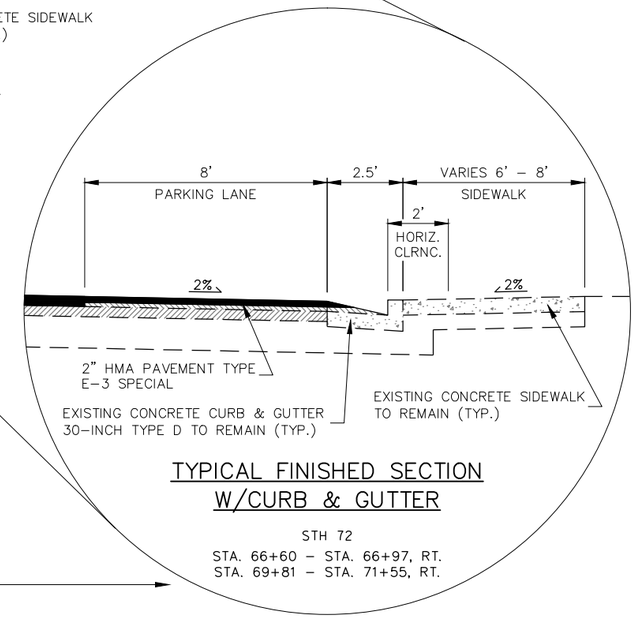
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - FINISHED	SHEET 9	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TYPICALS\TYPICAL SECTIONS-FINISHED.DWG
LAYOUT : LAYOUT2
PLOT DATE : 4/30/2014
PLOT TIME : 9:33:37 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'



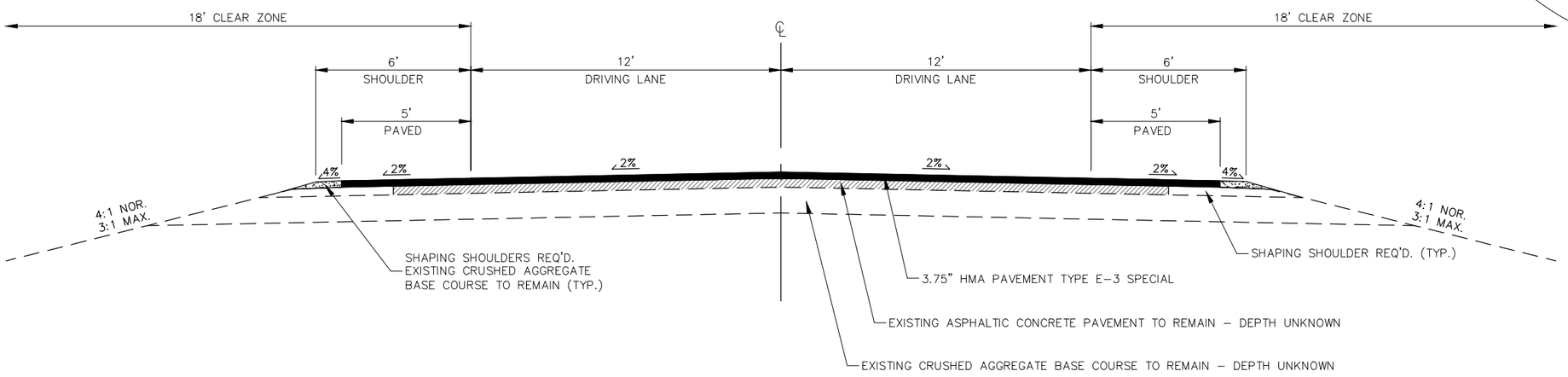
TYPICAL FINISHED SECTION

STH 72
STA. 66+60 – STA. 83+26



TYPICAL FINISHED SECTION W/CURB & GUTTER

STH 72
STA. 66+60 – STA. 66+97, RT.
STA. 69+81 – STA. 71+55, RT.

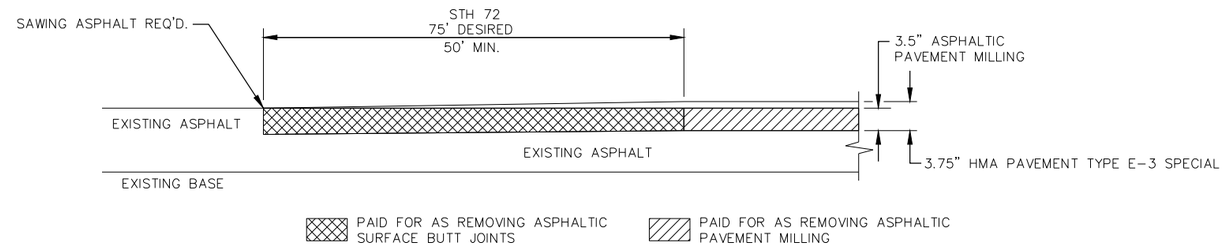


TYPICAL FINISHED SECTION

STH 72
STA. 83+26 – STA. 102+30

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TYPICAL SECTIONS - FINISHED	SHEET 10	E

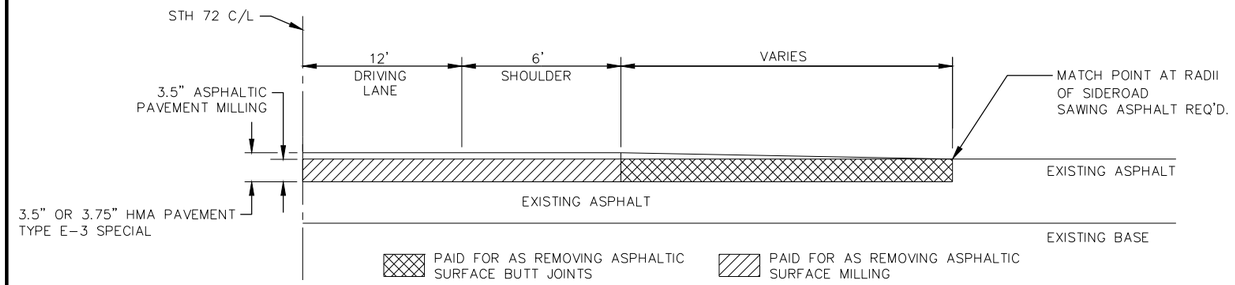
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TYPICALS\TYPICAL SECTIONS-FINISHED.DWG
LAYOUT : LAYOUT3
PLOT DATE : 4/30/2014
PLOT TIME : 9:33:48 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'



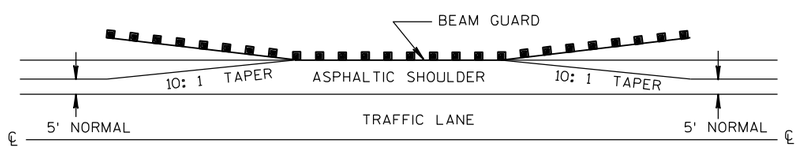
NOTE: REQUIRED AT BEGIN AND END OF PAVING LOCATIONS

DETAILS OF TRANSVERSE JOINT

STA. 14+25 – STA. 15+00
STA. 101+55 – STA. 102+30



BUTT JOINT DETAILS OF HMA PAVEMENT AT SIDEROADS

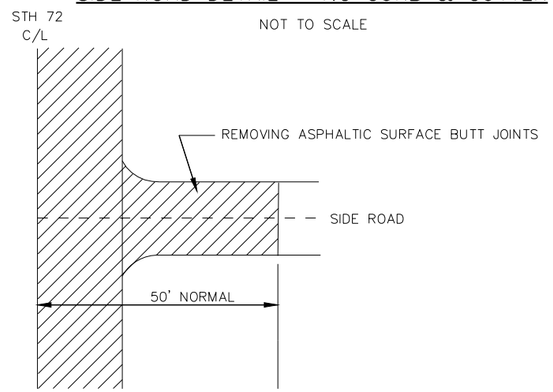


DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD

STH 72

SIDE ROAD DETAIL – NO CURB & GUTTER

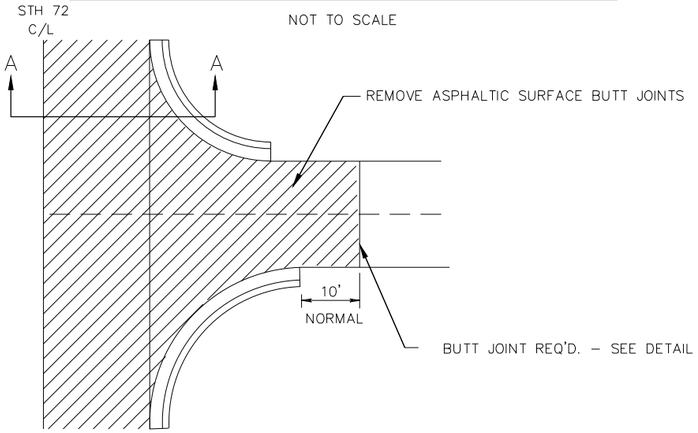
NOT TO SCALE

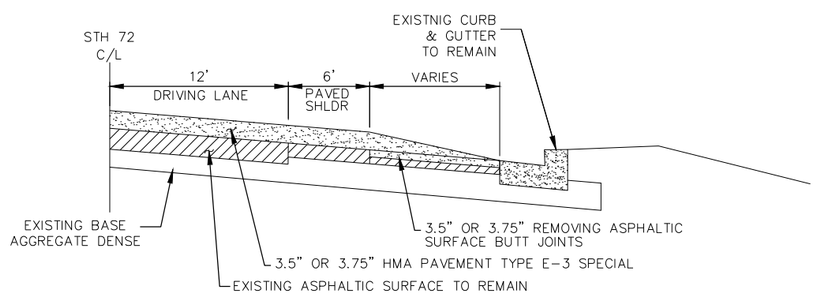


NOTE: IF THE EXISTING SIDEROAD CONSISTS OF A BASE COURSE SURFACE, THE NEW ASPHALT SHALL BE PLACED TO THE ENDS OF THE EXISTING SIDEROAD RADIUS'.

SIDEROAD DETAIL – CURB & GUTTER TO REMAIN

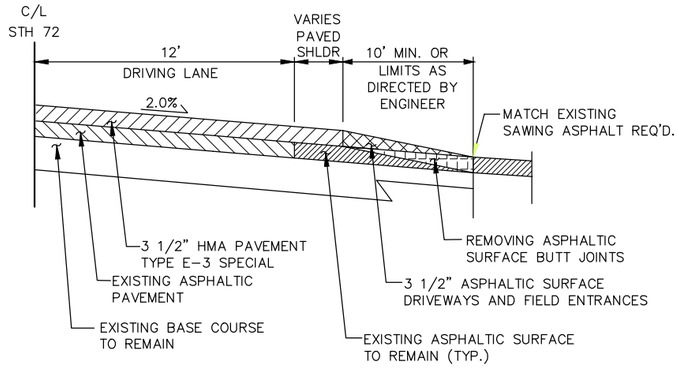
NOT TO SCALE



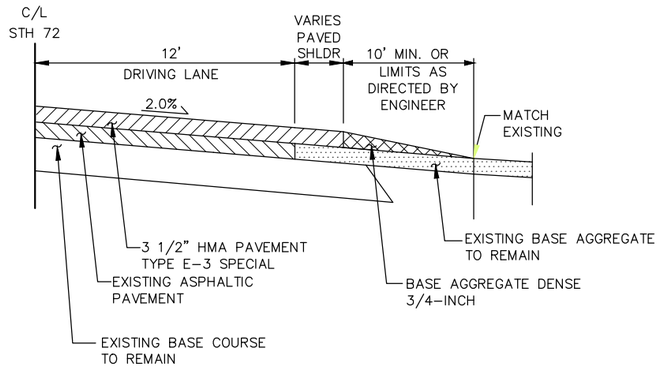


SECTION A–A

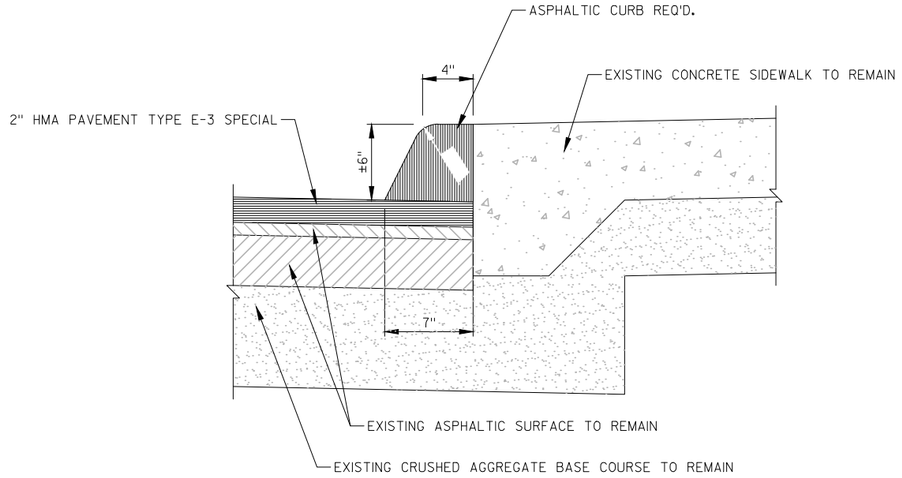
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CONSTRUCTION DETAILS	SHEET 11	E



TYPICAL ASPHALT DRIVEWAY PROFILE



TYPICAL BASE AGGREGATE DENSE DRIVEWAY PROFILE



ASPHALTIC CURB DETAIL

2

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CONSTRUCTION DETAILS	SHEET 12	E

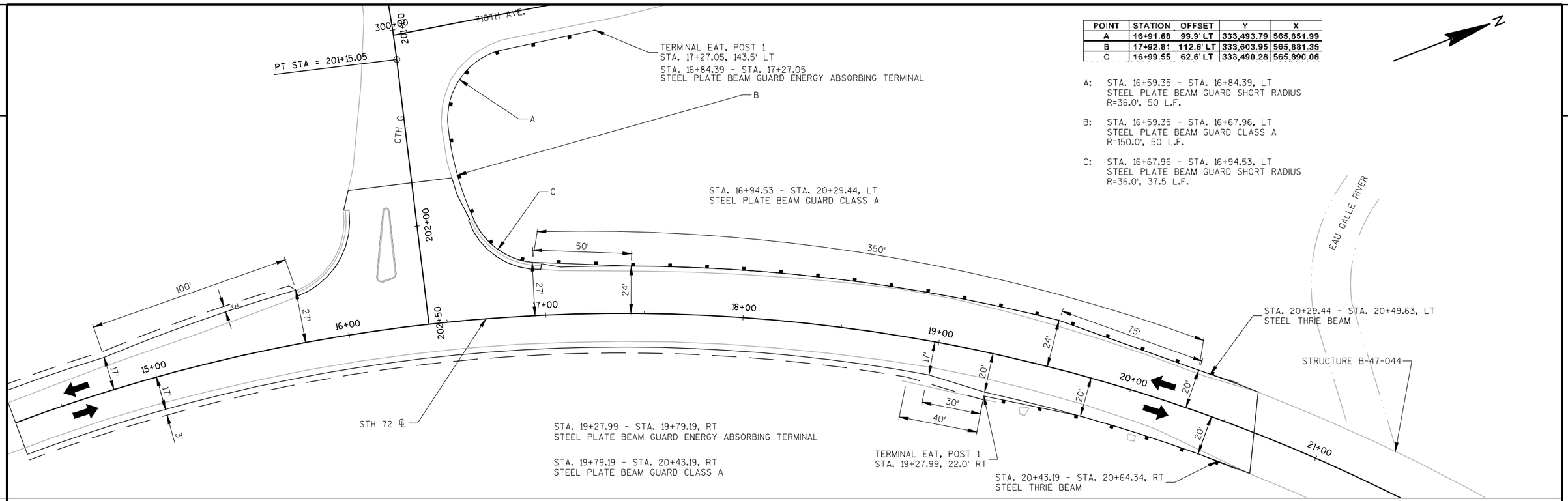
2

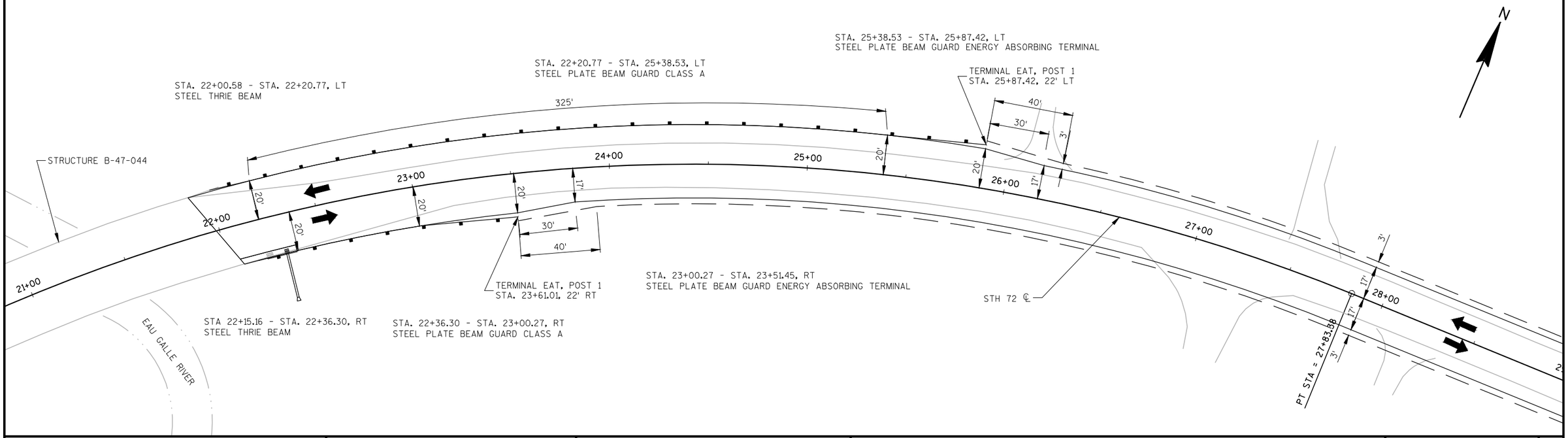
POINT	STATION	OFFSET	Y	X
A	16+91.68	99.9' LT	333,493.79	565,851.99
B	17+92.81	112.6' LT	333,603.95	565,881.35
C	16+99.55	62.6' LT	333,490.28	565,890.06

A: STA. 16+59.35 - STA. 16+84.39, LT
STEEL PLATE BEAM GUARD SHORT RADIUS
R=36.0', 50 L.F.

B: STA. 16+59.35 - STA. 16+67.96, LT
STEEL PLATE BEAM GUARD CLASS A
R=150.0', 50 L.F.

C: STA. 16+67.96 - STA. 16+94.53, LT
STEEL PLATE BEAM GUARD SHORT RADIUS
R=36.0', 37.5 L.F.

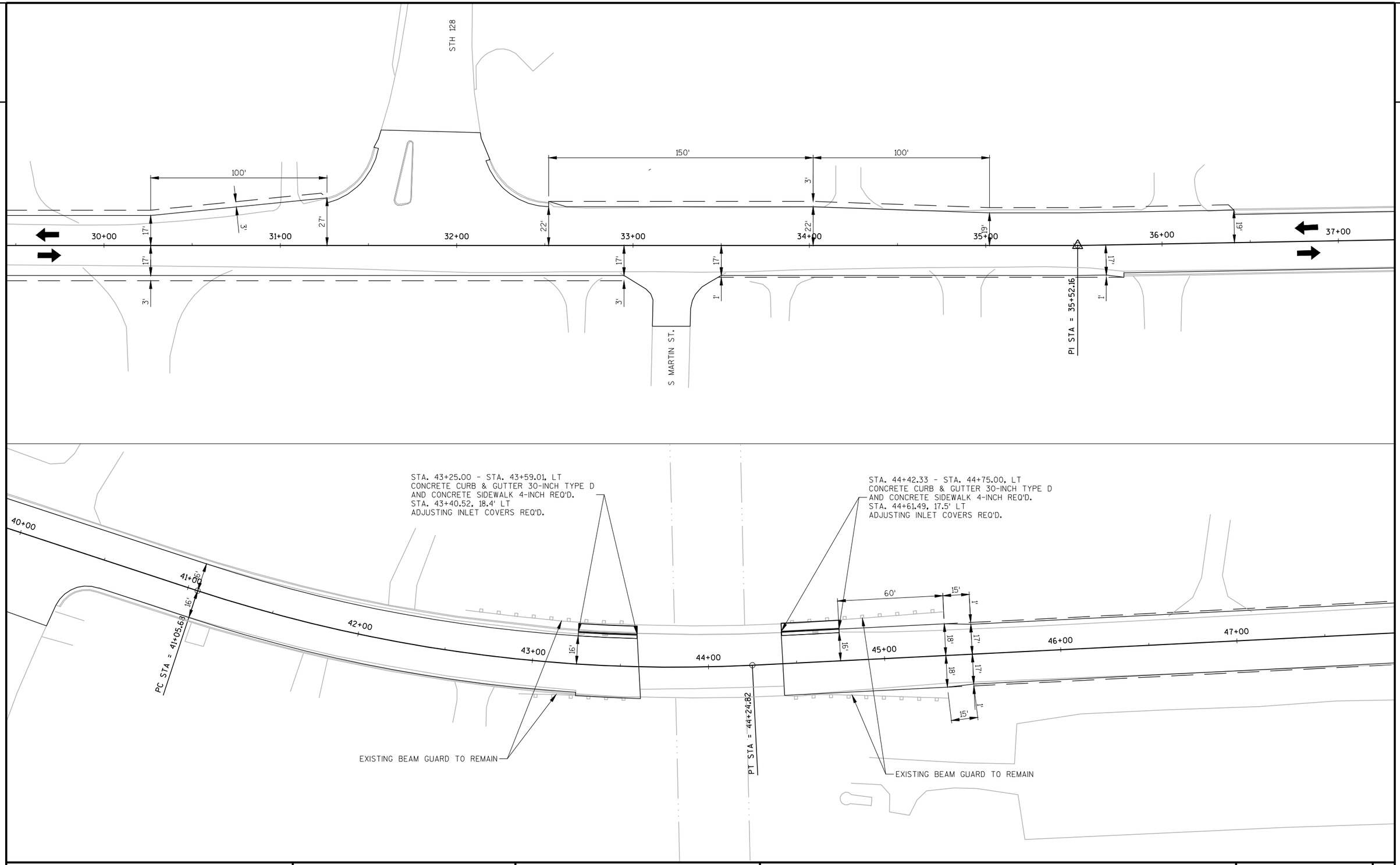




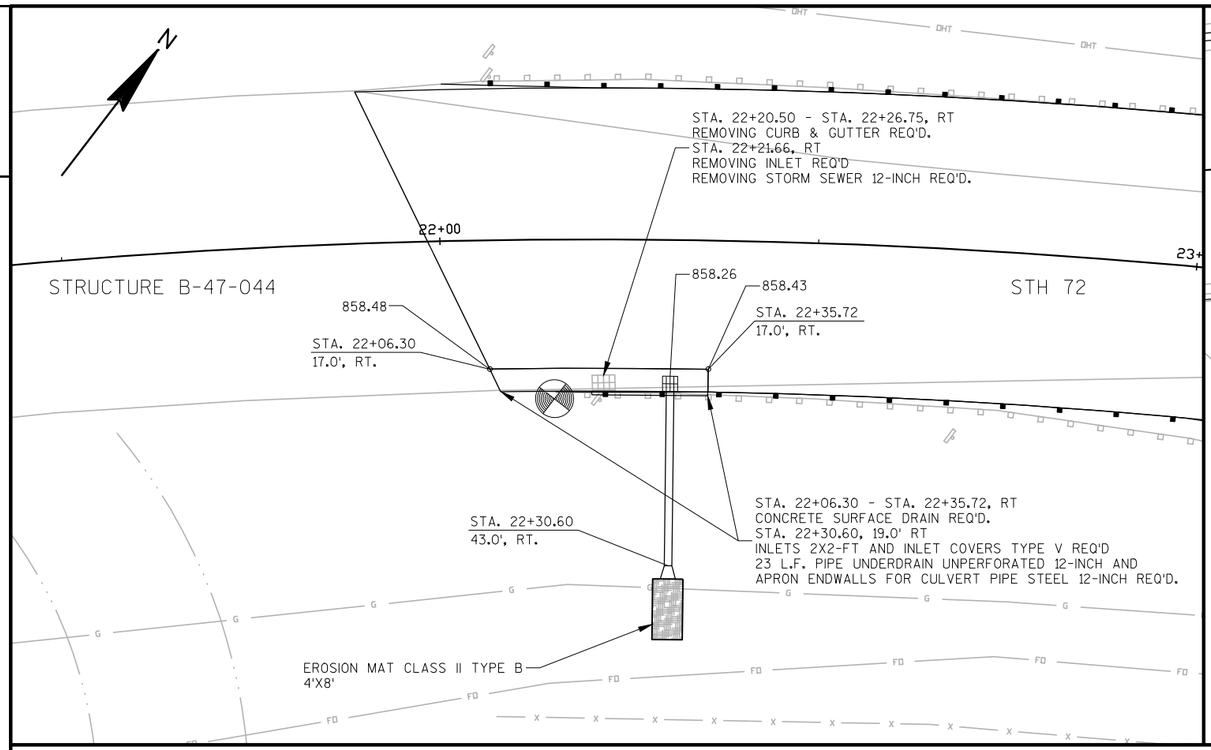
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT DETAILS	SHEET 13	E

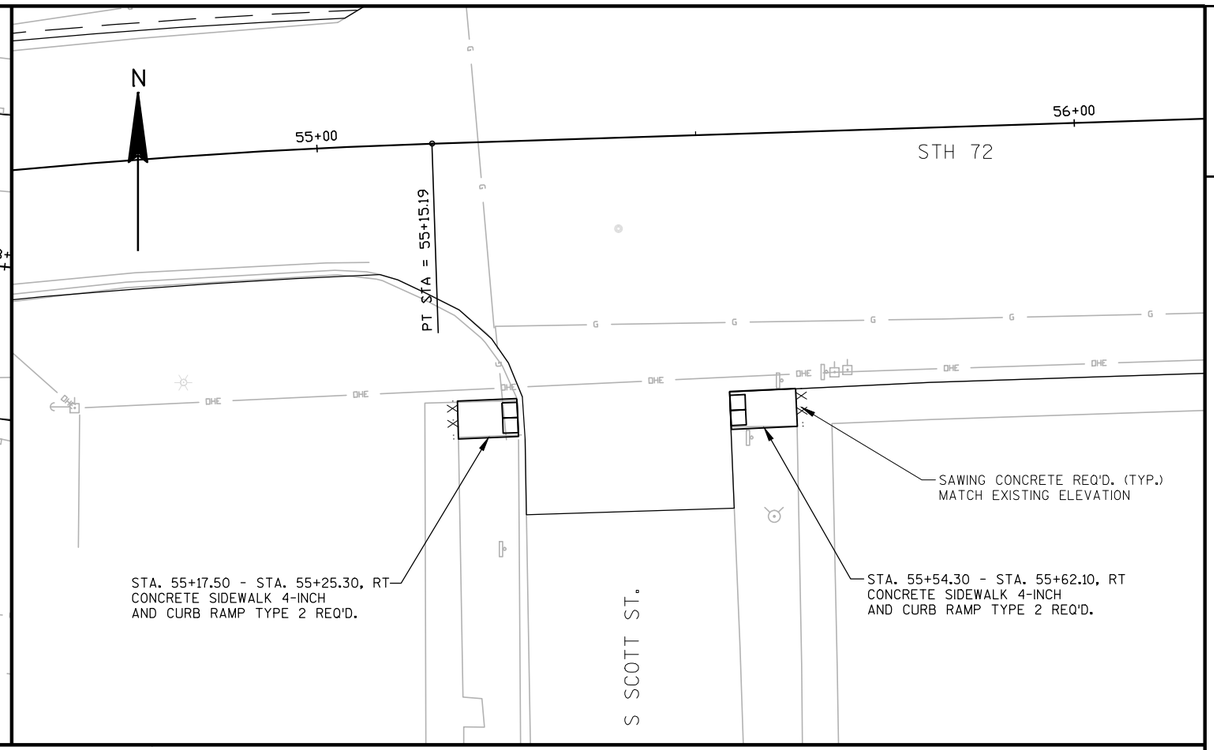
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\DETAILS\GUARDRAIL DETAIL.DWG
LAYOUT : LAYOUT
PLOT DATE : 4/25/2014
PLOT TIME : 2:52:18 PM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42

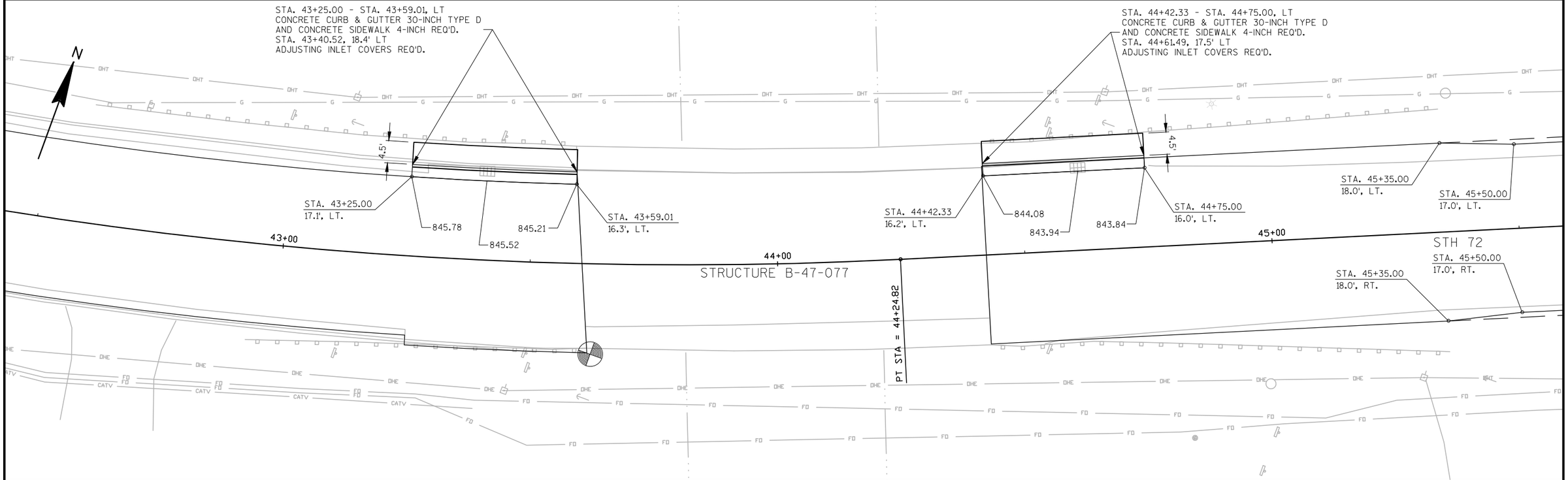
2



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT DETAILS	SHEET 14	E

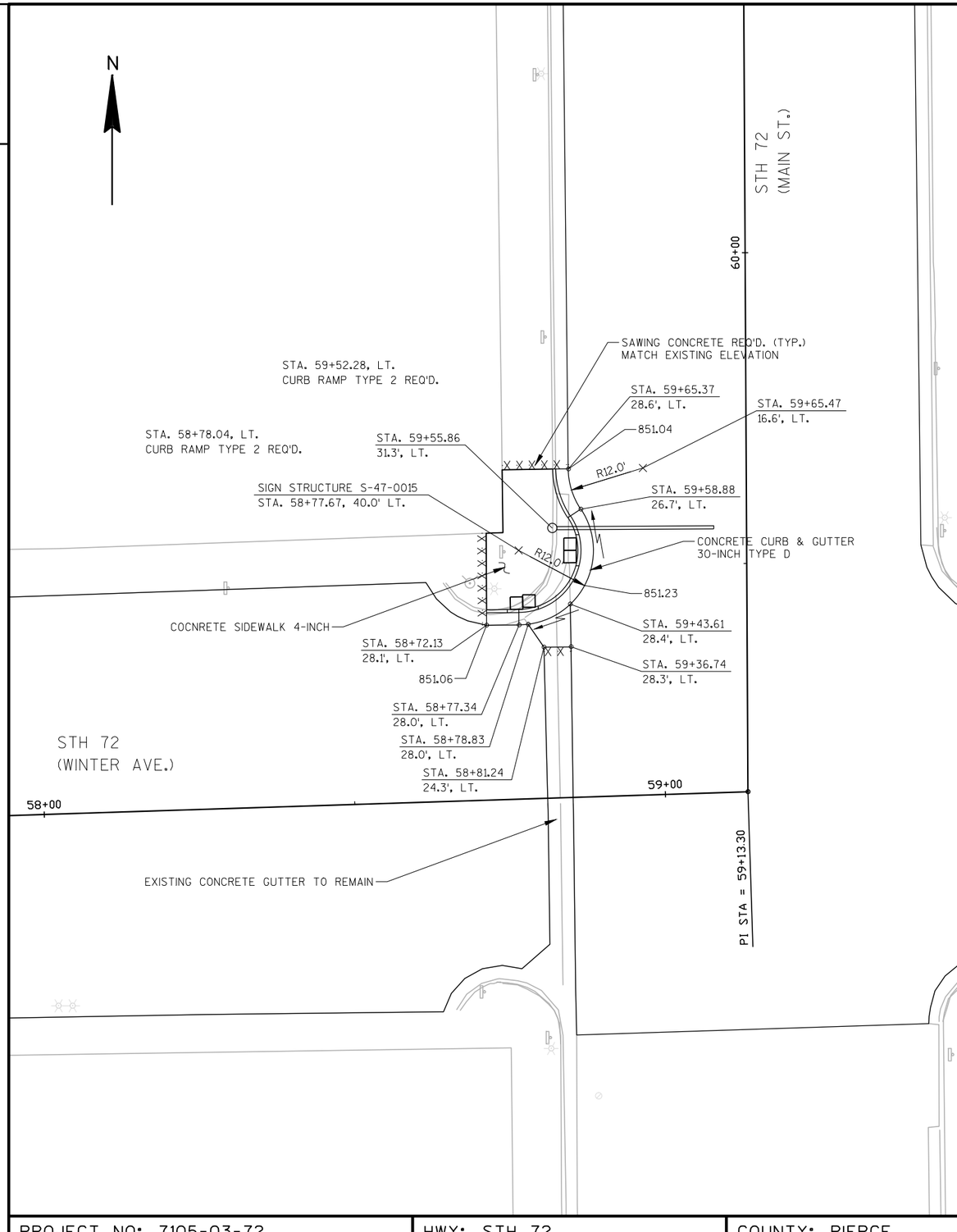


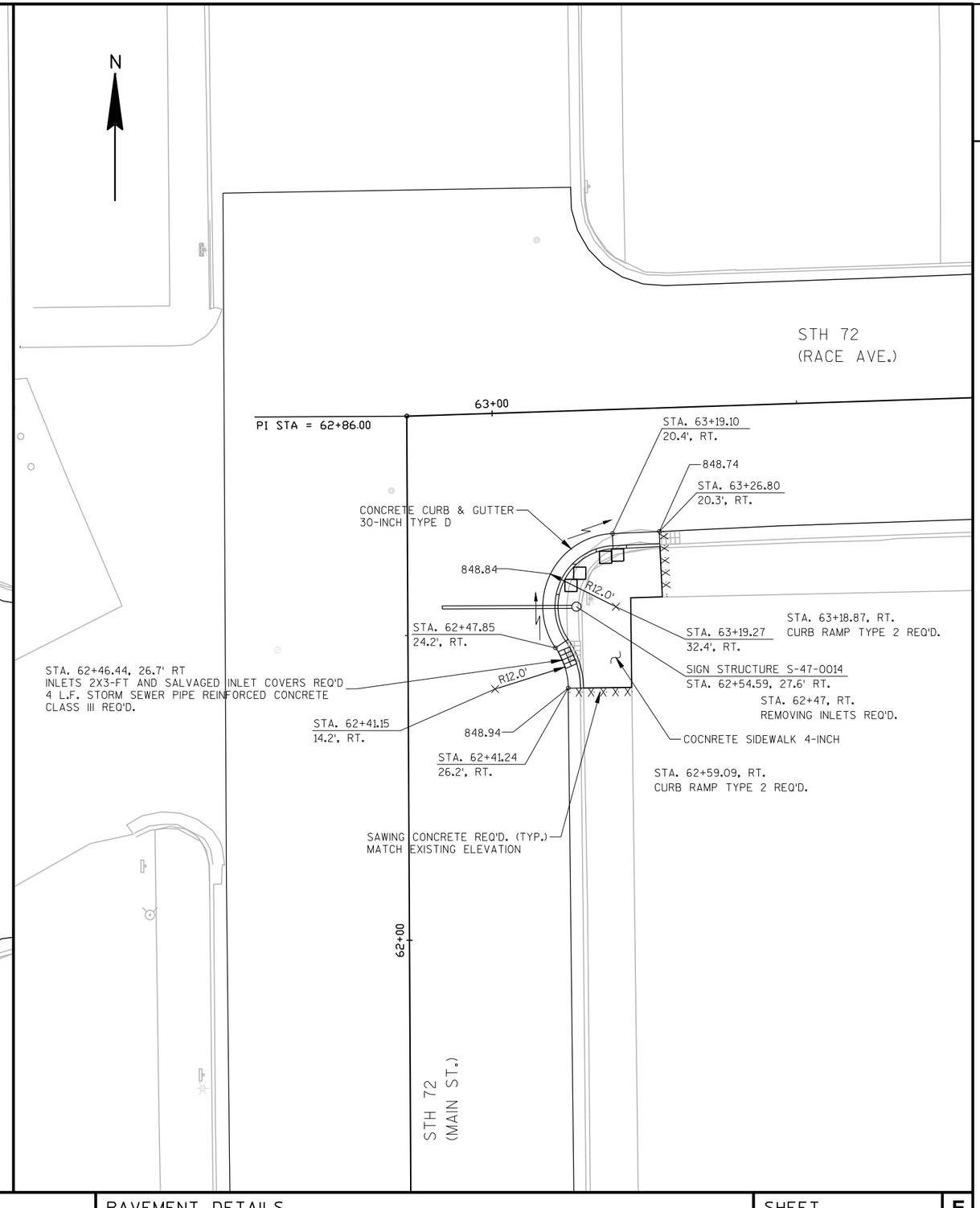




PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT DETAILS	SHEET 15	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\DETAILS\PAVEMENT LAYOUT.DWG
LAYOUT : 1
PLOT DATE : 6/11/2014
PLOT TIME : 10:03:57 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42





2

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT DETAILS	SHEET 16	E

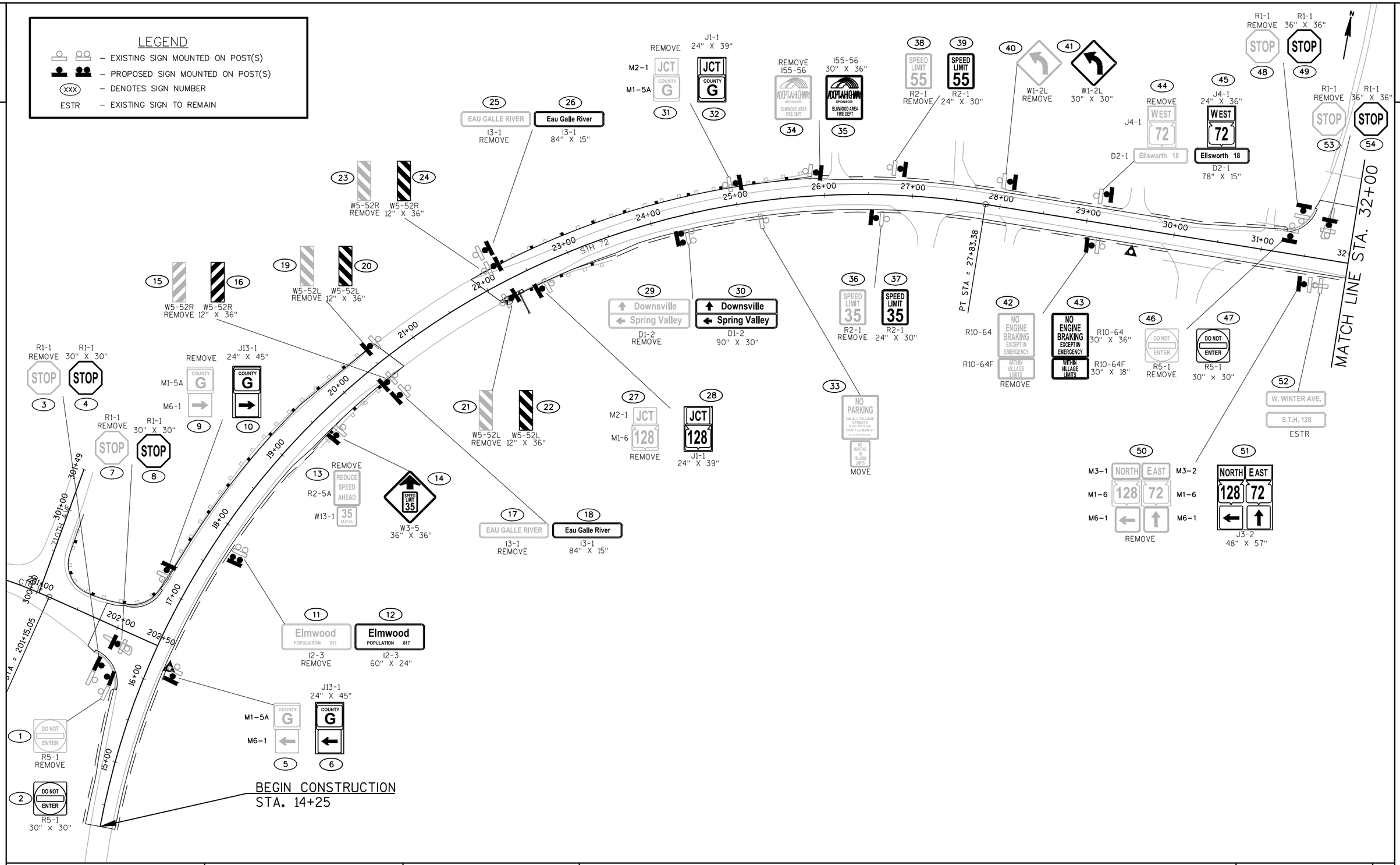
LEGEND

– EXISTING SIGN MOUNTED ON POST(S)

– PROPOSED SIGN MOUNTED ON POST(S)

(XXX) – DENOTES SIGN NUMBER

ESTR – EXISTING SIGN TO REMAIN

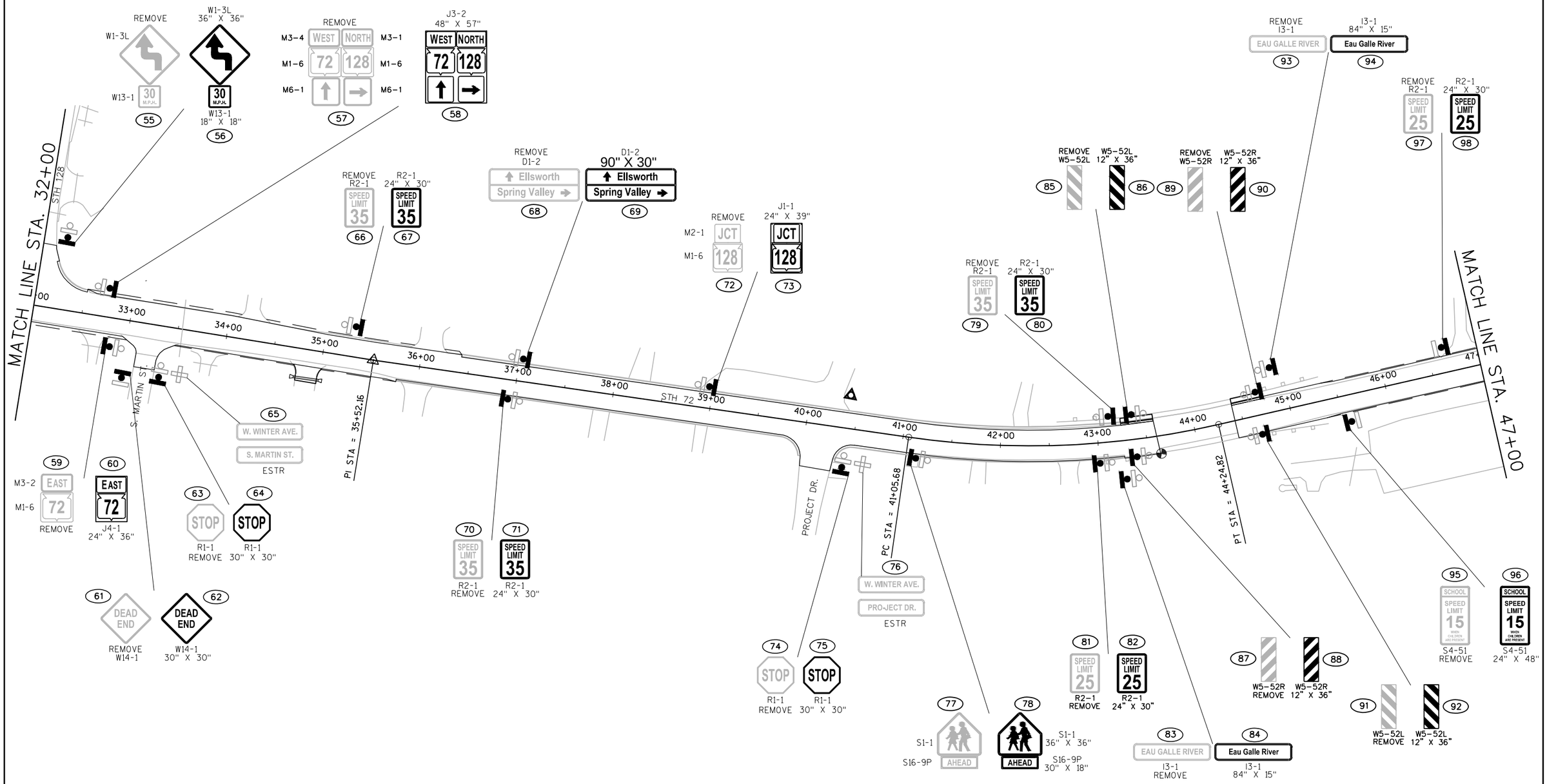


PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 17	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 1
PLOT DATE : 6/11/2014
PLOT TIME : 8:52:50 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- XXX – DENOTES SIGN NUMBER
- ESTR – EXISTING SIGN TO REMAIN

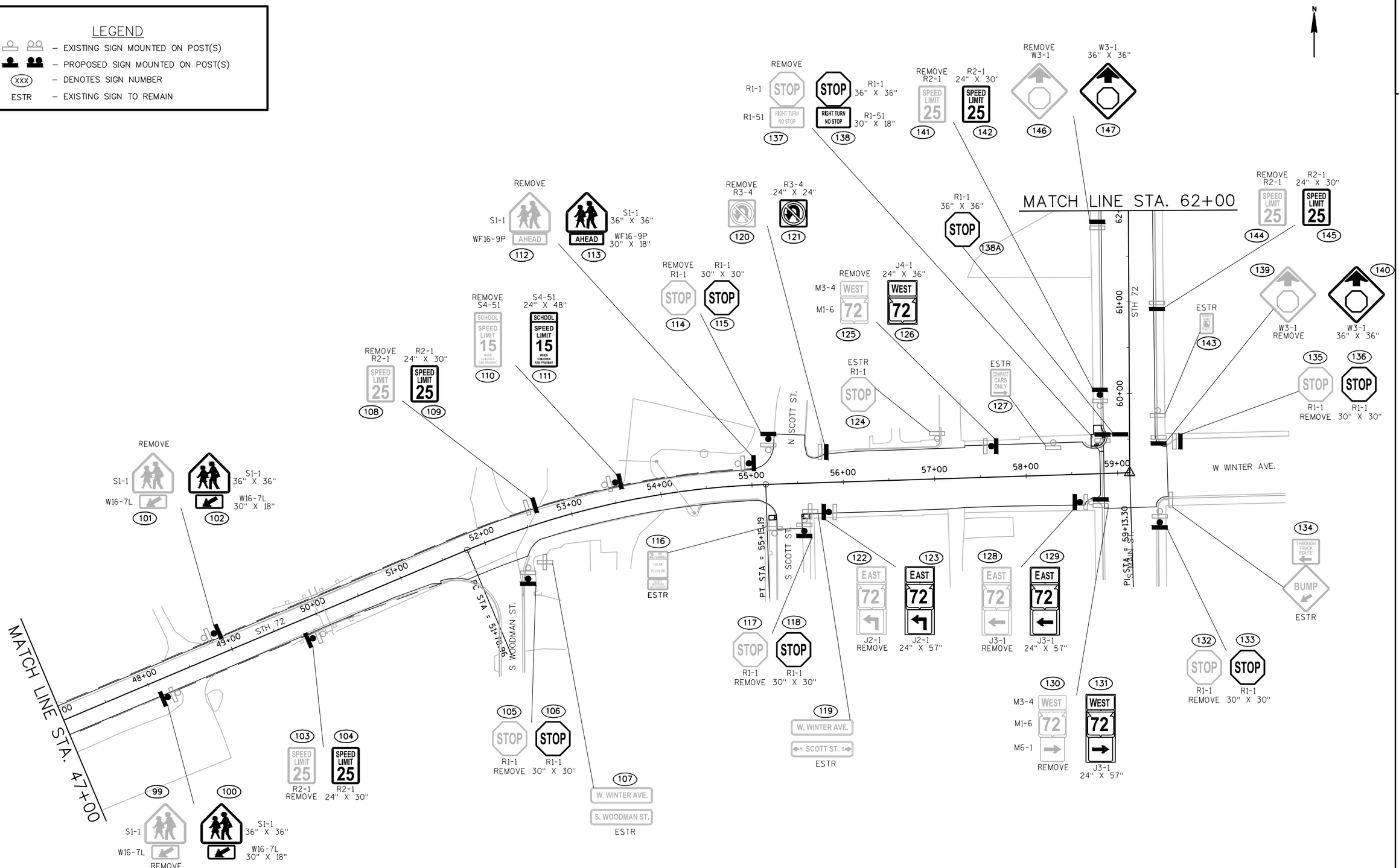


PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 18	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 2
PLOT DATE : 6/11/2014
PLOT TIME : 8:57:32 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

LEGEND

- – EXISTING SIGN MOUNTED ON POST(S)
- – PROPOSED SIGN MOUNTED ON POST(S)
- (XXX) – DENOTES SIGN NUMBER
- ESTR – EXISTING SIGN TO REMAIN



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 19	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 3
PLOT DATE : 2/27/2014
PLOT TIME : 8:17:43 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

LEGEND

- – EXISTING SIGN MOUNTED ON POST(S)
- – PROPOSED SIGN MOUNTED ON POST(S)
- XXX – DENOTES SIGN NUMBER
- ESTR – EXISTING SIGN TO REMAIN

N

MATCH LINE STA. 62+00

MATCH LINE STA. 77+00

PI STA = 62+86.00

STH 72

N MAIN ST.

OMAHA AVE.

N WOODWORTH ST.

N CLARK ST.

CTH P (N PUBLIC ST.)

63+00 64+00 65+00 66+00 67+00 68+00 69+00 70+00 71+00 72+00 73+00 74+00 75+00 76+00

148 R1-1 REMOVE
149 R1-1 30" X 30"
150 J2-1 REMOVE; R1-1 REMOVE; R1-51 REMOVE
151 J2-1 24" X 57"; R1-1 36" X 36"; R1-51 30" X 18"
151A R1-1 36" X 36"
152 J3-1 REMOVE; R1-1 REMOVE; R7-8A ESTR (FACING EAST)
153 J3-1 24" X 57" (FACING EAST); R1-1 30" X 30" (FACING NORTH)
154 REMOVE R3-4
155 R3-4 24" X 24"
156 REMOVE R1-1
157 R1-1 30" X 30"
158 R1-1 ESTR
160 REMOVE R2-1
161 R2-1 24" X 30"
162 REMOVE R1-1
163 R1-1 30" X 30"
164 R1-1 REMOVE
165 R1-1 30" X 30"
166 W. RACE AVE. / N. WOODWORTH ST. ESTR
167 R2-1 REMOVE
168 R2-1 24" X 30"
169 REMOVE M3-4, M1-6, M5-1L
170 J2-1 24" X 57"
171 M2-1, M1-5A REMOVE
172 J1-1 24" X 39"
173 REMOVE W11-8
174 W11-8 30" X 30"
175 ESTR W. RACE AVE. / N. CLARK ST.
176 REMOVE R1-1
177 R1-1 30" X 30"
178 R1-1 REMOVE
179 R1-1 30" X 30"
180 ESTR N. RACE DR.
181 REMOVE R2-1
182 R2-1 24" X 30"
183 J13-1 REMOVE
184 J13-1 24" X 45"
185 REMOVE J13-2
186 J13-2 48" X 45"
187 REMOVE R1-1
188 R1-1 30" X 30"
189 R1-1 REMOVE
190 R1-1 30" X 30"
191 J13-2 REMOVE
192 J13-2 48" X 45"
193 W. RACE AVE. / S. PUBLIC ST. ESTR
194 R2-1 REMOVE
195 R2-1 24" X 30"
196 REMOVE J13-1
197 J13-1 24" X 45"

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 20	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 4
PLOT DATE : 2/27/2014
PLOT TIME : 8:19:17 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

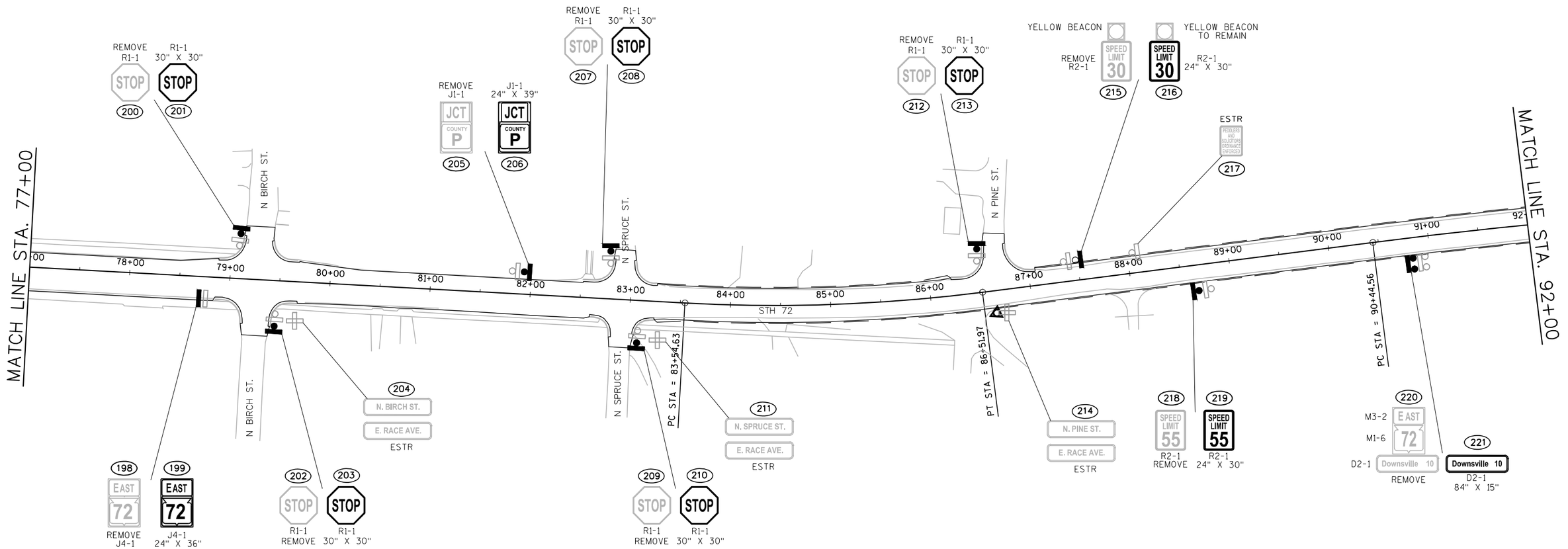
LEGEND

– EXISTING SIGN MOUNTED ON POST(S)

– PROPOSED SIGN MOUNTED ON POST(S)

(XXX) – DENOTES SIGN NUMBER

ESTR – EXISTING SIGN TO REMAIN



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 21	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 5
PLOT DATE : 6/11/2014
PLOT TIME : 8:56:43 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

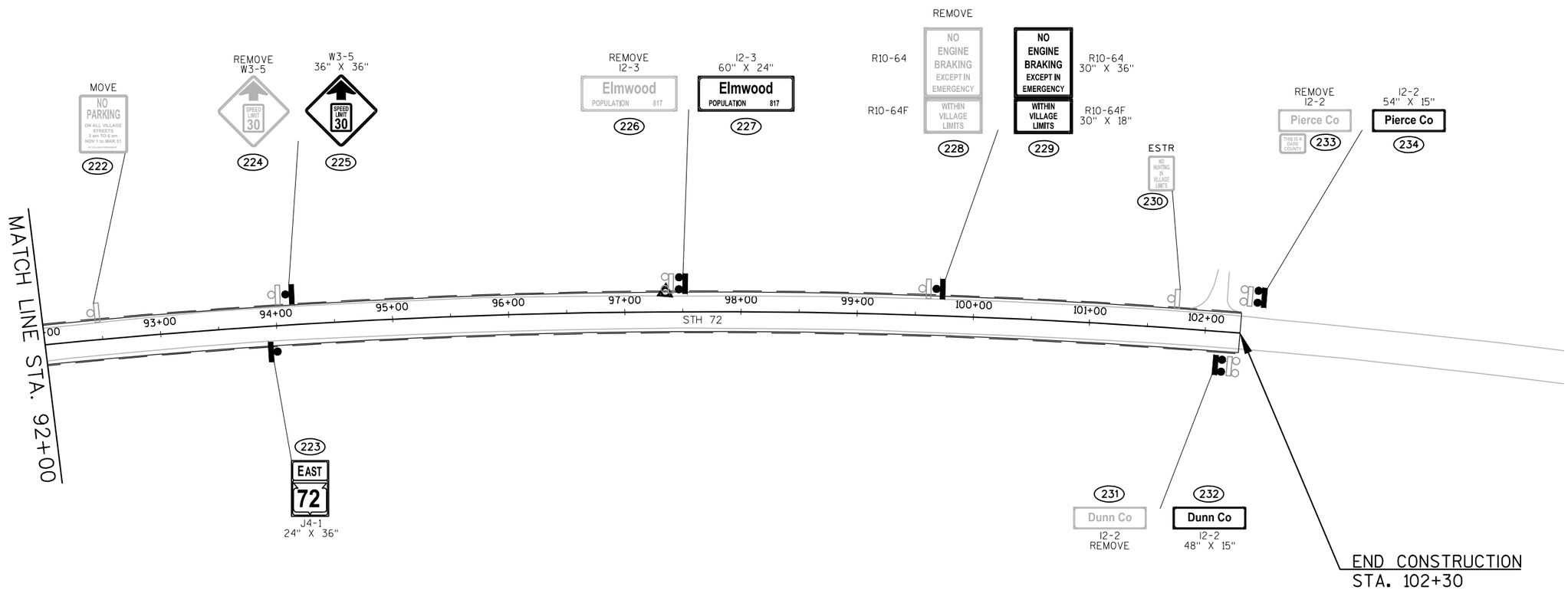
LEGEND

– EXISTING SIGN MOUNTED ON POST(S)

– PROPOSED SIGN MOUNTED ON POST(S)

XXX – DENOTES SIGN NUMBER

ESTR – EXISTING SIGN TO REMAIN



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET 22	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PERMANENT SIGNING\SIGNING PLAN.DWG
LAYOUT : 6
PLOT DATE : 6/11/2014
PLOT TIME : 8:56:54 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

GENERAL NOTES

1) DRAWINGS NOT SCALE.

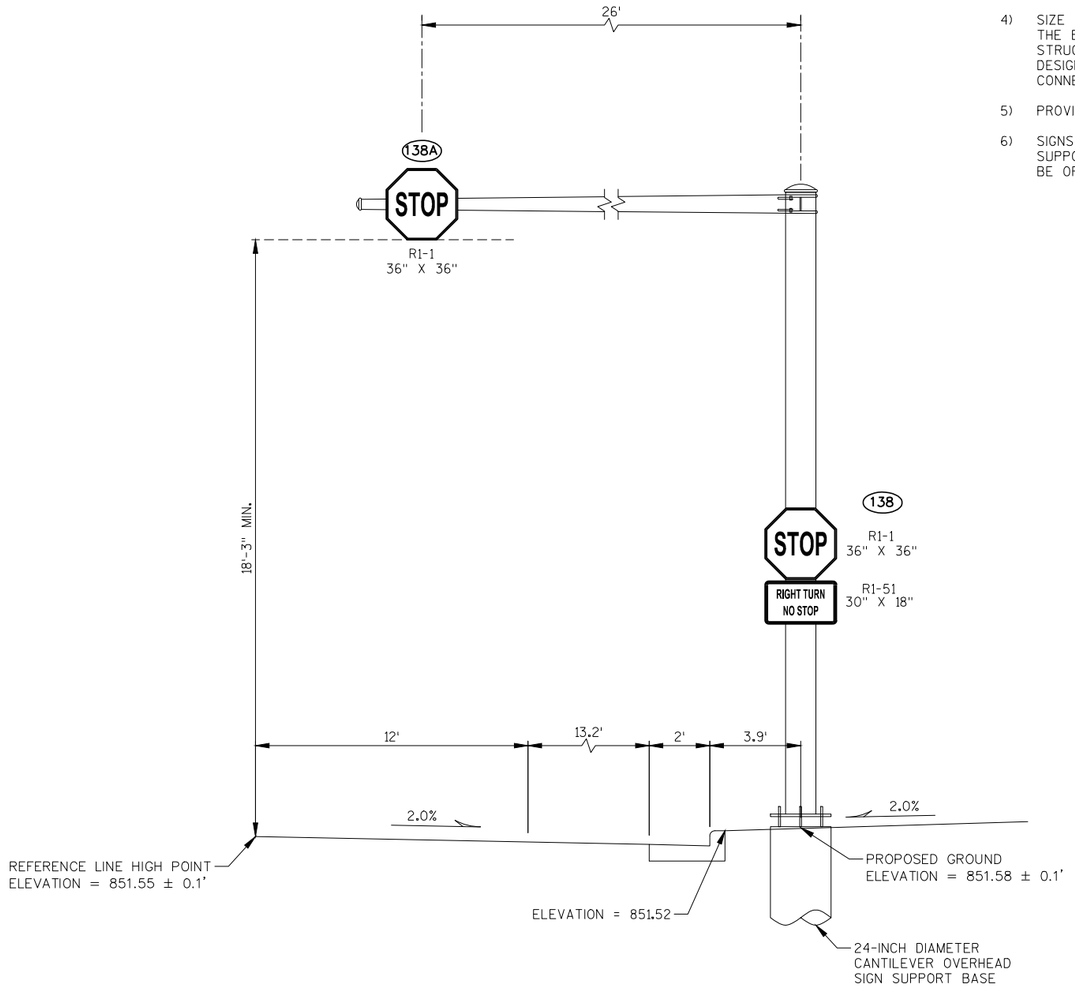
2) DESIGN NEW OVERHEAD SIGN SUPPORTS AND ANCHOR BOLT ASSEMBLY FOR OVERHEAD SIGN SUPPORT ACCORDING TO THE LATEST EDITION OF, AND SUPPLEMENTAL TO THE STATE OF WISCONSIN "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION."

3) PROVIDE AN IDENTIFICATION PLAQUE FOR ALL OVERHEAD SIGN SUPPORTS. TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "OVERHEAD SIGN SUPPORT".

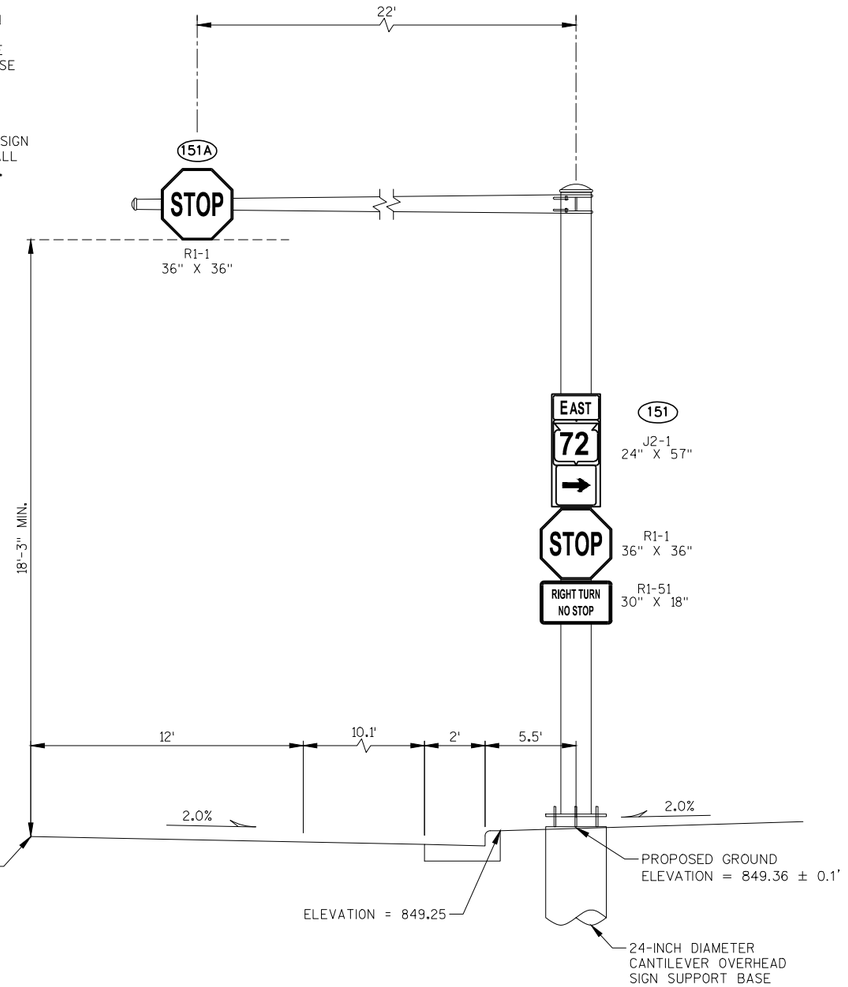
4) SIZE THE ANCHOR BOLT/TEMPLATE ASSEMBLY TO FIT WITHIN THE BAR CAGE OF THE PIER SIGN SUPPORT SHOWN IN THE STRUCTURE PLANS IN ADDITION TO MEETING ALL APPLICABLE DESIGN REQUIREMENTS FOR THE DESIGN OF THE UPRIGHT BASE CONNECTION.

5) PROVIDE DIESIGN CALCULATIONS.

6) SIGNS OR BLANKS SHALL BE INSTALLED ON THE OVERHEAD SIGN SUPPORT AT THE TIME OF ERECTION. BLANKS, IF USED, SHALL BE OF THE SAME SIZE AND LOCATION AS PERMANENT SIGNS.



OVERHEAD SIGN SUPPORT DETAIL
S-47-0015
STA. 59+55.86, 31.3' LT
NW QUADRANT WINTER AVE AND MAIN ST



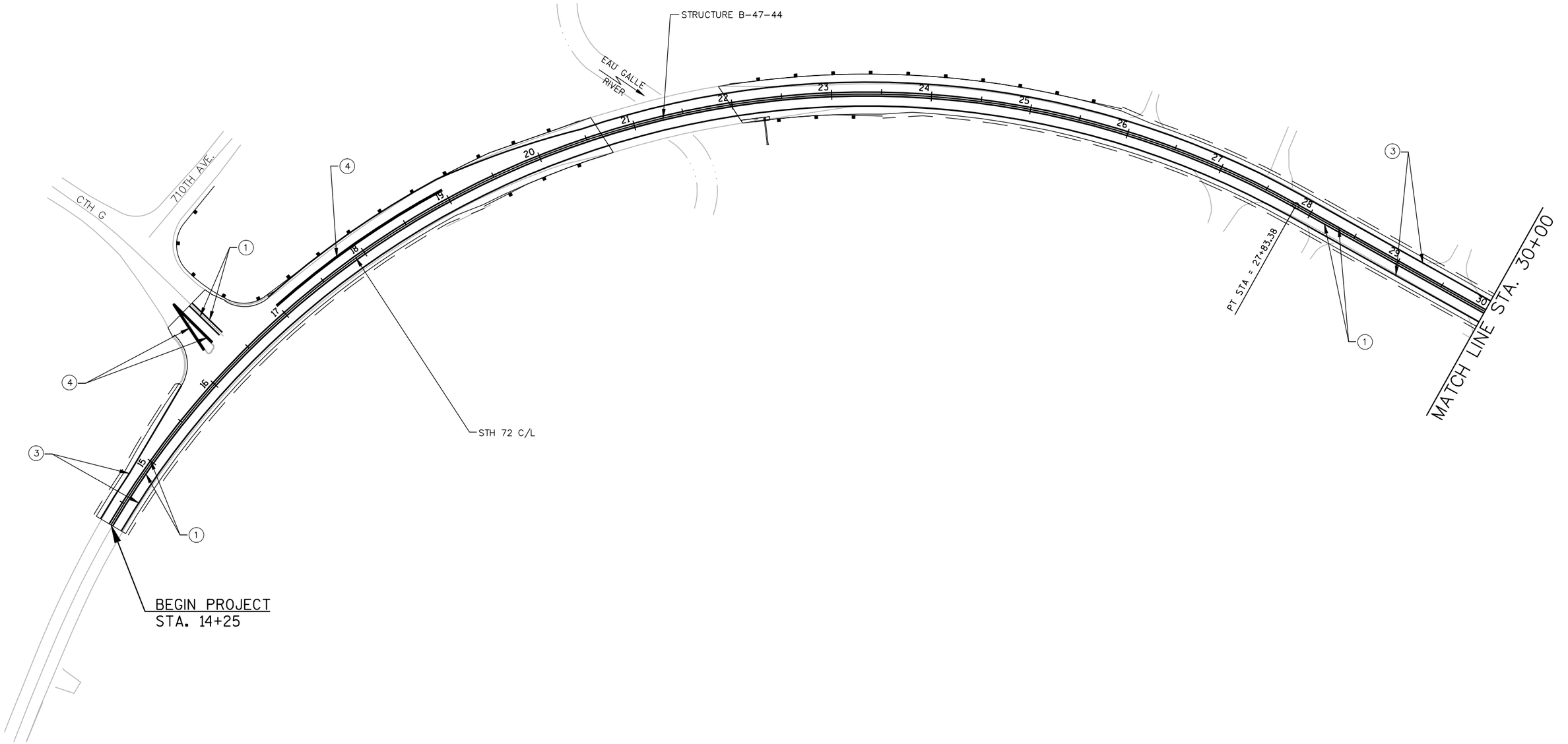
OVERHEAD SIGN SUPPORT DETAIL
S-47-0014
STA. 62+54.59, 27.6' RT
SE QUADRANT MAIN ST AND RACE AVE

LEGEND

1. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, YELLOW)
2. – PAVEMENT MARKING EPOXY 4–INCH (DASHED, YELLOW)
3. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, WHITE)
4. – PAVEMENT MARKING EPOXY 8–INCH (SOLID, WHITE)
5. – PAVEMENT MARKING ARROWS BIKE LANE EPOXY
6. – PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY
7. – PAVEMENT MARKING STOP LINE EPOXY 18–INCH
8. – PAVEMENT MARKING CROSSWALK EPOXY 6–INCH
9. – PAVEMENT MARKING CROSSWALK EPOXY 18–INCH
10. – PAVEMENT MARKING PARKING STALL EPOXY WHITE

NOTE: NO-PASSING ZONE START AND END LOCATIONS SHOWN ON THE PLAN ARE APPRROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED AFTER THE SURVEY OF LOCATING NO-PASSING ZONES HAS BEEN PHYSICALLY COMPLETED IN THE FIELD.

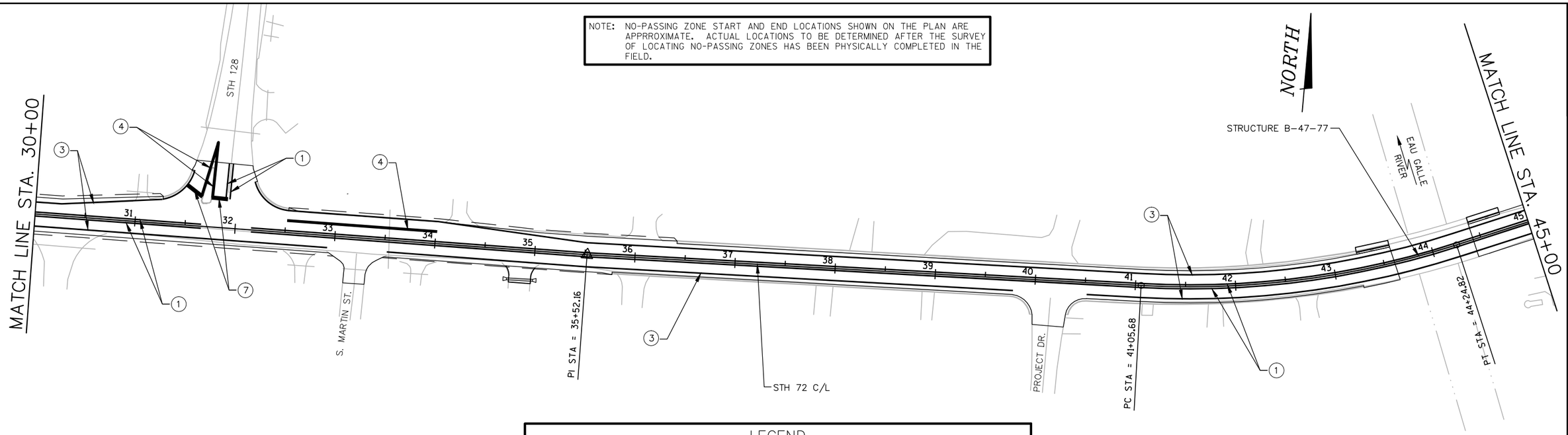
NORTH



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING	SHEET 24	E

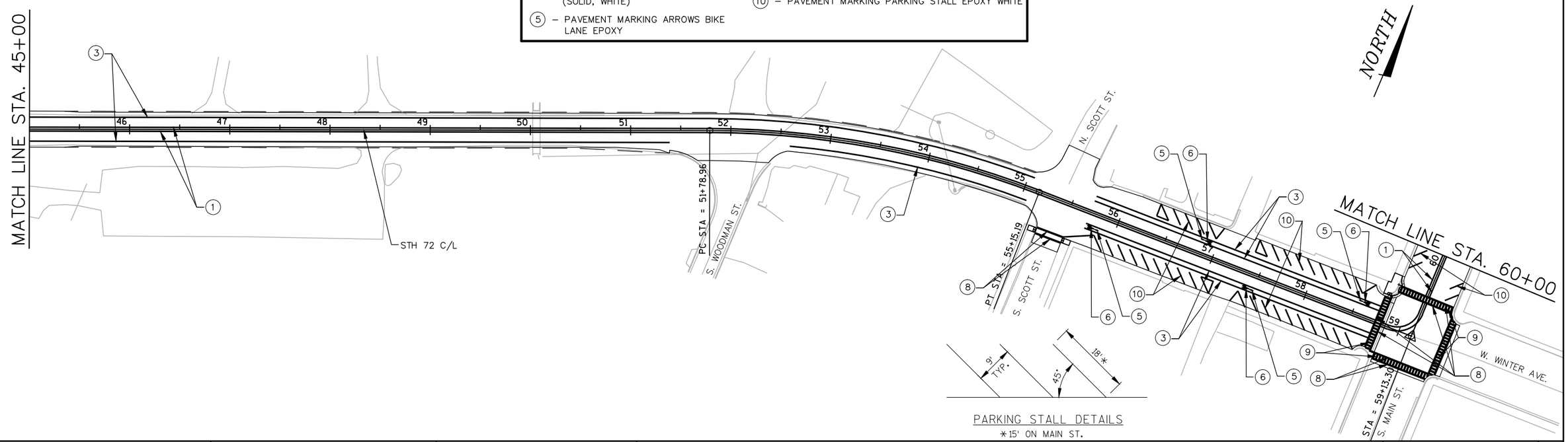
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PAVEMENT MARKING\PAVEMENT MARKING.DWG
LAYOUT : 1
PLOT DATE : 4/30/2014
PLOT TIME : 9:49:52 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

NOTE: NO-PASSING ZONE START AND END LOCATIONS SHOWN ON THE PLAN ARE APPRROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED AFTER THE SURVEY OF LOCATING NO-PASSING ZONES HAS BEEN PHYSICALLY COMPLETED IN THE FIELD.



LEGEND

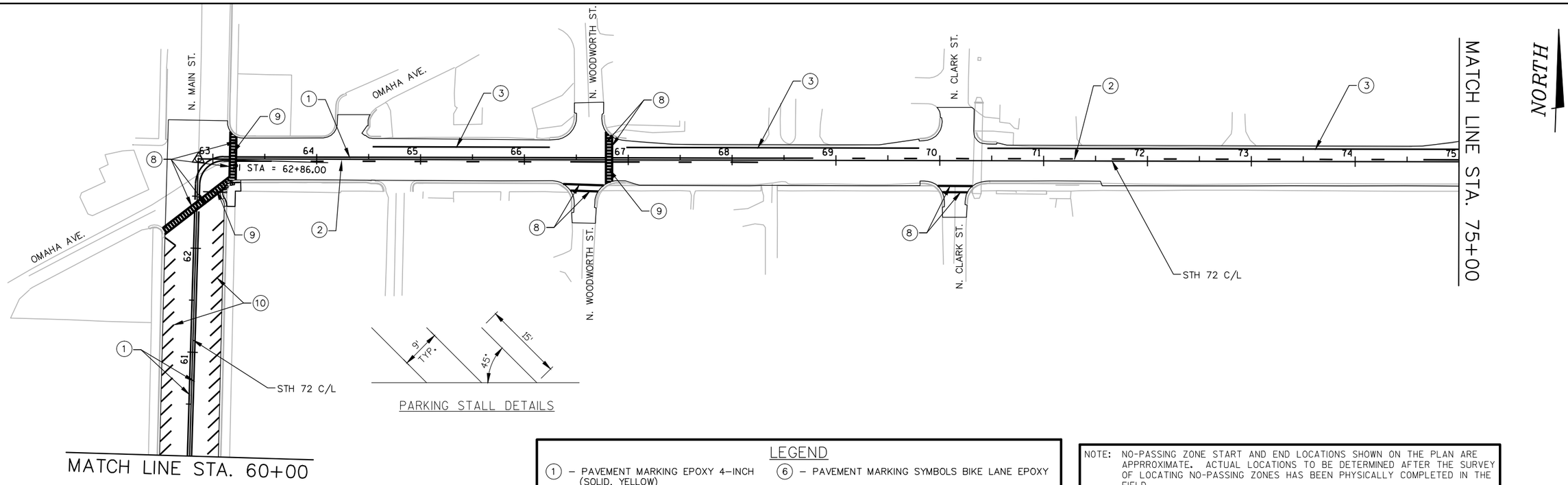
1. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, YELLOW)
2. – PAVEMENT MARKING EPOXY 4–INCH (DASHED, YELLOW)
3. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, WHITE)
4. – PAVEMENT MARKING EPOXY 8–INCH (SOLID, WHITE)
5. – PAVEMENT MARKING ARROWS BIKE LANE EPOXY
6. – PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY
7. – PAVEMENT MARKING STOP LINE EPOXY 18–INCH
8. – PAVEMENT MARKING CROSSWALK EPOXY 6–INCH
9. – PAVEMENT MARKING CROSSWALK EPOXY 18–INCH
10. – PAVEMENT MARKING PARKING STALL EPOXY WHITE



PARKING STALL DETAILS
*15' ON MAIN ST.

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING	SHEET 25	E

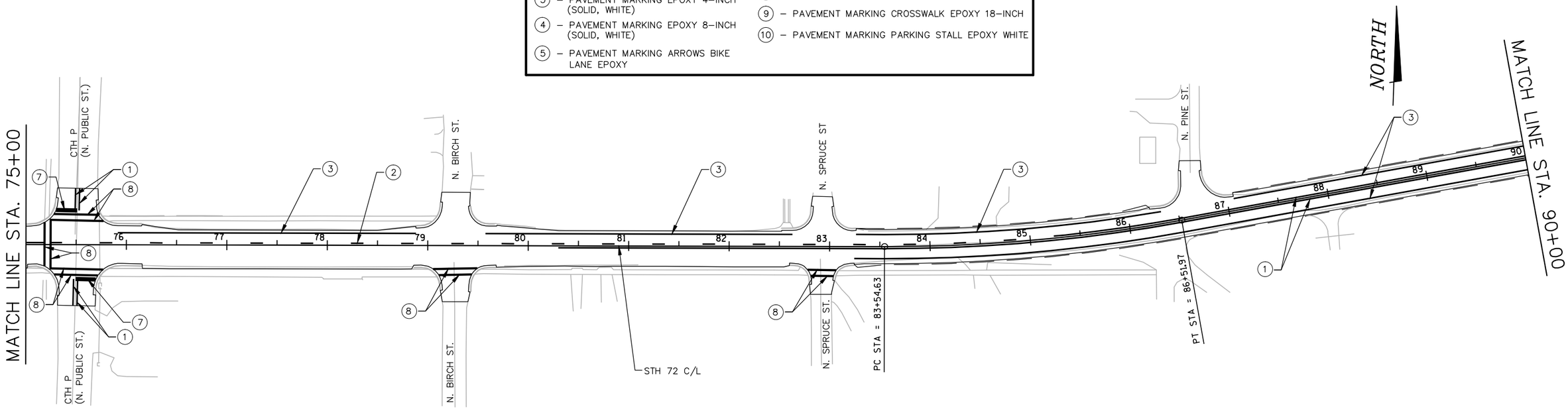
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PAVEMENT MARKING\PAVEMENT MARKING.DWG
LAYOUT : 2
PLOT DATE : 4/30/2014
PLOT TIME : 10:07:22 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'



LEGEND

1. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, YELLOW)
2. – PAVEMENT MARKING EPOXY 4–INCH (DASHED, YELLOW)
3. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, WHITE)
4. – PAVEMENT MARKING EPOXY 8–INCH (SOLID, WHITE)
5. – PAVEMENT MARKING ARROWS BIKE LANE EPOXY
6. – PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY
7. – PAVEMENT MARKING STOP LINE EPOXY 18–INCH
8. – PAVEMENT MARKING CROSSWALK EPOXY 6–INCH
9. – PAVEMENT MARKING CROSSWALK EPOXY 18–INCH
10. – PAVEMENT MARKING PARKING STALL EPOXY WHITE

NOTE: NO-PASSING ZONE START AND END LOCATIONS SHOWN ON THE PLAN ARE APPRROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED AFTER THE SURVEY OF LOCATING NO-PASSING ZONES HAS BEEN PHYSICALLY COMPLETED IN THE FIELD.



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING	SHEET 26	E

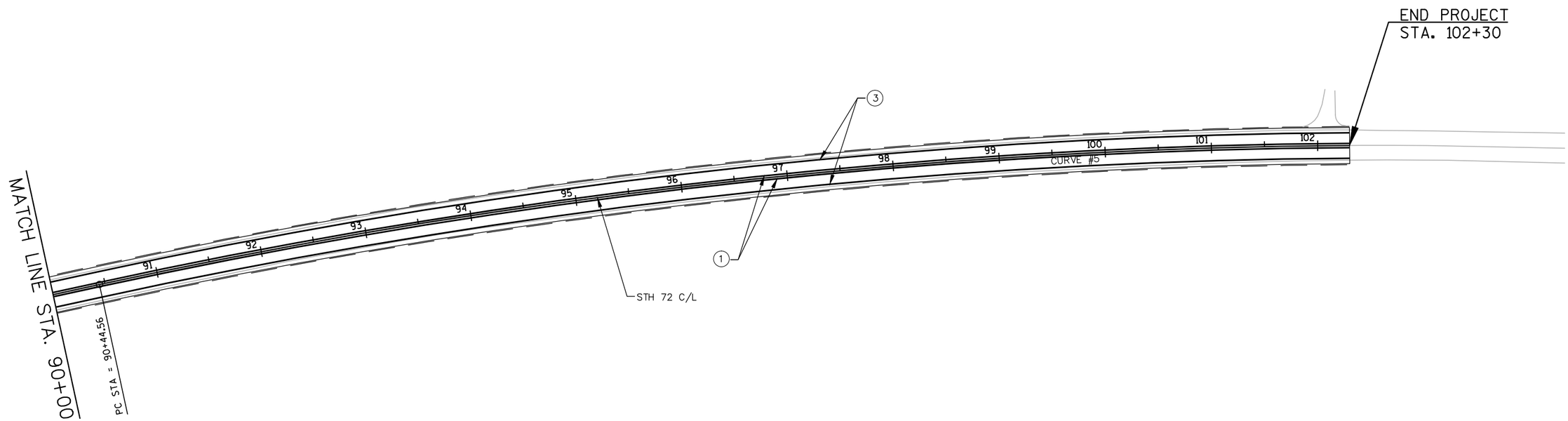
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PAVEMENT MARKING\PAVEMENT MARKING.DWG
LAYOUT : 3
PLOT DATE : 4/30/2014
PLOT TIME : 10:08:53 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

LEGEND

1. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, YELLOW)
2. – PAVEMENT MARKING EPOXY 4–INCH (DASHED, YELLOW)
3. – PAVEMENT MARKING EPOXY 4–INCH (SOLID, WHITE)
4. – PAVEMENT MARKING EPOXY 8–INCH (SOLID, WHITE)
5. – PAVEMENT MARKING ARROWS BIKE LANE EPOXY
6. – PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY
7. – PAVEMENT MARKING STOP LINE EPOXY 18–INCH
8. – PAVEMENT MARKING CROSSWALK EPOXY 6–INCH
9. – PAVEMENT MARKING CROSSWALK EPOXY 18–INCH
10. – PAVEMENT MARKING PARKING STALL EPOXY WHITE

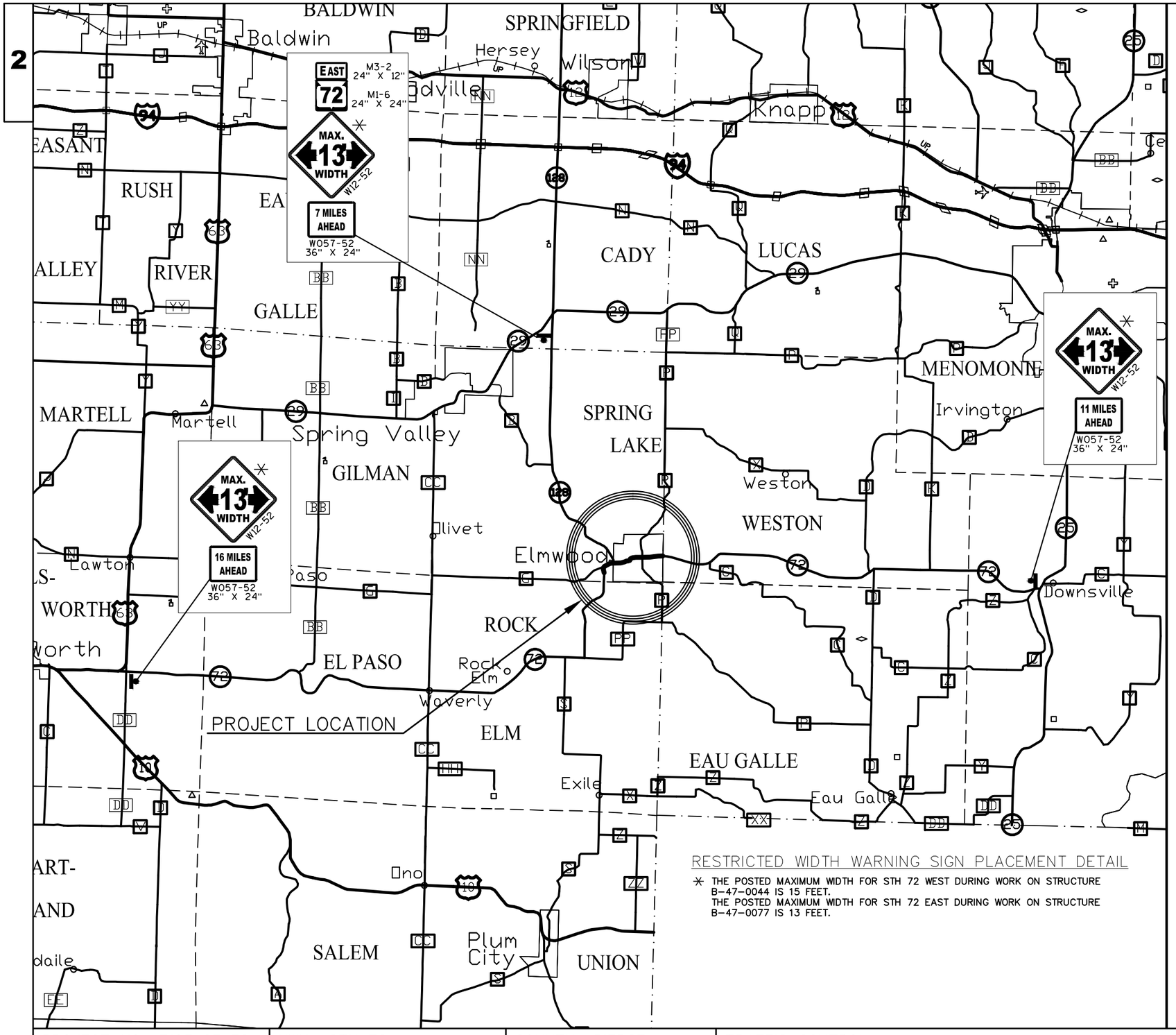
NOTE: NO-PASSING ZONE START AND END LOCATIONS SHOWN ON THE PLAN ARE APPRROXIMATE. ACTUAL LOCATIONS TO BE DETERMINED AFTER THE SURVEY OF LOCATING NO-PASSING ZONES HAS BEEN PHYSICALLY COMPLETED IN THE FIELD.

NORTH



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PAVEMENT MARKING	SHEET 27	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PAVEMENT MARKING\PAVEMENT MARKING.DWG
LAYOUT : 4
PLOT DATE : 4/25/2014
PLOT TIME : 3:34:22 PM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'



GENERAL NOTES FOR TRAFFIC CONTROL

STH 72 WILL REMAIN OPEN TO TRAFFIC DURING CONSTRUCTION.

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

ALL SIGNS INAPPRORIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

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

ALL "W" AND "WO" SIGNS SHALL BE 48" x 48" UNLESS OTHERWISE NOTED.

ALL ROADS AND STREETS WITHIN THE WORK ZONES SHALL BE KEPT ACCESSIBLE FOR EMERGENCY VEHICLES, RESIDENTS AND BUSINESSES.

ANY STOP SIGNS WHICH ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

LAYOUT IS NOT TO SCALE.

ALL SIGN LAYOUT SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND MAINTAIN ACCESS TO ALL PROPERTY ABUTTING THE ROADWAY CONSTRUCTION WORK THROUGHOUT THE LIFE OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL NECESSARY BARRICADES, SIGNS, LIGHTS, TEMPORARY MARKINGS, FLAGGERS, AND SUCH OTHER SAFETY DEVICES AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200' CLEARANCE TO EXISTING SIGNS.

DURING NIGHT SHUTDOWN, ONE LANE IN EACH DIRECTION MUST REMAIN OPEN. (ON A HARD SURFACE, OR BASE AGGREGATE DENSE).

DURING HOURS OF DARKNESS, ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS AND DEVICES USED TO DELINEATE A PATH SHALL BE EQUIPPED WITH TYPE "C" (STEADY BURN) LIGHTS.

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

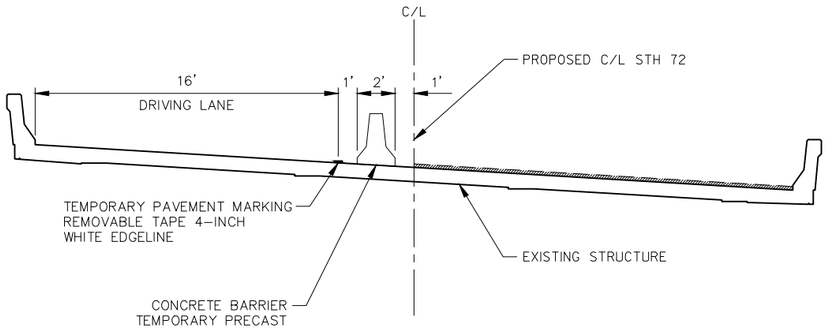
DRAWINGS SHOW TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON CONTRACTOR'S METHODS OR SEQUENCES OF OPERATION.

ROAD MACHINERY, FLAGGERS AHEAD, ETC. SIGNS SHALL BE USED AS NEEDED AND SHALL BE REMOVED OR COVERED AT NIGHTS, ON WEEKENDS OR WHEN THE ACTIVITY DOES NOT EXIST.

ADDITIONAL DRUMS OR TYPE III BARRICADES MAY BE REQUIRED ADJACENT TO DROP-OFFS, OPEN TRENCHES, OR PROTRUSIONS (INCLUDING MANHOLE COVERS AND WATER VALVES). COST TO BE INCLUDED WITH OPERATION WHICH CREATES THE HAZARD.

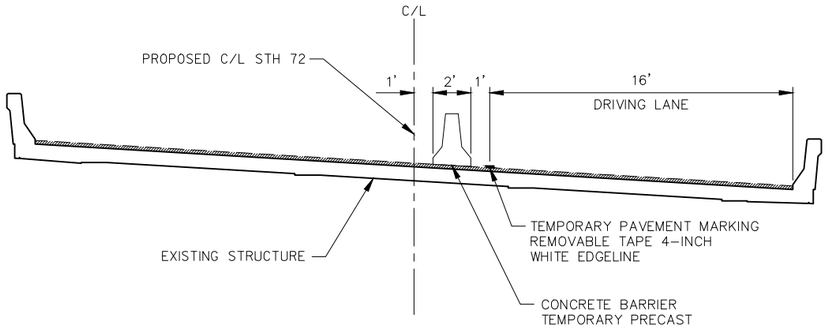
RESTRICTED WIDTH WARNING SIGN PLACEMENT DETAIL

✳ THE POSTED MAXIMUM WIDTH FOR STH 72 WEST DURING WORK ON STRUCTURE B-47-0044 IS 15 FEET.
THE POSTED MAXIMUM WIDTH FOR STH 72 EAST DURING WORK ON STRUCTURE B-47-0077 IS 13 FEET.



