MAD APR 2017

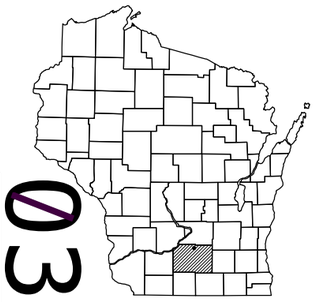
PROJECT ID: 1011-03-76
WITH: 1011-04-79

COUNTY: DANE

ORDER OF SHEETS

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

TOTAL SHEETS = 186



DESIGN DESIGNATION

		CTH DM	IH 39
A.D.T. (2014)	=	870	57,000
A.D.T. (2034)	=	1100	66,000
D.H.V. (2034)	=	128	8448
D	=	62/38	58/42
T. (A.D.T.)	=	19.4%	11.8%
DESIGN SPEED	=	55 MPH	70 MPH
ESALS	=	365,000	NA

COLUMBIA COUNTY
DANE COUNTY

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE (PL + 58.1)
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PORTAGE

CTH DM BRIDGE B-13-0648

IH39

DANE COUNTY

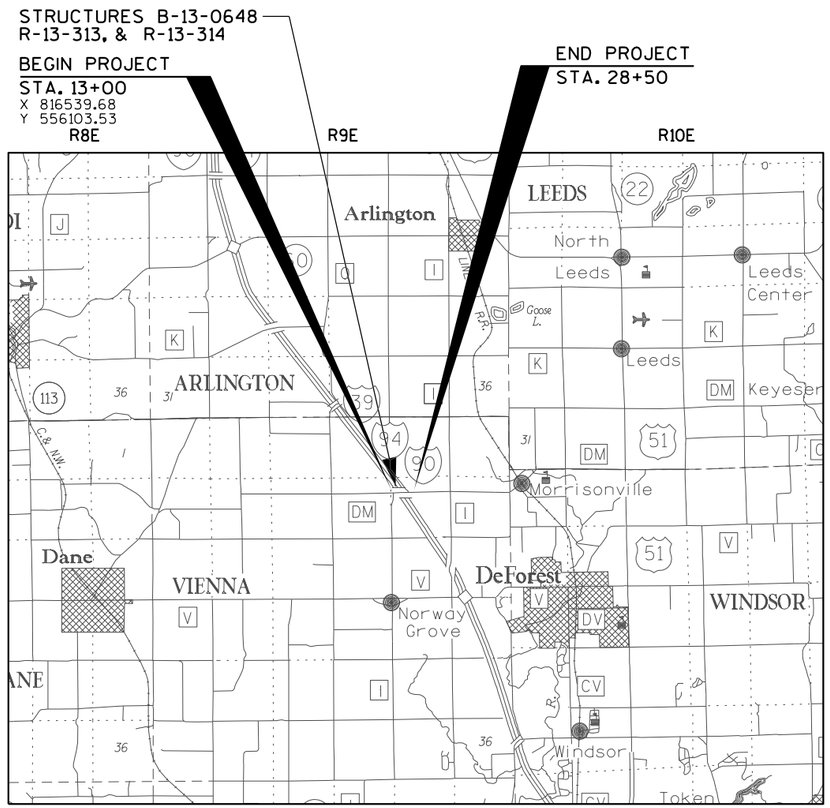
STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1011-03-76	WISC 2017155	1

STATE PROJECT NUMBER
1011-03-76

STRUCTURES B-13-0648
R-13-313, & R-13-314

BEGIN PROJECT
STA. 13+00
X 816539.68
Y 556103.53

END PROJECT
STA. 28+50



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, DANE COUNTY.

ELEVATIONS REFERENCED ON THIS PLAN ARE BASED ON NAVD88 (91) DATUM

ORIGINAL PLAN PREPARED BY:
BAXTER & WOODMAN Consulting Engineers

WISCONSIN
DANIEL C. DURIG
E-28013
BARABOO, WI
10/24/16

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	THE EXCELSIOR GROUP, LLC
Designer	BAXTER & WOODMAN, INC.
Project Manager	JIM SIMPSON
Regional Supervisor	KURT JOHNSON
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10-24-2016 (Signature)

E

2

STANDARD ABBREVIATIONS

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

GENERAL NOTES

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

2 CURB AND GUTTER PLAN GRADES ARE AT THE FLANGE LINE UNLESS OTHERWISE NOTED.

3 PIPE AND INLET ELEVATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER.

4 THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL DETERMINE THE EXACT LOCATIONS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NEEDED.

5 EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

6 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. CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

7 SEE SUBSURFACE EXPLORATION REPORTS FOR SOIL BORING INFORMATION. REPORTS ARE AVAILABLE FROM THE WISDOT SW REGION PROJECTS SECTION JIM SIMPSON, PROJECT MANAGER, PHONE (608) 246-5628

8 SHRINKAGE OF EARTHWORK IS VARIABLE AND IS ESTIMATED AT 15% IN THE YARDAGE SUMMARY. EXCAVATION BELOW SUBGRADE (EBS) IS ESTIMATED AND MAY VARY AS DIRECTED BY THE ENGINEER.

9 WHEN THE QUANTITY OF ITEMS OF BASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

10 THE EXACT LOCATION OF PRIVATE ENTRANCES AND DRIVEWAYS IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

11 STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE AND THE LOCATIONS OF SIGNS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

12 RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE NOT MORE THAN 5 WORKING DAYS AFTER FINISHED GRADING IS COMPLETE.

13 PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT, OR AS DIRECTED BY THE ENGINEER.

14 THE HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 110 LBS/SY/IN.

15 ALL OPENINGS OF HOLES BELOW SUBGRADE RESULTING FROM REMOVALS OR ABANDONMENTS SHALL BE BACKFILLED WITH GRANULAR MATERIAL. GRANULAR MATERIAL IS INCIDENTAL TO THE REMOVAL ITEM.

16 KEEP ALL EQUIPMENT AND MATERIALS OUT OF ADJACENT WETLANDS UNLESS DESIGNATED IN THE PLANS.

17 PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL FIELD VERIFY RELATED DRAINAGE INFORMATION IN THE PLANS AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS.

18 AGGREGATE CONVERSION RATES:
BASE AGGREGATE DENSE 3/4-INCH, 1 1/4-INCH: 2.0 TONS/CY
SELECT CRUSHED MATERIAL: 1.8 TONS/CY

19 THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTION
SCONSTRUCTION DETAILS
PAVING DETAILS
EROSION CONTROL PLAN
PERMANENT SIGNING / PAVEMENT MARKING PLAN
TRAFFIC CONTROL / CONSTRUCTION STAGING PLAN
DETOUR PLAN
ALIGNMENT PLAN

2

UTILITY CONTACTS

CARL DONAHUE
AT&T LEGACY - FIBER OPTIC
866 ROCK CREEK RD
PLANO, IL 60545
(847) 420-9115
CDONAHUE@ATT.COM

KEVIN ZICKERT
CENTURYLINK - TELEPHONE
224 INDUSTRIAL DRIVE
NORTH PRAIRIE, WI 53153
(262) 392-5200
KEVIN.ZICKERT@CENTURYLINK.COM

JASON HOGAN
ALLIANT ENERGY - ELECTRIC
SUITE 100
4902 N BILTMORE LANE
MADISON, WI 53718
(608) 395-7395
JASONHOGAN@ALLIANTENERGY.COM

TIM STATZ
MADISON GAS AND ELECTRIC COMPANY - GAS
PO BOX 1231
MADISON, WI 53701-1231
(608) 252-4727
TSTATZ@MGE.COM

DNR CONTACT

ATTN: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 275-3301
E-MAIL: ERIC.HEGGELUND@WISCONSIN.GOV

DESIGN CONTACT

BAXTER & WOODMAN, INC.
DANIEL DURIG, PE
2005 W. BELTLINE HWY, SUITE 201
MADISON WI 53713
DDURIG@BAXTERWOODMAN.COM
PH: (608) 277-1230
CELL: (608) 481-0691

LOCAL GOVERNMENT CONTACTS

KATHLEEN CLARK
TOWN OF VIENNA
7161 COUNTY ROAD I
DE FOREST, WI 53532
(608) 846-3800
TOVCLERK@CENTURYTEL.NET

PAMELA DUNPHY, PE
DANE COUNTY DEPUTY HIGHWAY COMMISSIONER
2302 FISH HATCHERY ROAD
MADISON, WI 53713
(608) 266-4036

WISDOT CONTACTS

MR. JIM SIMPSON, PE, RLS
WISDOT SW REGION
2101 WRIGHT ST
MADISON, WI 53704
(608) 246-5628
JIM.SIMPSON@DOT.WI.GOV

KYLE HEMP, PE
WISCONSIN DEPARTMENT OF TRANSPORTATION
FREEWAY TRAFFIC MANAGEMENT SYSTEM
2101 WRIGHT STREET
MADISON, WI 53704
(608) 246-5367
KYLE.HEMP@DOT.WI.GOV

DONALD SCHELL, PE
WISCONSIN DEPARTMENT OF TRANSPORTATION -
COMMUNICATION LINE (TOC)
433 W ST PAUL AVE SUITE 300
MILWAUKEE, WI 53203-3007
(414) 227-2148
DONALD.SCHELL@DOT.WI.GOV

MICHAEL WILLIAMS, PE
BRIDGE INSPECTOR
2101 WRIGHT ST
MADISON, WI 53704
(608) 246-3250
MICHAEL.WILLIAMS@DOT.WI.GOV

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

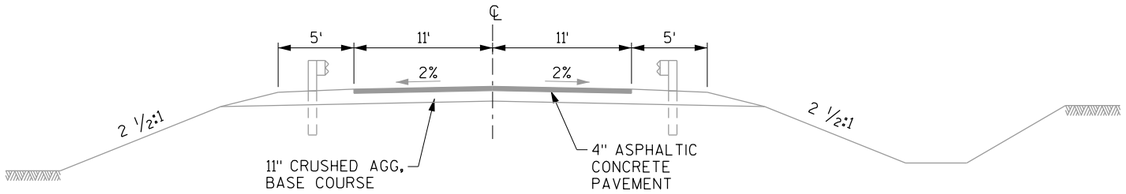
PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CONTACT INFORMATION	SHEET NO: 3	E

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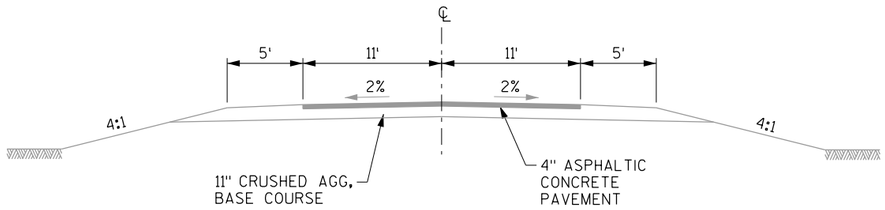


PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PROJECT OVERVIEW	SHEET 4	E



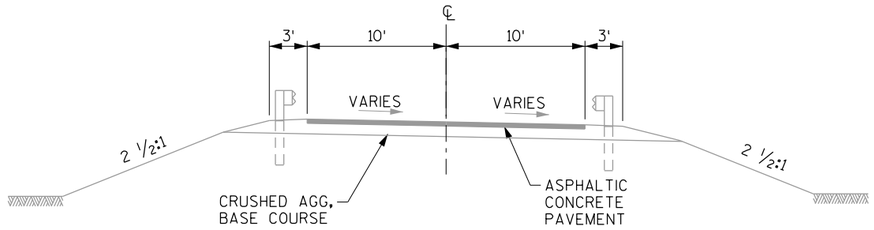
EXISTING TYPICAL SECTION

STA 16+68 - 18+81, GUARDRAIL RT
STA 17+97 - 18+62, GUARDRAIL LT
STA 21+24 - 24+15, GUARDRAIL LT
STA 21+43 - 22+04, GUARDRAIL RT
(CTH DM)



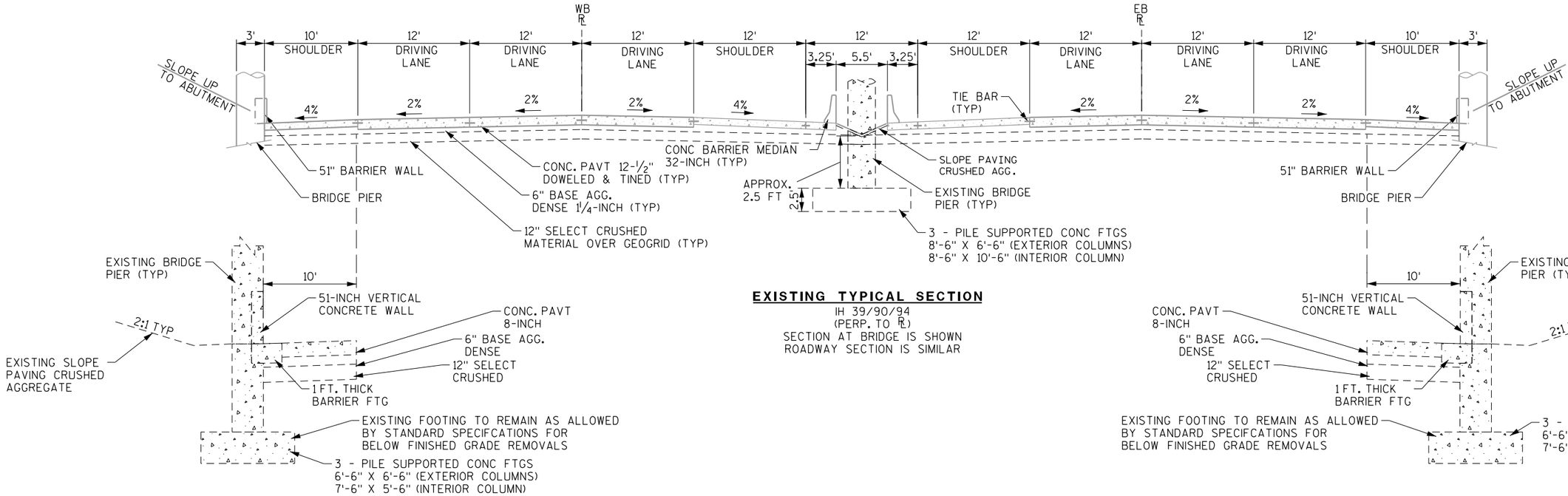
EXISTING TYPICAL SECTION

STA 13+00 - 16+68, LT & RT
STA 16+68 - 17+97, LT
STA 22+04 - 24+15, RT
STA 24+15 - 28+50, LT & RT
(CTH DM)



EXISTING TYPICAL SECTION

STA 41A+00 - 43A+63, NO GUARDRAIL
STA 43A+63 - 49A+50, GUARDRAIL LT
STA 43A+82 - 49A+50, GUARDRAIL RT
(WIBU ROAD)



IH 39 CONCRETE BARRIER AT PIER

STA 491+81 EB - STA 492+52 EB

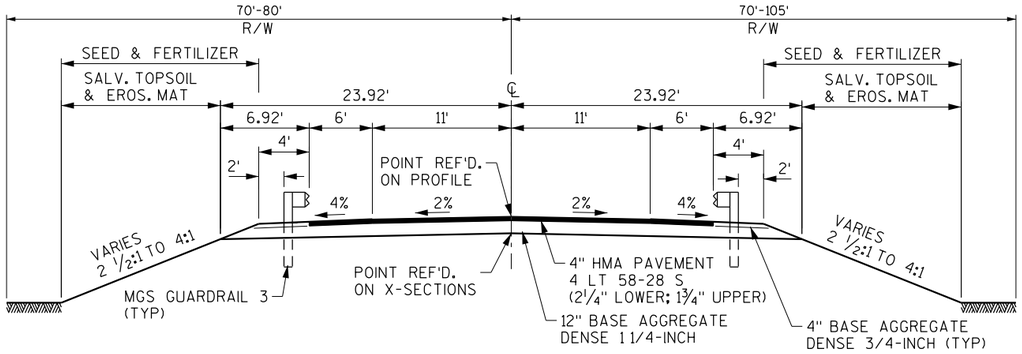
EXISTING TYPICAL SECTION

IH 39/90/94
(PERP. TO ℄)
SECTION AT BRIDGE IS SHOWN
ROADWAY SECTION IS SIMILAR

IH 39 CONCRETE BARRIER AT PIER

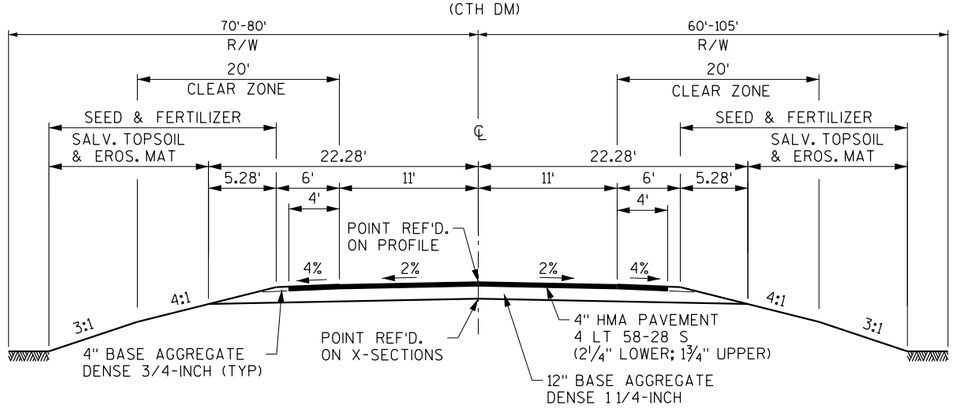
STA 493+01 WB TO STA 493+70 WB

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EXISTING TYPICAL SECTIONS	SHEET NO: 5	E



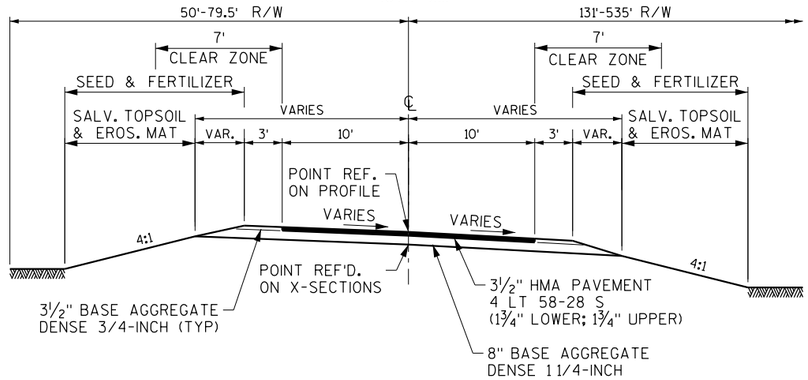
FINISHED TYPICAL SECTION

STA 14+43 - 18+58, GUARDRAIL RT
STA 16+85 - 18+38, GUARDRAIL LT
STA 21+46 - 22+99, GUARDRAIL LT
STA 21+66 - 25+57, GUARDRAIL RT
(CTH DM)



FINISHED TYPICAL SECTION

STA 13+00 - STA 14+43, LT & RT
STA 14+43 - 16+85, LT
STA 22+99 - 25+57, LT
25+57 - 28+50, LT & RT
(CTH DM)

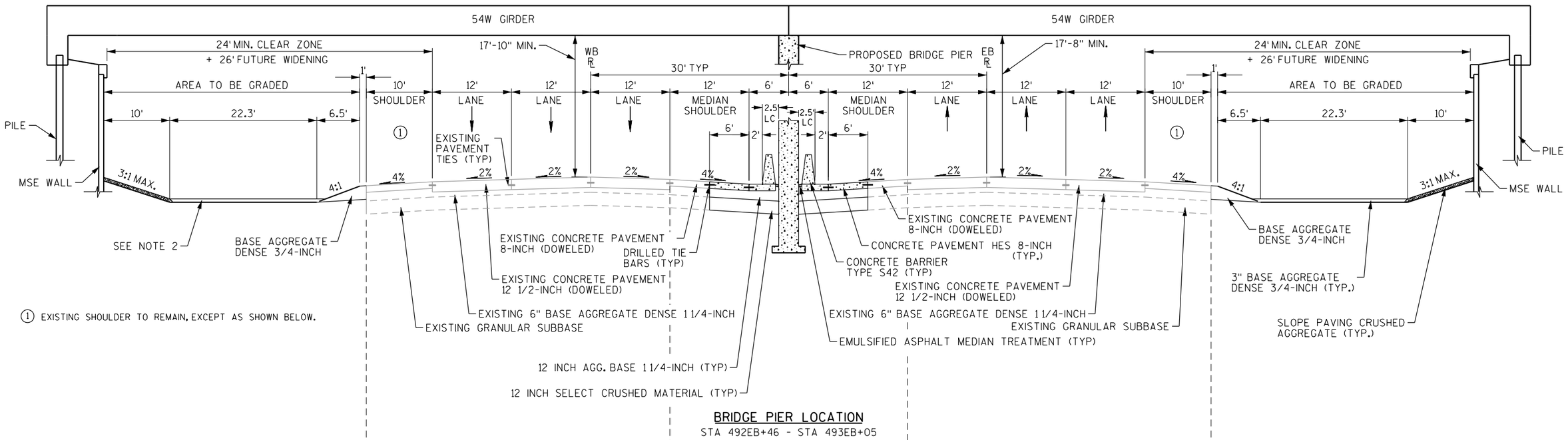


FINISHED SUPERELEVATED TYPICAL SECTION

STA 41A+00 - 49A+50
(WIBU ROAD)

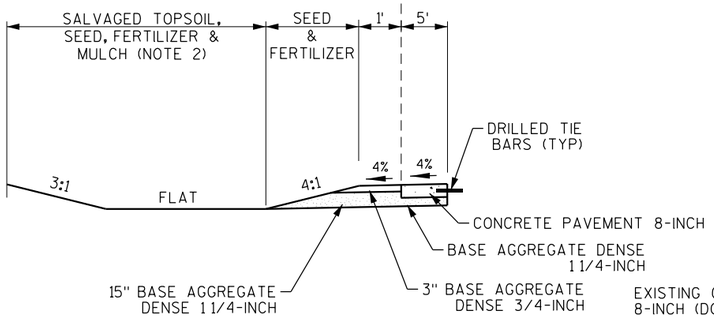
PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PROPOSED TYPICAL SECTIONS	SHEET NO: 6	E

2



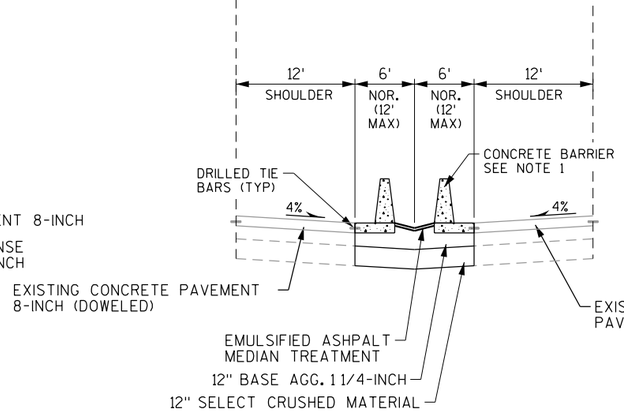
BRIDGE PIER LOCATION

STA 492EB+46 - STA 493EB+05



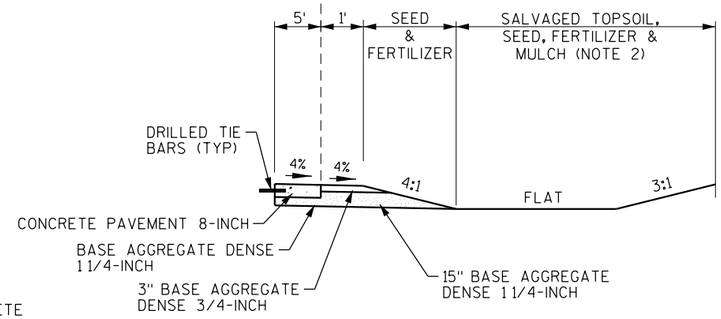
RURAL SHOULDER AT BARRIER REMOVAL

STA 492WB+94 - 493WB+73
(EXIST. PIER / BARRIER WALL LOCATIONS)



OUTSIDE BRIDGE PIER LOCATION

STA 491EB+80 - STA 492EB+46
STA 493EB+05 - STA 493EB+70



RURAL SHOULDER AT BARRIER REMOVAL

STA 491EB+73 - 492EB+57

NOTE 1
CONCRETE BARRIER MEDIAN 32-INCH, CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36, CONCRETE BARRIER TRANSITION S36 TO S42, CONCRETE BARRIER S42 (SEE PAVING DETAILS)

NOTE 2
AREAS UNDER STRUCTURE B-13-0648 SHALL HAVE 3" BASE AGGREGATE 3/4-INCH AND SLOPE PAVING, CRUSHED AGGREGATE (SEE PAVING DETAILS)

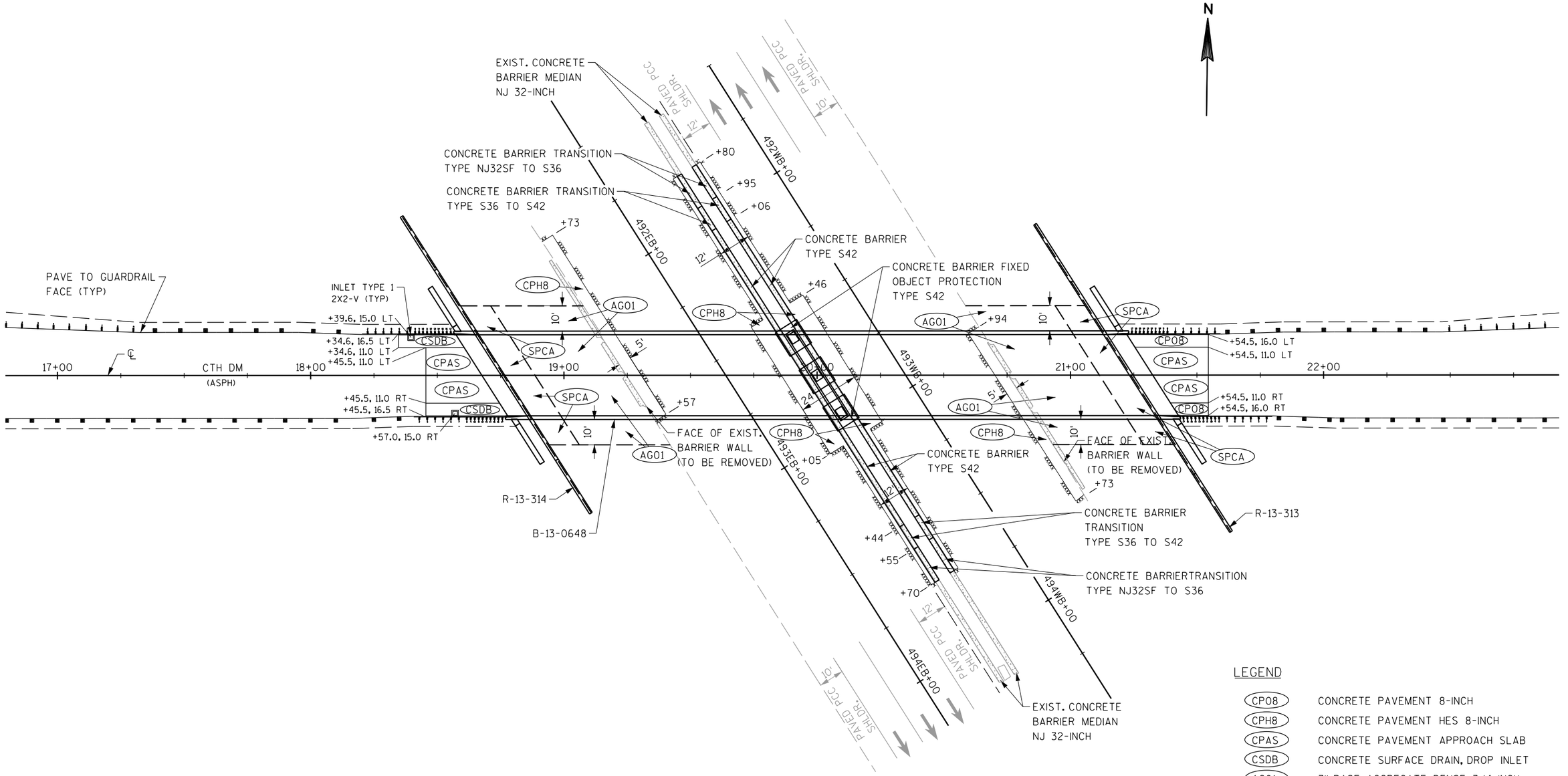
LC = LATERAL CLEARANCE

FINISHED TYPICAL SECTION

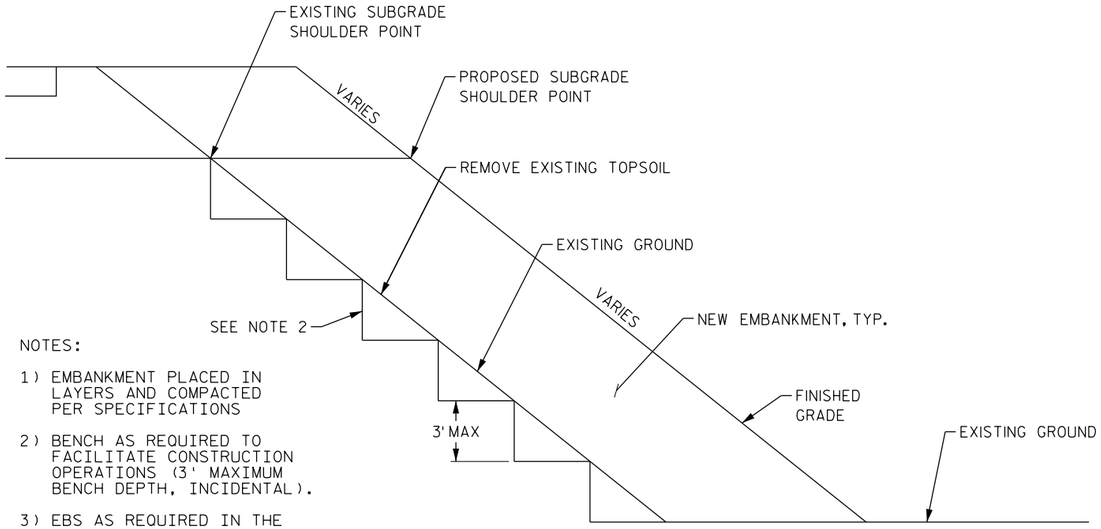
IH 39
STA 491EB+80 - STA 493EB+70
V = 70 MPH

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PROPOSED TYPICAL SECTIONS	SHEET NO: 7	E

2



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PAVING DETAILS	SHEET 8	E



NOTES:

1) EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS

2) BENCH AS REQUIRED TO FACILITATE CONSTRUCTION OPERATIONS (3' MAXIMUM BENCH DEPTH, INCIDENTAL).

3) EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "COMMON EXCAVATION".

STEPPED EMBANKMENT

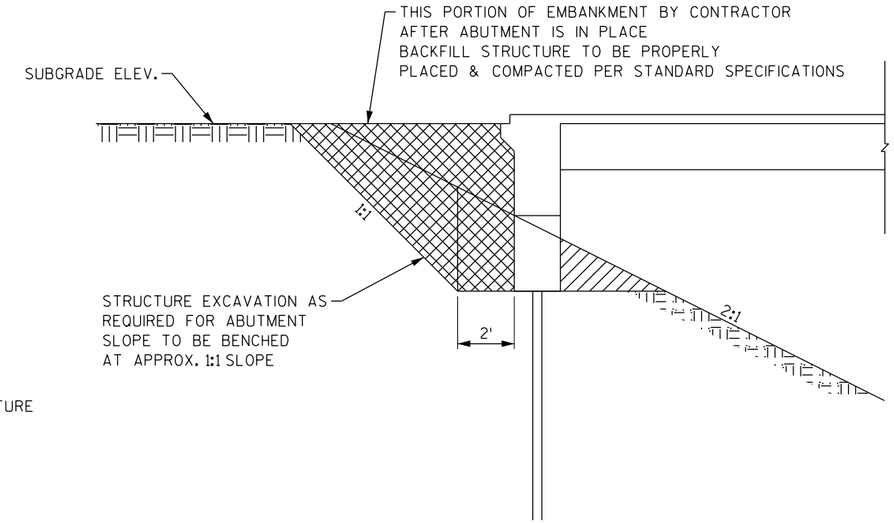
EXISTING CTH DM EMBANKMENT TO REMAIN

EXCAVATION

BACKFILL STRUCTURE

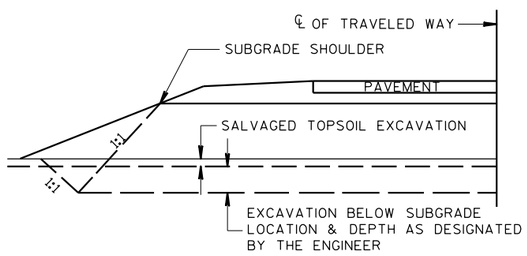
NOTE:

THE EMBANKMENT CONFIGURATION SHOWN IS THE MINIMUM EMBANKMENT THAT MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF THE ABUTMENTS.

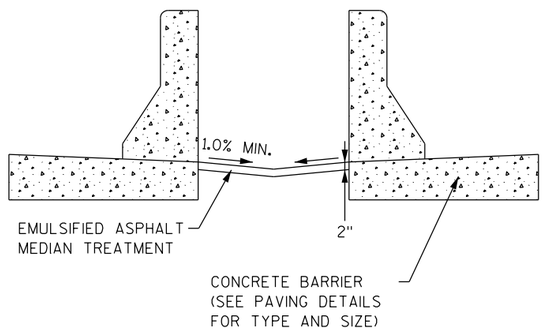


EMBANKMENT CONSTRUCTION & BACKFILL STRUCTURE DETAIL

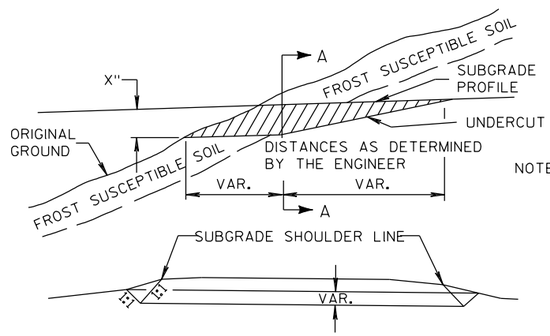
EAST AND WEST ABUTMENTS



DETAIL FOR EXCAVATION BELOW SUBGRADE



TREATMENT BETWEEN MEDIAN CONCRETE BARRIER



SECTION A-A

CROSS SECTION SHOWING UNDERCUT

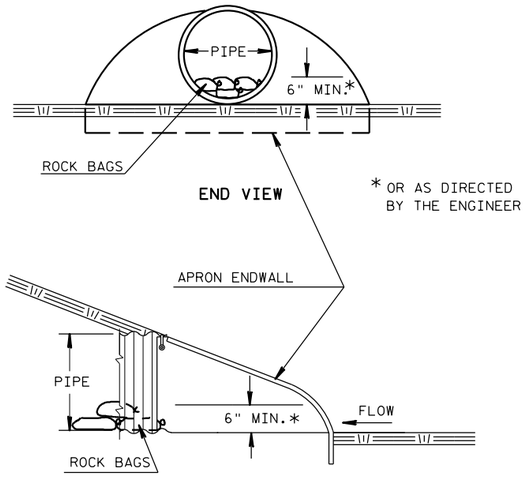
DETAIL FOR EXCAVATION BELOW SUBGRADE AT CUT/FILL TRANSITION

NOTE: EXACT LOCATIONS AND EXTENT OF E.B.S. SECTIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER

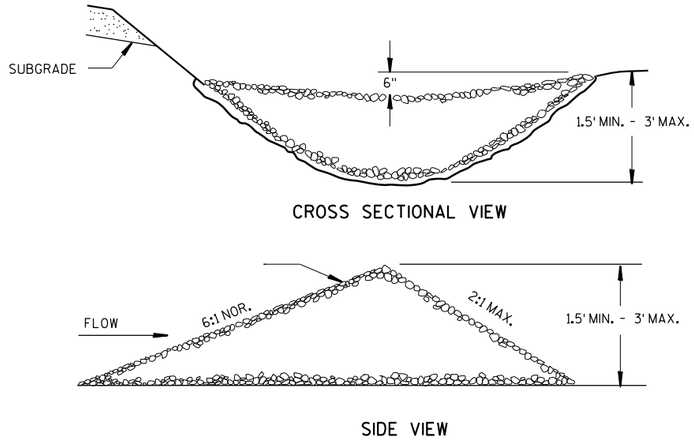
BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.

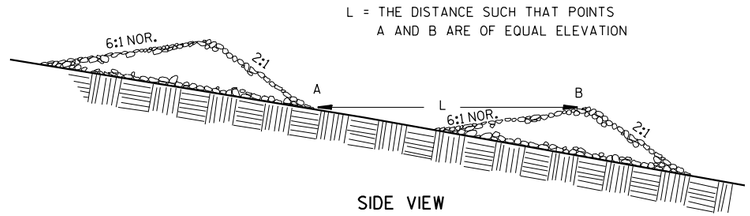
THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED.



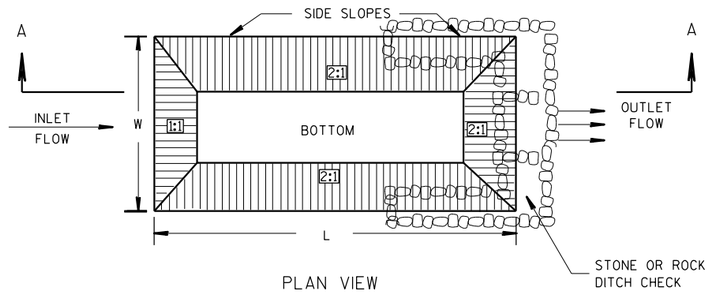
ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
21"	3
14" X 23"	3
24"	3
27"	4
30"	5
19" X 30"	5
36"	7
24" X 38"	8
42"	8
29" X 45"	10
48"	10
34" X 53"	10
38" X 60"	13
60"	13
66"	15
53" X 83"	19

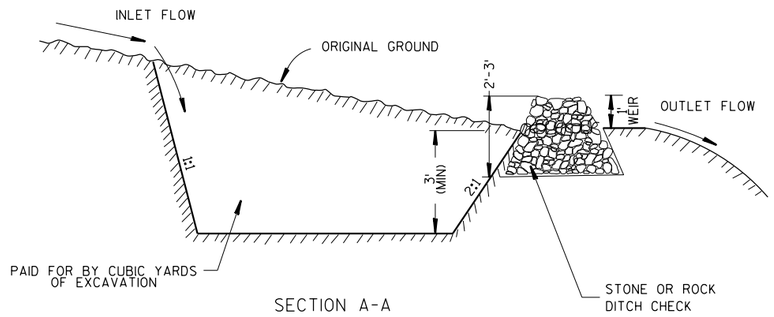
CULVERT PIPE CHECK





STONE OR ROCK DITCH CHECK





TEMPORARY SEDIMENT BASIN

2

LEGEND

- EROSION MAT URBAN CLASS ITYPE B
- SILT FENCE
- EROSION BALES
- STONE DITCH CHECK
- SLOPE INTERCEPT
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

N

CORNFIELD

R/W

R/W

CENTURYLINK

CTH DM

(ASPHALT)

BEGIN PROJECT

STA 13+00

13+00

14+00

15+00

16+00

℄

36" CMP

TSB

WETLAND BOUNDARY

60' X 15' X 3'

WIBU ROAD

R/W

MG&E

CENTURYLINK

CORNFIELD

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 11	E

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WISDOT/CADDS SHEET 42

2

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- EROSION BALES (FOR SHEET FLOW)
- STONE DITCH CHECK
- RIP RAP LIGHT
- SLOPE INTERCEPT
- INLET PROTECTION, TYPE B
- CULVERT PIPE CHECK
- TSB — TEMPORARY SEDIMENT BASIN
- SURFACE WATER FLOW

N

CORNFIELD

R/W

17+00

℄ CTH DM

N 89° 13' 14" E

18+00

19+00

20+00

21+00

22+00

491EB+00

491WB+00

492EB+00

492WB+00

493WB+00

493EB+00

S 33° 11' 12" E

S 33° 11' 14" E

494EB+00

494WB+00

INLET

GRASSLAND

AT&T LEGACY

R13-314

B-13-0648

R13-313

MG&E

CENTURYLINK

TSB

25' X 15' X 3'

30" RCCP

TLE

FO

G

T

WETLAND BOUNDARY

CORNFIELD

2

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 12	E

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WISDOT/CADDS SHEET 42

2

2

N

POTENTIAL STAGING AREA

484+00

49A+00

R/W

CORNFIELD

R/W

CENTURYLINK

℄ A LINE

ALLIANT

CENTURYLINK

WIBU ROAD

GUY

GUY

23+00

24+00

CTH DM

180°05'58"

25+00

CTH DM ℄

26+00

27+00

28+00

STA 25+75

STA 50A+00

18" CMP

R/W

CENTURYLINK

TLE

MG&E

CELL TOWER

CORNFIELD

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- MULCHING
- SILT FENCE
- SLOPE INTERCEPT
- SURFACE WATER FLOW

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 13	E

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2

2

LEGEND

- MULCHING
- SILT FENCE
- EROSION BALES
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW

N

CORNFIELD

WIBU ROAD

GRASSLAND

R/W

PC=42A+20.82

PI=44A+06.71

41A+00

XXXX

42A+00

S 49° 51' 48" E

43A+00

44A+0

PI=43A+20.23

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 14	E

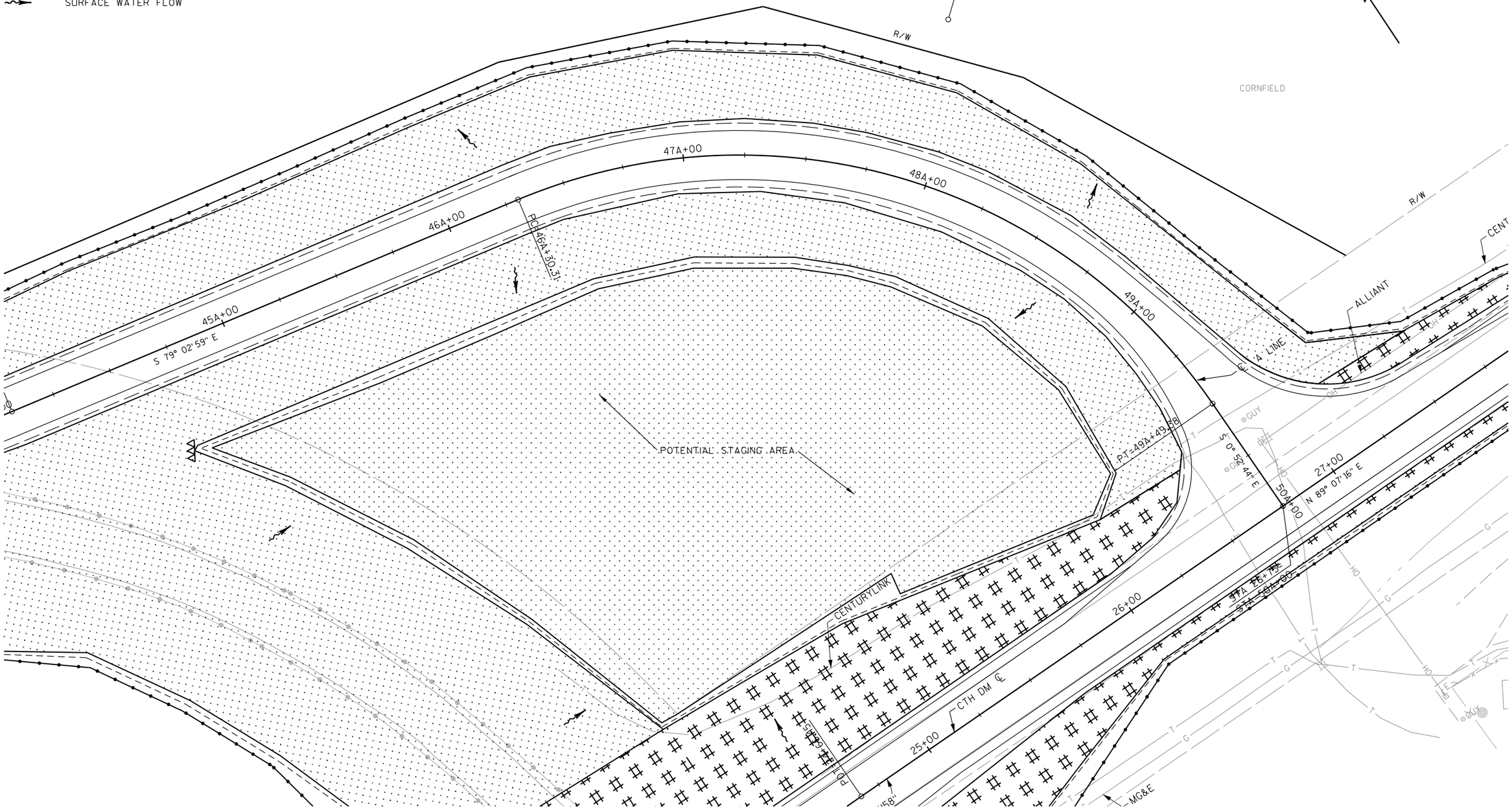
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2

2

LEGEND

- EROSION MAT URBAN CLASS ITYPE B
- MULCHING
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- SURFACE WATER FLOW



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 15	E

2

N

W1-4L
30" X 30"

25
M.P.H.
W13-1
18" X 18"

REMOVE EXISTING "REVERSE CURVE"
SIGN AND SUPPORT APPROX. 1000'
NORTH OF WIBU ROAD LIMITS

REMOVE EXISTING
SIGN AND SUPPORT

REMOVE EXISTING
SIGN AND SUPPORT

REMOVE EXISTING
SIGN AND SUPPORT

SLOWER
TRAFFIC
KEEP
RIGHT
MOVE EXISTING
SIGN AND SUPPORT

REMOVE EXISTING
SIGN AND SUPPORT

45+00
WIBU ROAD

W3-1
36" X 36"

EAST
90
MILE
124
.8

WEST
90
MILE
124
.8

MOVE EXISTING
SIGNS AND SUPPORT

IH 39

W5-52R
12" X 36"

W2-2
30" X 30"

WEIGHT
LIMIT
8
TONS
ENFORCED
YEAR ROUND

RELOCATE EXISTING LOAD
RESTRICTION SIGN AND
SUPPORT

STOP

REMOVE EXISTING
SIGN AND SUPPORT

NARROW
BRIDGE

REMOVE EXISTING
SIGN AND SUPPORT

HWY DM
MOVE EXISTING
SIGN AND SUPPORTS

REMOVE EXISTING
SIGNS AND SUPPORTS

STOP
R1-1
30" X 30"

POT=24+66.45

+24

+45

25.5'

+10

+47

REMOVE EASTBOUND "NARROW BRIDGE"
SIGN AND SUPPORT APPROX. 200'
WEST OF PROJECT LIMITS

W5-52L
12" X 36"

15+00

CTH DM

20+00

25+00

REMOVE EXISTING
SIGN AND SUPPORT

PAVEMENT MARKING EPOXY
4-INCH (DOUBLE YELLOW)
(TYP.)

W2-2
30" X 30"

W5-52R
12" X 36"

REMOVE EXISTING
SIGNS AND SUPPORTS

W5-52L
12" X 36"

PAVEMENT MARKING
EPOXY 4-INCH
(WHITE EDGE LINES)
(TYP.)

RELOCATE EXISTING
STREET SIGNS AND
SUPPORT

WIBU Rd
COUNTY TRUNK DAM

HWY DM
MOVE EXISTING
SIGN AND SUPPORTS

REMOVE EXISTING
SIGN AND SUPPORT

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PERMANENT SIGNING AND PAVEMENT MARKING	SHEET 16	E

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT

- PAVEMENT MARKING (SOLID ARROWS)
- DIRECTION OF TRAFFIC (HOLLOW ARROWS)
- WORK AREA
- WORK AREA UNDER TRAFFIC

NOTES:

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S.

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

ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. WARNING LIGHTS SHALL NOT BE WORKING ON "COVERED" OR "DOWNED" SIGNS OR BARRICADES.

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

MAINTAIN ACCESS TO LOCAL RESIDENCES AND COMMERCIAL ENTRANCES.

ALL EXISTING PAVEMENT MARKINGS CONFLICTING WITH THE TRAFFIC CONTROL SHALL BE REMOVED.

ROAD MACHINERY, TRUCK ENTRANCE, AND FLAGGING SIGNS SHALL BE USED AS NEEDED, AND SHALL BE REMOVED OR COVERED AT NIGHT, ON WEEKENDS, OR WHENEVER THE ACTIVITY OR CONDITION DOES NOT EXIST. THESE SIGNS SHALL BE CONSIDERED INCIDENTAL TO OTHER ITEMS OF WORK.

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

SIGN AND BARRICADE LOCATIONS MAY BE ADJUSTED IN THE FIELD AS DIRECTED BY THE ENGINEER. ANY EXISTING TRAFFIC SIGNS THAT CONFLICT WITH THIS WORK SHALL BE COVERED AS DIRECTED BY THE ENGINEER. ALL "STOP" OR OTHER REGULATORY SIGNS ON THE ROADS SHALL NOT BE DISTURBED, EXCEPT WHEN NECESSARY TO COMPLETE THE WORK. THE SIGNS MUST THEN BE IMMEDIATELY REESTABLISHED.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN ON THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE "A" LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

ALL R11-2, R11-3, AND R11-4 SIGNS SHALL BE ATTACHED ONLY TO THE TOP RAIL OF THE TYPE III BARRICADE. THE SIGNS SHALL NOT COVER MIDDLE RAIL.

TYPE "H" REFLECTIVE SHEETING SHALL BE USED ON ALL BARRICADES, AND ON ALL R11-2, R11-3, AND R11-4 SIGNS.

TWO WARNING LIGHTS SHALL BE PROVIDED ON EACH BARRICADE WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF THE ROADWAY AS SHOWN.

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

CROSS ROADS SHALL BE KEPT OPEN THROUGH THE PROJECT EXCEPT WHERE SPECIFIED IN THE PLANS AND/OR SPECIAL PROVISIONS.

ALL M3 SERIES SIGNS (NORTH, EAST, SOUTH, WEST) WHICH ARE PART OF ANY ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.

ALL M05 AND M06 ARROW SIGNS SHALL BE THE SAME AS "M" SIGNS EXCEPT THAT THE BACGROUND IS ORANGE.

ALL TYPE III BARRICADES SHALL HAVE AN EQUVALENT WIDTH OF 8 FEET.

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, ALL SIGNS RELATING TO THIS OPERATION SHALL BE COVERED OR REMOVED AND FACILITY RESTORED TO NORMAL OPERATION.

2

2

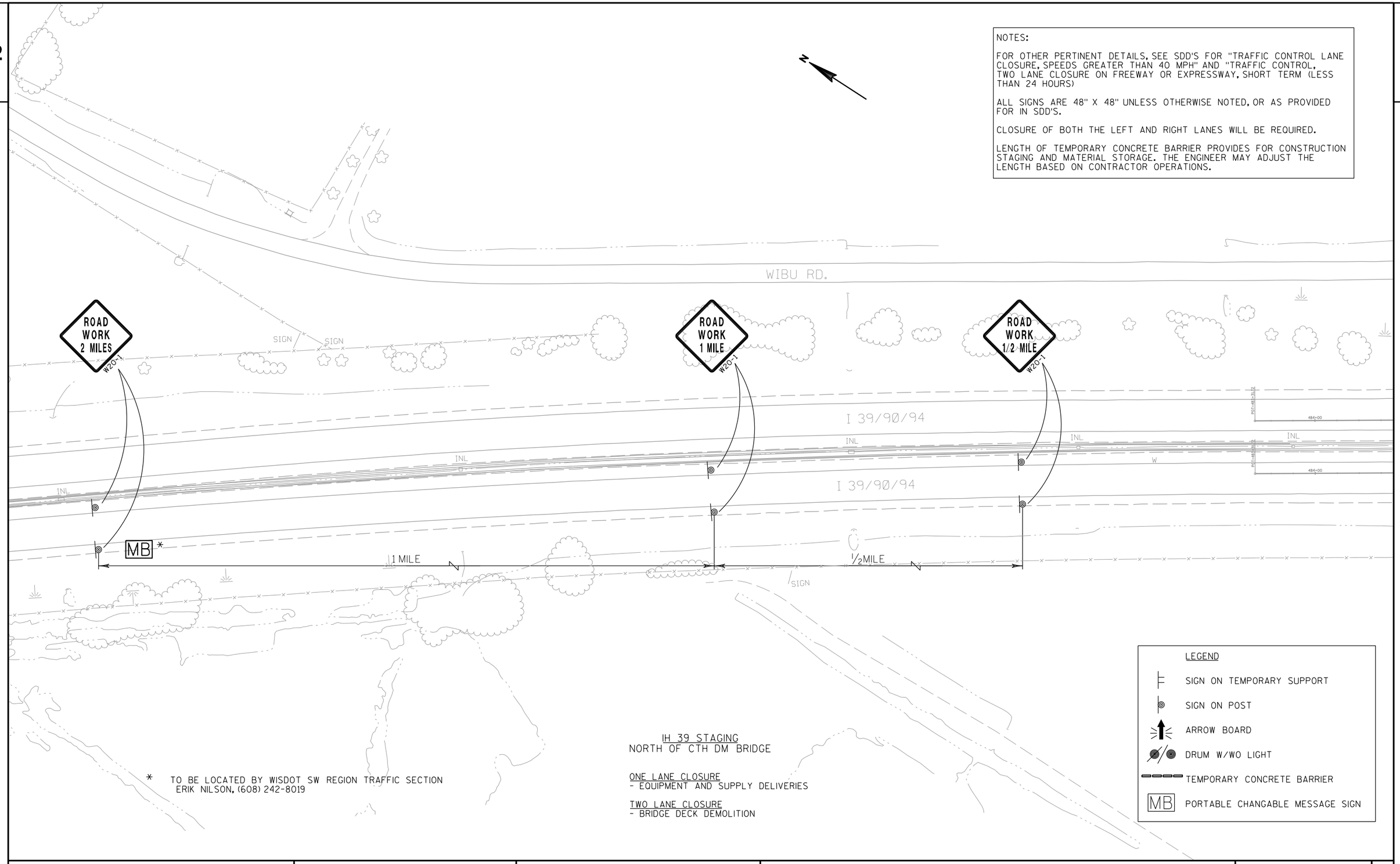
NOTES:

FOR OTHER PERTINENT DETAILS, SEE SDD'S FOR "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S.

CLOSURE OF BOTH THE LEFT AND RIGHT LANES WILL BE REQUIRED.

LENGTH OF TEMPORARY CONCRETE BARRIER PROVIDES FOR CONSTRUCTION STAGING AND MATERIAL STORAGE. THE ENGINEER MAY ADJUST THE LENGTH BASED ON CONTRACTOR OPERATIONS.



* TO BE LOCATED BY WISDOT SW REGION TRAFFIC SECTION
ERIK NILSON, (608) 242-8019

IH 39 STAGING
NORTH OF CTH DM BRIDGE

ONE LANE CLOSURE
- EQUIPMENT AND SUPPLY DELIVERIES

TWO LANE CLOSURE
- BRIDGE DECK DEMOLITION

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL FOR IH 39/90/94	SHEET 18	E

NOTES:

FOR OTHER PERTINENT DETAILS, SEE SDD'S FOR "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S.

CLOSURE OF BOTH THE LEFT AND RIGHT LANES WILL BE REQUIRED.

LENGTH OF TEMPORARY CONCRETE BARRIER PROVIDES FOR CONSTRUCTION STAGING AND MATERIAL STORAGE. THE ENGINEER MAY ADJUST THE LENGTH BASED ON CONTRACTOR OPERATIONS.

END ROAD WORK
G20-2A
48" X 24"

400' IN PLACE ALL THE TIME

W05-52L
18" X 54"

200'+/- FROM CL OF PROPOSED STRUCTURE

2' CLEAR (MIN.) (TYP.)

12'

12'

12'

6'

W05-52R
18" X 54"

TEMPORARY CRASH CUSHION

200'

INL

W

I 39/90/94

PLACE TEMPORARY CONCRETE BARRIER
2' OFFSET FROM TRAVEL LANE TO FACE OF BARRIER

TEMPORARY SHORING
SEE STRUCTURE PLAN
FOR QUANTITIES

IH 39 STAGING
UNDER BRIDGE

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON POST
- ARROW BOARD
- DRUM W/WO LIGHT
- TEMPORARY CONCRETE BARRIER
- MB PORTABLE CHANGABLE MESSAGE SIGN

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL FOR IH 39/90/94	SHEET 19	E

2

2

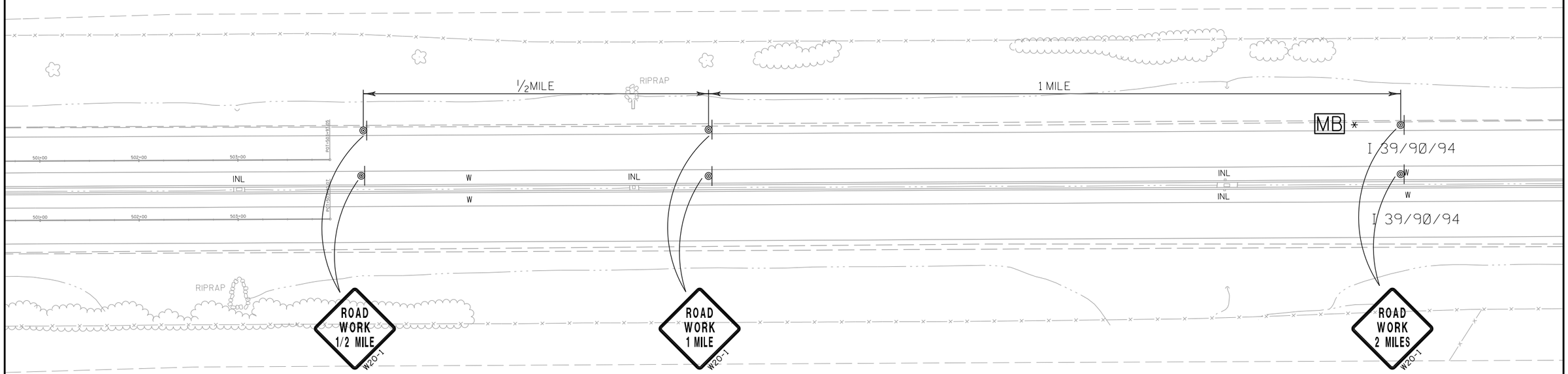
NOTES:

FOR OTHER PERTINENT DETAILS, SEE SDD'S FOR "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S.

CLOSURE OF BOTH THE LEFT AND RIGHT LANES WILL BE REQUIRED.

LENGTH OF TEMPORARY CONCRETE BARRIER PROVIDES FOR CONSTRUCTION STAGING AND MATERIAL STORAGE. THE ENGINEER MAY ADJUST THE LENGTH BASED ON CONTRACTOR OPERATIONS.



IH 39 STAGING
SOUTH OF CTH DM BRIDGE

ONE LANE CLOSURE
- EQUIPMENT AND SUPPLY DELIVERIES

TWO LANE CLOSURE
- BRIDGE DECK DEMOLITION

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON POST
- ARROW BOARD
- DRUM W/WO LIGHT
- TEMPORARY CONCRETE BARRIER
- MB — PORTABLE CHANGABLE MESSAGE SIGN

* TO BE LOCATED BY WISDOT SW REGION TRAFFIC SECTION
(608) 246-3800

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL FOR IH 39/90/94	SHEET 20	E

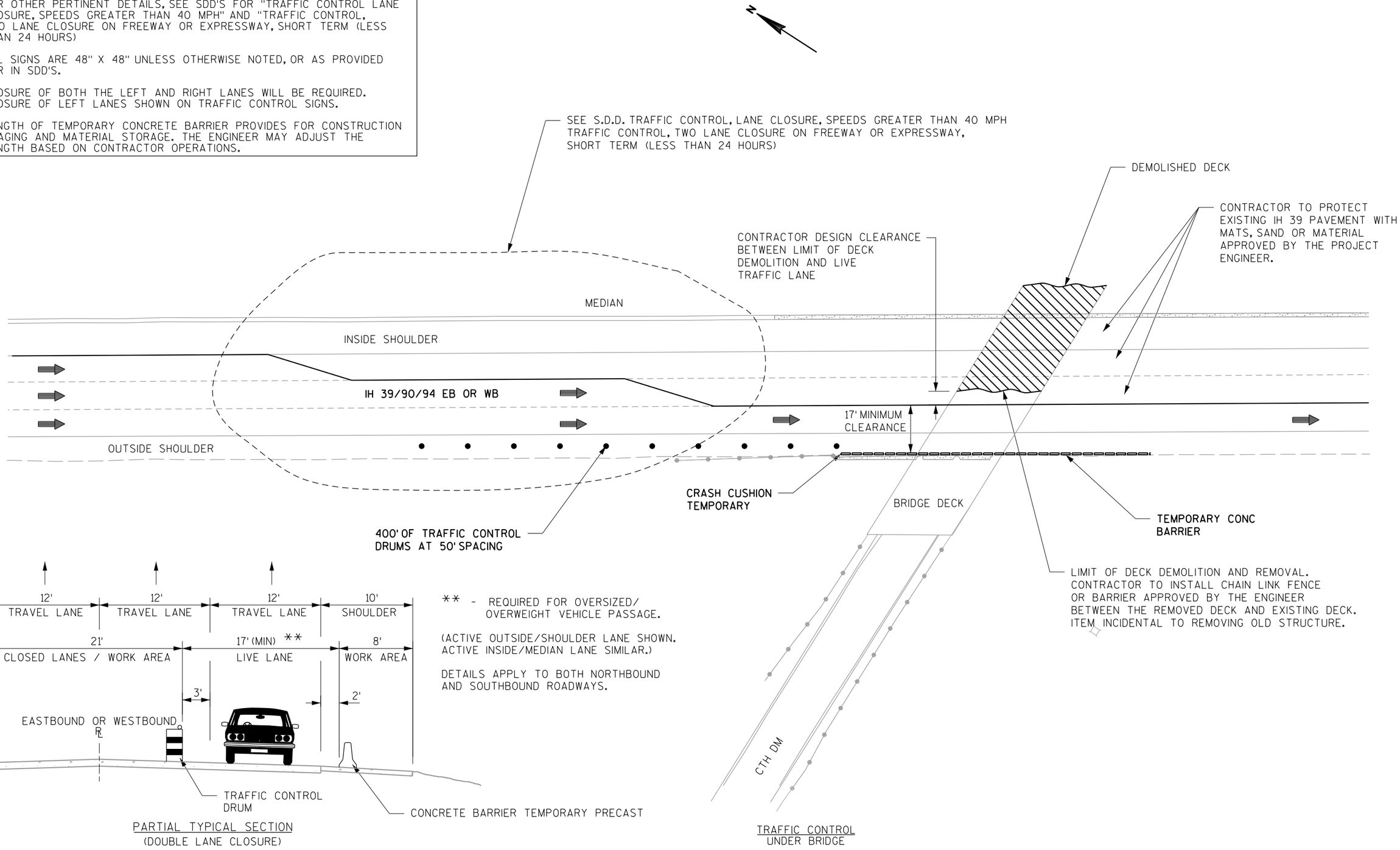
NOTES:

FOR OTHER PERTINENT DETAILS, SEE SDD'S FOR "TRAFFIC CONTROL LANE CLOSURE, SPEEDS GREATER THAN 40 MPH" AND "TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED, OR AS PROVIDED FOR IN SDD'S.

CLOSURE OF BOTH THE LEFT AND RIGHT LANES WILL BE REQUIRED. CLOSURE OF LEFT LANES SHOWN ON TRAFFIC CONTROL SIGNS.

LENGTH OF TEMPORARY CONCRETE BARRIER PROVIDES FOR CONSTRUCTION STAGING AND MATERIAL STORAGE. THE ENGINEER MAY ADJUST THE LENGTH BASED ON CONTRACTOR OPERATIONS.



** - REQUIRED FOR OVERSIZED/ OVERWEIGHT VEHICLE PASSAGE.

(ACTIVE OUTSIDE/SHOULDER LANE SHOWN. ACTIVE INSIDE/MEDIAN LANE SIMILAR.)

DETAILS APPLY TO BOTH NORTHBOUND AND SOUTHBOUND ROADWAYS.

PARTIAL TYPICAL SECTION
(DOUBLE LANE CLOSURE)

TRAFFIC CONTROL
UNDER BRIDGE

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL FOR IH 39/90/94	SHEET 21	E

NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MUTCD. ADJUSTMENTS TO FIT FIELD CONDITIONS SHALL BE APPROVED BY THE ENGINEER.

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED IN THE PLANS.

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

ANY SIGNS TEMPORARY OR EXISITNG, 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 AND DETOUR SIGNS SHOULD BE ADJUSTED TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

REFER TO STANDARD DETAIL DRAWINGS FOR TRAFFIC CONTROL DETAILS NOT SHOWN ON THIS SHEET.

ALL SIGNS SHOWN SHALL BE PAID FOR AS TRAFFIC CONTROL DETOUR SIGNS UNLESS OTHERWISE INDICATED.

N

① DETOUR / EAST / COUNTY DM

② DETOUR / WEST / COUNTY DM

③ EAST / COUNTY DM / DETOUR AHEAD W20-2

④ WEST / COUNTY DM / DETOUR AHEAD W20-2

* ⑤ ROAD CLOSED AHEAD W20-3

* ⑥ ROAD CLOSED 1000 FT W20-3

* ⑦ ROAD CLOSED 500 FT W20-3

* ⑧ BRIDGE OUT / XX MILES AHEAD / LOCAL TRAFFIC ONLY — R11-3B 60" X 30"

* ⑨ BRIDGE OUT — R11-2B 48" X 30"

⑩ END DETOUR / COUNTY DM — M4-8A 24" X 18"

Ⓐ M05-1R 21" X 21"

Ⓑ M06-1 21" X 21"

Ⓒ M05-1L 21" X 21"

Ⓓ M06-1 21" X 21"

Ⓔ M06-1 21" X 21"

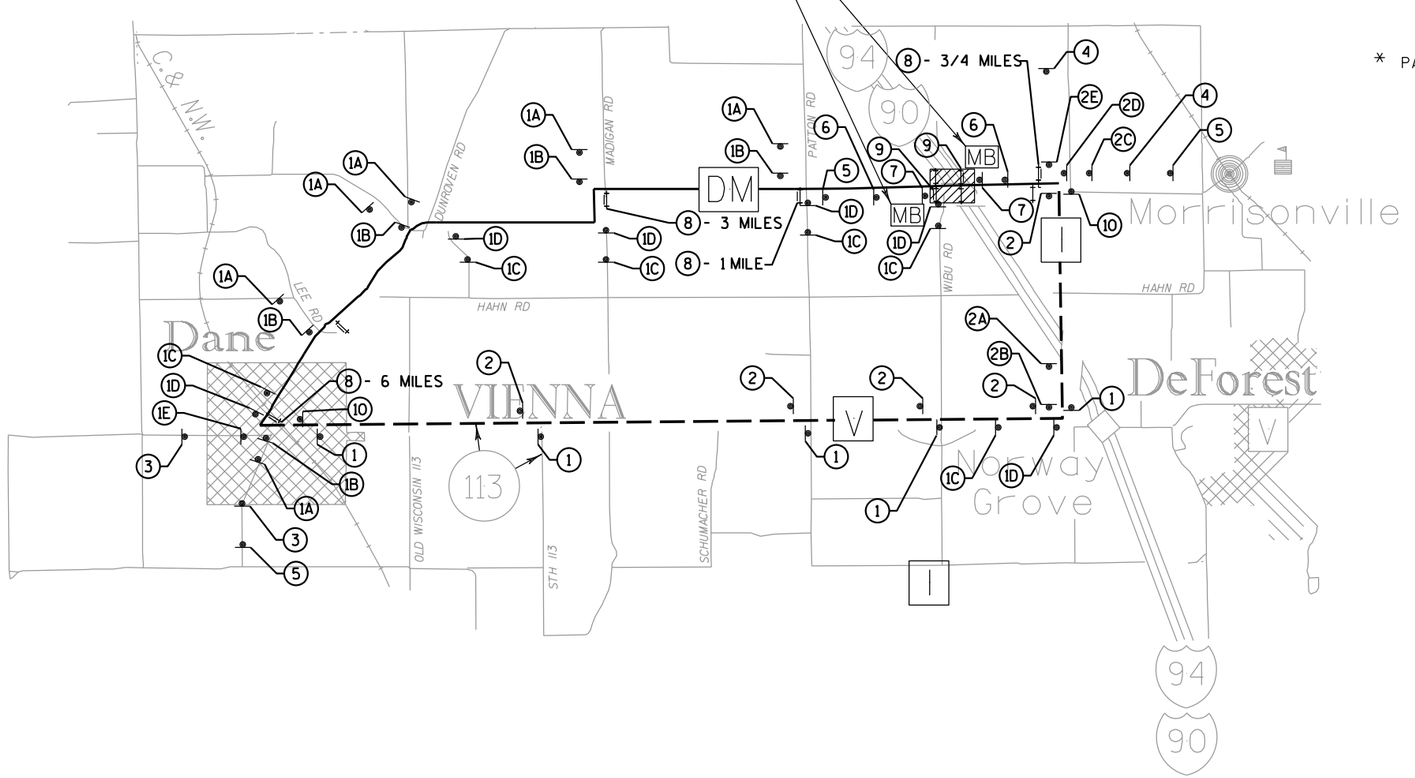
COUNTY DM — M1-5A 24" X 24"

EAST — M3-2 24" X 12"

WEST — M3-4 24" X 12"

DETOUR — M4-8 24" X 12"

* PAID FOR AS TRAFFIC CONTROL SIGNS



LEGEND

- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT ATTACHED SIGN AND TYPE A WARNING LIGHTS
- SIGN/SIGN NUMBER
- DETOUR ROUTE
- CTH DM
- MB — PORTABLE CHANGABLE MESSAGE SIGN
- WORK ZONE

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	DETOUR PLAN	NOT TO SCALE	SHEET 22	E

2

N

WIBU ROAD

35A+00
S 33° 05' 58" E

PC=36A+54.25

PI 38A+38.43
N=556,771.79
E=817,045.71
Δ=16° 45' 50" (LT)
D=4° 35' 01"
T=184.18
L=365.73
R=1,250.00

485EB+00

P.I. =38+38.43

PT=40A+19.98

PI 43A+20.23
N=556,459.52
E=817,416.05
Δ=29° 11' 11" (LT)
D=16° 30' 00"
T=90.41
L=176.89
R=347.25

40A+00
S 49° 51' 48" E

PC=42A+29.82

℄ EB

PT=44A+06.71

PC=46A+30.31

PI 48A+20.27
N=556,363.79
E=817,910.84
Δ=78° 10' 15" (RT)
D=24° 30' 00"
T=189.95
L=319.06
R=233.86

P.I. =48A+20.27

P.I. =43A+20.23

45A+00
S 79° 02' 59" E

CP2
N= 556,403.48
E= 817,458.24
EL= 999.74
43A+73.04, 48.87 RT
REBAR W/ PLASTIC CAP

℄ A LINE

PI 12+92.05
N=556,104.07
E=816,531.70
Δ=1° 36' 14" (RT)
D=0° 45' 00"
T=106.94
L=213.87
R=7,639.44

CP5
N= 556,129.31
E= 817,013.48
EL= 1005.94
17+74.12, 18.69 LT
REBAR W/ PLASTIC CAP

139/90/94

490EB+00

S 33° 11' 12" E

P.I. =12+92.05

PI=24+66.45

PT=49A+49.38

S 0° 52' 44" E

10+00
N 87° 37' 00" E

CP6

15+00

CTH DM

CP5

20+00

25+00

N 89° 13' 14" E

℄

T183

CP1

N 89° 07' 16" E

PC=11+85.11

PT=13+98.98

CP6
N= 556,078.94
E= 816,437.19
EL= 984.10
11+96.61, 21.17 RT
REBAR W/ PLASTIC CAP

T183
N= 556,089.515
E= 817,127.838
EL=1006.29
18+87.91, 22.60 RT
REBAR W/ PLASTIC CAP

495EB+00

CP1
N= 556,098.04
E= 817,599.47
EL= 1010.83
23+59.63, 20.55 RT
REBAR W/ PLASTIC CAP

T184
N= 556,066.962
E= 818,033.410
EL= 1004.10
27+93.03, 58.07 RT
REBAR W/ PLASTIC CAP

T182
N= 555,603.17
E= 816,505.82
EL= 984.38
REBAR W/ PLASTIC CAP

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	ALIGNMENT PLAN	SHEET 23	E

1011-03-76

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0030	203.0200	Removing Old Structure (station) 01. 20+00	LS	1.000	1.000
0040	203.0225.S	Debris Containment (structure) 01. B-13-85	LS	1.000	1.000
0060	204.0100	Removing Pavement	SY	307.000	307.000
0090	204.0157	Removing Concrete Barrier	LF	518.000	518.000
0100	204.0165	Removing Guardrail	LF	1,407.000	1,407.000
0110	204.0170	Removing Fence	LF	365.000	365.000
0120	205.0100	Excavation Common	CY	13,723.000	13,723.000
0130	206.1000	Excavation for Structures Bridges (structure) 01. B-13-0648	LS	1.000	1.000
0140	206.3000	Excavation for Structures Retaining Walls (structure) 01. R-13-0313	LS	1.000	1.000
0150	206.3000	Excavation for Structures Retaining Walls (structure) 02. R-13-0314	LS	1.000	1.000
0160	206.5000	Cofferdams (structure) 01. B-13-648	LS	1.000	1.000
0170	208.0100	Borrow	CY	7,043.000	7,043.000
0180	209.1500	Backfill Granular Grade 1	TON	843.000	843.000
0190	210.1500	Backfill Structure Type A	TON	808.000	808.000
0200	213.0100	Finishing Roadway (project) 01. 1011-03-76	EACH	1.000	1.000
0220	305.0110	Base Aggregate Dense 3/4-Inch	TON	490.000	490.000
0230	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,653.000	5,653.000
0240	305.0410	Aggregate Detours	TON	200.000	200.000
0260	312.0110	Select Crushed Material	TON	211.000	211.000
0270	415.0080	Concrete Pavement 8-Inch	SY	24.000	24.000
0280	415.0410	Concrete Pavement Approach Slab	SY	104.000	104.000
0290	415.1080	Concrete Pavement HES 8-Inch	SY	307.000	307.000
0300	416.0610	Drilled Tie Bars	EACH	280.000	280.000
0310	416.1010	Concrete Surface Drains	CY	7.400	7.400
0320	440.4410	Incentive IRI Ride	DOL	1,700.000	1,700.000
0330	455.0605	Tack Coat	GAL	463.000	463.000
0340	460.2000	Incentive Density HMA Pavement	DOL	1,030.000	1,030.000
0350	460.5224	HMA Pavement 4 LT 58-28 S	TON	1,408.000	1,408.000
0370	465.0115	Asphaltic Surface Detours	TON	200.000	200.000
0400	502.0100	Concrete Masonry Bridges	CY	583.000	583.000
0450	502.3210	Pigmented Surface Sealer	SY	220.000	220.000
0470	503.0155	Prestressed Girder Type I 54W-Inch	LF	1,577.000	1,577.000
0480	505.0400	Bar Steel Reinforcement HS Structures	LB	8,480.000	8,480.000
0490	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	101,370.000	101,370.000
0510	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	24.000	24.000

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Line	Item	Item Description	Unit	Total	Qty
0530	506.4000	Steel Diaphragms (structure) 01. B-13-0648	EACH	20.000	20.000
0630	509.5100.S	Polymer Overlay	SY	942.000	942.000
0650	513.2001	Railing Pipe (structure) 01. R-13-0313	LF	147.000	147.000
0660	513.2001	Railing Pipe (structure) 02. R-13-0314	LF	141.000	141.000
0670	516.0500	Rubberized Membrane Waterproofing	SY	34.000	34.000
0680	521.1012	Apron Endwalls for Culvert Pipe Steel 12-Inch	EACH	2.000	2.000
0690	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	2,835.000	2,835.000
0700	603.1142	Concrete Barrier Type S42	LF	192.000	192.000
0710	603.2142	Concrete Barrier Fixed Object Protection Type S42	LF	42.000	42.000
0720	603.3113	Concrete Barrier Transition Type NJ32SF to S36	EACH	4.000	4.000
0730	603.3535	Concrete Barrier Transition Type S36 to S42	EACH	4.000	4.000
0740	603.8000	Concrete Barrier Temporary Precast Delivered	LF	2,000.000	2,000.000
0750	603.8125	Concrete Barrier Temporary Precast Installed	LF	2,000.000	2,000.000
0760	604.0400	Slope Paving Concrete	SY	42.000	42.000
0770	604.0500	Slope Paving Crushed Aggregate	SY	252.000	252.000
0790	606.0100	Riprap Light	CY	3.900	3.900
0810	611.0654	Inlet Covers Type V	EACH	2.000	2.000
0820	611.3220	Inlets 2x2-FT	EACH	2.000	2.000
0830	612.0212	Pipe Underdrain Unperforated 12-Inch	LF	133.000	133.000
0840	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	533.000	533.000
0850	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0860	614.0905	Crash Cushions Temporary	EACH	4.000	4.000
0870	614.2300	MGS Guardrail 3	LF	725.000	725.000
0880	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0890	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0900	616.0100	Fence Woven Wire (height) 01. 4-Ft	LF	323.000	323.000
0910	616.0700.S	Fence Safety	LF	323.000	323.000
0920	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1011-03-76	EACH	1.000	1.000
0930	619.1000	Mobilization	EACH	0.900	0.900
0940	623.0200	Dust Control Surface Treatment	SY	7,451.000	7,451.000
0950	624.0100	Water	MGAL	36.000	36.000
0970	625.0500	Salvaged Topsoil	SY	23,804.000	23,804.000
0980	627.0200	Mulching	SY	14,855.000	14,855.000
0990	628.1104	Erosion Bales	EACH	108.000	108.000
1000	628.1504	Silt Fence	LF	4,688.000	4,688.000
1010	628.1520	Silt Fence Maintenance	LF	4,688.000	4,688.000
1020	628.1905	Mobilizations Erosion Control	EACH	10.000	10.000
1030	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
1040	628.1920	Cleaning Sediment Basins	CY	75.000	75.000

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Line	Item	Item Description	Unit	Total	Qty
1060	628.2008	Erosion Mat Urban Class I Type B	SY	14,900.000	14,900.000
1070	628.7010	Inlet Protection Type B	EACH	4.000	4.000
1080	628.7504	Temporary Ditch Checks	LF	50.000	50.000
1090	628.7515.S	Stone or Rock Ditch Checks	CY	32.000	32.000
1100	628.7555	Culvert Pipe Checks	EACH	12.000	12.000
1110	628.7560	Tracking Pads	EACH	3.000	3.000
1120	629.0210	Fertilizer Type B	CWT	15.300	15.300
1130	630.0120	Seeding Mixture No. 20	LB	809.000	809.000
1140	630.0200	Seeding Temporary	LB	809.000	809.000
1150	630.0300	Seeding Borrow Pit	LB	202.000	202.000
1170	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	11.000	11.000
1190	637.2210	Signs Type II Reflective H	SF	5.180	5.180
1200	637.2230	Signs Type II Reflective F	SF	44.250	44.250
1210	638.2102	Moving Signs Type II	EACH	9.000	9.000
1220	638.2602	Removing Signs Type II	EACH	14.000	14.000
1230	638.3000	Removing Small Sign Supports	EACH	14.000	14.000
1240	638.4000	Moving Small Sign Supports	EACH	8.000	8.000
1250	642.5201	Field Office Type C	EACH	0.900	0.900
1260	643.0100	Traffic Control (project) 01. 1011-03-76	EACH	1.000	1.000
1280	643.0300	Traffic Control Drums	DAY	9,300.000	9,300.000
1290	643.0420	Traffic Control Barricades Type III	DAY	5,730.000	5,730.000
1300	643.0705	Traffic Control Warning Lights Type A	DAY	7,930.000	7,930.000
1310	643.0715	Traffic Control Warning Lights Type C	DAY	1,270.000	1,270.000
1320	643.0800	Traffic Control Arrow Boards	DAY	135.000	135.000
1330	643.0900	Traffic Control Signs	DAY	8,730.000	8,730.000
1340	643.1000	Traffic Control Signs Fixed Message	SF	39.000	39.000
1350	643.1050	Traffic Control Signs PCMS	DAY	70.000	70.000
1360	643.1051	Traffic Control Signs PCMS with Cellular Communications	DAY	70.000	70.000
1370	643.2000	Traffic Control Detour (project) 01. 1011-03-76	EACH	1.000	1.000
1380	643.3000	Traffic Control Detour Signs	DAY	25,760.000	25,760.000
1400	645.0130	Geotextile Type R	SY	13.000	13.000
1410	646.0106	Pavement Marking Epoxy 4-Inch	LF	5,953.000	5,953.000
1420	650.4000	Construction Staking Storm Sewer	EACH	4.000	4.000
1430	650.4500	Construction Staking Subgrade	LF	2,300.000	2,300.000
1440	650.5000	Construction Staking Base	LF	2,300.000	2,300.000
1450	650.6500	Construction Staking Structure Layout (structure) 01. B-13-0648	LS	1.000	1.000
1460	650.6500	Construction Staking Structure Layout (structure) 02. R-13-0313	LS	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
1470	650.6500	Construction Staking Structure Layout (structure) 03. R-13-0314	LS	1.000	1.000
1480	650.7000	Construction Staking Concrete Pavement	LF	588.000	588.000
1490	650.7500	Construction Staking Concrete Barrier	LF	380.000	380.000
1510	650.9910	Construction Staking Supplemental Control (project) 01. 1011-03-76	LS	1.000	1.000
1530	650.9920	Construction Staking Slope Stakes	LF	2,300.000	2,300.000
1540	690.0150	Sawing Asphalt	LF	69.000	69.000
1550	690.0250	Sawing Concrete	LF	600.000	600.000
1560	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
1570	715.0502	Incentive Strength Concrete Structures	DOL	4,500.000	4,500.000
1580	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	2,000.000	2,000.000
1590	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,320.000	1,320.000
1600	SPV.0035	Special 01. Temporary Sediment Basin	CY	83.000	83.000
1620	SPV.0090	Special 01. Removing Existing Timber Piling	LF	239.000	239.000
1630	SPV.0165	Special 01. Wall Concrete Panel Mechanically Stabilized Earth LRFD/QMP **P**	SF	2,938.000	2,938.000
1640	SPV.0180	Special 01. Emulsified Asphalt MedianTreatment	SY	117.000	117.000

STA	STA	LOCATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
17+00.	19+00.	LT	2	2
21+00.	23+00.	LT & RT	2	2
TOTALS			**4**	**4**

STA	STA	LOCATION	204.0100 REMOVING PAVEMENT SY	204.0157 REMOVING CONCRETE BARRIER LF	204.0165 REMOVING GUARDRAIL LF	204.0170 REMOVING FENCE LF
491+11.	491+84.	IH 39 - EB RT SHLDR	-	-	73	-
491+73.	492+57.	IH 39 - EB RT SHLDR	47	-	-	-
491+81.	492+50.	IH 39 - EB RT SHLDR	-	69	-	-
491+80.	493+70.	IH39 EB MEDIAN	108	190	-	-
491+80.	493+70.	IH39 WB MEDIAN	108	190	-	-
492+94.	493+73.	IH 39 - WB RT SHLDR	44	-	-	-
493+01.	493+70.	IH 39 - WB RT SHLDR	-	69	-	-
493+68.	494+34.	IH 39 - WB RT SHLDR	-	-	66	-
16+71.	18+87.	RT	-	-	216	-
17+93.	18+71.	LT	-	-	78	-
17+99.	18+73.	18' TO 79' LT	-	-	-	98
18+83.	18+95.	16' TO 105' RT	-	-	-	97
21+07.	21+40.	16' TO 73' LT	-	-	-	67
21+30.	22+23.	17' TO 59' RT	-	-	-	103
21+18.	23+21.	LT	-	-	203	-
21+34.	22+26.	RT	-	-	92	-
71B+16	74B+65	WIBU ROAD (NORTH) B LINE LT	-	-	376	-
71B+50	74B+48	WIBU ROAD (NORTH) B LINE RT	-	-	303	-
TOTALS			**307**	**518**	**1407**	**365**

3

STA	STA	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
13+00.	15+60.	LT SHOULDER	18	-
13+00.	13+30.	RT SHOULDER	3	-
13+30.	18+80.	RT SHOULDER	66	-
15+60.	18+57.	LT SHOULDER	38	-
21+19.	24+20.	LT SHOULDER	38	-
21+43.	25+65.	RT SHOULDER	52	-
24+20.	26+10.	LT SHOULDER	14	-
25+65.	28+50.	RT SHOULDER	20	-
27+78.	28+50.	LT SHOULDER	5	-
41+00.	49+83.	WIBU A LINE RT SHOULDER	74	-
41+00.	49+83.	WIBU A LINE LT SHOULDER	75	-
491+11.	492+03.	IH 39 EB RT SHOULDER	3	-
492+03.	492+68.	IH39 EB RT SHLDR UNDER BRIDGE	39	-
492+68.	493+25.	IH 39 EB RT SHOULDER	2	-
492+50.	492+84.	IH 39 WB RT SHOULDER	1	-
492+84.	493+39.	IH39 WB RT SHLDR UNDER BRIDGE	39	-
493+39.	494+40.	IH 39 WB RT SHOULDER	3	-
13+00.	18+16.	LT & RT MAINLINE PAVEMENT	-	1743
18+16.	18+42.	LT & RT APPROACH PAVEMENT	-	25
21+33.	21+58.	LT & RT APPROACH PAVEMENT	-	23
21+58.	28+50.	LT & RT MAINLINE PAVEMENT	-	2122
41+00.	49+82.	WIBU A LINE PAVEMENT	-	1334
491+11.	493+25.	IH 39 EB RT SHOULDER	-	96
491+80.	493+70.	IH 39 MEDIAN	-	222
492+50.	494+40.	IH 39 WB RT SHOULDER	-	88
TOTALS			**490**	**5653**

STA	STA	LOCATION	213.0100 FINISHING ROADWAY EACH
		PROJECT	1
TOTALS			**1**

STA	STA	LOCATION	312.0110 SELECT CRUSHED MATERIAL TON
491+80.	493+70.	IH 39 MEDIAN	211
TOTALS			**211**

STA	STA	LOCATION	305.0410 AGGREGATE DETOURS TON
		UNDISTRIBUTED	200
TOTALS			**200**

ALL ITEMS CATEGORY 0010 UNLESS NOTED

Division	From/To Station	Location	Common Excavation (1)	(item # 205.0100)	Salvaged/Unusable Pavement Material (4)	Available Material (5)	Reduced EBS in Fill (6)	Expanded EBS Backfill (7)	Unexpanded Fill	Expanded Fill (8)	Mass Ordinate +/- (9)	Borrow (10)	Comment:
			Cut (2)	EBS Excavation (3)			Factor	Factor		Factor		(item #208.0100)	
							0.80	1.30		1.20			
	13+00 TO 18+66	CTH DM WEST OF BRIDGE	883	0	154	729	0	0	4642	5570	-4841	4841	
1	21+33 TO 28+50	CTH DM EAST OF BRIDGE	1793	0	195	1598	0	0	1855	2226	-628	628	
	71+50 TO 74+00	OLD WIBU ROAD B LINE	7887	0	61	7826	0	0	0	0	7826	-7826	
	41+00 TO 50+00	NEW WIBU ROAD A LINE	1554	1605	74	1480	1284	2087	10351	10880	-9400	9400	
Division 1 Subtotal			12117	1605	484	11633	1284	2087	16848	18676	-7043	7043	
Grand Total			12117	1605	484	11633	1284	2087	16848	18676	-7043	7043	
			Total Common Exc	**13723**							**Total Borrow**	**7043**	

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Cut or Borrow material.
4) Salvaged/Unusable Pavement Material assumes existing asphalt will be salvaged
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
6) Reduced EBS in Fill - Excavated EBS material is usuable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
7) Expanded EBS Backfill - for information only if material other than Cut or Borrow is used to backfill EBS
8) Expanded Fill. Factor = 1.20
Expanded Fill = (Unexpanded Fill - Reduced EBS) * Fill Factor
9) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
10) Use 7826 CY of material available from removing old WIBU Road on the new WIBU Road before using Borrow. Borrow Excavation item number 208.0100

STA	STA	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	415.1080 CONCRETE PAVEMENT HES 8-INCH SY
18+45.	18+67.	WEST BRIDGE APPROACH	-	52	-
21+32.	21+55.	EAST BRIDGE APPROACH	24	52	-
491+73.	492+57.	IH 39 EB RT SHOULDER	-	-	47
491+80.	493+70.	IH39 EB MEDIAN	-	-	108
491+80.	493+70.	IH39 WB MEDIAN	-	-	108
492+94.	493+73.	IH 39 WB RT SHOULDER	-	-	44
TOTALS			**24**	**104**	**307**

STA	STA	LOCATION	416.0610 DRILLED TIE BARS EACH
491+73.	492+57.	IH 39 EB RT SHOULDER	42
491+80.	493+70.	IH39 EB MEDIAN	99
491+80.	493+70.	IH39 WB MEDIAN	99
492+94.	493+73.	IH 39 WB RT SHOULDER	40
TOTALS			**280**

3

STA	STA	LOCATION	416.1010 CONCRETE SURFACE DRAINS CY
18+34.	18+59.	CTH DM 11' LT	3.4
18+45.	18+76.	CTH DM 11' RT	4.0
TOTALS			**7.4**

STA	STA	LOCATION	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
13+00.	18+45.	CTH DM LT & RT	139	440
21+55.	28+50.	CTH DM LT & RT	172	545
41+00.	50+00.	WIBU A LINE LT & RT	152	423
		PROJECT	-	-
TOTALS			**463**	**1408**

STA	STA	LOCATION	465.0115 ASPHALTIC SURFACE DETOURS TON
		UNDISTRIBUTED	200
TOTALS			**200**

STA	STA	LOCATION	521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH
18+07.		74' LT	1
18+54.		84' RT	1
TOTALS			**2**

STA	STA	LOCATION	603.1142 CONCRETE BARRIER TYPE S42 LF	603.2142 CONCRETE BARRIER FIXED OBJECT PROTECTION TYPE S42 LF	603.3113 CONCRETE BARRIER TRANSITION TYPE NJ32SF TO S36 EACH	603.3535 CONCRETE BARRIER TRANSITION TYPE S36 TO S42 EACH
491+80.	491+95.	IH 39 MEDIAN	-	-	2	-
491+95.	492+06.	IH 39 MEDIAN	-	-	-	2
492+06.	492+55.	IH 39 MEDIAN	98	-	-	-
492+55.	492+97.	IH 39 MEDIAN		42	-	-
492+97.	493+44.	IH 39 MEDIAN	94		-	-
493+44.	493+55.	IH 39 MEDIAN	-		-	2
493+55.	493+70.	IH 39 MEDIAN		-	2	-
TOTALS			**192**	**42**	**4**	**4**

ALL ITEMS CATEGORY 0010 UNLESS NOTED

STA	STA	LOCATION	603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF	603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF	614.0905 CRASH CUSHIONS TEMPORARY EACH
490+46.	494+66.	IH 39 EB RT	400	400	1
488+46.	494+66.	IH 39 EB LT	600	600	1
491+15.	495+15.	IH 39 WB RT	600	600	1
491+15.	497+15.	IH 39 WB LT	400	400	1
TOTALS			**2000**	**2000**	**4**

STA	STA	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
14+50.	15+03.	RT	-	-	1
15+03.	18+40.	RT	337.5	-	-
16+80.	17+33.	LT	-	-	1
17+33.	18+20.	LT	87.5	-	-
18+20.	18+60.	LT	-	39.4	-
18+40.	18+80.	RT	-	39.4	-
21+20.	21+60.	LT	-	39.4	-
21+40.	21+80.	RT	-	39.4	-
21+60.	22+47.	LT	87.5	-	-
21+80.	23+92.	RT	212.5	-	-
22+47.	23+00.	LT	-	-	1
23+92.	24+45.	RT	-	-	1
TOTALS			**725.0**	**157.6**	**4**

STA	STA	LOCATION	616.0100 FENCE WOVEN WIRE 4-FT LF	616.0700* FENCE SAFETY LF
17+99.	18+56.	17' TO 79' LT	88	88
18+77.	19+01.	17' TO 101' RT	87	87
21+23.	21+40.	17' TO 72' LT	58	58
21+43.	22+23.	17' TO 60' RT	90	90
TOTALS			**323**	**323**

*FENCE SAFETY INSTALLED TO CLOSE FENCE GAPS DURING CONSTRUCTION

STA	STA	LOCATION	606.0100 RIPRAP LIGHT CY
18+06.		74' LT	1.7
18+54.		88' RT	2.2
TOTALS			**3.9**

STA	STA	LOCATION	611.0654 INLET COVERS TYPE V EACH	611.3220 INLETS 2X2-FT EACH
18+40.		16' LT	1	1
18+54.		16' RT	1	1
TOTALS			**2**	**2**

STA	STA	LOCATION	612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF
18+07.	18+40.	17' TO 74' LT	65
18+54.		17' TO 84' RT	68
TOTALS			**133**

STA	STA	LOCATION	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) EACH
		PROJECT	1
TOTALS			**1**

STA	STA	LOCATION	619.1000 MOBILIZATION EACH
		PROJECT	0.9
TOTALS			**0.9**

STA	STA	LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY	624.0100 WATER MGAL
13+00.	18+67.	LT & RT	2142	12
21+33.	28+50.	LT & RT	2709	12
41+00.	50+00.	LT & RT WIBU	2600	12
TOTALS			**7451**	**36**

ALL ITEMS CATEGORY 0010 UNLESS NOTED

STA	STA	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.2008 EROSION MAT CLASS I URBAN TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING MIXTURE NO. 20 LB	630.0200 SEEDING TEMPORARY LB	630.0300 SEEDING BORROW PIT LB
13+00.	19+00.	LT	2279	-	2279	1.5	62	62	-
13+00.	19+50.	RT	4262	-	4262	2.7	116	116	-
20+50.	26+50.	LT	2990	-	2990	1.9	81	81	-
21+00.	28+50.	RT	2248	-	2248	1.5	61	61	-
27+10.	28+50.	LT	141	-	141	0.1	4	4	-
41+00.	50+00.	RT WIBU A LINE	2537	2537	-	1.6	69	69	-
41+00.	50+00.	LT WIBU A LINE	2366	2366	-	1.5	64	64	-
71+50.	74+00.	LT&RT WIBU B LINE	2670	2670	-	1.7	73	73	-
71+50.	74+00.	B/W A-LINE & B-LINE	4311	4311	-	2.8	117	117	-
		UNDISTRIBUTED	-	2971	2980	-	162	162	202
TOTALS			**23804**	**14855**	**14900**	**15.3**	**809**	**809**	**202**

STA	STA	LOCATION	628.1104 EROSION BALES EACH	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF
13+00.	19+02.	LT	-	637	637
13+00.	13+97.	RT	-	100	100
13+95.	13+95.	50' RT	20	-	-
18+02.	18+10.	75' LT	16	-	-
19+23.	19+71.	23' TO 87' RT	-	106	106
20+46.	22+89.	LT	-	282	282
20+99.	28+43.	RT	-	815	815
20+54.	20+70.	LT	26	-	-
27+57.	28+50.	LT	-	96	96
41+00.	49+65.	LT WIBU A LINE	-	935	935
41+00.	43+50.	RT WIBU A LINE	-	272	272
43+12.	43+30.	30' LT WIBU A LINE	24	272	272
71+25.	74+00.	RT WIBU B LINE	-	235	235
		UNDISTRIBUTED	22	938	938
TOTALS			**108**	**4688**	**4688**

STA	STA	LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
		UNDISTRIBUTED	10	4
TOTALS			**10**	**4**

STA	LOCATION	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
12+82.	50' RT	-	7
21+60.	96' RT	-	5
43A+00	RT WIBU RD A LINE	15	-
44A+75	RT WIBU RD A LINE	20	-
	UNDISTRIBUTED	15	-
TOTALS		**50**	**12**

STA	LOCATION	628.7010 INLET PROTECTION TYPE B EACH
18+40.	16' LT	1
18+60.	16' RT	1
491+00.	IH 39 MEDIAN	1
494+14.	IH 39 MEDIAN	1
TOTALS		**4**

STA	LOCATION	628.7560 TRACKING PADS EACH
13+00.	CTH DM BEGIN	1
28+50.	CTH DM END	1
41+00.	WIBU BEGIN	1
TOTALS		**3**

ALL ITEMS CATEGORY 0010 UNLESS NOTED

STA	LOCATION	SIGN CODE	SIGN SIZE	SIGN SIZE (in)	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
18+35.	LT	W5-52L	(2S)	12X36	1	-	3.00	-	-	BRIDGE HASH MARKS
18+40.	RT	W2-2	(2S)	30X30	1	-	6.25	-	-	SIDE ROAD 90° LEFT
18+50.	RT	W5-52R	(2S)	12X36	1	-	3.00	-	-	BRIDGE HASH MARKS
21+50.	LT	W5-52R	(2S)	12X36	1	-	3.00	-	-	BRIDGE HASH MARKS
21+70.	RT	W5-52L	(2S)	12X36	1	-	3.00	-	-	BRIDGE HASH MARKS
21+85.	LT	W2-2	(2S)	30X30	1	-	6.25	-	-	SIDE ROAD 90° LEFT
23+40.	LT	-	-	-	-	-	-	2	1	STREET NAME
23+77.	LT	-	-	-	-	-	-	2	1	WEIGHT LIMIT
WIBU NORTH	RT	W1-4L	(2S)	30X30	1	-	6.25	-	-	LEFT REVERSE CURVE
WIBU NORTH	RT	W13-1	(2S)	18X18	1	-	2.25	-	-	ADVISORY SPEED
45+00A	RT	W3-1	(2S)	36X36	1	-	9.00	-	-	STOP AHEAD
49+05A	LT	W13-1	(2S)	18X18	1	-	2.25	-	-	ADVISORY SPEED
49+50A	RT	R1-1	(2S)	30X30	1	5.18	-	-	-	STOP
491+50.	RT	-	-	-	-	-	-	1	2	HWY DM
491+53.	I39 MEDIAN	-	-	-	-	-	-	1	1	SLOW TRAFFIC KEEP RT
492+37.	I39 MEDIAN	-	-	-	-	-	-	2	1	MILE MARKER
494+08.	LT	-	-	-	-	-	-	1	2	HWY DM
TOTALS					**11**	**5.18**	**44.25**	**9**	**8**	

STA	LOCATION	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
11+08.	24' RT	1	1	NARROW BRIDGE
16+30.	20' RT	1	1	SIDE ROAD 90° LEFT
18+40.	19' LT	1	1	SIDE ROAD 90° LEFT
18+62.	16' LT	1	1	HAZARD MARKER SIGN
18+81.	16' RT	1	1	HAZARD MARKER SIGN
21+26.	16' LT	1	1	HAZARD MARKER SIGN
21+43.	16' RT	1	1	HAZARD MARKER SIGN
23+40.	46' LT	1	1	STOP
28+08.	21' LT	1	1	NARROW BRIDGE
WIBU NORTH	~1000' N OF PROJECT LIMITS	1	1	LEFT REVERSE CURVE
40+38A	34' RT	1	1	STOP AHEAD
43+64A	15' RT	1	1	HAZARD MARKER SIGN
43+82A	52' RT	1	1	HAZARD MARKER SIGN
44+00A	29' RT	1	1	CURVE RIGHT
TOTALS		**14**	**14**	

STA	STA	LOCATION	642.5201 FIELD OFFICE TYPE C EACH
		PROJECT	0.9
TOTALS			**0.9**

ALL ITEMS CATEGORY 0010 UNLESS NOTED

LOCATION	* ASSUMED STAGE DURATION	643.0100 TRAFFIC CONTROL EACH	643.0300 TRAFFIC CONTROL DRUMS EACH*	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH*	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A EACH*	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C EACH*	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS EACH*	643.0800 TRAFFIC CONTROL ARROW BOARDS DAY	643.0900 TRAFFIC CONTROL SIGNS EACH*	643.0900 TRAFFIC CONTROL SIGNS DAY
PROJECT	-	1	-	-	-	-	-	-	-	-	-	-	-	-
IH 39 NO LANES CLOSED	135	-	32	4320	-	-	-	-	-	-	-	-	32	4320
IH 39 ONE LANE CLOSED	12	-	128	1536	4	48	8	96	32	384	4	48	26	312
IH 39 TWO LANE CLOSED	12	-	216	2592	8	96	16	192	64	768	6	72	36	432
BRIDGE	160	-	-	-	32	5120	44	7040	-	-	-	-	19	3040
WIBU ROAD CONSTRUCTION	21	-	-	-	3	63	4	84	-	-	-	-	1	21
UNDISTRIBUTED		-	-	852	-	403	-	518	-	118	-	15	-	605
TOTALS		**1**		**9300**		**5730**		**7930**		**1270**		**135**		**8730**

* FOR INFORMATION ONLY. ACTUAL NUMBER OF DEVICES TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

010

LOCATION	643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE SF	
CTH DM (EAST APPROACH)	19.5	(BRIDGE CLOSED)
CTH DM (WEST APPROACH)	19.5	(BRIDGE CLOSED)
TOTAL	**39**	

LOCATION	* ASSUMED STAGE DURATION	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH**	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY	643.1051 TRAFFIC CONTROL SIGNS PCMS WITH CELLULAR COMMUNICATIONS EACH**	643.1051 TRAFFIC CONTROL SIGNS PCMS WITH CELLULAR COMMUNICATIONS DAY
IH 39 NORTH OF BRIDGE	24	1	24	1	24
IH 39 SOUTH OF BRIDGE	24	1	24	1	24
ROLLING STOPS	4	2	8	2	8
CTH DM EAST OF BRIDGE	7	1	7	1	7
CTH DM WEST OF BRIDGE	7	1	7	1	7
TOTALS			**70**		**70**

* SEE TRAFFIC CONTROL ITEMS TABLE

** FOR INFORMATION ONLY.

SIGN CODE	* ASSUMED STAGE DURATION	643.2000 TRAFFIC CONTROL DETOUR (PROJECT) EACH	643.3000 TRAFFIC CONTROL DETOUR SIGNS EACH*	643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY
PROJECT	-	1	-	-
M1-5A (24" X 24")	160	-	45	7200
M4-8 (24" X 12")	160	-	39	6240
M4-8A (24" X 18")	160	-	2	320
M3-2 (24" X 12")	160	-	32	5120
M3-4 (24" X 12")	160	-	11	1760
MO6-1 (21" X 21")	160	-	14	2240
MO5-1R (21" X 21")	160	-	7	1120
MO5-1L (21" X 21")	160	-	7	1120
W20-2 (DETOUR AHEAD)	160	-	4	640
TOTALS		**1**		**25760**

* FOR INFORMATION ONLY.

ALL ITEMS CATEGORY 0010 UNLESS NOTED

ALL ITEMS CATEGORY 0010 UNLESS NOTED

645.0130 GEOTEXTILE TYPE R

STA	STA	LOCATION	SY
18+06.		74' LT	6
18+54.		88' RT	7
TOTALS			**13**

STA	STA	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
13+00.	19+25.	MAINLINE	4	625	625	625
20+75.	28+50.	MAINLINE	-	775	775	775
41+00.	50+00.	WIBU NORTH	-	900	900	900
			0	0	0	0
TOTALS			**4**	**2300**	**2300**	**2300**

646.0106 PAVEMENT MARKING EPOXY 4-INCH

STA	STA	LOCATION	LF	REMARKS
13+00.	26+47.	CTH DM CL	2694	DOUBLE YELLOW
27+10.	28+50.	CTH DM CL	280	DOUBLE YELLOW
13+00.	26+24.	CTH DM LT EOP	1324	WHITE EDGE LINE
13+00.	28+50.	CTH DM RT EOP	1550	WHITE EDGE LINE
27+45.	28+50.	CTH DM LT EOP	105	WHITE EDGE LINE
TOTALS			**5953**	

STA	LOCATION	SPV.0035.01 TEMPORARY SEDIMENT BASIN CY	628.1920 CLEANING SEDIMENT BASINS CY	628.7515.S STONE OR ROCK DITCH CHECKS CY
14+15	RT	59	60	8
16+00	RT	-	-	8
18+00	RT	-	-	8
21+75	RT	24	15	8
TOTALS		**83**	**75**	**32**

SPV.0180 EMULSIFIED ASPHALT MEDIAN TREATMENT

STA	STA	LOCATION	SY
491+80.	493+70.	IH 39 MEDIAN	117
TOTALS			**117**

STA	STA	LOCATION	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF	650.7500 CONSTRUCTION STAKING CONCRETE BARRIER LF	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) LS
18+45.	18+67.	WEST APPROACH	22	-	-
21+32.	21+55.	EAST APPROACH	23	-	-
491+73.	492+57.	IH 39 EB RT SHOULDER	84	-	-
492+94.	493+73.	IH 39 WB RT SHOULDER	79	-	-
		PROJECT		-	1
491+80.	493+70.	IH 39 MEDIAN WEST SIDE	190	190	-
491+80.	493+70.	IH 39 MEDIAN EAST SIDE	190	190	-
TOTALS			**588**	**380**	**1**

STA	STA	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
13+00.		BEGIN PROJECT	26	-
28+50.		END PROJECT	22	-
41A+00		WIBU ROAD NORTH LIMITS	21	-
491+73.	492+57.	IH 39 - EB RT SHLDR	-	94
491+80.	493+70.	IH 39 EB MEDIAN	-	209
491+80.	493+70.	IH 39 WB MEDIAN	-	209
492+94.	493+73.	IH 39 - WB RT SHLDR	-	89
TOTALS			**69**	**600**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT 1011-03-26
MADISON - PORTAGE ROAD
(CTH DM BRIDGE B-13-0648)

IH 39
DANE COUNTY



THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCAITED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 1011-03-26

NOTES:

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY ¾" X 24" IRON REBARS), UNLESS OTHERWISE NOTED AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, OR FROM CENTERLINE OF EXISTING PAVEMENTS.

RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

EXISTING HIGHWAY RIGHT-OF-WAY FOR IH 39, CTH DM, AND WIBU ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-2(12)122.

EXISTING ACCESS CONTROL ALONG IH 39 ESTABLISHED FROM PREVIOUS PROJECT I-90-2(12)122.

DIMENSIONING FOR THE NEW R/W IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

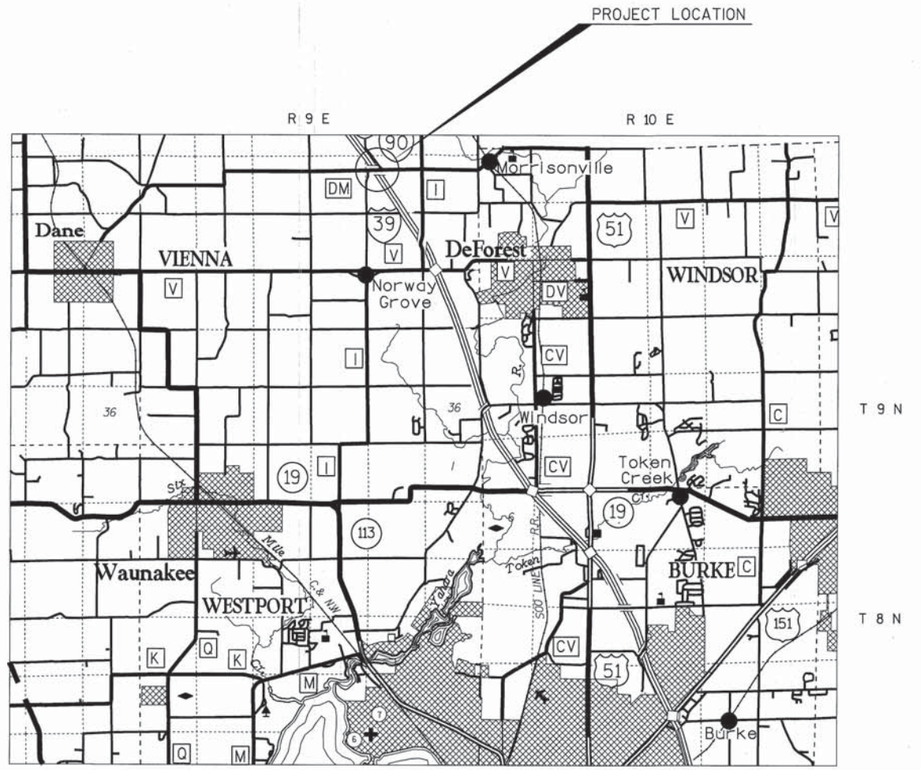
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83(97), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.



LAYOUT SCALE

0 1 2 4

MILES

CONVENTIONAL ABBREVIATIONS

ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	STATION	STA.
CORNER	COR.	TEMPORARY LIMITED EASEMENT	TLE
DOCUMENT	DOC.	VOLUME	V.
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	Δ
LENGTH OF CURVE	L
TANGENT	T

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LP (1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	•(SET)	PROPERTY LINE	
R/W STANDARD	▲(SET)	LOT & TIE LINES	
SIGN	ISIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT		CORPORATE LIMITS	
SECTION CORNER SYMBOL		ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		ACCESS RESTRICTED (BY ACQUISITION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	102	SIXTEENTH LINE	
UTILITY PARCEL NUMBER	92	EXISTING CENTERLINE	
SIGN NUMBER (OFF PREMISE)	21-1	PROPOSED REFERENCE LINE	
BUILDING		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

	NON COMPENSABLE	COMPENSABLE
WATER	W	
GAS	G	
TELEPHONE	T	
OVERHEAD TRANSMISSION LINES ELECTRIC	OH	
CABLE TELEVISION	TV	
FIBER OPTIC	FO	
SANITARY SEWER	SAN	
STORM SEWER	SS	
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

TPP NUMBER 1011-03-26 - 4.01
SHEET 2 OF 2

FILE NAME : $FILE$ PLOT DATE : $DATE$ $TIME$

4.01

TRANSPORTATION PROJECT PLAT NO: 1011-03-26 - 4.01

THAT PART OF THE NW 1/4 OF THE NW 1/4, THE SW 1/4 OF THE NW 1/4, THE NE 1/4 OF THE NW 1/4, THE SE 1/4 OF THE NW 1/4, ALL IN SECTION 11 TOWN 9 NORTH RANGE 9 EAST TOWN OF VIENNA, DANE COUNTY, WISCONSIN.

RELOCATION ORDER IH 39 MADISON - PORTAGE ROAD (CTH DM BRIDGE B-13-0648)

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30 WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83(97), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

EXISTING HIGHWAY RIGHT-OF-WAY FOR IH 39, CTH DM, AND WIBU ROAD ESTABLISHED FROM PREVIOUS PROJECT I-90-2(12)122.

EXISTING ACCESS CONTROL ALONG IH 39 ESTABLISHED FROM PREVIOUS PROJECT I-90-2(12)122.

FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN MADISON.

FOR ADDITIONAL INFORMATION SEE TITLE SHEET, NUMBERED SHEET 2 OF 2.

T 09 N, R 09 E, Sec 3, 2, 10, 11

DANE COUNTY ALUMINUM MONUMENT (FOUND)
Y=557,418.177
X=816,282.710

S 0° 42' 21" E, 1,323.05' SEC CORNER TO 40 LINE

N 0° 42' 21" W 2,646.10' TO SEC. CORNER

N 0° 42' 21" W, 1,323.05' SEC CORNER TO 40 LINE

SECTION LINE

T 09 N, R 09 E, Sec 10, 11

DANE COUNTY ALUMINUM MONUMENT (FOUND)
Y=554772.283
X=816315.300

GN

WIBU ROAD

S 49° 51' 48" E 50'

PI 43A+20.23
Y=556,459.522
X=817,416.053
Δ=29° 11' 11" (LT)
D=16° 30' 00"
T=90.41
L=176.89
R=347.25

℄ 'A' LINE

PC=42A+29.82

P.I. =43A+20.23

PT=44A+06.71

TOWN OF VIENNA

'EB' R/L

490EB+00

S 33° 11' 12" E

180'

100'

N 51° 26' 20" E 411.74' FROM R/L TO R/W

N 51° 26' 20" E 100.10' FROM R/W TO R/L

IH 39/90/94

P.I.

NOTE: LANDS SHOWN THIS SHEET BETWEEN IH39/90/94 AND WIBU ROAD (NORTH LEG) ARE IN PUBLIC RIGHT-OF-WAY AS PER WISDOT PROJECT PLAT I-90-2(12)122

PI 48A+20.27
Y=556,363.789
X=817,910.843
Δ=78° 10' 15" (RT)
D=24° 30' 00"
T=189.95
L=319.06
R=233.86

NW1/4- NW1/4

N 0° 46' 46" W 4.93' FROM PT A TO ℄

16+00

40 LINE

A

DETAIL

CULTIVATED FIELD

1

101

R/W

10'

102

CEDAR POST

N 0° 46' 46" W 74.33' FROM 40 LINE TO R/W

P.L.

100

70'

40 LINE

15+00

℄ CTH DM

N 89° 08' 32" E 540.76' FROM SEC. LINE TO PT. A

N 0° 46' 46" W 100.67' FROM R/W TO 40 LINE

105'

CENTURYLINK

MG&E

111

CULTIVATED FIELD

SW1/4- NW1/4

57°35'34"

B-13-0648

AT&T

FO

20+00

N 89° 13' 14" E

STA 19+63.87=
STA 492EB+56.73

110

S 81° 15' 16" W 120.75' FROM R/L TO R/W

S 81° 15' 16" W 208.91' FROM R/W TO R/L

IH 39/90/94

190'

110'

P.L.

0 50 100
SCALE, FEET

N 89° 05' 49" E 2,616.86'
SEC CORNER TO 1/4 COR.

NORTH 1/4-CORNER (COMPUTED) BASE OF A 3" ANGLE-IRON CORNER POST
Y=557459.418
X=818899.241

T 09 N, R 09 E, Sec 2, 11

WITNESS MONUMENT- DANE CO. ALUMINUM MONUMENT (FOUND) S 00° 35' 09" E, 50.00' ON THE NORTH-SOUTH 1/4 LINE
Y=557409.420
X=818899.752

P.I. =48A+20.27

NE1/4- NW1/4

103

104

105

106

107

R/W

45A+00

S 79° 02' 59" E

70'

PC=46A+30.31

S 0° 52' 44" E 73.41' FROM R/W TO 40 LINE

CULTIVATED FIELD

PT=49A+49.38

ALLIANT

GUY

OH

PI=24+66.45

90°08'01"

23+66.29

25+00

N 89° 07' 16" E

180°05'58"

60'

70'

STA 26+75.00=
STA 50A+00.00

CEDAR POST

109/T80

T83

T81

T82

MG&E

CENTURYLINK

T.L.E. - GRADING 0.068 ACRES

2

10'

40 LINE

CULTIVATED FIELD

PI=24+66.45
Y=556,120.043
X=817,706.006

P.L. 108

S 0° 52' 44" E 56.59' FROM 40 LINE TO R/W

LOT 1
CSM 8546
DOC 2846603
VOL 47 PGS 13 & 14

27+53.94 ℄

40 LINE

B

DETAIL

SE1/4- NW1/4

S 0° 52' 44" E 3.85' FROM ℄ TO PT B

COURSE TABLE			
FROM	TO	BEARING	DIST.
100	101	N 0° 46' 46" W	10.00'
101	102	N 89° 13' 20" E	195.43'
102	103	N 51° 26' 20" E	511.84'
103	104	S 79° 27' 42" E	320.00'
104	105	S 68° 12' 58" E	110.00'
105	106	S 41° 06' 56" E	110.00'
106	107	S 27° 26' 18" E	150.00'
107	108	S 0° 52' 44" E	130.00'
108	109	S 89° 13' 20" W	526.86'
109	110	S 81° 15' 16" W	329.66'
110	111	S 89° 13' 20" W	300.70'

TLE POINT TABLE		
POINT #	STA	OFFSET
T80	22+27.18	59.93'
T81	25+25.00	60.04'
T82	25+25.00	70.04'
T83	22+33.54	69.93'

R/W POINT TABLE		
POINT #	STA	OFFSET
100	16+00.00	69.39'
101	16+00.00	79.39'
102	17+95.43	79.39'
103	43A+12.46	41.16'
104	46A+41.91	55.02'
105	47A+30.53	60.62'
106	48A+19.07	55.66'
107	27+53.94	69.56'
108	27+53.94	60.44'
109	22+27.18	59.93'
110	19+00.70	105.61'
111	16+00.00	105.61'

R 9 E

PROJECT LOCATION

T 9 N

Madison, Verona, Deforest, Norway Grove, VIENNA

SCHEDULE OF LANDS AND INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO D.O.T.

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	R/W ACRES OR S.F REQUIRED NEW	EXISTING	TOTAL	T.L.E. ACRES OR SF
1	RODNEY W CALDWELL	FEE	1.964	0	1.964	0
2	MEINHOLZ FARMS COMPANY LLC	TLE	0	0	0	0.068

ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED.

KRISTI CHLEBOWSKI
DANE COUNTY
REGISTER OF DEEDS
DOCUMENT #5043849
12/16/2013 1:45 PM
TRANS. FEE:
EXEMPT #:
REC. FEE: 25.00
PAGES: 2
THIS IS A COPY, ORIGINAL DOCUMENT IS FILED AT THE COUNTY REGISTER OF DEEDS

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1011-03-26-4.01
SHEET 1 OF 2
AMENDMENT NO:

I, MATTHEW M. FILUS, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1011-03-26-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE (AGENT FOR BAXTER & WOODMAN)

DEC. 13, 2013
DATE

MATTHEW M. FILUS
PRINTED NAME

2185
REGISTRATION NUMBER

WISCONSIN
MATTHEW M. FILUS
S-2185
REEDSBURG, WI
LAND SURVEYOR

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

JENNIFER QUERAM
PRINTED NAME

SIGNATURE

12/13/13

FILE NAME : $FILE$
APPRAISAL PLAT DATE : 12-13-13

PLOT DATE : $DATE$ $TIME$

1011-03-26 4.01

N

PI 12+92.05
N=556,104.07
E=816,531.70
Δ=1° 36' 14" (RT)
D=0° 45' 00"
T=106.94
L=213.87
R=7,639.44

CULTIVATED FIELD

R/W

SLOPE INTERCEPT (TYP)

CENTURYLINK

MGS GUARDRAIL TERMINAL EAT

11+00 CTH DM 12+00 13+00 14+00 15+00 16+00 17

N 87° 37' 00" E

P.I. =12+92.05

CTH DM ℄

N 89° 13' 14" E

PC=11+85.11

CP6

P.T.=13+98.97

MGS GUARDRAIL 3

MGS GUARDRAIL TERMINAL EAT

36" CMP

BEGIN PROJECT
STA 13+00
N= 556,103.53
E= 816,539.68

WIBU ROAD

MG&E

CENTURYLINK

BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
CP6	11+97, 21' RT	¾" REBAR W/ RED CAP	984.10

VPC 16+20.00
EL. 1,003.94

PROPOSED PROFILE ON ℄

EXISTING ℄ PROFILE

989.75

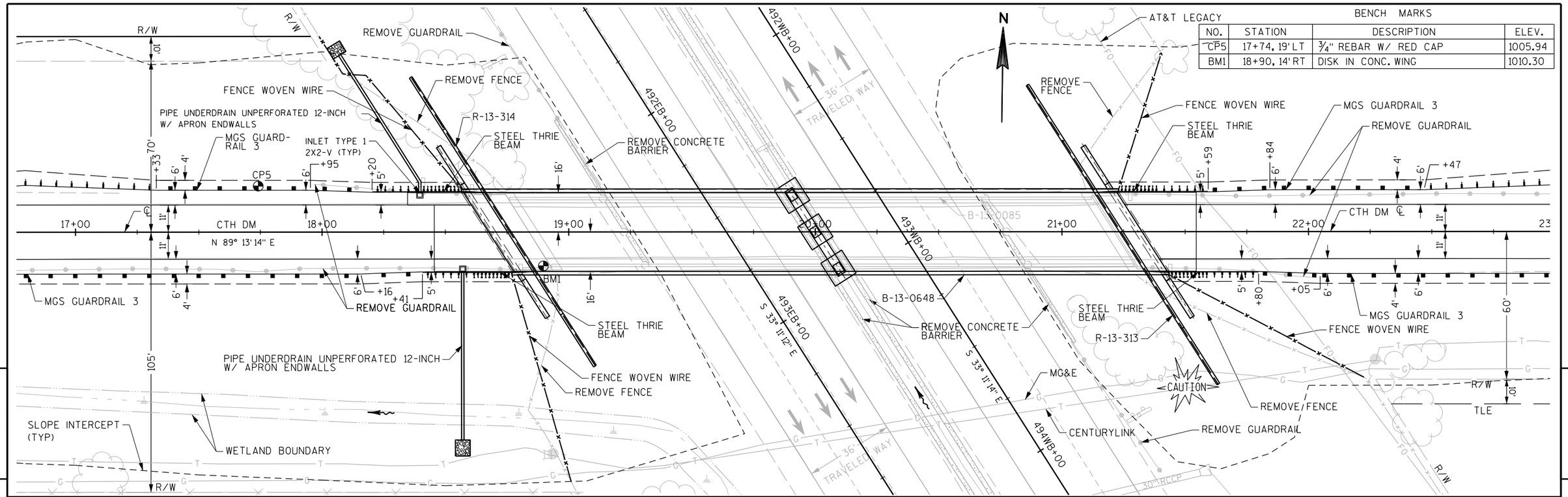
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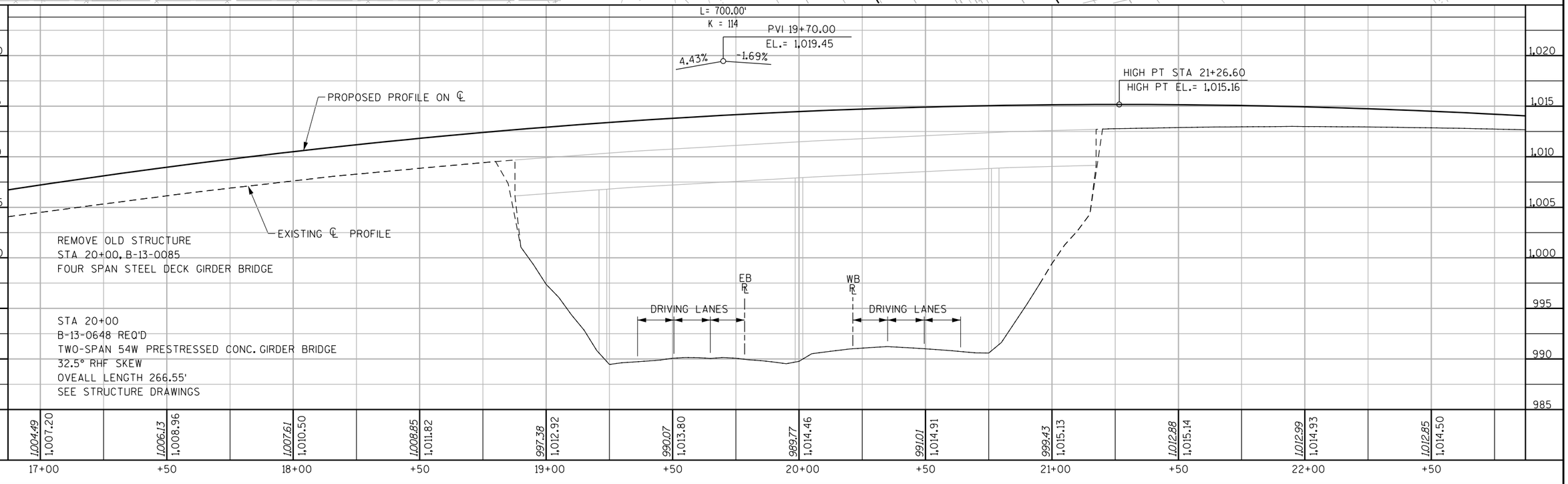
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	11+00	+50	12+00	+50	13+00	+50	14+00	+50	15+00	+50	16+00	+50												

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - CTH DM	SHEET 38	E

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WISDOT/CADDS SHEET 40





PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - CTH DM	SHEET 39	E

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BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
CP1	23+60, 21' RT	3/4" REBAR W/ RED CAP	1010.82

N

CULTIVATED FIELD

℄ B LINE

PT=73B+95.31

74B+00

WIBU ROAD

CENTURYLINK

PT=49A+49.38

49A+00

℄ A LINE

R/W

ALLIANT

CENTURYLINK

70'

60'

+00

+20

+40

+60

+74

6'

4'

2'

8'

11'

MGS GUARDRAIL TERMINAL EAT

23+00

24+00

CTH DM

PDT=24+66.45

25+00

CTH DM ℄

26+00

27+00

28+00

N 89° 13' 14" E

180°05'58"

S 0° 52' 44" E

50A+00

N 89° 07' 16" E

STA 23+65=
STA 74B+72

CP1

STA 26+75=
STA 50A+00
TYPE "C" INTERSECTION
(SEE SDD 9A1)

MGS GUARDRAIL 3

MGS GUARDRAIL TERMINAL EAT

+92

+45

+05

+65

SLOPE INTERCEPT
(TYP)

R/W

CENTURYLINK

10'

TLE

MG&E

18" CMP

END PROJECT
STA 28+50
N=556,125.93
E=818,089.51

5

5

1,025
1,020
1,015
1,010
1,005
1,000
995
990

L= 210.00'
K = 329

VPCC 23+20.00
EL. 1,013.53

PROPOSED PROFILE
ON ℄

EXISTING ℄ PROFILE

-1.69%

-1.05%

VPT 25+30.00
EL. 1,010.64

PVI 24+25.00
EL.= 1,011.75

L= 165.00'
K = 334

VPC 26+67.50
EL. 1,009.19

-1.05%

-0.56%

VPT 28+32.50
EL. 1,007.86

PVI 27+50.00
EL.= 1,008.32

1,007.76

1012.60	1012.30	1011.85	1011.29	1010.76	1010.23	1009.72	1009.31	1008.84	1008.35	1007.96	1007.75	
1,013.85	1,013.03	1,012.27	1,011.58	1,010.97	1,010.43	1,009.90	1,009.38	1,008.86	1,008.42	1,008.06	1,007.76	
23+00	+50	24+00	+50	25+00	+50	26+00	+50	27+00	+50	28+00	+50	

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - CTH DM	SHEET 40	E

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BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
CP2	43A+73.49' RT	¾" REBAR W/ RED CAP	999.74

PI 43A+20.23
N=556,459.52
E=817,416.05
Δ=29° 11' 11" (LT)
D=16° 30' 00"
T=90.41
L=176.89
R=347.25
SE=6%
RO=116'
V=35 MPH

43+12.46
41.16' LT

R/W

SLOPE INTERCEPT (TYP)

PT=44A+06.71

45A+00

S 79° 02' 59" E

℄ "A" LINE

WIBU ROAD (ASPH)

41A+00

3'

10'

10'

3'

42A+00

PC=42A+29.82

S 49° 51' 48" E

70B+00

43A+00

44A+00

℄ "B" LINE

REMOVE GUARDRAIL

71B+00

20'

72B+00

BEGIN CONSTRUCTION
STA 41A+00
N=556,601.48
E=817,247.69

A LINE STA 42A+29.82 =
B LINE STA 69B+79.84

P.I. =43A+20.23

PC=71B+18.00

CP2

EXCAVATE OLD ROAD

PVI 43A+83.73
EL.= 998.05

PROPOSED PROFILE ON ℄

2.36%

1.75%

VPC 42A+83.73
EL. 995.69

VPT 44A+83.73
EL. 999.80

APPROX. 18" TOPSOIL THICKNESS

L= 200.00'
K = 329

EXISTING ℄ PROFILE

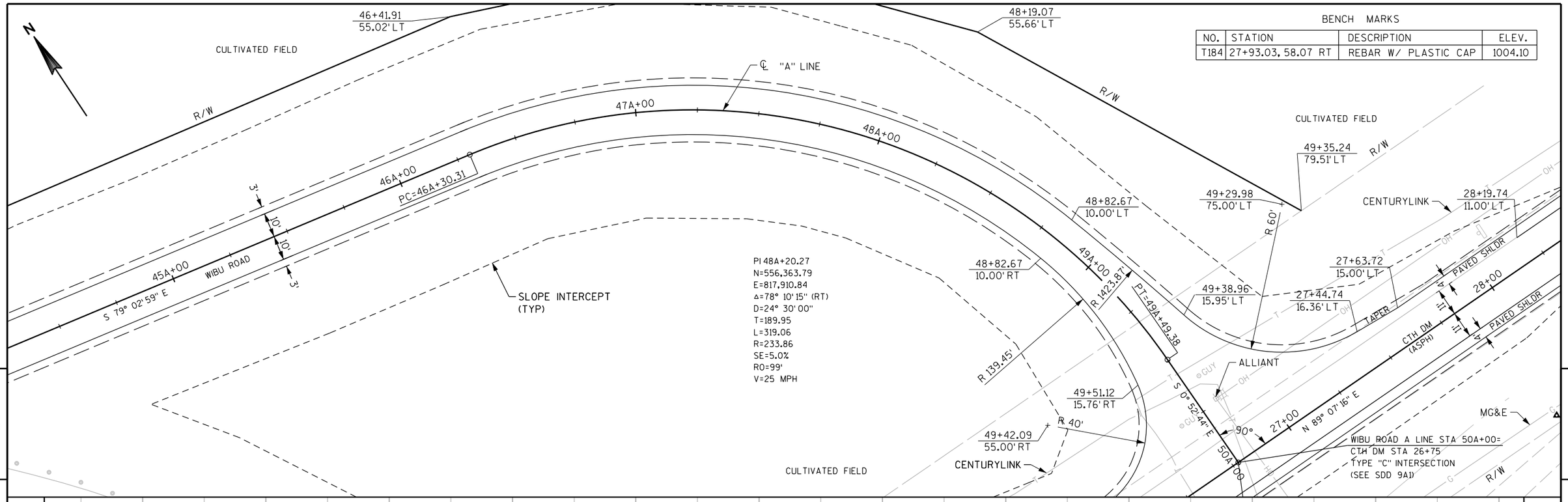
1005 1000 995 990 985 980 975 970

990.35 990.44 990.82 991.35 991.35 992.31 992.53 993.52 993.71 994.80 994.89 996.65 996.07 997.20 997.19 992.13 998.23 991.10 999.20

+50 40A+00 +50 41A+00 +50 42A+00 +50 43A+00 +50 44A+00 +50

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - WIBU ROAD (A LINE)	SHEET 41	E

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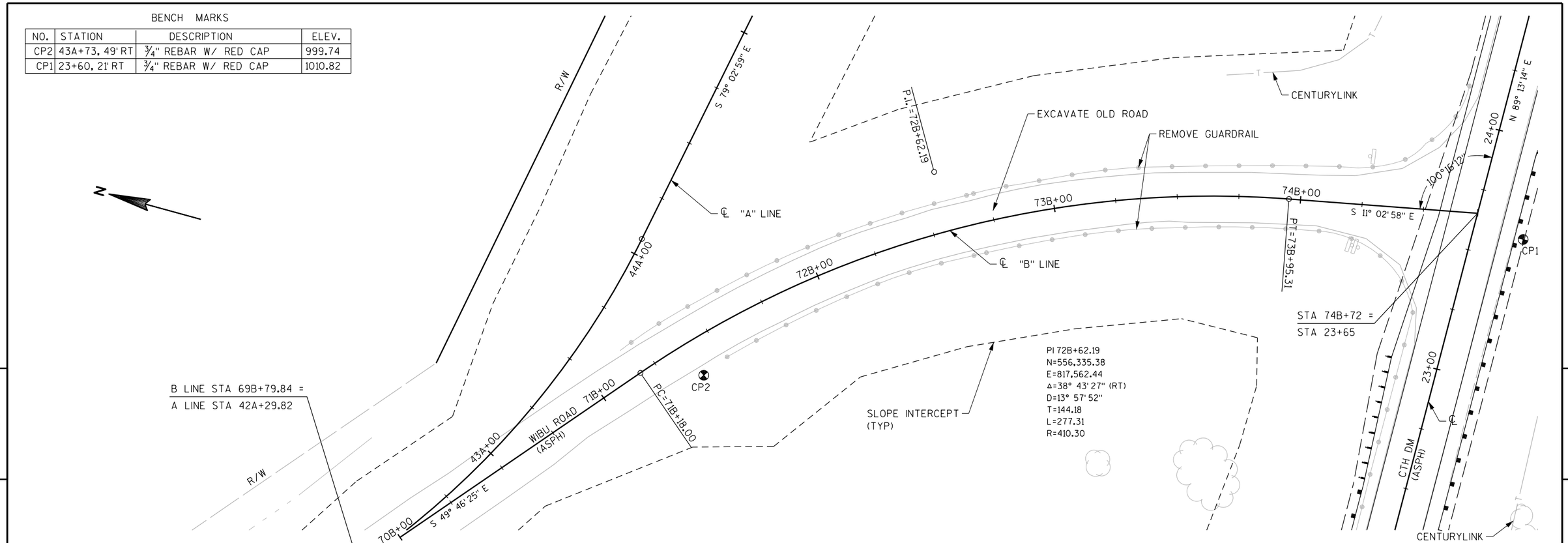


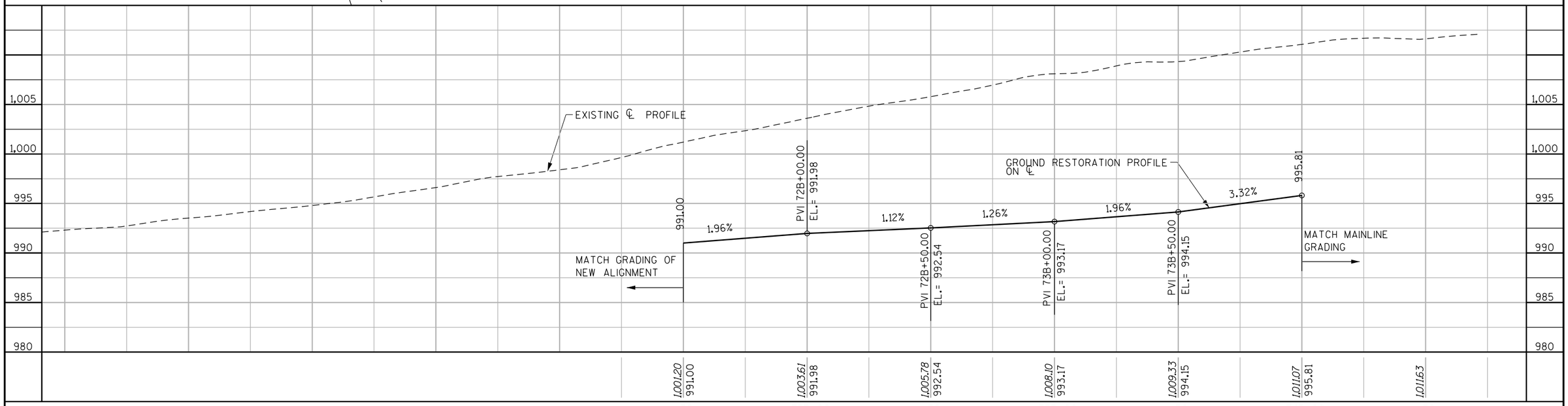
PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - WIBU ROAD (A LINE)	SHEET 42	E

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BENCH MARKS

NO.	STATION	DESCRIPTION	ELEV.
CP2	43A+73, 49' RT	¾" REBAR W/ RED CAP	999.74
CP1	23+60, 21' RT	¾" REBAR W/ RED CAP	1010.82





PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	PLAN & PROFILE - WIBU ROAD (B LINE)	SHEET 43	E

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WISDOT/CADDS SHEET 40

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
08D03-06	CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C11-11A	RURAL DOWELED CONCRETE PAVEMENT
13C11-11B	RURAL DOWELED CONCRETE PAVEMENT
13C18-03A	CONCRETE PAVEMENT JOINTING
13C18-03C	CONCRETE PAVEMENT JOINT TIES
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B32-04A	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04B	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B32-04D	CONCRETE BARRIER SINGLE SLOPE (CBSS)
14B35-01C	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B35-01D	32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SSCB TRANSITION
14B39-01C	36-INCH SSCB TO 42-INCH SSCB HEIGHT TRANSITION
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15D03-03	TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER
15D14-03	TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT-TERM (LESS THAN 24 HOURS)
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

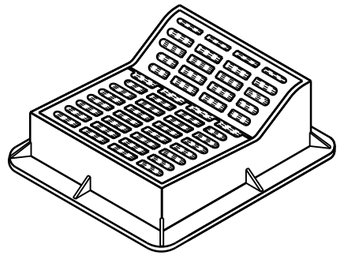
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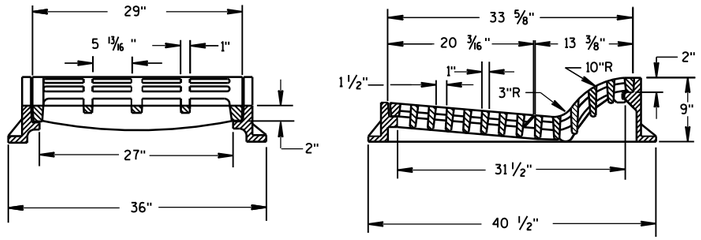
Standard Detail Drawing List

15D38-01B ATTACHMENT OF SIGNS TO POSTS

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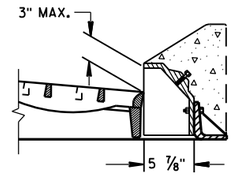
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TYPE "F"

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



ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

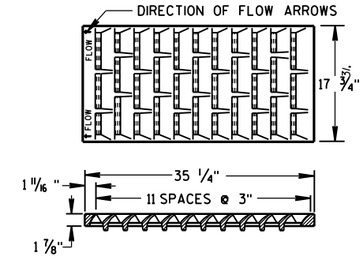
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

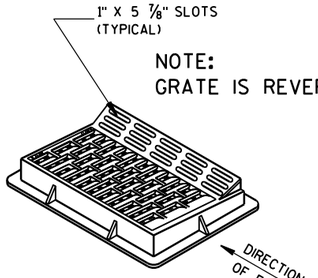
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

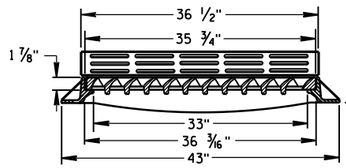
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

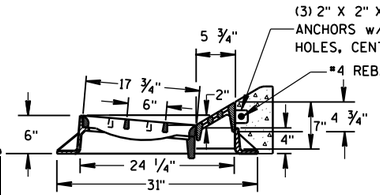
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.





NOTE:
GRATE IS REVERSIBLE.

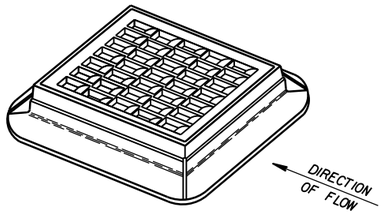


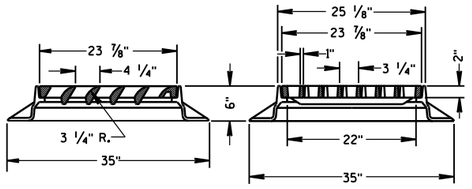


TYPE "HM"

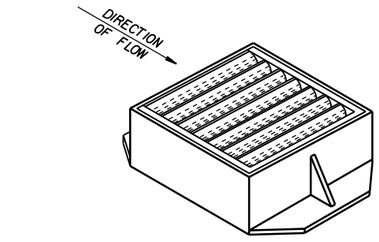
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

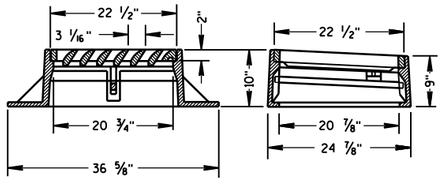
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



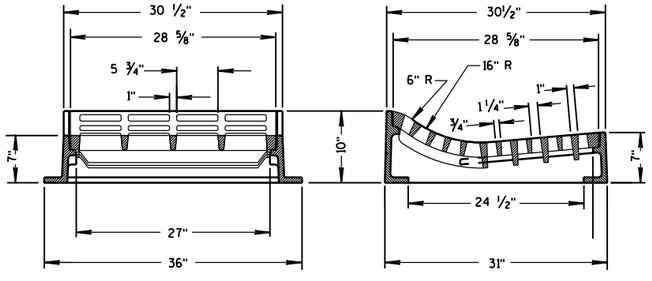


TYPE "S"



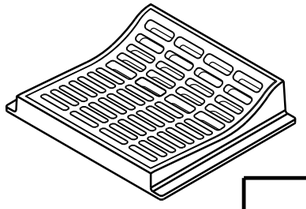


TYPE "V"



TYPE "T"

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



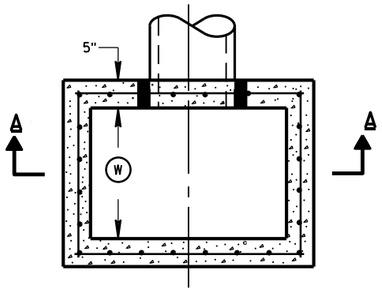
INLET COVERS
TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

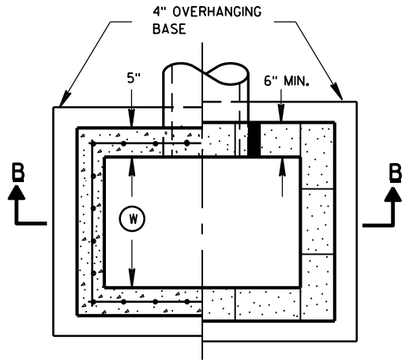
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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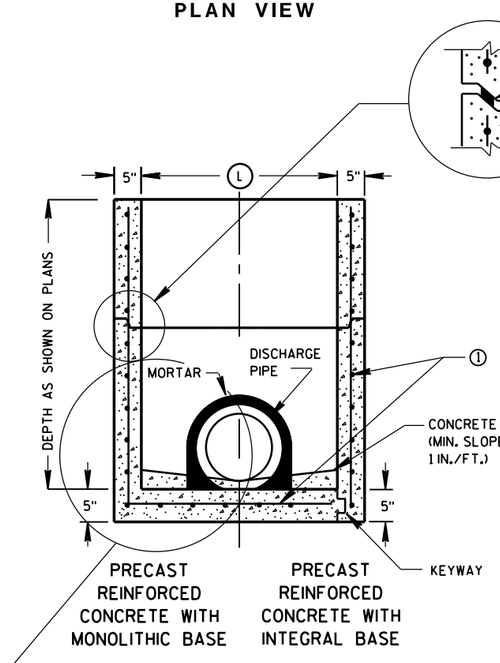
S.D.D. 8 A 5-19c



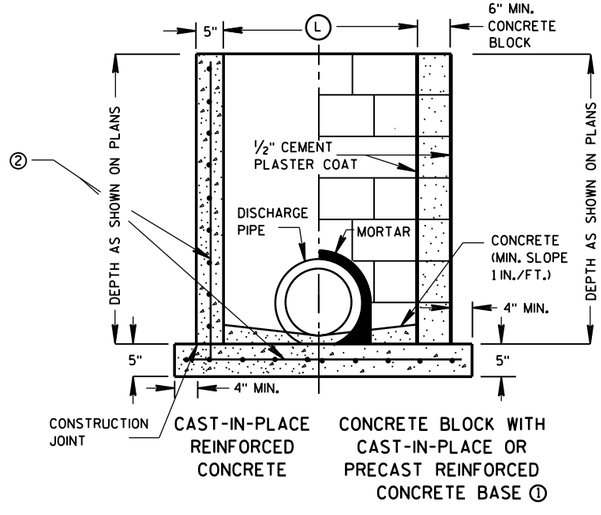
PLAN VIEW



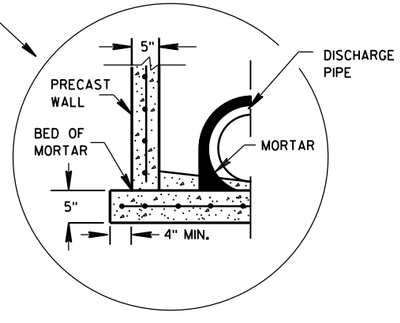
PLAN VIEW



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.

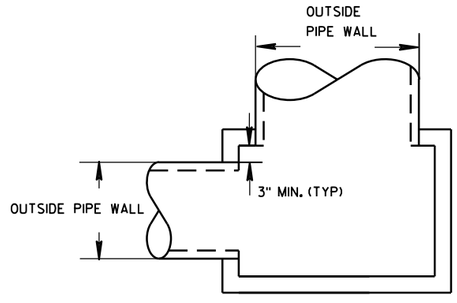
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

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"

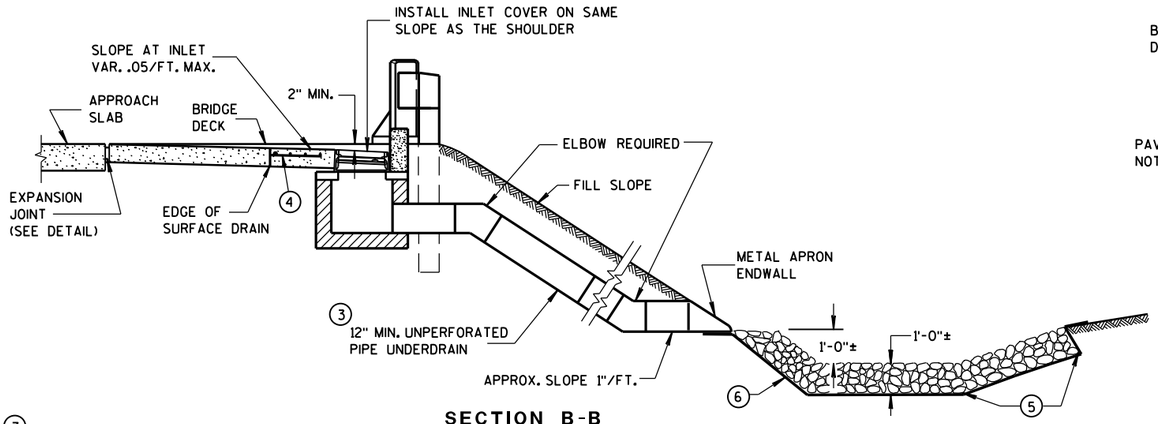
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

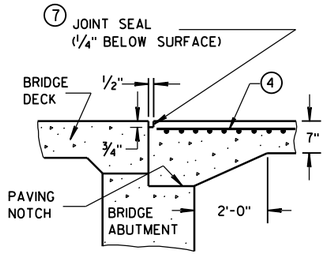
APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE
ENGINEER

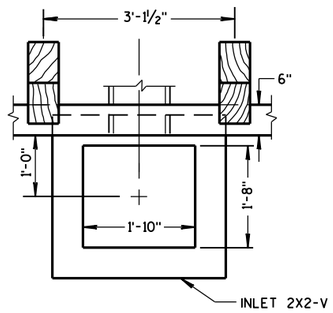
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S.D.D. 8 C 7-1



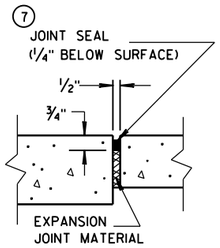
SECTION B-B



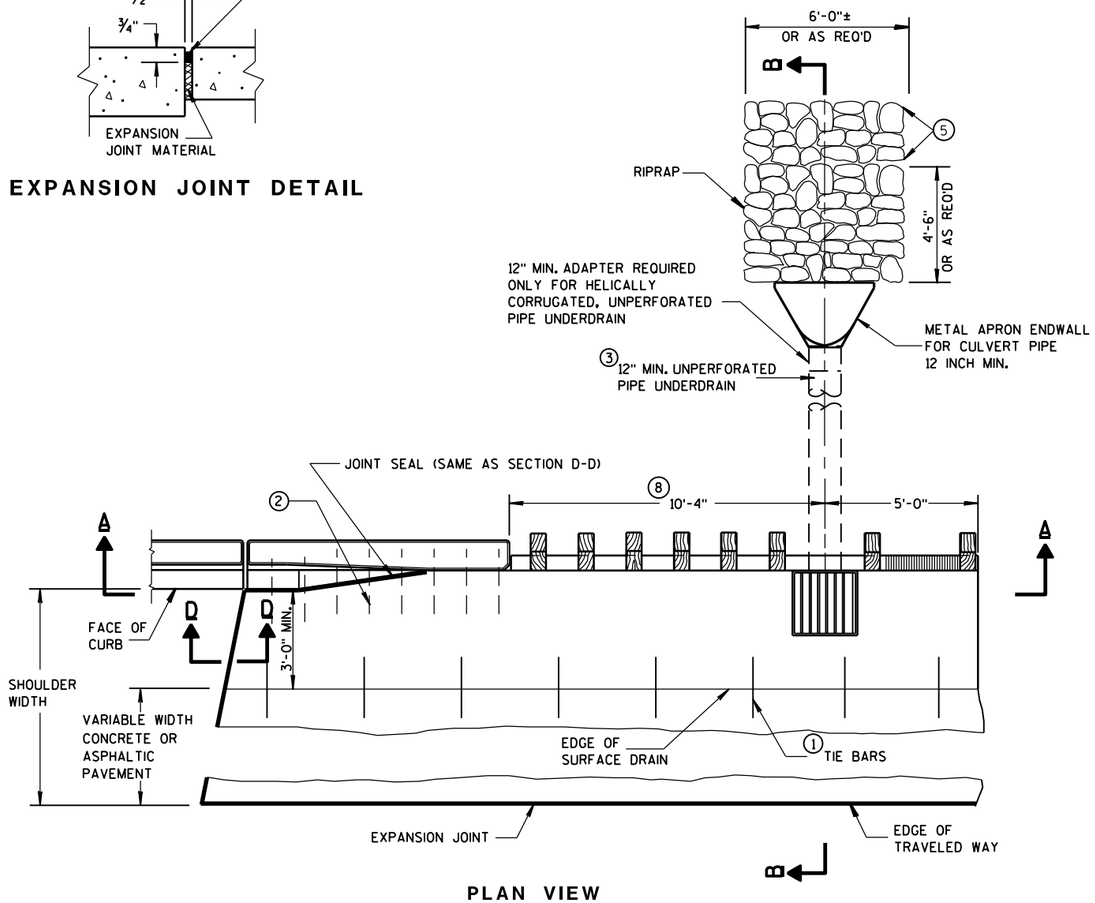
SECTION D-D



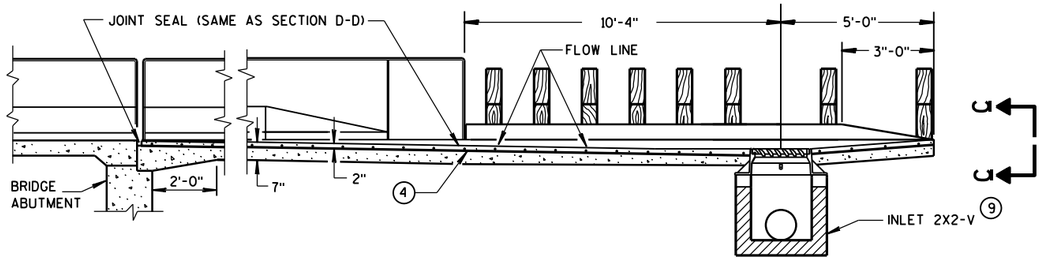
PLAN VIEW



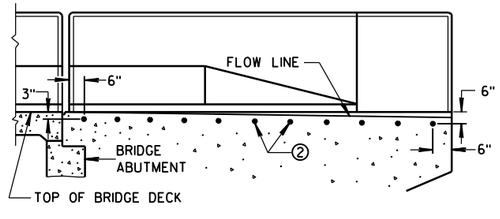
EXPANSION JOINT DETAIL



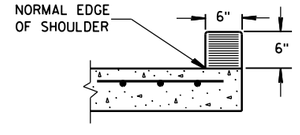
PLAN VIEW



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.

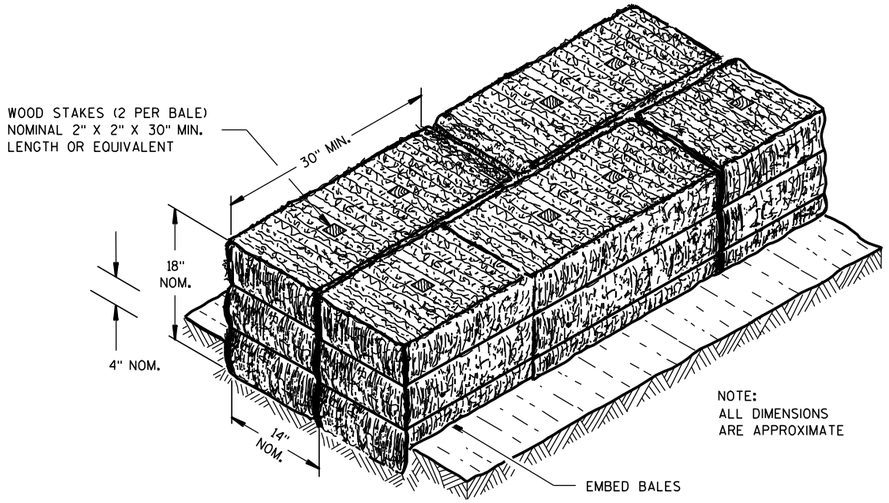
CONCRETE SURFACE DRAINS DROP INLET TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

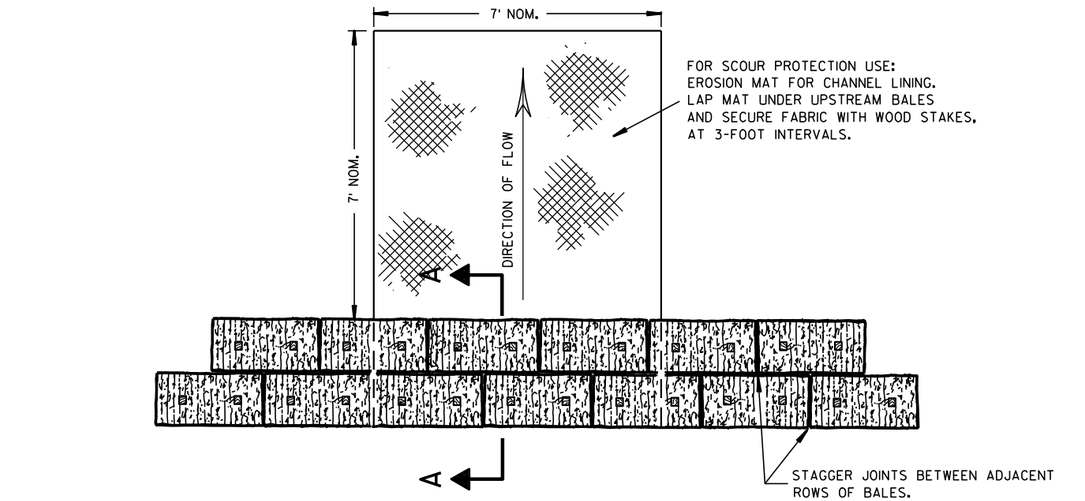
APPROVED
9/4/08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

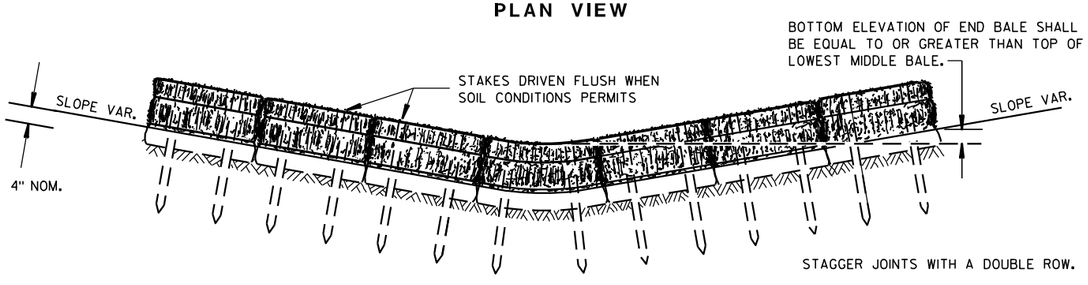
S.D.D. 8 D 3-6



SECTION A-A



PLAN VIEW



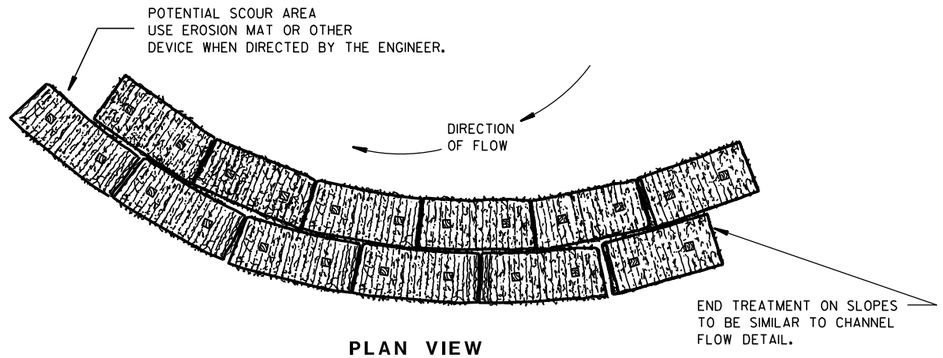
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

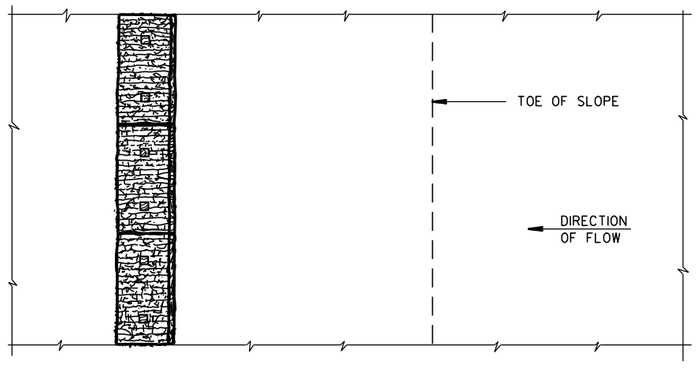
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

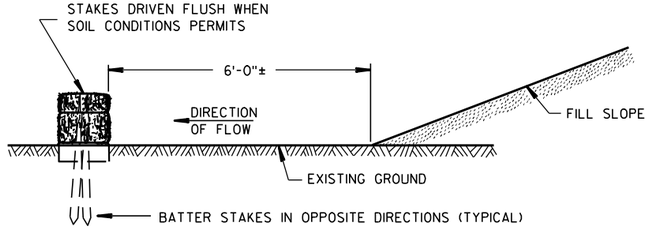


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

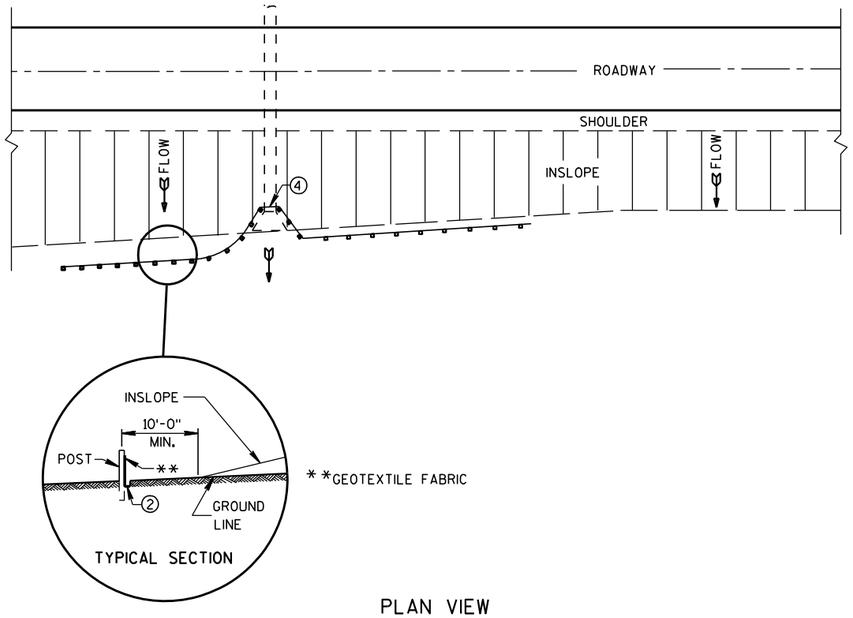
APPROVED
6/04/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

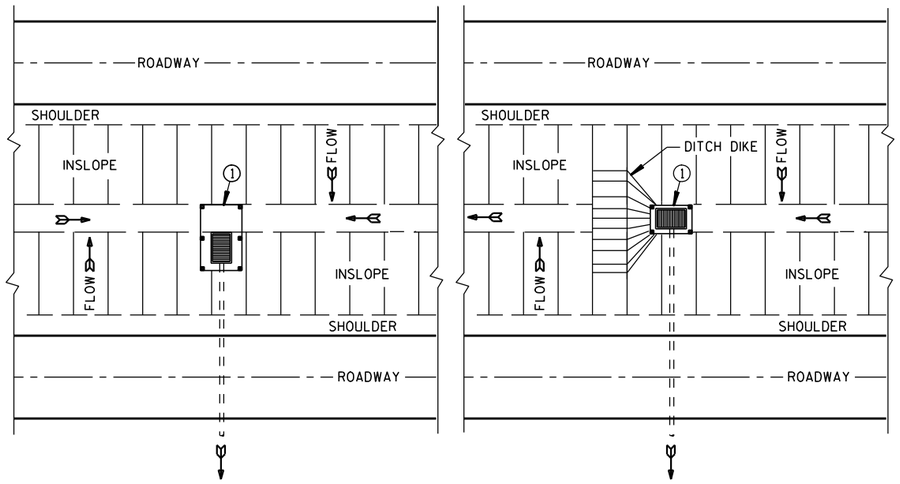
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S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



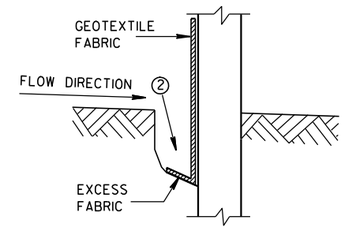
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

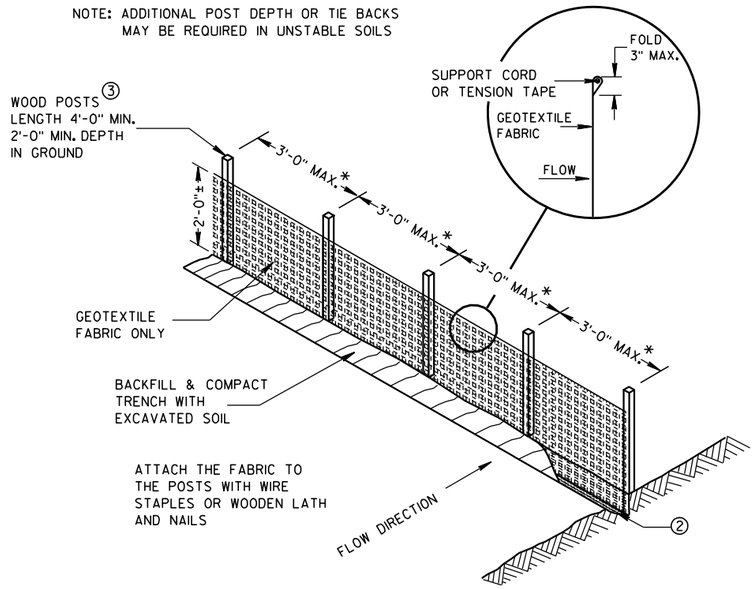
GENERAL NOTES

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

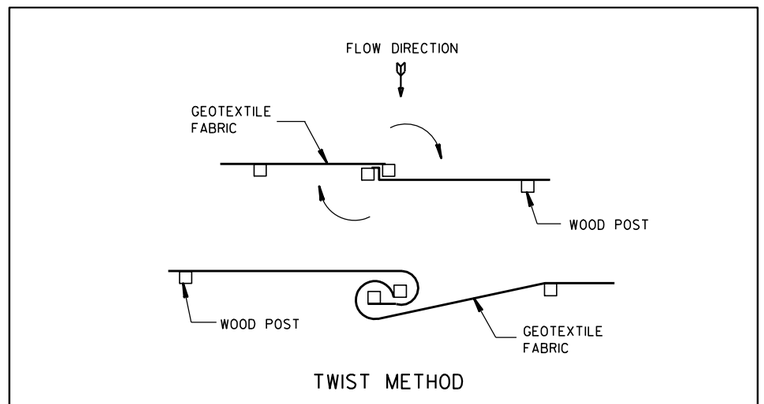
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



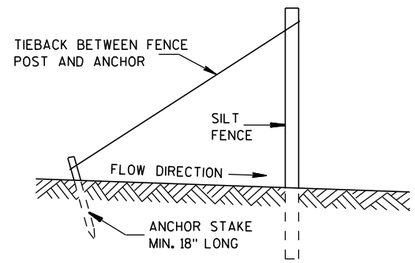
TRENCH DETAIL



SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

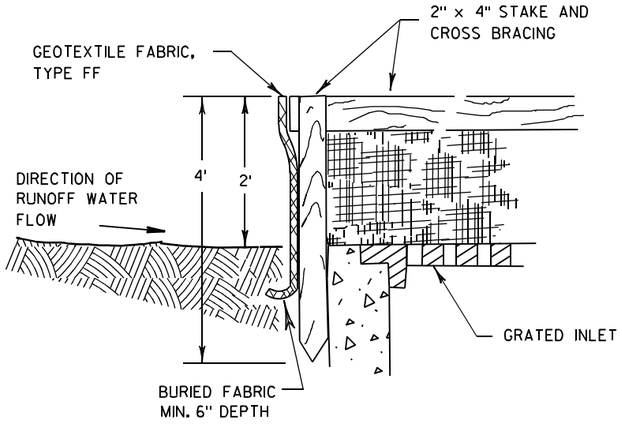
(WHEN REQUIRED BY THE ENGINEER)

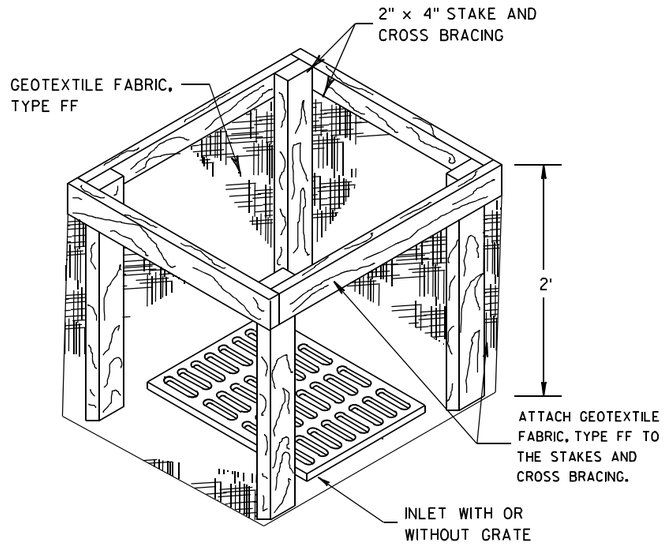
SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

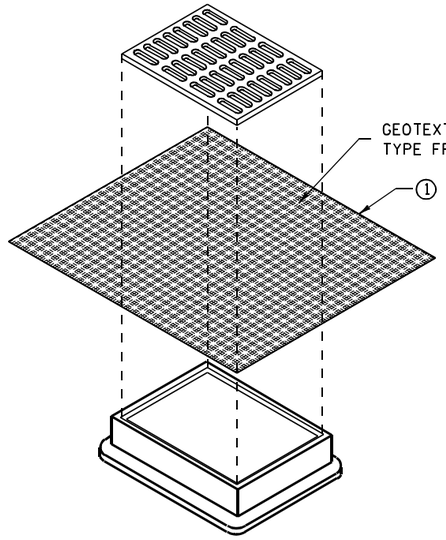
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6
S.D.D. 8 E 9-6



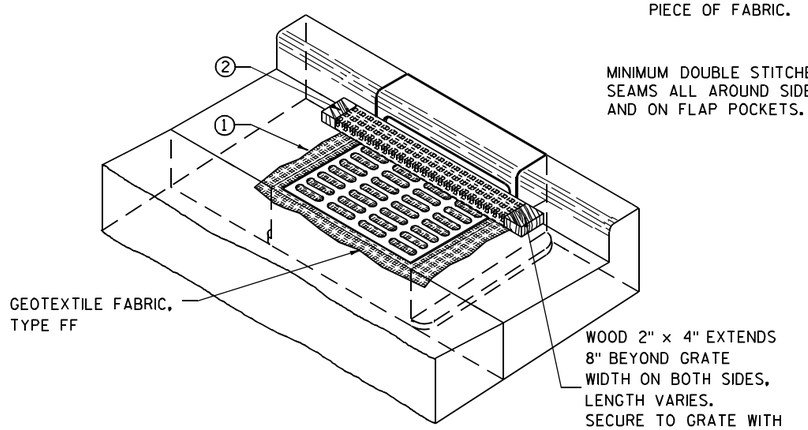


INLET PROTECTION, TYPE A

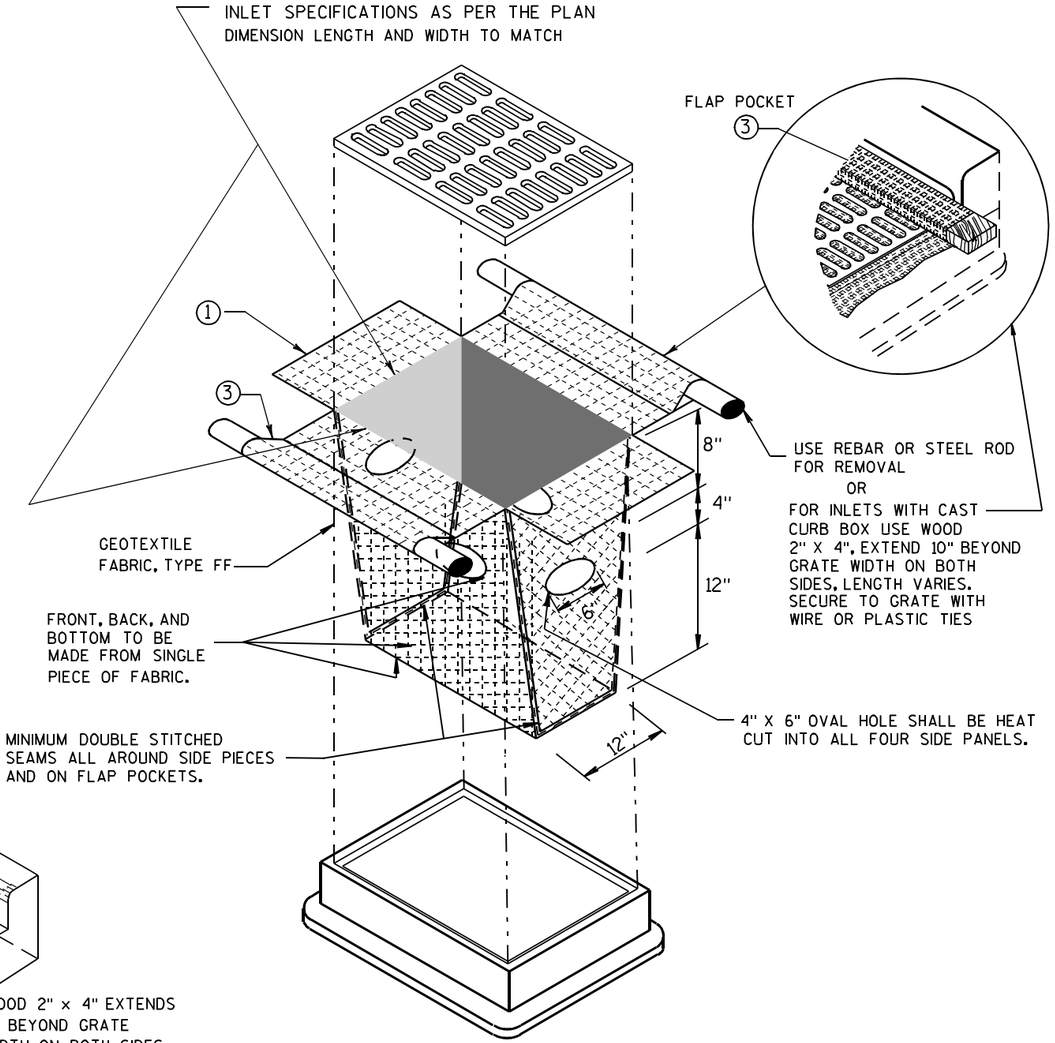


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

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

INLET PROTECTION
TYPE A, B, C, AND D

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

10/16/02
DATE

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

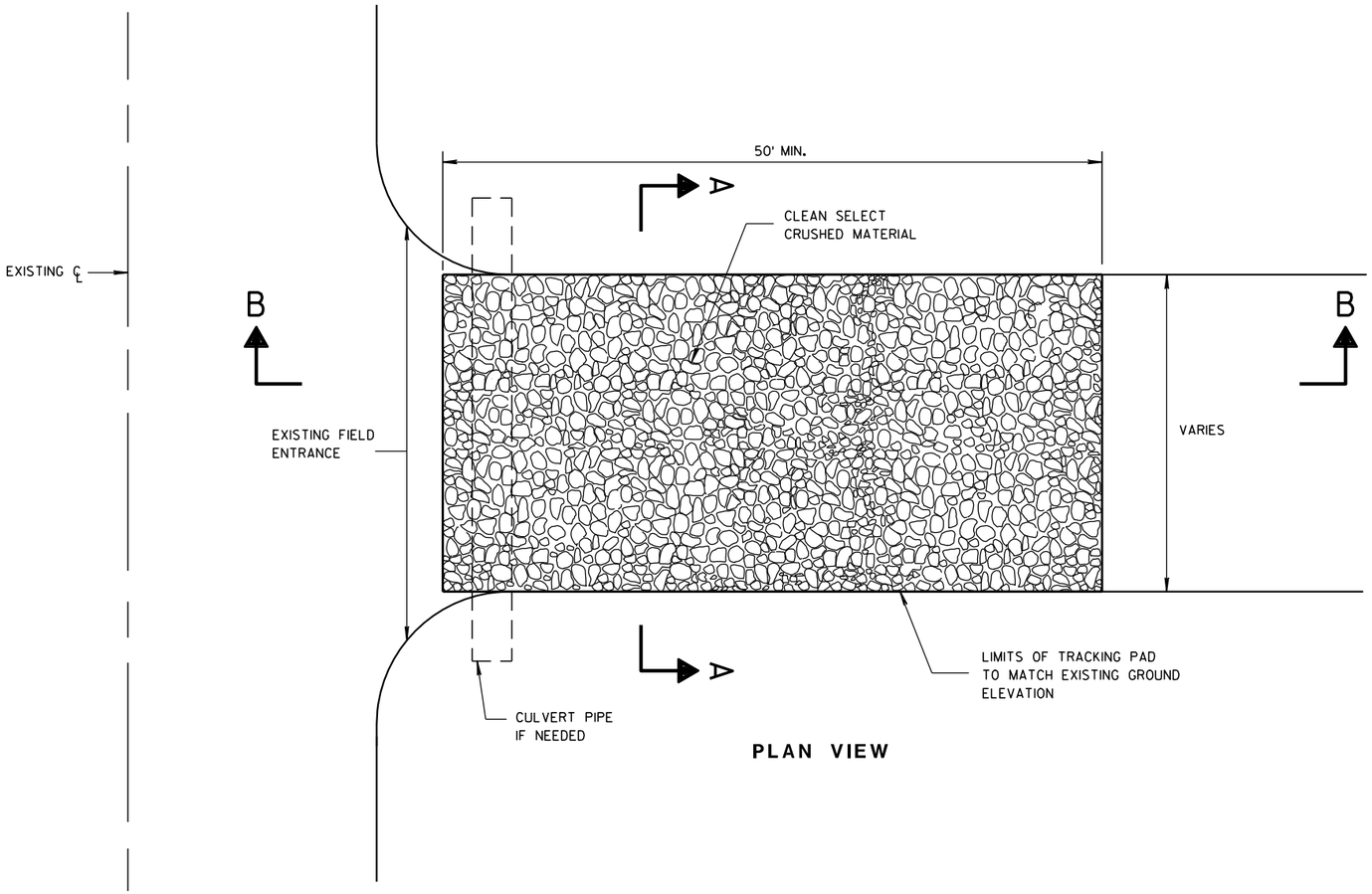
FHWA

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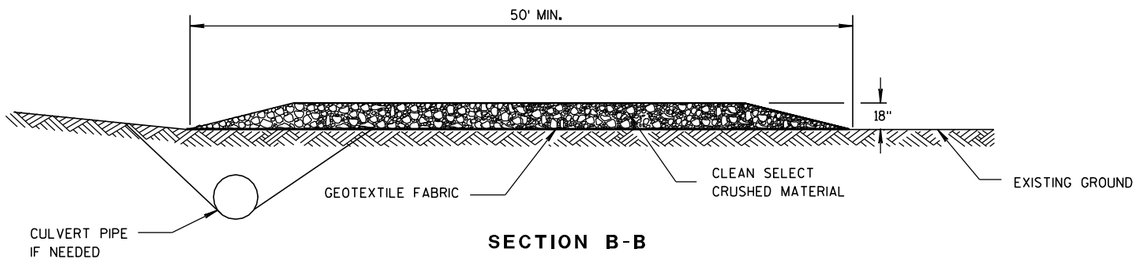
S.D.D. 8 E 10-2

6

S.D.D. 8 E 10-2



PLAN VIEW



SECTION B-B

GENERAL NOTES

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

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

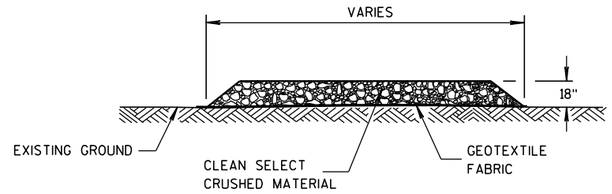
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zona	
DATE	ROADWAY STANDARDS ENGINEER	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

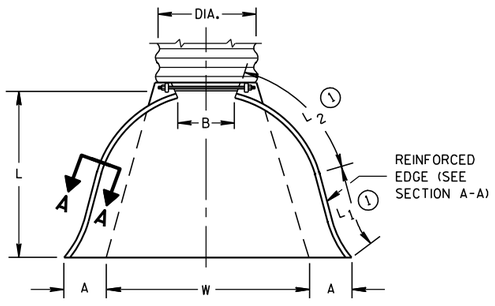
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

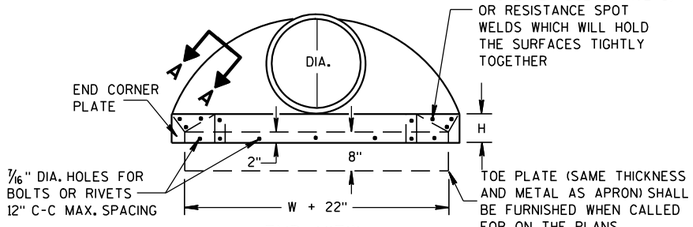
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 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

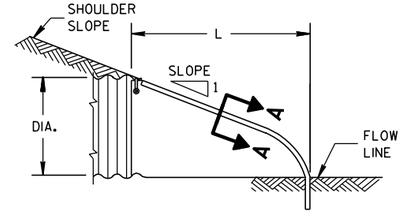
*MINIMUM
**MAXIMUM



PLAN VIEW

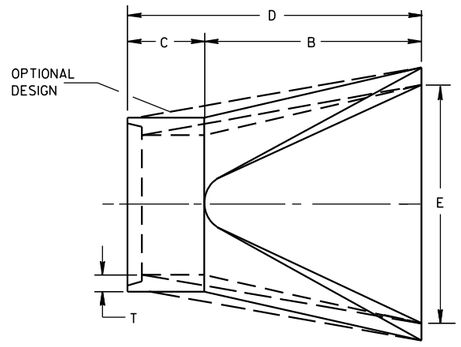


END VIEW

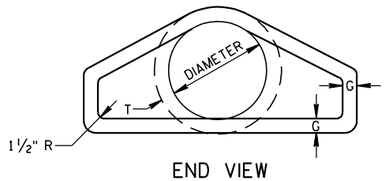


SIDE ELEVATION

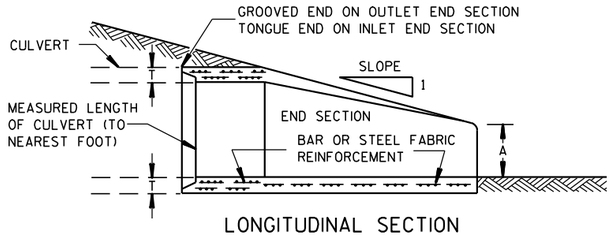
METAL ENDWALLS



PLAN

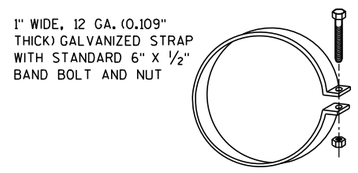


END VIEW



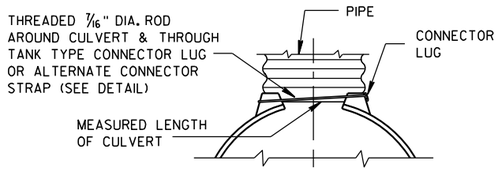
LONGITUDINAL SECTION

CONCRETE ENDWALLS

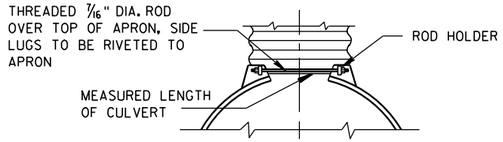


ALTERNATE FOR TYPE 1 CONNECTION

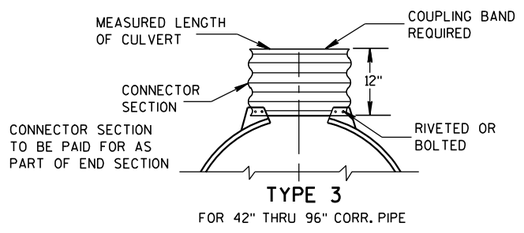
END SECTION CONNECTOR STRAP



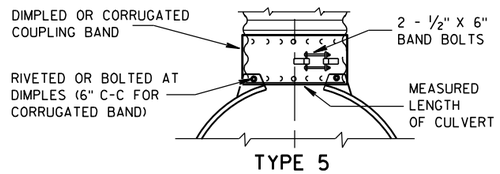
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

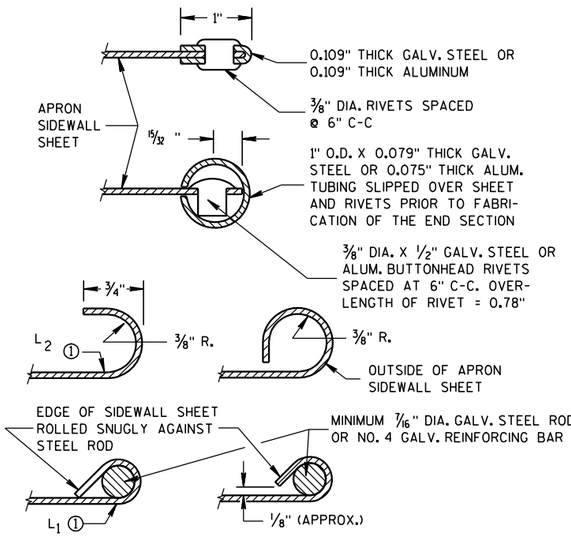
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

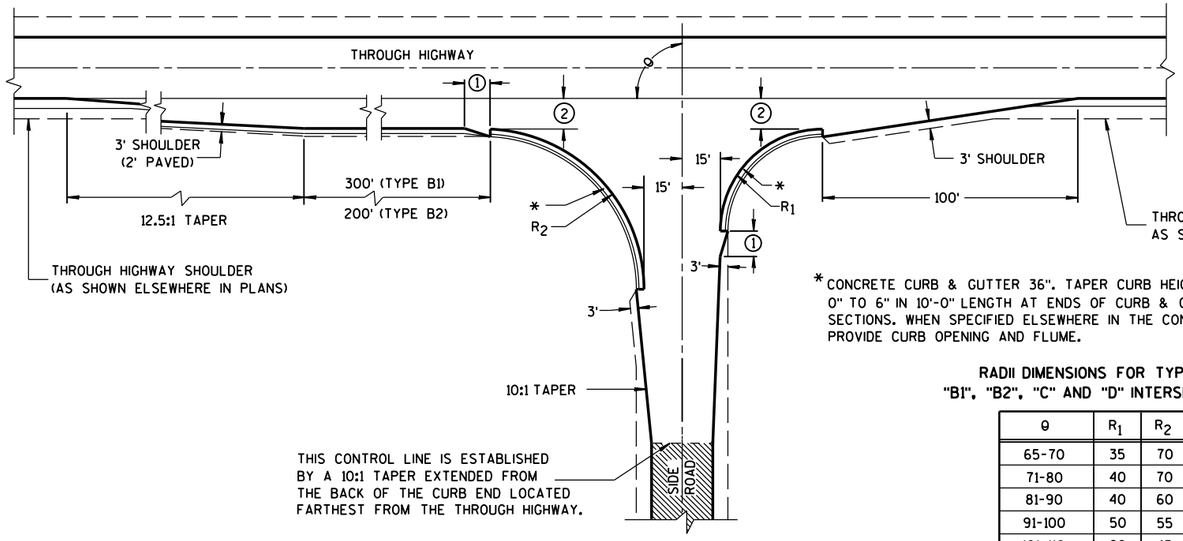
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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

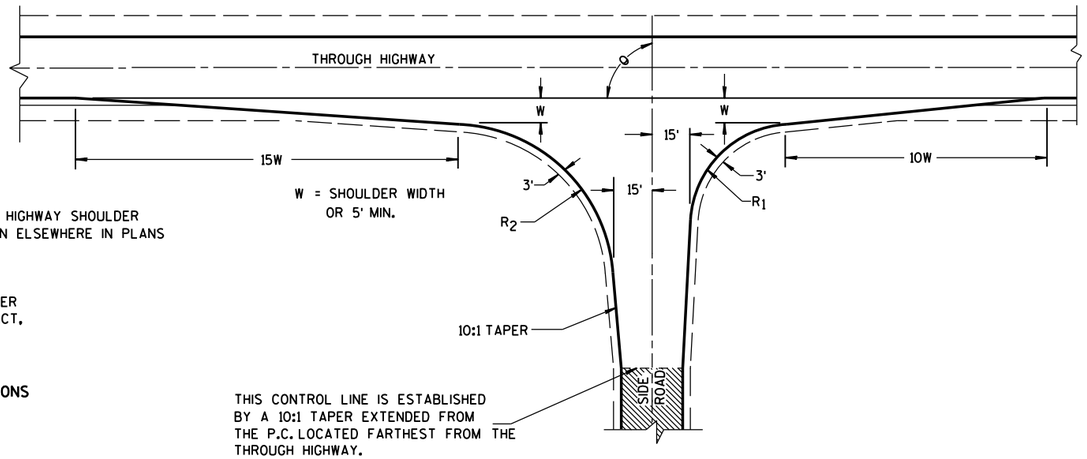


TYPE "B1" AND "B2"

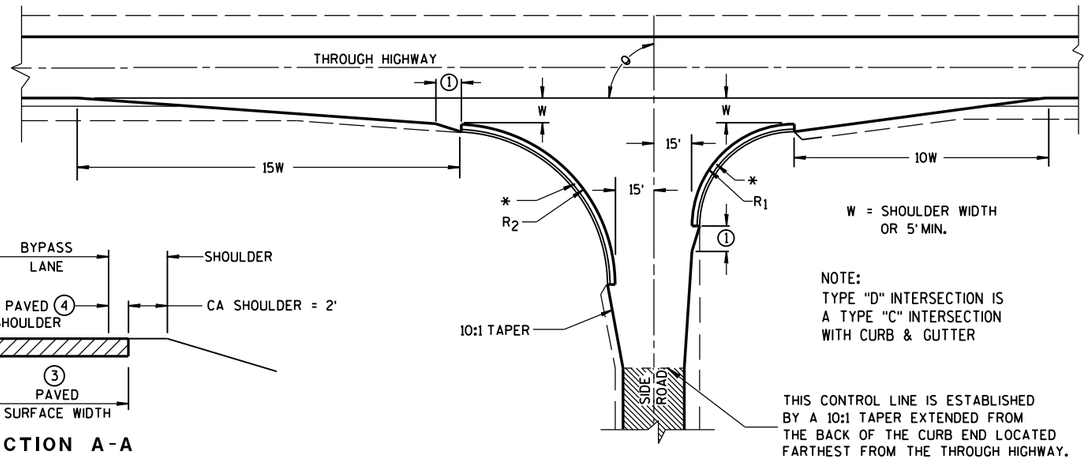
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

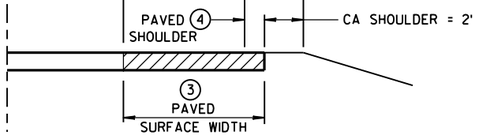
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

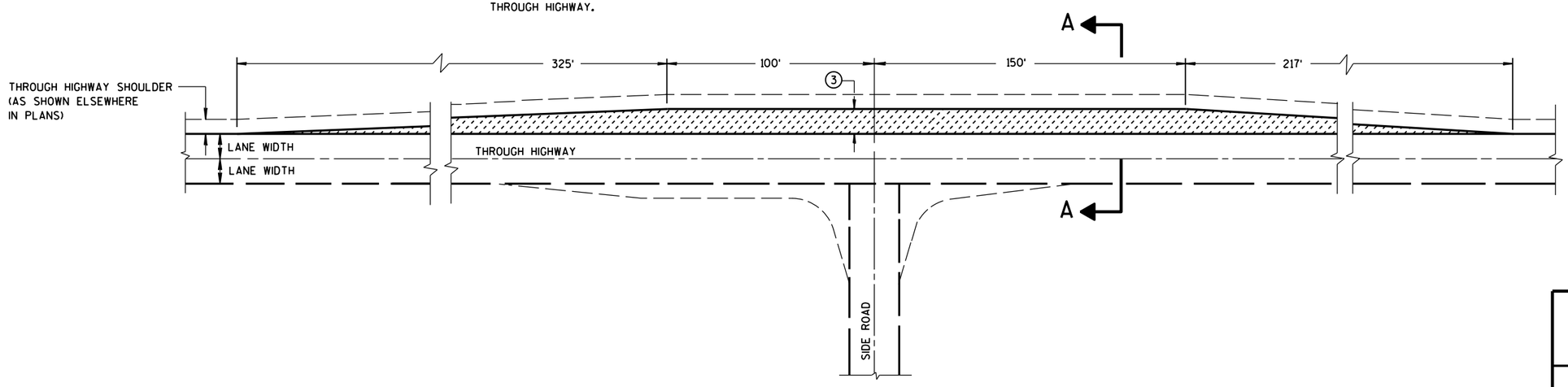
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)



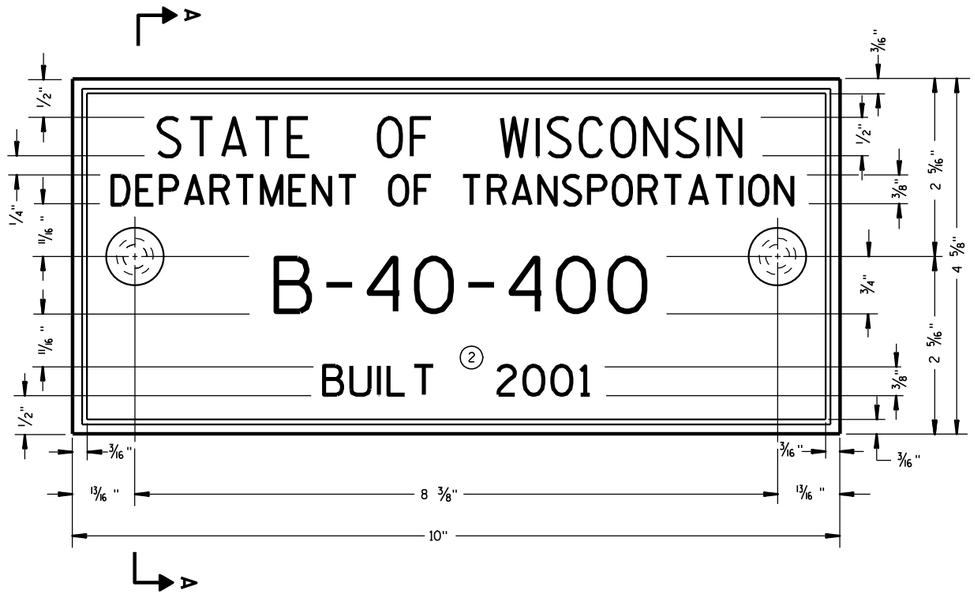
TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 9 A 1-13a



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

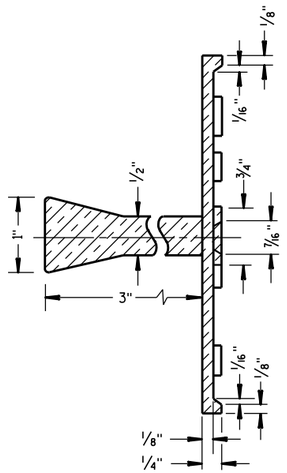
GENERAL NOTES

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

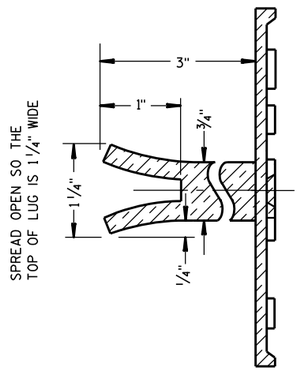
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

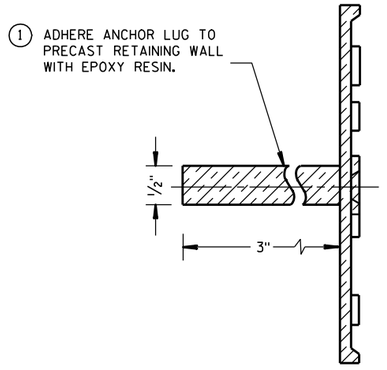
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP 55 ENGINEER

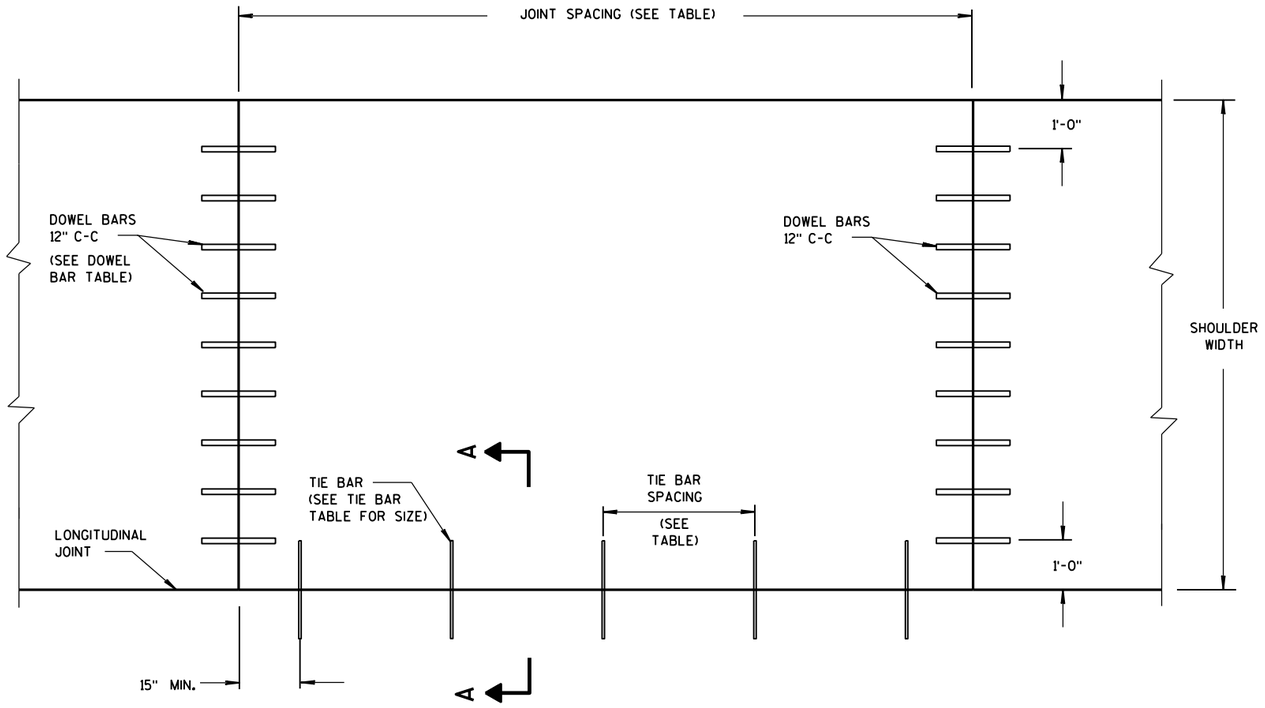
FHWA

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S.D.D. 12 A 3-10

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S.D.D. 12 A 3-10



PLAN VIEW

CONCRETE PAVEMENT SHOULDER

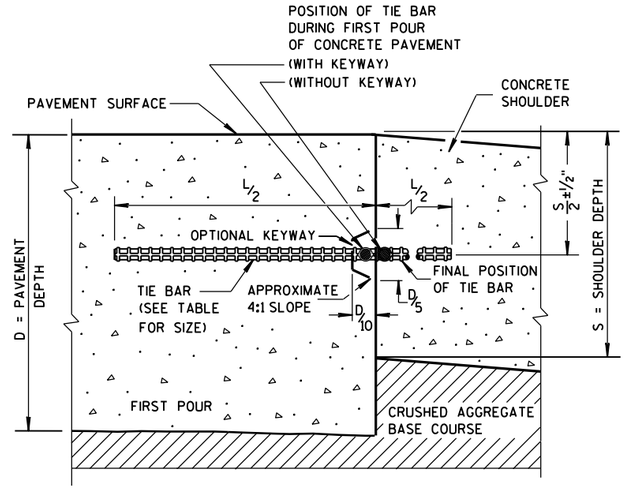
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

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

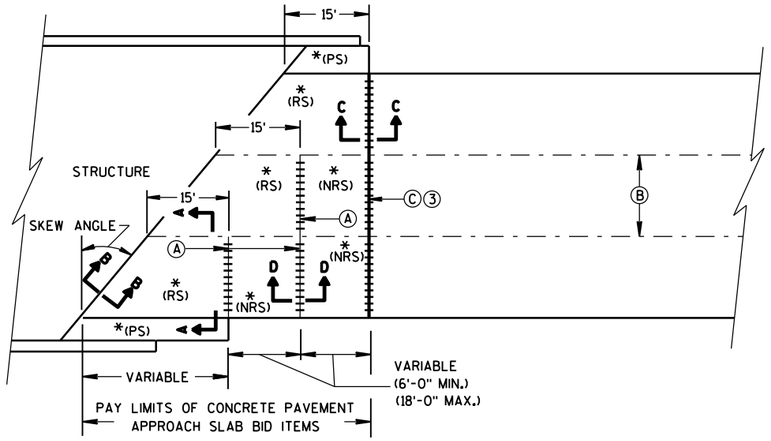
CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

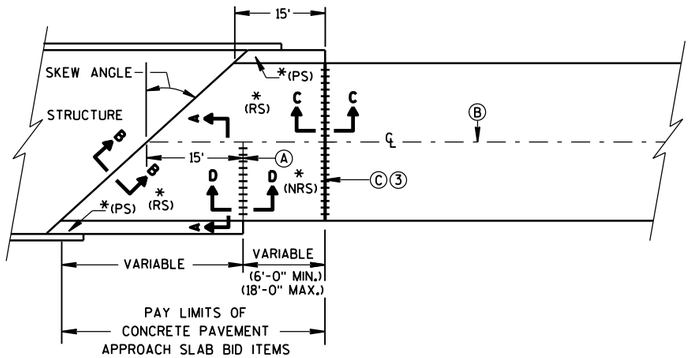
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPERV
FHWA

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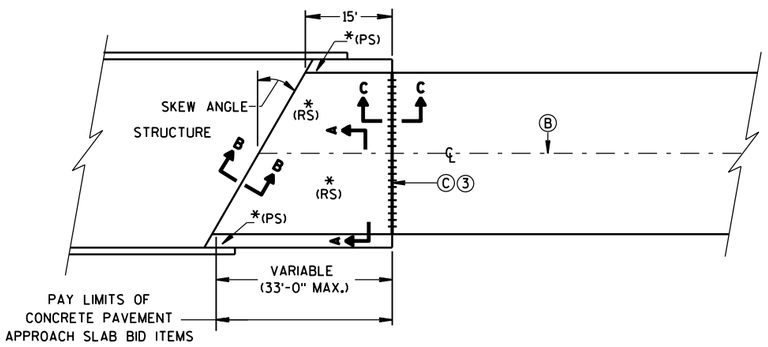
S.D.D. 13 A 3-6



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



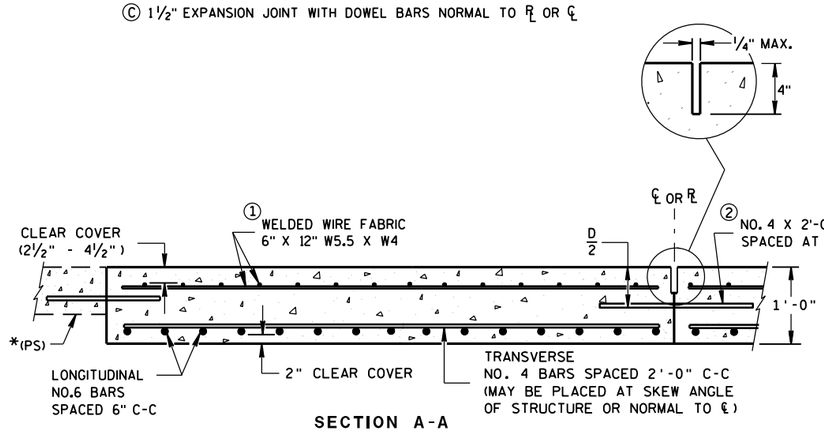
SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

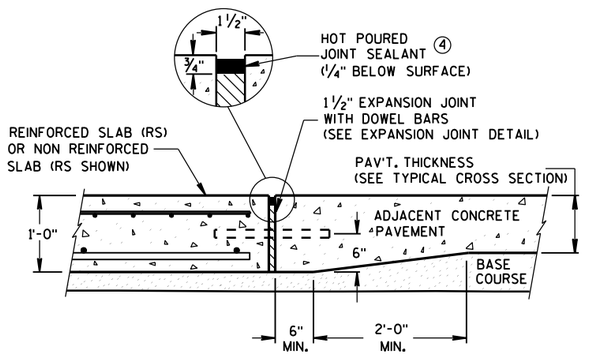
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

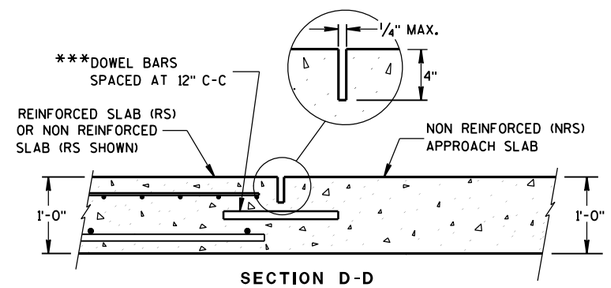
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

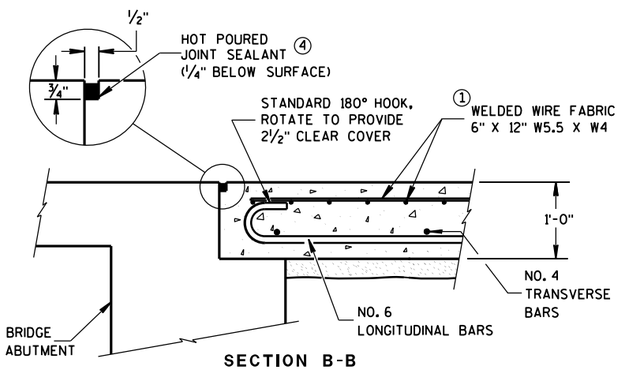
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