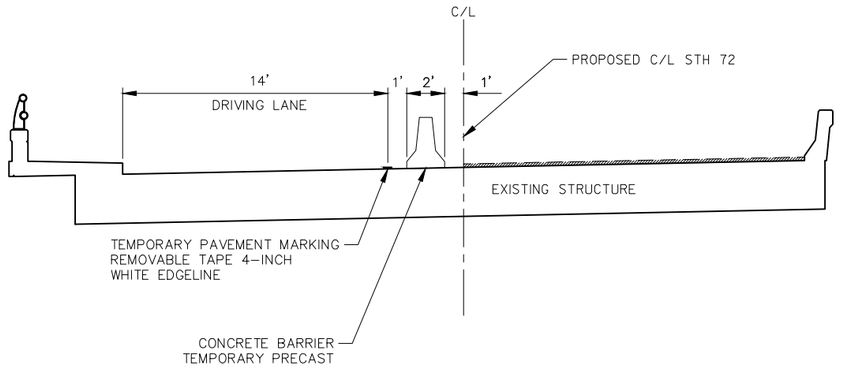
B-47-0044: STAGE 1

(LOOKING NORTHEAST)



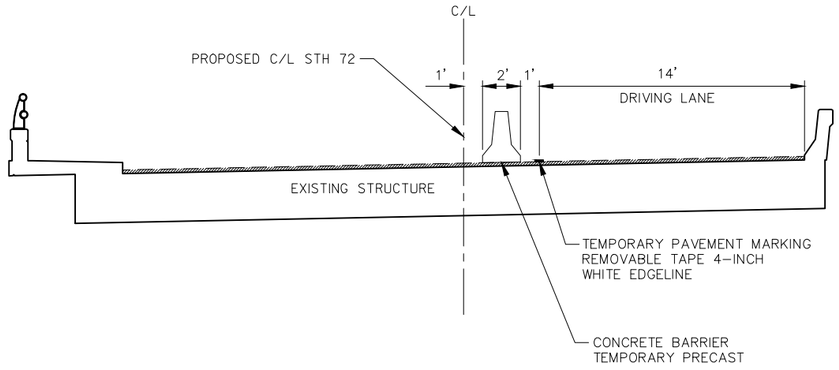
B-47-0044: STAGE 2

(LOOKING NORTHEAST)



B-47-0077: STAGE 1

(LOOKING EAST)



B-47-0077: STAGE 2

(LOOKING EAST)

2

2

LEGEND

- POST MOUNTED SIGN
- x-x-x-x REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- ASPHALTIC SURFACE WIDENING
- DIRECTION OF TRAFFIC FLOW
- 4" X 6" WOOD POST
- WORK ZONE

GENERAL NOTES:

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

NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER

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

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

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

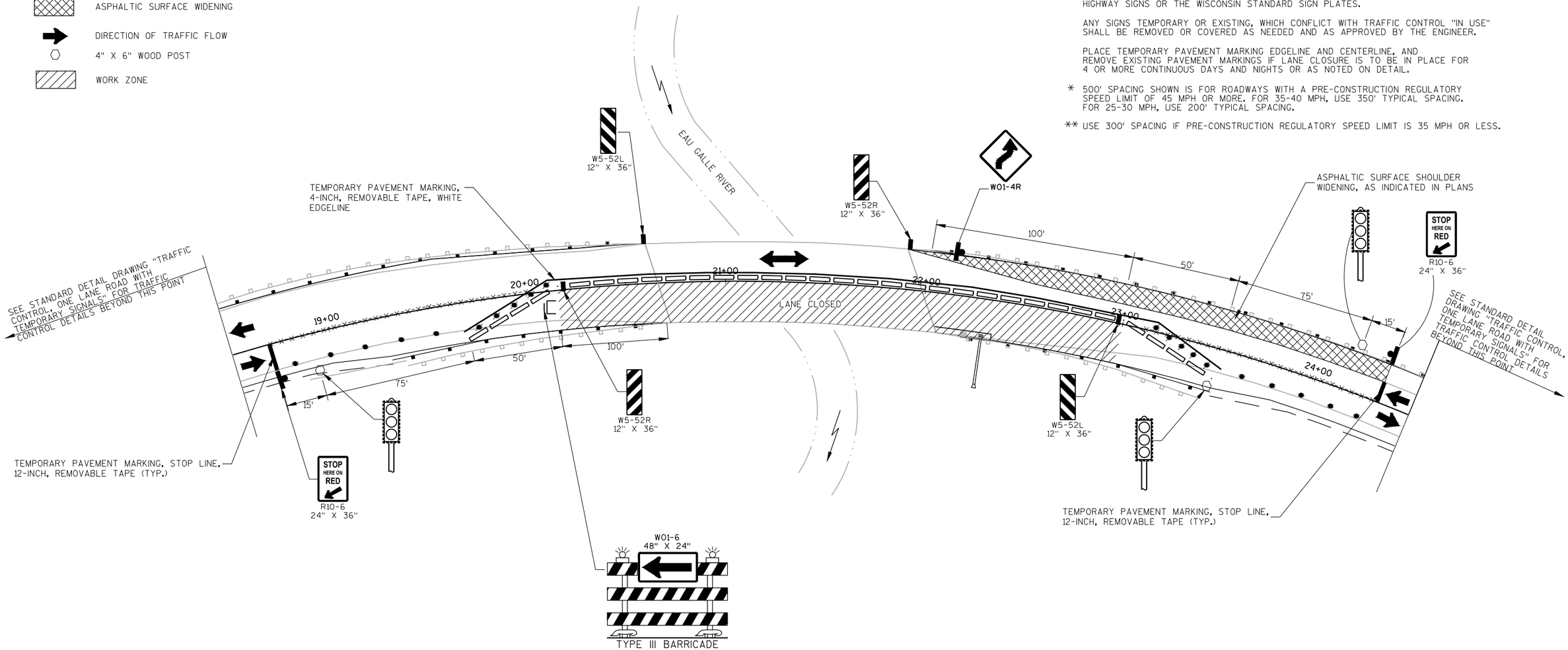
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

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

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TRAFFIC CONTROL: B-47-44 STAGE 1	SHEET 30	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TRAFFIC CONTROL\TRAFFIC CONTROL TYPICALS.DWG
LAYOUT : B-47-44 - 1
PLOT DATE : 4/30/2014
PLOT TIME : 10:19:31 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42

2

LEGEND

- POST MOUNTED SIGN
- x-x-x-x REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- ASPHALTIC SURFACE WIDENING
- DIRECTION OF TRAFFIC FLOW
- 4" X 6" WOOD POST
- WORK AREA

GENERAL NOTES:

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

NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER

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

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

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

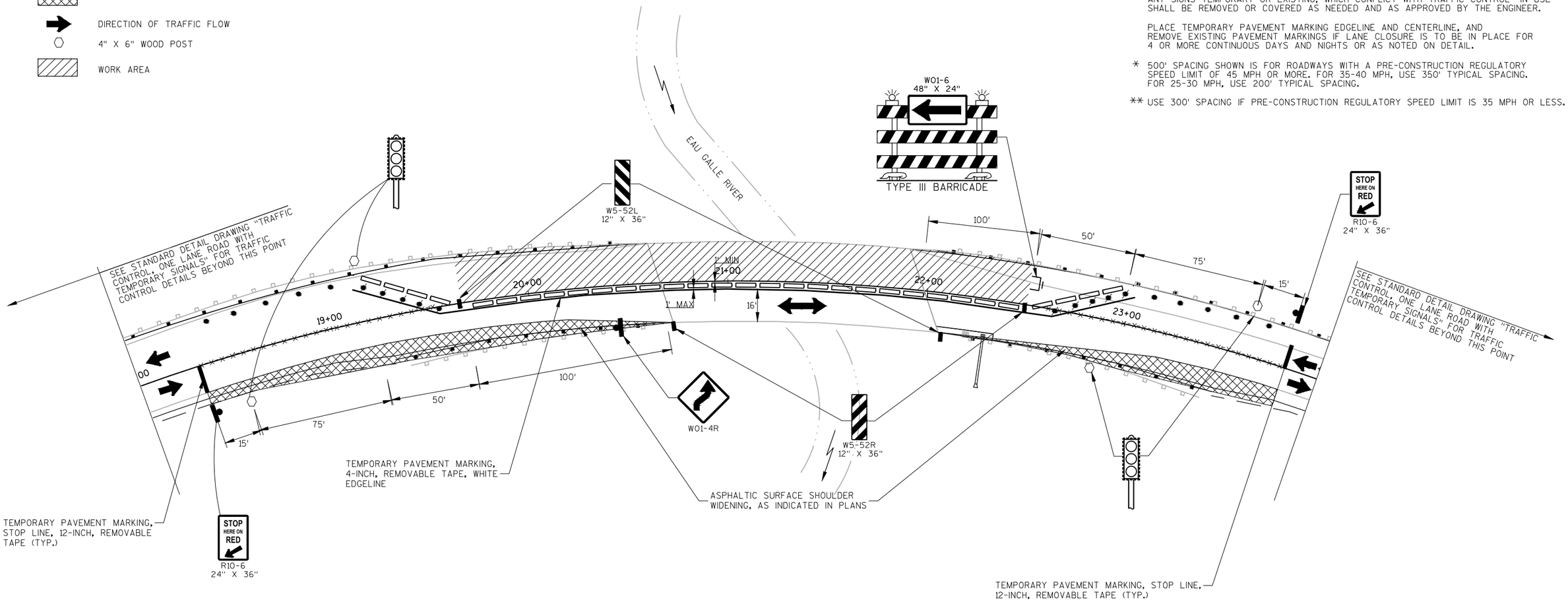
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

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

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



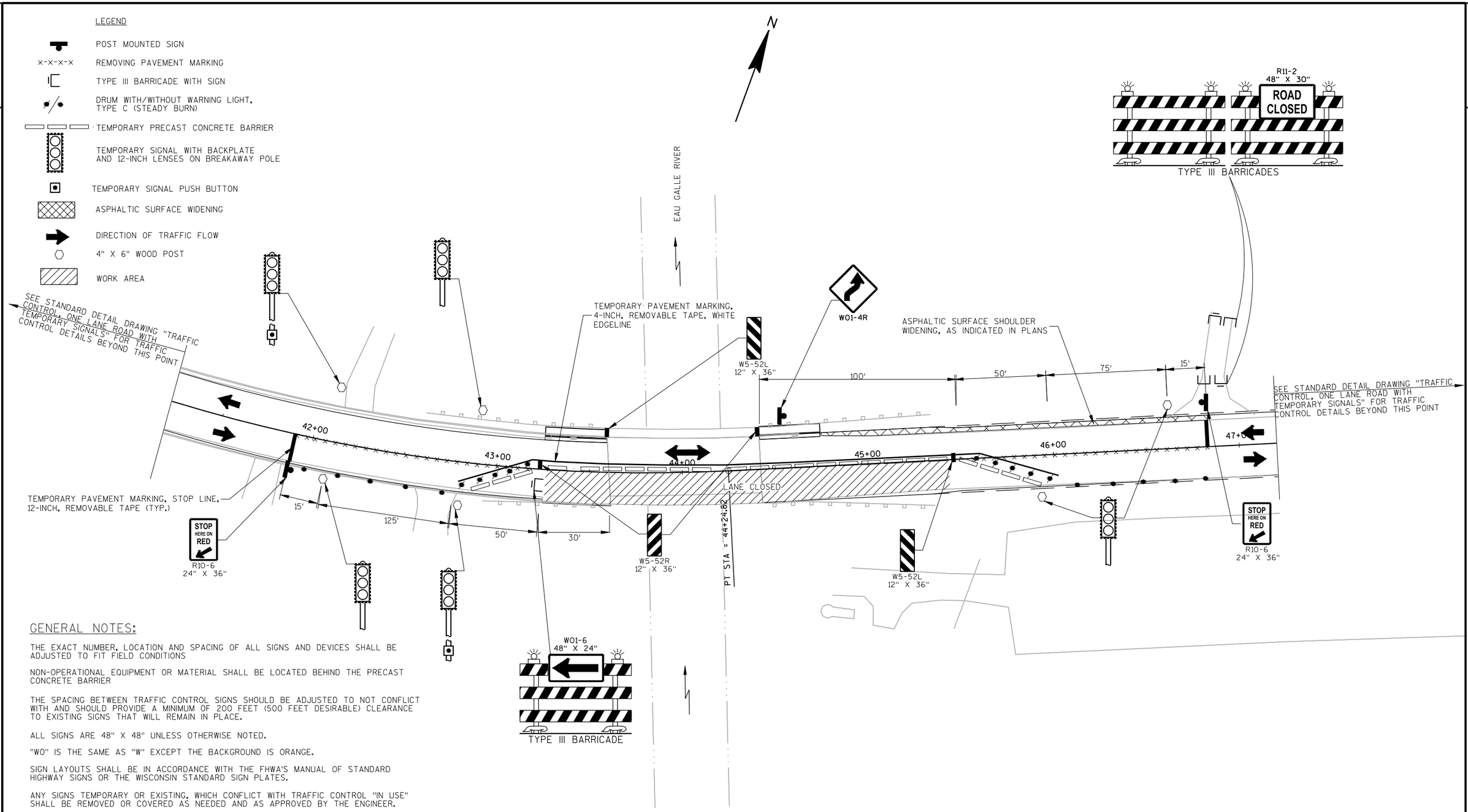
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TRAFFIC CONTROL: B-47-44 STAGE 2	SHEET 31	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TRAFFIC CONTROL\TRAFFIC CONTROL TYPICALS.DWG
LAYOUT : B-47-44 - 2
PLOT DATE : 4/30/2014
PLOT TIME : 10:19:45 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42

2

LEGEND

- POST MOUNTED SIGN
- x-x-x-x REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE
- TEMPORARY SIGNAL PUSH BUTTON
- ASPHALTIC SURFACE WIDENING
- DIRECTION OF TRAFFIC FLOW
- 4" X 6" WOOD POST
- WORK AREA



GENERAL NOTES:

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

NON-OPERATIONAL EQUIPMENT OR MATERIAL SHALL BE LOCATED BEHIND THE PRECAST CONCRETE BARRIER

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

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

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

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

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

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TRAFFIC CONTROL: B-47-77 STAGE 1	SHEET 32	E

2

2

LEGEND

POST MOUNTED SIGN

x-x-x-x REMOVING PAVEMENT MARKING

TYPE III BARRICADE WITH SIGN

DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY BURN)

TEMPORARY PRECAST CONCRETE BARRIER

TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

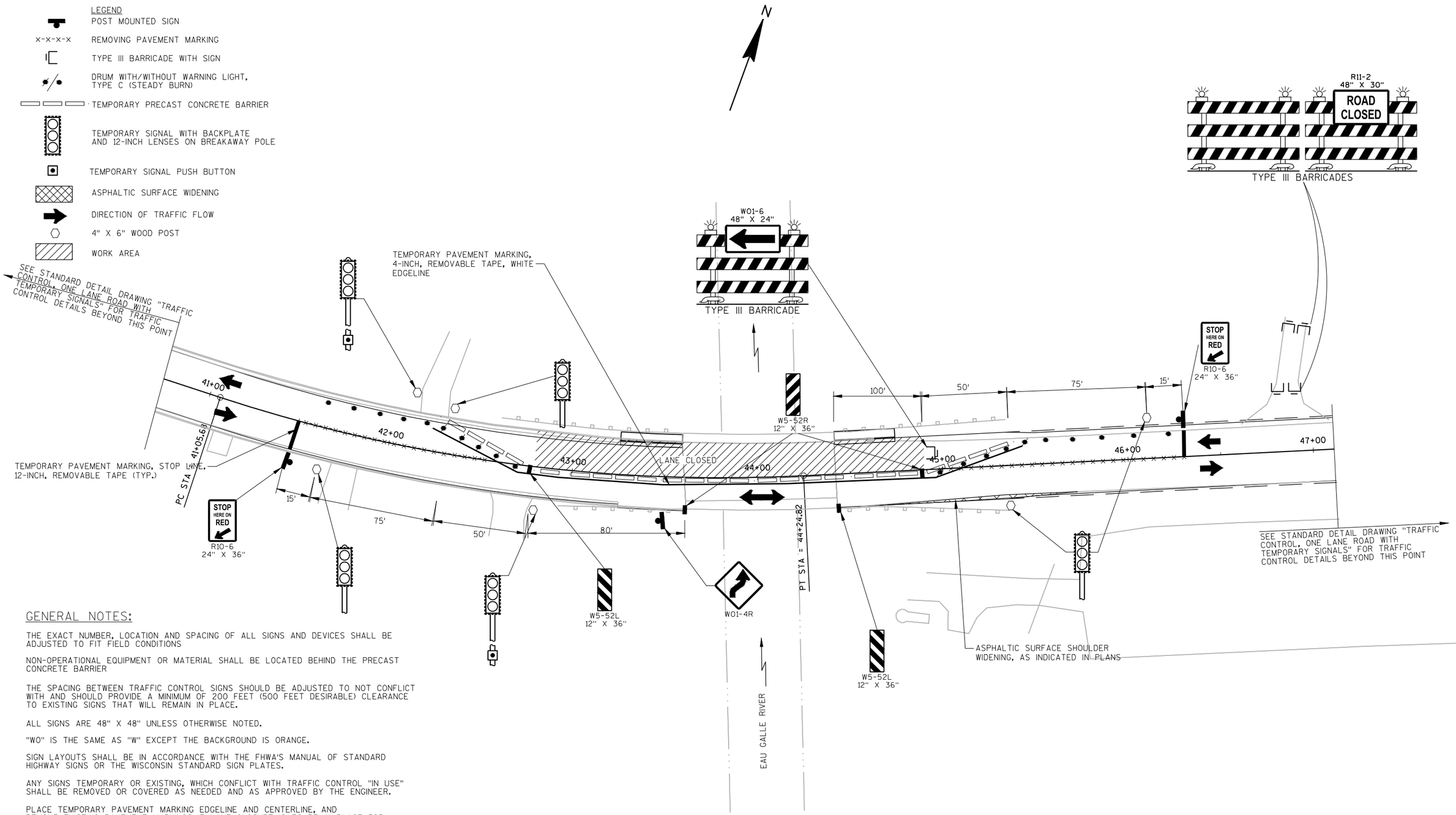
TEMPORARY SIGNAL PUSH BUTTON

ASPHALTIC SURFACE WIDENING

DIRECTION OF TRAFFIC FLOW

4" X 6" WOOD POST

WORK AREA



GENERAL NOTES:

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** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	TRAFFIC CONTROL: B-47-77 STAGE 2	SHEET 33	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\TRAFFIC CONTROL\TRAFFIC CONTROL TYPICALS.DWG
LAYOUT : B-47-77 - 2
PLOT DATE : 4/30/2014
PLOT TIME : 10:20:32 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42

2

NORTH

MATCH LINE STA. 46+00

CURVE 1

P.I. STA. = 22+90.62
Y = 334 055.90
X = 565 765.47
Δ = 97°41'12"
D = 06°31'20"
T = 1005.01'
L = 1497.76'
R = 878.48'
P.C. STA. = 12+85.61
Y = 333 061.84
X = 565 913.47
P.T. STA. = 27+83.38
Y = 334 069.61
X = 566 770.38
S.E. = 6.0%
R.O. = 144'
TRANS. = 192'

P.I. STA. 35+52.16
Y = 334 080.09
X = 567 539.09
Δ = 01°01'51"

PI STA = 22+90.62

PT STA = 27+83.38

PI STA = 35+52.16

PC STA = 41+05.68

PI STA = 42+67.07

PT STA = 44+24.82

CURVE #1

CURVE #2

STH 128

S. MARTIN ST.

PROJECT DR.

710TH AVE.

CTH G

N 89°13'06" E

N 88°11'15" E

N 67°07'09" E

N 08°28'05" W

86°36'24"

89°55'44"

91°34'20"

90°34'18"

CP 2

CP 4

CP 5

STH 128, STATION 31+90.07
INTERSECTION TYPE A

S. MARTIN ST., STATION 33+23.05
INTERSECTION TYPE C

PROJECT DR., STATION 40+16.49
INTERSECTION TYPE D

CTH G, STATION 16+40.70
INTERSECTION TYPE A

STH 72 C/L

BEGIN PROJECT
STA. 14+25
Y = 333 200.76
X = 565 903.94

CURVE 2

P.I. STA. = 42+67.07
Y = 334 102.71
X = 568 253.65
Δ = 21°04'06"
D = 06°36'05"
T = 161.40'
L = 319.15'
R = 867.92'
P.C. STA. = 41+05.68
Y = 334 097.60
X = 568 092.33
P.T. STA. = 44+24.82
Y = 334 165.46
X = 568 402.34
S.E. = 2.4%
R.O. = 46'
TRANS. = 84'

CONCRETE MONUMENT
WITH DISK

Y = 334 151.89
X = 568 470.61

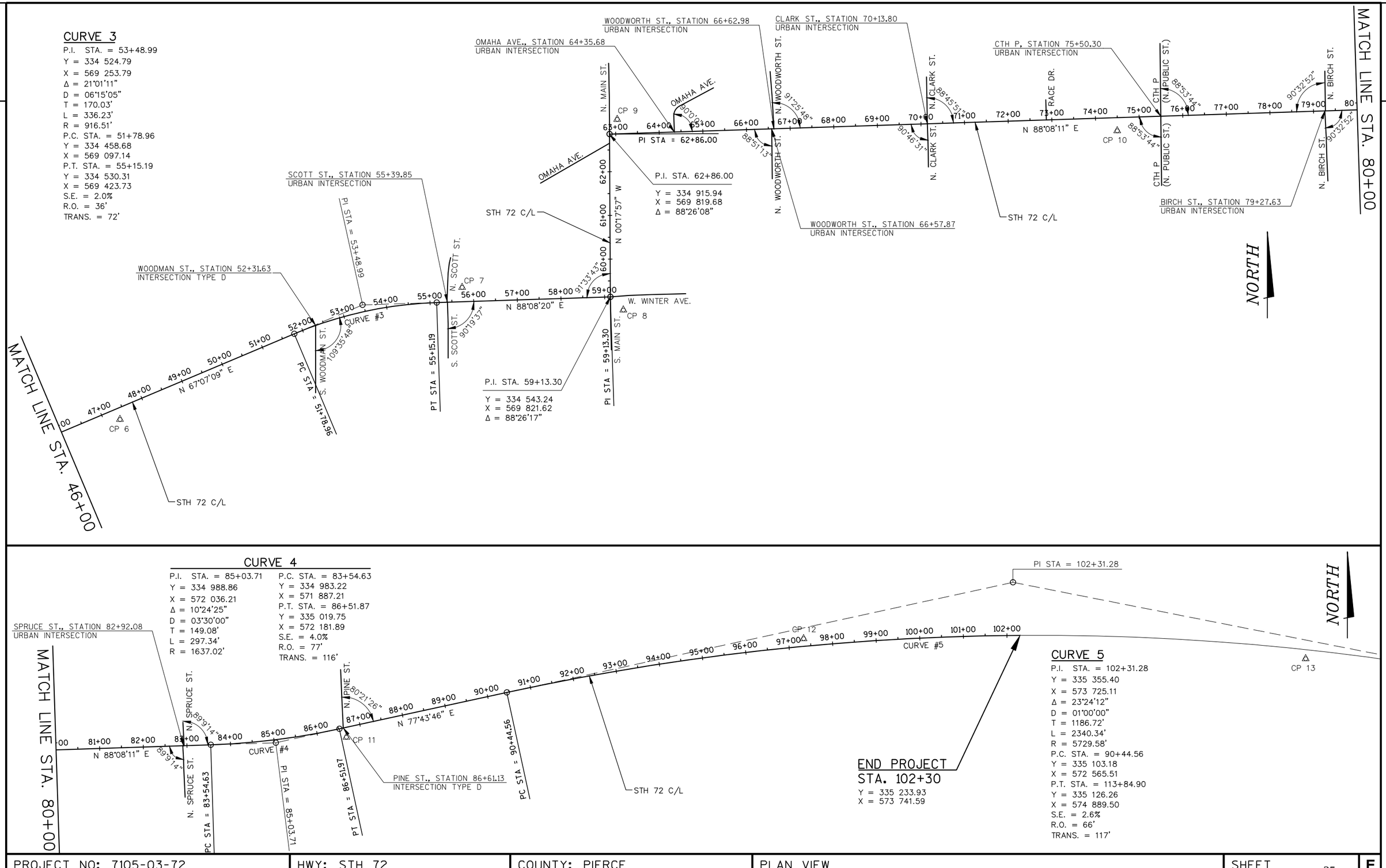
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	ALIGNMENT DETAILS	SHEET 34	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\DETAILS\ALIGNMENT DETAILS.DWG
LAYOUT : 1
PLOT DATE : 4/30/2014
PLOT TIME : 10:45:26 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'
WISDOT/CADDS SHEET 42

2

CURVE 3

P.I. STA. = 53+48.99
Y = 334 524.79
X = 569 253.79
Δ = 21°01'11"
D = 06°15'05"
T = 170.03'
L = 336.23'
R = 916.51'
P.C. STA. = 51+78.96
Y = 334 458.68
X = 569 097.14
P.T. STA. = 55+15.19
Y = 334 530.31
X = 569 423.73
S.E. = 2.0%
R.O. = 36'
TRANS. = 72'



CURVE 4

P.I. STA. = 85+03.71
Y = 334 988.86
X = 572 036.21
Δ = 10°24'25"
D = 03°30'00"
T = 149.08'
L = 297.34'
R = 1637.02'

P.C. STA. = 83+54.63
Y = 334 983.22
X = 571 887.21
P.T. STA. = 86+51.87
Y = 335 019.75
X = 572 181.89
S.E. = 4.0%
R.O. = 77'
TRANS. = 116'

CURVE 5

P.I. STA. = 102+31.28
Y = 335 355.40
X = 573 725.11
Δ = 23°24'12"
D = 01°00'00"
T = 1186.72'
L = 2340.34'
R = 5729.58'
P.C. STA. = 90+44.56
Y = 335 103.18
X = 572 565.51
P.T. STA. = 113+84.90
Y = 335 126.26
X = 574 889.50
S.E. = 2.6%
R.O. = 66'
TRANS. = 117'

END PROJECT
STA. 102+30
Y = 335 233.93
X = 573 741.59

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN VIEW	SHEET 35	E

2

STH 72

STATION	Y	X	REMARKS
12+85.61	332 525.47	565 913.47	P.C. STATION
13+00.00	333 076.09	565 911.46	
13+50.00	333 125.82	565 906.32	
14+00.00	333 175.76	565 904.02	
14+25.00	333 200.76	565 903.94	BEGIN PROJECT
14+50.00	333 225.75	565 904.57	
15+00.00	333 275.63	565 907.95	
15+50.00	333 325.23	565 914.17	
16+00.00	333 374.40	565 923.20	
16+50.00	333 422.98	565 935.01	
17+00.00	333 470.81	565 949.57	
17+50.00	333 517.73	565 966.82	
18+00.00	333 563.59	565 986.72	
18+50.00	333 608.25	566 009.19	
19+00.00	333 651.56	566 034.17	
19+50.00	333 693.38	566 061.57	
20+00.00	333 733.57	566 091.30	
20+50.00	333 772.00	566 123.27	
20+66.16	333 784.02	566 134.07	END OF DECK
21+00.00	333 808.55	566 157.38	
21+50.00	333 843.11	566 193.51	
21+98.65	333 874.70	566 230.49	END OF DECK
22+00.00	333 875.55	566 231.54	
22+50.00	333 905.77	566 271.37	
23+00.00	333 933.68	566 312.84	
23+50.00	333 959.19	566 355.84	
24+00.00	333 982.21	566 400.22	
24+50.00	334 002.67	566 445.83	
25+00.00	334 020.50	566 492.54	
25+50.00	334 035.64	566 540.18	
26+00.00	334 048.05	566 588.61	
26+50.00	334 057.69	566 637.67	
27+00.00	334 064.52	566 687.19	
27+50.00	334 068.52	566 737.02	
27+83.38	334 069.61	566 770.38	P.T. STATION
28+00.00	334 069.83	566 787.00	
28+50.00	334 070.51	566 837.00	
29+00.00	334 071.20	566 886.99	
29+50.00	334 071.88	566 936.99	
30+00.00	334 072.56	566 986.98	
30+50.00	334 073.24	567 036.98	
31+00.00	334 073.92	567 086.97	
31+50.00	334 074.61	567 136.97	
32+00.00	334 075.29	567 186.97	
32+50.00	334 075.97	567 236.96	
33+00.00	334 076.65	567 286.96	
33+50.00	334 077.34	567 336.95	
34+00.00	334 078.02	567 386.95	
34+50.00	334 078.70	567 436.94	
35+00.00	334 079.38	567 486.94	
35+50.00	334 080.06	567 536.93	
35+52.16	334 080.09	567 539.09	P.I. STATION
36+00.00	334 081.61	567 586.91	
36+50.00	334 083.19	567 636.88	
37+00.00	334 084.77	567 686.86	
37+50.00	334 086.35	567 736.83	
38+00.00	334 087.93	567 786.81	
38+50.00	334 089.51	567 836.78	
39+00.00	334 091.10	567 886.76	
39+50.00	334 092.68	567 936.73	
40+00.00	334 094.26	567 986.71	
40+50.00	334 095.84	568 036.68	
41+00.00	334 097.42	568 086.66	
41+05.68	334 097.60	568 092.33	P.C. STATION
41+50.00	334 100.13	568 136.58	
42+00.00	334 105.70	568 186.26	
42+50.00	334 114.11	568 235.54	
43+00.00	334 125.35	568 284.25	
43+50.00	334 139.37	568 332.24	
43+59.32	334 142.29	568 341.09	END OF SLAB
44+00.00	334 156.14	568 379.34	
44+24.82	334 165.46	568 402.34	P.T. STATION
44+42.22	334 172.38	568 418.30	END OF SLAB
44+50.00	334 175.25	568 425.54	
45+00.00	334 194.69	568 471.61	
45+50.00	334 214.13	568 517.67	
46+00.00	334 233.57	568 563.74	
46+50.00	334 253.01	568 609.80	
47+00.00	334 272.45	568 655.87	
47+50.00	334 291.89	568 701.93	
48+00.00	334 311.33	568 748.00	
48+50.00	334 330.78	568 794.07	

STH 72

STATION	Y	X	REMARKS
49+00.00	334 350.22	568 840.13	
49+50.00	334 369.66	568 886.20	
50+00.00	334 389.10	568 932.26	
50+50.00	334 408.54	568 978.33	
51+00.00	334 427.98	569 024.39	
51+50.00	334 447.42	569 070.46	
51+78.96	334 458.68	569 097.14	P.C. STATION
52+00.00	334 466.64	569 116.62	
52+50.00	334 483.74	569 163.60	
53+00.00	334 498.25	569 211.44	
53+50.00	334 510.14	569 260.00	
54+00.00	334 519.35	569 309.13	
54+50.00	334 525.88	569 358.70	
55+00.00	334 529.69	569 408.55	
55+15.19	334 530.31	569 423.73	P.T. STATION
55+50.00	334 531.44	569 458.52	
56+00.00	334 533.07	569 508.49	
56+50.00	334 534.69	569 558.46	
57+00.00	334 536.31	569 608.44	
57+50.00	334 537.94	569 658.41	
58+00.00	334 539.56	569 708.39	
58+50.00	334 541.18	569 758.36	
59+00.00	334 542.81	569 808.33	
59+13.30	334 543.24	569 821.62	P.I. STATION
59+50.00	334 579.94	569 821.43	
60+00.00	334 629.94	569 821.17	
60+50.00	334 679.94	569 820.91	
61+00.00	334 729.94	569 820.65	
61+50.00	334 779.94	569 820.39	
62+00.00	334 829.94	569 820.13	
62+50.00	334 879.94	569 819.86	
62+86.00	334 915.94	569 819.68	P.I. STATION
63+00.00	334 916.40	569 833.67	
63+50.00	334 918.02	569 883.64	
64+00.00	334 919.65	569 933.61	
64+50.00	334 921.27	569 983.59	
65+00.00	334 922.90	570 033.56	
65+50.00	334 924.53	570 083.53	
66+00.00	334 926.15	570 133.51	
66+50.00	334 927.78	570 183.48	
67+00.00	334 929.40	570 233.46	
67+50.00	334 931.03	570 283.43	
68+00.00	334 932.66	570 333.40	
68+50.00	334 934.28	570 383.38	
69+00.00	334 935.91	570 433.35	
69+50.00	334 937.54	570 483.32	
70+00.00	334 939.16	570 533.30	
70+50.00	334 940.79	570 583.27	
71+00.00	334 942.41	570 633.24	
71+50.00	334 944.04	570 683.22	
72+00.00	334 945.67	570 733.19	
72+50.00	334 947.29	570 783.16	
73+00.00	334 948.92	570 833.14	
73+50.00	334 950.54	570 883.11	
74+00.00	334 952.17	570 933.08	
74+50.00	334 953.80	570 983.06	
75+00.00	334 955.42	571 033.03	
75+50.00	334 957.05	571 083.01	
76+00.00	334 958.67	571 132.98	
76+50.00	334 960.30	571 182.95	
77+00.00	334 961.93	571 232.93	
77+50.00	334 963.55	571 282.90	
78+00.00	334 965.18	571 332.87	
78+50.00	334 966.80	571 382.85	
79+00.00	334 968.43	571 432.82	
79+50.00	334 970.06	571 482.79	
80+00.00	334 971.68	571 532.77	
80+50.00	334 973.31	571 582.74	
81+00.00	334 974.93	571 632.71	
81+50.00	334 976.56	571 682.69	
82+00.00	334 978.19	571 732.66	
82+50.00	334 979.81	571 782.64	
83+00.00	334 981.44	571 832.61	
83+50.00	334 983.06	571 882.58	
83+54.63	334 983.22	571 887.21	P.C. STATION
84+00.00	334 985.32	571 932.53	
84+50.00	334 989.09	571 982.39	
85+00.00	334 994.38	572 032.10	
85+50.00	335 001.19	572 081.63	
86+00.00	335 009.51	572 130.94	
86+50.00	335 019.33	572 179.96	
86+51.97	335 019.75	572 181.89	P.T. STATION

STH 72

STATION	Y	X	REMARKS
87+00.00	335 029.95	572 228.82	
87+50.00	335 040.58	572 277.68	
88+00.00	335 051.21	572 326.53	
88+50.00	335 061.83	572 375.39	
89+00.00	335 072.46	572 424.25	
89+50.00	335 083.09	572 473.11	
90+00.00	335 093.71	572 521.96	
90+44.56	335 103.18	572 565.51	P.C. STATION
90+50.00	335 104.34	572 570.82	
91+00.00	335 114.70	572 619.74	
91+50.00	335 124.64	572 668.74	
92+00.00	335 134.15	572 717.83	
92+50.00	335 143.24	572 766.99	
93+00.00	335 151.89	572 816.24	
93+50.00	335 160.11	572 865.56	
94+00.00	335 167.91	572 914.95	
94+50.00	335 175.27	572 964.40	
95+00.00	335 182.20	573 013.92	
95+50.00	335 188.69	573 063.49	
96+00.00	335 194.76	573 113.13	
96+50.00	335 200.39	573 162.81	
97+00.00	335 205.59	573 212.54	
97+50.00	335 210.35	573 262.31	
98+00.00	335 214.68	573 312.12	
98+50.00	335 218.57	573 361.97	
99+00.00	335 222.03	573 411.85	
99+50.00	335 225.05	573 461.76	
100+00.00	335 227.64	573 511.69	
100+50.00	335 229.79	573 561.64	
101+00.00	335 231.51	573 611.61	
101+50.00	335 232.79	573 661.60	
102+00.00	335 233.63	573 711.59	
102+30.00	335 233.93	573 741.59	END PROJECT
102+50.00	335 234.04	573 761.59	
103+00.00	335 234.01	573 811.59	
103+50.00	335 233.54	573 861.59	
104+00.00	335 232.64	573 911.58	
104+50.00	335 231.30	573 961.56	
105+00.00	335 229.53	574 011.53	
105+50.00	335 227.32	574 061.48	
106+00.00	335 224.67	574 111.41	
106+50.00	335 221.59	574 161.31	
107+00.00	335 218.07	574 211.19	
107+50.00	335 214.12	574 261.03	
108+00.00	335 209.73	574 310.84	
108+50.00	335 204.91	574 360.61	
109+00.00	335 199.65	574 410.33	
109+50.00	335 193.96	574 460.00	
110+00.00	335 187.84	574 509.63	
110+50.00	335 181.29	574 559.20	
111+00.00	335 174.30	574 608.71	
111+50.00	335 166.88	574 658.15	
112+00.00	335 159.03	574 707.53	
112+50.00	335 150.75	574 756.84	
113+00.00	335 142.04	574 806.08	
113+50.00	335 132.89	574 855.23	
113+84.90	335 126.26	574 889.50	P.T. STATION

CURVE 1

STATION	LEFT	RIGHT	COMMENT
14+25.00	6.00% -->	6.00% -->	BEGIN PROJECT - MATCH EXISTING
14+50.00	6.00% -->	6.00% -->	
15+00.00	6.00% -->	6.00% -->	
15+50.00	6.00% -->	6.00% -->	
16+00.00	6.00% -->	6.00% -->	
16+50.00	6.00% -->	6.00% -->	
17+00.00	6.00% -->	6.00% -->	
17+50.00	6.00% -->	6.00% -->	
18+00.00	6.00% -->	6.00% -->	
18+50.00	6.00% -->	6.00% -->	
19+00.00	6.00% -->	6.00% -->	
19+50.00	6.00% -->	6.00% -->	
20+00.00	6.00% -->	6.00% -->	
20+50.00	6.00% -->	6.00% -->	
21+00.00	6.00% -->	6.00% -->	
21+50.00	6.00% -->	6.00% -->	
22+00.00	6.00% -->	6.00% -->	
22+50.00	6.00% -->	6.00% -->	
23+00.00	6.00% -->	6.00% -->	
23+50.00	6.00% -->	6.00% -->	
24+00.00	6.00% -->	6.00% -->	
24+50.00	6.00% -->	6.00% -->	
25+00.00	6.00% -->	6.00% -->	
25+50.00	6.00% -->	6.00% -->	
26+00.00	6.00% -->	6.00% -->	
26+50.00	6.00% -->	6.00% -->	
27+00.00	6.00% -->	6.00% -->	
27+35.38	6.00% -->	6.00% -->	END FULL SUPER
27+50.00	5.39% -->	5.39% -->	
27+83.38	4.00% -->	4.00% -->	P.T. STATION
28+00.00	3.31% -->	3.31% -->	
28+31.38	2.00% -->	2.00% -->	RC
28+50.00	1.22% -->	2.00% -->	
28+79.38	0.00% --	2.00% -->	
29+00.00	0.86% <--	2.00% -->	
29+27.38	2.00% <--	2.00% -->	BEGIN NORMAL CROWN - END SUPER

CURVE 2

40+37.01	2.00% <--	2.00% -->	END NORMAL CROWN - BEGIN SUPER
40+50.00	2.00% <--	1.32% -->	
40+75.01	2.00% <--	0.00% --	
41+00.00	2.00% <--	1.30% <--	
41+05.68	2.00% <--	1.60% <--	P.C. STATION
41+13.35	2.00% <--	2.00% <--	RC
41+21.01	2.40% <--	2.40% <--	BEGIN FULL SUPER
41+50.00	2.40% <--	2.40% <--	
42+00.00	2.40% <--	2.40% <--	
42+50.00	2.40% <--	2.40% <--	
43+00.00	2.40% <--	2.40% <--	
43+50.00	2.40% <--	2.40% <--	
44+00.00	2.40% <--	2.40% <--	
44+09.49	2.40% <--	2.40% <--	END FULL SUPER
44+17.15	2.00% <--	2.00% <--	RC
44+24.82	2.00% <--	1.60% <--	P.T. STATION
44+50.00	2.00% <--	0.29% <--	
44+55.49	2.00% <--	0.00% --	
44+93.49	2.00% <--	2.00% -->	BEGIN NORMAL CROWN - END SUPER

CURVE 3

STATION	LEFT	RIGHT	COMMENT
51+18.96	2.00% <--	2.00% -->	END NORMAL CROWN - BEGIN SUPER
51+50.00	0.28% <--	2.00% -->	
51+54.96	0.00% --	2.00% -->	
51+78.96	1.33% -->	2.00% -->	P.C. STATION
51+90.96	2.00% -->	2.00% -->	BEGIN FULL SUPER - RC
52+00.00	2.00% -->	2.00% -->	
52+50.00	2.00% -->	2.00% -->	
53+00.00	2.00% -->	2.00% -->	
53+50.00	2.00% -->	2.00% -->	
54+00.00	2.00% -->	2.00% -->	
54+50.00	2.00% -->	2.00% -->	
55+00.00	2.00% -->	2.00% -->	
55+03.19	2.00% -->	2.00% -->	END FULL SUPER - RC
55+15.19	1.33% -->	2.00% -->	P.T. STATION
55+39.19	0.00% --	2.00% -->	
55+50.00	0.60% <--	2.00% -->	
55+75.19	2.00% <--	2.00% -->	BEGIN NORMAL CROWN - END SUPER

CURVE 4

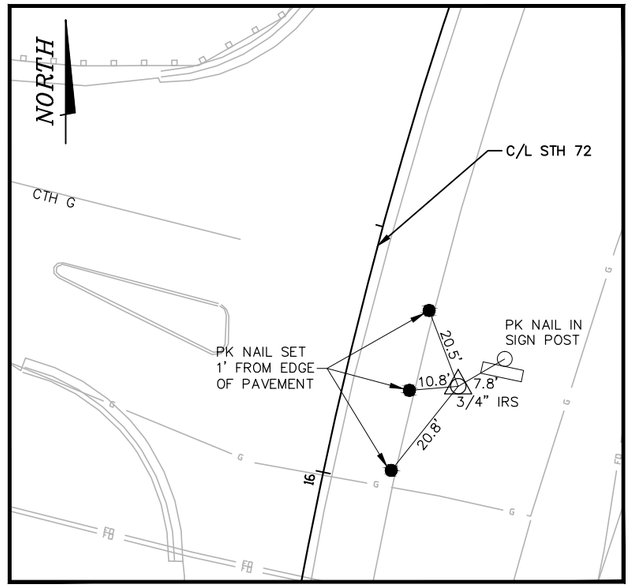
82+64.30	2.00% <--	2.00% -->	END NORMAL CROWN - BEGIN SUPER
83+00.00	2.00% <--	0.17% -->	
83+03.30	2.00% <--	0.00% --	
83+41.80	2.00% <--	2.00% <--	RC
83+50.00	2.43% <--	2.43% <--	
83+54.63	2.67% <--	2.67% <--	P.C. STATION
83+80.30	4.00% <--	4.00% <--	BEGIN FULL SUPER
84+00.00	4.00% <--	4.00% <--	
84+50.00	4.00% <--	4.00% <--	
85+00.00	4.00% <--	4.00% <--	
85+50.00	4.00% <--	4.00% <--	
86+00.00	4.00% <--	4.00% <--	
86+26.20	4.00% <--	4.00% <--	END FULL SUPER
86+50.00	2.76% <--	2.76% <--	
86+51.87	2.67% <--	2.67% <--	P.T. STATION
86+54.70	2.00% <--	2.00% <--	RC
87+00.00	2.00% <--	0.17% <--	
87+03.20	2.00% <--	0.00% --	
87+42.20	2.00% <--	2.00% -->	BEGIN NORMAL CROWN - END SUPER

CURVE 5

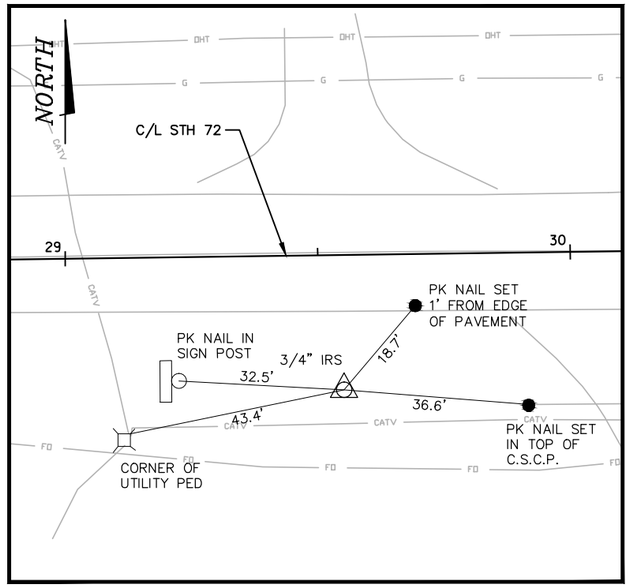
89+49.56	2.00% <--	2.00% -->	END NORMAL CROWN - BEGIN SUPER
89+50.00	1.98% <--	2.00% -->	
90+00.00	0.02% <--	2.00% -->	
90+00.56	0.00% --	2.00% -->	
90+44.56	1.73% -->	2.00% -->	P.C. STATION
90+50.00	1.95% -->	2.00% -->	
90+51.33	2.00% -->	2.00% -->	RC
90+66.56	2.60% -->	2.60% -->	BEGIN FULL SUPER
91+00.00	2.60% -->	2.60% -->	
91+50.00	2.60% -->	2.60% -->	
92+00.00	2.60% -->	2.60% -->	
92+50.00	2.60% -->	2.60% -->	
93+00.00	2.60% -->	2.60% -->	
93+50.00	2.60% -->	2.60% -->	
94+00.00	2.60% -->	2.60% -->	
94+50.00	2.60% -->	2.60% -->	
95+00.00	2.60% -->	2.60% -->	
95+50.00	2.60% -->	2.60% -->	
96+00.00	2.60% -->	2.60% -->	
96+50.00	2.60% -->	2.60% -->	
97+00.00	2.60% -->	2.60% -->	
97+50.00	2.60% -->	2.60% -->	
98+00.00	2.60% -->	2.60% -->	
98+50.00	2.60% -->	2.60% -->	
99+00.00	2.60% -->	2.60% -->	
99+50.00	2.60% -->	2.60% -->	
100+00.00	2.60% -->	2.60% -->	
100+50.00	2.60% -->	2.60% -->	
101+00.00	2.60% -->	2.60% -->	
101+50.00	2.60% -->	2.60% -->	
102+00.00	2.60% -->	2.60% -->	
102+30.00	2.60% -->	2.60% -->	END PROJECT - MATCH EXISTING

2

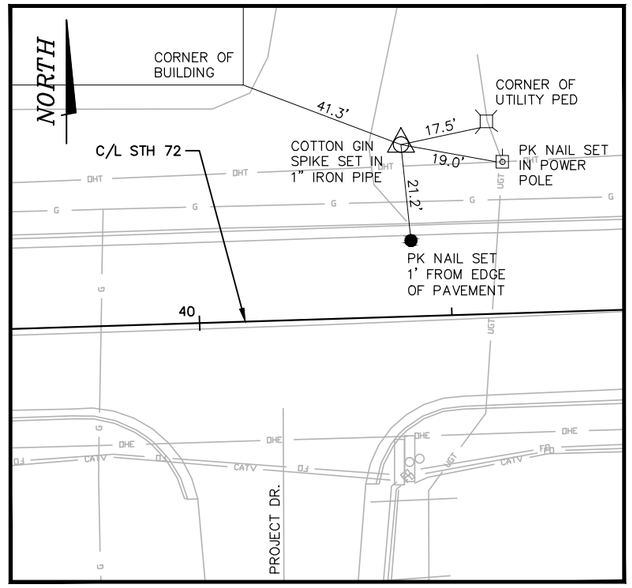
PROJECT NO: 7105-03-72 | HWY: STH 72 | COUNTY: PIERCE | ALIGNMENT DETAILS | SHEET 36 | E



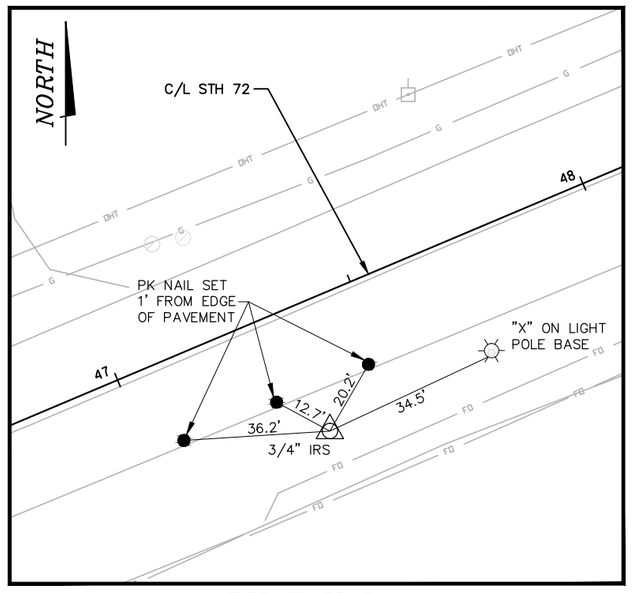
TIES TO CP#2
STATION 16+22.80, 22.3' RT.
Y=333 391.43
X=565 949.89



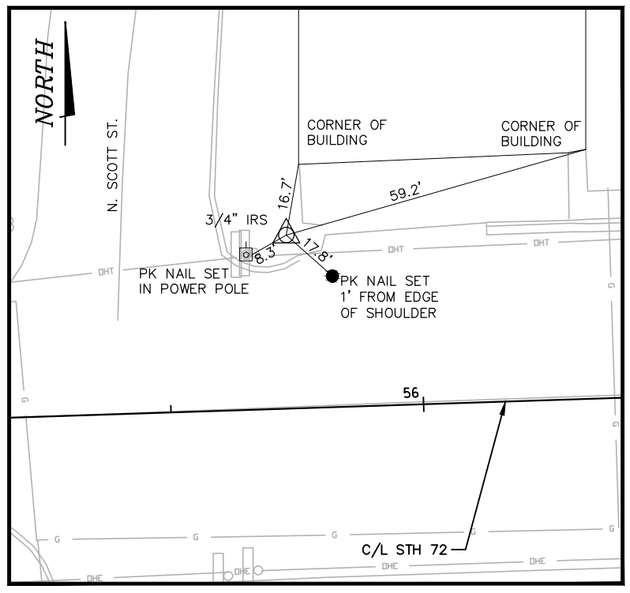
TIES TO CP#4
STATION 29+54.84, 26.7' RT.
Y=334 045.27
X=566 942.20



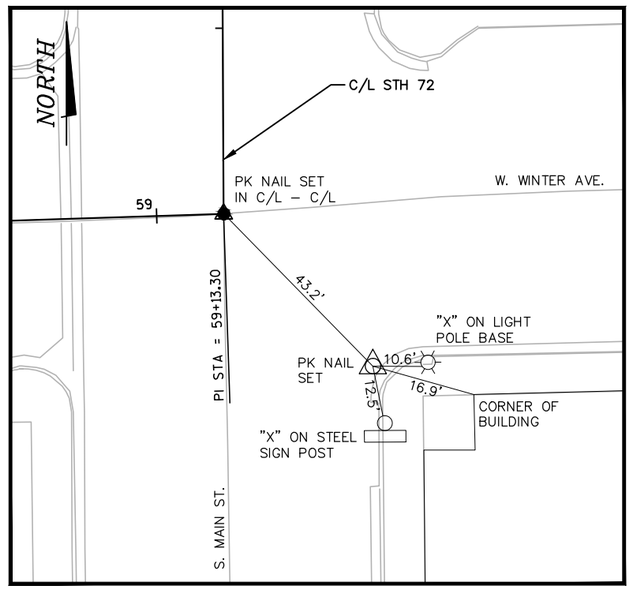
TIES TO CP#5
STATION 40+40.93, 34.1' LT.
Y=334 129.63
X=568 026.54



TIES TO CP#6
STATION 47+34.79, 25.7' RT.
Y=334 262.34
X=568 697.90

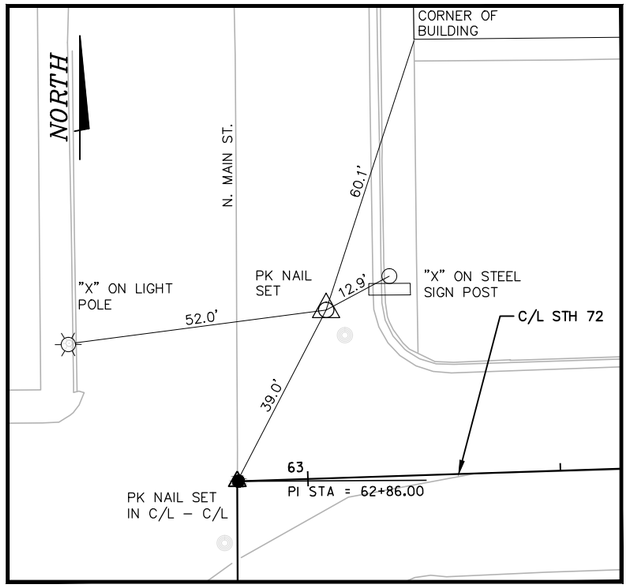


TIES TO CP#7
STATION 55+74.59, 32.5' LT.
Y=334 564.77
X=569 482.04

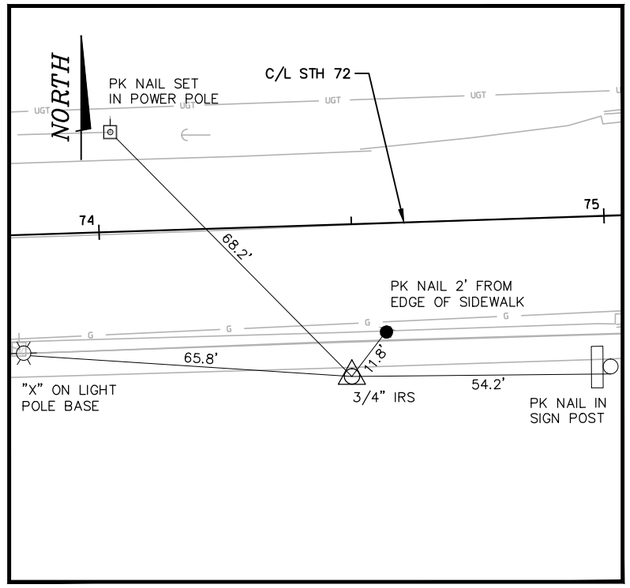


TIES TO CP#8
STATION 63+04.48, 403.8' RT.
Y=334 512.96
X=569 851.27

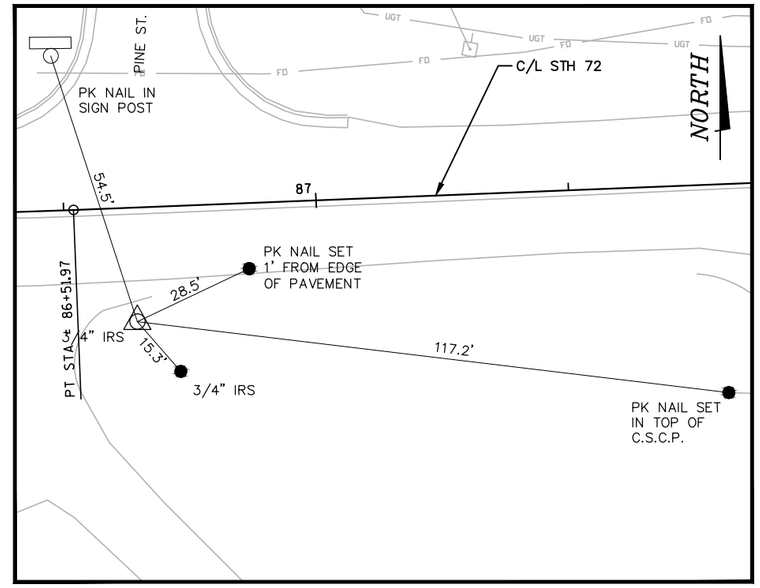
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CONTROL POINT TIES	SHEET 37	E



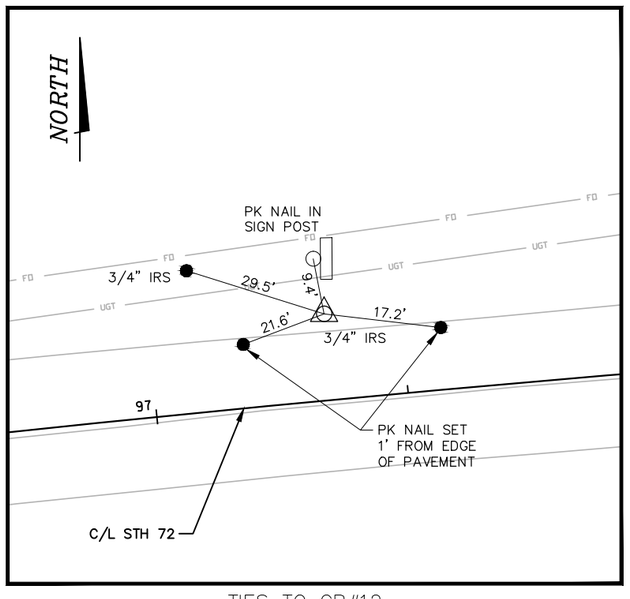
TIES TO CP#9
STATION 63+04.66, 33.3' LT.
Y=334 949.83
X=569 837.24



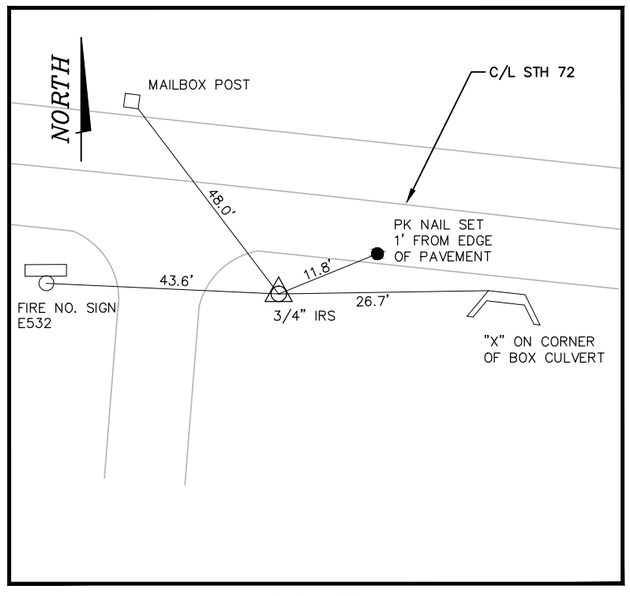
TIES TO CP#10
STATION 74+49.14, 30.1' RT.
Y=334 923.66
X=570 983.18



TIES TO CP#11
STATION 86+63.53, 22.4' RT.
Y=335 000.33
X=572 197.94



TIES TO CP#12
STATION 97+34.87, 17.1' LT.
Y=335 225.97
X=573 245.65



TIES TO CP#13
STATION 108+87.81, 20.9' LT.
Y=335 180.22
X=574 395.97

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CONTROL POINT TIES	SHEET 38	E

DATE 16JUN14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7105-03-72 QUANTITY
0010	204.0115	REMOVING ASPHALTIC SURFACE BUTT JOINTS	SY	5,375.000	5,375.000
0020	204.0120	REMOVING ASPHALTIC SURFACE MILLING	SY	31,930.000	31,930.000
0030	204.0150	REMOVING CURB & GUTTER	LF	140.000	140.000
0040	204.0220	REMOVING INLETS	EACH	2.000	2.000
0050	204.0245	REMOVING STORM SEWER (SIZE) 01. 12-INCH	LF	22.000	22.000
0060	213.0100	FINISHING ROADWAY (PROJECT) 01. 7105-03-72	EACH	1.000	1.000
0070	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	780.000	780.000
0080	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	50.000	50.000
0090	305.0500	SHAPING SHOULDERS	STA	100.000	100.000
0100	416.0610	DRILLED TIE BARS	EACH	11.000	11.000
0110	416.1010	CONCRETE SURFACE DRAINS	CY	2.100	2.100
0120	440.4410.S	INCENTIVE IRI RIDE	DOL	6,670.000	6,670.000
0130	455.0605	TACK COAT	GAL	1,930.000	1,930.000
0140	465.0105	ASPHALTIC SURFACE	TON	700.000	700.000
0150	465.0110	ASPHALTIC SURFACE PATCHING	TON	35.000	35.000
0160	465.0120	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES	TON	55.000	55.000
0170	465.0310	ASPHALTIC CURB	LF	1,160.000	1,160.000
0180	502.3200	PROTECTIVE SURFACE TREATMENT	SY	917.000	917.000
0190	502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	194.000	194.000
0200	509.0301	PREPARATION DECKS TYPE 1	SY	130.000	130.000
0210	509.0302	PREPARATION DECKS TYPE 2	SY	50.000	50.000
0220	509.0500	CLEANING DECKS	SY	917.000	917.000
0230	509.1200	CURB REPAIR	LF	37.000	37.000
0240	509.1500	CONCRETE SURFACE REPAIR	SF	4.000	4.000
0250	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	68.000	68.000
0260	509.9050.S	CLEANING PARAPETS	LF	518.000	518.000
0270	513.9005.S	REMOVING AND RESETTING TUBULAR RAILING (STRUCTURE) 02. B-47-077	LS	1.000	1.000
0280	520.0124	CULVERT PIPE CLASS III 24-INCH	LF	26.000	26.000
0290	520.1024	APRON ENDWALLS FOR CULVERT PIPE 24-INCH	EACH	2.000	2.000
0300	520.7000	CLEANING CULVERT PIPES	EACH	6.000	6.000
0310	521.1012	APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH	EACH	1.000	1.000
0320	601.0411	CONCRETE CURB & GUTTER 30-INCH TYPE D	LF	138.000	138.000
0330	602.0405	CONCRETE SIDEWALK 4-INCH	SF	900.000	900.000
0340	602.0505	CURB RAMP DETECTABLE WARNING FIELD YELLOW	SF	48.000	48.000
0350	603.8000	CONCRETE BARRIER TEMPORARY PRECAST DELIVERED	LF	800.000	800.000
0360	603.8125	CONCRETE BARRIER TEMPORARY PRECAST INSTALLED	LF	1,550.000	1,550.000
0370	608.0312	STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH	LF	4.000	4.000
0380	611.0654	INLET COVERS TYPE V	EACH	1.000	1.000
0390	611.3220	INLETS 2X2-FT	EACH	1.000	1.000
0400	611.3230	INLETS 2X3-FT	EACH	1.000	1.000
0410	611.8110	ADJUSTING MANHOLE COVERS	EACH	17.000	17.000
0420	611.8115	ADJUSTING INLET COVERS	EACH	2.000	2.000
0430	611.9710	SALVAGED INLET COVERS	EACH	1.000	1.000
0440	612.0212	PIPE UNDERDRAIN UNPERFORATED 12-INCH	LF	23.000	23.000
0450	614.0010	BARRIER SYSTEM GRADING SHAPING FINISHING	EACH	5.000	5.000
0460	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4.000	4.000

3

DATE 16JUN14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7105-03-72 QUANTITY
0470	614.0200	STEEL THRIE BEAM STRUCTURE APPROACH	LF	84.000	84.000
0480	614.0305	STEEL PLATE BEAM GUARD CLASS A	LF	850.000	850.000
0490	614.0345	STEEL PLATE BEAM GUARD SHORT RADIUS	LF	87.500	87.500
0500	614.0370	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	EACH	4.000	4.000
0510	614.0920	SALVAGED RAIL	LF	1,200.000	1,200.000
0520	618.0100	MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) 01. 7105-03-72	EACH	1.000	1.000
0530	619.1000	MOBILIZATION	EACH	1.000	1.000
0540	628.1504	SILT FENCE	LF	550.000	550.000
0550	628.1520	SILT FENCE MAINTENANCE	LF	1,100.000	1,100.000
0560	628.2023	EROSION MAT CLASS II TYPE B	SY	5.000	5.000
0570	633.5200	MARKERS CULVERT END	EACH	5.000	5.000
0580	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	31.000	31.000
0590	634.0616	POSTS WOOD 4X6-INCH X 16-FT	EACH	68.000	68.000
0600	634.0618	POSTS WOOD 4X6-INCH X 18-FT	EACH	7.000	7.000
0610	637.2210	SIGNS TYPE II REFLECTIVE H	SF	666.660	666.660
0620	637.2230	SIGNS TYPE II REFLECTIVE F	SF	127.500	127.500
0630	638.2102	MOVING SIGNS TYPE II	EACH	2.000	2.000
0640	638.2602	REMOVING SIGNS TYPE II	EACH	119.000	119.000
0650	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	100.000	100.000
0660	638.4000	MOVING SMALL SIGN SUPPORTS	EACH	2.000	2.000
0670	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 01. S-47-0014	LS	1.000	1.000
0680	641.8100	OVERHEAD SIGN SUPPORT (STRUCTURE) 02. S-47-0015	LS	1.000	1.000
0690	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000
0700	643.0100	TRAFFIC CONTROL (PROJECT) 01. 7105-03-72	EACH	1.000	1.000
0710	643.0300	TRAFFIC CONTROL DRUMS	DAY	1,680.000	1,680.000
0720	643.0420	TRAFFIC CONTROL BARRICADES TYPE III	DAY	244.000	244.000
0730	643.0705	TRAFFIC CONTROL WARNING LIGHTS TYPE A	DAY	408.000	408.000
0740	643.0715	TRAFFIC CONTROL WARNING LIGHTS TYPE C	DAY	840.000	840.000
0750	643.0900	TRAFFIC CONTROL SIGNS	DAY	3,858.000	3,858.000
0760	646.0106	PAVEMENT MARKING EPOXY 4-INCH	LF	28,770.000	28,770.000
0770	646.0126	PAVEMENT MARKING EPOXY 8-INCH	LF	570.000	570.000
0780	647.0206	PAVEMENT MARKING ARROWS BIKE LANE EPOXY	EACH	4.000	4.000
0790	647.0306	PAVEMENT MARKING SYMBOLS BIKE LANE EPOXY	EACH	4.000	4.000
0800	647.0566	PAVEMENT MARKING STOP LINE EPOXY 18-INCH	LF	77.000	77.000
0810	647.0656	PAVEMENT MARKING PARKING STALL EPOXY	LF	1,345.000	1,345.000
0820	647.0766	PAVEMENT MARKING CROSSWALK EPOXY 6-INCH	LF	1,390.000	1,390.000
0830	647.0786	PAVEMENT MARKING CROSSWALK EPOXY 18-INCH	LF	800.000	800.000
0840	648.0100	LOCATING NO-PASSING ZONES	MI	1.670	1.670
0850	649.0100	TEMPORARY PAVEMENT MARKING 4-INCH	LF	28,595.000	28,595.000
0860	649.0400	TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH	LF	1,550.000	1,550.000
0870	649.1000	TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH	LF	124.000	124.000
0880	650.4000	CONSTRUCTION STAKING STORM SEWER	EACH	3.000	3.000
0890	650.5500	CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER	LF	138.000	138.000
0900	650.8000	CONSTRUCTION STAKING RESURFACING REFERENCE	LF	8,805.000	8,805.000
0910	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 7105-03-72	LS	1.000	1.000

3

DATE 16JUN14 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	7105-03-72 QUANTITY
0920	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 01. B-47-044	LS	1.000	1.000
0930	661.0100	TEMPORARY TRAFFIC SIGNALS FOR BRIDGES (STRUCTURE) 02. B-47-077	LS	1.000	1.000
0940	690.0150	SAWING ASPHALT	LF	1,125.000	1,125.000
0950	690.0250	SAWING CONCRETE	LF	65.000	65.000
0960	ASP.1T0A	ON-THE-JOB TRAINING APPRENTICE AT $5. 00/HR	HRS	1,200.000	1,200.000
0970	ASP.1T0G	ON-THE-JOB TRAINING GRADUATE AT $5.00/HR	HRS	300.000	300.000
0980	SPV.0060	SPECIAL 01. AJUSTING WATER VALVE BOXES	EACH	18.000	18.000
0990	SPV.0090	SPECIAL 01. CLEANING DITCHES	LF	710.000	710.000
1000	SPV.0090	SPECIAL 02. CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT	LF	138.000	138.000
1010	SPV.0105	SPECIAL 01. PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING SPECIAL	LS	1.000	1.000
1020	SPV.0165	SPECIAL 01. CONCRETE SIDEWALK CURE AND SEAL TREATMENT	SF	900.000	900.000
1030	SPV.0170	SPECIAL 01. REHEATING HMA PAVEMENT LONGITUDINAL JOINTS SPECIAL	STA	88.000	88.000
1040	SPV.0195	SPECIAL 01. HMA PAVEMENT TYPE E-3 SPECIAL	TON	8,120.000	8,120.000

3

REMOVING ASPHALTIC SURFACE BUTT JOINTS

STATION - STATION	LOCATION	204.0115 SY
14+25 - 15+00	STH 72	200
58+63 - 58+81	STH 72	116
58+85 - 59+53	STH 72	442
62+09 - 63+29	STH 72	414
101+55 - 102+30	STH 72	250
15+78 - 16+99	CTH G	360
31+26 - 32+52	STH 128	383
32+93 - 33+53	S MARTIN ST	103
39+78 - 40+52	PROJECT DR	128
51+39 - 52+59	WOODMAN ST	143
55+04 - 55+70	SCOTT ST (NORTH)	173
55+08 - 55+53	SCOTT ST (SOUTH)	109
64+06 - 64+62	OMAHA AVE	127
66+24 - 67+43	WOODWORTH ST (NORTH)	186
66+27 - 66+97	WOODWORTH ST (SOUTH)	180
69+41 - 70+55	CLARK ST (NORTH)	155
69+81 - 70+48	CLARK ST (SOUTH)	157
72+71 - 73+04	RACE DR	31
74+65 - 76+52	CTH P (NORTH)	257
75+02 - 76+16	CTH P (SOUTH)	282
78+50 - 80+31	BIRCH ST (NORTH)	182
78+86 - 79+68	BIRCH ST (SOUTH)	197
82+52 - 83+36	SPRUCE ST (NORTH)	103
82+60 - 83+25	SPRUCE ST (SOUTH)	122
86+22 - 87+07	PINE ST	153
27+20	STH 72, RT (C.E.)	63
28+17	STH 72, RT (P.E.)	37
29+53	STH 72, LT (P.E.)	59
30+27	STH 72, RT (C.E.)	104
31+05	STH 72, LT (P.E.)	13
34+25	STH 72, LT (P.E.)	25
34+86	STH 72, RT (P.E.)	40
36+08	STH 72, LT (P.E.)	26
68+41	STH 72, LT (ALLEY)	21
68+73	STH 72, LT (C.E.)	34
	TOTAL =	5375

REMOVING ASPHALTIC SURFACE MILLING

CATEGORY	STATION - STATION	LOCATION	204.0120 SY
0010	14+25 - 20+66	STH 72	2312
0010	21+98 - 35+80	STH 72	4333
0010	35+80 - 43+60	STH 72	2773
0010	44+47 - 55+40	STH 72	3660
0010	55+40 - 66+60	STH 72	3937
0010	66+60 - 82+90	STH 72	5613
0010	82+90 - 102+30	STH 72	6467
		CATEGORY TOTAL =	29095
0060	55+40 - 66+60	STH 72	1965
0060	66+60 - 82+90	STH 72	870
		CATEGORY TOTAL =	2835
		PROJECT TOTAL =	31930

REMOVING CURB & GUTTER

STATION - STATION	LOCATION	204.0120 LF
22+06.30 - 22+26.28	STH 72, RT	20
43+25.00 - 43+59.01	STH 72, LT	34
44+42.33 - 44+63.72	STH 72, LT	21
58+72.13 - 59+65.37	STH 72, LT	30
62+41.24 - 63+26.80	STH 72, RT	35
	TOTAL =	140

REMOVING STORM SEWER

STATION	LOCATION	204.0220 REMOVING INLETS (EACH)	204.0245 REMOVING STROM SEWER 12-INCH (LF)
22+22	STH 72, RT	1	22
62+47	STH 72, RT	1	–
	TOTALS =	2	22

BASE AGGREGATE DENSE 3/4-INCH

STATION - STATION	LOCATION	305.0110 TON
14+25 - 15+78	STH 72, LT	12
14+25 - 19+18	STH 72, RT	39
16+60 - 20+45	STH 72, LT	138
19+18 - 20+59	STH 72, RT	34
22+05 - 25+84	STH 72, LT	92
22+20 - 23+61	STH 72, RT	34
23+61 - 33+22	STH 72, RT	75
25+84 - 30+26	STH 72, LT	34
30+26 - 36+41	STH 72, LT	38
33+22 - 35+78	STH 72, RT	10
45+35 - 55+04	STH 72, LT	38
45+35 - 51+39	STH 72, RT	23
83+25 - 102+30	STH 72, RT	74
83+26 - 102+30	STH 72, LT	71
26+11	STH 72, LT (P.E.)	1
32+64	STH 72, RT (P.E.)	2
33+80	STH 72, RT (P.E.)	2
46+84	STH 72, LT (C.E.)	3
48+42	STH 72, LT (C.E.)	3
48+43	STH 72, RT (C.E.)	4
52+15	STH 72, LT (P.E.)	4
70+87	STH 72, LT (P.E.)	3
71+22	STH 72, LT (P.E.)	3
84+40	STH 72, LT (P.E.)	6
84+46	STH 72, RT (P.E.)	2
86+29	STH 72, RT (P.E.)	6
87+96	STH 72, RT (P.E.)	3
102+08	STH 72, LT (C.E.)	3
–	UNDISTRIBUTED	23
	TOTAL =	780

BASE AGGREGATE DENSE 1 1/4-INCH

STATION - STATION	LOCATION	305.0110 TON
22+06 - 22+34	STH 72, RT	5
43+25 - 43+59	STH 72, LT	9
44+42 - 44+75	STH 72, LT	9
55+18 - 55+25	STH 72, RT	2
55+54 - 55+62	STH 72, RT	2
58+72 - 59+65	STH 72, LT	10
62+41 - 63+27	STH 72, RT	10
–	UNDISTRIBUTED	3
	TOTAL =	50

SHAPING SHOULDERS

STATION - STATION	LOCATION	305.0500 STA
14+25 - 20+66	STH 72, LT & RT	13
21+98 - 35+80	STH 72, LT & RT	28
44+42 - 54+40	STH 72, LT & RT	20
83+25 - 102+30	STH 72, LT & RT	39
	TOTAL =	100

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

ASPHALT ITEMS

CATEGORY	STATION - STATION	LOCATION	455.0605 TACK COAT (GAL)	SPV.0195.01 HMA PAVEMENT TYPE E-3 SPECIAL (TON)	465.0105 ASPHALTIC SURFACE (TON)	465.0110 ASPHALTIC SURFACE PATCHING (TON)	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)
0010	14+25 - 20+66	STH 72	144	624	–	–	–
0010	21+98 - 35+78	STH 72	284	1226	–	–	–
0010	35+78 - 43+60	STH 72	140	607	–	–	–
0010	44+42 - 55+05	STH 72	204	879	–	–	–
0010	55+05 - 58+81	STH 72	74	297	–	–	–
0010	58+85 - 82+90	STH 72	422	1715	–	–	–
0010	82+90 - 102+30	STH 72	364	1570	–	–	–
0010	15+78 - 16+99	CTH G	18	74	–	–	–
0010	31+26 - 32+52	STH 128	16	67	–	–	–
0010	32+93 - 33+53	S MARTIN ST	6	22	–	–	–
0010	39+78 - 40+52	PROJECT DR	6	26	–	–	–
0010	51+39 - 52+59	WOODMAN ST	8	29	–	–	–
0010	55+04 - 55+70	SCOTT ST (NORTH)	8	35	–	–	–
0010	55+08 - 55+53	SCOTT ST (SOUTH)	6	22	–	–	–
0010	64+06 - 64+62	OMAHA AVE	6	26	–	–	–
0010	66+24 - 67+43	WOODWORTH ST (NORTH)	10	37	–	–	–
0010	66+27 - 66+97	WOODWORTH ST (SOUTH)	10	36	–	–	–
0010	69+41 - 70+55	CLARK ST (NORTH)	8	31	–	–	–
0010	69+81 - 70+48	CLARK ST (SOUTH)	8	32	–	–	–
0010	72+71 - 73+04	RACE DR	2	6	–	–	–
0010	74+65 - 76+52	CTH P (NORTH)	12	52	–	–	–
0010	75+02 - 76+16	CTH P (SOUTH)	14	57	–	–	–
0010	78+50 - 80+31	BIRCH ST (NORTH)	10	37	–	–	–
0010	78+86 - 79+68	BIRCH ST (SOUTH)	10	40	–	–	–
0010	82+52 - 83+36	SPRUCE ST (NORTH)	6	22	–	–	–
0010	82+60 - 83+25	SPRUCE ST (SOUTH)	6	26	–	–	–
0010	86+22 - 87+07	PINE ST	6	27	–	–	–
0010	18+25 - 20+70	STH 72, RT	–	–	24	–	–
0010	21+95 - 24+40	STH 72, LT	–	–	29	–	–
0010	22+28 - 24+40	STH 72, RT	–	–	21	–	–
0010	44+53 - 46+85	STH 72, RT	–	–	5	–	–
0010	44+75 - 46+85	STH 72, LT	–	–	9	–	–
0010	27+20	STH 72, RT (C.E.)	–	–	–	–	12
0010	28+17	STH 72, RT (P.E.)	–	–	–	–	2
0010	29+53	STH 72, LT (P.E.)	–	–	–	–	5
0010	30+27	STH 72, RT (C.E.)	–	–	–	–	15
0010	31+05	STH 72, LT (P.E.)	–	–	–	–	1
0010	34+25	STH 72, LT (P.E.)	–	–	–	–	3
0010	34+86	STH 72, RT (P.E.)	–	–	–	–	3
0010	36+08	STH 72, LT (P.E.)	–	–	–	–	3
0010	68+41	STH 72, LT (ALLEY)	–	–	–	–	4
0010	68+73	STH 72, LT (C.E.)	–	–	–	–	6
0010	–	UNDISTRIBUTED	47	143	612	35	1
		CATEGORY TOTALS =	1855	7765	700	35	55
0060	55+05 - 58+81	STH 72	27	126	–	–	–
0060	58+85 - 82+90	STH 72	43	200	–	–	–
0060	–	UNDISTRIBUTED	5	9			
		CATEGORY TOTALS =	75	335	0	0	0
		PROJECT TOTALS =	1930	8100	700	35	55

NOTES: THE UNDISTRIBUTED AMOUNT OF ASPHALTIC SURFACE IS TO BE USED FOR MISCIALLANEOUS FULL DEPTH REPAIR AND FOR WEDGING AND LEVELING TO ACHIEVE PROPER CROSS SLOPE.

THE UNDISTRIBUTED AMOUNT OF ASPHALTIC SURFACE PATCHING IS TO BE USED TO MAKE MINOR REPAIRS (FILLING POT HOLES AND TRAFFIC POP-OUTS) AND TO CONSTRUCT TEMPORARY RAMPS AT BUTT JOINTS.

3

CONCRETE SURFACE DRAINS

STATION - STATION	LOCATION	416.1010 CY
22+07.65 - 20+30.88	STH 72, RT	2.1
	TOTAL =	2.1

DRILLED TIE BARS

STATION - STATION	LOCATION	416.0610 EACH
22+08 - 22+20	STH 72, RT	11
	TOTAL =	11

ASPHALTIC CURB

CATEGORY	STATION - STATION	LOCATION	465.0310 LF
0060	66+97 - 68+26	STH 72, RT	129
0060	68+57 - 69+81	STH 72, RT	124
0060	71+56 - 75+02	STH 72, RT	347
0060	76+16 - 78+84	STH 72, RT	268
0060	79+68 - 82+60	STH 72, RT	292
		TOTAL =	1160

CULVERT PIPE CLASS III & APROND ENDWALLS FOR CULVERT PIPE

STATION	LOCATION	520.0124 C.P. 24-INCH LF	520.1024 A.E.W. 24-INCH EACH
34+85	STH 72, RT (P.E.)	26	2
	TOTALS =	26	2

STEEL THICKNESS = 0.064 INCHES
ALUMINUM THICKNESS = 0.075 INCHES

CLEANING CULVERT PIPES

STATION	LOCATION	520.7000 EACH
30+24	STH 72, RT (P.E.)	1
31+05	STH 72, LT (P.E.)	1
32+64	STH 72, RT (P.E.)	1
33+22	MARTIN ST	1
33+54	STH 72	1
33+80	STH 72, RT (P.E.)	1
	TOTAL =	6

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

ADJUSTING STRUCTURE COVERS

CATEGORY	STATION	LOCATION	611.8110 ADJUSTING MANHOLE COVERS (EACH)	611.8115 ADJUSTING INLET COVERS (EACH)	SPV.0060.01 ADJUSTING WATER VALVE BOXES (EACH)
0010	52+28	STH 72, 21.5' RT	1	--	--
0010	63+07	STH 72, 28.2' LT	1	--	--
0010	43+41	STH 72, 19.0' LT	--	1	--
0010	44+61	STH 72, 17.7' LT	--	1	--
		CATEGORY TOTALS =	2	2	0
0060	31+56	STH 72, 14.4' LT	1	--	--
0060	33+16	STH 72, 14.3' LT	1	--	--
0060	35+59	STH 72, 14.0' LT	1	--	--
0060	39+63	STH 72, 15.8' LT	1	--	--
0060	42+09	STH 72, 12.9' LT	1	--	--
0060	51+89	STH 72, 12.5' RT	--	--	1
0060	52+12	STH 72, 15.4' RT	--	--	1
0060	52+25	STH 72, 2.1' RT	1	--	--
0060	55+39	STH 72, 12.0' RT	1	--	--
0060	55+42	STH 72, 20.2' LT	--	--	1
0060	55+45	STH 72, 18.2' LT	--	--	1
0060	56+28	STH 72, 28.0' LT	--	--	1
0060	56+99	STH 72, 25.1 LT	--	--	1
0060	57+22	STH 72, 12.6' RT	1	--	--
0060	57+33	STH 72, 24.0' LT	--	--	1
0060	62+48	STH 72, 21.4' LT	--	--	1
0060	62+74	STH 72, 2.6' LT	1	--	--
0060	64+73	STH 72, 12.2' RT	1	--	--
0060	66+53	STH 72, 9.2' LT	--	--	1
0060	66+68	STH 72, 12.2' RT	1	--	--
0060	68+32	STH 72, 12.0' RT	1	--	--
0060	69+92	STH 72, 11.4' LT	--	--	1
0060	70+11	STH 72, 9.0' LT	--	--	1
0060	70+22	STH 72, 11.6' RT	1	--	--
0060	72+86	STH 72, 11.7' RT	1	--	--
0060	75+16	STH 72, 18.3' LT	--	--	1
0060	75+49	STH 72, 11.3' RT	1	--	--
0060	75+57	STH 72, 14.7' LT	--	--	1
0060	75+85	STH 72, 17.3' LT	--	--	1
0060	79+19	STH 72, 16.5' LT	--	--	1
0060	79+38	STH 72, 15.0' LT	--	--	1
0060	86+26	STH 72, 13.1' LT	--	--	1
0060	86+64	STH 72, 45.8' LT	--	--	1
		CATEGORY TOTALS =	15	0	18
		PROJECT TOTALS =	17	2	18

STORM SEWER

STATION	OFFSET	LOCATION	608.0312 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH (LF)	611.0654 INLET COVERS TYPE V (EACH)	611.3220 INLETS 2X2-FT (EACH)	611.3230 INLETS 2X3-FT (EACH)	611.9710 SALVAGED INLET COVERS (EACH)	*612.0212* PIPE UNDERDRAIN UNPERFORATED 12-INCH (LF)	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH (EACH)	GRATE ELEVATION (FT)	T.O.S. ELEVATION (FT)	STRUCTURE DEPTH (FT)
22+30.60	19.0' RT	STH 72	--	1	1	--	--	23	1	858.26	857.34	2.00
62+46.44	26.7' RT	STH 72	4	--	--	1	1	--	--	848.92	847.97	1.50
		TOTALS =	4	1	1	1	1	23	1			

* TWO (2) 22.5° ELBOWS REQUIRED. INCIDENTAL TO BID ITEM "PIPE UNDERDRAIN UNPERFORATED 12-INCH".

3

CONCRETE CURB & GUTTER 30-INCH TYPE D

STATION - STATION	LOCATION	601.0411 LF
43+25.00 - 43+59.01	STH 72, LT	33
44+42.33 - 44+75.00	STH 72, LT	33
58+72.13 - 59+65.37	STH 72, LT	35
62+41.24 - 63+26.80	STH 72, RT	37
	TOTAL =	138

CONCRETE SIDEWALK 4-INCH

STATION - STATION	LOCATION	602.0405 SF
43+25.00 - 43+59.01	STH 72, LT	149
44+42.33 - 44+75.00	STH 72, LT	149
55+17.50 - 55+25.30	STH 72, RT	39
55+54.30 - 55+62.10	STH 72, RT	39
59+40.30 - 59+65.37	STH 72, LT	258
62+41.24 - 62+66.87	STH 72, RT	266
	TOTAL =	900

CURB RAMP DETECTABLE WARNING FIELD YELLOW

STATION	LOCATION	602.0505 SF
55+25.30	STH 72, RT	8
55+54.30	STH 72, RT	8
58+78.03	STH 72, LT	8
59+52.28	STH 72, LT	8
62+59.09	STH 72, RT	8
63+18.86	STH 72, RT	8
	TOTAL =	48

EROSION MAT CLASS II TYPE B

STATION	LOCATION	628.2023 (SY)
22+31	STH 72, RT	4
--	UNDISTRIBUTED	1
	TOTAL =	5

MARKERS CULVERT END

STATION	LOCATION	633.5200 EACH
22+30	STH 72, RT	1
31+58	STH 72, LT (STH 128)	1
32+18	STH 72, LT (STH 128)	1
33+54	STH 72, LT & RT	2
	TOTAL =	5

3

PERMANENT SIGNING

SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE W X H (IN)	SIGN MESSAGE	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH X 18-FT (EACH)	COMMENT
1	15+75	STH 72, LT	R5-1	--	DO NOT ENTER	--	--	--	--	--	
2	15+75	STH 72, LT	R5-1	30 X 30	DO NOT ENTER	6.25	--	--	1	--	
3	15+75	STH 72, LT	R1-1	--	STOP	--	--	--	--	--	
4	15+75	STH 72, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
5	16+10	STH 72, RT	M1-5A, M6-1	--	COUNTY G, ‹	--	--	--	--	--	
6	16+10	STH 72, RT	J13-1	24 X 45	COUNTY G, ‹	7.50	--	--	1	--	
7	16+24	CTH G, ISLAND	R1-1	--	STOP	--	--	--	--	--	
8	16+24	CTH G, ISLAND	R1-1	30 X 30	STOP	5.18	--	1	--	--	
9	17+25	STH 72, LT	M1-5A, M6-1	--	COUNTY G, ›	--	--	--	--	--	
10	17+25	STH 72, LT	J13-1	24 X 45	COUNTY G, ›	7.50	--	--	1	--	
11	17+66	STH 72, RT	I2-3	--	ELMWOOD POPULATION 817	--	--	--	--	--	
12	17+66	STH 72, RT	I2-3	60 X 24	ELMWOOD POPULATION 817	10.00	--	1	1	--	
13	19+52	STH 72, RT	R2-5A, W13-1	--	REDUCE SPEED AHEAD, 35 MPH	--	--	--	--	--	
14	19+52	STH 72, RT	W3-5	36 X 36	SPEED LIMIT 35 AHEAD	--	9.00	--	1	--	
15	20+39	STH 72, RT	W5-52R	--	BRIDGE HASH MARKS	--	--	--	--	--	
16	20+39	STH 72, RT	W5-52R	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
17	20+39	STH 72, RT	13-1	--	EAU GALLE RIVER	--	--	--	--	--	
18	20+39	STH 72, RT	13-1	84 X 15	EAU GALLE RIVER	8.75	--	1	1	--	
19	20+61	STH 72, LT	W5-52L	--	BRIDGE HASH MARKS	--	--	--	--	--	
20	20+61	STH 72, LT	W5-52L	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
21	22+02	STH 72, RT	W5-52R	--	BRIDGE HASH MARKS	--	--	--	--	--	
22	22+02	STH 72, RT	W5-52R	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
23	22+24	STH 72, LT	W5-52L	--	BRIDGE HASH MARKS	--	--	--	--	--	
24	22+24	STH 72, LT	W5-52L	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
25	22+24	STH 72, LT	13-1	--	EAU GALLE RIVER	--	--	--	--	--	
26	22+24	STH 72, LT	13-1	84 X 15	EAU GALLE RIVER	8.75	--	1	1	--	
27	22+50	STH 72, RT	M2-1, M1-6	--	JCT, 128	--	--	--	--	--	
28	22+50	STH 72, RT	J1-1	24 X 39	JCT, 128	6.50	--	--	1	--	
29	24+24	STH 72, RT	D1-2	--	↑ DOWNSVILLE, ‹ SPRING VALLEY	--	--	--	--	--	
30	24+24	STH 72, RT	D1-2	90 X 30	↑ DOWNSVILLE, ‹ SPRING VALLEY	18.75	--	1	1	--	
31	25+08	STH 72, LT	M2-1, M1-5A	--	JCT, COUNTY G	--	--	--	--	--	
32	25+08	STH 72, LT	J1-1	24 X 39	JCT, COUNTY G	6.50	--	--	1	--	
33	25+25	STH 72, RT	--	--	NO PARKING, NO HUNTING IN VILLAGE LIMITS	--	--	--	--	--	
34	25+96	STH 72, LT	I55-56	--	ADOPT-A-HIGHWAY, ELMWOOD AREA FIRE DEPT	--	--	--	--	--	
35	25+96	STH 72, LT	I55-56	30 X 36	ADOPT-A-HIGHWAY, ELMWOOD AREA FIRE DEPT	7.50	--	--	1	--	
36	26+54	STH 72, RT	R2-1	--	SPEED LIMIT 35	--	--	--	--	--	
37	26+54	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 35	5.00	--	--	1	--	
38	26+90	STH 72, LT	R2-1	--	SPEED LIMIT 55	--	--	--	--	--	
39	26+90	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 55	5.00	--	--	1	--	
40	28+13	STH 72, LT	W1-2L	--	ROAD CURVES LEFT	--	--	--	--	--	
41	28+13	STH 72, LT	W1-2L	30 X 30	ROAD CURVES LEFT	--	6.25	--	1	--	
42	29+04	STH 72, RT	R10-64, R10-64F	--	NO ENGINE BRAKING, WITHIN VILLAGE LIMITS	--	--	--	--	--	
43	29+04	STH 72, RT	R10-64	30 X 36	NO ENGINE BRAKING EXCEPT IN EMERGENCY	7.50	--	--	1	--	
43	29+04	STH 72, RT	R10-64F	30 X 18	WITHIN VILLAGE LIMITS	3.75	--	--	--	--	
44	29+23	STH 72, LT	J4-1, D2-1	--	WEST, 72; ELLSWORTH 18	--	--	--	--	--	
45	29+23	STH 72, LT	J4-1	24 X 36	WEST, 72	6.00	--	--	--	--	
45	29+23	STH 72, LT	D2-2	78 X 15	ELLSWORTH 18	8.13	--	--	1	1	
46	31+30	STH 72, LT	R5-1	--	DO NOT ENTER	--	--	--	--	--	
47	31+30	STH 72, LT	R5-1	30 X 30	DO NOT ENTER	6.25	--	1	--	--	
48	31+41	STH 128, LT	R1-1	--	STOP	--	--	--	--	--	
49	31+41	STH 128, LT	R1-1	36 X 36	STOP	7.46	--	--	1	--	
50	31+50	STH 72, RT	M3-1, M1-6, M6-1; M3-2, M1-6, M6-1	--	NORTH, 128, ‹ ; EAST, 72, ↑	--	--	--	--	--	
51	31+50	STH 72, RT	J3-2	48 X 57	NORTH, 128, ‹ ; EAST, 72, ↑	19.00	--	--	--	1	
52	31+73	STH 72, RT	-	--	W. WINTER AVE., STH 128	--	--	--	--	--	EXISTING SIGN TO REMAIN
53	31+71	STH 128, ISLAND	R1-1	--	STOP	--	--	--	--	--	
					SUBTOTALS #1 =	166.45	27.25	10	18	2	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE W X H (IN)	SIGN MESSAGE	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH X 18-FT (EACH)	COMMENT
54	31+71	STH 128, ISLAND	R1-1	36 X 36	STOP	7.46	--	--	1	--	
55	32+23	STH 128, RT	W1-3L, W13-1	--	ROAD CURVES AHEAD, 30 MPH	--	--	--	--	--	
56	32+23	STH 128, RT	W1-3L	36 X 36	ROAD CURVES AHEAD	--	9.00	--	--	1	
56	32+23	STH 128, RT	W13-1	24 X 24	30 MPH	--	4.00	--	--	--	
57	32+79	STH 72, LT	M3-4, M1-6, M6-1; M3-1, M1-6, M6-1	--	WEST, 72, †; NORTH, 128, ·	--	--	--	--	--	
58	32+79	STH 72, LT	J3-2	48 X 57	WEST, 72, †; NORTH, 128, ·	19.00	--	--	--	1	
59	32+79	STH 72, RT	M3-2, M1-6	--	EAST, 72	--	--	--	--	--	
60	32+79	STH 72, RT	J4-1	24 X 36	EAST, 72	6.00	--	--	--	1	
61	33+00	STH 72, RT	W14-1	--	DEAD END	--	--	--	--	--	
62	33+00	STH 72, RT	W14-1	30 X 30	DEAD END	6.25	--	--	1	--	
63	33+39	STH 72, RT	R1-1	--	STOP	--	--	--	--	--	
64	33+39	STH 72, RT	R1-1	30 X 30	STOP	5.18	--	1	--	--	
65	33+58	STH 72, RT	--	--	W. WINTER AVE., S. MARTIN ST.	--	--	--	--	--	EXISTING SIGN TO REMAIN
66	35+35	STH 72, LT	R2-1	--	SPEED LIMIT 35	--	--	--	--	--	
67	35+35	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 35	5.00	--	1	--	--	
68	37+09	STH 72, LT	D1-2	--	† ELLSWORTH, SPRING VALLEY ·	--	--	--	--	--	
69	37+09	STH 72, LT	D1-2	90 X 30	† ELLSWORTH, SPRING VALLEY ·	18.75	--	--	2	--	
70	36+89	STH 72, RT	R2-1	--	SPEED LIMIT 35	--	--	--	--	--	
71	36+89	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 35	5.00	--	--	1	--	
72	39+00	STH 72, LT	M2-1, M1-6	--	JCT, 128	--	--	--	--	--	
73	39+00	STH 72, LT	J1-1	24 X 39	JCT, 128	6.50	--	--	1	--	
74	40+42	PROJECT DR, RT	R1-1	--	STOP	--	--	--	--	--	
75	40+42	PROJECT DR, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
76	40+63	STH 72, RT	--	--	W. WINTER AVE., PROJECT DR.	--	--	--	--	--	EXISTING SIGN TO REMAIN
77	41+11	STH 72, RT	S1-1, S16-9P	--	SCHOOL ZONE, AHEAD	--	--	--	--	--	
78	41+11	STH 72, RT	S1-1	36 X 36	SCHOOL ZONE	--	6.75	--	1	--	
78	41+11	STH 72, RT	S16-9P	30 X 18	AHEAD	--	3.75	--	--	--	
79	43+18	STH 72, LT	R2-1	--	SPEED LIMIT 35	--	--	--	--	--	
80	43+18	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 35	5.00	--	--	1	--	
81	42+95	STH 72, RT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
82	42+95	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	--	1	--	
83	43+20	STH 72, RT	I3-1	--	EAU GALLE RIVER	--	--	--	--	--	
84	43+20	STH 72, RT	I3-1	84 X 15	EAU GALLE RIVER	8.75	--	2	--	--	
85	43+32	STH 72, LT	W5-52L	--	BRIDGE HASH MARKS	--	--	--	--	--	
86	43+32	STH 72, LT	W5-52L	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
87	43+33	STH 72, RT	W5-52R	--	BRIDGE HASH MARKS	--	--	--	--	--	
88	43+33	STH 72, RT	W5-52R	12 X 36	BRIDGE HASH MARKS	--	3.00	1	--	--	
89	44+74	STH 72, LT	W5-52R	--	BRIDGE HASH MARKS	--	--	--	--	--	
90	44+74	STH 72, LT	W5-52R	12 X 36	BRIDGE HASH MARKS	--	3.00	--	1	--	
91	44+72	STH 72, LT	W5-52L	--	BRIDGE HASH MARKS	--	--	--	--	--	
92	44+72	STH 72, RT	W5-52L	12 X 36	BRIDGE HASH MARKS	--	3.00	--	1	--	
93	44+94	STH 72, LT	I3-1	--	EAU GALLE RIVER	--	--	--	--	--	
94	44+94	STH 72, LT	I3-1	84 X 15	EAU GALLE RIVER	8.75	--	1	1	--	
95	45+53	STH 72, RT	S4-51	--	SCHOOL SPEED LIMIT 15	--	--	--	--	--	
96	45+53	STH 72, RT	S4-51	24 X 48	SCHOOL SPEED LIMIT 15	8.00	--	--	1	--	
97	46+70	STH 72, LT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
98	46+70	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	--	1	--	
99	48+09	STH 72, RT	S1-1, S16-7L	--	SCHOOL ZONE, ✓	--	--	--	--	--	
100	48+09	STH 72, RT	S1-1	36 X 36	SCHOOL ZONE	--	6.75	--	1	--	
100	48+09	STH 72, RT	S16-7L	30 X 18	✓	--	3.75	--	--	--	
101	48+94	STH 72, LT	S1-1, S16-7L	--	SCHOOL ZONE, ✓	--	--	--	--	--	
102	48+94	STH 72, LT	S1-1	36 X 36	SCHOOL ZONE	--	6.75	--	1	--	
102	48+94	STH 72, LT	S16-7L	30 X 18	✓	--	3.75	--	--	--	
103	49+80	STH 72, RT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
104	49+80	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	1	--	--	
					SUBTOTALS #2 =	129.82	56.50	8	17	3	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE W X H (IN)	SIGN MESSAGE	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH X 18-FT (EACH)	COMMENT
105	52+31	WOODMAN ST, RT	R1-1	--	STOP	--	--	--	--	--	
106	52+31	WOODMAN ST, RT	R1-1	30 X 30	STOP	5.18	--	1	--	--	
107	52+56	STH 72, RT	--	--	W. WINTER AVE., S. WOODMAN ST.	--	--	--	--	--	EXISTING SIGN TO REMAIN
108	52+65	STH 72, LT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
109	52+65	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	--	--	--	MOUNTED ON EXISTING POLE
110	53+59	STH 72, LT	S4-51	--	SCHOOL SPEED LIMIT 15	--	--	--	--	--	
111	53+59	STH 72, LT	S4-51	24 X 48	SCHOOL SPEED LIMIT 15	8.00	--	--	1	--	
112	55+03	STH 72, LT	S1-1, S16-9P	--	SCHOOL ZONE, AHEAD	--	--	--	--	--	
113	55+03	STH 72, LT	S1-1	36 X 36	SCHOOL ZONE	--	6.75	--	1	--	
113	55+03	STH 72, LT	S16-9P	30 X 18	AHEAD	--	3.75	--	--	--	
114	55+19	SCOTT ST, LT	R1-1	--	STOP	--	--	--	--	--	
115	55+19	SCOTT ST, LT	R1-1	30 X 30	STOP	5.18	--	1	--	--	
116	55+23	SCOTT ST, LT	--	--	2 HR PARKING 7:00AM TO 4:30PM	--	--	--	--	--	EXISTING SIGN TO REMAIN
117	55+56	SCOTT ST, RT	R1-1	--	STOP	--	--	--	--	--	
118	55+56	SCOTT ST, RT	R1-2	30 X 30	STOP	5.18	--	--	1	--	
119	55+63	STH 72, RT	--	--	W. WINTER AVE., › N. SCOTT ST. S. ›	--	--	--	--	--	EXISTING SIGN TO REMAIN
120	55+82	STH 72, LT	R3-4	--	NO U-TURNS	--	--	--	--	--	
121	55+82	STH 72, LT	R3-4	24 X 24	NO U-TURNS	4.00	--	1	--	--	MOUNT ON LIGHT POLE
122	55+78	STH 72, RT	J2-1	--	EAST, 72, ↰	--	--	--	--	--	
123	55+78	STH 72, RT	J2-1	24 X 57	EAST, 72, ↰	9.50	--	--	--	1	
124	57+05	STH 72, LT	R1-1	--	STOP	--	--	--	--	--	EXISTING SIGN TO REMAIN
125	57+69	STH 72, LT	M3-4, M1-6	--	WEST, 72	--	--	--	--	--	
126	57+69	STH 72, LT	J4-1	24 X 36	WEST, 72	6.00	--	--	1	--	
127	58+31	STH 72, LT	--	--	COMPACT CARS ONLY ›	--	--	--	--	--	EXISTING SIGN TO REMAIN
128	58+53	STH 72, RT	J3-1	--	EAST, 72, ‹	--	--	--	--	--	
129	58+53	STH 72, RT	J3-1	24 X 57	EAST, 72, ‹	9.50	--	--	--	1	
130	58+81	STH 72, RT	M3-4, M1-6, M6-1	--	WEST, 72, ›	--	--	--	--	--	
131	58+81	STH 72, RT	J3-1	24 X 57	WEST, 72, ›	9.50	--	--	--	--	MOUNT ON LIGHT POLE
132	59+13	STH 72, RT	R1-1	--	STOP	--	--	--	--	--	
133	59+13	STH 72, RT	R1-1	30 X 30	STOP	5.18	--	1	--	--	
134	59+13	STH 72, RT	--	--	THROUGH TRUCK ROUTE ‹ , BUMP ↙	--	--	--	--	--	EXISTING SIGN TO REMAIN
135	59+46	STH 72, RT	R1-1	--	STOP	--	--	--	--	--	
136	59+46	STH 72, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
137	59+48	STH 72, LT	R1-1, R1-51	--	STOP, RIGHT TURN NO STOP	--	--	--	--	--	
138	59+59	STH 72, LT	R1-1	36 X 36	STOP	7.46	--	--	--	--	MOUNT ON OVERHEAD SUPPORT POST
138	59+59	STH 72, LT	R1-51	30 X 18	RIGHT TURN NO STOP	3.75	--	--	--	--	MOUNT ON OVERHEAD SUPPORT POST
138A	59+59	STH 72, LT	R1-1	36 X 36	STOP	7.46	--	--	--	--	MOUNT ON OVERHEAD SUPPORT
139	59+46	STH 72, RT	W3-1	--	STOP AHEAD	--	--	--	--	--	
140	59+46	STH 72, RT	W3-1	36 X 36	STOP AHEAD	--	9.00	--	--	--	MOUNT ON LIGHT POLE
141	60+04	STH 72, LT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
142	60+04	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	1	--	--	
143	59+75	STH 72, RT	--	--	RESERVED PARKING	--	--	--	--	--	EXISTING SIGN TO REMAIN
144	60+92	STH 72, RT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
145	60+92	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	--	--	--	MOUNT ON LIGHT POLE
146	61+88	STH 72, LT	W3-1	--	STOP AHEAD	--	--	--	--	--	
147	61+88	STH 72, LT	W3-1	36 X 36	STOP AHEAD	--	9.00	--	--	--	MOUNT ON LIGHT POLE
148	62+08	STH 72, LT	R1-1	--	STOP	--	--	--	--	--	
149	62+08	STH 72, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
150	62+46	STH 72, RT	J2-1, R1-1, R1-51	--	EAST, 72, ↰; STOP; RIGHT TURN NO STOP	--	--	--	--	--	
151	62+55	STH 72, RT	J2-1	24 X 57	EAST, 72, ↰	9.50	--	--	--	--	MOUNT ON OVERHEAD SUPPORT POST
151	62+55	STH 72, RT	R1-1	36 X 36	STOP	7.46	--	--	--	--	MOUNT ON OVERHEAD SUPPORT POST
151	62+55	STH 72, RT	R1-51	30 X 18	RIGHT TURN NO STOP	3.75	--	--	--	--	MOUNT ON OVERHEAD SUPPORT POST
151A	62+55	STH 72, RT	R1-1	36 X 36	STOP	7.46	--	--	--	--	MOUNT ON OVERHEAD SUPPORT
152	62+86	STH 72, LT	J3-1, R1-1, R7-8A	--	WEST, 72, ‹ ; STOP; RESERVED PARKING	--	--	--	--	--	R7-8A TO REMAIN
153	62+86	STH 72, LT	J3-1	24 X 57	WEST, 72, ‹	9.50	--	--	--	--	MOUNT ON LIGHT POLE
					SUBTOTALS #3 =	148.92	28.50	5	6	2	

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PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE W X H (IN)	SIGN MESSAGE	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH X 18-FT (EACH)	COMMENT
153	62+86	STH 72, LT	R1-1	30 X 30	STOP	5.18	--	--	--	--	MOUNT ON LIGHT POLE
154	63+17	STH 72, LT	R3-4	--	NO U-TURNS	--	--	--	--	--	
155	63+17	STH 72, LT	R3-4	24 X 24	NO U-TURNS	4.00	--	1	--	--	
156	64+15	OMAHA AVE, LT	R1-1	--	STOP	--	--	--	--	--	
157	64+15	OMAHA AVE, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
158	64+90	STH 72, RT	R1-1	--	STOP	--	--	--	--	--	EXISTING SIGN TO REMAIN
160	66+37	STH 72, LT	R2-1	--	SPEED LIMIT 25	--	--	--	--	--	
161	66+37	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 25	5.00	--	--	1	--	
162	66+44	WOODWORTH ST, LT	R1-1	--	STOP	--	--	--	--	--	
163	66+44	WOODWORTH ST, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
164	66+74	WOODWORTH ST, RT	R1-1	--	STOP	--	--	--	--	--	
165	66+74	WOODWORTH ST, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
166	66+96	WOODWORTH ST, RT	--	--	W. RACE AVE./N. WOODWORTH ST.	--	--	--	--	--	EXISTING SIGN TO REMAIN
167	66+90	STH 72, RT	R2-1	--	SPEED LIMIT 30	--	--	--	--	--	
168	66+90	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 30	5.00	--	--	--	--	MOUNT ON LIGHT POLE
169	67+53	STH 72, LT	M3-4, M1-6, M5-1L	--	WEST, 72, ↰	--	--	--	--	--	
170	67+53	STH 72, LT	J2-1	24 X 57	WEST, 72, ↰	9.50	--	--	1	--	
171	68+29	STH 72, RT	M2-1, M1-5A	--	JCT COUNTY P	--	--	--	--	--	
172	68+29	STH 72, RT	J1-1	24 X 39	JCT COUNTY P	6.50	--	1	--	--	
173	69+33	STH 72, LT	W11-8	--	FIRE TRUCK CROSSING	--	--	--	--	--	
174	69+33	STH 72, LT	W11-8	30 X 30	FIRE TRUCK CROSSING	--	6.25	--	1	--	
175	69+75	STH 72, LT	--	--	W. RACE AVE. / N. CLARK ST.	--	--	--	--	--	EXISTING SIGN TO REMAIN
176	69+96	CLARK ST, LT	R1-1	--	STOP	--	--	--	--	--	
177	69+96	CLARK ST, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
178	70+30	CLARK ST, RT	R1-1	--	STOP	--	--	--	--	--	
179	70+30	CLARK ST, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
180	73+72	STH 72, LT	--	--	N. RACE. DR.	--	--	--	--	--	EXISTING SIGN TO REMAIN
181	74+92	STH 72, LT	R2-1	--	SPEED LIMIT 30	--	--	--	--	--	
182	74+92	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 30	5.00	--	1	--	--	
183	74+84	STH 72, RT	J13-1	--	COUNTY P ‹ ›	--	--	--	--	--	
184	74+84	STH 72, RT	J13-1	24 X 45	COUNTY P ‹ ›	7.50	--	--	1	--	
185	75+06	CTH P, LT	J13-2	--	72, ‹ ›; COUNTY P, ↑	--	--	--	--	--	
186	75+06	CTH P, LT	J13-2	48 X 45	72, ‹ ›; COUNTY P, ↑	15.00	--	--	1	--	
187	75+24	CTH P, LT	R1-1	--	STOP	--	--	--	--	--	
188	75+24	CTH P, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
189	75+76	CTH P, RT	R1-1	--	STOP	--	--	--	--	--	
190	75+76	CTH P, RT	R1-1	30 X 30	STOP	5.18	--	1	--	--	
191	75+95	CTH P, RT	J13-2	--	72, ‹ ›; COUNTY P, ↑	--	--	--	--	--	
192	75+95	CTH P, RT	J13-2	48 X 45	72, ‹ ›; COUNTY P, ↑	15.00	--	--	1	--	
193	76+16	CTH P, RT	--	--	W. RACE AVE. / S. PUBLIC ST.	--	--	--	--	--	EXISTING SIGN TO REMAIN
194	76+03	STH 72, RT	R2-1	--	SPEED LIMIT 30	--	--	--	--	--	
195	76+03	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 30	5.00	--	--	--	--	MOUNT ON LIGHT POLE
196	76+31	STH 72, LT	J13-1	--	COUNTY P ‹ ›	--	--	--	--	--	
197	76+31	STH 72, LT	J13-1	24 X 45	COUNTY P ‹ ›	7.50	--	--	1	--	
198	78+70	STH 72, RT	J4-1	--	EAST, 72	--	--	--	--	--	
199	78+70	STH 72, RT	J4-1	24 X 36	EAST, 72	6.00	--	--	--	--	MOUNT ON LIGHT POLE
200	79+08	BIRCH ST, LT	R1-1	--	STOP	--	--	--	--	--	
201	79+08	BIRCH ST, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
202	79+47	BIRCH ST, RT	R1-1	--	STOP	--	--	--	--	--	
203	79+47	BIRCH ST, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
204	79+67	STH 72, RT	--	--	N. BIRCH ST. / E. RACE AVE.	--	--	--	--	--	EXISTING SIGN TO REMAIN
205	81+99	STH 72, LT	J1-1	--	JCT, COUNTY P	--	--	--	--	--	
206	81+99	STH 72, LT	J1-1	24 X 39	JCT, COUNTY P	6.50	--	--	1	--	
207	82+78	SPRUCE ST, LT	R1-1	--	STOP	--	--	--	--	--	
208	82+78	SPRUCE ST, LT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
					SUBTOTALS #4 =	154.48	6.25	4	17	0	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