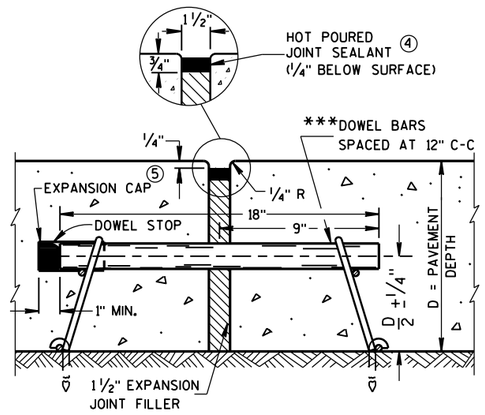
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



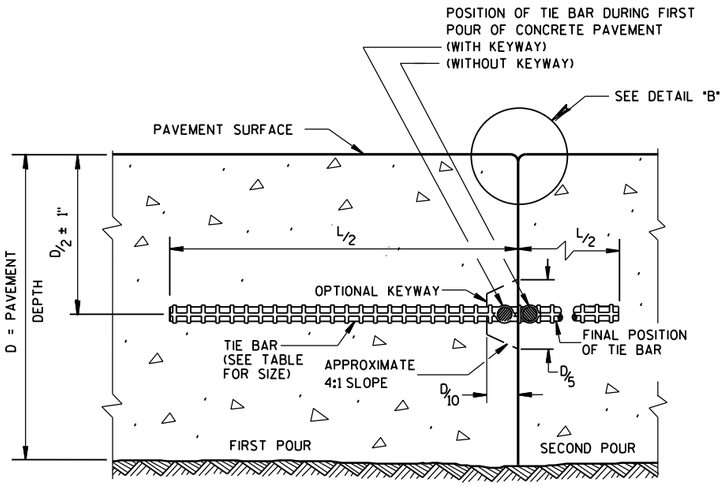
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

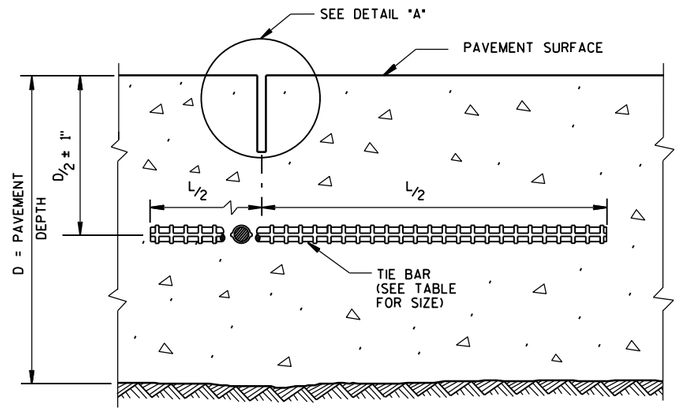
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

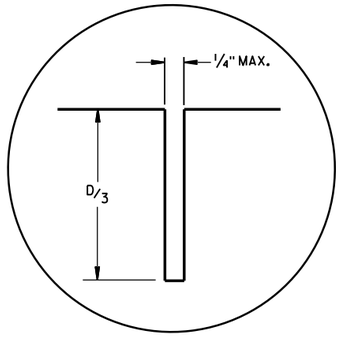
(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

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

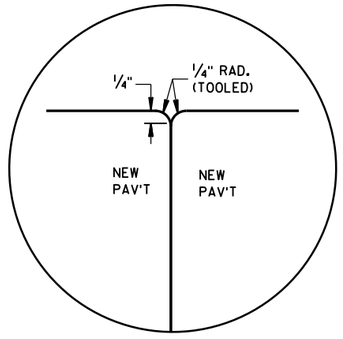
PLAN VIEW

SECTION A-A

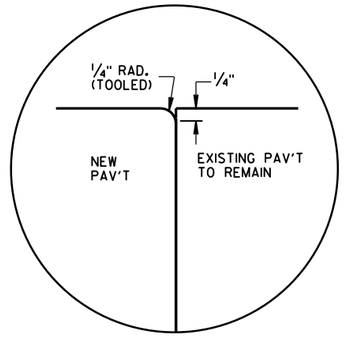
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



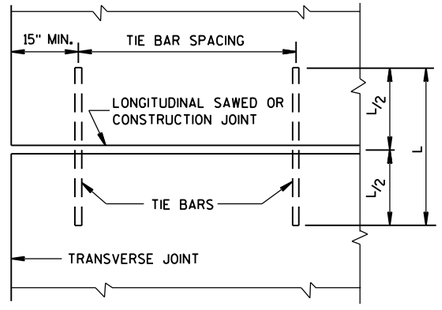
DETAIL "C"

TIE BAR TABLE

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

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

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



PLAN VIEW
SHOWING LOCATION OF TIE BARS

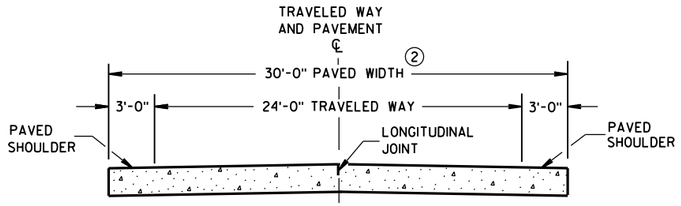
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

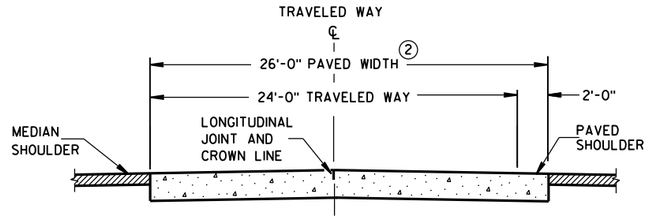
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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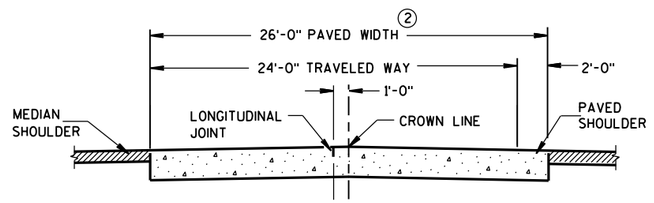
S.D.D. 13 C 1-18



SECTION A-A
TWO-LANE TWO-WAY HIGHWAY ①



SECTION B-B



ALTERNATIVE SECTION B-B
DIVIDED HIGHWAY ①

GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

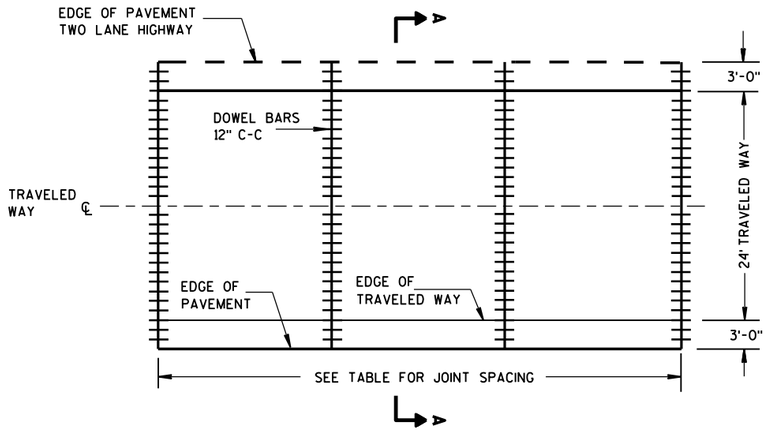
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

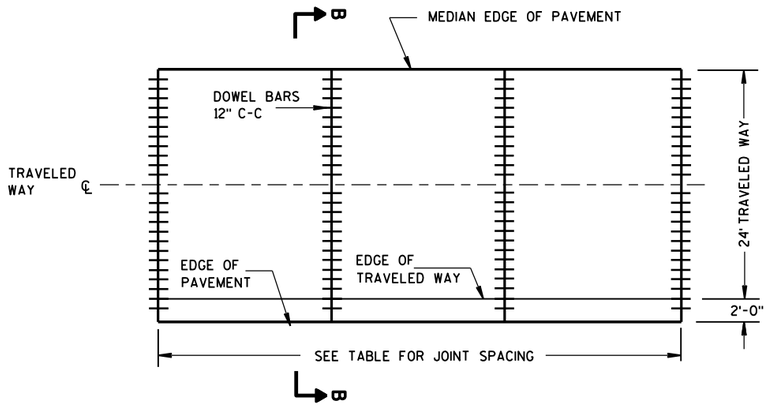
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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



CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY



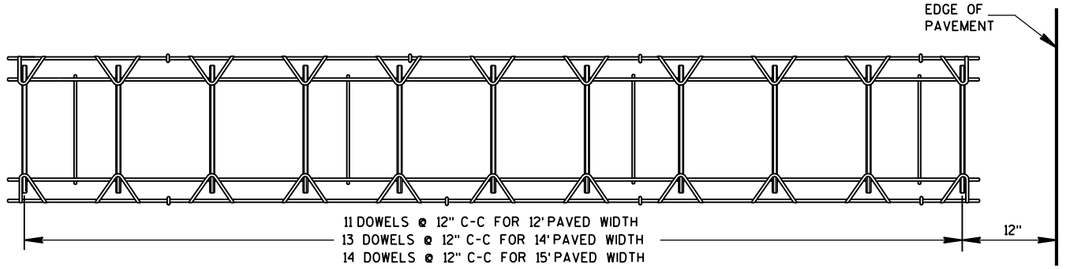
CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

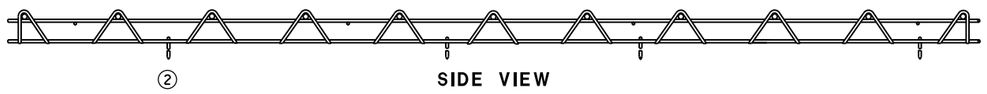
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



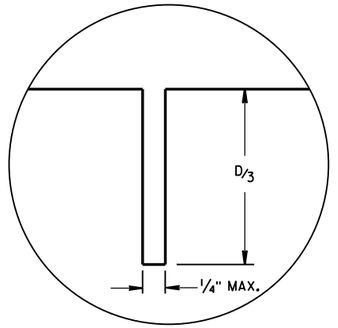
PLAN VIEW



SIDE VIEW

(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY ①



JOINT DETAIL

GENERAL NOTES

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

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

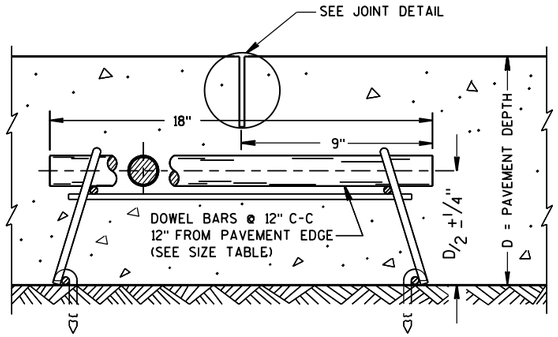
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

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

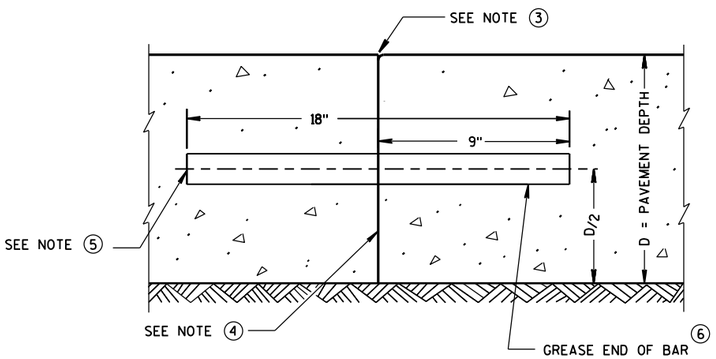
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL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

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

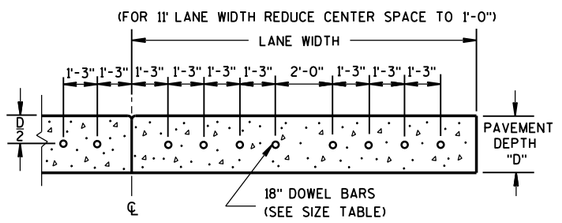
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



DOWELED CONTRACTION JOINT



TRANSVERSE CONSTRUCTION JOINT



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

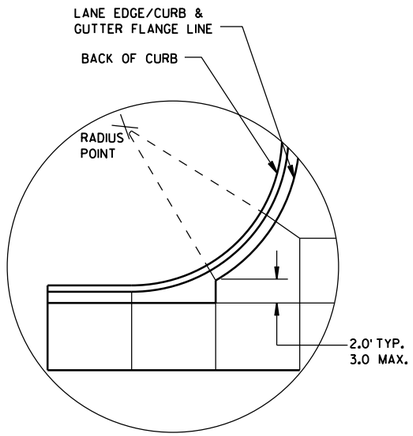
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff PAVEMENT POLICY & DE ENGINEER
FHWA

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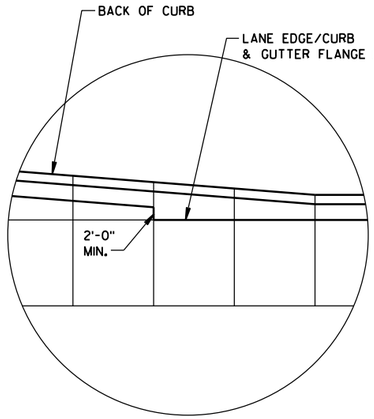
S.D.D. 13 C 11-11b

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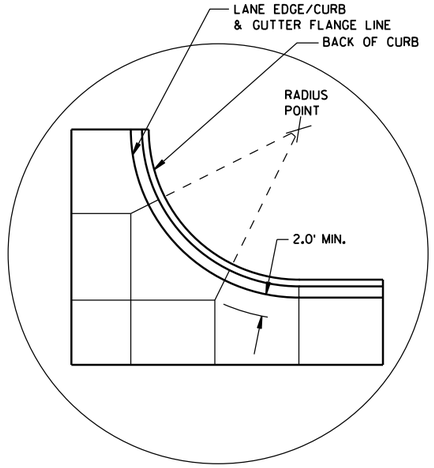
S.D.D. 13 C 11-11b



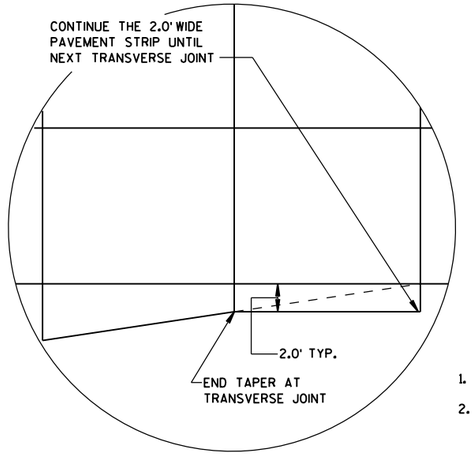
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

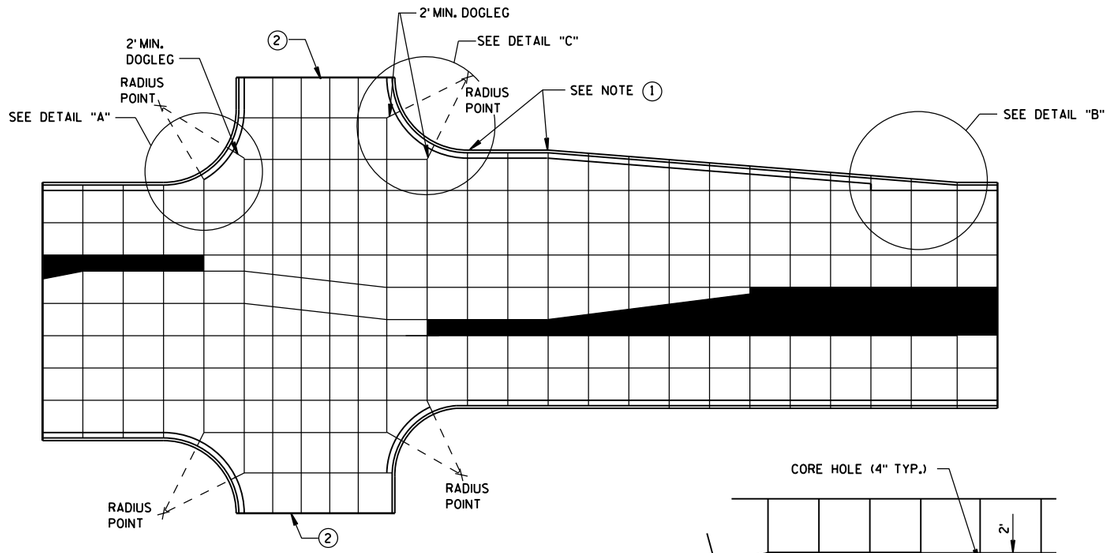
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

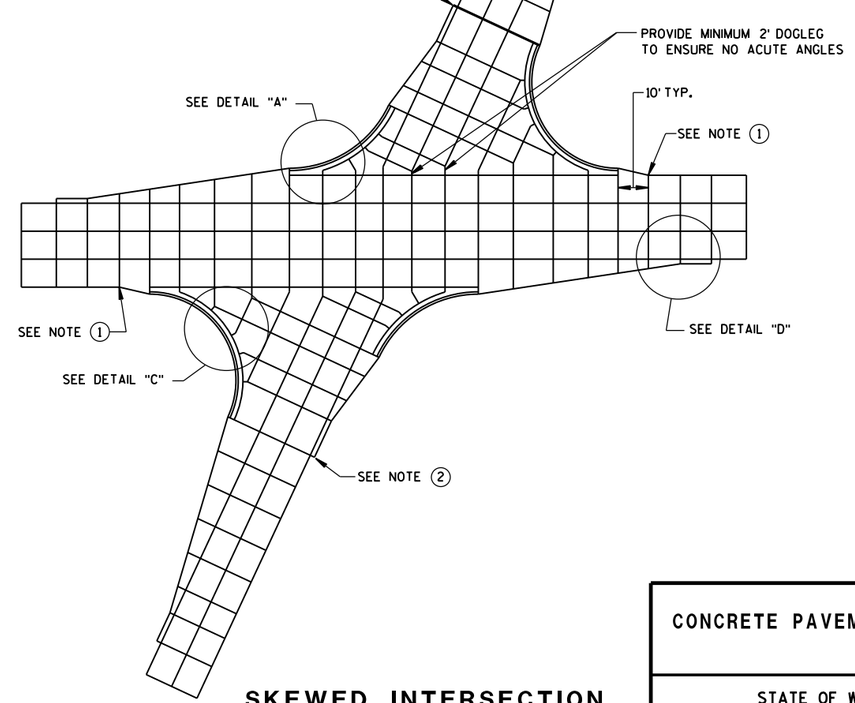
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



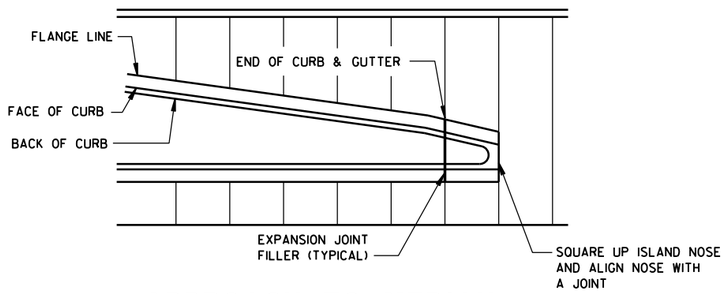
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

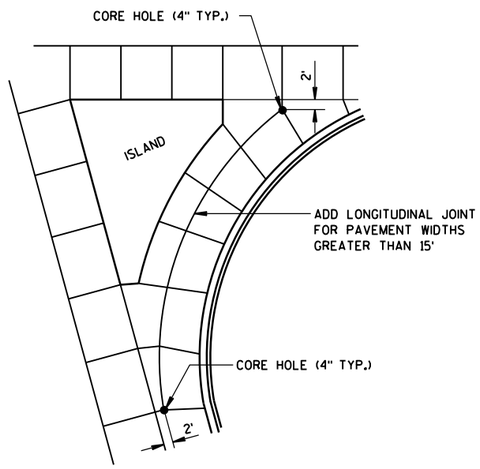
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN

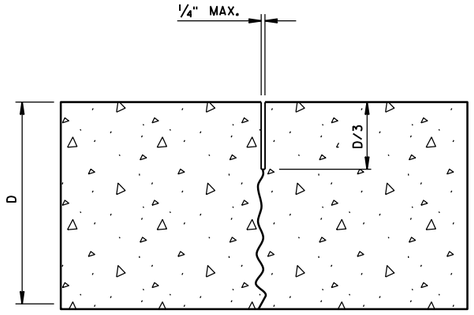


LARGE RIGHT TURN

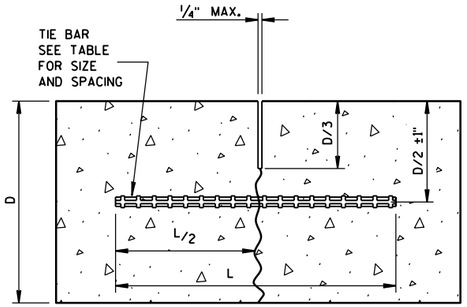
CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

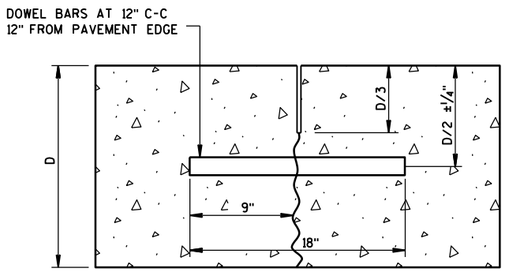
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

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

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

GENERAL NOTES

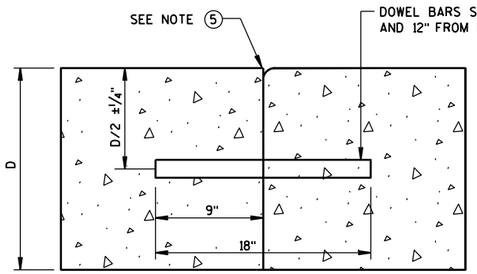
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



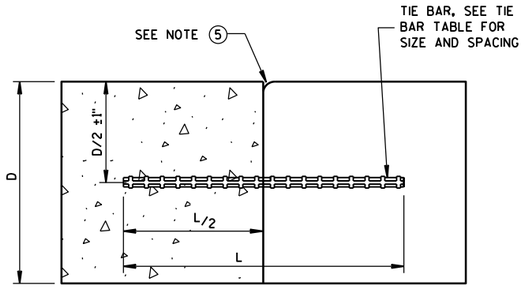
DOWELED-TRANSVERSE

CONTRACTION JOINTS

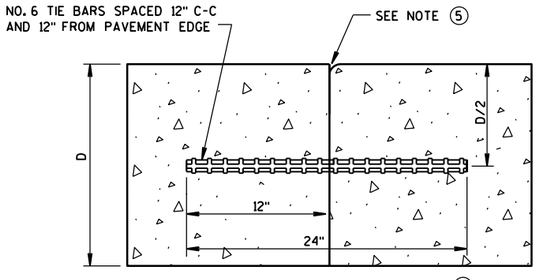
SEE NOTE (2)



DOWELED TRANSVERSE (3)

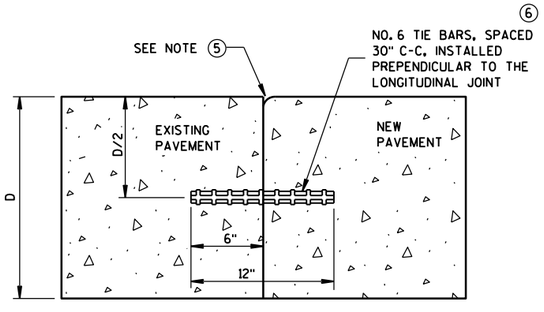


TIED LONGITUDINAL



TIED TRANSVERSE (3)

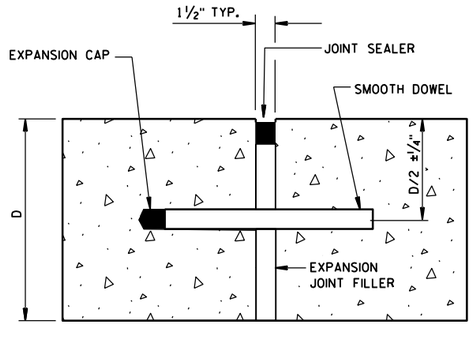
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

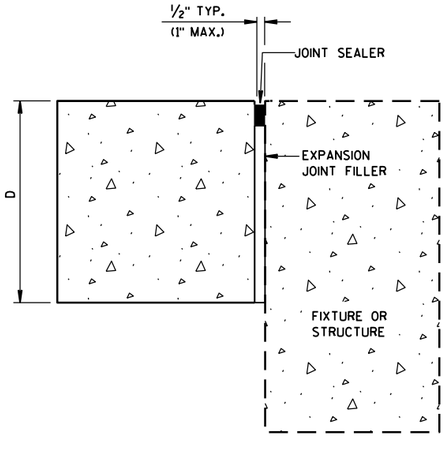
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

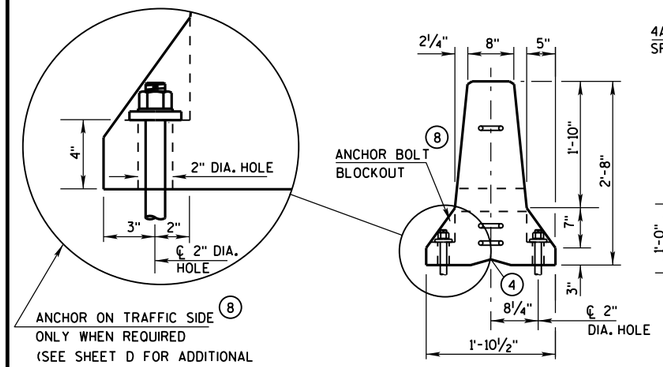
EXPANSION JOINTS

CONCRETE PAVEMENT
JOINT TYPES

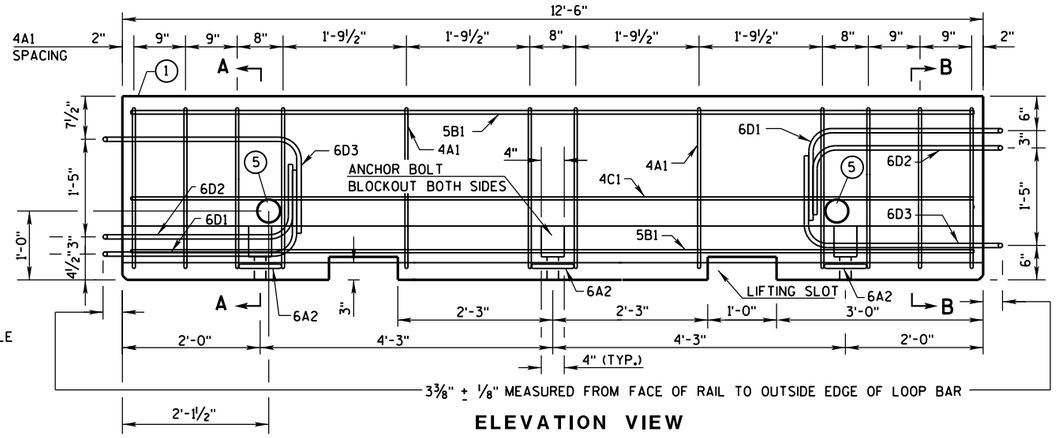
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

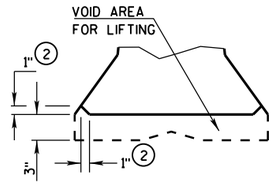
S.D.D. 13 C 18-3c



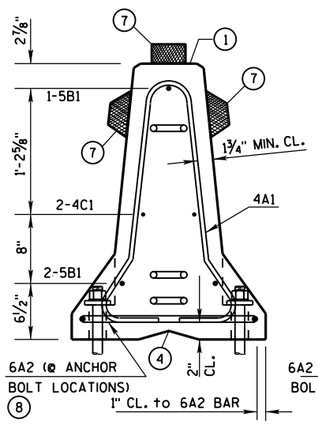
END VIEW



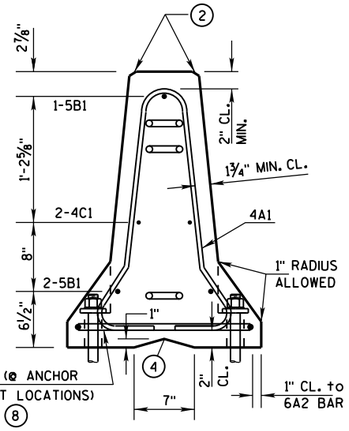
ELEVATION VIEW



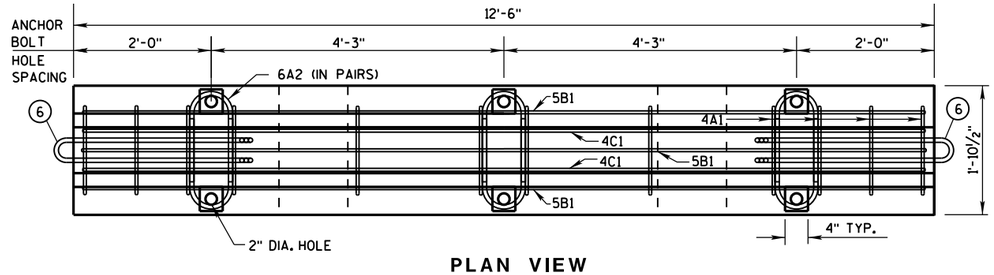
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

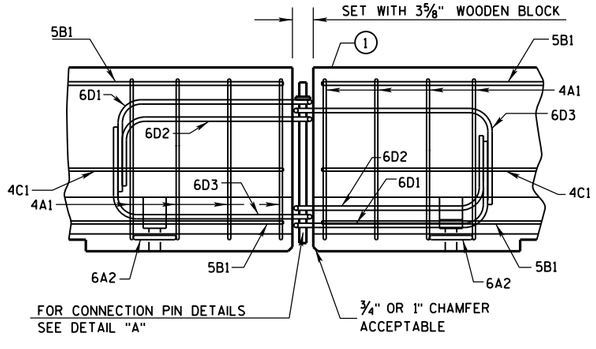


SECTION B-B
(STIRRUP PLACEMENT)

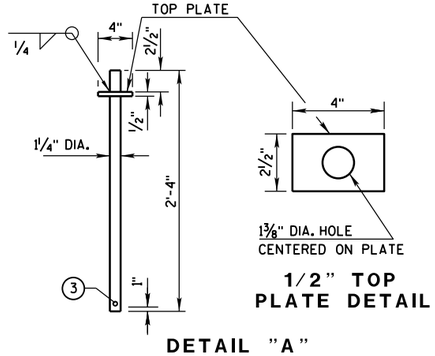


PLAN VIEW

DETAILS OF BARRIER SECTION

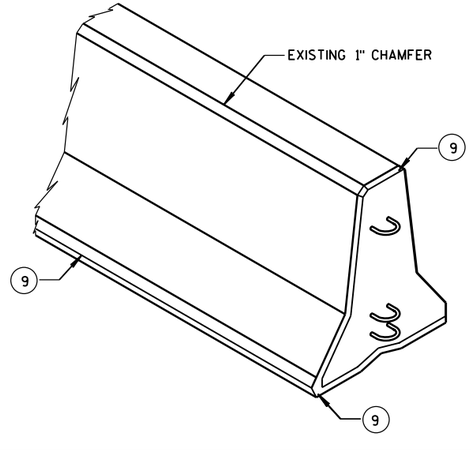


DETAILS OF BARRIER CONNECTION



1/2" TOP
PLATE DETAIL

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



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) THRU 14B7-14(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 ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

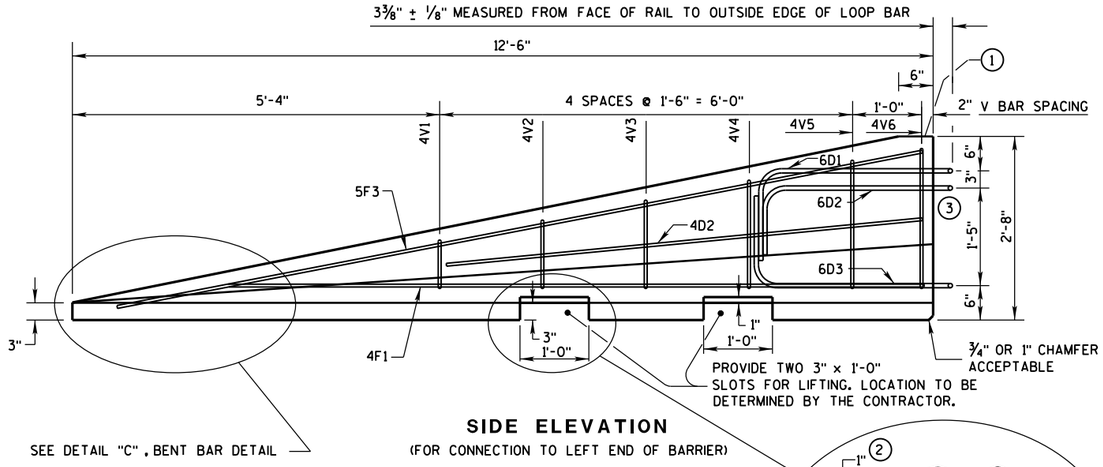
(9) 1" CHAMFER OPTIONAL.

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

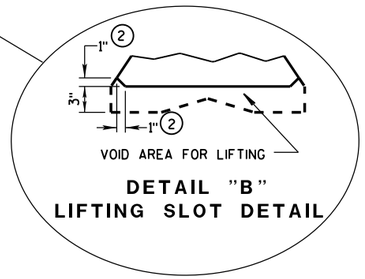
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

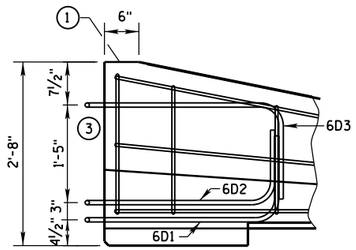
S.D.D. 14 B 7-14a



SIDE ELEVATION
(FOR CONNECTION TO LEFT END OF BARRIER)



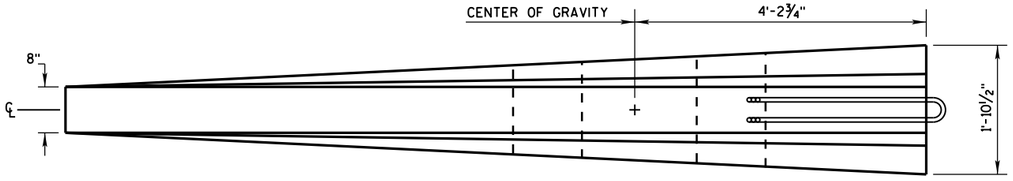
DETAIL "B"
LIFTING SLOT DETAIL



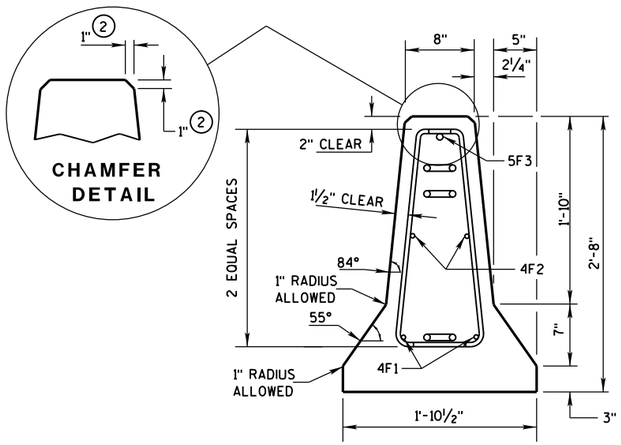
SIDE ELEVATION
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

GENERAL NOTES

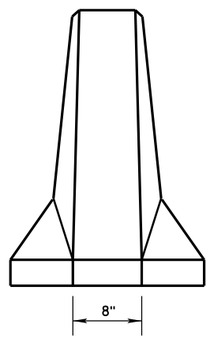
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



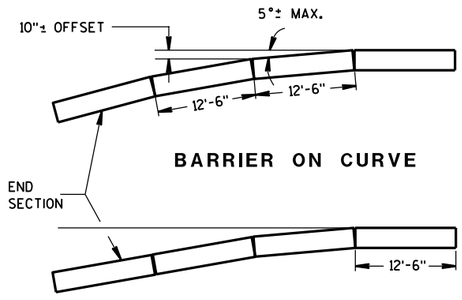
PLAN VIEW



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 TRANSPOR

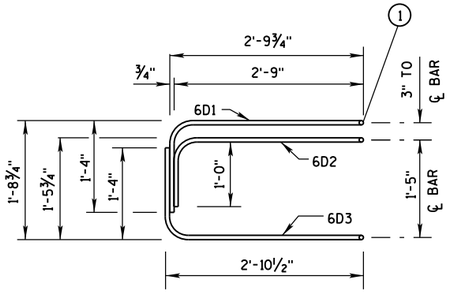
6

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

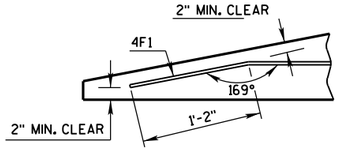
BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

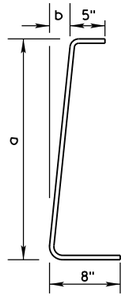
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



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

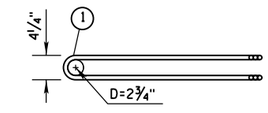
GENERAL NOTES

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

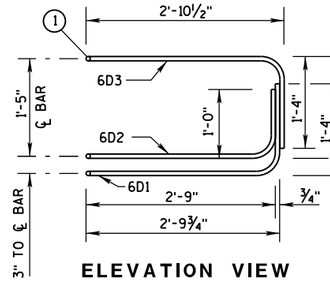
BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

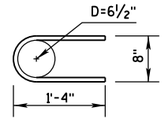
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4A1	4	12	6'-0"
6A2	6	6	2'-11"
5B1	5	3	12'-2"
4C1	4	2	12'-2"
LOOP ASSEMBLY			
6D1	6	2	8'-5"
6D2	6	2	7'-7"
6D3	6	2	8'-6"



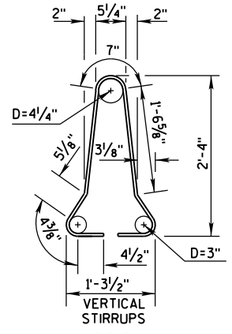
PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2



4A1

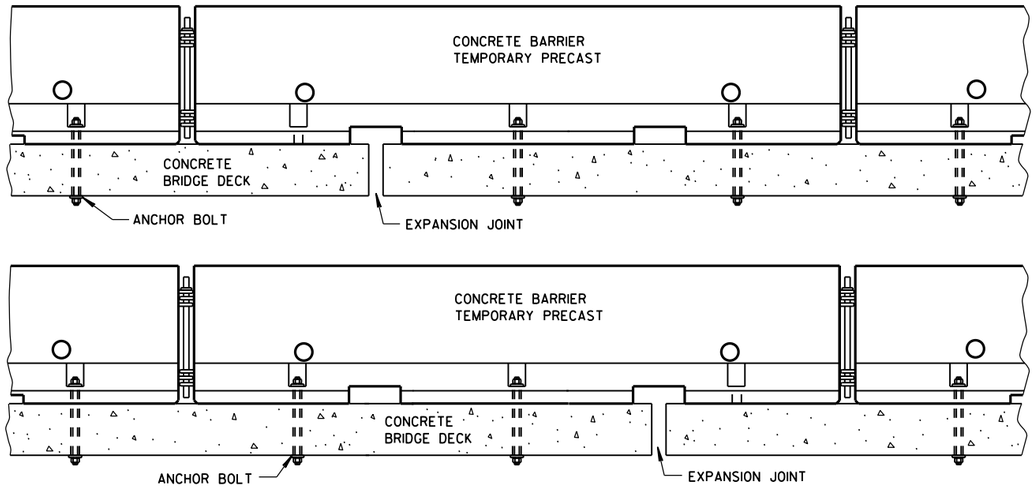
BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

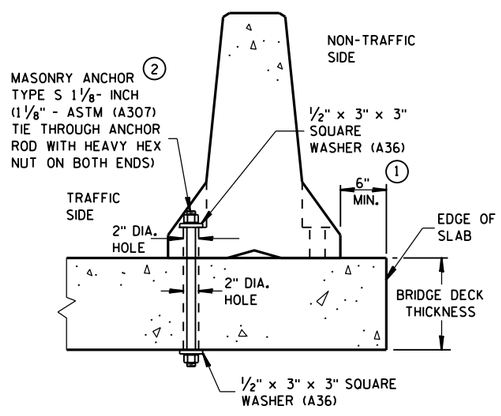
6

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



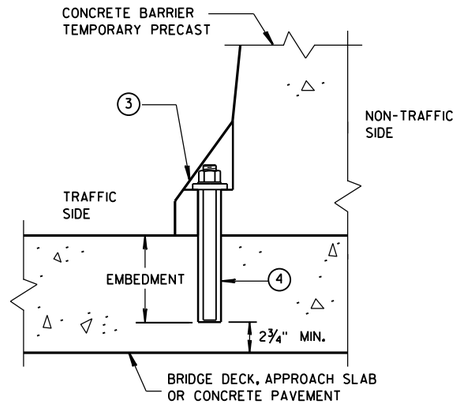
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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 ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(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.

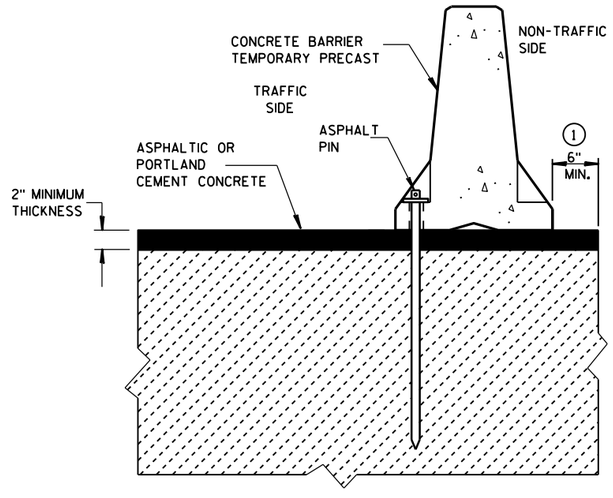
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

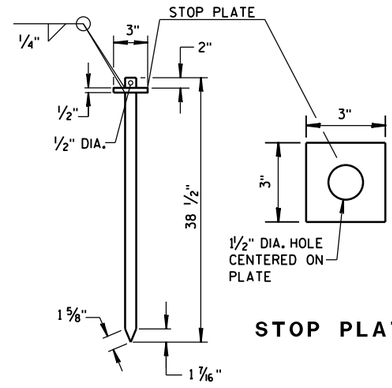
WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1⅛-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY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

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR 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 MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

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

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.



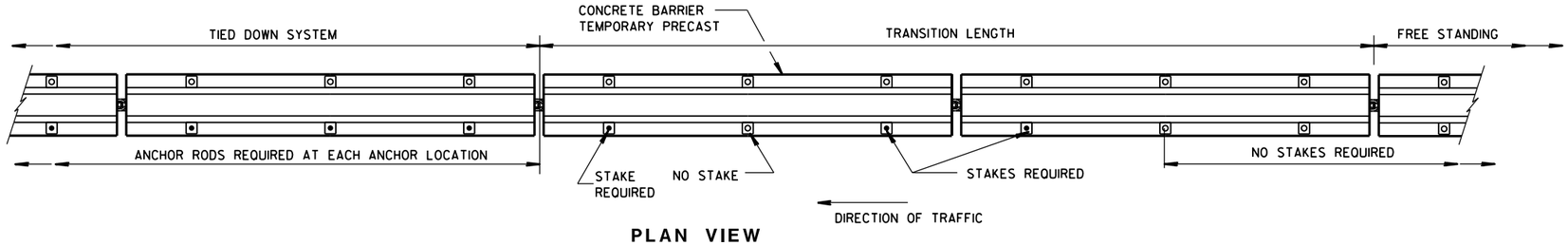


STOP PLATE

ASPHALT PIN
(ASTM A36 STEEL)

STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

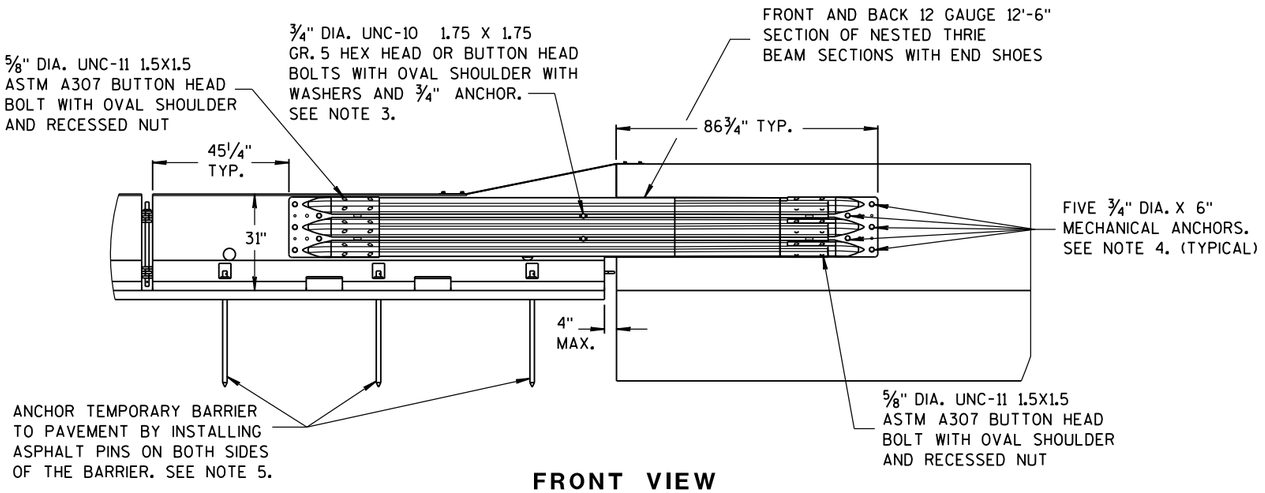
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

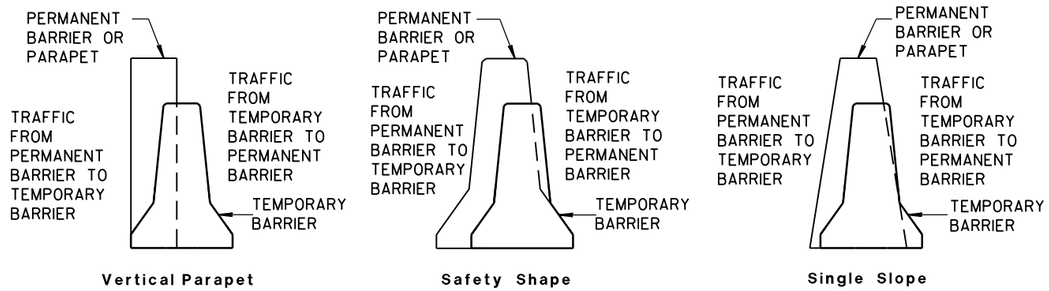
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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



FRONT VIEW

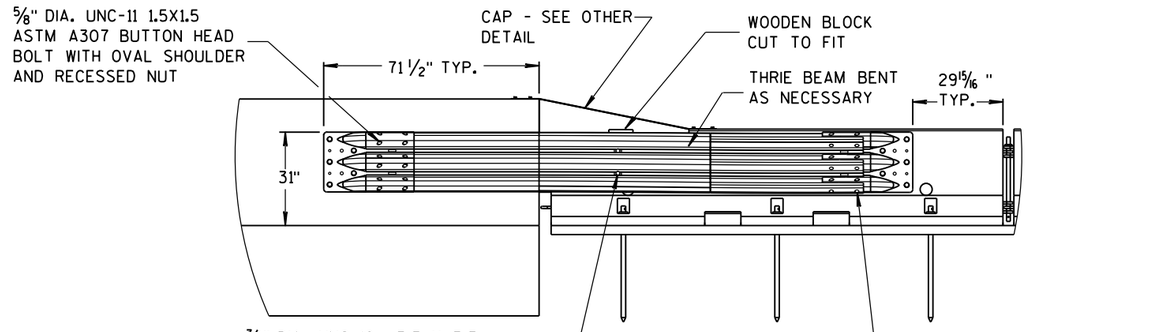


TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

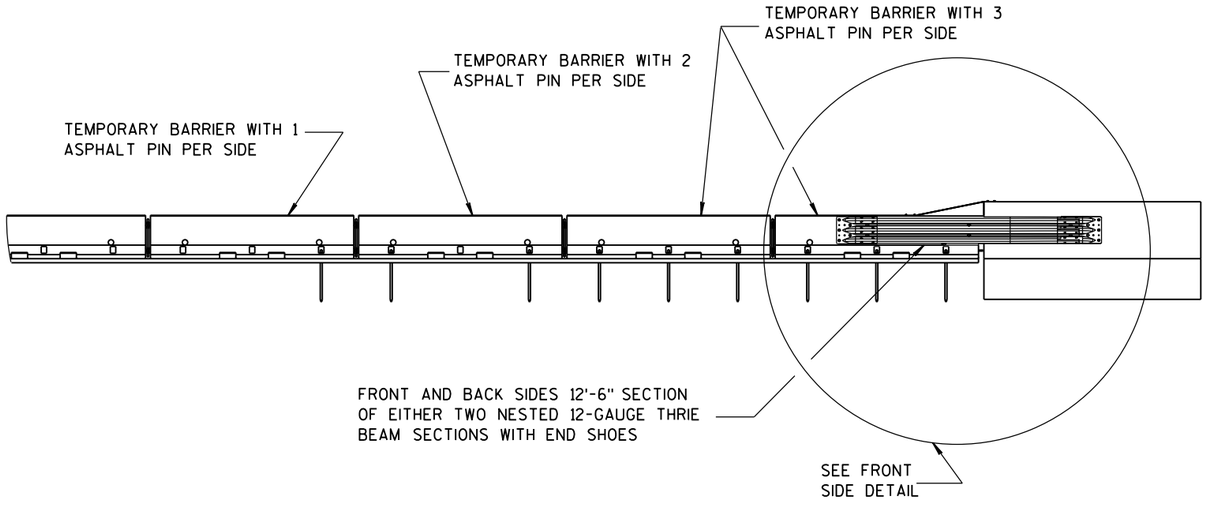
NOTES

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

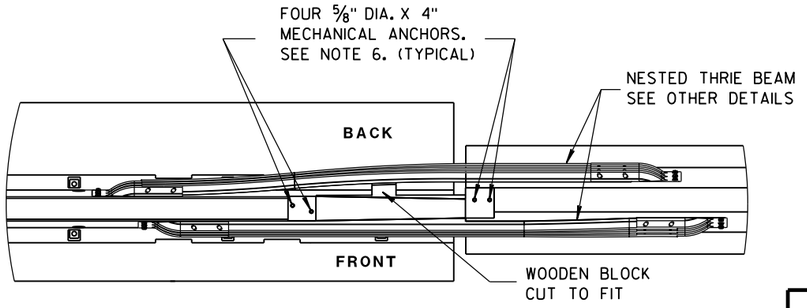
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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



BACK VIEW



FRONT VIEW



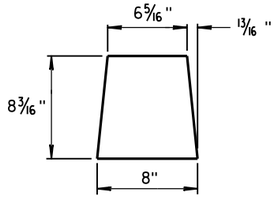
PLAN VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

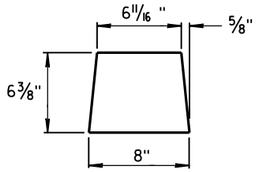
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

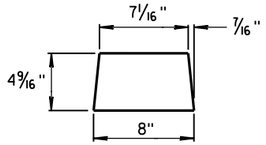
6
S.D.D. 14 B 7-14e



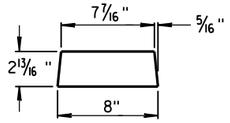
GUSSET 1



GUSSET 2

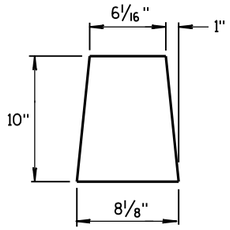


GUSSET 3

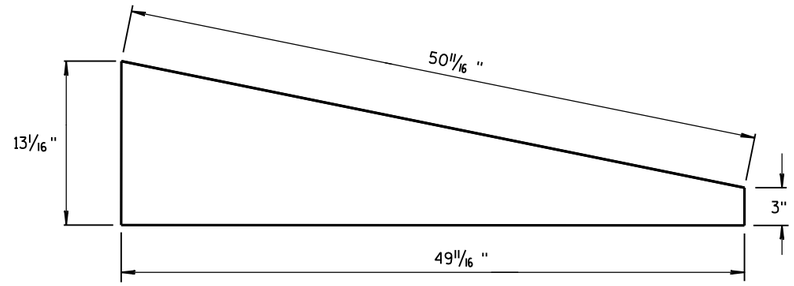


GUSSET 4

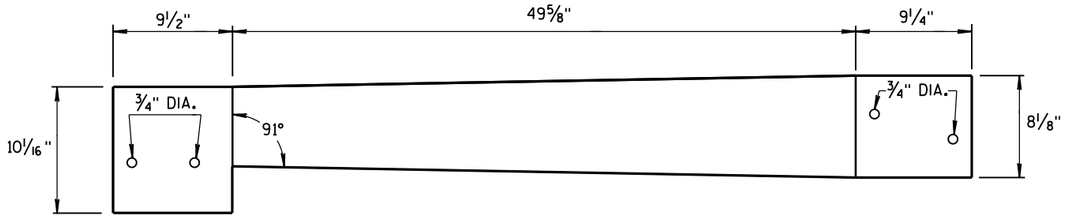
GUSSETS

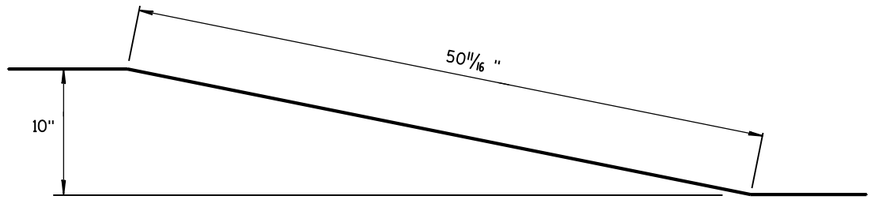


END PLATE



SIDE PLATE

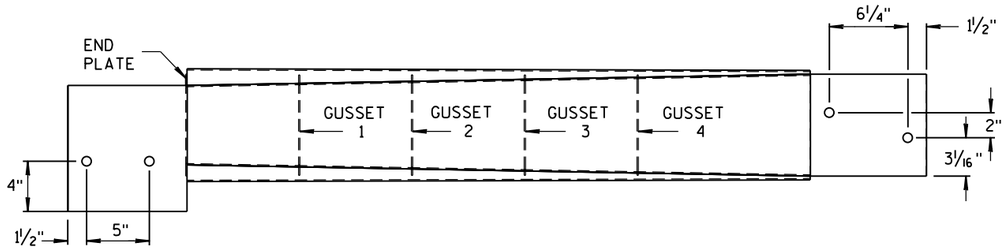


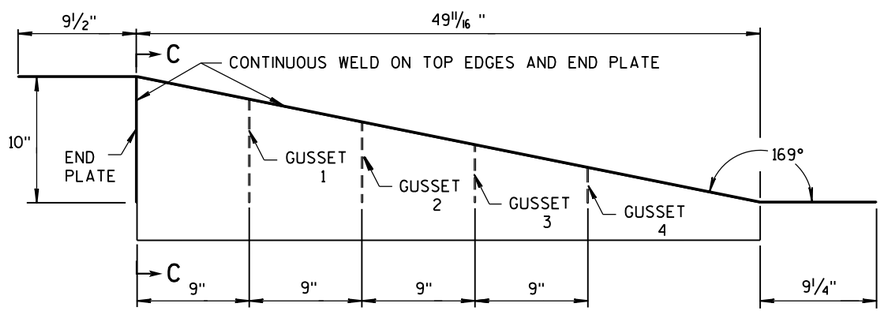


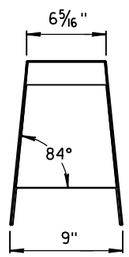
TOP PLATE

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

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







SECTION C-C

NOTES

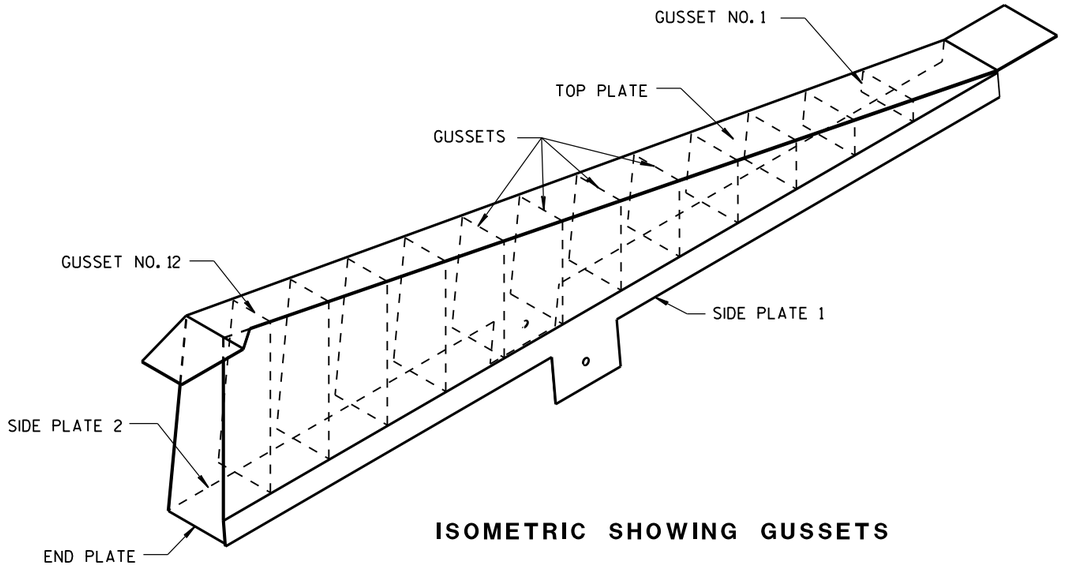
1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

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

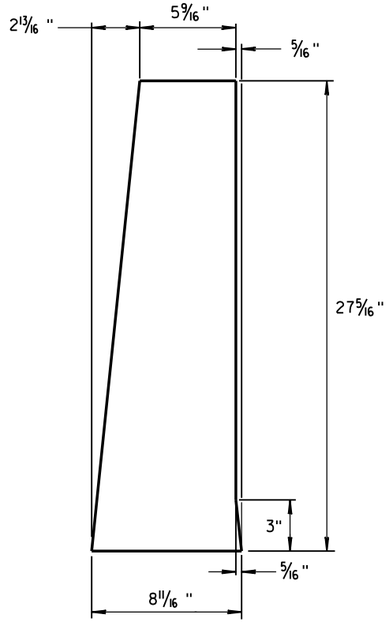
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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

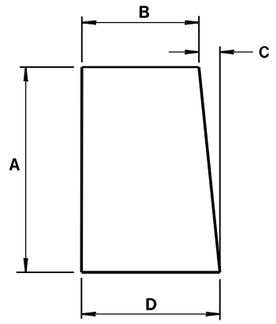


ISOMETRIC SHOWING GUSSETS



END PLATE

1/8" STEEL PLATE



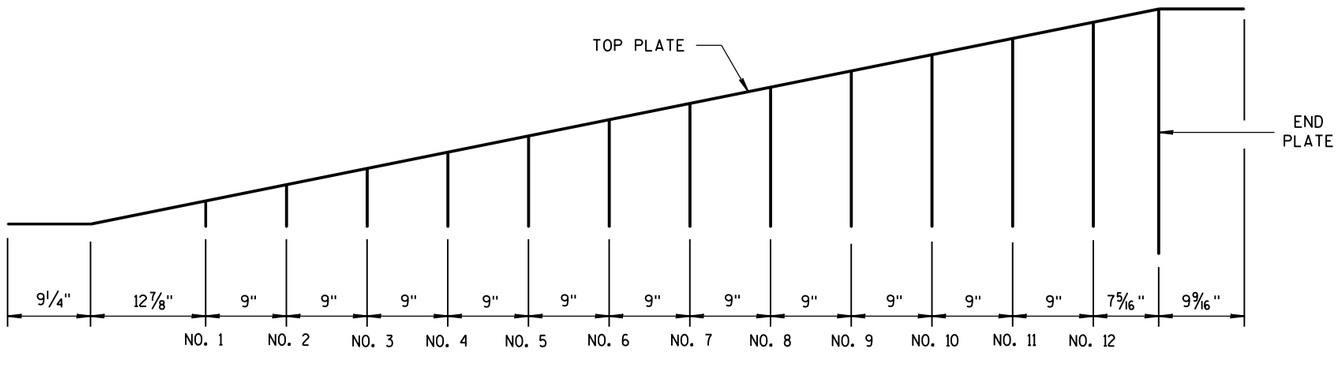
GUSSETS 1 - 12

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

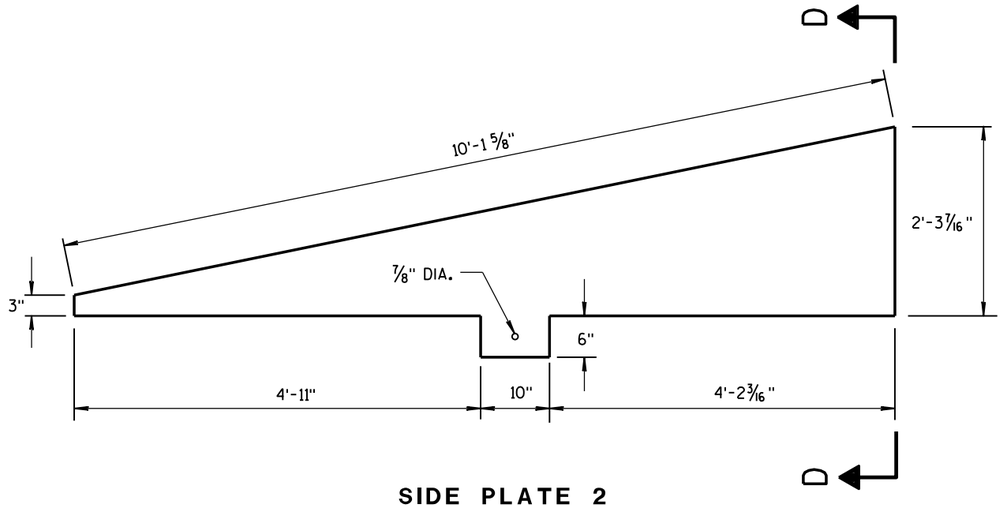
CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

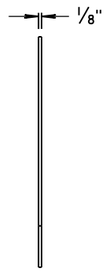
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

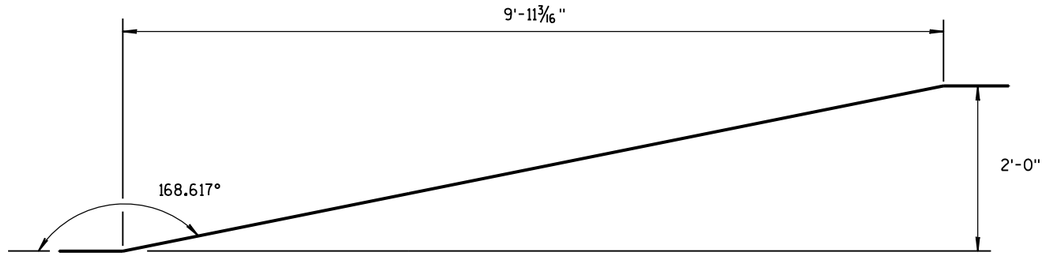
S.D.D. 14 B 7-14g



SIDE PLATE 2

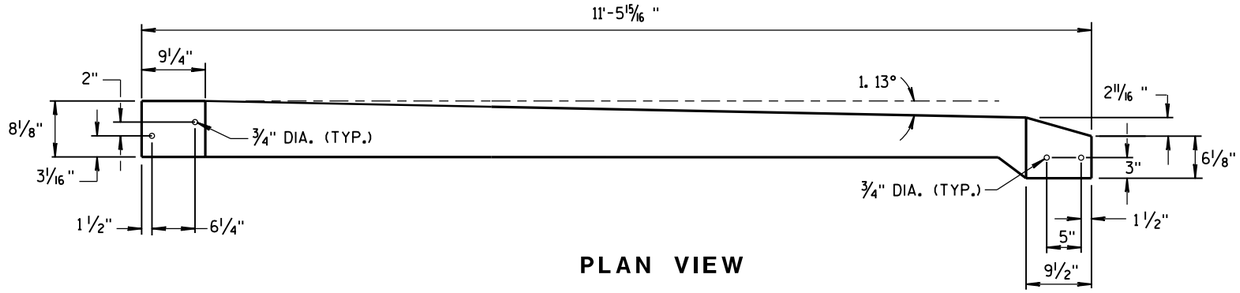


END VIEW



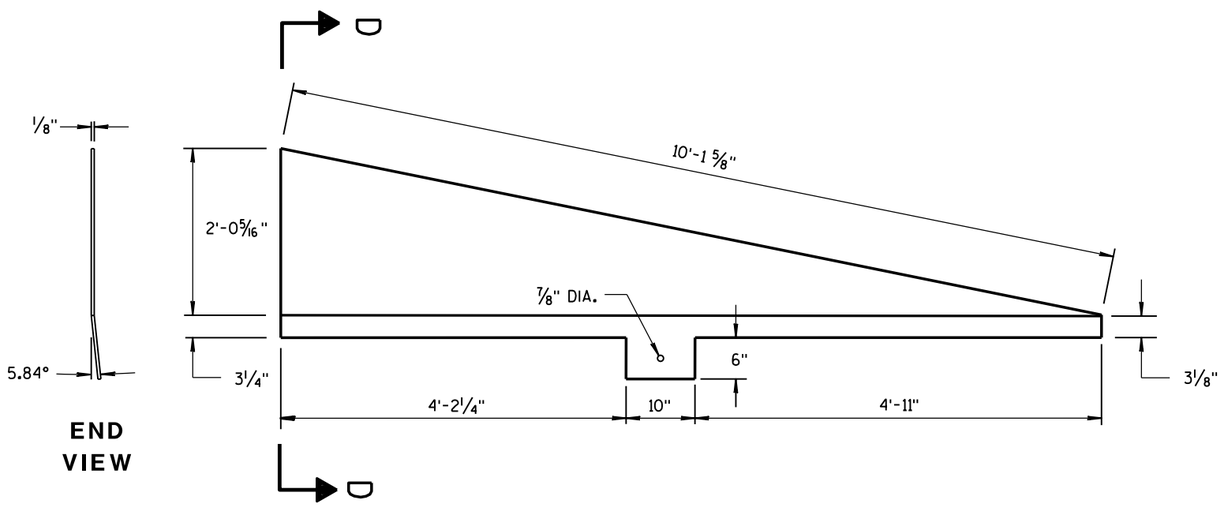
SIDE VIEW

TOP PLATE



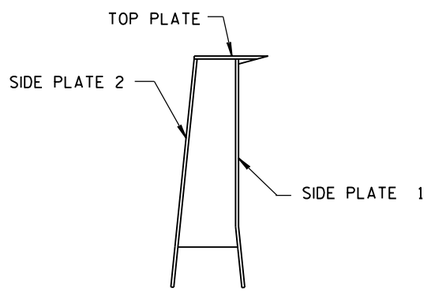
PLAN VIEW

TOP PLATE



END VIEW

SIDE PLATE 1



SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

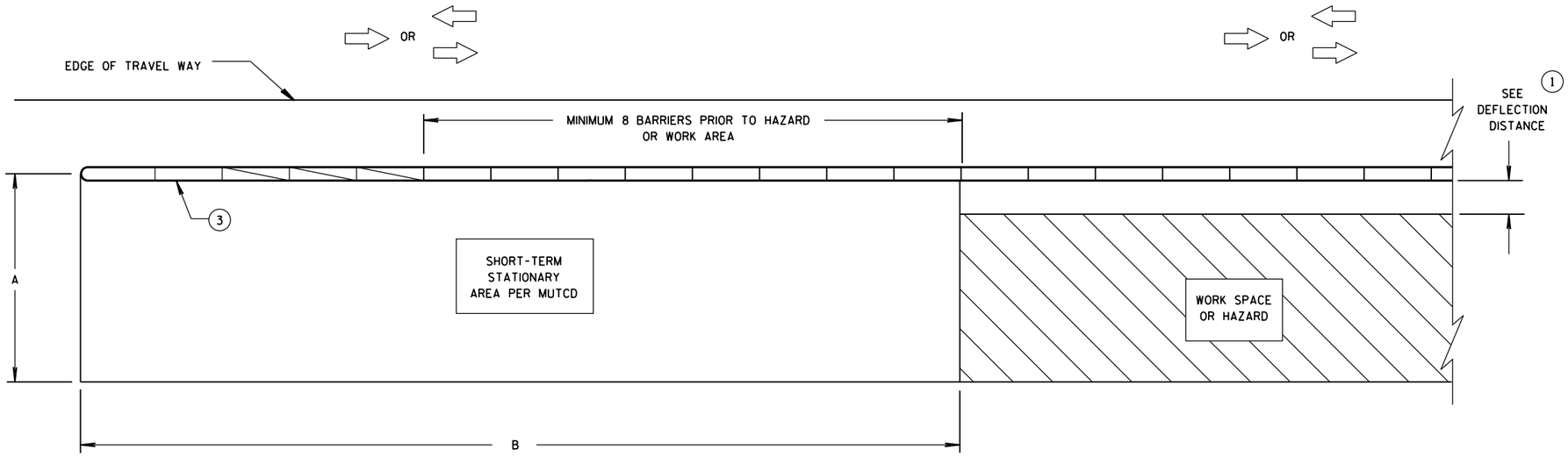
APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaa — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

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

6

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



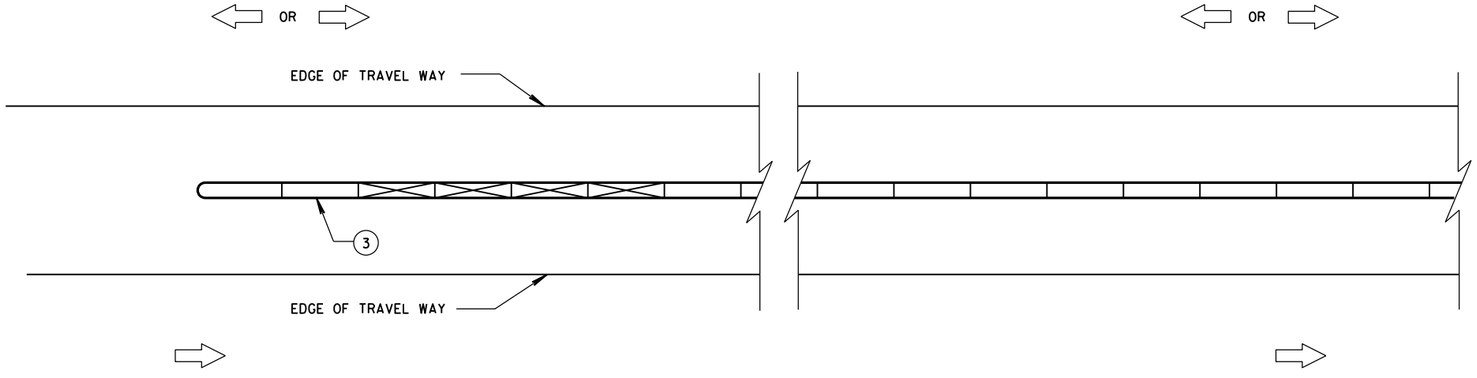
CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

DIMENSION A TABLE (2)

FACILITY	POSTED SPEED MPH	DIMENSION A	
		MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

DIMENSION B TABLE (2)

POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

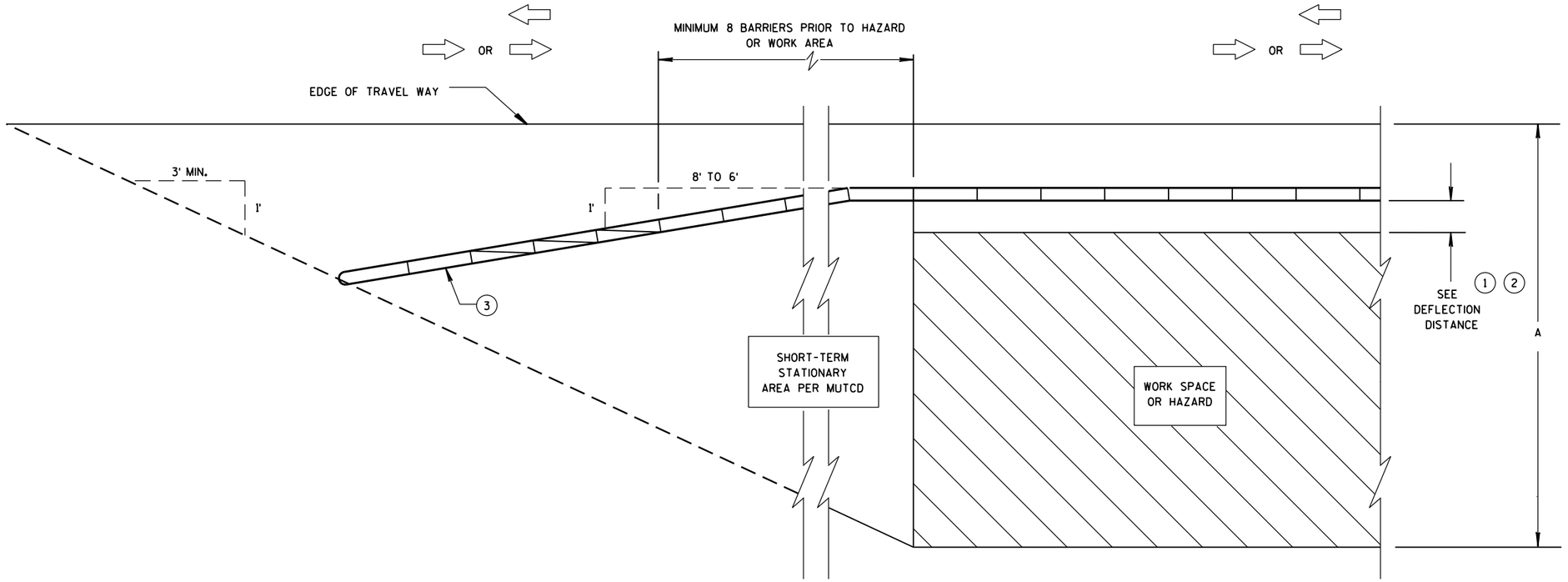
(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

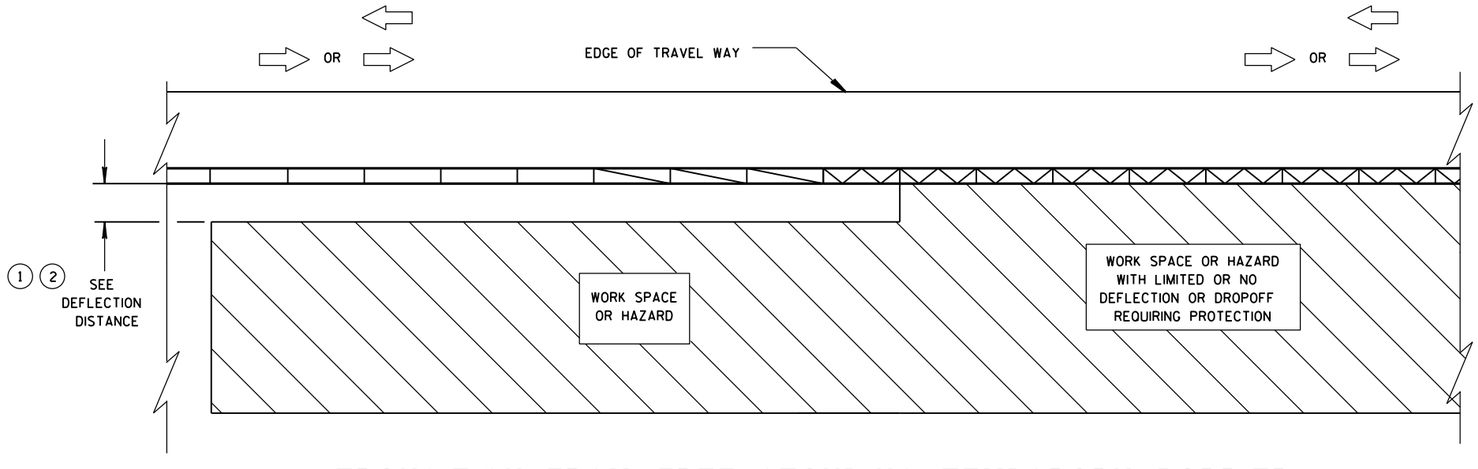
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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S.D.D. 14 B 8-2a



CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION



TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

LEGEND

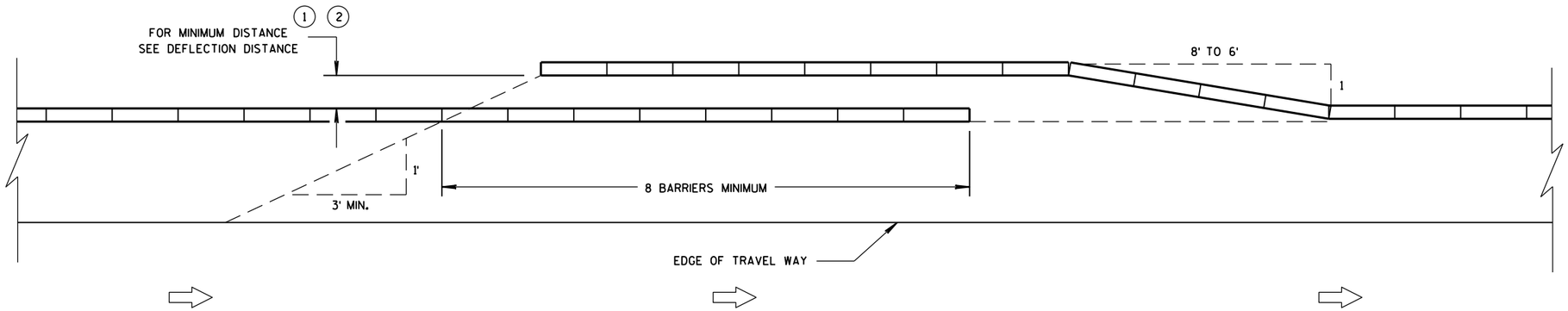
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

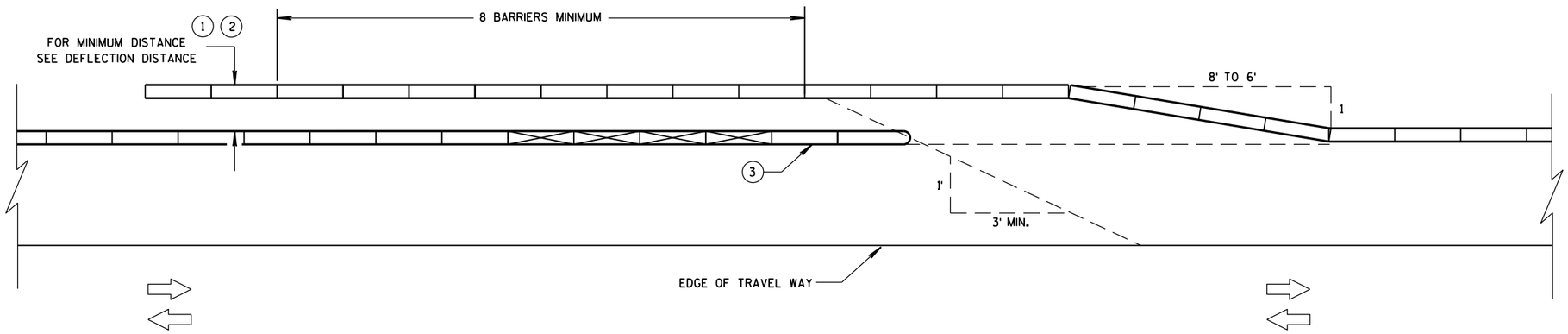
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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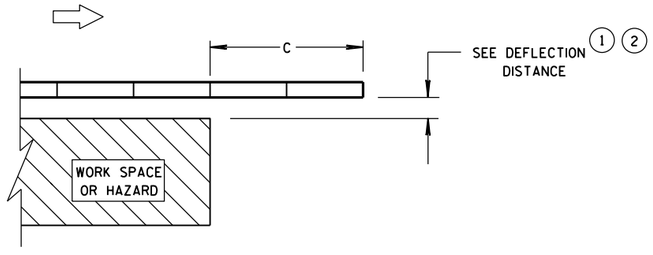
S.D.D. 14 B 8-2b



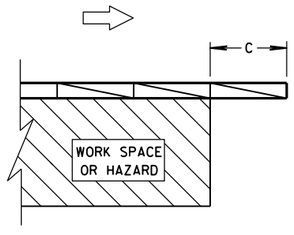
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED



ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

LEGEND

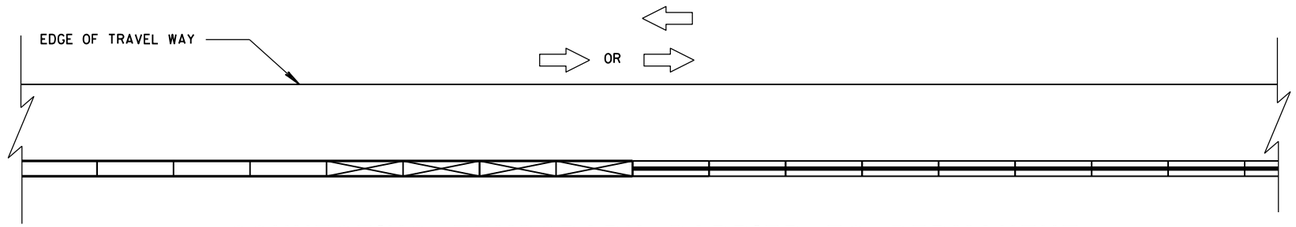
- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

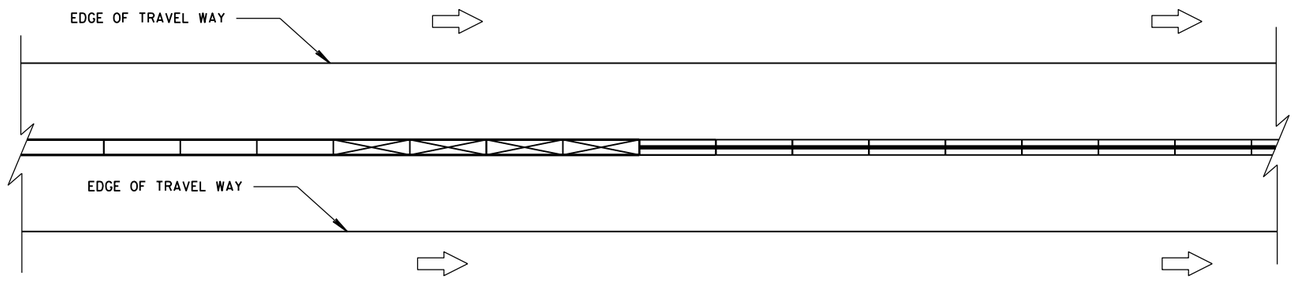
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 8-2c



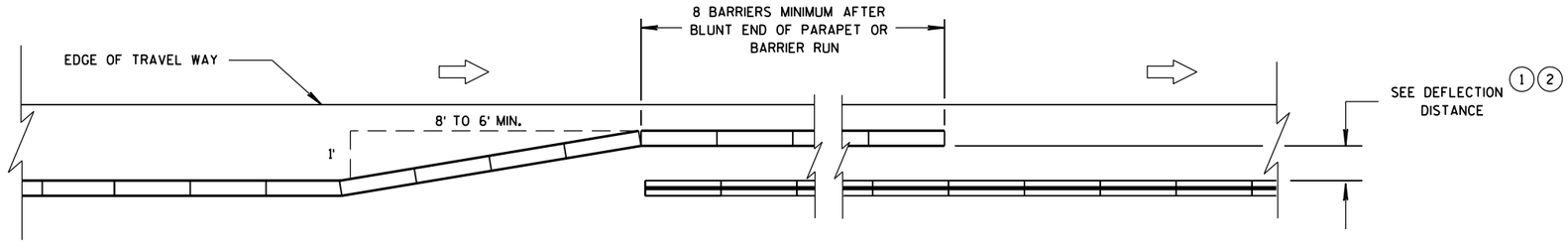
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE



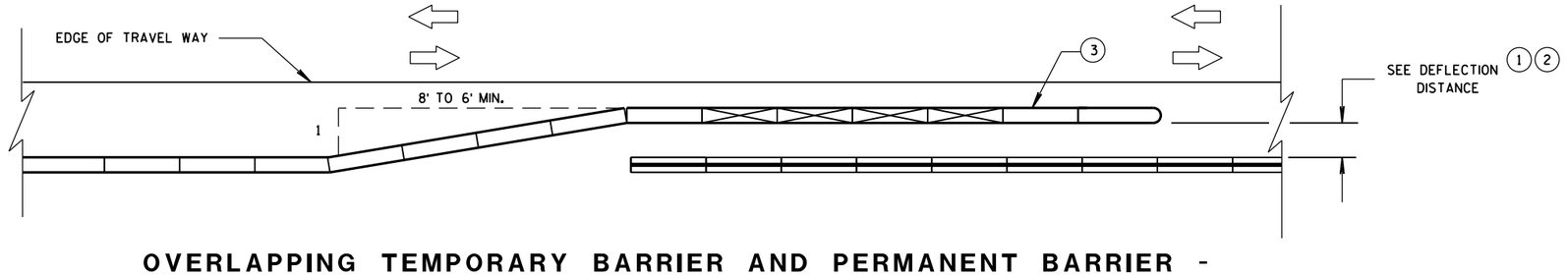
CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 8-2d

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

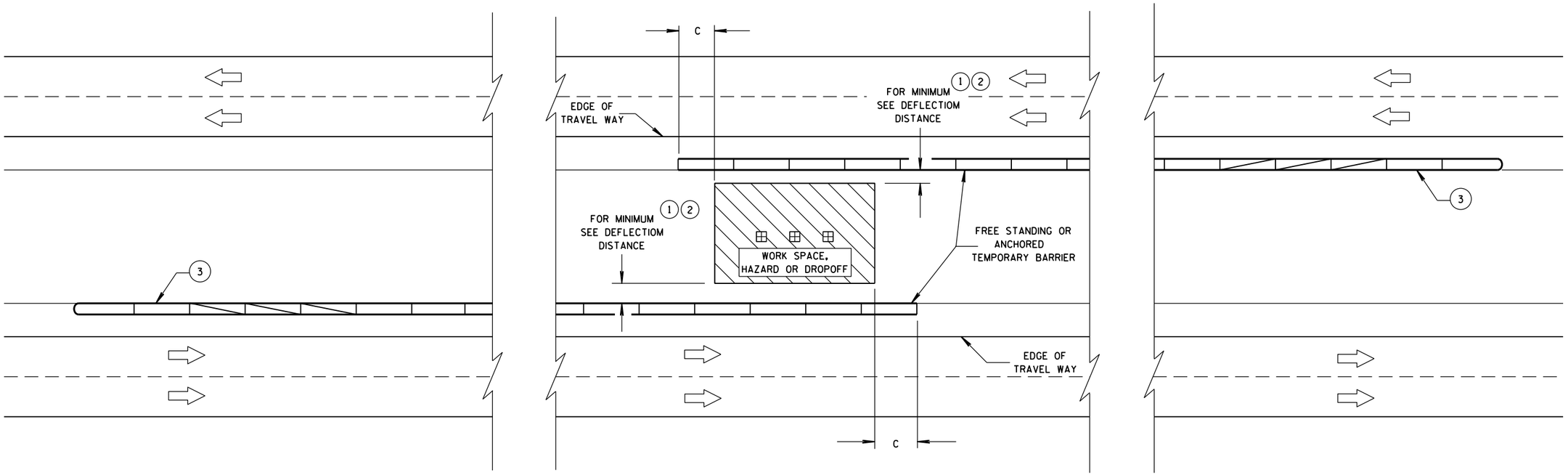
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

DIMENSION C TABLE (2)

AVAILABLE DEFLECTION DISTANCE	MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT
GREATER THAN 8'	12.5
LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4'	50
LESS THAN OR EQUAL TO 4'	100



CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

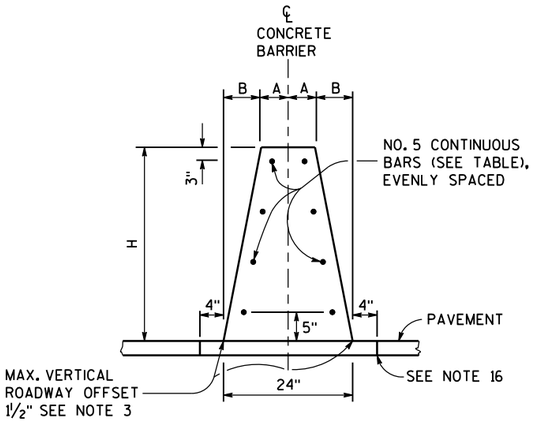
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA

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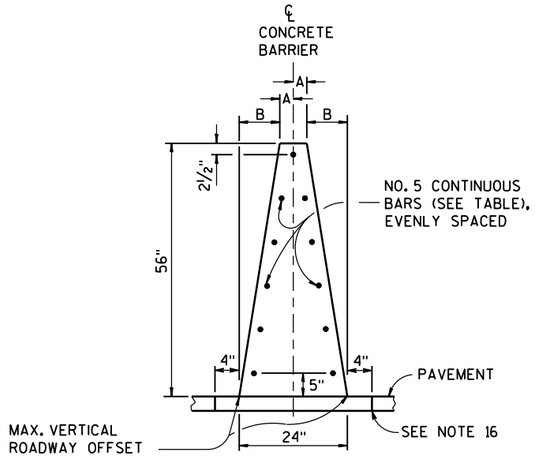
S.D.D. 14 B 8-2e

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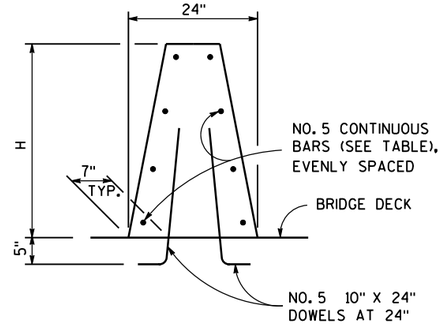
S.D.D. 14 B 8-2e



32-INCH, 36-INCH OR 42-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S32, TYPE S36, AND TYPE S42)



56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



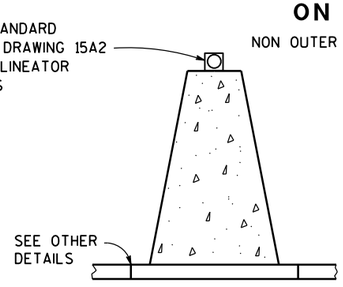
SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

GENERAL NOTES

1. WHERE THE CONCRETE BARRIER IS ADDED TO THE FACE OF EXISTING CONCRETE STRUCTURE, MATCH EXISTING WEEP HOLES.
2. EXPANSION JOINTS IN CONCRETE BARRIER SHALL BE LOCATED AT ALL DECK, AND PRINCIPAL WALL JOINTS. EXPANSION JOINT FILLER MATERIAL SHALL BE THE SAME SIZE AS JOINT OR ½" MINIMUM.
3. WHERE VERTICAL ROADWAY OFFSET IS GREATER THAN 1½", USE TYPE A
4. PLACE BARRIER PERPENDICULAR TO SHOULDER GRADE, UNLESS INDICATED IN PLAN.
5. EXCEPT IN ANCHORS, VERTICAL REINFORCING STIRRUP NOT REQUIRED FOR ROADWAY OFFSETS LESS THAN 1'-0".
6. FOR TYPE S32, TYPE S36, TYPE S42, AND S56 MONOLITHIC FOOTING OR DOWELED FOOTING WITH 2-#8 x 8" @ 2'-0".
7. STAGGER LAPPING OF LONGITUDINAL STEEL. MINIMUM OVERLAP OF STEEL 2 FEET. BARS AT LAPS TO BE FIRMLY TIED OR CONNECTED.
8. 4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATION 501.
9. WHEN SWITCHING BETWEEN SLIP FORM AND CAST-IN-PLACE OPERATIONS, EXTEND LONGITUDINAL STEEL 3 FEET BEYOND SLIP-FORMING CUT OFF POINT. EXPOSED STEEL INTO NEXT POURS REINFORCEMENT. LAPS TO BE FIRMLY TIED.
10. USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS OTHERWISE NOTED.
11. 2" CLEAR COVER TYPICAL.
12. COLD-JOINTS MAY BE USED BETWEEN ANCHOR INSTALLATIONS. WHEN A COLD JOINT IS NEEDED, 3 FEET OF LAP OF LONGITUDINAL STEEL IS REQUIRED. LAPS TO BE FIRMLY TIED.
13. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 NO ADDITIONAL VERTICAL STEEL NEEDED. IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A REQUIRES VERTICAL STEEL. SEE OTHER DETAIL.
14. IN TYPE S32, TYPE S36, TYPE S42 AND TYPE S56 DEPTH OF FOOTING 10". IN TYPE S32A, TYPE S36A, TYPE S42A AND TYPE S56A MATCH TOTAL HEIGHT OF SINGLE SLOPE BARRIER RETAINING WALL.
15. FOR ALL BARRIER TYPES SHOWN, ANCHOR IS REQUIRED AT CONCRETE BARRIER ENDS AND AT INTERRUPTIONS IN CONCRETE BARRIER. ANCHOR MAY BE AS SHOWN ON DRAWING OR DETAILS SHOWN ON S.D.D. 14B33. ANCHORS INCIDENTAL TO CBSS.
16. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.

BARRIER HEIGHT H INCHES	A INCHES	B INCHES	NUMBER OF NO. 5 BARS EACH
32	7	5	8
36	6¼	5¾	8
42	5¼	6¾	10
56	3	9	11



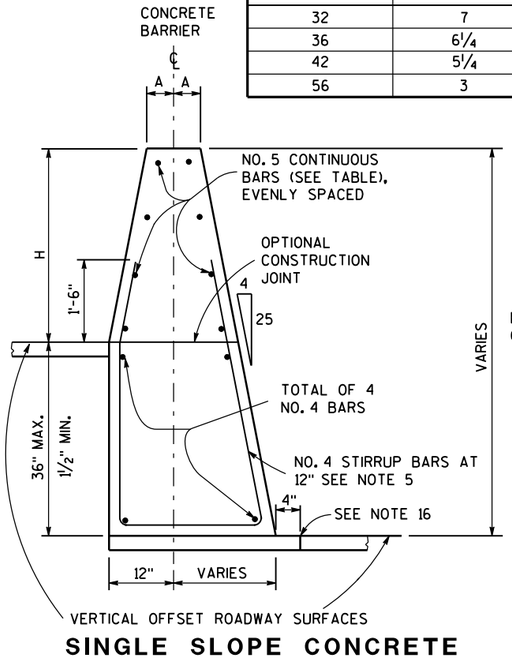
DELINEATION

DELINEATOR SPACING ON HORIZONTAL CURVES

RADIUS OF CURVE	APPROXIMATE SPACING ON CURVE
50 FEET	20 FEET
115 FEET	25 FEET
180 FEET	35 FEET
250 FEET	40 FEET
300 FEET	50 FEET
400 FEET	55 FEET
500 FEET	65 FEET
600 FEET	70 FEET
700 FEET	75 FEET
800 FEET	80 FEET
900 FEET	85 FEET
1000 FEET	90 FEET

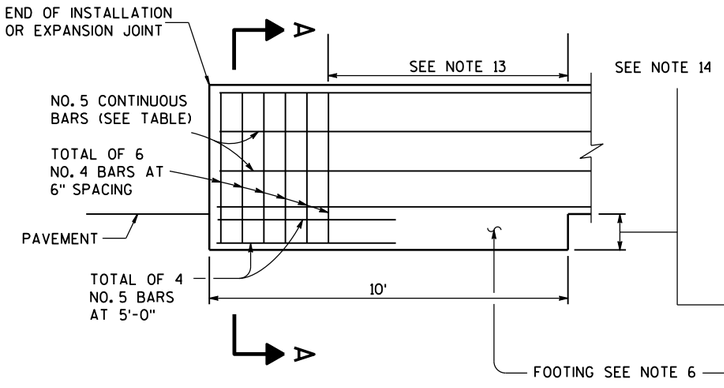
DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

	LENGTH OF BARRIER	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	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2	



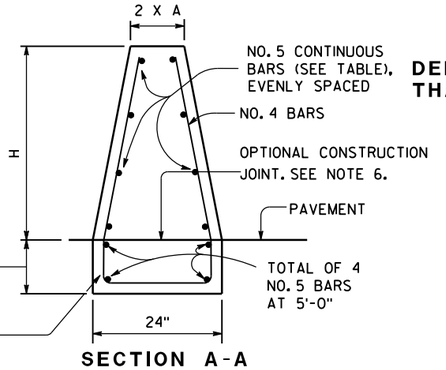
SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)



END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT



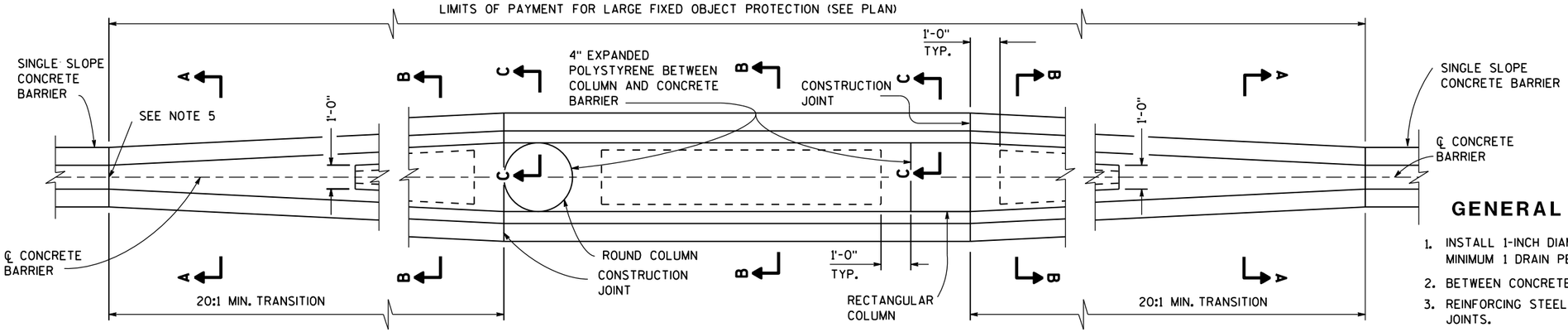
SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

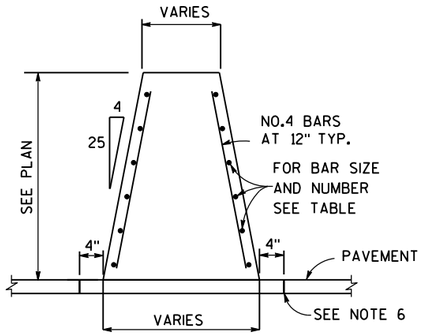
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

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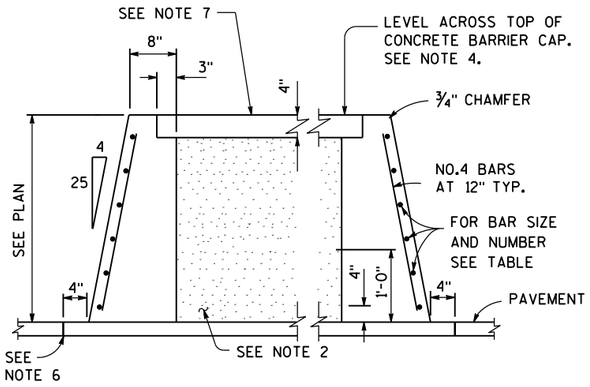
S.D.D. 14 B 32-4a



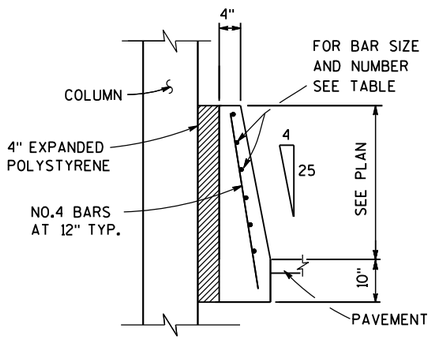
LARGE FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56



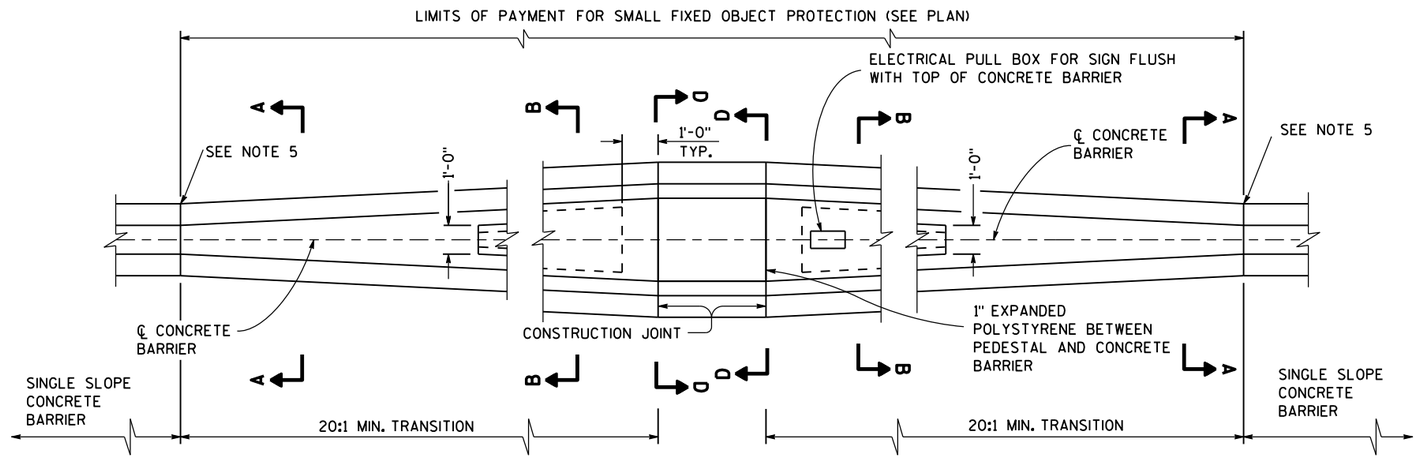
SECTION A-A



SECTION B-B



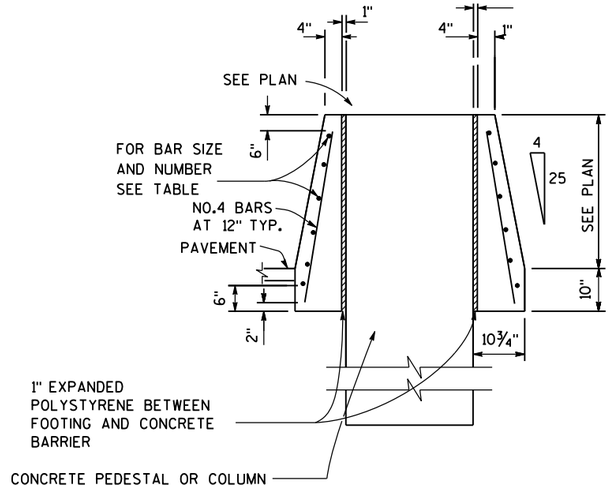
SECTION C-C



SMALL FIXED OBJECTS PROTECTION
TYPE S32, TYPE S36, TYPE S42, TYPE S56

GENERAL NOTES

1. INSTALL 1-INCH DIAMETER DRAIN PIPE EVERY 20 FEET OF CROSS SECTION B-B. MINIMUM 1 DRAIN PER CAVITY.
2. BETWEEN CONCRETE BARRIER WALLS FILL WITH FOUNDATION BACKFILL.
3. REINFORCING STEEL SHALL EXTEND CONTINUOUS THROUGH CONSTRUCTION JOINTS.
4. ADJUST HEIGHT OF CONCRETE BARRIER WALL ON LOW SIDE OF OFFSET OR SUPERELEVATED ROADWAYS TO PROVIDE LEVEL GRADE ACROSS TOP OF CONCRETE CAP.
5. IF FIXED OBJECT PROTECTION IS INSTALLED FIRST, USE COLD JOINTS. IF CBSS PLACED FIRST, USE EXPANSION JOINT.
6. CONCRETE PAD UNDER CBSS MAY BE PLACED INTEGRAL WITH BARRIER, PLACED SEPARATELY OR PLACED WITH CONCRETE SHOULDER AND SAWED FULL DEPTH. SAWING OF CONCRETE SHOULDER IS INCIDENTAL TO CONCRETE BARRIER BID ITEM. CONCRETE PAD MINIMUM DEPTH IS 6 INCHES, OR EQUAL TO THE DEPTH OF THE CONCRETE SHOULDER.
7. USE NO. 3 BAR SPACED 12 INCHES CENTER TO CENTER (PLACED IN EACH DIRECTION) OR EQUIVALENT WIRE MESH.



SECTION D-D

BARRIER HEIGHT H INCHES	BAR SIZE	NUMBER OF BARS EACH
32	4	6
36	4	6
42	5	6
56	5	9

CONCRETE BARRIER SINGLE SLOPE (CBSS)

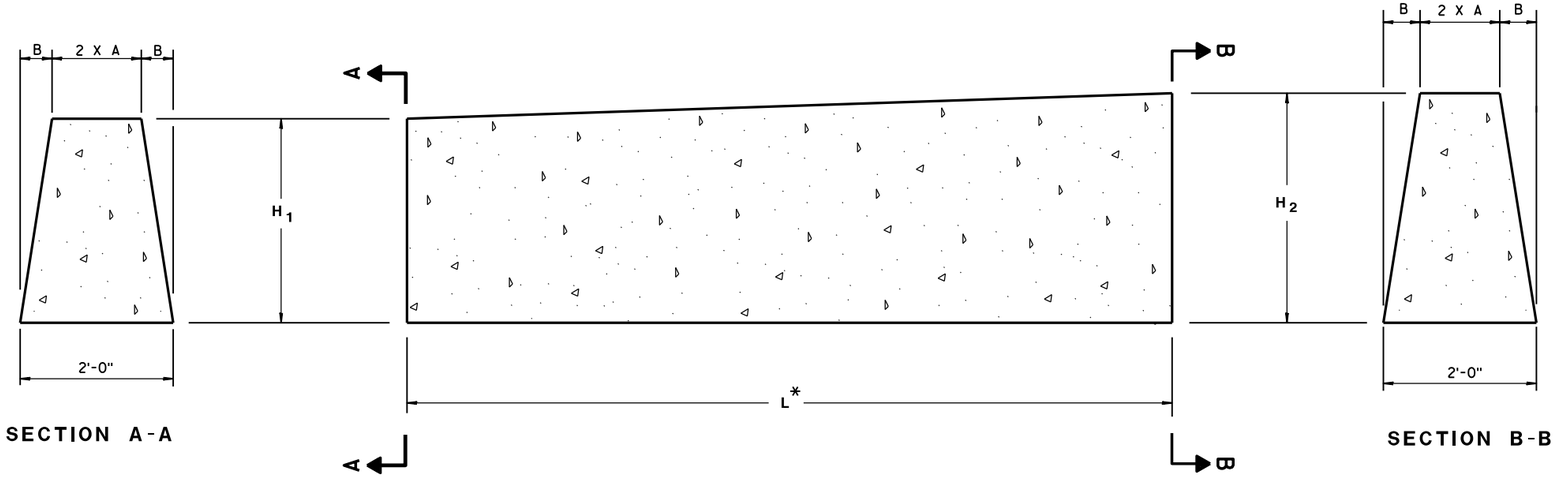
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI 77

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S.D.D. 14 B 32-4b

6

S.D.D. 14 B 32-4b



SECTION A-A

SECTION B-B

DOUBLE COLD JOINT HEIGHT TRANSITION

BARRIER DIMENSIONS

BARRIER HEIGHT INCHES	A INCHES	B INCHES
32	7	5
36	6 1/4	5 3/4
42	5 1/4	6 3/4
56	3	9

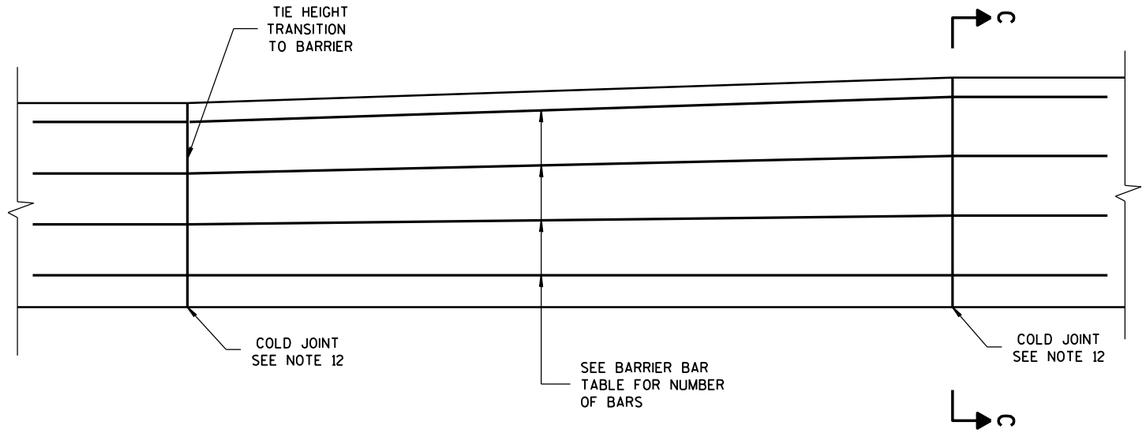
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

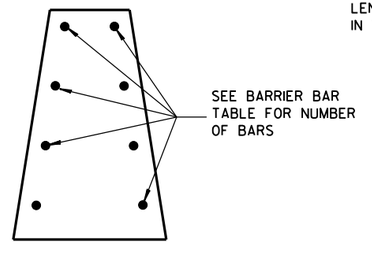
BARRIER BARS

H_1	H_2	L*	NUMBER OF NO. 5 BARS
32"	36"	10'-0"	8
36"	42"	10'-6"	10
42"	56"	24'-6"	11

* LENGTH OF DOUBLE COLD JOINT INCLUDED IN THE TOTAL LENGTH OF CBSS.



STEEL REINFORCEMENT DETAIL



SECTION C-C

CONCRETE BARRIER SINGLE SLOPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

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

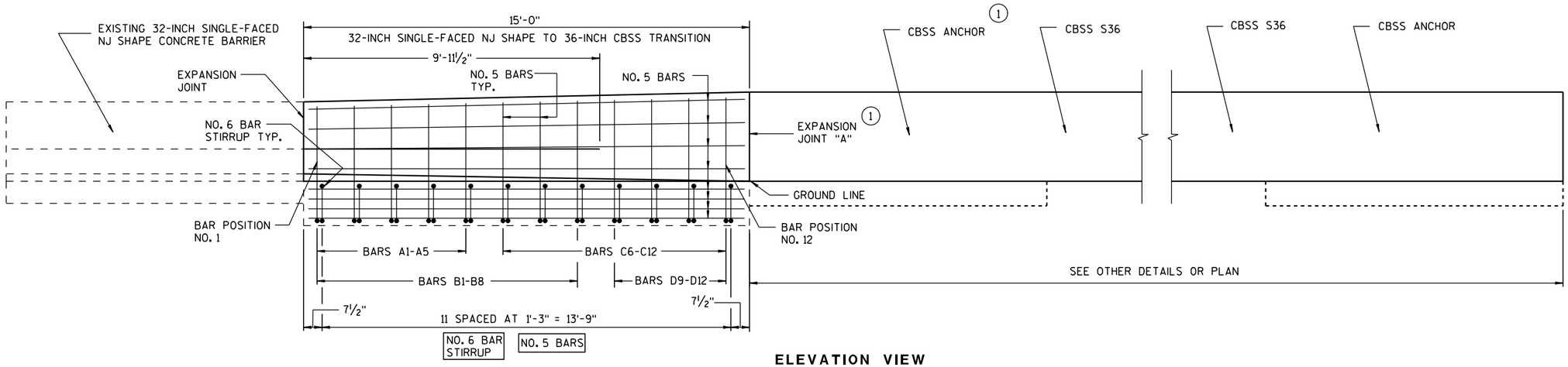
FHWA

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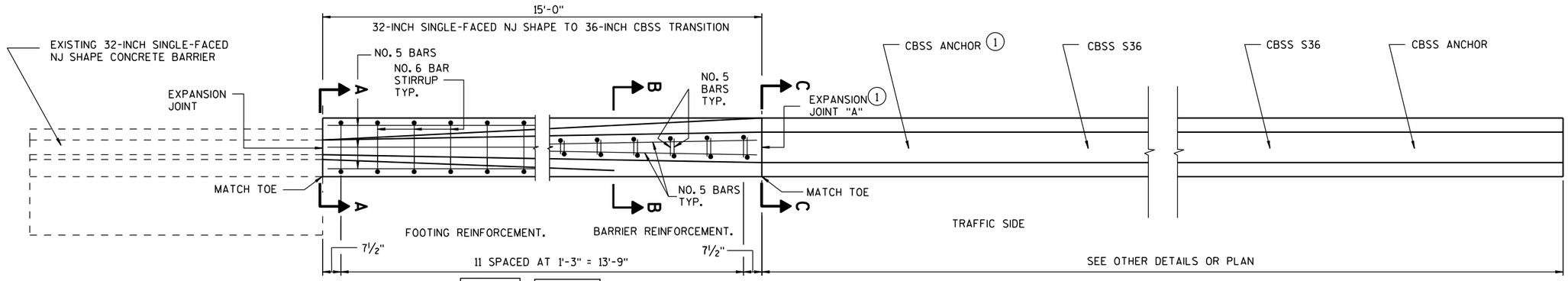
S.D.D. 14 B 32-4d

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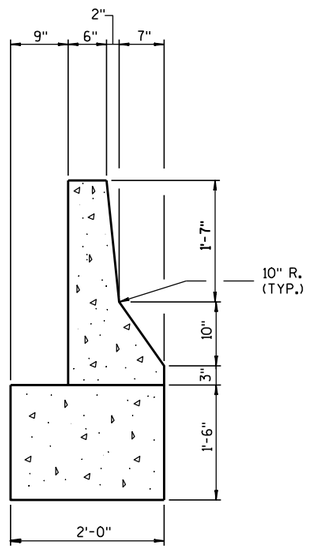
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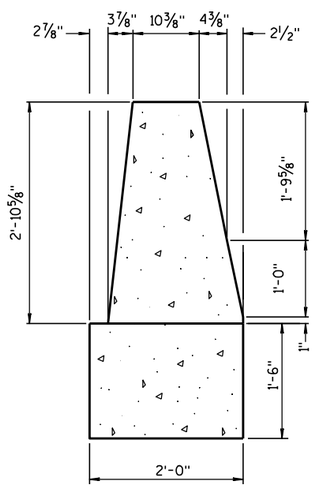
ELEVATION VIEW



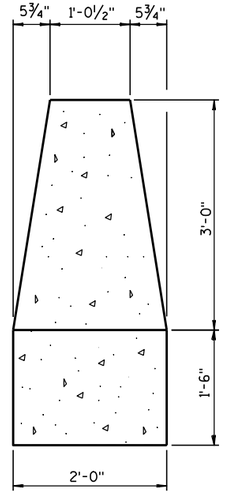
PLAN VIEW



SECTION A-A



SECTION B-B



SECTION C-C

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

THE NUMBER IN BAR DESIGNATION REPRESENTS THE BARS LOCATION.

2" CLEAR COVER TYPICAL.

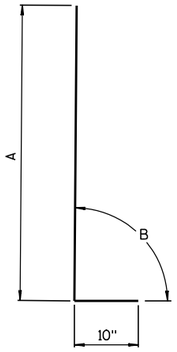
(1) EXPANSION JOINT "A" MAY BE REPLACED WITH A COLD-JOINT PROVIDED THAT 3 FEET OF LAP OF LONGITUDINAL STEEL IS PROVIDED. IF COLD-JOINT IS USED ANCHOR NOT REQUIRED.

32-INCH SINGLE-FACED NJ SHAPE CONCRETE BARRIER TO 36-INCH SINGLE SLOPE CONCRETE BARRIER TRANSITION

6
S.D.D. 14 B 35-1c

"A" BAR CHART
BAR POSITIONS NO.1 - NO.5

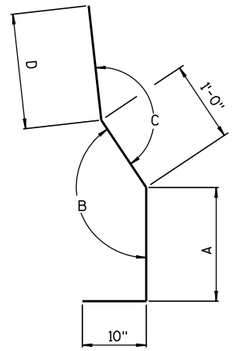
BAR	A	B
A1	3'-10"	89°-35'
A2	3'-10"	88°-40'
A3	3'-11"	87°-50'
A4	3'-11"	87°-10'
A5	3'-11½"	86°-15'



"A" BAR
BENDING DETAIL

"B" BAR CHART
BAR POSITIONS NO.1 - NO. 8

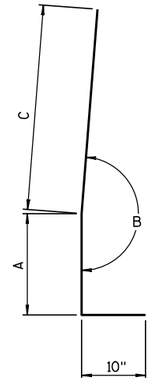
BAR	A	B	C	D
B1	1'-6"	146°-20'	152°-40'	1'-6"
B2	1'-6"	149°-25'	156°-45'	1'-6"
B3	1'-6"	152°-40'	160°-55'	1'-6½"
B4	1'-6"	155°-40'	164°-30'	1'-7"
B5	1'-5½"	158°-30'	167°-55'	1-'7"
B6	1'-5"	161°-45'	172°	1'-7½
B7	1'-5"	164°-25'	175°-05'	1'-8"
B8	1'-5"	167°-30'	179°	1'-8"



"B" BAR
BENDING DETAIL

"C" BAR CHART
BAR POSITIONS NO. 6 - NO. 12

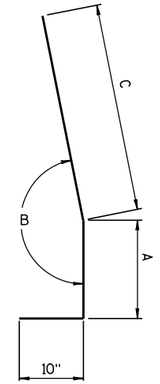
BAR	A	B	C
C6	1'-4"	175°-35'	2'-8"
C7	1'-4"	174°-45'	2'-8"
C8	1'-4"	174°	2'-8½"
C9	1'-4"	173°-15'	2'-9"
C10	1'-4"	172°-45'	2'-9½"
C11	1'-3½"	172°	2'-9½"
C12	1'-3½"	171°-15'	2'-10"



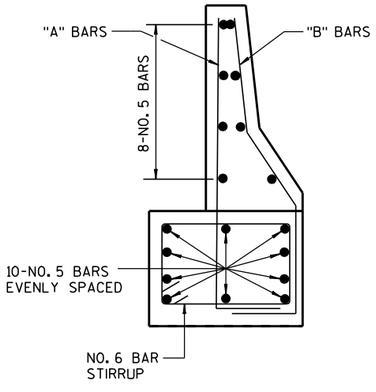
"C" BAR
BENDING DETAIL

"D" BAR CHART
BAR POSITIONS NO. 9 - NO. 12

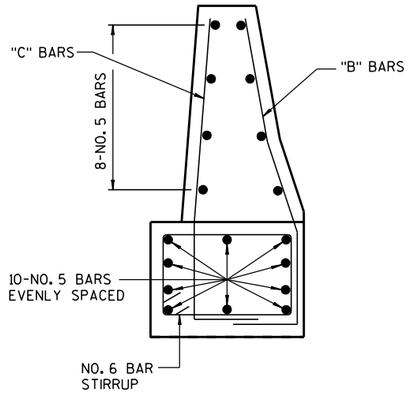
BAR	A	B	C
D9	1'-5"	168°-45'	2'-8½"
D10	1'-4½"	169°-30'	2'-9"
D11	1'-4"	170°-15'	2'-9½"
D12	1'-4"	170°-40'	2'-10"



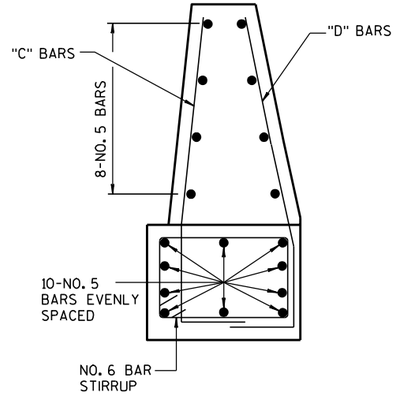
"D" BAR
BENDING DETAIL



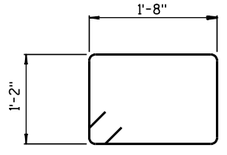
BAR DETAIL
BAR POSITIONS NO. 1 - NO. 5



BAR DETAIL
BAR POSITION NO. 6 - NO. 8



BAR DETAIL
BAR POSITIONS NO. 9 - NO. 12



STIRRUP BAR
BENDING DETAIL

32-INCH SINGLE-FACED NJ SHAPE
CONCRETE BARRIER TO 36-INCH SINGLE
SLOPE CONCRETE BARRIER TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6-3-2010
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

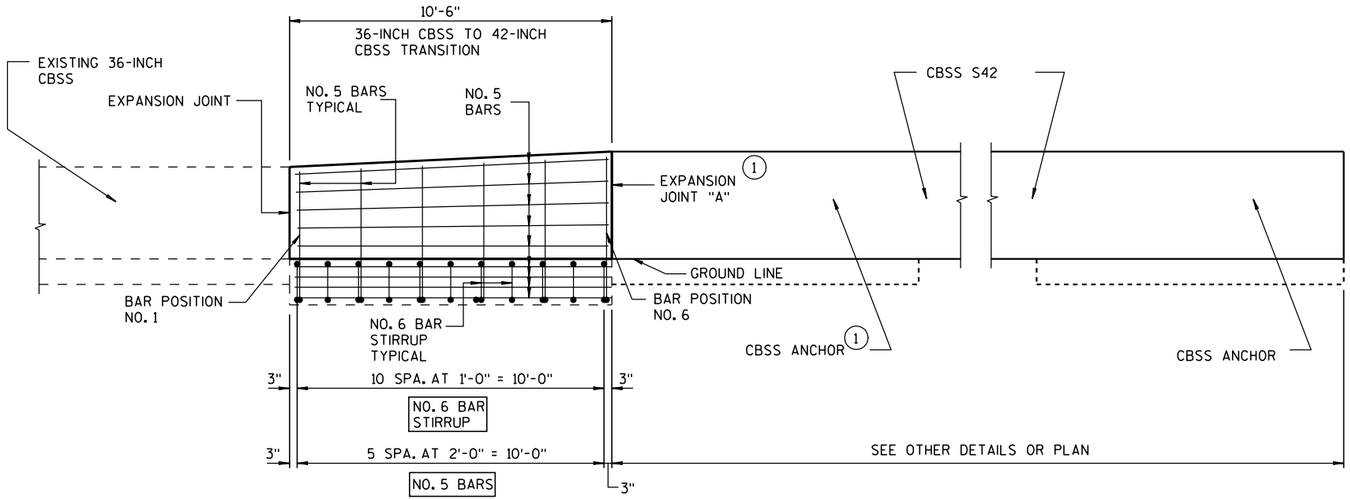
FHWA

6

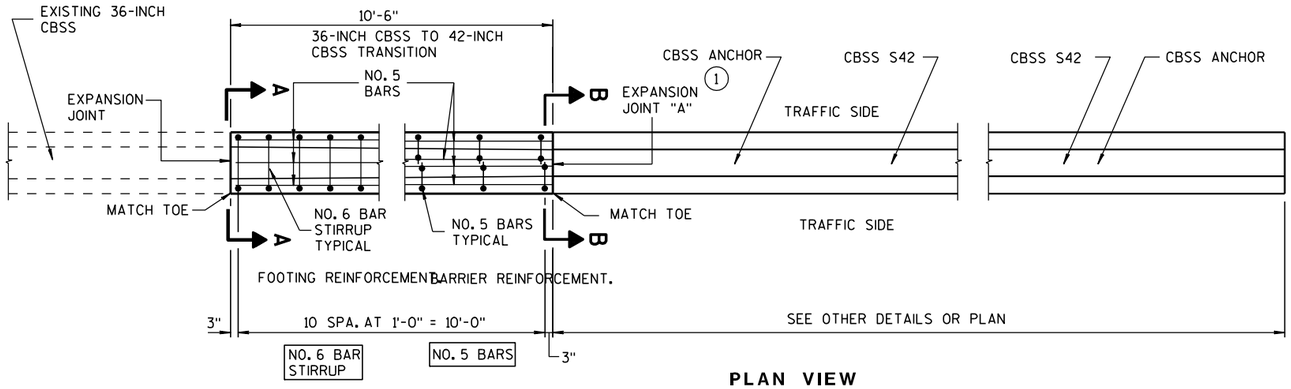
S.D.D. 14 B 35-1d

6

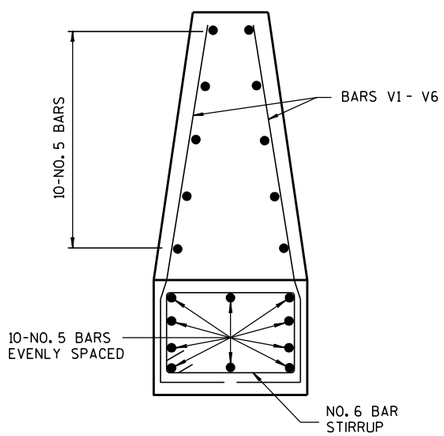
S.D.D. 14 B 35-1d



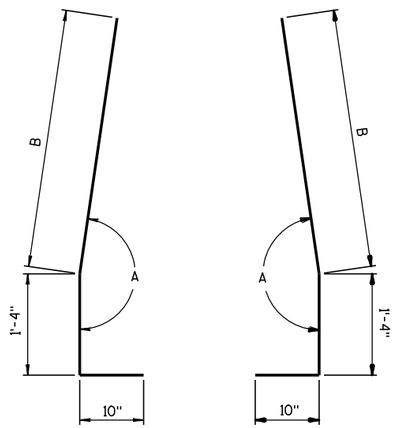
ELEVATION VIEW



PLAN VIEW



BAR DETAIL
BAR POSITION NO. 1 - NO. 6



BAR BENDING DETAIL
FOR BARS V1 - V6

GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 603.

SPLICES OF LONGITUDINAL BARS TO BE 2'LONG AND FIRMLY TIED AND FASTENED TOGETHER UNLESS NOTED OTHERWISE.

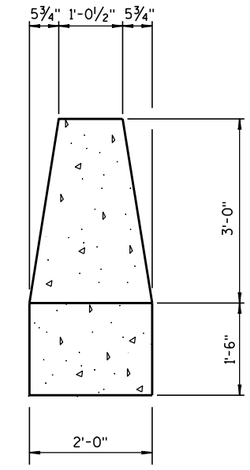
4000 PSI CONCRETE AIR ENTRAINMENT PER STANDARD SPECIFICATIONS 501.

USE ¾" BEVEL OR 1" RADIUS ON ALL EXPOSED SHARP EDGES UNLESS NOTED OTHERWISE.

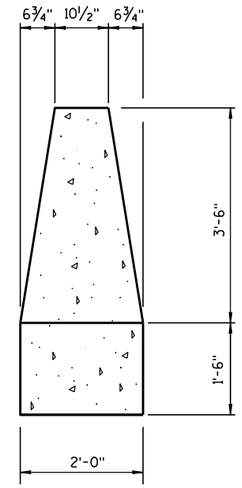
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2" CLEAR COVER TYPICAL.

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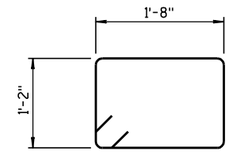
SECTION A-A



SECTION B-B

BAR CHART
SECTIONS V1 - V6

BAR	A	B
V1	170°-55'	2'-10½"
V2	171°-05'	3'-0"
V3	171°-20'	3'-1"
V4	171°-20'	3'-2"
V5	171°-35'	3'-3"
V6	171°-40'	3'-4½"



STIRRUP BAR
BENDING DETAIL

36-INCH SINGLE SLOPE CONCRETE BARRIER TO 42-INCH SINGLE SLOPE CONCRETE BARRIER HEIGHT TRANSITION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6-3-2010 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6
S.D.D. 14 B 39-1c

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

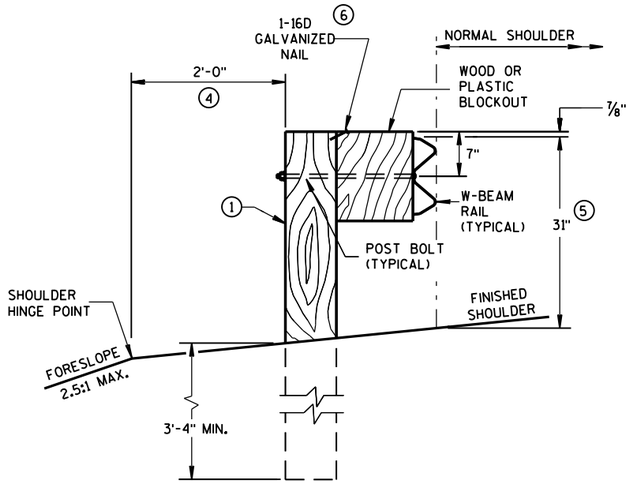
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

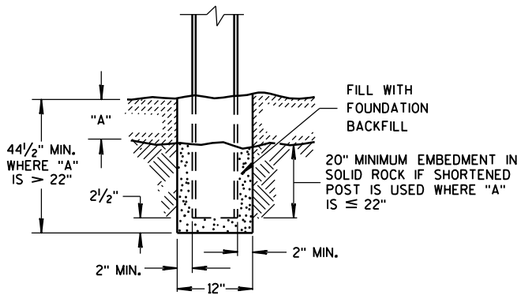
⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



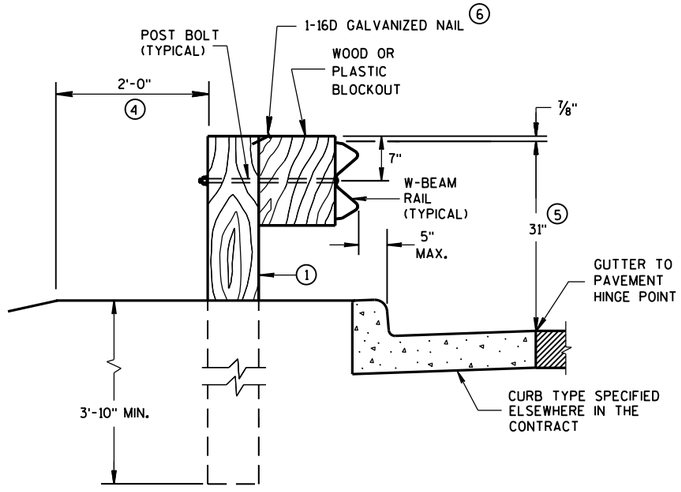
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



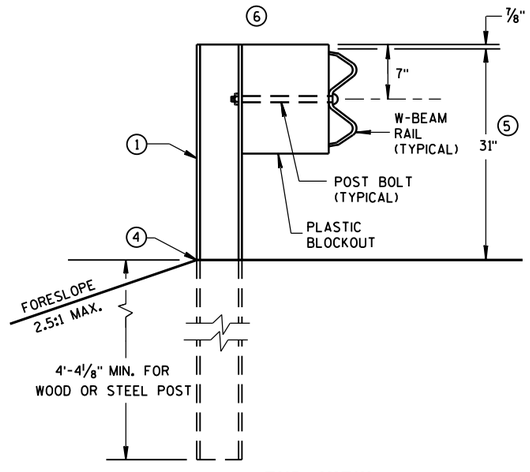
END VIEW

SETTING STEEL OR WOOD POST IN ROCK ③



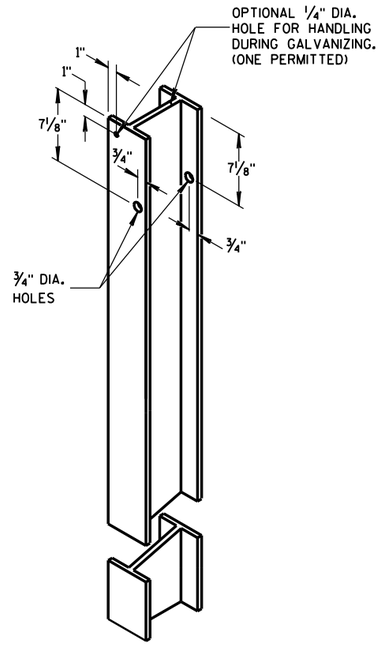
END VIEW

LOCATED ALONG A CURBED ROADWAY

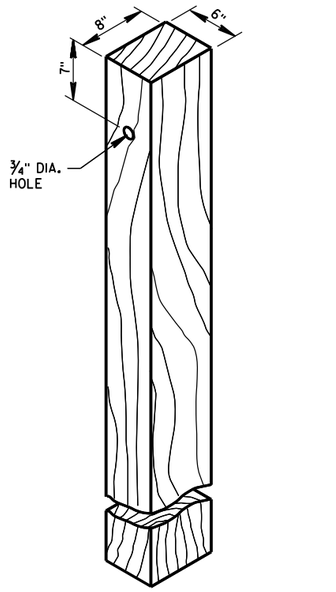


END VIEW

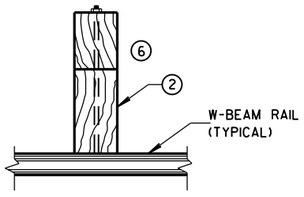
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



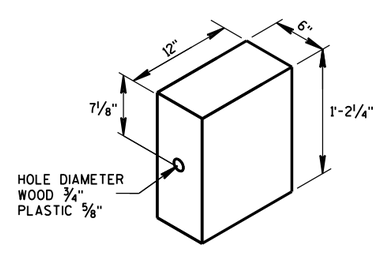
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



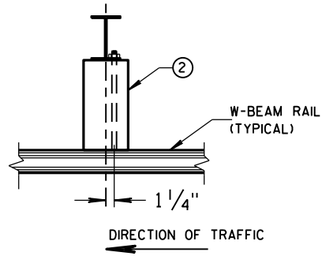
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



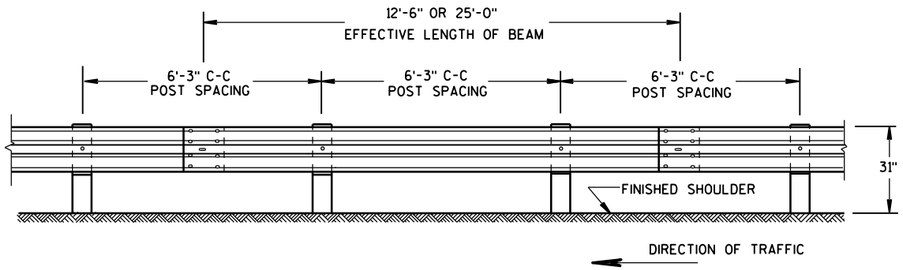
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

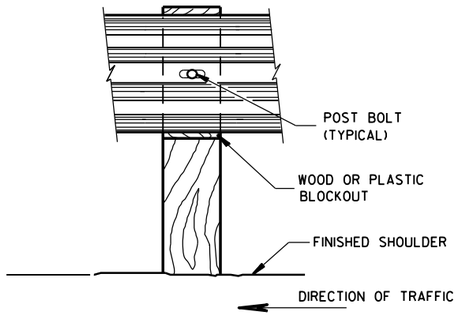
6

S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

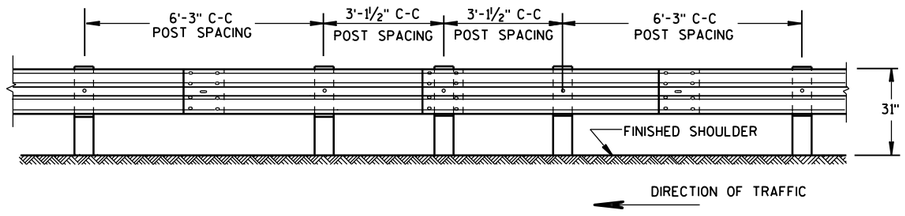
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

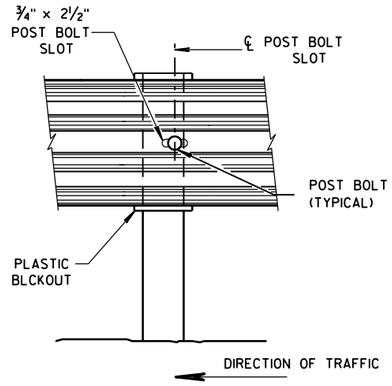
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

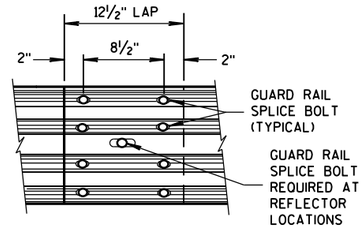


FRONT VIEW

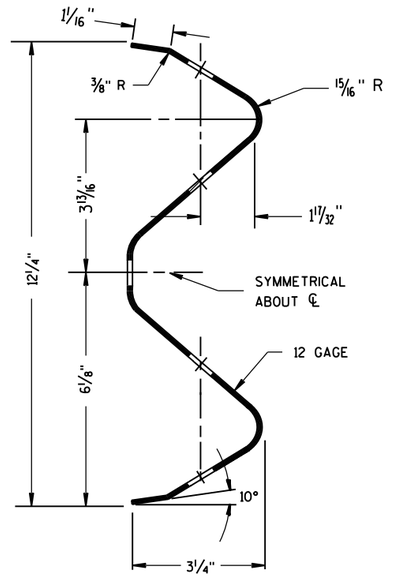
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



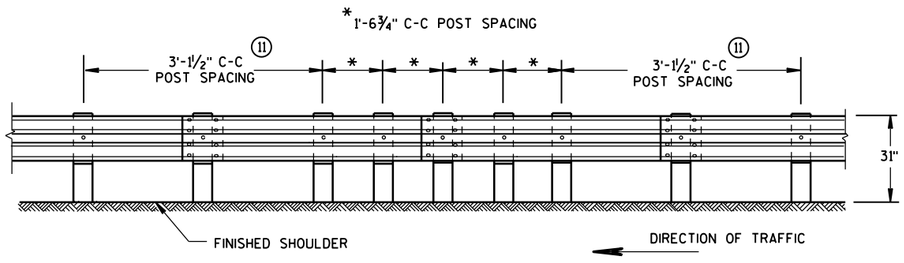
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

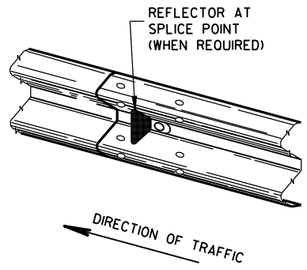


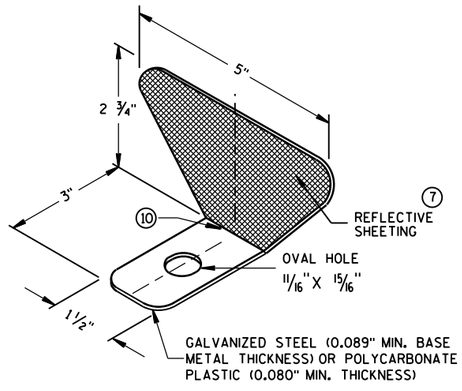
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

REFLECTOR SPACING (8)

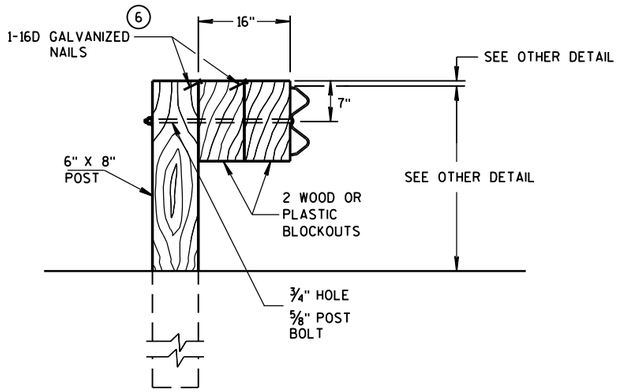
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	1 1	3
TWO WAY TRAFFIC	< 200' > 200'	25' C-C 50' C-C	1 (9) 1	6
TWO WAY TRAFFIC	< 200' > 200'	50' C-C 100' C-C	2 2 (10)	3

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

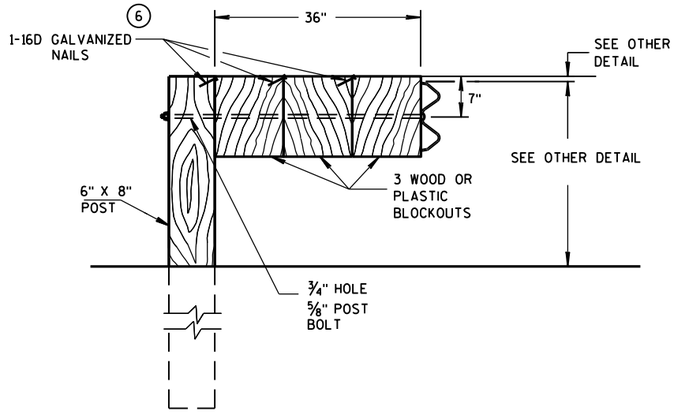
6

S.D.D. 14 B 42-4b



DETAIL FOR 16" BLOCKOUT DEPTH

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

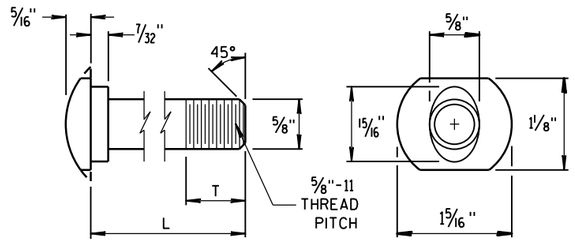


DETAIL FOR 36" BLOCKOUT DEPTH

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

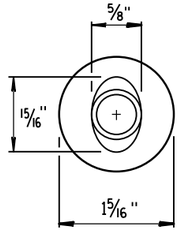
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

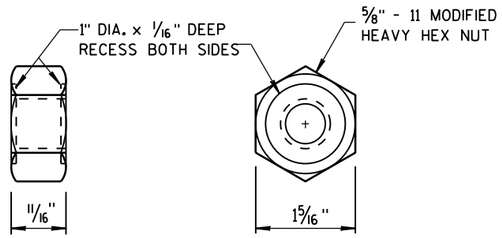


POST BOLT TABLE

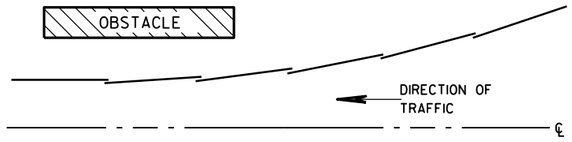
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

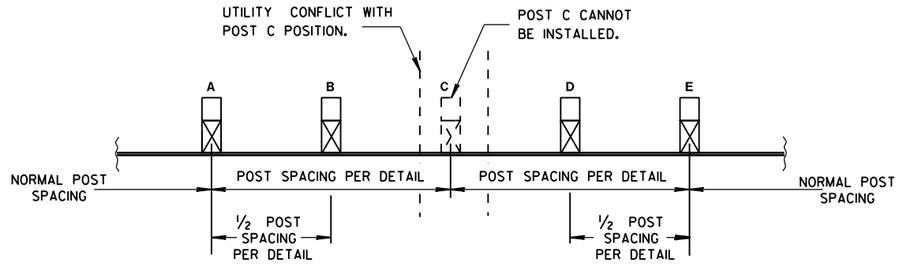


POST BOLT, SPLICE BOLT AND RECESS NUT

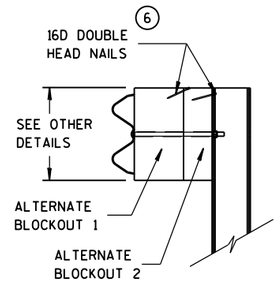


PLAN VIEW

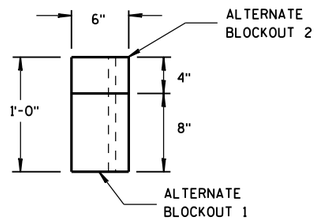
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

GENERAL NOTES

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

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

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

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

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

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

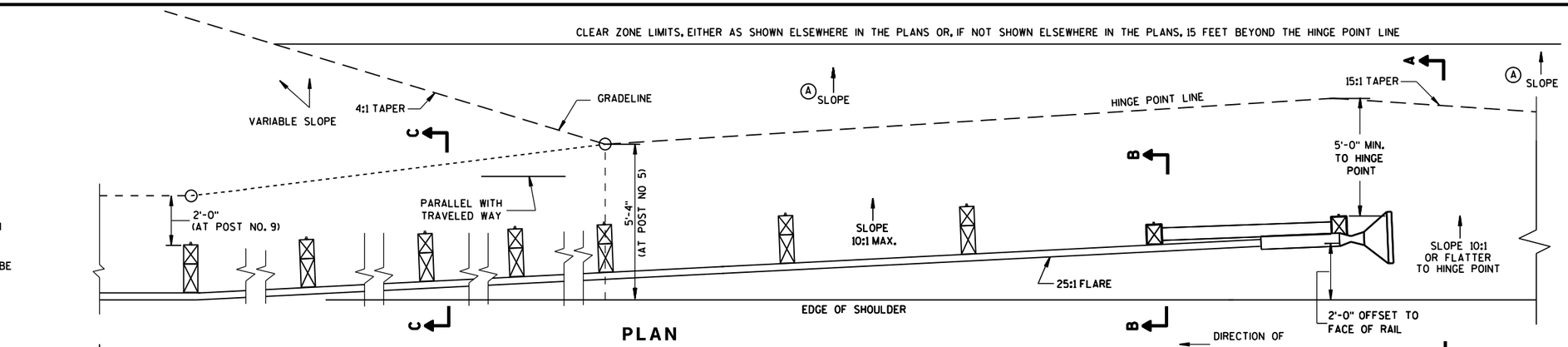
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

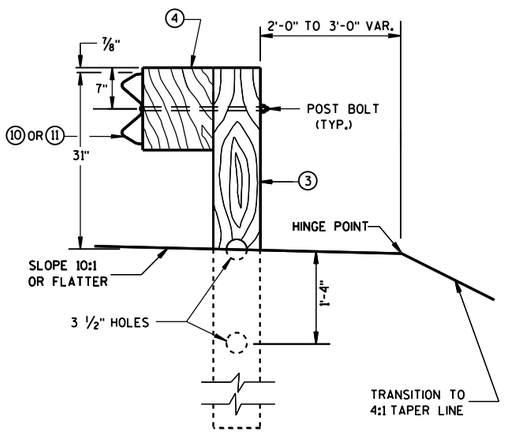
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

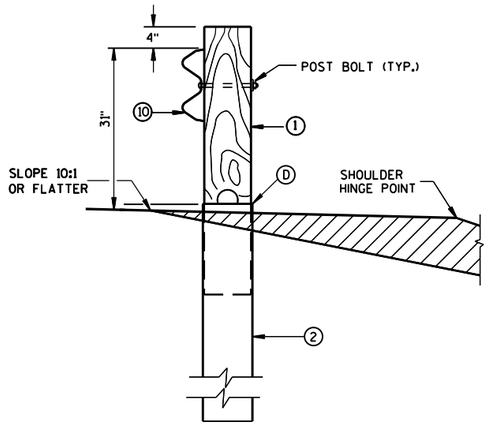
THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



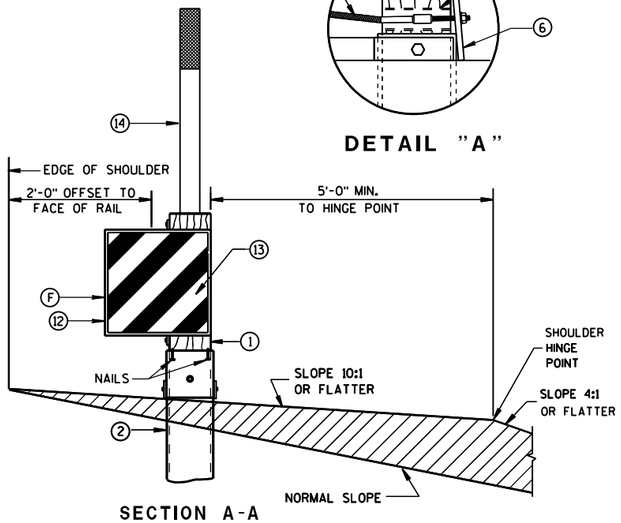
ELEVATION



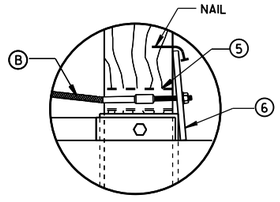
SECTION C-C
TYPICAL AT POST NOS. 3-9



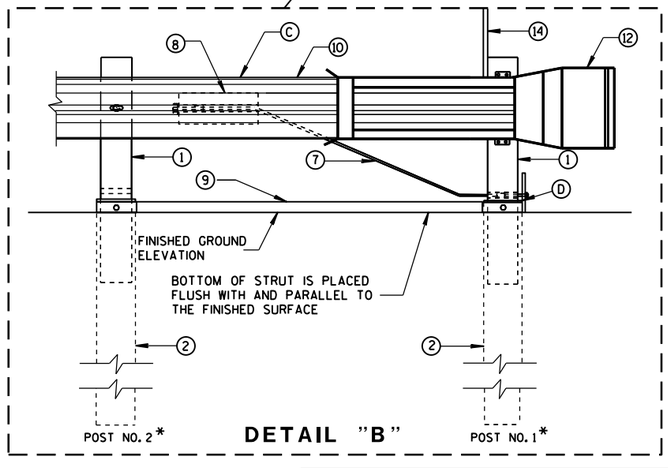
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



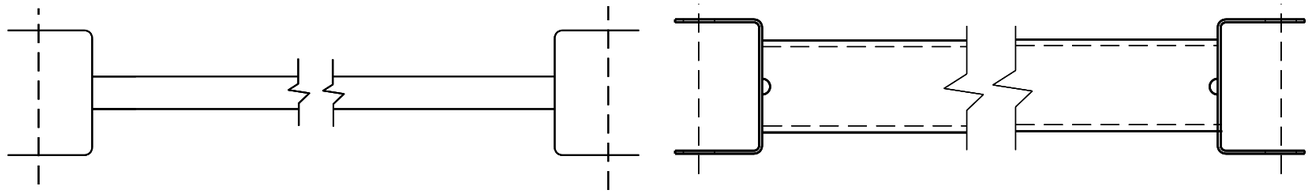
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

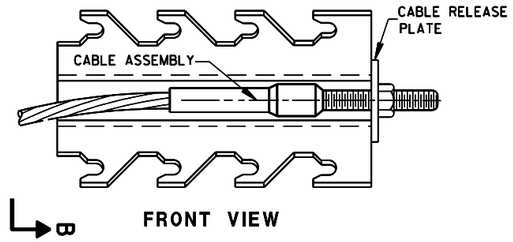
6



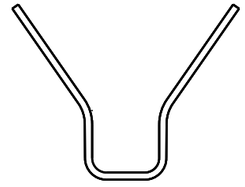
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

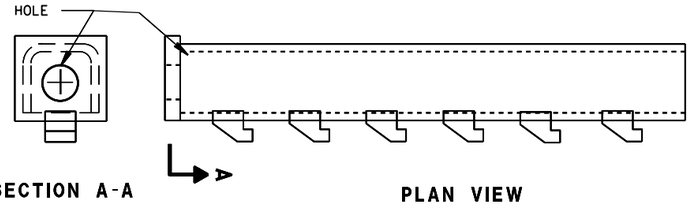
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



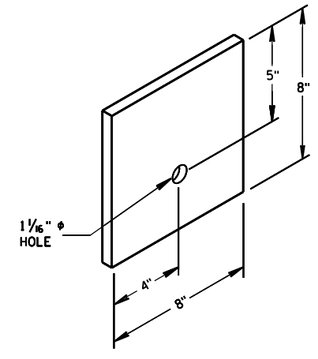
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



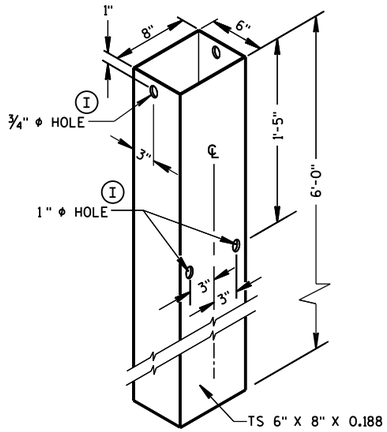
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

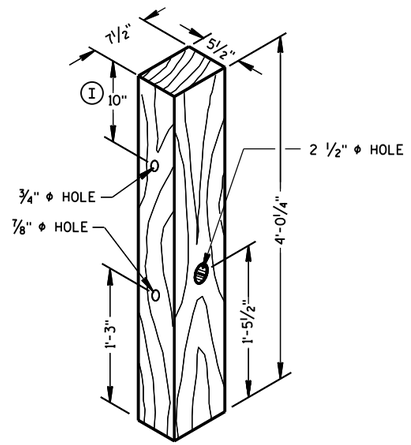
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 44-2b

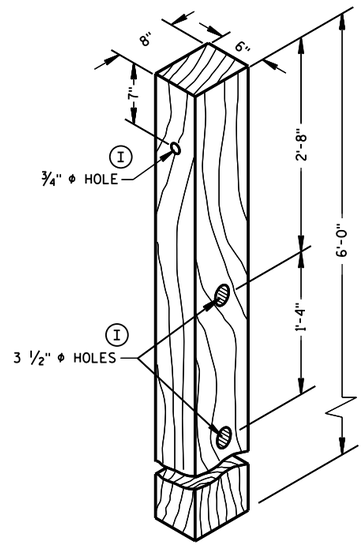


FOUNDATION TUBE (2)



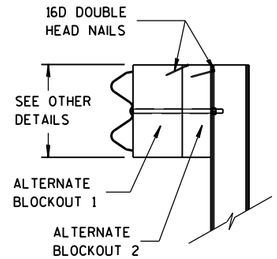
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

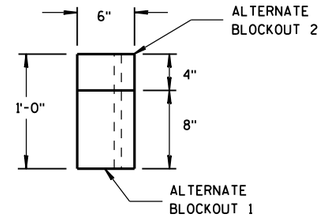


POSTS NUMBER 3-9

WOOD CRT POST (3)

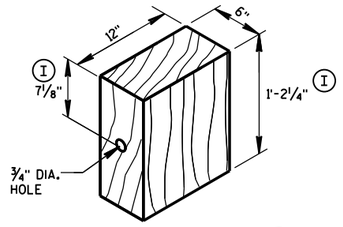


SIDE VIEW



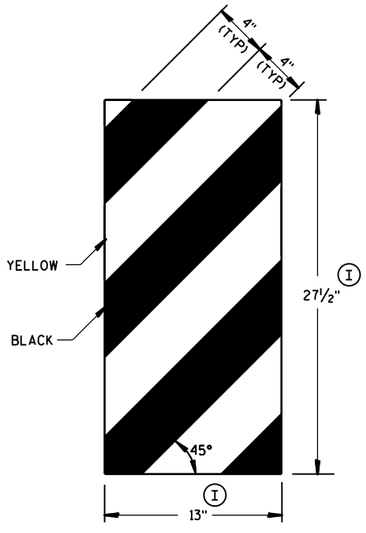
TOP VIEW

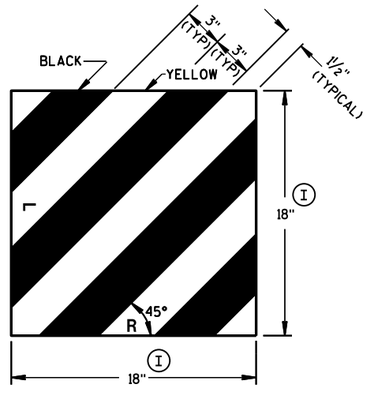
ALTERNATE WOOD BLOCKOUT DETAIL



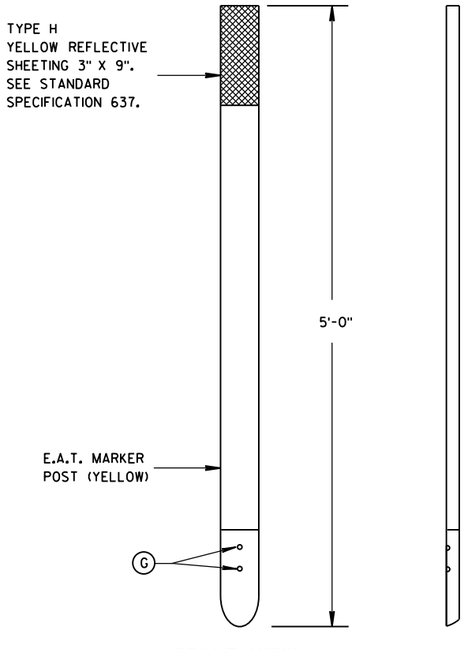
WOOD BLOCKOUT (4)

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





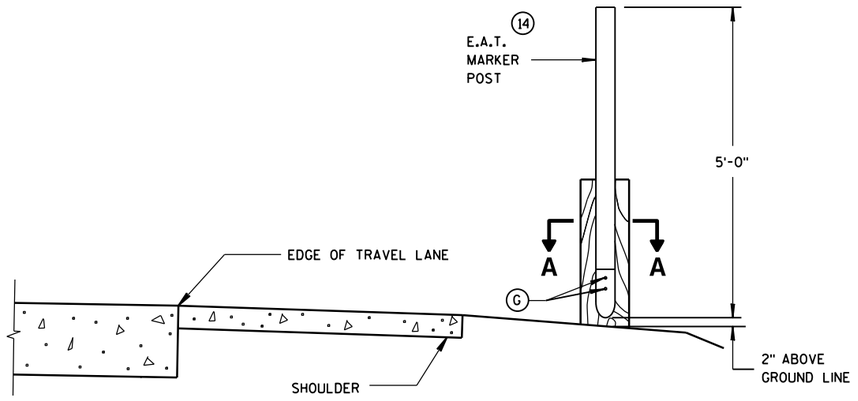
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

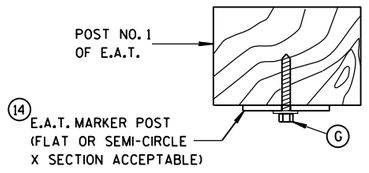
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A

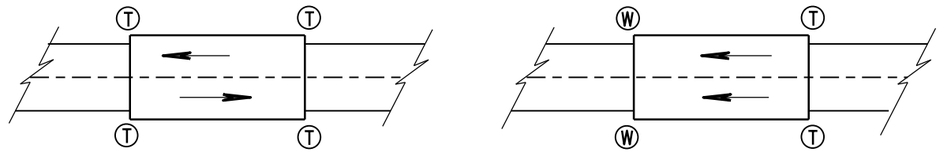
MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 44-2c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

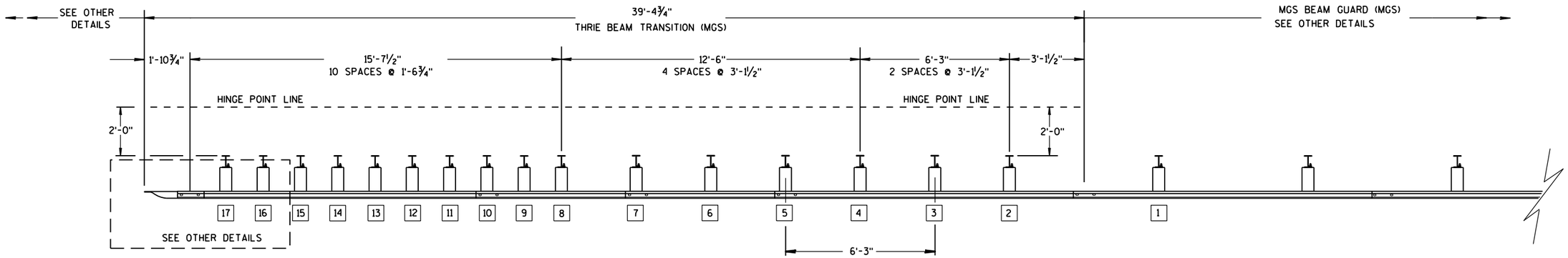
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

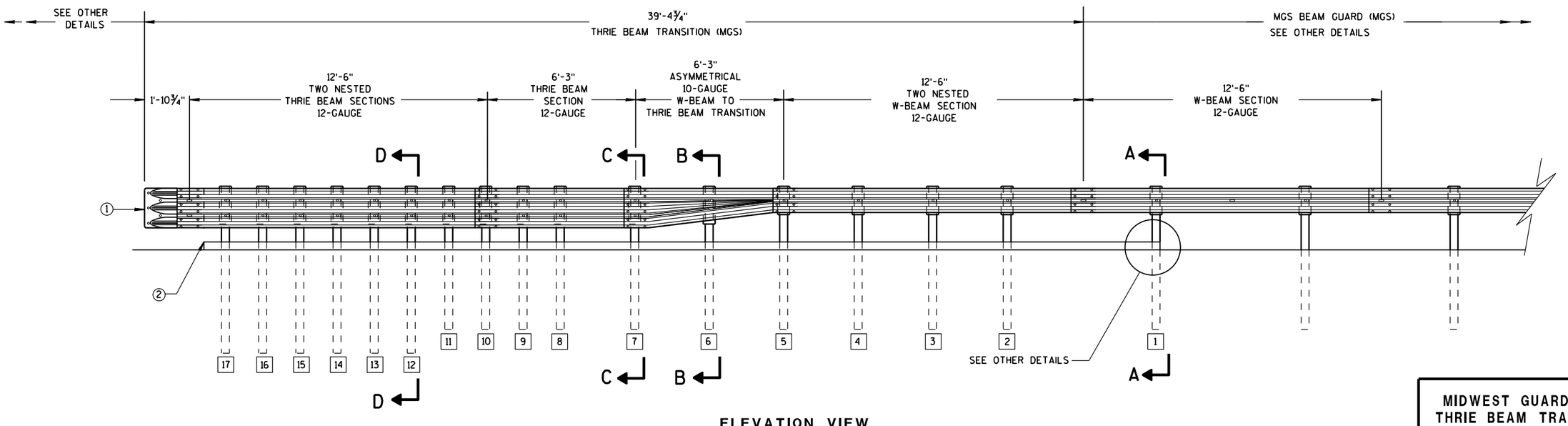
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

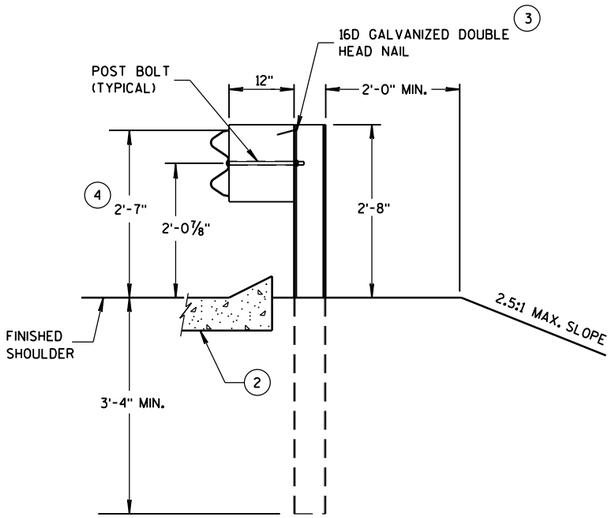
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

GENERAL NOTES

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

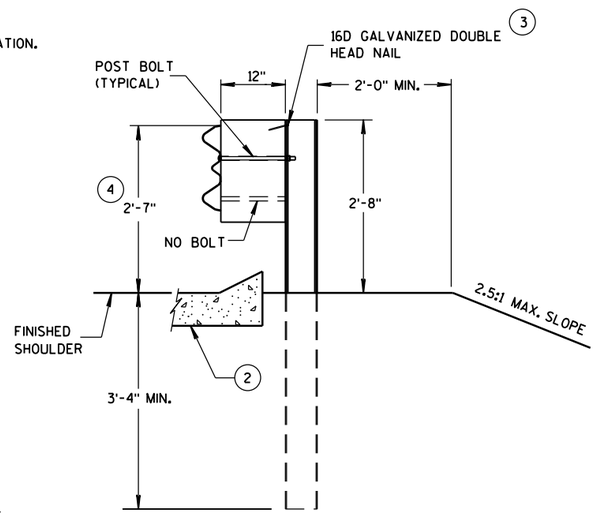
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



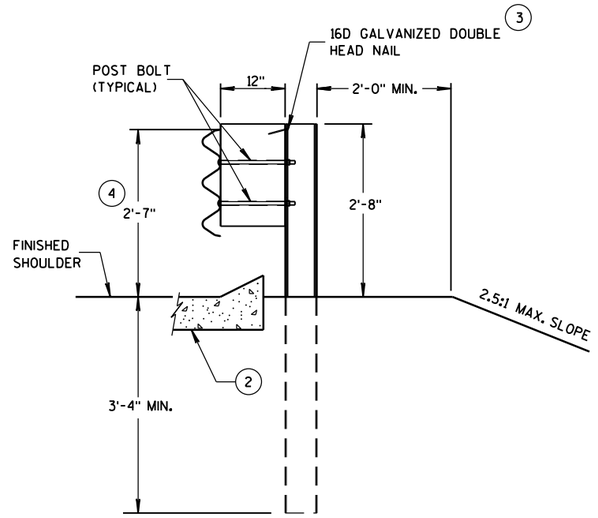
SECTION A-A

POSTS 1-5



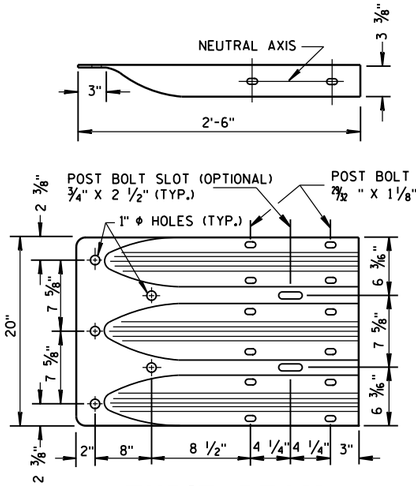
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

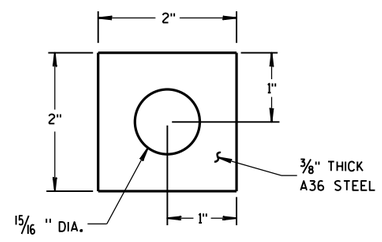
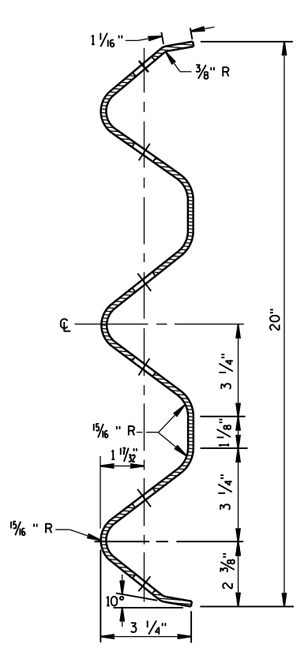
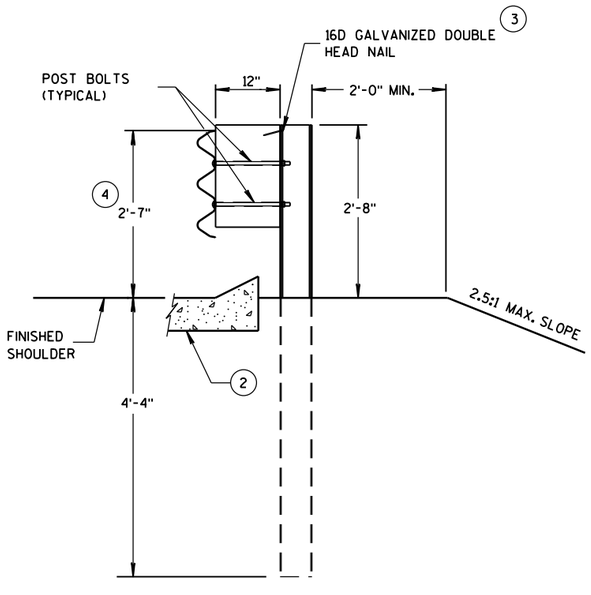


PLATE WASHER DETAIL

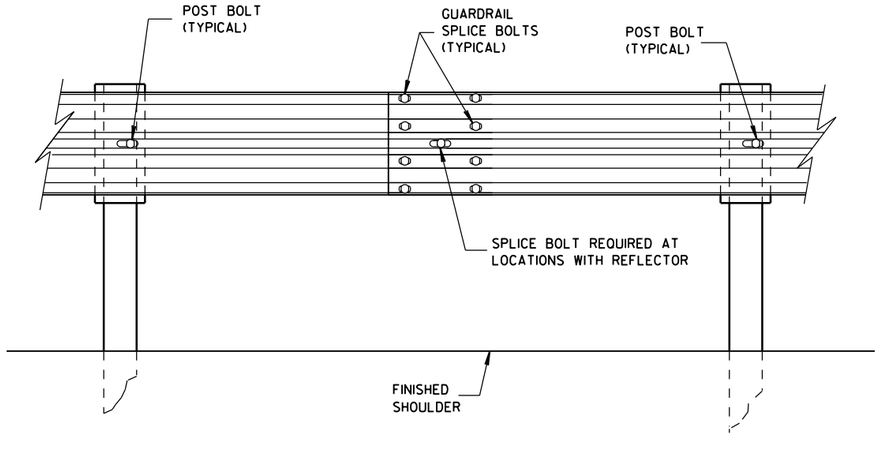


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



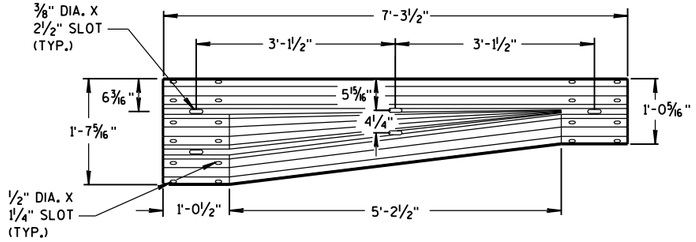
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

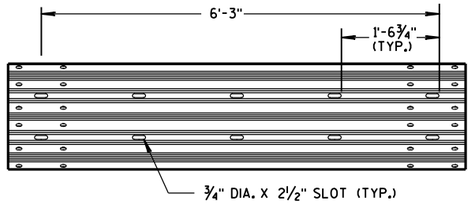
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

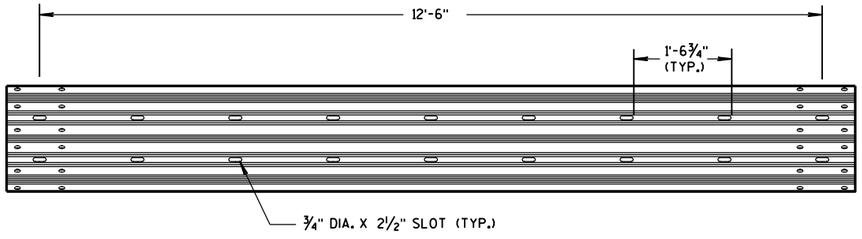
S.D.D. 14 B 45-4b



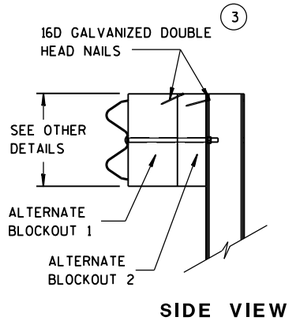
W-BEAM TO THRIE BEAM TRANSITION SECTION



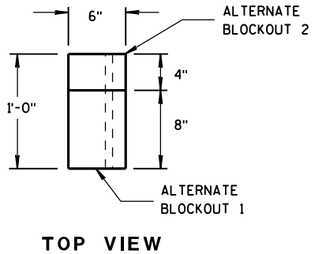
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

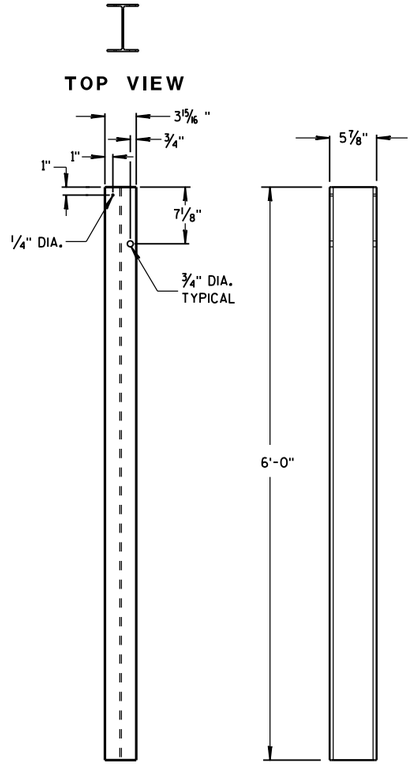


SIDE VIEW

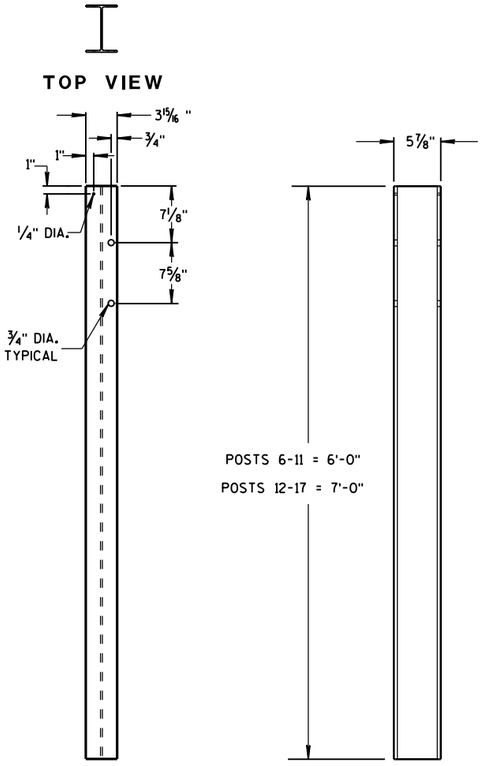


TOP VIEW

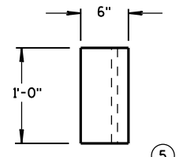
ALTERNATE WOOD BLOCKOUT DETAIL



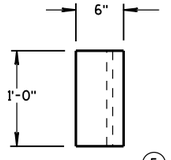
STEEL POSTS 1-5



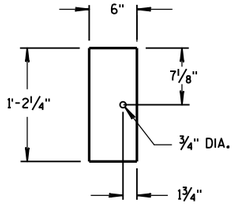
STEEL POSTS 6-17



TOP VIEW

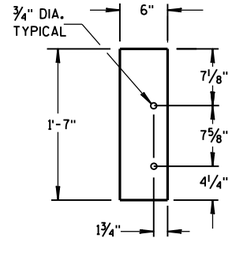


TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

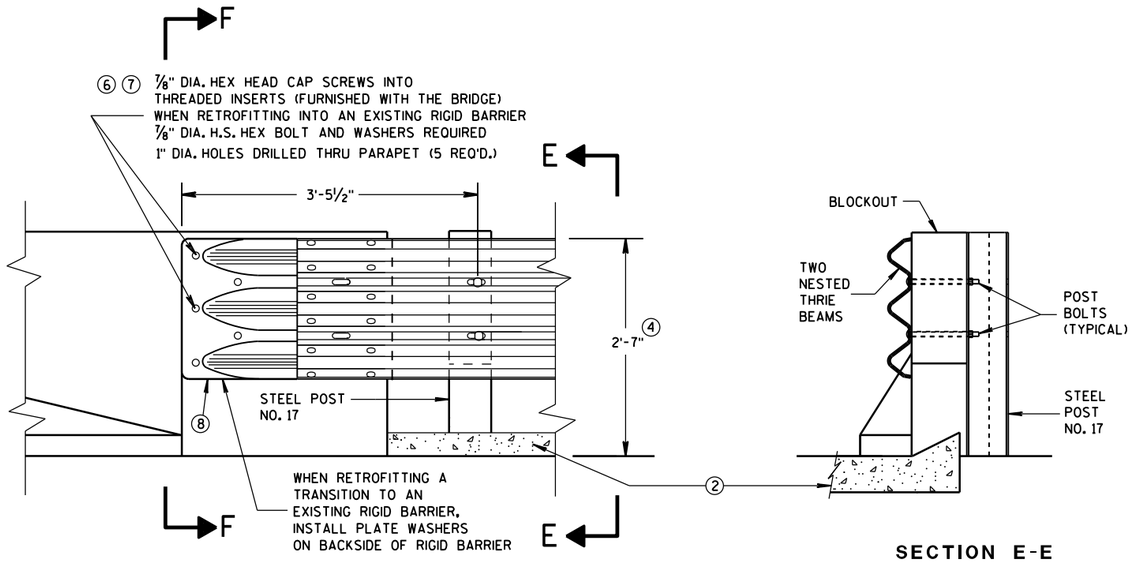
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-4c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

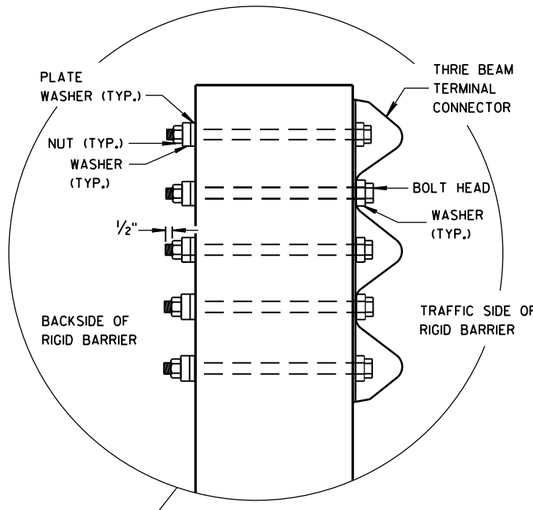
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

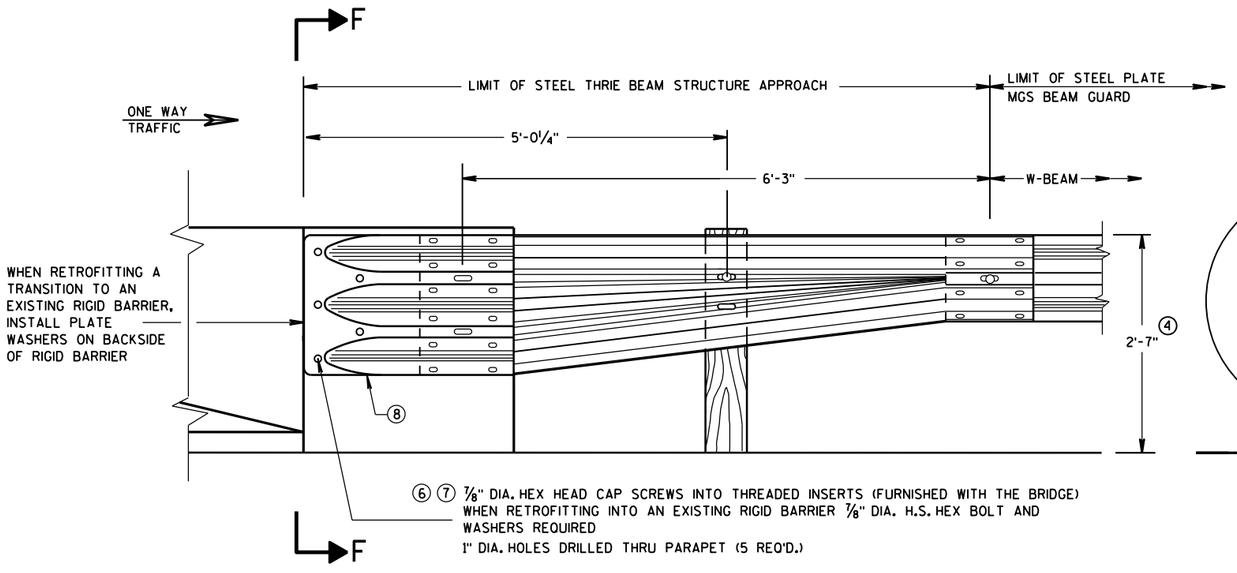
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

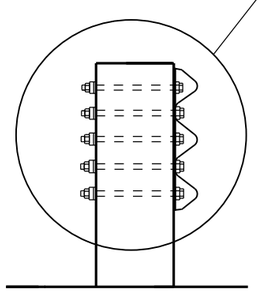
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

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

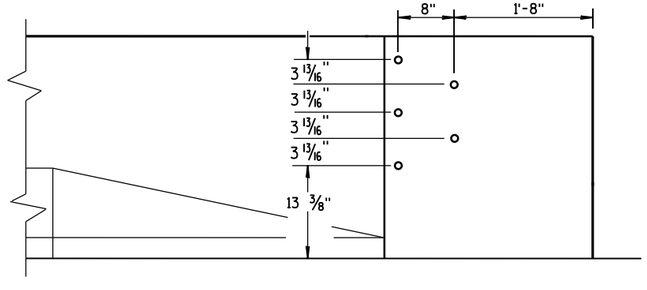




FRONT VIEW



SECTION F-F



DRILL HOLE LOCATION

W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED June, 2015 — DATE /S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER FHWA NT

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S.D.D. 14 B 45-4d

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S.D.D. 14 B 45-4d

GENERAL NOTES

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

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

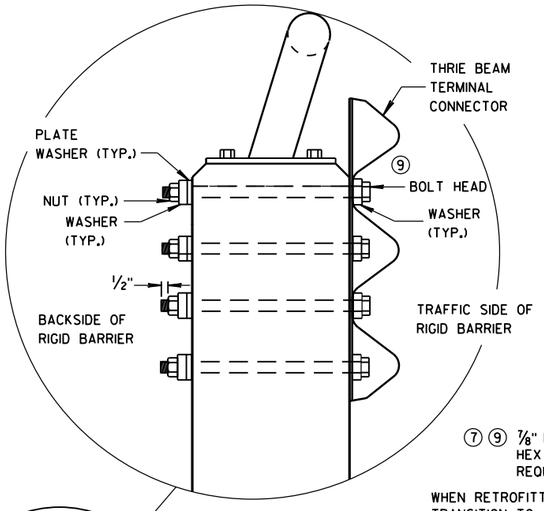
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

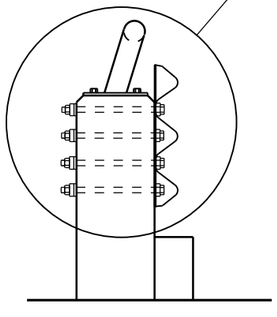
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

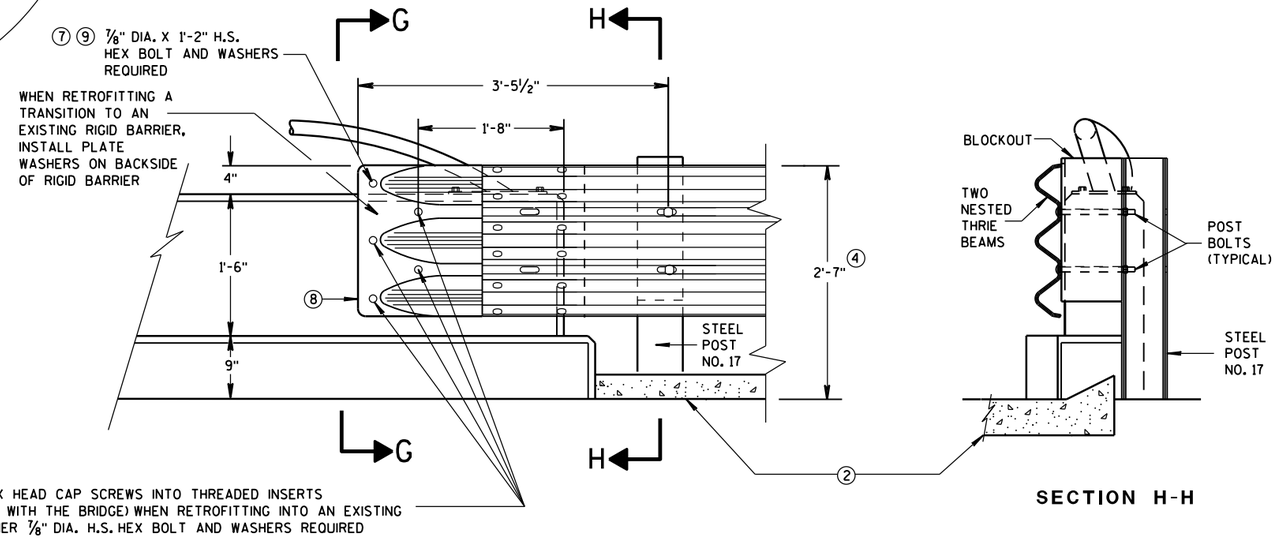
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) 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.





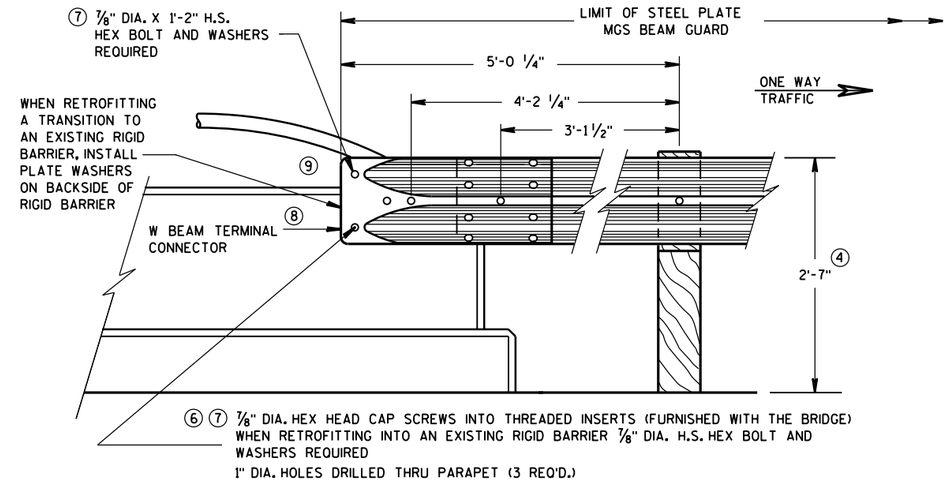
SECTION G-G



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

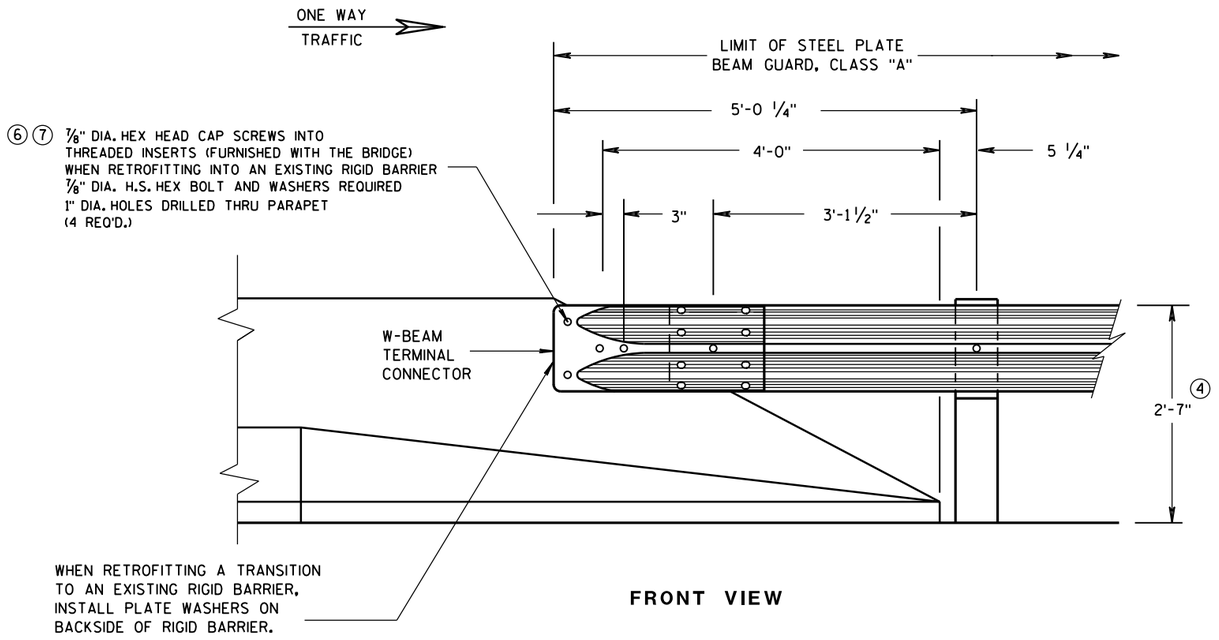
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
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FHWA

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S.D.D. 14 B 45-4e

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S.D.D. 14 B 45-4e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

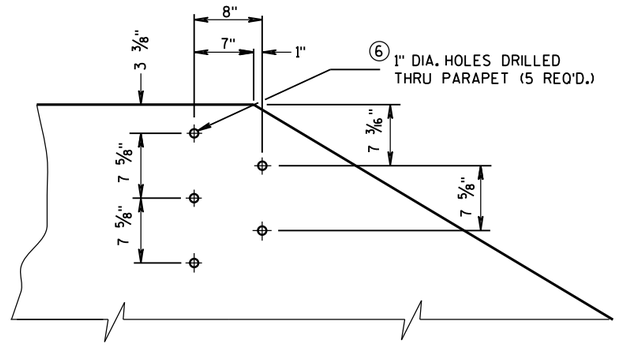
GENERAL NOTES

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

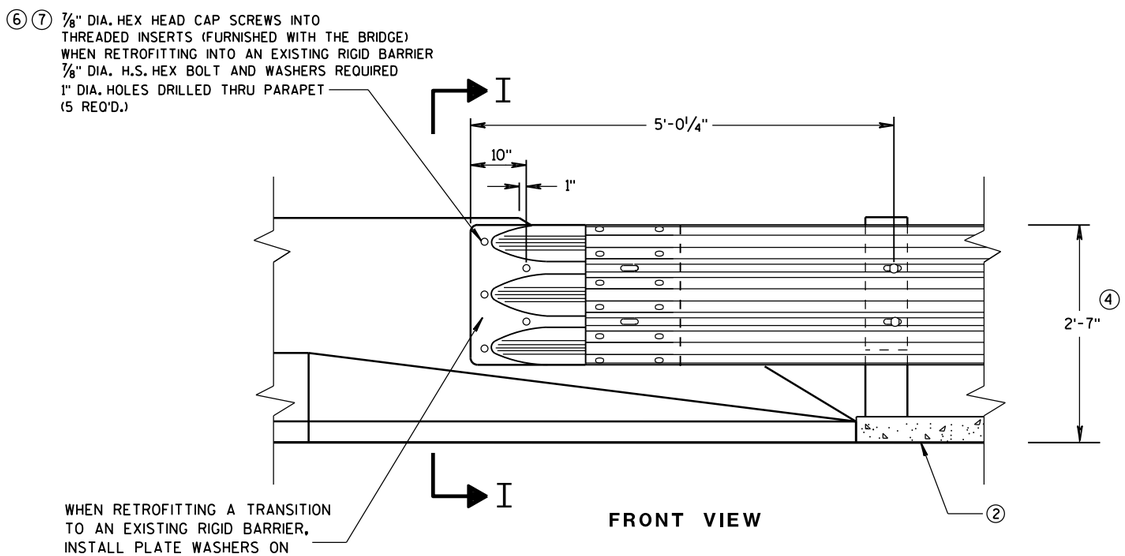
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

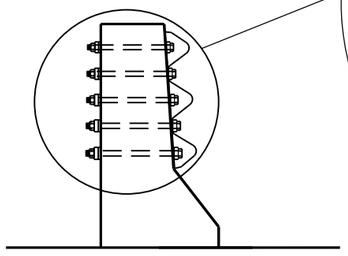
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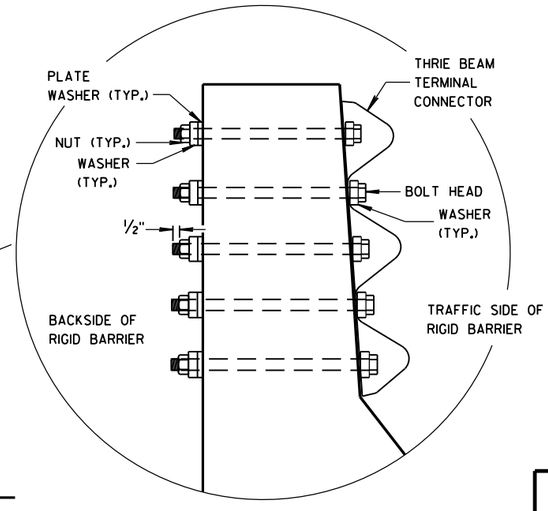
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

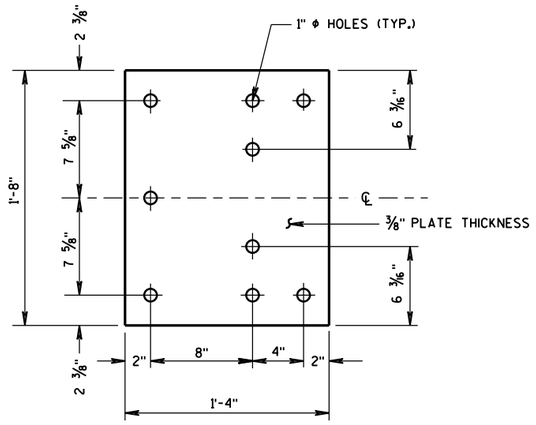
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

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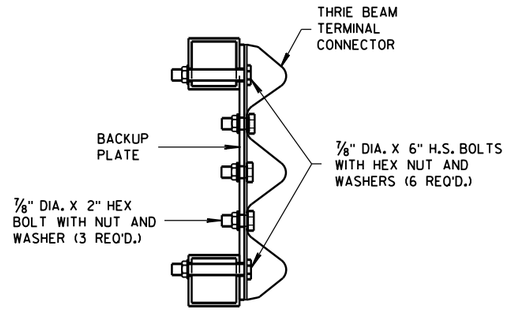
S.D.D. 14 B 45-4f

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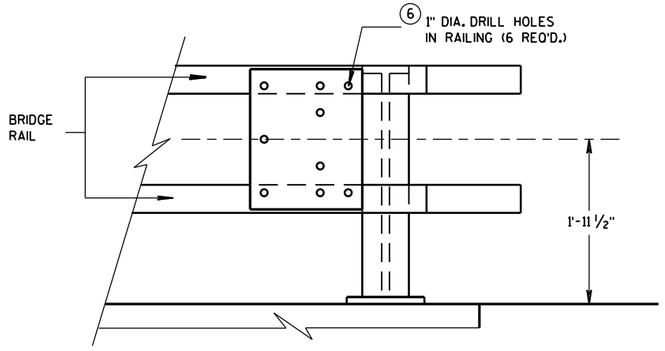
S.D.D. 14 B 45-4f



BACK-UP PLATE DETAIL



SECTION J-J

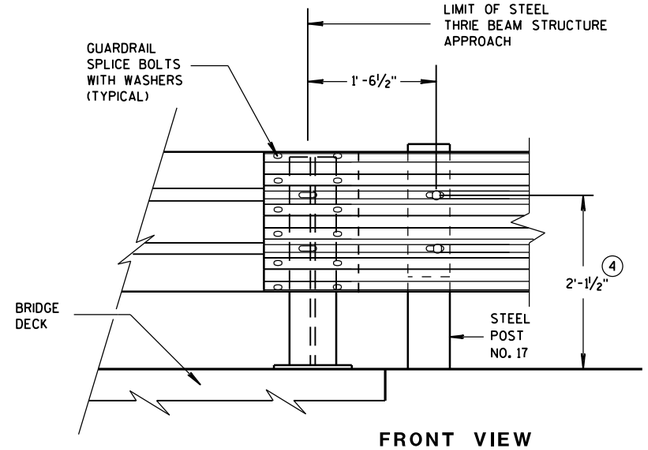


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

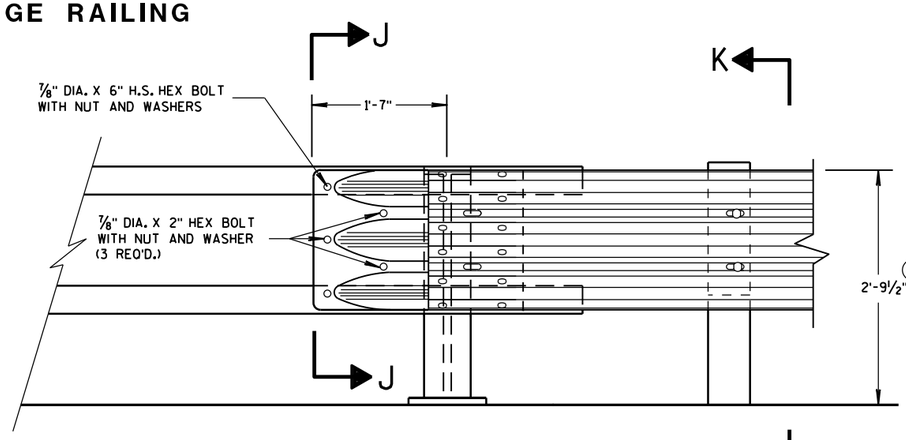
4 TOLERANCE FOR TOP OF BEAM IS ± 1".