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PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	SIGN CODE	SIGN SIZE W X H (IN)	SIGN MESSAGE	637.2210 SIGNS TYPE II REFLECTIVE H (SF)	637.2230 SIGNS TYPE II REFLECTIVE F (SF)	634.0614 POSTS WOOD 4X6-INCH X 14-FT (EACH)	634.0616 POSTS WOOD 4X6-INCH X 16-FT (EACH)	634.0618 POSTS WOOD 4X6-INCH X 18-FT (EACH)	COMMENT
209	83+08	SPRUCE ST, RT	R1-1	–	STOP	–	–	–	–	–	
210	83+08	SPRUCE ST, RT	R1-1	30 X 30	STOP	5.18	--	--	1	--	
211	83+29	STH 72, RT	--	--	N. SPRUCE ST. / E. RACE AVE.	--	--	--	--	--	EXISTING SIGN TO REMAIN
212	86+50	PINE ST, LT	R1-1	--	STOP	--	--	–	–	–	
213	86+50	PINE ST, LT	R1-1	30 X 30	STOP	5.18	--	–	1	–	
214	86+74	STH 72, RT	–	–	N. PINE ST. / E. RACE AVE.	–	–	–	–	–	EXISTING SIGN TO REMAIN
215	87+54	STH 72, LT	R2-1	–	SPEED LIMIT 30	–	–	–	–	–	EXISTING YELLOW BEACON TO REMAIN
216	87+54	STH 72, LT	R2-1	24 X 30	SPEED LIMIT 30	5.00	--	--	--	--	MOUNT ON EXISTING POLE
217	88+11	STH 72, LT	--	--	PEDDLERS AND SOLICITORS ORDINANCE	--	--	--	--	--	EXISTING SIGN TO REMAIN
218	88+61	STH 72, RT	R2-1	--	SPEED LIMIT 55	--	--	–	–	–	
219	88+61	STH 72, RT	R2-1	24 X 30	SPEED LIMIT 55	5.00	--	--	1	--	
220	90+77	STH 72, RT	M3-2, M1-6, D2-1	–	EAST, 72; DOWNSVILLE 10	–	–	–	–	–	
221	90+77	STH 72, RT	D2-1	84 X 15	DOWNSVILLE 10	8.75	–	1	1	–	
222	92+47	STH 72, LT	--	--	NO PARKING	--	--	--	--	--	
223	93+94	STH 72, RT	J4-1	24 X 36	EAST, 72	6.00	--	--	1	--	
224	94+14	STH 72, LT	W3-5	--	SPEED LIMIT 30 AHEAD	--	--	--	--	--	
225	94+14	STH 72, LT	W3-5	36 X 36	SPEED LIMIT 30 AHEAD	--	9.00	--	1	--	
226	97+52	STH 72, LT	I2-3	--	ELMWOOD POPULATION 817	--	--	–	–	–	
227	97+52	STH 72, LT	I2-3	60 X 24	ELMWOOD POPULATION 817	10.00	--	1	1	–	
228	99+73	STH 72, LT	R10-64, R10-64F	--	NO ENGINE BRAKING, WITHIN VILLAGE LIMITS	--	--	–	–	–	
229	99+73	STH 72, LT	R10-64	30 X 36	NO ENGINE BRAKING EXCEPT IN EMERGENCY	7.50	–	–	1	–	
229	99+73	STH 72, LT	R10-64F	30 X 18	WITHIN VILLAGE LIMITS	3.75	--	--	--	--	
230	101+75	STH 72, LT	--	--	NO HUNTING IN VILLAGE LIMITS	--	--	--	--	--	EXISTING SIGN TO REMAIN
231	102+11	STH 72, RT	I2-2	--	DUNN CO	--	--	–	–	–	
232	102+11	STH 72, RT	I2-2	48 X 15	DUNN CO	5.00	--	1	1	–	
233	102+49	STH 72, LT	I2-2	–	PIERCE CO / THIS IS A DARE COUNTY	–	–	–	–	–	
234	102+49	STH 72, LT	I2-2	54 X 15	PIERCE CO	5.63	–	1	1	–	
					SUBTOTALS #5 =	66.99	9.00	4	10	0	
					SUBTOTALS #1 =	166.45	27.25	10	18	2	
					SUBTOTALS #2 =	129.82	56.50	8	17	3	
					SUBTOTALS #3 =	148.92	28.50	5	6	2	
					SUBTOTALS #4 =	154.48	6.25	4	17	0	
					TOTALS =	666.66	127.50	31	68	7	

BARRIER SYSTEM GRADING SHAPING FINISHING

STATION - STATION	LOCATION	614.0010 (EACH)	FOR INFORMATION ONLY: EXCAVATION COMMON (CY)	FILL (CY)	TOPSOIL (SY)	MULCHING (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 20 (LB)
16+96 - 17+41	STH 72, LT (710TH AVE)	1	6	50	150	230	0.1	7
18+05 - 19+79	STH 72, RT	1	27	215	460	580	0.4	20
22+00 - 22+35	STH 72, RT	1	0	75	150	200	0.1	6
23+00 - 24+71	STH 72, RT	1	16	25	85	210	0.1	6
25+38 - 27+05	STH 72, LT	1	0	150	295	470	0.3	13
	TOTALS =	5	49	515	1140	1690	1	52

SALVAGED RAIL

STATION - STATION	LOCATION	614.0920 LF
16+60 - 20+49	STH 72, LT	550
19+36 - 20+64	STH 72, RT	125
22+05 - 25+93	STH 72, LT	400
22+16 - 23+46	STH 72, RT	125
	TOTAL =	1200

GUARDRAIL

STATION - STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH (LF)	614.0305 STEEL PLATE BEAM GUARD CLASS A (LF)	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS (LF)	614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL (EACH)
16+84.39 - 17+27.05	STH 72, LT (710TH AVE)	--	–	–	1
16+59.35 - 16+94.53	STH 72, LT (CTH G)	--	50	87.5	–
16+94.53 - 20+29.44	STH 72, LT	--	350	–	–
20+29.44 - 20+49.63	STH 72, LT	21	–	–	–
19+27.99 - 19+79.19	STH 72, RT	--	–	–	1
19+79.19 - 20+43.19	STH 72, RT	--	62.5	--	--
20+43.19 - 22+64.34	STH 72, RT	21	--	--	--
22+00.58 - 22+20.77	STH 72, LT	21	--	--	--
22+20.77 - 25+38.53	STH 72, LT	--	325	--	--
25+38.53 - 25+87.42	STH 72, LT	--	--	--	1
22+15.16 - 22+36.30	STH 72, RT	21	--	--	--
22+36.30 - 23+00.27	STH 72, RT	--	62.5	--	--
23+00.27 - 23+51.45	STH 72, RT	--	--	--	1
	TOTALS =	84	850	87.5	4

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	MISCELLANEOUS QUANTITIES	SHEET 48	E

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
1	15+75	STH 72, LT	--	1	1	--
2	15+75	STH 72, LT	--	--	--	--
3	15+75	STH 72, LT	--	1	1	--
4	15+75	STH 72, LT	--	--	--	--
5	16+10	STH 72, RT	--	1	1	--
6	16+10	STH 72, RT	--	--	--	--
7	16+24	CTH G, ISLAND	--	1	1	--
8	16+24	CTH G, ISLAND	--	--	--	--
9	17+25	STH 72, LT	--	1	1	--
10	17+25	STH 72, LT	--	--	--	--
11	17+66	STH 72, RT	--	1	2	--
12	17+66	STH 72, RT	--	--	--	--
13	19+52	STH 72, RT	--	2	1	--
14	19+52	STH 72, RT	--	--	--	--
15	20+39	STH 72, RT	--	1	1	--
16	20+39	STH 72, RT	--	--	--	--
17	20+39	STH 72, RT	--	1	1	--
18	20+39	STH 72, RT	--	--	--	--
19	20+61	STH 72, LT	--	1	1	--
20	20+61	STH 72, LT	--	--	--	--
21	22+02	STH 72, RT	--	1	1	--
22	22+02	STH 72, RT	--	--	--	--
23	22+24	STH 72, LT	--	1	1	--
24	22+24	STH 72, LT	--	--	--	--
25	22+24	STH 72, LT	--	1	1	--
26	22+24	STH 72, LT	--	--	--	--
27	22+50	STH 72, RT	--	1	1	--
28	22+50	STH 72, RT	--	--	--	--
29	24+24	STH 72, RT	--	1	2	--
30	24+24	STH 72, RT	--	--	--	--
31	25+08	STH 72, LT	--	1	1	--
32	25+08	STH 72, LT	--	--	--	--
33	25+25	STH 72, RT	1	--	--	1
34	25+96	STH 72, LT	--	1	1	--
35	25+96	STH 72, LT	--	--	--	--
36	26+54	STH 72, RT	--	1	1	--
37	26+54	STH 72, RT	--	--	--	--
38	26+90	STH 72, LT	--	1	1	--
39	26+90	STH 72, LT	--	--	--	--
40	28+13	STH 72, LT	--	1	1	--
41	28+13	STH 72, LT	--	--	--	--
42	29+04	STH 72, RT	--	2	1	--
43	29+04	STH 72, RT	--	--	--	--
43	29+04	STH 72, RT	--	--	--	--
44	29+23	STH 72, LT	--	2	1	--
45	29+23	STH 72, LT	--	--	--	--
45	29+23	STH 72, LT	--	--	--	--
46	31+30	STH 72, LT	--	1	1	--
47	31+30	STH 72, LT	--	--	--	--
48	31+41	STH 128, LT	--	1	1	--
49	31+41	STH 128, LT	--	--	--	--
50	31+50	STH 72, RT	--	1	1	--
51	31+50	STH 72, RT	--	--	--	--
52	31+73	STH 72, RT	--	--	--	--
53	31+71	STH 128, ISLAND	--	1	1	--
		SUBTOTALS #1 =	1	29	28	1

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
54	31+71	STH 128, ISLAND	--	--	--	--
55	32+23	STH 128, RT	--	2	1	--
56	32+23	STH 128, RT	--	--	--	--
56	32+23	STH 128, RT	--	--	--	--
57	32+79	STH 72, LT	--	1	1	--
58	32+79	STH 72, LT	--	--	--	--
59	32+79	STH 72, RT	--	1	1	--
60	32+79	STH 72, RT	--	--	--	--
61	33+00	STH 72, RT	--	1	--	--
62	33+00	STH 72, RT	--	--	--	--
63	33+39	STH 72, RT	--	1	1	--
64	33+39	STH 72, RT	--	--	--	--
65	33+58	STH 72, RT	--	--	--	--
66	35+35	STH 72, LT	--	1	1	--
67	35+35	STH 72, LT	--	--	--	--
68	37+09	STH 72, LT	--	1	1	--
69	37+09	STH 72, LT	--	--	--	--
70	36+89	STH 72, RT	--	1	1	--
71	36+89	STH 72, RT	--	--	--	--
72	39+00	STH 72, LT	--	1	1	--
73	39+00	STH 72, LT	--	--	--	--
74	40+42	PROJECT DR, RT	--	1	1	--
75	40+42	PROJECT DR, RT	--	--	--	--
76	40+63	STH 72, RT	--	--	--	--
77	41+11	STH 72, RT	--	2	1	--
78	41+11	STH 72, RT	--	--	--	--
78	41+11	STH 72, RT	--	--	--	--
79	43+18	STH 72, LT	--	1	1	--
80	43+18	STH 72, LT	--	--	--	--
81	42+95	STH 72, RT	--	1	1	--
82	42+95	STH 72, RT	--	--	--	--
83	43+20	STH 72, RT	--	1	1	--
84	43+20	STH 72, RT	--	--	--	--
85	43+32	STH 72, LT	--	1	1	--
86	43+32	STH 72, LT	--	--	--	--
87	43+33	STH 72, RT	--	1	1	--
88	43+33	STH 72, RT	--	--	--	--
89	44+74	STH 72, LT	--	1	1	--
90	44+74	STH 72, LT	--	--	--	--
91	44+72	STH 72, RT	--	1	1	--
92	44+72	STH 72, RT	--	--	--	--
93	44+94	STH 72, LT	--	1	1	--
94	44+94	STH 72, LT	--	--	--	--
95	45+53	STH 72, RT	--	1	1	--
96	45+53	STH 72, RT	--	--	--	--
97	46+70	STH 72, LT	--	1	1	--
98	46+70	STH 72, LT	--	--	--	--
99	48+09	STH 72, RT	--	2	1	--
100	48+09	STH 72, RT	--	--	--	--
100	48+09	STH 72, RT	--	--	--	--
101	48+94	STH 72, LT	--	2	1	--
102	48+94	STH 72, LT	--	--	--	--
102	48+94	STH 72, LT	--	--	--	--
103	49+80	STH 72, RT	--	1	1	--
104	49+80	STH 72, RT	--	--	--	--
		SUBTOTALS #2 =	0	28	23	0

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
105	52+31	WOODMAN ST, RT	--	1	1	--
106	52+31	WOODMAN ST, RT	--	--	--	--
107	52+56	STH 72, RT	--	--	--	--
108	52+65	STH 72, LT	--	1	--	--
109	52+65	STH 72, LT	--	--	--	--
110	53+59	STH 72, LT	--	1	1	--
111	53+59	STH 72, LT	--	--	--	--
112	55+03	STH 72, LT	--	2	1	--
113	55+03	STH 72, LT	--	--	--	--
113	55+03	STH 72, LT	--	--	--	--
114	55+19	SCOTT ST, LT	--	1	1	--
115	55+19	SCOTT ST, LT	--	--	--	--
116	55+23	SCOTT ST, LT	--	--	--	--
117	55+56	SCOTT ST, RT	--	1	1	--
118	55+56	SCOTT ST, RT	--	--	--	--
119	55+63	STH 72, RT	--	--	--	--
120	55+82	STH 72, LT	--	1	1	--
121	55+82	STH 72, LT	--	--	--	--
122	55+78	STH 72, RT	--	1	1	--
123	55+78	STH 72, RT	--	--	--	--
124	57+05	STH 72, LT	--	--	--	--
125	57+69	STH 72, LT	--	1	--	--
126	57+69	STH 72, LT	--	--	--	--
127	58+31	STH 72, LT	--	--	--	--
128	58+53	STH 72, RT	--	1	1	--
129	58+53	STH 72, RT	--	--	--	--
130	58+81	STH 72, RT	--	1	--	--
131	58+81	STH 72, RT	--	--	--	--
132	59+13	STH 72, RT	--	1	1	--
133	59+13	STH 72, RT	--	--	--	--
134	59+13	STH 72, RT	--	--	--	--
135	59+46	STH 72, RT	--	1	1	--
136	59+46	STH 72, RT	--	--	--	--
137	59+48	STH 72, LT	--	2	1	--
138	59+59	STH 72, LT	--	--	--	--
138	59+59	STH 72, LT	--	--	--	--
138A	59+59	STH 72, LT	--	--	--	--
139	59+46	STH 72, RT	--	1	--	--
140	59+46	STH 72, RT	--	--	--	--
141	60+04	STH 72, LT	--	1	1	--
142	60+04	STH 72, LT	--	--	--	--
143	59+75	STH 72, RT	--	--	--	--
144	60+92	STH 72, RT	--	1	--	--
145	60+92	STH 72, RT	--	--	--	--
146	61+88	STH 72, LT	--	1	1	--
147	61+88	STH 72, LT	--	--	--	--
148	62+08	STH 72, LT	--	1	1	--
149	62+08	STH 72, LT	--	--	--	--
150	62+46	STH 72, RT	--	3	--	--
151	62+55	STH 72, RT	--	--	--	--
151	62+55	STH 72, RT	--	--	--	--
151	62+55	STH 72, RT	--	--	--	--
151A	62+55	STH 72, RT	--	--	--	--
152	62+86	STH 72, LT	--	2	--	--
153	62+86	STH 72, LT	--	--	--	--
		SUBTOTALS #3 =	0	26	14	0

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	MISCELLANEOUS QUANTITIES	SHEET 49	E

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
153	62+86	STH 72, LT	–	--	–	--
154	63+17	STH 72, LT	–	1	1	--
155	63+17	STH 72, LT	–	--	–	--
156	64+15	OMAHA AVE, LT	–	1	1	--
157	64+15	OMAHA AVE, LT	–	--	–	--
158	64+90	STH 72, RT	–	--	–	--
160	66+37	STH 72, LT	–	1	1	--
161	66+37	STH 72, LT	–	--	–	--
162	66+44	WOODWORTH ST, LT	–	1	1	--
163	66+44	WOODWORTH ST, LT	–	--	–	--
164	66+74	WOODWORTH ST, RT	–	1	1	--
165	66+74	WOODWORTH ST, RT	–	--	–	--
166	66+96	WOODWORTH ST, RT	–	--	–	--
167	66+90	STH 72, RT	–	1	–	--
168	66+90	STH 72, RT	--	--	--	--
169	67+53	STH 72, LT	--	1	1	--
170	67+53	STH 72, LT	--	--	--	--
171	68+29	STH 72, RT	--	1	1	--
172	68+29	STH 72, RT	--	--	--	--
173	69+33	STH 72, LT	--	1	1	--
174	69+33	STH 72, LT	--	--	--	--
175	69+75	STH 72, LT	--	--	--	--
176	69+96	CLARK ST, LT	--	1	1	--
177	69+96	CLARK ST, LT	--	--	--	--
178	70+30	CLARK ST, RT	--	1	1	--
179	70+30	CLARK ST, RT	--	--	--	--
180	73+72	STH 72, LT	--	--	--	--
181	74+92	STH 72, LT	--	1	1	--
182	74+92	STH 72, LT	--	--	--	--
183	74+84	STH 72, RT	--	1	1	--
184	74+84	STH 72, RT	--	--	--	--
185	75+06	CTH P, LT	--	1	1	--
186	75+06	CTH P, LT	--	--	--	--
187	75+24	CTH P, LT	--	1	1	--
188	75+24	CTH P, LT	--	--	--	--
189	75+76	CTH P, RT	–	1	1	–
190	75+76	CTH P, RT	–	–	–	–
191	75+95	CTH P, RT	–	1	–	–
192	75+95	CTH P, RT	–	–	–	–
193	76+16	CTH P, RT	–	–	–	–
194	76+03	STH 72, RT	–	1	1	–
195	76+03	STH 72, RT	–	–	–	–
196	76+31	STH 72, LT	–	1	1	–
197	76+31	STH 72, LT	–	–	–	–
198	78+70	STH 72, RT	–	1	–	–
199	78+70	STH 72, RT	–	–	–	–
200	79+08	BIRCH ST, LT	–	1	1	–
201	79+08	BIRCH ST, LT	–	–	–	–
202	79+47	BIRCH ST, RT	–	1	1	–
203	79+47	BIRCH ST, RT	–	–	–	–
204	79+67	STH 72, RT	–	–	–	–
205	81+99	STH 72, LT	–	1	1	–
206	81+99	STH 72, LT	–	–	–	–
207	82+78	SPRUCE ST, LT	–	1	1	–
208	82+78	SPRUCE ST, LT	–	–	–	–
		SUBTOTALS #4 =	0	24	21	0

PERMANENT SIGNING - CONTINUED

SIGN NUMBER	STATION	LOCATION	638.2102 MOVING SIGNS TYPE II (EACH)	638.2602 REMOVING SIGNS TYPE II (EACH)	638.3000 REMOVING SMALL SIGN SUPPORTS (EACH)	638.4000 MOVING SMALL SIGN SUPPORTS (EACH)
209	83+08	SPRUCE ST, RT	--	1	1	--
210	83+08	SPRUCE ST, RT	--	--	--	--
211	83+29	STH 72, RT	--	--	--	--
212	86+50	PINE ST, LT	–	1	1	--
213	86+50	PINE ST, LT	–	--	–	--
214	86+74	STH 72, RT	–	--	–	--
215	87+54	STH 72, LT	–	1	1	--
216	87+54	STH 72, LT	--	--	--	--
217	88+11	STH 72, LT	--	--	--	--
218	88+61	STH 72, RT	--	1	1	--
219	88+61	STH 72, RT	--	--	--	--
220	90+77	STH 72, RT	–	2	2	–
221	90+77	STH 72, RT	–	–	–	–
222	92+47	STH 72, LT	1	–	–	1
223	93+94	STH 72, RT	–	–	–	–
224	94+14	STH 72, LT	--	1	1	--
225	94+14	STH 72, LT	--	--	--	--
226	97+52	STH 72, LT	--	1	2	--
227	97+52	STH 72, LT	--	--	--	--
228	99+73	STH 72, LT	–	1	1	--
229	99+73	STH 72, LT	–	–	–	–
229	99+73	STH 72, LT	–	–	–	–
230	101+75	STH 72, LT	–	–	–	–
231	102+11	STH 72, RT	–	1	2	–
232	102+11	STH 72, RT	--	--	--	--
233	102+49	STH 72, LT	--	2	2	--
234	102+49	STH 72, LT	--	--	--	--
		SUBTOTALS #5 =	1	12	14	1
		SUBTOTALS #1 =	1	29	28	1
		SUBTOTALS #2 =	0	28	23	0
		SUBTOTALS #3 =	0	26	14	0
		SUBTOTALS #4 =	0	24	21	0
		TOTALS =	2	119	100	2

OVERHEAD SIGN SUPPORT

CATEGORY	STATION	LOCATION	STRUCTURE NUMBER	641.8100 LS
0040	62+54.60	STH 72, 27.6' RT	01. S-47-0014	1
0050	59+55.85	STH 72, 31.3' LT	02. S-47-0015	1

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

3

TRAFFIC CONTROL - GENERAL

STATION - STATION	LOCATION	643.0100 TRAFFIC CONTROL (EACH)	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	643.0300 TRAFFIC CONTROL DRUMS (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	649.1000 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)	REMARKS
--	PROJECT 7105-03-72	1	--	--	--	--	--	--	--	--	--	
--	STH 72, RT	--	--	--	--	--	--	--	130	--	--	(1) W20-1, AHEAD
4+25	STH 72, RT	--	--	--	--	--	--	--	46	--	--	(1) W20-1, 1000 FT
9+25	STH 72, RT	--	--	--	--	--	--	--	46	--	--	(1) W20-1, 500 FT
9+25	STH 72, LT	--	--	--	--	--	--	--	130	--	--	(1) G20-2A
107+30	STH 72, RT	--	--	--	--	--	--	--	46	--	--	(1) G20-2A
107+30	STH 72, LT	--	--	--	--	--	--	--	46	--	--	(1) W20-1, 500 FT
112+30	STH 72, LT	--	--	--	--	--	--	--	46	--	--	(1) W20-1, 1000 FT
122+30	STH 72, LT	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	CTH G	--	--	--	--	--	--	--	90	--	--	(1) W20-1, AHEAD
--	STH 128	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	MARTIN ST	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	PROJECT DR	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	WOODMAN ST	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	SCOTT ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	SCOTT ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	MAIN ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	WINTER AVE	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	OMAHA AVE (WEST)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	MAIN ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	OMAHA AVE (EAST)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	WOODWORTH ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	WOODWORTH ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	CLARK ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	CLARK ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	CTH P (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	CTH P (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	BIRCH ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	BIRCH ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	SPRUCE ST (SOUTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	SPRUCE ST (NORTH)	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
--	PINE ST	--	--	--	--	--	--	--	46	--	--	(1) W20-1, AHEAD
	SUBTOTALS #1 =	1	0	0	0	0	0	0	1638	0	0	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

TRAFFIC CONTROL - STRUCTURE B-47-44 - STAGE 1

STATION - STATION	LOCATION	643.0100 TRAFFIC CONTROL (EACH)	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	643.0300 TRAFFIC CONTROL DRUMS (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	649.1000 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)	REMARKS
--	STH 72 & USH 63	--	--	--	--	--	--	--	46	--	--	(1 EA.) W12-52, 15"; WO57-52, 16 MILES
--	STH 72 & STH 25	--	--	--	--	--	--	--	46	--	--	(1 EA.) W12-52, 15"; WO57-52, 7 MILES
--	STH 128 & STH 29	--	--	--	--	--	--	--	46	--	--	(1 EA.) W12-52, 15"; WO57-52, 11 MILES
3+25	STH 72, RT	--	--	--	--	--	--	--	23	--	--	(1) W12-52, 15"
8+25	STH 72, RT	--	--	--	--	--	--	--	23	--	--	(1) W20-4, AHEAD
13+25	STH 72, LT & RT	--	--	--	--	--	--	--	46	--	--	(2) WO3-3
13+25	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) G20-2A
18+25	STH 72, RT	--	--	--	--	--	--	--	23	--	15	(1) R10-6
18+25 - 19+65	STH 72, RT	--	--	--	230	--	--	115	--	--	--	
19+15 - 23+50	STH 72, RT	--	435	435	--	--	--	--	--	435	--	
19+60	STH 72, RT	--	--	--	--	23	46	--	23	--	--	(1) WO1-6
19+65	STH 72, RT	--	--	--	--	--	--	--	23	--	--	(1) W5-52R
20+60	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) W5-52L
21+90	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) W5-52R
22+10	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) WO1-4R
23+00	STH 72, RT	--	--	--	--	--	--	--	23	--	--	(1) W5-52L
23+00 - 24+40	STH 72, RT	--	--	--	230	--	--	115	--	--	--	
24+40	STH 72, LT	--	--	--	--	--	--	--	23	--	15	(1) R10-6
27+90	STH 72, RT	--	--	--	--	--	--	--	23	--	--	(1) G20-2A
27+90	STH 72, LT & RT	--	--	--	--	--	--	--	46	--	--	(2) WO3-3
31+40	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) W20-4, AHEAD
34+90	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) W12-52, 15"
38+40	STH 72, LT	--	--	--	--	--	--	--	23	--	--	(1) W20-1, AHEAD
	SUBTOTALS #2 =	0	435	435	460	23	46	230	575	435	30	

TRAFFIC CONTROL - STRUCTURE B-47-44 - STAGE 2

STATION - STATION	LOCATION	643.0100 TRAFFIC CONTROL (EACH)	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	643.0300 TRAFFIC CONTROL DRUMS (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	649.1000 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)	REMARKS
--	STH 72 & USH 63	--	--	--	--	--	--	--	42	--	--	(1 EA.) W12-52, 13"; WO57-52, 16 MILES
--	STH 72 & STH 25	--	--	--	--	--	--	--	42	--	--	(1 EA.) W12-52, 13"; WO57-52, 7 MILES
--	STH 128 & STH 29	--	--	--	--	--	--	--	42	--	--	(1 EA.) W12-52, 13"; WO57-52, 11 MILES
3+25	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) W12-52, 15"
8+25	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) W20-4, AHEAD
13+25	STH 72, LT & RT	--	--	--	--	--	--	--	42	--	--	(2) WO3-3
13+25	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) G20-2A
18+25	STH 72, RT	--	--	--	--	--	--	--	21	--	15	(1) R10-6
18+25 - 19+65	STH 72, LT	--	--	--	210	--	--	105	--	--	--	
19+15 - 23+50	STH 72, LT	--	--	435	--	--	--	--	--	435	--	
19+65	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) W5-52L
20+50	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) WO1-4R
20+71	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) W5-52R
22+08	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) W5-52L
23+00	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) W5-52R
23+00 - 24+40	STH 72, LT	--	--	--	210	--	--	105	--	--	--	
23+05	STH 72, LT	--	--	--	--	21	42	--	21	--	--	(1) WO1-6
24+40	STH 72, LT	--	--	--	--	--	--	--	21	--	15	(1) R10-6
27+90	STH 72, RT	--	--	--	--	--	--	--	21	--	--	(1) G20-2A
27+90	STH 72, LT & RT	--	--	--	--	--	--	--	42	--	--	(2) WO3-3
31+40	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) W20-4, AHEAD
34+90	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) W12-52, 15"
38+40	STH 72, LT	--	--	--	--	--	--	--	21	--	--	(1) W20-1, AHEAD
	SUBTOTALS #3 =	0	0	435	420	21	42	210	525	435	30	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

3

TRAFFIC CONTROL - STRUCTURE B-47-77 - STAGE 1

STATION - STATION	LOCATION	643.0100 TRAFFIC CONTROL (EACH)	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	643.0300 TRAFFIC CONTROL DRUMS (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	649.1000 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)	REMARKS
–	STH 72 & USH 63	–	–	–	–	–	–	–	40	–	–	(1 EA.) W12-52, 13'; WO57-52, 16 MILES
–	STH 72 & STH 25	–	–	–	–	–	–	–	40	–	–	(1 EA.) W12-52, 13'; WO57-52, 7 MILES
--	STH 128 & STH 29	--	--	--	--	--	--	--	40	--	--	(1 EA.) W12-52, 13'; WO57-52, 11 MILES
27+90	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W20-1, AHEAD
31+40	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W12-52, 13'
34+90	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) W20-4, AHEAD
38+40	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) G20-2A
38+40	STH 72, LT & RT	--	--	--	--	--	--	--	40	--	--	(2) WO3-3
41+40	STH 72, RT	--	--	--	--	--	--	--	20	--	16	(1) R10-6
41+40 - 43+30	STH 72, RT	–	–	–	200	–	–	100	–	–	–	
42+80 - 45+95	STH 72, RT	--	315	315	--	--	--	--	--	315	--	
43+25	STH 72, RT	–	–	–	–	20	40	–	20	–	–	(1) WO1-6
43+30	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) W5-52R
43+60	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) W5-52L
44+45	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) W5-52R
44+50	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) WO1-4R
44+45	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W5-52L
44+45 - 46+85	STH 72, RT	–	–	–	200	–	–	100	–	–	–	
46+85	STH 72, LT	--	--	--	--	--	--	--	20	--	16	(1) R10-6
46+85	STH 72, LT (C.E.)	–	–	–	–	80	120	–	40	–	–	(1) R11-2
49+85	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) G20-2A
49+85	STH 72, LT & RT	–	–	–	–	–	–	–	40	–	–	(2) WO3-3
51+85	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) W20-4, AHEAD
53+85	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) W12-52, 13'
55+85	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) W20-1, AHEAD
	SUBTOTAL #4 =	0	315	315	400	100	160	200	560	315	32	

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

TRAFFIC CONTROL - STRUCTURE B-47-77 - STAGE 2

STATION - STATION	LOCATION	643.0100 TRAFFIC CONTROL (EACH)	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED (LF)	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED (LF)	643.0300 TRAFFIC CONTROL DRUMS (DAYS)	643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAYS)	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAYS)	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C (DAYS)	643.0900 TRAFFIC CONTROL SIGNS (DAYS)	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (LF)	649.1000 TEMPORARY PAVEMENT MARKING STOP LINE REMOVABLE TAPE 12-INCH (LF)	REMARKS
--	STH 72 & USH 63	--	--	--	--	--	--	--	40	--	--	(1 EA.) W12-52, 13'; WO57-52, 16 MILES
--	STH 72 & STH 25	--	--	--	--	--	--	--	40	--	--	(1 EA.) W12-52, 13'; WO57-52, 7 MILES
--	STH 128 & STH 29	--	--	--	--	--	--	--	40	--	--	(1 EA.) W12-52, 13'; WO57-52, 11 MILES
27+90	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W20-1, AHEAD
34+40	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W12-52, 13'
34+90	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) W20-4, AHEAD
38+40	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) G20-2A
38+40	STH 72, LT & RT	--	--	--	--	--	--	--	40	--	--	(2) WO3-3
41+40	STH 72, RT	–	–	–	–	–	–	–	20	–	16	(1) R10-6
41+40 - 42+80	STH 72, LT	–	–	–	200	–	–	100	–	–	–	
42+30 - 45+95	STH 72, LT	--	50	365	--	--	--	--	--	365	--	
42+80	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) W5-52L
43+55	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) WO1-4R
43+60	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W5-52R
44+45	STH 72, RT	–	–	–	–	–	–	–	20	–	–	(1) W5-52L
45+45	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) W5-52R
45+45 - 46+85	STH 72, LT	--	--	--	200	--	--	100	--	--	--	
45+50	STH 72, LT	--	--	--	--	20	40	--	20	--	--	(1) WO1-6
46+85	STH 72, LT	–	–	–	–	–	–	–	20	–	16	(1) R10-6
46+85	STH 72, LT (C.E.)	–	–	–	–	80	120	–	40	–	–	(2) R11-2
49+85	STH 72, RT	--	--	--	--	--	--	--	20	--	--	(1) G20-2A
49+85	STH 72, LT & RT	--	--	--	--	--	--	--	40	--	--	(2) WO3-3
51+85	STH 72, LT	--	--	--	--	--	--	--	20	--	--	(1) W20-4, AHEAD
53+85	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) W12-52, 13'
55+85	STH 72, LT	–	–	–	–	–	–	–	20	–	–	(1) W20-1, AHEAD
	SUBTOTAL #5 =	0	50	365	400	100	160	200	560	365	32	
	SUBTOTAL #1 =	1	0	0	0	0	0	0	1638	0	0	
	SUBTOTAL #2 =	0	435	435	460	23	46	230	575	435	30	
	SUBTOTAL #3 =	0	0	435	420	21	42	210	525	435	30	
	SUBTOTAL #4 =	0	315	315	400	100	160	200	560	315	32	
	TOTAL =	1	800	1550	1680	244	408	840	3858	1550	124	

TEMPORARY PAVEMENT MARKING 4-INCH

STATION - STATION	LOCATION	649.0100 YELLOW SOLID LF	649.0100 YELLOW DASHED (LF)
14+25 - 31+66	STH 72, C/L	6964	–
32+16 - 58+74	STH 72, C/L	10633	--
59+55 - 62+33	STH 72, C/L	1108	–
63+22 - 66+78	STH 72, C/L	712	178
66+84 - 68+25	STH 72, C/L	282	70
68+25 - 75+19	STH 72, C/L	--	348
75+25 - 80+30	STH 72, C/L	–	252
80+30 - 85+35	STH 72, C/L	1010	252
85+35 - 102+30	STH 72, C/L	6786	–
	SUBTOTALS =	27495	1100
	TOTAL =	28595	

NOTE: SAME DAY TEMPORARY PAVEMENT MARKINGS FOR CENTERLIN AND NO-PASSING BARRIER LINES USED ON MILLED AND INTERMEDIAT PAVEMENT LAYERS

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

PAVEMENT MARKING

STATION-STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH SOLID YELLOW (LF)	646.0106 PAVEMENT MARKING EPOXY 4-INCH DASHED YELLOW (LF)	646.0106 PAVEMENT MARKING EPOXY 4-INCH SOLID WHITE (LF)	646.0126 PAVEMENT MARKING EPOXY 8-INCH SOLID WHITE (LF)	647.0206 PAVEMENT MARKING BIKE LANE EPOXY ARROWS WHITE (EACH)	647.0306 PAVEMENT MARKING BIKE LANE EPOXY SYMBOLS WHITE (EACH)	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH WHITE (LF)	647.0656 PAVEMENT MARKING STALL EPOXY WHITE (LF)	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH WHITE (LF)	647.0786 PAVEMENT MARKING CROSSWALK EPOXY 18-INCH WHITE (LF)
14+25 - 15+77	STH 72, LT	--	--	156	--	--	--	--	--	--	--
14+25 - 32+93	STH 72, RT	–	–	1849	–	–	–	–	–	–	–
14+25 - 31+66	STH 72, C/L	3482	–	–	–	–	–	–	–	–	–
16+24	CTH G, LT	–	–	–	109	–	–	–	–	–	–
16+39	CTH G, C/L	84	--	--	--	--	--	--	--	--	--
16+99 - 18+99	STH 72, LT	–	–	–	200	--	–	–	–	–	–
16+99 - 31+56	STH 72, LT	–	–	1493	–	--	–	–	–	–	–
31+57	STH 128, LT	--	--	--	--	--	--	19	--	--	--
31+66	STH 128, LT	--	--	--	111	--	--	--	--	--	--
31+83	STH 128, LT	--	--	--	--	--	--	16	--	--	--
31+91	STH 128, C/L	72	–	–	–	–	–	–	–	–	–
32+16 - 55+06	STH 72, LT	--	--	2301	--	--	--	--	--	--	--
32+16 - 58+74	STH 72, C/L	5316	--	--	--	--	--	--	--	--	--
32+50 - 34+00	STH 72, LT	--	--	--	150	--	--	--	--	--	--
33+53 - 39+78	STH 72, RT	–	–	626	–	--	–	–	–	–	–
40+52 - 51+39	STH 72, RT	--	--	1092	--	--	--	--	--	--	--
52+60 - 55+06	STH 72, RT	--	--	243	--	--	--	--	--	--	--
55+40	S. SCOTT ST.	–	–	–	–	–	–	–	–	55	–
55+53 - 58+13	STH 72, RT	–	–	–	–	–	–	–	430	–	–
56+33 - 58+13	STH 72, LT	–	–	–	–	–	–	–	331	–	–
59+59 - 62+28	STH 72, RT	--	--	--	--	--	--	--	300	--	--
59+75 - 62+09	STH 72, LT	–	–	–	–	--	–	–	284	–	–
55+70 - 58+74	STH 72, LT	–	–	608	–	--	–	–	–	–	–
55+70 - 58+74	STH 72, RT	--	--	608	--	--	--	--	--	--	--
55+76	STH 72, RT	--	--	--	--	--	1	--	--	--	--
55+82	STH 72, RT	–	–	–	–	1	–	–	–	–	–
56+85	STH 72, LT	–	–	–	–	1	–	–	–	–	–
56+91	STH 72, LT	--	--	--	--	--	1	--	--	--	--
57+42	STH 72, RT	--	--	--	--	--	1	--	--	--	--
57+48	STH 72, RT	–	–	–	–	1	–	–	–	–	–
58+55	STH 72, LT	–	–	–	–	1	–	–	–	–	–
58+61	STH 72, LT	--	--	--	--	--	1	--	--	--	--
58+74	STH 72	--	--	--	--	--	--	--	--	55	--
58+74 - 58+80	STH 72	–	–	–	–	–	–	–	–	–	114
58+80	STH 72	–	–	–	–	–	–	–	–	60	–
59+13	S MAIN ST	--	--	--	--	--	--	--	--	120	117
59+13	W WINTER AVE	--	--	--	--	--	--	--	--	117	117
59+49	STH 72	–	–	–	–	--	–	–	–	58	–
59+49 - 59+55	STH 72	–	–	–	–	--	–	–	–	–	114
59+55	STH 72	--	--	--	--	--	--	--	--	57	--
59+55 - 62+33	STH 72, C/L	554	--	--	--	--	--	--	--	--	--
62+37	STH 72	–	–	–	–	–	–	–	–	73	–
62+37 - 62+45	STH 72	–	–	–	–	–	–	–	–	–	160
62+45	STH 72	--	--	--	--	--	--	--	--	80	--
63+16	STH 72	--	--	--	--	--	--	--	--	44	--
63+16 - 63+22	STH 72	–	–	–	–	--	–	–	–	–	86
63+22	STH 72	–	–	–	–	--	–	–	–	42	–
63+22 - 66+78	STH 72, C/L	356	89	--	--	--	--	--	--	--	--
64+54 - 66+24	STH 72, LT	--	--	171	--	--	--	--	--	--	--
66+57	S. WOODWORTH ST.	–	–	–	–	–	–	–	–	66	–
66+78	STH 72	–	–	–	–	–	–	–	–	50	–
66+78 - 66+84	STH 72	--	--	--	--	--	--	--	--	--	92
66+84	STH 72	--	--	--	--	--	--	--	--	43	--
66+84 - 68+25	STH 72, C/L	141	35	–	–	--	–	–	–	–	–
66+98 - 69+80	STH 72, LT	–	–	282	–	--	–	–	–	–	–
	SUBTOTALS #1 =	10005	124	9429	570	4	4	35	1345	920	800

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PAVEMENT MARKING - CONTINUED

STATION-STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH SOLID YELLOW (LF)	646.0106 PAVEMENT MARKING EPOXY 4-INCH DASHED YELLOW (LF)	646.0106 PAVEMENT MARKING EPOXY 4-INCH SOLID WHITE (LF)	646.0126 PAVEMENT MARKING EPOXY 8-INCH SOLID WHITE (LF)	647.0206 BIKE LANE EPOXY ARROWS WHITE (EACH)	647.0306 BIKE LANE EPOXY SYMBOLS WHITE (EACH)	647.0566 PAVEMENT MARKING STOP LINE EPOXY 18-INCH WHITE (LF)	647.0656 PAVEMENT MARKING STALL EPOXY WHITE (LF)	647.0766 PAVEMENT MARKING CROSSWALK EPOXY 6-INCH WHITE (LF)	647.0786 PAVEMENT MARKING CROSSWALK EPOXY 18-INCH WHITE (LF)
68+25 - 75+19	STH 72, C/L	–	174	–	–	–	–	–	–	–	–
70+15	S. CLARK ST.	–	–	–	–	–	–	–	–	58	–
70+46 - 75+00	STH 72, LT	–	–	455	–	–	–	–	–	–	–
75+19	STH 72	–	–	–	–	–	–	–	–	44	–
75+25	STH 72	–	–	–	–	–	–	–	–	48	–
75+25 - 80+30	STH 72, C/L	–	126	–	–	–	–	–	–	–	–
75+50	CTH P (NORTH)	44	–	–	–	–	–	21	–	96	–
75+50	CTH P (SOUTH)	53	–	–	–	–	–	21	–	96	–
75+91 - 78+88	STH 72, LT	–	–	297	–	–	–	–	–	–	–
79+28	S. BIRCH ST.	–	–	–	–	–	–	–	–	77	–
79+57 - 82+63	STH 72, LT	–	–	305	–	–	–	–	–	–	–
80+30 - 85+35	STH 72, C/L	505	126	–	–	–	–	–	–	–	–
82+92	S. SPRUCE ST.	–	–	–	–	–	–	–	–	51	–
83+25 - 102+30	STH 72, RT	–	–	1903	–	–	–	–	–	–	–
83+26 - 86+33	STH 72, RT	–	–	305	–	–	–	–	–	–	–
85+35 - 102+30	STH 72, C/L	3393	–	–	–	–	–	–	–	–	–
87+07 - 102+30	STH 72, LT	–	–	1526	–	–	–	–	–	–	–
	SUBTOTALS #2 =	3995	426	4791	0	0	0	42	0	470	0
	SUBTOTALS #1 =	10005	124	9429	570	4	4	35	1345	920	800
	TOTALS =		28770		570	4	4	77	1345	1390	800

LOCATING NO-PASSING ZONES

STATION - STATION	LOCATION	668.0100 MI
14+25 - 102+30	STH 72	1.67
	TOTAL =	1.67

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.152 SILT FENCE MAINTENANCE (LF)
16+95 - 17+65	STH 35, LT (710TH AVE)	85	170
18+90 - 19+75	STH 35, RT	80	160
21+95 - 22+55	STH 35, RT	70	140
22+75 - 23+75	STH 35, RT	110	220
25+05 - 26+05	STH 35, LT	110	220
– – –	UNDISTRIBUTED	95	190
	TOTALS =	550	1100

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4000 STORM SEWER (EACH)	650.5500 CURB GUTTER AND CURB & GUTTER (LF)	650.8000 RESURFACING REFERENCE (LF)	650.9910 SUPPLEMENTAL CONTROL (LS)
14+25 - 102+30	STH 72	–	–	8805	1
22+30.60	STH 72, RT	2	–	–	–
43+25.00 - 43+59.01	STH 72, LT	–	33	–	–
44+42.33 - 44+75.00	STH 72, LT	–	33	–	–
58+72.13 - 59+65.37	STH 72, LT	–	35	–	–
62+41.24 - 63+26.80	STH 72, RT	–	37	–	–
62+46.44	STH 72, RT	1	–	–	–
		3	138	8805	1

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES 01. B-47-044

LOCATION	661.0100 LS
STH 72	1

SIGNAL SEQUENCE STRUCTURE B-47-044

INVERAL	EB	WB	SECONDS	PERCENT
1	G	R	12	20
2	Y	R	4	7
3	R	R	14	23
4	R	G	12	20
5	R	Y	4	7
6	R	R	14	23

CYCLE LENGTH = 60 SECONDS

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES 02. B-47-077

LOCATION	661.0100 LS
STH 72	1

SIGNAL SEQUENCE STRUCTURE B-47-077

INVERAL	EB	WB	NORTH DRIVEWAY	SOUTH DRIVEWAY	SECONDS	PERCENT
1	G	R	R	R	16	15
2	Y	R	R	R	4	4
3	R	R	R	R	16	15
4	R	G	R	R	16	15
5	R	Y	R	R	4	4
6	R	R	R	R	16	15
7	R	R	G	R	5	5
8	R	R	Y	R	2	2
9	R	R	R	R	12	11
10	R	R	R	G	5	5
11	R	R	R	Y	2	2
12	R	R	R	R	12	11

CYCLE LENGTH = MINIMUM 72 SECONDS, MAXIMUM 110 SECONDS

NOTE: ALL ITEMS ARE IN CATEGORY 0010 UNLESS NOTED OTHERWISE.

3

SAWING ASPHALT & SAWING CONCRETE

STATION	LOCATION	690.0150 SAWING ASPHALT (LF)	690.0250 SAWING CONCRETE (LF)
14+25	STH 72	24	--
16+41	STH 72, LT (CTH G)	53	--
26+11	STH 72, LT (P.E.)	12	--
27+17	STH 72, RT (C.E.)	33	--
27+47	STH 72, LT (P.E.)	17	--
28+14	STH 72, RT (P.E.)	12	--
29+49	STH 72, LT (P.E.)	18	--
30+24	STH 72, RT (C.E.)	45	--
31+05	STH 72, LT (P.E.)	9	--
31+90	STH 72, LT (STH 128)	56	--
33+23	STH 72, RT (MARTIN ST)	21	--
34+85	STH 72, RT (P.E.)	10	--
36+10	STH 72, LT (P.E.)	14	--
40+16	STH 72, RT (PROJECT DR)	31	--
43+25	STH 72, LT	--	3
44+75	STH 72, LT	--	3
52+32	STH 72, RT (WOODMAN ST)	70	--
55+18	STH 72, RT	--	5
55+40	STH 72, LT (SCOTT ST)	34	--
55+40	STH 72, RT (SCOTT ST)	27	--
55+62	STH 72, RT	--	5
58+72	STH 72, LT	--	15
58+83	STH 72, LT	--	4
59+13	STH 72, RT (MAIN ST)	57	--
59+13	STH 72, RT (WINTER AVE)	55	--
59+65	STH 72, LT	--	10
62+41	STH 72, RT	--	10
62+86	STH 72, LT (OMAHA AVE)	90	--
62+86	STH 72, LT (MAIN ST)	57	--
63+27	STH 72, RT	--	10
64+36	STH 72, LT (OMAHA AVE)	31	--
66+58	STH 72, RT (WOODWORTH ST)	22	--
66+63	STH 72, LT (WOODWORTH ST)	28	--
70+14	STH 72, LT (CLARK ST)	55	--
70+14	STH 72, RT (CLARK ST)	23	--
75+50	STH 72, LT (CTH P)	40	--
75+50	STH 72, RT (CTH P)	37	--
72+28	STH 72, LT (BIRCH ST)	28	--
72+28	STH 72, RT (BIRCH ST)	26	--
82+92	STH 72, LT (SPRUCE ST)	20	--
82+92	STH 72, RT (SPRUCE ST)	21	--
86+61	STH 72, LT (PINE ST)	21	--
102+30	STH 72	28	--
	TOTALS =	1125	65

CLEANING DITCHES

STATION - STATION	LOCATION	SPV.0090.01 (LF)	FOR INFORMATION ONLY TOPSOIL (SY)	MULCHING (SY)	FERTILIZER TYPE B (CWT)	SEEDING MIXTURE NO. 40 (LB)
30+60 - 35+60	STH 72, RT	400	450	450	0.3	8
31+16 - 31+58	STH 72, LT	80	90	90	0.1	2
32+18 - 34+15	STH 72, LT	230	260	260	0.2	5
	TOTALS =	710	800	800	0.6	15

3

CONCRETE CURB & GUTTER CURE AND SEAL TREATMENT

STATION - STATION	LOCATION	SPV.0090.02 LF
43+25.00 - 43+59.01	STH 72, LT	33
44+42.33 - 44+75.00	STH 72, LT	33
58+72.13 - 59+65.37	STH 72, LT	35
62+41.24 - 63+26.80	STH 72, RT	37
	TOTAL =	138

PREPARATION OF FOUNDATION FOR ASPHALTIC PAVING SPECIAL

LOCATION	SPV.0105.01 LS
PROJECT 7105-03-72	1

CONCRETE SIDEWALK CURE AND SEAL TREATMENT

STATION - STATION	LOCATION	SPV.0165.01 SF
43+25.00 - 43+59.01	STH 72, LT	149
44+42.33 - 44+75.00	STH 72, LT	149
55+17.50 - 55+25.30	STH 72, RT	39
55+54.30 - 55+62.10	STH 72, RT	39
59+40.30 - 59+65.37	STH 72, LT	258
62+41.24 - 62+66.87	STH 72, RT	266
	TOTAL =	900

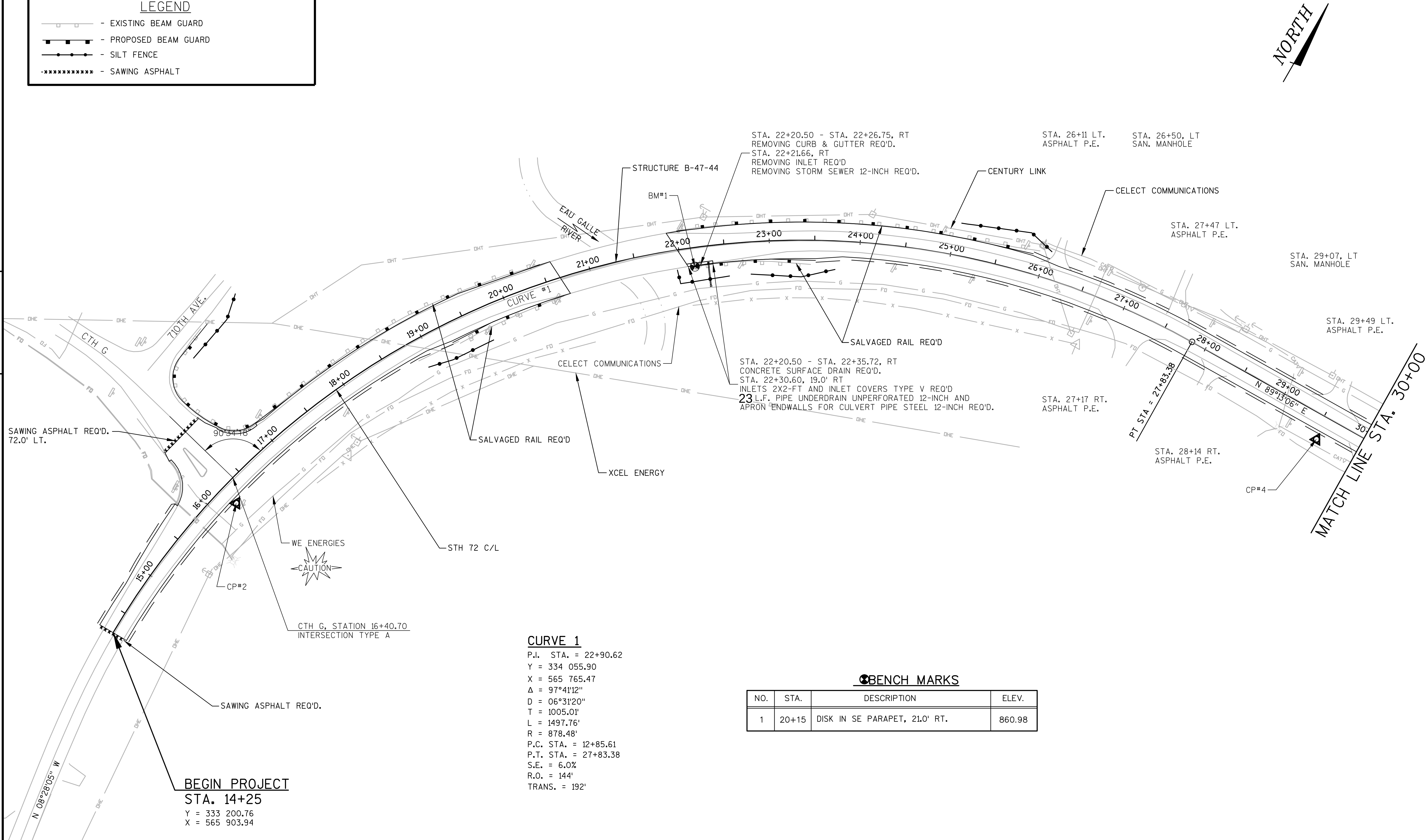
REHEATING HMA PAVEMENT LONGITUDINAL JOINTS SPECIAL

STATION - STATION	LOCATION	SPV.0170.01 (STA)
14+25 - 102+30	STH 72	88
	TOTAL =	88

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	MISCELLANEOUS QUANTITIES	SHEET 57	E

LEGEND

- EXISTING BEAM GUARD
- PROPOSED BEAM GUARD
- SILT FENCE
- SAWING ASPHALT

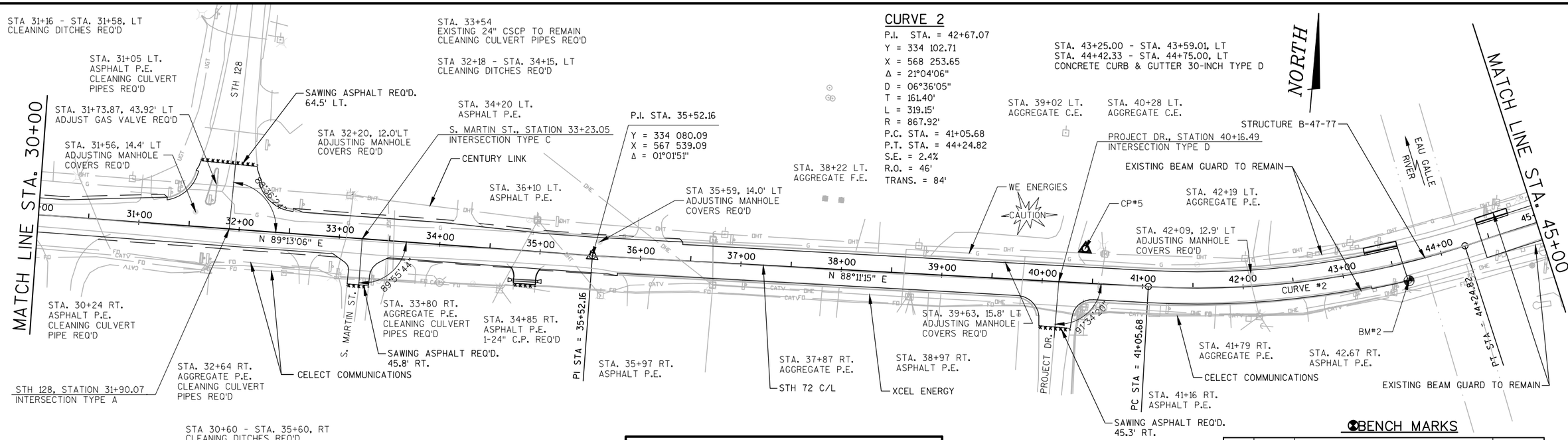


BEGIN PROJECT
STA. 14+25
Y = 333 200.76
X = 565 903.94

CURVE 1
P.I. STA. = 22+90.62
Y = 334 055.90
X = 565 765.47
Δ = 97°41'12"
D = 06°31'20"
T = 1005.01'
L = 1497.76'
R = 878.48'
P.C. STA. = 12+85.61
P.T. STA. = 27+83.38
S.E. = 6.0%
R.O. = 144'
TRANS. = 192'

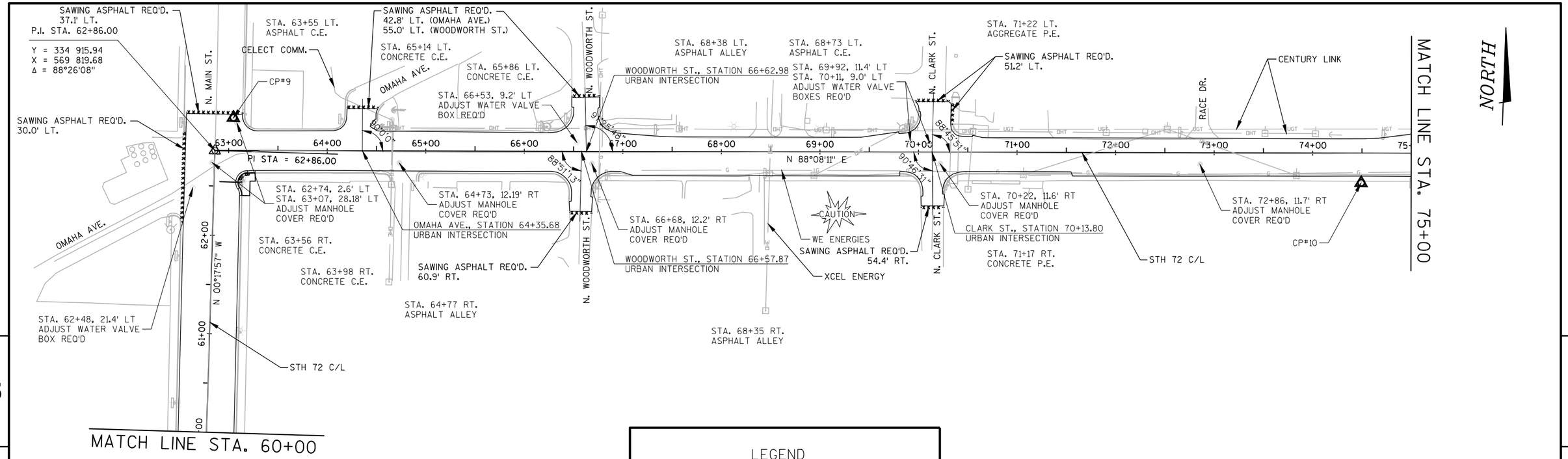
BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	20+15	DISK IN SE PARAPET, 21.0' RT.	860.98



PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN VIEW	SHEET 59 E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PLAN PROFILES\PLAN VIEW.DWG
LAYOUT : 2
PLOT DATE : 4/30/2014
PLOT TIME : 11:25:11 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

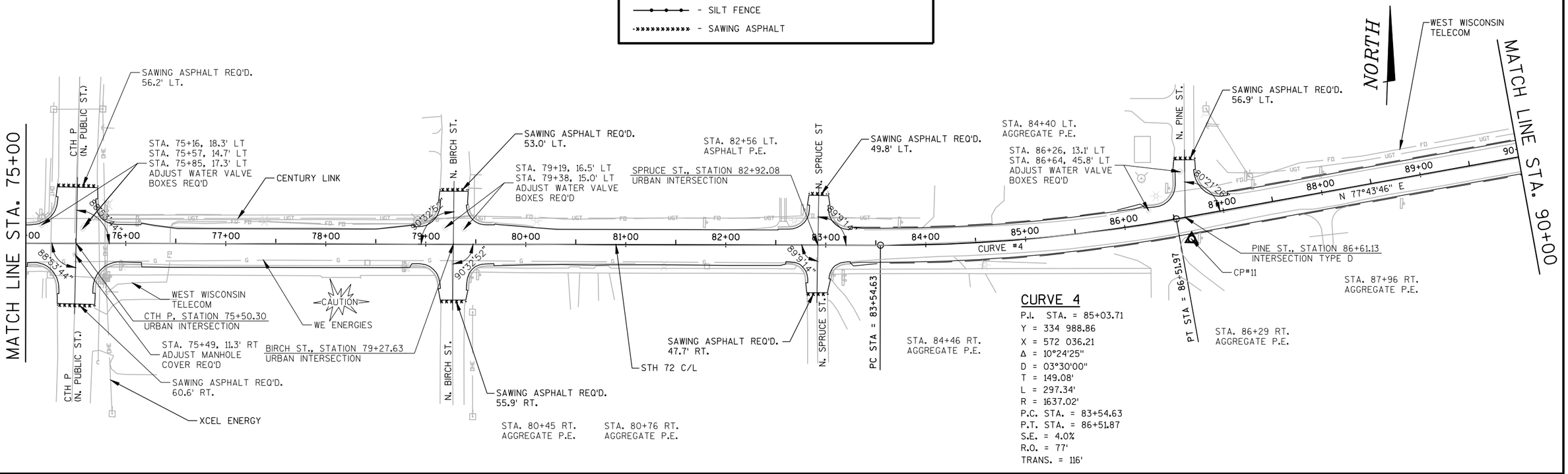


5

5

LEGEND

- EXISTING BEAM GUARD
- PROPOSED BEAM GUARD
- SILT FENCE
- SAWING ASPHALT



CURVE 4

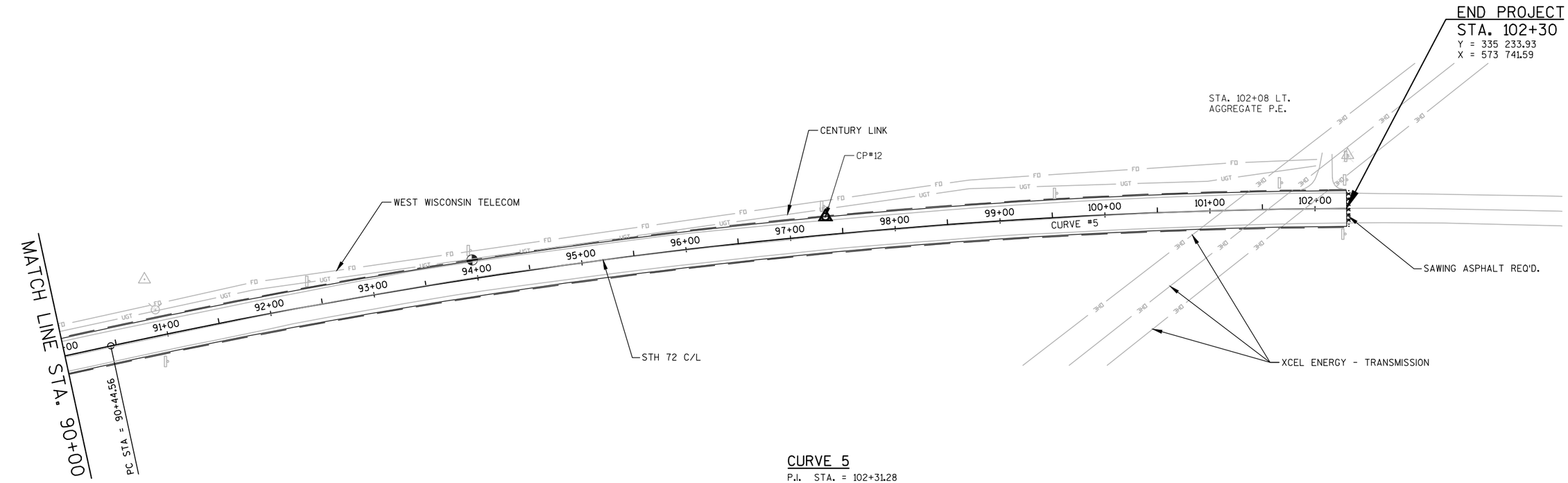
P.I. STA. = 85+03.71
Y = 334 988.86
X = 572 036.21
Δ = 10°24'25"
D = 03°30'00"
T = 149.08'
L = 297.34'
R = 1637.02'
P.C. STA. = 83+54.63
P.T. STA. = 86+51.87
S.E. = 4.0%
R.O. = 77'
TRANS. = 116'

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN VIEW	SHEET 60	E

LEGEND

- EXISTING BEAM GUARD
- PROPOSED BEAM GUARD
- SILT FENCE
- SAWING ASPHALT

NORTH



CURVE 5

P.I. STA. = 102+31.28
Y = 335 355.40
X = 573 725.11
Δ = 23°24'12"
D = 01°00'00"
T = 1186.72'
L = 2340.34'
R = 5729.58'
P.C. STA. = 90+44.56
P.T. STA. = 113+84.90
S.E. = 2.6%
R.O. = 66'
TRANS. = 117'

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN VIEW	SHEET 61	E

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\ROADWAY\PLAN PROFILES\PLAN VIEW.DWG
LAYOUT : 4
PLOT DATE : 4/30/2014
PLOT TIME : 11:25:46 AM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 1" = 1'

WISDOT/CADDS SHEET 42

LEGEND

DIRECTION OF TRAVEL

EXISTING BEAM GUARD TO BE SALVAGED (TYP.)

FINISHED ℄ STH 72

EXISTING STRUCTURE TO REMAIN (B-47-44)

CENTURYLINK

BEYER VALLEY FARM, LLC

EAU GALLE RIVER

18+00 19+00 20+00 21+00 22+00 23+00 24+00

CURVE 1

EXISTING SHOULDER TO REMAIN

ASPHALTIC FLUMES TO BE REMOVED

WE ENERGIES CAUTION

CELECT COMMUNICATIONS

EXISTING FENCE TO REMAIN

BM 1

EXISTING ℄ STH 72

EXISTING FENCE TO REMAIN

R/W

OHE

OHT

G

FO

X

STEVEN T & ROSE M SCHOEDER

XCEL ENERGY

CURVE 1
PI STATION = 22+90.62
Y = 334055.90
X = 565765.47
D = 6°31'20"
DELTA = 97°41'12"
T = 1005.01
L = 1497.76
R = 878.48
PC STATION = 12+85.61
Y = 333061.84
X = 565913.47
PT STATION = 27+83.38
Y = 334069.61
X = 566770.38

5

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	22+15	DISK IN SE PARAPET, 21.0' RT	860.98
2	43+62	DISK IN SW PARAPET, 18.3' RT	848.78

PI STA 18+65.00
EL 861.54

+1.70%

K = 175.19'
L = 402.94'

VPT STA = 20+66.47
EL = 860.33

VPC STA = 22+50.00
EL = 859.23

-0.60%

EXISTING ℄ PROFILE STH 72

PI STA 23+50.00
EL 858.63

-0.72%

FINISHED ℄ PROFILE STH 72

K = 1666.67'
L = 200.00'

STA. 21+32
STRUCTURE B-47-44 TO REMAIN
CONCRETE MASONRY OVERLAY DECKS
SEE STRUCTURE PLANS FOR DETAILS.

NOTES:
* FINISHED GRADE ON BRIDGE DECK ELEVATION 1/2-INCH HIGHER THAN EXISTING C/L PROFILE. SEE STRUCTURE PLANS FOR DETAILS.

EXISTING ℄ ELEVATION
FINISHED ℄ ELEVATION

STA. 21+32
STRUCTURE B-47-44 TO REMAIN
2-SPAN 45-INCH PRESTRESSED CONCRETE GIRDER STRUCTURE
CLEAR ROADWAY WIDTH = 40.0'
O.A.L. = 132.31'
SKEW = 20° R.H.F.

866 864 862 860 858 856 854 852 850

18+00	18+20	18+40	18+60	18+80	19+00	19+20	19+40	19+60	19+80	20+00	20+20	20+40	20+60	20+80	21+00	21+20	21+40	21+60	21+80	22+00	22+20	22+40	22+60	22+80	23+00	23+20	23+40	23+60	23+80	24+00
860.14	860.29	860.40	860.46	860.55	860.59	860.62	860.64	860.58	860.53	860.53	860.51	860.44	860.29	860.21	860.09	859.95	859.84	859.71	859.57	859.48	859.52	859.50	859.42	859.33	859.17	858.97	858.75	858.52	858.30	858.10
859.90	860.08	860.23	860.35	860.46	860.54	860.60	860.63	860.65	860.64	860.60	860.55	860.47	860.37	860.25	860.13	860.01	859.89	859.77	859.65	859.53	859.41	859.29	859.17	859.05	858.92	858.80	858.67	858.53	858.40	858.26

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN & PROFILE	SHEET 62

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\P&P B-47-44.DWG
LAYOUT : P&P STRUCTURE B- 47-44

PLOT DATE : 4/30/2014
PLOT TIME : 11:47:43 AM

PLOT BY : ECKELBERG, PATRICK

PLOT SCALE : 0.500000

CURVE 3
PI STATION = 42+67.07
Y = 334102.71
X = 568253.65
D = 6°36'05"
DELTA = 21°04'06"
T = 161.40
L = 319.14
R = 867.92
PC STATION = 41+05.68
Y = 334097.60
X = 568092.33
PT STATION = 44+24.82
Y = 334165.46
X = 568402.34

② BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
1	22+15	DISK IN SE PARAPET, 21.0' RT	860.98
2	43+62	DISK IN SW PARAPET, 18.3' RT	848.78

STA. 44+01
STRUCTURE B-47-77 TO REMAIN
2-SPAN CONCRETE HAUNCHED SLAB STRUCTURE
CLEAR ROADWAY WIDTH = 36.0'
O.A.L. = 82.83'
SKEW = 0°

STA. 44+01
STRUCTURE B-47-77 TO REMAIN
CONCRETE MASONRY OVERLAY DECKS
CONCRETE CURB REPAIR
SEE STRUCTURE PLANS FOR DETAILS.

NOTES:
* FINISHED GRADE ON BRIDGE DECK ELEVATION 1/2-INCH HIGHER THAN EXISTING C/L PROFILE. SEE STRUCTURE PLANS FOR DETAILS.

	EXISTING ℄ ELEVATION	FINISHED ℄ ELEVATION
41+00	849.35	849.61
41+20	849.07	849.28
41+40	848.78	848.96
41+60	848.46	848.63
41+80	848.11	848.30
42+00	847.79	847.97
42+20	847.57	847.64
42+40	847.39	847.32
42+60	847.04	846.99
42+80	846.68	846.66
43+00	846.35	846.33
43+20	846.05	846.01
43+40	845.78	845.68
43+60	845.51	845.36
43+80	845.20	845.05
44+00	844.82	844.77
44+20	844.54	844.49
44+40	844.32	844.24
44+60	844.09	843.99
44+80	843.69	843.77
45+00	843.64	843.56
45+20	843.49	843.36
45+40	843.26	843.19
45+60	843.09	843.02
45+80	842.93	842.88
46+00	842.65	842.74
46+20	842.52	842.63
46+40	842.40	842.53
46+60	842.30	842.44
46+80	842.27	842.37
47+00	842.29	842.32

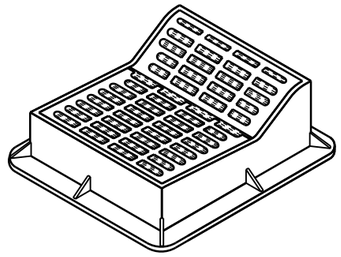
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PLAN & PROFILE	SHEET 63	E

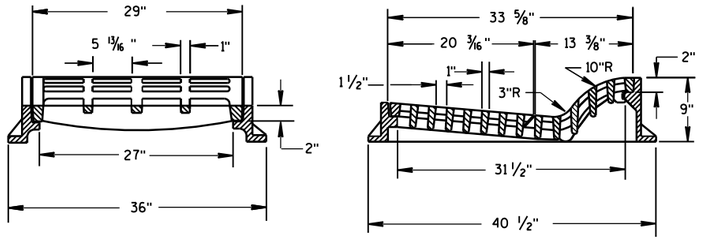
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\P&P B-47-77.DWG
LAYOUT : P&P STRUCTURE B- 47-77
PLOT DATE : 4/30/2014
PLOT TIME : 1:26:02 PM
PLOT BY : ECKELBERG, PATRICK
PLOT SCALE : 0.500000

Standard Detail Drawing List

08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08C07-01	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08D05-15A	CURB RAMPS TYPES 1 AND 1-A
08D05-15B	CURB RAMPS TYPES 2 AND 3
08D05-15C	CURB RAMPS TYPES 4A AND 4A1
08D05-15D	CURB RAMPS TYPE 4B AND 4B1
08D05-15E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09G02-03A	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03B	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
09G02-03C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A04-03	STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS
14B07-13A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-13H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B15-07A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-07C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B18-06A	STEEL PLATE BEAM GUARD, CLASS "A" (AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS)
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14B20-11H	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B24-07A	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07B	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B24-07C	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B29-01	SAFETY EDGE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C03-02	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C22-02	24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE
15C29-03A	BICYCLE LANE MARKING
15C29-03C	URBAN BICYCLE LANE MARKING
15C29-03E	PAVEMENT MARKING FOR BIKE LANES
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-01	TRAFFIC CONTROL, SIDEWALK CLOSURE
15D33-03	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

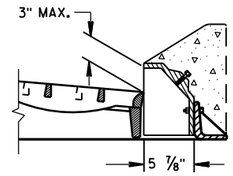
6





TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

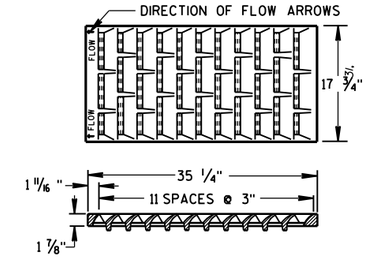
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

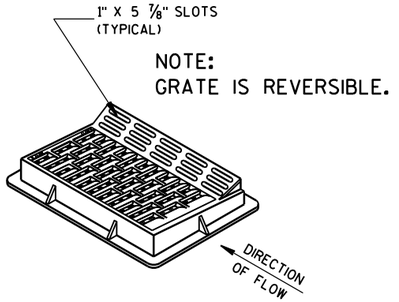
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

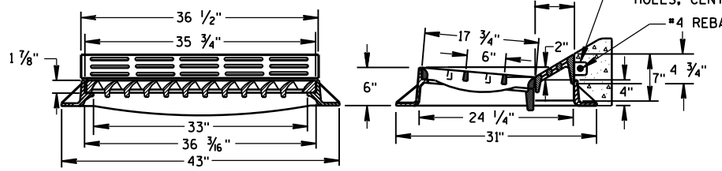
GENERAL NOTES

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

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



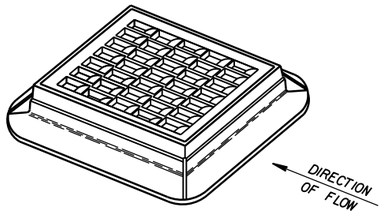


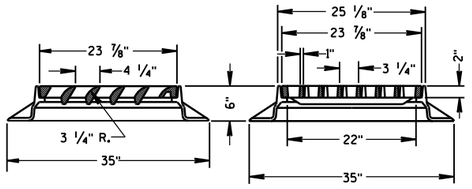


TYPE "HM"

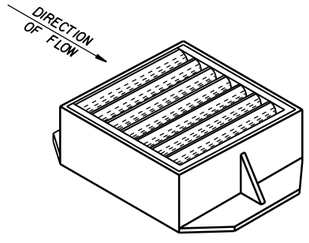
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

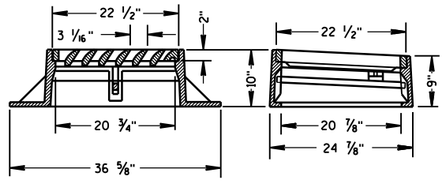
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



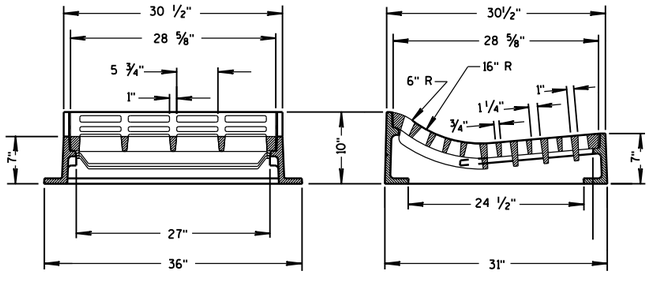


TYPE "S"



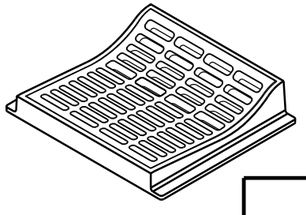


TYPE "V"



TYPE "T"

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

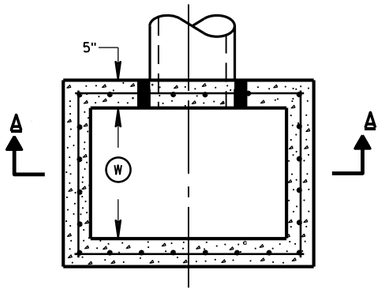
FHWA

6

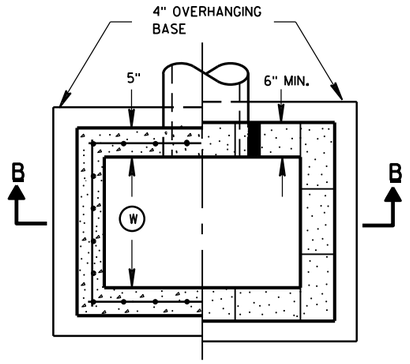
S.D.D. 8 A 5-19c

6

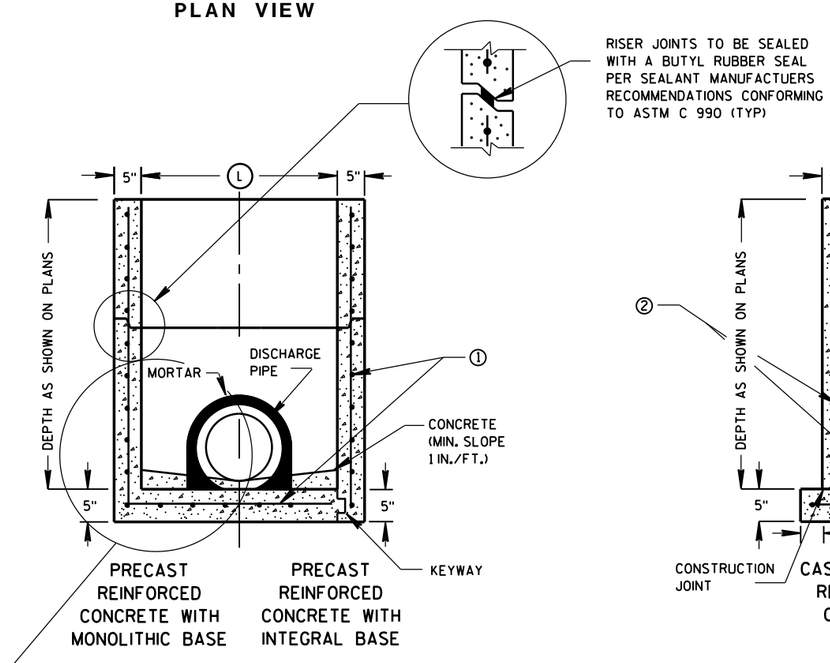
S.D.D. 8 A 5-19c



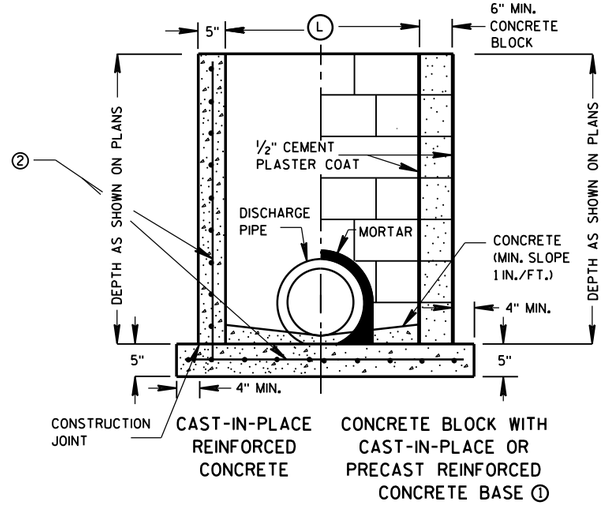
PLAN VIEW



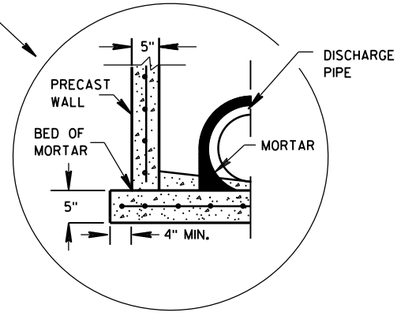
PLAN VIEW



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

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

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

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

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

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

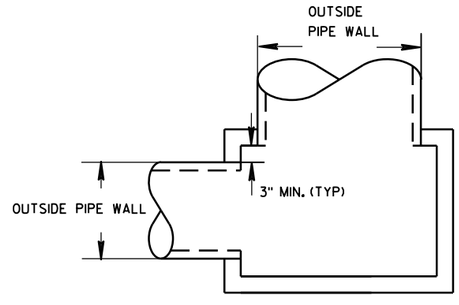
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE		INLET COVER TYPE	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
	WIDTH (W) (FT)	LENGTH (L) (FT)									
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

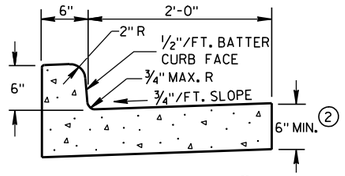
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

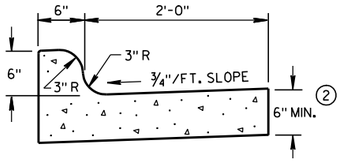
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

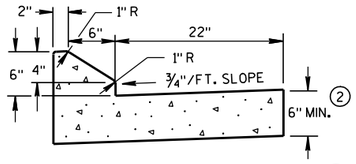
6
S.D.D. 8 C 7-1



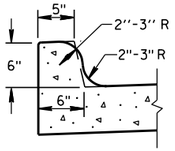
TYPES A & D (1)



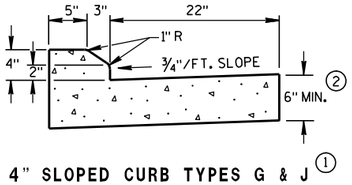
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

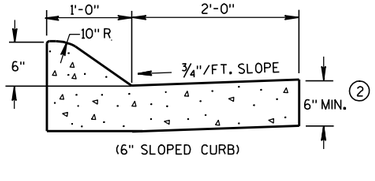


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

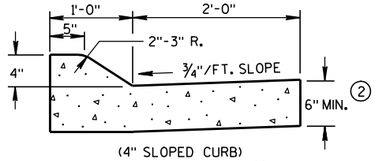


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

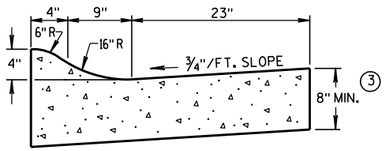


(6" SLOPED CURB)



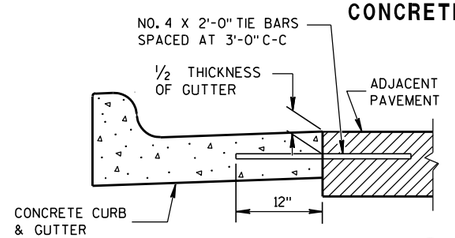
(4" SLOPED CURB)

TYPES A & D (1)

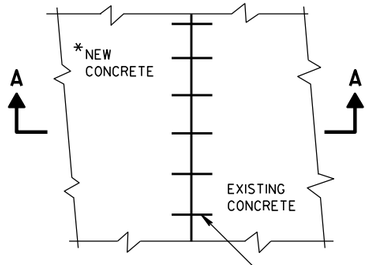


4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"

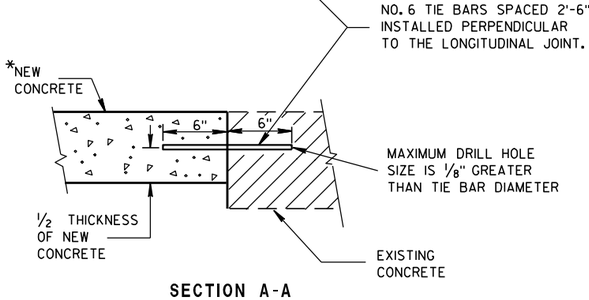


TYPICAL TIE BAR LOCATION (1)



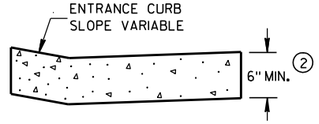
*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

PLAN VIEW



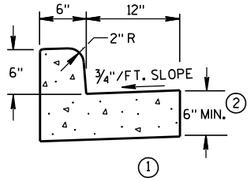
SECTION A-A

TIE BARS DRILLED INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB

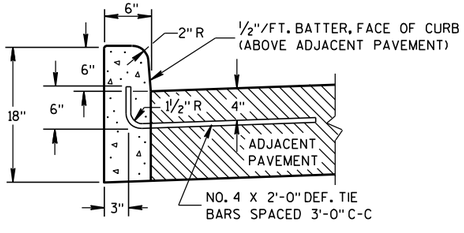
(WHEN DIRECTED BY THE ENGINEER)



(1)

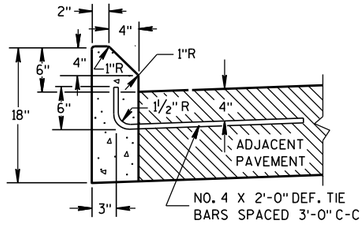
TYPES A & D

CONCRETE CURB & GUTTER 18"



(1)

TYPES A & D



(1)

TYPES G & J

CONCRETE CURB

GENERAL NOTES

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

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

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

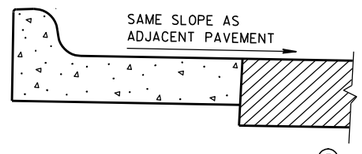
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

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

(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

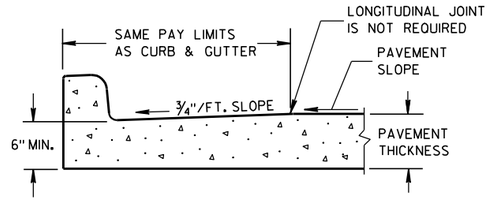
(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

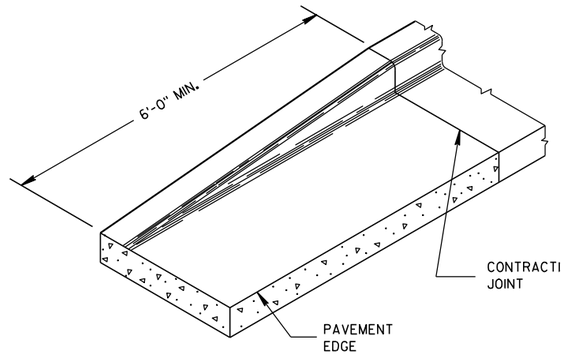


REVERSE SLOPE GUTTER (5)

(TYPICAL FOR ALL CURB & GUTTER TYPES)



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



END SECTION CURB & GUTTER

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 DATE

/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

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FHWA

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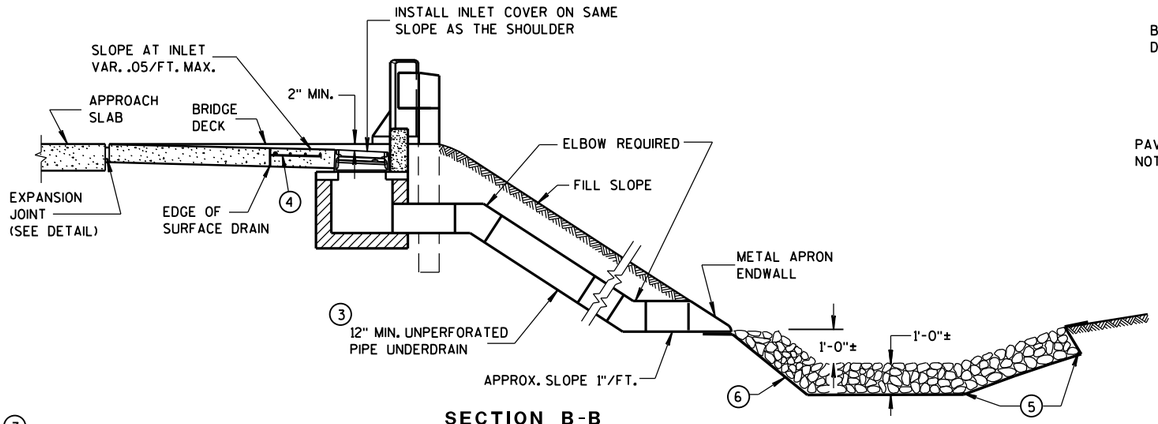
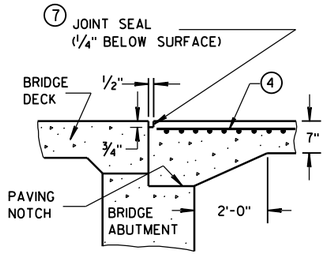
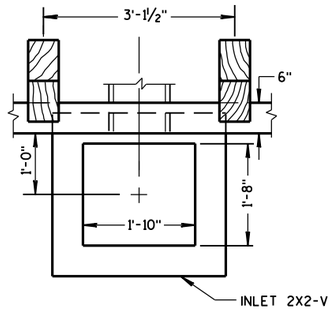
S.D.D. 8 D 1-17



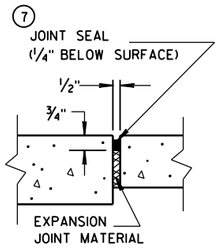
SECTION B-B



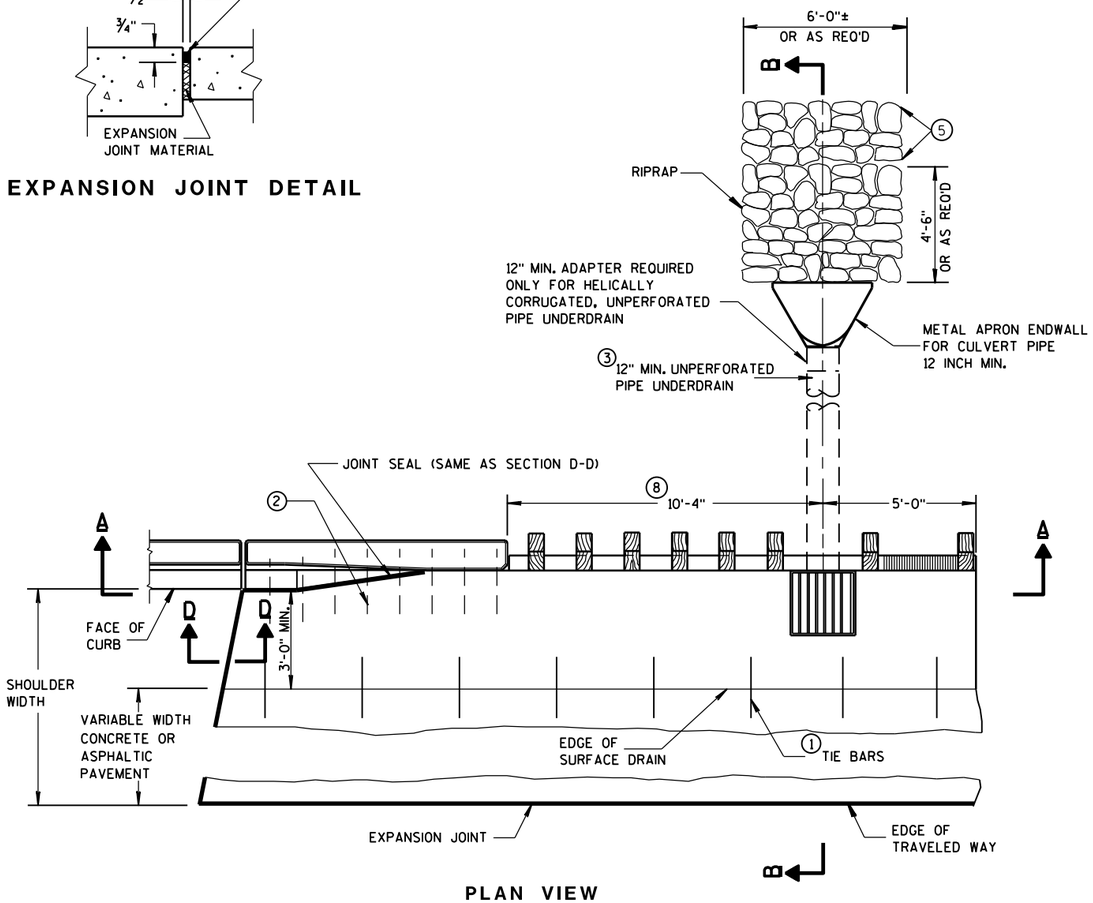
SECTION D-D



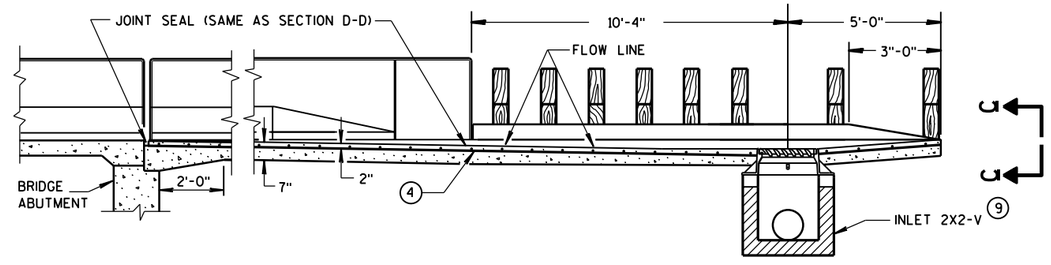
PLAN VIEW



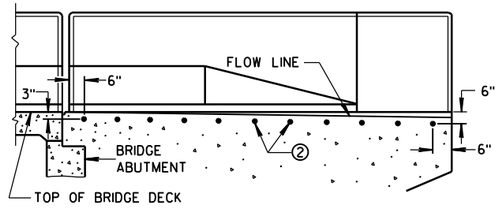
EXPANSION JOINT DETAIL



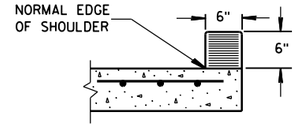
PLAN VIEW



SECTION A-A



LOCATION OF TIE BARS IN WINGWALL



SECTION C-C

GENERAL NOTES

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

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

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

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

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

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

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

(6) GEOTEXTILE FABRIC, TYPE 'R'

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

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

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

CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/4/08 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER

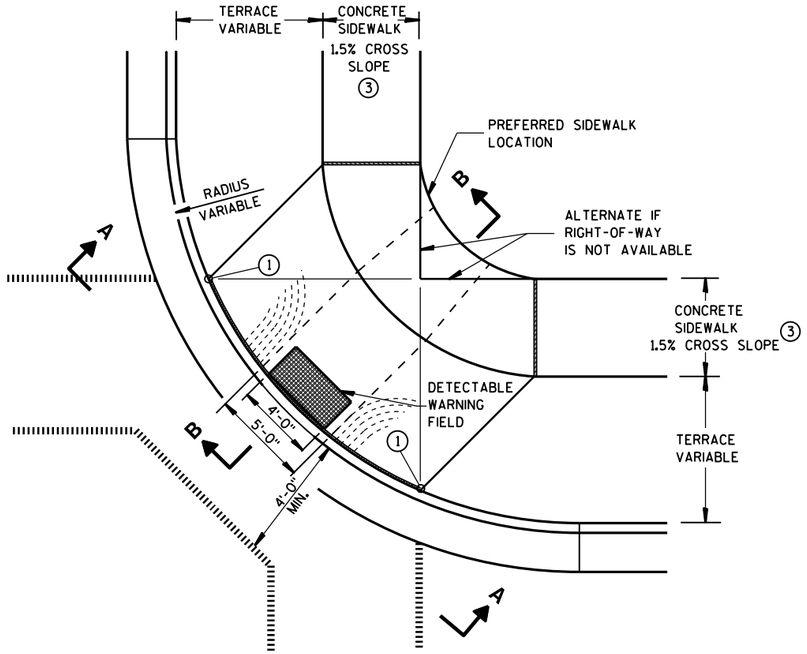
FHWA

6

S.D.D. 8 D 3-6

6

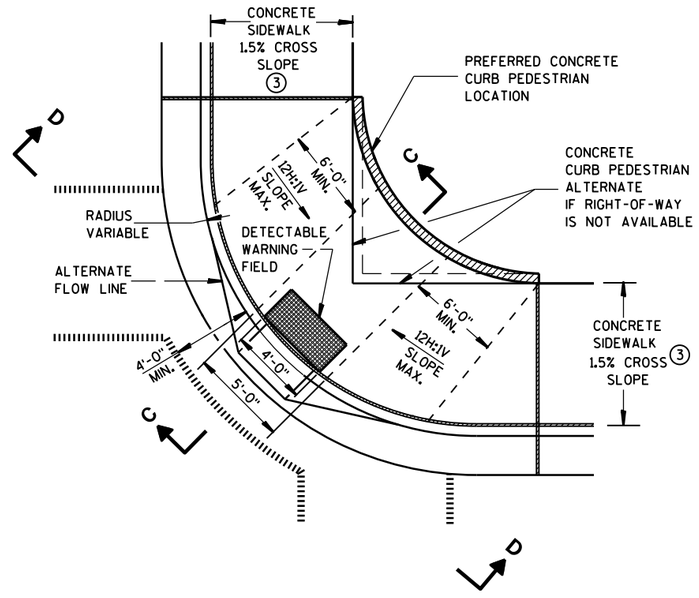
S.D.D. 8 D 3-6



PLAN VIEW

TYPE 1 RAMP

(CENTER OF CORNER RADIUS)



PLAN VIEW

TYPE 1-A RAMP

(NO TERRACE)

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.

RAMPS SHALL BE BUILT AT 12H:1V OR FLATTER. WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

TYPE 1 RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAL FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

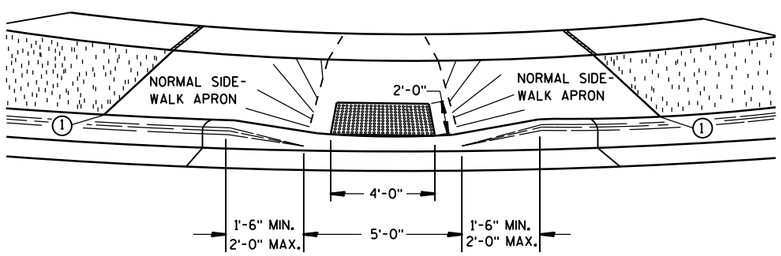
① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

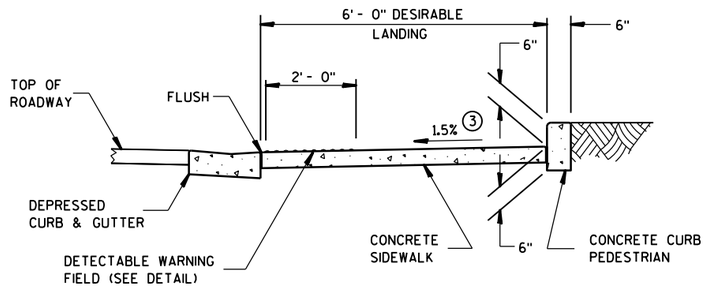
③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

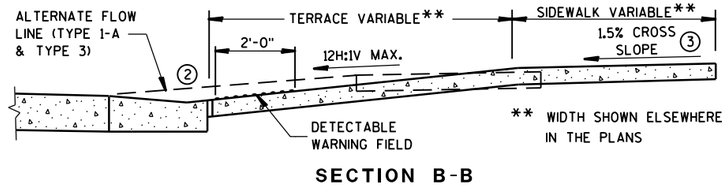
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



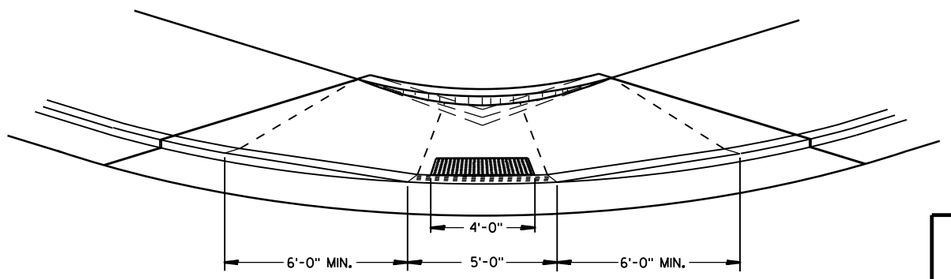
VIEW A-A



SECTION C-C



SECTION B-B



VIEW D-D

CURB RAMPS TYPES 1 AND 1-A

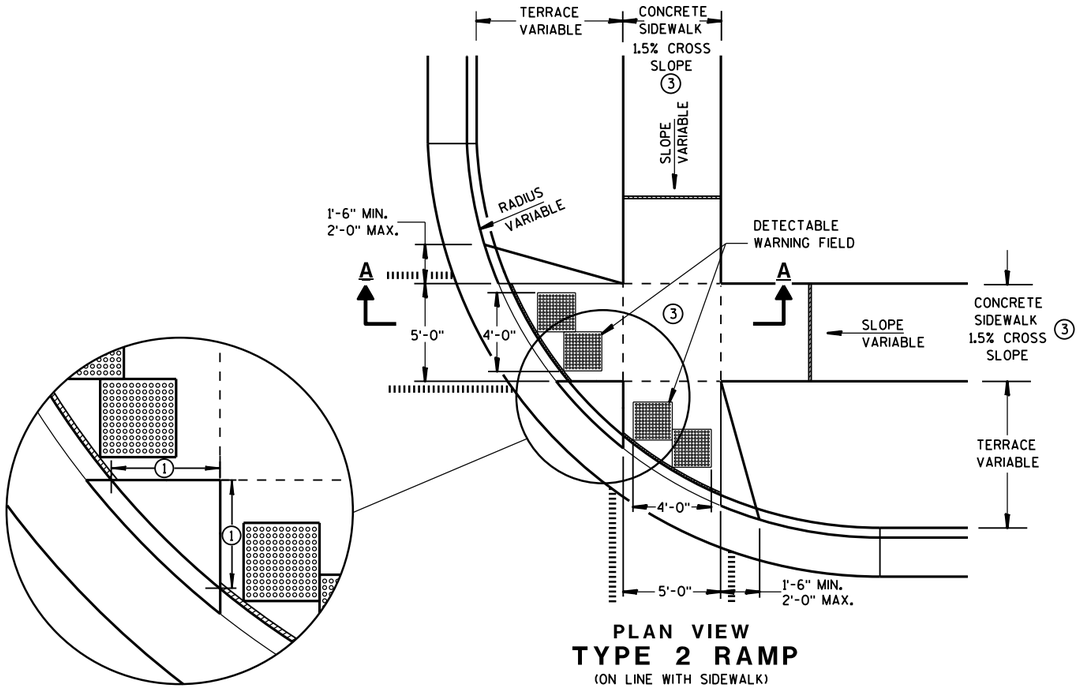
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15a

6

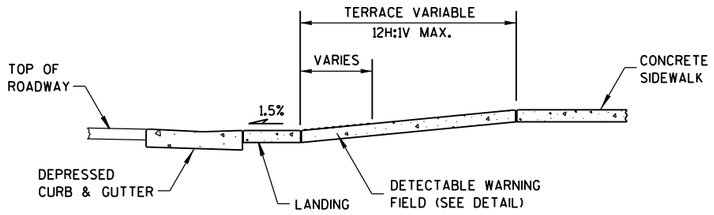
S.D.D. 8 D 5-15a



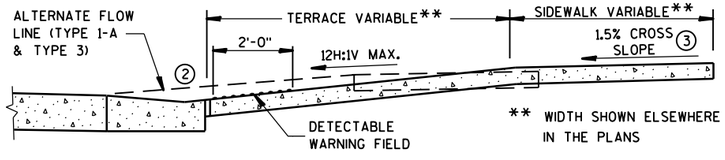
PLAN VIEW

TYPE 2 RAMP

(ON LINE WITH SIDEWALK)



SECTION A-A



SECTION B-B

GENERAL NOTES

USE THE TYPE 3 RAMP ONLY WHEN A TYPE 1 OR TYPE 2 CANNOT BE ACHIEVED BECAUSE OF FIELD CONDITIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

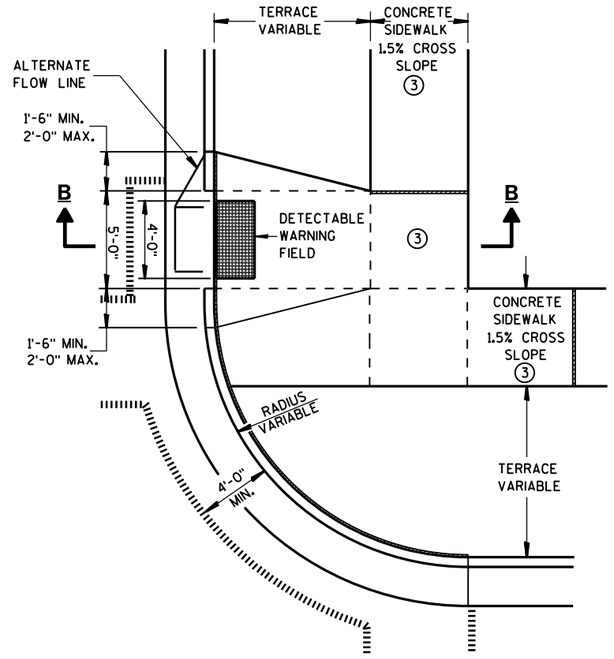
① WHEN THIS DISTANCE IS LESS THAN 6'-0" IT MAY BE DIFFICULT TO ACHIEVE A 12H:1V SLOPE, OR FLATTER, ON THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 12H:1V SLOPE, OR FLATTER, ON RAMP. 2" MINIMUM CURB HEIGHT.

② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. PROVIDE DRAINAGE AWAY FROM CURB RAMP AT GUTTER FLAG INTERFACE.

③ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



PLAN VIEW

TYPE 3 RAMP

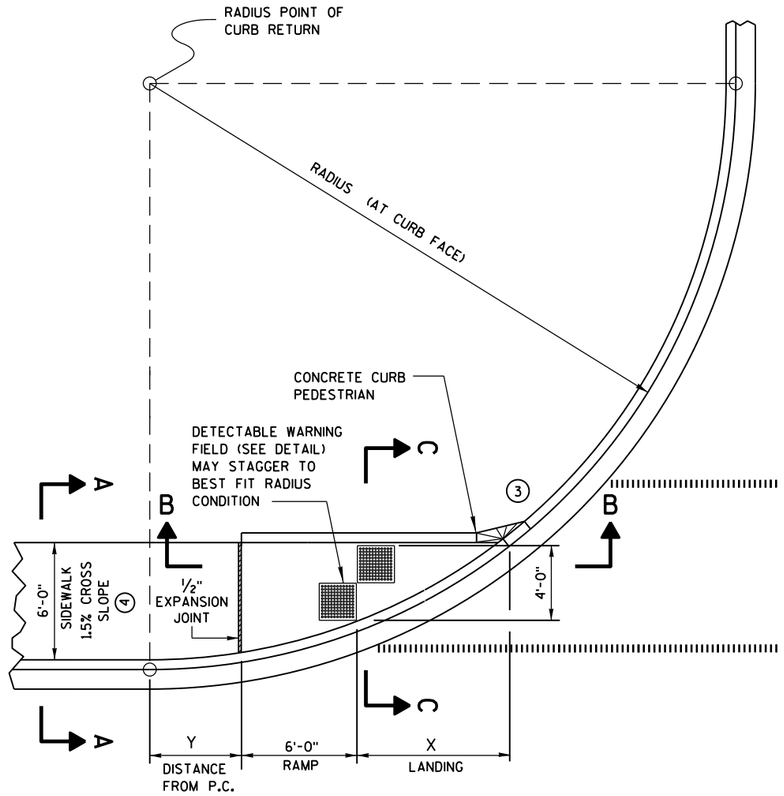
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

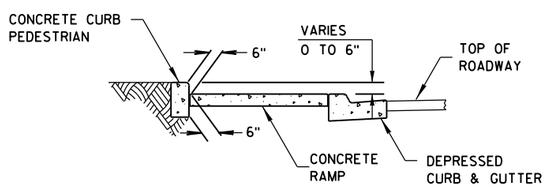
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

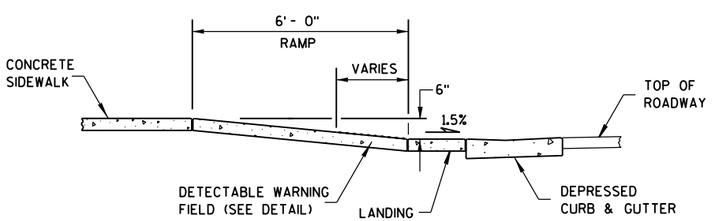
S.D.D. 8 D 5-15b



CURB RAMP TYPE 4A
PLAN VIEW



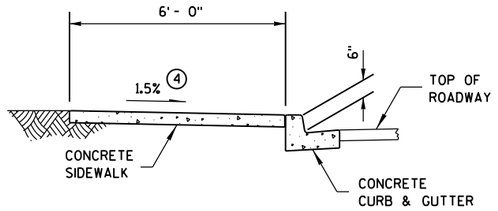
SECTION C-C FOR TYPE 4A



SECTION B-B FOR TYPE 4A

RADIUS (AT CURB FACE)	X	Y
20 FEET	6'-1¾"	2'-7¼"
30 FEET	7'-11¾"	4'-8¼"
40 FEET	9'-5¼"	6'-5"
50 FEET	10'-8¾"	7'-11¼"
60 FEET	11'-10¼"	9'-3½"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A-A FOR TYPE 4A

GENERAL NOTES

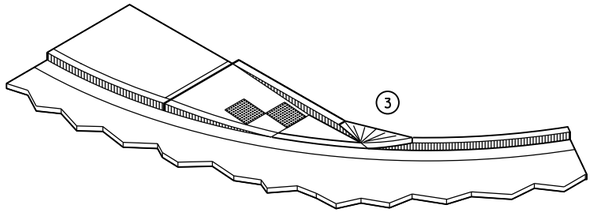
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

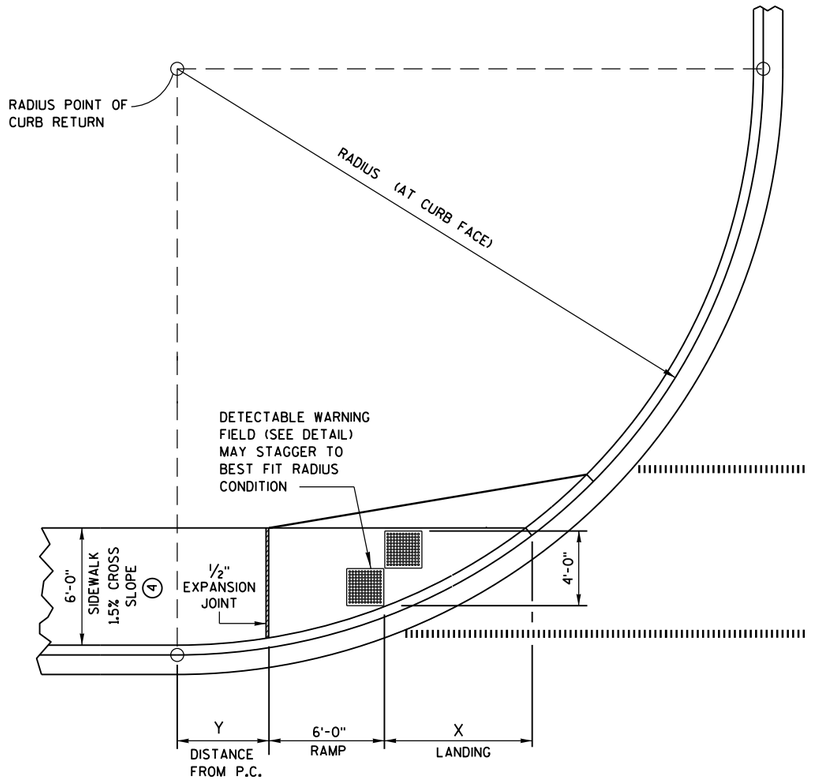
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

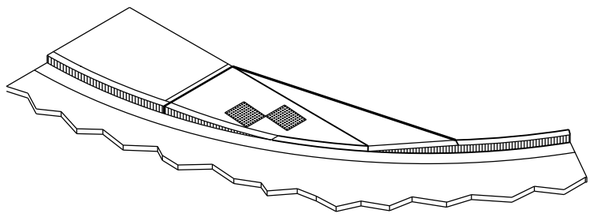
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



ISOMETRIC VIEW FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

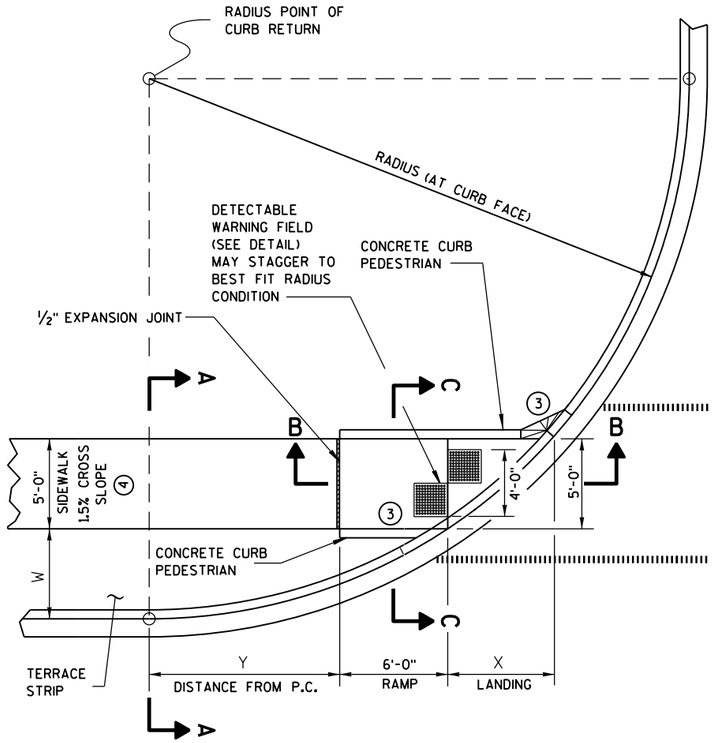
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPES 4A AND 4A1

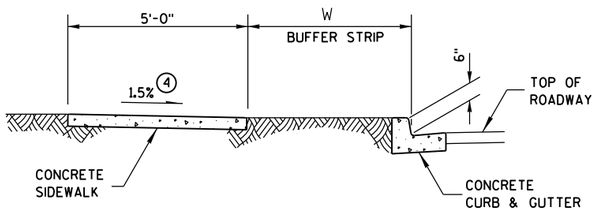
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

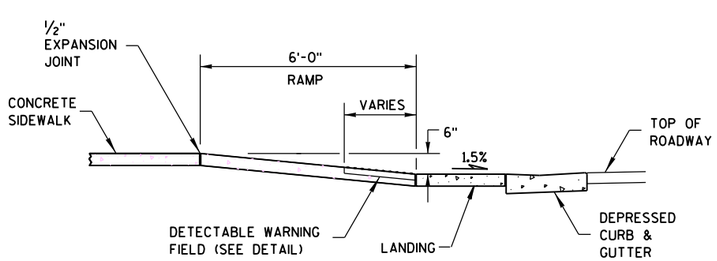
S.D.D. 8 D 5-15c



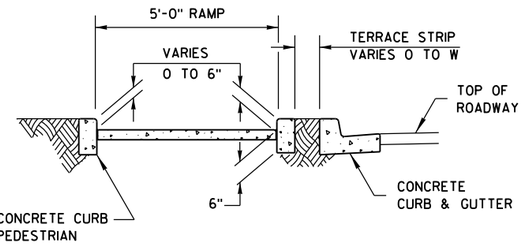
CURB RAMP TYPE 4B
PLAN VIEW



SECTION A-A FOR TYPE 4B



SECTION B-B FOR TYPE 4B



SECTION C-C FOR TYPE 4B

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

PAVEMENT MARKING CROSSWALK (WHITE)

RADIUS (AT CURB FACE)	W = 3'-0"		W = 4'-0"		W = 5'-0"		W = 6'-0"		W = 7'-0"	
	X	Y	X	Y	X	Y	X	Y	X	Y
20 FEET	5'-5½"	4'-6½"	4'-8½"	6'-0"	4'-1"	7'-2¾"	3'-7"	8'-3½"	3'-1½"	9'-2½"
30 FEET	7'-3¾"	7'-1"	6'-5½"	8'-11½"	5'-9¼"	10'-7"	5'-2½"	12'-0"	4'-8¾"	13'-3¼"
40 FEET	8'-9½"	9'-2½"	7'-10"	11'-5¼"	7'-1"	13'-4½"	6'-5¾"	15'-¾"	5'-11½"	16'-7¼"
50 FEET	10'-¾"	11'-¾"	9'-¼"	13'-7¼"	8'-2½"	15'-9½"	7'-6½"	17'-9"	6'-11¾"	19'-6¼"
60 FEET	11'-2½"	12'-8¾"	10'-¾"	15'-6½"	9'-2¼"	17'-11¾"	8'-5¾"	20'-1¾"	7'-10½"	22'-1½"

INTERMEDIATE RADII CAN BE INTERPOLATED

GENERAL NOTES

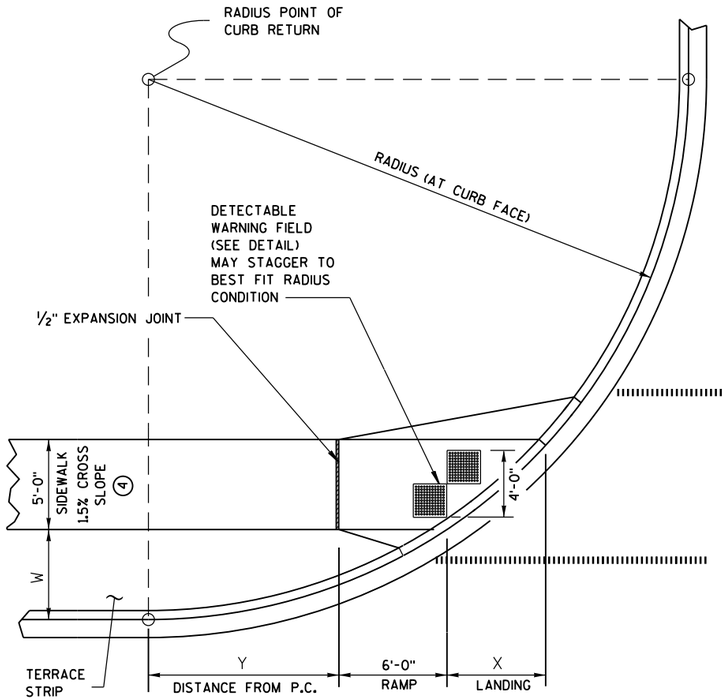
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

RAMP SLOPES SHALL NOT BE STEEPER THAN 12:1.

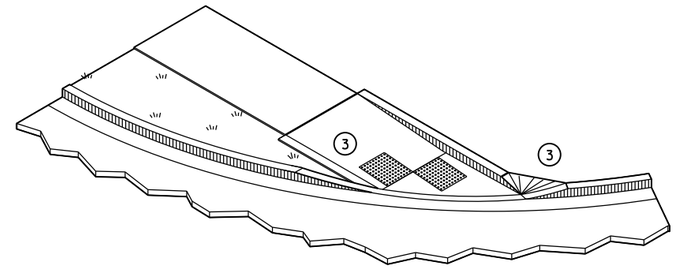
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

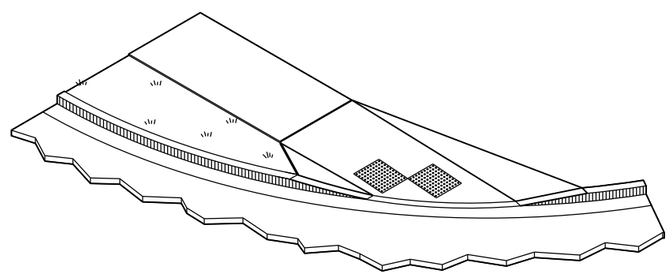
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



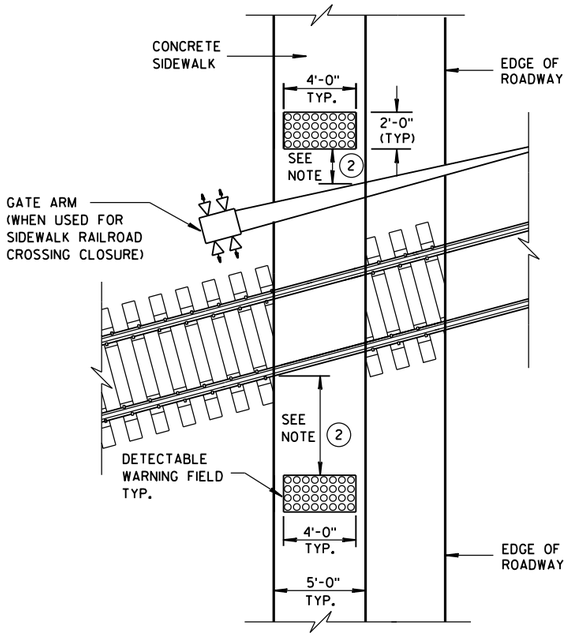
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS TYPE 4B AND 4B1

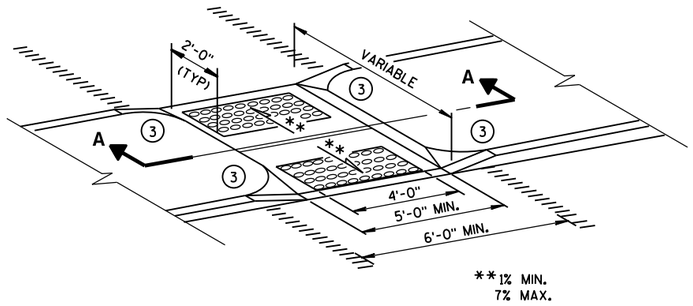
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-15d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING



MEDIAN ISLAND
NON-ELEVATED CROSSING
TYPE 5

GENERAL NOTES

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

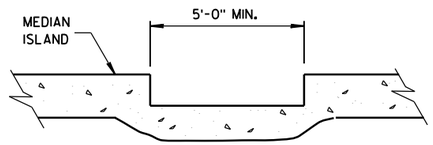
DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(1) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

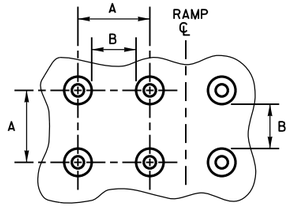
(2) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ± 0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

(3) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS.) DO NOT MARK TRANSITION NOSE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.



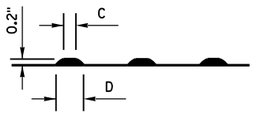
SECTION A-A



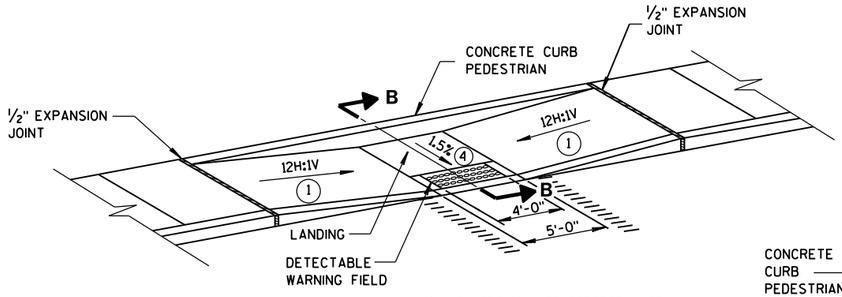
PLAN VIEW

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

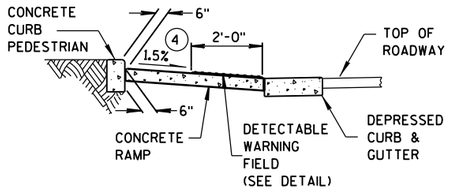
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



ELEVATION VIEW

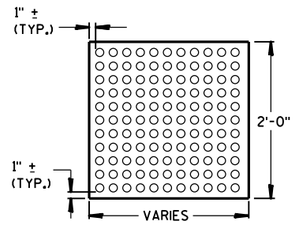


MID-BLOCK CROSSING
TYPE 7A



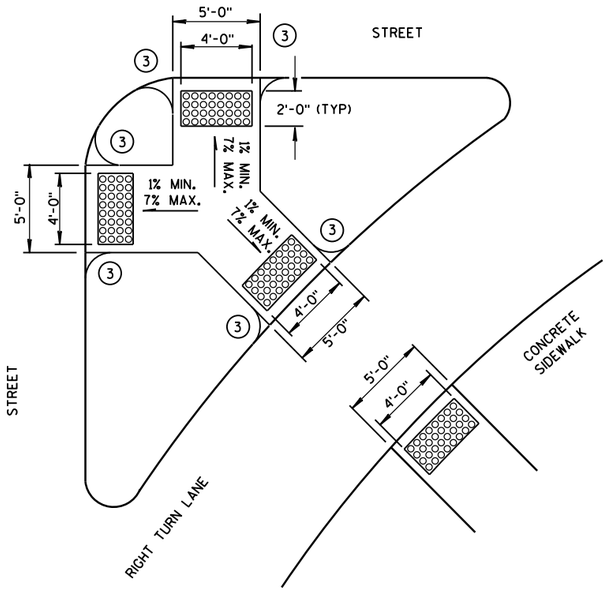
SECTION B-B

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

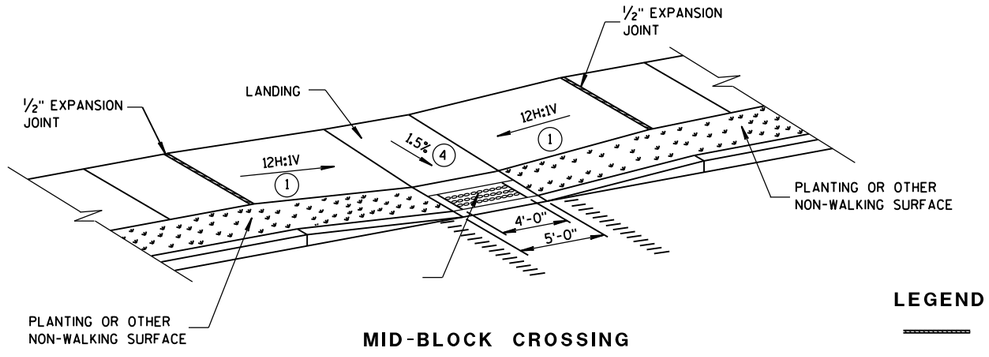


PLAN VIEW

DETECTABLE WARNING FIELD (TYPICAL)



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

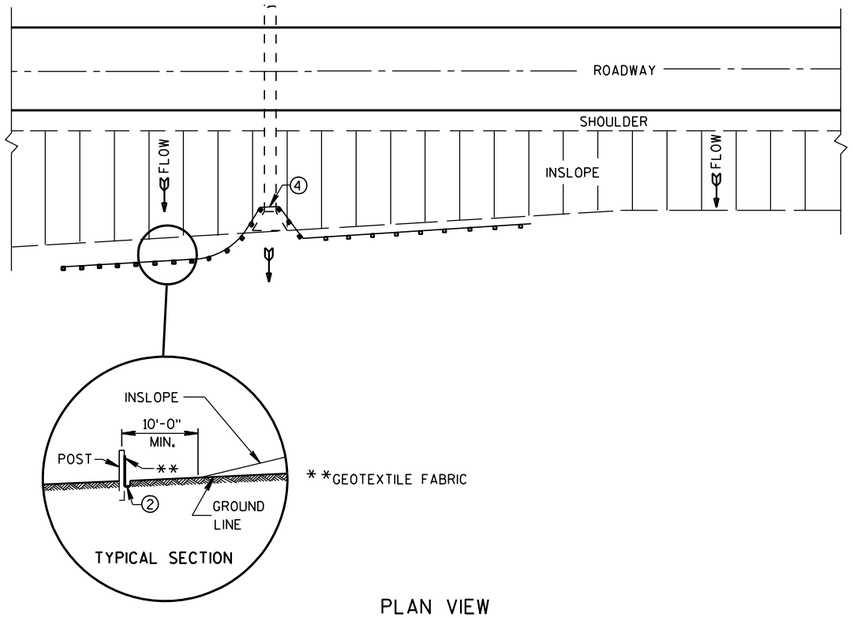
CURB RAMPS
TYPES 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2-6-2013 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

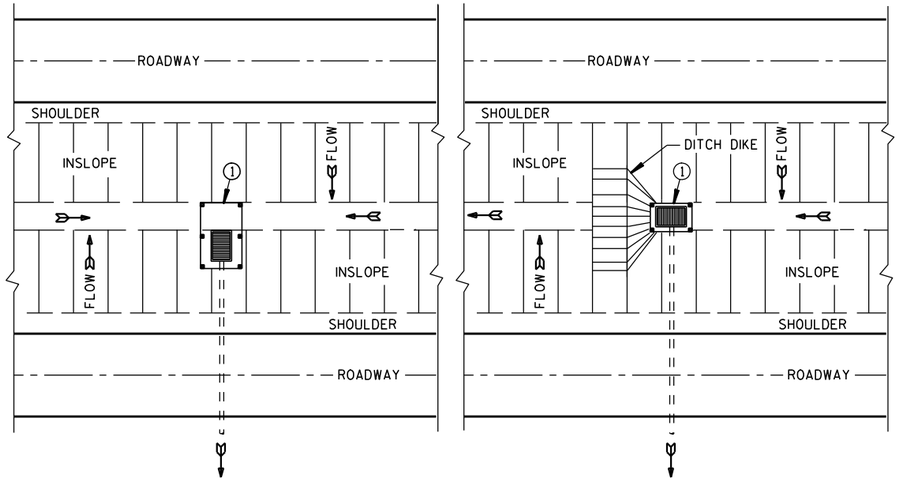
6

S.D.D. 8 D 5-15e



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

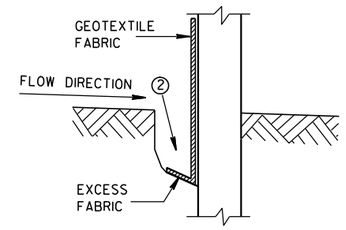
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

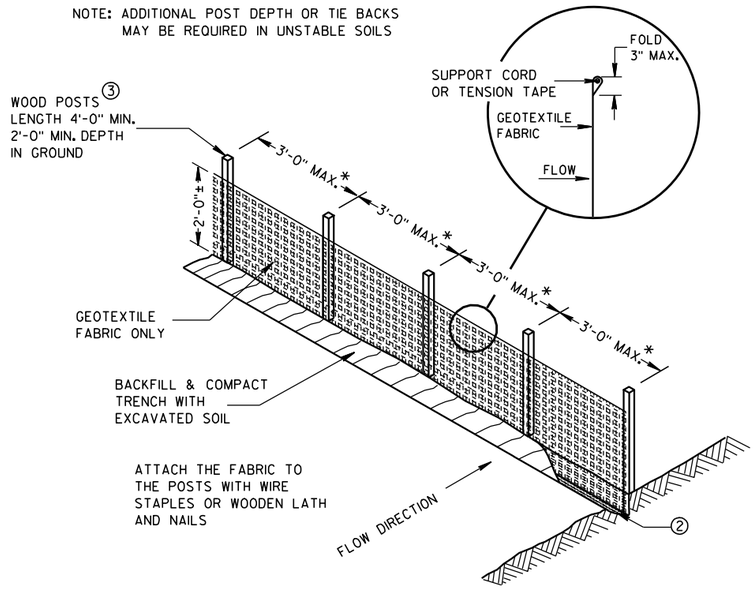
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

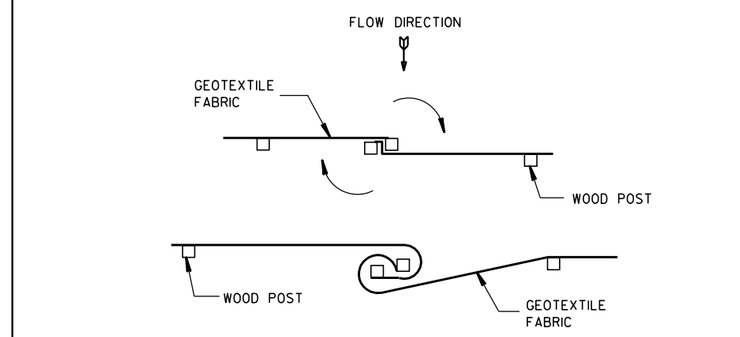


TRENCH DETAIL

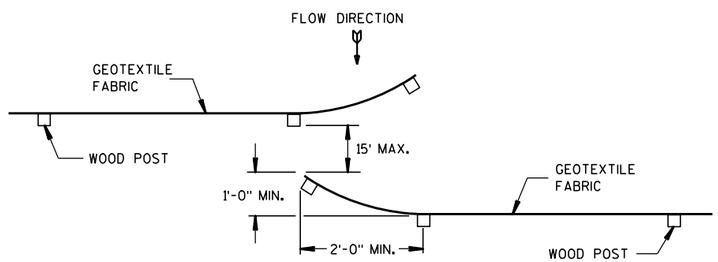


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

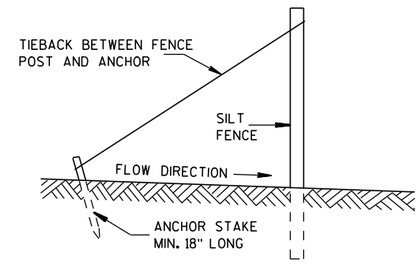


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

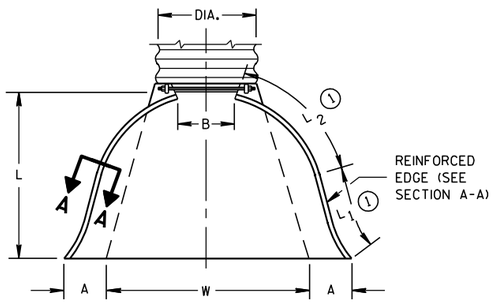
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

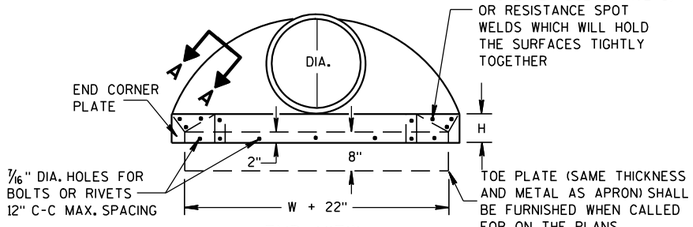
REINFORCED CONCRETE APRON ENDWALLS

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

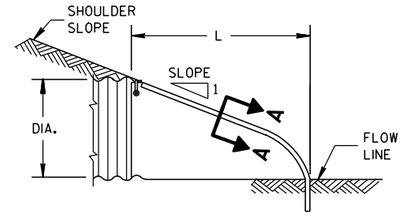
* MINIMUM
** MAXIMUM



PLAN VIEW

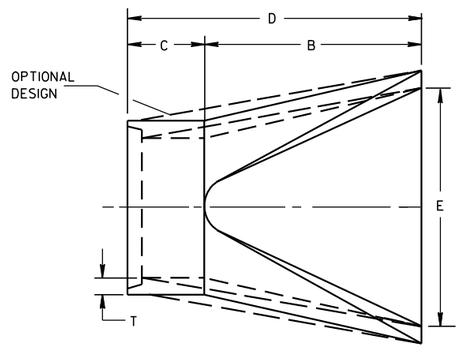


END VIEW

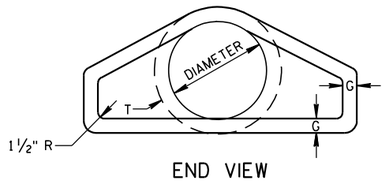


SIDE ELEVATION

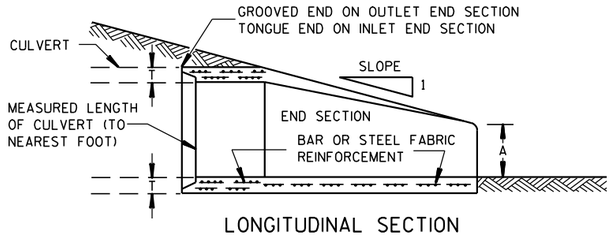
METAL ENDWALLS



PLAN

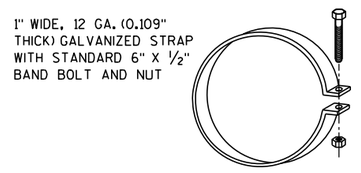


END VIEW



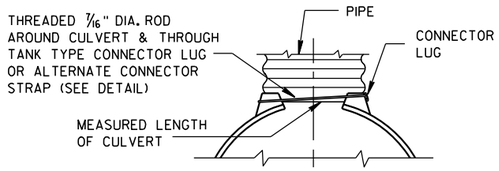
LONGITUDINAL SECTION

CONCRETE ENDWALLS

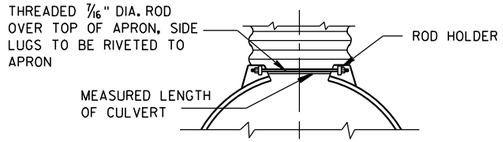


ALTERNATE FOR TYPE 1 CONNECTION

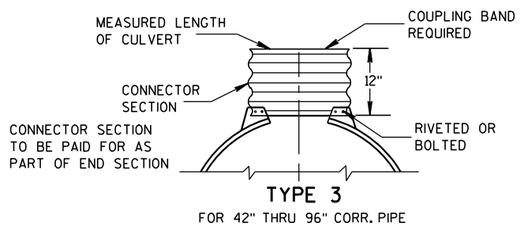
END SECTION CONNECTOR STRAP



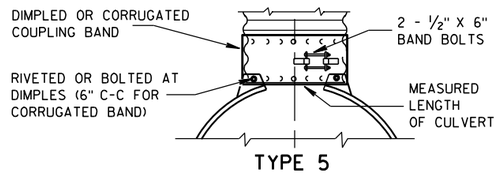
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

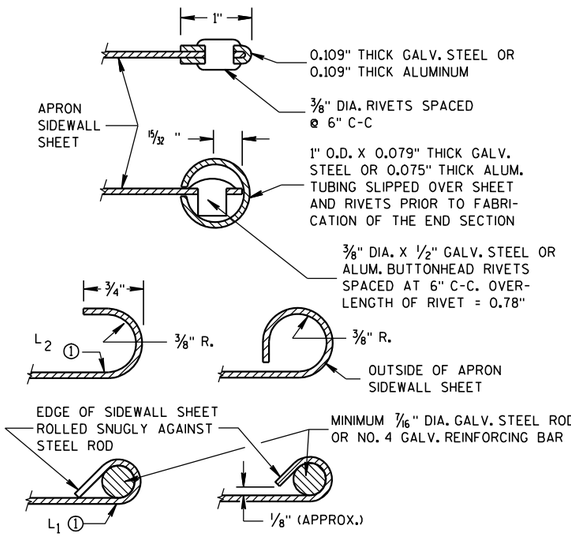
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

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

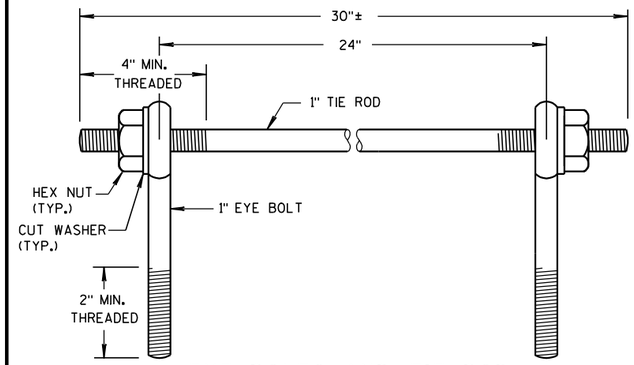
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

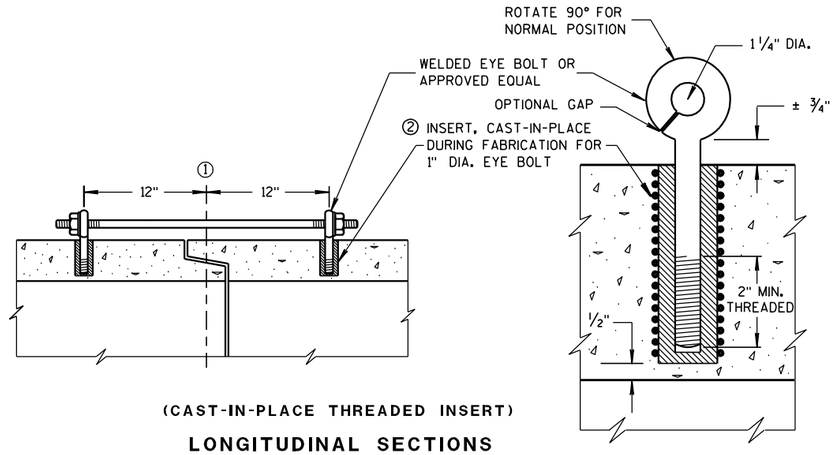
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

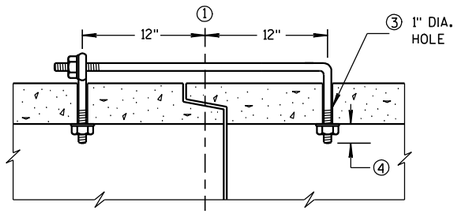
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

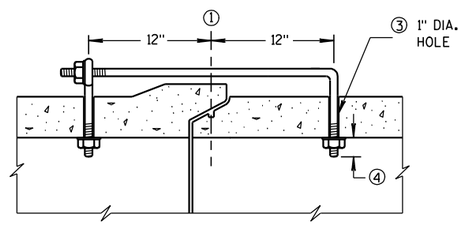
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

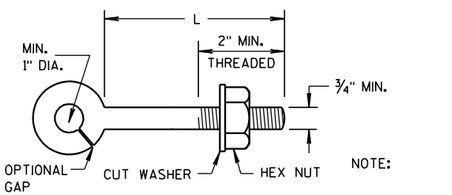


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

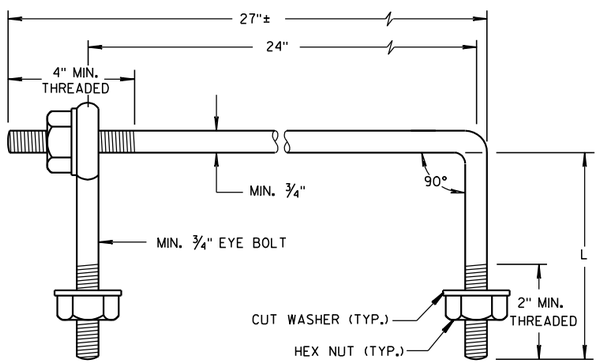
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

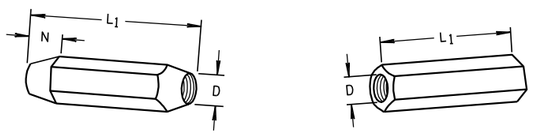
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 1/16

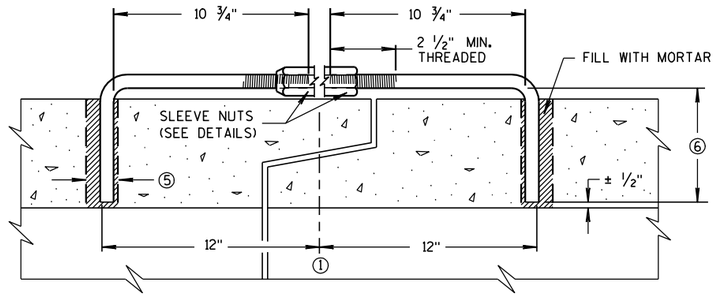
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

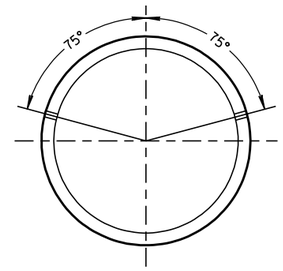
SLEEVE NUTS



LONGITUDINAL SECTION

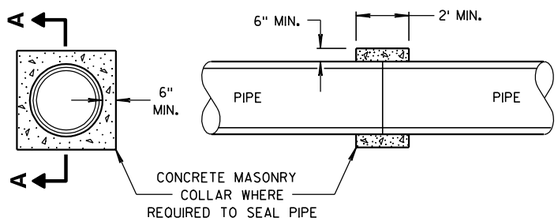
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

GENERAL NOTES

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

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

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

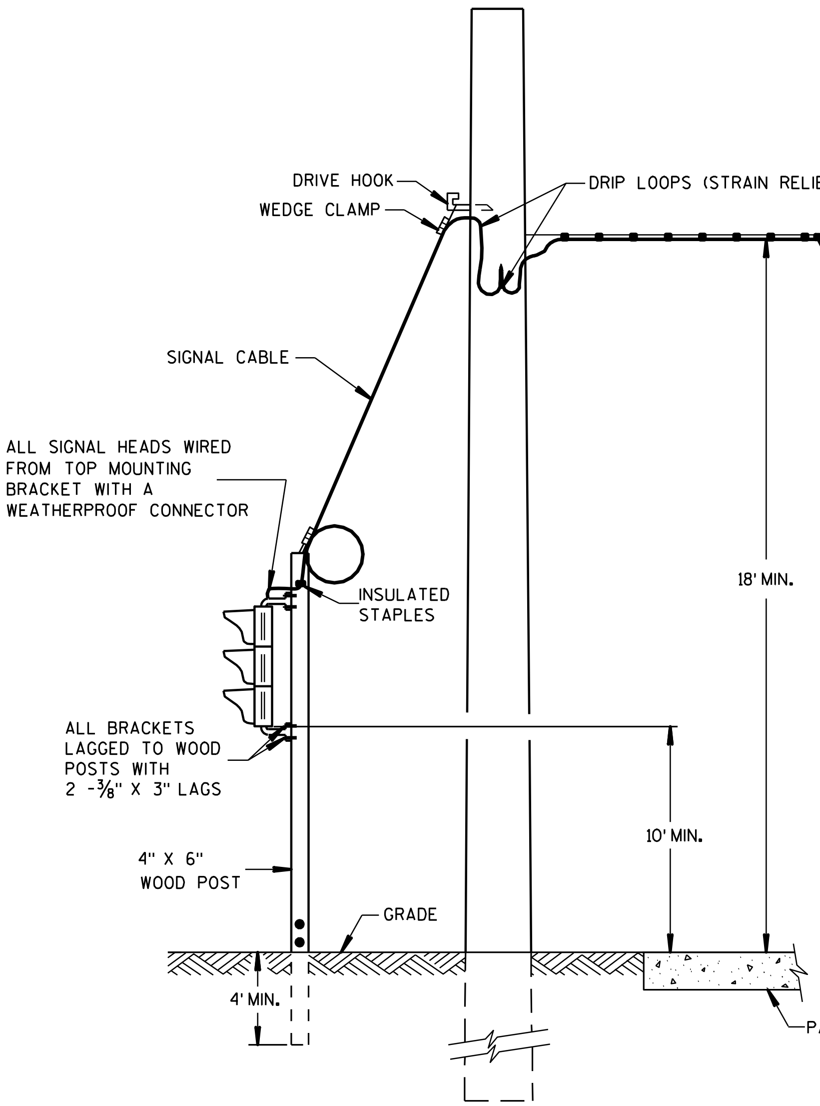
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAMGUARD, ETC.).

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

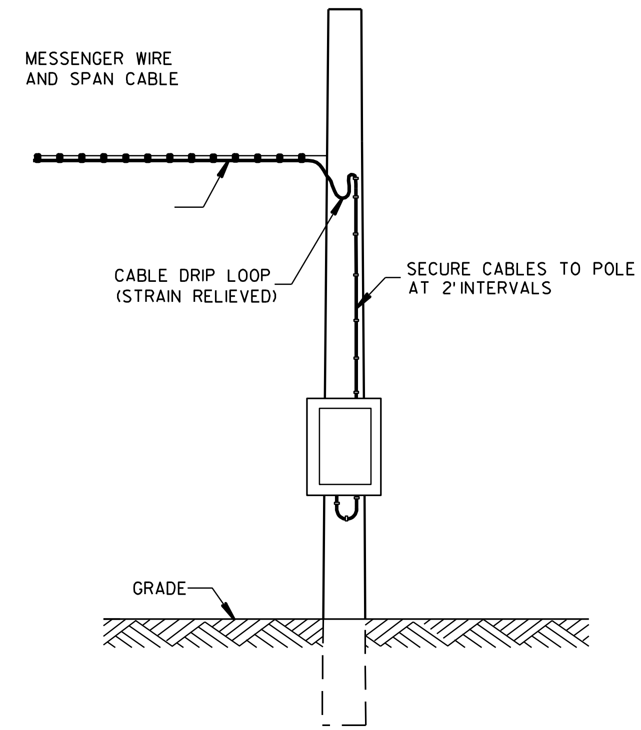
VERTICAL CLEARANCE ETC. PER NEC.

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

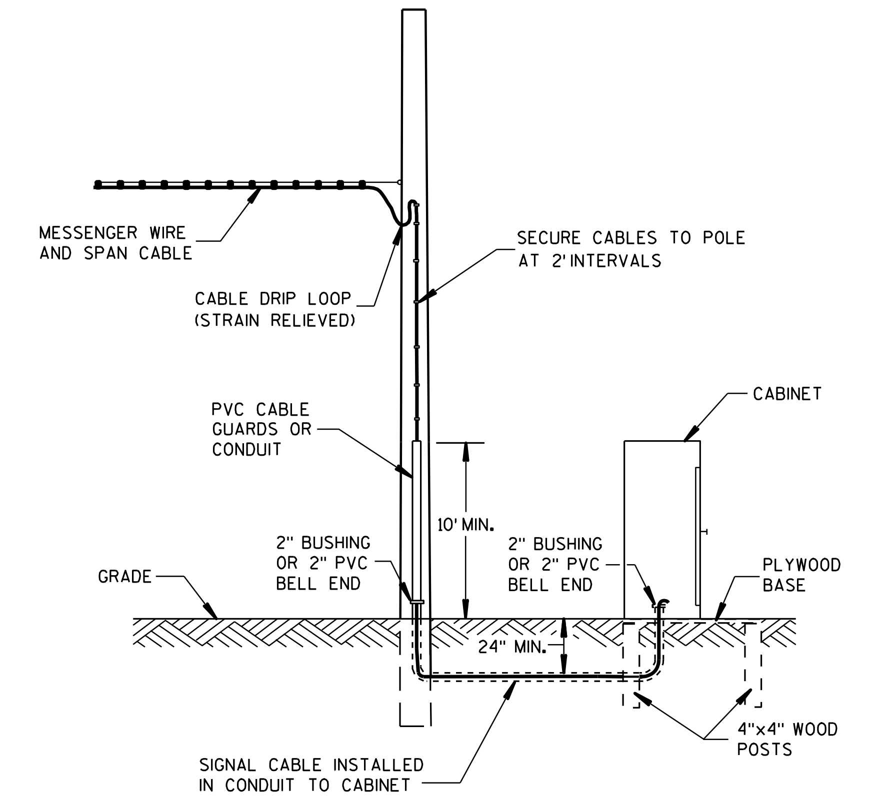
EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



TYPICAL DROP TO TRAFFIC SIGNAL FACE



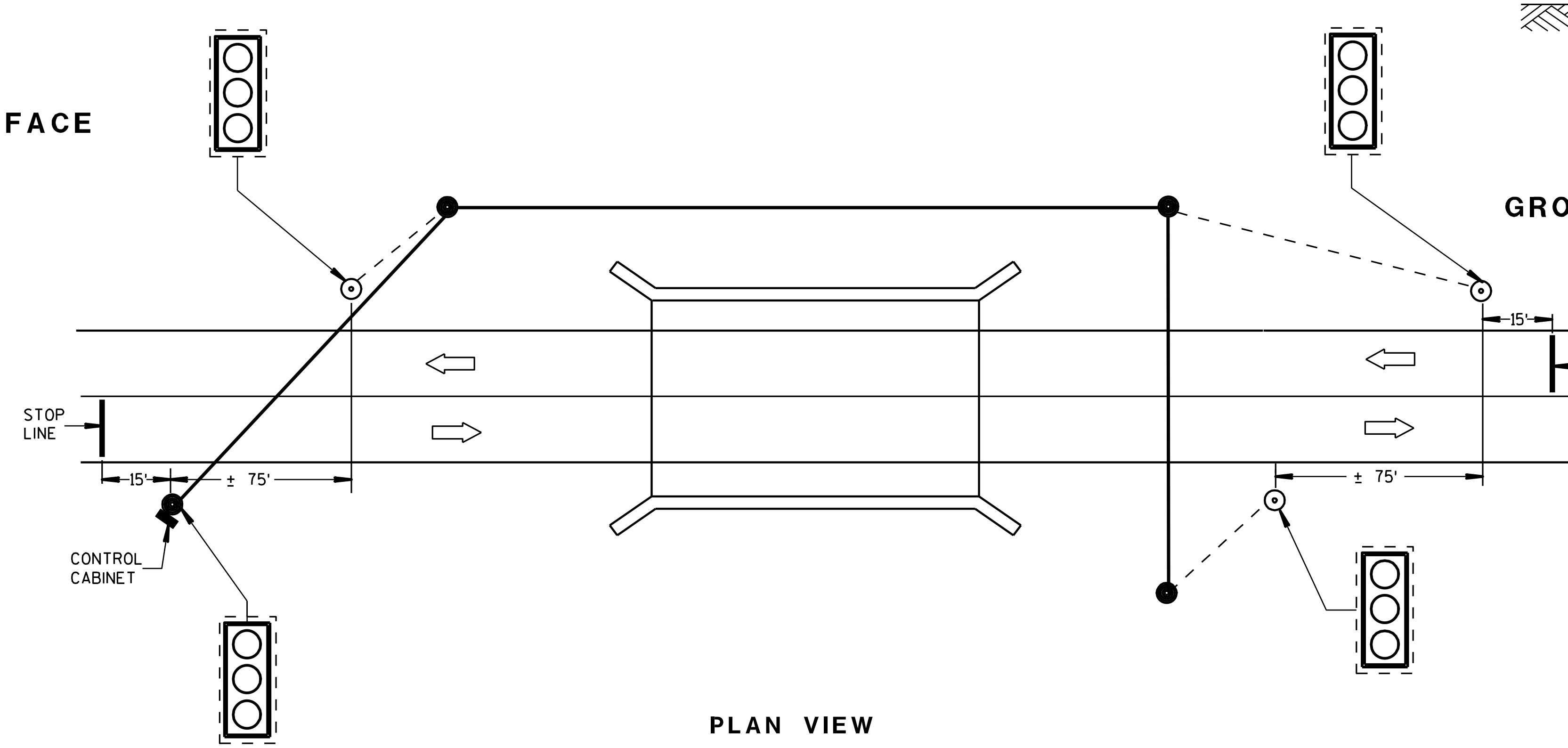
POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

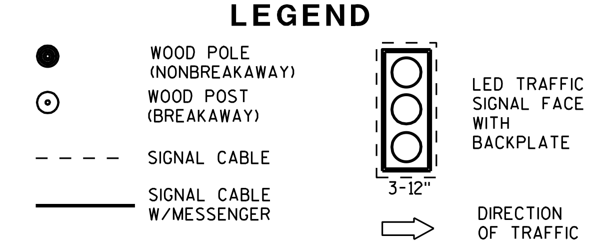
OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES	
SPEED LIMIT	OFFSET DISTANCE**
GREATER THAN 45 MPH	18 FT
45 MPH OR LESS	12 FT
45 MPH OR LESS W/ CURBS	2 FT

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



PLAN VIEW
TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION

LEGEND



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

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/2/2011 — DATE
/S/ Thomas J. Gearing — STATE ELECTRICAL ENGI 77 — HWYS
FHWA

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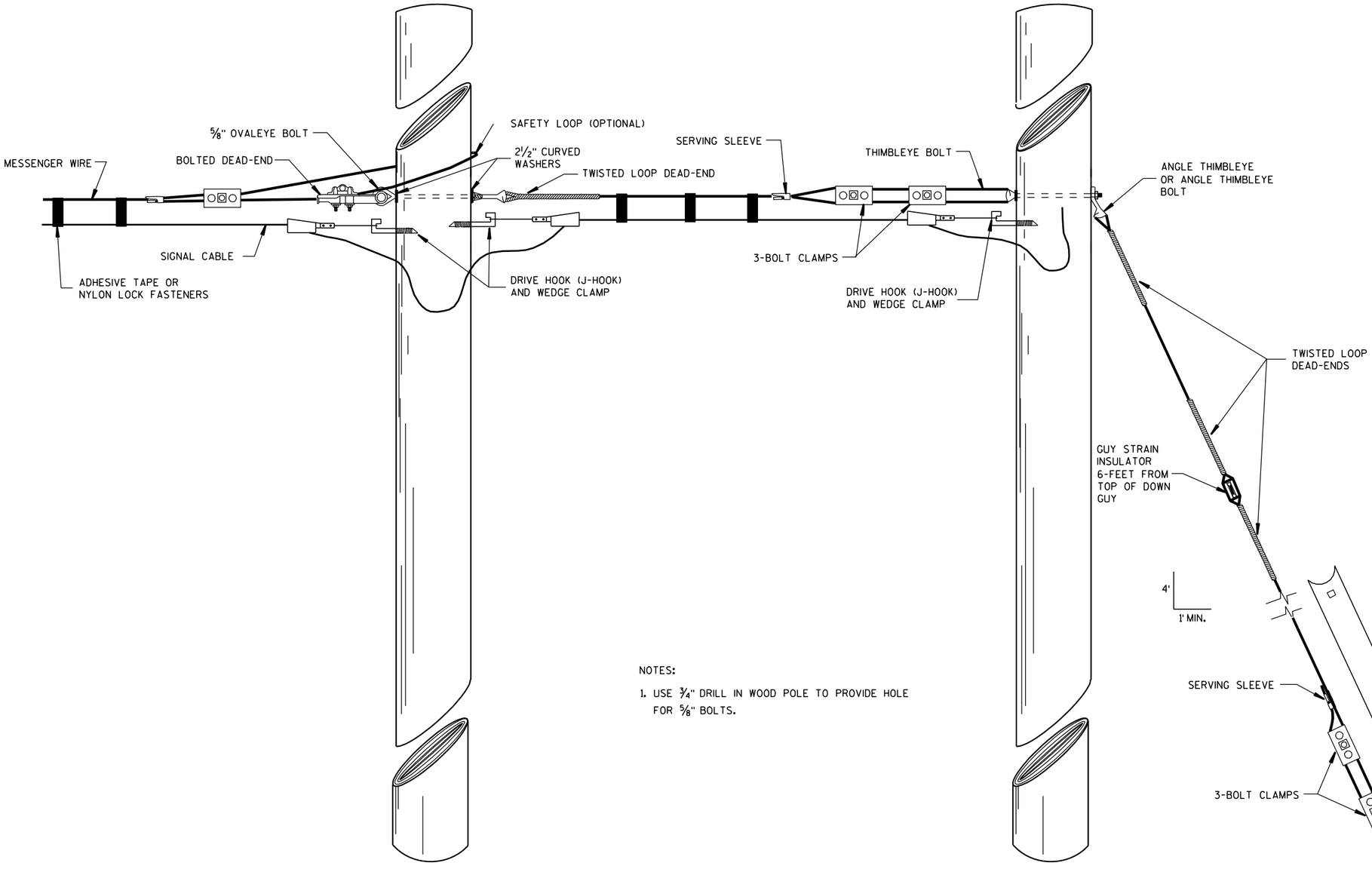

SPAN WIRE POLE

GUY POLE

NOTES:

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE HOLE FOR 5/8" BOLTS.

TYPICAL DEAD-ENDINGS OR GUYING

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 DATE

/S/ Thomas J. G... STATE ELECTRICAL ENGI

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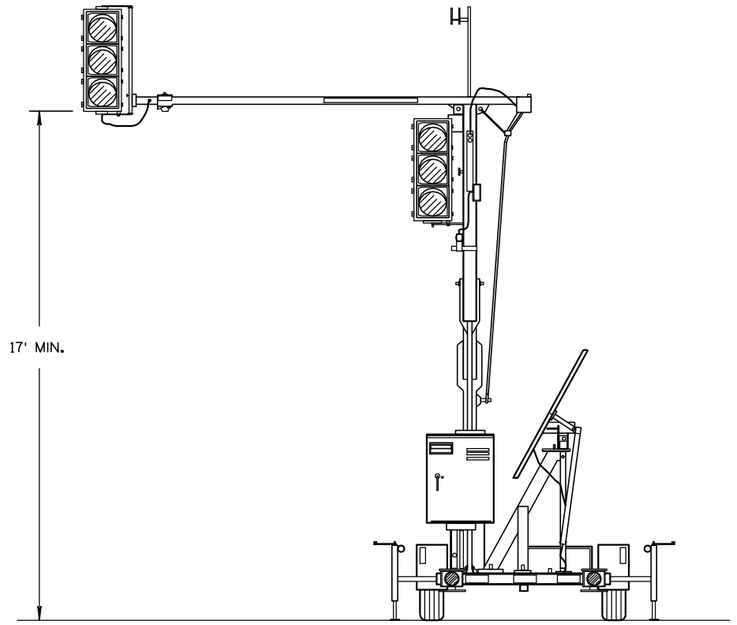
S.D.D. 9 G 2-3b

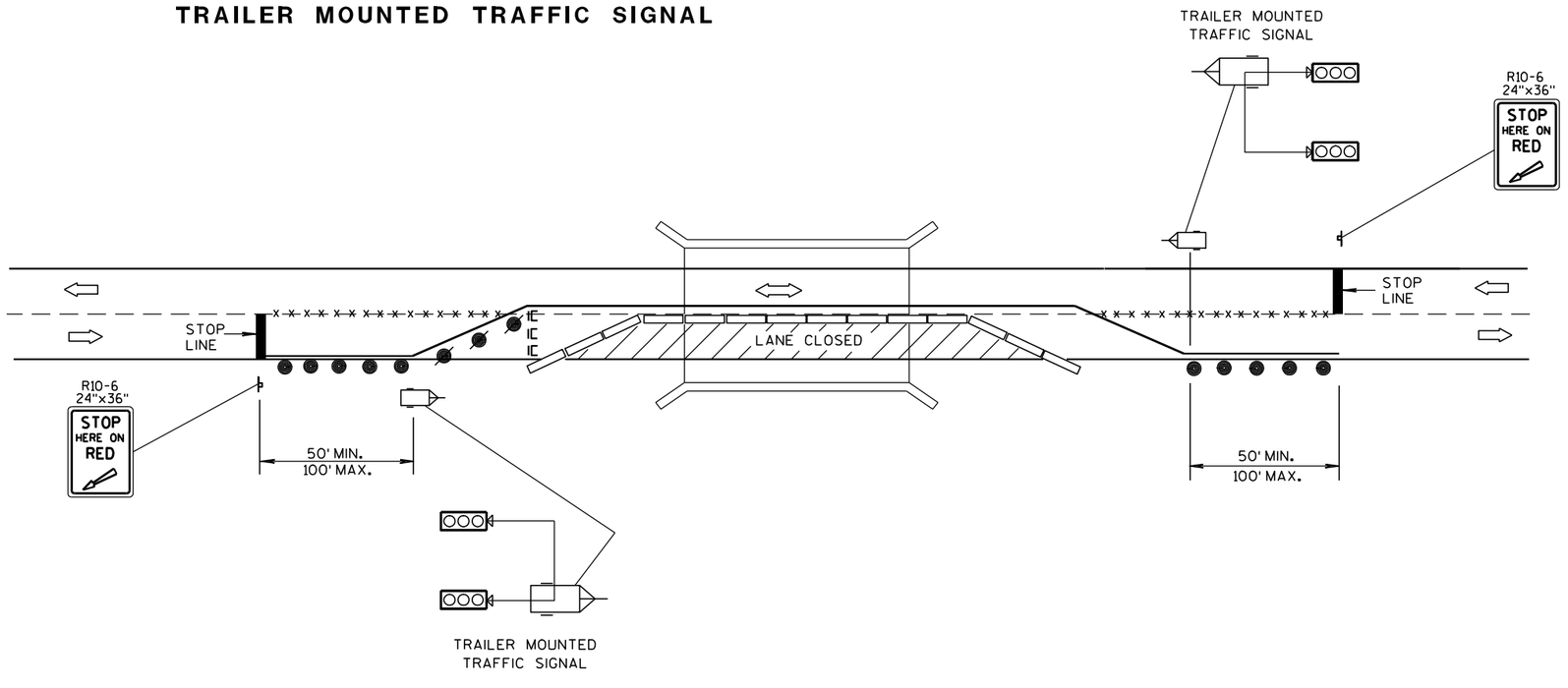


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH SIGN
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/2/2011 — DATE

/S/ Thomas J. Gosling — STATE ELECTRICAL ENGI

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S.D.D. 9 G 2-3c

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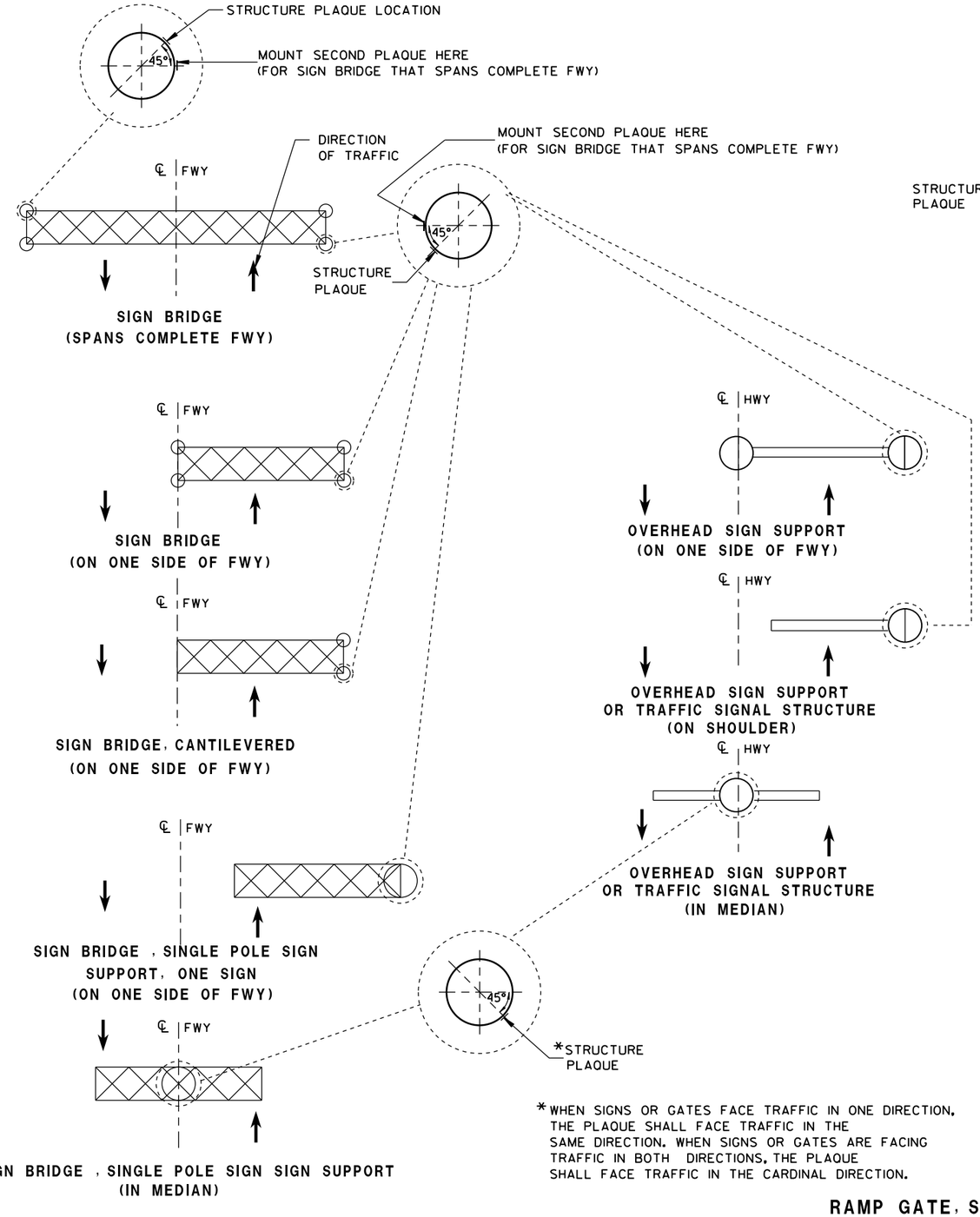
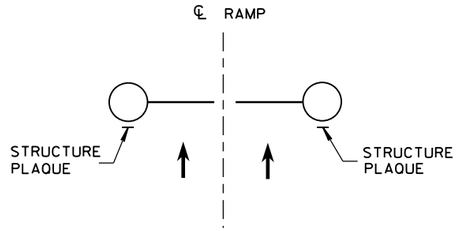
S.D.D. 9 G 2-3c



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

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



**RAMP GATE
(ACROSS FWY ON-RAMP)**

GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

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

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

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

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

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

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

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

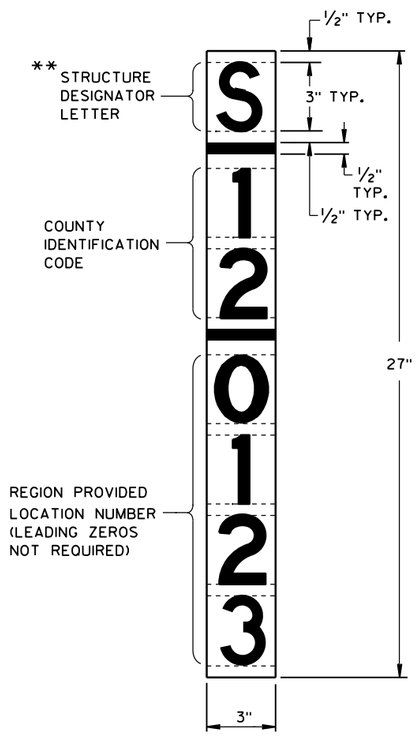
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

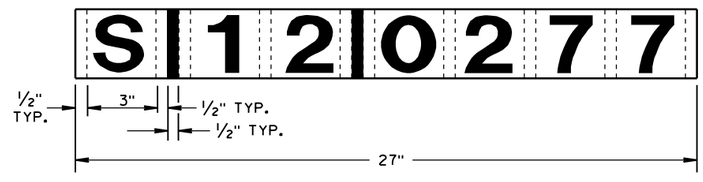
LINES - BLACK, ½" WIDE, SELF-ADHESIVE

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

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

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





IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 12 A 4-3

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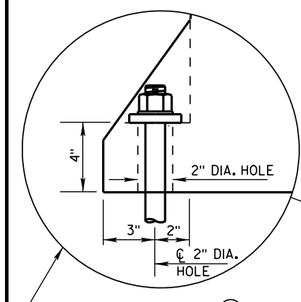
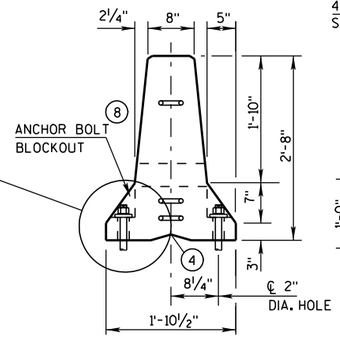
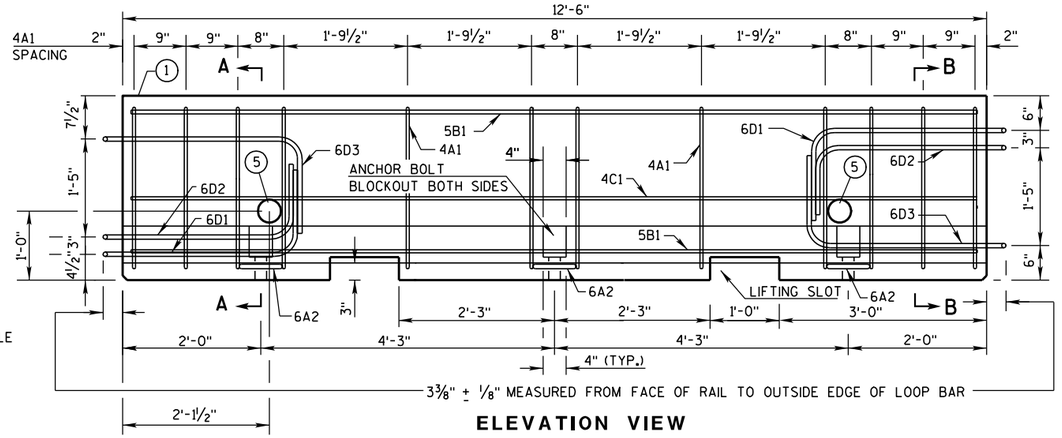
S.D.D. 12 A 4-3

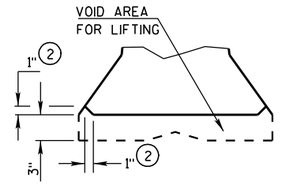




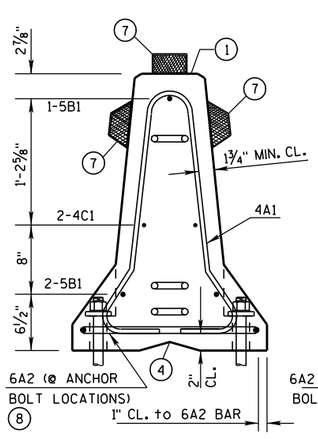
END VIEW



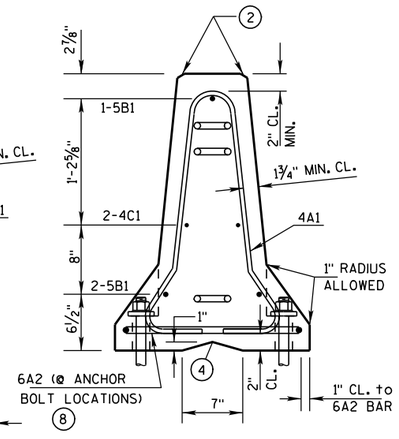
ELEVATION VIEW



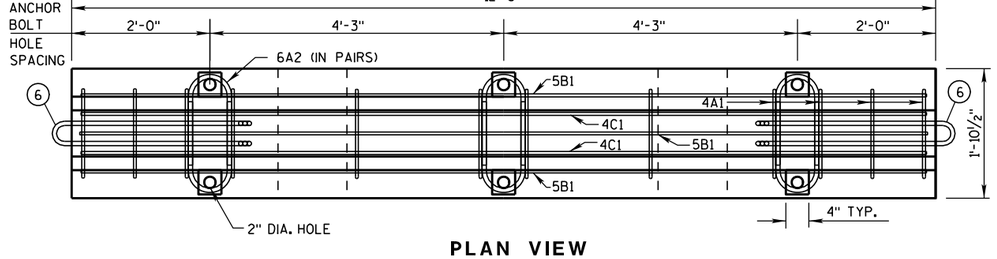
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

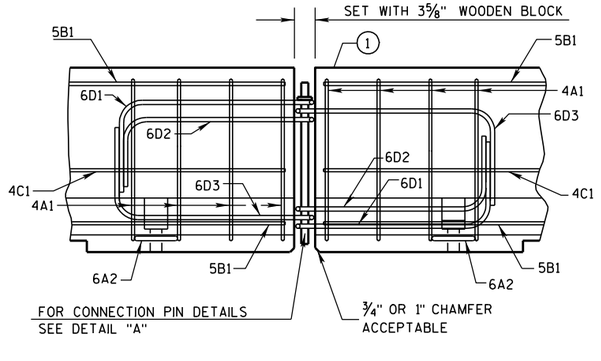


SECTION B-B
(STIRRUP PLACEMENT)

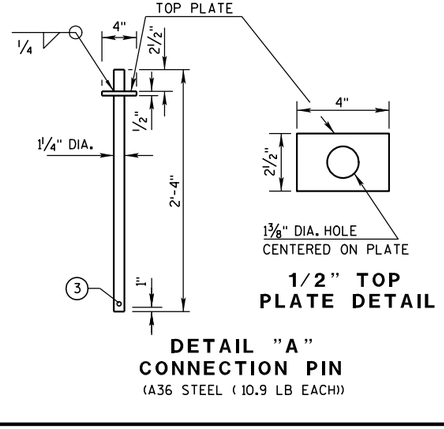


PLAN VIEW

DETAILS OF BARRIER SECTION

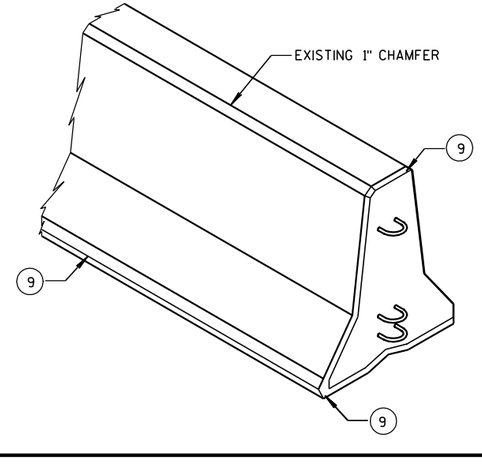


DETAILS OF BARRIER CONNECTION



1/2" TOP PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-13(a) THRU 14B7-13(h).

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....

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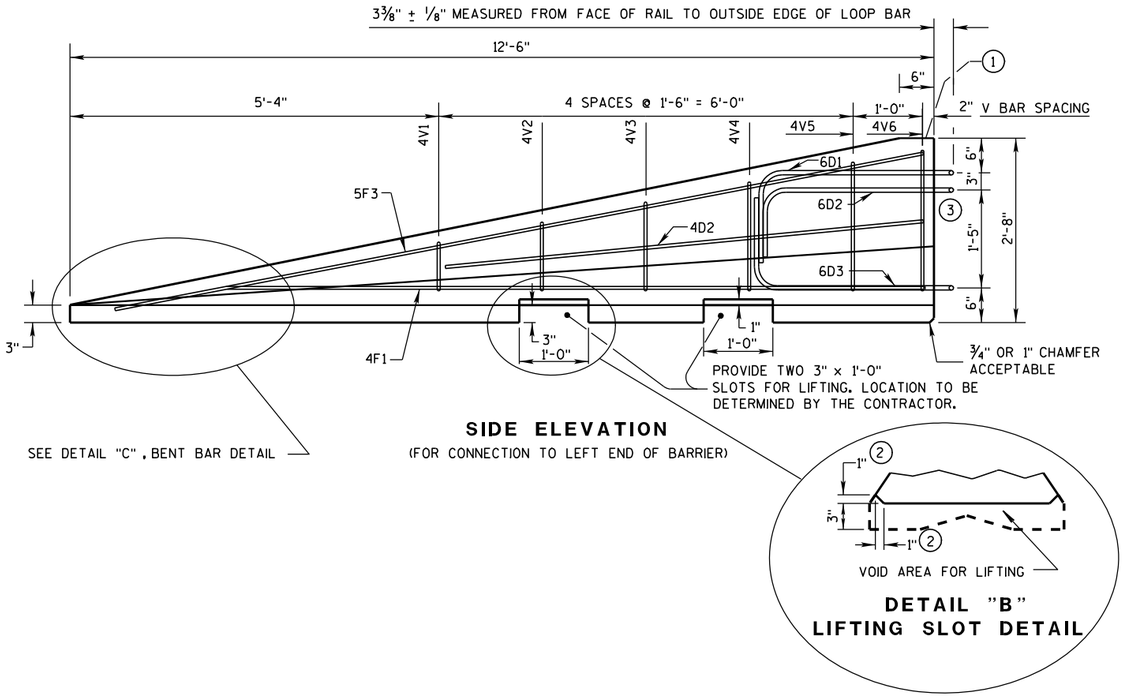
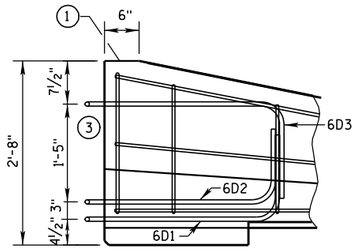
S.D.D. 14 B 7-13a



SIDE ELEVATION

(FOR CONNECTION TO LEFT END OF BARRIER)

DETAIL "B"
LIFTING SLOT DETAIL

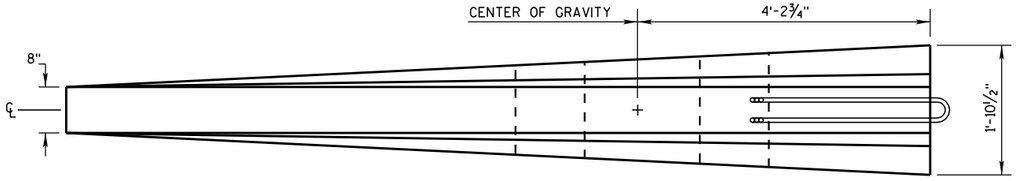


SIDE ELEVATION

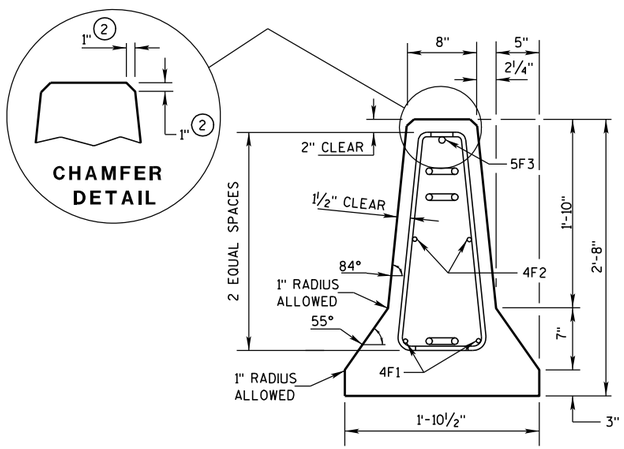
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

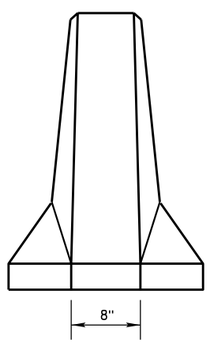
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



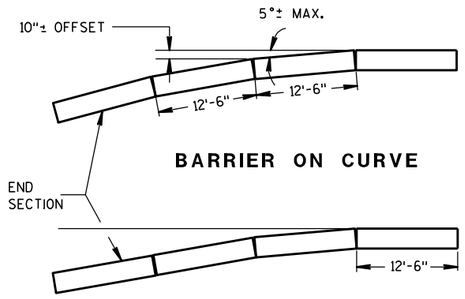
PLAN VIEW



END SECTION



FRONT ELEVATION



BARRIER ON CURVE

FLARE AT BARRIER END

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

DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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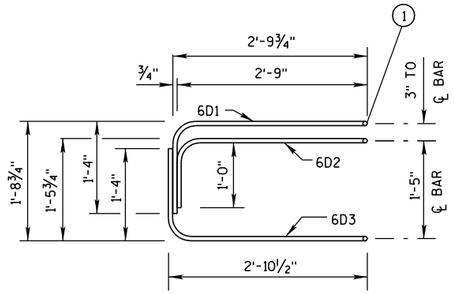
S.D.D. 14 B 7-13b

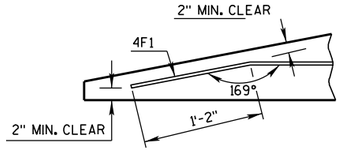
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

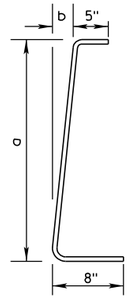
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



ELEVATION
LOOP BAR ASSEMBLY



DETAIL "C"
BENT BAR DETAIL



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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

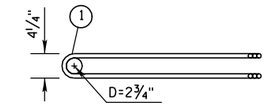
GENERAL NOTES

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

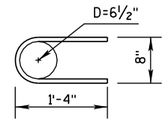
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

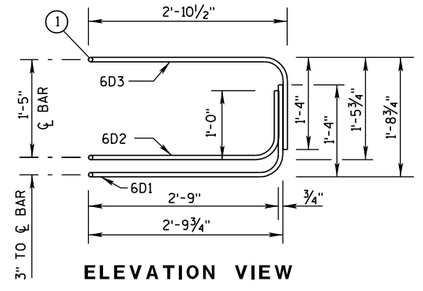
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



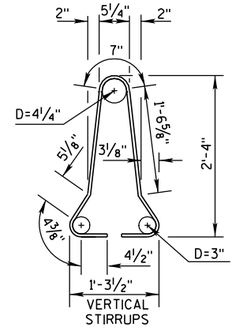
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



6A2



ELEVATION VIEW



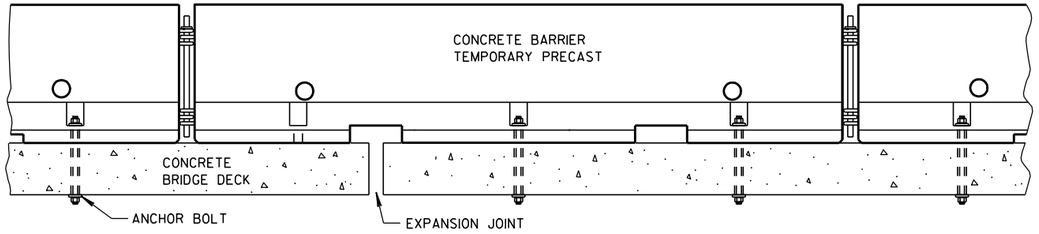
4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

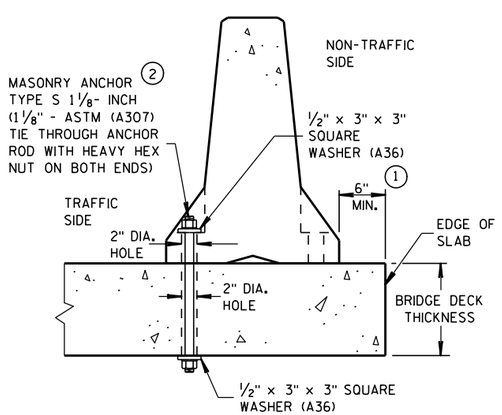
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 7-13c



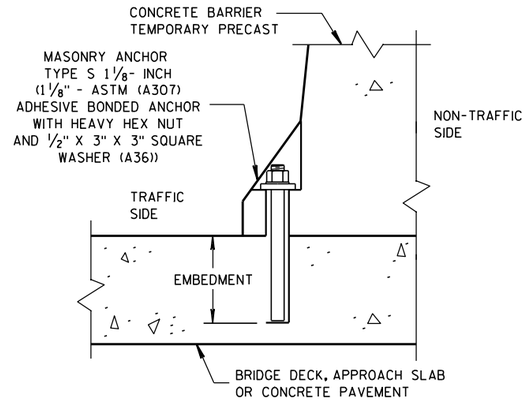
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



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

2

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

GENERAL NOTES

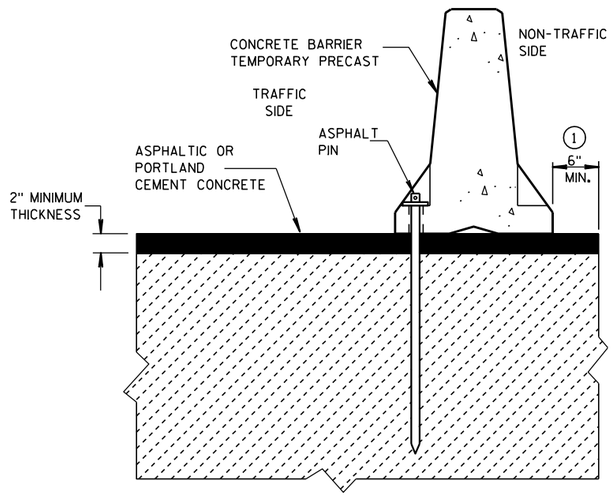
1. CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

   THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT. IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.

2. ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

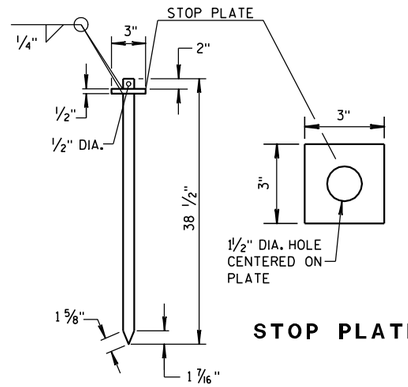
   WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED (EPOXY) ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

   UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALLANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR EPOXY MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.



STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

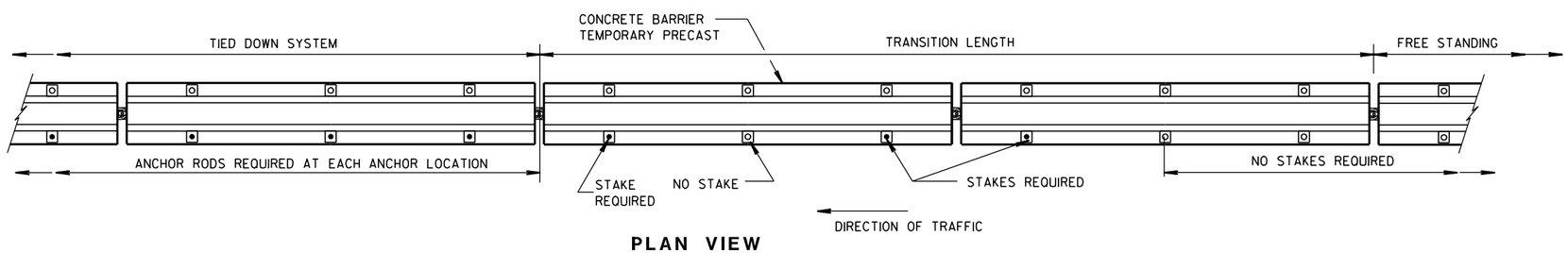
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



STOP PLATE

ASPHALT PIN

(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO.....T

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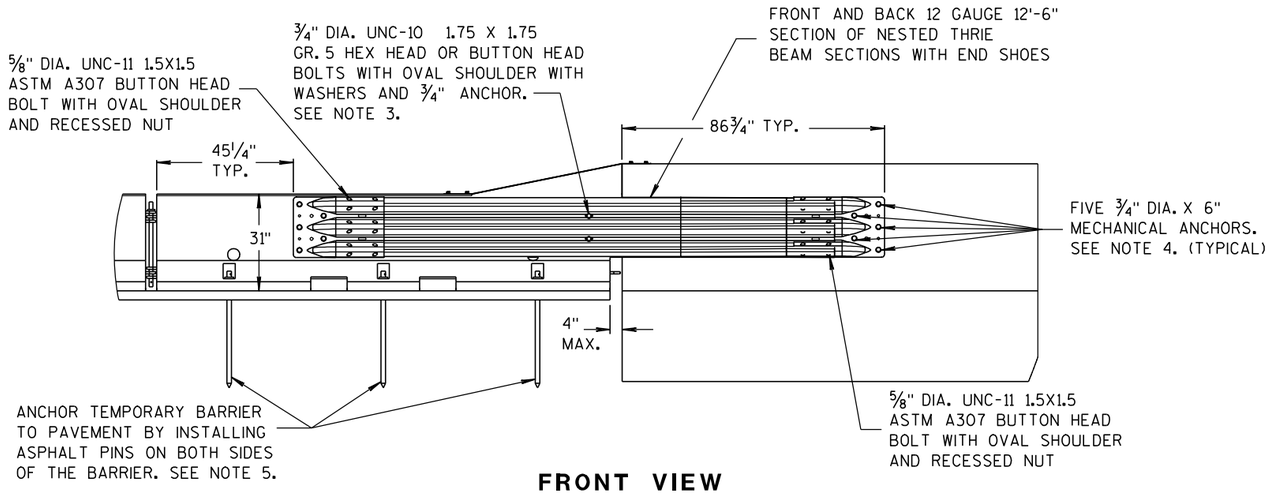
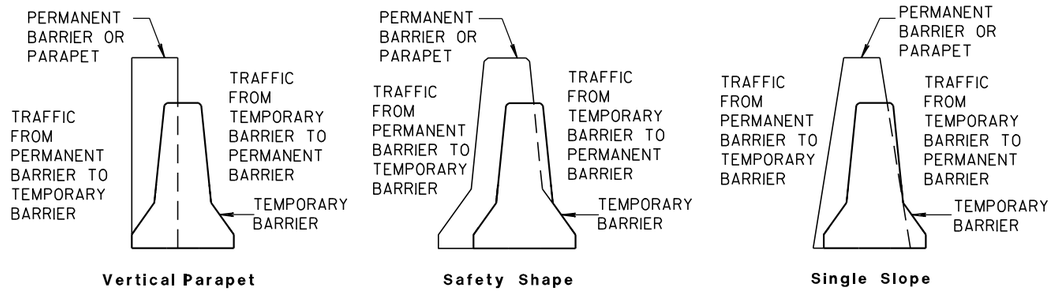
S.D.D. 14 B 7-13d



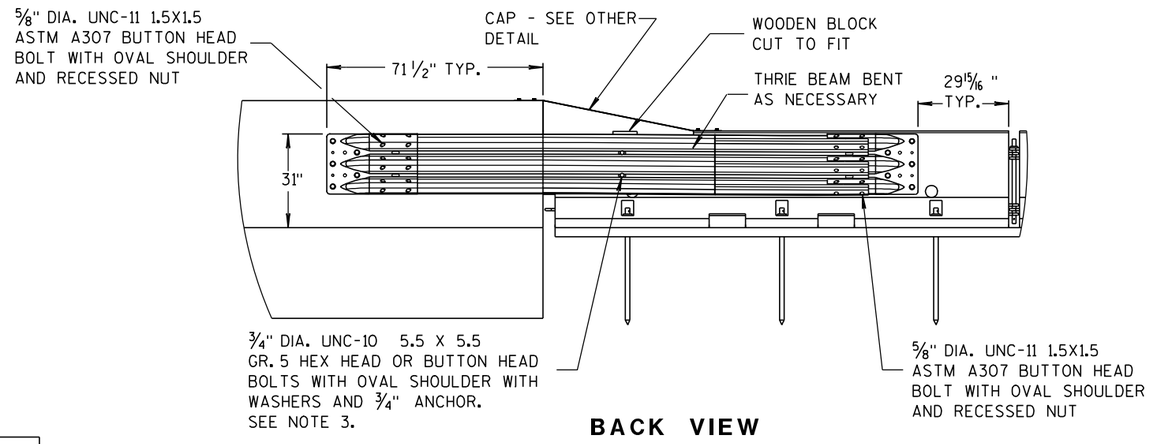
FRONT VIEW

NOTES

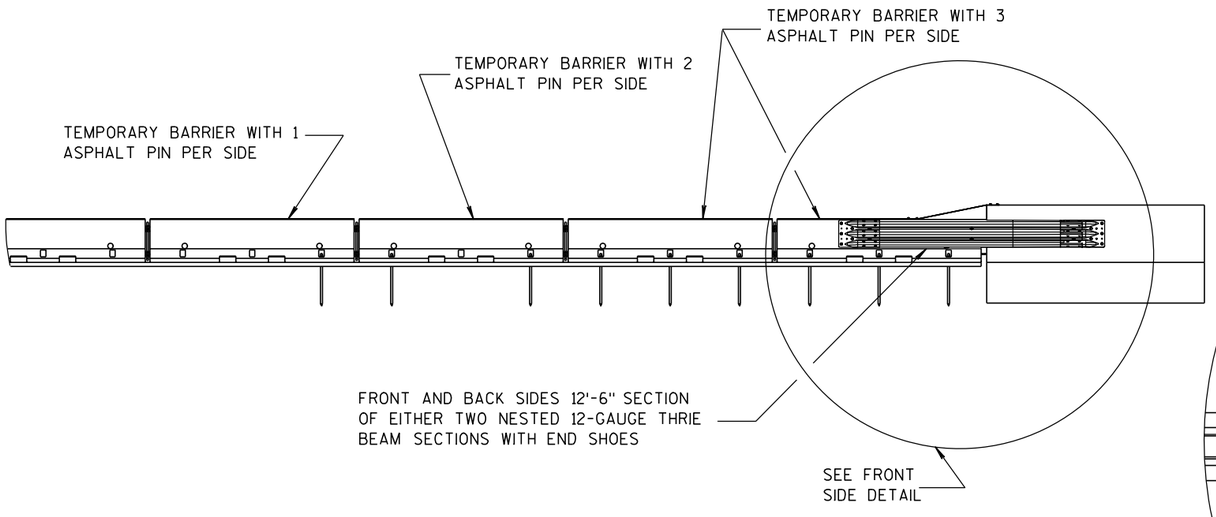
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR EPOXY ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48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



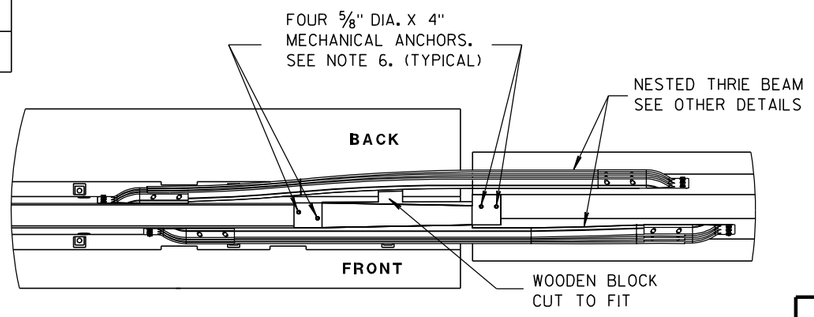
TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



BACK VIEW



FRONT VIEW



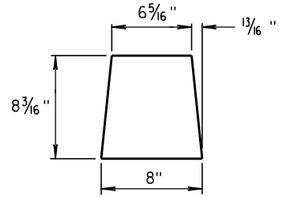
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

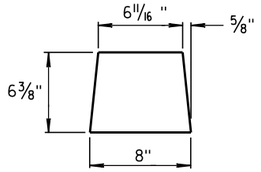
CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

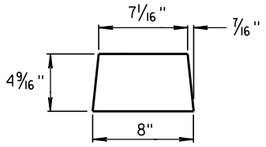
6
S.D.D. 14 B 7-13e



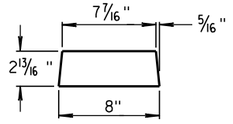
GUSSET 1



GUSSET 2

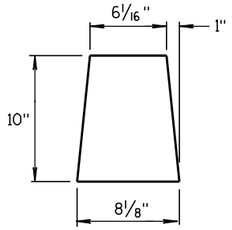


GUSSET 3

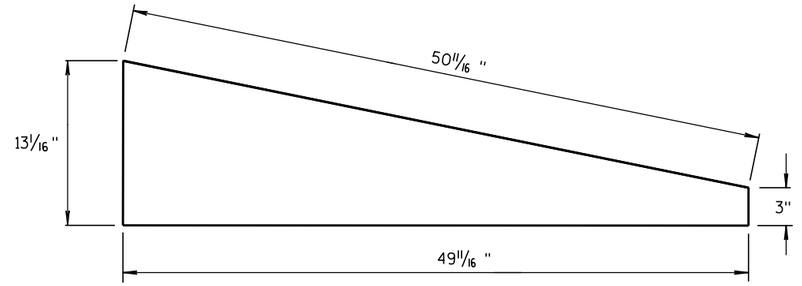


GUSSET 4

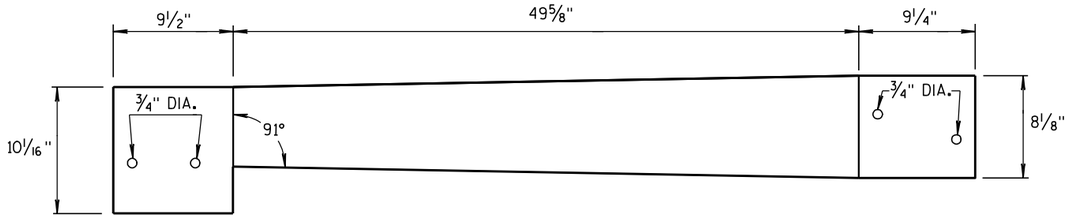
GUSSETS

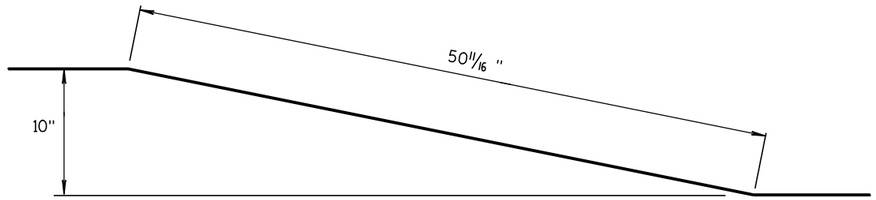


END PLATE

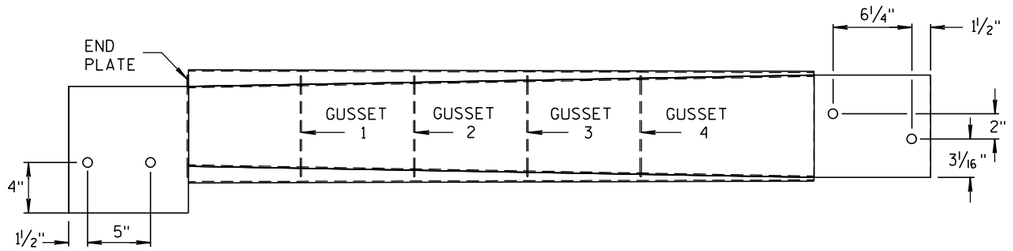


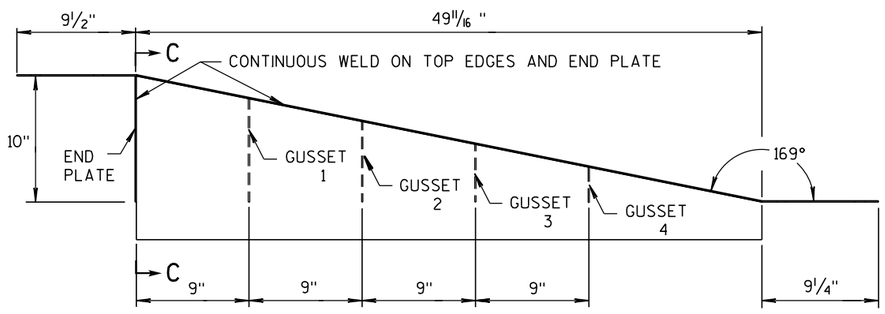
SIDE PLATE

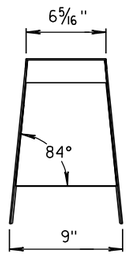




TOP PLATE







SECTION C-C

NOTES

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

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

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

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

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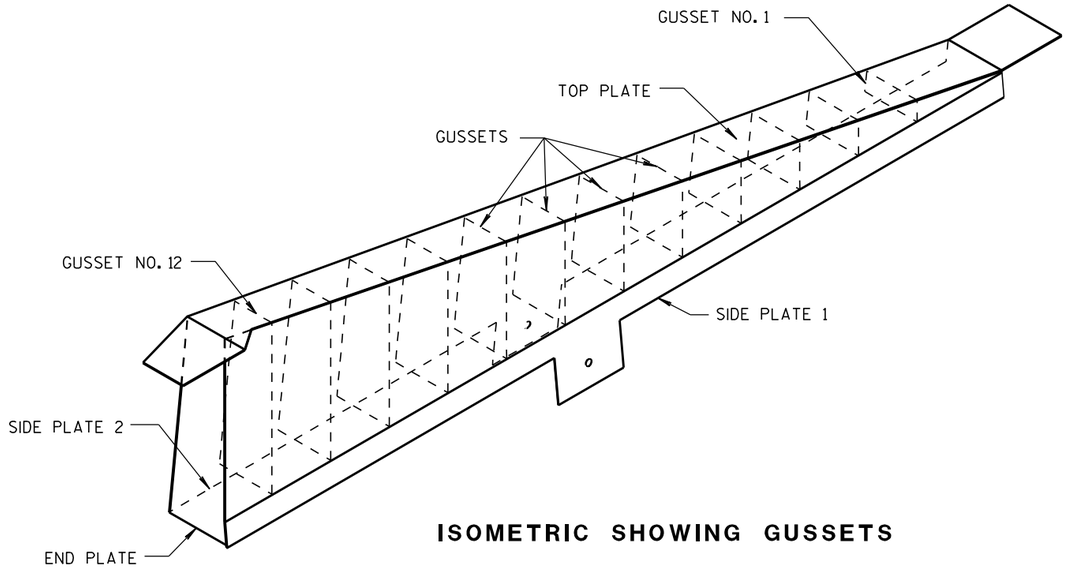
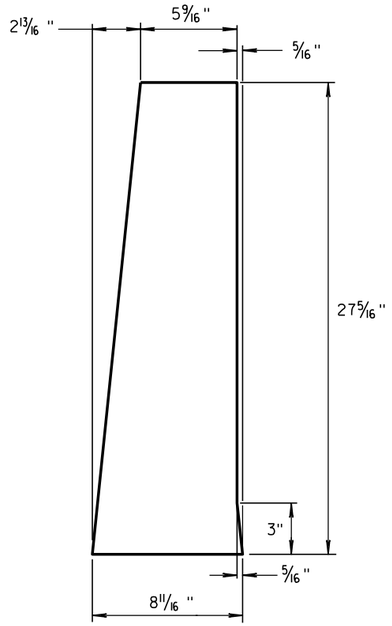
S.D.D. 14 B 7-13f

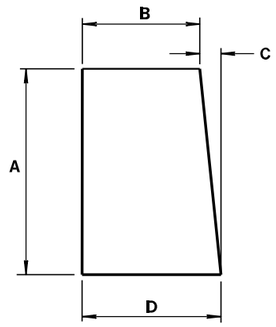


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



GUSSETS 1 - 12

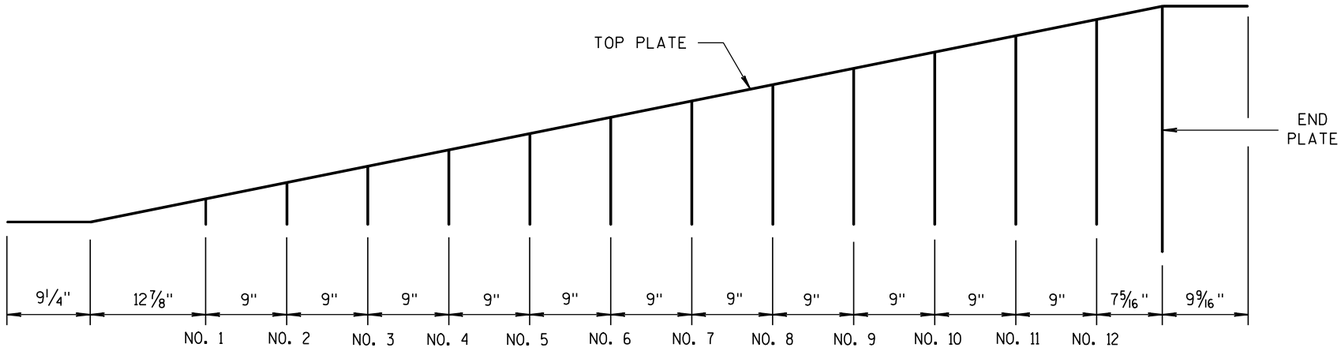
ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS

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

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

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



GUSSET LOCATION

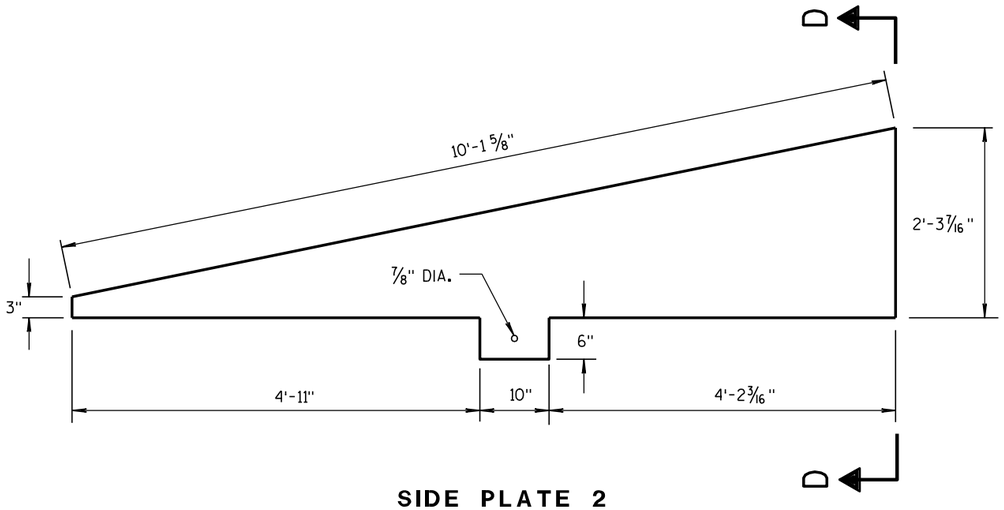
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

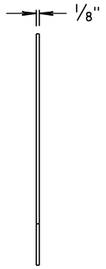
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO...