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

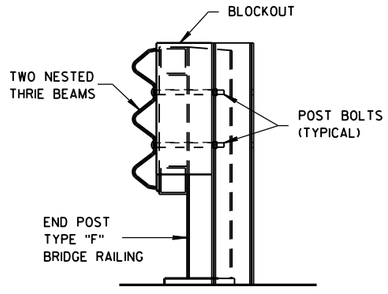


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA
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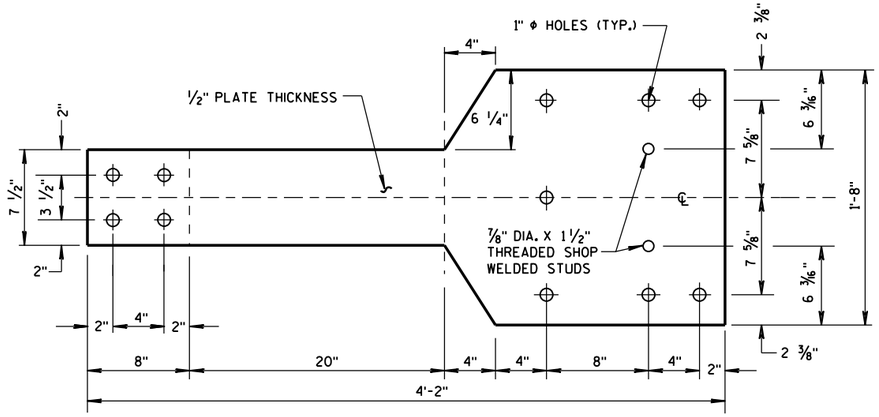
S.D.D. 14 B 45-4g

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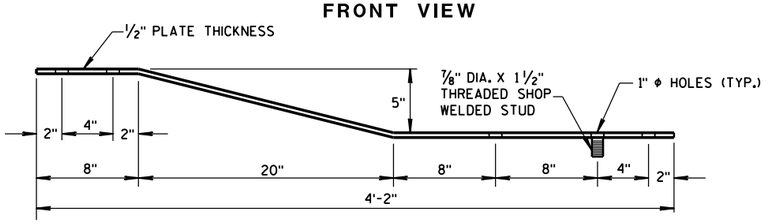
S.D.D. 14 B 45-4g

GENERAL NOTES

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

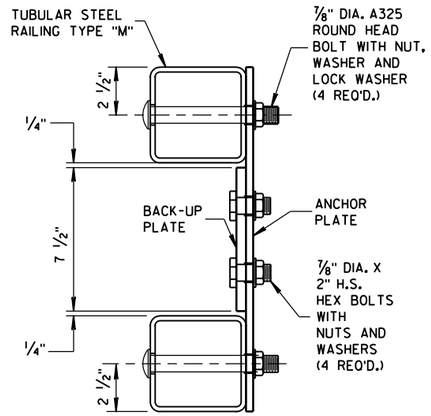


FRONT VIEW

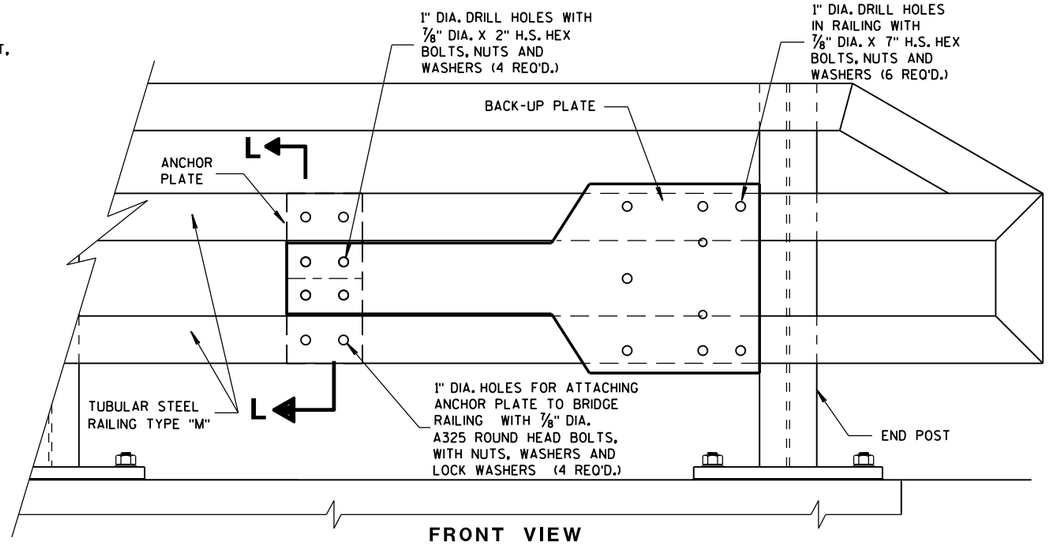


PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

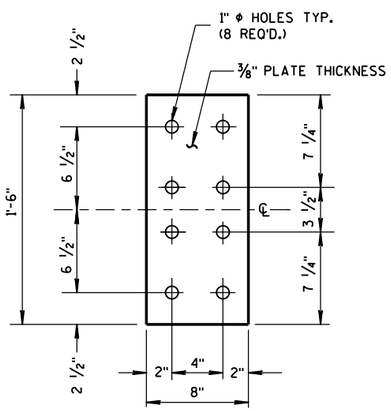


SECTION L-L



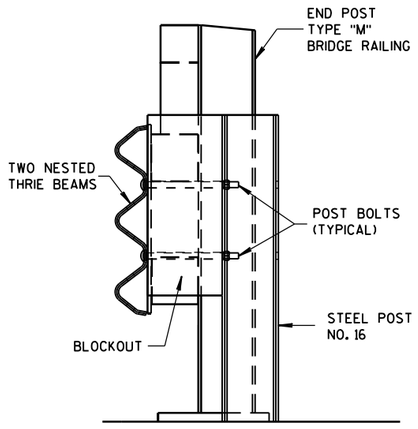
FRONT VIEW

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

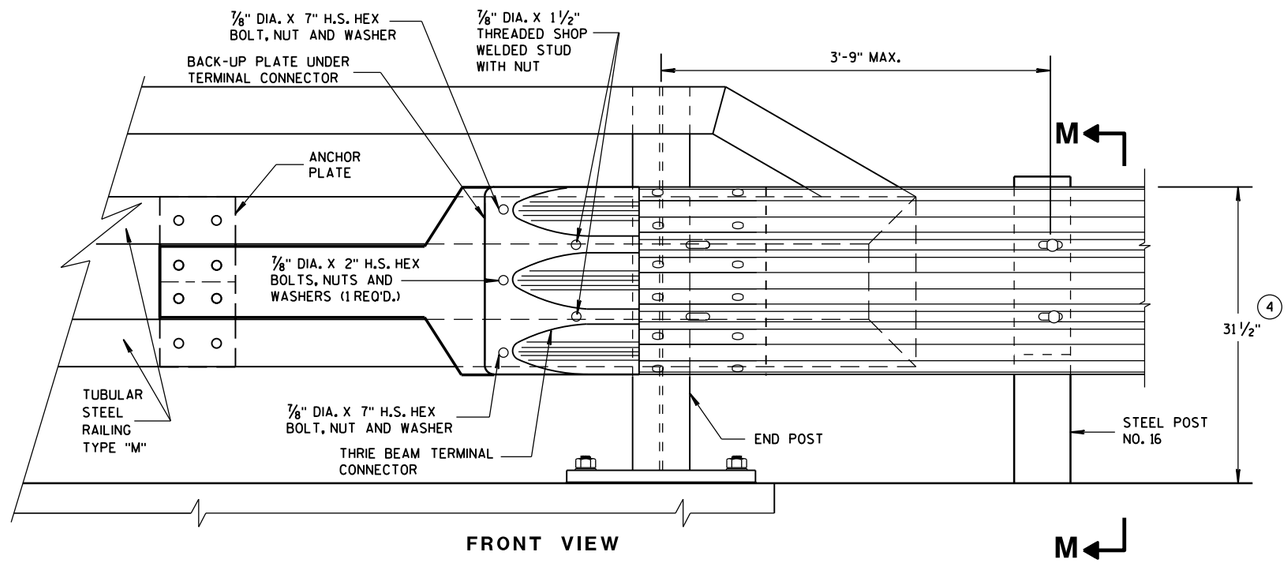


FRONT VIEW

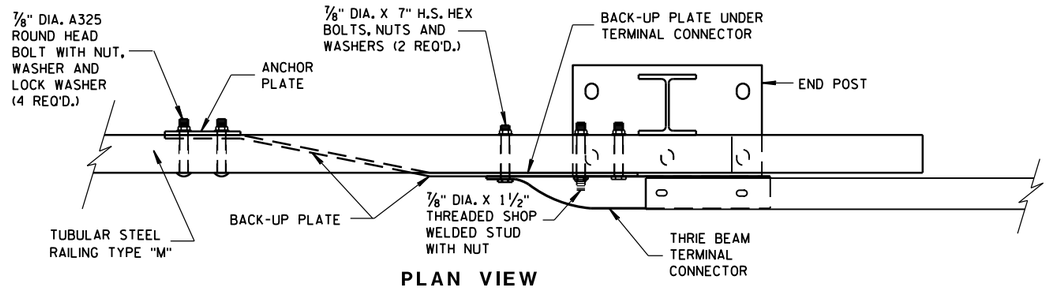
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-4h

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

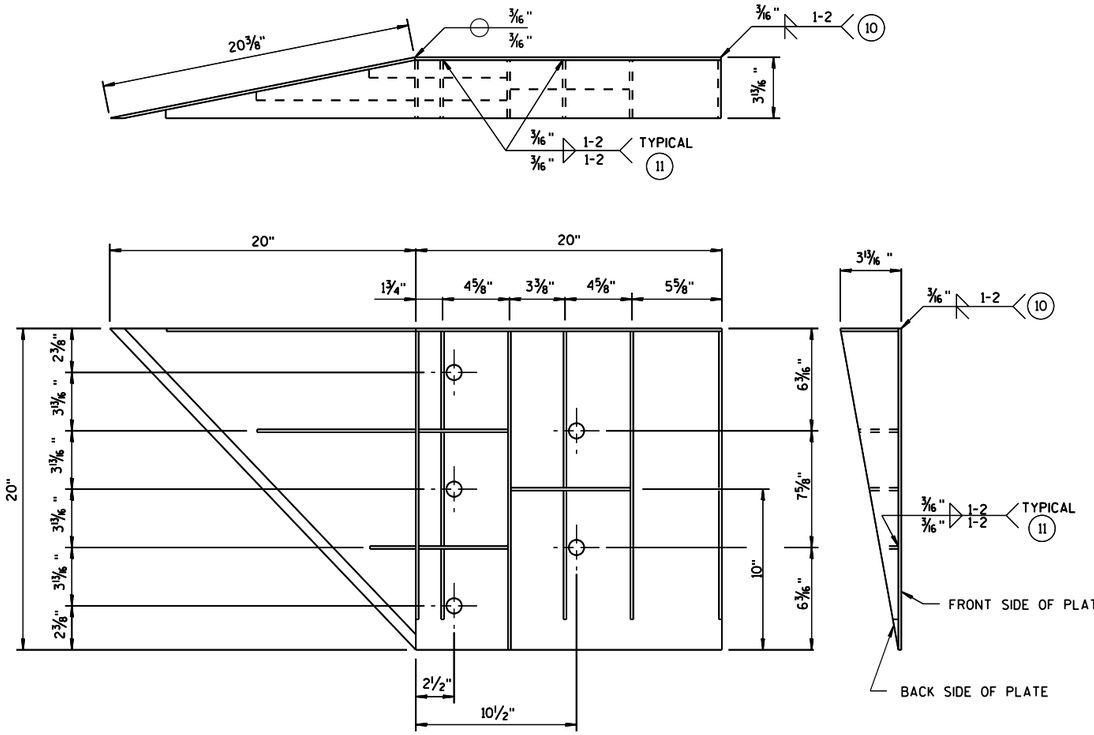
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

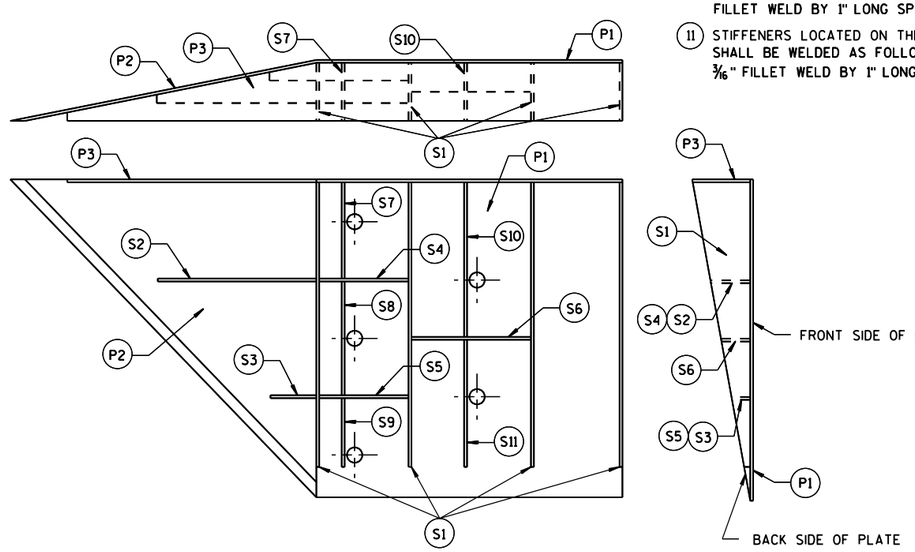


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

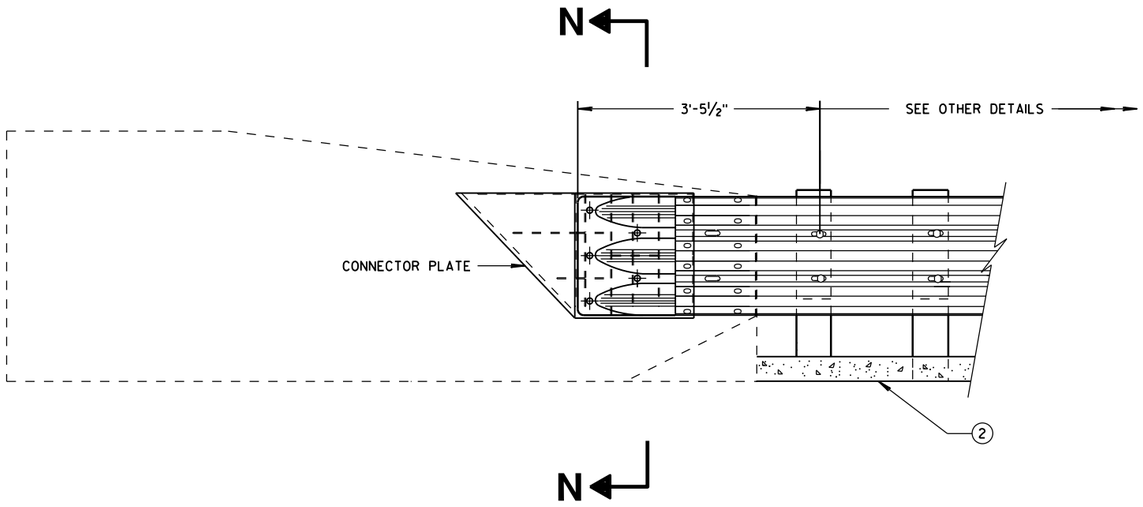
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

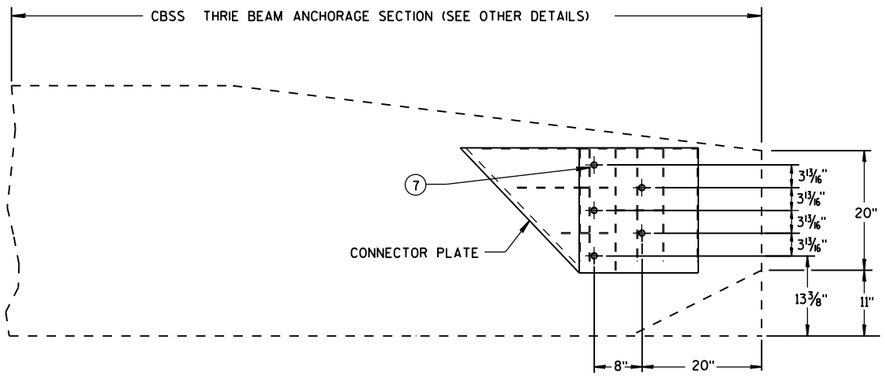
APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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S.D.D. 14 B 45-4i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



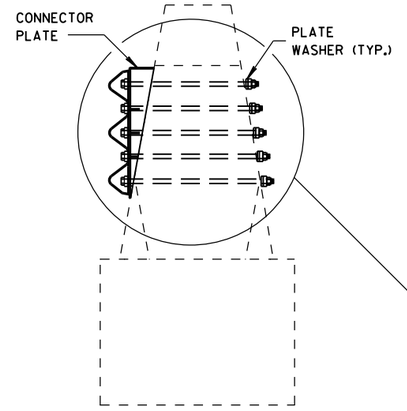
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

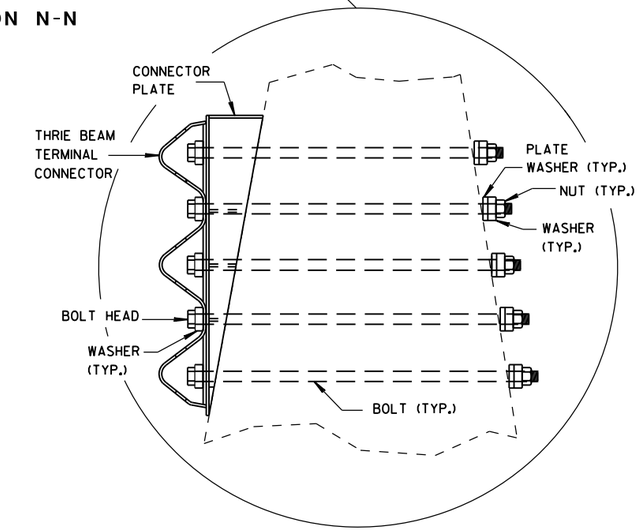
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

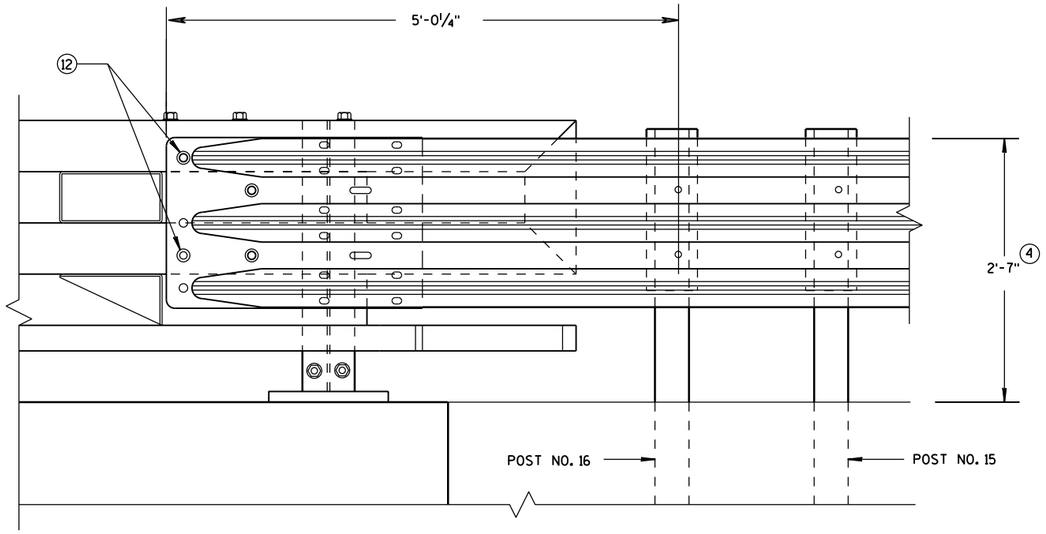
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/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
97
NT
FHWA

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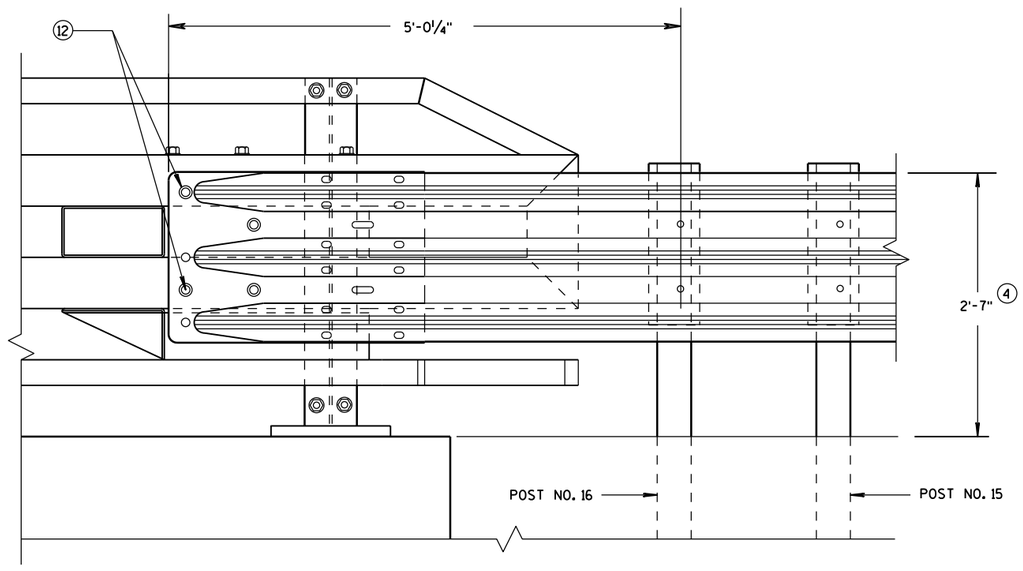
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S.D.D. 14 B 45-4j



ELEVATION OF DETAIL AT NY3 END POST

THRIE BEAM RAIL ATTACHMENT



ELEVATION OF DETAIL AT NY4 END POST

THRIE BEAM RAIL ATTACHMENT

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D 98 NT
ENGINEER

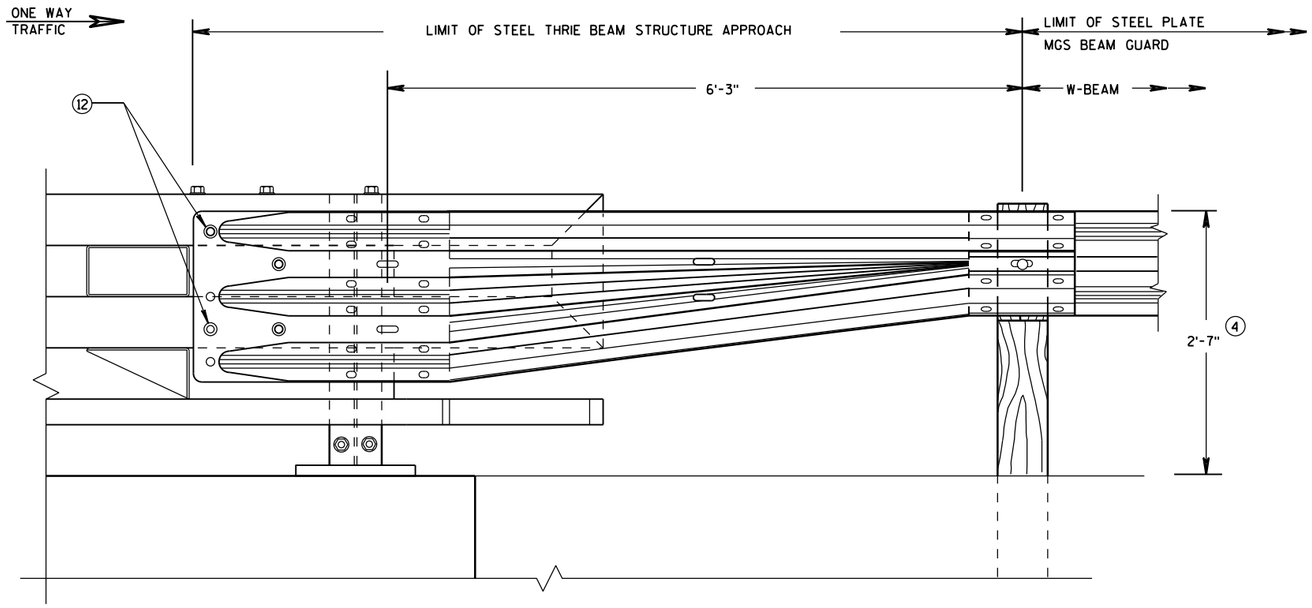
FHWA

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S.D.D. 14 B 45-4k

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S.D.D. 14 B 45-4k



FRONT VIEW

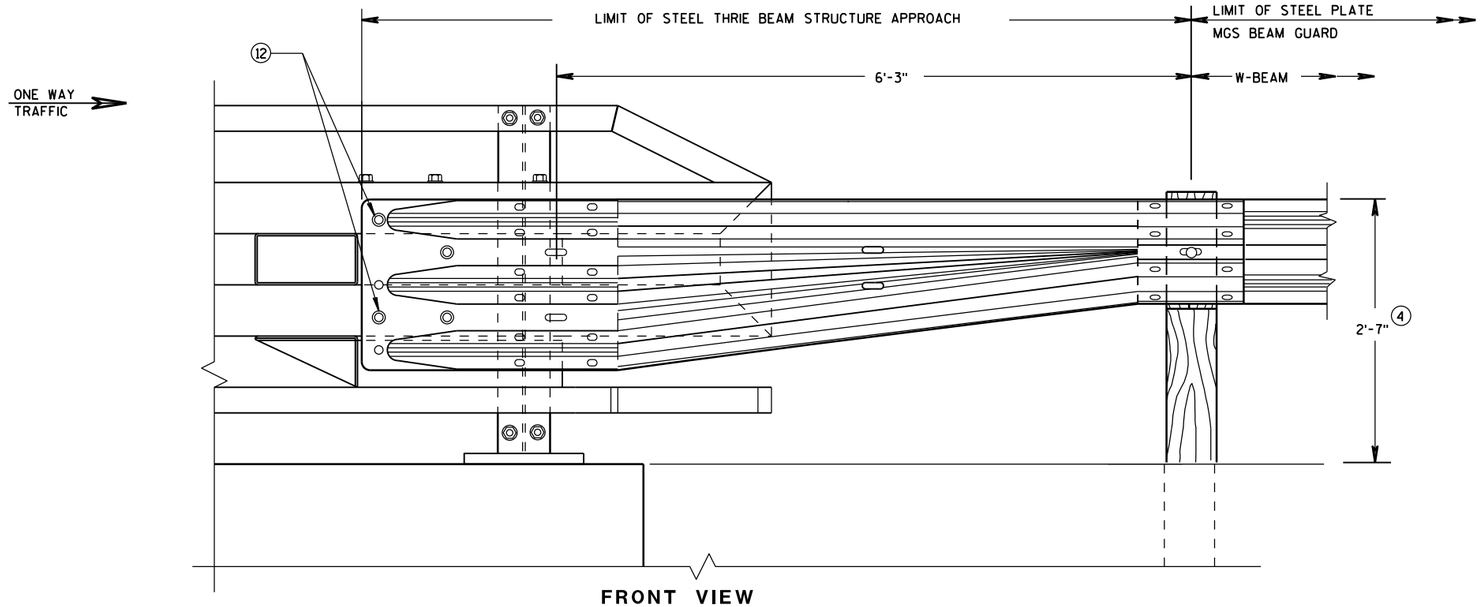
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

GENERAL NOTES

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

(12) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.



FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS D 99 ENGINEER
FHWA
NT

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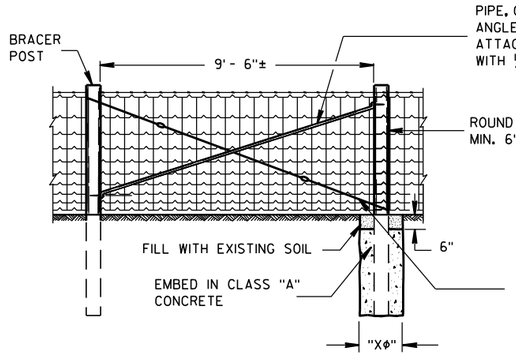
S.D.D. 14 B 45-4L

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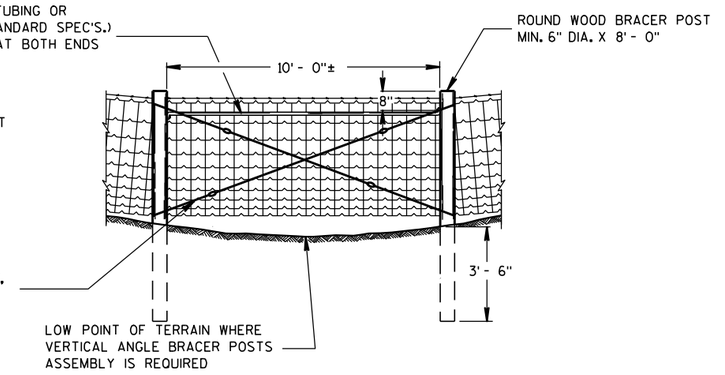
S.D.D. 14 B 45-4L

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

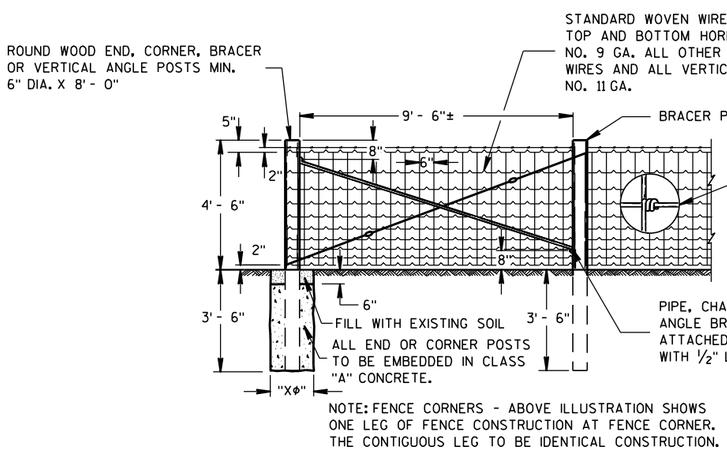
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

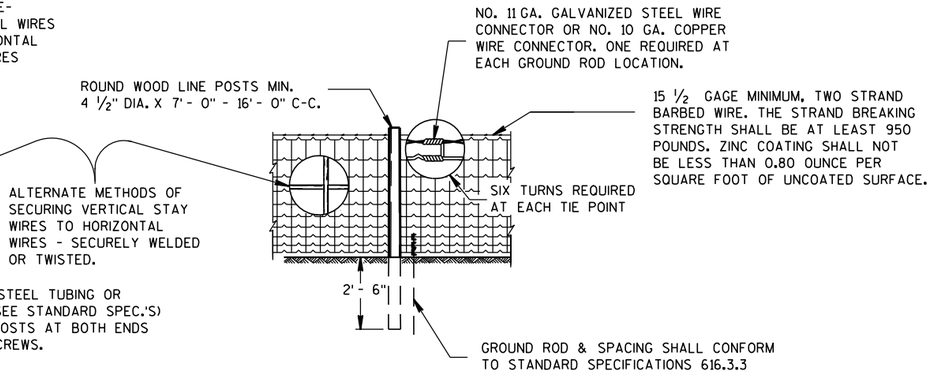
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



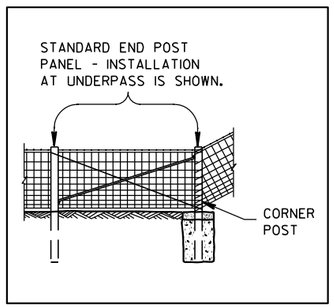
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

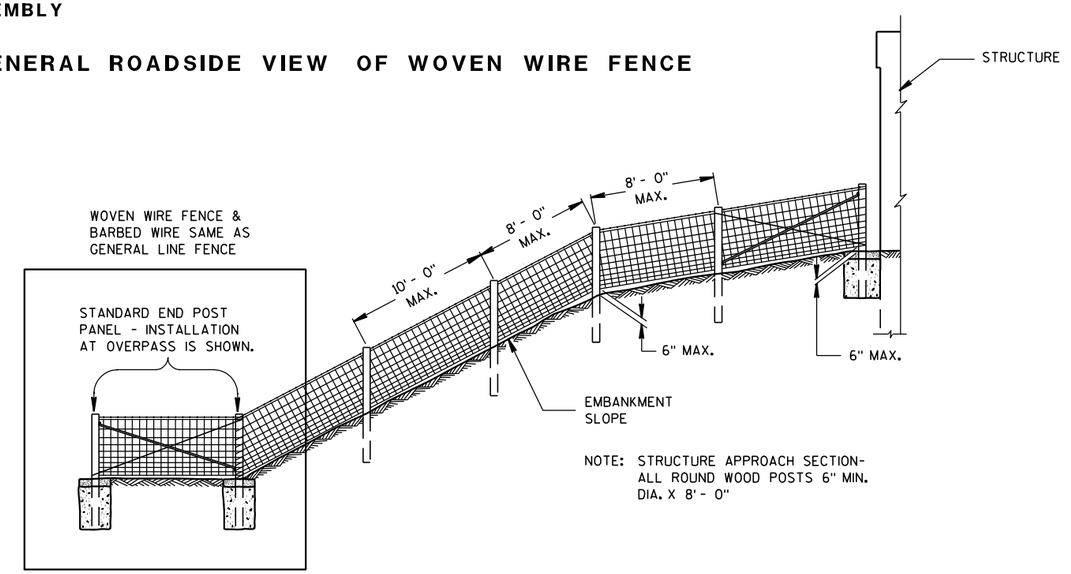


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

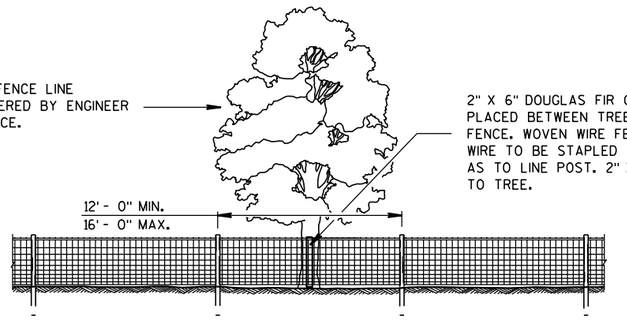
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

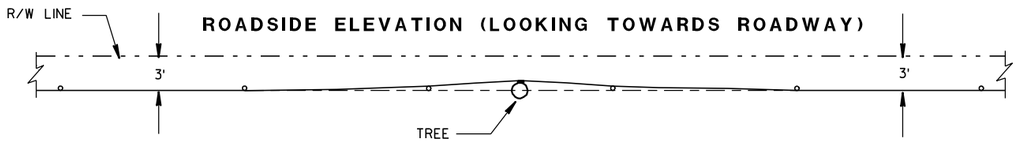
S.D.D. 15 B 1-8a

NOTE: TREE IN NORMAL FENCE LINE SPECIFICALLY ORDERED BY ENGINEER TO REMAIN IN PLACE.

2" X 6" DOUGLAS FIR OR SO. YELLOW PINE PLACED BETWEEN TREE AND WOVEN WIRE FENCE. WOVEN WIRE FENCE AND BARBED WIRE TO BE STAPLED TO 2" X 6" LIKE AS TO LINE POST. 2" X 6" NOT FASTENED TO TREE.

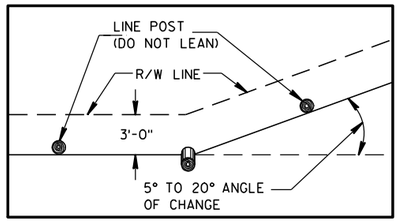


ROADSIDE ELEVATION (LOOKING TOWARDS ROADWAY)

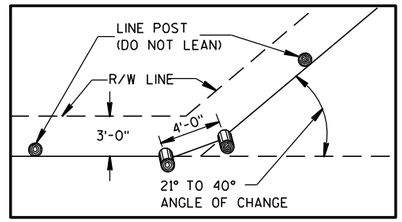


PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



PLAN VIEW
SINGLE POST CORNER

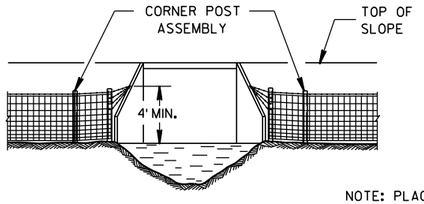


PLAN VIEW
DOUBLE POST CORNER

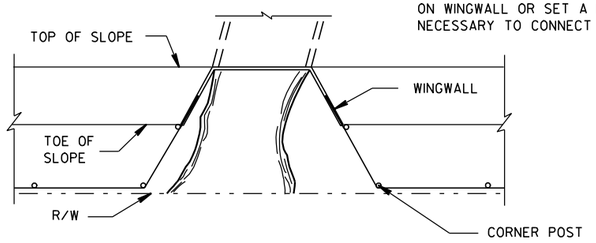
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

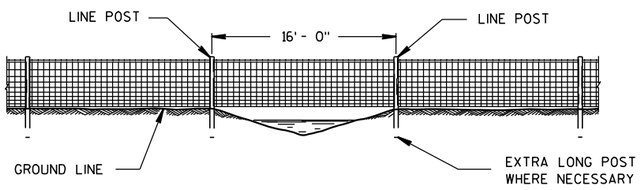
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



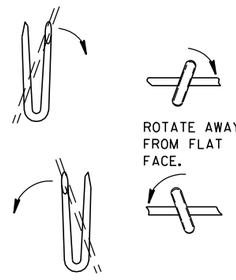
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



FENCE INSTALLATION TO WINGWALLS

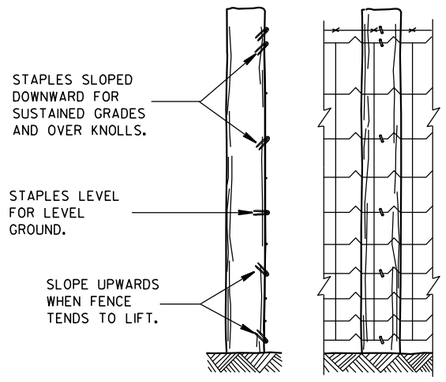


FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



LINE POST

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.

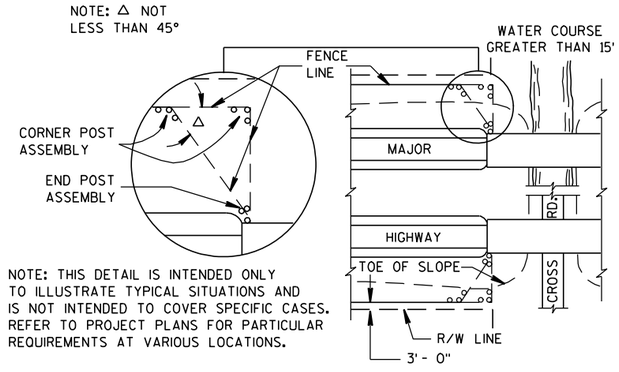


END ELEVATION

FARM SIDE ELEVATION

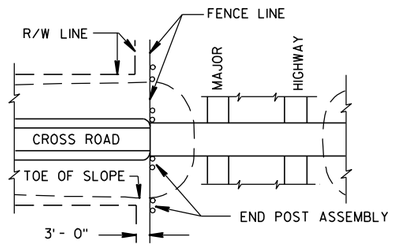
FENCE MOUNTING DETAIL

NOTE: △ NOT LESS THAN 45°



NOTE: THIS DETAIL IS INTENDED ONLY TO ILLUSTRATE TYPICAL SITUATIONS AND IS NOT INTENDED TO COVER SPECIFIC CASES. REFER TO PROJECT PLANS FOR PARTICULAR REQUIREMENTS AT VARIOUS LOCATIONS.

PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

FENCE LOCATION AT STRUCTURES

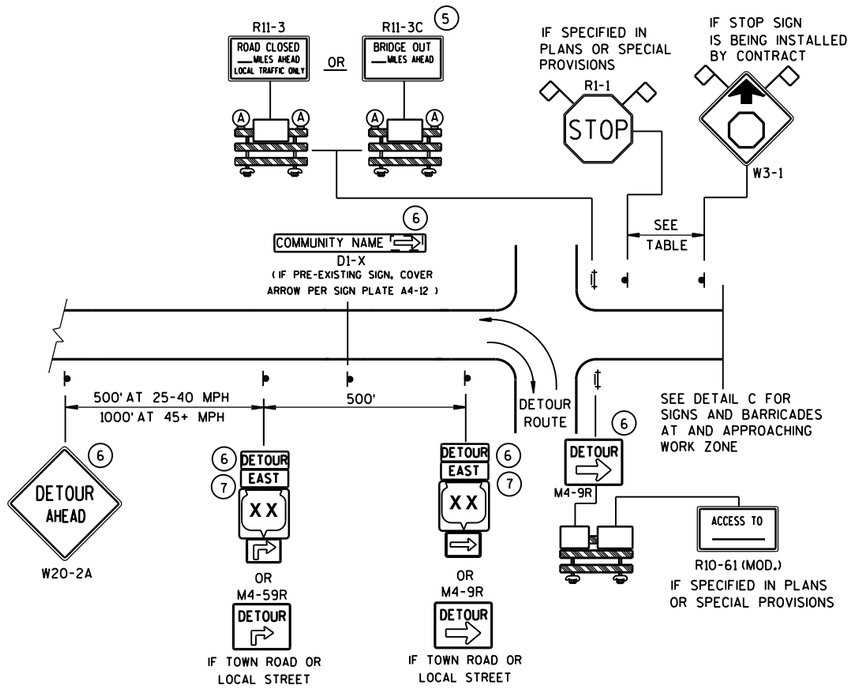
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible] ENGINEER
FHWA

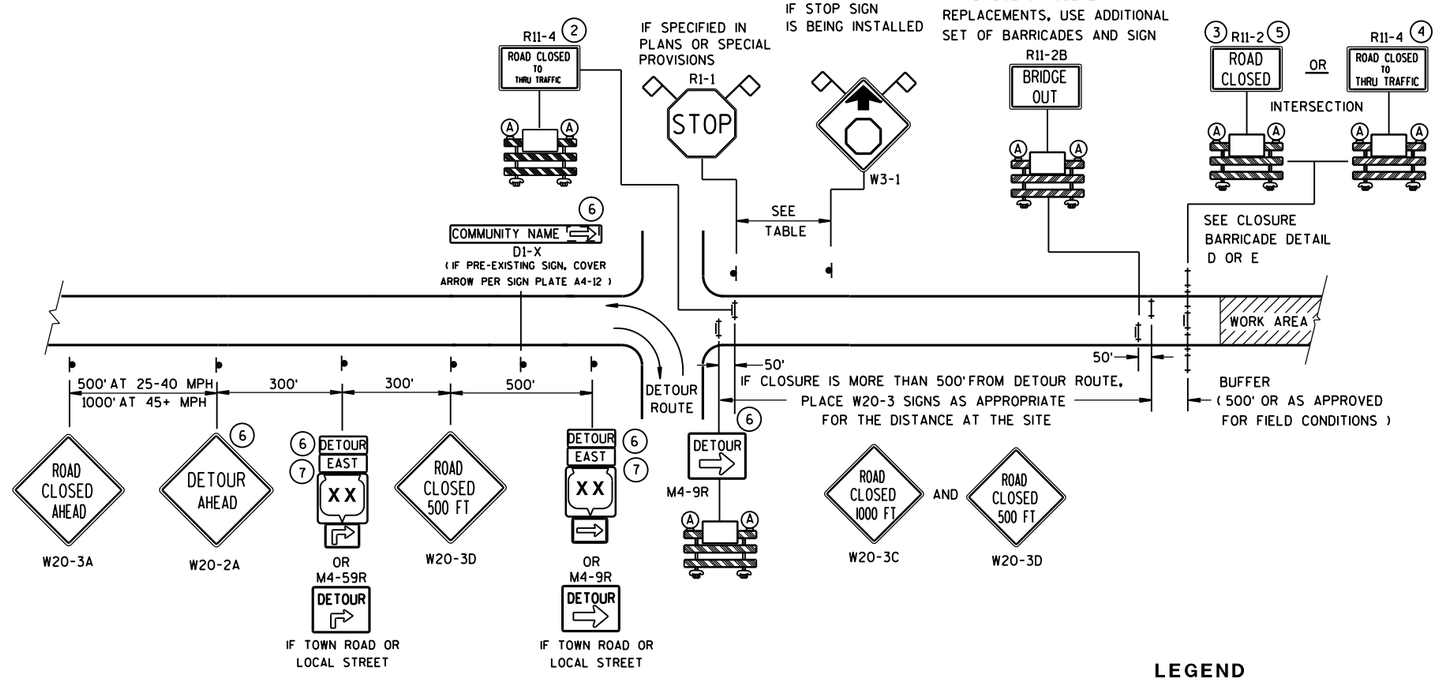
6

S.D.D. 15 B 1-8b



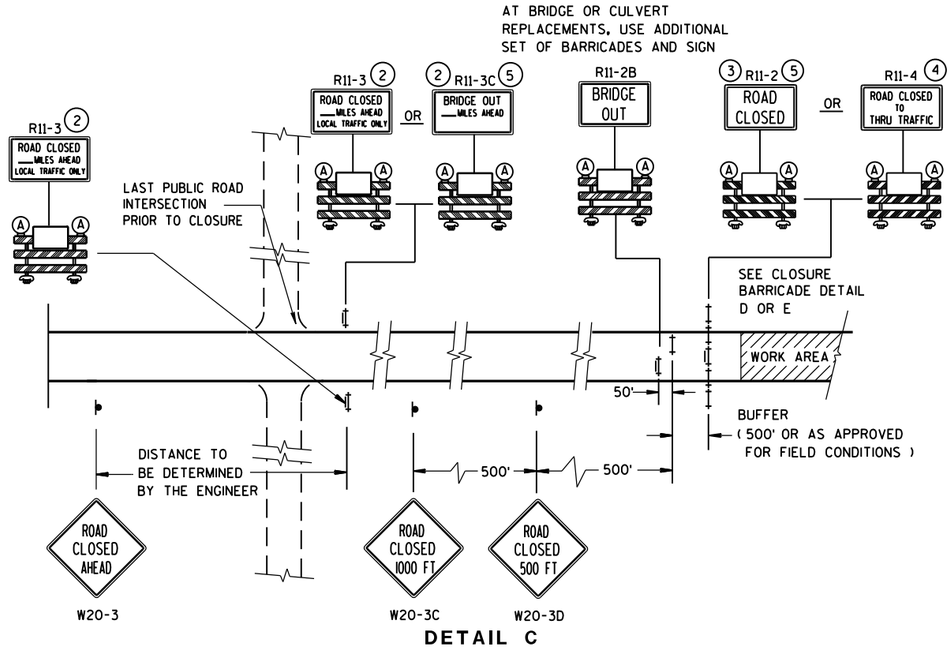
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

LEGEND

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

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

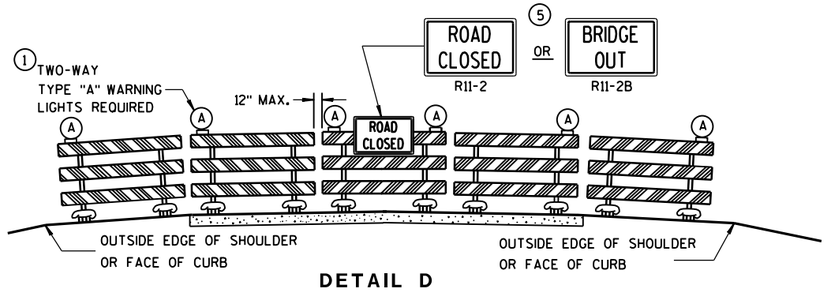
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

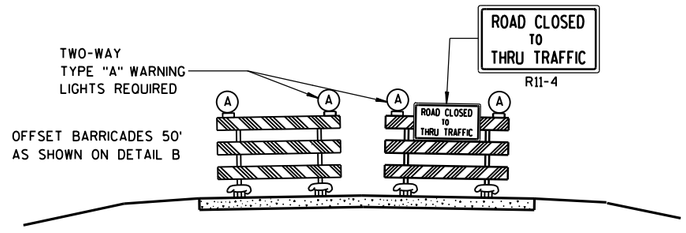
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DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015	/S/ Peter Amakobe Atepe
DATE	STATEWIDE WORK ZO SAFETY ENGI FIC

FHWA

6

S.D.D. 15 C 2-6b

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

GENERAL NOTES

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

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

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

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

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

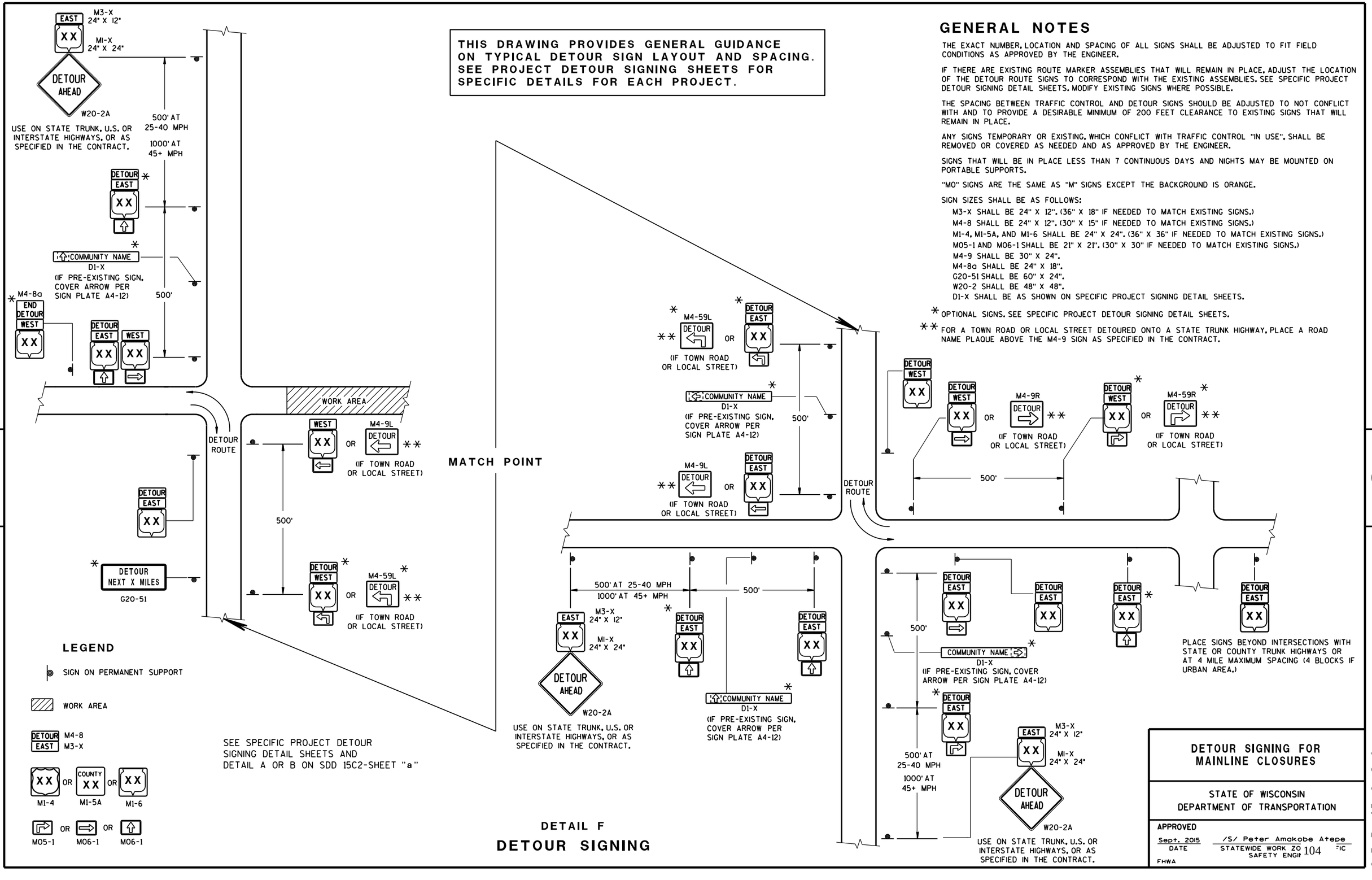
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

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



DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

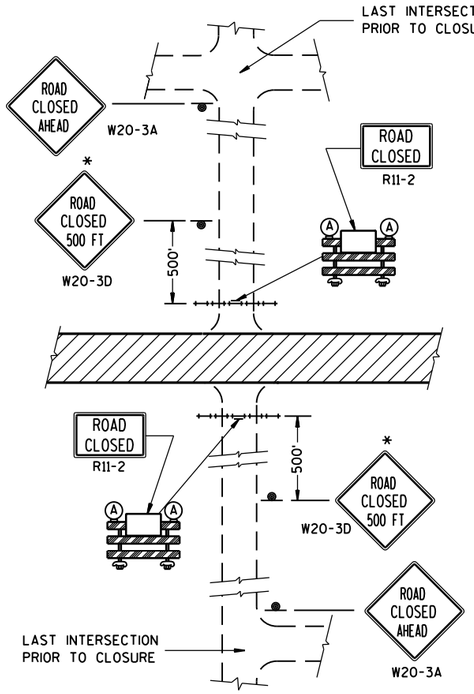
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible] FIC

FHWA

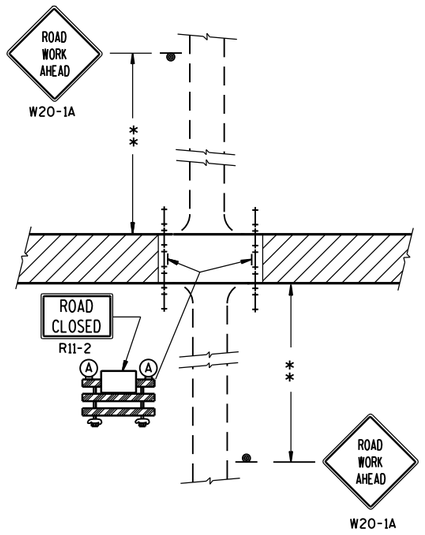
6

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



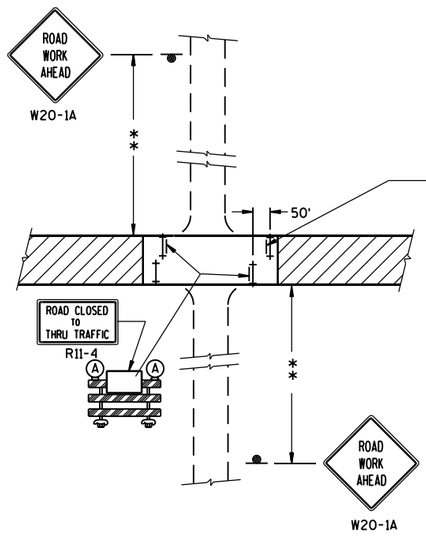
DETAIL 1

(NO ACCESS TO PROJECT)



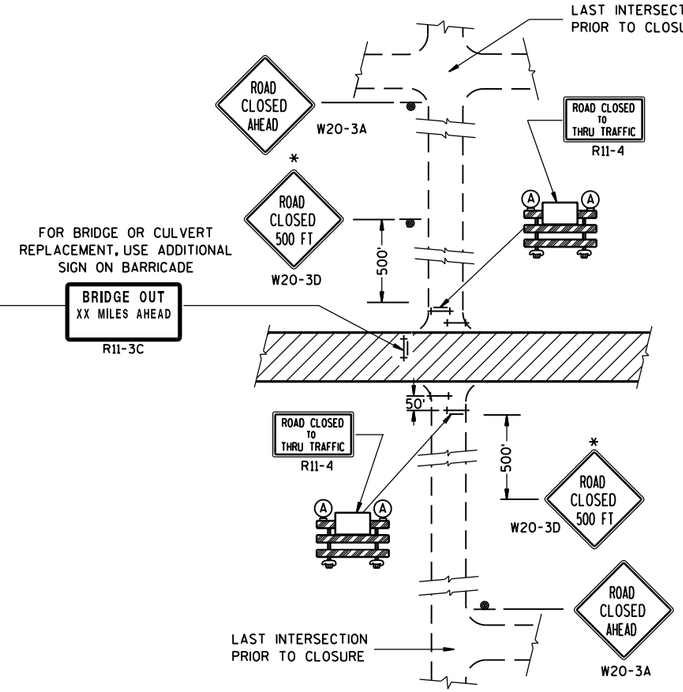
DETAIL 2

(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
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]FIC SAFETY ENGI[illegible]
FHWA

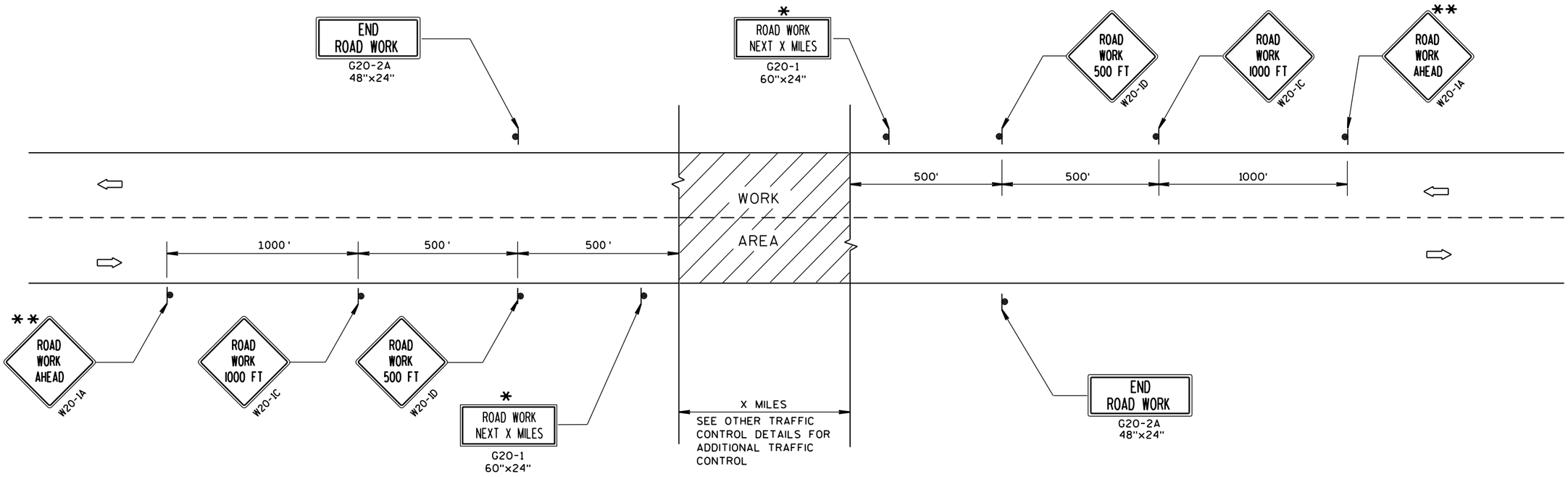
6

S.D.D. 15 C 3-3

6

S.D.D. 15 C 3-3

TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL



GENERAL NOTES

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

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

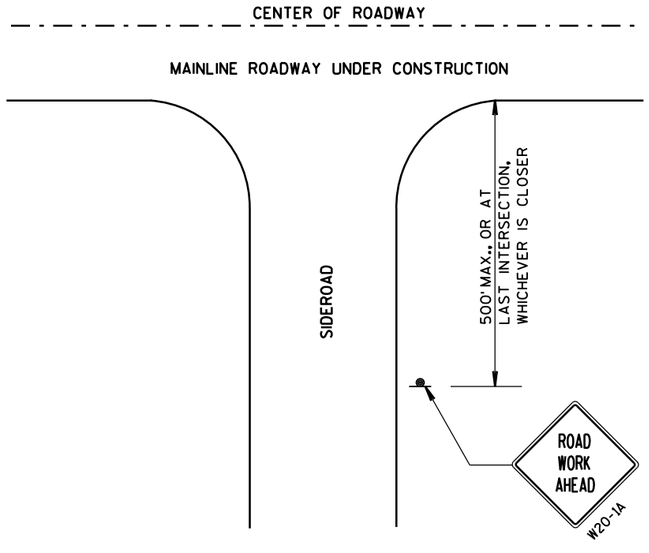
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

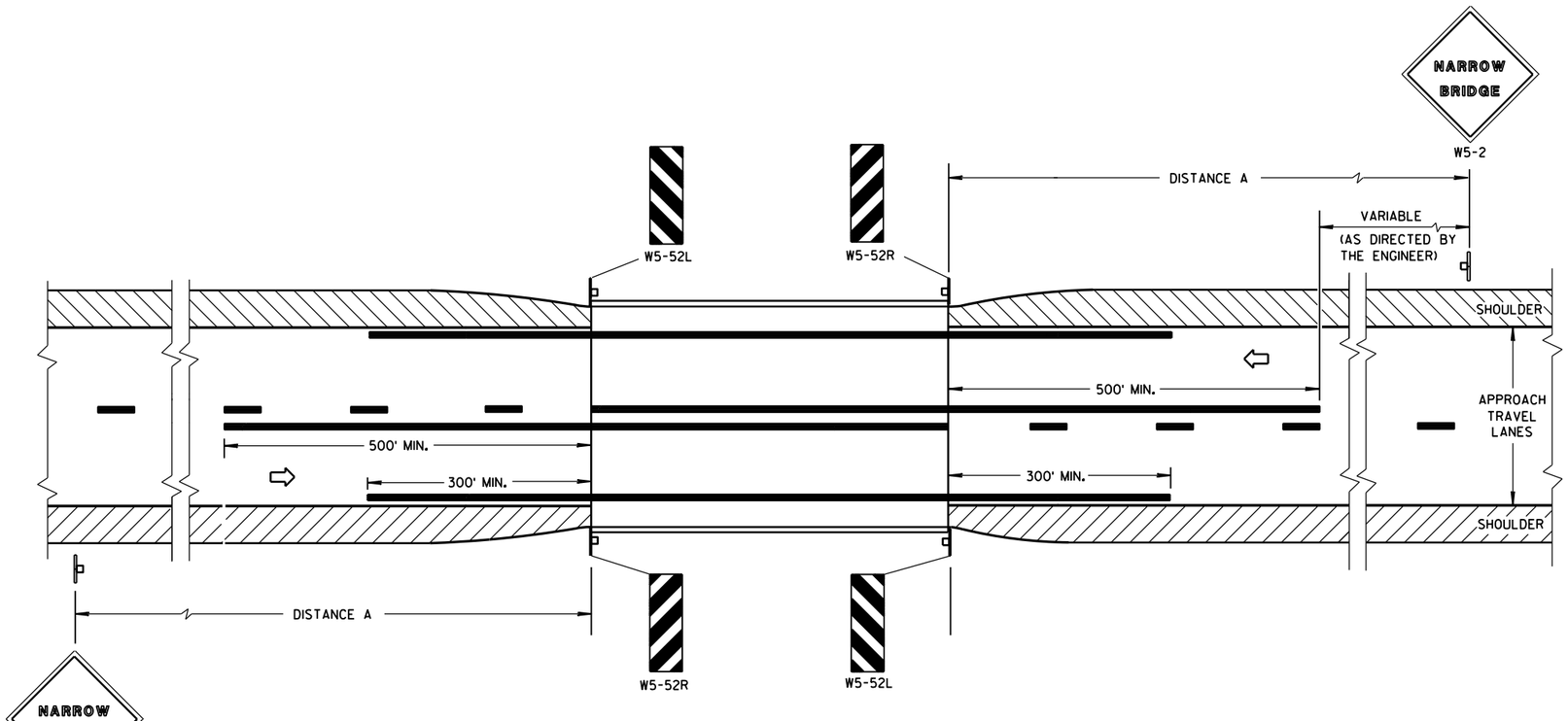
APPROVED

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

FHWA

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S.D.D. 15 C 4-3

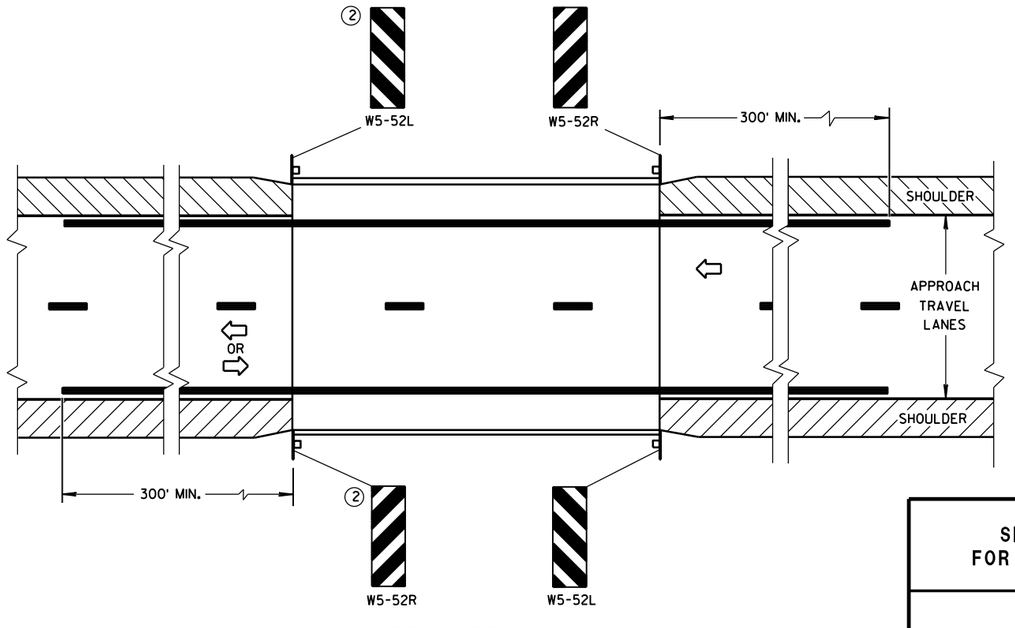


SITUATION 1

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

DISTANCE TABLE

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



SITUATION 2

WARRANTING CRITERIA:

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

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.

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

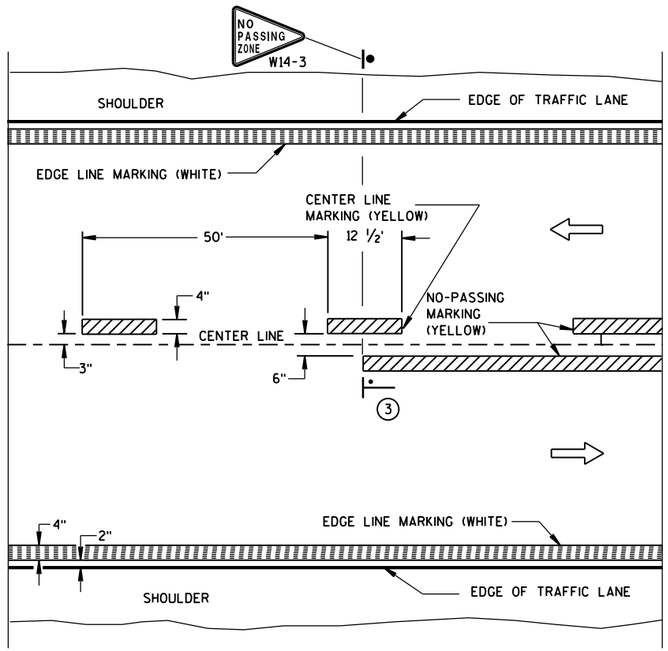
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

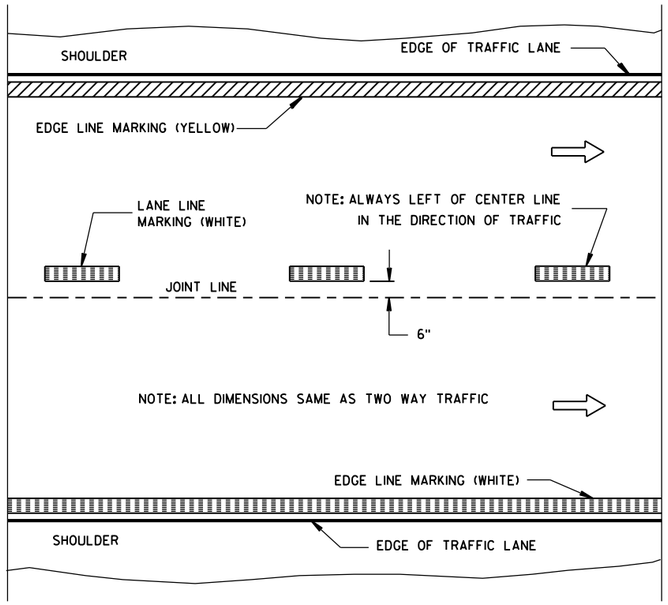
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ... ENGINEER
FHWA

6

S.D.D. 15 C 6-8

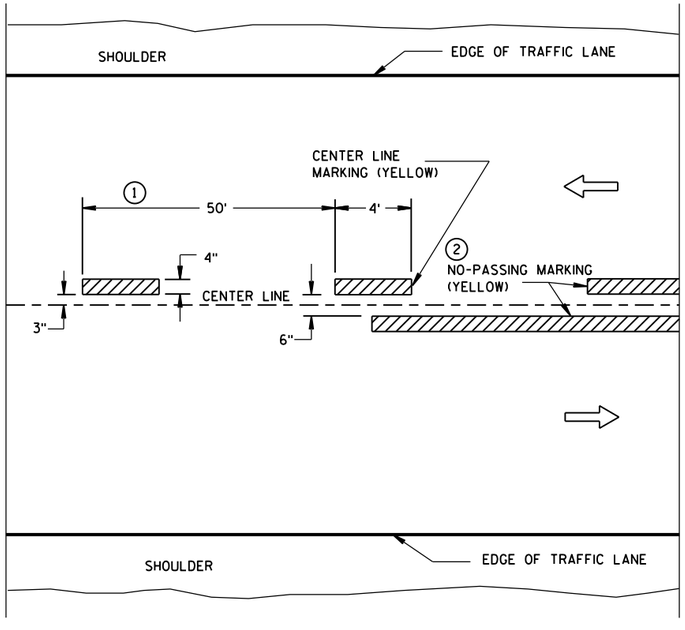


TWO WAY TRAFFIC

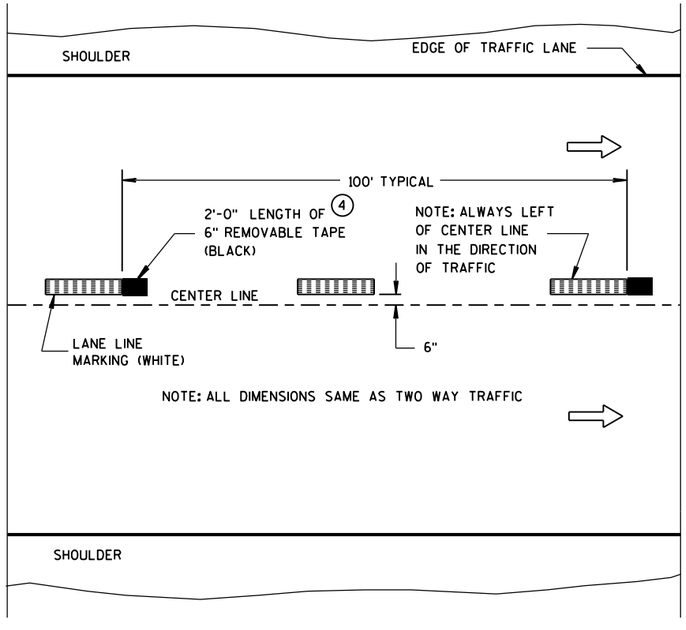


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

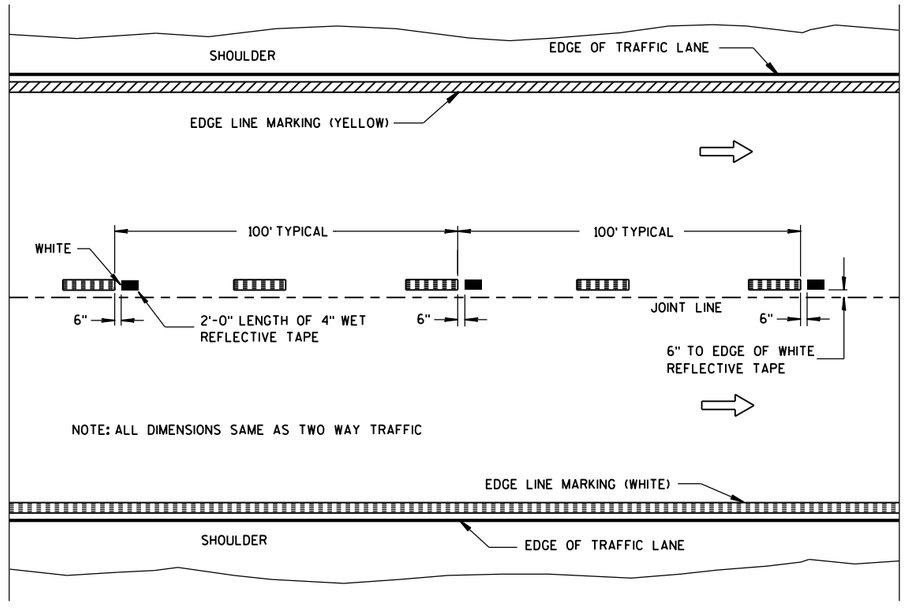
GENERAL NOTES

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

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

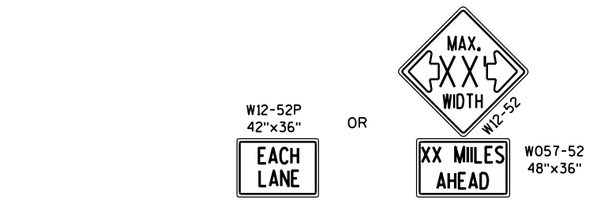
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S.D.D. 15 C 8-16a

LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

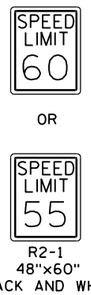
L, TAPER LENGTH (MPH)									
SPEED (MPH)	W, LATERAL OFFSET (FT)								
	10	11	12	13	14	15	16	17	18
45	450	495	540	585	630	675	720	765	810
50	500	550	600	650	700	750	800	850	900
55	550	605	660	715	770	825	880	935	990
60	600	660	720	780	840	900	960	1020	1080
65	650	715	780	845	910	975	1040	1105	1170
70	700	770	840	910	980	1050	1120	1190	1260



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).



LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.



R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

GENERAL NOTES

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

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

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

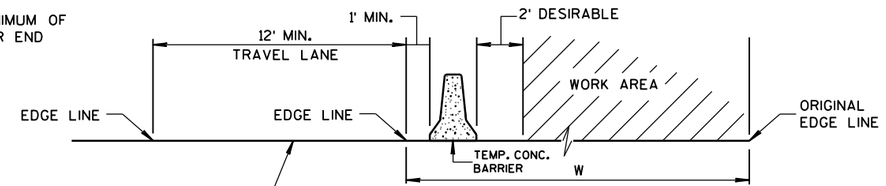
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

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

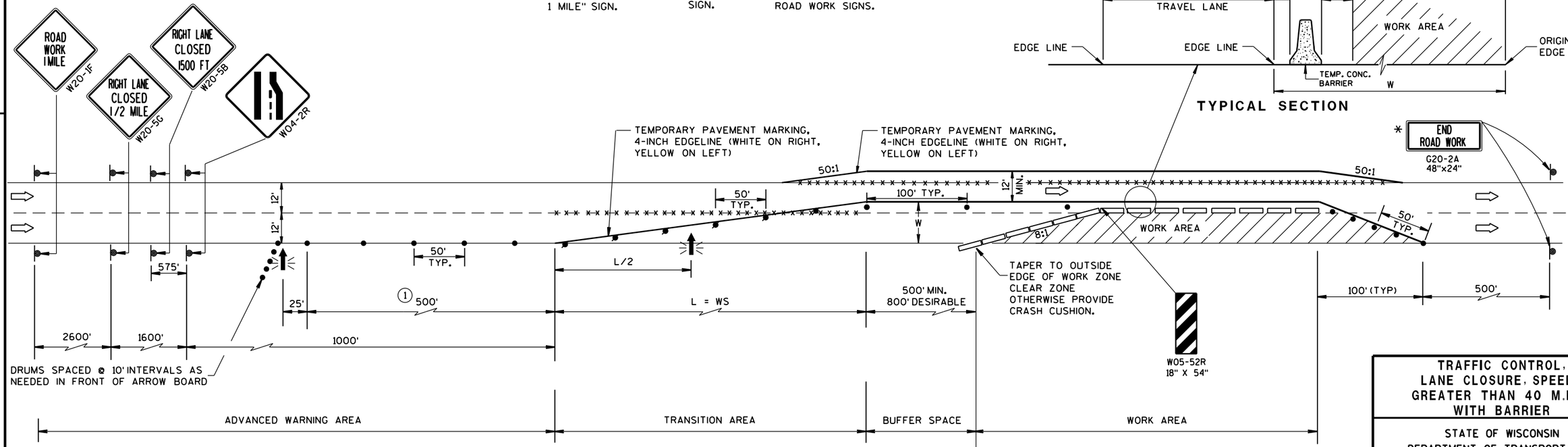
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

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

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



TYPICAL SECTION



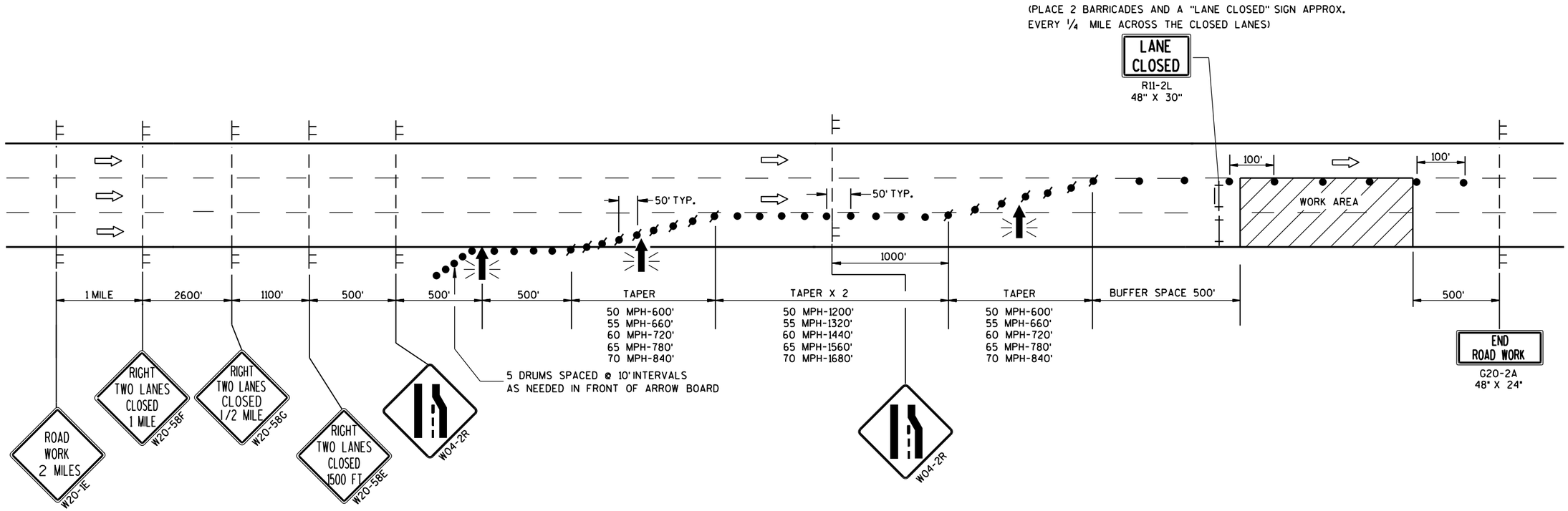
TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN IC
FHWA

6

S.D.D. 15 D 3-3



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- DIRECTION OF TRAFFIC
- WORK AREA

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

TRAFFIC CONTROL, TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 14, 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGR
FHWA

6

S.D.D. 15 D 14-3

6

S.D.D. 15 D 14-3

LEGEND

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

GENERAL NOTES

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

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

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

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

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

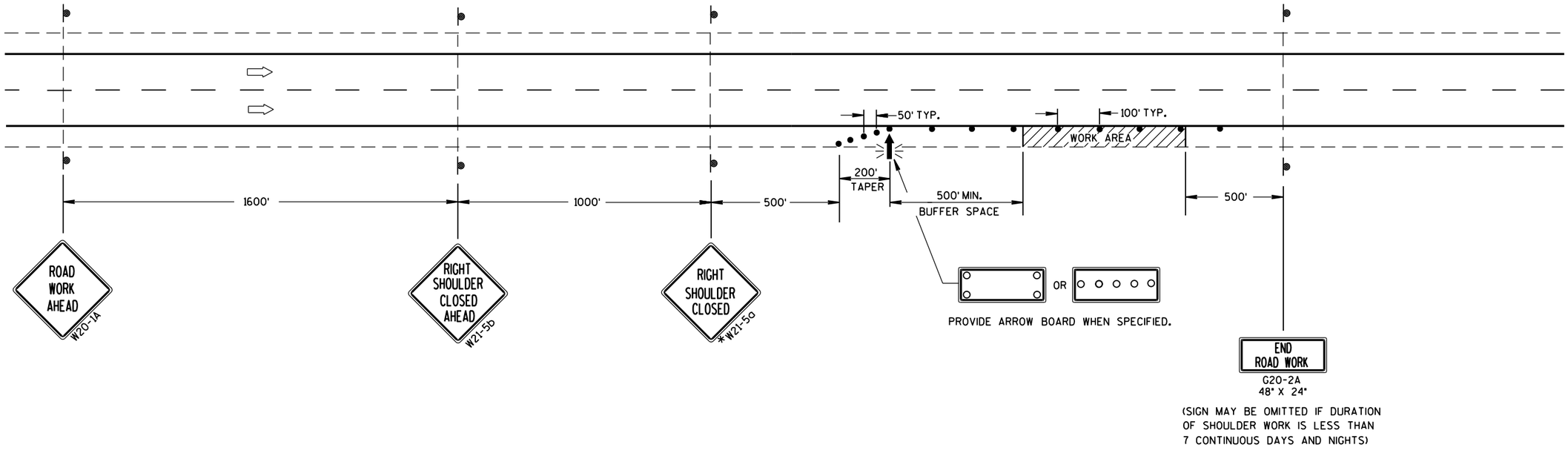
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

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

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



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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

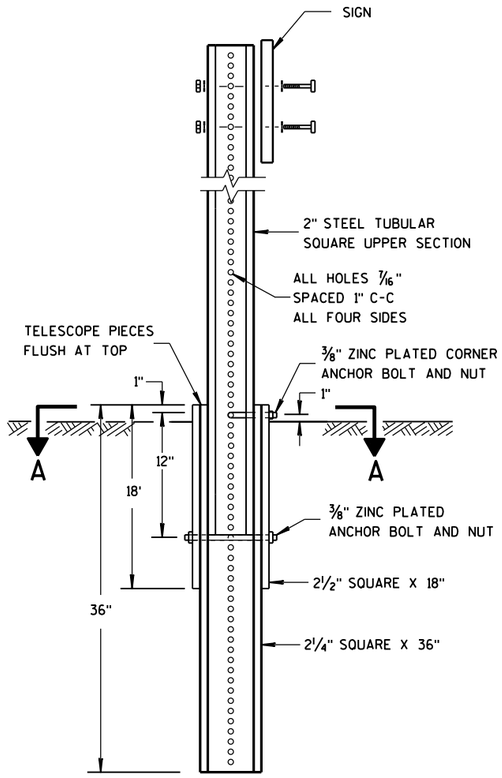
FHWA

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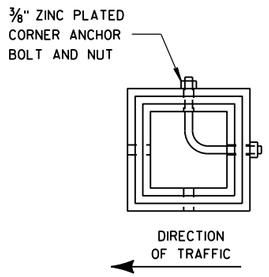
S.D.D. 15 D 27-3

6

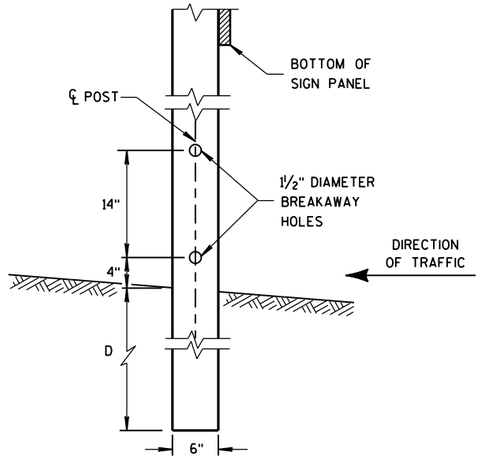
S.D.D. 15 D 27-3



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



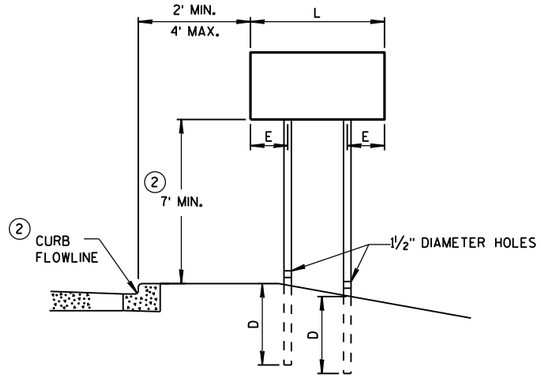
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

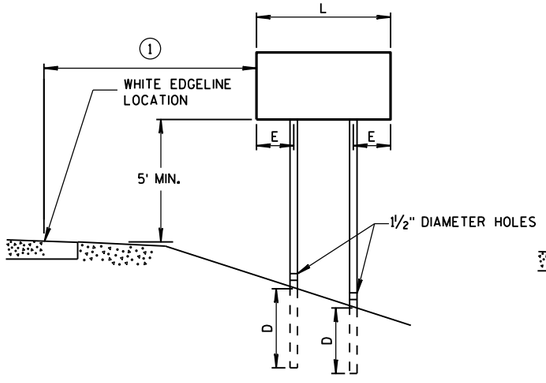
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

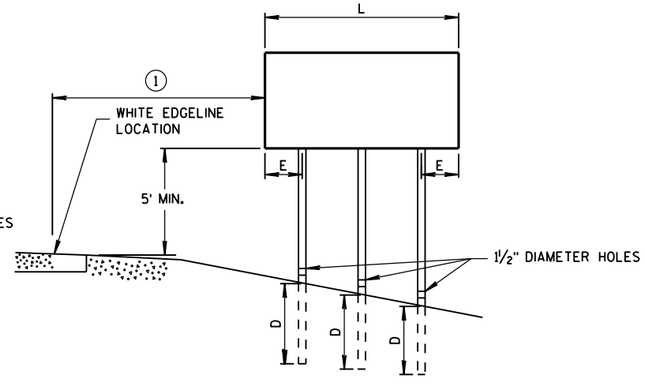
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

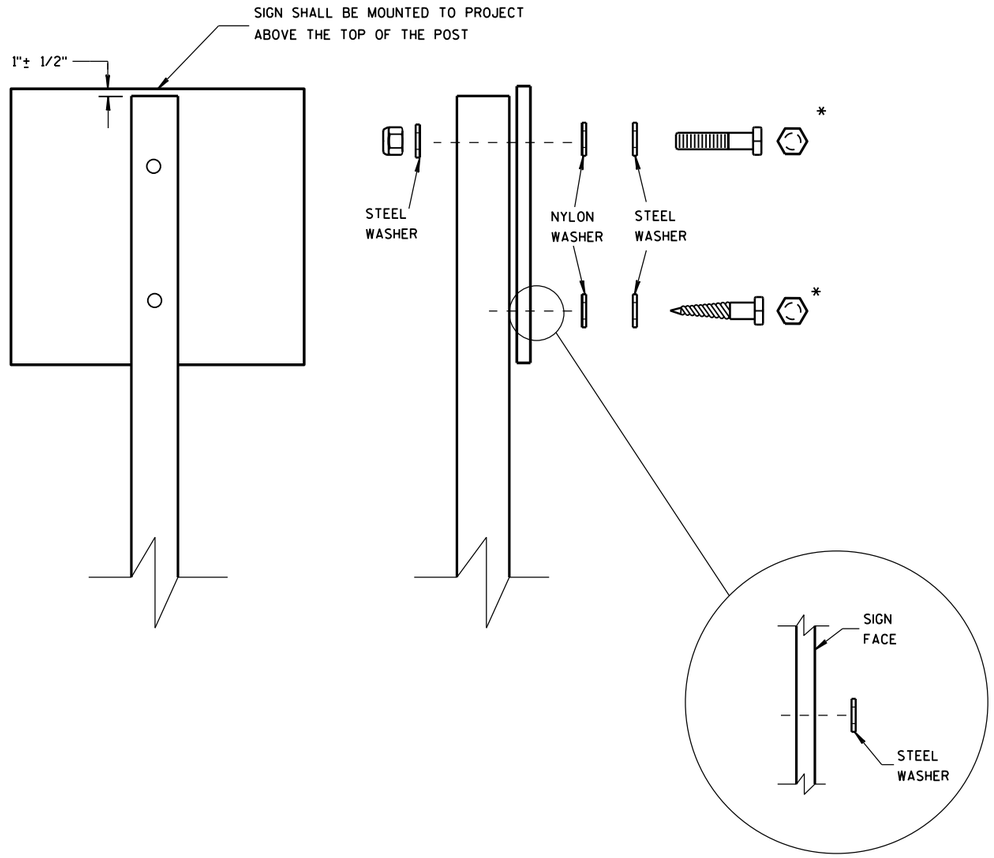
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 38-1a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-1b

S.D.D. 15 D 38-1b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

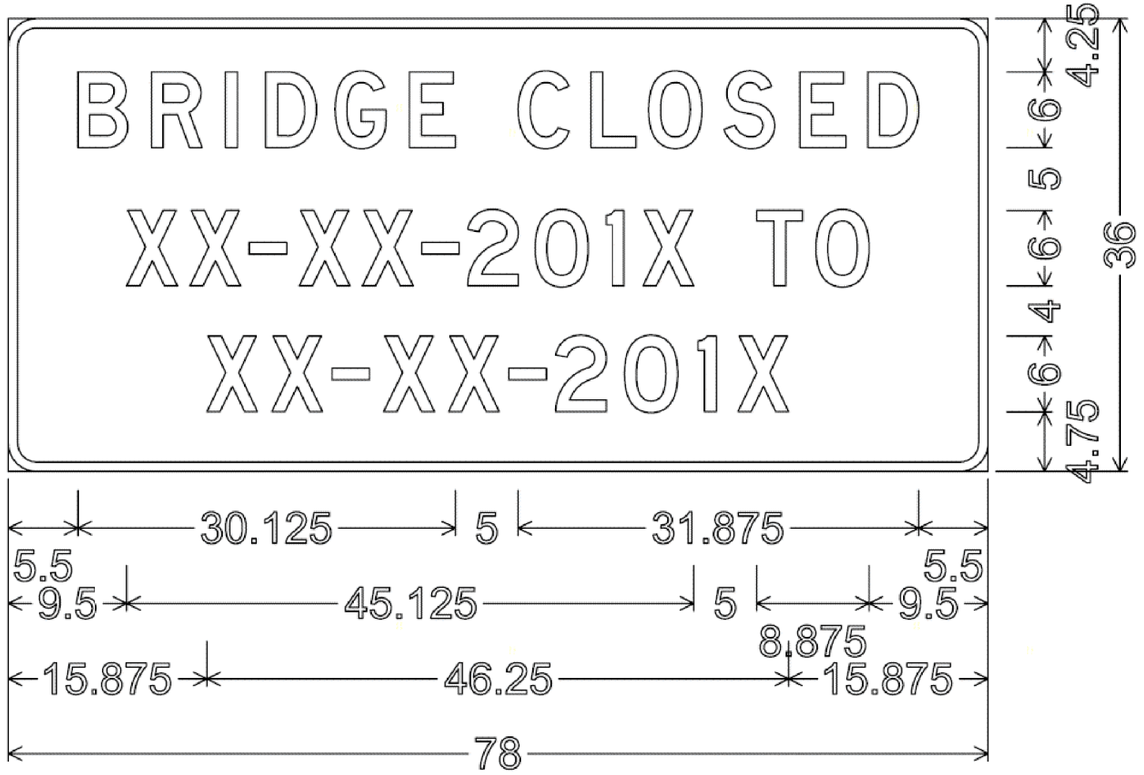
APPROVED

Feb. 2015
DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

SIGN



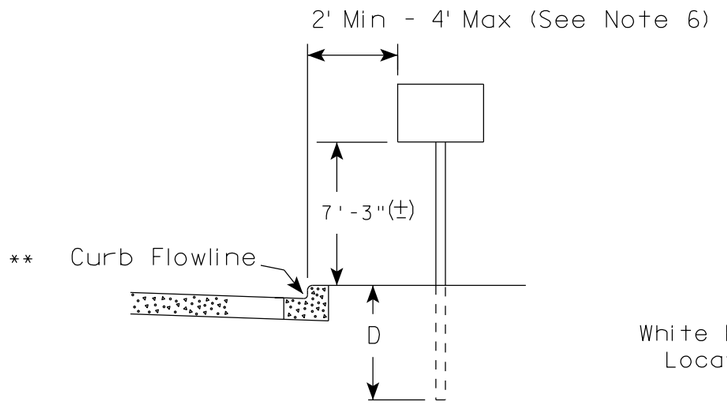
2.250" Radius, 0.750" Border, Black on Orange;
"BRIDGE" D; "CLOSED" D;
"XX-XX-201X" D 89% spacing;
"TO" D 93% spacing; "XX-XX-201X" D;

7

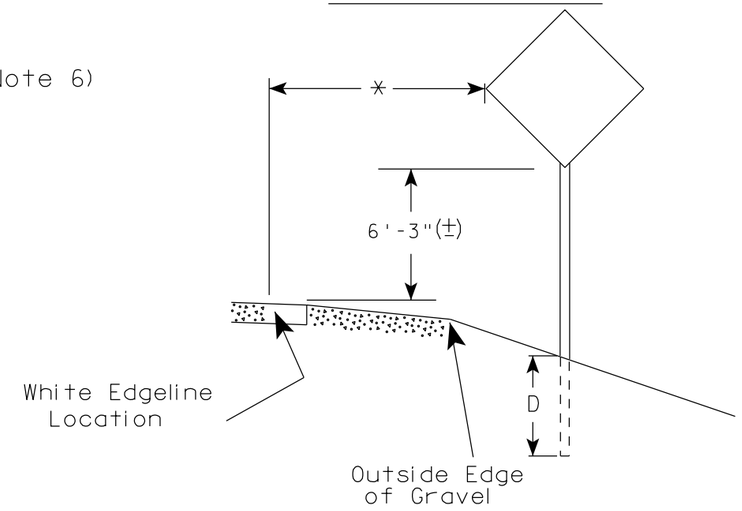
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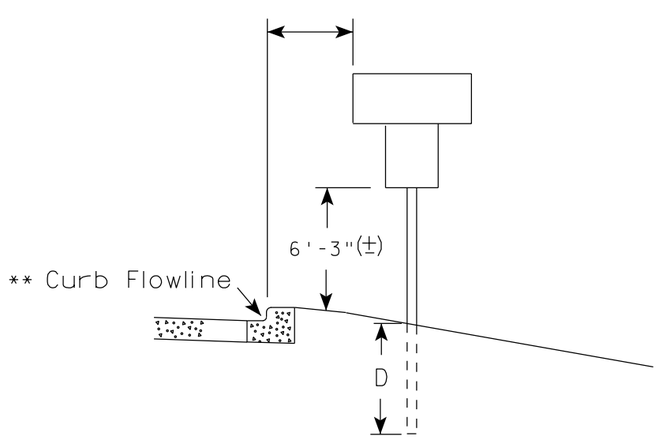
PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	TEMPORARY SIGNING	SHEET 114	E

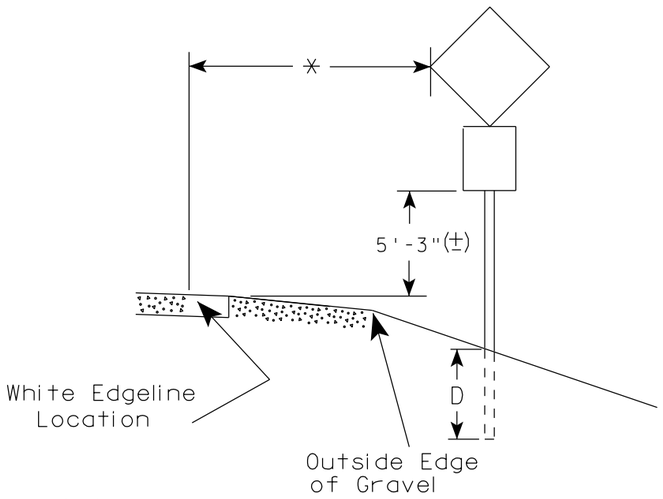
URBAN AREA



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.

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

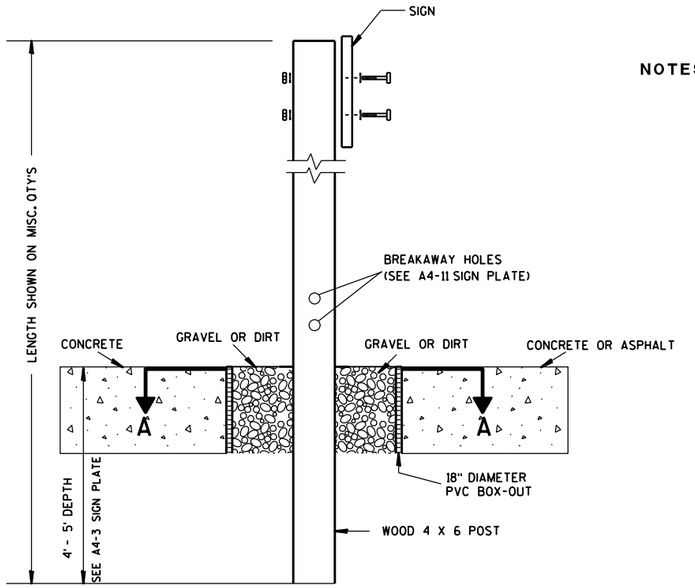
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

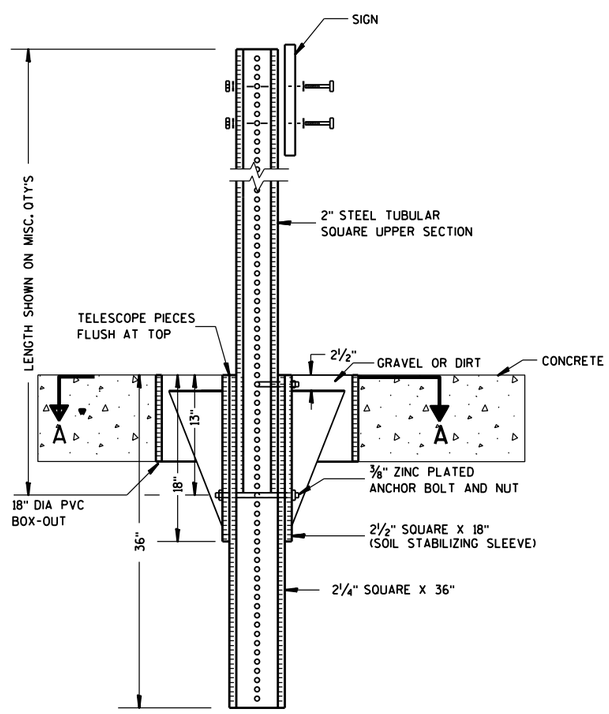
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

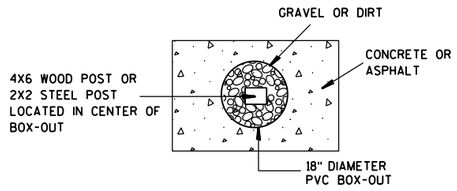
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

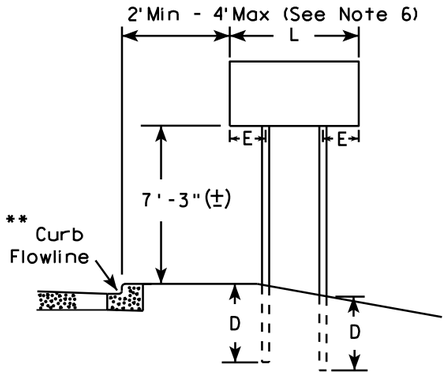
APPROVED Matthew R Rauch
for State Traffic Engineer

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

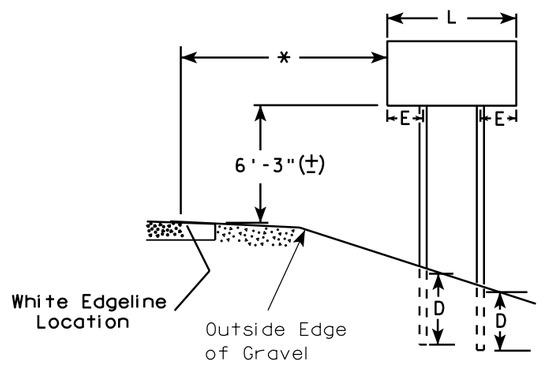
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

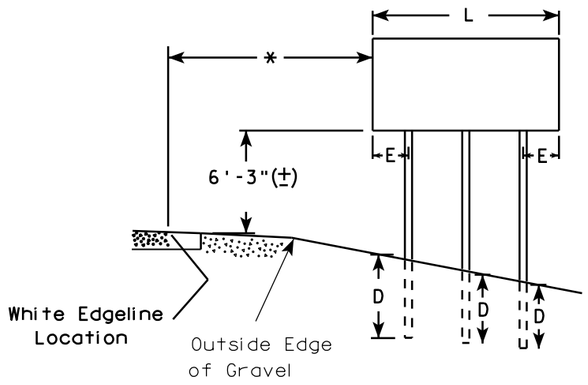
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

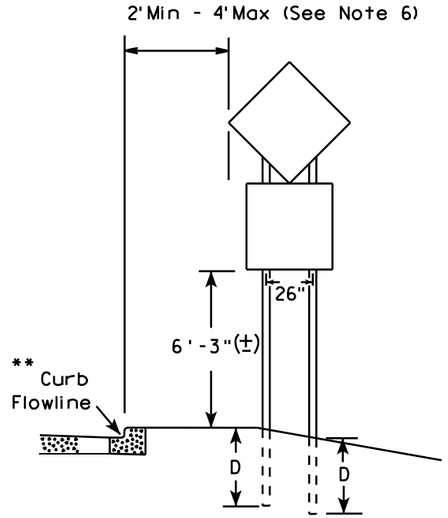
URBAN AREA



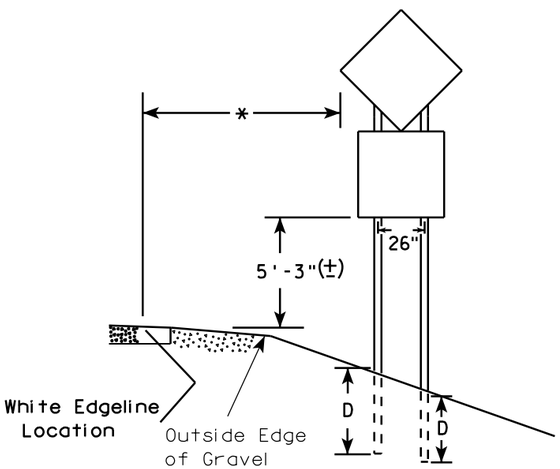
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

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

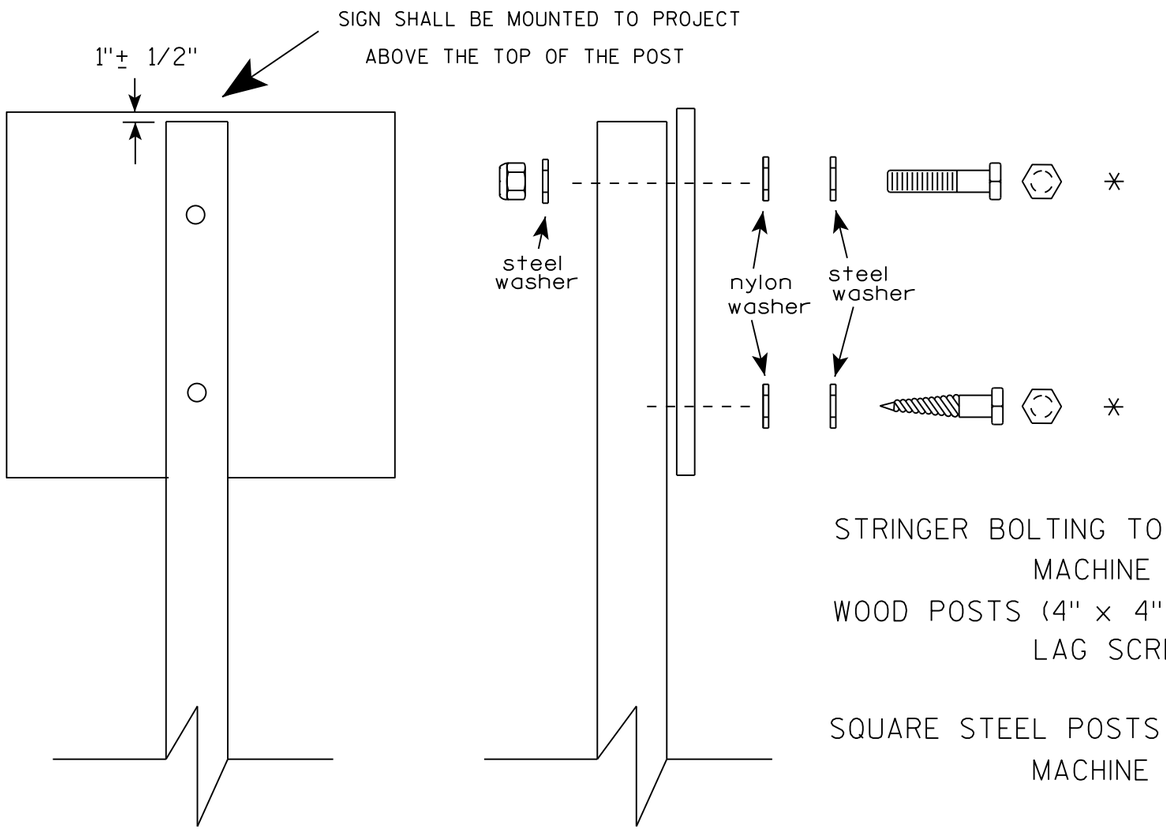
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



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

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)
SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

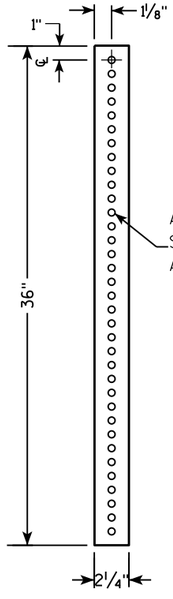
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

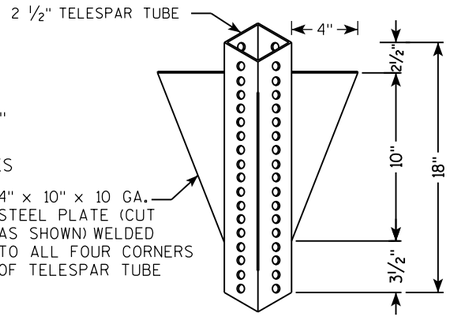
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

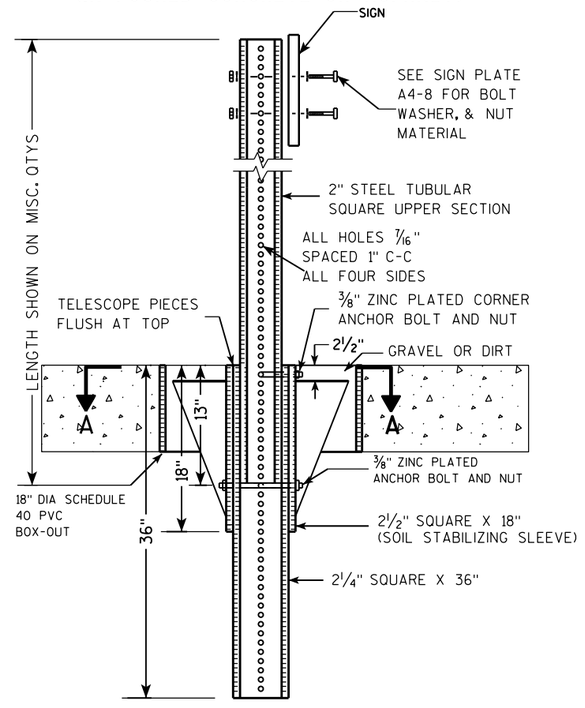
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



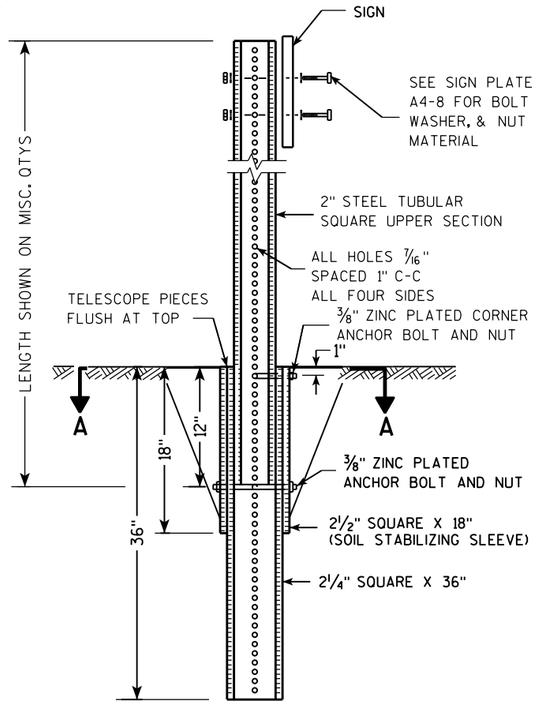
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

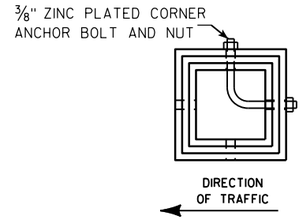


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

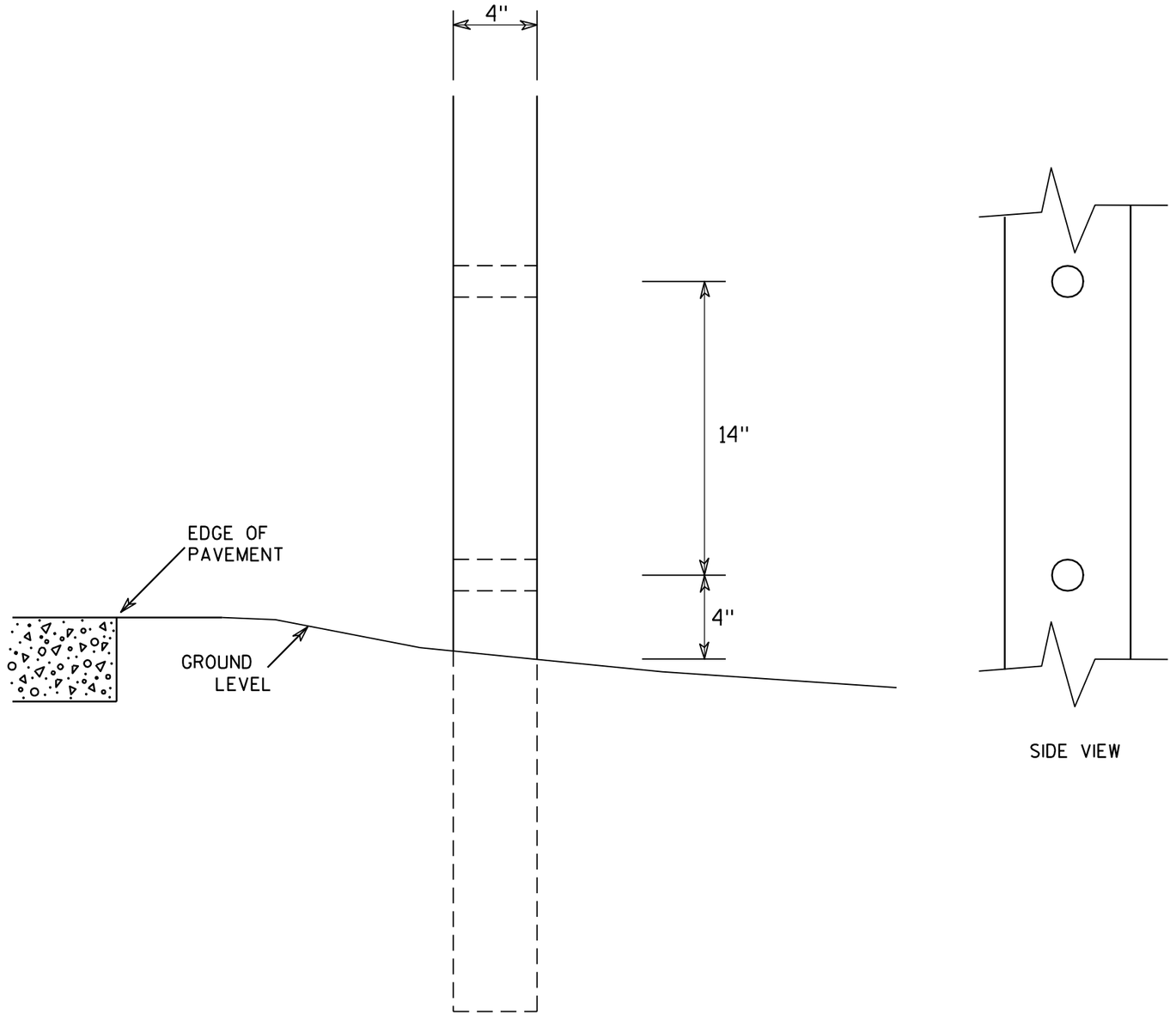
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000
WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

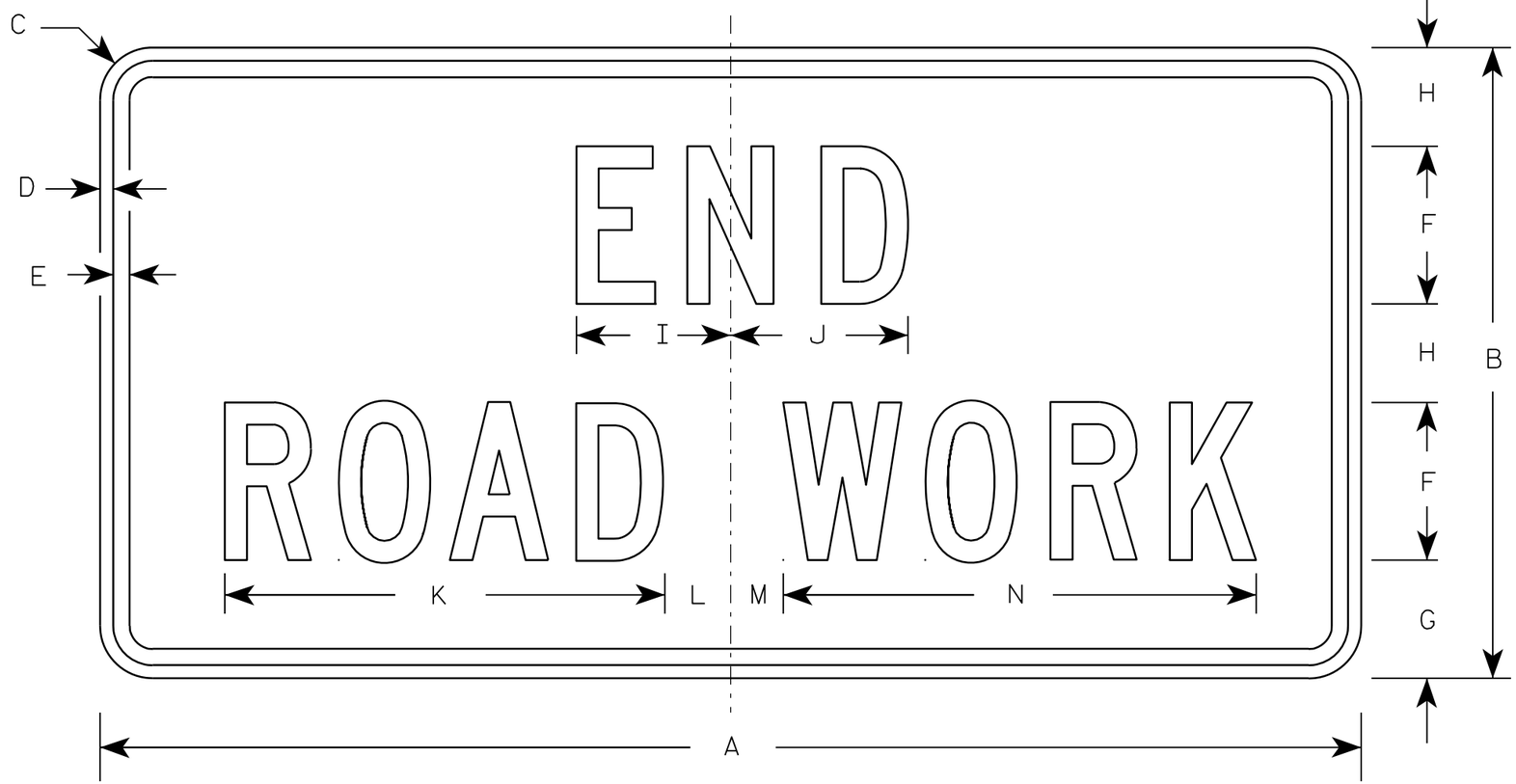
4 X 6 WOOD POST MODIFICATIONS

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: 120	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

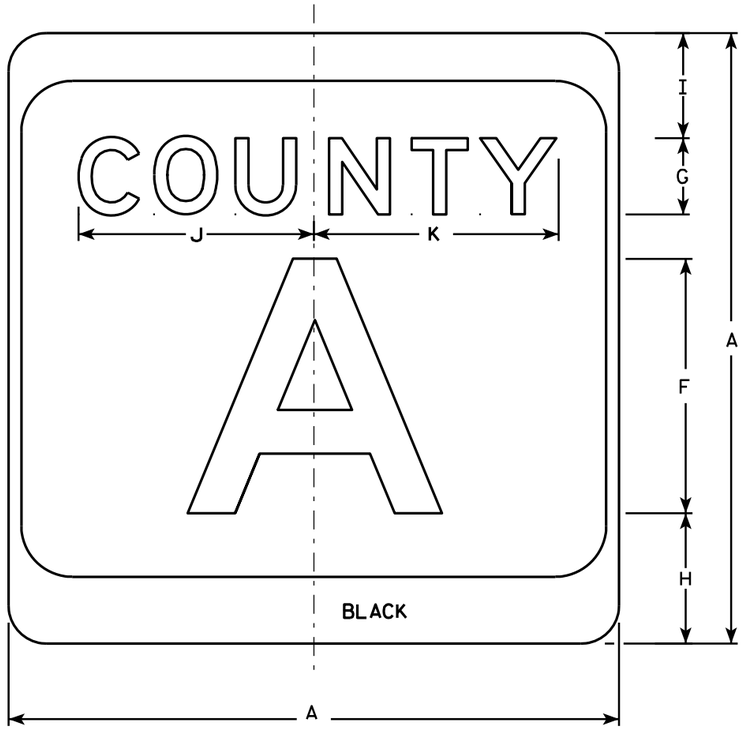
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

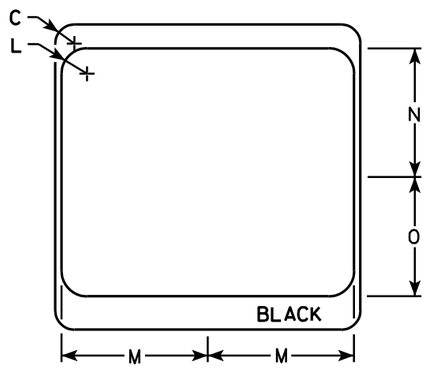
APPROVED Matthew R Rauch
for State Traffic Engineer

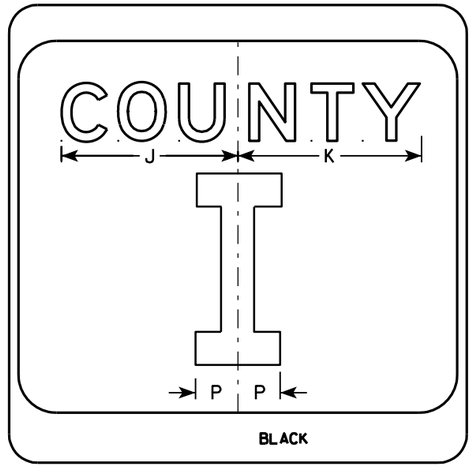
DATE 9/30/09 PLATE NO. G20-2A.8

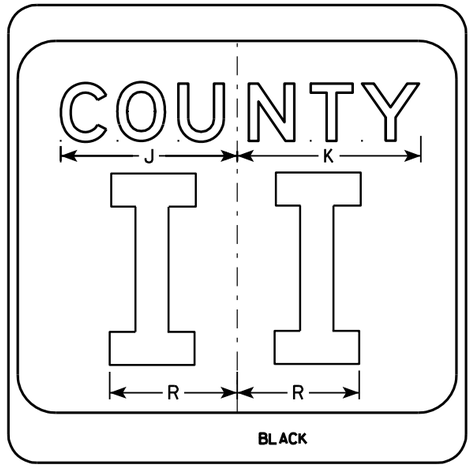
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E



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

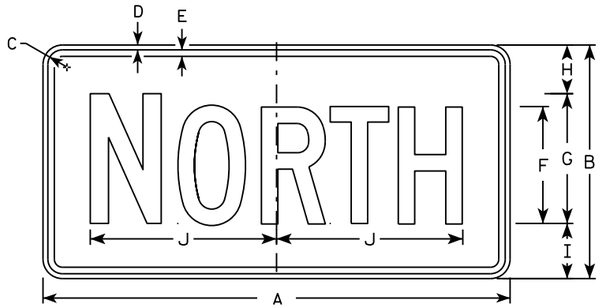
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

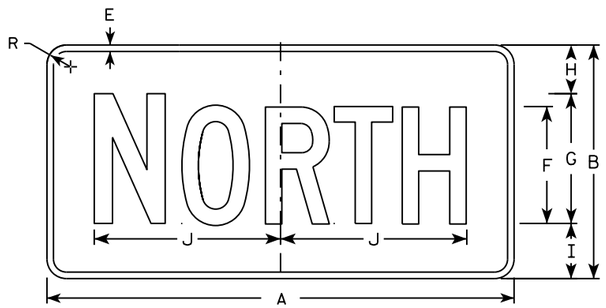
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 122 | E



M3-1
MM3-1
MP3-1



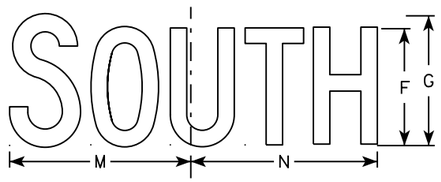
MB3-1
MK3-1
MN3-1



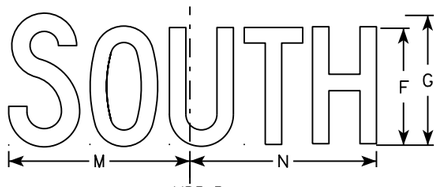
M3-2
MM3-2
MP3-2



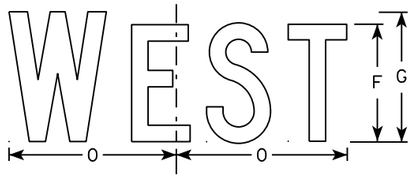
MB3-2
MK3-2
MN3-2



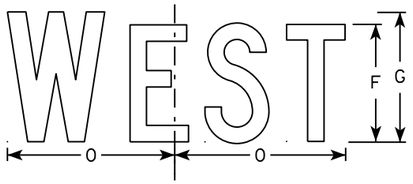
M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3



M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

NOTES

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

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

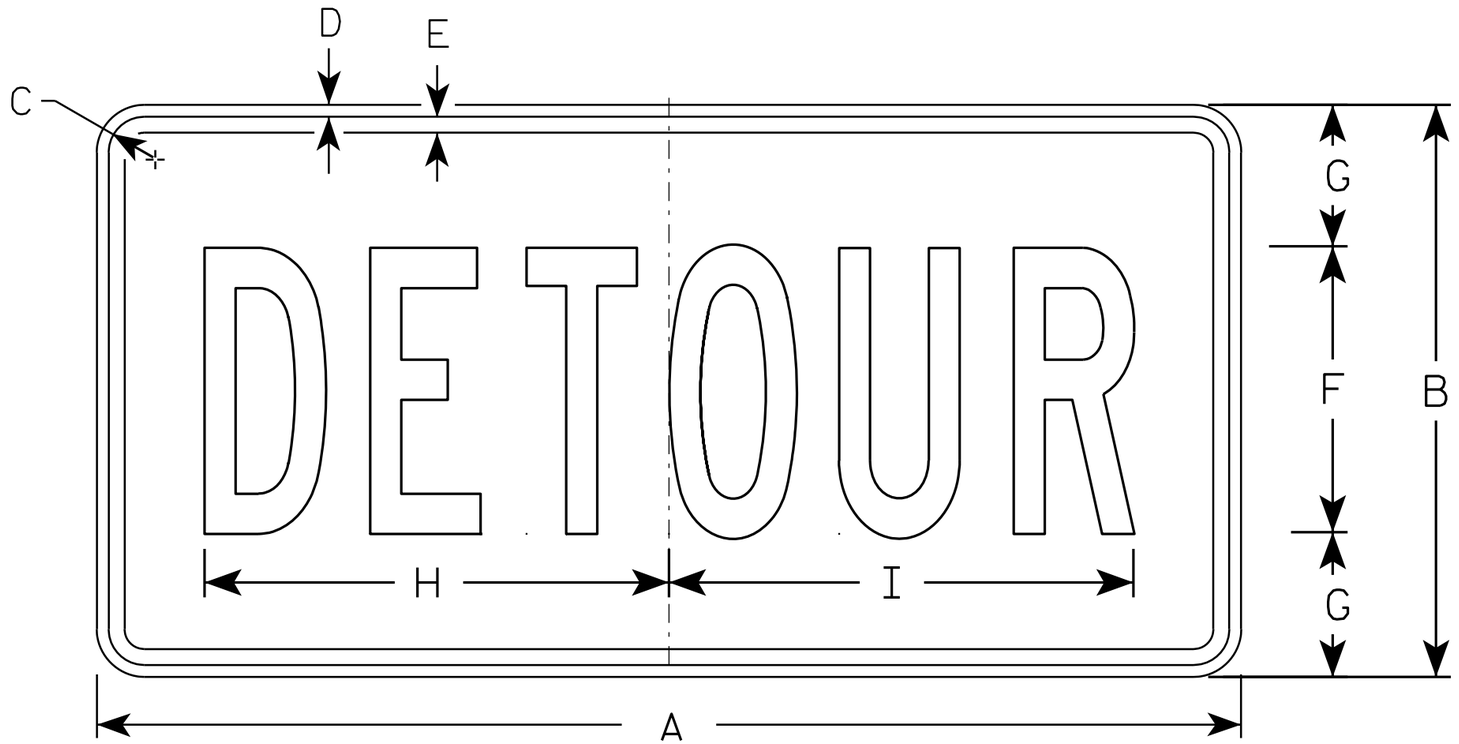
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

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

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



M4-8

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

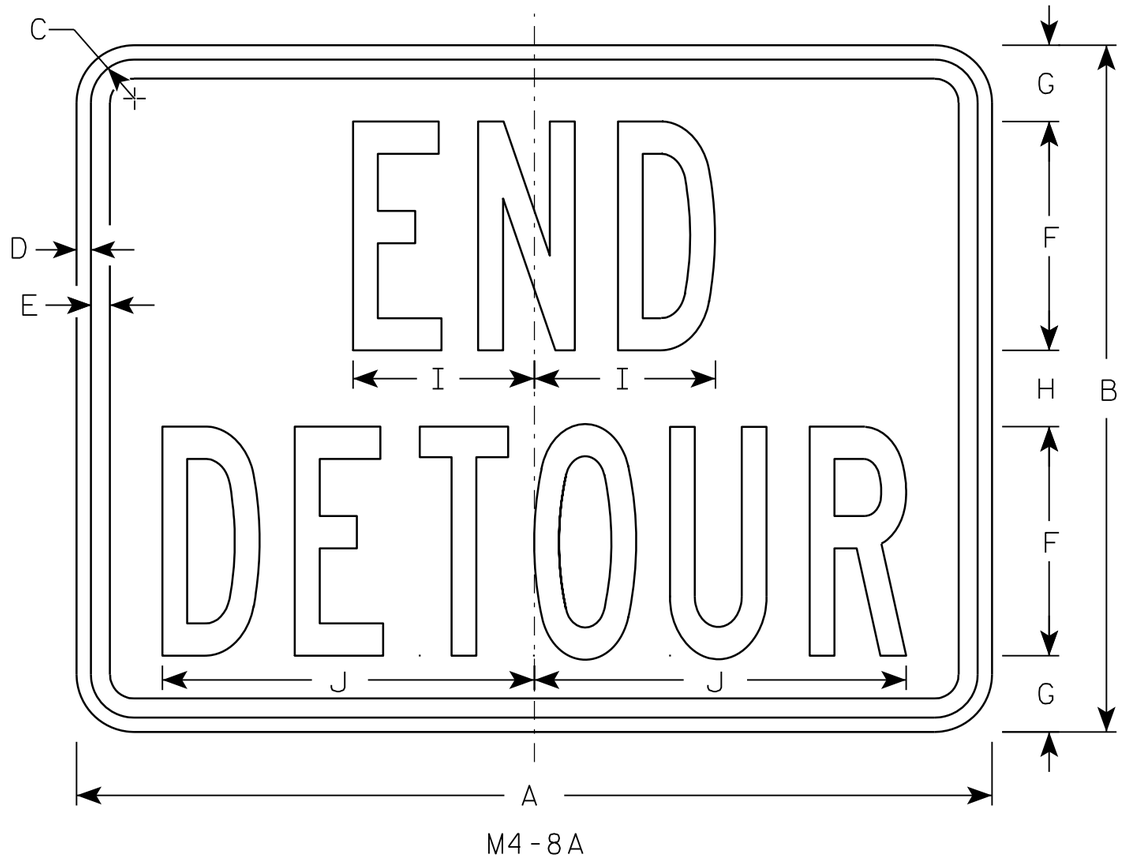
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 124 | E



M4-8A

NOTES

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

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

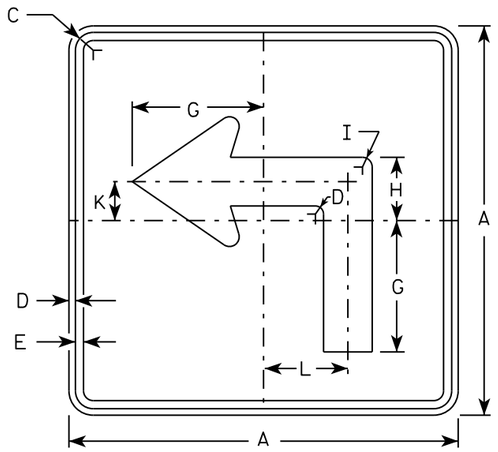
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

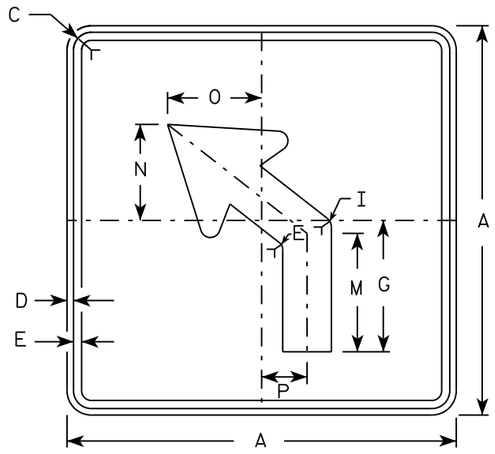
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

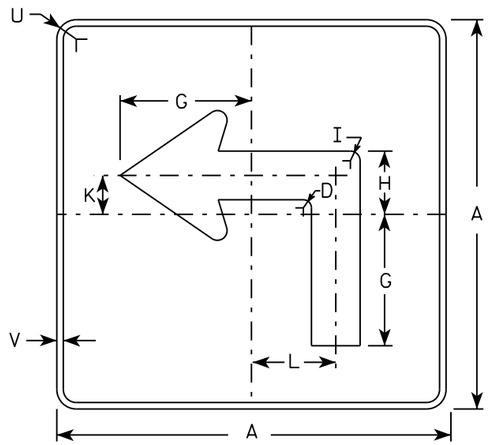
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 125	E



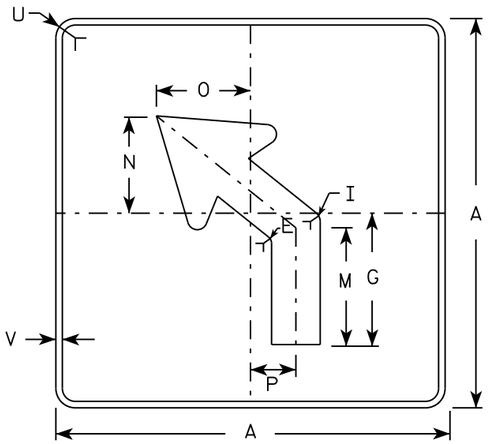
M5-1L
MM5-1L
MO5-1L
MP5-1L



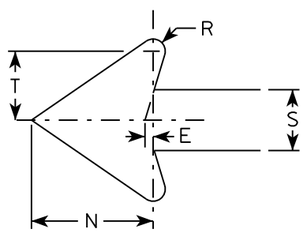
M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

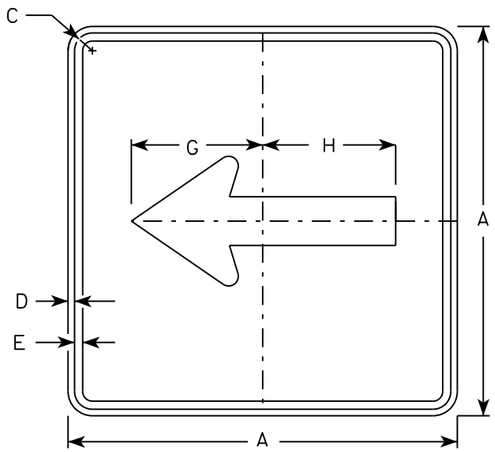
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

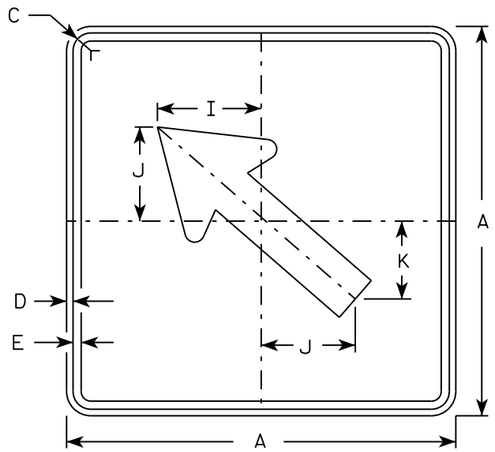
DATE 10/15/15 PLATE NO. M5-1.13

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



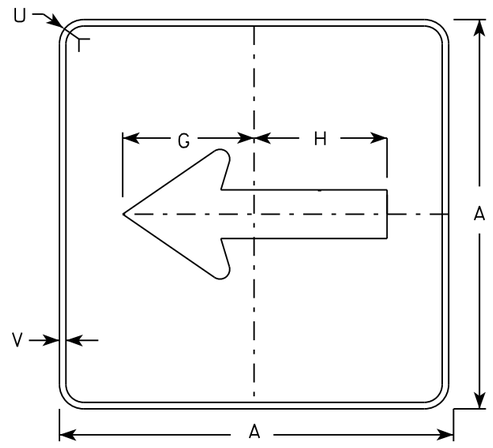
M6-1
MM6-1
MO6-1
MP6-1



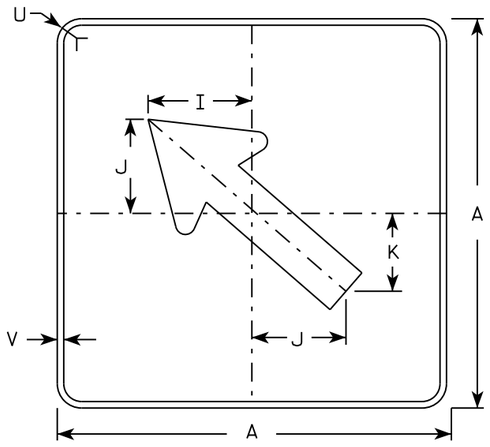
M6-2
MM6-2
MO6-2
MP6-2

NOTES

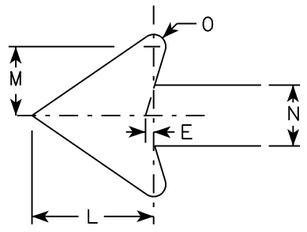
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow



MB6-1
MK6-1
MN6-1
MR6-1



MB6-2
MK6-2
MN6-2
MR6-2



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2						3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2						6.25

STANDARD SIGN M6-1 & M6-2 SERIES

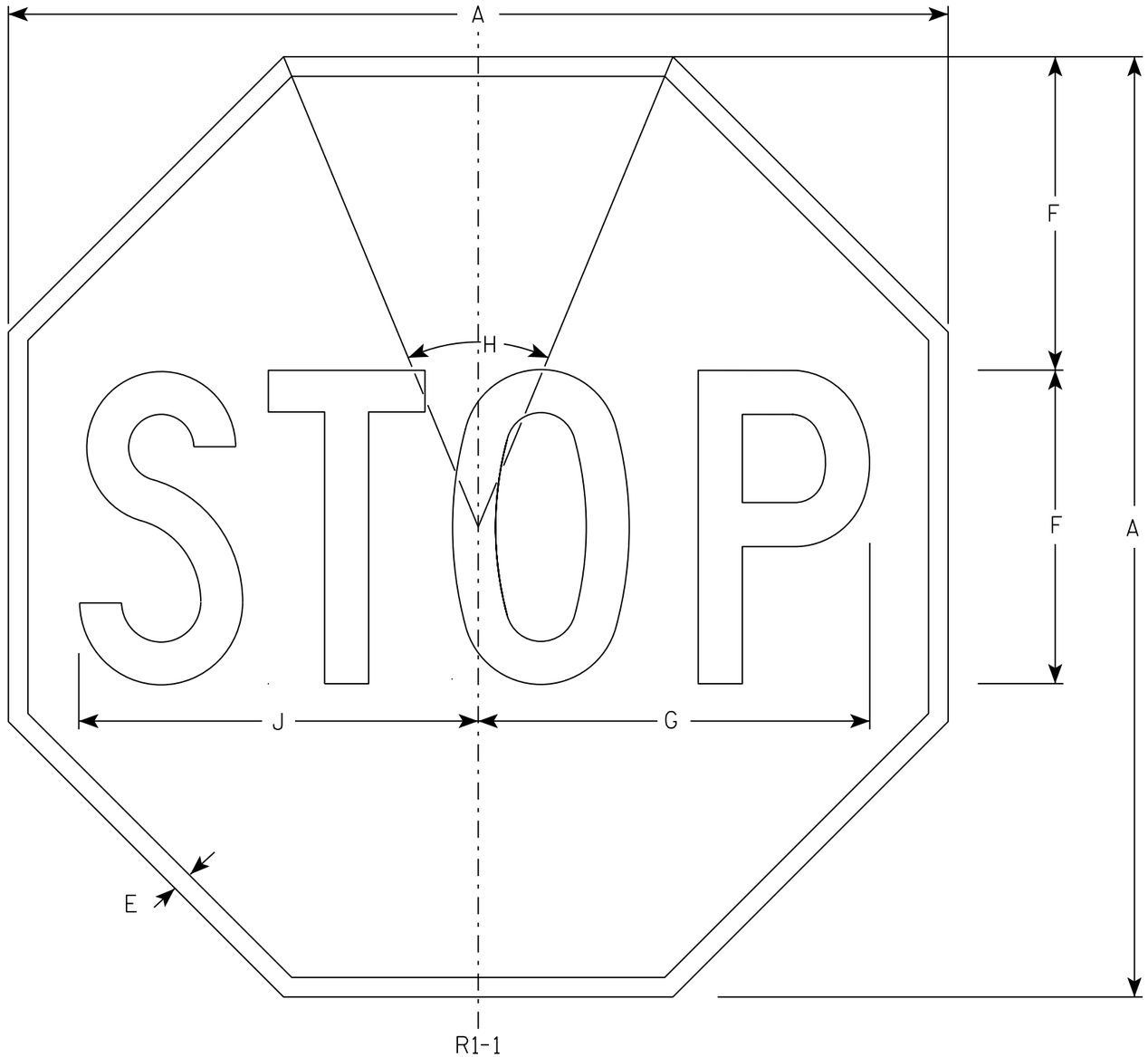
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 127 M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



R1-1

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

STANDARD SIGN
R1-1

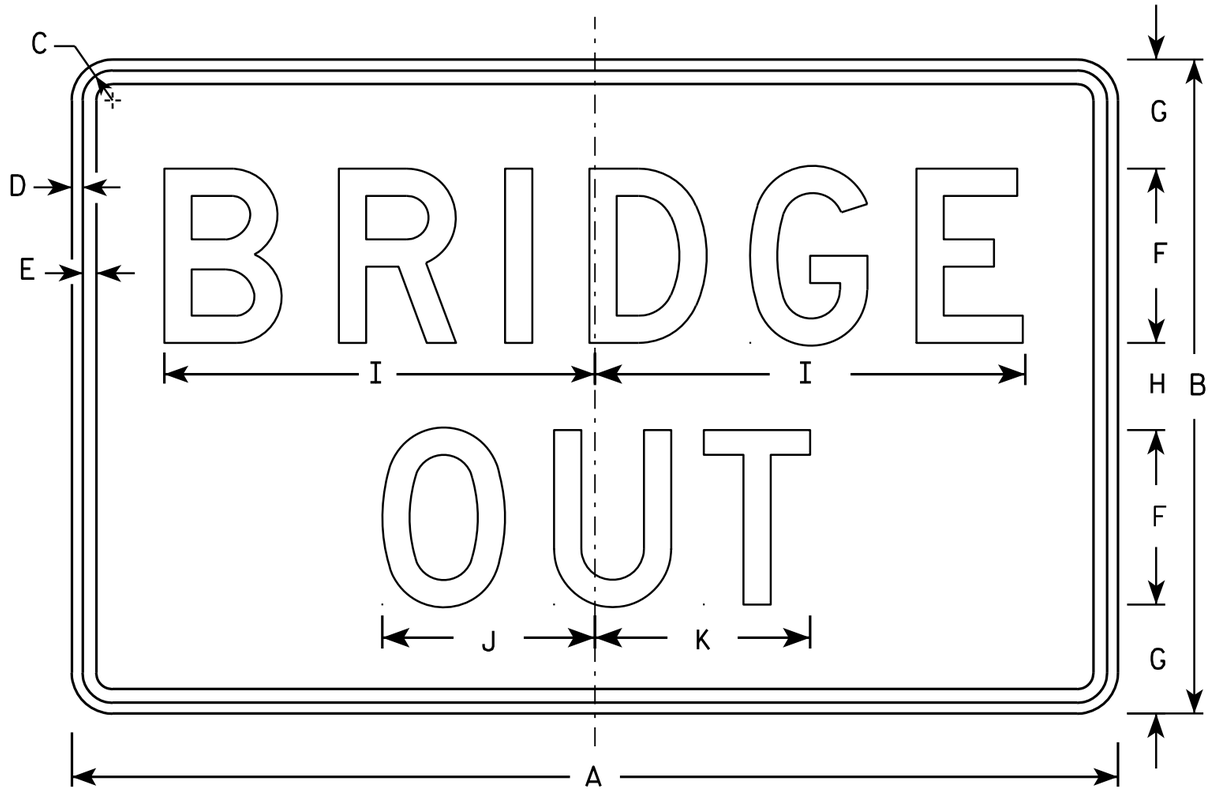
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE 128 R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

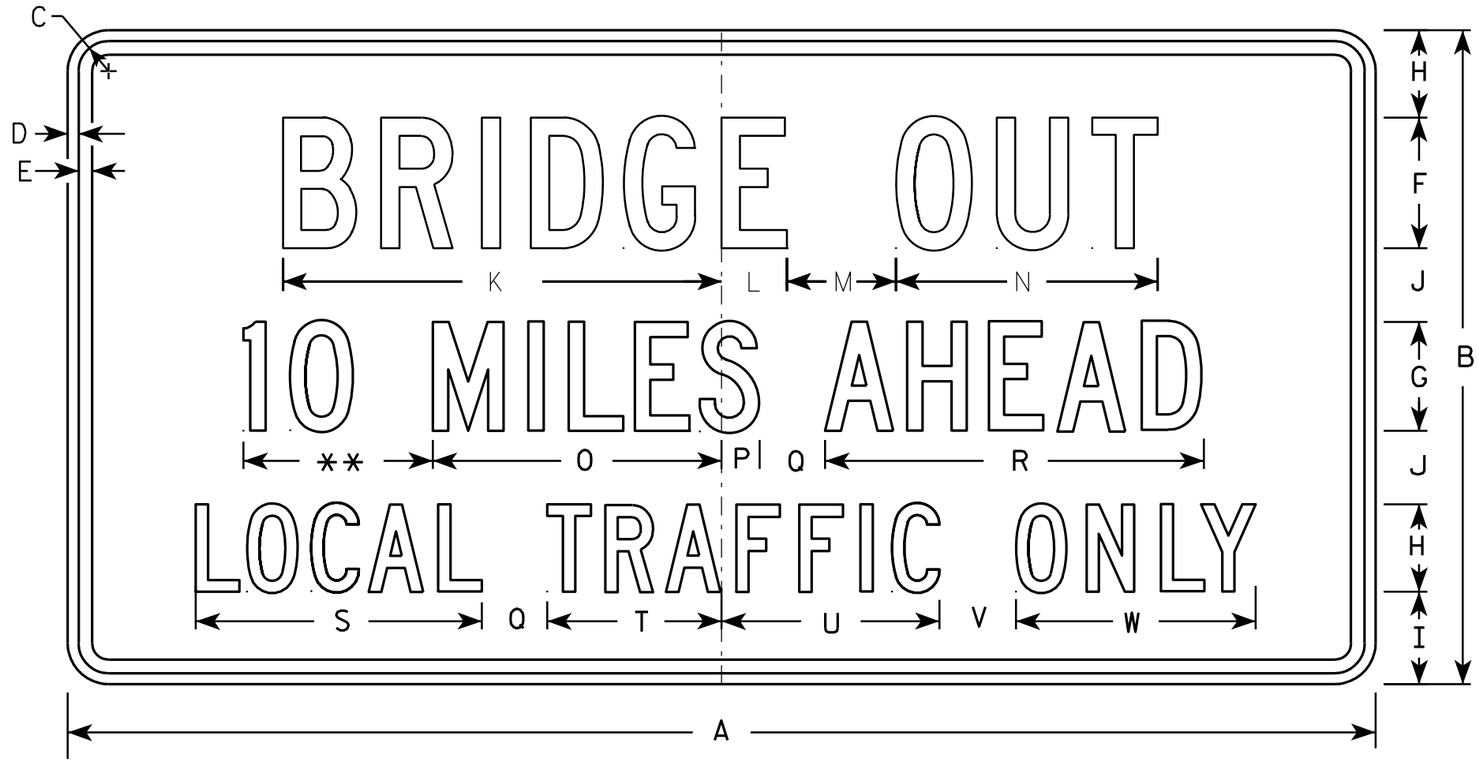
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 129 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112B.DGN PLOT DATE : 01-APR-2011 14:23 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42



R11-3B

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. 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	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4				4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11				12.5
3																											
4																											
5																											

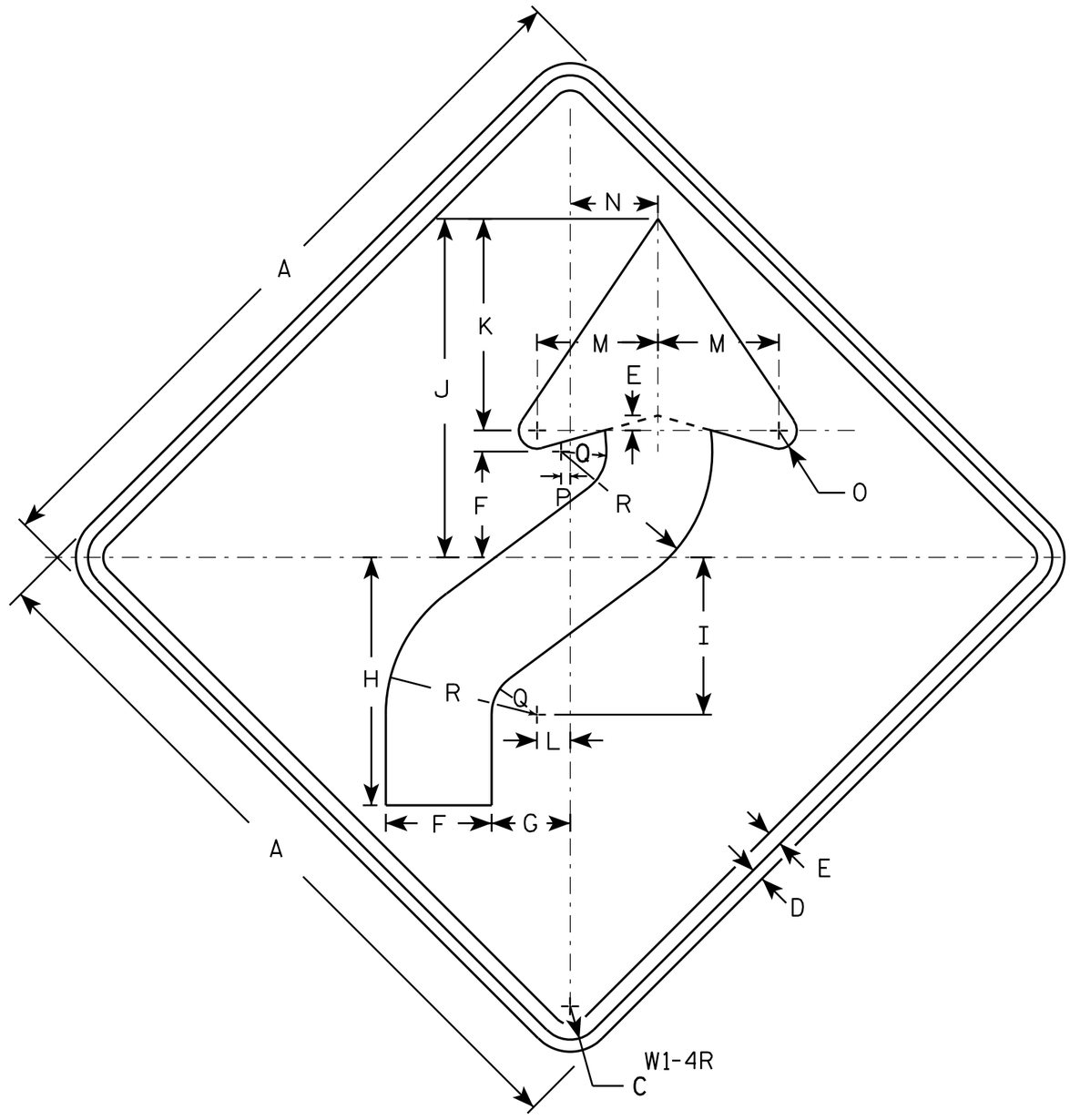
STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-3B.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 130 | 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. W1-4L is the same as W1-4R 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	24		1 1/8	3/8	1/2	3 1/2	2 5/8	8 1/4	5 1/4	11 1/4	7	1 1/8	4	3	5/8	1/4	1 1/2	5									4.0
2S	30		1 3/8	1/2	5/8	4 3/8	3 1/4	10 1/4	6 1/2	14	8 3/4	1 3/8	5	3 5/8	3/4	3/8	1 7/8	6 1/4									6.25
2M	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
3	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
4	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
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

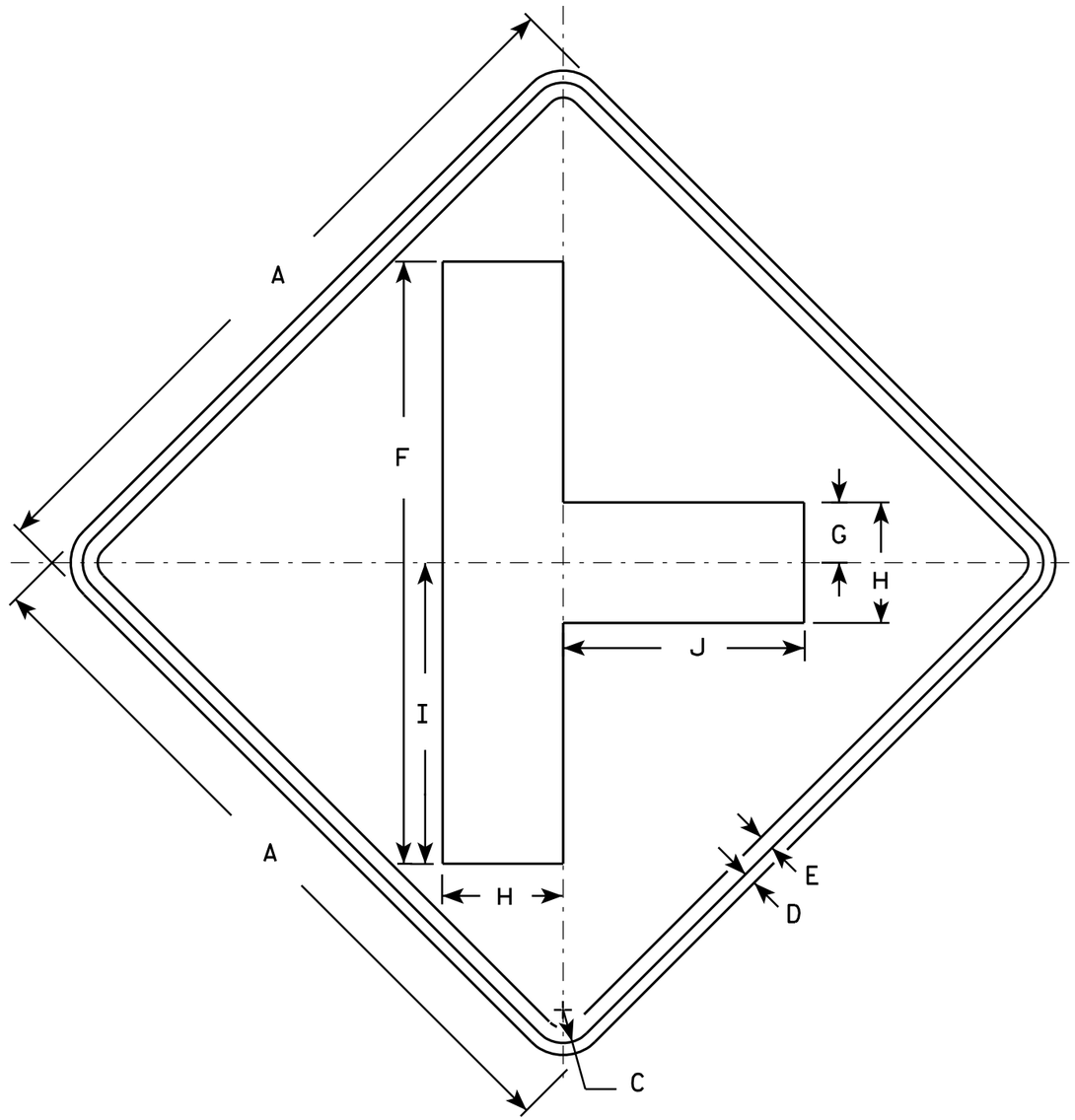
STANDARD SIGN
W1-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 131 | E



W2-2

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

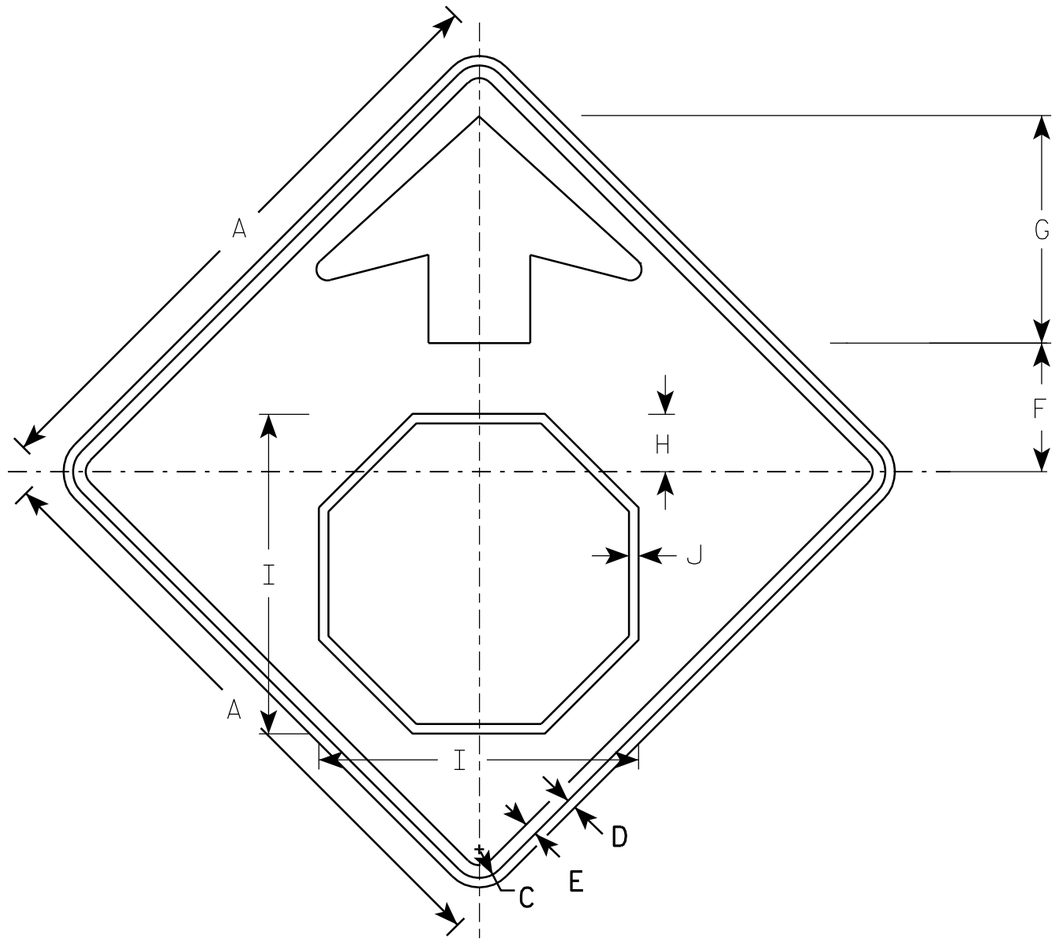
STANDARD SIGN
W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W2-2.6

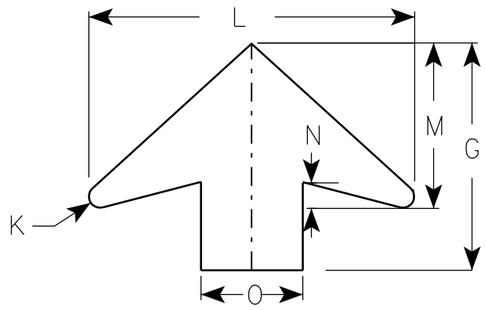
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 132 | E



W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

STANDARD SIGN
W3-1

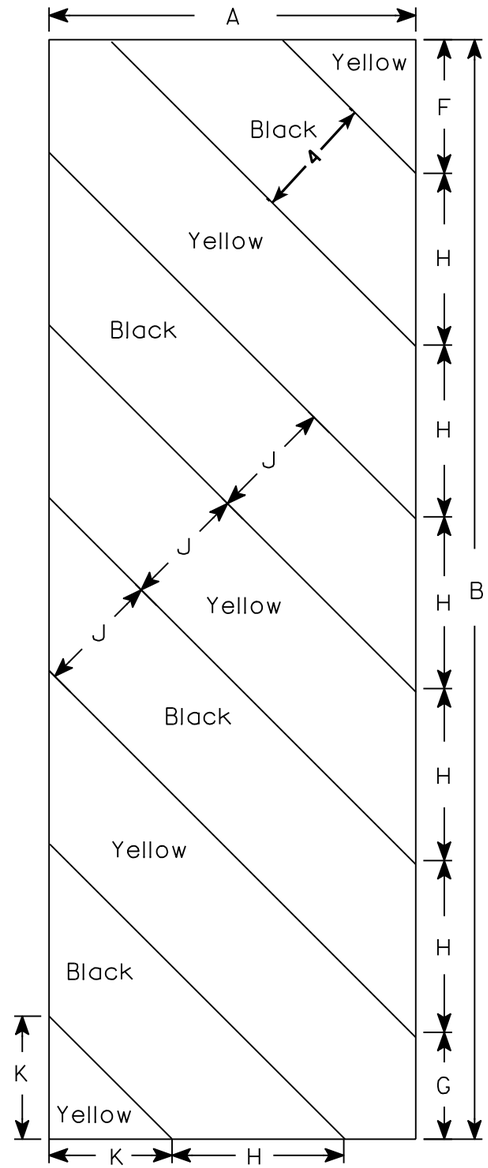
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

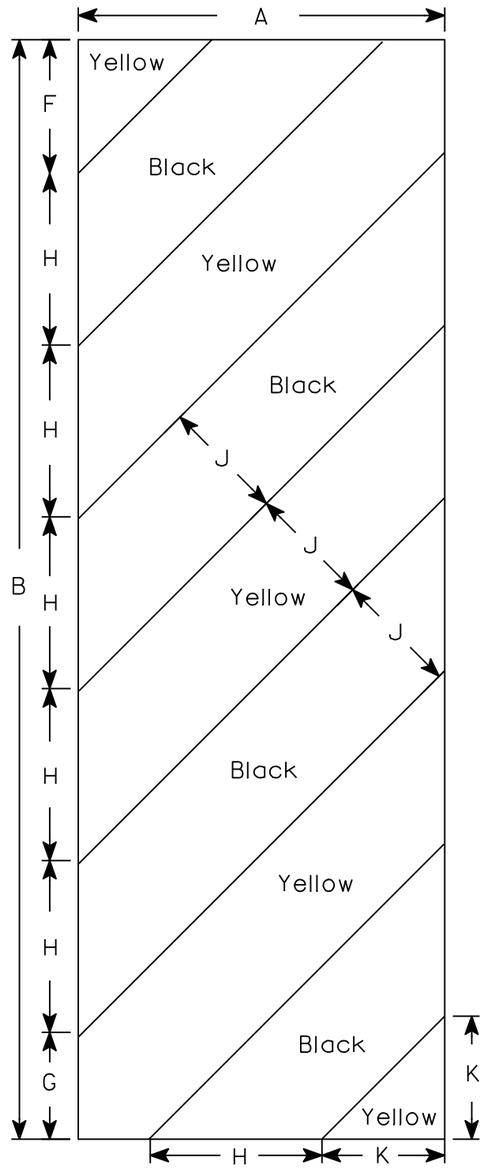
DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 133 E



W5-52L



W5-52R

NOTES

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

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

STANDARD SIGN

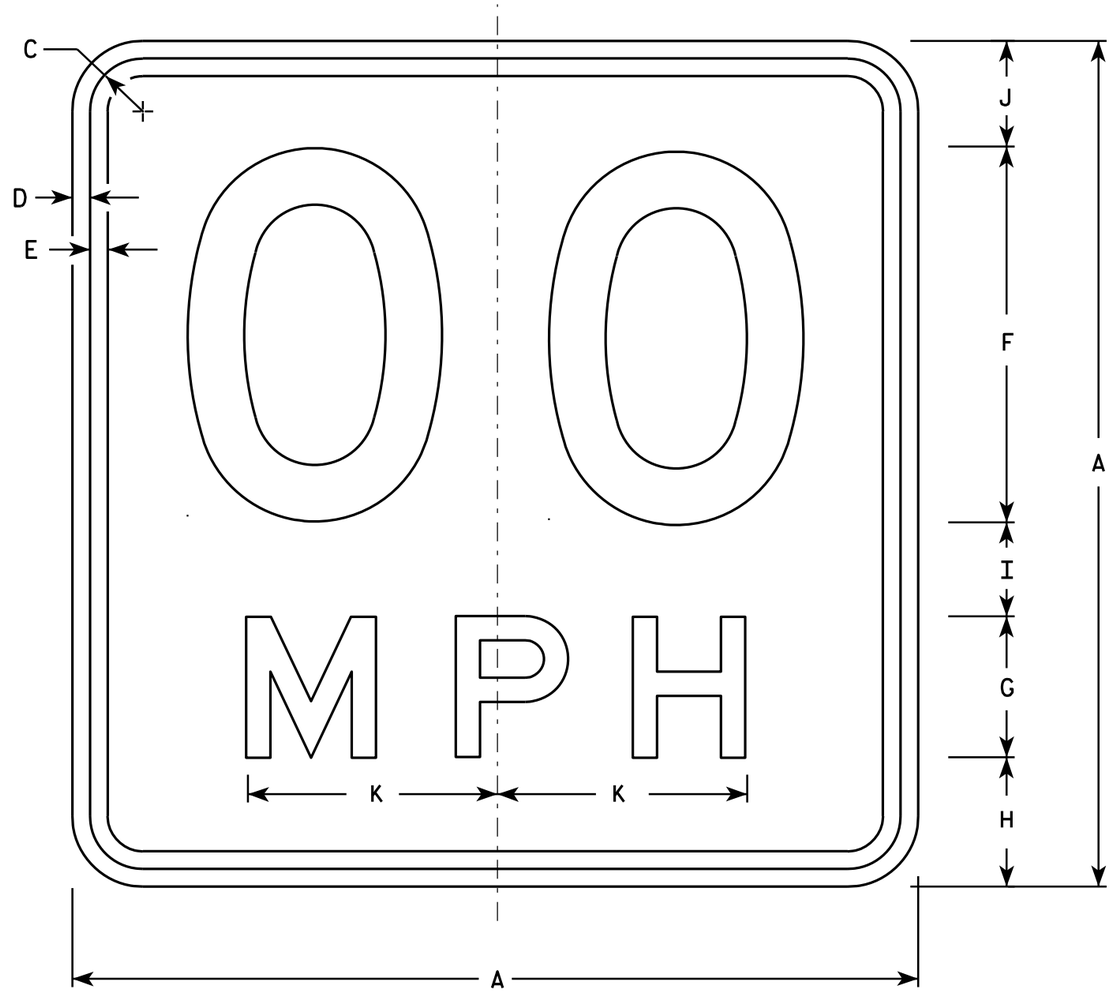
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 134 | E



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

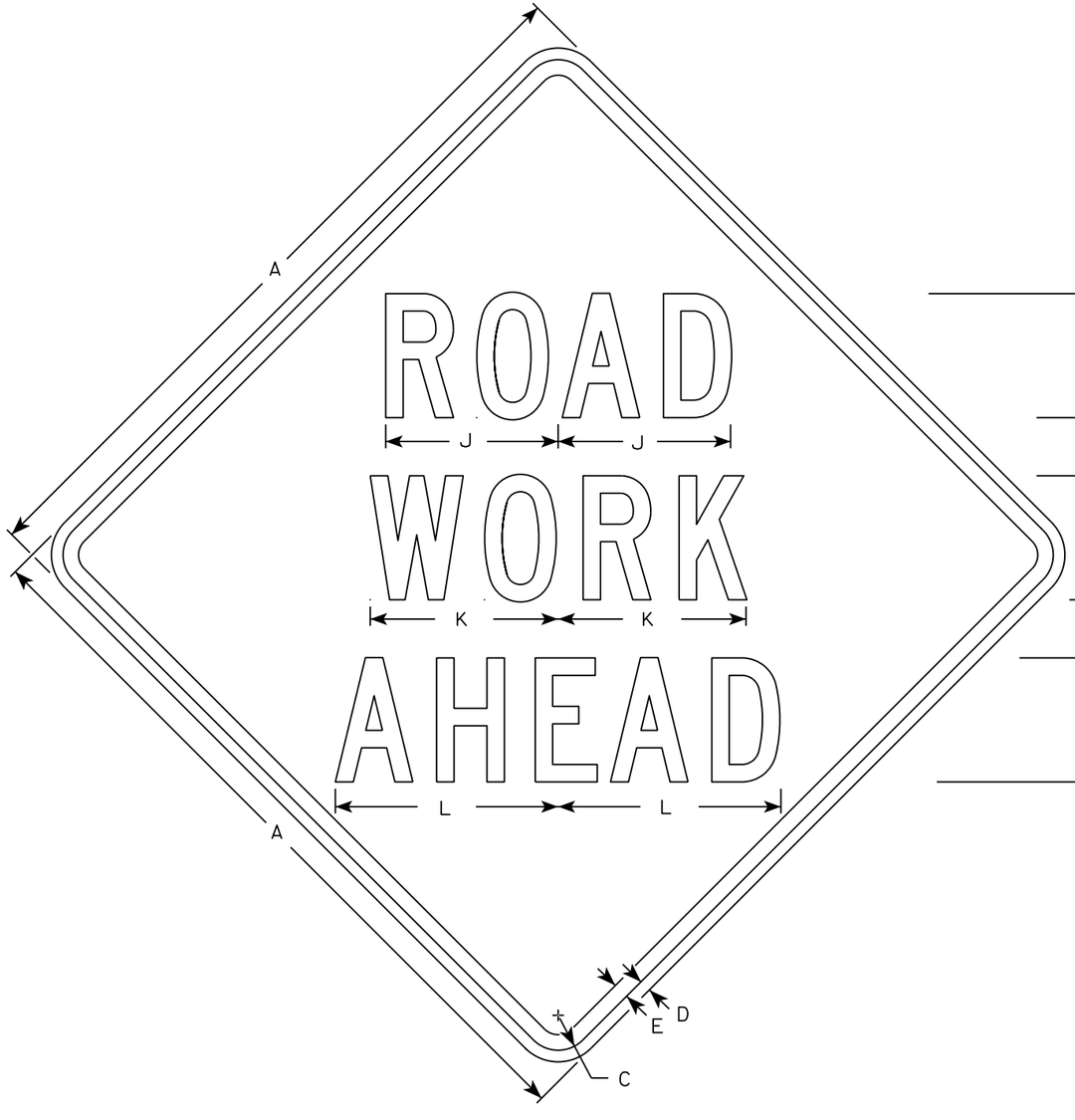
STANDARD SIGN
W13-1

WISCONSIN DEPT OF TRANSPORTATION

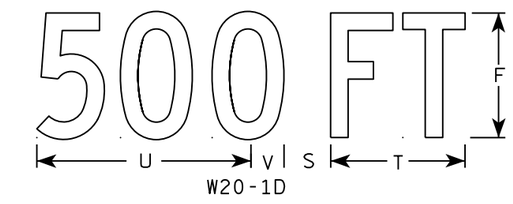
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

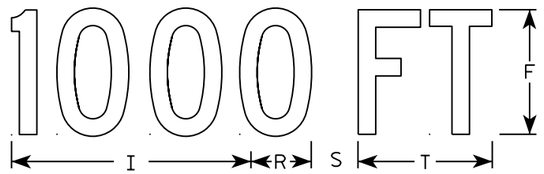
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 135 | E



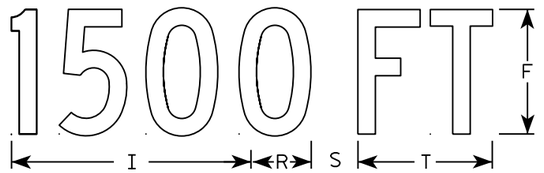
W20-1A



W20-1D



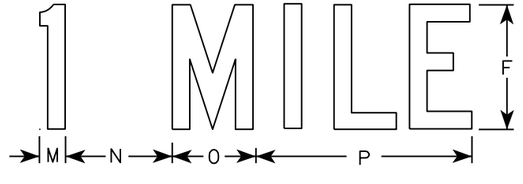
W20-1C



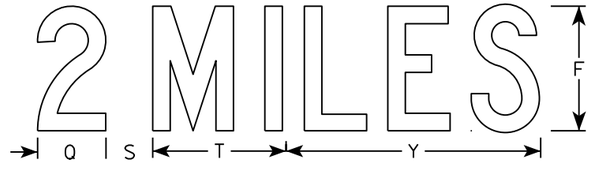
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

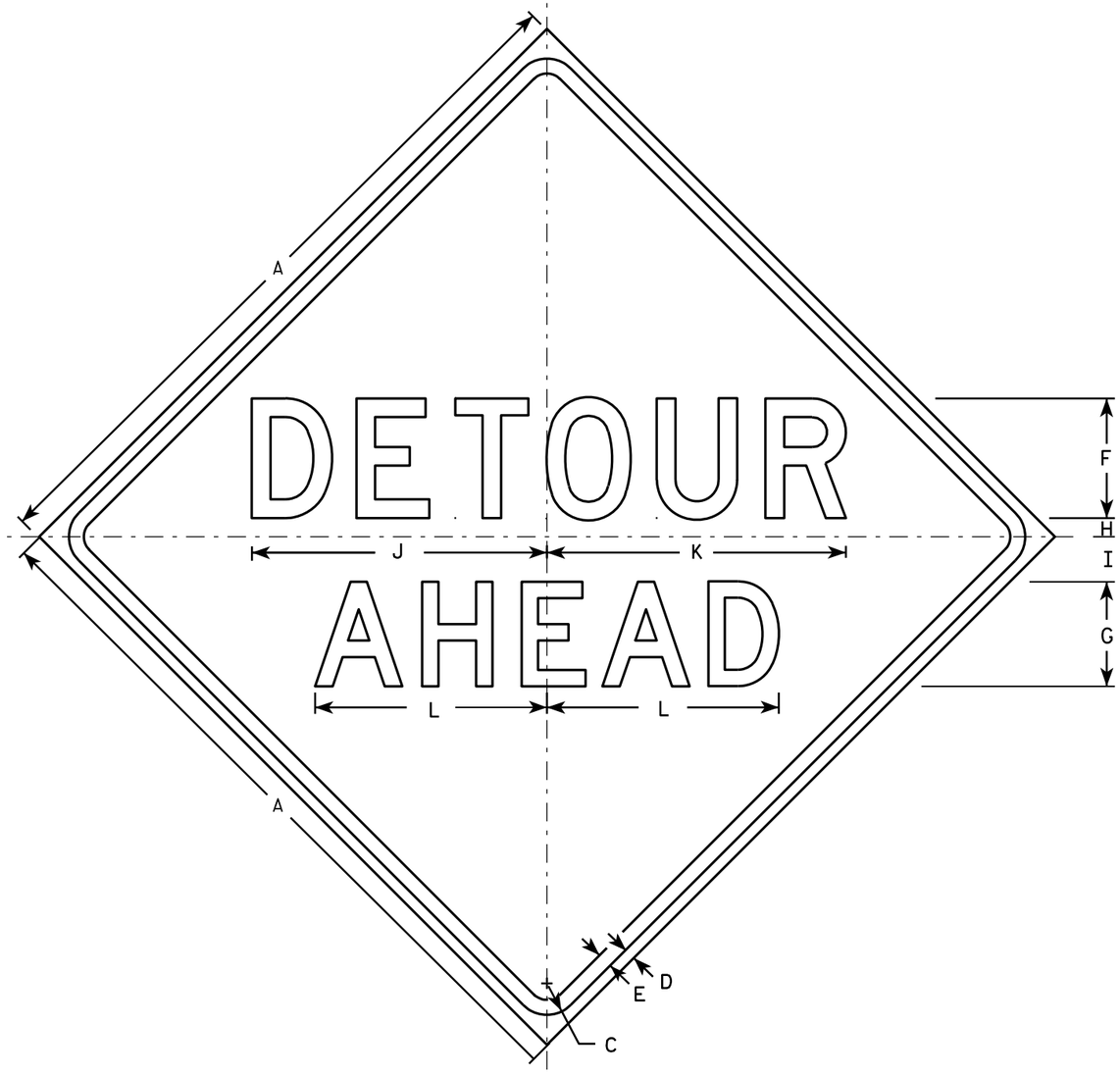
DATE 5/07/15 PLATE NO. W20-1.10

PROJECT NO:

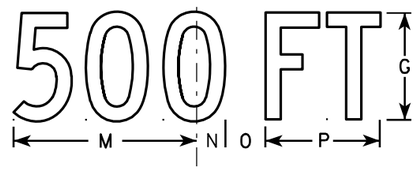
SHEET NO: E

7

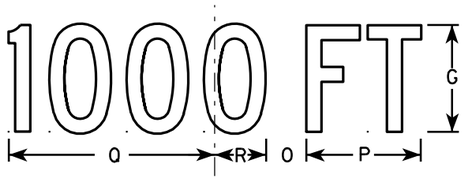
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



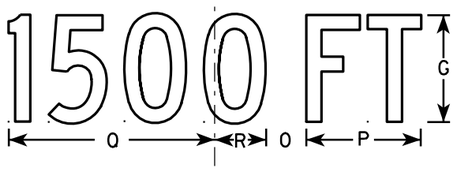
W20-2A



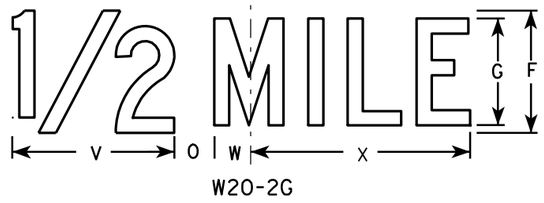
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

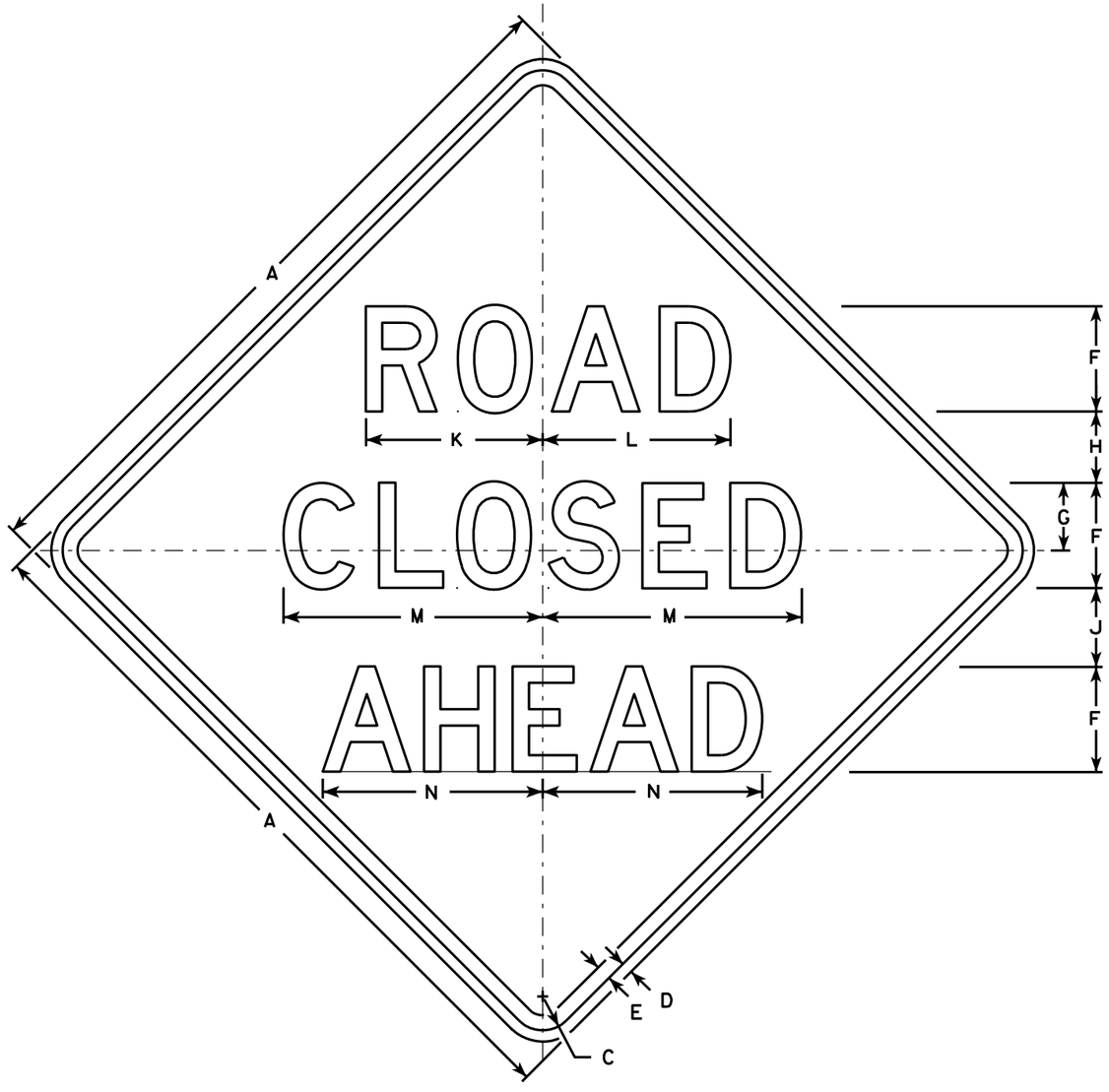
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

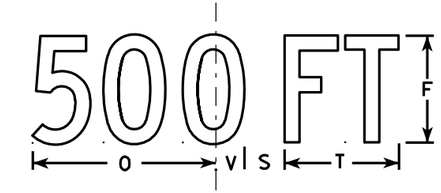
DATE 3/18/11 PLATE NO. W20-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 137 | E

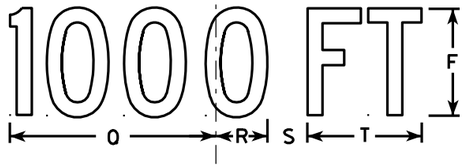
FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42



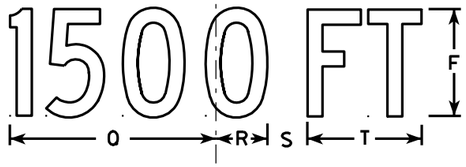
W20-3A



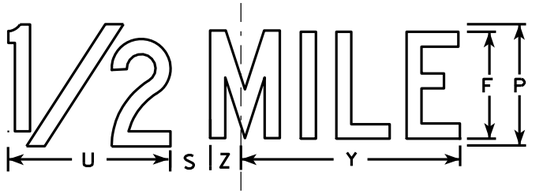
W20-3D



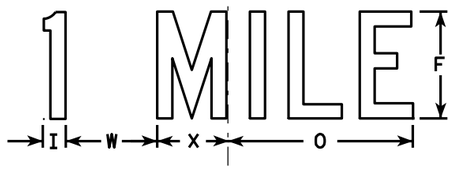
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

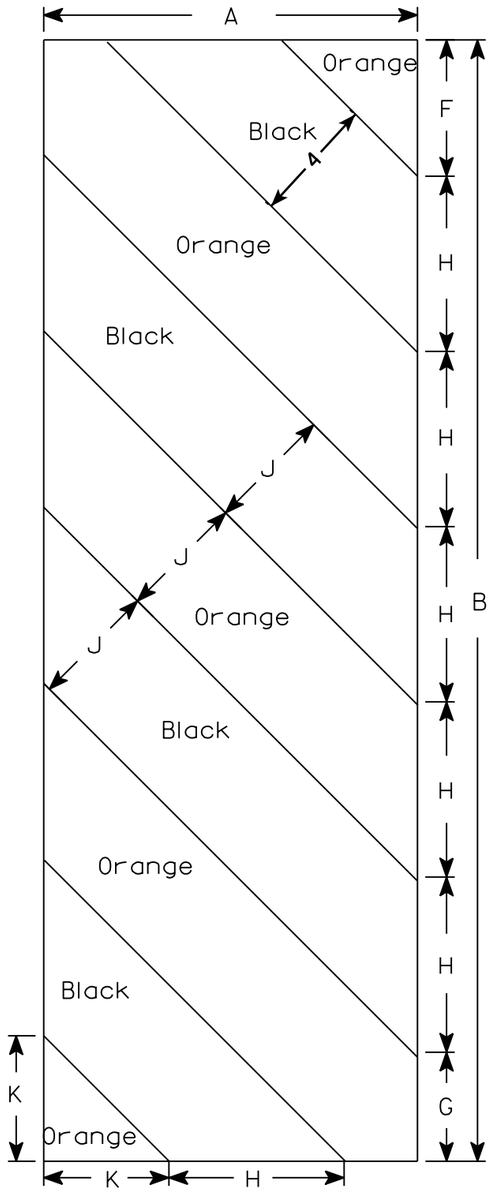
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2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

STANDARD SIGN
W20-3A, B, C, D, F & G

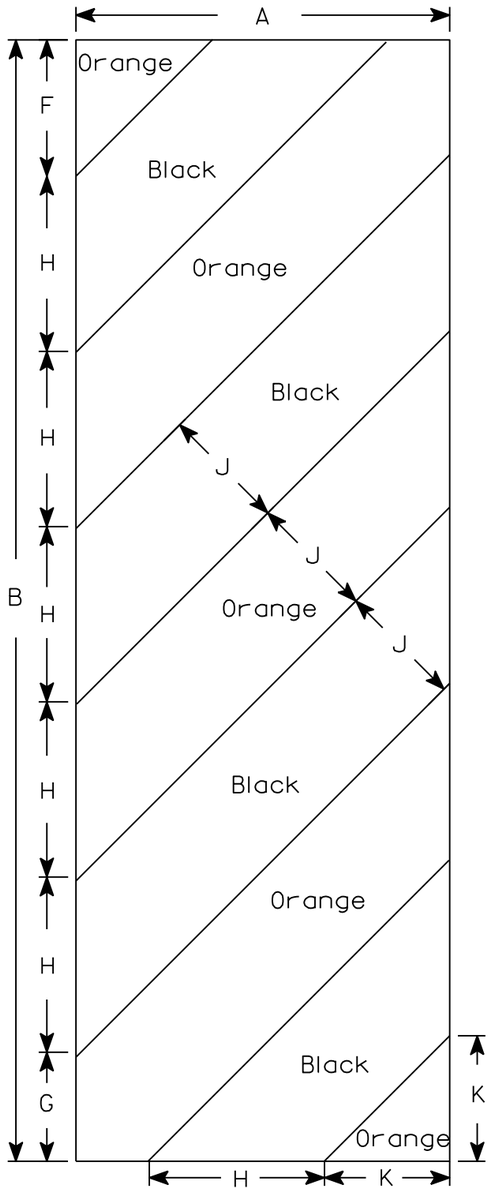
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 138 | E



W05-52L



W05-52R

NOTES

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

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

STANDARD SIGN

W05-52L & W05-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W05-52.1

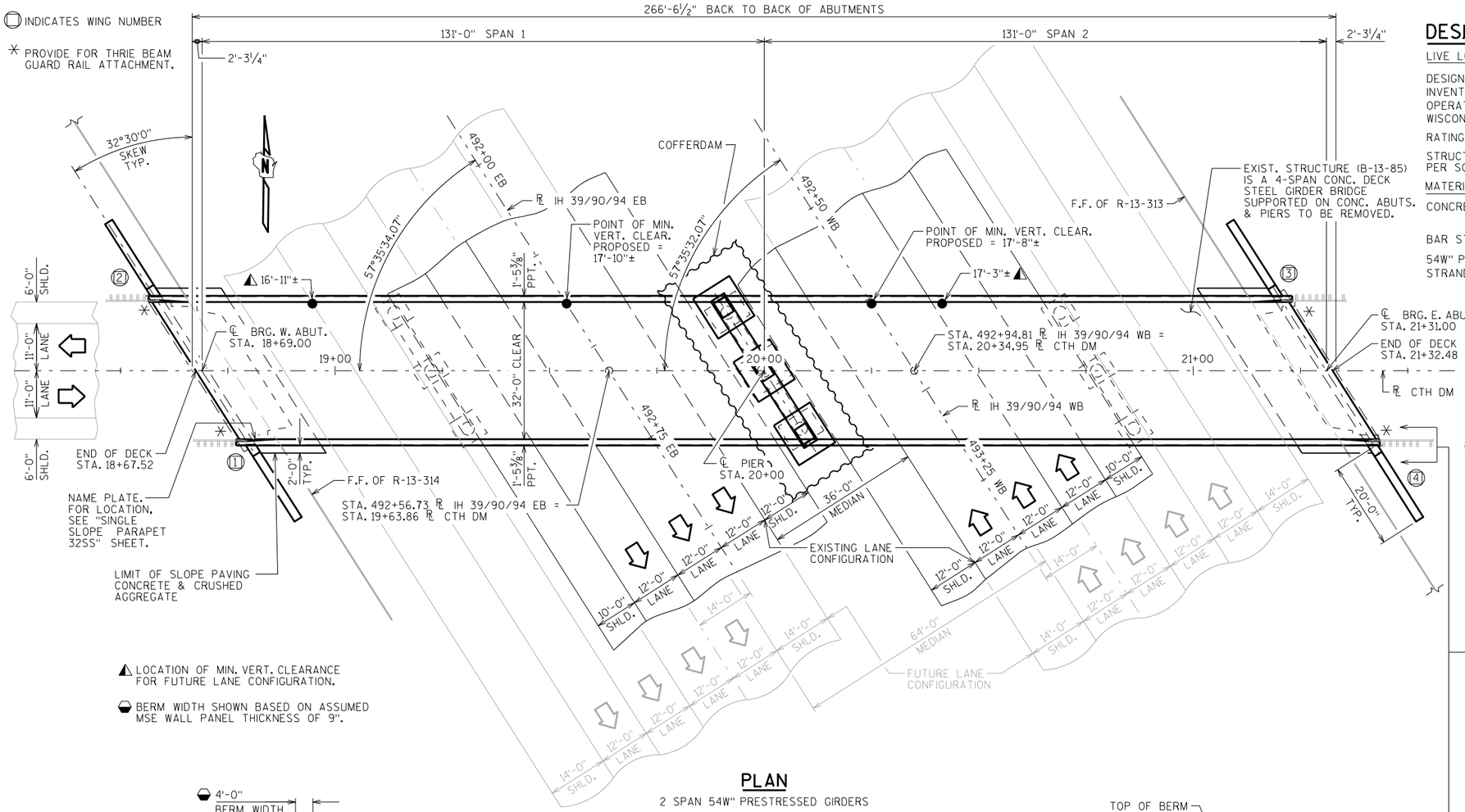
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

STATE PROJECT NUMBER

1011-03-76

INDICATES WING NUMBER

✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT.

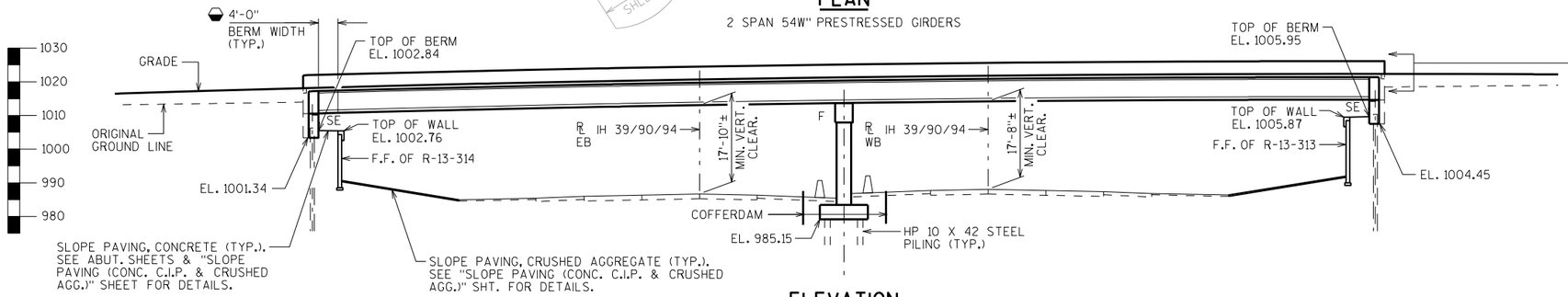


▲ LOCATION OF MIN. VERT. CLEARANCE FOR FUTURE LANE CONFIGURATION.

⬙ BERM WIDTH SHOWN BASED ON ASSUMED MSE WALL PANEL THICKNESS OF 9".

PLAN

2 SPAN 54W" PRESTRESSED GIRDERS



ELEVATION

NORMAL TO IH 39/90/94 (LOOKING DOWNSTATION)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF=1.11
OPERATING RATING FACTOR: RF=1.53
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

RATING INCLUDES A 5 PSF POLYMER OVERLAY.

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY — SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

54W" PRESTRESSED GIRDERS, CONCRETE MASONRY — f'c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

FOUNDATION DATA

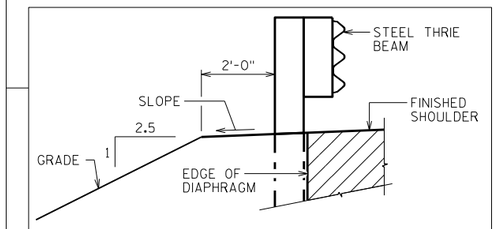
ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✱✱ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 65 FEET LONG AT BOTH ABUTMENTS.

PIER TO BE SUPPORTED ON HP 10 X 42 STEEL PILING, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ✱✱ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FEET LONG.

✱✱ THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

IH 39/90/94	CTH DM
A.D.T. = 75,000 (2034)	A.D.T. = 1,100 (2034)
R.D.S. = 70 M.P.H.	R.D.S. = 55 M.P.H.



TYPICAL FILL SECTION OFF BRIDGE

STRUCTURE DESIGN CONTACTS:

ALEX CRABTREE (608) 266-3686
LAURA SHADEWALD (608) 267-9592

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTIONS
3. CROSS SECTION & QUANTITIES
4. SUBSURFACE EXPLORATION
5. WEST ABUTMENT
6. WEST ABUTMENT DETAILS
7. EAST ABUTMENT
8. EAST ABUTMENT DETAILS
9. PIER
10. PIER DETAILS
11. 54W" PRESTRESSED GIRDER DETAILS 1
12. 54W" PRESTRESSED GIRDER DETAILS 2
13. STEEL DIAPHRAGM
14. SUPERSTRUCTURE
15. SUPERSTRUCTURE DETAILS
16. SINGLE SLOPE PARAPET 32SS
17. SLOPE PAVING (CONC. C.I.P. & CRUSHED AGG.)

NO.	DATE	REVISION	BY

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 1/23/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-13-648

CTH DM OVER IH 39/90/94

COUNTY	TOWN ~~/CITY/VILLAGE~~
DANE	VIENNA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ARC	MJL	WWR	MJL

GENERAL PLAN

SHEET 1 OF 17

140

I.D. 1011-03-06D

DATE: JAN. 2017

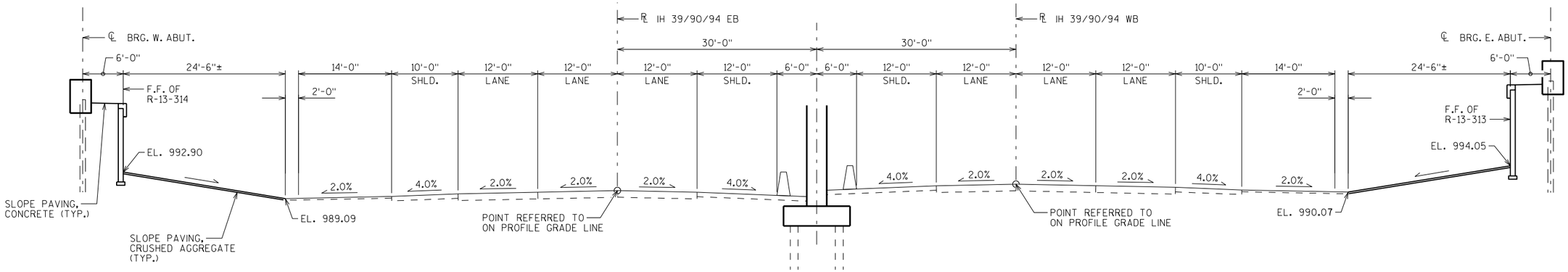
SCALE = 14.0

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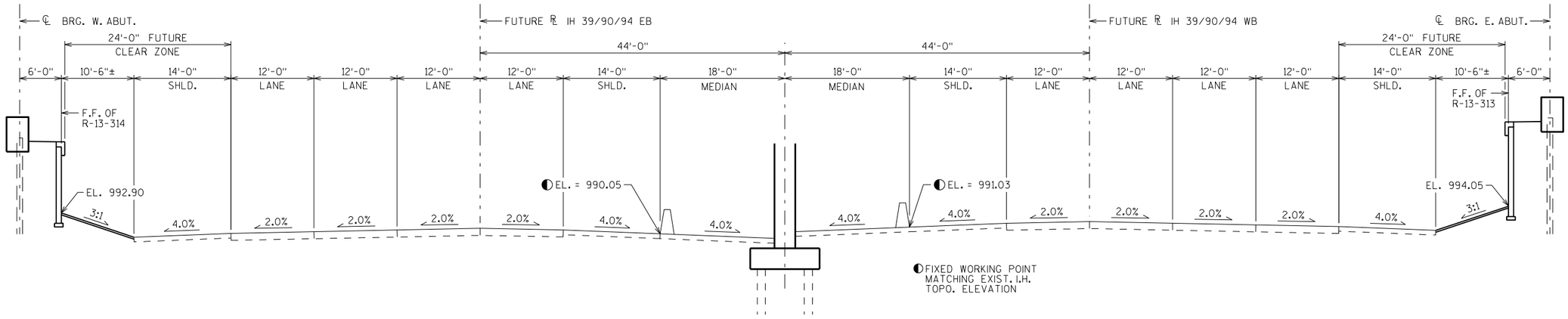
8

STATE PROJECT NUMBER

1011-03-76



TYPICAL SECTION THRU IH 39/90/94 LOOKING DOWNSTATION



TYPICAL FUTURE SECTION THRU IH 39/90/94 LOOKING DOWNSTATION

(THIS CROSS SECTION WAS USED TO SIZE STRUCTURE.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY WWR | PLANS CK'D. MJL

TYPICAL SECTIONS

SHEET 2

141

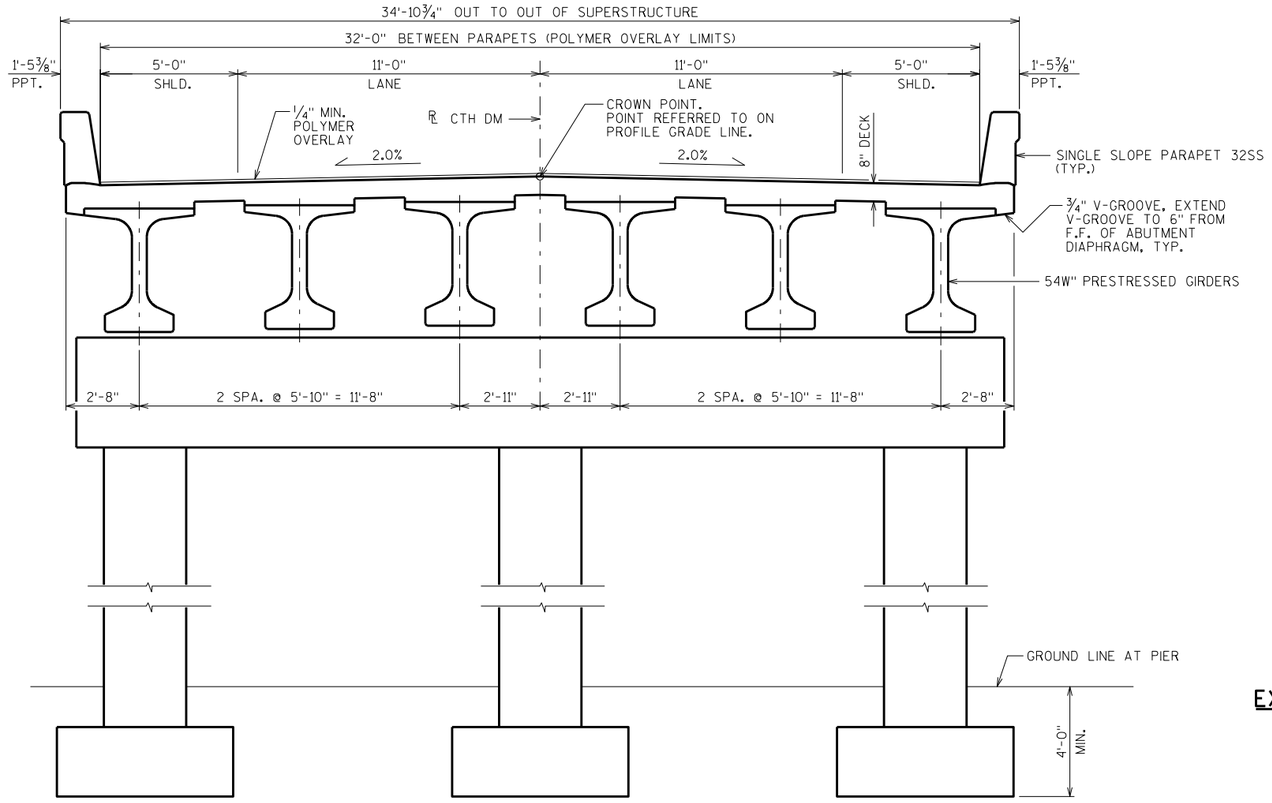
8

8

SCALE = 8.0

STATE PROJECT NUMBER

1011-03-76



SECTION THRU ROADWAY LOOKING EAST

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	SUPER.	WEST ABUT.	EAST ABUT.	PIER	TOTALS
203.0200	REMOVING OLD STRUCTURE STA. 20+00	LS	——	——	——	——	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-13-85	LS	——	——	——	——	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-13-648	LS	——	——	——	——	1
206.5000	COFFERDAMS B-13-648	LS	——	——	——	——	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	——	404	404	——	808
502.0100	CONCRETE MASONRY BRIDGES	CY	405	51	49	78	583
502.3210	PIGMENTED SURFACE SEALER	SY	220	——	——	——	220
503.0155	PRESTRESSED GIRDER TYPE I 54W-INCH	LF	1577	——	——	——	1577
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	——	3070	2860	2550	8480
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	85,280	2330	2320	11,440	101,370
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	——	6	6	12	24
506.4000	STEEL DIAPHRAGMS B-13-648	EACH	20	——	——	——	20
509.5100.S	POLYMER OVERLAY	SY	942	——	——	——	942
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	——	16	16	——	32
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	——	715	715	1350	2835
604.0400	SLOPE PAVING CONCRETE	SY	——	21	21	——	42
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	——	126	126	——	252
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	——	95	95	——	190
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4	——	——	——	4
SPV.0090	REMOVING EXISTING TIMBER PILING	LF	——	——	——	239	239
			——	——	——	——	——
	NON-BID ITEMS						
	FILLER	SIZE	——	——	——	——	½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE 3"#4" UNLESS OTHERWISE NOTED.

AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

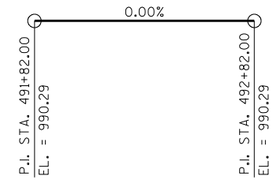
POLYMER OVERLAY TO BE APPLIED TO THE ENTIRE TOP OF DECK.

PIGMENTED PROTECTIVE SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

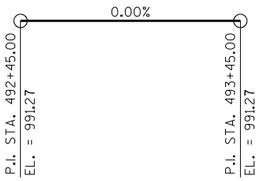
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

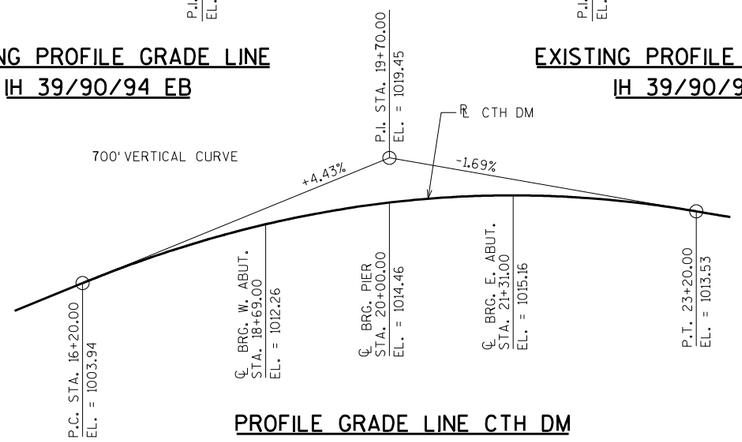
COFFERDAM TO FUNCTION AS SHORING DURING EXCAVATION FOR PIER CONSTRUCTION. DEWATER AS NECESSARY.



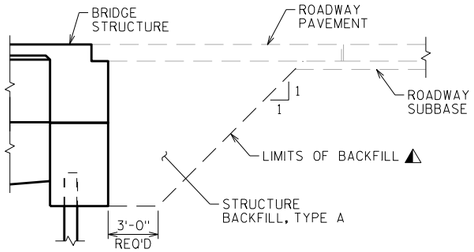
EXISTING PROFILE GRADE LINE
IH 39/90/94 EB



EXISTING PROFILE GRADE LINE
IH 39/90/94 WB



PROFILE GRADE LINE CTH DM



TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

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CROSS SECTION & QUANTITIES

SHEET 3

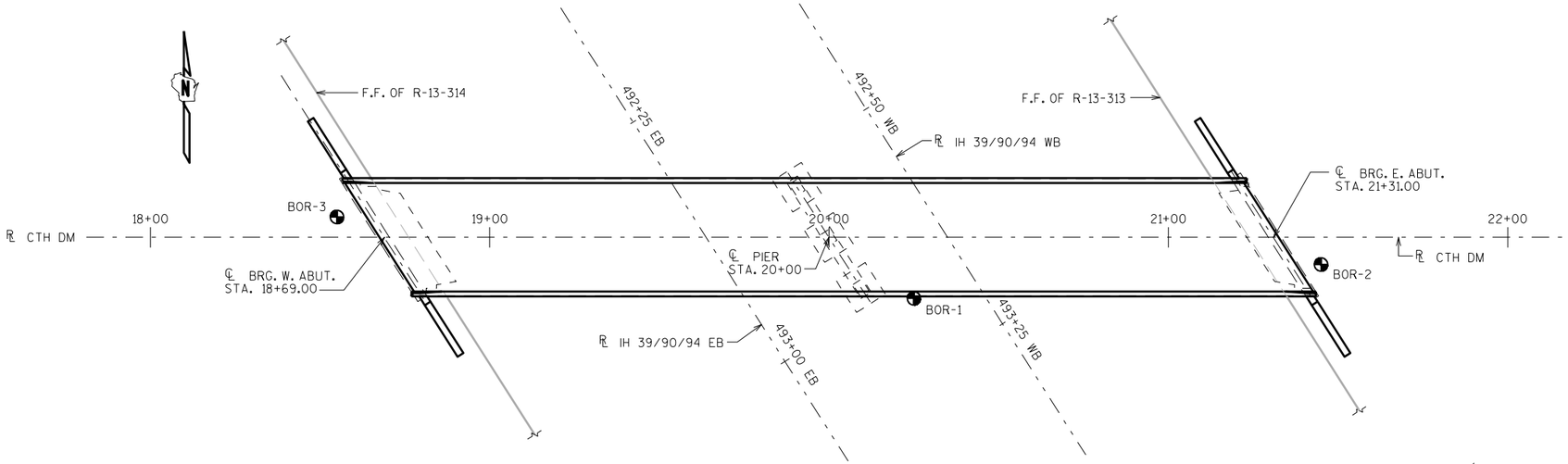
142

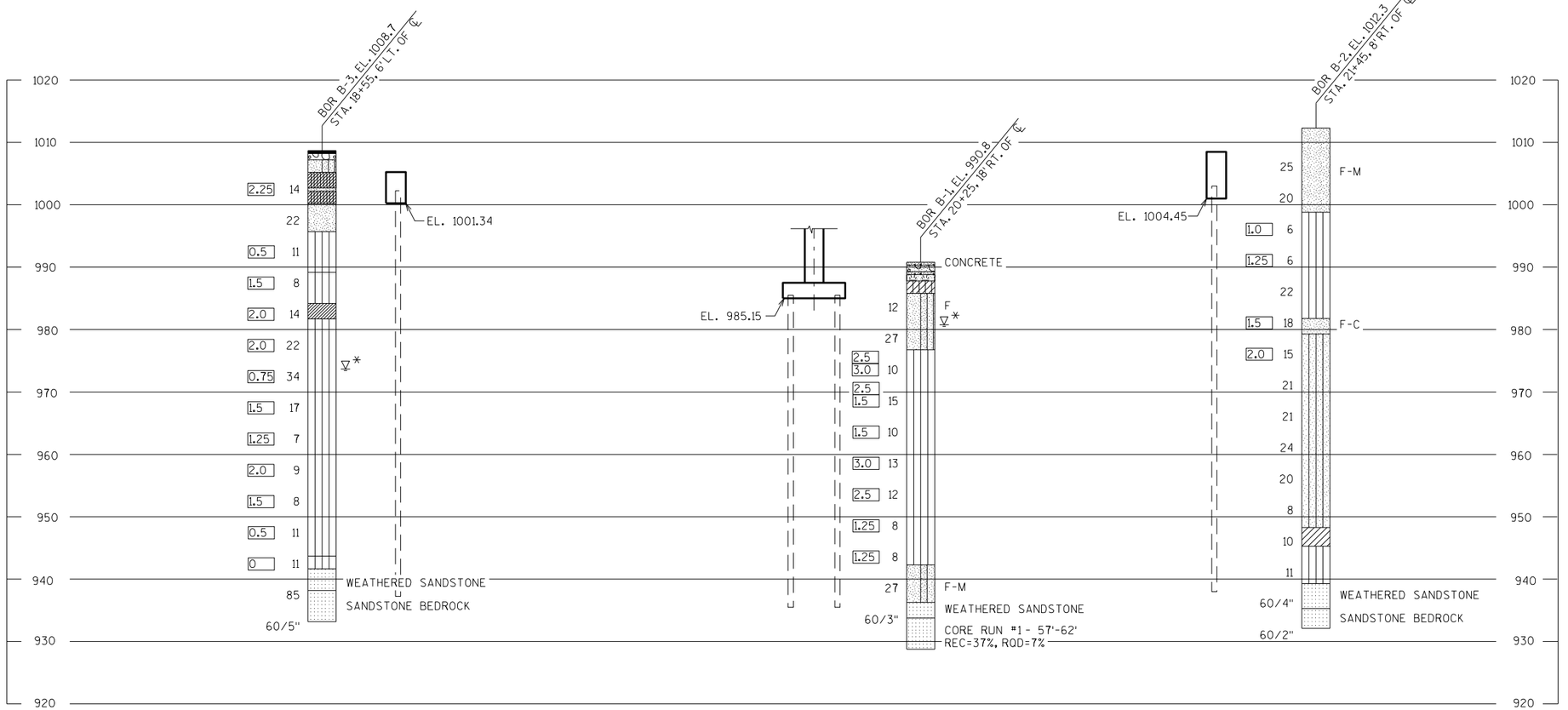
8

8

SCALE = 2

MADISON - PORTAGE
CTH DM BRIDGE





* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

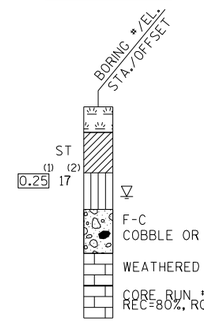
STATE PROJECT NUMBER

1011-03-76

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

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SUBSURFACE EXPLORATION

SHEET 4

143

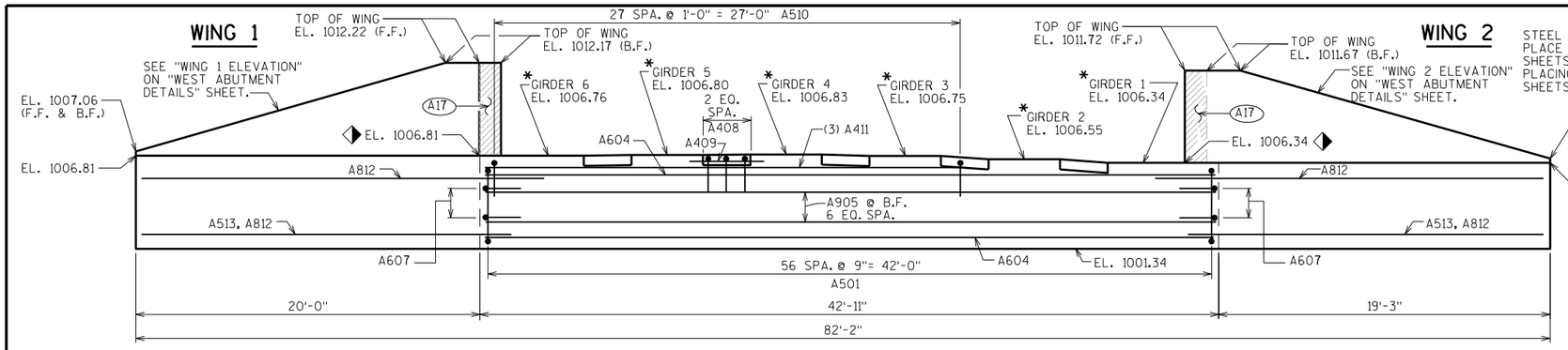
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8

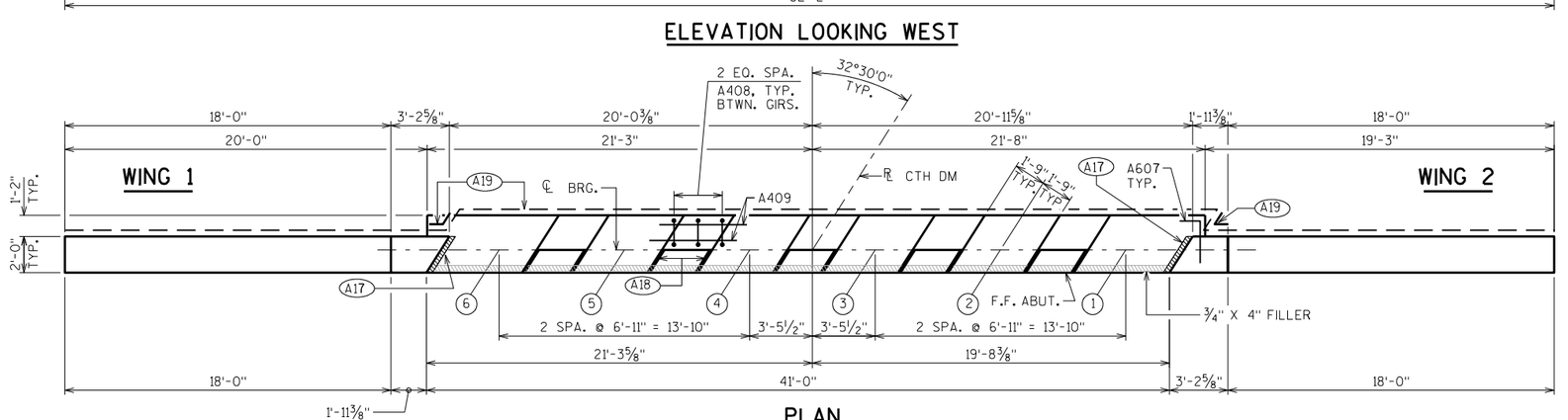
STATE PROJECT NUMBER

1011-03-76

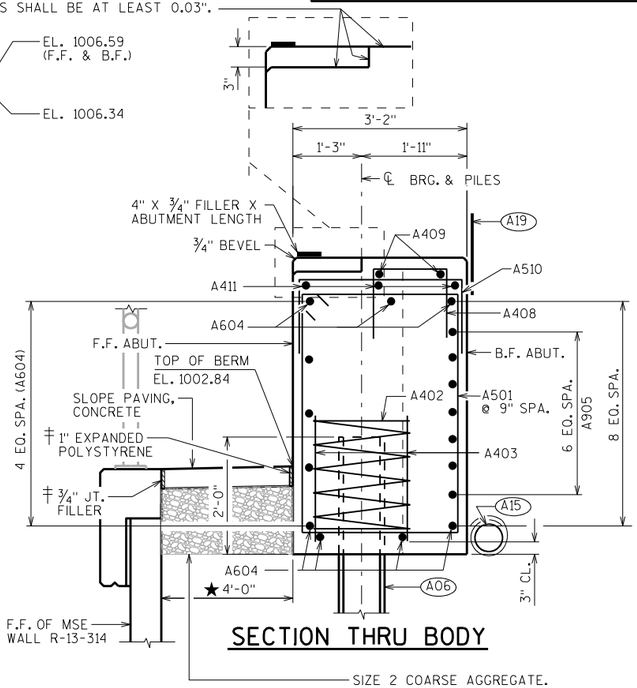


ELEVATION LOOKING WEST

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".