6

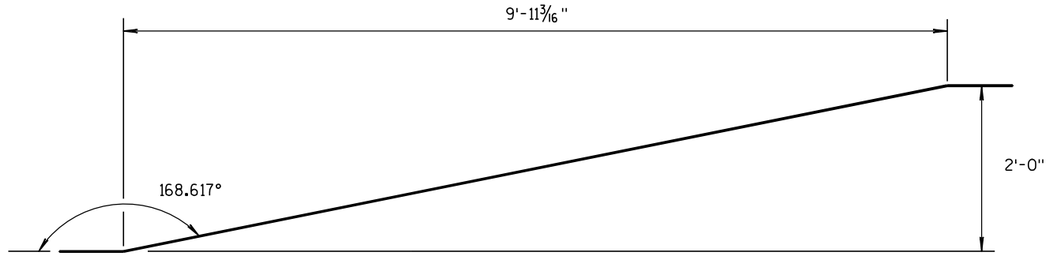
S.D.D. 14 B 7-13g



SIDE PLATE 2

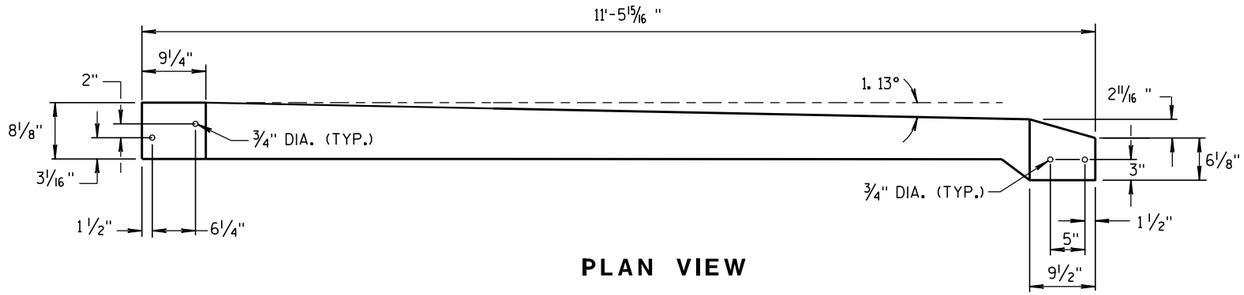


END VIEW



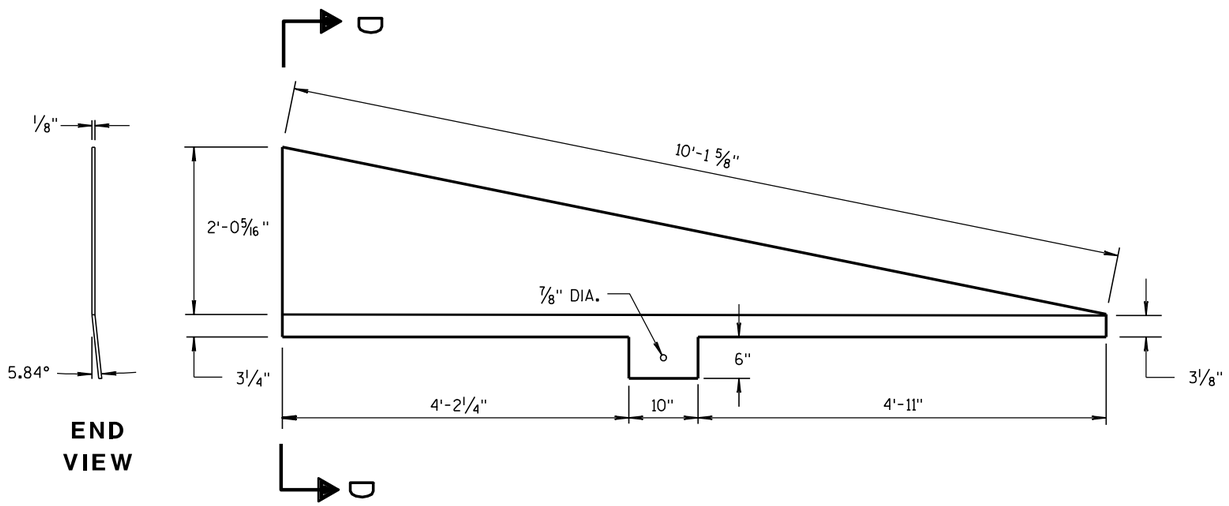
SIDE VIEW

TOP PLATE



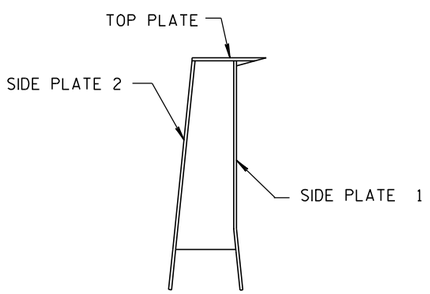
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
8/31/2012 DATE	/S/ Jerry H. ---- ROADWAY STANDARDS ENGINEER
FHWA	88 ENT

6

S.D.D. 14 B 7-13h

GENERAL NOTES

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

(1) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.

DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.

(2) USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.

(3) INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

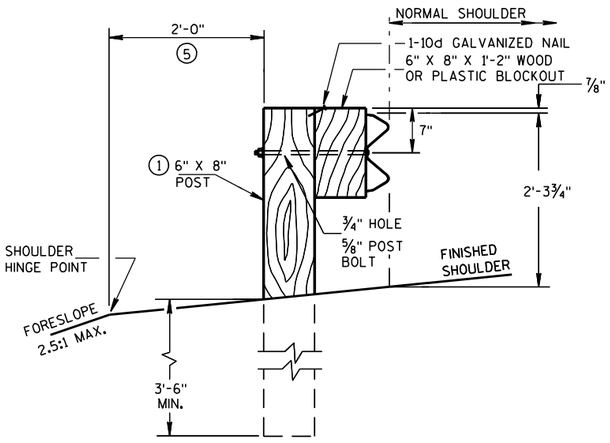
(4) USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.

(5) IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

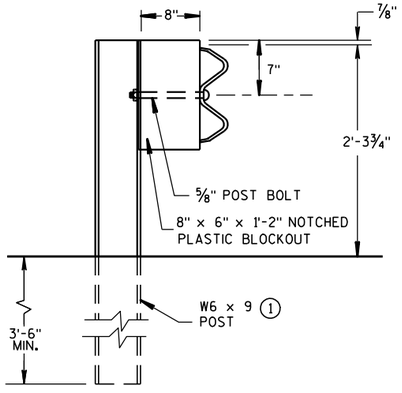
(6) IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.

INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

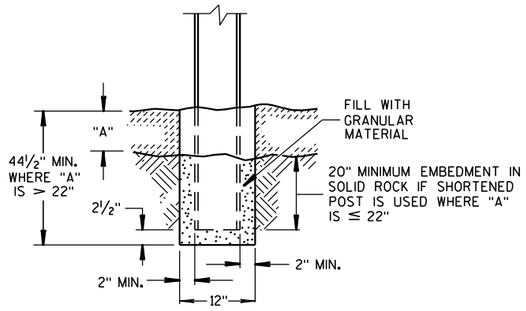
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



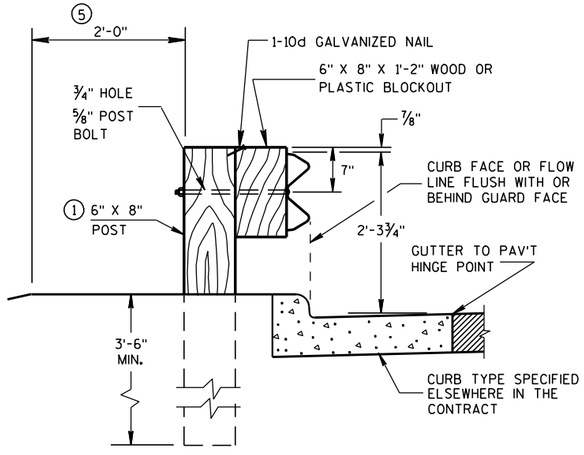
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



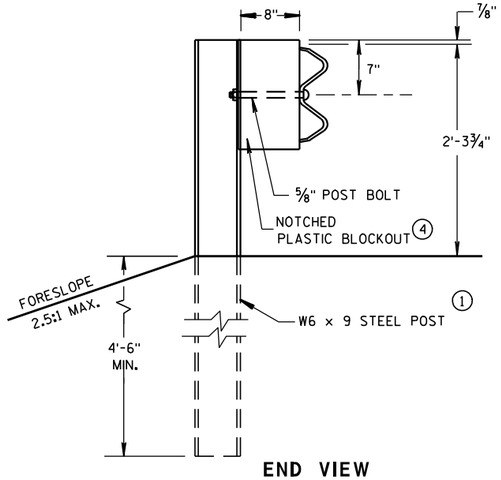
END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



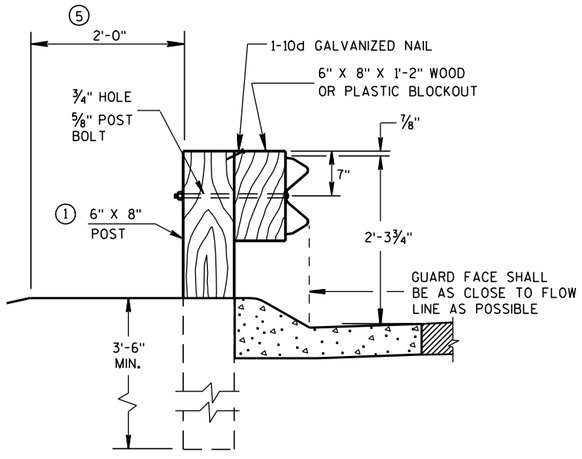
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (6)



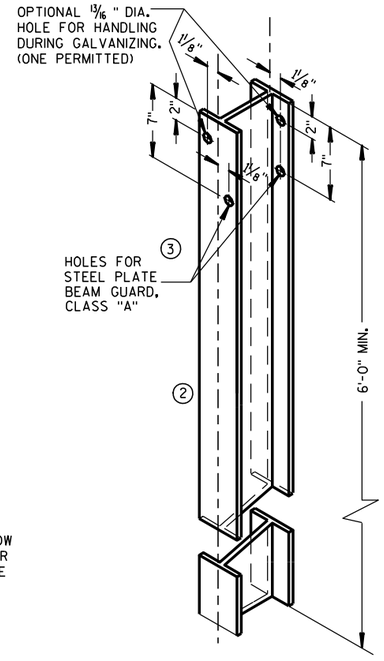
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

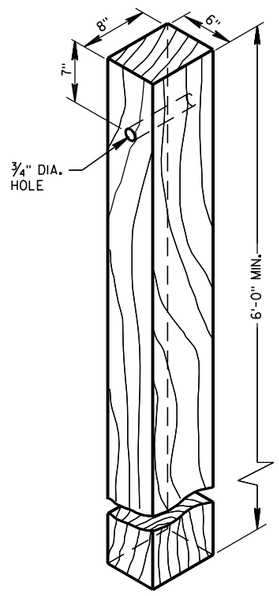


END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

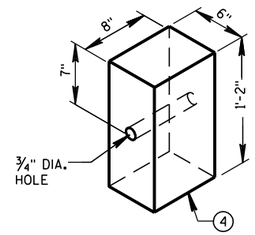


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) (1)

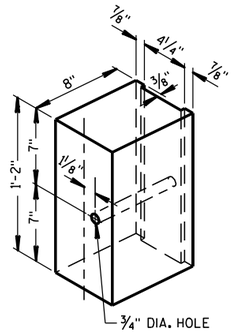
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



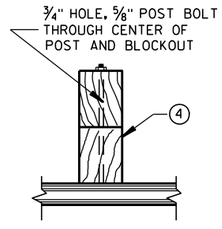
WOOD POST
(6"X8") NOMINAL



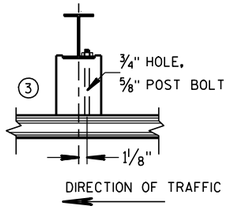
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED (1)
PLASTIC BLOCKOUT
FOR STEEL POSTS



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



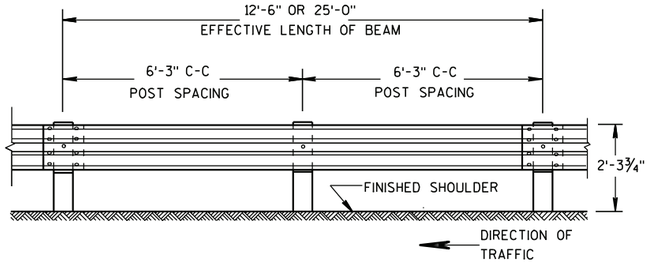
PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

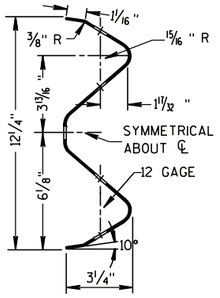
TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

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

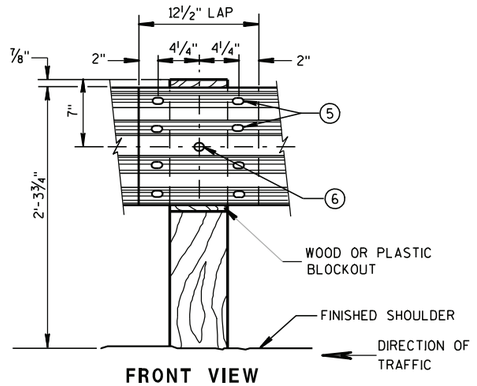


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM

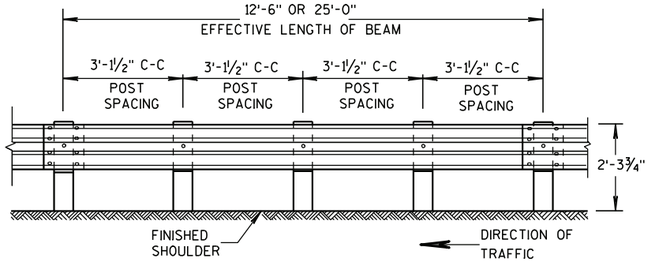


FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

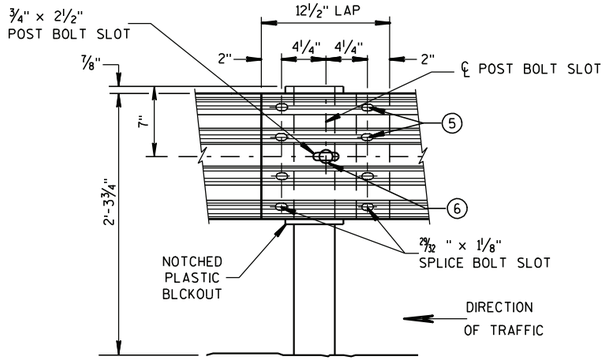
GENERAL NOTES

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.
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° ± 1° FOR TWO-SIDED REFLECTORS.
5. 8 - 5/8" ϕ X 2 " BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
6. 5/8" ϕ X 1'-6" BUTTON HEAD BOLT AND AND RECESS NUT WITH ROUND WASHER UNDER NUT.



FRONT VIEW

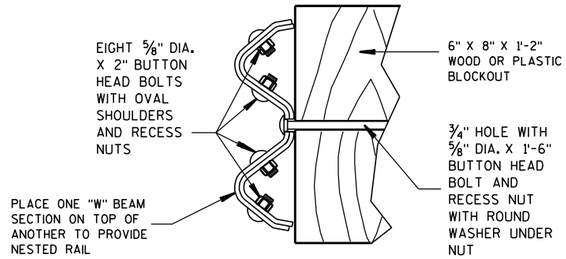
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

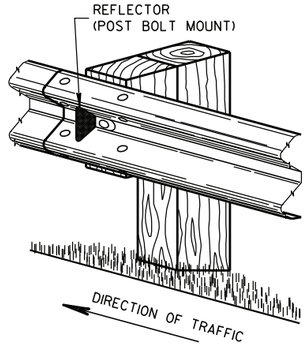


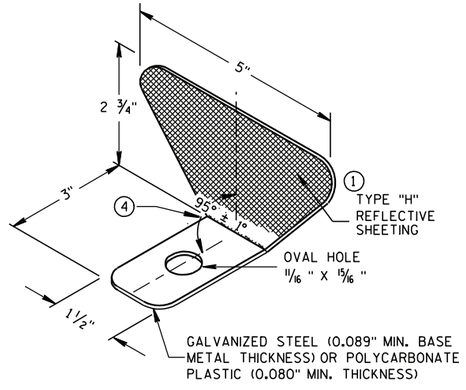
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (2)

	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	3
	> 200'	100' C-C	2 (4)	



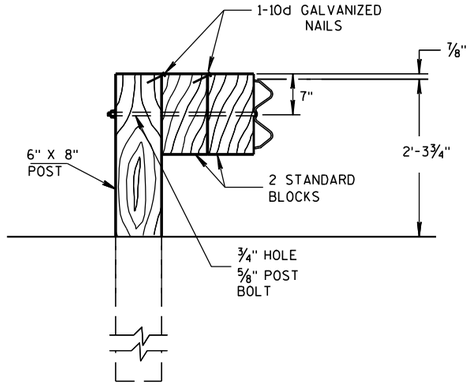


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (1)

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

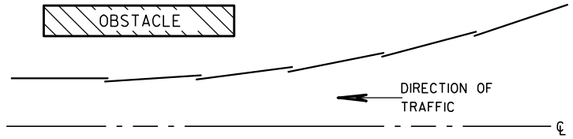
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

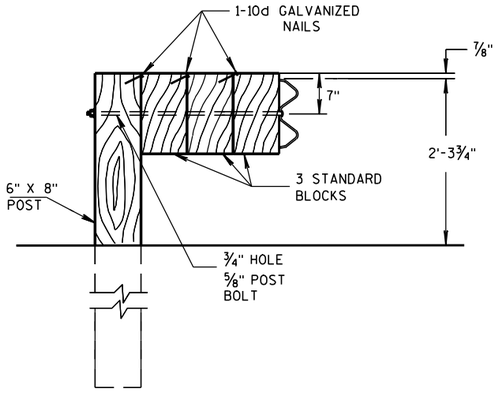


DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

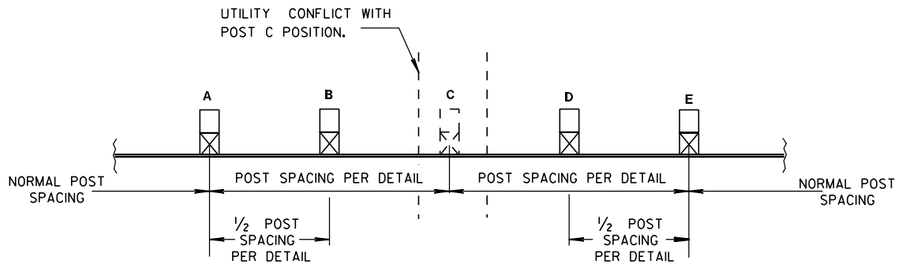


PLAN VIEW
BEAM LAPPING DETAIL



DETAIL FOR TRIPLE BLOCKS

TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

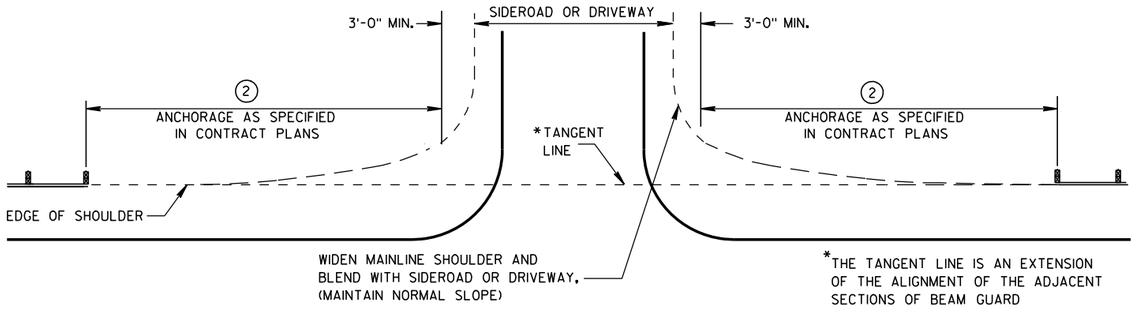
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

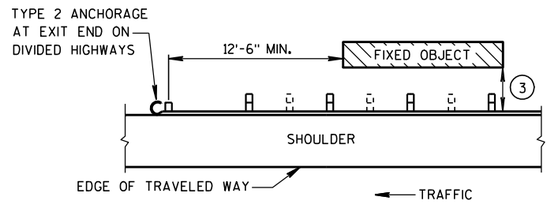
5/23/11	/S/ Jerry H. Zogg	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

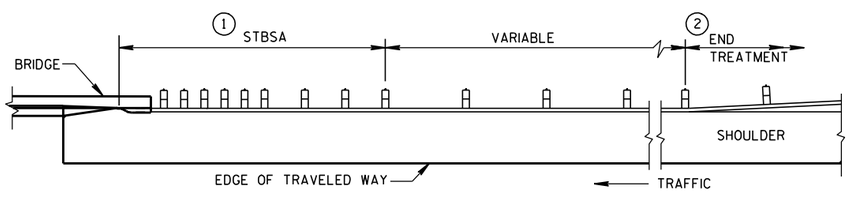
6
S.D.D. 14 B 15-7c



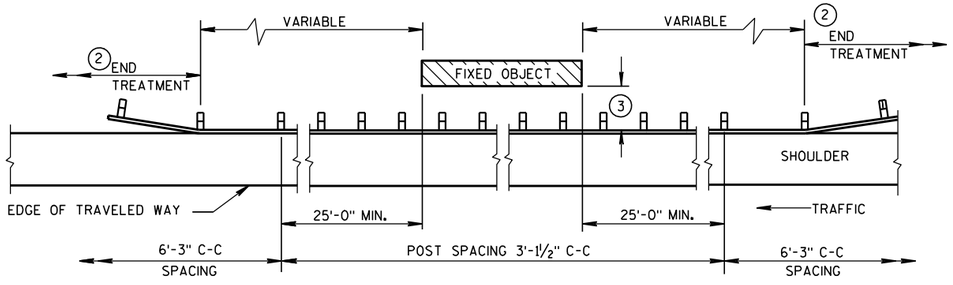
BEAM GUARD AT SIDEROADS OR DRIVEWAYS



BEAM GUARD AT OBSTACLES EXIT END - ONE WAY TRAFFIC

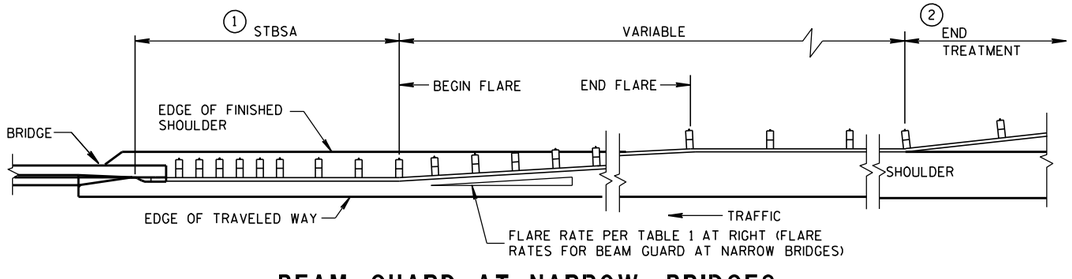


BEAM GUARD AT FULL WIDTH BRIDGES



BEAM GUARD AT OBSTACLES - TWO WAY TRAFFIC

(RAIL TO OBSTACLE CLEARANCE 3'-6" TO 4'-6")



BEAM GUARD AT NARROW BRIDGES

(FLARED TO SHOULDER EDGE, THEN PARALLEL TO ROADWAY)

TABLE 1
FLARE RATES FOR BEAM GUARD AT NARROW BRIDGES

POSTED SPEED (MPH)	FLARE RATE
25	13:1
30	15:1
35	16:1
40	18:1
45	21:1
50	24:1
55	26:1
65	30:1

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

THE LOCATIONS AND LENGTHS OF BEAM GUARD ARE SHOWN ELSEWHERE IN THE PLAN.

(1) STEEL THRIE BEAM STRUCTURAL APPROACH (STBSA) - SEE CURRENT SDD 14B20.

(2) USE AN APPROVED END TREATMENT FOR THE TRAFFIC APPROACH SIDE OF BRIDGE/OBSTACLES. USE TYPE 2 ANCHORAGE ONLY AT THE DOWNSTREAM ENDS OF BEAM GUARD LOCATED ALONG ROADWAYS WITH ONE WAY TRAFFIC.

(3)

MINIMUM LATERAL DISTANCE FROM FACE OF BEAM GUARD TO FIXED OBJECT	POST SPACING
3'-6"	3' - 1½"
4'-6"	6' - 3"

STEEL PLATE BEAM GUARD CLASS "A" AT BRIDGES, OBSTACLES AND SIDEROADS/DRIVEWAYS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

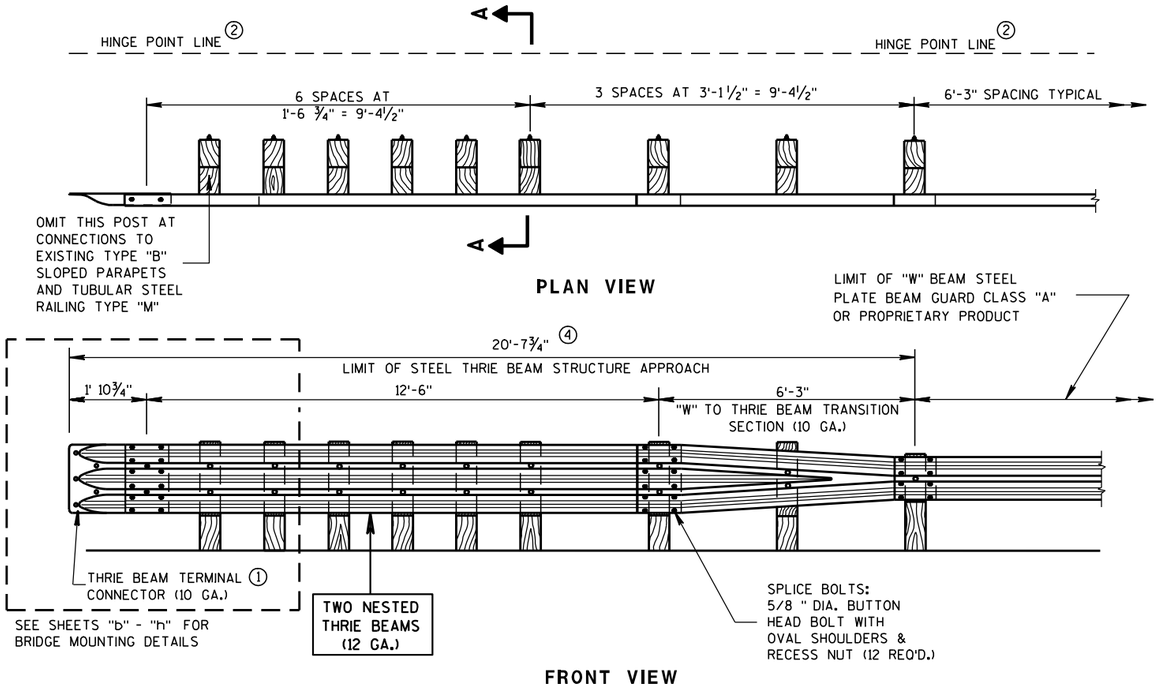
8-21-07
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

6

S.D.D. 14 B 18-6a



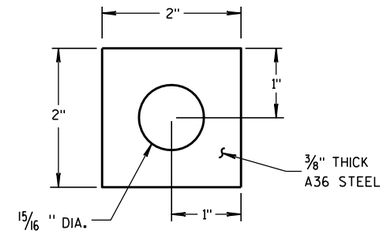


PLATE WASHER DETAIL

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".

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

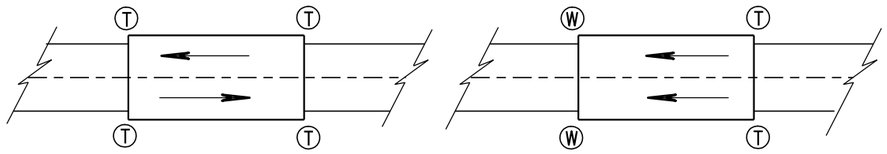
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



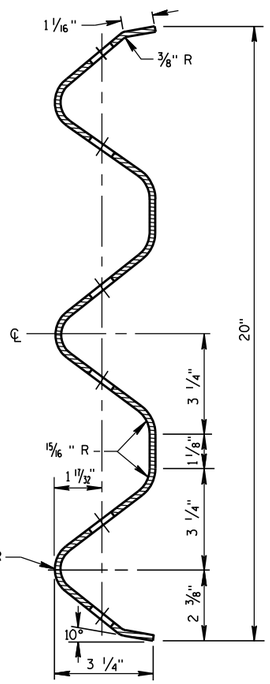
TWO WAY TRAFFIC

ONE WAY TRAFFIC

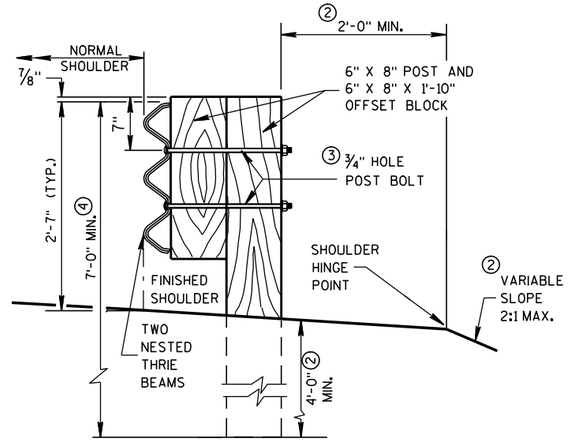
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

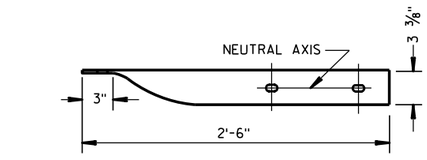
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

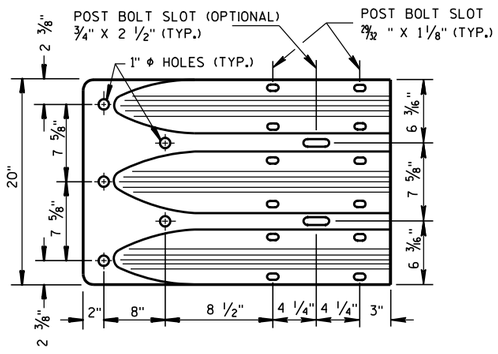


SECTION THRU THRIE BEAM RAIL ELEMENT

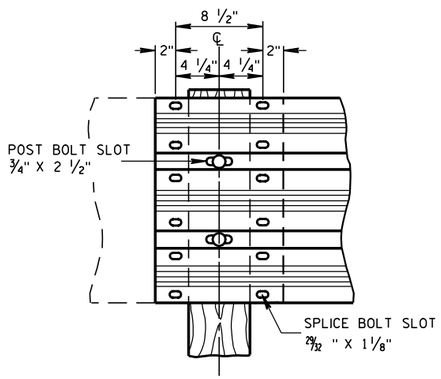


SECTION A-A





THRIE BEAM TERMINAL CONNECTOR



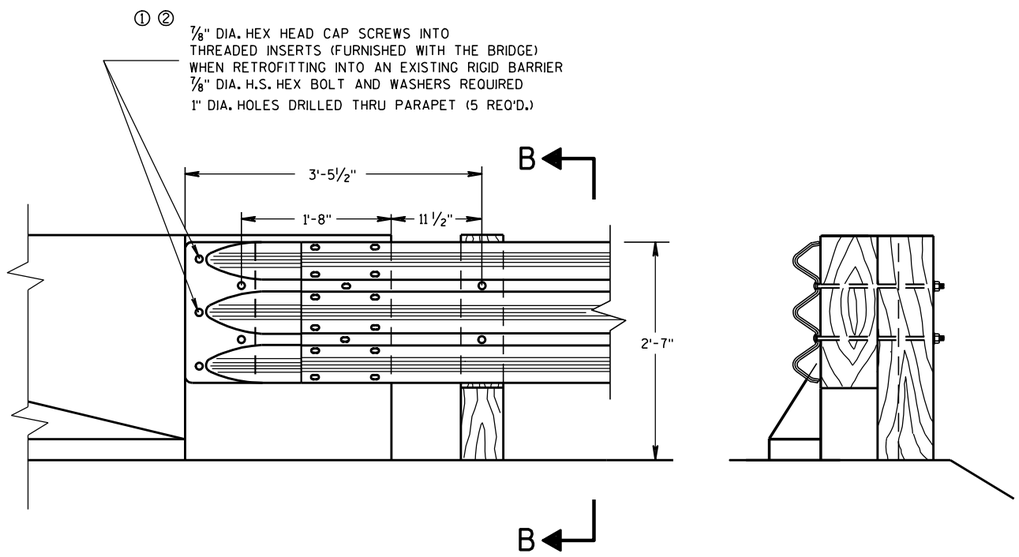
THRIE BEAM SPLICE

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA



FRONT VIEW

SECTION B-B

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

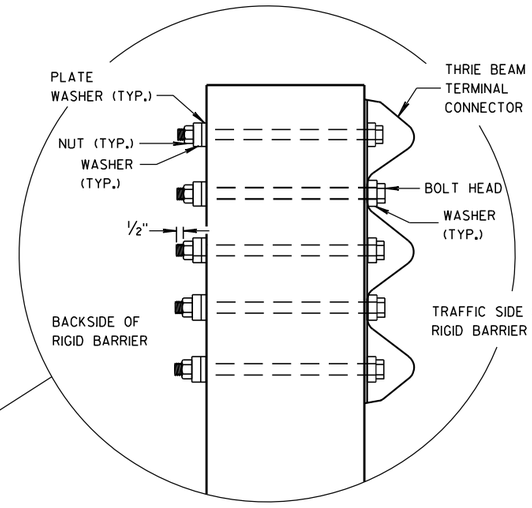
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

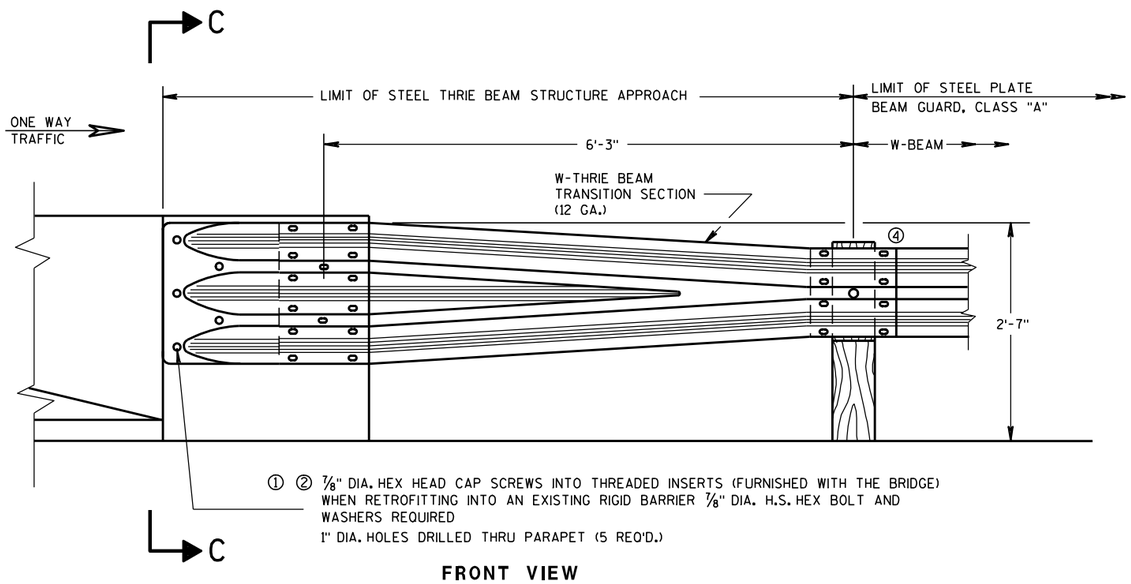
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



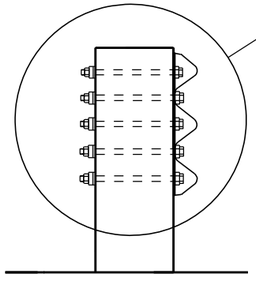


① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

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 C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS [94
ENGINEER
FHWA

6

S.D.D. 14 B 20-11b

6

S.D.D. 14 B 20-11b

GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

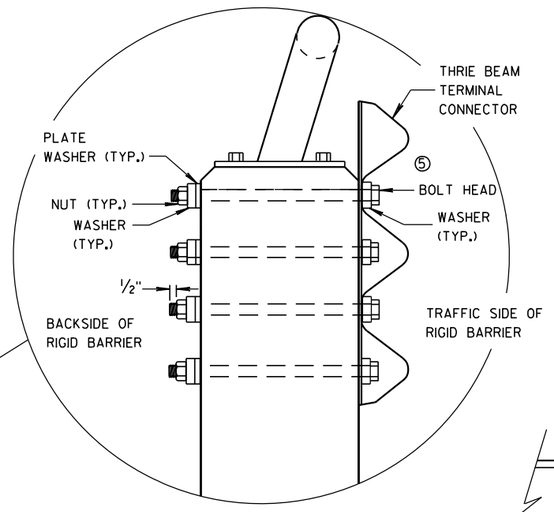
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

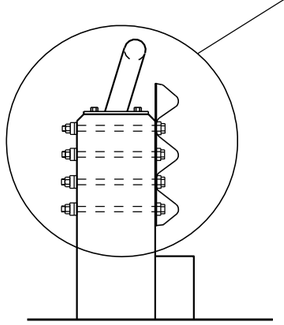
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

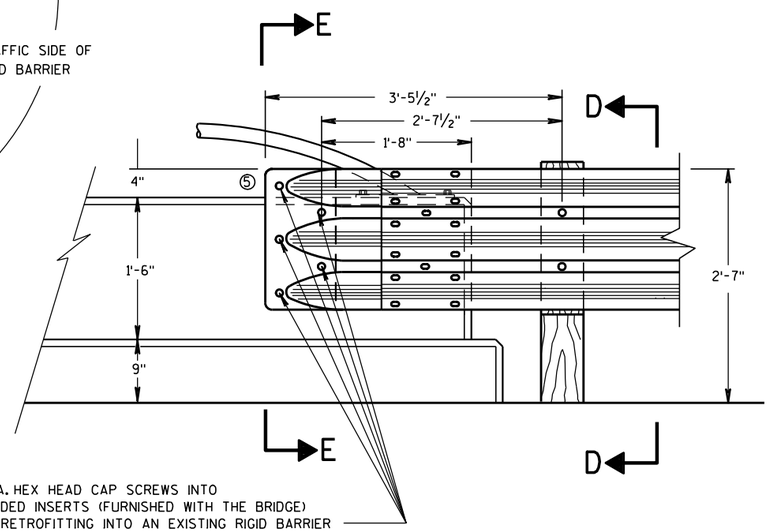
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.





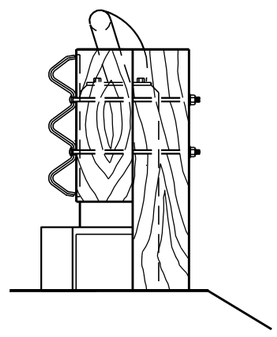
SECTION E-E



① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

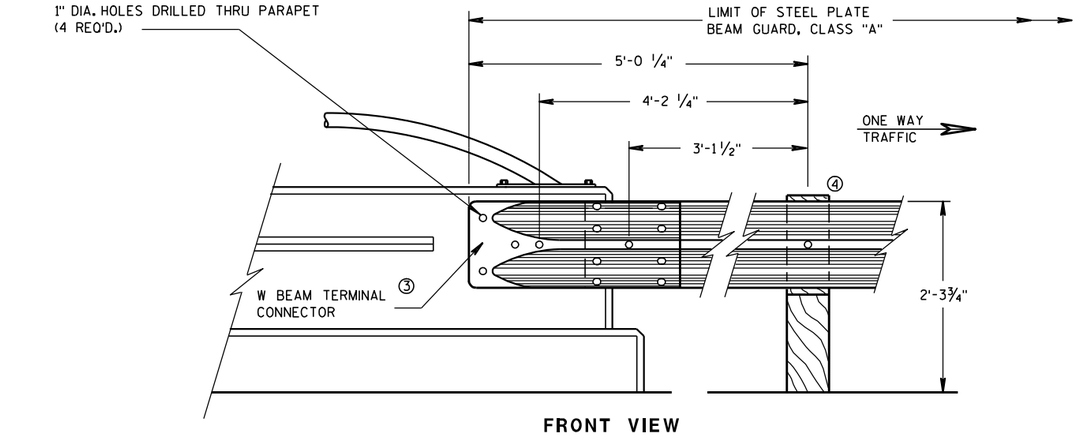


SECTION D-D

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zaa — ROADWAY STANDARDS [95] — ENGINEER
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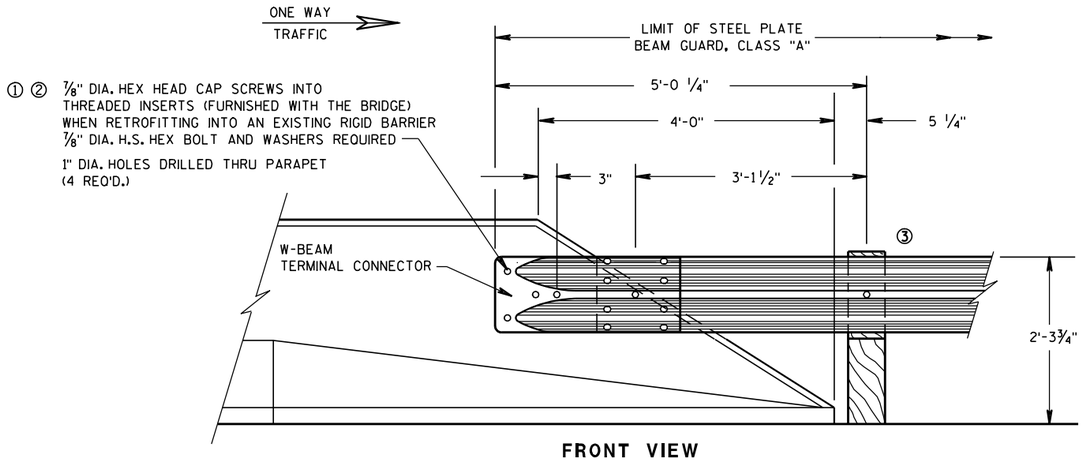


FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

GENERAL NOTES

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

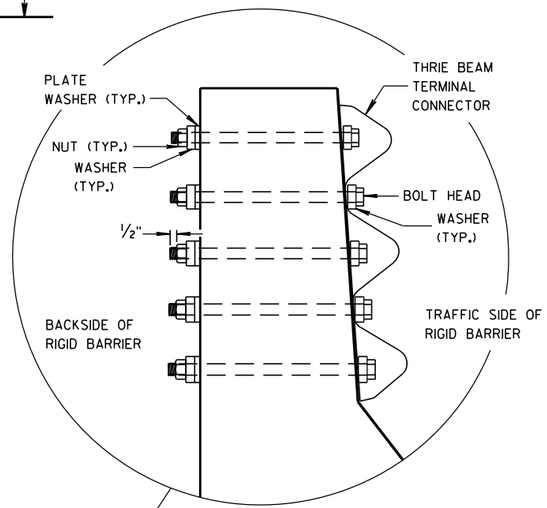
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

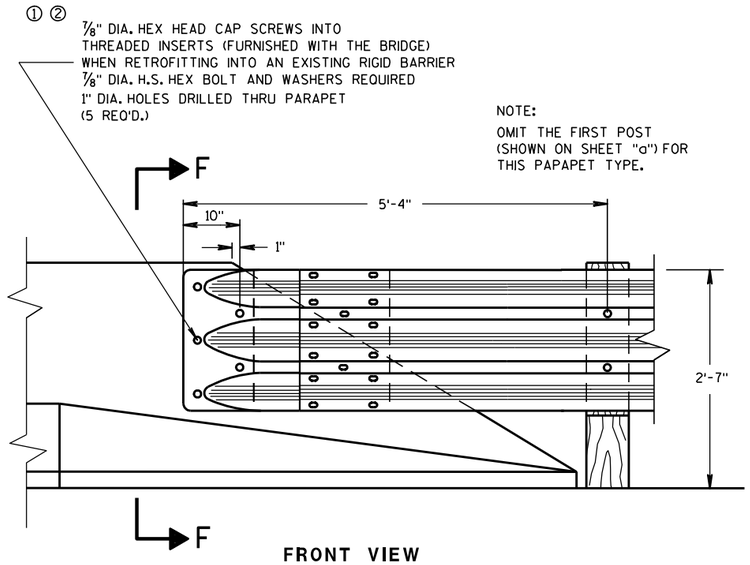
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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 W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

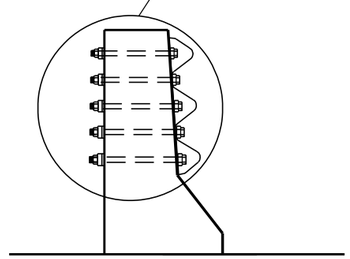
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION F-F

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. [illegible] — ROADWAY STANDARDS [illegible] ENGINEER
FHWA

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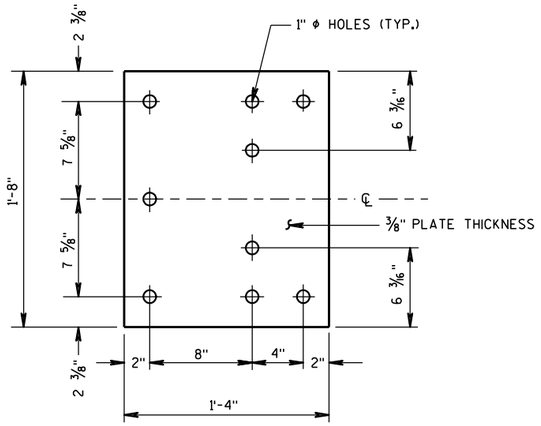
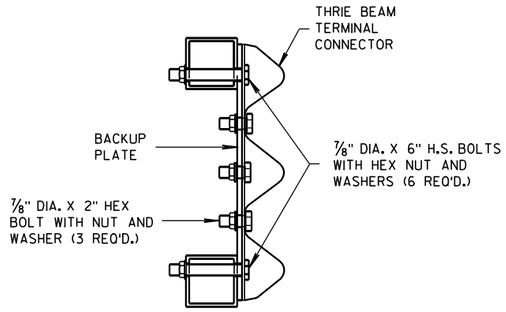


BACK-UP PLATE DETAIL



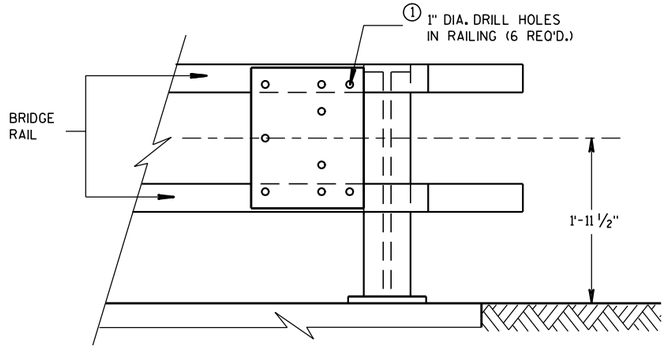
SECTION G-G

GENERAL NOTES

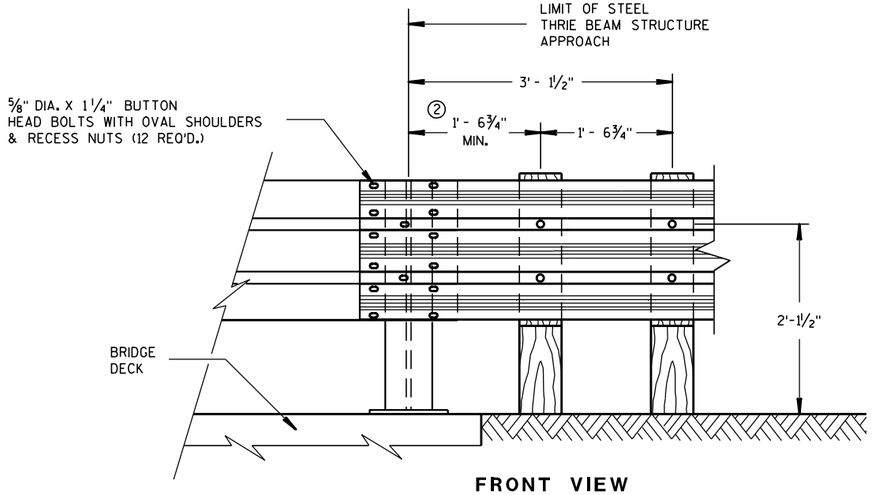
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

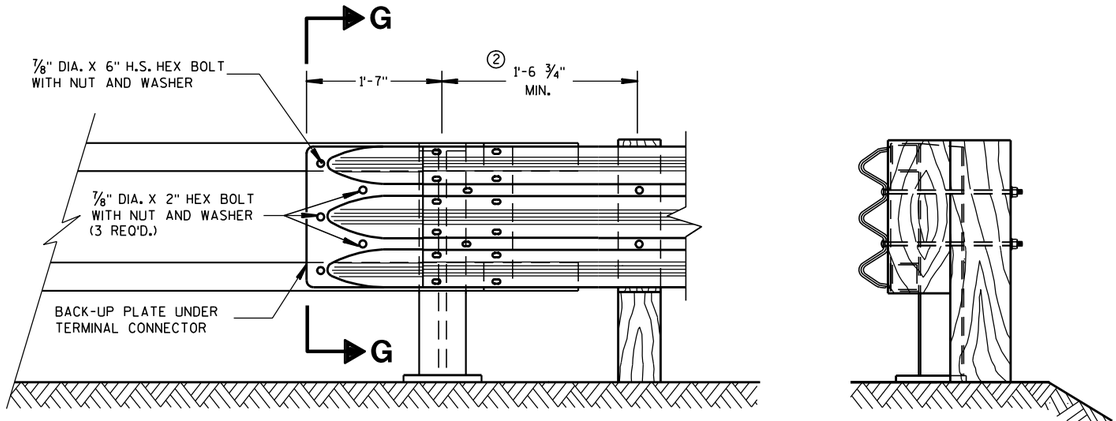


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW

END VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"

STATE OF WISCONSIN
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APPROVED

8/31/2012 DATE — /S/ Jerry H ____ ROADWAY STANDARDS ENGINEER — ENT

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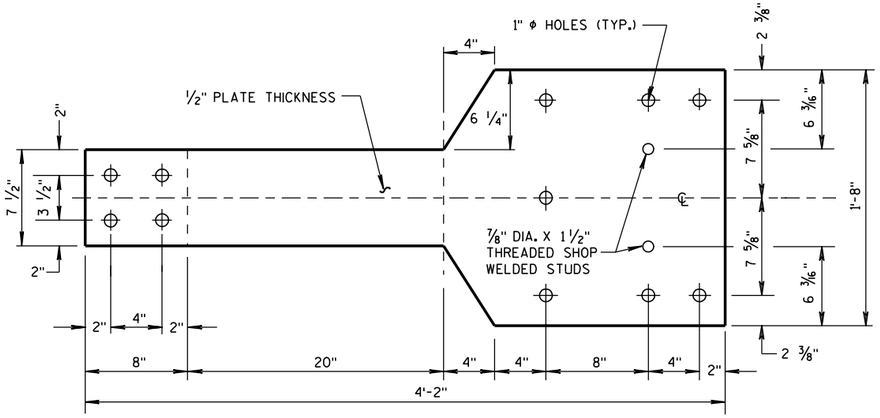
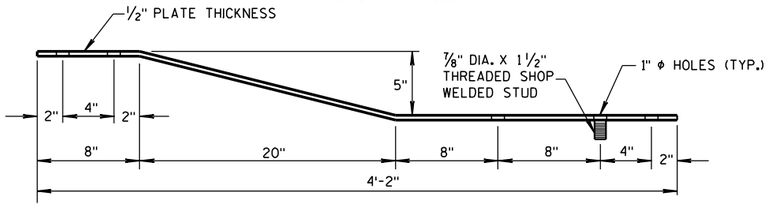
GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

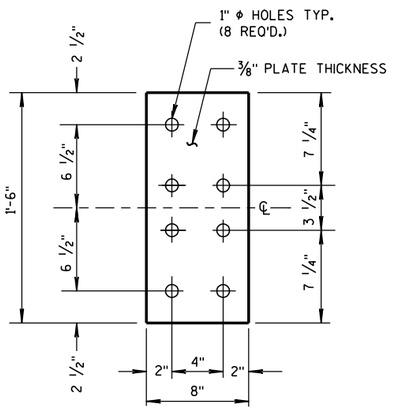


FRONT VIEW



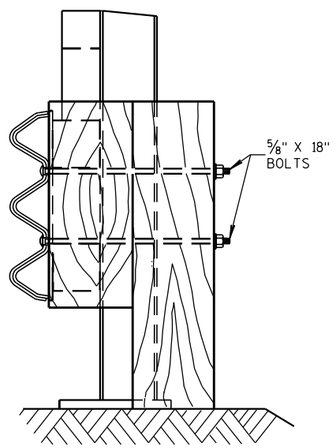
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

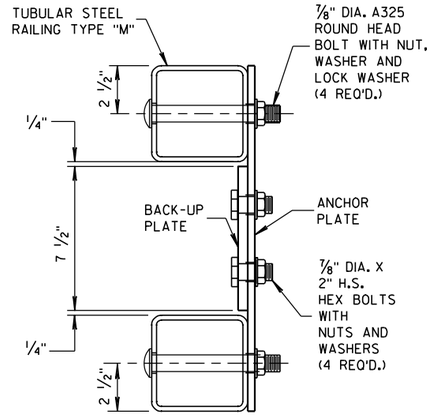


FRONT VIEW

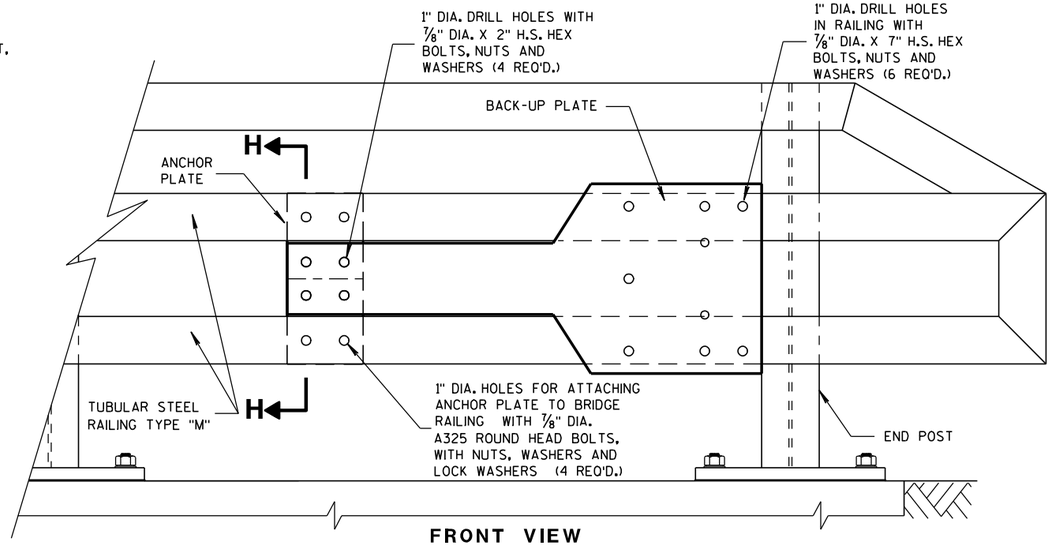
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I

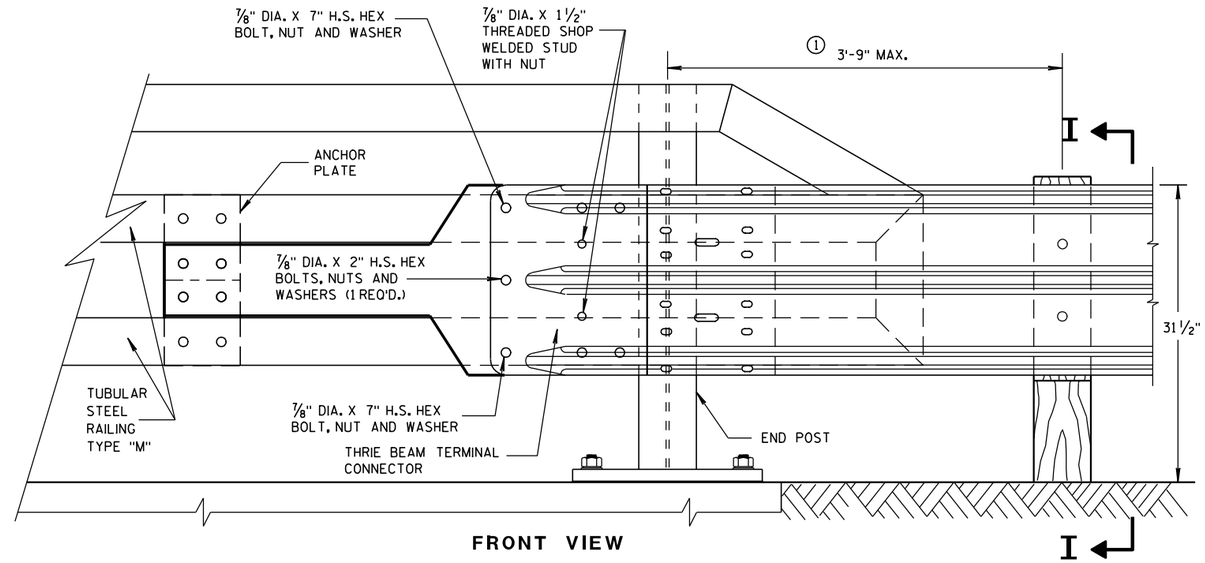


SECTION H-H

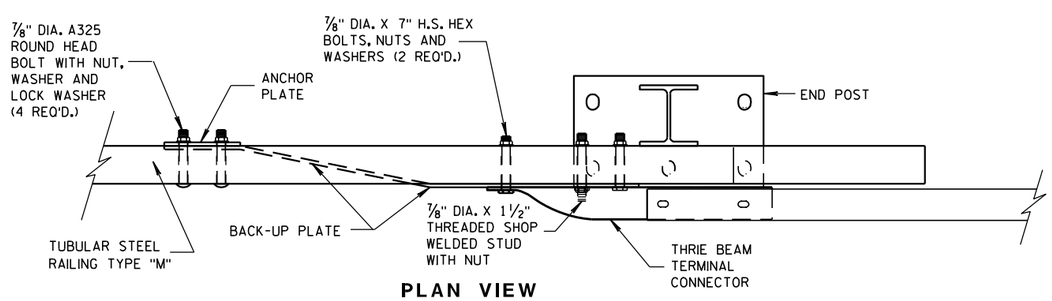


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"

STATE OF WISCONSIN
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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.

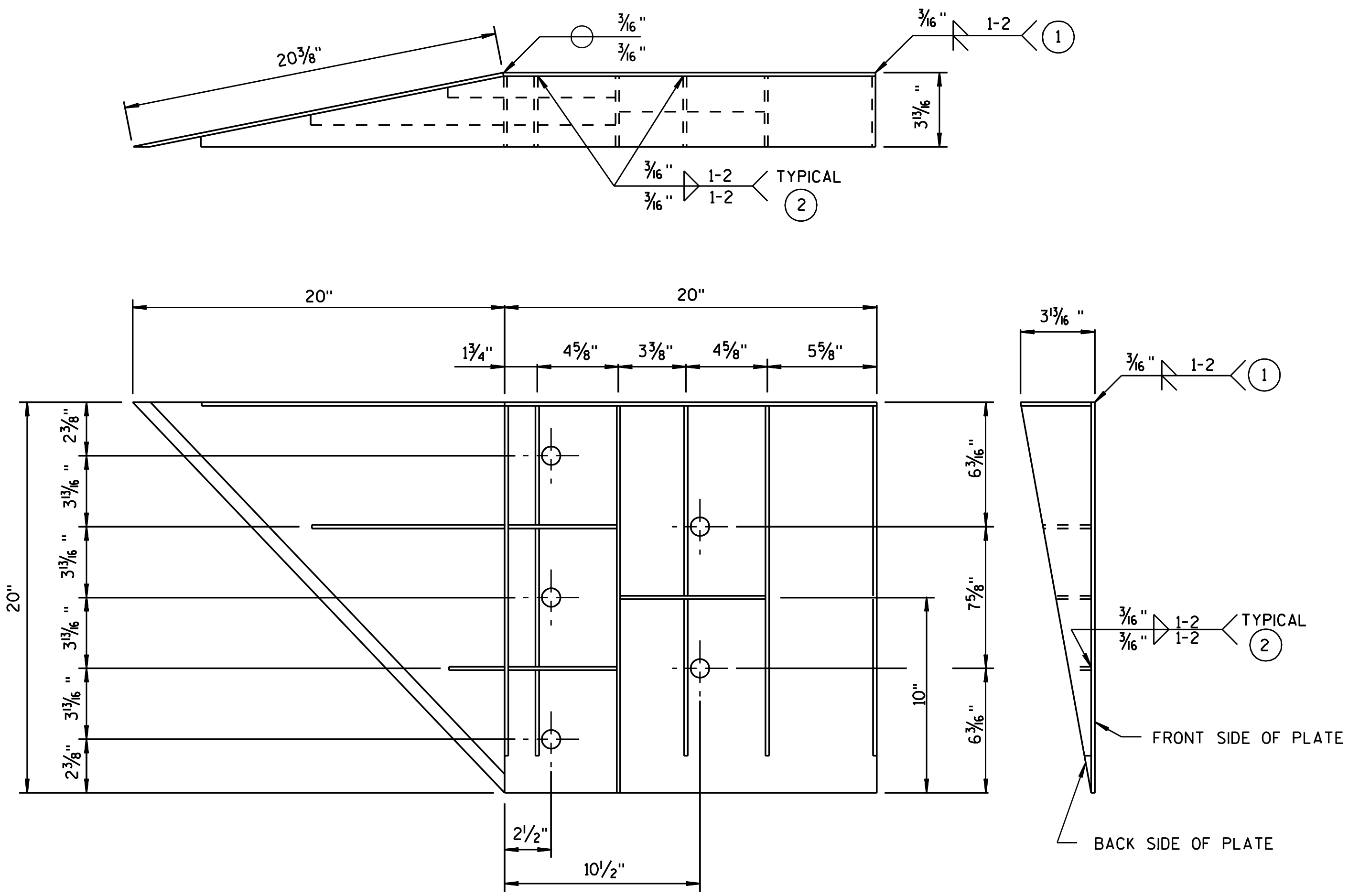
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

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".



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

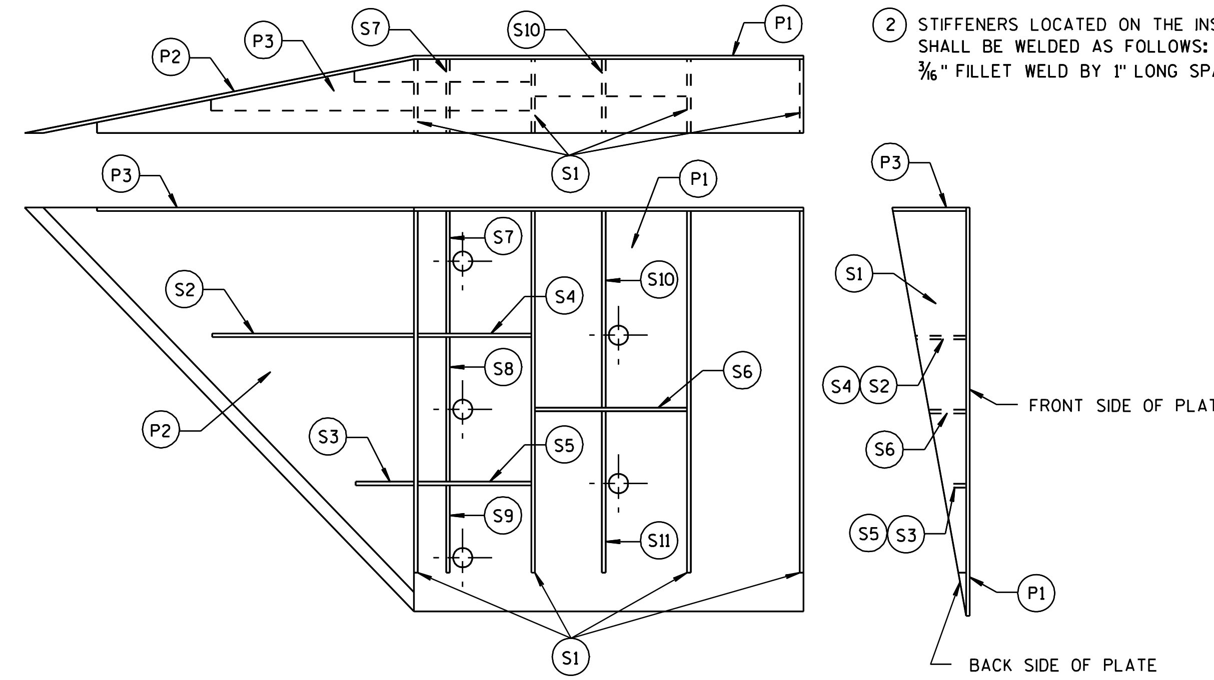


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)				
PLATE	QUANTITY	SHAPE	SIZE (A × B × C × D)	THICKNESS
P1	1		20" × 20"	3/16"
P2	1		20" × 20" × 28 9/16"	3/16"
P3	1		39" × 3 5/8" × 20" × 19 5/16"	3/16"
S1	4		18 7/16" × 3 5/8" × 18 3/4"	1/4"
S2	1		10 1/4" × 2 7/16" × 10 3/8" × 1/2"	1/4"
S3	1		3" × 1 1/16" × 3 1/8" × 1/2"	1/4"
S4	1		6 1/8" × 2 7/16"	1/4"
S5	1		6 1/8" × 1 1/16"	1/4"
S6	1		7 3/4" × 1 3/4"	1/4"
S7	1		2 9/16" × 6" × 3 5/8" × 5 7/8"	1/4"
S8	1		1 5/32" × 7 1/2" × 2 1/2" × 7 3/8"	1/4"
S9	1		6 1/16" × 6 3/16" × 1 3/32"	1/4"
S10	1		1 7/8" × 9 7/8" × 3 5/8" × 9 11/16"	1/4"
S11	1		8 1/2" × 8 3/4" × 1 13/16"	1/4"

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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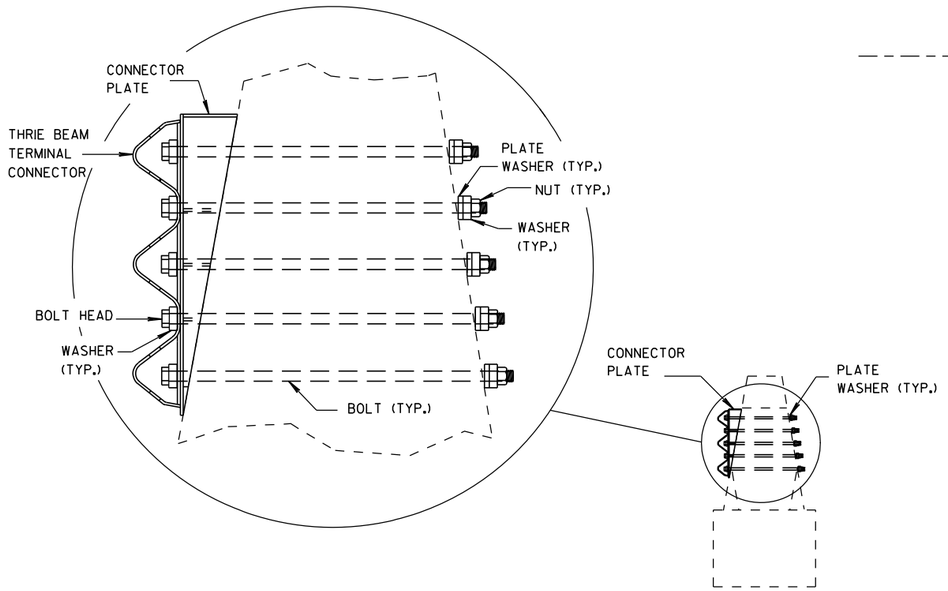
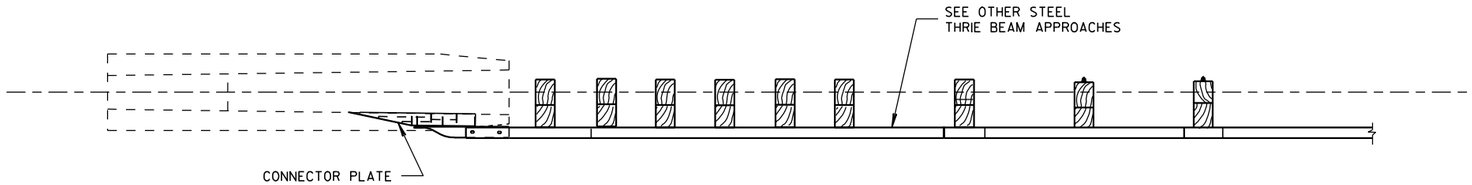
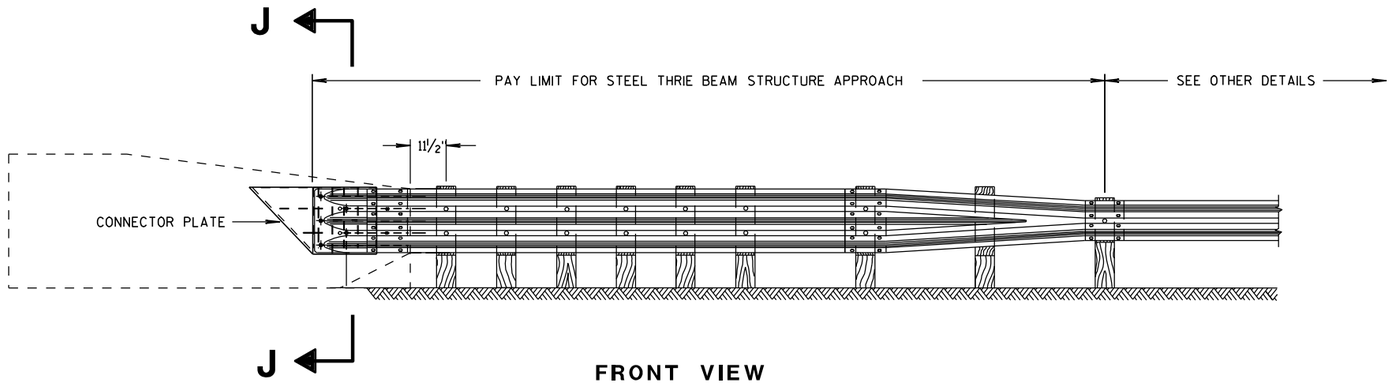


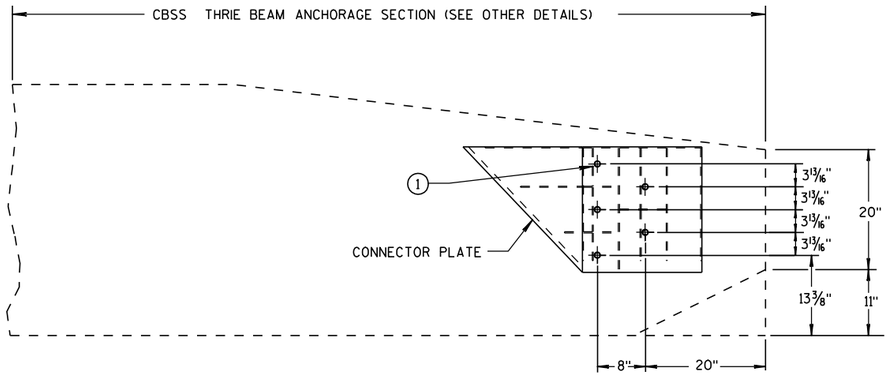
SECTION J-J



PLAN VIEW



FRONT VIEW



CONNECTOR PLATE LOCATION

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

CONNECTOR PLATE, DRILLING HOLES THROUGH 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 TERMINAL CONNECTOR. 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.

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

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BILL OF MATERIALS

NOTE NO.	QTY.	DESCRIPTION
(1)	4	WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9"
(2)	**	STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG
(3)	2	SOIL PLATE: 2'-0" X 1'-6" X ¼" **
(4)	4	WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"
(5)	6	WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"
(6)	1	PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE
(7)	1	BEARING PLATE
(8)	1	BCT CABLE ASSEMBLY
(9)	1	CABLE ANCHOR BOX
(10)	1	STRUT & YOKE
(11)	1	STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS
(12)	3	STEEL PLATE BEAM: 12 GA. 13'-6½"
(13)	1	ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER
(14)	1	REFLECTIVE SHEETING TYPE H: 18" X 18"
(15)	1	E.A.T. MARKER POST

GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ϕ X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(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) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

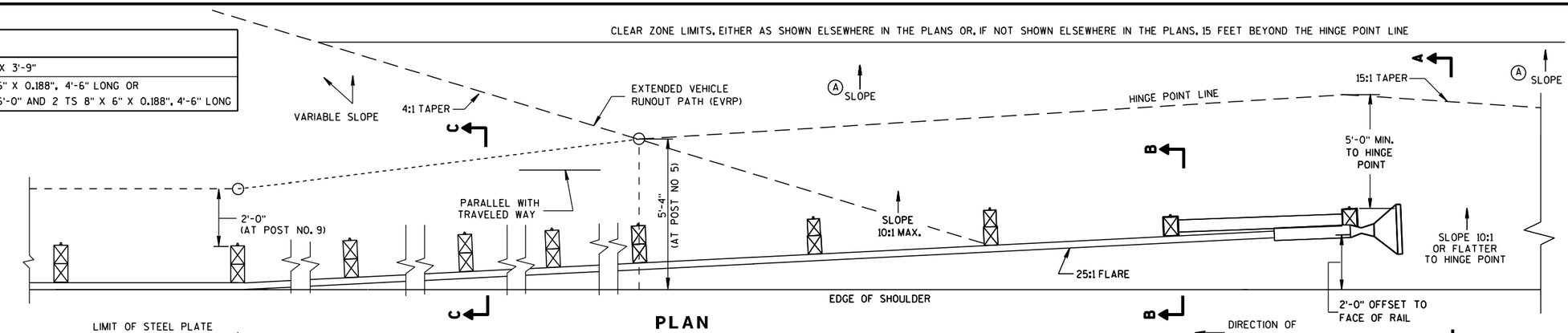
(F) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.

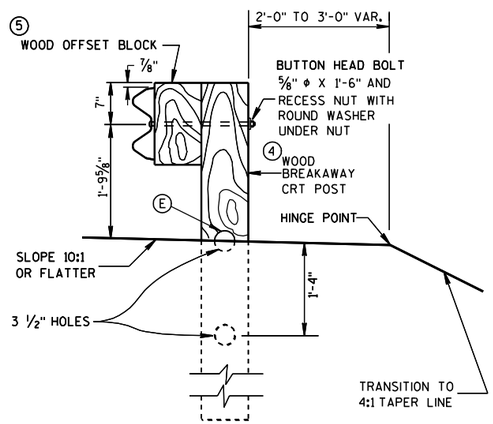
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

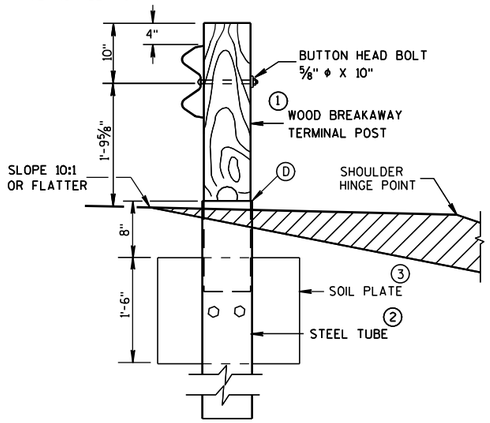
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.





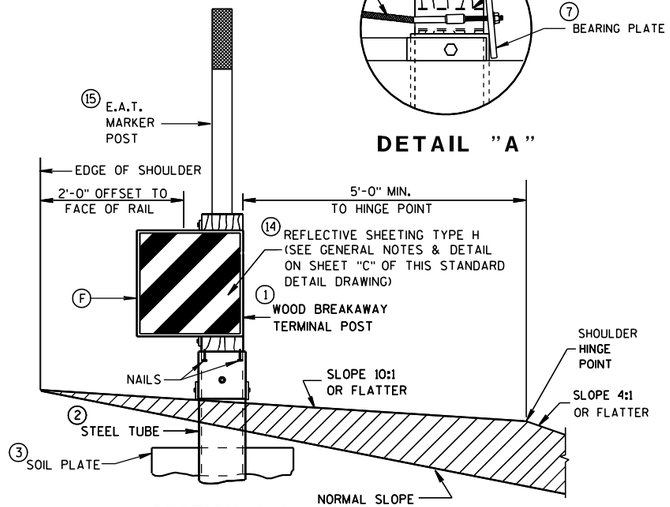
SECTION C-C

TYPICAL AT POST NOS. 6, 8



SECTION B-B

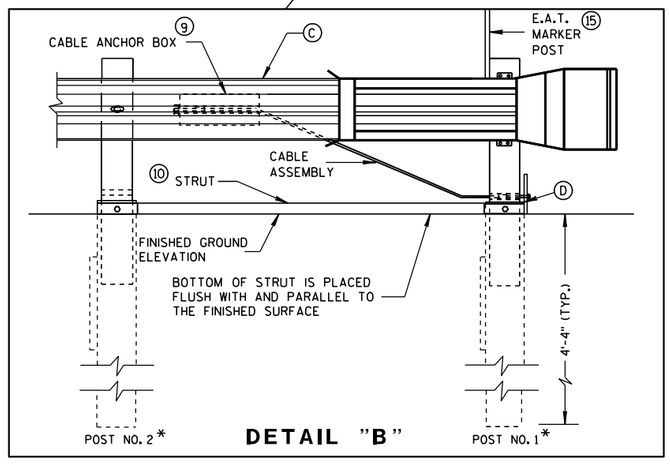
TYPICAL AT POST NO. 2*



DETAIL "A"

SECTION A-A

TYPICAL AT POST NO. 1*

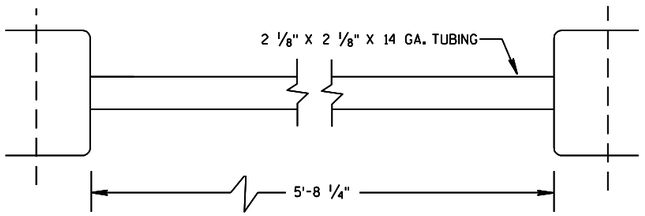


DETAIL "B"

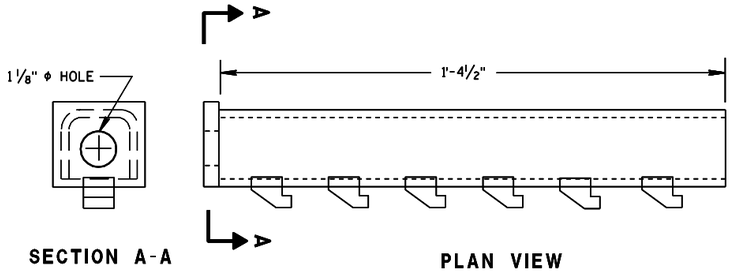
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

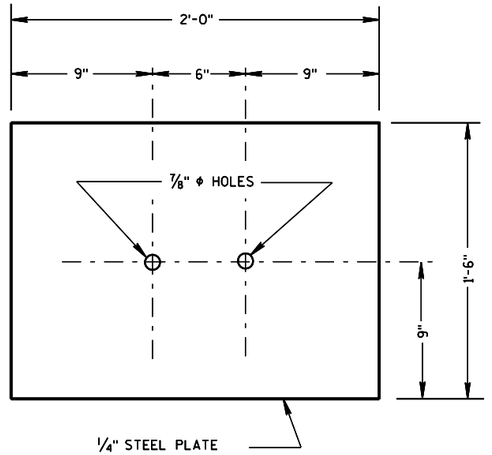
6
S.D.D. 14 B 24-7a



⑩ STRUT DETAIL (SKT-350)

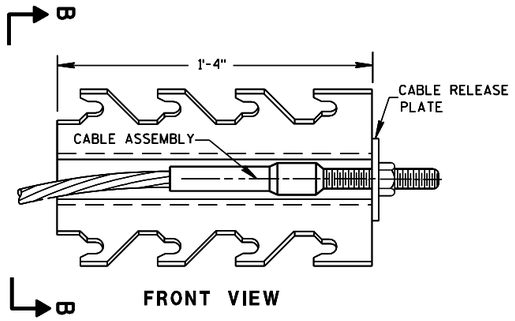


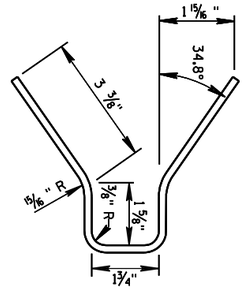
⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)



③ SOIL PLATE

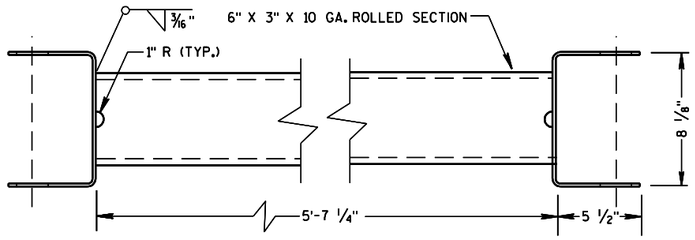
(SKT-350, ET-2000/ET-2000 PLUS)





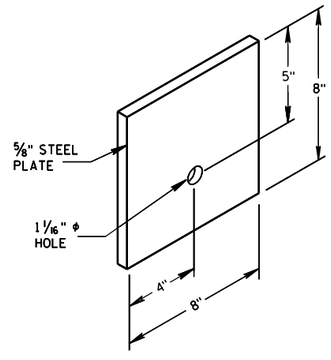
⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)



⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)



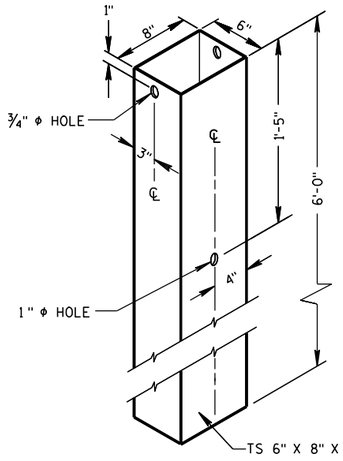
⑦ STEEL BEARING PLATE

(SKT-350, ET-2000/ET-2000 PLUS)

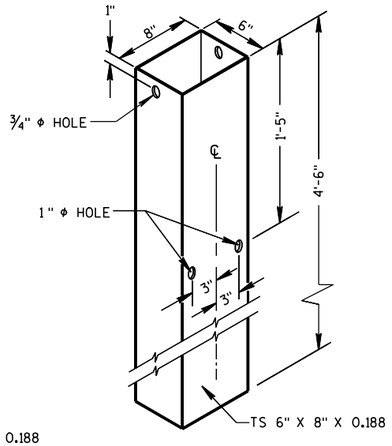
STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

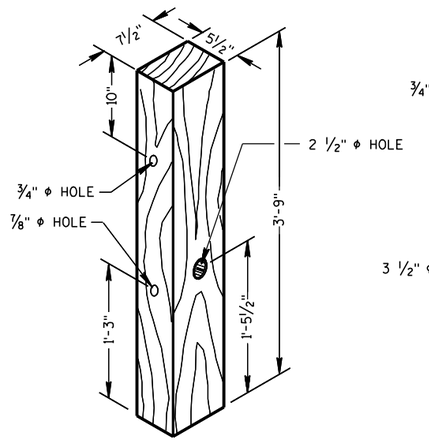
6
S.D.D. 14 B 24-7b



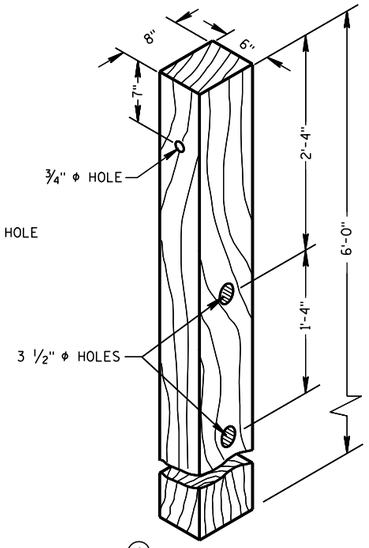
② 72" STEEL TUBE
(POSTS NO. 1-4



② 54" STEEL TUBE
(POSTS NO. 1-4



① TERMINAL POST
(POSTS NO. 1-4



④ CRT POST
(POSTS NO'S 5-8

WOOD BREAKAWAY POSTS

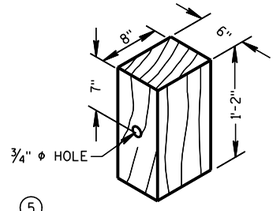
GENERAL NOTES

STEEL PLATE BEAM GUARD, ENERGY ABSORBING TERMINAL SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH, WHICH SHALL INCLUDE HARDWARE, STEEL PLATE BEAM GUARD, POSTS, REFLECTIVE SHEETING AND INSTALLATION AS SHOWN.

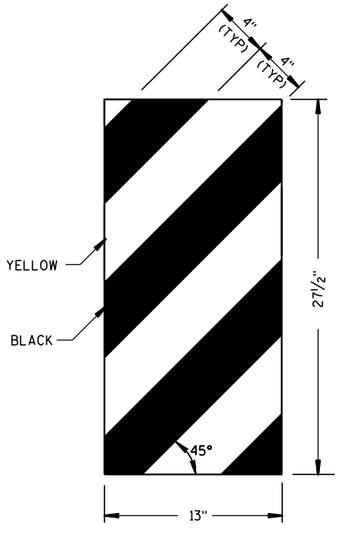
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

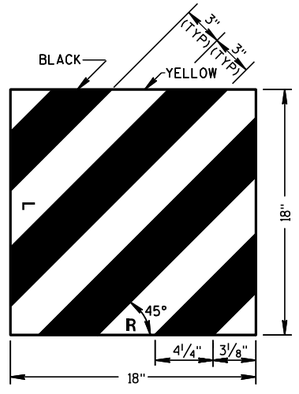
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.



⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

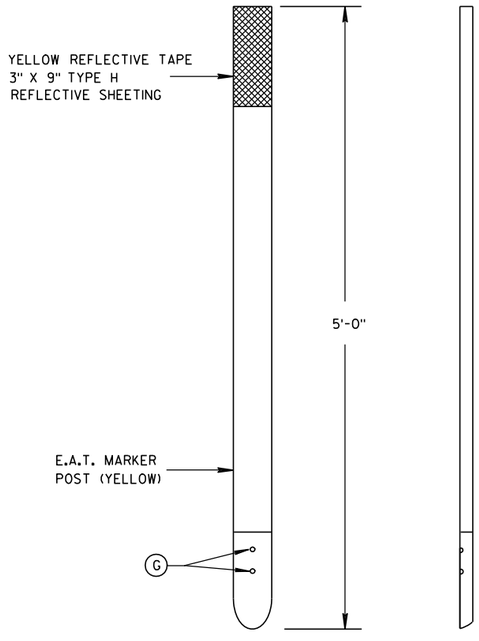


ET-2000 PLUS ONLY



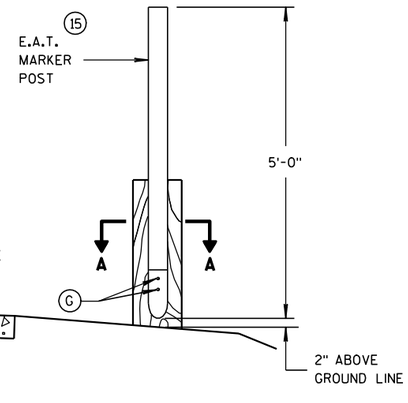
ET-2000 AND SKT-350

⑭ REFLECTIVE SHEETING DETAILS

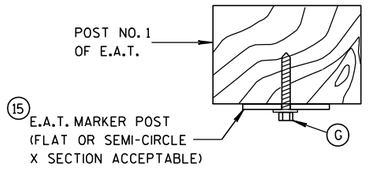


FRONT VIEW SIDE VIEW

⑮ E.A.T. MARKER POST



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



SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

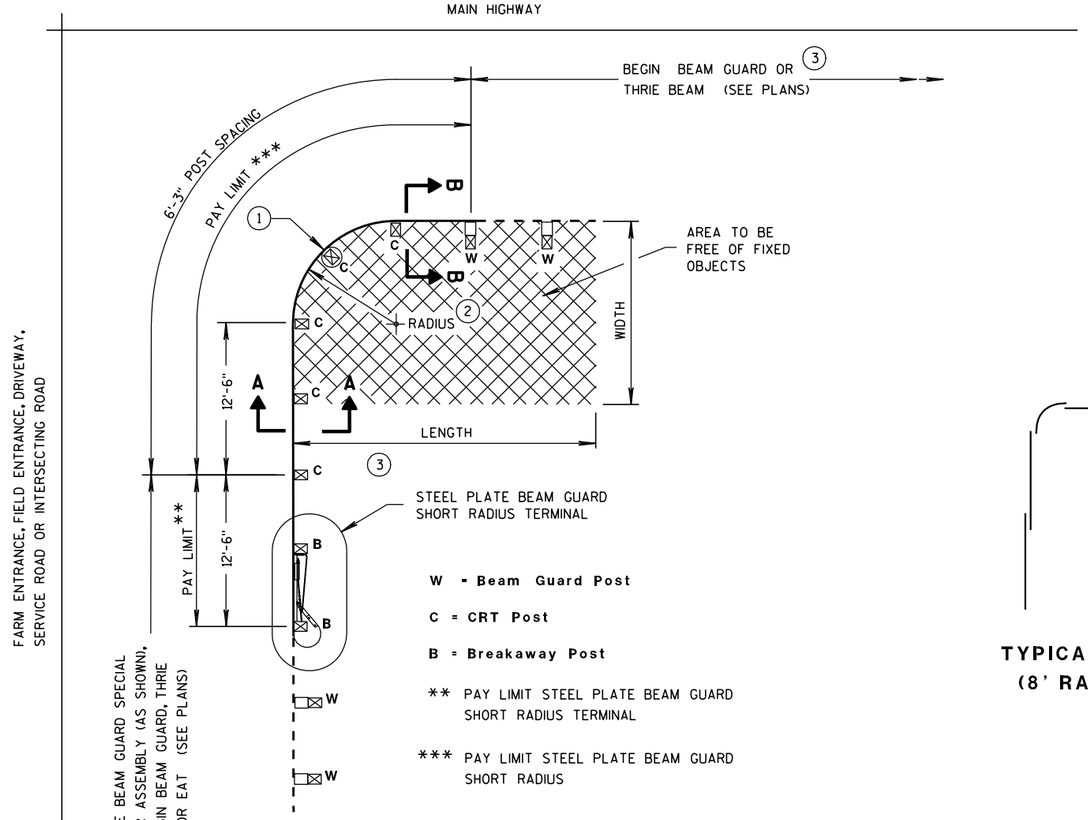
APPROVED
4-12-10 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER
[illegible]ENT
FHWA

6

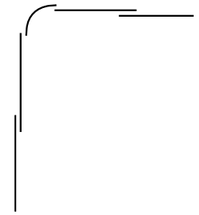
S.D.D. 14 B 24-7c

6

S.D.D. 14 B 24-7c



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

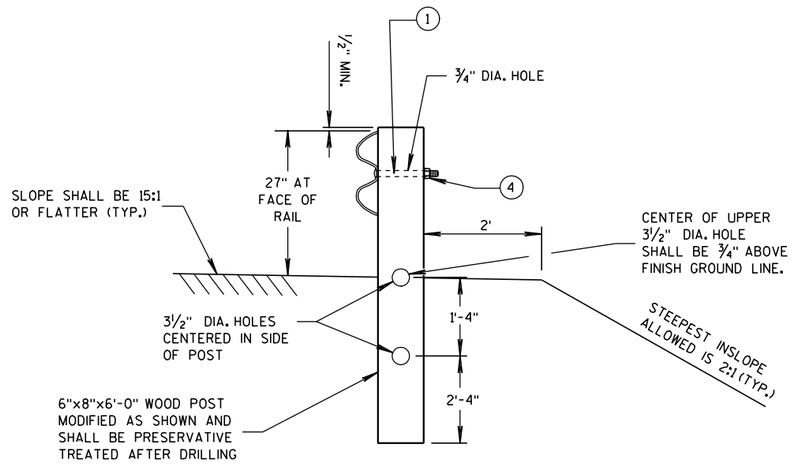
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

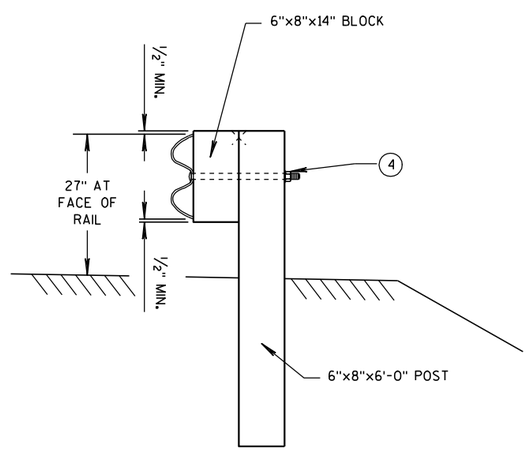
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

RADIUS	NUMBER OF CRT POSTS	*NUMBER AND LENGTH OF CURVED RAILS	REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH)
8'	5	1 at 12.5'	25' x 15'
16'	7	1 at 25'	30' x 15'
24'	9	1 at 25' and 1 at 12.5'	40' x 20'
32'	11	2 at 25'	50' x 20'

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

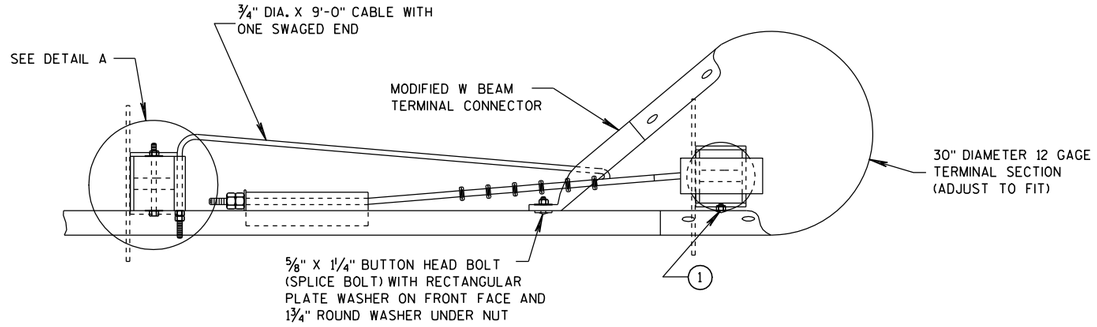
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

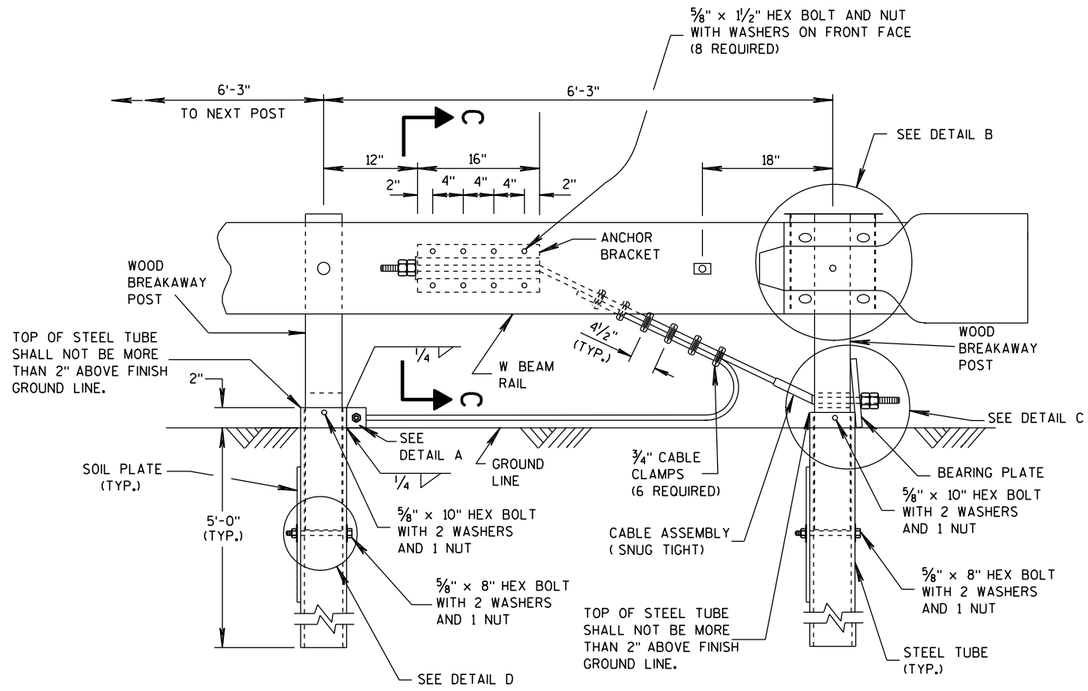
S.D.D. 14 B 27-1a

6

S.D.D. 14 B 27-1a



PLAN VIEW



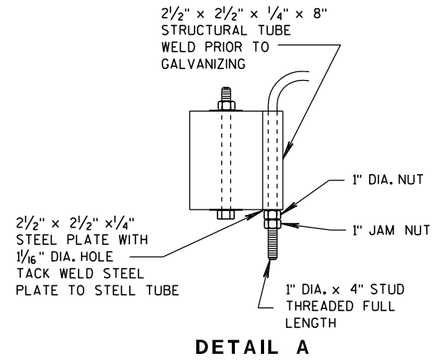
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

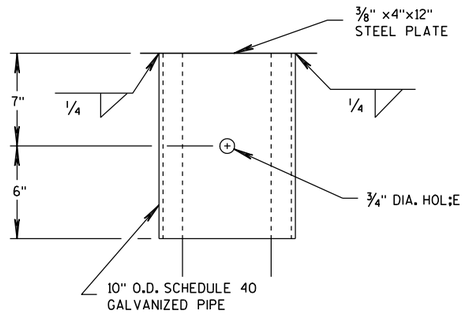
GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

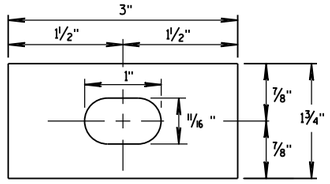
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

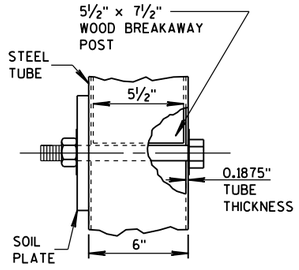
S.D.D. 14 B 27-1b

6

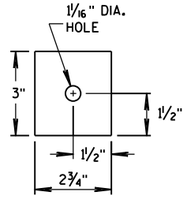
S.D.D. 14 B 27-1b



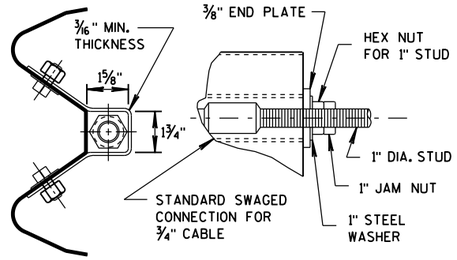
RECTANGULAR PLATE WASHER



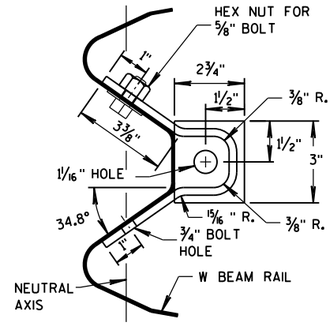
DETAIL D



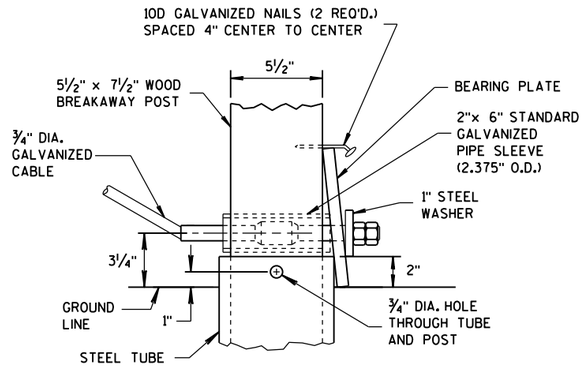
END PLATE



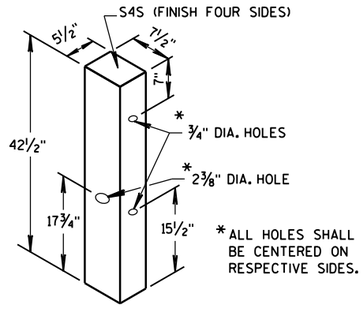
SECTION C-C
(END PLATE REMOVED)



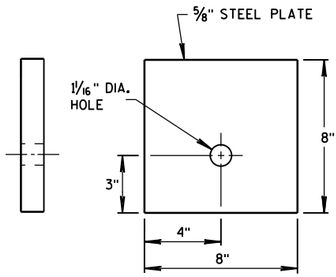
ANCHOR BRACKET



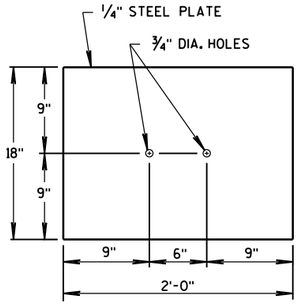
DETAIL C



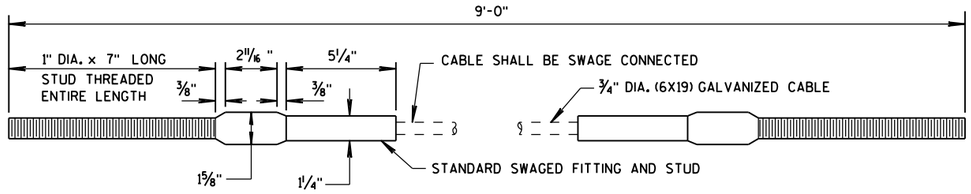
WOOD BREAKAWAY POST



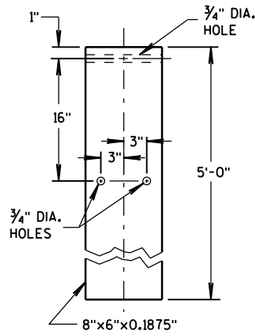
BEARING PLATE



SOIL PLATE



CABLE ASSEMBLY



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

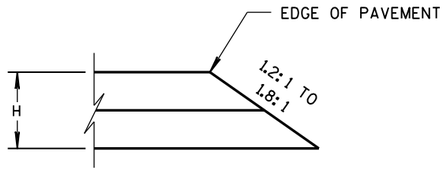
APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 14 B 27-1c

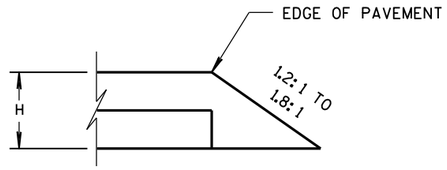
6

S.D.D. 14 B 27-1c



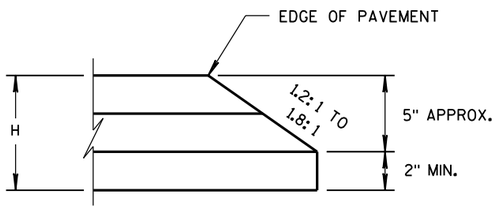
CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



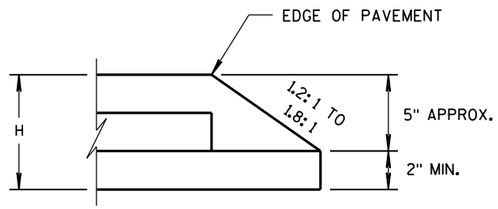
CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS



CONSTRUCTED WITH FINAL TWO LAYERS

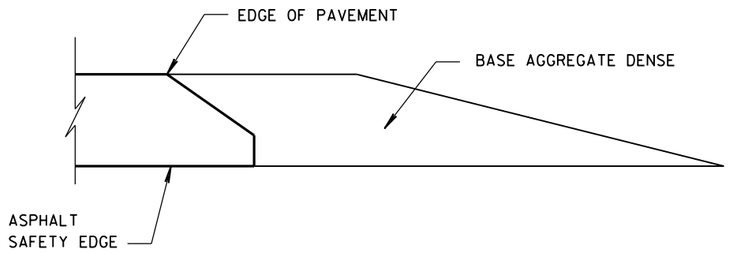
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

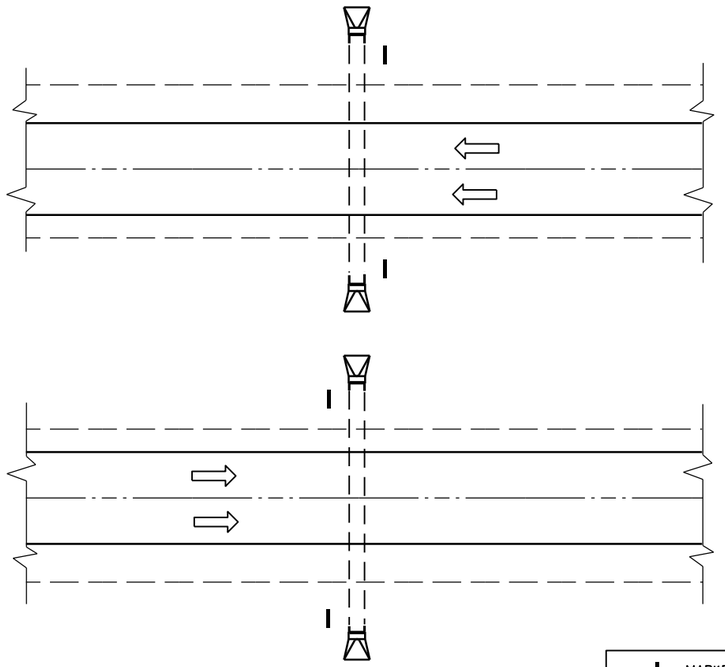
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

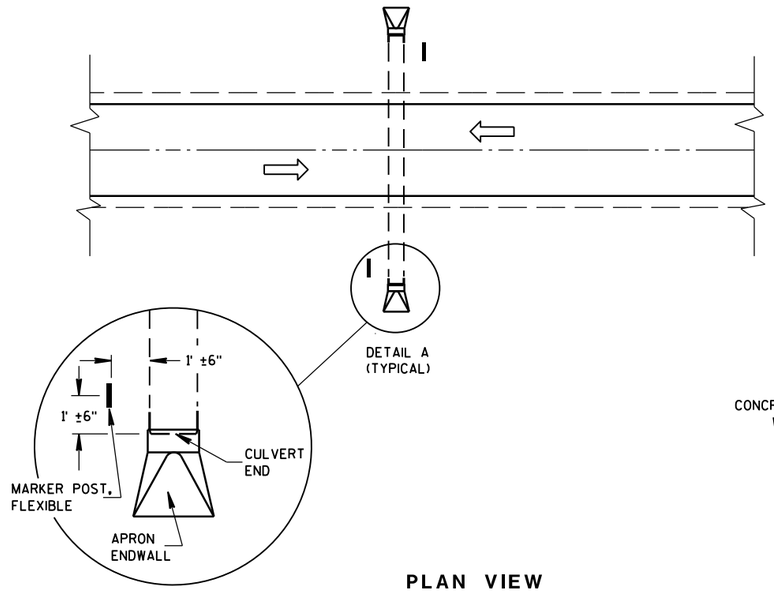
/S/ Jerry H. Zoda
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

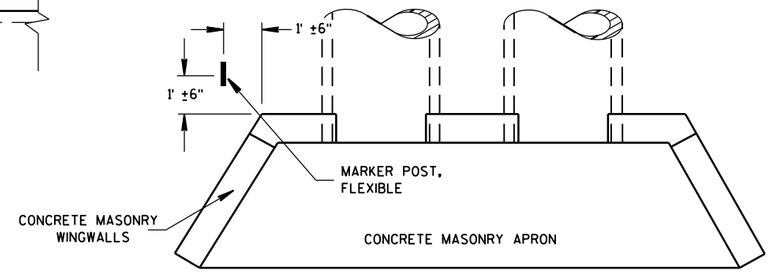
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

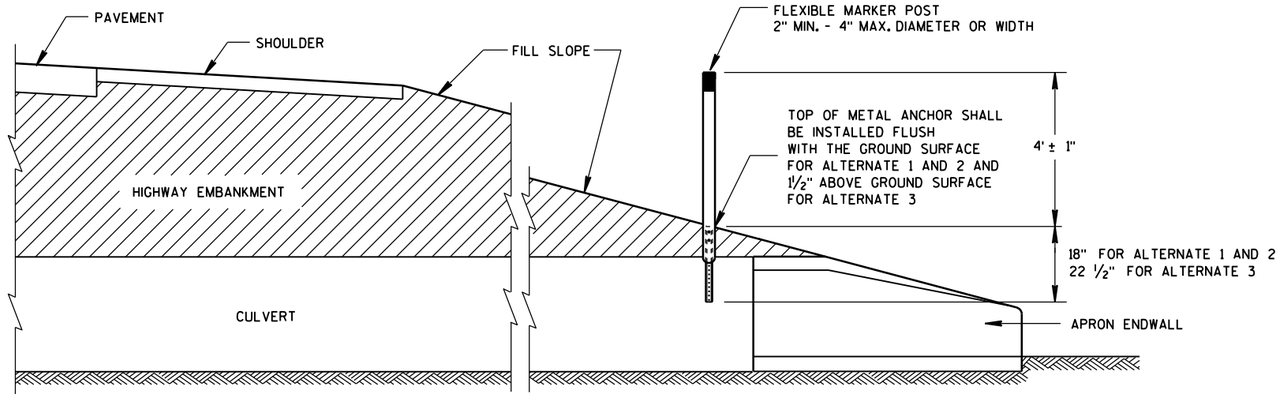
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 15 A 3-2a

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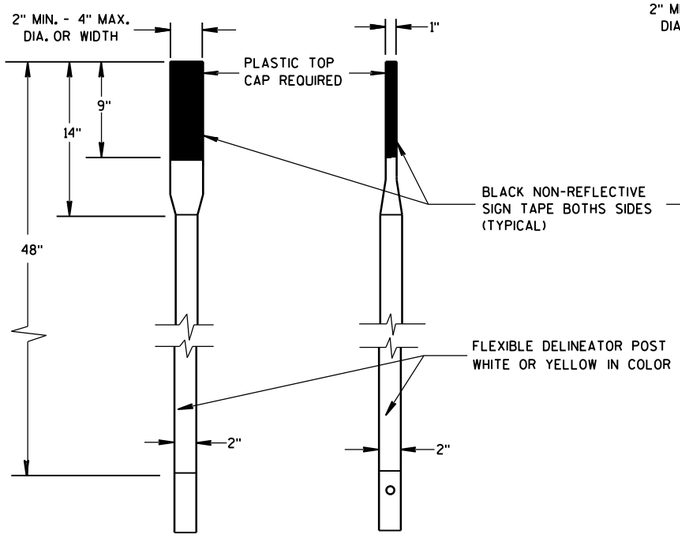
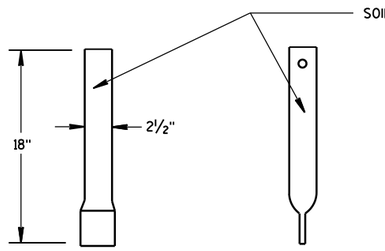
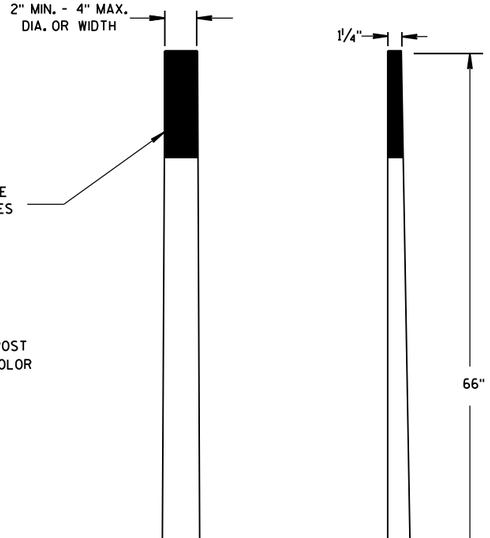
S.D.D. 15 A 3-2a





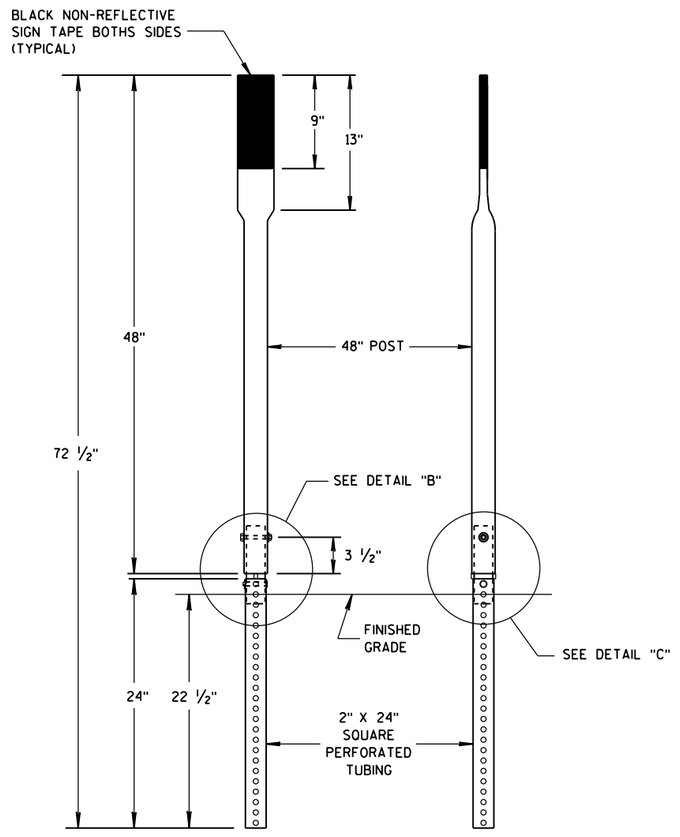
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

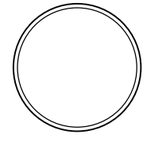
ALTERNATE 2



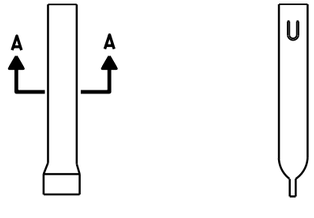
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POSTS

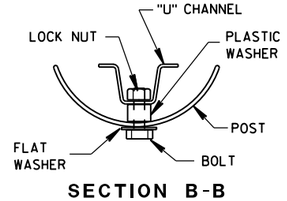


SECTION A-A



FRONT VIEW SIDE VIEW

ALTERNATE 1



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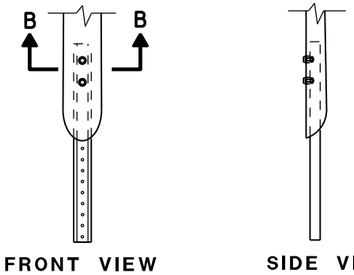
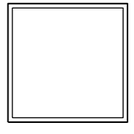
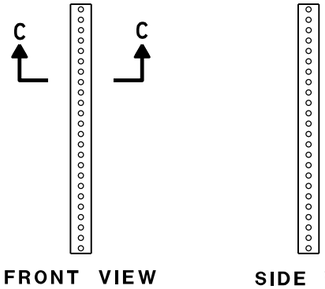


FRONT VIEW SIDE VIEW

ALTERNATE 2



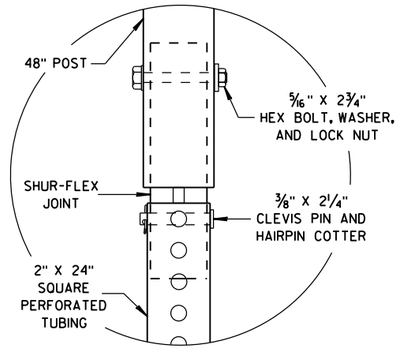
SECTION C-C



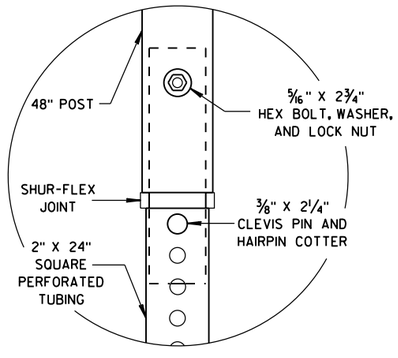
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS



DETAIL B



DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA

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S.D.D. 15 A 3-2b

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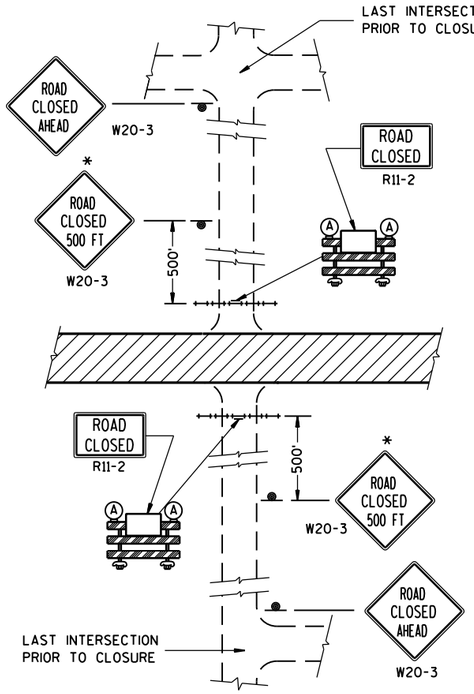
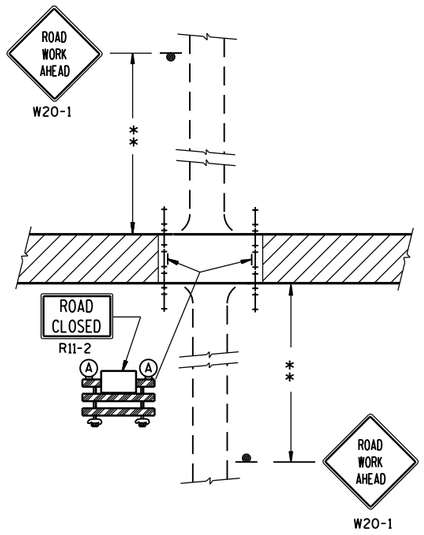
S.D.D. 15 A 3-2b



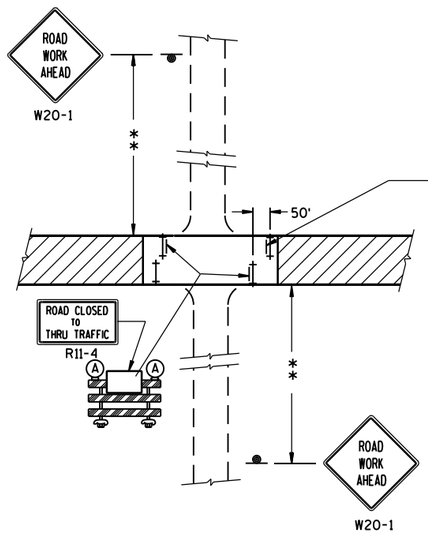
DETAIL 1

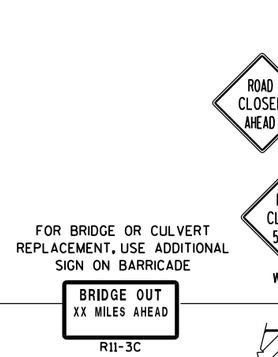
(NO ACCESS TO PROJECT)



DETAIL 2

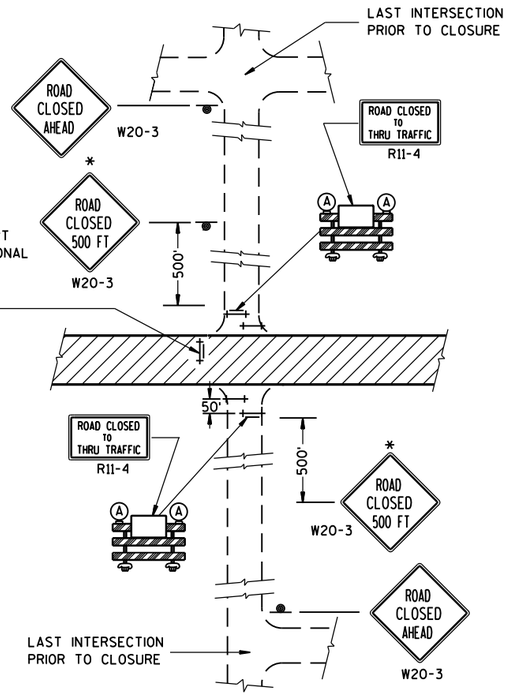
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).





DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

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.

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.

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 AND R11-4 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.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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S.D.D. 15 C 3-2

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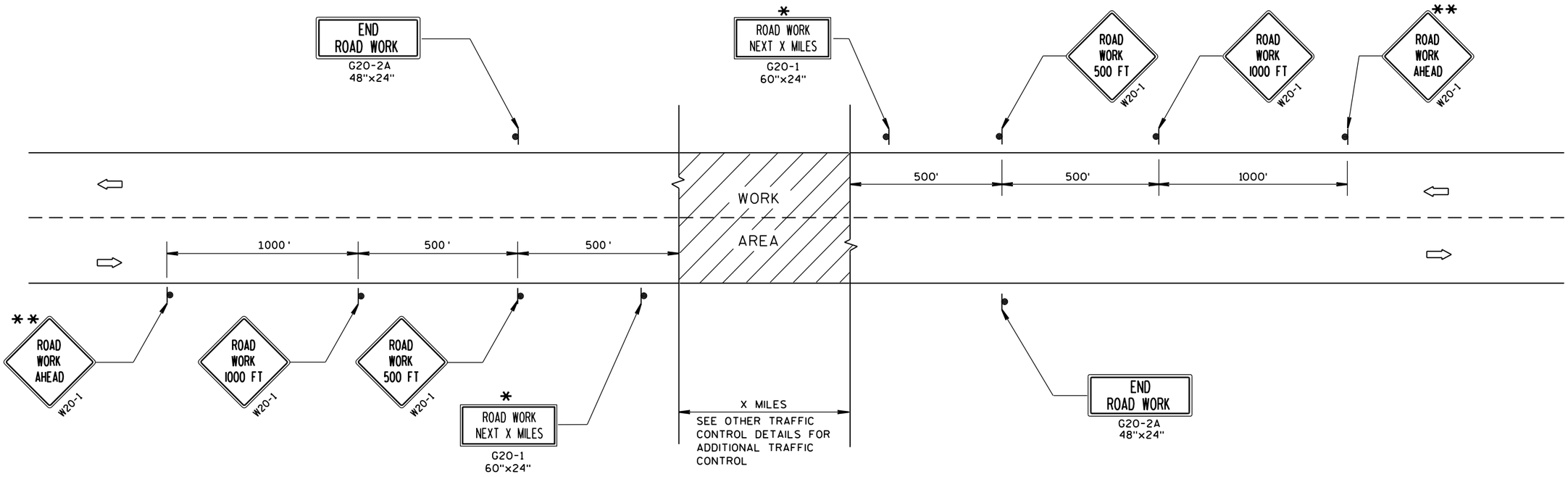
S.D.D. 15 C 3-2



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.

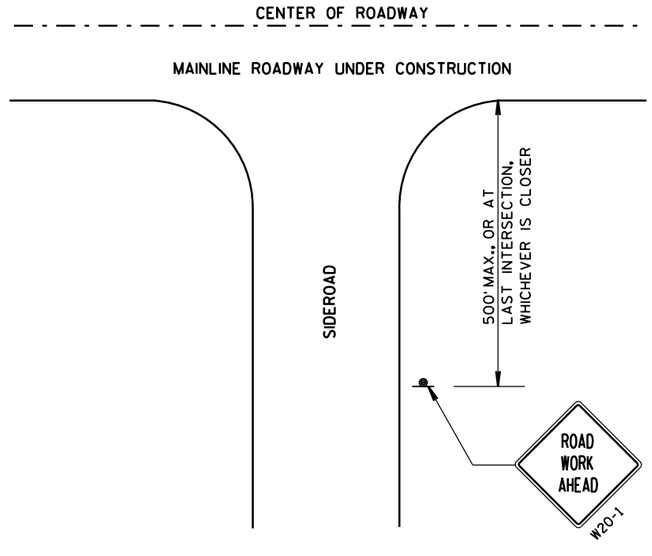
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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.



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

SIGN

FHWA

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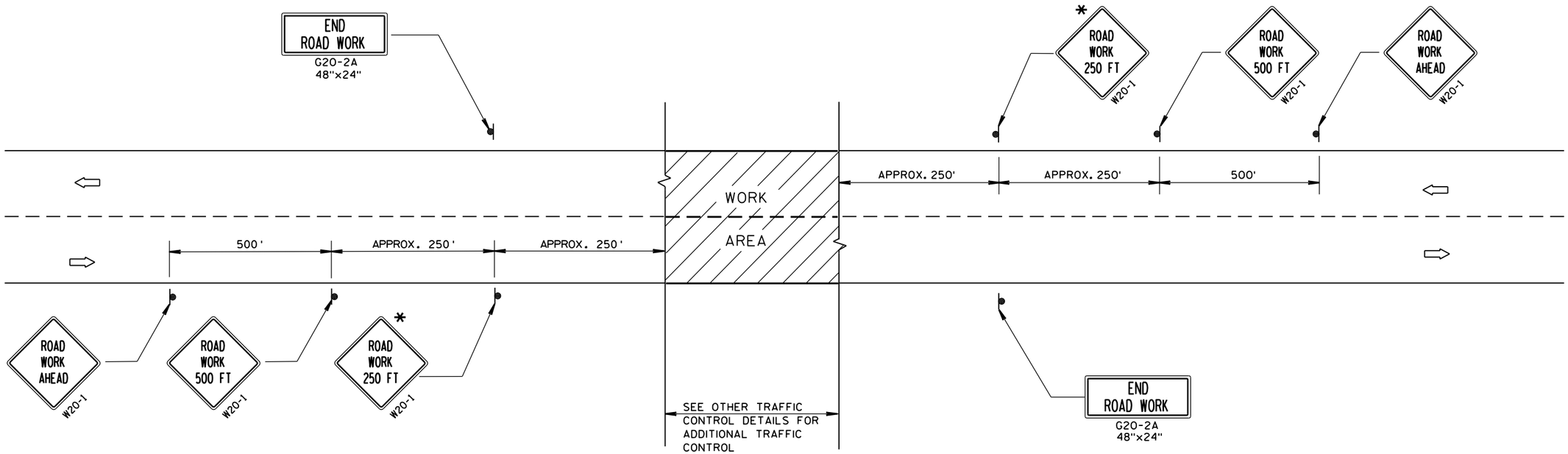
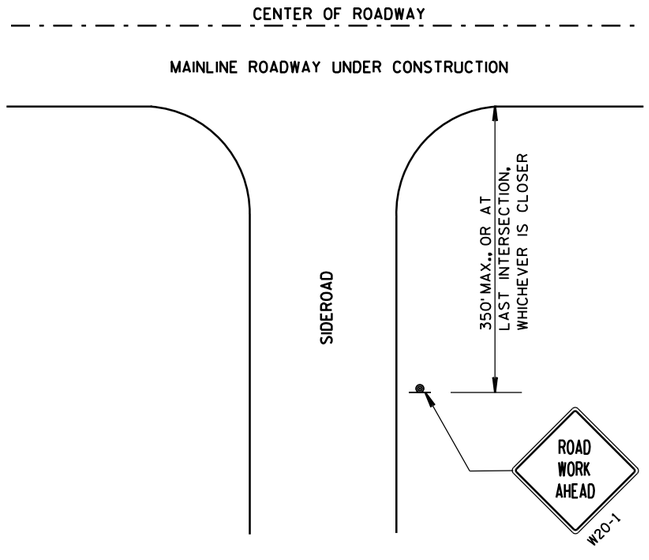
S.D.D. 15 C 4-2



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

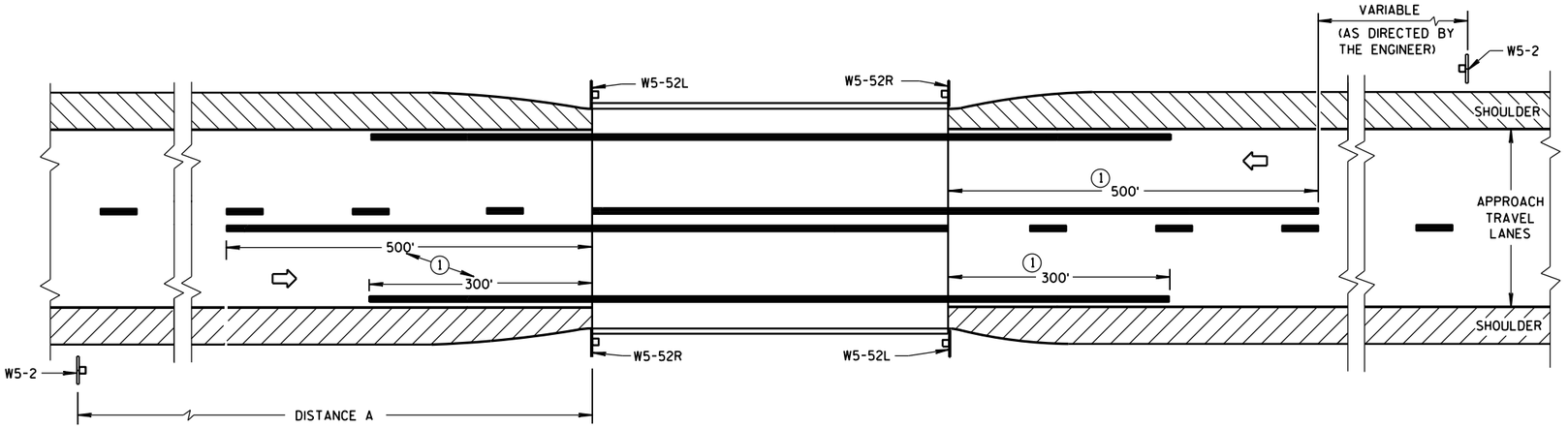
/S/ Travis Feltes — STATE TRAFFIC ENGINEER

SIGN

FHWA

6

S.D.D. 15 C 5-2



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.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

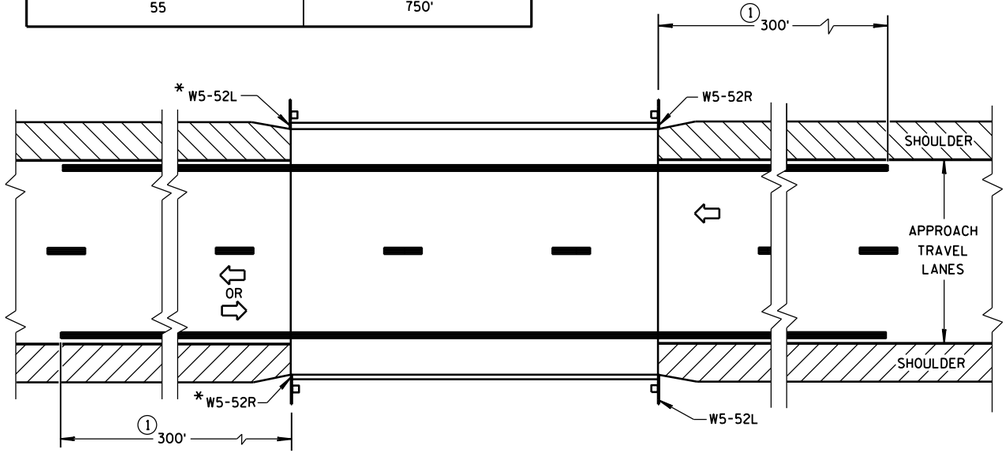
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

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

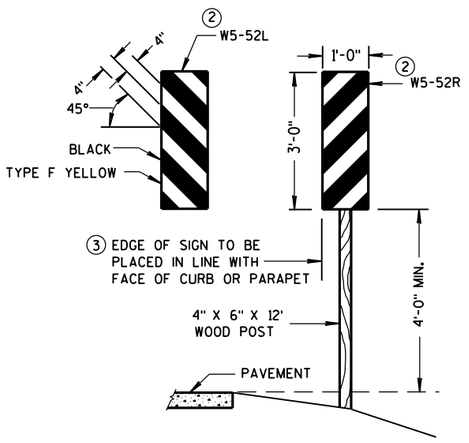


*OMIT ON ONE-WAY TRAVELLED WAYS

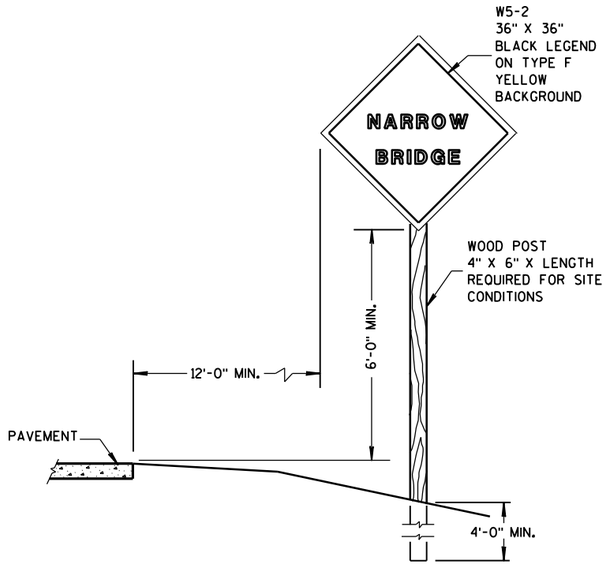
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

FHWA

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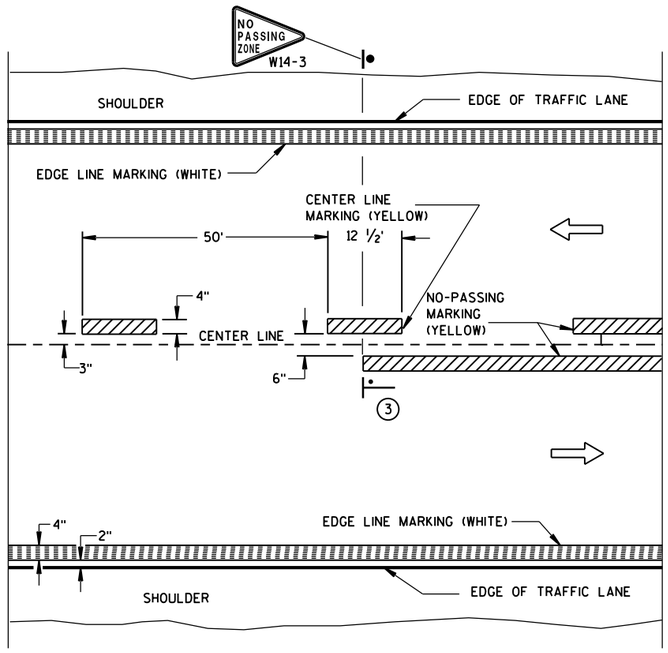
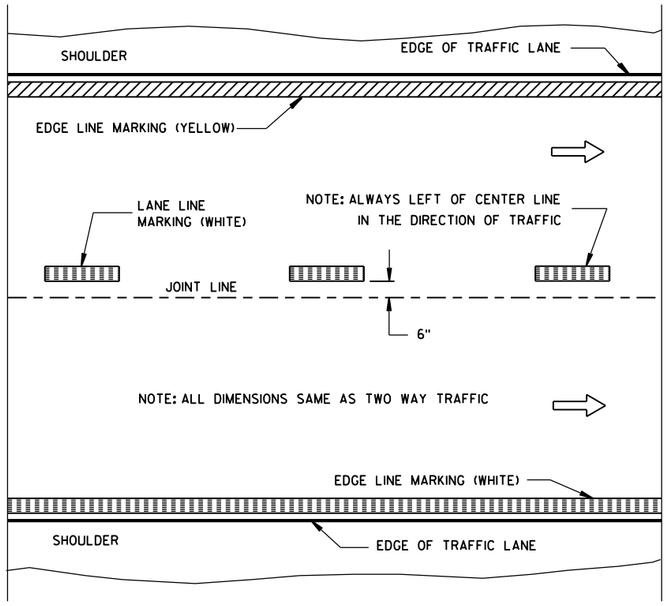
S.D.D. 15 C 6-7

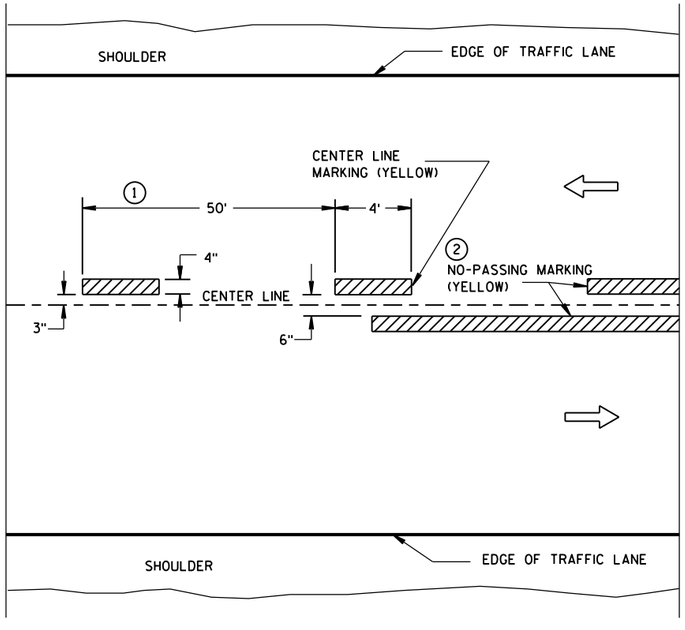


TWO WAY TRAFFIC

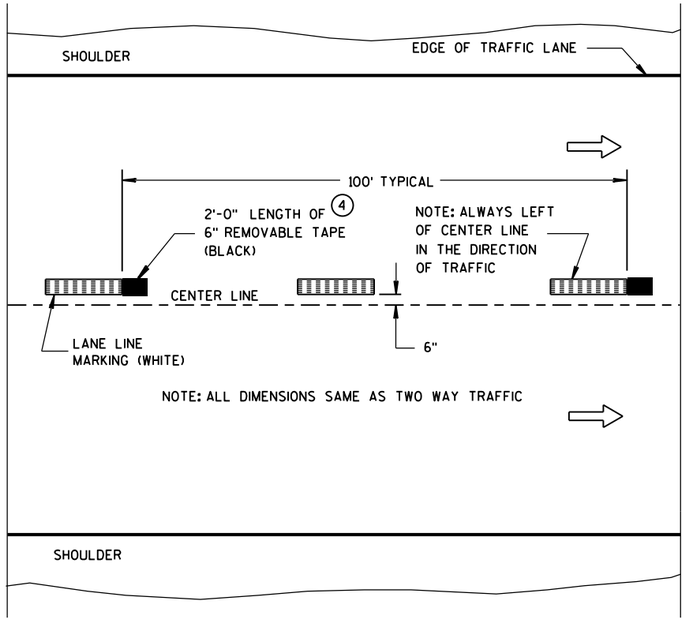


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

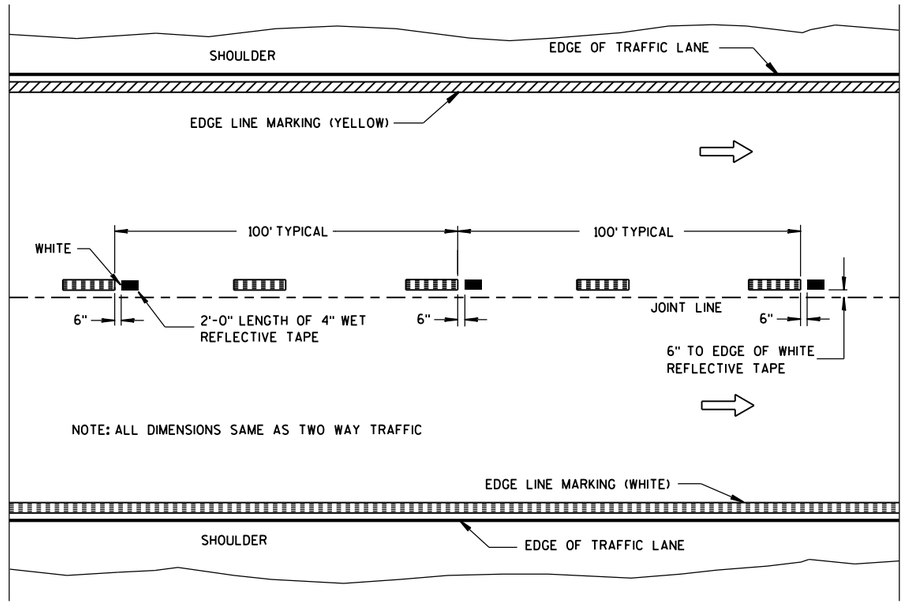
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



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

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

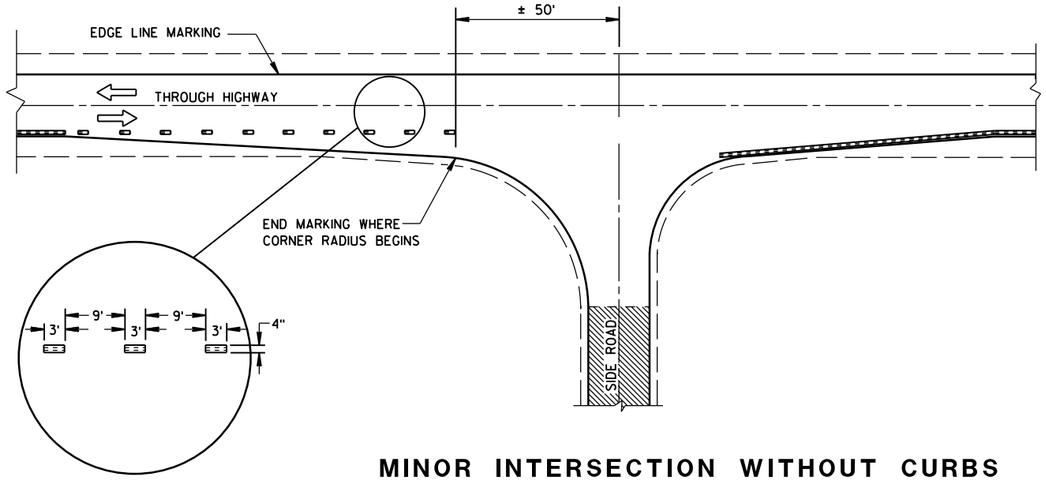
APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

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

6

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



MINOR INTERSECTION WITHOUT CURBS

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.

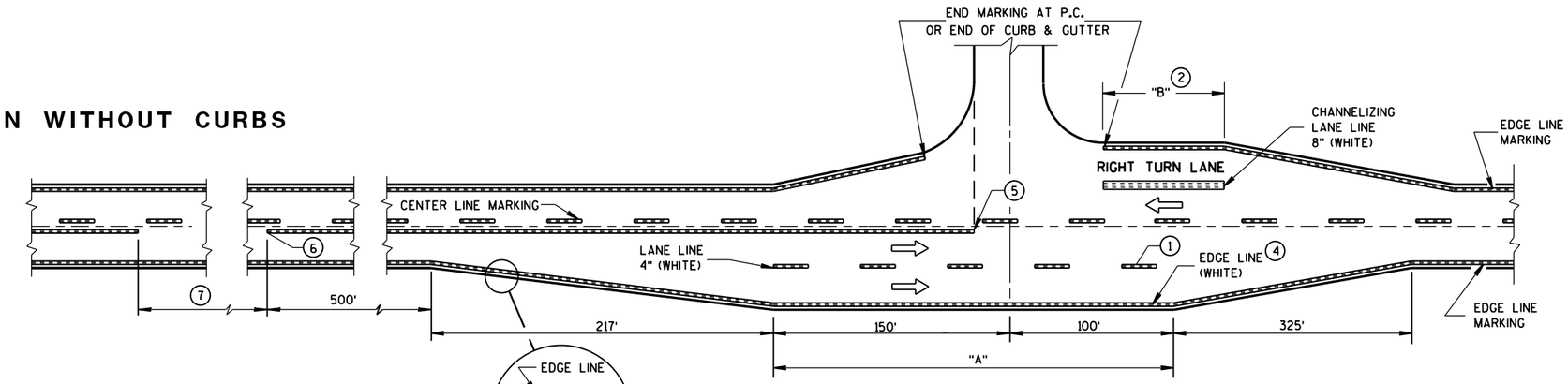
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

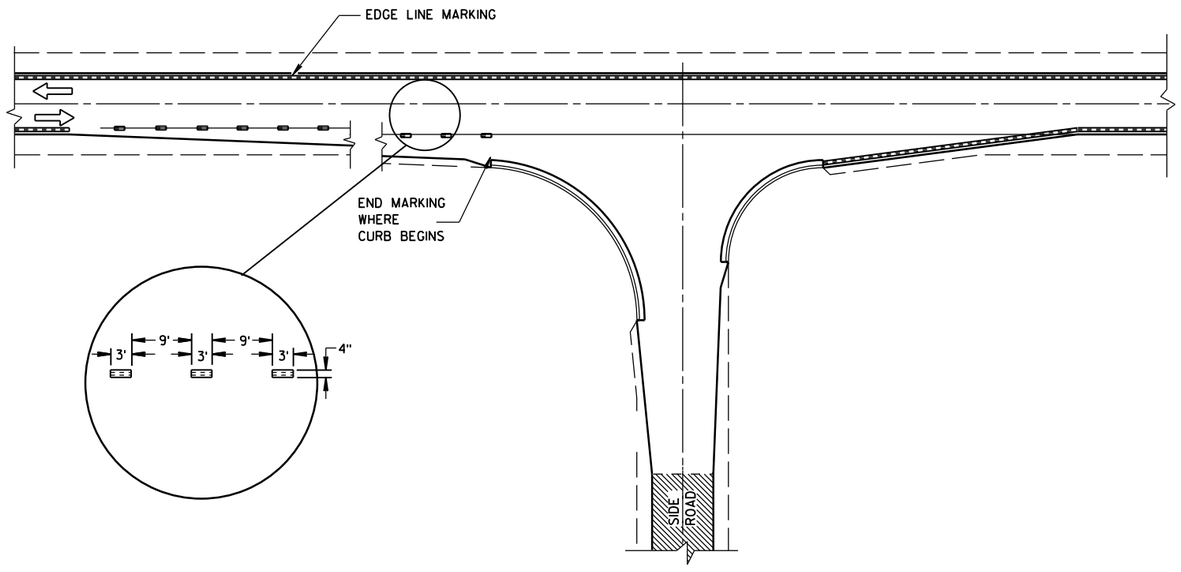
(7)

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



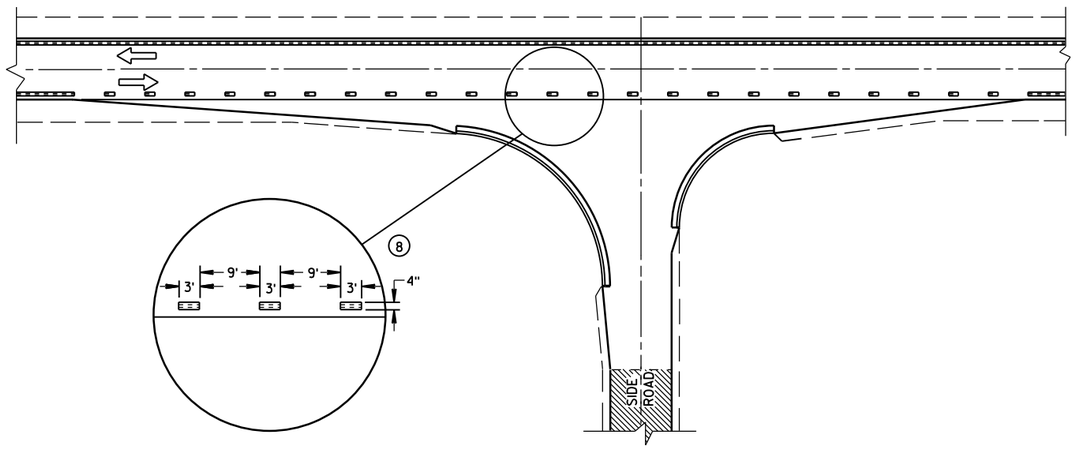
MAJOR INTERSECTIONS

(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)

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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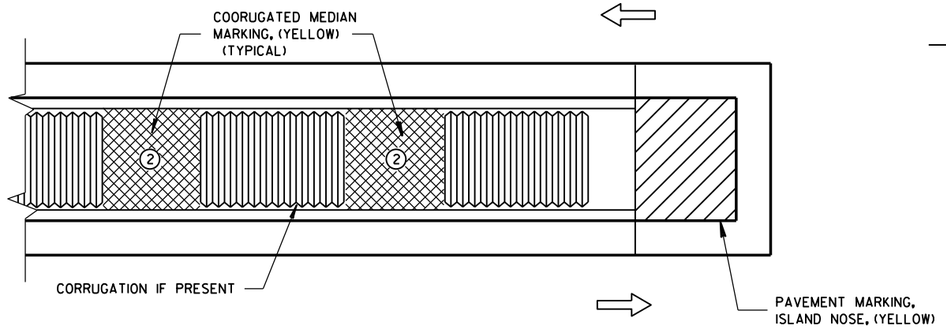
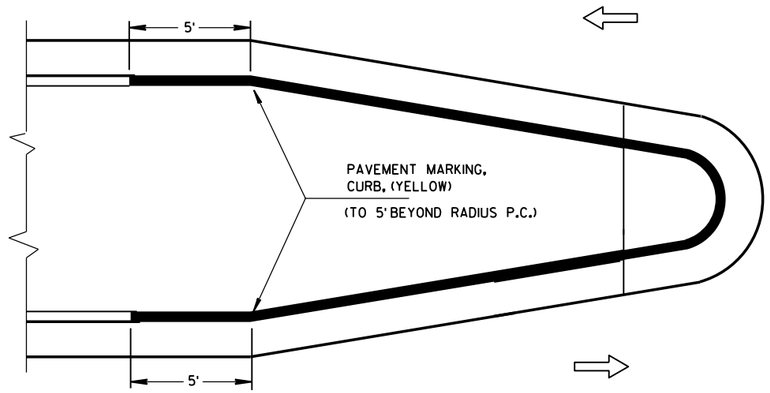
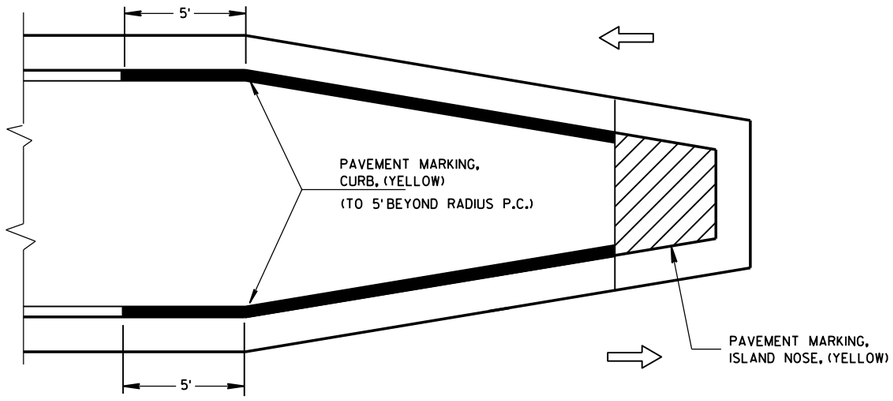


MEDIAN ISLAND WITH SQUARE BLUNT NOSE

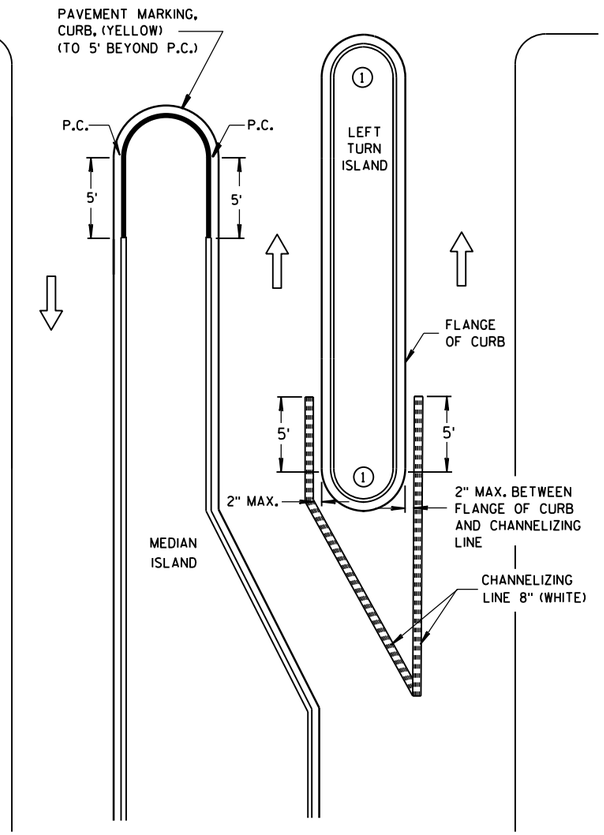


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

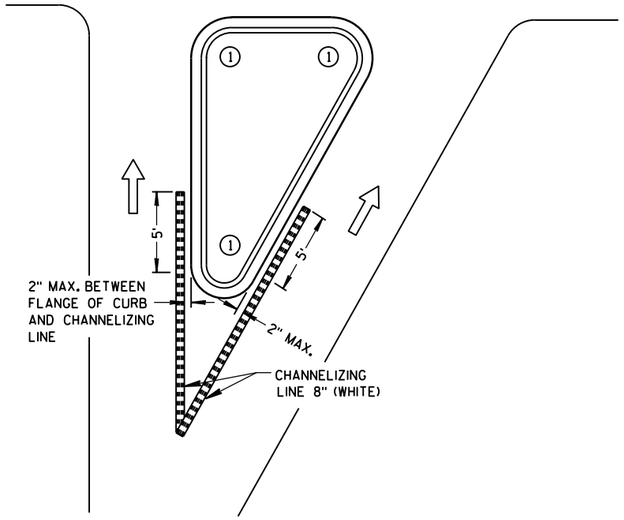


LEFT TURN & MEDIAN ISLAND

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
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6

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LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

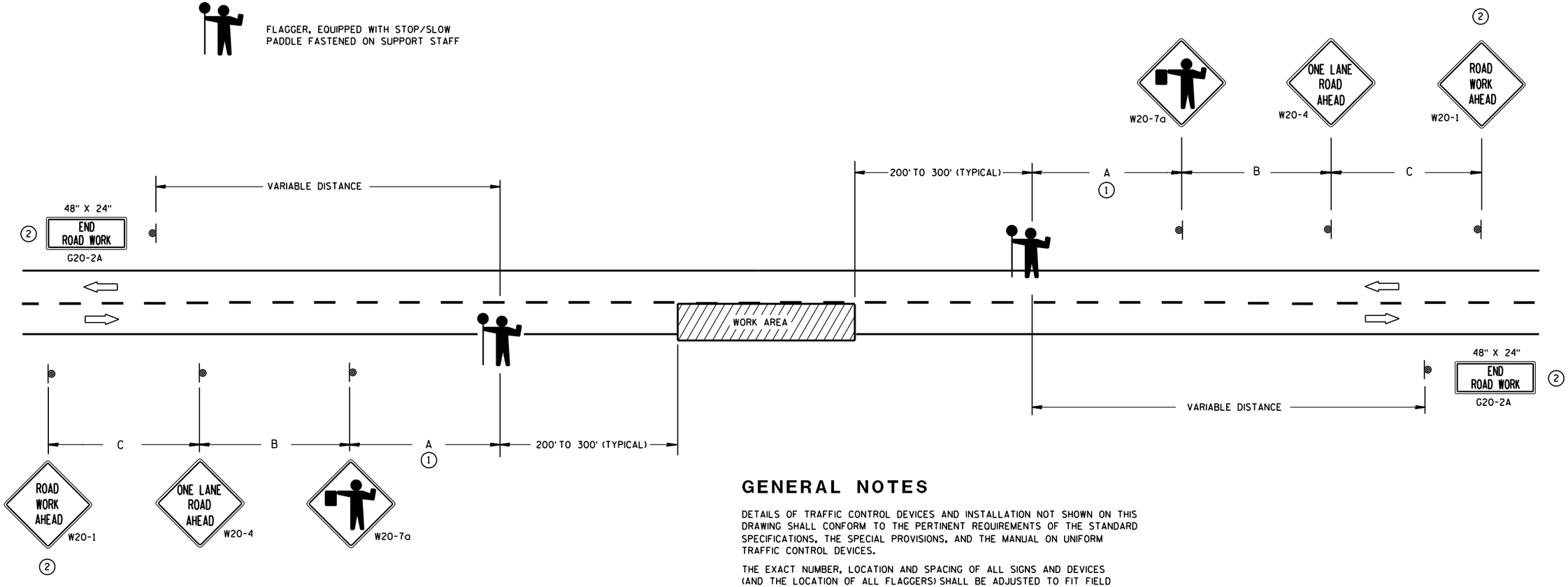
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

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.



(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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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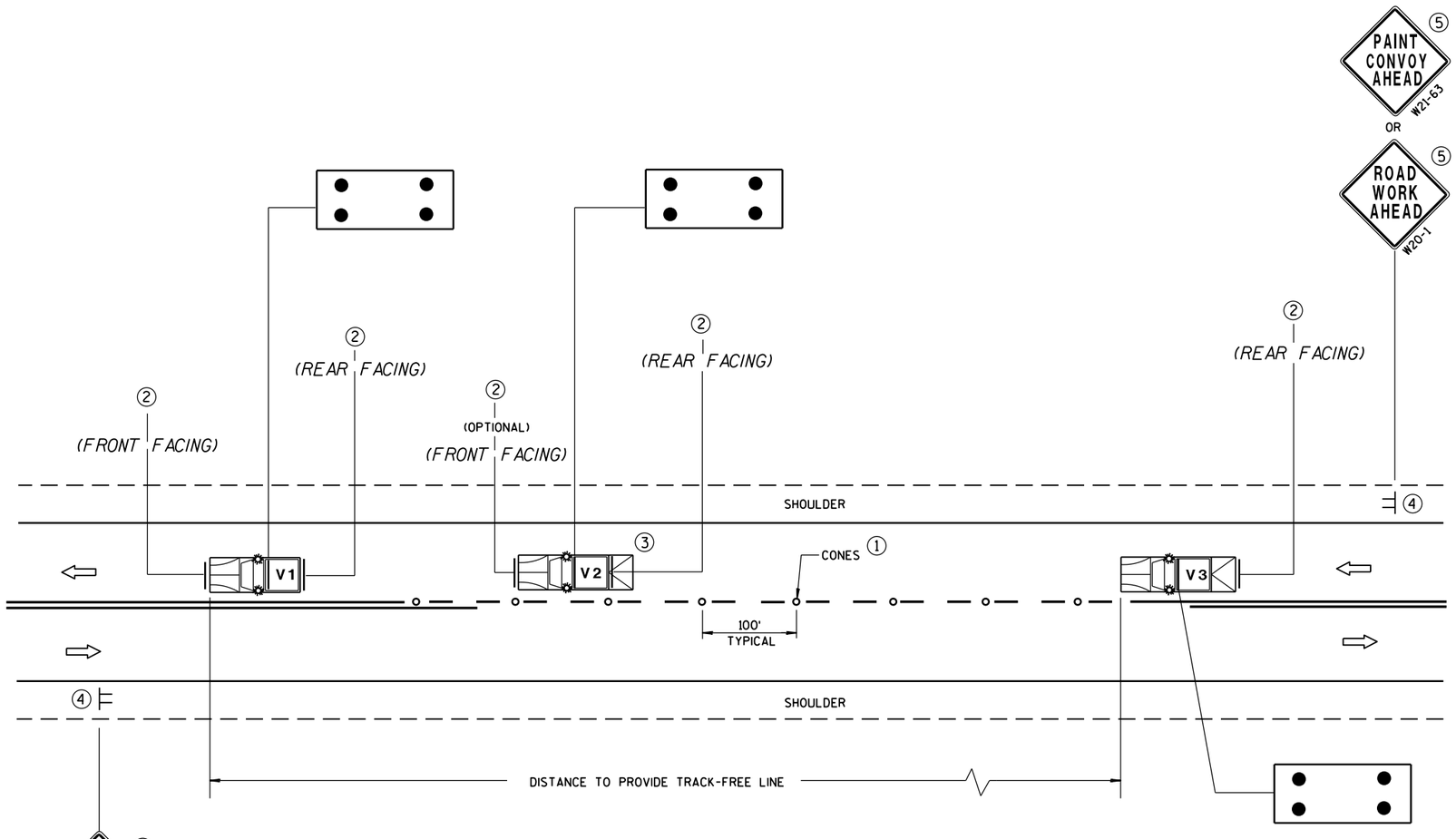
S.D.D. 15 C 12-4



GENERAL NOTES

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

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

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

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

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

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

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

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

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

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

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

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

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

LEGEND

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

MOVING PAVEMENT MARKING OPERATIONS
TWO-LANE TWO-WAY ROADWAY

MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
5/3/2013 DATE	/S/ Travis Feltes STATE TRAFFIC E
FHWA	

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S.D.D. 15 C 19-2a

GENERAL NOTES

ORIENT ANCHOR BOLTS IN FOOTING AND PROVIDE ANCHOR BOLT STICK OUT ABOVE TOP OF CONCRETE FOOTING BASE PER FABRICATION DRAWING.

BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.

USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.

SIGN SUPPORTS SHALL BE LOCATED NORMAL TO ROADWAY.

THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.

WELDING OF ANCHOR BOLTS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.

BAR CAGE TO BE ASSEMBLED USING TIE WIRES ONLY, NO WELDING.

BASES (SHAFT) SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, THE FORM SHALL BE REMOVED BEFORE BACK FILLING AROUND THE BASE. ANY REQUIRED BACKFILL SHALL BE WELL COMPACTED IN LAYERS OF 1 FOOT OR LESS. COMPACTION SHALL BE BY MECHANICAL MEANS. CARE SHALL BE TAKEN SO NO DAMAGE OCCURS TO THE CONCRETE BASE DURING COMPACTION.

EXCAVATION OF MATERIALS NOT OCCUPIED BY CONCRETE SHALL BE MINIMIZED TO REDUCE DISTURBANCE OF THE SURROUNDING SOILS.

THE BOTTOM OF THE DRILLED HOLE SHALL BE FIRM AND THOROUGHLY CLEANED SO NO LOOSE OR COMPRESSIBLE MATERIALS ARE PRESENT AT THE TIME OF THE CONCRETE PLACEMENT.

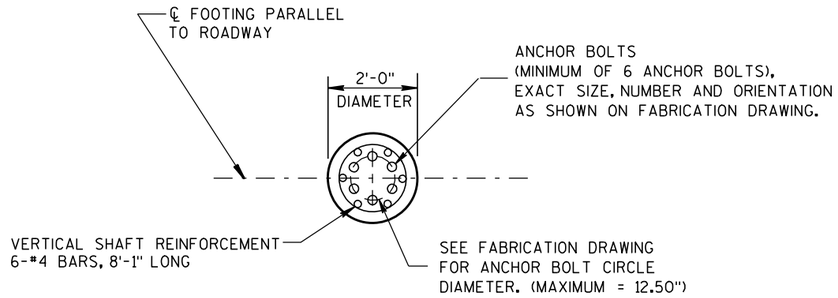
IF THE DRILLED HOLE CONTAINS STANDING WATER, THE CONCRETE SHALL BE PLACED USING A TREMIE TO DISPLACE THE WATER.

THE REINFORCEMENT AND ANCHOR BOLTS SHALL BE ADEQUATELY SUPPORTED IN THE PROPER POSITIONS SO NO MOVEMENT OCCURS DURING CONCRETE PLACEMENT.

ANY DAMAGE TO THE CONCRETE BASE DURING CONSTRUCTION OPERATIONS SHALL BE REPAIRED AT THE ENGINEER'S DIRECTION, AT THE EXPENSE OF THE CONTRACTOR.

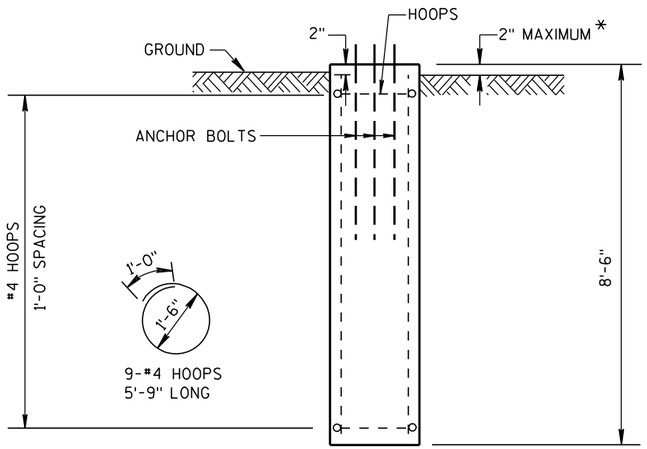
CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR BOLTS	AASHTO M314 GRADE 55

THIS FOOTING HAS BEEN DESIGNED FOR SITES WHERE SOILS EXHIBIT A PHI-ANGLE GREATER THAN OR EQUAL TO 20 DEGREES (GRANULAR SOILS), OR A COHESION VALUE GREATER THAN OR EQUAL TO 350 PSF (COHESIVE SOILS).



PLAN VIEW

* FOR OVERHEAD SIGN SUPPORTS THAT ARE INSTALLED ADJACENT TO SIDEWALKS, THE TOP OF THE BASE SHALL BE POURED FLUSH WITH THE GROUND.



ELEVATION VIEW

CONCRETE - 1.0 C.Y. PER FOOTING
H.S. REINFORCEMENT - 67 LBS. PER FOOTING

24" DIAMETER CANTILEVER OVERHEAD SIGN SUPPORT BASE

STATE OF WISCONSIN
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4-17-09	/S/ Thomas N. Nothohm
DATE	STATE TRAFFIC ENGINE SIGN

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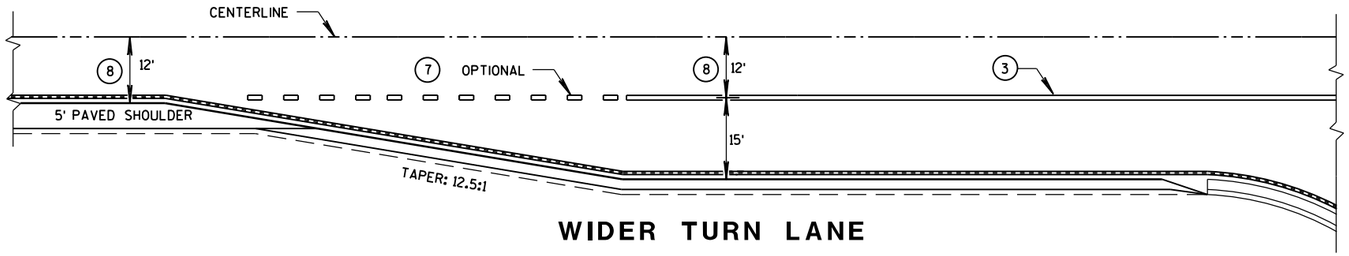
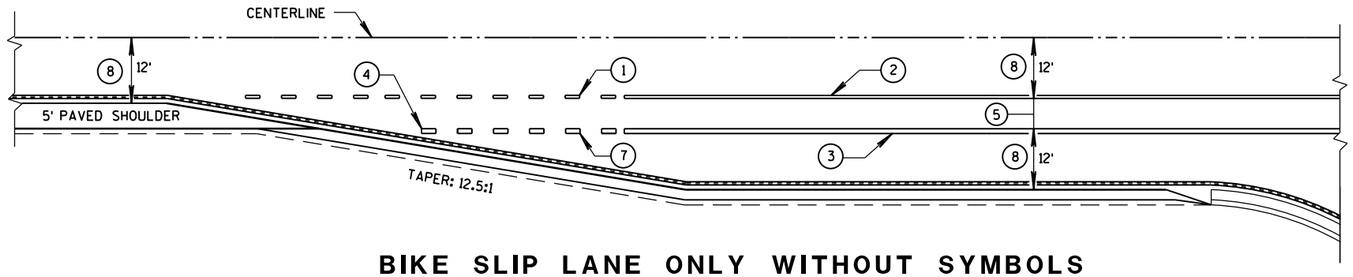
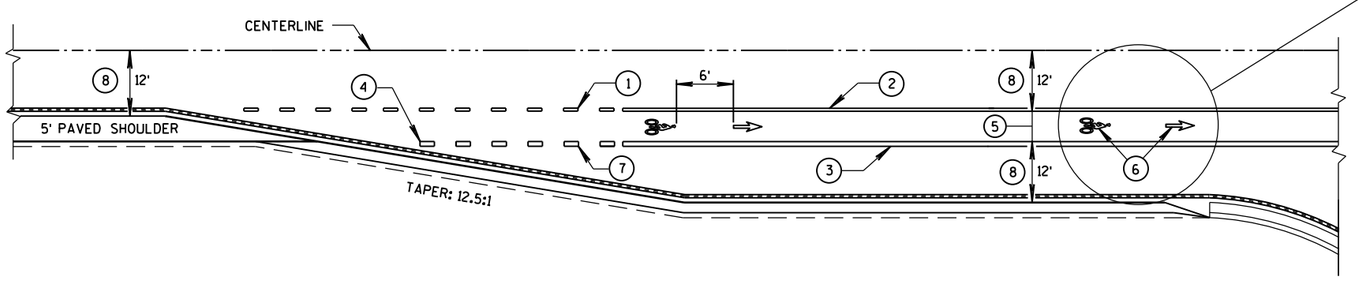


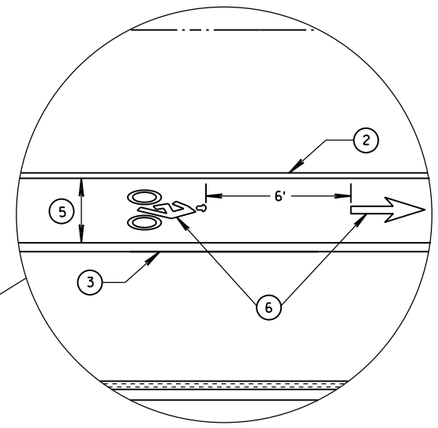
WIDER TURN LANE



BIKE SLIP LANE ONLY WITHOUT SYMBOLS



BIKE LANE WITH SYMBOLS



GENERAL NOTES

1. 3' LINE, 9' GAP - 4-INCH WIDE, WHITE.
2. 4-INCH, WHITE.
3. 8-INCH, WHITE.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMMODATION FOR CONCRETE PAVEMENT IS 5' WIDE. BIKE ACCOMMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4', 5' AT ≥ 45 MPH.
6. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
7. 3' LINE, 9' GAP - 8-INCH WIDE, WHITE.
8. REFER TO CONTRACT PLANS.

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BICYCLE LANE MARKING

STATE OF WISCONSIN
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4/30/2013
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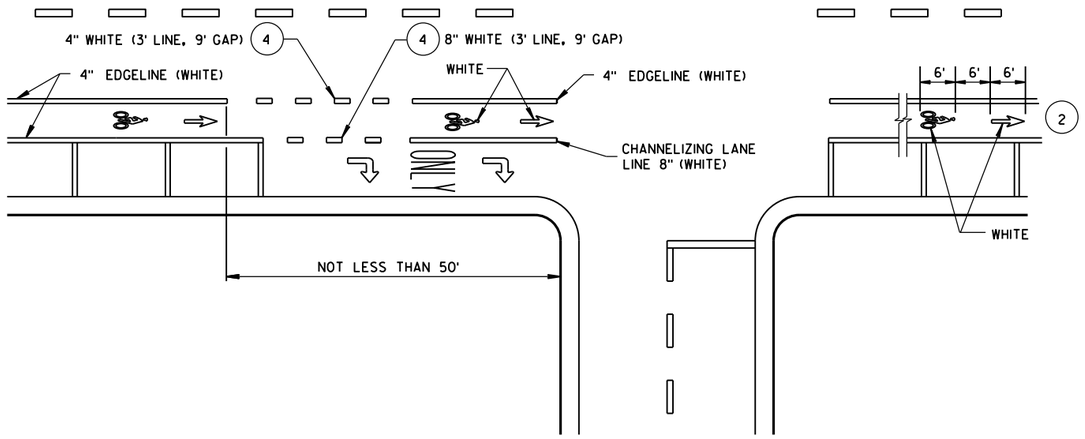
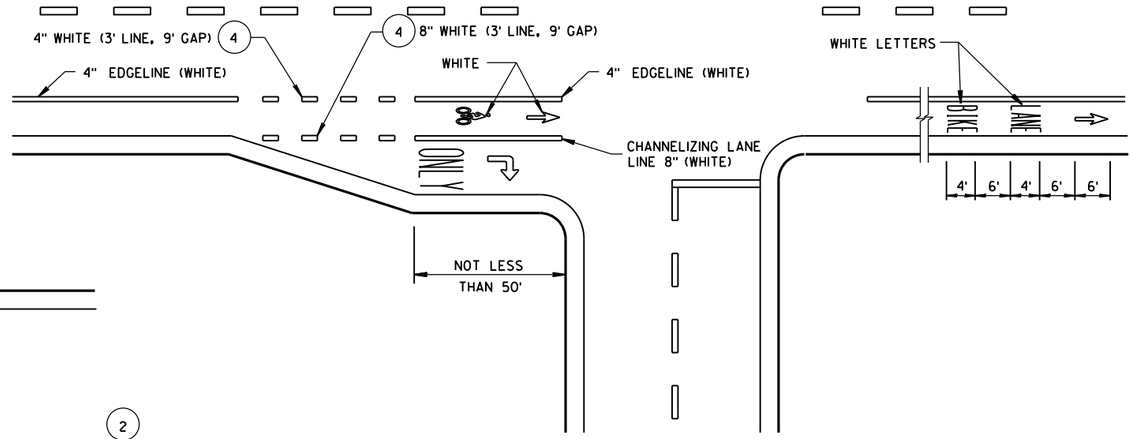


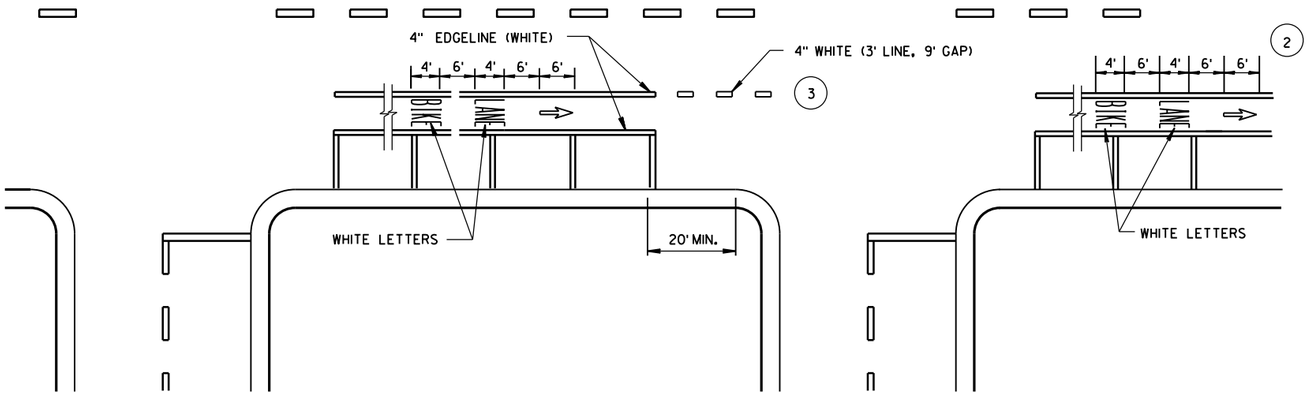
DESIGNATED BICYCLE LANE

GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. THE SERIES OF PAVEMENT MARKING SYMBOLS SHALL BE REPEATED AFTER INTERSECTIONS AND SPACED A MAXIMUM OF 250'. NO PAVEMENT MARKING WILL TAKE PLACE IN THE CROSSWALK.
3. DOTTED LINES SHOULD BE USED 50' TO 200' IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. WHEN SPECIFIED IN THE CONTRACT.



DESIGNATED BICYCLE LANE
NO PARKING, RIGHT TURN LANE



DESIGNATED BICYCLE LANE
WITH PARKING, NO RIGHT TURN LANE

URBAN BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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4/30/2013 DATE
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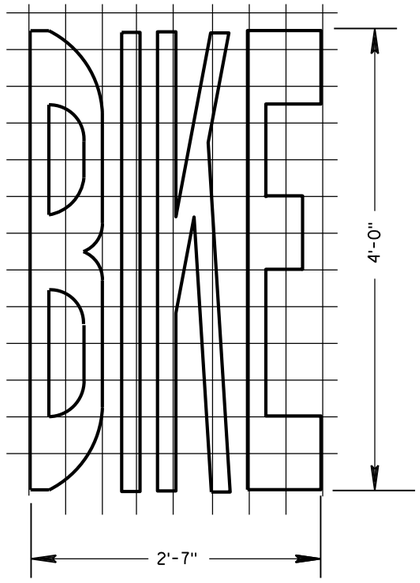
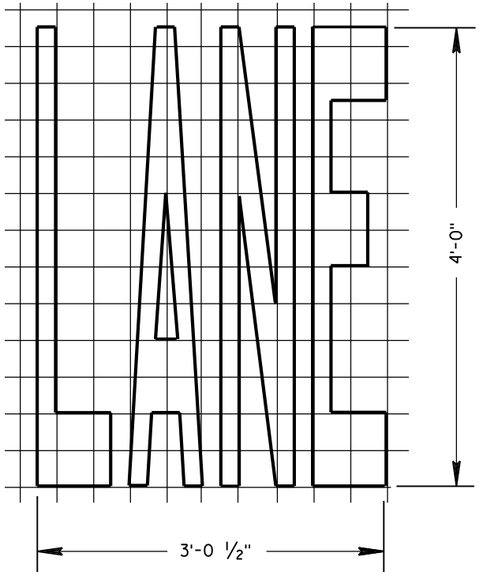
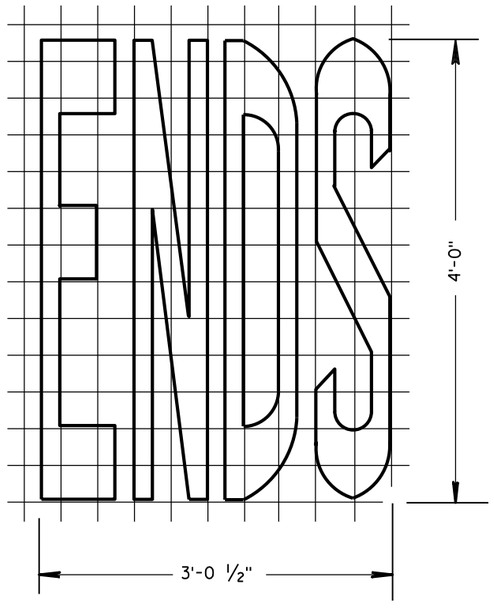
GENERAL NOTES

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.

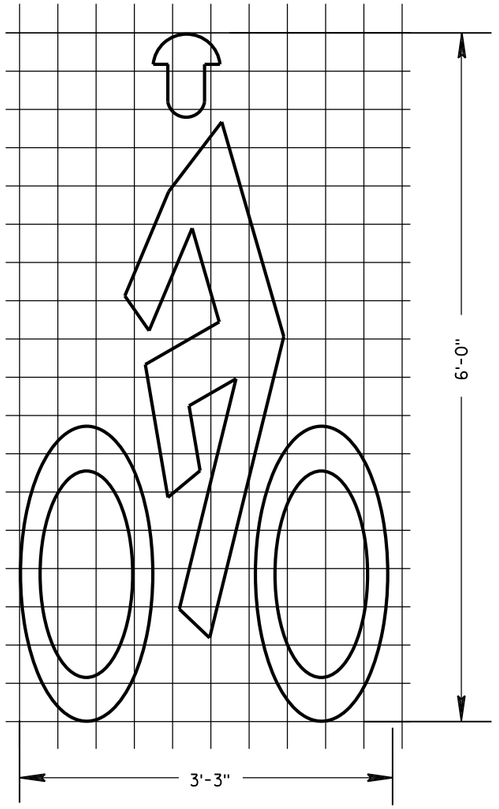
ALL LETTERS, ARROWS AND SYMBOLS SHALL BE IN CONFORMANCE WITH REQUIREMENTS INCLUDED IN "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKING" BOOK BY THE FEDERAL HIGHWAY ADMINISTRATION. ALL LETTERS, ARROWS AND SYMBOLS SHALL BE WHITE AND REFLECTORIZED. SMALL DIFFERENCES IN DIMENSIONS WITHIN THE TOLERANCES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



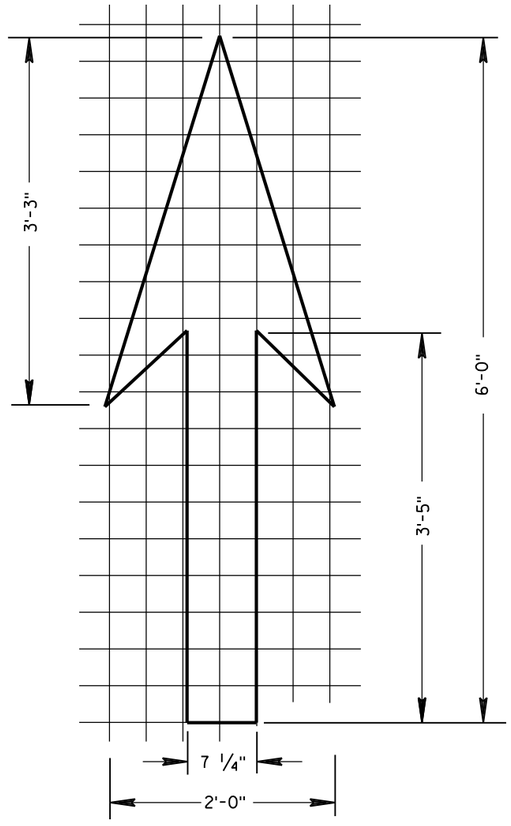




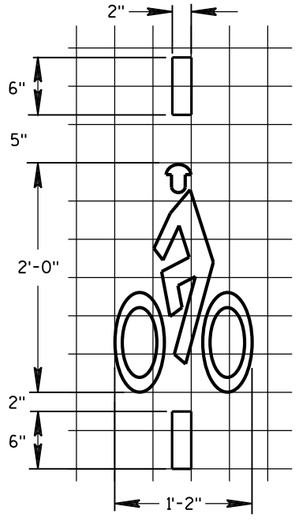
BIKE LANE WORDS



BIKE LANE SYMBOL



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
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APPROVED
4-30-2013
DATE

/S/ Travis Feltes
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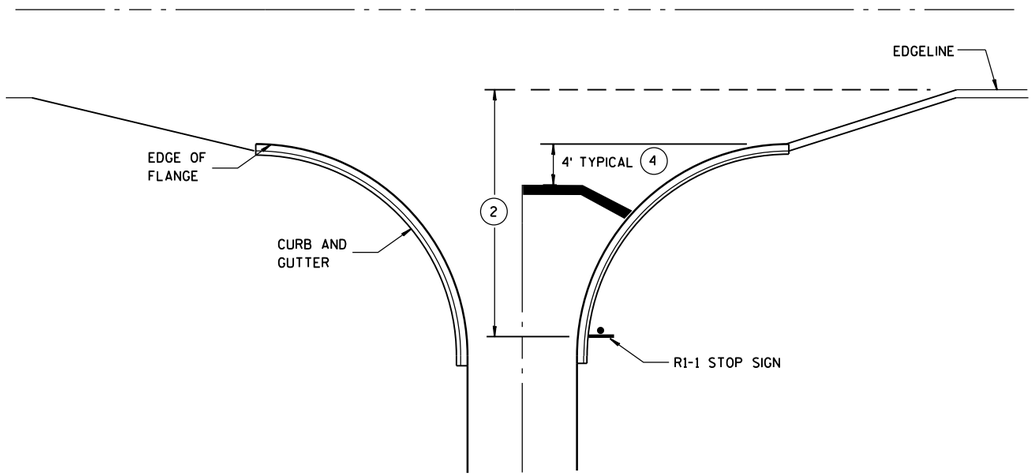
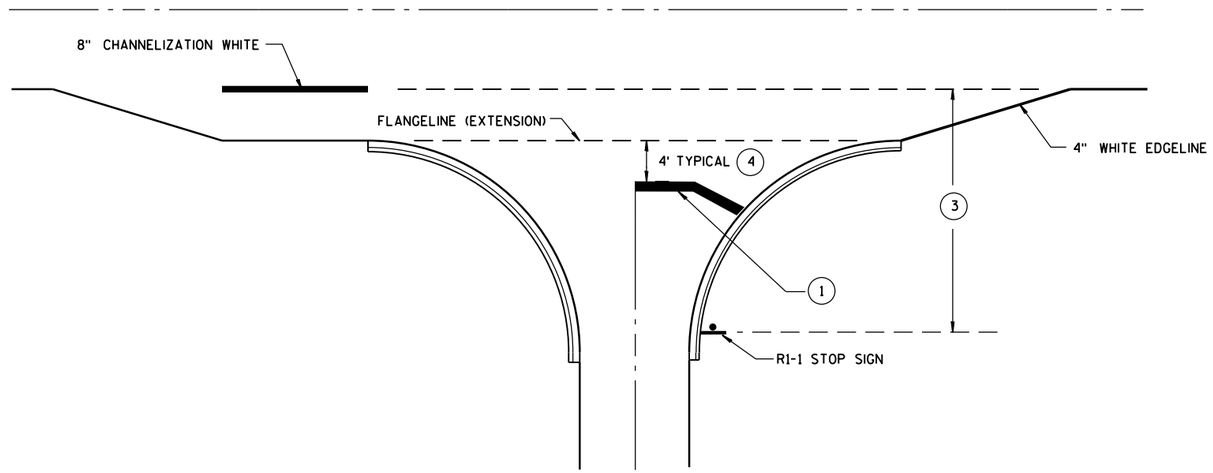
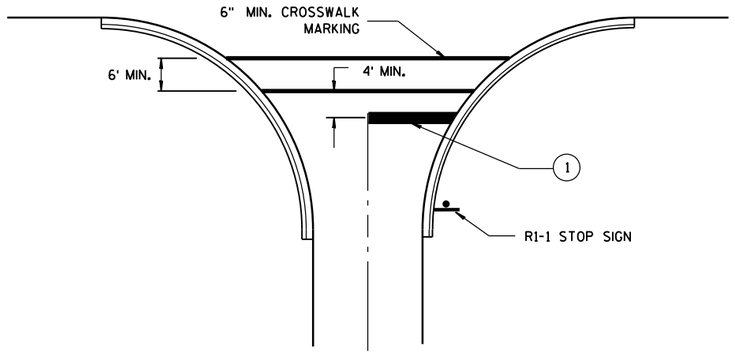


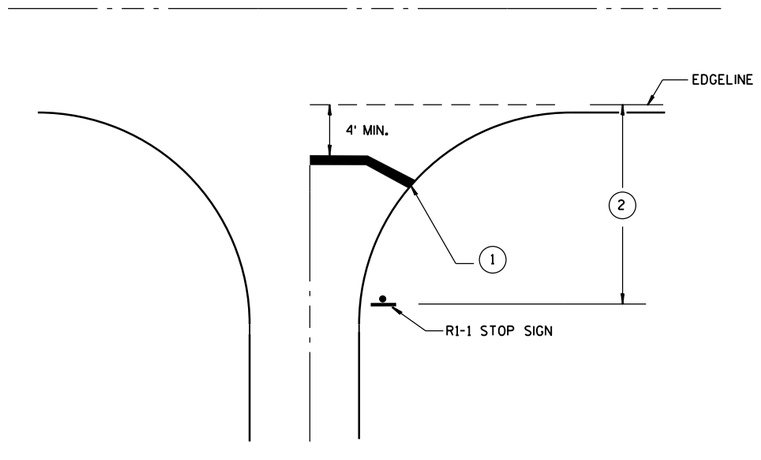
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
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4/30/2013 DATE
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S.D.D. 15 C 33-1

GENERAL NOTES

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

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

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

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

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

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

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

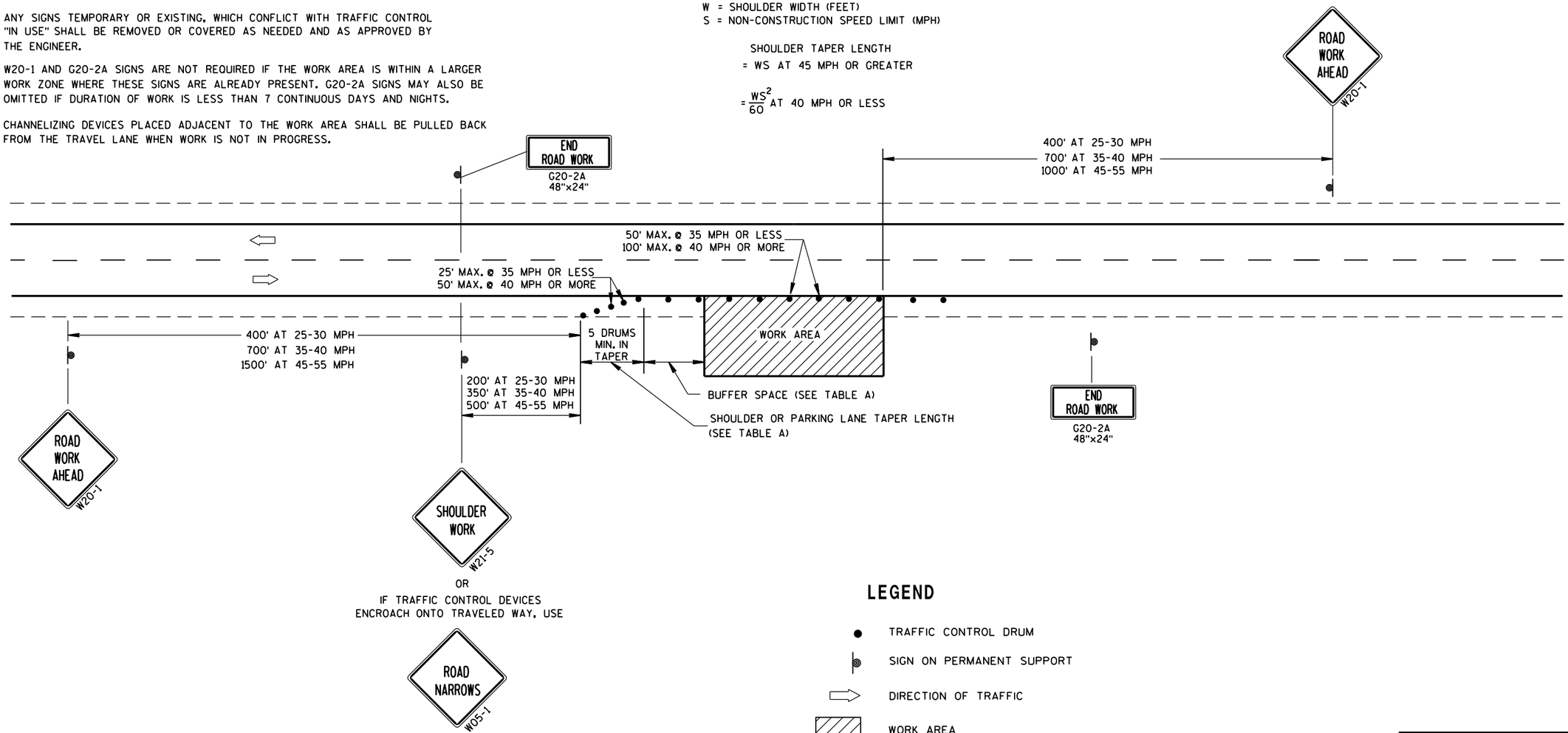
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

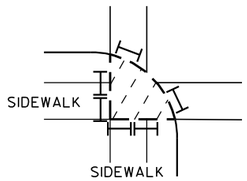
6

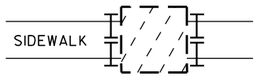
S.D.D. 15 D 28-2

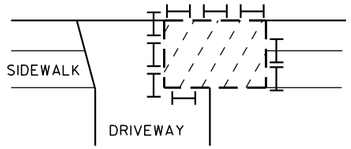
6

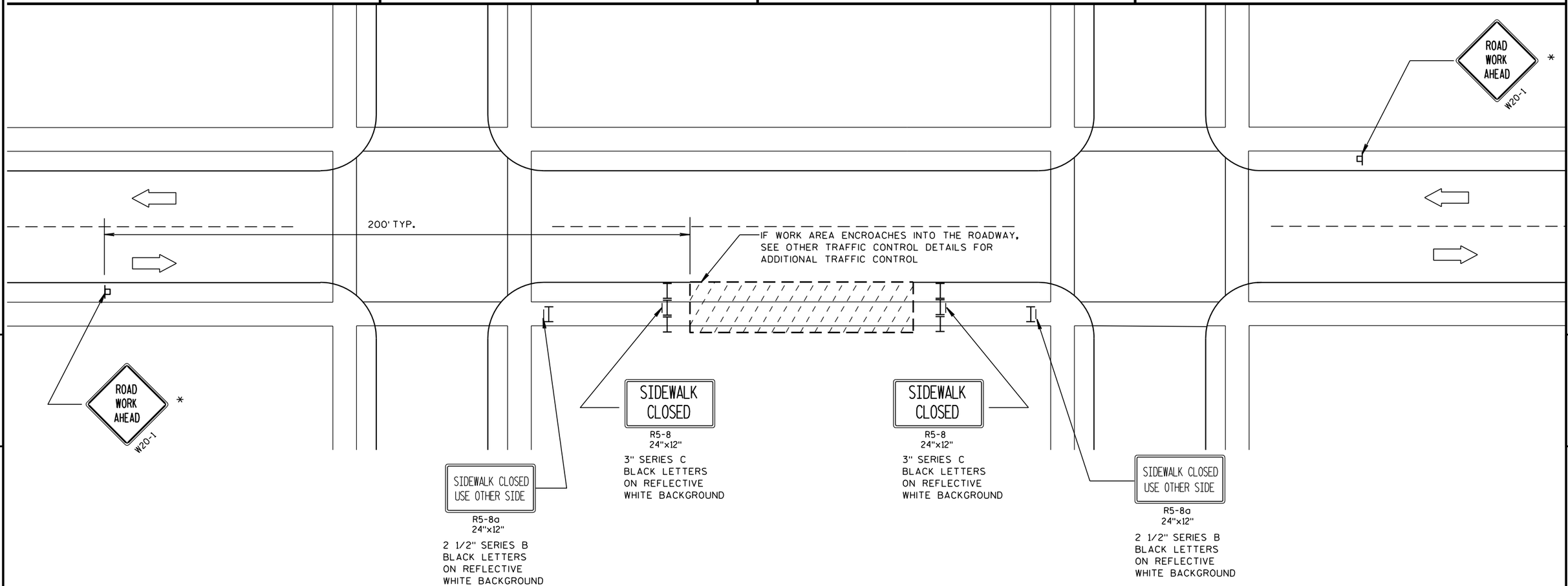
S.D.D. 15 D 28-2

WARNING OF LOCALIZED SIDEWALK WORK AREAS









LEGEND

- POST MOUNTED SIGN
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- WORK AREA
- DIRECTION OF TRAFFIC FLOW

GENERAL NOTES :

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS, IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

* "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

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

TRAFFIC CONTROL, SIDEWALK CLOSURE

TRAFFIC CONTROL, SIDEWALK CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2000 DATE
/S/ Chester J. [illegible]
CHIEF SIGNS AND MARK[illegible] ENGINEER
FHWA

6

S.D.D. 15 D 30-1

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

W057-52
36"x24"

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

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.

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

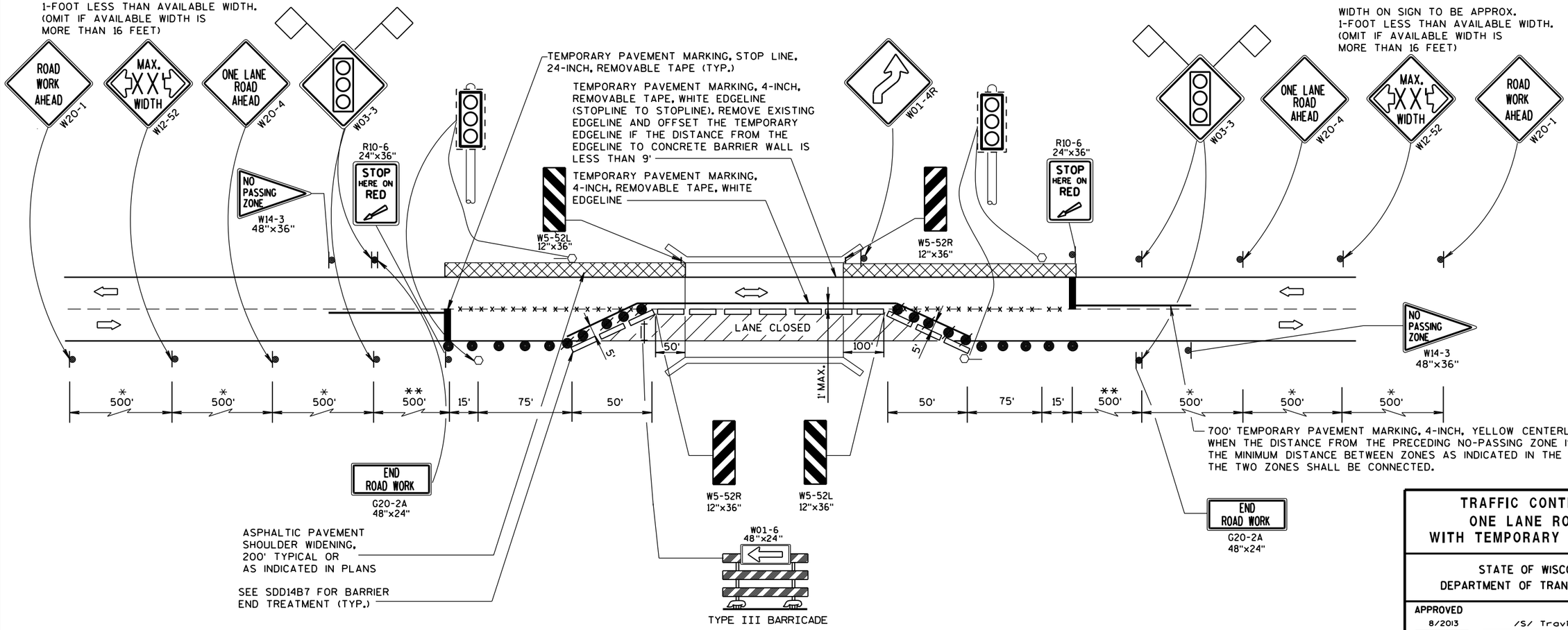
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

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

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

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

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.



TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

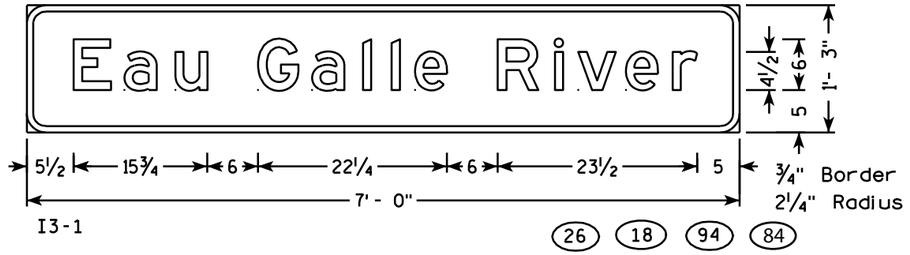
FHWA

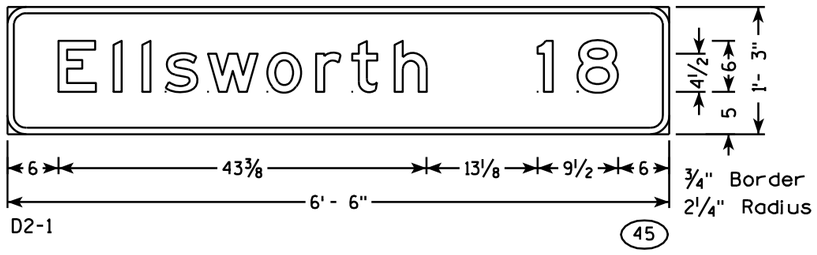
6

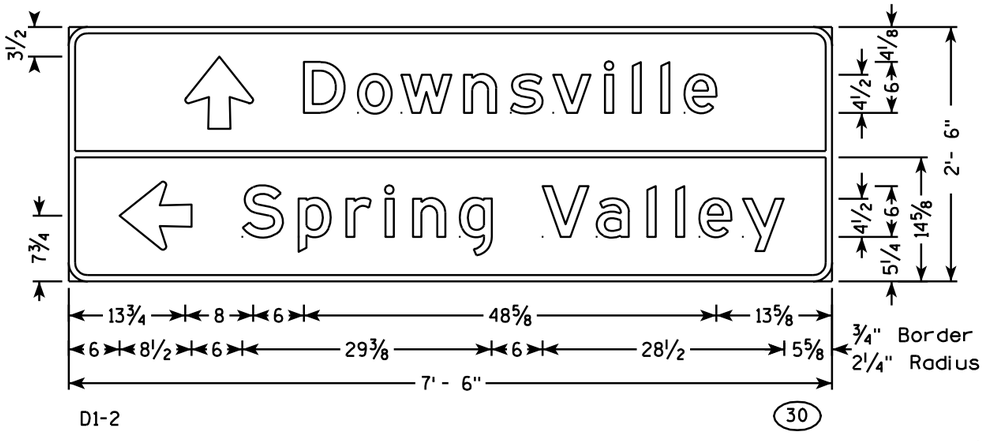
S.D.D. 15 D 33-3

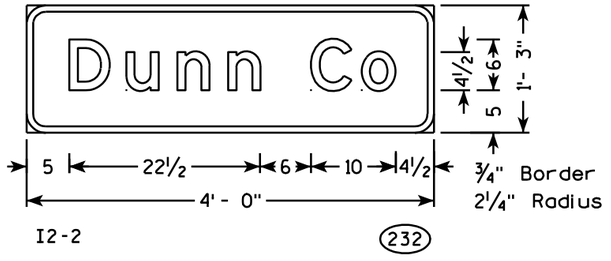
NOTES

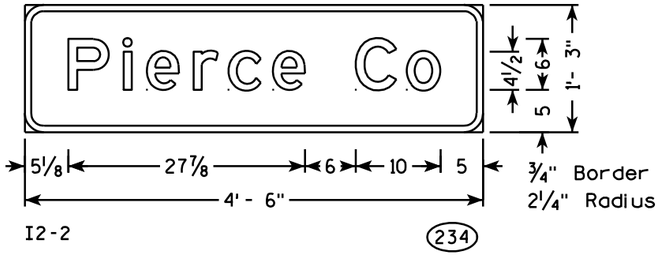
1. All Signs Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E except as Shown

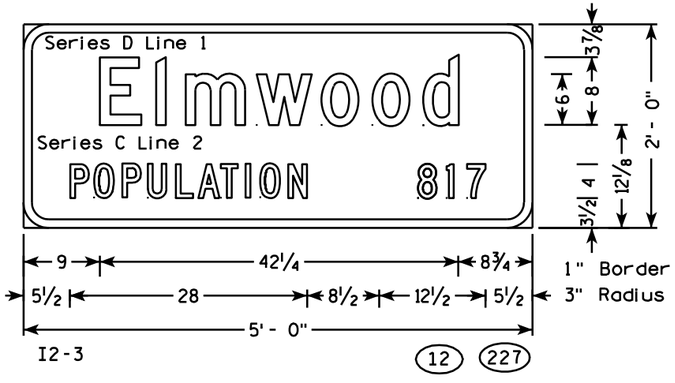


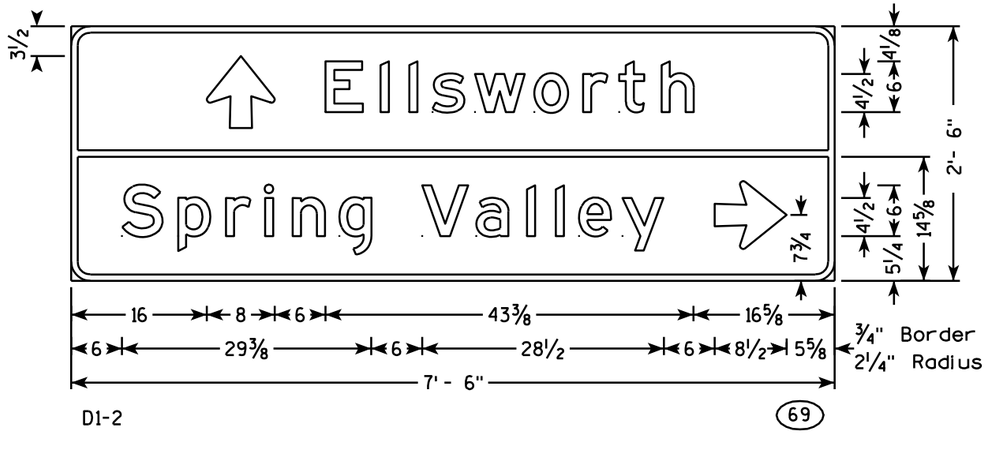


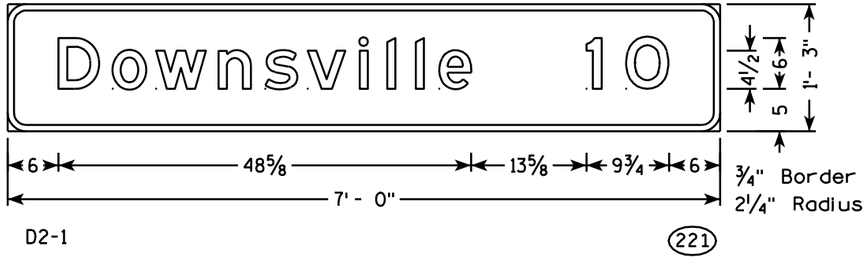












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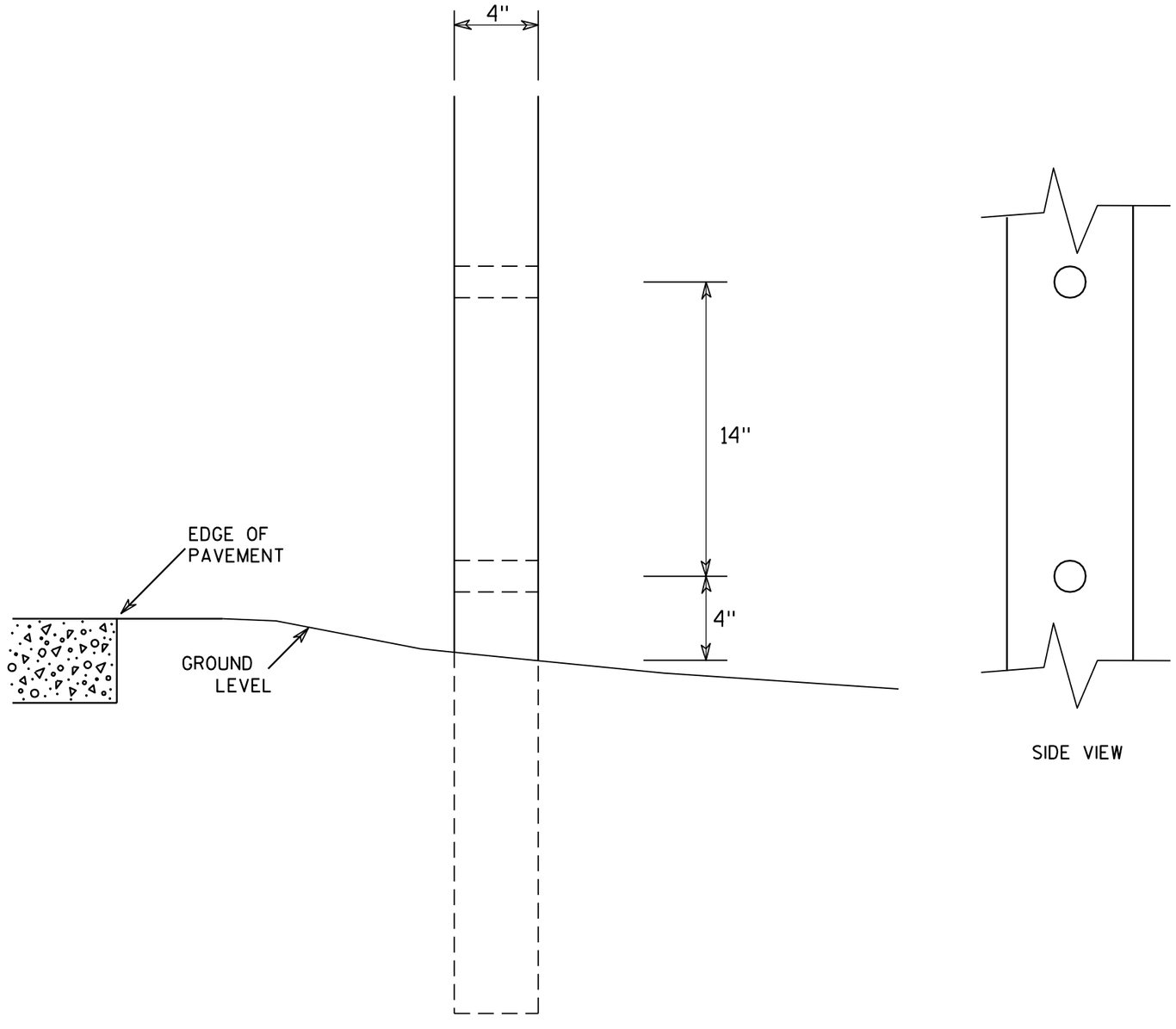
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	PERMANENT SIGNING	SHEET NO: 127	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

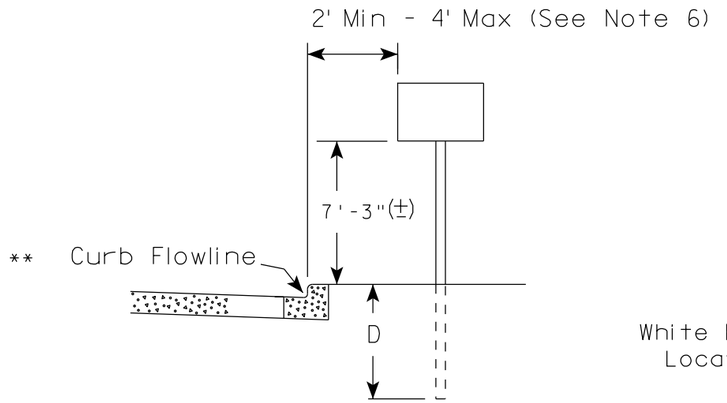
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

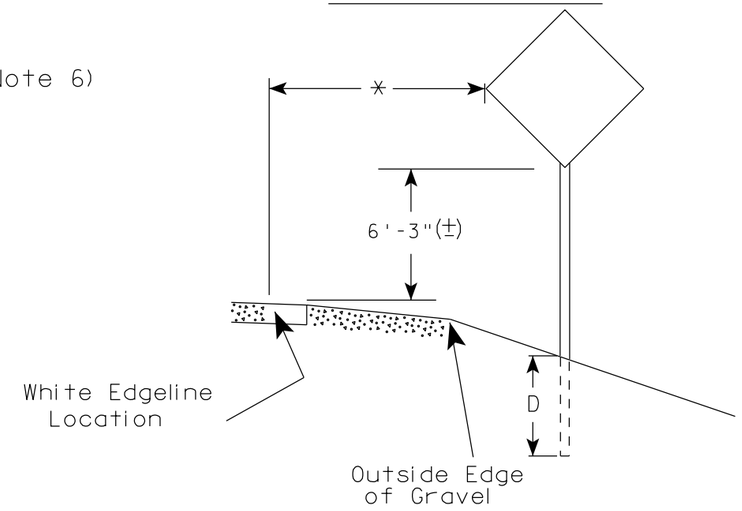
DATE 3/27/97 PLATE NO. A4-11.2

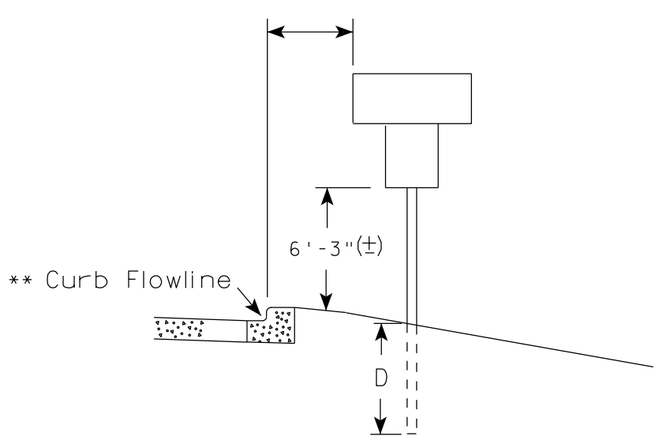
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 128	E

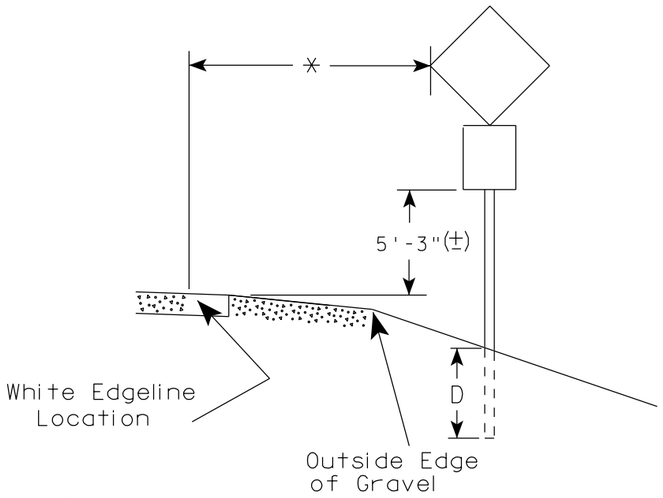
URBAN AREA



RURAL AREA (See Note 2)







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

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

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'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

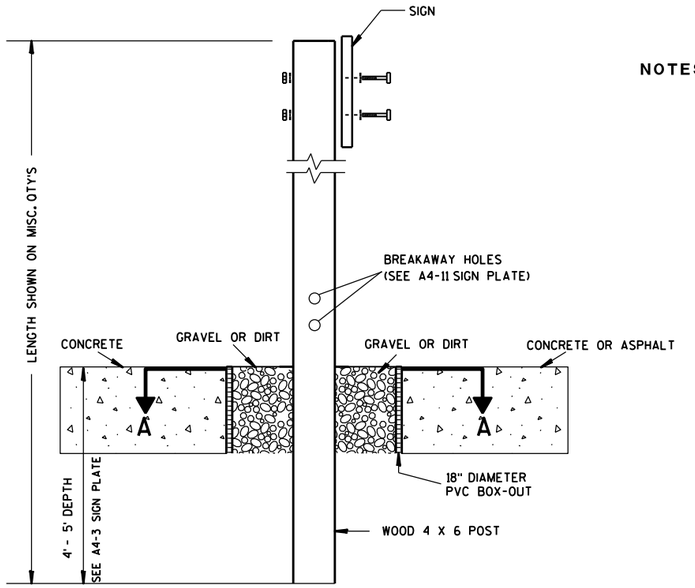
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

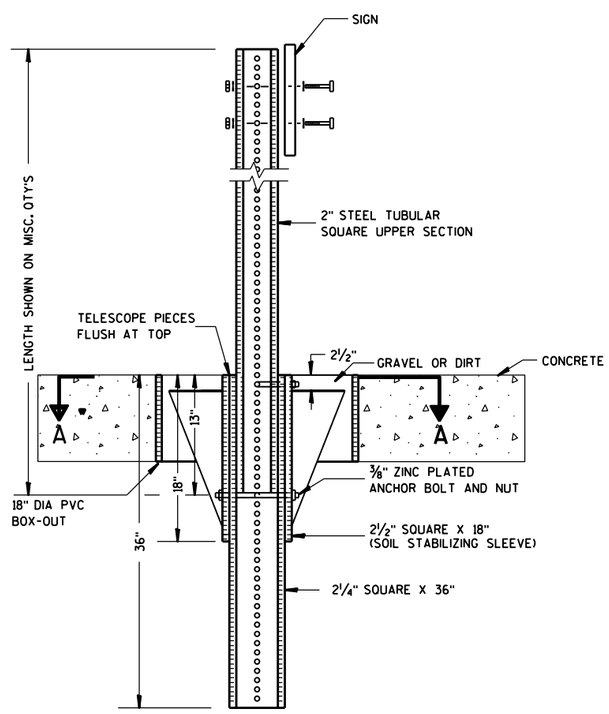
7



ELEVATION VIEW

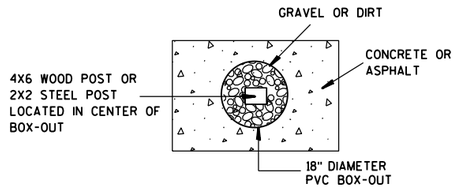
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

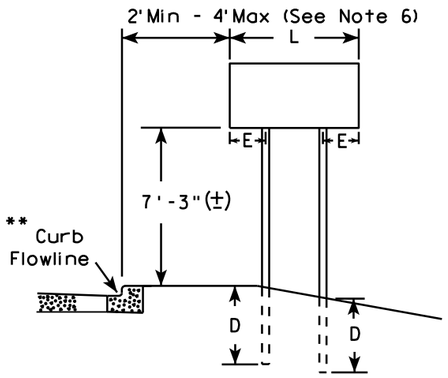
APPROVED Matthew R Rauch
for State Traffic Engineer

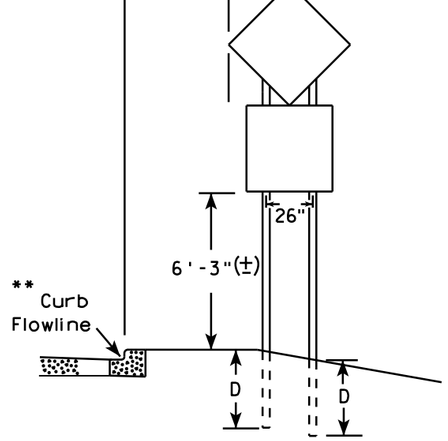
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

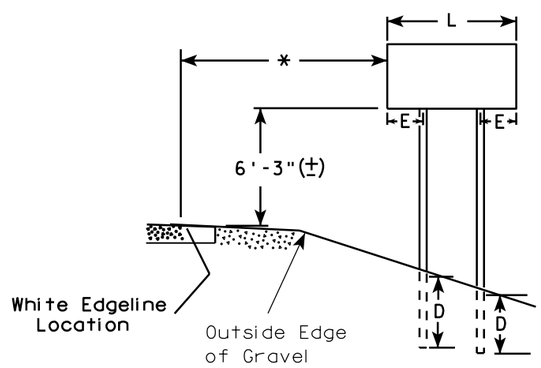
URBAN AREA

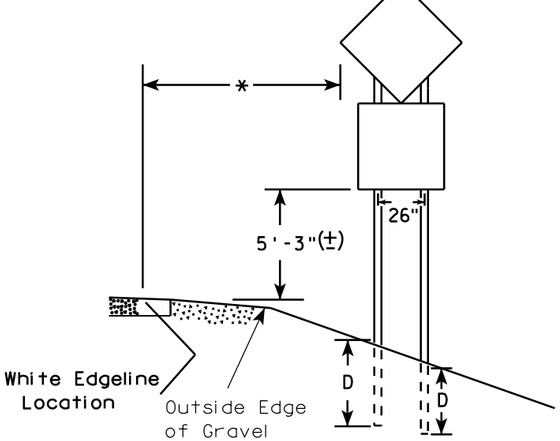




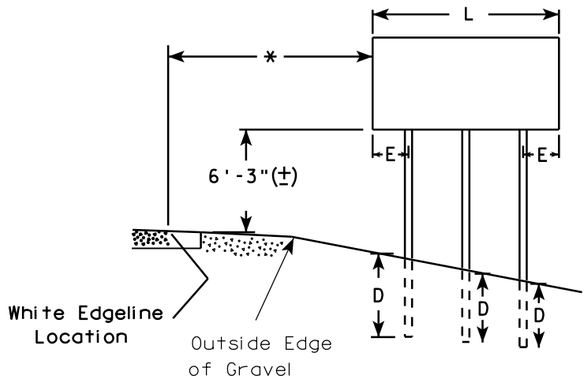
48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)





48" DIAMOND WARNING SIGN



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 less than 20 S.F. 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

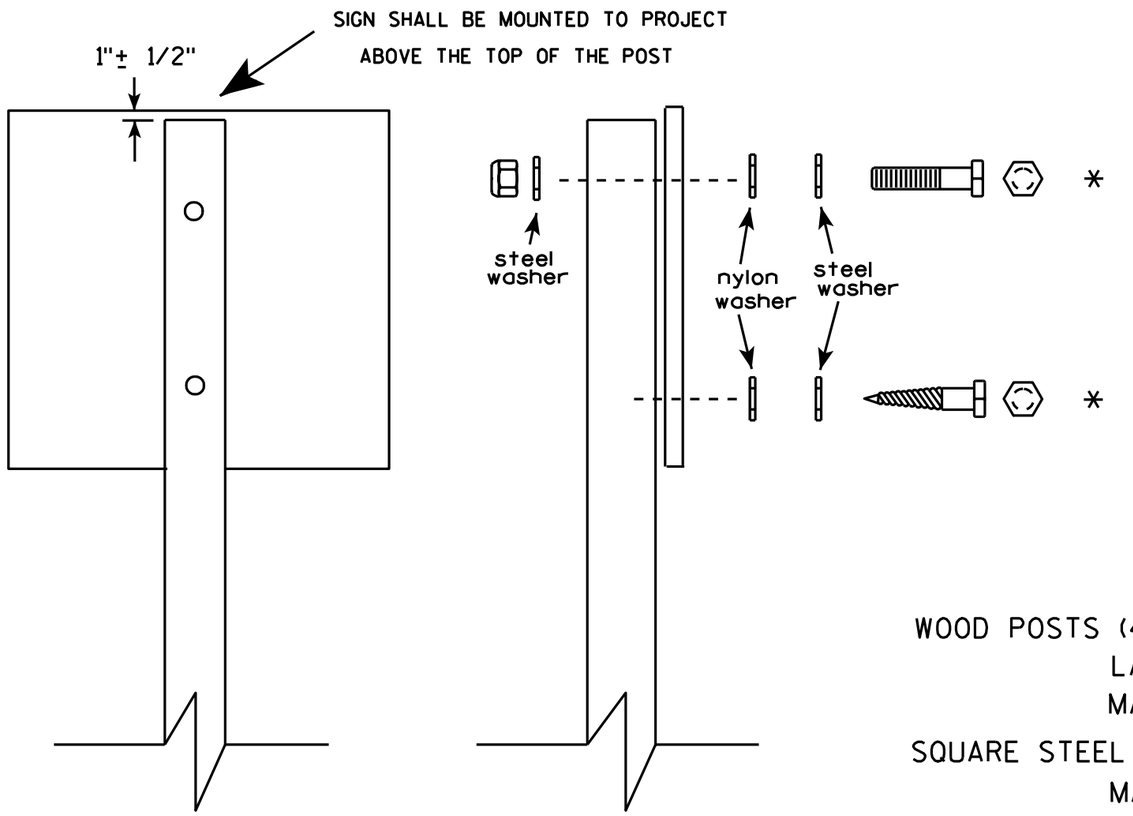
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/29/14 PLATE NO. A4-4 13

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 30-APR-2014 13:10 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 107.021305:1.000000 WISDOT/CADDS SHEET 42



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

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

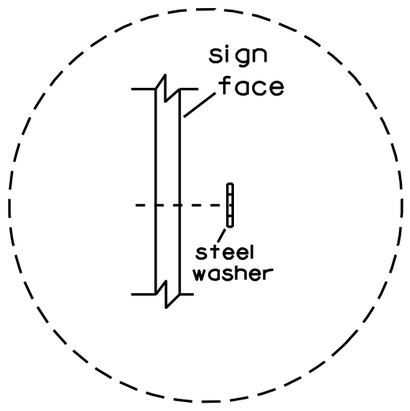
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

7

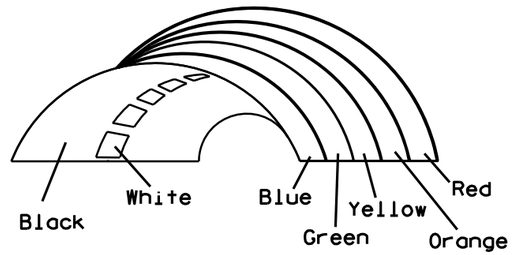
7

PROJECT NO:

SHEET NO: 132 E

* VARIES

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

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 5)
3. Message Series - (See Note 6)
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. Border - Blue
   Line 1 - Red
   Line 2 - Black
   Line 3-5 - Blue
6. Line 1 - Dutch 8011L
   Line 2 - Series E
   Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

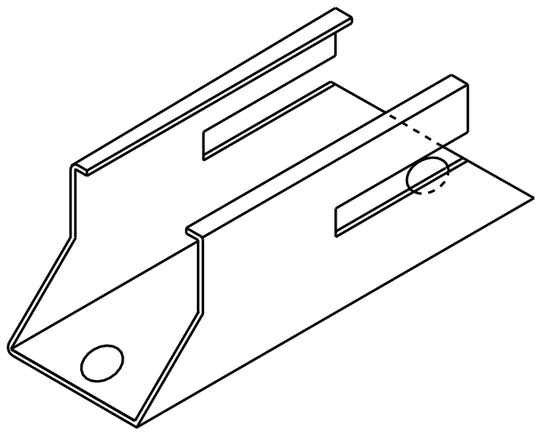
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 133

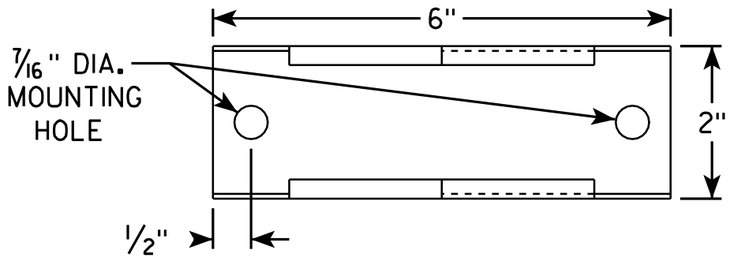
ISOMETRIC VIEW



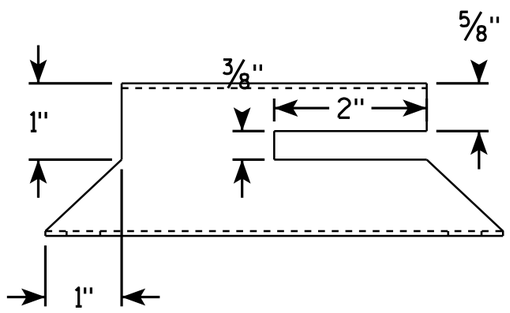
NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

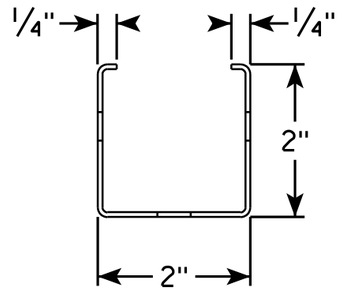
TOP VIEW



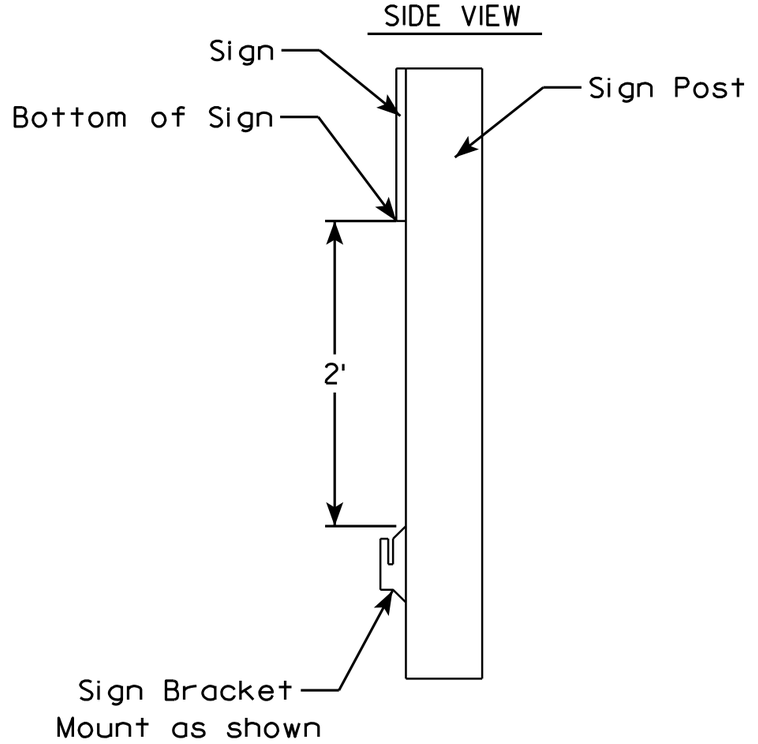
SIDE VIEW



END VIEW



SIDE VIEW



7

7

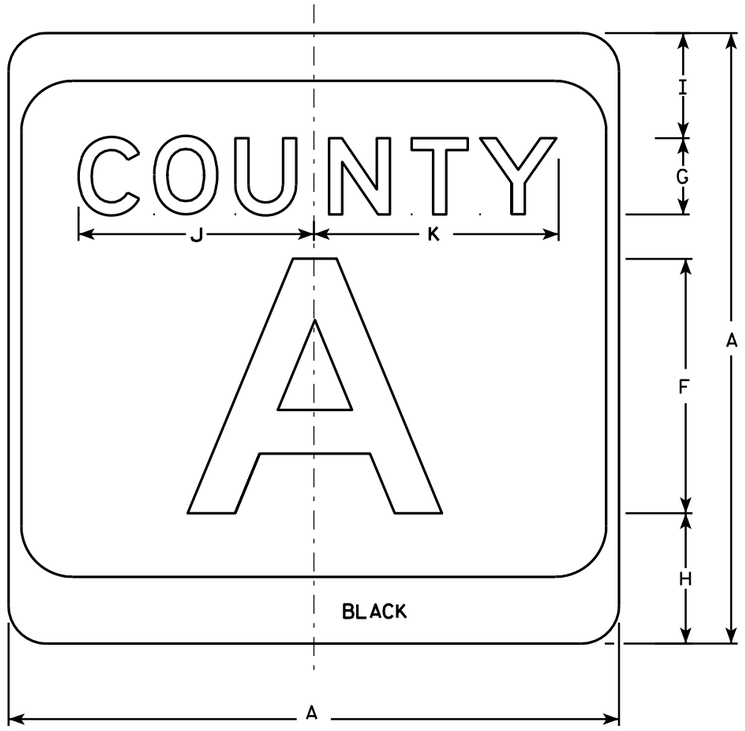
ROLLUP SIGN BRACKET
I55-56B

WISCONSIN DEPT OF TRANSPORTATION

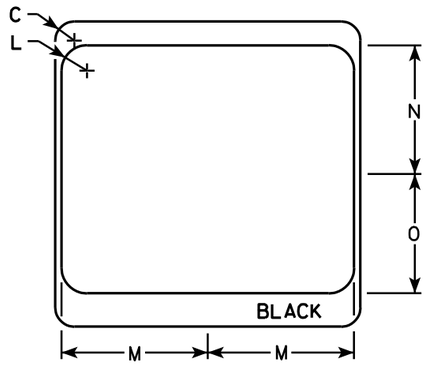
APPROVED Matthew R Rauch
for State Traffic Engineer

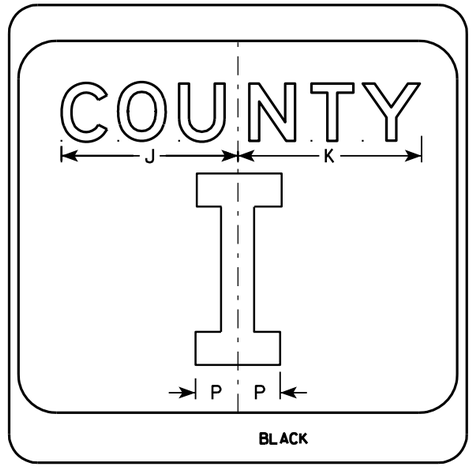
DATE 2/5/10 PLATE NO. I55-56B.1

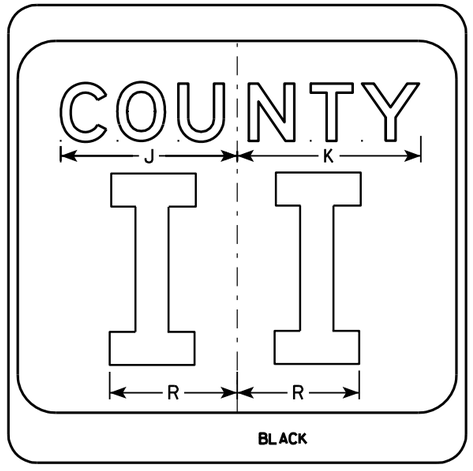
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 134	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

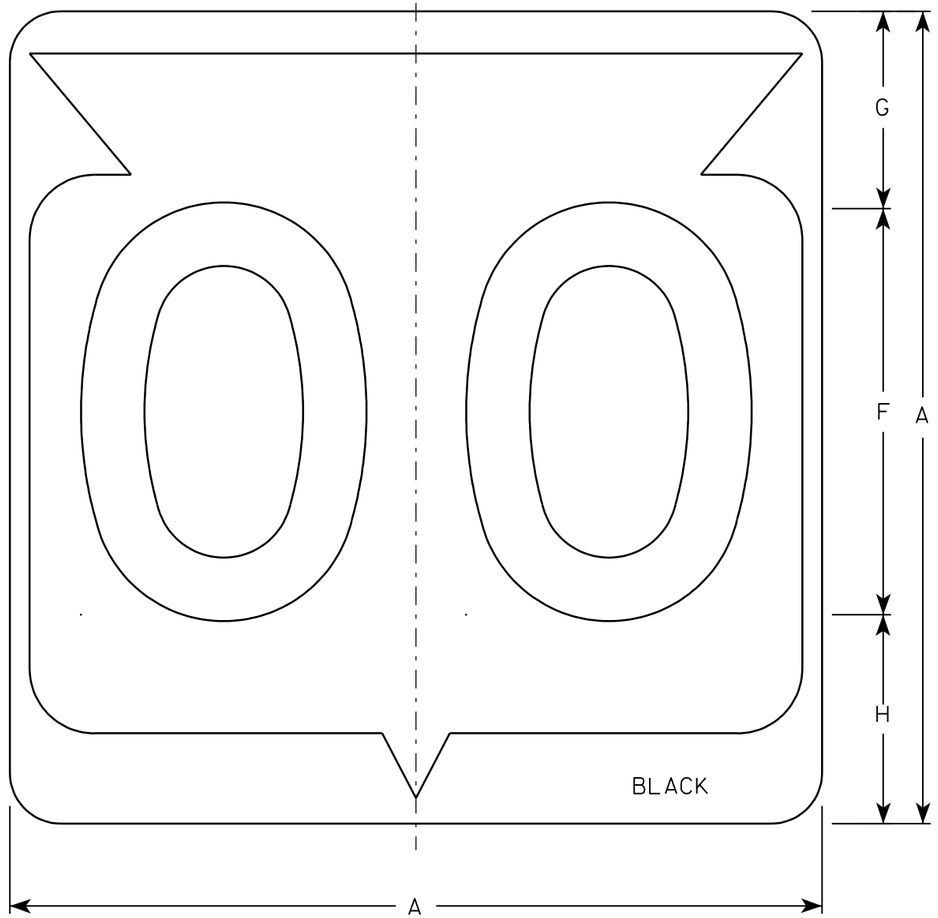
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

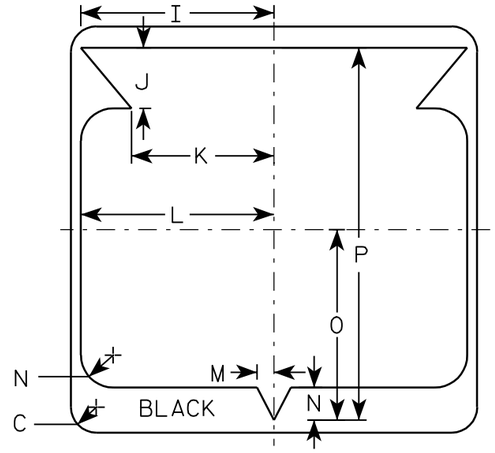
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 135	E



M1-6

NOTES

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



Metric equivalent for this sign is:

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0	.36
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0	.81

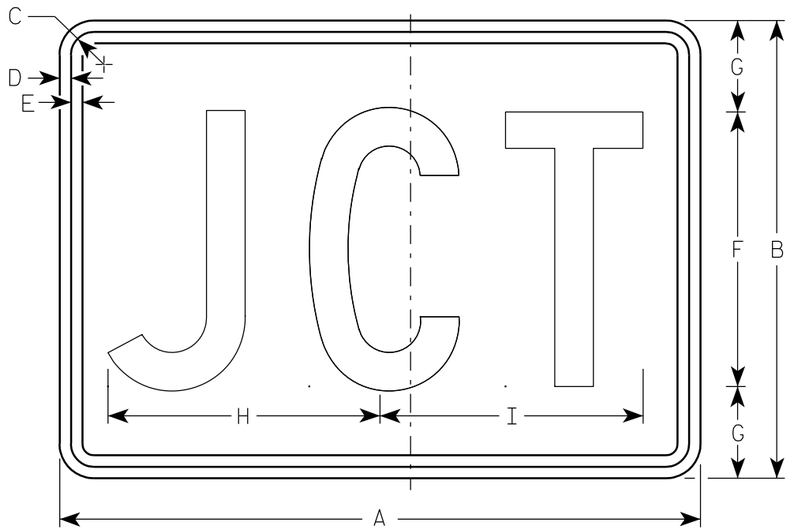
STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

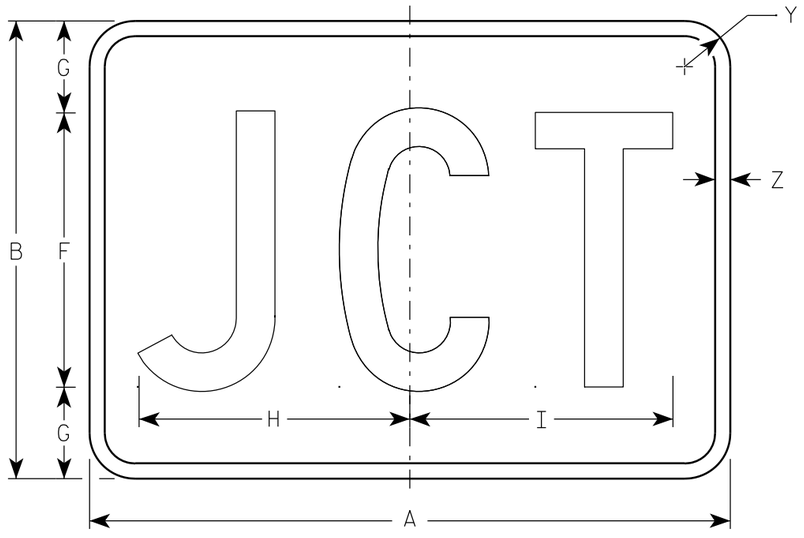
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E



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



MB2-1
MG2-1
MN2-1

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

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 m2
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

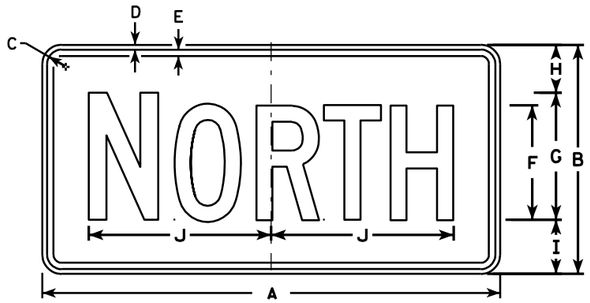
STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

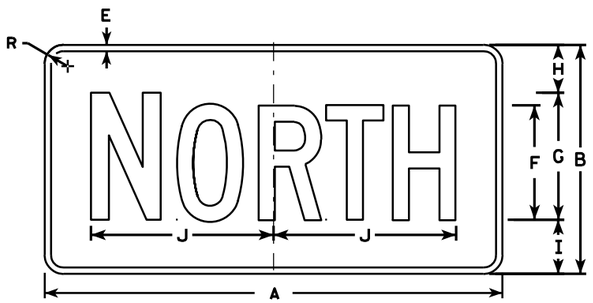
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 137	E



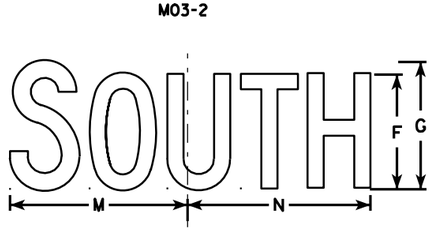
M3-1
MK3-1
MO3-1



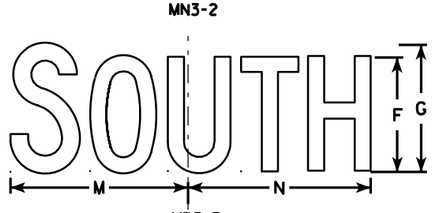
MB3-1
MG3-1
MM3-1
MN3-1

M3-2
MK3-2
MO3-2

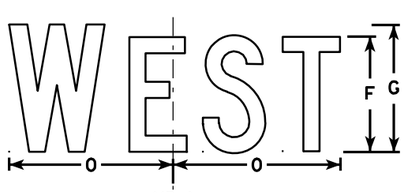
MB3-2
MG3-2
MM3-2
MN3-2



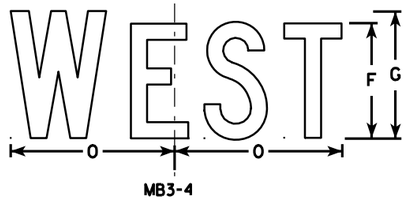
M3-3
MK3-3
MO3-3



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



M3-4
MK3-4
MO3-4



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

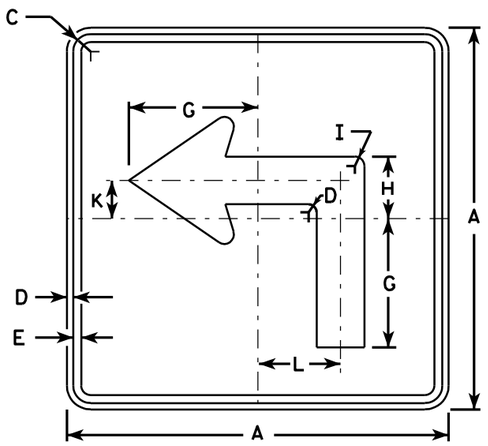
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

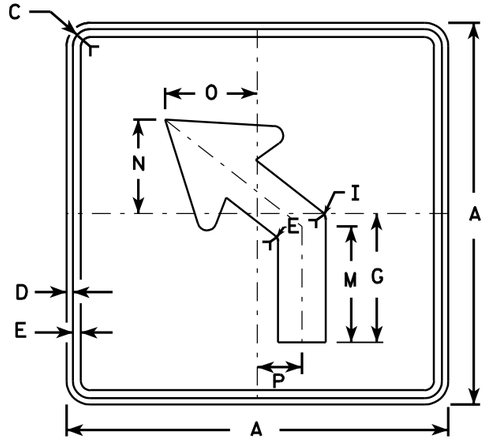
APPROVED Matthew R Rauch for State Traffic Engineer

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

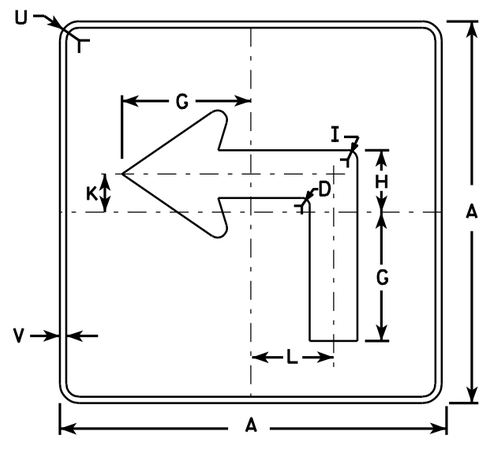
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 138	E



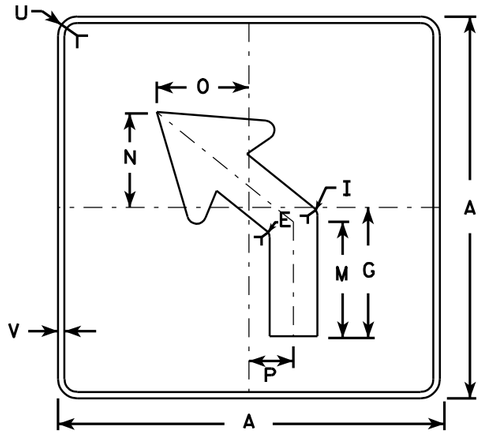
M5-1L
MK5-1L
MM5-1L
MO5-1L
MP5-1L
MR5-1L



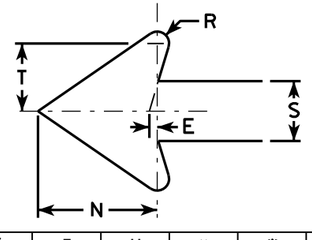
M5-2L
MK5-2L
MM5-2L
MO5-2L
MP5-2L
MR5-2L



MB5-1L
MG5-1L
MN5-1L



MB5-2L
MG5-2L
MN5-2L



NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White - Type H Reflective
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White - Type H Reflective
   MG5-1 and MG5-2 Background - Green
   Message - White - Type H Reflective
   MK5-1 and MK5-2 Background - Green
   Message - White Type H Reflective
   MM5-1 and MM5-2 Background - White - Type H Reflective
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White - Type H Reflective
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow - Type H Reflective
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 1/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

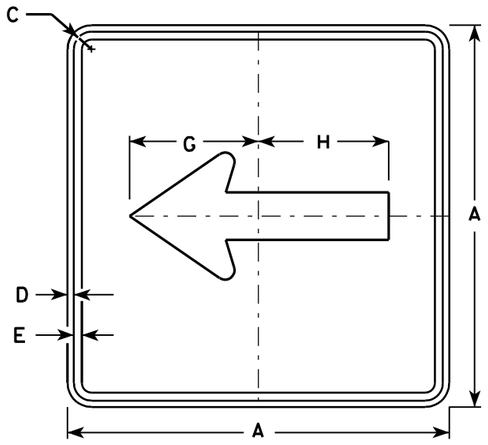
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M5-1.12

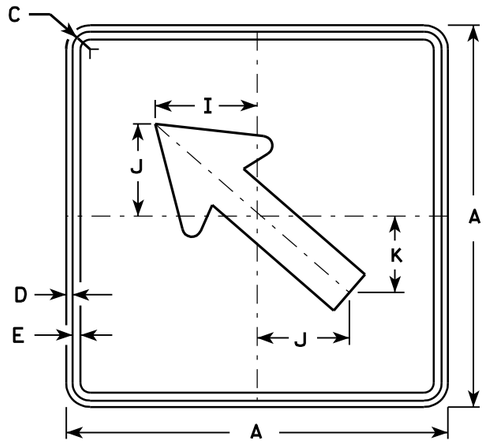
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 139	E

7

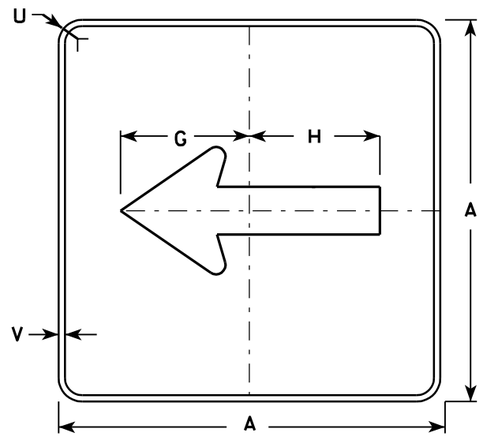
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 29-JUL-2013 13:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 11.908552:1.000000



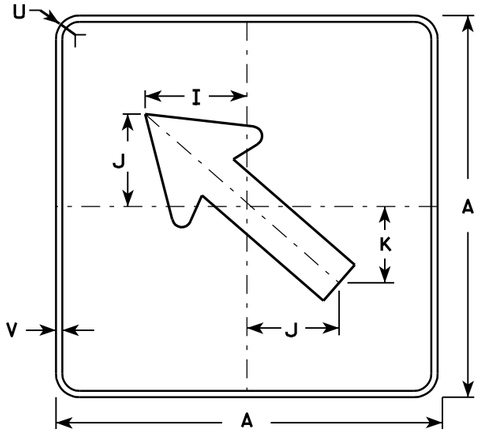
M6-1
MK6-1
MM6-1
MO6-1
MP6-1
MR6-1



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



MB6-1
MG6-1
MN6-1



MB6-2
MG6-2
MN6-2

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White - 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

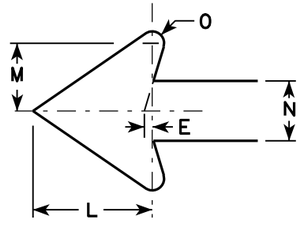
   MM6-1 and MM6-2 Background - White - Type H Reflective
   Message - Green

   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

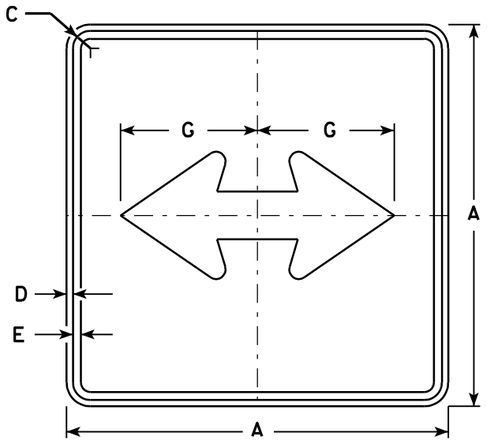
STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

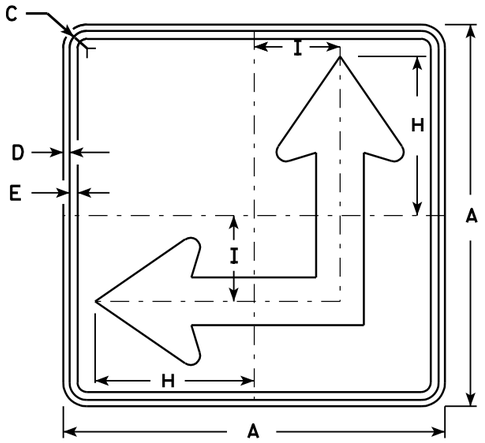
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-1.13

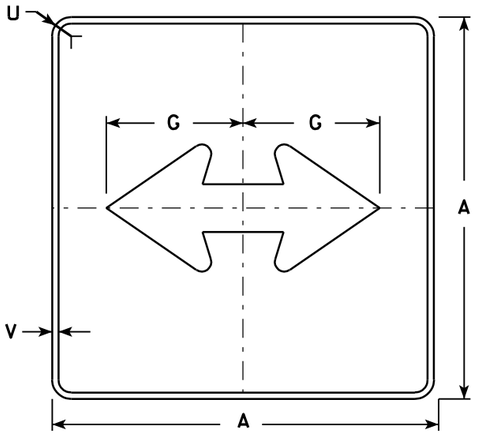
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 140 | E



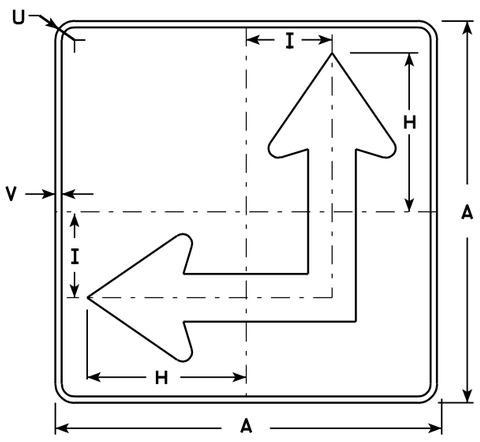
M6-4
MK6-4
MM6-4
MO6-4
MP6-4
MR6-4



M6-6
MK6-6
MM6-6
MO6-6
MP6-6
MR6-6



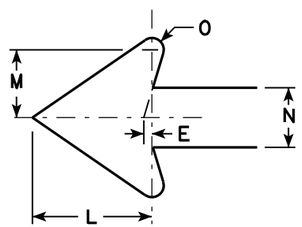
MB6-4
MG6-4
MN6-4



MB6-6
MG6-6
MN6-6

NOTES

1. Signs are Type II - See Note 4 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - See Note 4
   Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-4 and M6-6 Background - White - Type H Reflective
   Message - Black
   MB6-4 and MB6-6 Background - Blue
   Message - White - Type H Reflective
   MG6-4 and MG6-6 Background - Green
   Message - White - Type H Reflective
   MK6-4 and MK6-6 Background - Green
   Message - White - Type H Reflective
   MM6-4 and MM6-6 Background - White - Type H Reflective
   Message - Green
   MN6-4 and MN6-6 Background - Brown
   Message - White - Type H Reflective
   MO6-4 and MO6-6 Background - Orange - Type F Reflective
   Message - Black
   MP6-4 and MP6-6 Background - White - Type H Reflective
   Message - Blue
   MR6-4 and MR6-6 Background - Brown
   Message - White - Type H Reflective
5. M6-6R same as M6-6L except arrow points ahead and right.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	8 3/4	4 1/4			5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	12 1/2	6 3/4			7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

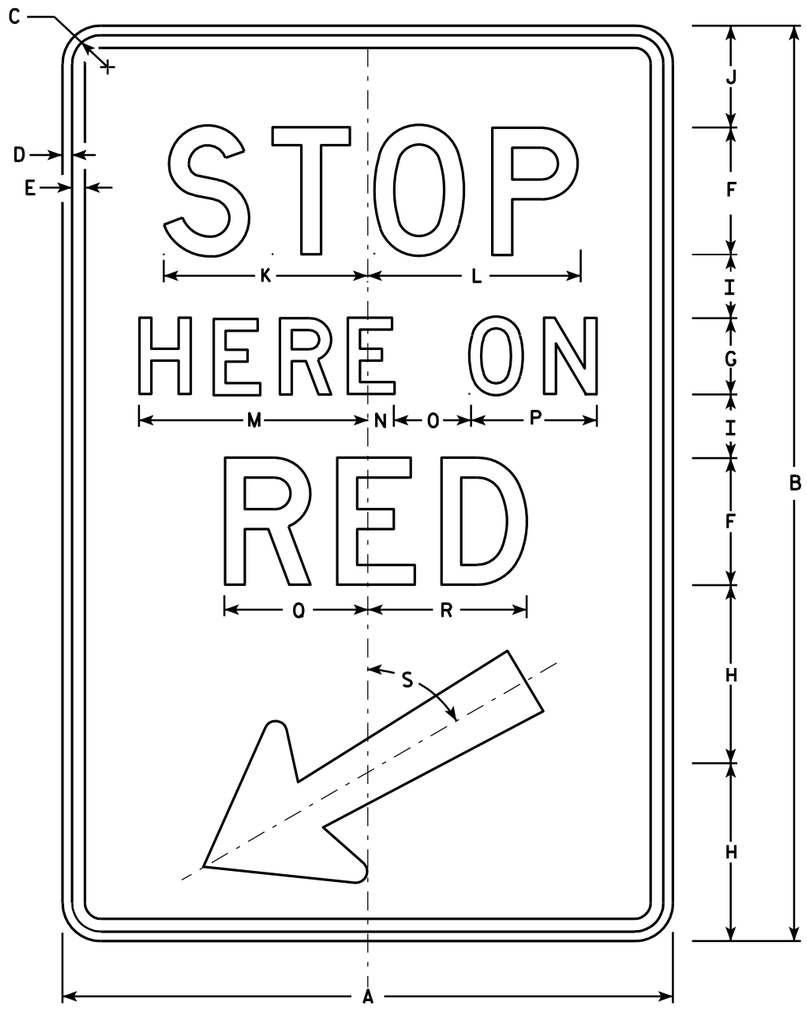
STANDARD SIGN M6-4 & M6-6 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 7/29/13 PLATE NO. M6-4.8

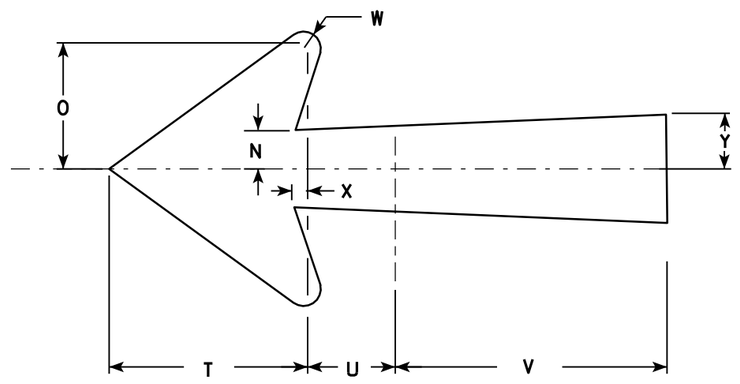
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 141 | E



R10-6

NOTES

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



Arrow Detail

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

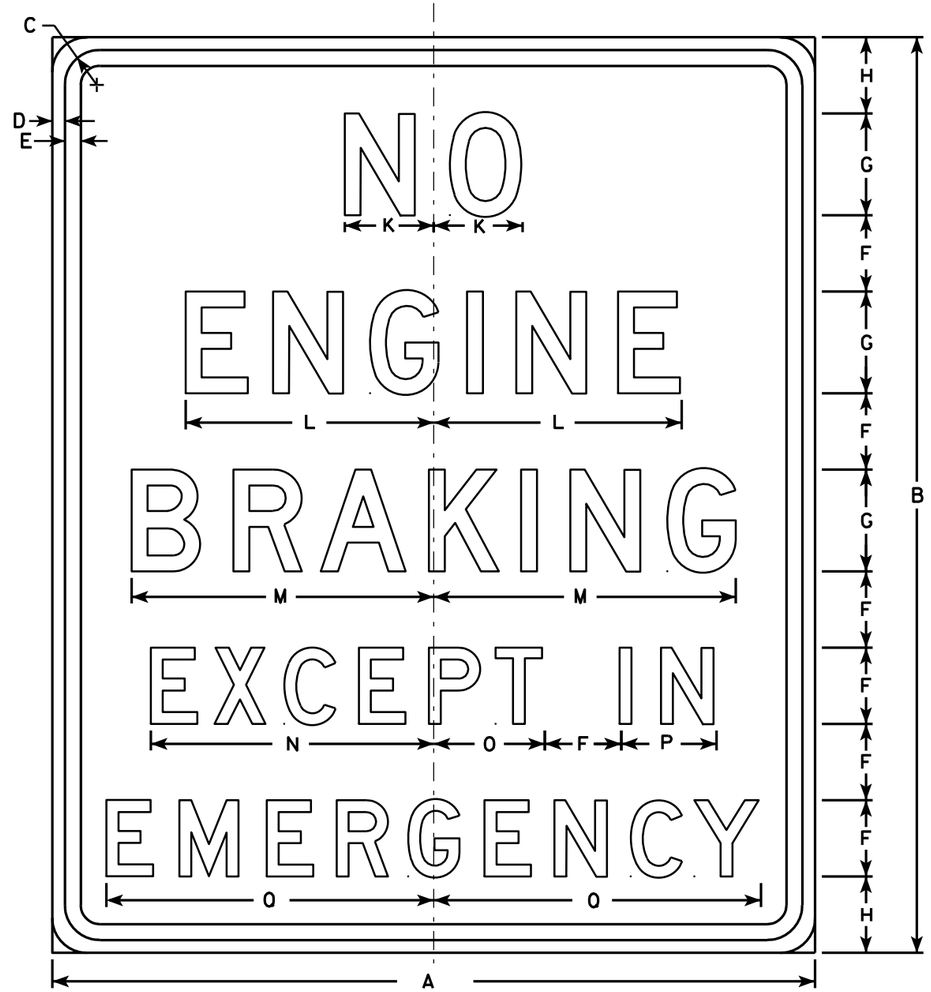
STANDARD SIGN
R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

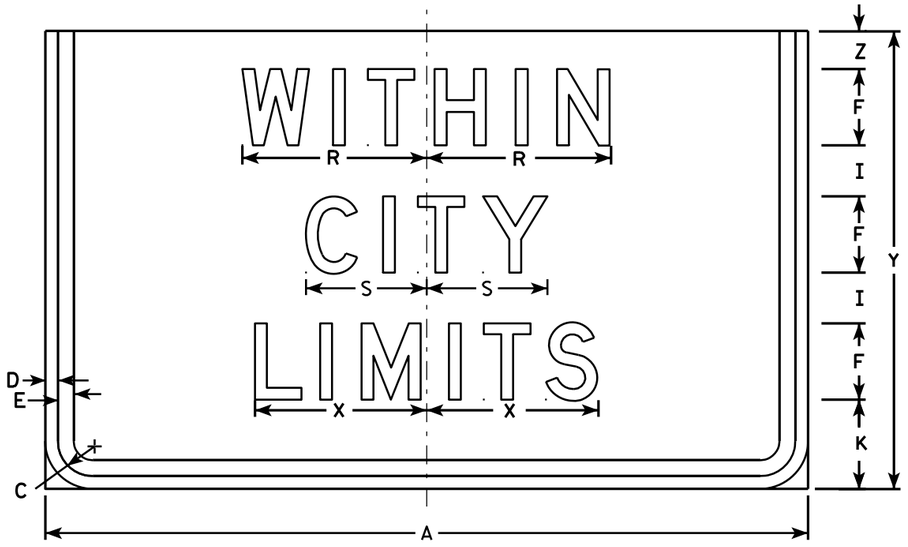
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 142	E



R10-64

NOTES

1. Signs are 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 See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 2 of R10-64F is Series C for "TOWNSHIP" Only



R10-64F

Area sq. ft.
3.75
7.0

VILLAGE
V
V

TOWNSHIP
U
U

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	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
2S	30	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
2M	30	36	1 3/8	1/2	5/8	3	4	3	2		3 1/2	9 3/4	11 7/8	11 1/8	4 3/8	3 3/4	12 7/8	7 1/4	4 3/4		8 1/4	8 3/4	5/8	6 3/4	18	1 1/2	7.5
3	42	48	1 3/8	1/2	5/8	4	5	4 1/2	3		4	12 1/4	14 7/8	14 1/8	5 1/4	4 3/4	16 1/4	9	6		11	11 1/4	1 1/2	8 1/2	24	2	14.0
4																											
5																											

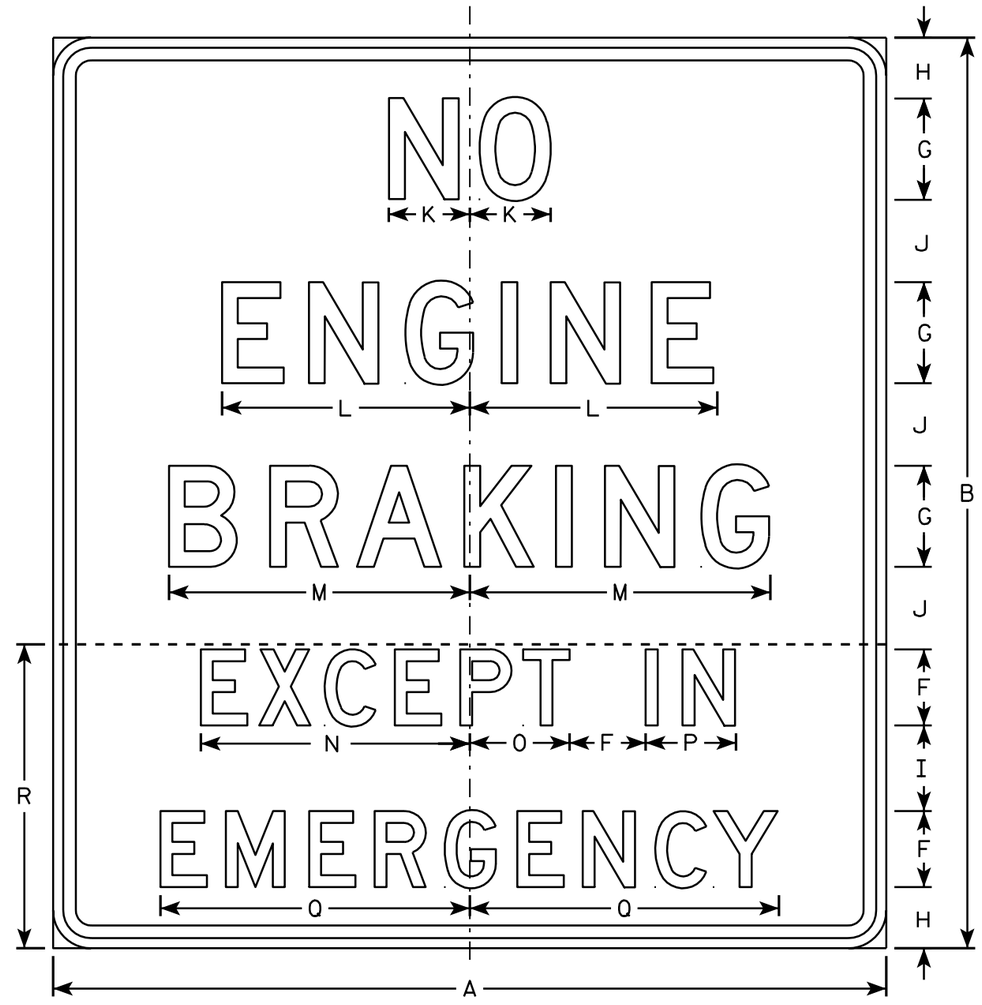
STANDARD SIGN
R10-64 & R10-64F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/4/11 PLATE NO. R10-64.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 143	E



NOTES

1. All Signs 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.

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	
5	1650 mm X 1800 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2																												
3																												
4																												
5	66	72	2 1/4	1	3/4	6	8	4 7/8	6 3/4	6 1/2	6 3/8	19 5/8	23 3/4	21 1/4	7 7/8	7 1/8	24 1/2	24									33	2.97

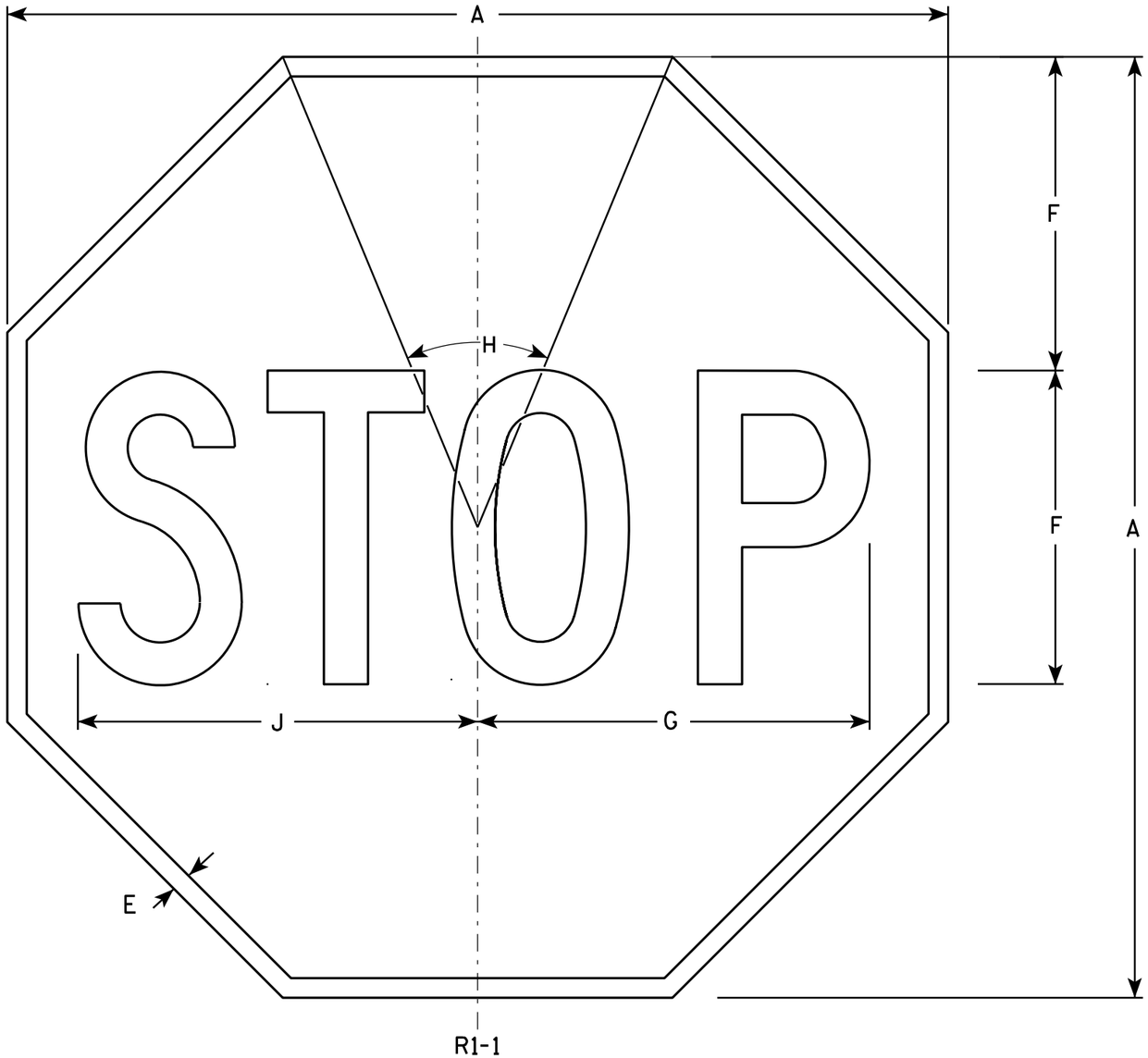
STANDARD SIGN
R10-64B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/06 PLATE NO. W10-64B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 144	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

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

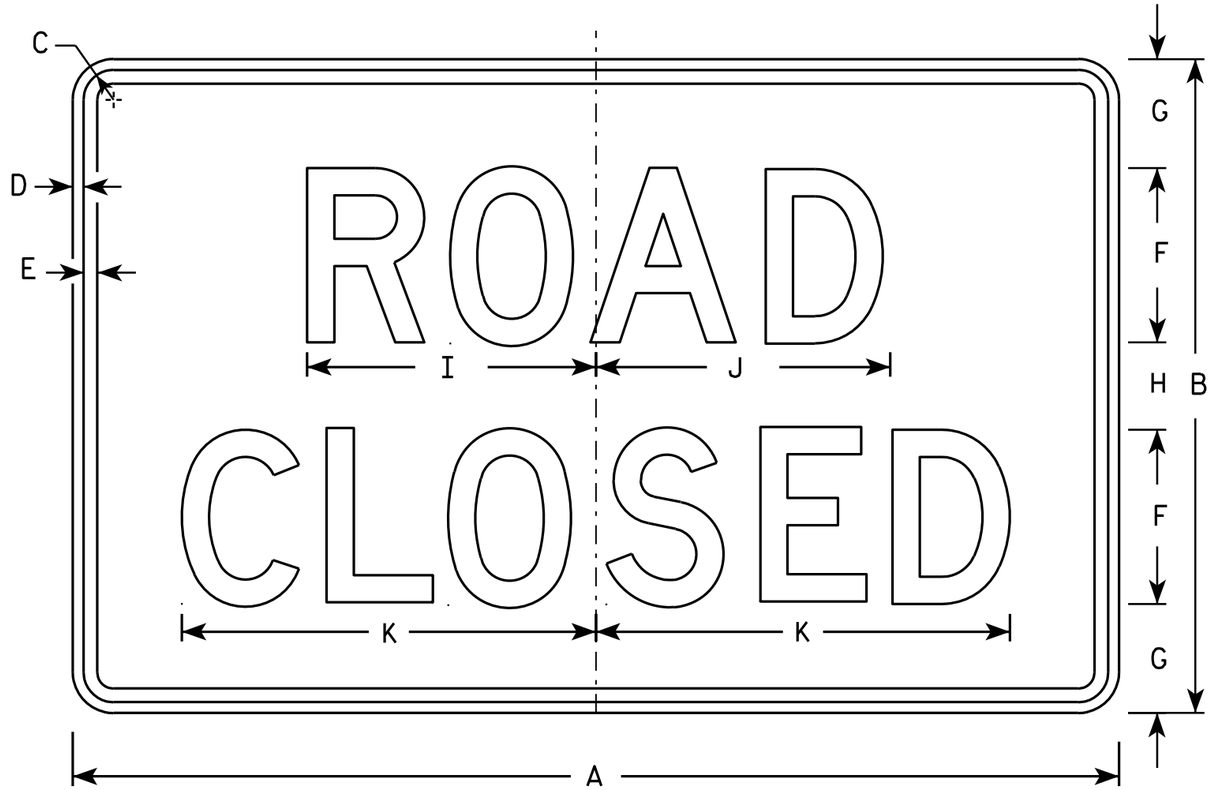
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

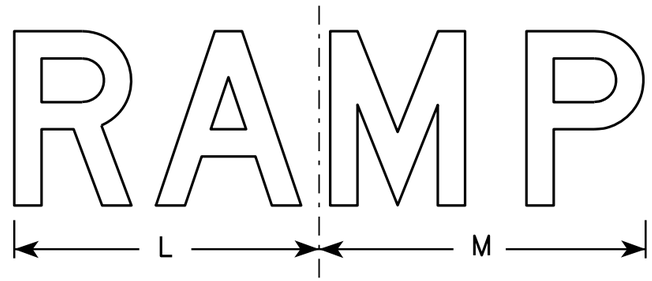
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 145	E



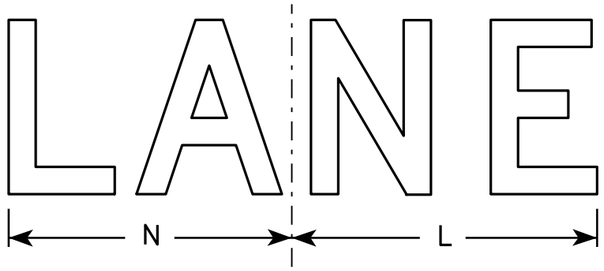
R11-2

NOTES

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



R11-2R



R11-2L

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

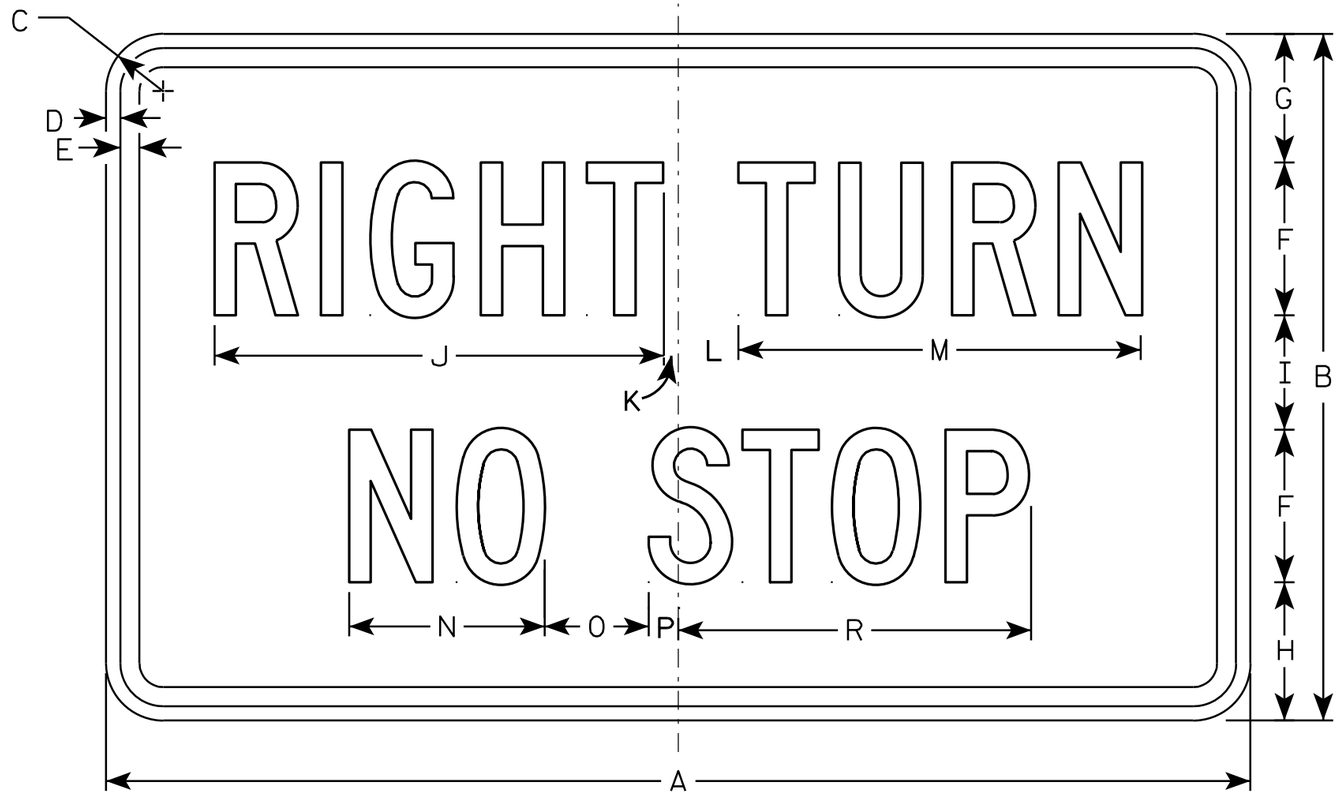
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 146	E



R1-51

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - 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	30	18	1 1/8	3/8	1/2	4	3 3/8	3 5/8	3	11 3/4	3/8	1 5/8	10 1/2	5 1/8	2 3/4	3/4		9 1/4									3.75
2M	48	24	1 3/8	1/2	5/8	6	4	4	4	18 3/4	1	3	16 3/4	8	5	5/8		14 5/8									8.00
3																											
4																											
5																											

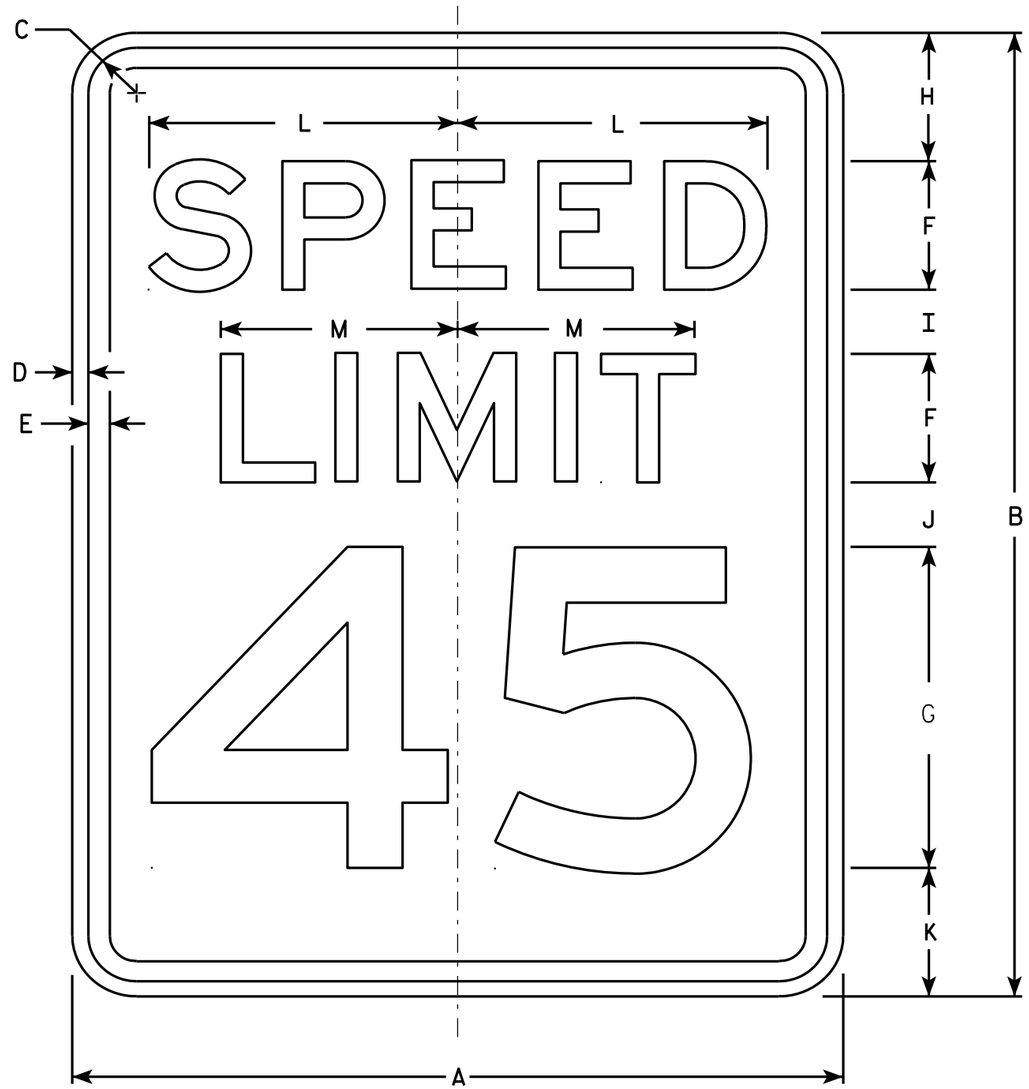
STANDARD SIGN
R1-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/11 PLATE NO. R1-51.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 147	E



R2-1

NOTES

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

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

STANDARD SIGN
R2-1

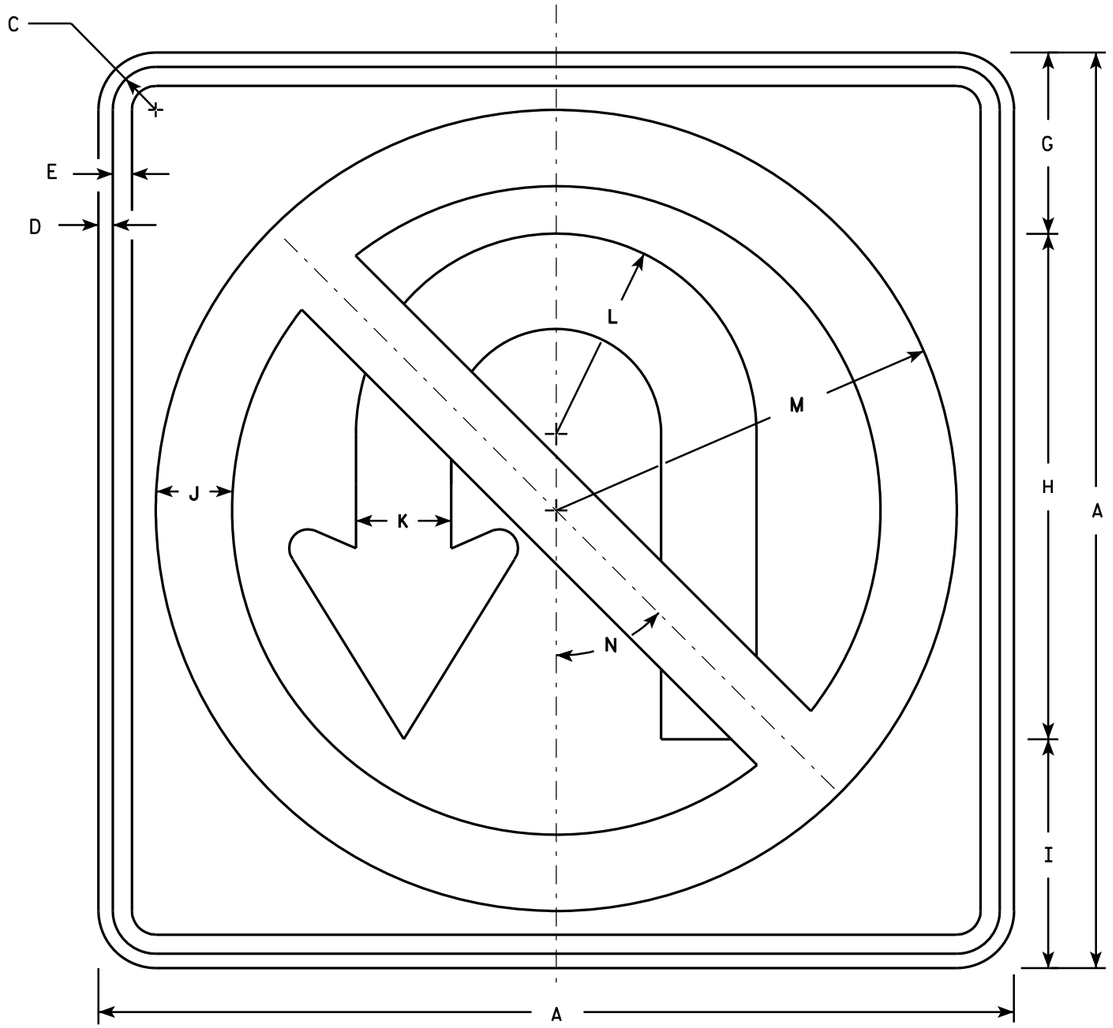
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E

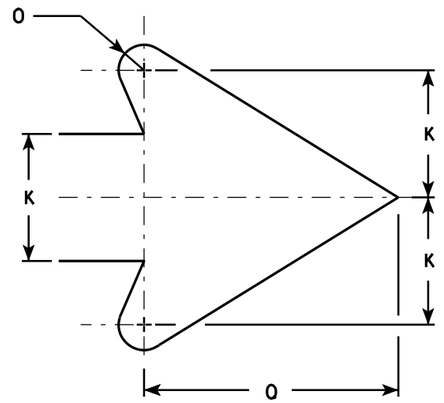
FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000
WISDOT/CADDS SHEET 42



R3-4

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

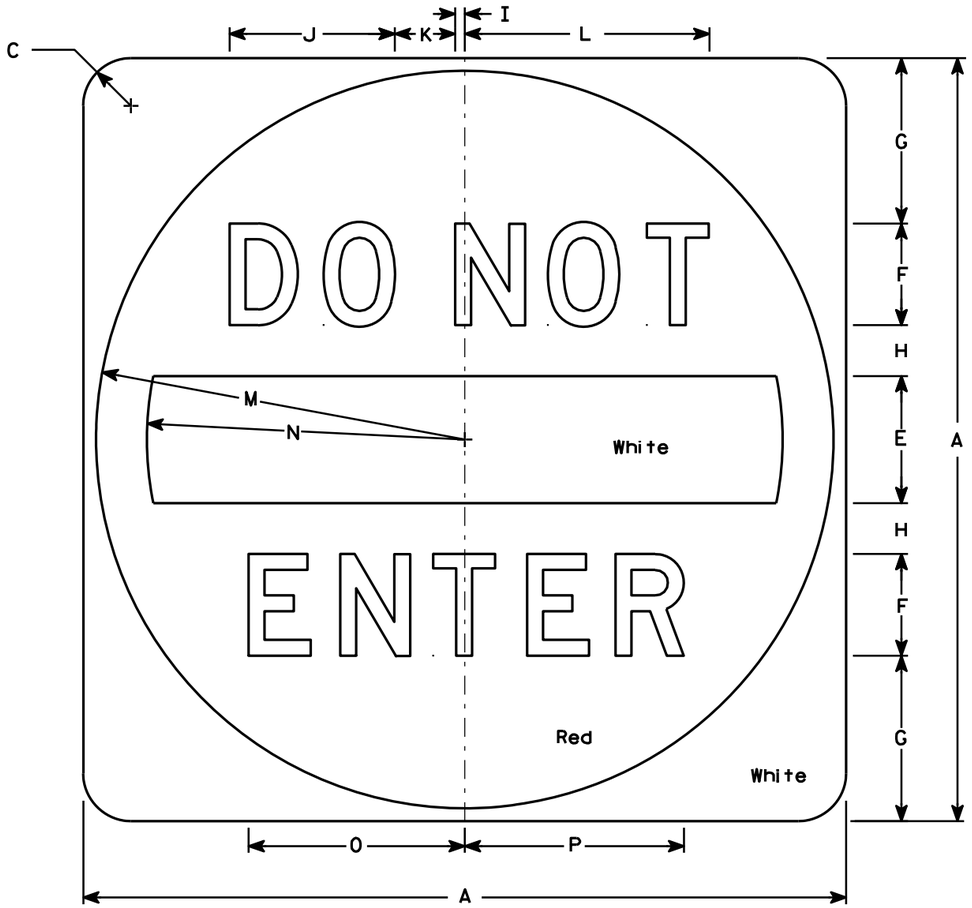
STANDARD SIGN
R3-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 149	E



R5-1

NOTES

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

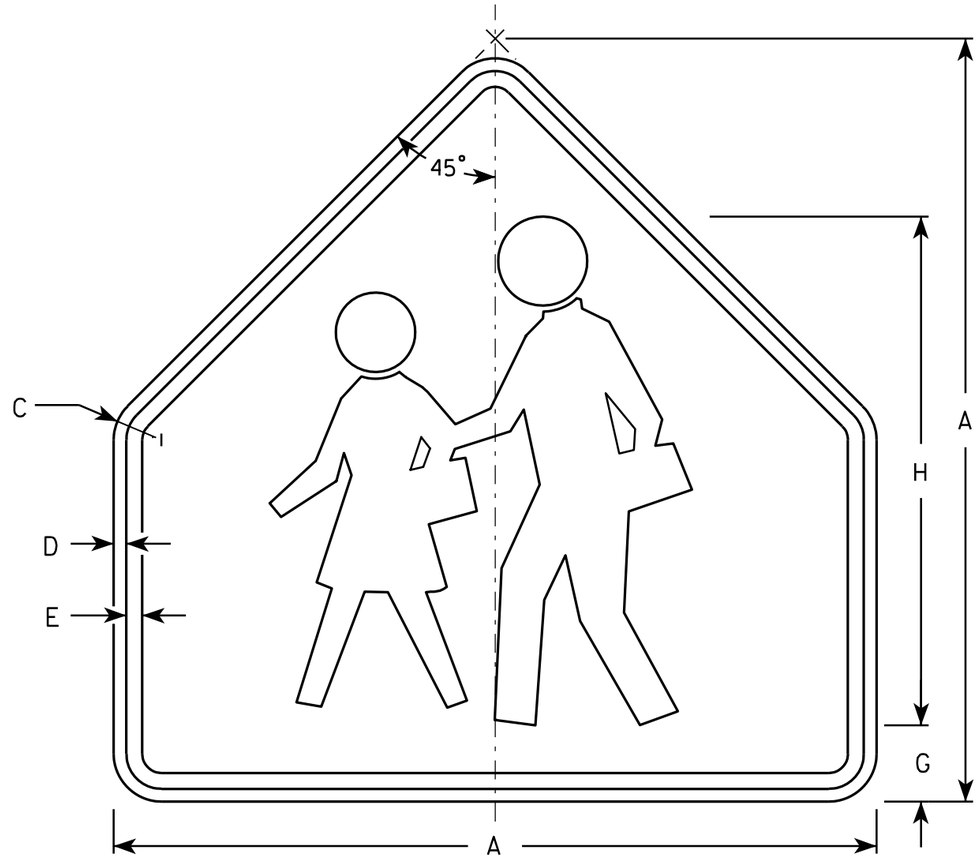
STANDARD SIGN
R5-1

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: 150 | E



S1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8		3	20																			4.69
2	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
3	36		1 5/8	5/8	3/4		3 1/2	24																			6.75
4	48		2 1/4	3/4	1		4 3/4	32																			12
5																											

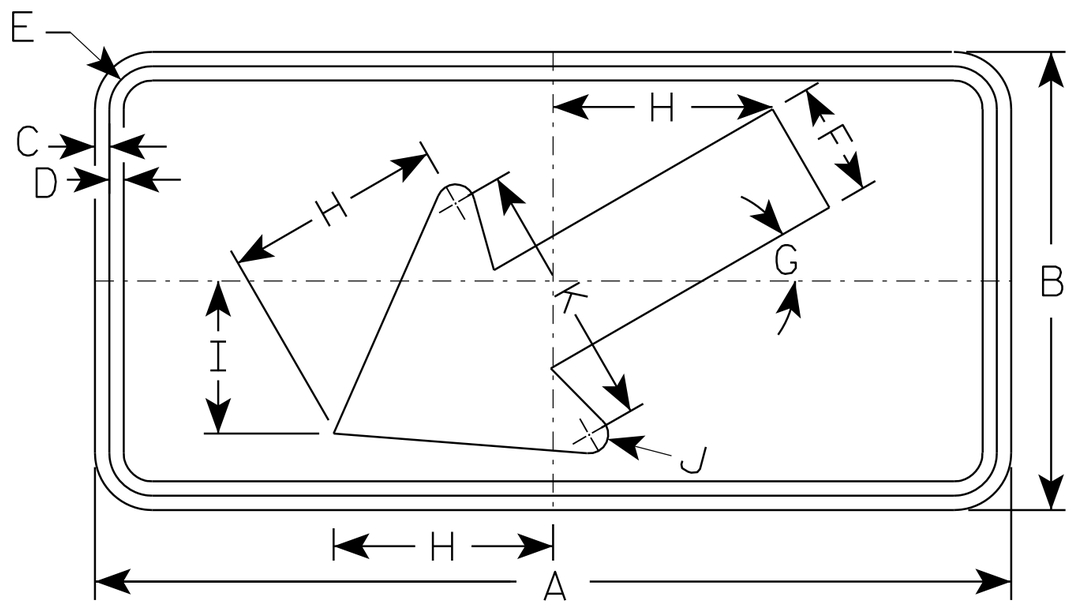
STANDARD SIGN
S1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/30/05 PLATE NO. S1-1.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 151	E



S16-7L

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow-Green
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. S16-7R are the same as S16-7L except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	3/8	3/8	1 1/8	3	30°	5 3/4	4	1/2	7																2.0
2S	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
2M	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
3	30	18	3/8	1/2	1 1/8	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
4	48	24	1/2	5/8	1 3/8	6	30°	11 1/2	8	1	14																8.0
5																											

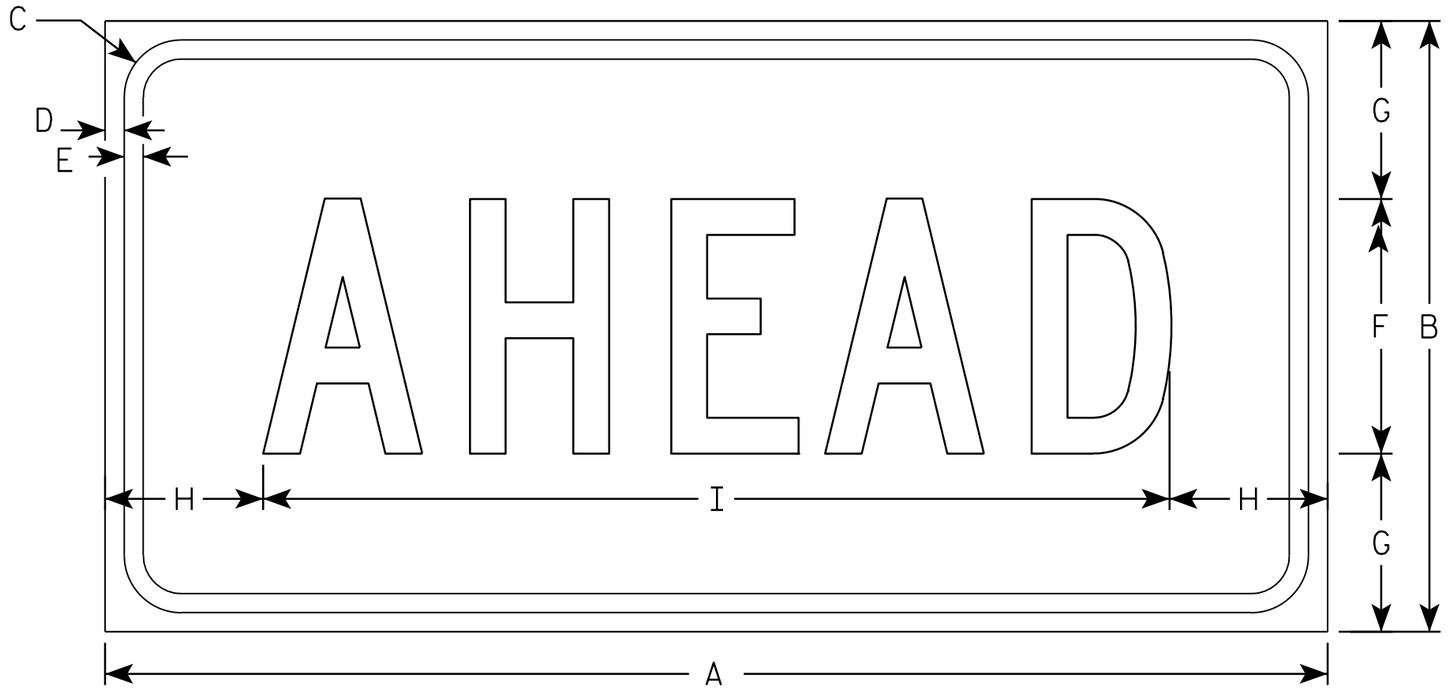
STANDARD SIGN
S16-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-7.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 152 | E



S16-9P

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24	12	1 1/8	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
2S	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
2M	30	18	1 1/8	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
3	30	18	1 1/8	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
4	48	24	1 3/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
5																											

STANDARD SIGN
S16-9P

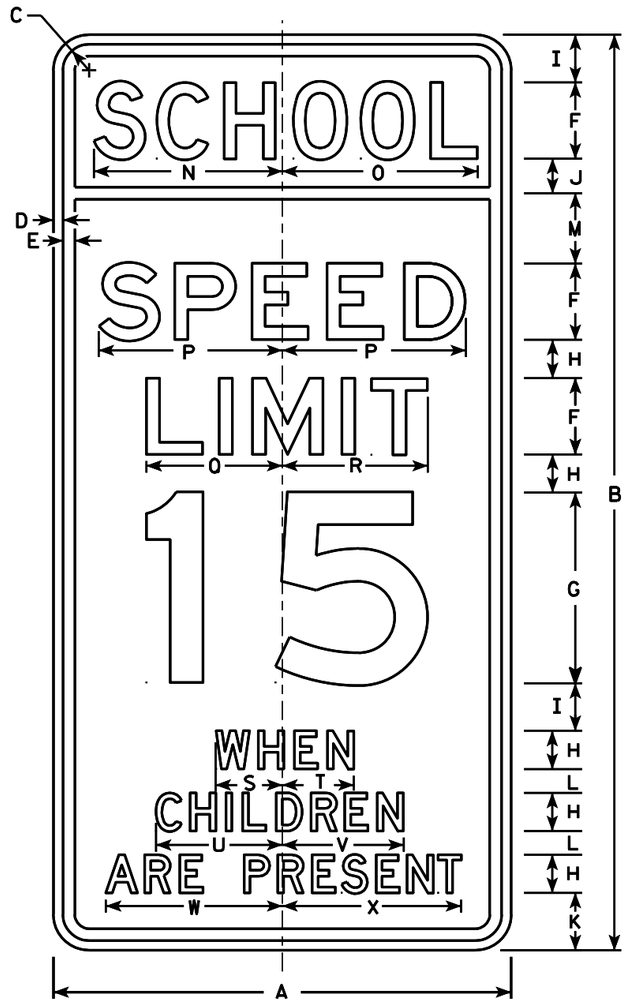
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/22/13 PLATE NO. S16-9P.1

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 153 | E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\S169P.dgn PLOT DATE : 22-JUL-2013 10:32 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 2.977140:1.000000



S4-51

NOTES

1. Sign is Type II - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. (See note 5).
2. Color:
   Background - See note 5
   Message - Black
3. Message Series - See note 6
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. Top panel (SCHOOL) background - Yellow Green -Type F Reflective.
   Lower panel background - White -Type H Reflective.
6. From top to bottom:
   Lines 1, 5, 6 & 7 are series D
   Lines 2, 3 & 4 are series E
7. Line 4 substitute appropriate numerals and adjust spacing to achieve proper balance.