PLAN

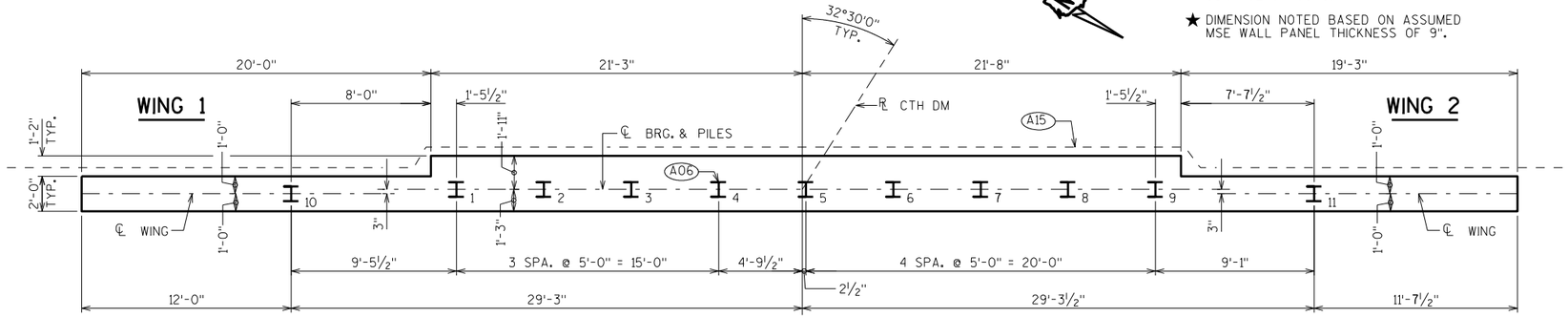


SECTION THRU BODY

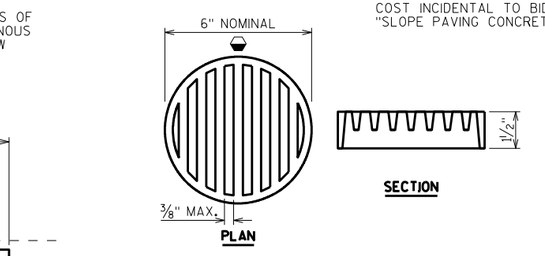
SIZE 2 COARSE AGGREGATE. COST INCIDENTAL TO BID ITEM "SLOPE PAVING CONCRETE"

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

★ DIMENSION NOTED BASED ON ASSUMED MSE WALL PANEL THICKNESS OF 9".



PILE PLAN



RODENT SHIELD DETAIL

◒ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

◆ BEAM SEAT REQUIRES SLOPE AT THIS LOCATION. IF OPTIONAL CONST. JOINT IS USED AT WINGS, SLOPE THE CONST. JOINT TO MATCH BEAM SEAT SLOPE. (SEE "SLOPED BEAM SEAT DETAIL" ON THIS SHEET).

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 65 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

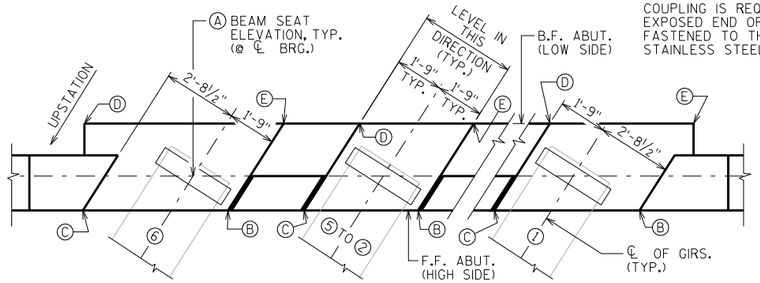
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE THIS SHEET FOR DETAILS.

(A17) 1/2" FILLER (NOT INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

	DIFF. IN ELEV. FROM EL. (A)		
	GIR. 1	GIR. 2 THRU 5	GIR. 6
(B)	0.00'	+0.01'	+0.01'
(C)	+0.04'	+0.04'	+0.05'
(D)	-0.02'	-0.02'	+0.01'
(E)	-0.07'	-0.06'	-0.06'



SLOPED BEAM SEAT DETAIL

* BEAM SEAT ELEVATIONS GIVEN AT THIS POINT (EL. (A))

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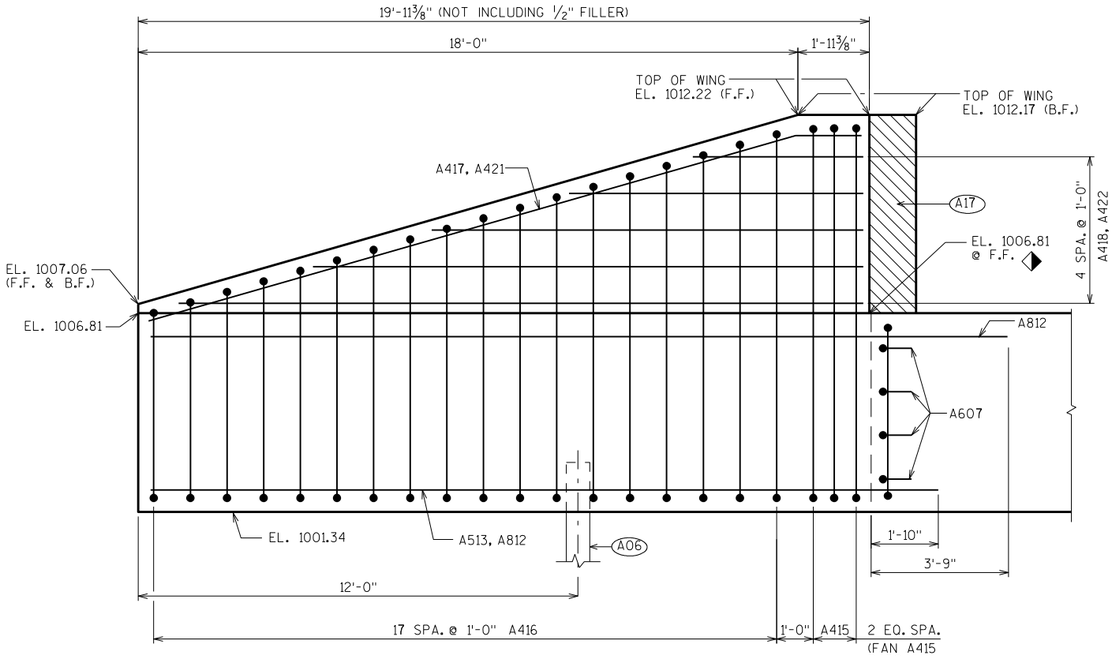
DRAWN BY WWR | PLANS CK'D. MJL

WEST ABUTMENT | SHEET 5 | 144

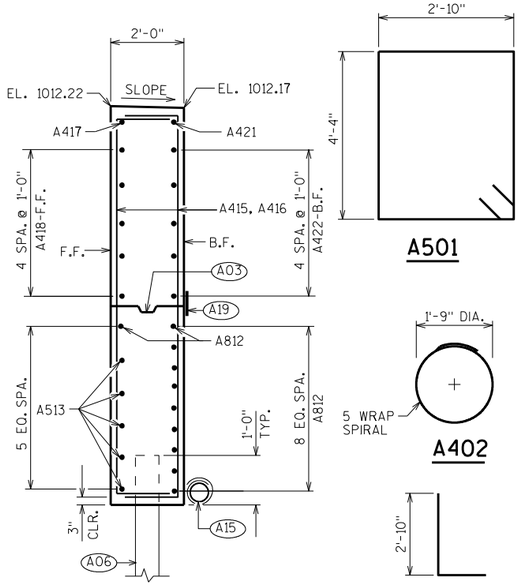
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STATE PROJECT NUMBER

1011-03-76



WING 1 ELEVATION

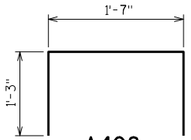


WING 1 SECTION

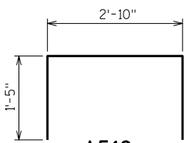
A501

A402

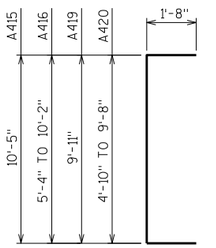
A607



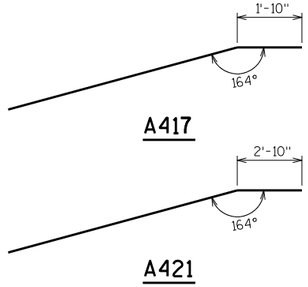
A408



A510



A415,A416,A419,A420



A417

A421

BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

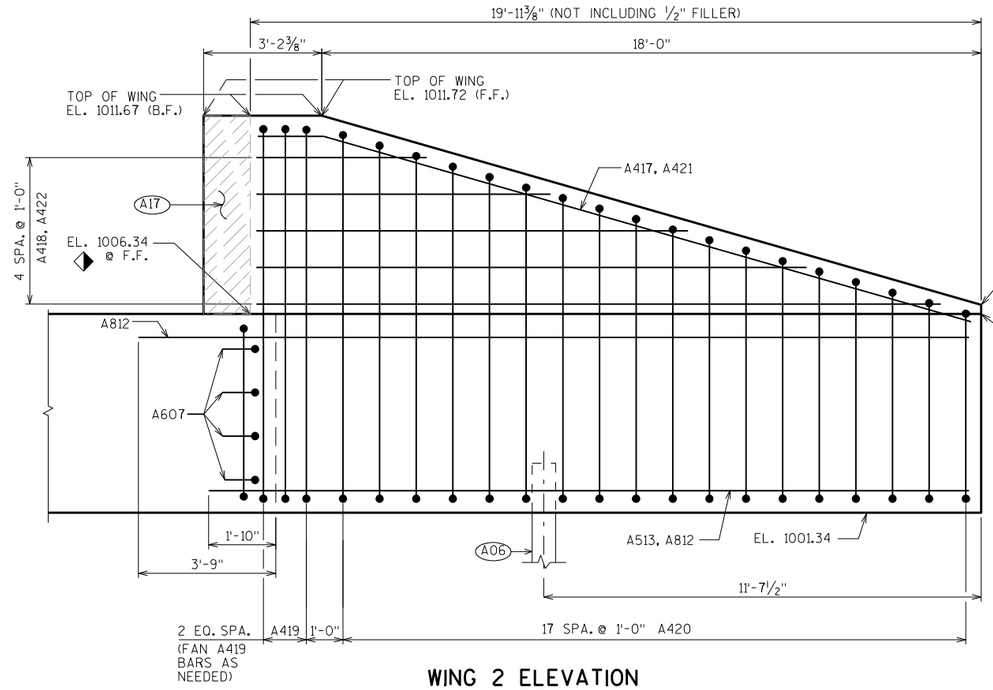
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A501		57	15'-0"	X		BODY-VERT.-STIRRUP
A402		9	28'-0"	X		BODY-1 PER PILE
A403		18	2'-3"			BODY-VERT.-2 PER PILE
A604		10	42'-7"			BODY-LONGIT.
A905		7	42'-7"			BODY-LONGIT.-B.F.
~~A806~~		NOT	USED			~~BODY-LONGIT. TOP~~
A607		8	3'-8"	X		BODY-HORIZ. L-BAR
A408		15	3'-11"	X		BODY-VERT.-TOP-BTWN. BEAM SEATS
A409		10	4'-9"			BODY-HORIZ.-BTWN. BEAM SEATS
A510		28	5'-5"	X		BODY-VERT.
A411		3	27'-6"			BODY-HORIZ.
A812	X	20	23'-7"			WINGS/BODY-HORIZ.
A513	X	10	21'-8"			WINGS/BODY-HORIZ.
~~A814~~	~~X~~	NOT	USED			~~WINGS/BODY HORIZ.~~
A415	X	6	13'-7"	X		WINGS-VERT.
A416	X	36	10'-10"	X	◭	WING 1-VERT.
A417	X	2	20'-4"	X		WINGS-TOP
A418	X	10	12'-5"		◭	WINGS-HORIZ.
A419	X	6	13'-1"	X		WINGS-VERT.
A420	X	36	10'-5"	X	◭	WING 2-VERT.
A421	X	2	21'-4"	X		WINGS-TOP
A422	X	10	13'-1"		◭	WINGS-HORIZ.

◭ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

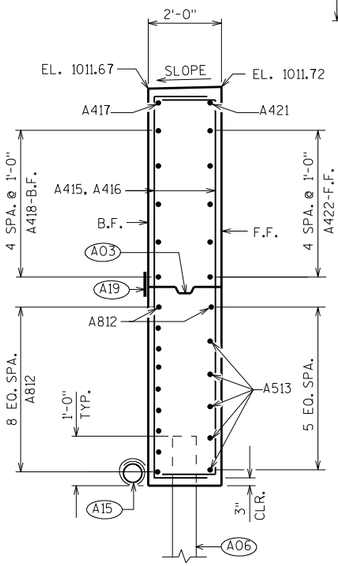
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A416	2 SERIES OF 18	8'-6" TO 13'-2"
A418	2 SERIES OF 5	5'-0" TO 19'-2"
A420	2 SERIES OF 18	8'-0" TO 12'-10"
A422	2 SERIES OF 5	6'-0" TO 20'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.



WING 2 ELEVATION



WING 2 SECTION

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 65 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (NOT INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

◆ BEAM SEAT REQUIRES SLOPE AT THIS LOCATION. IF OPTIONAL CONST. JOINT USED AT WINGS, SLOPE THE CONST. JOINT TO MATCH BEAM SEAT SLOPE. (SEE "SLOPE BEAM SEAT DETAIL" ON "WEST ABUTMENT" SHEET).

NO.	DATE	REVISION	BY

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WEST ABUTMENT DETAILS

SHEET 6

145

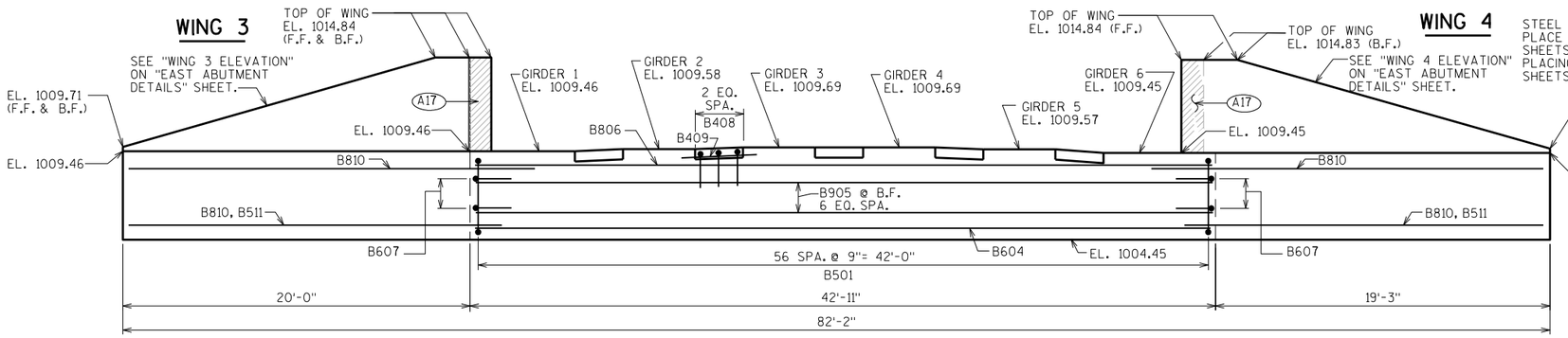
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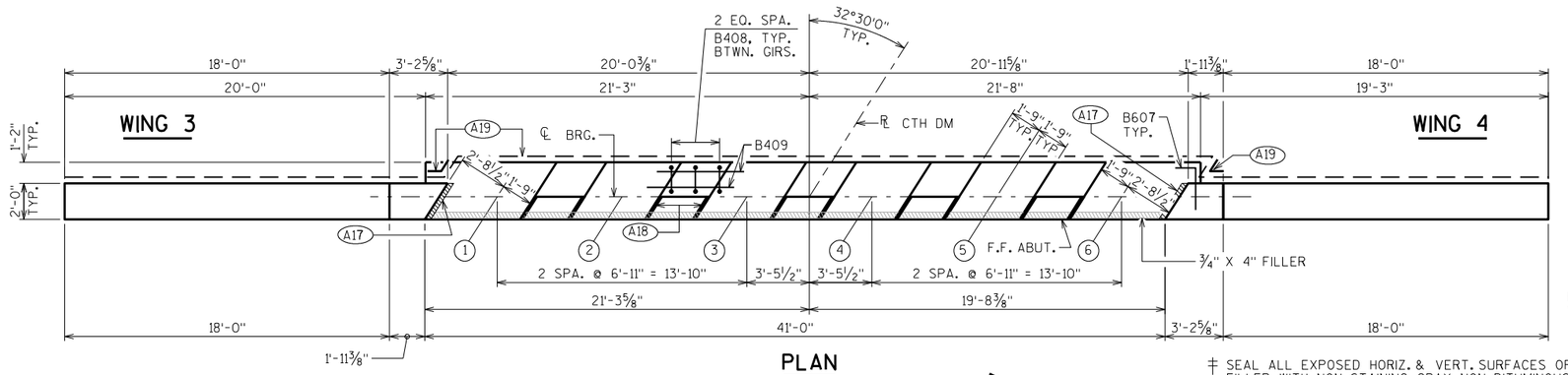
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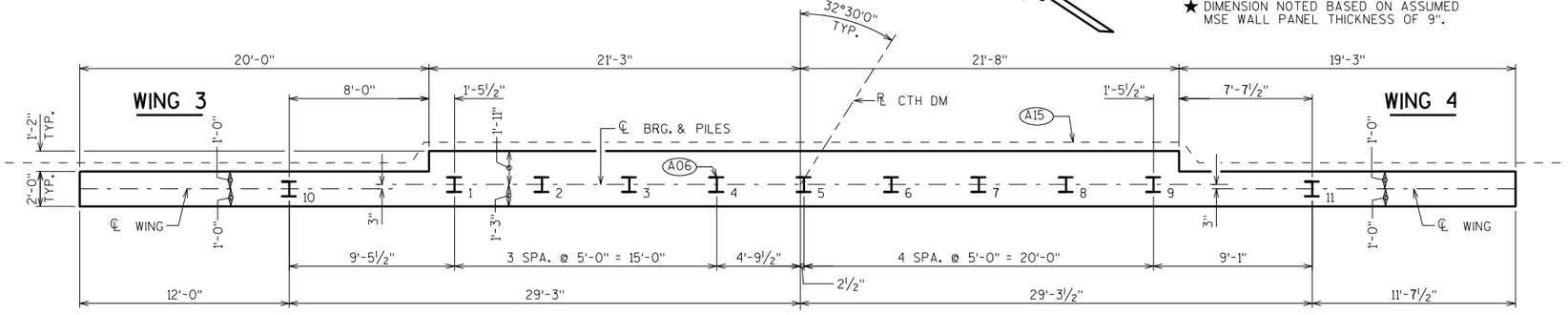
1011-03-76



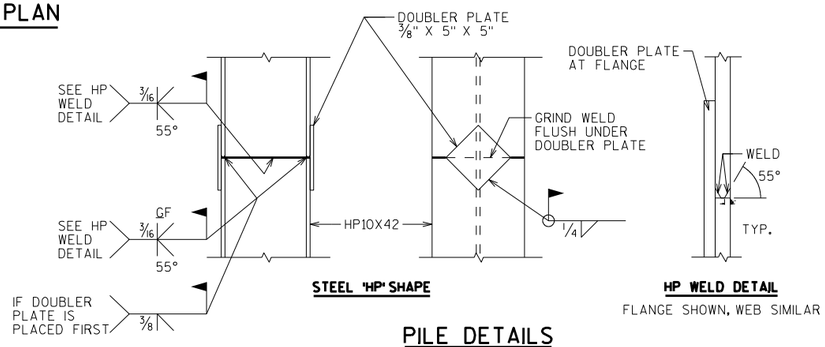
ELEVATION LOOKING EAST



PLAN



PILE PLAN



PILE DETAILS

A06 SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 65 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

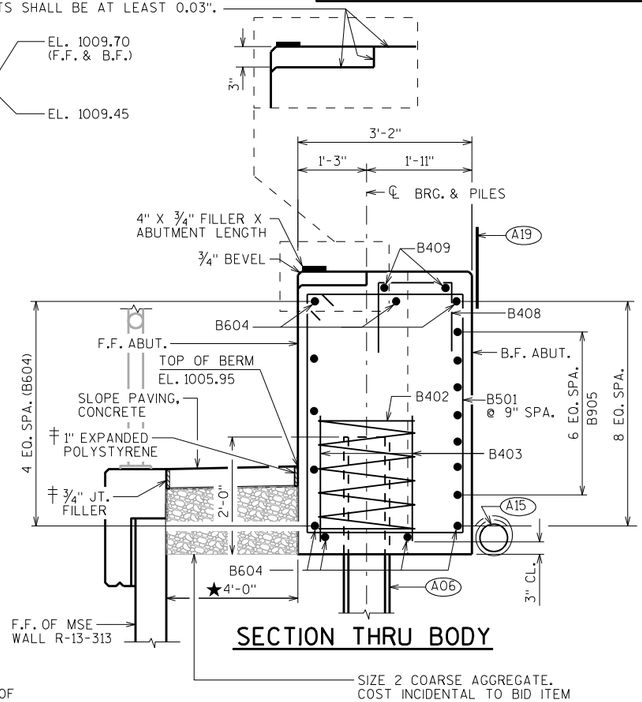
A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED. SEE THIS SHEET FOR DETAILS.

A17 1/2" FILLER (NOT INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

A18 ¾" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".

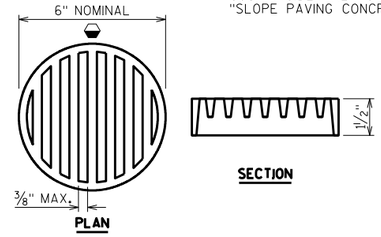


SECTION THRU BODY

SIZE 2 COARSE AGGREGATE. COST INCIDENTAL TO BID ITEM "SLOPE PAVING CONCRETE"

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

★ DIMENSION NOTED BASED ON ASSUMED MSE WALL PANEL THICKNESS OF 9".



RODENT SHIELD DETAIL

DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY WWR | PLANS CK'D. MJL

EAST ABUTMENT

SHEET 7

146

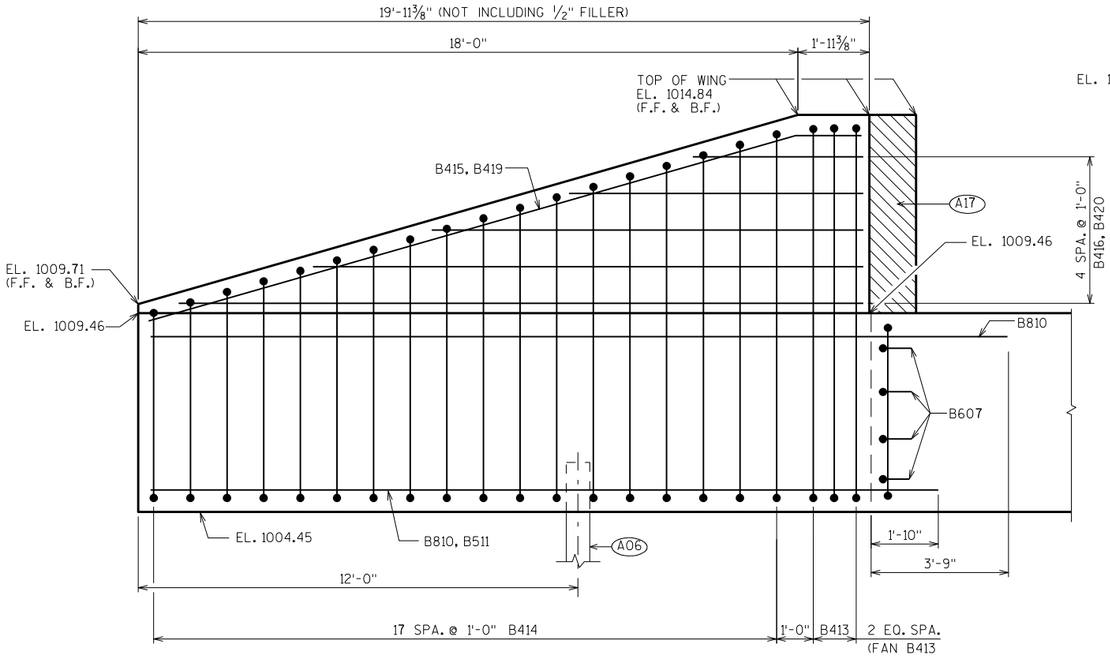
SCALE = 4

8

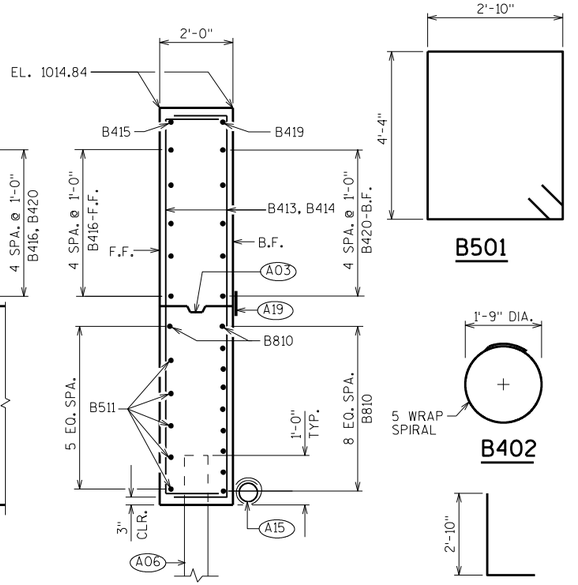
8

STATE PROJECT NUMBER

1011-03-76



WING 3 ELEVATION



WING 3 SECTION

B501

B402

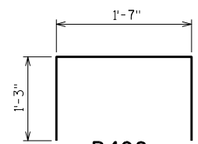
B607

BILL OF BARS

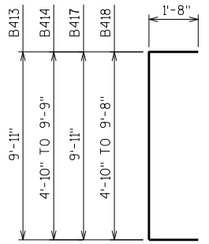
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B501		57	15'-0"	X		BODY-VERT.-STIRRUP
B402		9	28'-0"	X		BODY-1 PER PILE
B403		18	2'-3"			BODY-VERT.-2 PER PILE
B604		10	42'-7"			BODY-LONGIT.
B905		7	42'-7"			BODY-LONGIT.-B.F.
~~B806~~		NOT	USED			~~BODY-LONGIT.-TOP~~
B607		8	3'-8"	X		BODY-HORIZ. L-BAR
B408		15	3'-11"	X		BODY-VERT.-TOP-BTWN. BEAM SEATS
B409		10	4'-9"			BODY-HORIZ.-BTWN. BEAM SEATS
B810	X	20	23'-7"			WINGS/BODY-HORIZ.
B511	X	10	21'-8"			WINGS/BODY-HORIZ.
~~B812~~	~~X~~	NOT	USED			~~WINGS/BODY-HORIZ.~~
B413	X	6	13'-1"	X		WING 3-VERT.
B414	X	36	10'-6"	X	⚠	WING 3-VERT.
B415	X	2	20'-4"	X		WINGS-TOP
B416	X	10	12'-2"		⚠	WINGS-HORIZ.
B417	X	6	13'-1"	X		WING 4-VERT.
B418	X	36	10'-5"	X	⚠	WING 4-VERT.
B419	X	2	21'-4"	X		WINGS-TOP
B420	X	10	13'-2"		⚠	WINGS-HORIZ.

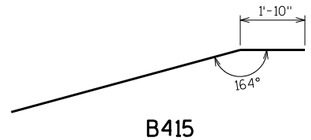
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



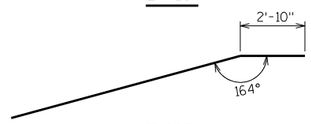
B408



B413,B414,B417,B418



B415

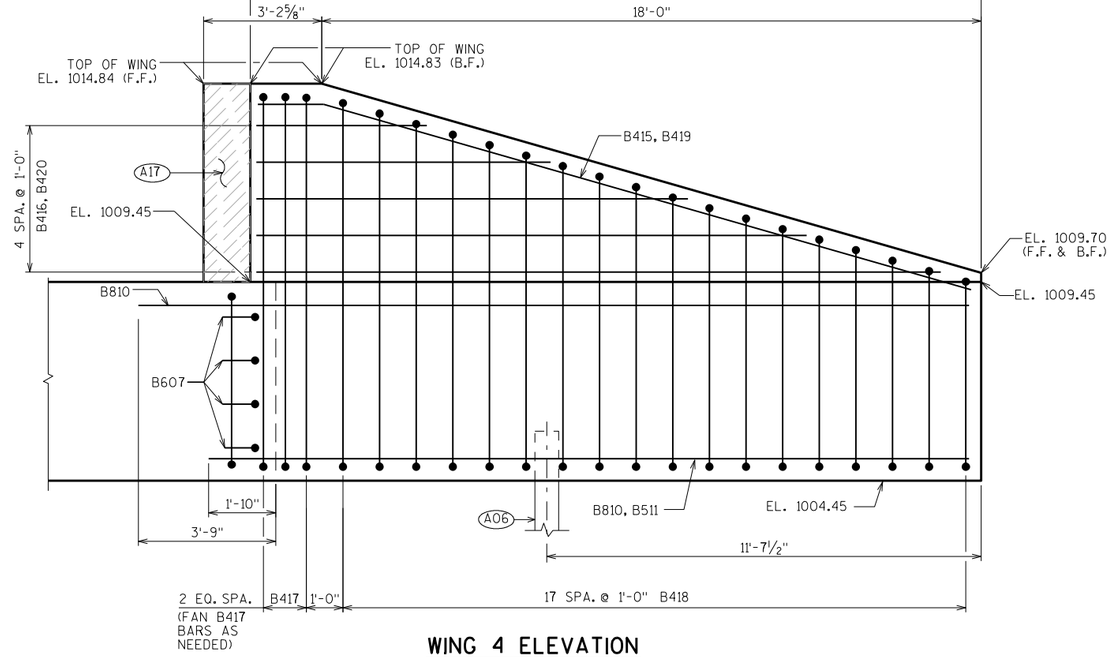


B419

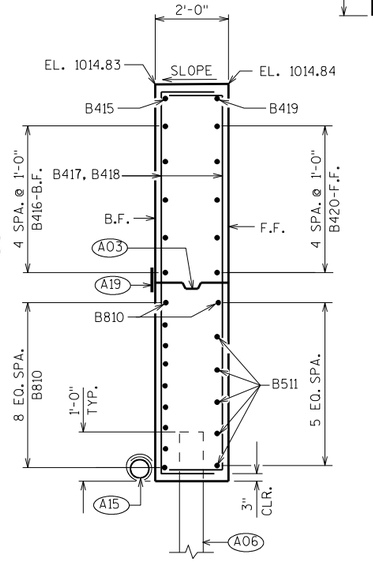
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B414	2 SERIES OF 18	8'-0" TO 12'-11"
B416	2 SERIES OF 5	5'-2" TO 19'-2"
B418	2 SERIES OF 18	8'-0" TO 12'-10"
B420	2 SERIES OF 5	6'-1" TO 20'-2"

BUNDLE AND TAG EACH SERIES SEPARATELY.



WING 4 ELEVATION



WING 4 SECTION

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

(A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING, ESTIMATED 65 FEET LONG WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) 1/2" FILLER (NOT INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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EAST ABUTMENT DETAILS

SHEET 8

147

8

8

SCALE =

STATE PROJECT NUMBER

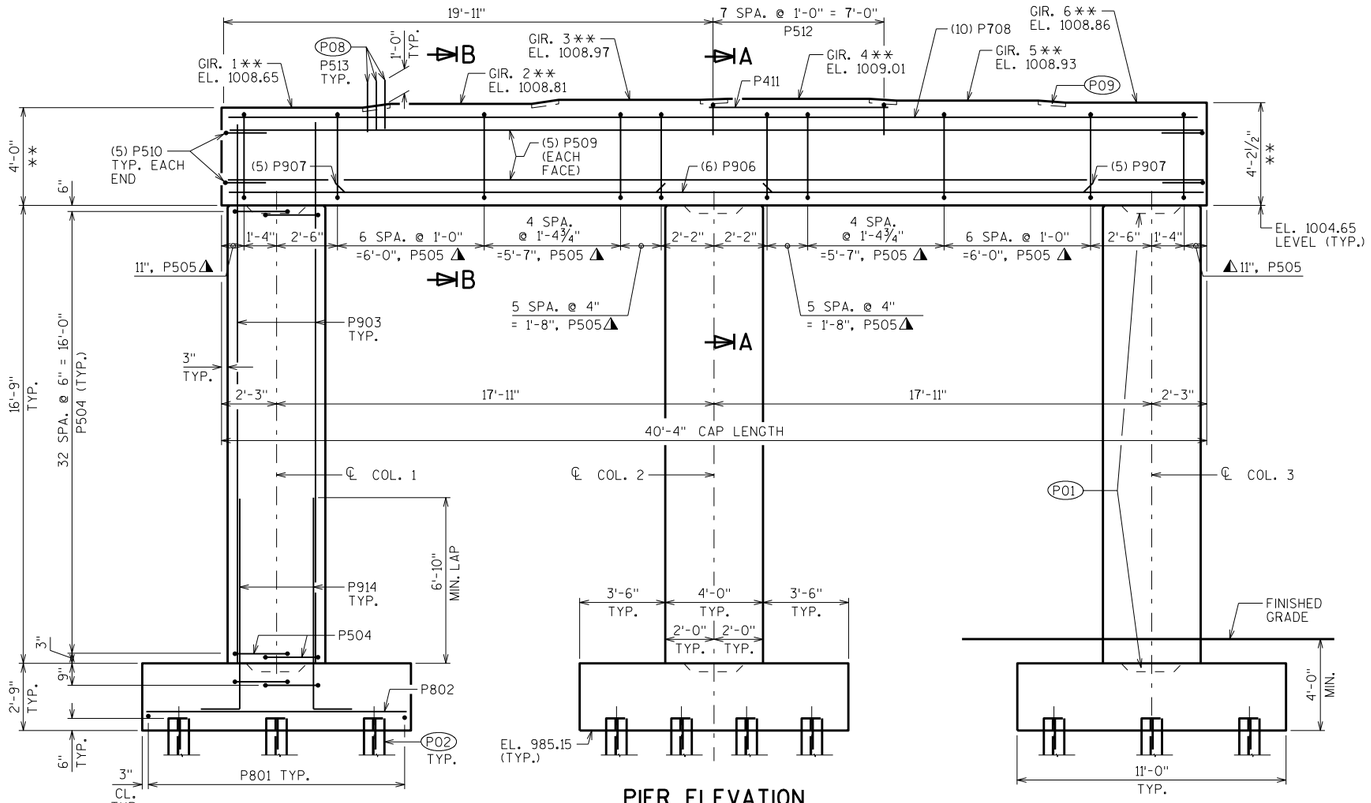
1011-03-76

(P01) 1'-3" X 2'-0" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.

(P02) SUPPORT PIER ON HP 10 X 42 STEEL PILING, ESTIMATED 50 FEET LONG, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. (SEE "PIER DETAILS" SHEET FOR PILE LAYOUT/PLAN & SPLICE DETAIL.)

(P08) P513 BARS BTWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE.)

(P09) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2 X 6, BETWEEN BEAM SEATS.



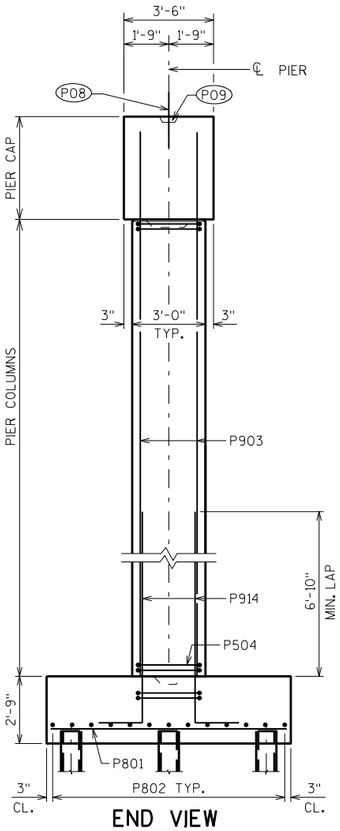
PIER ELEVATION

(LOOKING EAST)

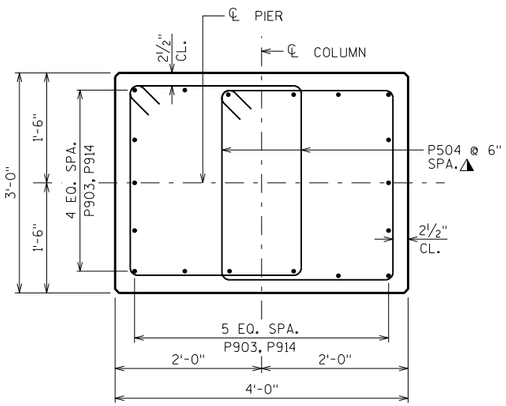
NOTE: SEE "PIER DETAILS" SHEET FOR PIER CAP PLAN & FOOTING PLAN.

◭ = DBL. STIRRUP SPA.

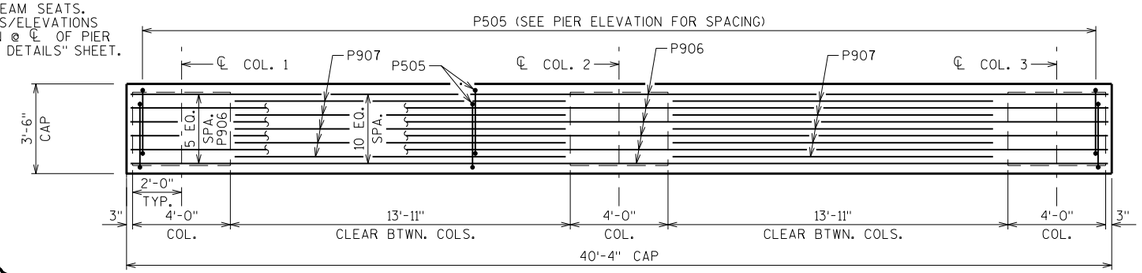
** = SLOPED BEAM SEATS. DIMENSIONS/ELEVATIONS ARE GIVEN @ ℄ OF PIER SEE "PIER DETAILS" SHEET.



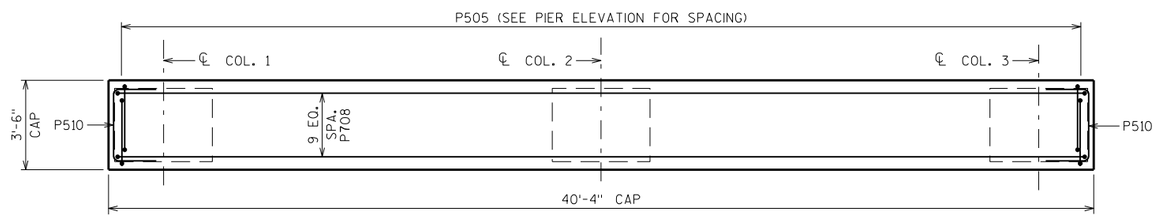
END VIEW



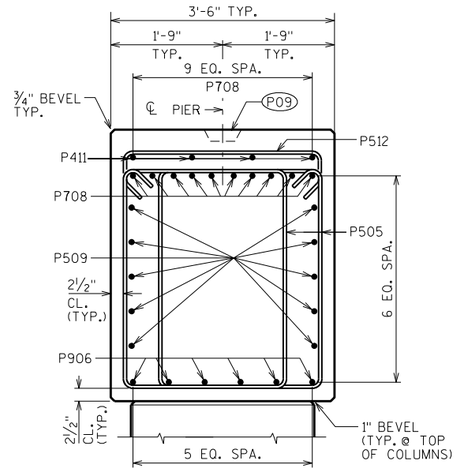
SECTION THRU COLUMN (TYP.)



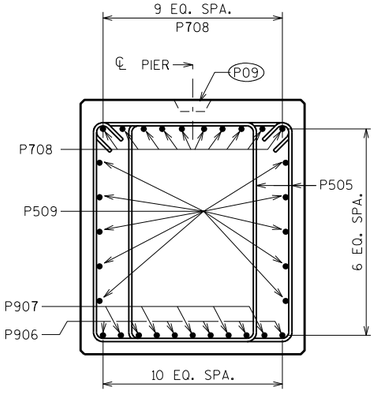
PLAN - BOTTOM REINF. IN CAP



PLAN - TOP REINF. IN CAP



SECTION A-A



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY WWR | PLANS CK'D. MJL

PIER

SHEET 9

148

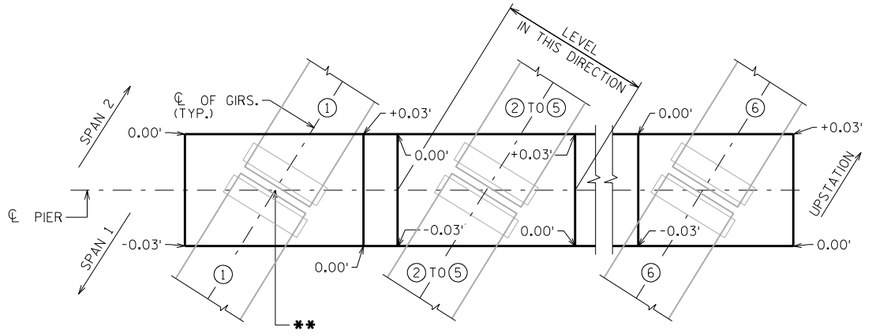
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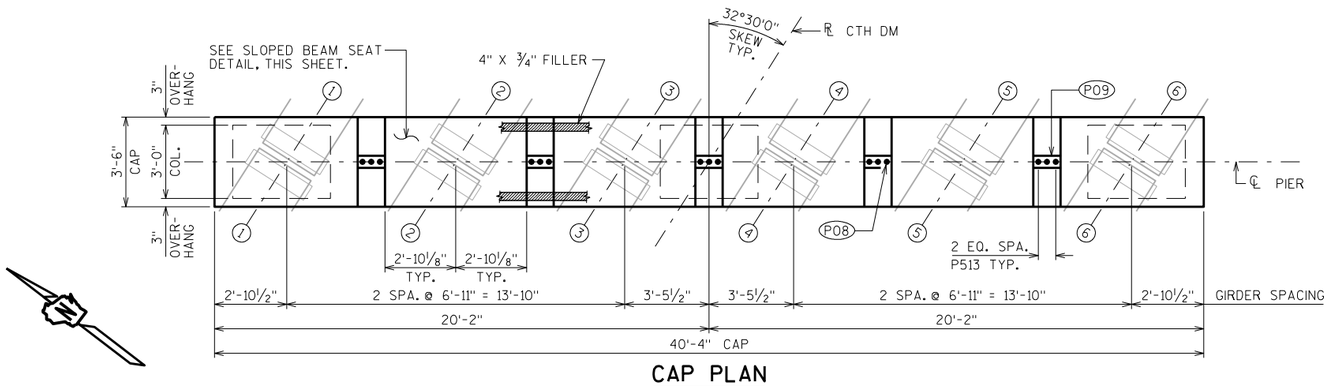
STATE PROJECT NUMBER

1011-03-76

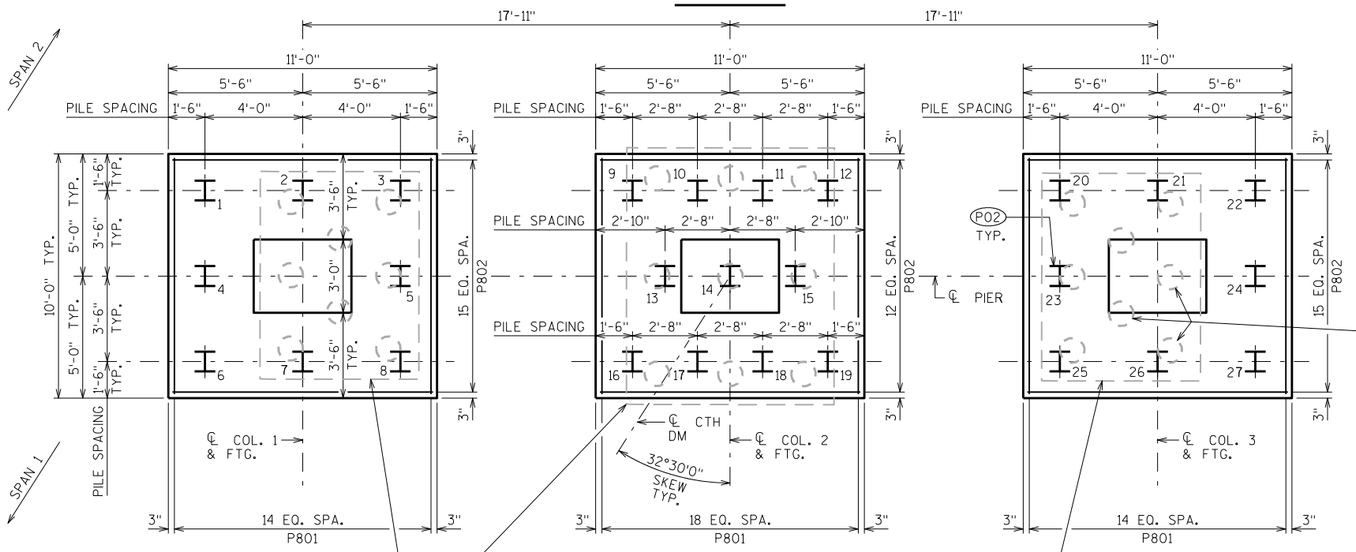


SLOPED BEAM SEAT DETAIL

** = ELEVATIONS ARE GIVEN AT THIS POINT

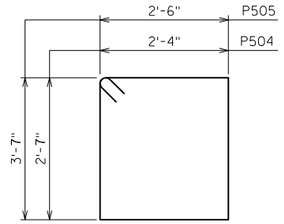


CAP PLAN

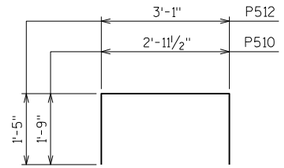


FOOTING PLAN

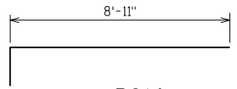
(P914 COLUMN DOWELS NOT SHOWN FOR CLARITY. SEE "PIER" SHEET FOR DETAILS.)



P504, P505



P510, P512



P914

BILL OF BARS

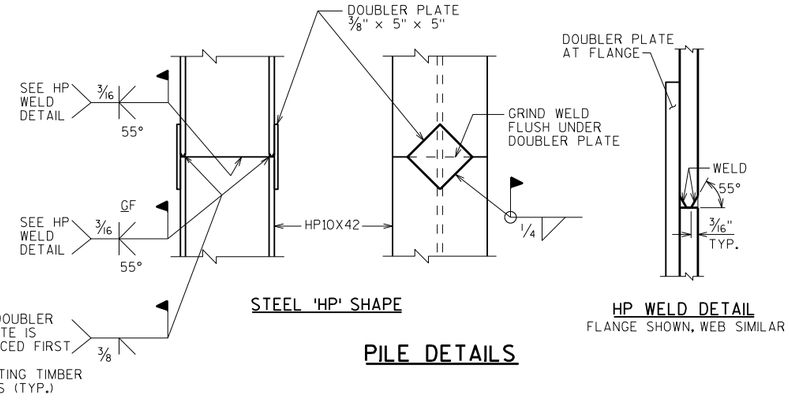
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
P801		49	9'-8"		FOOTING-HORIZ.-BOT. MAT
P802		45	10'-8"		FOOTING-HORIZ.-BOT. MAT
P903	X	54	20'-3"		COLUMN-VERT.
P504	X	204	10'-6"	X	COLUMN-STIRRUPS
P505	X	68	12'-10"	X	CAP-STIRRUPS
P906	X	6	39'-11"		CAP-HORIZ.-BOT.
P907	X	10	13'-11"		CAP-HORIZ.-BOT.-BTWN. COLS.
P708	X	10	39'-11"		CAP-HORIZ.-TOP
P509	X	10	39'-11"		CAP-HORIZ.-SIDES
P510	X	10	6'-3"	X	CAP-HORIZ.-ENDS
P411	X	4	7'-4"		CAP-HORIZ.-TOP
P512	X	8	5'-8"	X	CAP-VERT.-TOP
P513	X	15	2'-0"		CAP - DOWEL BARS
P914	X	54	10'-4"	X	FOOTING/COLUMN-VERT.

(P02) SUPPORT PIER ON HP 10 X 42 STEEL PILING, ESTIMATED 50 FEET LONG, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE.

(P08) P513 BARS BTWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE.)

(P09) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2 X 6, BETWEEN BEAM SEATS.



STEEL 'HP' SHAPE

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE DETAILS

LOCATIONS OF EXISTING TIMBER PILES ARE APPROXIMATE, AND BASED ON ORIGINAL PLANS, AS SHOWN. AFER THE EXISTING FOOTING IS REMOVED, DETERMINE WHICH EXISTING PILES ARE TO BE REMOVED, BASED ON SPACING CRITERIA GIVEN IN THE SPECIAL PROVISIONS & AS DIRECTED BY THE ENGINEER. REMOVE EXISTING TIMBER PILES THAT ARE IN CONFLICT WITH NEW PILES, IN ACCORDANCE WITH THE SPECIAL PROVISIONS. CUT OFF ALL REMAINING EXISTING TIMBER PILES 6" BELOW BOTTOM OF PROPOSED FOOTING.

NO.	DATE	REVISION	BY

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PIER DETAILS

SHEET 10

149

SCALE = 3

8

8

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IN-SPAN STEEL DIAPHRAGM SPACING TABLE

GIRDER NUMBER	SPANS 1 & 2 DIMENSION "D"	"E"	"F"	"G"	"H"
GIRDER 1	45'-7¾"	——	43'-9½"	——	41'-11¼"
GIRDER 2	41'-11¼"	3'-8⅝"	40'-0⅞"	3'-8⅝"	41'-11¼"
GIRDER 3	41'-11¼"	3'-8⅝"	40'-0⅞"	3'-8⅝"	41'-11¼"
GIRDER 4	41'-11¼"	3'-8⅝"	40'-0⅞"	3'-8⅝"	41'-11¼"
GIRDER 5	41'-11¼"	3'-8⅝"	40'-0⅞"	3'-8⅝"	41'-11¼"
GIRDER 6	41'-11¼"	——	43'-9½"	——	45'-7¾"

SEE "STEEL DIAPHRAGM" SHEET FOR INTERMEDIATE STEEL DIAPHRAGM LAYOUT

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER OR EPOXY TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

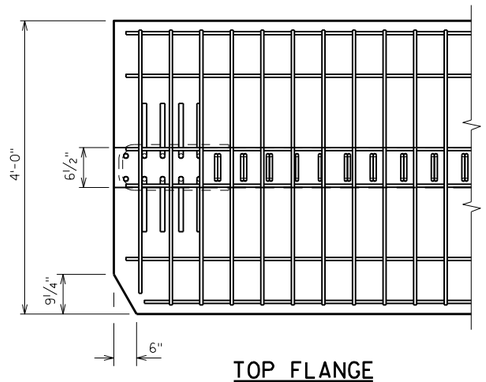
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

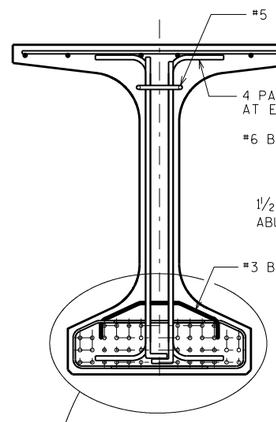
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

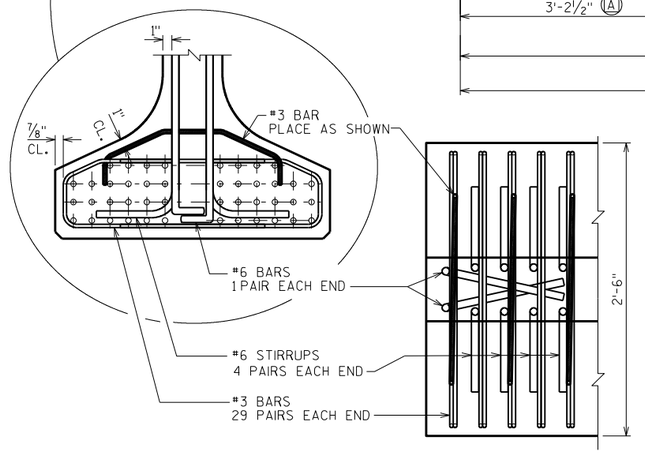
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



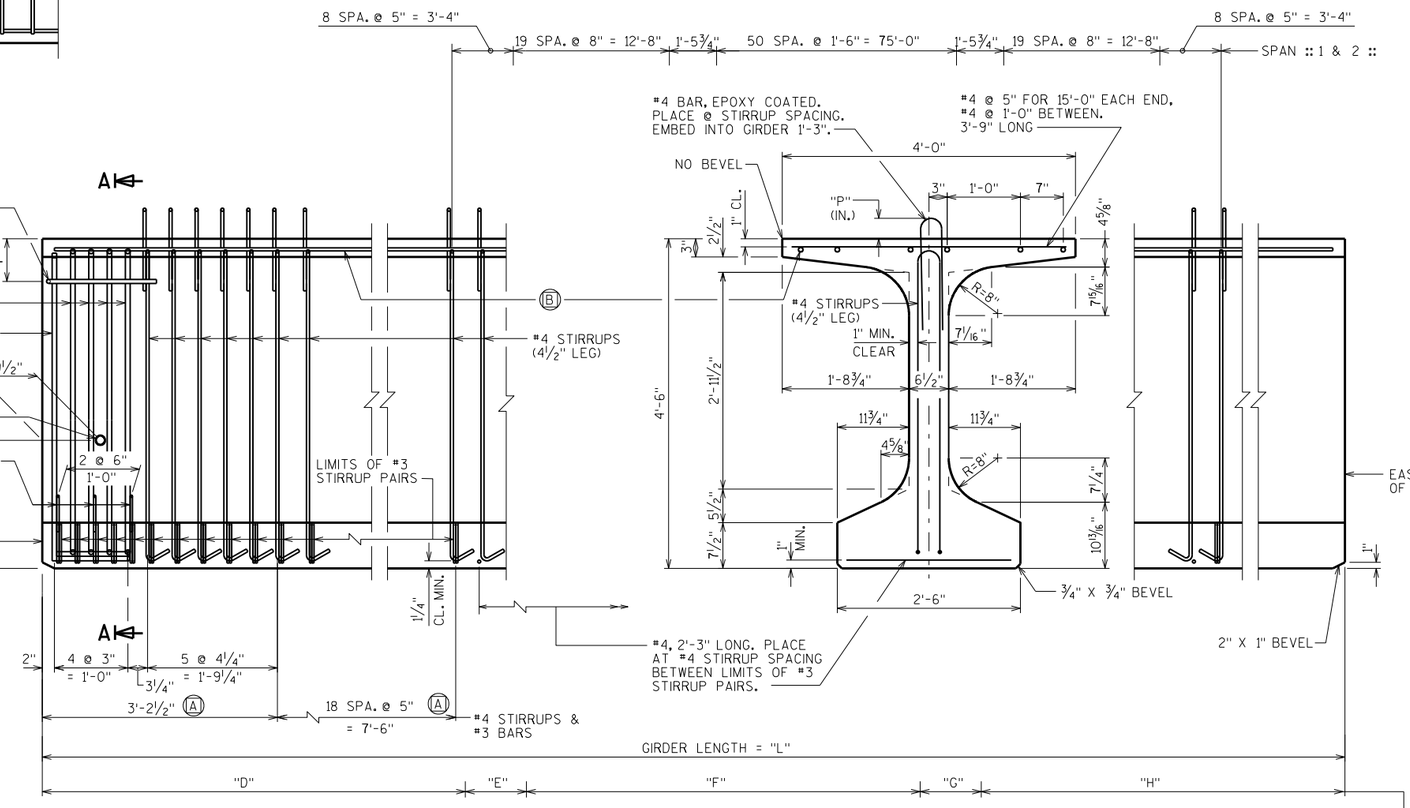
TOP FLANGE



SECTION A-A



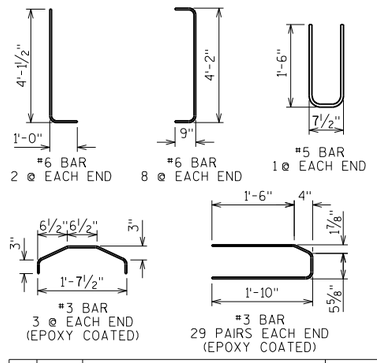
BOTTOM FLANGE



SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ SIX #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



✳ MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

GIRDER DATA

SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.) 1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	CONC. STRGTH. f'c (p.s.i.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳	(IN.) "A"	"B" MIN.	"B" MAX.	"C"	UNDRAPED PATTERN TOTAL NO. OF STRANDS	f'ci (P.S.I.) ✳
1	1-6	131.375	0.8	1.5	2.0	2.4	2.5	2.4	2.0	1.5	0.8	8,000	7	7	7	0.60	38	6,400	49.0	16.0	19.0	5.0	----	----
2	1-6	131.375	0.8	1.5	2.0	2.4	2.5	2.4	2.0	1.5	0.8	8,000	7	7	7	0.60	38	6,400	49.0	16.0	19.0	5.0	----	----

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY WWR | PLANS CK'D. MJL

54W" PRESTRESSED GIRDER DETAILS 1

SHEET 11

150

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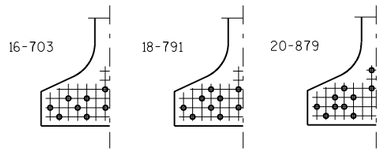
1-16
G54W

8

8

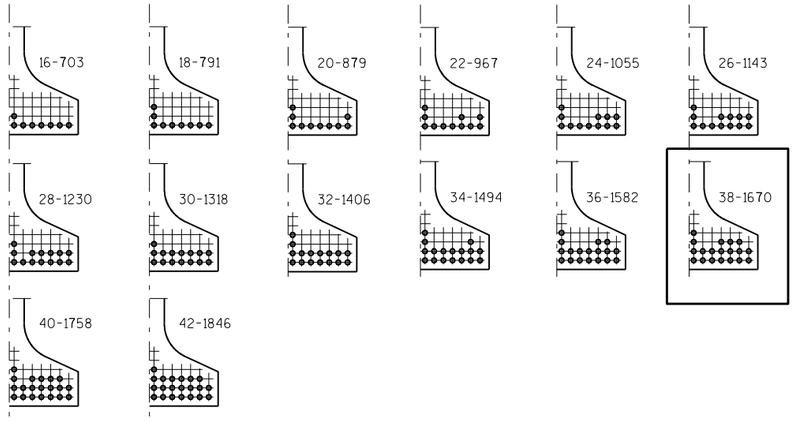
STATE PROJECT NUMBER

1011-03-76



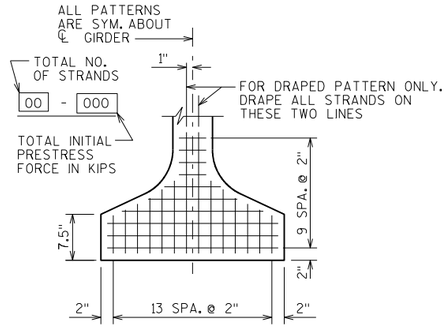
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS

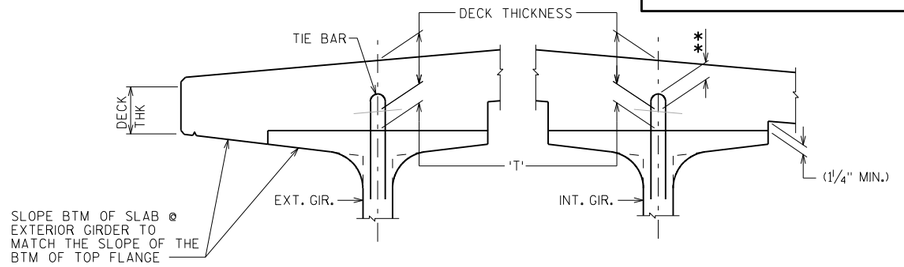


ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



TYP. STRAND PATTERN



DECK HAUNCH DETAIL

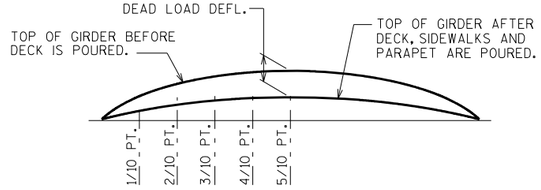
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

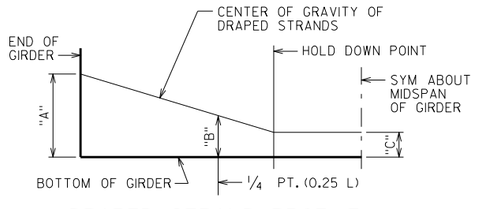
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2⅞" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM



DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3.99
2	3.99

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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STRUCTURE B-13-648

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54W" PRESTRESSED GIRDER DETAILS 2

SHEET 12

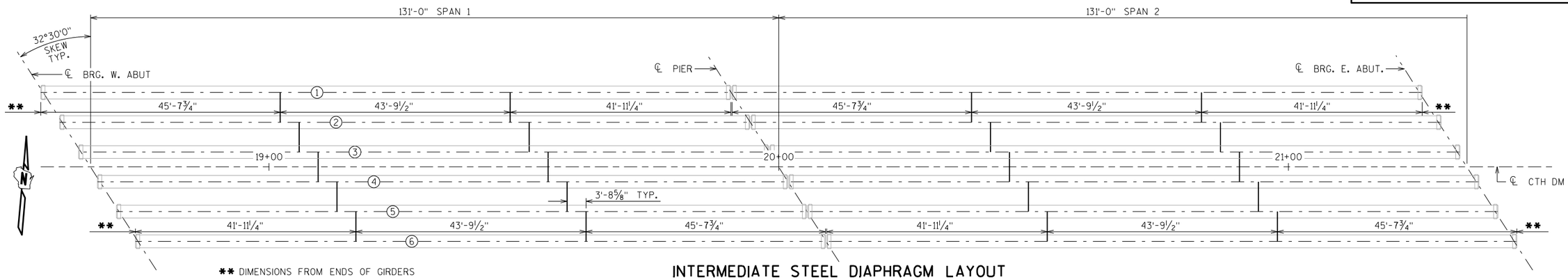
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G54W
7-16

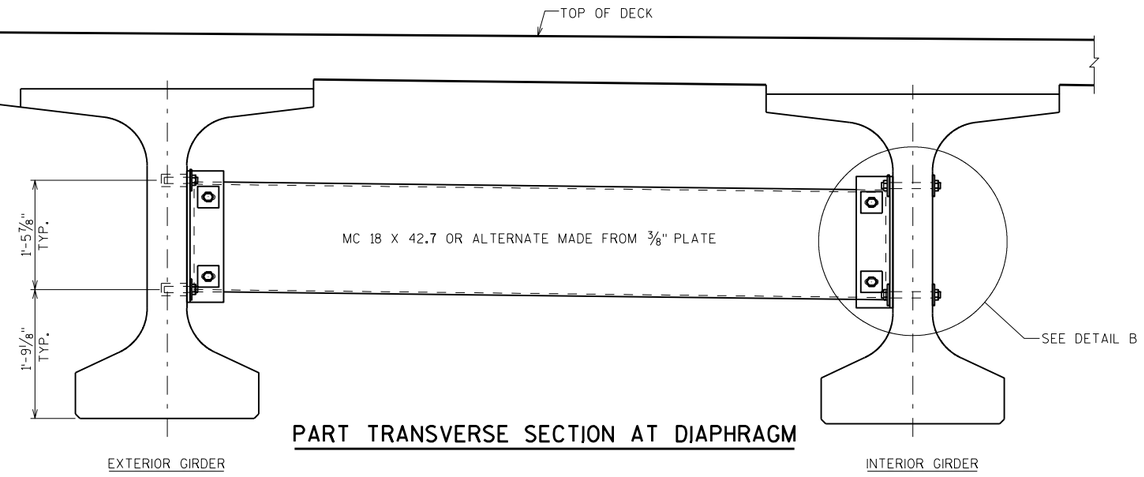
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STATE PROJECT NUMBER

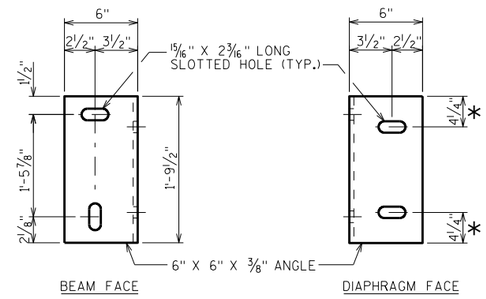
1011-03-76



INTERMEDIATE STEEL DIAPHRAGM LAYOUT

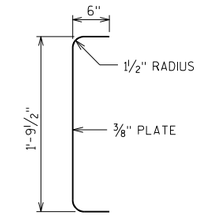


PART TRANSVERSE SECTION AT DIAPHRAGM

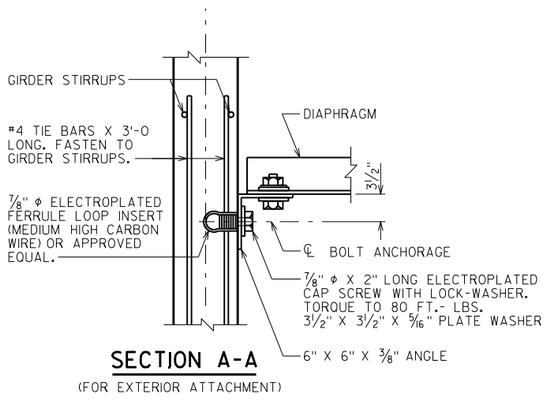


DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM

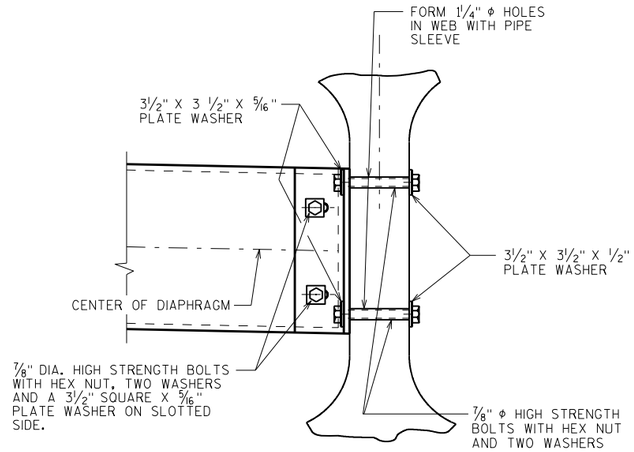


SECTION THRU ALTERNATE DIAPHRAGM



SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-13-648, EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET REQUIREMENTS FOR ASTM A325 OR ASTM A449.

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STATE OF WISCONSIN
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STRUCTURE B-13-648

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STEEL DIAPHRAGM

SHEET 13

152

GSTDIA 7-13

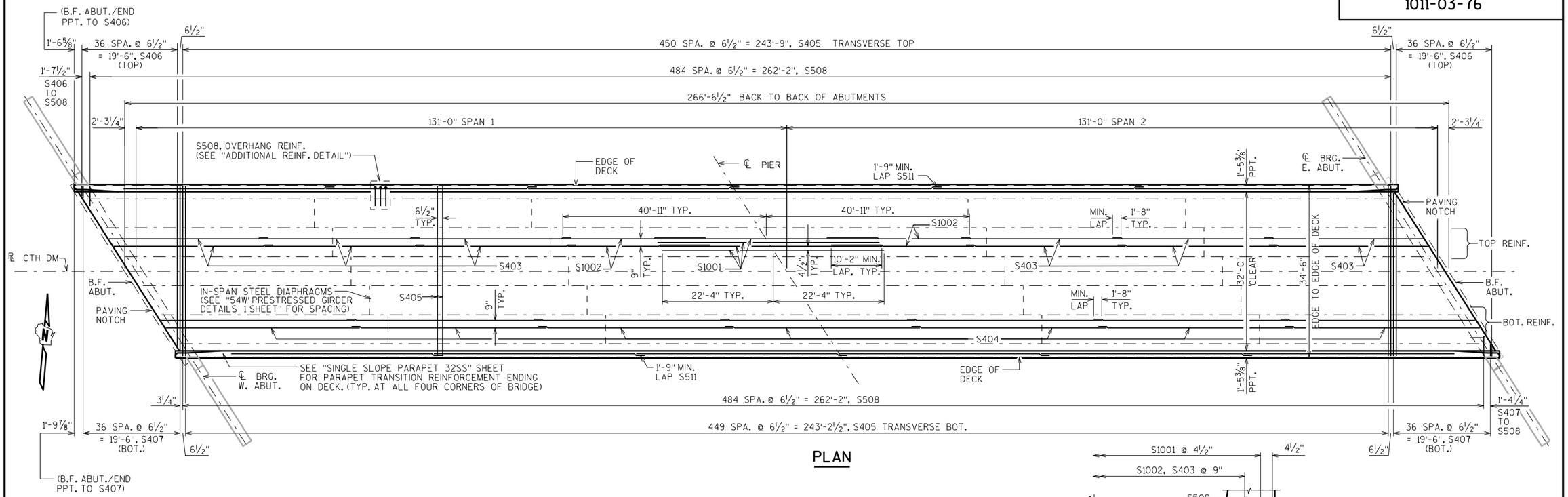
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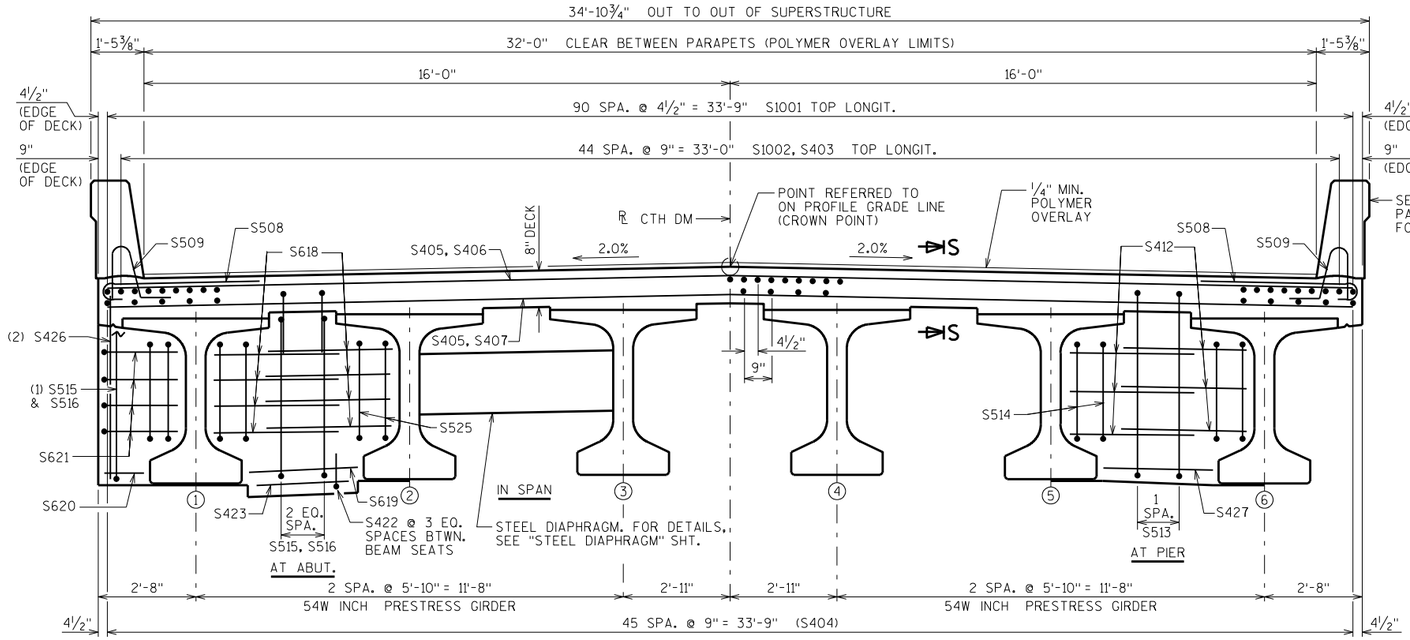
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STATE PROJECT NUMBER

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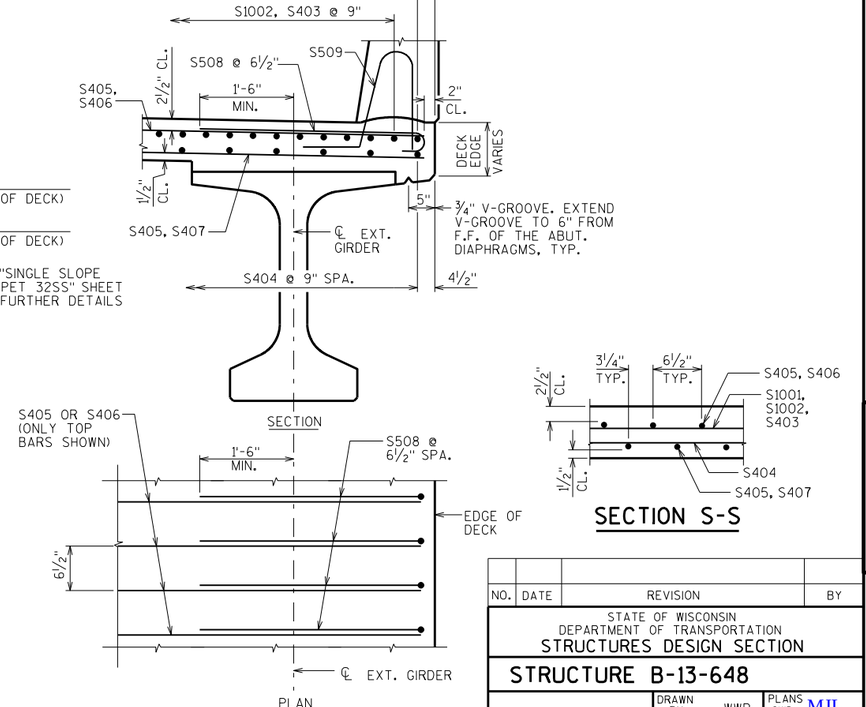


PLAN



CROSS SECTION THRU ROADWAY

(LOOKING UPSTATION)



ADDITIONAL REINF. DETAIL

(GIRDER 6 SHOWN, GIRDER 1 SIMILAR)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURE B-13-648

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SUPERSTRUCTURE

SHEET 14

153

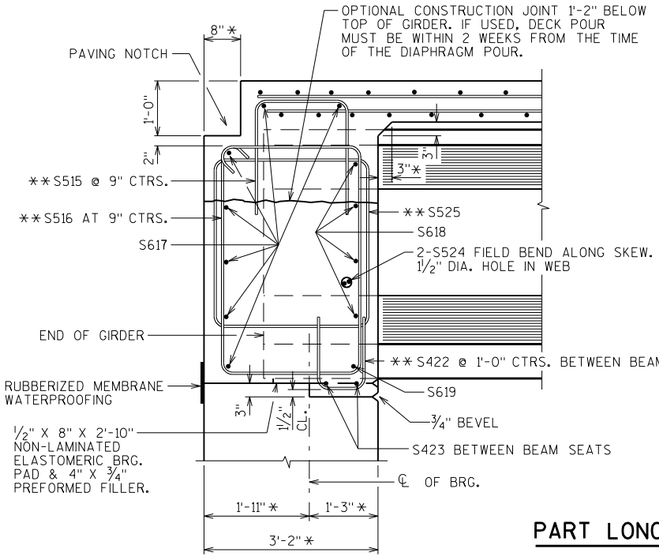
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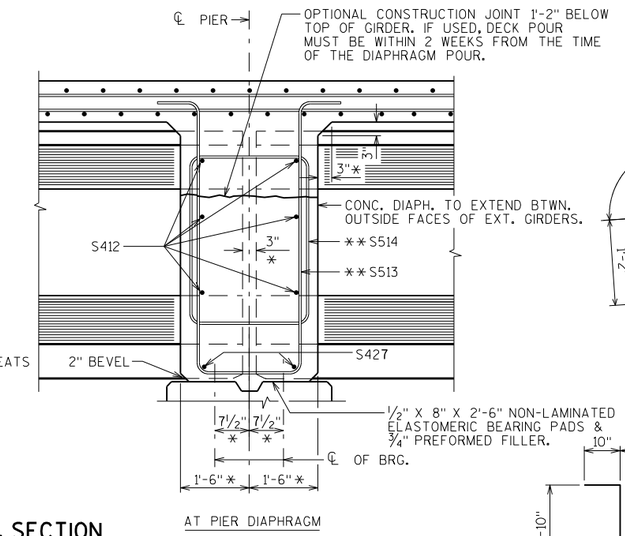
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1011-03-76



AT ABUTMENTS

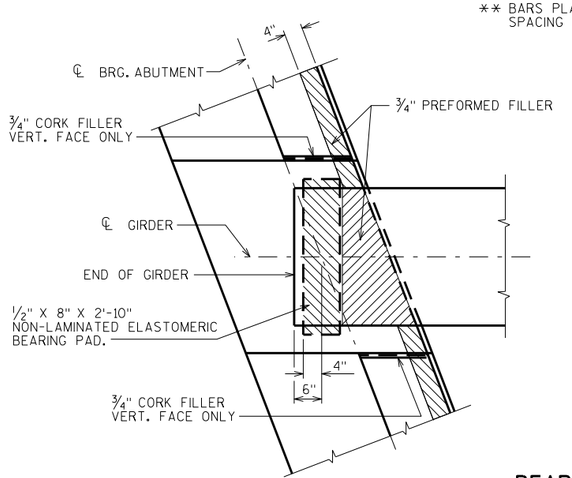


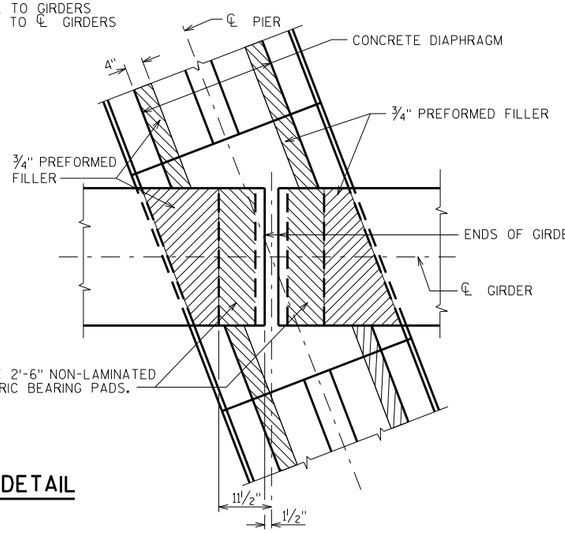
AT PIER DIAPHRAGM

PART LONGIT. SECTION

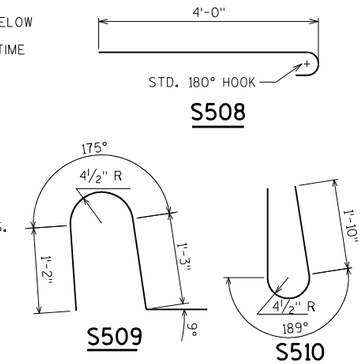
* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS





BEARING PAD DETAIL



BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
S1001	X	91	44'-8"			DECK LONGITUDINAL CONTINUITY
S1002	X	90	28'-9"			DECK LONGITUDINAL CONTINUITY
S403	X	270	32'-2"			DECK LONGITUDINAL TOP
S404	X	322	39'-3"			DECK LONGITUDINAL BOTTOM
S405	X	901	34'-2"			DECK TRANSVERSE TOP AND BOTTOM
S406	X	74	17'-3"		⚠	DECK TRANSVERSE TOP
S407	X	74	17'-8"		⚠	DECK TRANSVERSE BTM.
S508	X	970	4'-7"	X		DECK TRANSVERSE-DECK EDGE
S509	X	750	4'-5"	X		PPT. 32SS-VERT.-DECK
S510	X	750	5'-0"	X		PPT. 32SS-VERT.
S511	X	72	42'-6"			PPT. 32SS-HORIZ.
S412	X	60	3'-8"			PIER DIAPHRAGM-HORIZ.
S513	X	10	14'-0"	X		PIER DIAPHRAGM-VERT.
S514	X	20	12'-4"	X		PIER DIAPHRAGM-VERT.
S515	X	34	6'-1"	X		ABUT. DIAPHRAGM-VERT.
S516	X	34	15'-6"	X		ABUT. DIAPHRAGM-VERT.
S617	X	14	40'-6"			ABUT. DIAPHRAGM-HORIZ.-B.F.
S618	X	80	4'-0"			ABUT. DIAPHRAGM-HORIZ.-BTWN. GIRS.-F.F.
S619	X	10	3'-6"			ABUT. DIAPHRAGM-HORIZ.-BTWN. GIRS.-F.F.
S620	X	4	1'-3"			ABUT. DIAPHRAGM-ENDS-HORIZ.
S621	X	16	7'-8"	X		ABUT. DIAPHRAGM-ENDS-HORIZ.
S422	X	40	3'-5"	X		ABUT. DIAPHRAGM-VERT.-BTWN. GIRS.
S423	X	20	2'-4"			ABUT. DIAPHRAGM-HORIZ.-BTWN. GIRS.
S524	X	24	6'-0"			ABUT. DIAPHRAGM-HORIZ.-THRU GIR.
S525	X	48	12'-8"	X		ABUT. DIAPHRAGM-VERT.-BTWN. GIRS.
S426	X	8	5'-0"			ABUT. DIAPHRAGM-VERT.-END
S427	X	10	3'-6"			PIER DIAPHRAGM-HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

NOTE: SEE "SINGLE SLOPE PARAPET 32SS" SHEET FOR ADDITIONAL PARAPET BARS REQUIRED.

BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY

MARK	NO. REQ'D.	LENGTH
S406	2 SERIES OF 37	1'-11" TO 32'-6"
S407	2 SERIES OF 37	2'-4" TO 33'-0"

TOP OF DECK ELEVATIONS

	W. ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	PIER 1	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	E. ABUT.
LT. E.O.D.	1011.71	1012.01	1012.29	1012.56	1012.82	1013.06	1013.28	1013.49	1013.68	1013.86	1014.03	1014.18	1014.31	1014.43	1014.53	1014.62	1014.70	1014.76	1014.80	1014.83	1014.84
GIR. 1	1011.76	1012.06	1012.34	1012.61	1012.86	1013.10	1013.32	1013.53	1013.72	1013.90	1014.07	1014.21	1014.35	1014.47	1014.57	1014.66	1014.73	1014.79	1014.83	1014.86	1014.87
GIR. 2	1011.96	1012.25	1012.53	1012.80	1013.05	1013.28	1013.50	1013.70	1013.89	1014.07	1014.23	1014.37	1014.50	1014.61	1014.71	1014.80	1014.86	1014.92	1014.96	1014.98	1014.99
GIR. 3	1012.16	1012.45	1012.73	1012.99	1013.23	1013.46	1013.68	1013.88	1014.06	1014.23	1014.39	1014.52	1014.65	1014.76	1014.85	1014.93	1015.00	1015.05	1015.08	1015.10	1015.11
GIR. 4	1012.25	1012.53	1012.80	1013.06	1013.30	1013.52	1013.73	1013.93	1014.11	1014.28	1014.43	1014.56	1014.68	1014.79	1014.88	1014.95	1015.01	1015.06	1015.09	1015.10	1015.11
GIR. 5	1012.21	1012.49	1012.76	1013.01	1013.25	1013.47	1013.67	1013.87	1014.04	1014.20	1014.35	1014.48	1014.60	1014.70	1014.78	1014.86	1014.91	1014.95	1014.98	1014.99	1014.99
GIR. 6	1012.18	1012.45	1012.72	1012.96	1013.19	1013.41	1013.61	1013.80	1013.97	1014.13	1014.27	1014.40	1014.51	1014.61	1014.69	1014.76	1014.81	1014.84	1014.87	1014.87	1014.87
RT. E.O.D.	1012.17	1012.44	1012.70	1012.95	1013.18	1013.40	1013.60	1013.78	1013.96	1014.11	1014.25	1014.38	1014.49	1014.59	1014.67	1014.73	1014.78	1014.82	1014.84	1014.85	1014.84

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SUPERSTRUCTURE DETAILS

SHEET 15

154

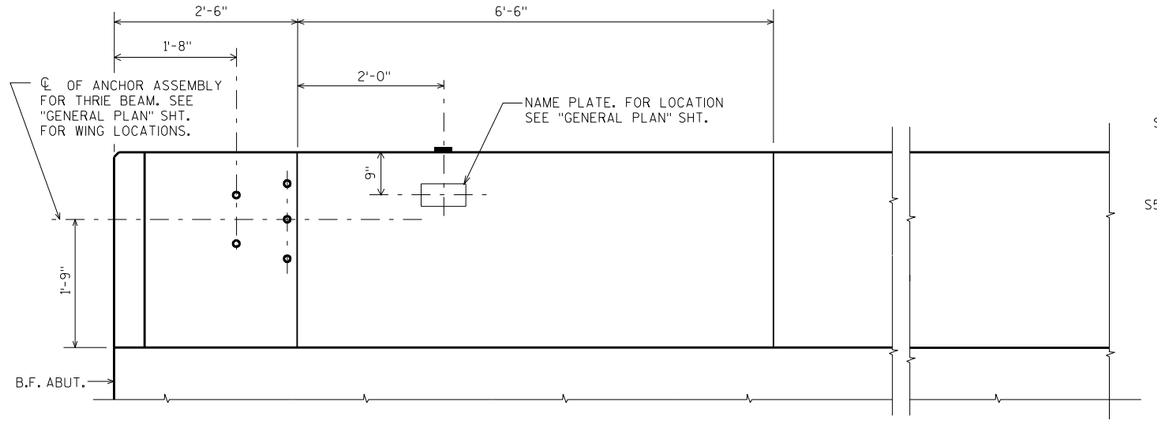
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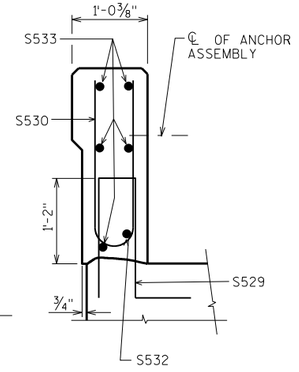
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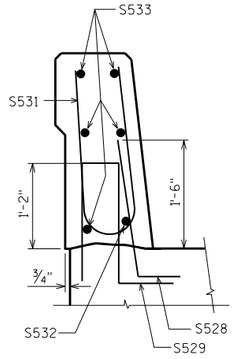
1011-03-76



INSIDE ELEVATION



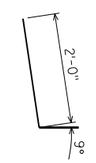
SECTION A



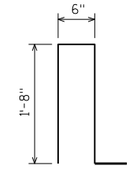
SECTION B

BILL OF BARS

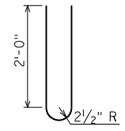
BAR MARK	COAT	WEST ABUT.	EAST ABUT.	LENGTH	BENT	BAR SERIES	LOCATION
S528	X	24	24	2'-9"	X		PARAPET-VERT.
S529	X	34	34	4'-4"	X		PARAPET-VERT.
S530	X	22	22	4'-9"	X		PARAPET-VERT.
S531	X	12	12	4'-10"	X		PARAPET-VERT.
S532	X	2	2	11'-10"	X		PARAPET-HORIZ.
S533	X	10	10	11'-10"			PARAPET HORIZ.



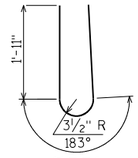
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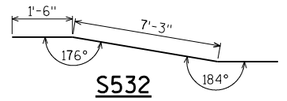
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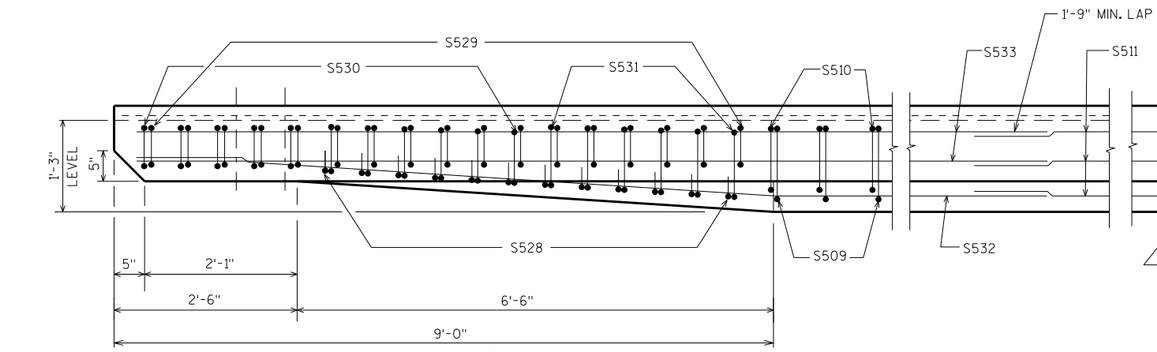
S530



S531

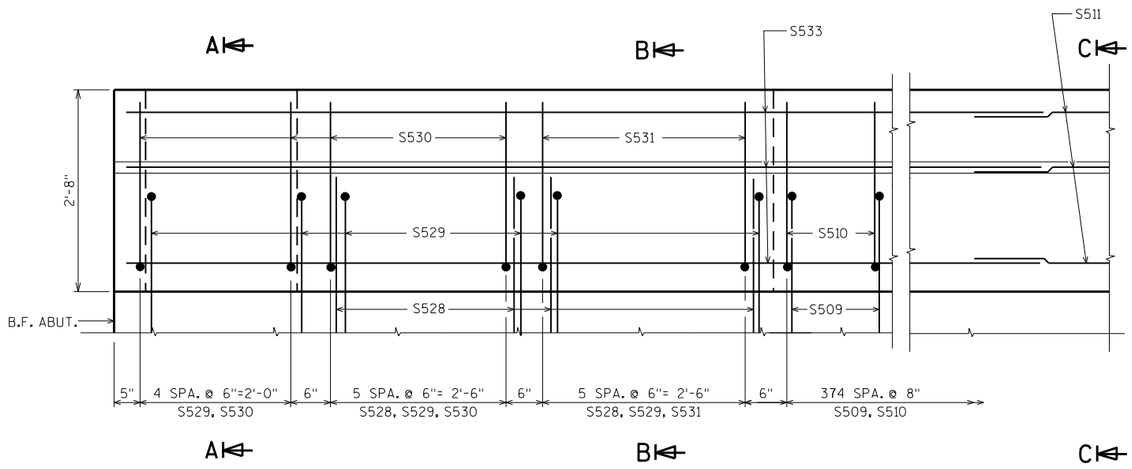


S532

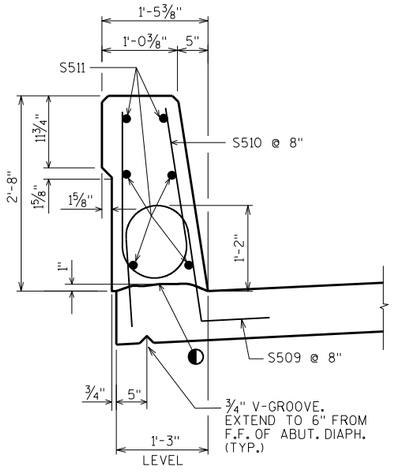


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.

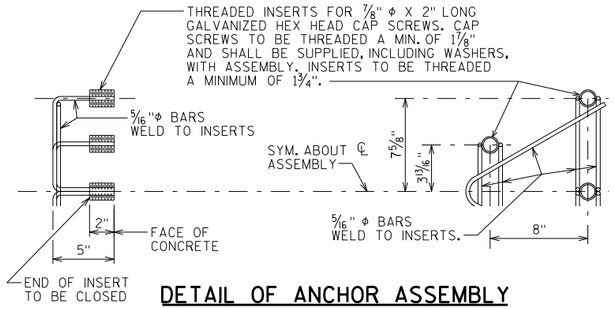


OUTSIDE ELEVATION



SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY WWR | PLANS CK'D. MJL

SINGLE SLOPE PARAPET 32SS

SHEET 16

155

SCALE = 1

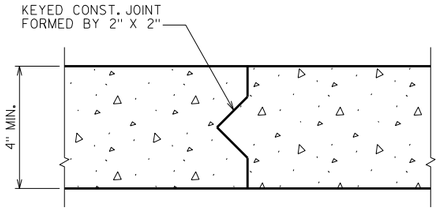
32SSDEC

8

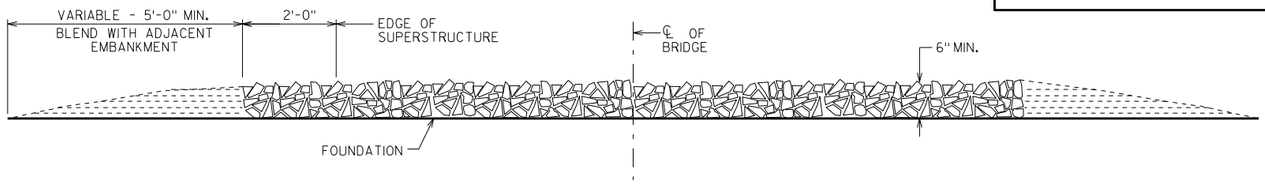
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STATE PROJECT NUMBER

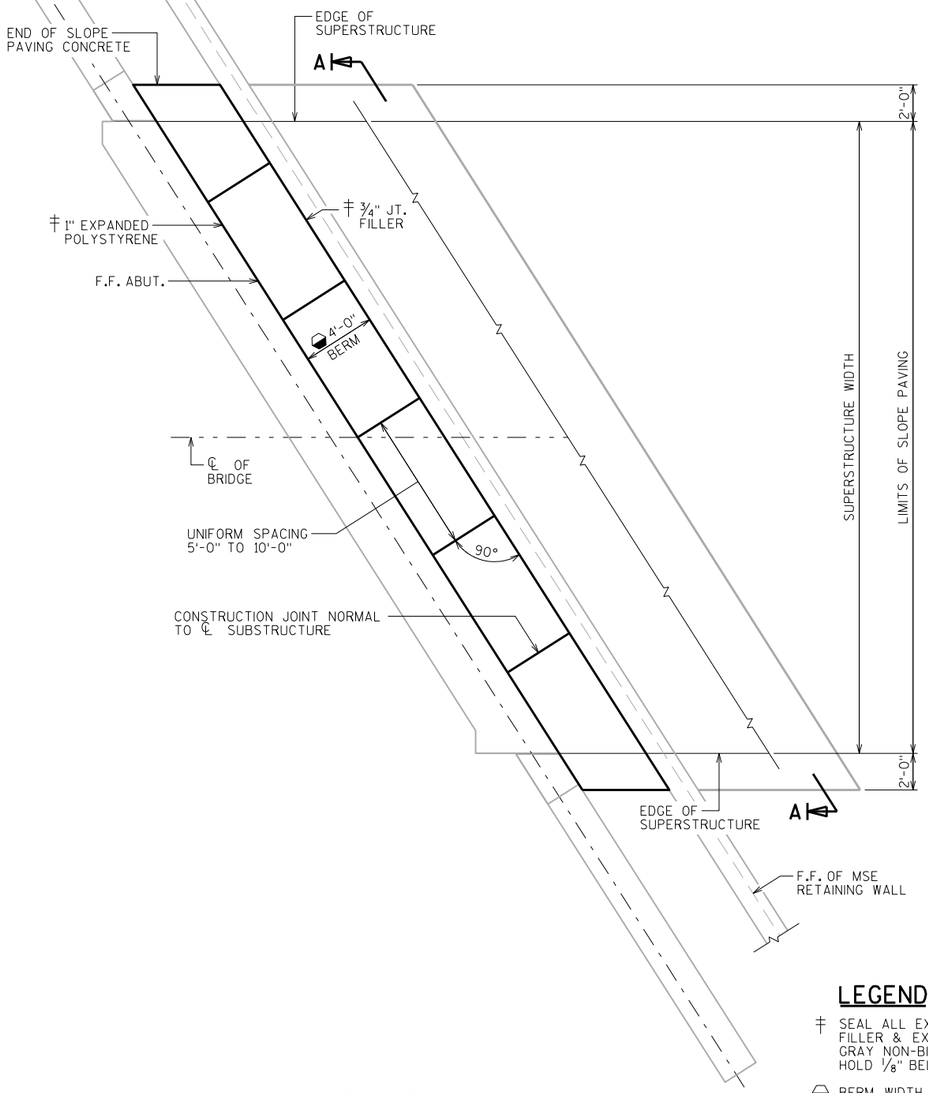
1011-03-76



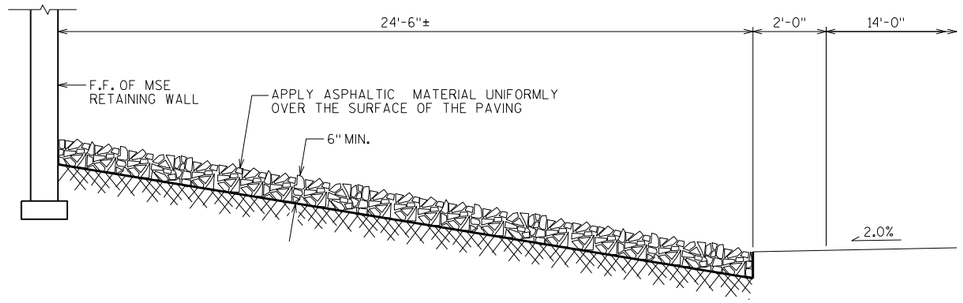
CONSTRUCTION JOINT



SECTION A-A

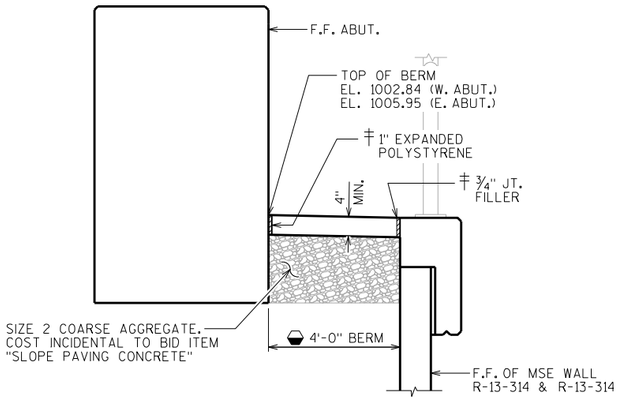


CONSTRUCTION JOINT DESIGN



STANDARD CROSS SECTION SLOPE PAVING CRUSHED AGGREGATE

(NORMAL TO MSE RETAINING WALL



TYPICAL SECTION SLOPE PAVING CONCRETE

LEGEND

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER & EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

⬟ BERM WIDTH SHOWN BASED ON ASSUMED MSE WALL PANEL THICKNESS OF 9".