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 1200 mm
3	900 mm X 1800 mm
4	
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	48	1 3/8	1/2	5/8	4	10	2	2 1/2	1 3/4	3	1 1/4	3 3/4	9 7/8	10 1/4	9 5/8	7 1/8	7 5/8	3 1/2	3 3/8	6 5/8	6 3/8	9 1/4	9 3/8			8.00	0.72
3	36	72	2 1/4	3/4	1	6	15	3	3 3/4	2 3/4	4 1/2	1 7/8	5 1/2	15	15 1/4	14 1/2	11 1/4	11 1/2	5 1/2	5 3/4	10	9 3/4	14	14 1/8			18.00	1.62
4																												
5																												

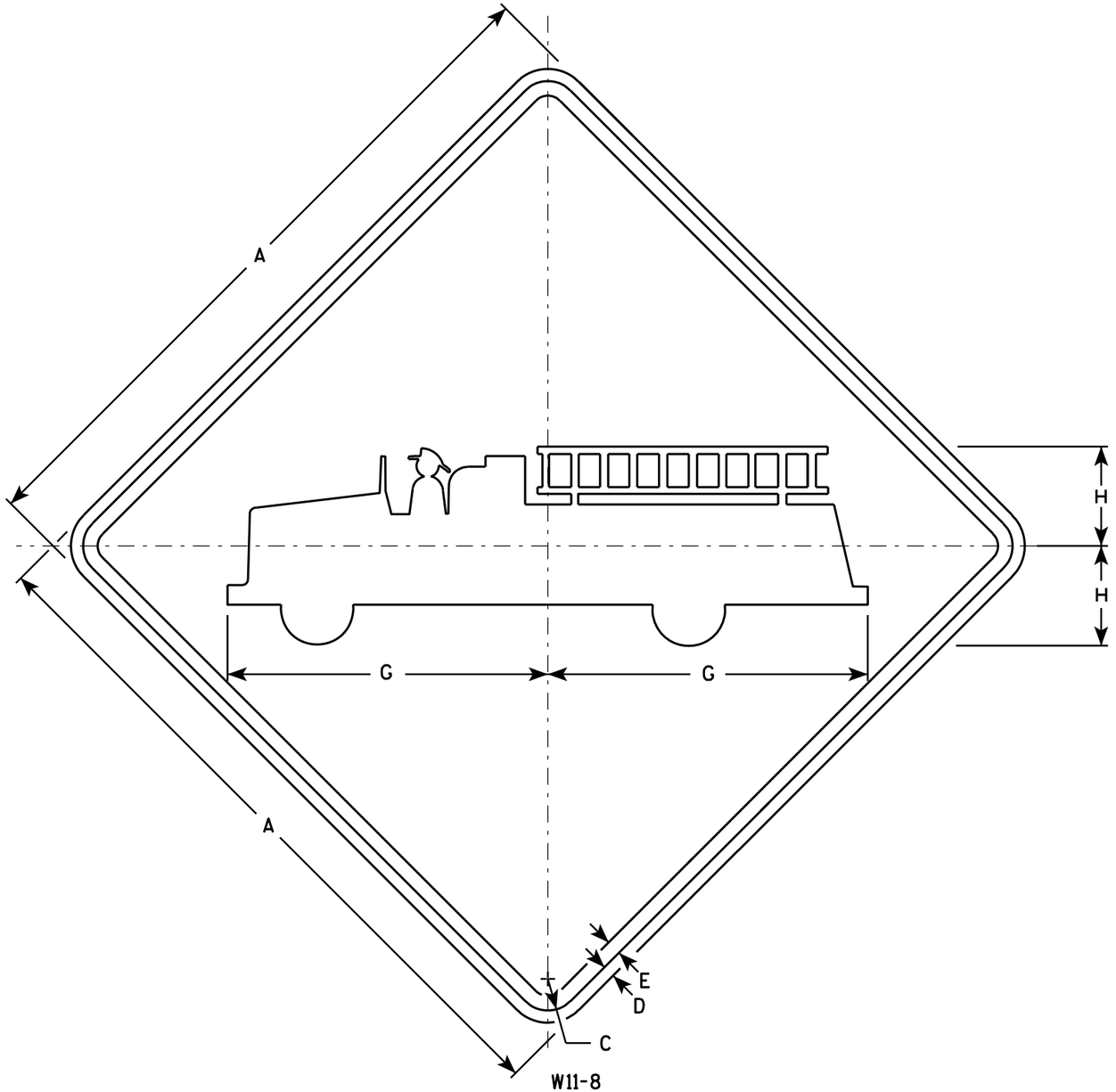
STANDARD SIGN
S4-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/26/10 PLATE NO. S4-51.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 154	E



W11-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		11	3 3/8																			4.0
2S	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
2M	30		1 3/8	1/2	5/8		13 3/4	4 3/8																			6.25
3	36		1 5/8	5/8	3/4		16 1/2	5 1/4																			9.0
4	48		2 1/4	3/4	1		22	7																			16.0
5																											

STANDARD SIGN
W11-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

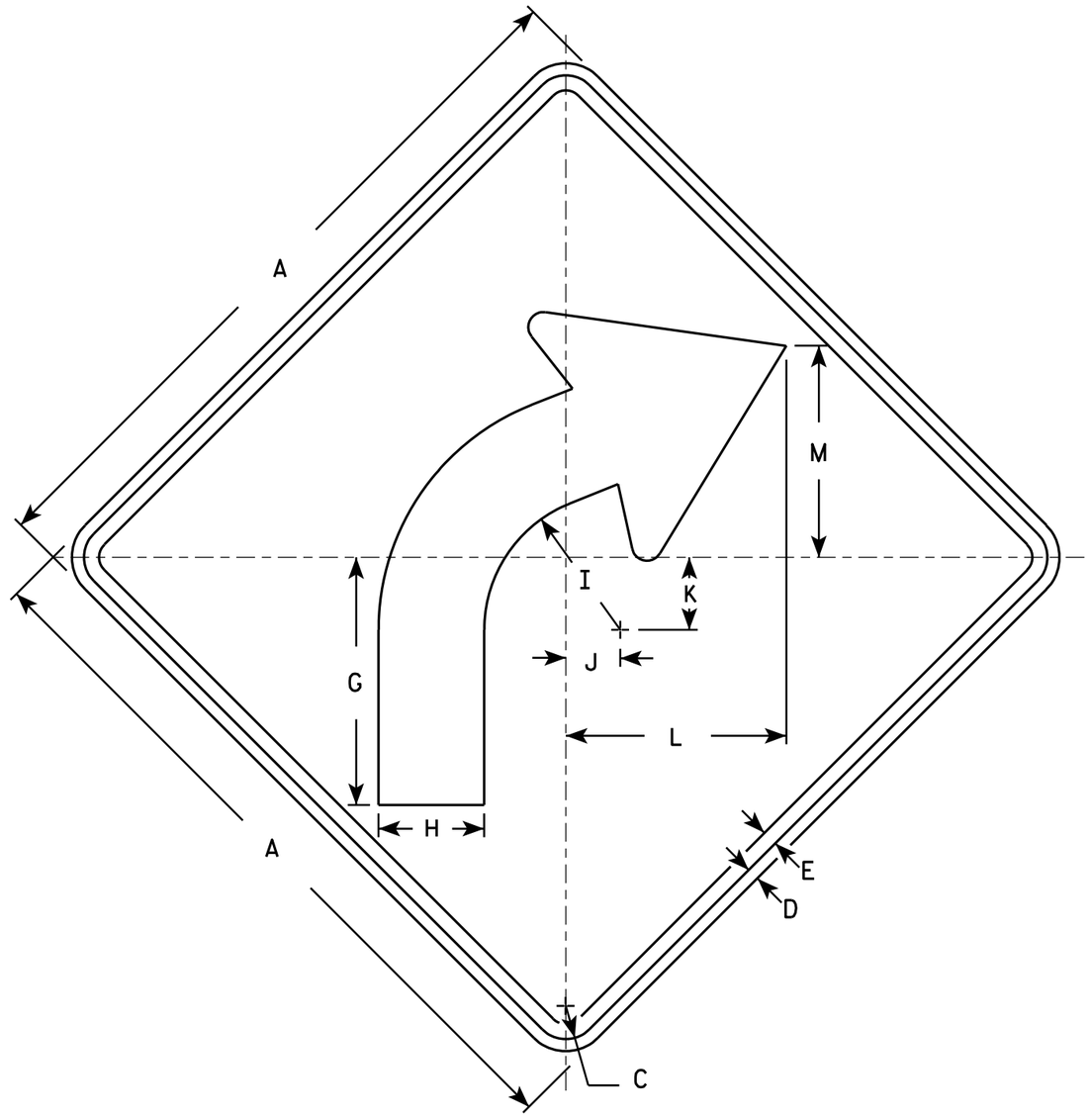
DATE 3/13/13 PLATE NO. W11-8.7

PROJECT NO:

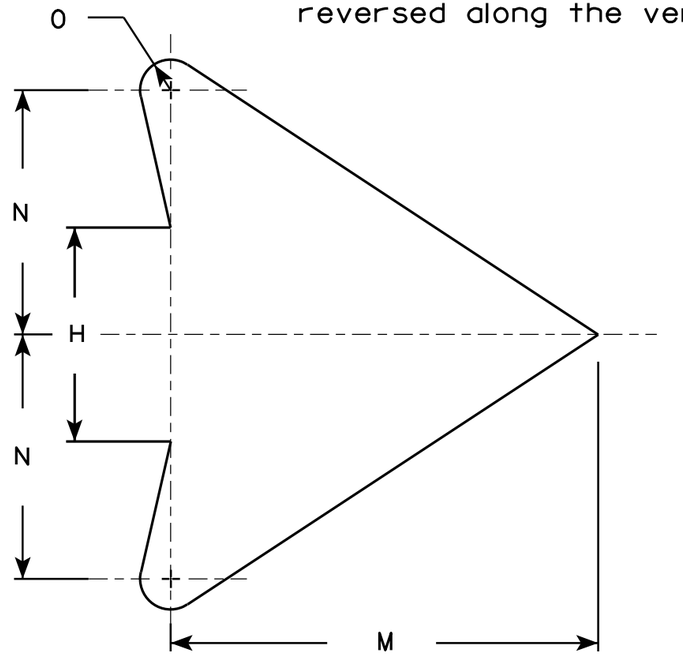
SHEET NO: 155 E

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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



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		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

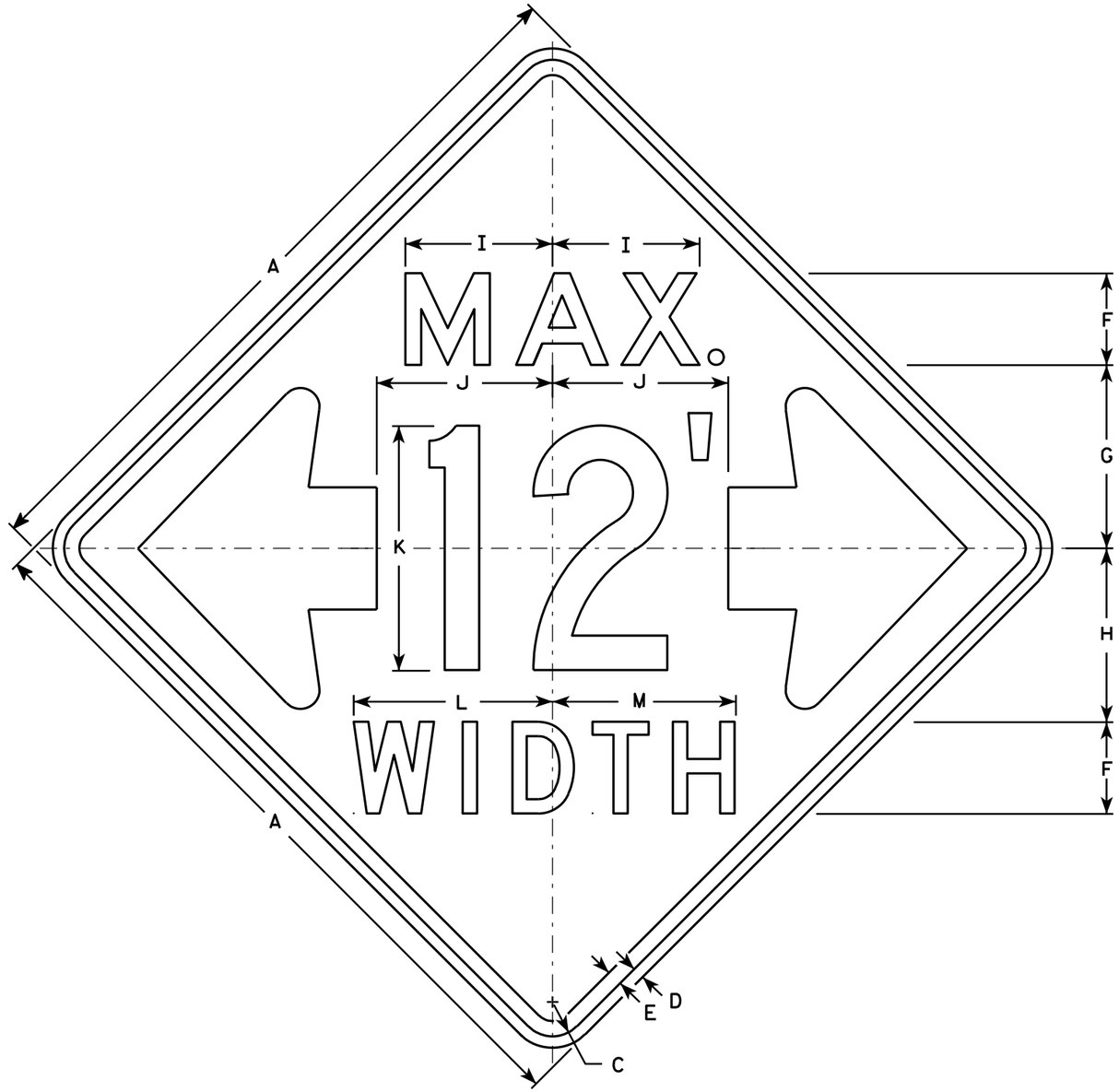
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

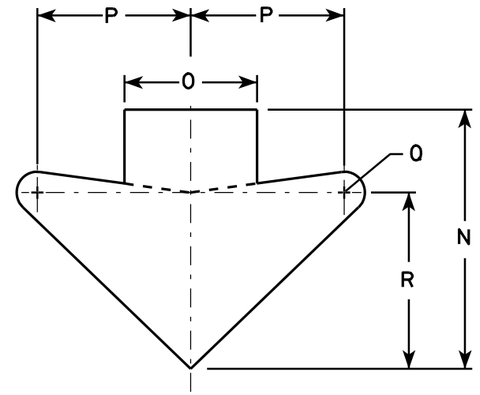
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 156	E



W12-52

NOTES

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



ARROW DETAIL

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

STANDARD SIGN
W12-52

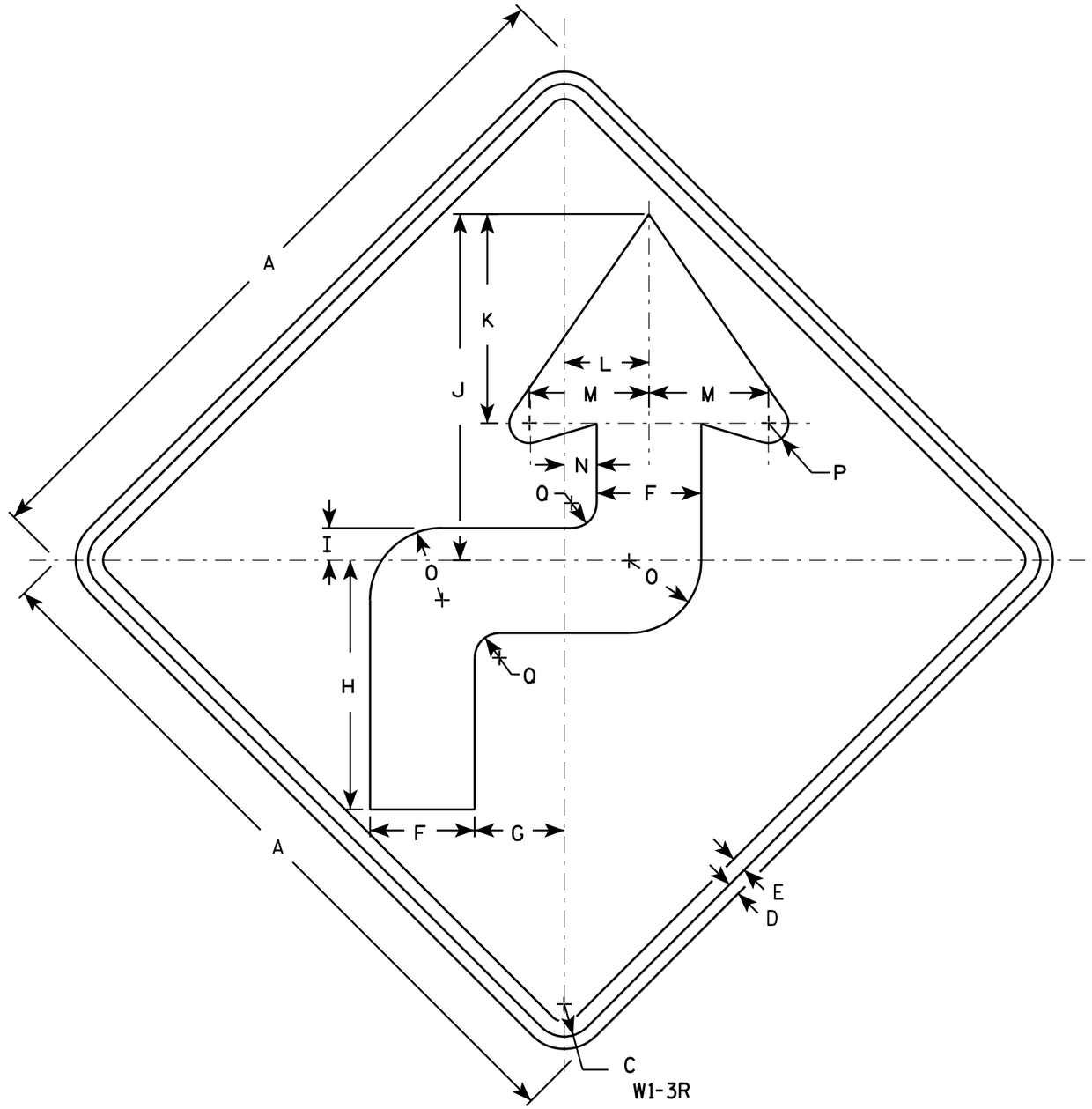
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 157 | E

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



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. W1-3L is the same as W1-3R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	3 1/2	3	8 3/8	1 1/8	11 5/8	7	2 3/4	4	1 1/8	2 1/2	5/8	7/8										4.0
2S	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
2M	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
3	36		1 5/8	5/8	3/4	5 1/4	4 1/2	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
4	36		1 5/8	5/8	3/4	5 1/4	6	12 1/2	1 5/8	17 3/8	10 1/2	4 1/4	6	1 5/8	3 5/8	1	1 1/4										9.0
5	48		2 1/4	3/4	1	7	6	16 5/8	2 1/4	23 1/4	14	5 5/8	8	2 1/8	4 7/8	1 1/4	1 5/8										16.0

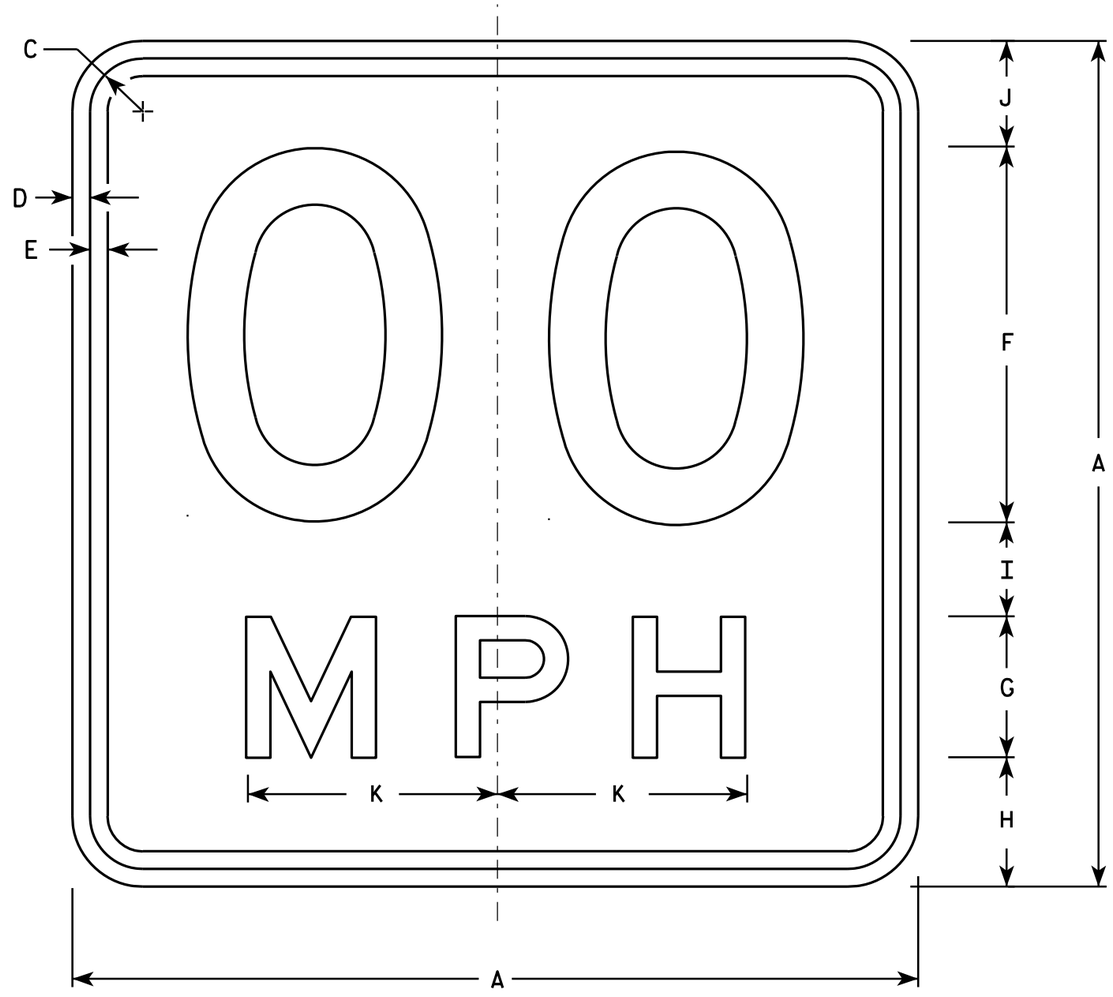
STANDARD SIGN
W1-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-3.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 158 | E



W13-1

* For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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 6
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 space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

	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		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
*	2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
	3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
	4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
	5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

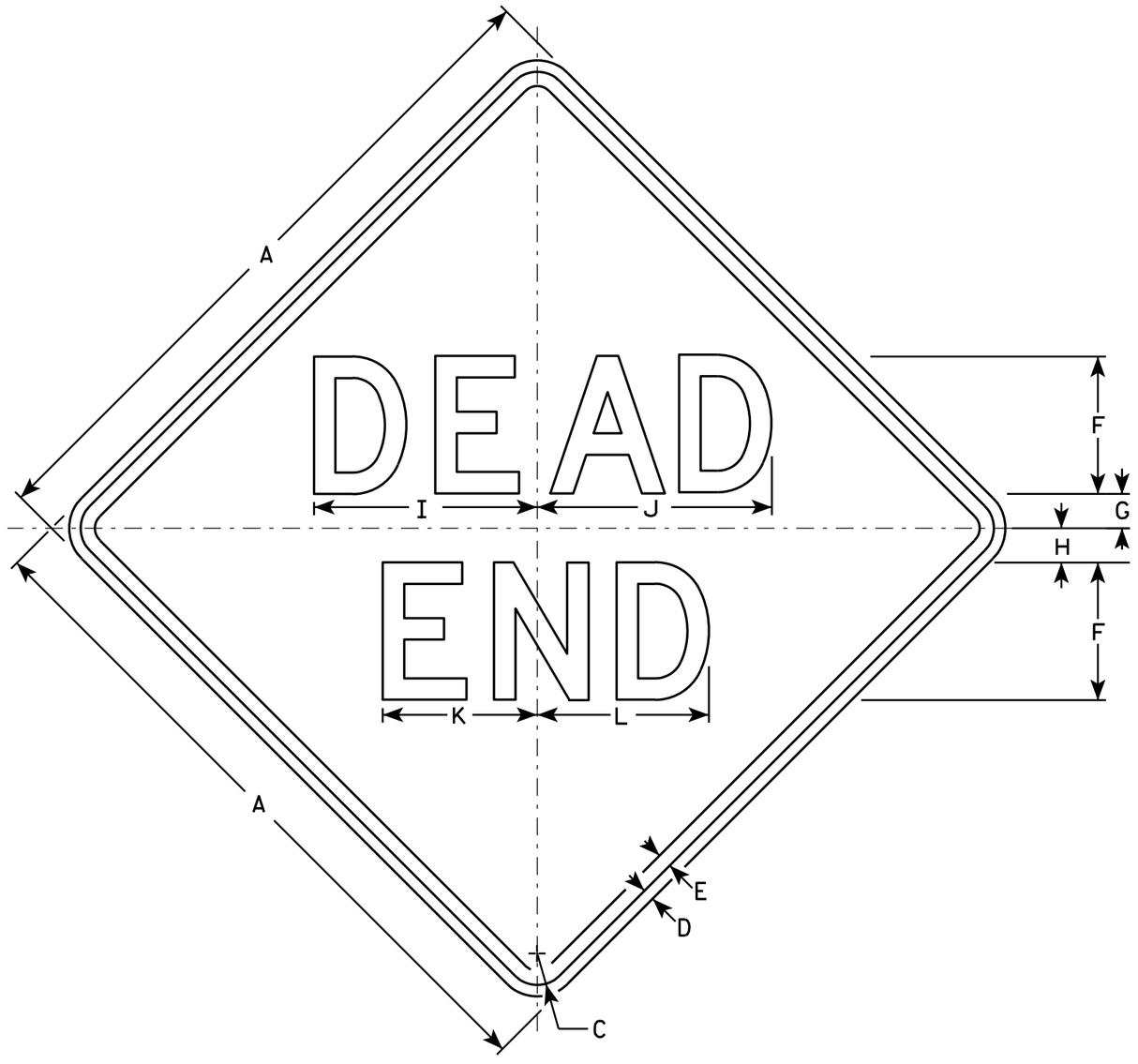
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 159 | E



W14-1

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. 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	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

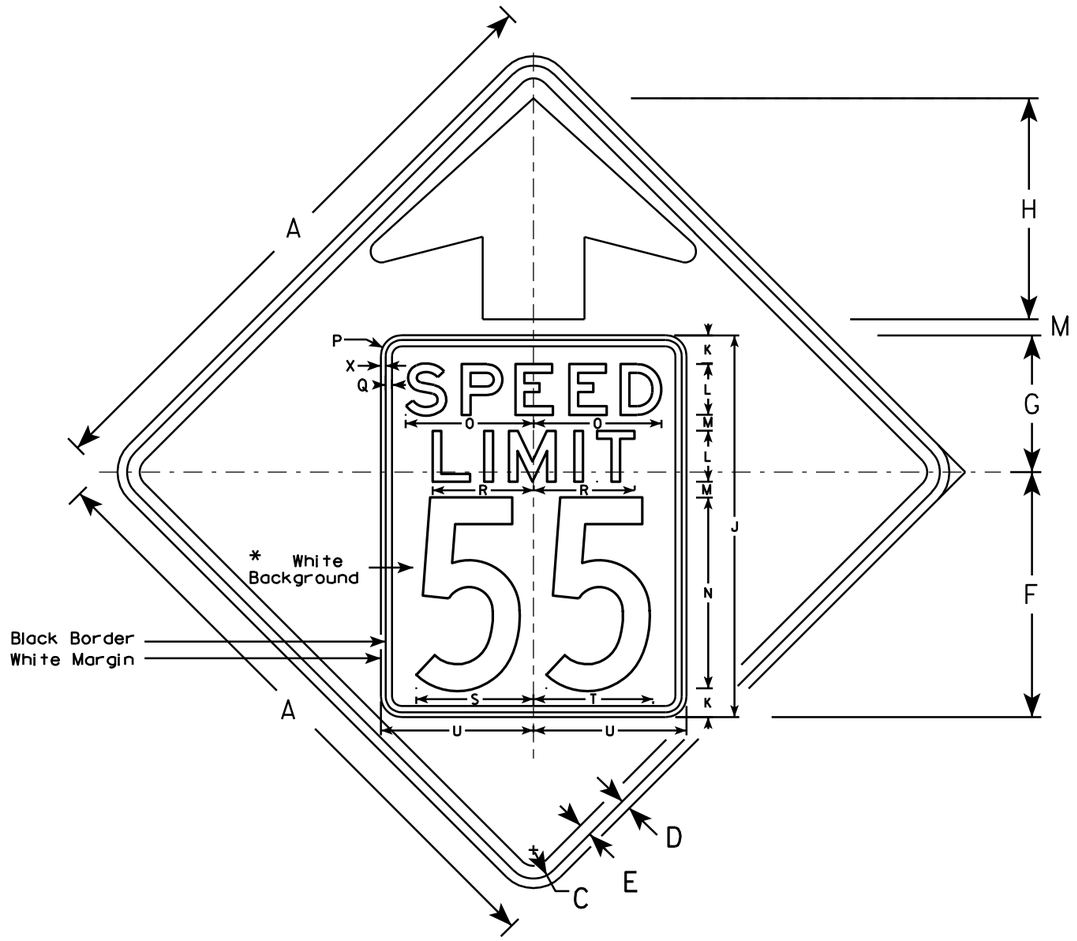
STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 160	E

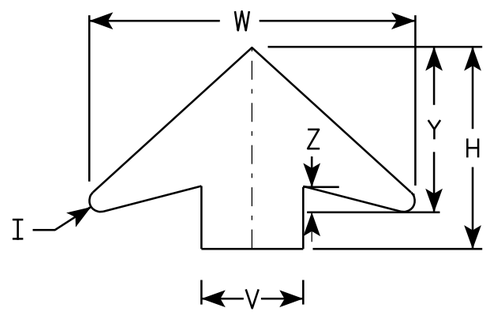


W3-5

NOTES

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

*Speed Limit Sign shall have a White Background



ARROW DETAIL

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

STANDARD SIGN
W3-5

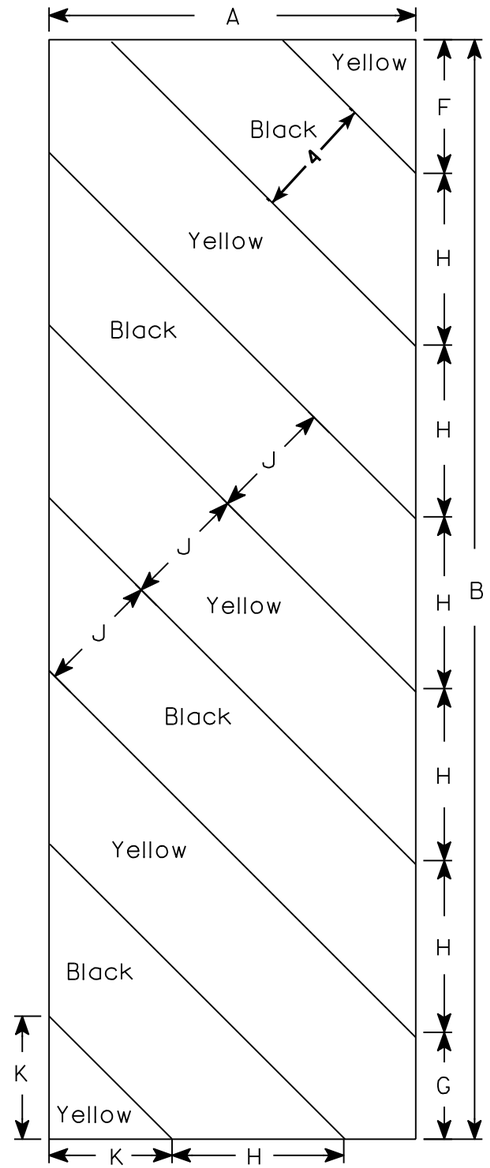
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

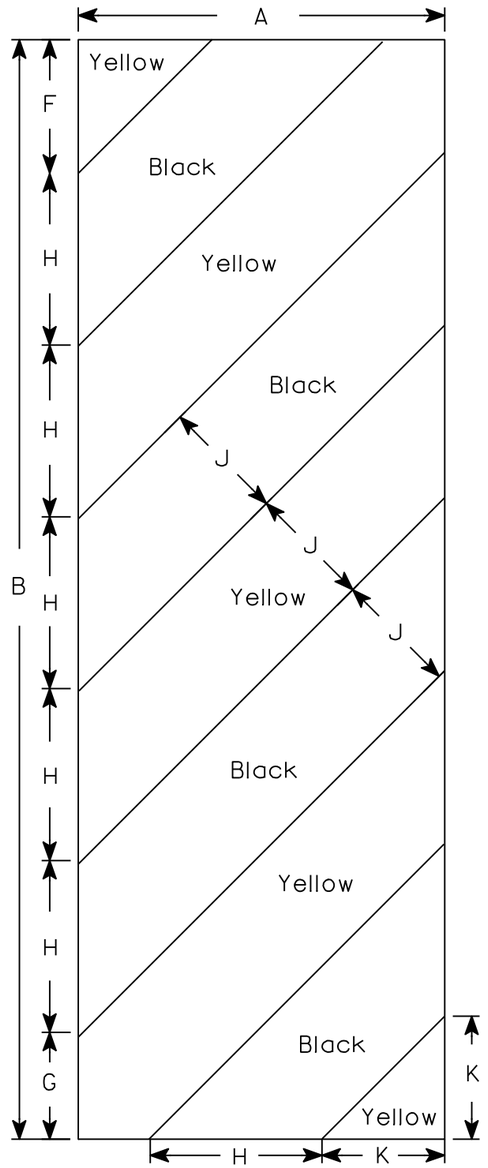
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 161 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

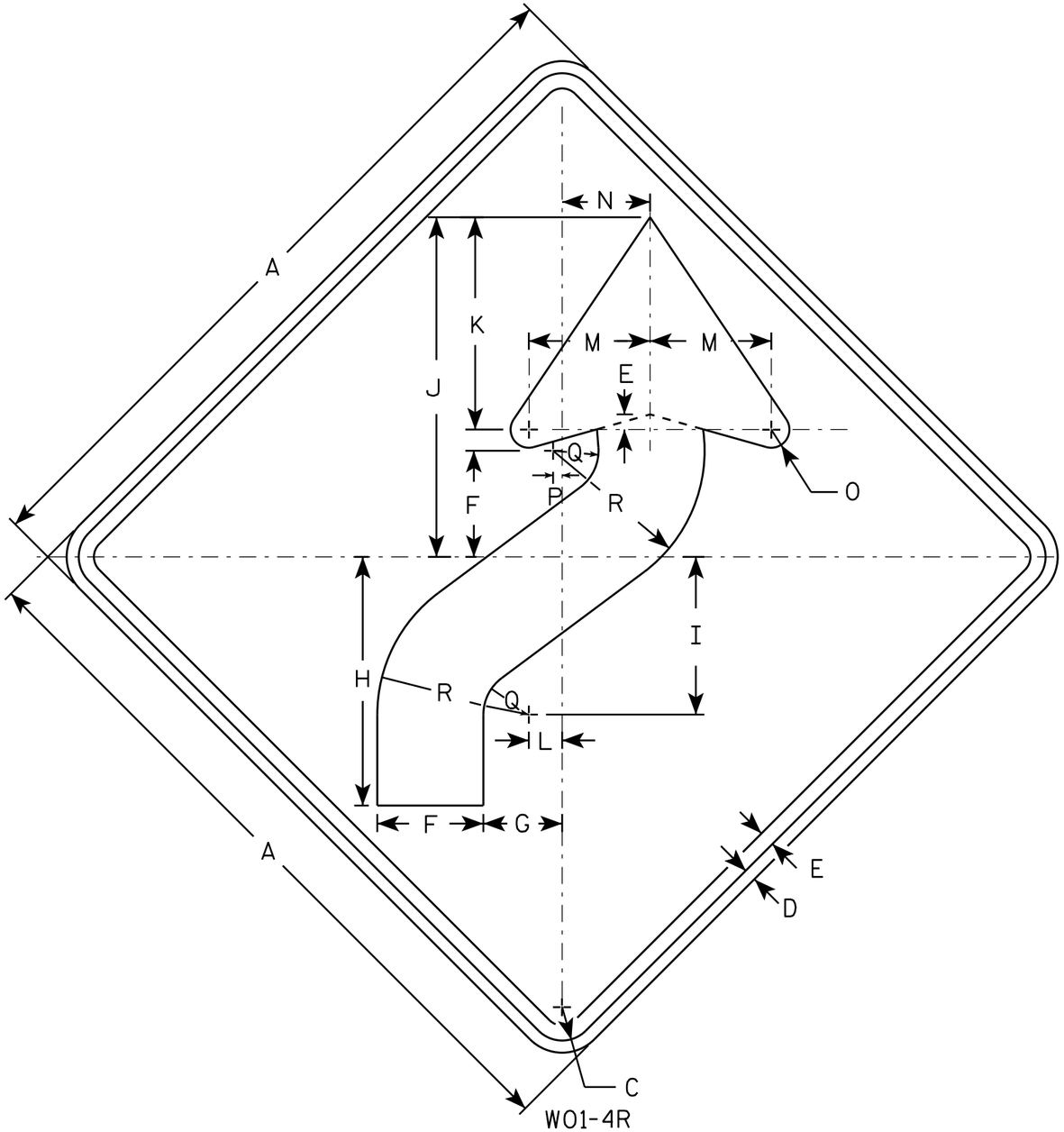
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 162 | E



W01-4R

NOTES

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

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

STANDARD SIGN
W01-4

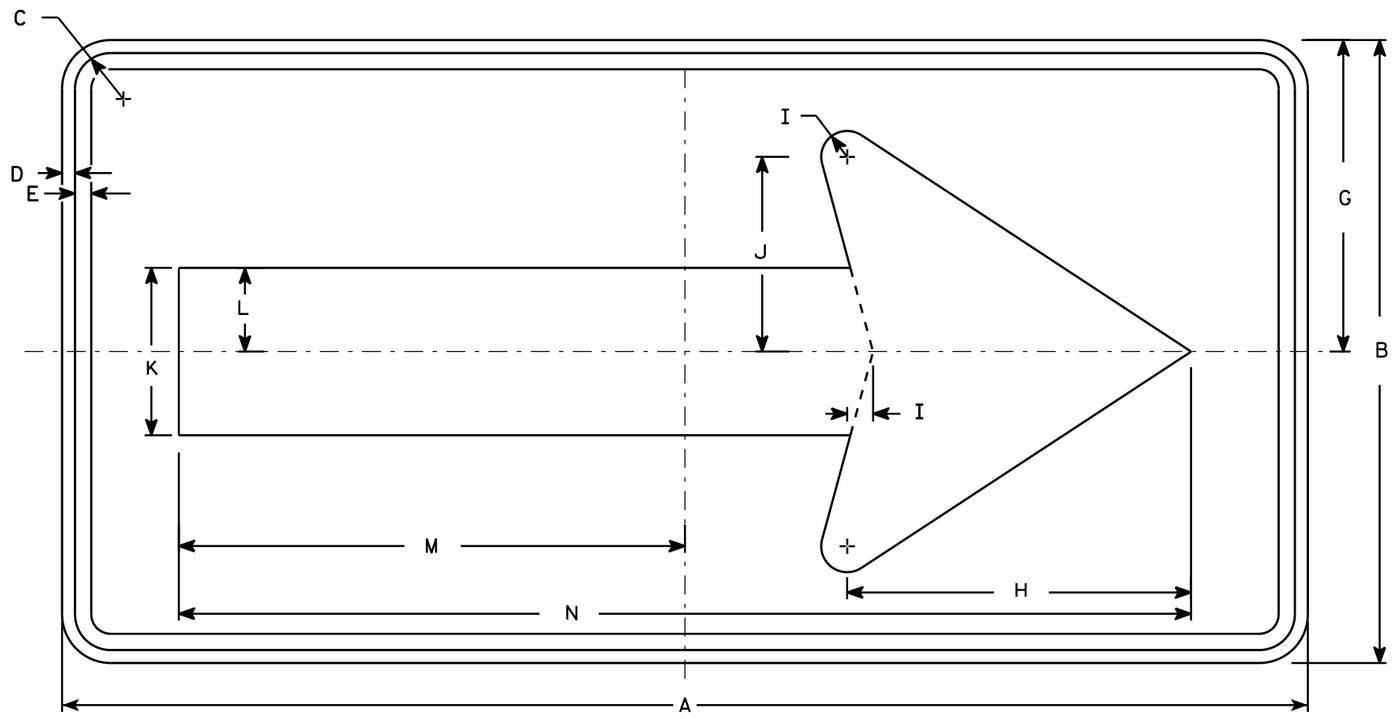
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-4.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



W01-6

NOTES

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

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

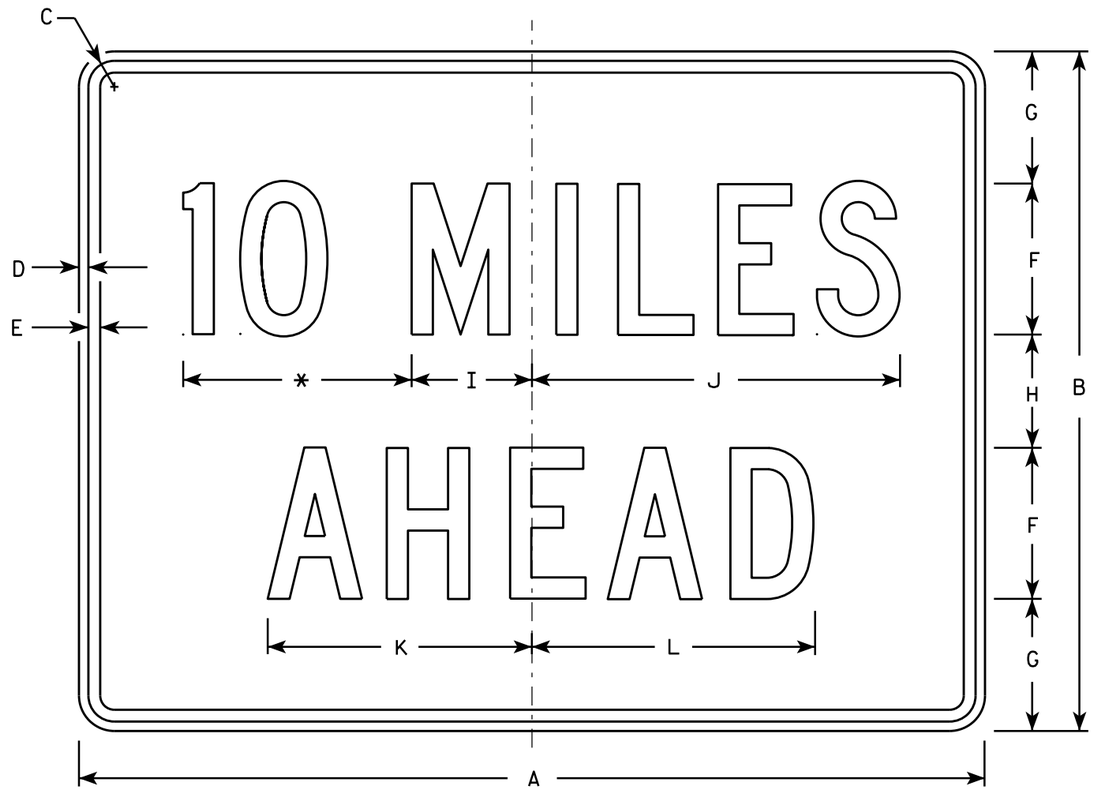
STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

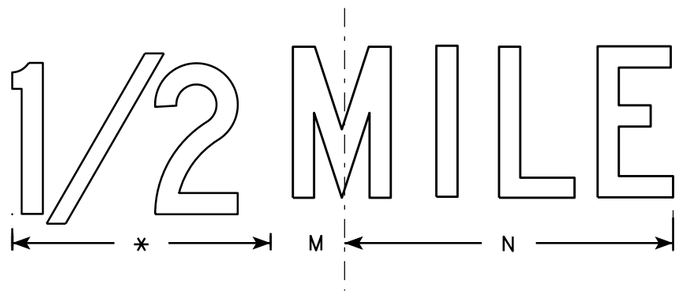
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-6.1

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



W057-52



NOTES

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

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

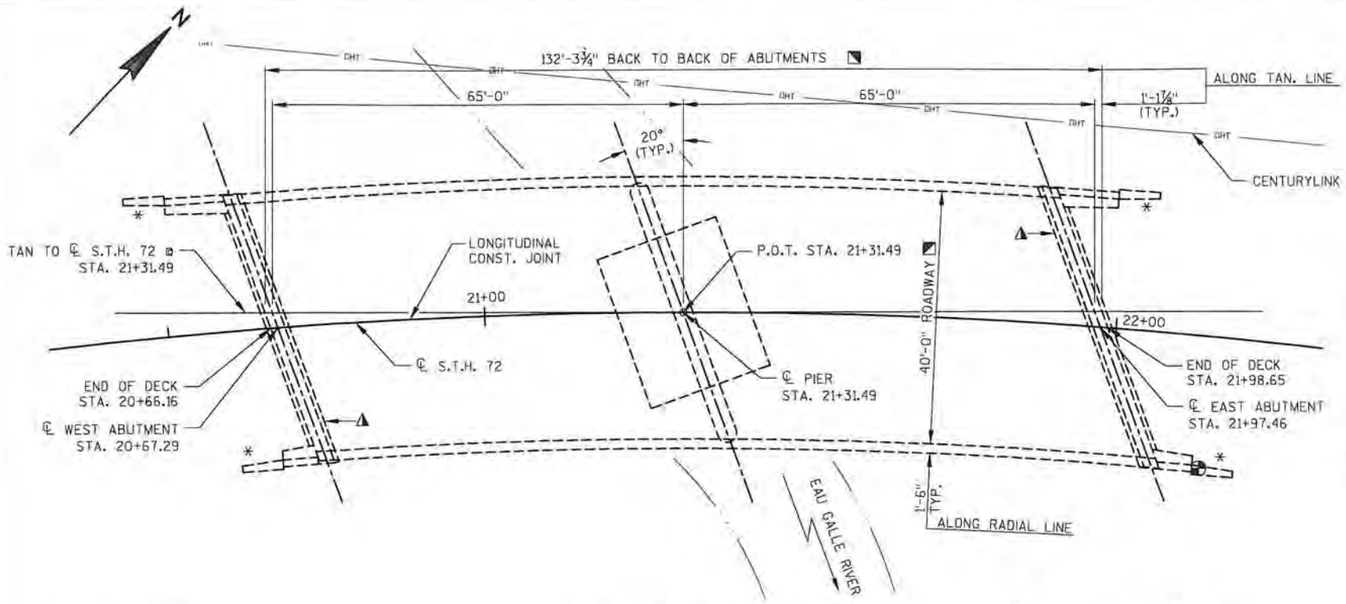
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42



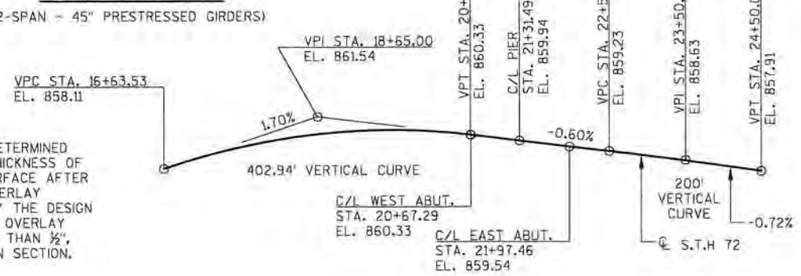
PLAN B-47-44

(2-SPAN - 45" PRESTRESSED GIRDERS)

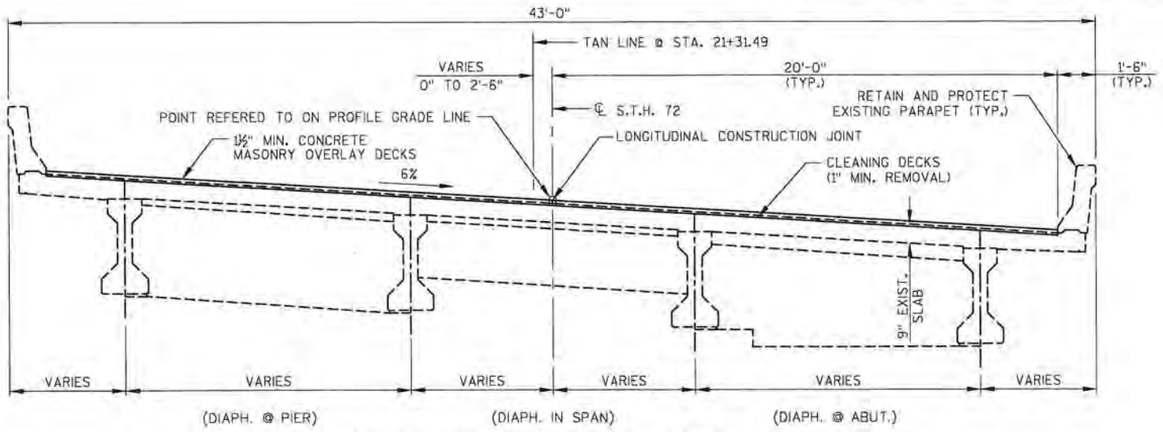
CURVE DATA

P.I. STA. = 22+90.62
Y = 334,055.90
X = 565,765.47
DELTA = 97°41'12"
D = 6°31'20"
T = 1005.01'
L = 1497.76'
R = 878.48'
P.C. STA. = 12+85.61
P.T. STA. = 27+83.38
S.E. = 6.0%
R.O. = 144'
TRANS. = 192'

NOTE:
PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF ½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2" (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.



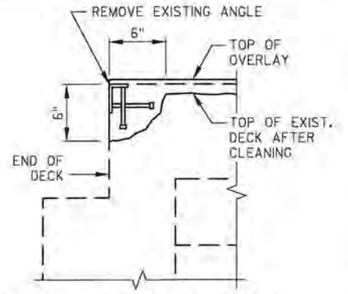
PROFILE GRADE LINE - S.T.H 72



CROSS SECTION THROUGH ROADWAY

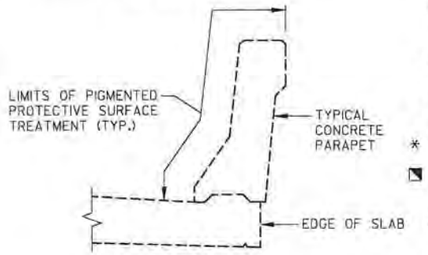
(LOOKING EAST)

NOTE: ALL DIMENSIONS ARE RADIAL



SECTION AT END OF DECK

TYP. BOTH ENDS



PROTECTIVE SURFACE TREATMENT DETAIL

WISCONSIN
PATRICK T. BOLAND E-36303 SPRING GREEN WIS
Patrick Boland 3-7-14
PROFESSIONAL ENGINEER

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
3	22+14.97, 21.0' RT.	METAL DISK IN CONC. PARAPET (1943)	860.98
20	43+62.49, 18.3' RT.	METAL DISK IN CONC. PARAPET	848.78

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	589
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	124
509.0301	PREPARATION DECKS TYPE 1	SY	80
509.0302	PREPARATION DECKS TYPE 2	SY	30
509.0500	CLEANING DECKS	SY	589
509.1500	CONCRETE SURFACE REPAIR	SF	4
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	42
509.9050.S	CLEANING PARAPETS	LF	313
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4
	NON-BID ITEMS		
	FILLER	SIZE	½" & ¾"

◨ CONCRETE SURFACE REPAIR REQUIRED AT WEST AND EAST ABUTMENTS
◭ REPAIR SPALLING ON NORTHWEST AND SOUTHEAST ABUTMENT.

STATE PROJECT NUMBER
7105-03-72

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ON THE PLANS ARE BASED ON EXISTING STRUCTURE PLANS.

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

PREPARATION DECKS AND CONCRETE SURFACE REPAIR SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

LONGITUDINAL CONSTRUCTION JOINT SHALL BE SEALED WITH LOW VISCOSITY CRACK SEALER FOR BRIDGE DECKS. COST IS INCIDENTAL TO "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

ANY EXCAVATIONS REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

VARIATIONS TO NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

REMOVE EXISTING METAL PROTECTION ANGLES AT BOTH ABUTMENTS. COST IS INCIDENTAL TO THE BID ITEM "CLEANING DECKS", SEE DETAIL THIS SHEET.

* PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.

◨ LIMITS OF CLEANING DECKS AND CONCRETE MASONRY OVERLAY.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS16
OPERATING RATING	HS33
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	220 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

TRAFFIC DATA

A.D.T. (2014)	2550
A.D.T. (2034)	3200
DESIGN SPEED	55 M.P.H.

LIST OF DRAWINGS

DESIGN CONSULTANT
PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT
WILLIAM DREHER, PE
(608) 266-8489

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 06/10/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-47-44

S.T.H. 72 OVER EAU GALLE RIVER

COUNTY	TOWN/CITY/VILLAGE
PIERCE	SPRING LAKE

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY	AK	DESIGN CK'D.	PTB	DRAWN BY	AK	PLANS CK'D.	PTB

GENERAL PLAN

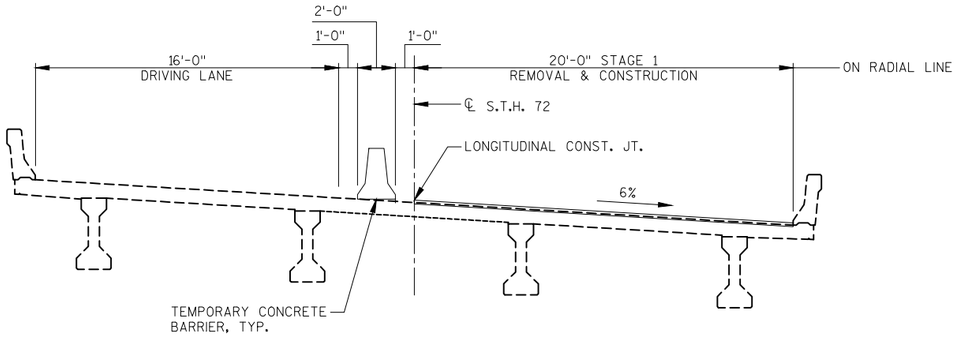
SHEET 1 OF 2

8

8

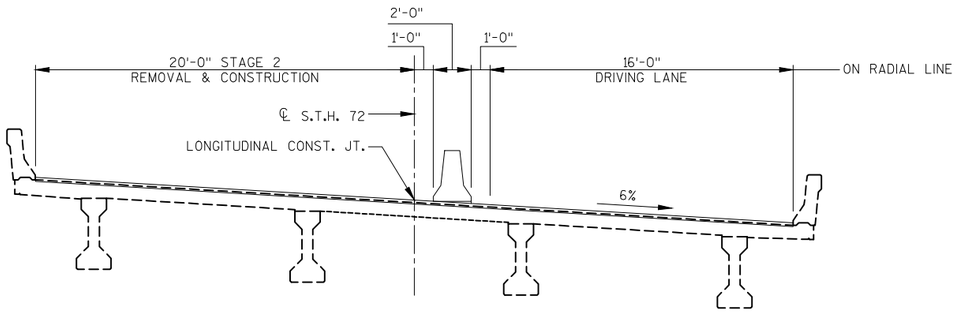
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\STRUCTURE\FINALS\W11506_B-47-44_01_GP.DWG
LAYOUT : LAYOUT
PLOT DATE : 3/6/2014
PLOT TIME : 10:28:29 AM
PLOT BY : BOLAND, PATRICK
PLOT SCALE : 1'-0" = 1'-0"

STATE PROJECT NUMBER
7105-03-72



STAGE 1 – CROSS SECTION THRU ROADWAY

(LOOKING NORTHEAST)



STAGE 2 – CROSS SECTION THRU ROADWAY

(LOOKING NORTHEAST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-47-44

DRAWN BY AK | PLANS CK'D. PTB

CONSTRUCTION STAGING

SHEET 2 OF 2

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\STRUCTURE\FINALS\W11506_B-47-44_02_STAGE.DWG
LAYOUT : LAYOUT

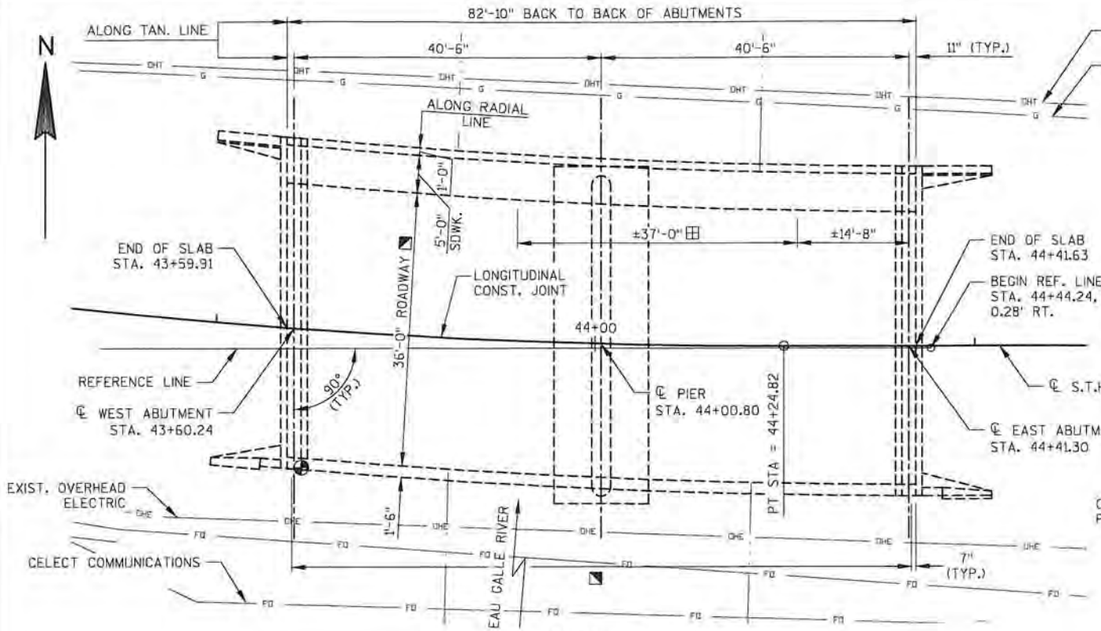
PLOT DATE : 3/3/2014
PLOT TIME : 11:37:05 AM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1'-0" = 1'-0"

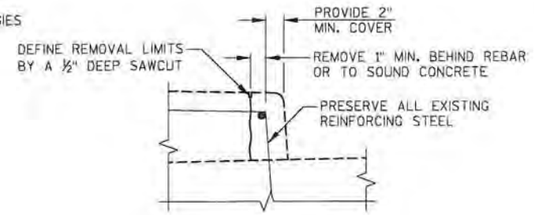
STATE PROJECT NUMBER

7105-03-72



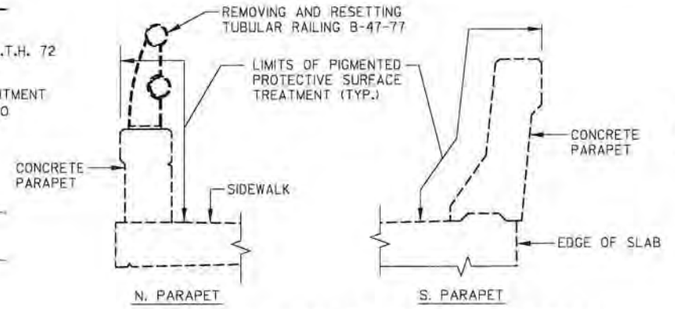
PLAN B-47-77

(2-SPAN CONCRETE HAUNCHED SLAB)



CURB REPAIR DETAIL

SEE PLAN VIEW FOR LOCATIONS



PROTECTIVE SURFACE TREATMENT DETAIL

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ON THE PLANS ARE BASED ON EXISTING STRUCTURE PLANS.

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

PREPARATION DECKS AND CURB REPAIR SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

LONGITUDINAL CONSTRUCTION JOINT SHALL BE SEALED WITH LOW VISCOSITY CRACK SEALER FOR BRIDGE DECKS. COST IS INCIDENTAL TO "CONCRETE MASONRY OVERLAY DECKS".

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT (UNLESS NOTED OTHERWISE).

ANY EXCAVATIONS REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

VARIATIONS TO NEW GRADE LINE OVER ¼" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURES DESIGN SECTION FOR REVIEW.

◥ LIMITS OF CLEANING DECKS AND CONCRETE MASONRY OVERLAY.

⊞ LIMITS OF CURB REPAIR.

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HS20
INVENTORY RATING	HS19
OPERATING RATING	HS32
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV)	200 KIPS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB	f'c = 4,000 P.S.I.
ALL OTHER	f'c = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy = 60,000 P.S.I.

TRAFFIC DATA

A.D.T. (2014)	2550
A.D.T. (2034)	3200
DESIGN SPEED	35 M.P.H.

LIST OF DRAWINGS

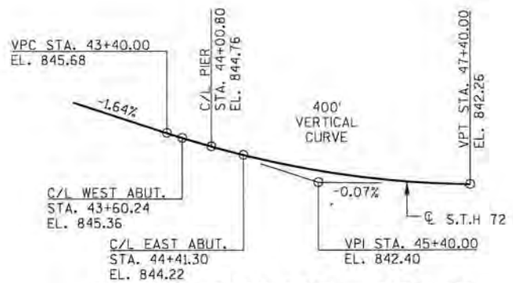
BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
3	22+14.97, 21.0' RT.	METAL DISK IN CONC. PARAPET (1943)	860.98
20	43+62.49, 18.3' RT.	METAL DISK IN CONC. PARAPET	848.78

WISCONSIN PATRICK T. BOLAND E-36303 SPRING GREEN WIS. PROFESSIONAL ENGINEER 3-7-14

CURVE DATA

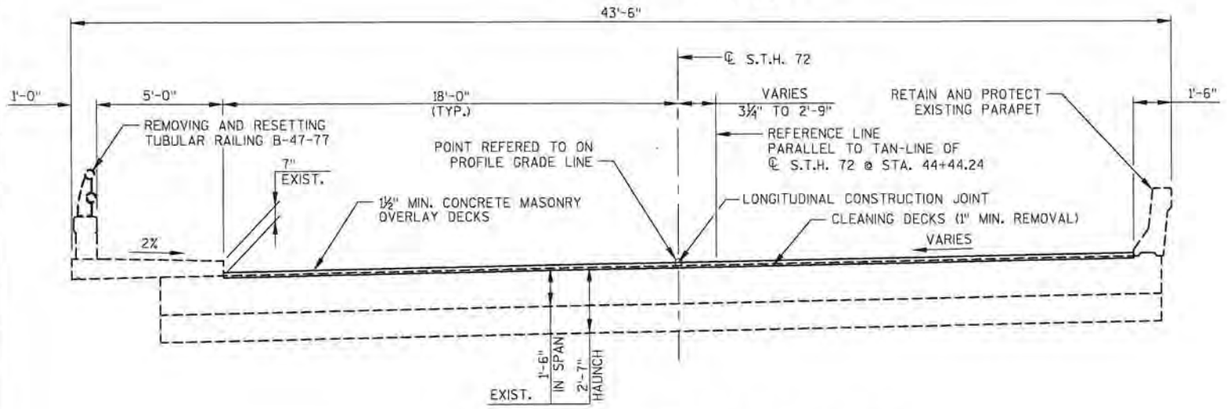
P.I. STA. = 42+67.07
Y = 334,102.71
X = 568,253.65
DELTA = 21°04'06"
D = 6°36'05"
T = 161.40'
L = 319.15'
R = 867.92'
P.C. STA. = 41+05.68
P.T. STA. = 44+24.82
S.E. = 2.4%
R.O. = 46'
TRANS. = 84'



PROFILE GRADE LINE - S.T.H 72

NOTE

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1½" PLACED ABOVE THE DECK SURFACE AFTER CLEANING. EXPECTED AVERAGE OVERLAY THICKNESS IS 2" (OR AS GIVEN BY THE DESIGN ENGINEER). IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN ½", CONTACT THE STRUCTURES DESIGN SECTION.



CROSS SECTION THROUGH ROADWAY

(LOOKING EAST)

NOTE: ALL DIMENSIONS ARE RADIAL

TOTAL ESTIMATED QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTALS
502.3200	PROTECTIVE SURFACE TREATMENT	SY	328
502.3210.S	PIGMENTED PROTECTIVE SURFACE TREATMENT	SY	70
509.0301	PREPARATION DECKS TYPE 1	SY	50
509.0302	PREPARATION DECKS TYPE 2	SY	20
509.0500	CLEANING DECKS	SY	328
509.1200	CURB REPAIR	LF	37
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	25
509.9050.S	CLEANING PARAPETS	LF	205
513.9005.S	REMOVING AND RESETTING TUBULAR RAILING B-47-77	LS	1

DESIGN CONSULTANT

PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE
(608) 266-8489

NO.	DATE	REVISION	BY

JEWELL associates engineers, inc.
Engineers - Surveyors - Architects
560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE: (608) 588-7484
FAX: (608) 588-9322

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 06/10/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-47-77

S.T.H. 72 OVER EAU GALLE RIVER

COUNTY	PIERCE	~~TOWN/CITY~~/VILLAGE	ELMWOOD
DESIGN SPEC.	REHABILITATION N/A		
DESIGNED BY AK	DESIGN CK'D. PTB	DRAWN BY AK	PLANS CK'D. PTB

GENERAL PLAN

SHEET 1 OF 2

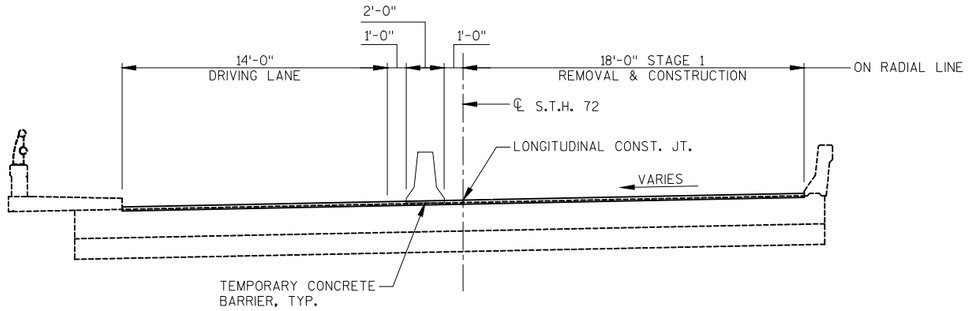
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\STRUCTURE\FINALS\W11506_B-47-77_01_GP.DWG
LAYOUT : LAYOUT

PLOT DATE : 3/6/2014
PLOT TIME : 10:37:10 AM

PLOT BY : BOLAND, PATRICK

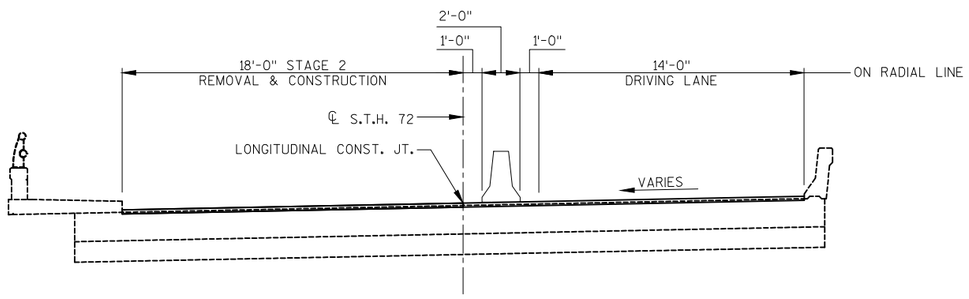
PLOT SCALE : 1'-0" = 1'-0"

STATE PROJECT NUMBER
7105-03-72



STAGE 1 – CROSS SECTION THRU ROADWAY

(LOOKING NORTHEAST)



STAGE 2 – CROSS SECTION THRU ROADWAY

(LOOKING NORTHEAST)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-47-77

DRAWN BY AK | PLANS CK'D. PTB

CONSTRUCTION STAGING

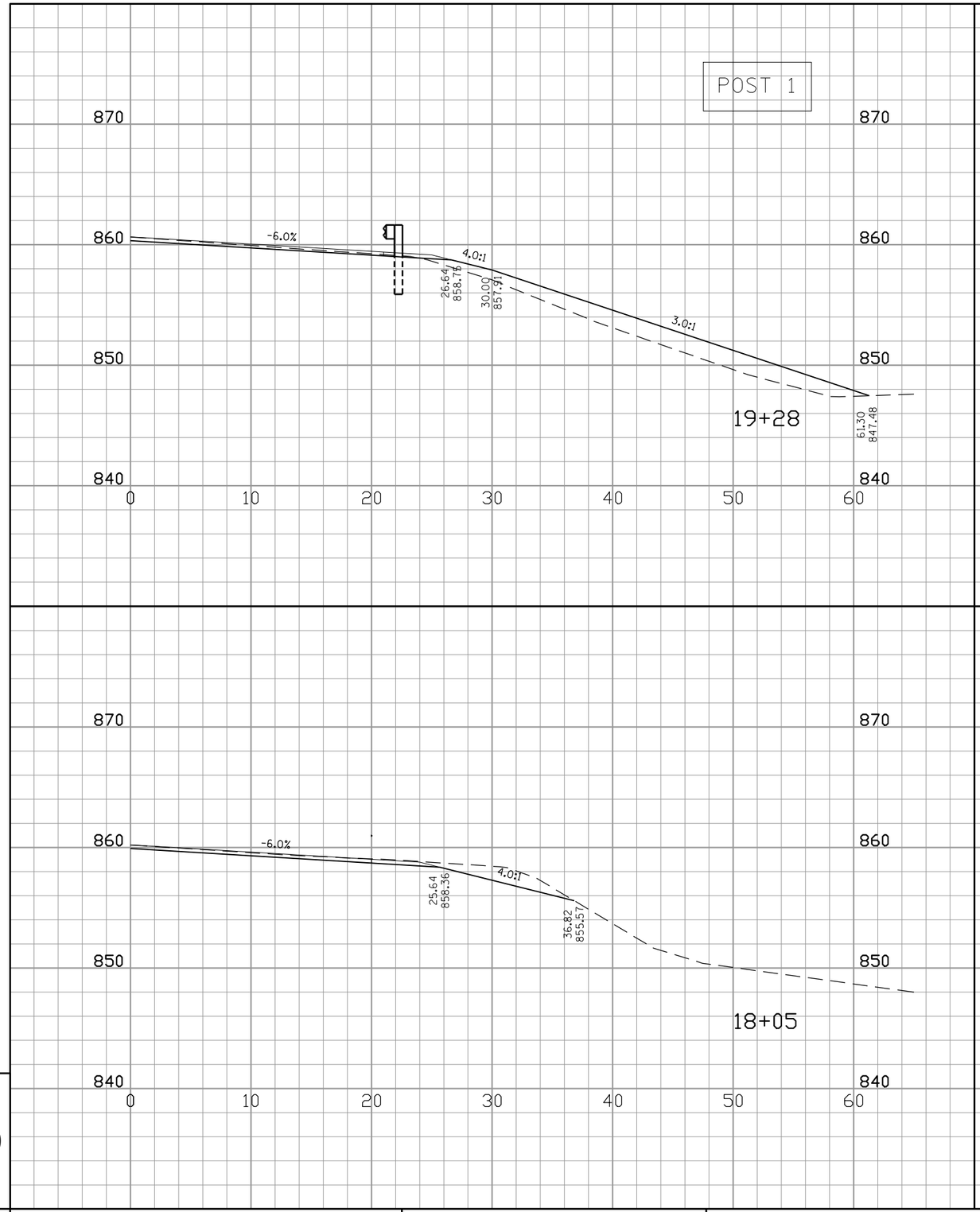
SHEET 2 OF 2

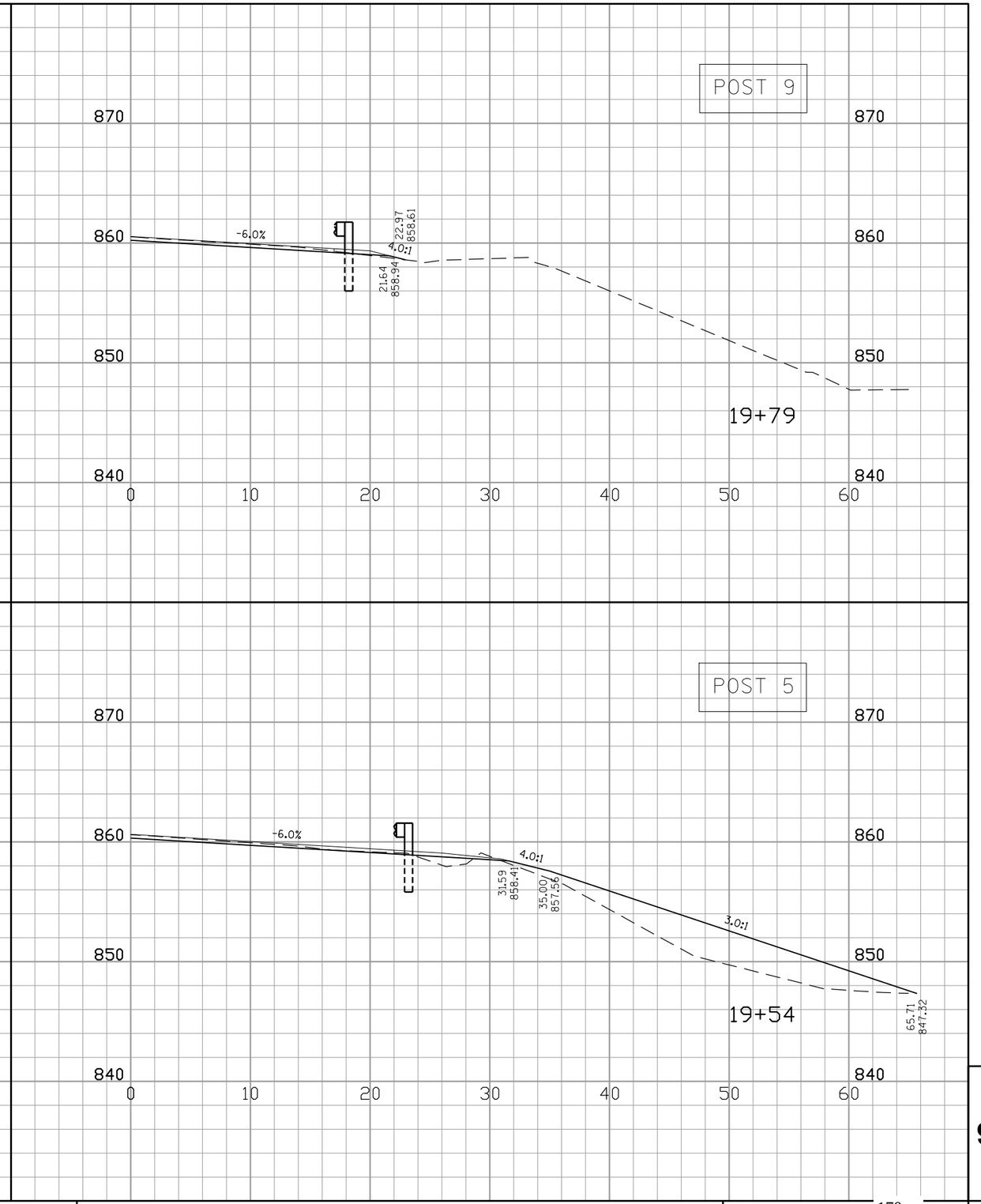
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\CADD FILES\PRODUCTION DRAWINGS\STRUCTURE\FINALS\W11506_B-47-77_02_STAGE.DWG
LAYOUT : LAYOUT

PLOT DATE : 3/3/2014
PLOT TIME : 2:45:41 PM

PLOT BY : BOLAND, PATRICK

PLOT SCALE : 1'-0" = 1'-0"





9

9

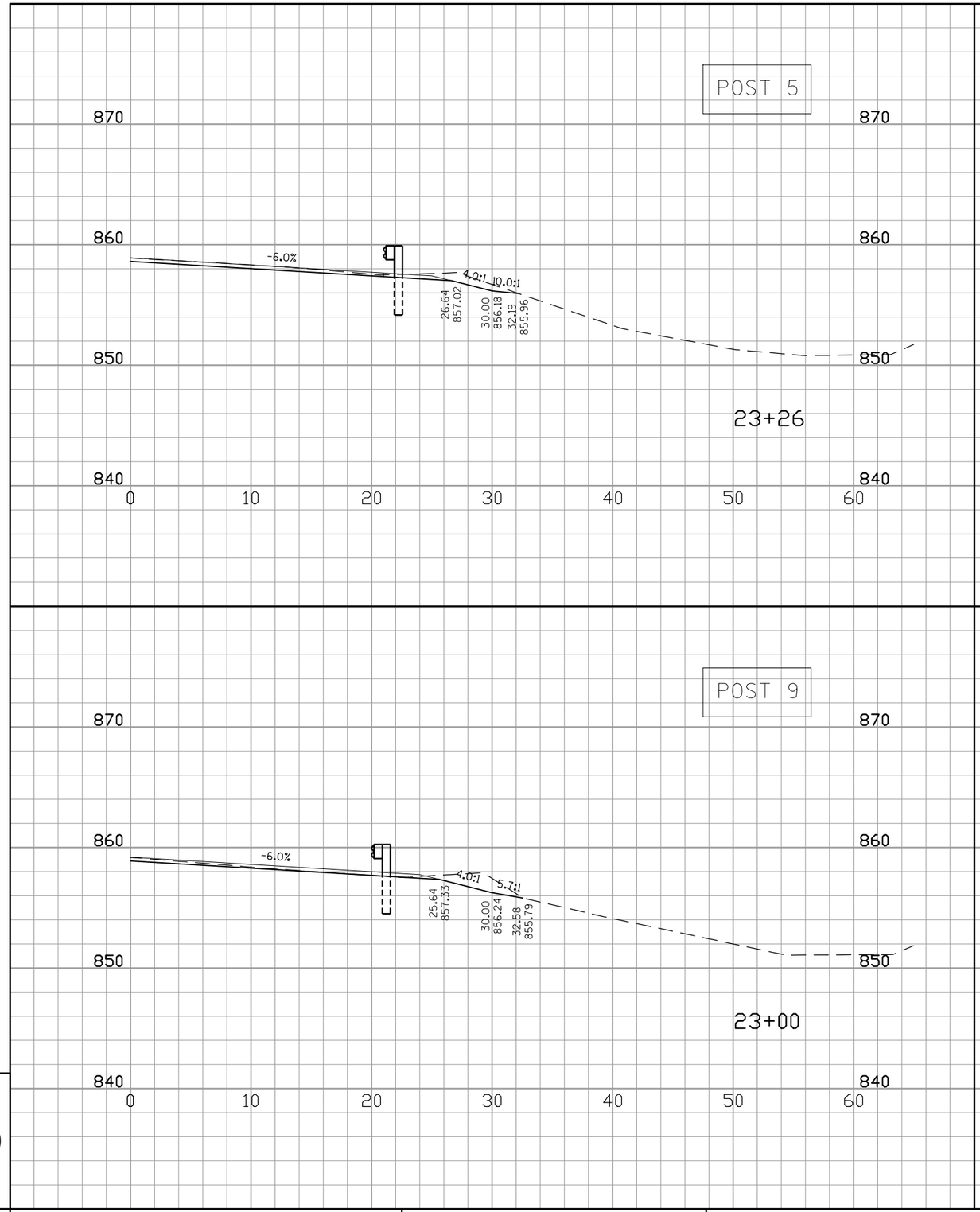
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS	SHEET

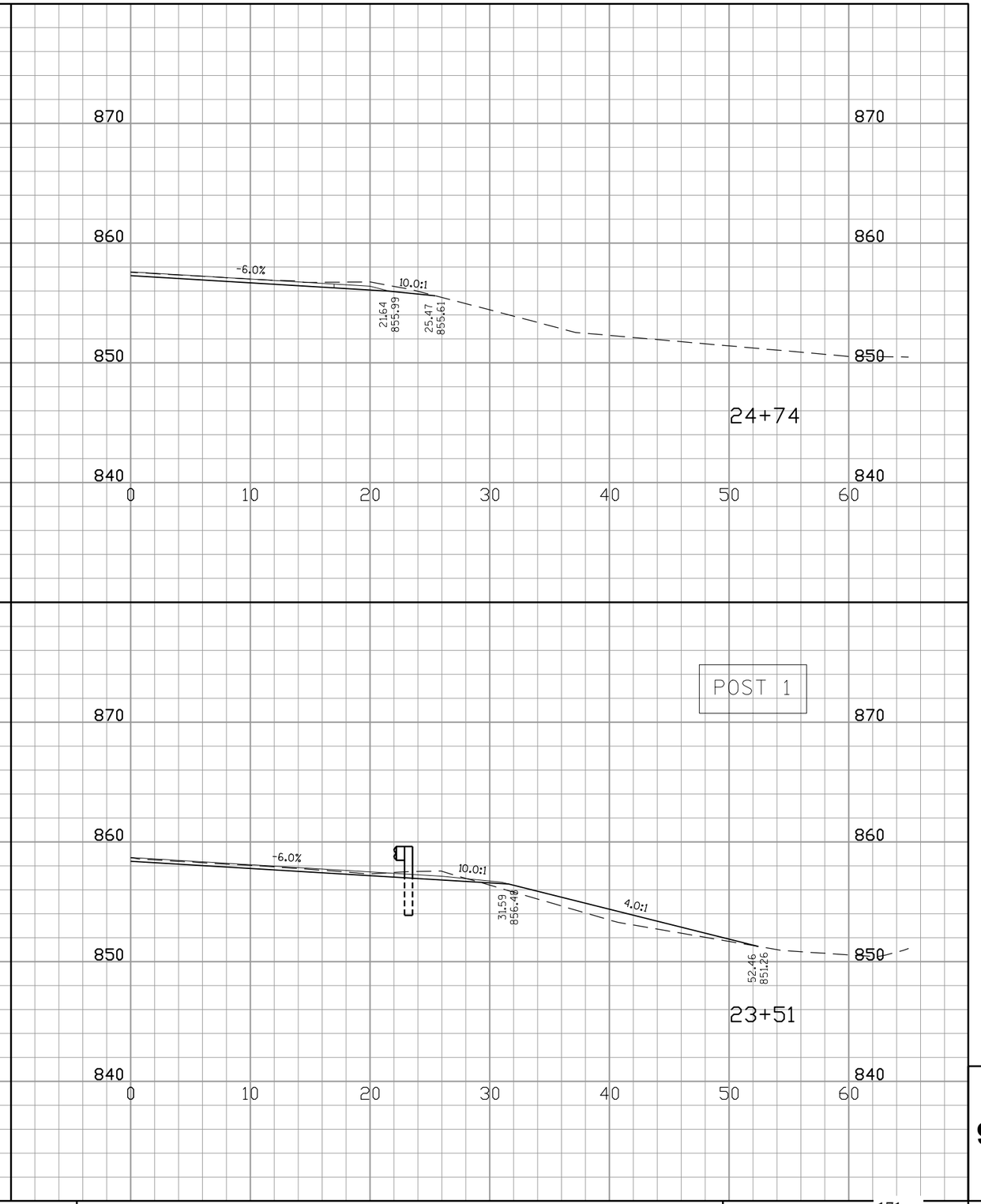
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\W11506_DESIGN.DWG
LAYOUT : SECTION SHEET - (1)

PLOT DATE : 4/30/2014
PLOT TIME : 1:52:46 PM

PLOT BY : ECKELBERG, PATRICK

PLOT SCALE : 1" = 1'





9

9

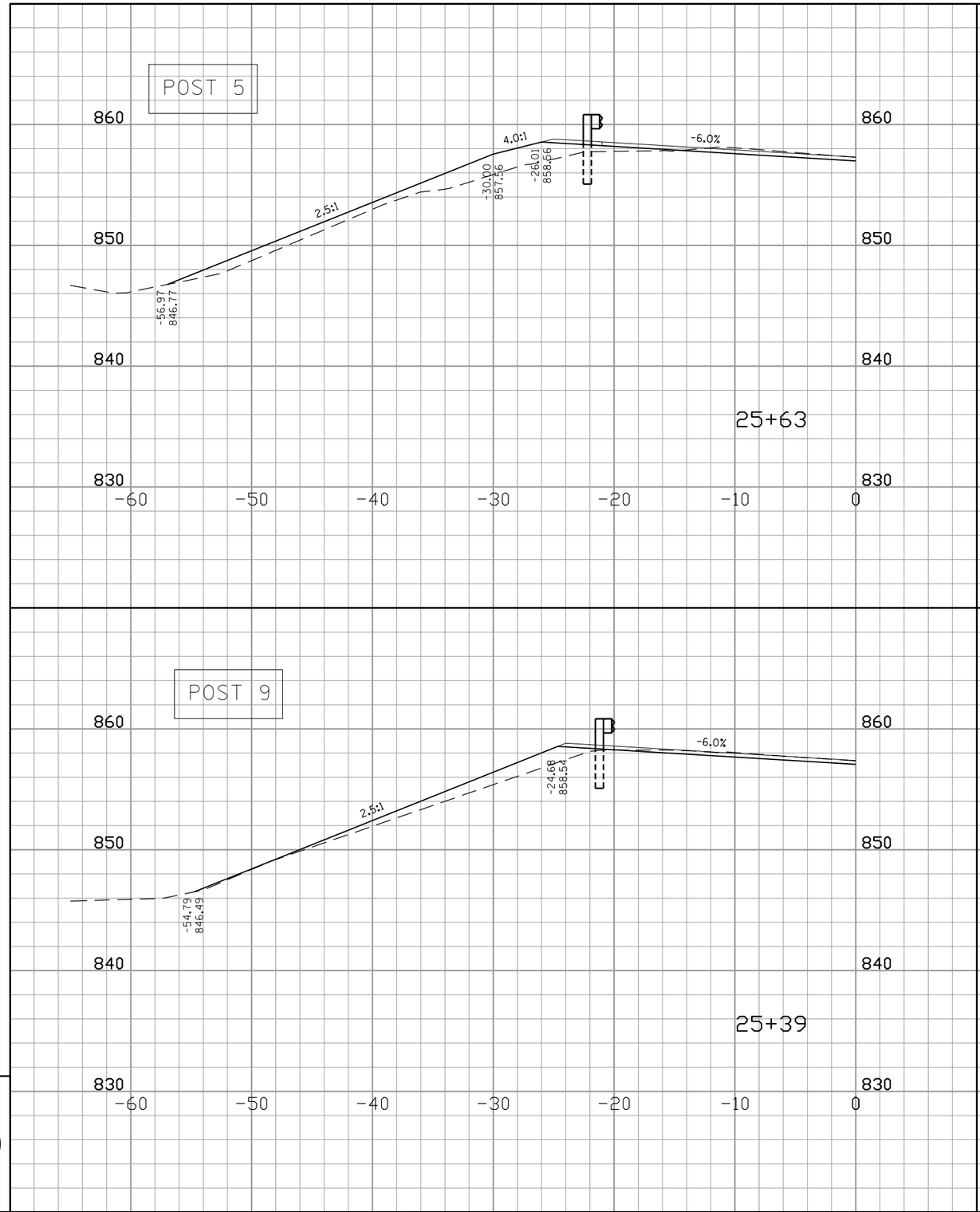
PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS	SHEET

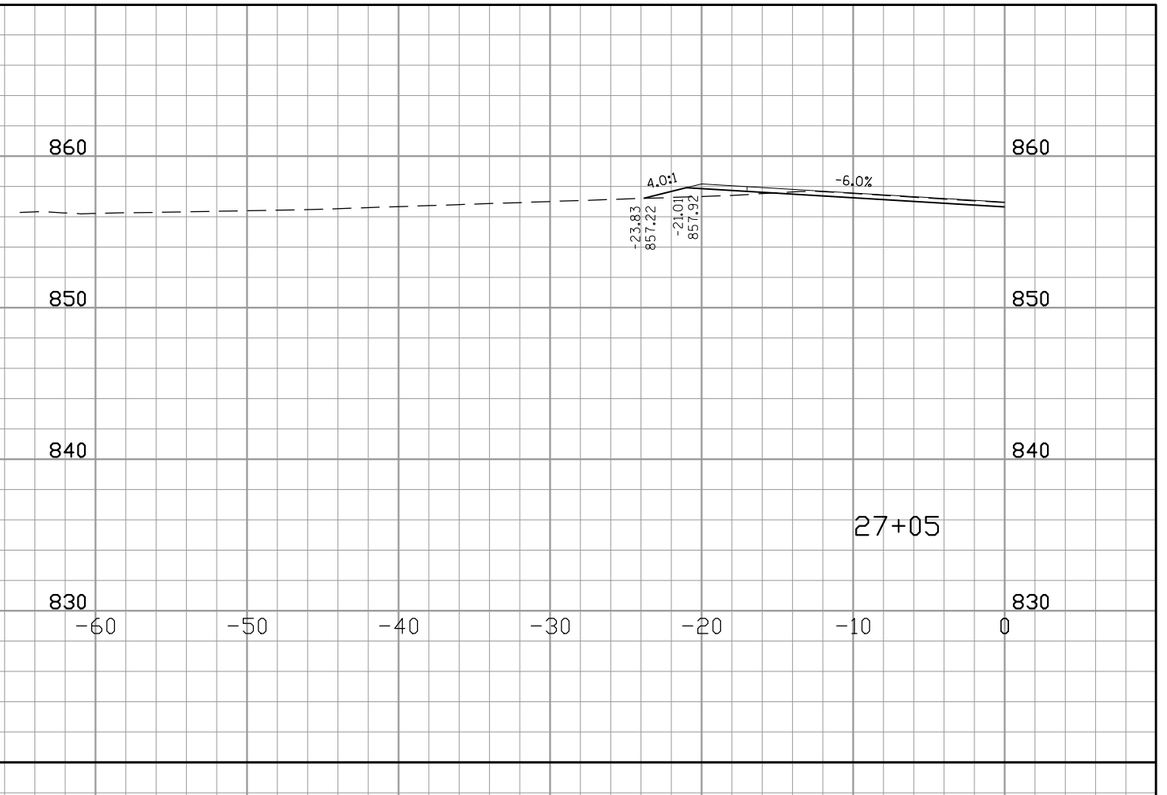
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\W11506_DESIGN.DWG
LAYOUT : SECTION SHEET - (2)

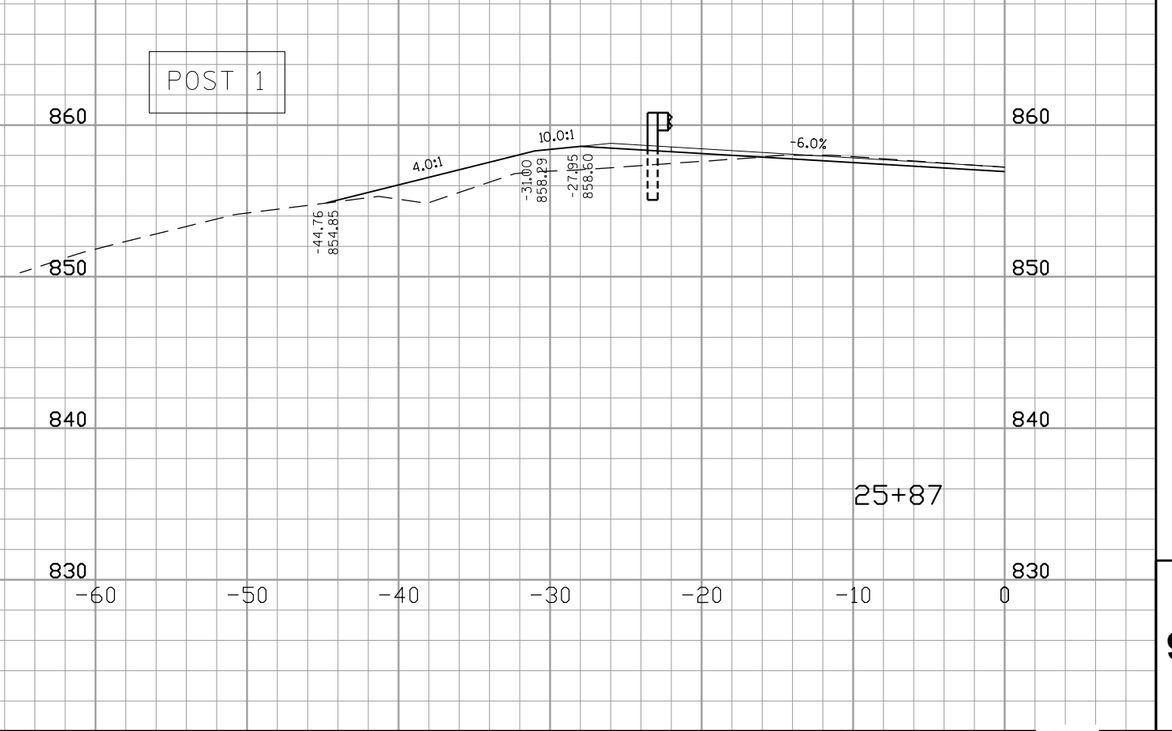
PLOT DATE : 4/30/2014
PLOT TIME : 2:30:25 PM

PLOT BY : ECKELBERG, PATRICK

PLOT SCALE : 1" = 1'







9

9

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS	SHEET

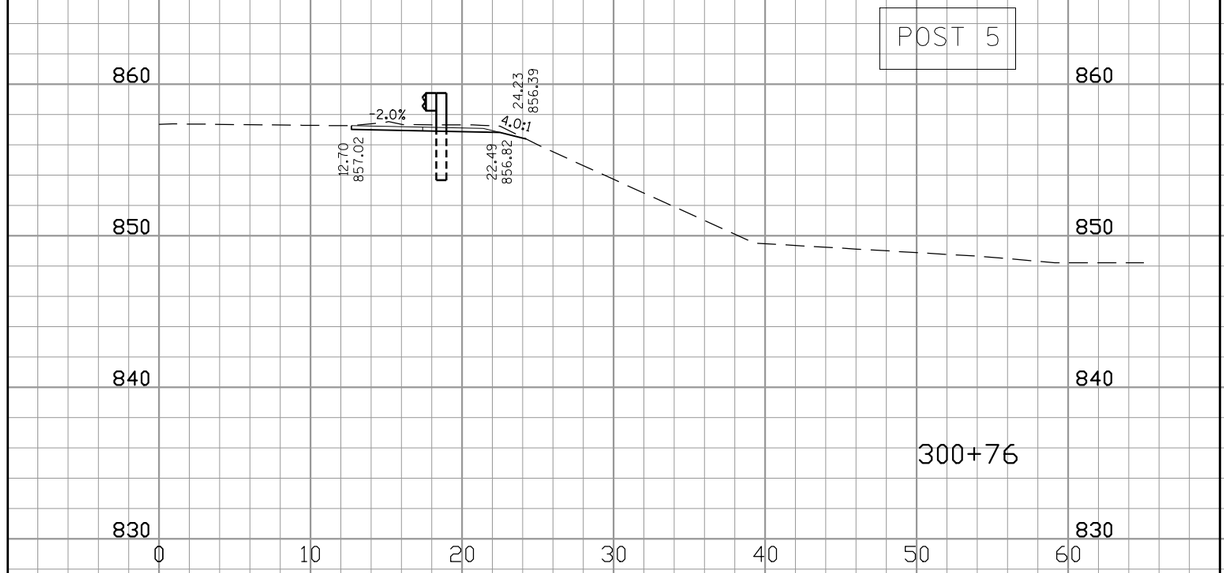
FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\W11506_DESIGN.DWG
LAYOUT : SECTION SHEET - (3)

PLOT DATE : 4/30/2014
PLOT TIME : 1:53:38 PM

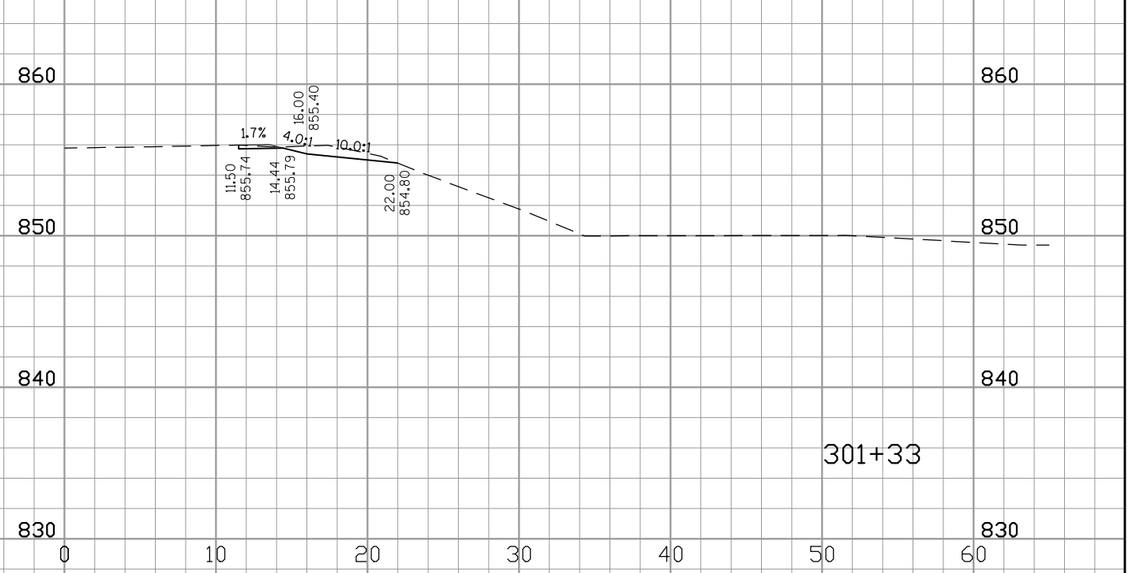
PLOT BY : ECKELBERG, PATRICK

PLOT SCALE : 1" = 1'

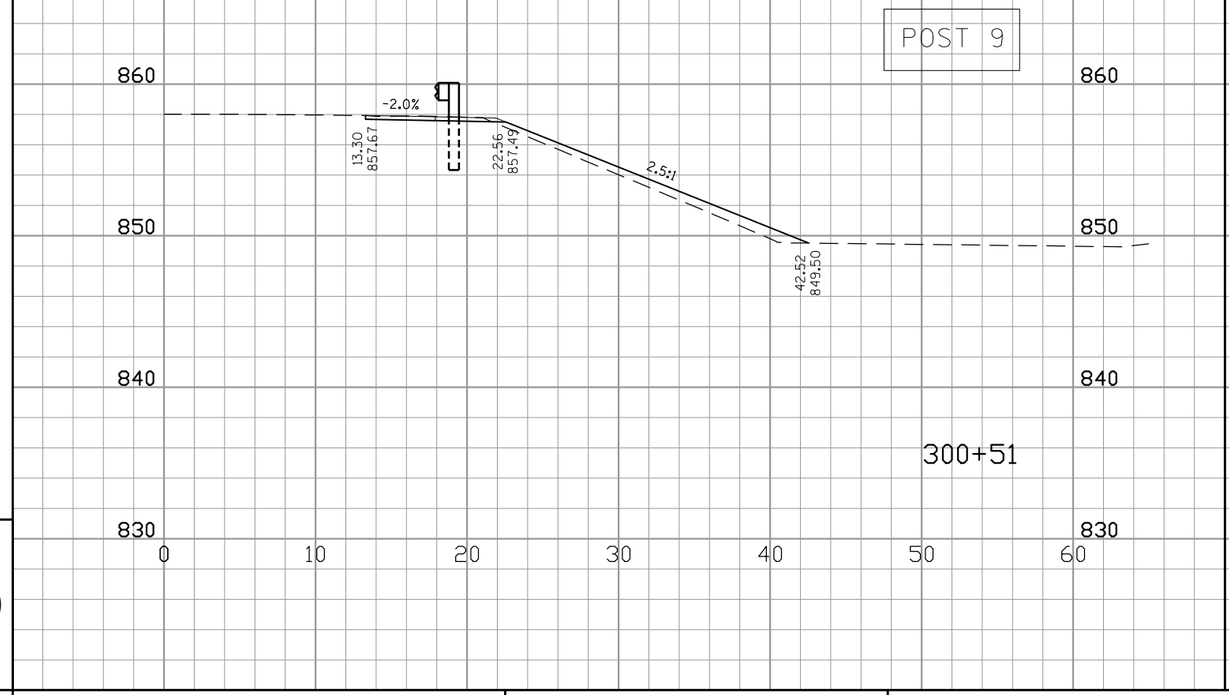
POST 5



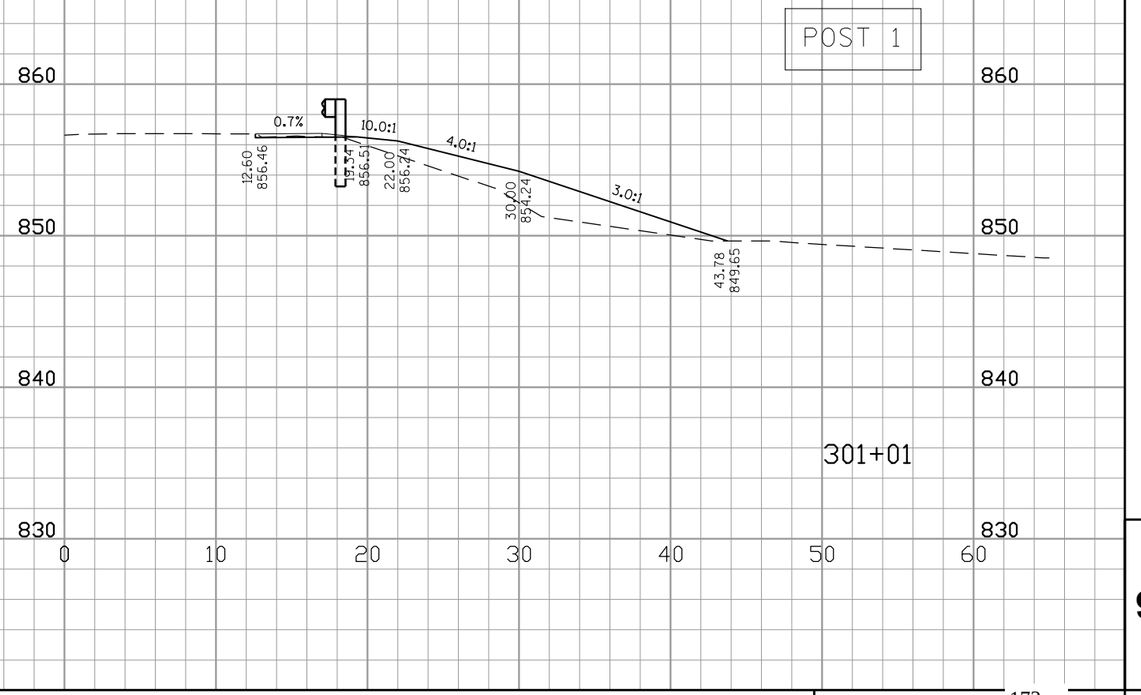
POST 5



POST 9



POST 1



9

9

PROJECT NO: 7105-03-72	HWY: STH 72	COUNTY: PIERCE	CROSS SECTIONS	SHEET

FILE NAME : R:\PROJECTS\W11506 STH 72 PIERCE COUNTY 7105-03-02\DESIGN FILES\ENGINEERING\W11506_DESIGN.DWG
LAYOUT : SECTION SHEET - (4)

PLOT DATE : 4/30/2014
PLOT TIME : 2:30:50 PM

PLOT BY : ECKELBERG, PATRICK

PLOT SCALE : 1" = 1'

Wisconsin Department of Transportation

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through innovation and exceptional service.

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