GENERAL NOTES

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

WOOD FORMS (USED FOR SLOPE PAVING CRUSHED AGGREGATE) MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-13-648

DRAWN BY ARC | PLANS CK'D. MJL

SLOPE PAVING (CONC. C.I.P. & CRUSHED AGG.)

SHEET 17

156

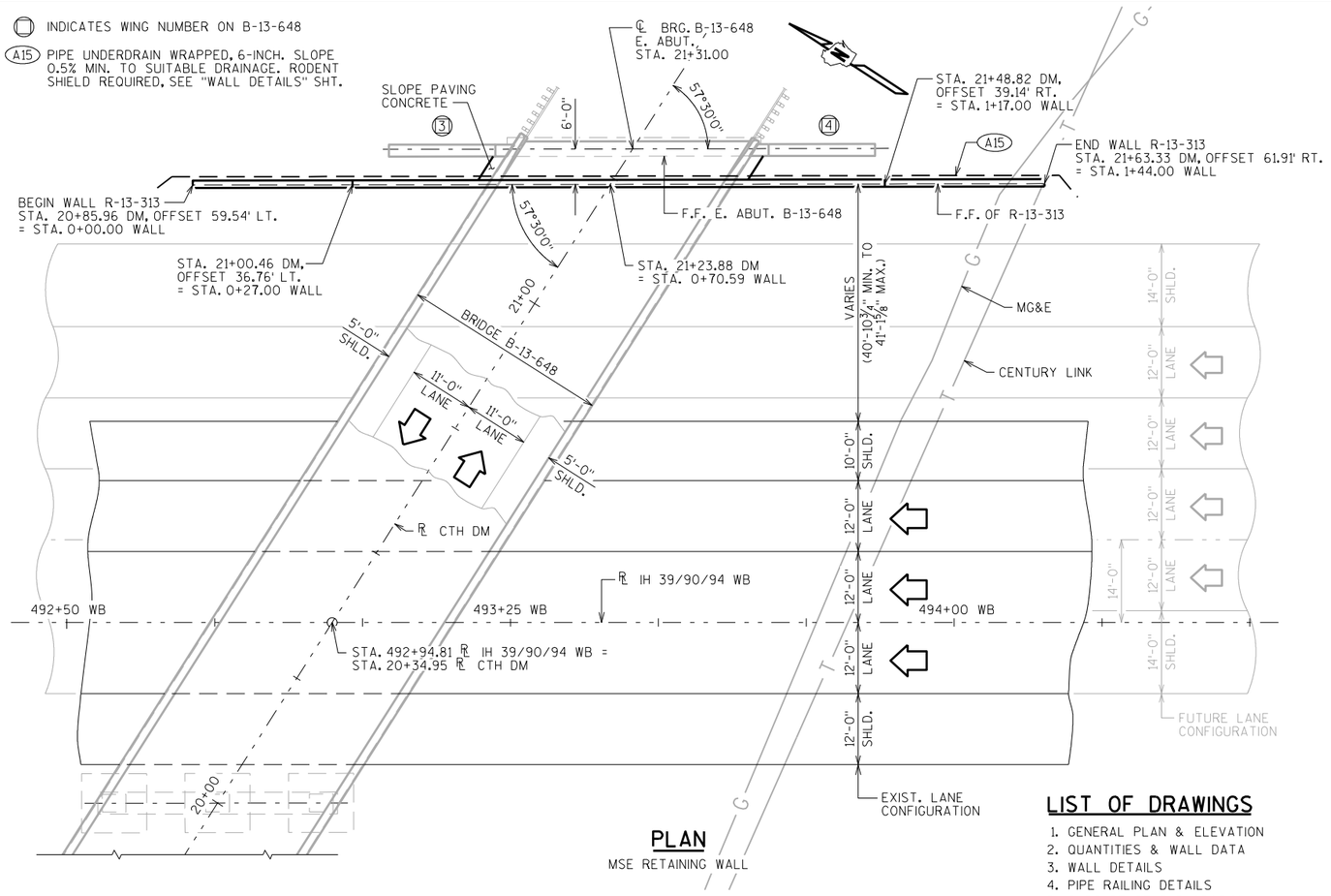
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8

SCALE = 4

STATE PROJECT NUMBER

1011-03-76



PLAN

MSE RETAINING WALL

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. QUANTITIES & WALL DATA
3. WALL DETAILS
4. PIPE RAILING DETAILS
5. SUBSURFACE EXPLORATION

ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MSE LRFD/QMP

MATERIAL PROPERTIES

CONCRETE MASONRY (COPING) ——— f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL (R-13-313).

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

COORDINATE THE REQUIRED EXCAVATION & CONSTRUCTION OF RETAINING WALL R-13-313 WITH THE EAST ABUTMENT OF BRIDGE B-13-648.

THE REMOVAL OF THE EXISTING STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM FOR BRIDGE B-13-648.

THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO THE TOP OF LEVELING PAD, SET A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

CONTRACTOR, WALL SUPPLIER, AND RAILING FABRICATOR SHALL COORDINATE RAILING POST SPACING, MSE PANELS AND COPING JOINTS.

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

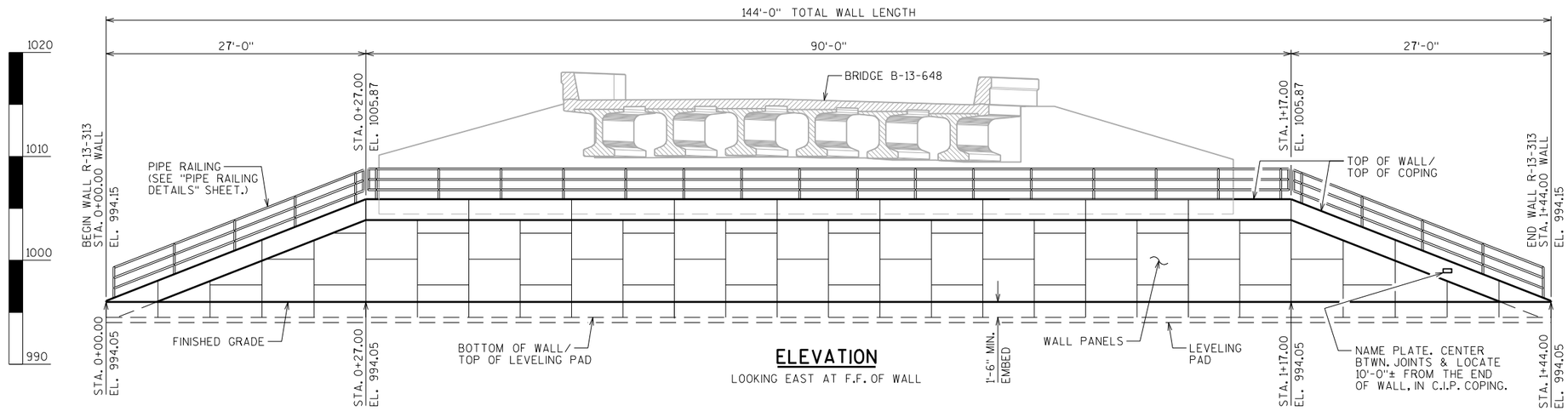
PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE PLANS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE ON THE "QUANTITIES & WALL DATA" SHEET.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS AND A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.



ELEVATION

LOOKING EAST AT F.F. OF WALL

STRUCTURE DESIGN CONTACTS:

ALEXANDER CRABTREE (608) 266-3686

LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 11/16/16

CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-13-313

MSE WALL ALONG B-13-648 E. ABUT.

COUNTY: DANE	TOWN/~~CITY/VILLAGE~~: VIENNA
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
DESIGNED BY: ARC	DESIGN CK'D.: MWB
DRAWN BY: ARC	PLANS CK'D.: MJL

GENERAL PLAN & ELEVATION

SHEET 1 OF 5

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I.D. 1011-03-06C

DATE: NOV. 2016

SCALE = 12.0

STATE PROJECT NUMBER
1011-03-76

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	TOTAL UNIT WEIGHT (PCF)
GRANULAR BACKFILL WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCING ZONE	31	0	120
BORING B-2, STA. 21+45 CTH DM			
FILL (ELEVATION 992.6 FT. TO 987.3 FT.)	31	0	120
SILT, LITTLE F-M SAND, LITTLE F-C GRAVEL, BROWN (ELEVATION 987.3 FT. TO 981.8 FT.)	0	1,500	120
SAND, FINE-COARSE, TRACE COARSE GRAVEL, BROWN (ELEVATION 981.8 FT. TO 979.3 FT.)	34	0	120
SILT, FINE-MEDIUM SAND SEAMS (ELEVATION 979.3 FT. TO 948.3 FT.)	0	2,000	120
CLAY, LITTLE SILT, TRACE GRAVEL, BROWN (ELEVATION 948.3 FT. TO 944.3 FT.)	0	NA	120
SILT, GRAY CLAY SEAM, GRAY (ELEVATION 944.3 FT. TO 939.3 FT.)	0	NA	120
WEATHERED SANDSTONE (ELEVATION 939.3 FT. TO 935.3 FT.)	38	0	140
SANDSTONE BEDROCK (ELEVATION 935.3 FT. TO 932.3 FT.)	40	0	140
'NA' MEANS NO Q_p READING WAS RECORDED ON THE BORING LOG.			
BORING B-4, STA. 20+75.6 CTH DM			
FILL (ELEVATION 992.6 FT. TO 989.6 FT.)	31	0	120
SILT, FEW SAND, SOME CLAY, BROWN, MED-STIFF (ELEVATION 989.6 FT. TO 985.1 FT.)	0	1,250	120
SILT, LITTLE CLAY, FEW SAND, BROWN, STIFF (ELEVATION 985.1 FT. TO 984.7 FT.)	0	500	110
SILT, FEW CLAY, LIGHT BROWN, MEDIUM (ELEVATION 984.7 FT. TO 981.1 FT.)	0	2,500	125
SILT, SOME SAND, BROWN, STIFF-MEDIUM, LENSES OF FINE SAND 1"-2" WIDE, LIGHT BROWN (ELEVATION 981.1 FT. TO 977.6 FT.)	0	2,000	125
SAND, FINE, SOME SILT, FIRM, TAN (ELEVATION 977.6 FT. TO 971.6 FT.)	35	0	120

NOTES:

THE TYPICAL WALL SECTION USED IN THIS ANALYSIS HAD AN EXPOSED HEIGHT OF 11.8 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSIS:

1. THE SLOPE IN FRONT OF THE WALL IS 3:1 (18.4°).
2. THE SLOPE BEHIND THE WALL IS HORIZONTAL.
3. GROUNDWATER WAS ENCOUNTERED AT B-4 AT AN ELEVATION OF 980.6 FEET.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 1.5 FEET.
6. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL TRAFFIC LOADS BEHIND THE WALL.
7. GLOBAL STABILITY CAPACITY TO DEMAND RATIO WAS DETERMINED BY THE COMPUTER PROGRAM STABLPRO 3.0 USING BISHOP'S METHOD.
8. NOMINAL BEARING RESISTANCE IS DETERMINED BY MEYERHOF'S BEARING CAPACITY EQUATION.
9. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

RECOMMENDATIONS

1. THE MSE WALL WITH PRECAST CONCRETE PANELS WILL ACHIEVE EXTERNAL STABILITY IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET. "WALL EXTERNAL STABILITY EVALUATION" TABLE (THIS SHEET) PRESENTS THE MINIMUM LENGTH OF THE REINFORCEMENT STRAPS FOR THE TWO LOCATIONS EVALUATED. IN THE AREA OF THE WALL THAT SUPPORTS THE ABUTMENT, THE RATIO OF REINFORCING STRAP LENGTH TO TOTAL HEIGHT OF WALL SHOULD BE INCREASED FROM 0.70 TO 1.20.
2. THE BACKFILL BEHIND THE MSE WALL WITH PRECAST CONCRETE FACING SHOULD BE GRANULAR AND FREE DRAINING.
3. THE SOUTHWEST REGION SOILS ENGINEER SHALL REVIEW THAT THE SILT BELOW THE REINFORCING ZONE HAS BEEN STRIPPED, REPLACED WITH GRANULAR FILL, AND COMPACTED PRIOR TO WALL CONSTRUCTION.

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS		
WALL HEIGHT (FEET) [1]	13.3	13.3
EXPOSED WALL HEIGHT (FEET)	11.8	11.8
LENGTH OF REINFORCEMENT (FEET)	16.2	9.3
LENGTH OF REINF./WALL HEIGHT [2]	1.2	0.7
WALL STATION	21+45	20+75.6
BORING USED	B-2	B-4
CAPACITY TO DEMAND RATIO (CDR)[3]		
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.01	1.31
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	41.6	24.4
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0)[4]	1.8	NA [5]
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	1.1	1.3
FACTORED BEARING RESISTANCE (PSF)	6,200	2,500 [6]

NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE MINIMUM REQUIRED REINFORCEMENT LENGTH IS 0.70 OF WALL HEIGHT.
3. CDR REQUIREMENTS AND LOAD & RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
4. GLOBAL STABILITY WAS EVALUATED AT ONE CRITICAL WALL LOCATION, AT A POINT OF HIGHEST WALL HEIGHT BELOW THE ABUTMENT.
5. NA MEANS NOT APPLICABLE SINCE ONLY ONE CRITICAL WALL LOCATION IS EVALUATED FOR GLOBAL STABILITY.
6. THIS REFLECTS THE WEAKEST BEARING LAYER AT A DEPTH OF 7.5 FEET BELOW THE BASE OF THE ABUTMENT; CALCULATIONS WERE BASED UPON THE Q_p VALUE RECORDED ON THE BORING LOG.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-313	LS	1
209.1500	BACKFILL GRANULAR GRADE 1	TON	595
513.2001	RAILING PIPE R-13-313	LF	147
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	174
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	SF	1,602
	NON-BID ITEMS		
	PRE-FORMED JOINT FILLER	SIZE	¾"
	EXPANDED POLYSTYRENE	SIZE	1"
	NON-BITUMINOUS JOINT SEALER	———	———

GEOMETRY TABLE

WALL STATION	CTH DM ℄ STA.	OFFSET FROM ℄ CTH DM TO F.F. OF WALL	TOP OF WALL ELEV.	FINISHED GRADE ELEV.
0+00.00	20+85.96	59.54' LT.	994.15	994.05
0+10.00	20+91.33	51.10' LT.	998.49	994.05
0+20.00	20+96.70	42.67' LT.	1002.83	994.05
0+27.00	21+00.46	36.76' LT.	1005.87	994.05
0+30.00	21+02.08	34.23' LT.	1005.87	994.05
0+40.00	21+07.45	25.80' LT.	1005.87	994.05
0+50.00	21+12.82	17.37' LT.	1005.87	994.05
0+60.00	21+18.19	8.93' LT.	1005.87	994.05
0+70.00	21+23.57	0.50' LT.	1005.87	994.05
0+80.00	21+28.94	7.94' RT.	1005.87	994.05
0+90.00	21+34.31	16.37' RT.	1005.87	994.05
1+00.00	21+39.69	24.80' RT.	1005.87	994.05
1+10.00	21+45.06	33.24' RT.	1005.87	994.05
1+17.00	21+48.82	39.14' RT.	1005.87	994.05
1+20.00	21+50.43	41.67' RT.	1004.57	994.05
1+30.00	21+55.81	50.11' RT.	1000.23	994.05
1+40.00	21+61.18	58.54' RT.	995.89	994.05
1+44.00	21+63.33	61.91' RT.	994.15	994.05
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NOTE: STATIONS & OFFSET DISTANCES ARE TO FRONT FACE OF WALL.

8

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NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-313

DRAWN BY ARC | PLANS CK'D. MJL

QUANTITIES & WALL DATA

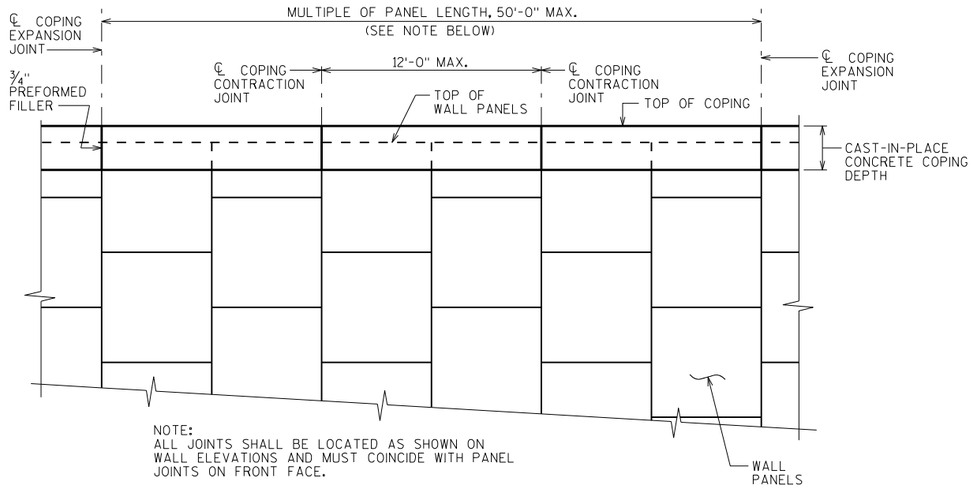
SHEET 2

158

SCALE = 4.0

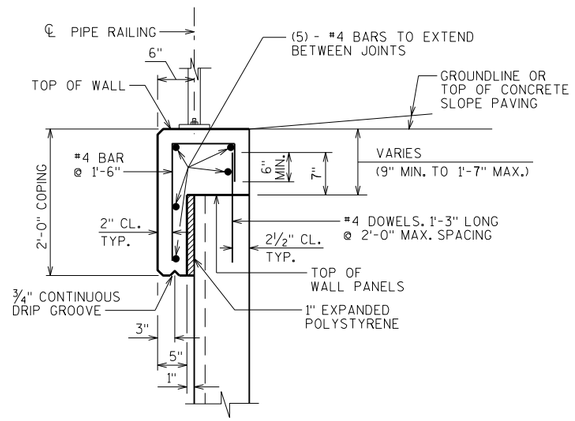
STATE PROJECT NUMBER

1011-03-76

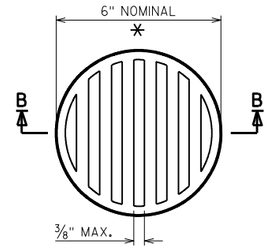


CAST-IN-PLACE COPING PARTIAL ELEVATION

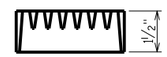
LOOKING AT F.F. WALL



CAST-IN-PLACE CONCRETE COPING DETAIL



RODENT SHIELD DETAIL



SECTION B-B

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

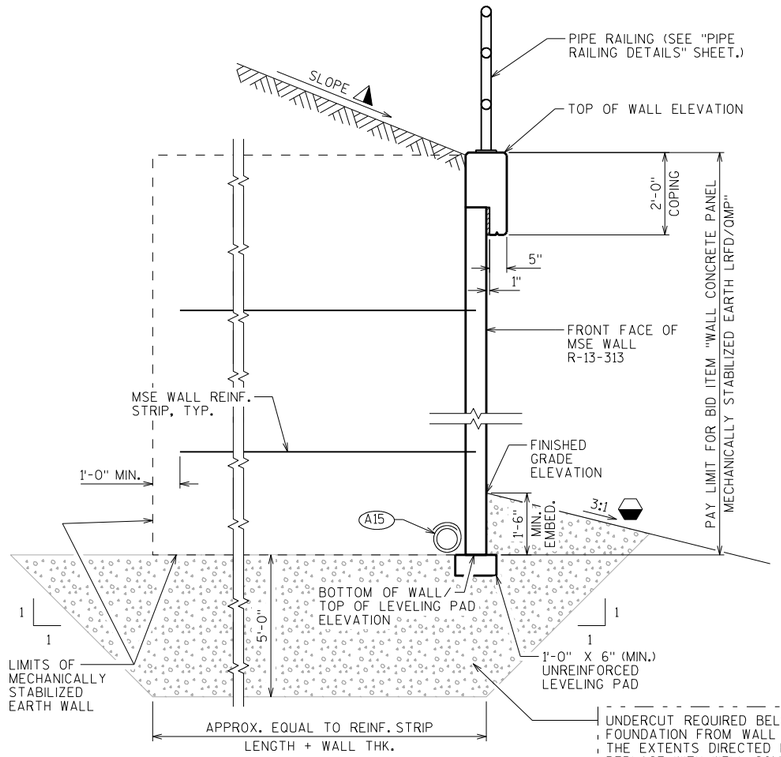
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

3:1 SLOPE IS EXPECTED SLOPE AT F.F. OF WALL OF THE "TYPICAL FUTURE SECTION," SHOWN B-13-648 BRIDGE PLANS

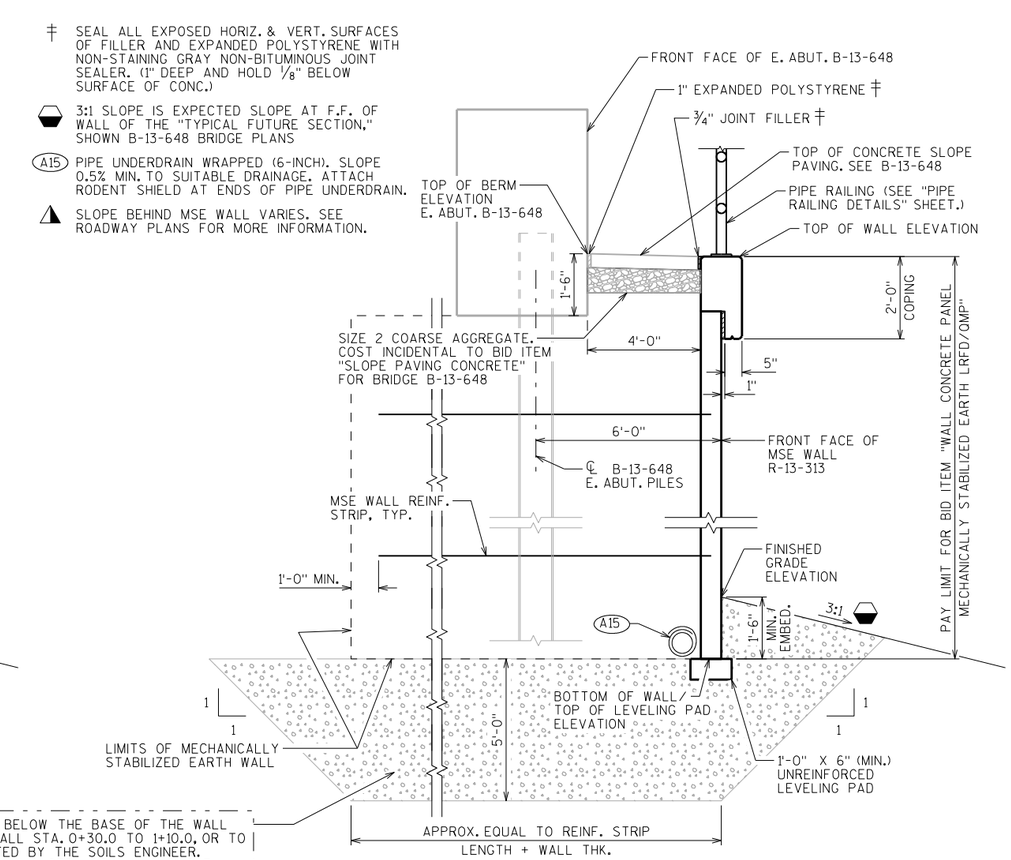
(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

SLOPE BEHIND MSE WALL VARIES. SEE ROADWAY PLANS FOR MORE INFORMATION.



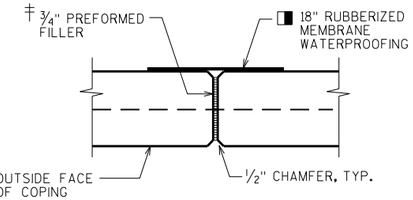
TYPICAL MSE WALL SECTION

LOOKING SOUTH
WALL STA. 0+00.00 TO 0+33.16, 1+15.34 TO 1+44.00



TYPICAL MSE WALL SECTION AT B-13-648

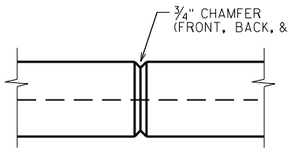
LOOKING SOUTH
WALL STA. 0+33.16 TO 1+15.34



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

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STRUCTURES DESIGN SECTION

STRUCTURE R-13-313

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WALL DETAILS

SHEET 3

159

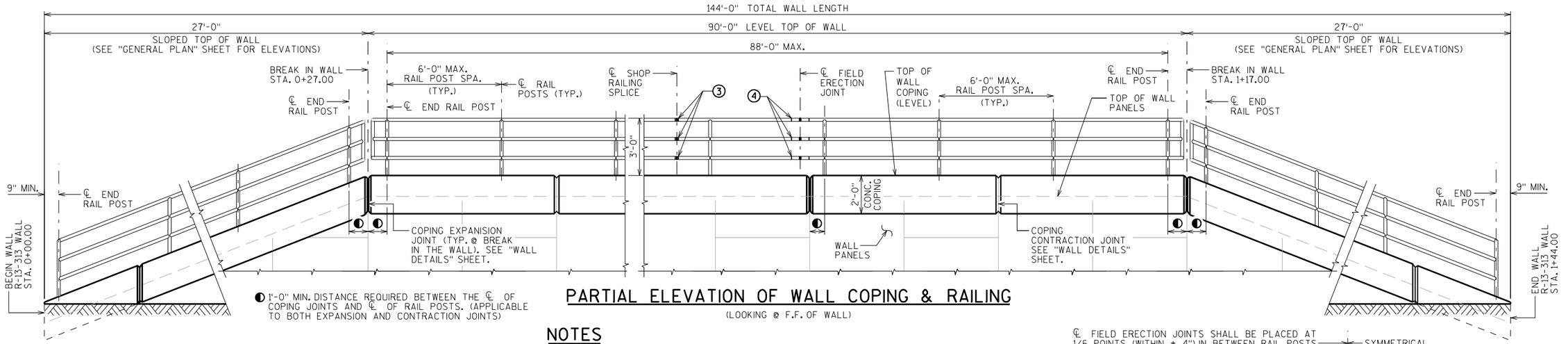
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STATE PROJECT NUMBER

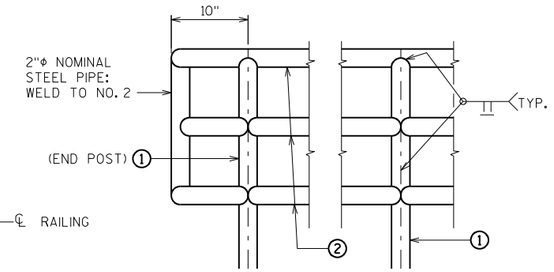
1011-03-76



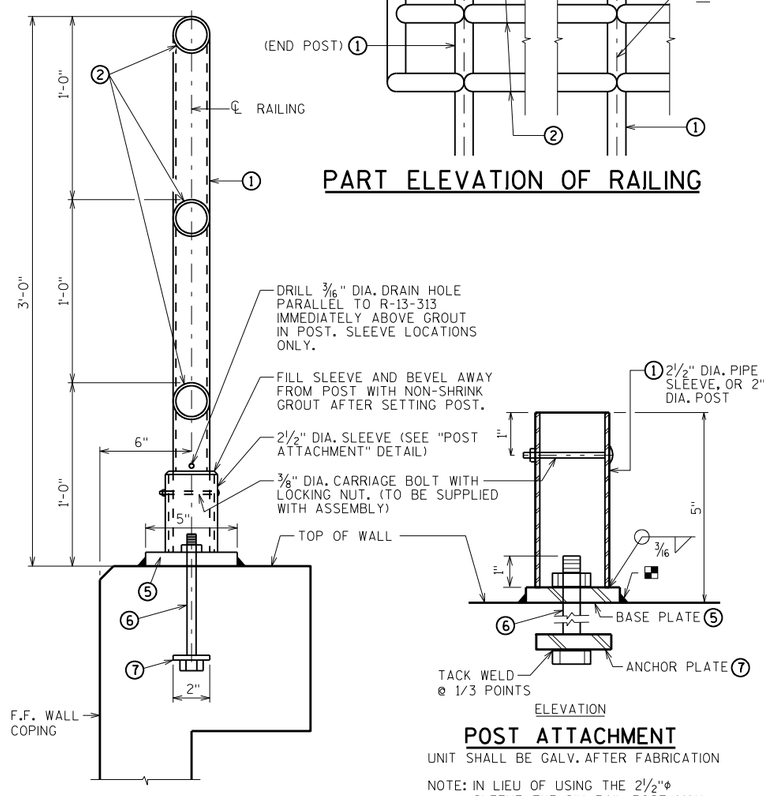
◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING JOINTS AND ℄ OF RAIL POSTS. (APPLICABLE TO BOTH EXPANSION AND CONTRACTION JOINTS)

PARTIAL ELEVATION OF WALL COPING & RAILING

(LOOKING @ F.F. OF WALL)



PART ELEVATION OF RAILING



SECTION THRU RAILING

ELEVATION

POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE: IN LIEU OF USING THE 2½"Φ SLEEVE, THE 2"Φ RAIL POST MAY BE WELDED TO THE BASE PLATE.

NOTES

BID ITEM SHALL BE "RAILING PIPE R-13-313", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D, FOR ALIGNMENT.

ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

■ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

ALL RAILINGS, POSTS, GATES AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).

LEGEND

① 2"Φ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.

② 2"Φ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1

③ 1½"Φ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".

④ 1½"Φ PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE ½"Φ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE ⅜"Φ X ½" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.

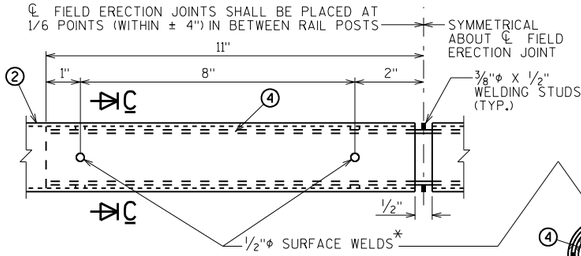
⑤ PLATE ¾" X 5" X 8", WITH ⅝"Φ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.

⑥ ½" DIA. X 6⅞" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE S. ½"Φ CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR ½"Φ BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ☆

☆ ½" DIA. CONCRETE MASONRY ANCHOR, TYPE "S" 6" MIN. EMBEDMENT (EPOXY ANCHORED MIN. PULLOUT OF 10 KIPS, THREADED LENGTH OF ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.

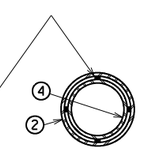
⑦ ¼" X 2" X 8" FLAT BAR, WITH ⅝"Φ HOLES FOR ANCHOR BOLTS NO. 6.

℄ FIELD ERECTION JOINTS SHALL BE PLACED AT 1/6 POINTS (WITHIN ± 4") IN BETWEEN RAIL POSTS — SYMMETRICAL ABOUT ℄ FIELD ERECTION JOINT

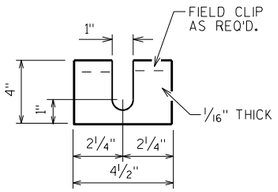


FIELD ERECTION JOINT DETAIL

*MIN. ⅝" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

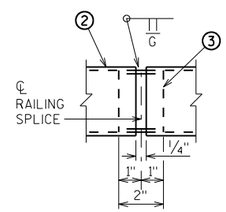


SECTION C-C



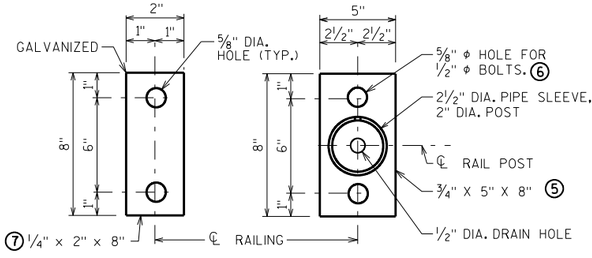
POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)



ANCHOR PLATE

BASE PLATE

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-313

DRAWN BY ARC | PLANS CK'D. MJL

PIPE RAILING DETAILS

SHEET 4

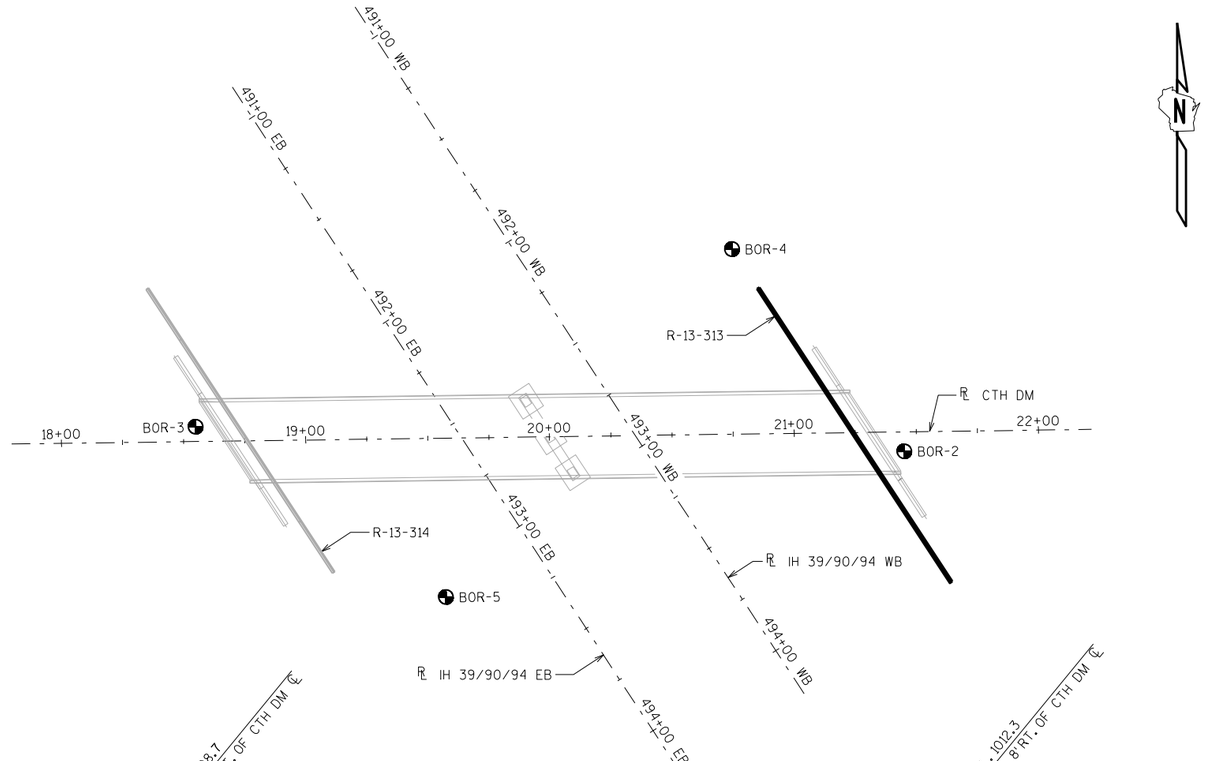
160

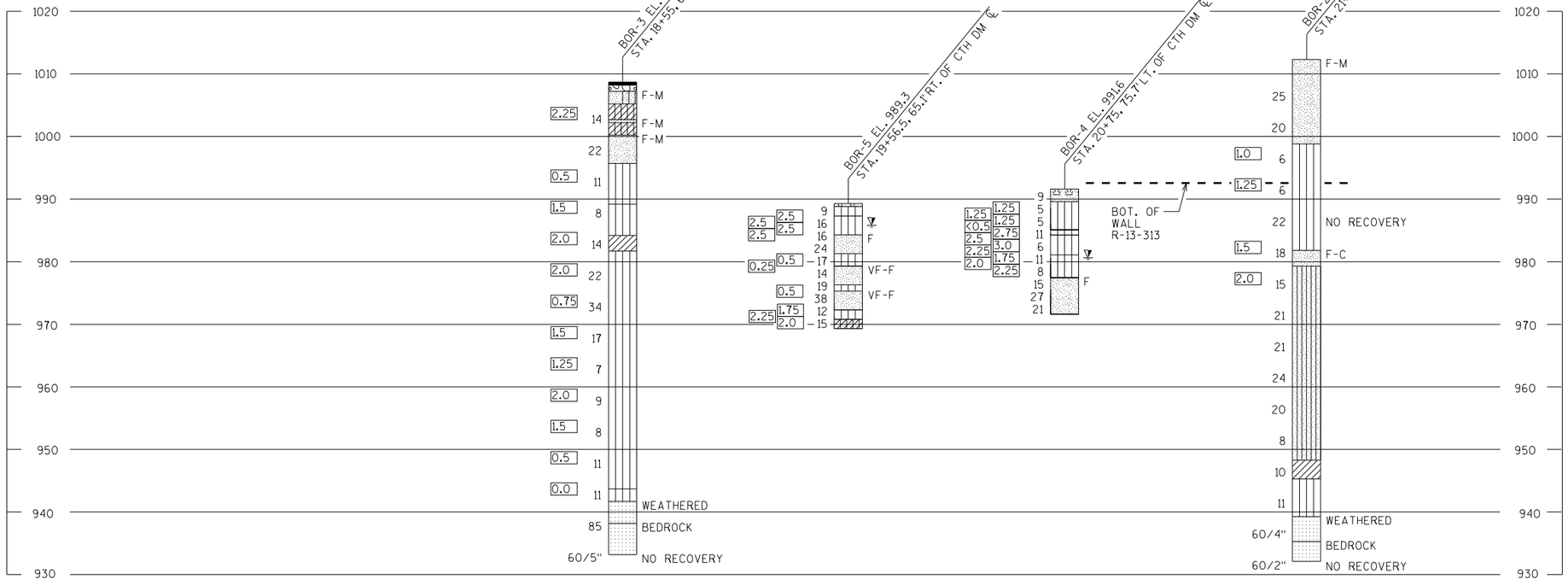
SCALE = 5.333

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BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
2	4/16/2013	556107.67	817384.70
3	4/16/2013	556117.72	817094.55
4	9/13/2016	556190.44	817314.15
5	8/15/2016	556048.03	817197.03
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			





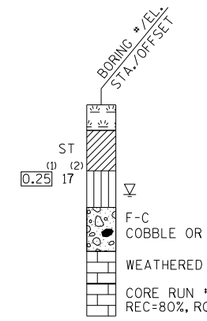
STATE PROJECT NUMBER

1011-03-76

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-313

DRAWN BY TLP/ARC | PLANS CK'D. MJL

SUBSURFACE EXPLORATION

SHEET 5

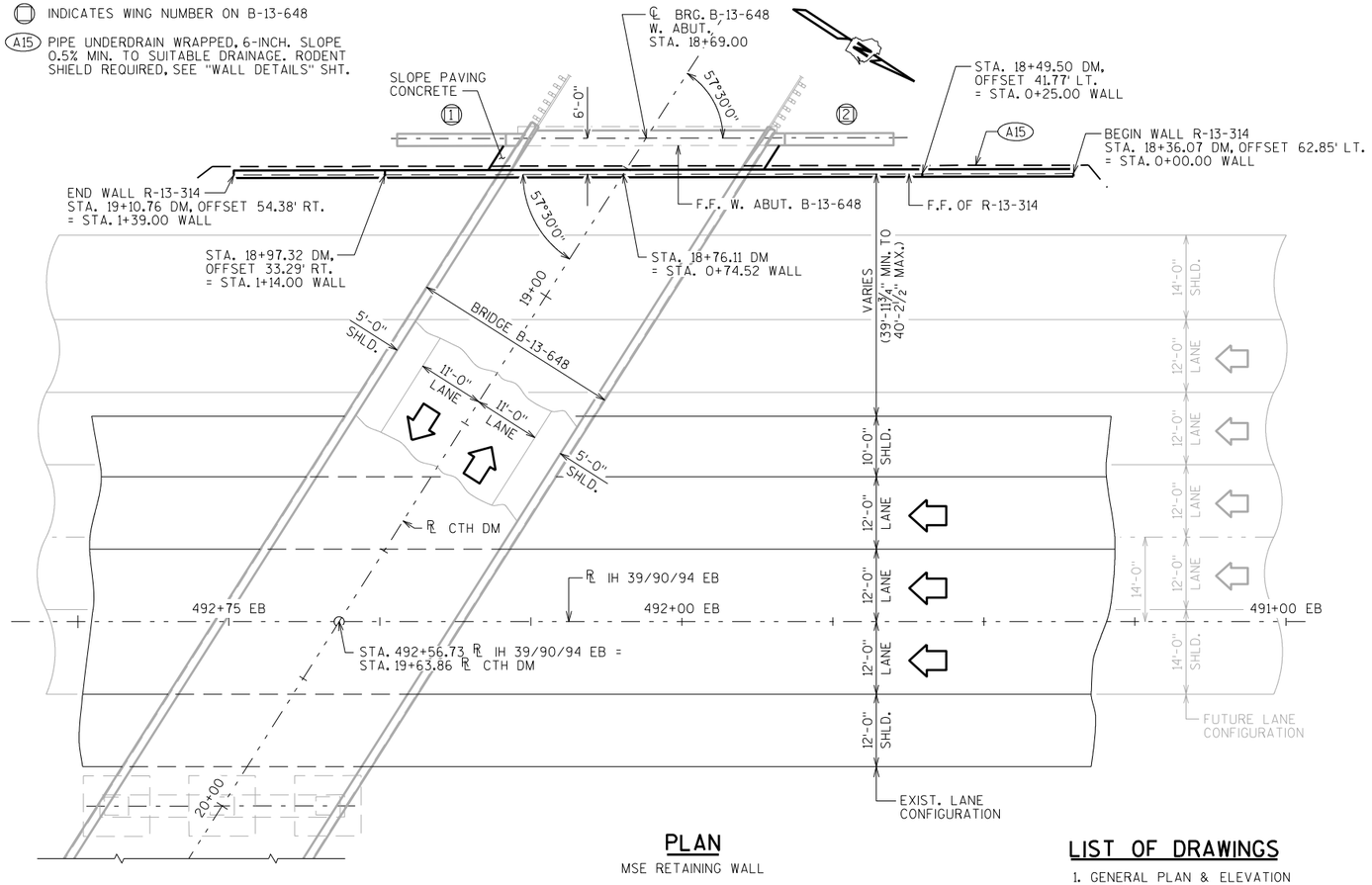
161

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SCALE = 30

STATE PROJECT NUMBER
1011-03-76



PLAN

MSE RETAINING WALL

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. QUANTITIES & WALL DATA
3. WALL DETAILS
4. PIPE RAILING DETAILS
5. SUBSURFACE EXPLORATION

ALLOWABLE WALL SYSTEMS

WALL CONCRETE PANEL MSE LRFD/QMP

MATERIAL PROPERTIES

CONCRETE MASONRY (COPING) ——— f'c = 3,500 P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BEVEL ALL EXPOSED EDGES OF CONCRETE ¾" UNLESS NOTED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL HAVE 2" CLEAR COVER UNLESS OTHERWISE SHOWN OR NOTED.

ALL WALL STATIONING AND OFFSETS ARE GIVEN AT THE FRONT FACE OF THE WALL (R-13-314).

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

COORDINATE THE REQUIRED EXCAVATION & CONSTRUCTION OF RETAINING WALL R-13-314 WITH THE WEST ABUTMENT OF BRIDGE B-13-648.

THE REMOVAL OF THE EXISTING STRUCTURE IS INCLUDED IN A LUMP SUM PAY ITEM FOR BRIDGE B-13-648.

THE CONCRETE MASONRY & REINFORCING STEEL FOR THE CAST-IN-PLACE COPING IS PAID FOR UNDER THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

ALL BAR STEEL REINFORCEMENT IN CAST-IN-PLACE CONCRETE IS TO BE EPOXY COATED.

THE PLAN QUANTITY FOR THE ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF WALL TO THE TOP OF LEVELING PAD, SET A CONSTANT DEPTH OF 1'-6" BELOW FINISHED GRADE.

CONTRACTOR, WALL SUPPLIER, AND RAILING FABRICATOR SHALL COORDINATE RAILING POST SPACING, MSE PANELS AND COPING JOINTS.

DESIGN DATA

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS SHALL BE INCLUDED IN THE BID ITEM "WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP".

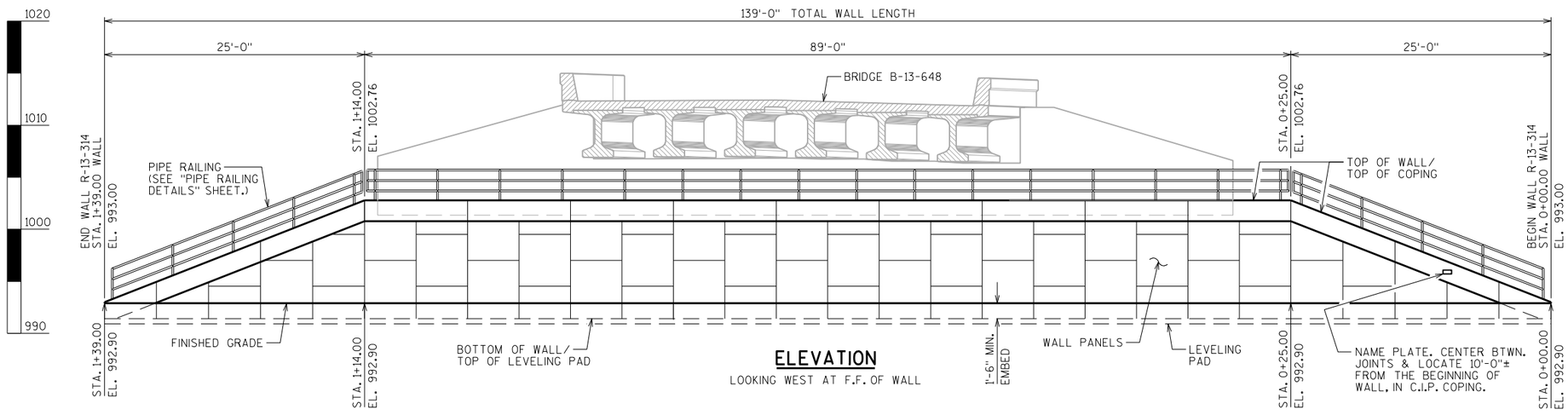
PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE PLANS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE RETAINING WALL SHALL BE DESIGNED USING THE ELEVATIONS GIVEN IN THE GEOMETRY TABLE ON THE "QUANTITIES & WALL DATA" SHEET.

DESIGN RETAINING WALL TO PROVIDE FOR FINISHED GRADE SLOPED BEHIND WALL AS SHOWN.

DESIGN THE MSE WALL IN FRONT OF THE ABUTMENT BODY TO RESIST THE FORCE FROM ALL HORIZONTAL EARTH PRESSURE ACTING ON THE BACK OF THE ABUTMENT BELOW THE BEAM SEATS AND A LIVE LOAD SURCHARGE OF 240 PSF.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.



ELEVATION

LOOKING WEST AT F.F. OF WALL

STRUCTURE DESIGN CONTACTS:

ALEXANDER CRABTREE (608) 266-3686

LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

Plans Prepared By **WISDOT**

BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LIS 11/16/16

CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE R-13-314

MSE WALL ALONG B-13-648 W. ABUT.

COUNTY	TOWN ~~CITY/VILLAGE~~
DANE	VIENNA

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
ARC	MWB	ARC	MJL

GENERAL PLAN & ELEVATION

SHEET 1 OF 5

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I.D. 1011-03-06B

DATE: NOV. 2016

SCALE = 12.0

STATE PROJECT NUMBER

1011-03-76

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	FRICTION ANGLE (DEGREES)	COHESION (PSF)	TOTAL UNIT WEIGHT (PCF)
GRANULAR BACKFILL, WITHIN THE WALL IN THE REINFORCING ZONE	30	0	120
FILL BEHIND AND BELOW THE REINFORCEMENT ZONE	31	0	120
BORING B-3, STA. 18+55 CTH DM			
SILT, SOME CLAY, SOME F-C GRAVEL, GRAY (ELEVATION 991.4 FT. TO 989.2 FT.)	0	1,000	110
SILT, TR. CLAY, BLACK (ELEVATION 989.2 FT. TO 984.2 FT.)	0	1,500	120
CLAY, TRACE SILT, MOTTLED BROWN (ELEVATION 984.2 FT. TO 981.7 FT.)	0	2,000	125
SILT, FINE SAND SEAMS, BROWN (ELEVATION 981.7 FT. TO 973.7 FT.)	0	2,000	130
SILT, FINE SAND SEAMS, BROWN (ELEVATION 973.7 FT. TO 968.7 FT.)	0	750	130
SILT, FINE SAND SEAMS, BROWN (ELEVATION 968.7 FT. TO 963.7 FT.)	0	1,500	130
SILT, FINE SAND SEAMS, BROWN (ELEVATION 963.7 FT. TO 948.7 FT.)	0	1,500	120
SILT, FINE SAND SEAMS, BROWN (ELEVATION 948.7 FT. TO 943.7 FT.)	0	500	120
SILT, SANDY, TRACE F-M GRAVEL, GRAY (ELEVATION 943.7 FT. TO 941.7 FT.)	0	0	115
WEATHERED SANDSTONE BEDROCK (ELEVATION 941.7 FT. TO 938.2 FT.)	38	0	140
SANDSTONE BEDROCK (ELEVATION 938.2 FT. TO 933.2 FT.)	40	0	140
BORING B-5, STA. 19+56.5 CTH DM			
FILL (ELEVATION 991.4 FT. TO 988.8 FT.)	31	0	120
SILT, SOME F-M SAND, TRACE GRAVEL, BROWN, VERY STIFF (ELEVATION 988.8 FT. TO 987.3 FT.)	0	2,500	120
SILT, SOME CLAY, TRACE F. SAND, BROWN, VERY STIFF (ELEVATION 987.3 FT. TO 984.3 FT.)	0	2,500	125
SAND, FINE, TRACE SILT, BROWN, FIRM (ELEVATION 984.3 FT. TO 981.3 FT.)	35	0	125
SILT, LITTLE V. FINE SAND, BROWN, SOFT (ELEVATION 981.3 FT. TO 979.3 FT.)	0	750	130
SAND, VERY FINE-FINE, LITTLE SILT, DENSE, BROWN (ELEVATION 979.3 FT. TO 976.3 FT.)	33	0	120
SILT, LITTLE V. FINE SAND, BROWN, SOFT (ELEVATION 976.3 FT. TO 975.3 FT.)	0	1,500	120
SAND, V. FINE-FINE, LITTLE SILT, DENSE, BROWN (ELEVATION 975.3 FT. TO 972.3 FT.)	35	0	125
SILT, SOME CLAY, LITTLE F. SAND, BROWN, STIFF (ELEVATION 972.3 FT. TO 970.8 FT.)	0	1,750	120
CLAY, SILTY, BROWN, STIFF (ELEVATION 970.8 FT. TO 969.3 FT.)	0	2,000	125

NOTES:

THE TYPICAL WALL SECTION USED IN THIS ANALYSIS HAD AN EXPOSED HEIGHT OF 9.9 FEET. THE FOLLOWING ASSUMPTIONS ARE ALSO INCLUDED IN THE ANALYSIS:

1. THE SLOPE IN FRONT OF THE WALL IS 3:1 (18.4°).
2. THE SLOPE BEHIND THE WALL IS HORIZONTAL.
3. GROUNDWATER WAS ENCOUNTERED AT B-3 AT AN ELEVATION OF 973.7 FEET.
4. THE GRANULAR BACKFILL IS FREE DRAINING AND WILL NOT BECOME SATURATED.
5. THE MINIMUM EMBEDMENT DEPTH IS 1.5 FEET.
6. A SURCHARGE LOAD OF 240 PSF IS INCLUDED TO MODEL TRAFFIC LOADS BEHIND THE WALL.
7. GLOBAL STABILITY CAPACITY TO DEMAND RATIO WAS DETERMINED BY THE COMPUTER PROGRAM STABLPRO 3.0 USING BISHOP'S METHOD.
8. NOMINAL BEARING RESISTANCE IS DETERMINED BY MEYERHOF'S BEARING CAPACITY EQUATION.
9. SETTLEMENT OF THE FOUNDATION ON COHESIONLESS AND COHESIVE SOIL IS BASED UPON METHODS DESCRIBED IN THE FHWA SOILS AND FOUNDATIONS MANUAL.

RECOMMENDATIONS

1. THE MSE WALL WITH PRECAST CONCRETE PANELS WILL ACHIEVE EXTERNAL STABILITY IF THE SLIDING AND BEARING CAPACITY REQUIREMENTS ARE MET. "WALL EXTERNAL STABILITY EVALUATION" TABLE (THIS SHEET) PRESENTS THE MINIMUM LENGTH OF THE REINFORCEMENT STRAPS FOR THE TWO LOCATIONS EVALUATED. IN THE AREA OF THE WALL THAT SUPPORTS THE ABUTMENT, THE RATIO OF LENGTH TO TOTAL HEIGHT OF WALL SHOULD BE INCREASED FROM 0.70 TO 1.10.
2. THE BACKFILL BEHIND THE MSE WALL WITH PRECAST CONCRETE FACING SHOULD BE GRANULAR AND FREE DRAINING.
3. THE SOUTHWEST REGION SOILS ENGINEER SHALL REVIEW THAT THE SILT AND TOPSOIL BELOW THE REINFORCING ZONE HAS BEEN STRIPPED, REPLACED WITH GRANULAR FILL, AND COMPACTED PRIOR TO WALL CONSTRUCTION.

WALL EXTERNAL STABILITY EVALUATION

DIMENSIONS		
WALL HEIGHT (FEET) [1]	11.4	11.4
EXPOSED WALL HEIGHT (FEET)	9.9	9.9
LENGTH OF REINFORCEMENT (FEET) [2]	12.5	8.0
LENGTH OF REINF./WALL HEIGHT	1.1	0.7
WALL STATION	0+40.0	1+14.0
BORING USED	B-3	B-5
CAPACITY TO DEMAND RATIO (CDR) [3]		
SLIDING ($CDR_{REQ'D}$ > 1.0)	1.12	1.53
ECCENTRICITY ($CDR_{REQ'D}$ > 1.0)	32.5	21.2
GLOBAL STABILITY ($CDR_{REQ'D}$ > 1.0) [4]	3.1	NA [5]
BEARING RESISTANCE ($CDR_{REQ'D}$ > 1.0)	1.1	1.4
FACTORED BEARING RESISTANCE (PSF)	4,200	2,700 [6]

NOTES:

1. THE WALL HEIGHT INCLUDES AN EMBEDMENT OF 1.5 FEET.
2. THE MINIMUM REQUIRED REINFORCEMENT LENGTH IS 8.0 FEET.
3. CDR REQUIREMENTS AND LOAD & RESISTANCE FACTORS ARE PRESENTED IN CHAPTER 14 OF THE BRIDGE MANUAL.
4. GLOBAL SLOPE STABILITY WAS EVALUATED AT ONE CRITICAL WALL LOCATION, AT A POINT OF HIGHEST WALL HEIGHT BELOW THE ABUTMENT.
5. NA MEANS NOT APPLICABLE SINCE ONLY ONE CRITICAL WALL LOCATION IS EVALUATED FOR GLOBAL STABILITY.
6. THIS REFLECTS THE WEAKEST BEARING LAYER AT A DEPTH OF 11.0 FEET BELOW THE BASE OF THE ABUTMENT; CALCULATIONS WERE BASED UPON THE Q_p VALUE RECORDED ON THE BORING LOG.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
206.3000	EXCAVATION FOR STRUCTURES RETAINING WALLS R-13-314	LS	1
209.1500	BACKFILL GRANULAR GRADE 1	TON	248
513.2001	RAILING PIPE R-13-314	LF	141
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	169
SPV.0165	WALL CONCRETE PANEL MECHANICALLY STABILIZED EARTH LRFD/QMP	SF	1,336
	NON-BID ITEMS		
	PRE-FORMED JOINT FILLER	SIZE	¾"
	EXPANDED POLYSTYRENE	SIZE	1"
	NON-BITUMINOUS JOINT SEALER	———	———

GEOMETRY TABLE

WALL STATION	CTH DM ℄ STA.	OFFSET FROM ℄ CTH DM TO F.F. OF WALL	TOP OF WALL ELEV.	FINISHED GRADE ELEV.
0+00.00	18+36.07	62.85' LT.	993.00	992.90
0+10.00	18+41.45	54.42' LT.	996.91	992.90
0+20.00	18+46.82	45.99' LT.	1000.82	992.90
0+25.00	18+49.50	41.77' LT.	1002.76	992.90
0+30.00	18+52.19	37.55' LT.	1002.76	992.90
0+40.00	18+57.56	29.12' LT.	1002.76	992.90
0+50.00	18+62.94	20.68' LT.	1002.76	992.90
0+60.00	18+68.31	12.25' LT.	1002.76	992.90
0+70.00	18+73.68	3.82' LT.	1002.76	992.90
0+80.00	18+79.06	4.62' RT.	1002.76	992.90
0+90.00	18+84.43	13.05' RT.	1002.76	992.90
1+00.00	18+89.80	21.49' RT.	1002.76	992.90
1+10.00	18+95.18	29.92' RT.	1002.76	992.90
1+14.00	18+97.32	33.29' RT.	1002.76	992.90
1+20.00	19+00.55	38.35' RT.	1000.43	992.90
1+30.00	19+05.92	46.79' RT.	996.52	992.90
1+39.00	19+10.76	54.38' RT.	993.00	992.90
---	---	---	---	---
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NOTE: STATIONS & OFFSET DISTANCES ARE TO FRONT FACE OF WALL.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-314

DRAWN BY ARC | PLANS CK'D. MJL

QUANTITIES & WALL DATA

SHEET 2

163

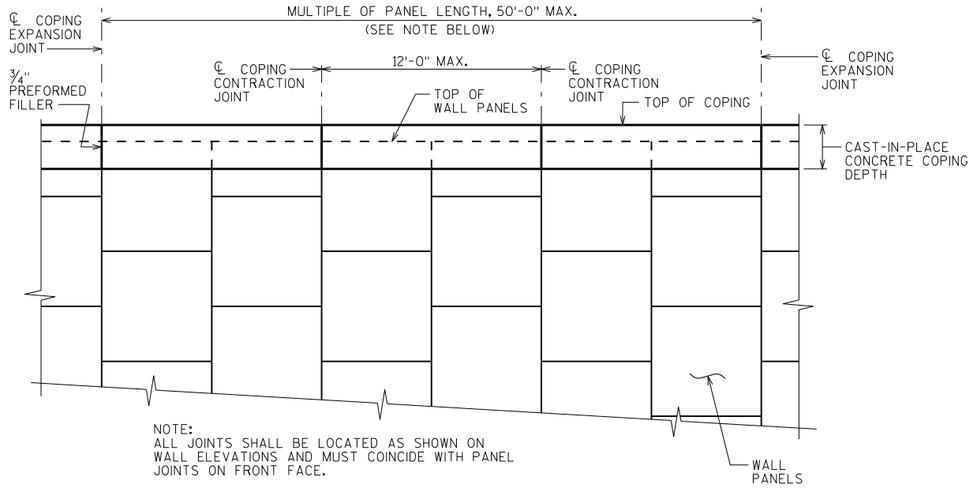
SCALE = 4.0

8

8

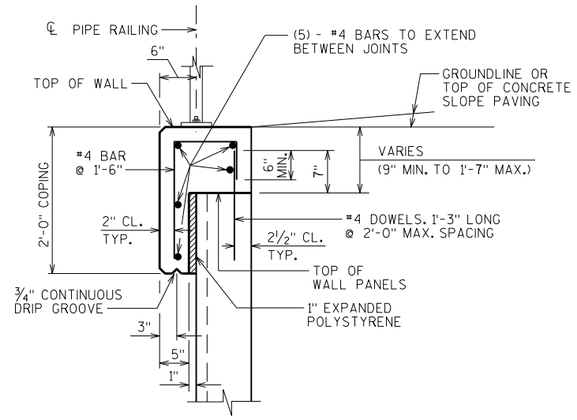
STATE PROJECT NUMBER

1011-03-76

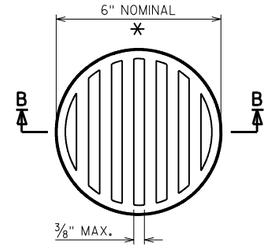


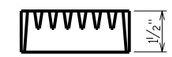
CAST-IN-PLACE COPING PARTIAL ELEVATION

LOOKING AT F.F. WALL



CAST-IN-PLACE CONCRETE COPING DETAIL





SECTION B-B

RODENT SHIELD DETAIL

✳ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

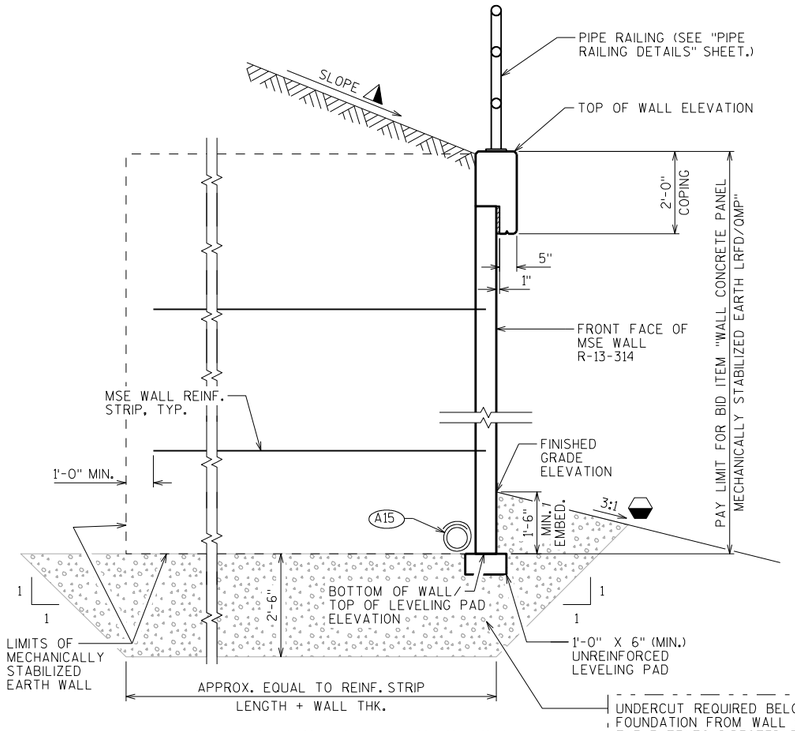
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

‡ SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER AND EXPANDED POLYSTYRENE WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONC.)

3:1 SLOPE IS EXPECTED SLOPE AT F.F. OF WALL OF THE "TYPICAL FUTURE SECTION," SHOWN B-13-648 BRIDGE PLANS

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

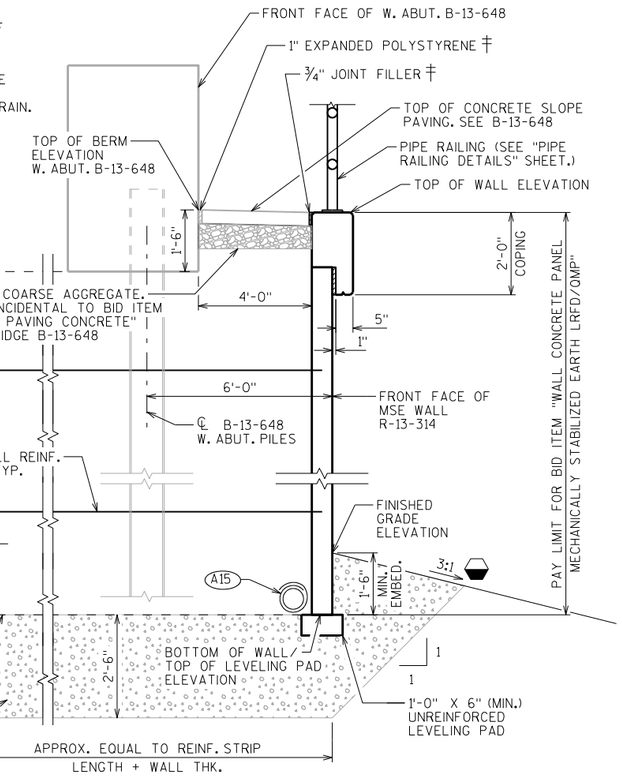
⚠ SLOPE BEHIND MSE WALL VARIES. SEE ROADWAY PLANS FOR MORE INFORMATION.



TYPICAL MSE WALL SECTION

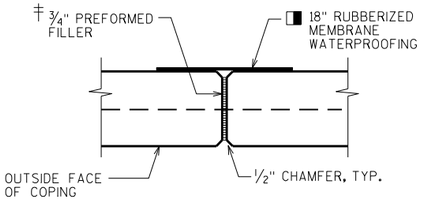
LOOKING NORTH
WALL STA. 0+00.00 TO 0+29.77, 1+11.95 TO 1+39.00

UNDERCUT REQUIRED BELOW THE BASE OF THE WALL FOUNDATION FROM WALL STA. 0+25.0 TO 1+14.0, OR TO THE EXTENTS DIRECTED BY THE SOILS ENGINEER. REPLACE WITH WELL COMPACTED GRANULAR BACKFILL.



TYPICAL MSE WALL SECTION AT B-13-648

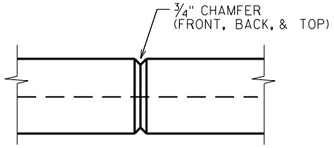
LOOKING NORTH
WALL STA. 0+29.77 TO 1+11.95



COPING EXPANSION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 50'

◨ MEMBRANE WATERPROOFING TO EXTEND FROM TOP OF COPING TO 6" BELOW TOP OF PANELS.



COPING CONTRACTION JOINT

DO NOT RUN BAR STEEL THRU JOINT.
MAX. SPACING OF JOINT = 12'

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-314

DRAWN BY ARC | PLANS CK'D. MJL

WALL DETAILS

SHEET 3

164

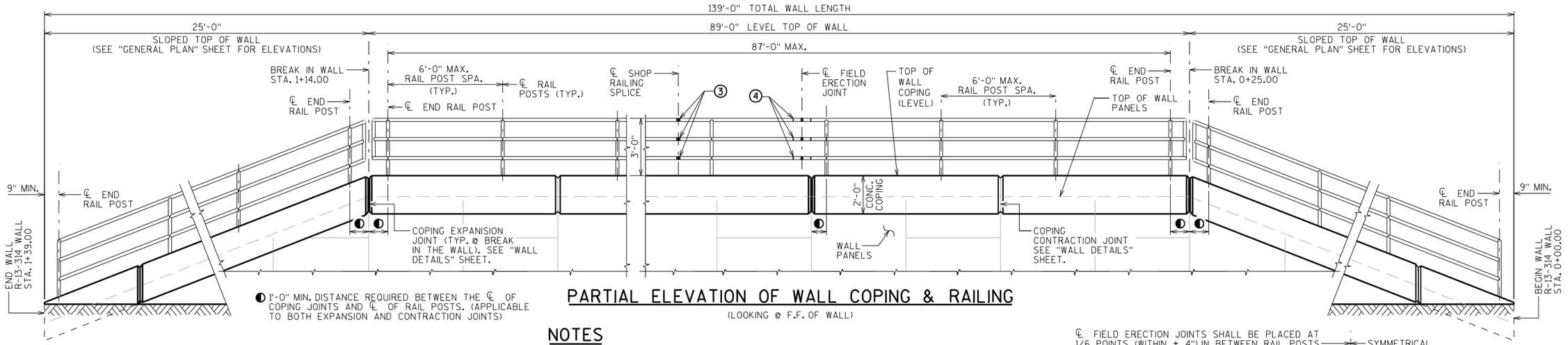
8

8

SCALE = 4.0

STATE PROJECT NUMBER

1011-03-76



◐ 1'-0" MIN. DISTANCE REQUIRED BETWEEN THE ℄ OF COPING JOINTS AND ℄ OF RAIL POSTS. (APPLICABLE TO BOTH EXPANSION AND CONTRACTION JOINTS)

PARTIAL ELEVATION OF WALL COPING & RAILING

(LOOKING @ F.F. OF WALL)

NOTES

BID ITEM SHALL BE "RAILING PIPE R-13-314", WHICH INCLUDES ALL ITEMS SHOWN.

RAILING SHALL BE FABRICATED IN LENGTHS THAT INCLUDE 3 OR 4 POSTS.

FIELD ERECTION JOINTS MUST BE PLACED IN BETWEEN RAIL POSTS WHERE THERE IS ALSO A CONCRETE COPING EXPANSION JOINT IN BETWEEN RAIL POSTS.

POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.

ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 7) SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

DRILL DRAIN HOLES PRIOR TO GALVANIZING.

ALL MATERIALS USED IN FABRICATION SHALL BE MADE FROM MATERIALS CONFORMING TO A.S.T.M. DESIGNATION A709 GRADE 36 UNLESS NOTED OTHERWISE.

STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D, FOR ALIGNMENT.

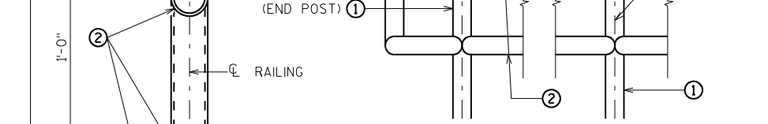
ALL RAILS, POSTS AND SLEEVES ARE STANDARD WEIGHT PIPE, SCHEDULE 40.

PLACE ALL NUTS ON OUTSIDE OF POSTS.

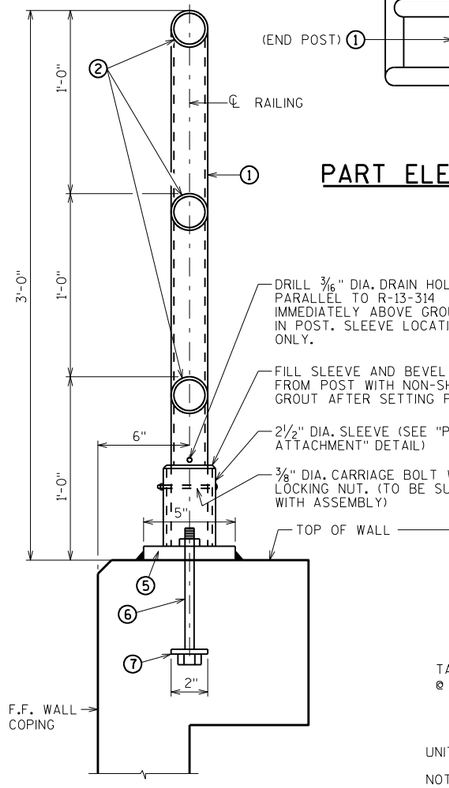
ANCHORAGES SHALL BE ACCURATELY PLACED TO PROVIDE CORRECT ALIGNMENT OF RAILING.

■ CAULK AROUND PERIMETER OF BASE PLATES AND FILL PORTION OF SLOTTED HOLES AROUND ANCHOR BOLTS IN POST SHIMS AND BASE PLATES WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

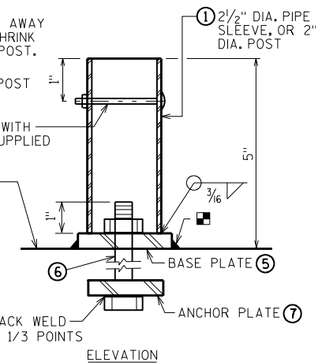
ALL RAILINGS, POSTS, GATES AND ASSOCIATED HARDWARE SHALL BE PAINTED BLACK (FEDERAL COLOR NO. 27038).



PART ELEVATION OF RAILING



SECTION THRU RAILING



ELEVATION

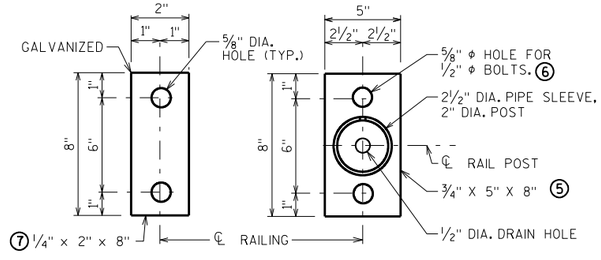
POST ATTACHMENT

UNIT SHALL BE GALV. AFTER FABRICATION

NOTE: IN LIEU OF USING THE 2 1/2"Φ SLEEVE, THE 2"Φ RAIL POST MAY BE WELDED TO THE BASE PLATE.

LEGEND

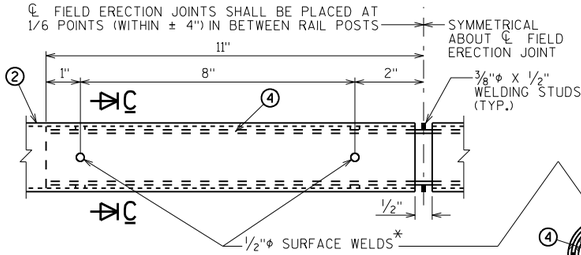
1. 2"Φ NOMINAL STEEL PIPE FOR POSTS: CUT BOTTOM OF POST TO MATCH TOP OF CONCRETE. POSTS ARE TO BE SET VERTICAL.
2. 2"Φ NOMINAL STEEL PIPE FOR RAILS: WELD TO NO. 1
3. 1 1/2"Φ PIPE SLEEVE FOR NO. 2. PROVIDE "SLIDING FIT" WITH A MINIMUM OUT TO OUT DIMENSION OF 2 1/16".
4. 1 1/2"Φ PIPE SLEEVE X 1'-10" LONG FOR NO. 2. PROVIDE 1/2"Φ SURFACE WELDS ON ALL SIDES AS SHOWN. GRIND WELDS TO FIT FREE INTO I.D. OF NO. 2. PROVIDE 3/8"Φ X 1/2" WELDING STUDS ON TOP AND BOTTOM SURFACES AT CENTERLINE.
5. PLATE 3/4" X 5" X 8", WITH 5/8"Φ HOLE FOR ANCHOR BOLTS NO. 6. WELD TO NO. 1. OR PIPE SLEEVE AS SHOWN.
6. 1/2" DIA. X 6 7/8" LONG GALVANIZED HEX BOLT WITH NUT & WASHER. TYPE S. 1/2"Φ CONCRETE MASONRY ANCHORS MAY BE SUBSTITUTED FOR 1/2"Φ BOLTS. ANCHOR PLATE NOT REQUIRED WHEN TYPE S ANCHORS ARE USED. SEE NOTE ☆
- ☆ 1/2" DIA. CONCRETE MASONRY ANCHOR, TYPE "S" 6" MIN. EMBEDMENT (EPOXY ANCHORED MIN. PULLOUT OF 10 KIPS, THREADED LENGTH OF ANCHOR, WASHER, AND NUT SHALL BE GALVANIZED.
7. 1/4" X 2" X 8" FLAT BAR, WITH 5/8"Φ HOLES FOR ANCHOR BOLTS NO. 6.



ANCHOR PLATE

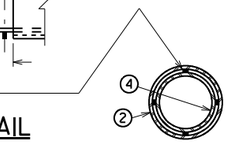
BASE PLATE

℄ FIELD ERECTION JOINTS SHALL BE PLACED AT 1/6 POINTS (WITHIN ± 4") IN BETWEEN RAIL POSTS — SYMMETRICAL ABOUT ℄ FIELD ERECTION JOINT

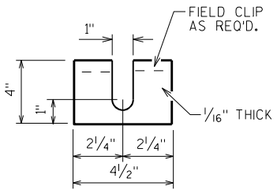


FIELD ERECTION JOINT DETAIL

*MIN. 5/8" FLAT SURFACE DIA. PUNCHINGS OR STUDS MAY BE USED AS AN ALTERNATE.

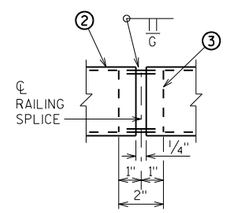


SECTION C-C



POST SHIM DETAILS

SHIMS REQUIRED ONLY WHEN POSTS ARE WELDED TO BASE PLATES. PROVIDE 4 SHIMS PER POST.



SHOP RAILING SPLICE DETAIL

(LOCATION MUST BE SHOWN ON THE SHOP DRAWINGS)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-314

DRAWN BY ARC | PLANS CK'D. MJL

PIPE RAILING DETAILS

SHEET 4

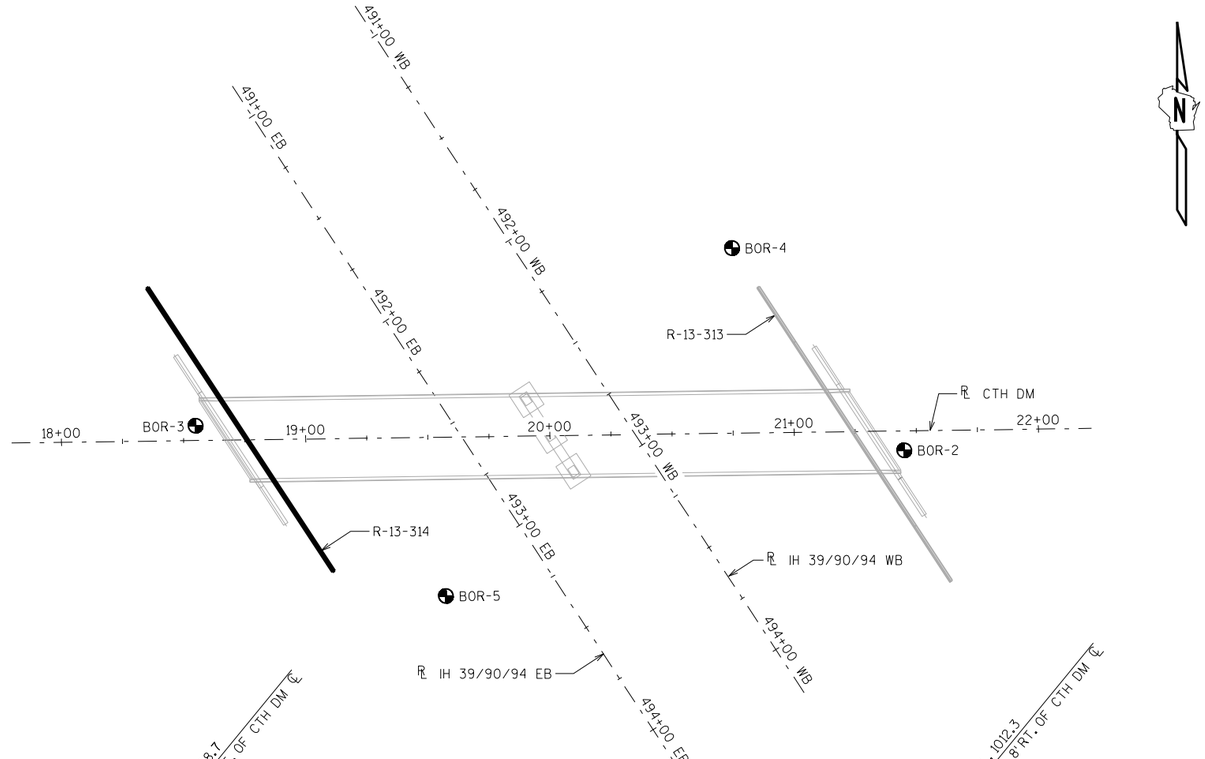
165

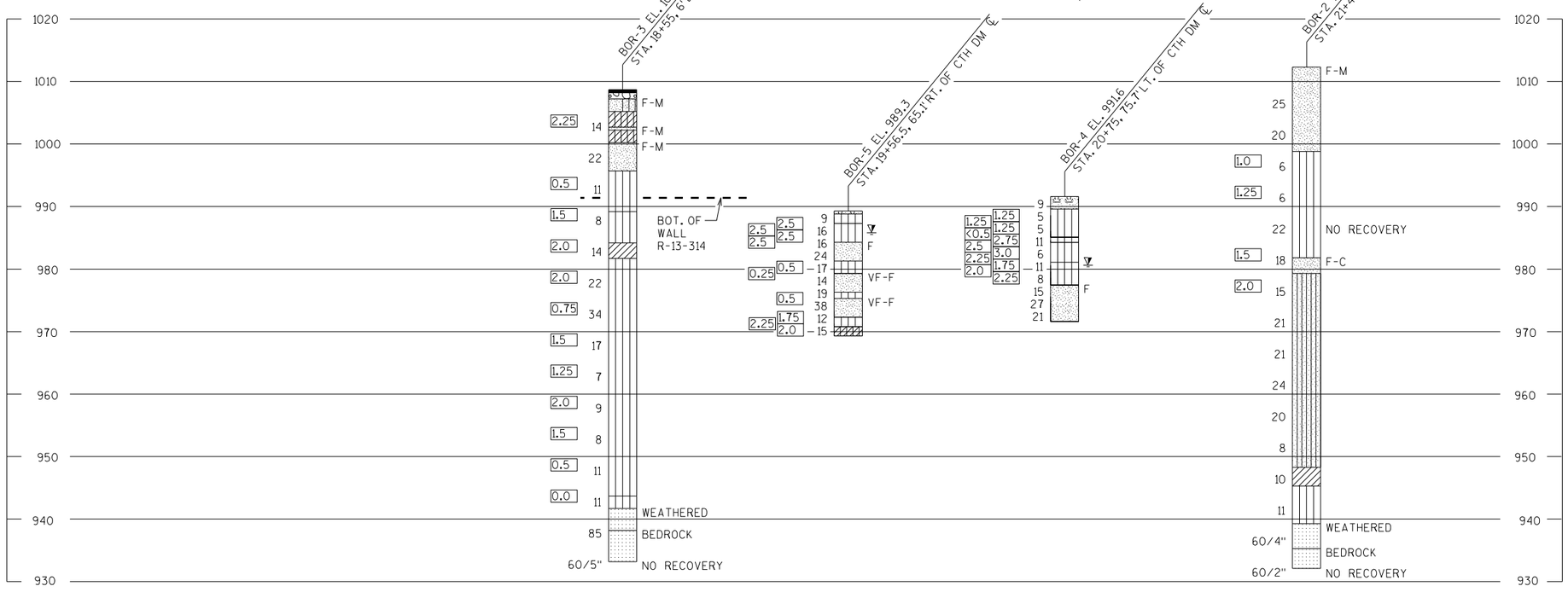
SCALE = 5.333

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
2	4/16/2013	556107.67	817384.70
3	4/16/2013	556117.72	817094.55
4	9/13/2016	556190.44	817314.15
5	8/15/2016	556048.03	817197.03
BORINGS COMPLETED BY: WISDOT			
REPORT COMPLETED BY: WISDOT			
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DANE COUNTY			





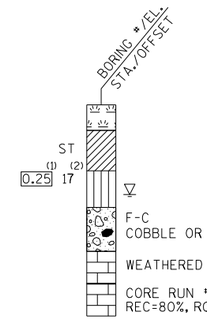
STATE PROJECT NUMBER

1011-03-76

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- ▽ AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE R-13-314

DRAWN BY TLP/ARC | PLANS CK'D. MJL

SUBSURFACE EXPLORATION

SHEET 5

166

SCALE = 30

8

8

CTH DM - DIVISION 1

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut *Note 1	Incremental Vol (CY) (Unadjusted) Fill *Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 *Note 1	Expanded Fill 1.2	Expanded EBS Backfill 1.30 *Note 5	Reduced EBS In Fill 0.80 *Note 7	Mass Ordinate *Note 8
13+00	1300		52.3	0.0	0.0	0	0	0	0	0	0	0	0
13+50	1350	50	40.4	1.7	0.0	86	2	0	86	2	0	0	84
14+00	1400	50	29.7	17.5	0.0	65	18	0	151	23	0	0	128
14+50	1450	50	42.6	110.8	0.0	67	119	0	218	166	0	0	52
15+00	1500	50	3.1	72.1	0.0	42	169	0	260	369	0	0	-109
16+00	1600	100	27.4	243.8	0.0	56	585	0	316	1071	0	0	-754
17+00	1700	100	41.9	481.0	0.0	128	1342	0	445	2681	0	0	-2236
17+50	1750	50	43.9	398.4	0.0	79	814	0	524	3658	0	0	-3134
18+00	1800	50	46.4	444.5	0.0	84	780	0	608	4595	0	0	-3987
18+50	1850	50	190.2	328.5	0.0	219	716	0	827	5454	0	0	-4627
18+66	1866	16	0.0	0.0	0.0	56	97	0	883	5570	0	0	-4687
21+33	2133	267	0.0	0.0	0.0	0	0	0	883	5570	0	0	-4687
21+50	2150	17	218.9	144.7	0.0	69	46	0	952	5625	0	0	-4673
22+00	2200	50	0.0	183.9	0.0	203	304	0	1155	5990	0	0	-4835
22+50	2250	50	0.0	191.5	0.0	0	348	0	1155	6407	0	0	-5252
23+00	2300	50	1.3	242.1	0.0	1	401	0	1156	6889	0	0	-5733
23+50	2350	50	410.5	36.2	0.0	381	258	0	1537	7198	0	0	-5661
24+00	2400	50	39.9	12.9	0.0	417	46	0	1955	7253	0	0	-5298
24+50	2450	50	37.9	144.5	0.0	72	146	0	2027	7428	0	0	-5401
25+00	2500	50	40.0	57.6	0.0	72	187	0	2099	7653	0	0	-5554
26+00	2600	100	40.6	3.5	0.0	149	113	0	2248	7789	0	0	-5541
27+00	2700	100	47.5	0.0	0.0	163	7	0	2411	7796	0	0	-5385
28+00	2800	100	48.7	0.0	0.0	178	0	0	2589	7796	0	0	-5207
28+50	2850	50	45.5	0.0	0.0	87	0	0	2676	7796	0	0	-5120
				Column totals		2676	6497	0					

* SEE EARTHWORK SUMMARY IN MISCELLANEOUS QUANTITES FOR EARTHWORK NOTES.

9

9

ALL ITEMS CATEGORY 0010 UNLESS NOTED

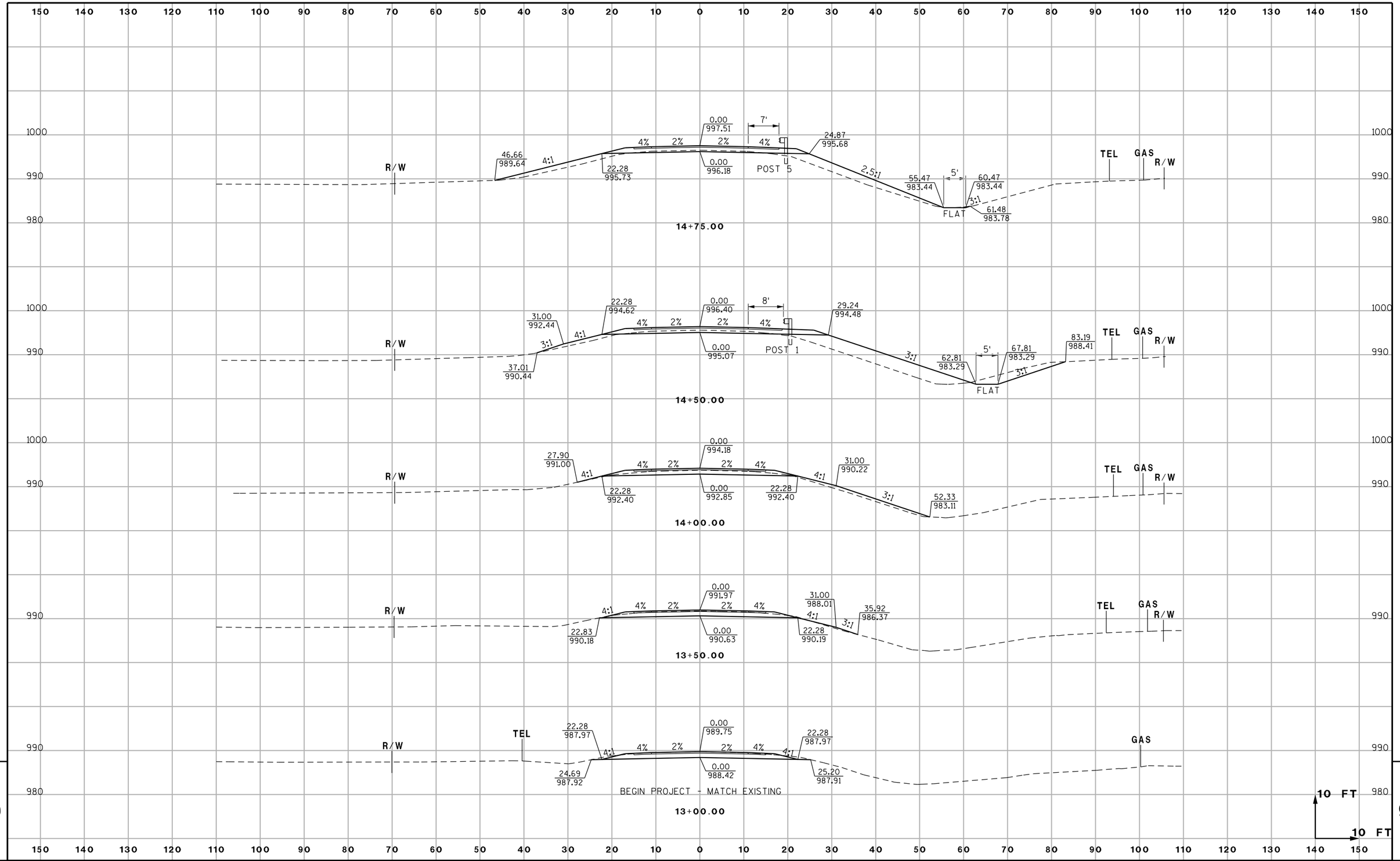
WIBU ROAD A LINE - DIVISION 1

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut *Note 1	Incremental Vol (CY) (Unadjusted) Fill *Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 *Note 1	Cumulative Vol (CY) Expanded Fill 1.2	Cumulative Vol (CY) Expanded EBS Backfill 1.30 *Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 *Note 7	Mass Ordinate *Note 8
41+00	4100		19.5	0.0	0.0	0	0	0	0	0	0	0	0
41+50	4150	50	19.5	1.7	0.0	36	2	0	36	2	0	0	34
42+00	4200	50	19.8	6.7	0.0	36	8	0	72	11	0	0	61
42+50	4250	50	29.2	5.0	0.0	45	11	0	118	24	0	0	94
43+00	4300	50	50.1	0.2	0.0	73	5	0	191	30	0	0	161
43+50	4350	50	149.0	57.7	0.0	184	54	0	375	94	0	0	281
44+00	4400	50	551.6	226.7	0.0	649	263	0	1024	410	0	0	614
44+50	4450	50	10.2	490.0	78.4	520	664	73	1544	1137	94	58	407
45+00	4500	50	0.0	561.1	77.3	9	973	144	1554	2167	282	173	-613
45+50	4550	50	0.0	604.8	78.3	0	1080	144	1554	3324	469	289	-1770
46+00	4600	50	0.0	510.2	78.5	0	1032	145	1554	4423	658	405	-2869
46+50	4650	50	0.0	507.9	78.4	0	943	145	1554	5415	847	521	-3861
47+00	4700	50	0.0	491.9	77.7	0	926	145	1554	6387	1034	637	-4833
47+50	4750	50	0.0	473.8	77.1	0	894	143	1554	7323	1221	751	-5769
48+00	4800	50	0.0	431.9	75.8	0	839	142	1554	8193	1405	865	-6639
48+50	4850	50	0.0	360.9	73.3	0	734	138	1554	8941	1584	975	-7388
49+00	4900	50	0.0	357.4	74.4	0	665	137	1554	9608	1762	1084	-8054
49+50	4950	50	0.0	501.5	97.8	0	795	159	1554	10410	1969	1212	-8856
50+00	5000	50	0.0	0.0	0.0	0	464	91	1554	10880	2087	1284	-9326
					Column totals	1554	10351	1605					

WIBU ROAD B LINE - DIVISION 1

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut *Note 1	Incremental Vol (CY) (Unadjusted) Fill *Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.00 *Note 1	Cumulative Vol (CY) Expanded Fill 1.2	Cumulative Vol (CY) Expanded EBS Backfill 1.30 *Note 5	Cumulative Vol (CY) Reduced EBS In Fill 0.80 *Note 7	Mass Ordinate *Note 8
71+50	7150		604.2	0.0	0.0	0	0	0	0	0	0	0	0
72+00	7200	50	689.1	0.0	0.0	1197	0	0	1197	0	0	0	1197
72+50	7250	50	821.1	0.0	0.0	1398	0	0	2596	0	0	0	2596
73+00	7300	50	941.0	0.0	0.0	1632	0	0	4227	0	0	0	4227
73+50	7350	50	990.7	0.0	0.0	1789	0	0	6016	0	0	0	6016
74+00	7400	50	1030.1	0.0	0.0	1871	0	0	7887	0	0	0	7887
					Column totals	7887	0	0					

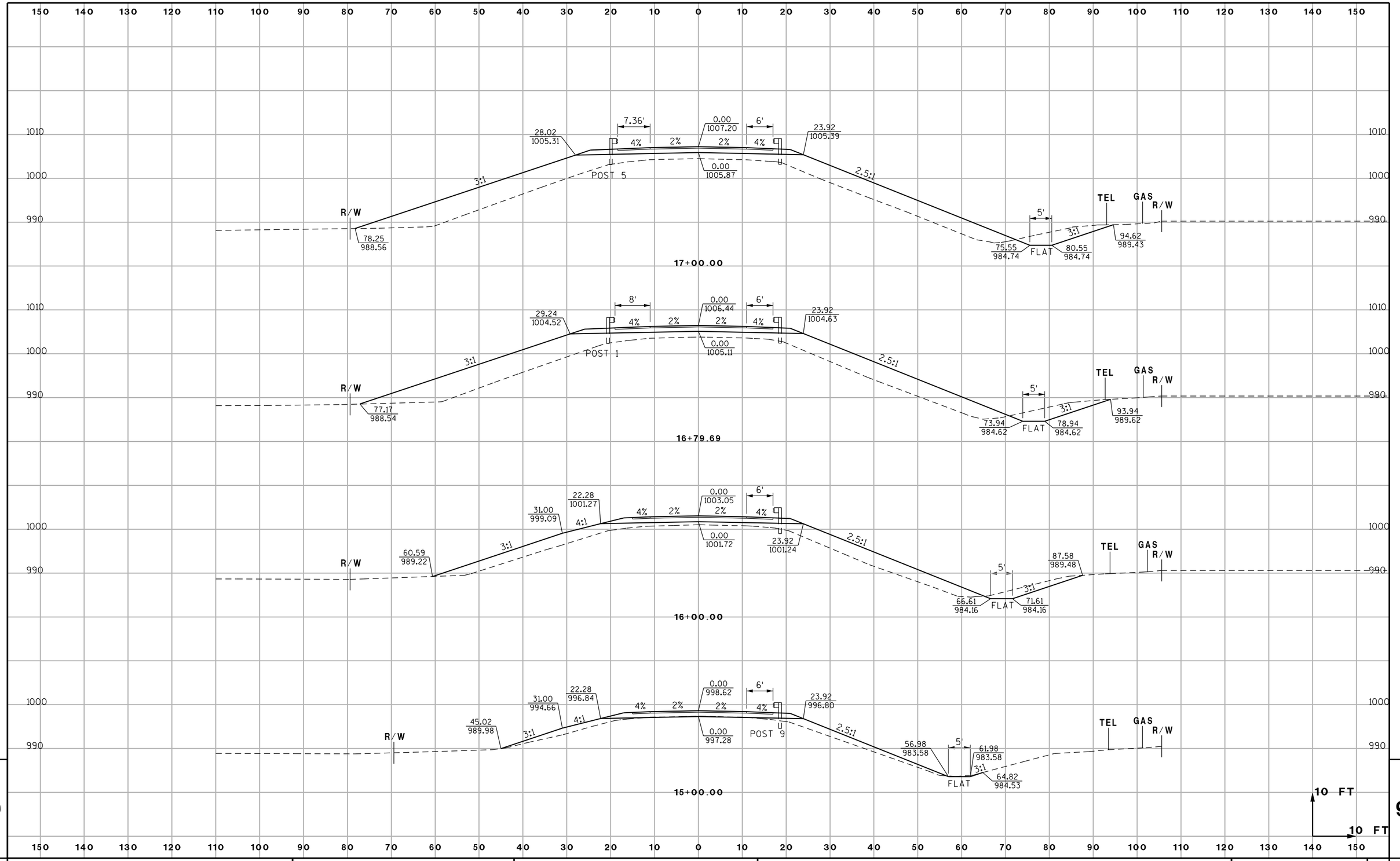
* SEE EARTHWORK SUMMARY IN MISCELLANEOUS QUANTITES FOR EARTHWORK NOTES.



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 169 E

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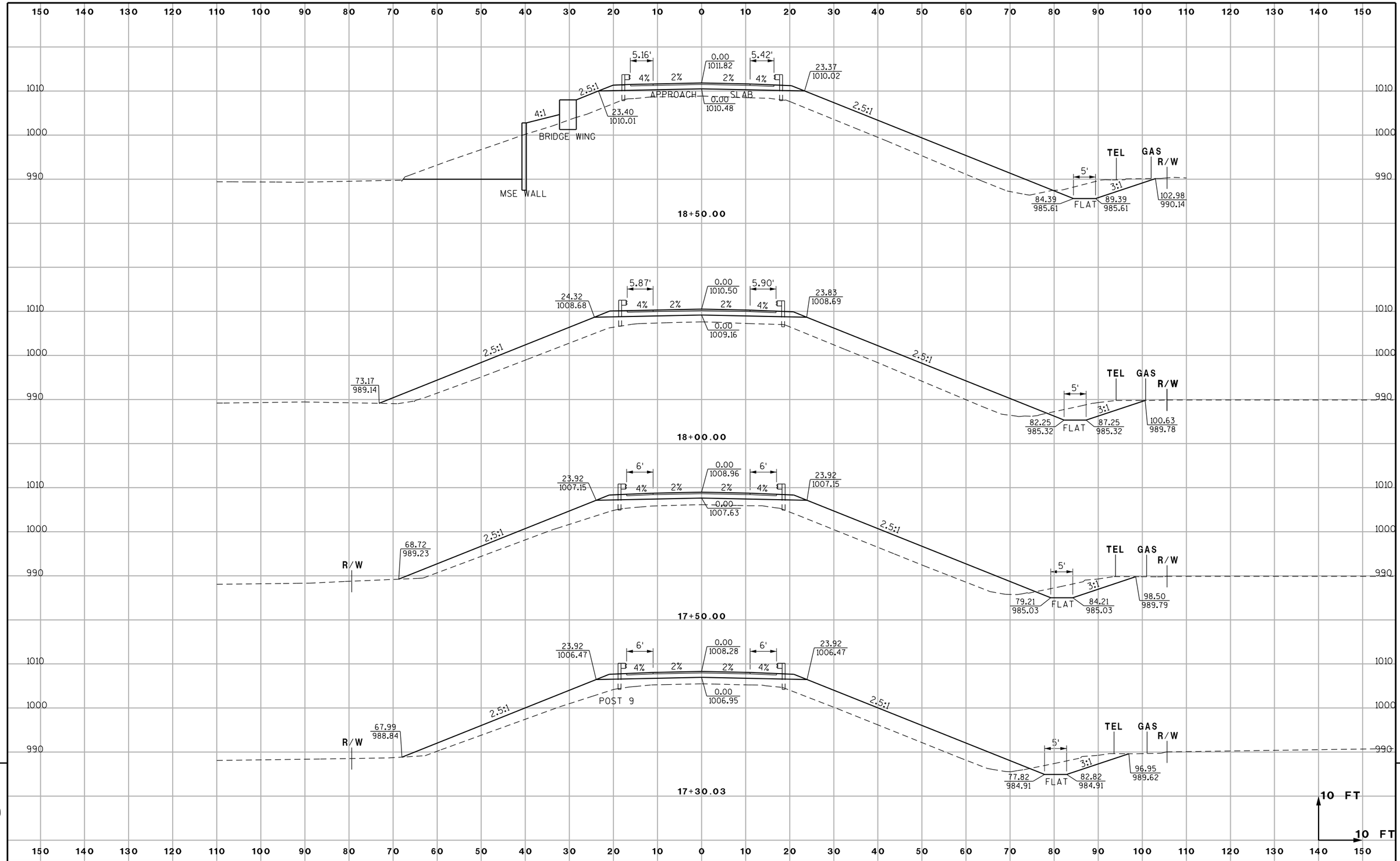
WISDOT/CADDS SHEET 21



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 170 E

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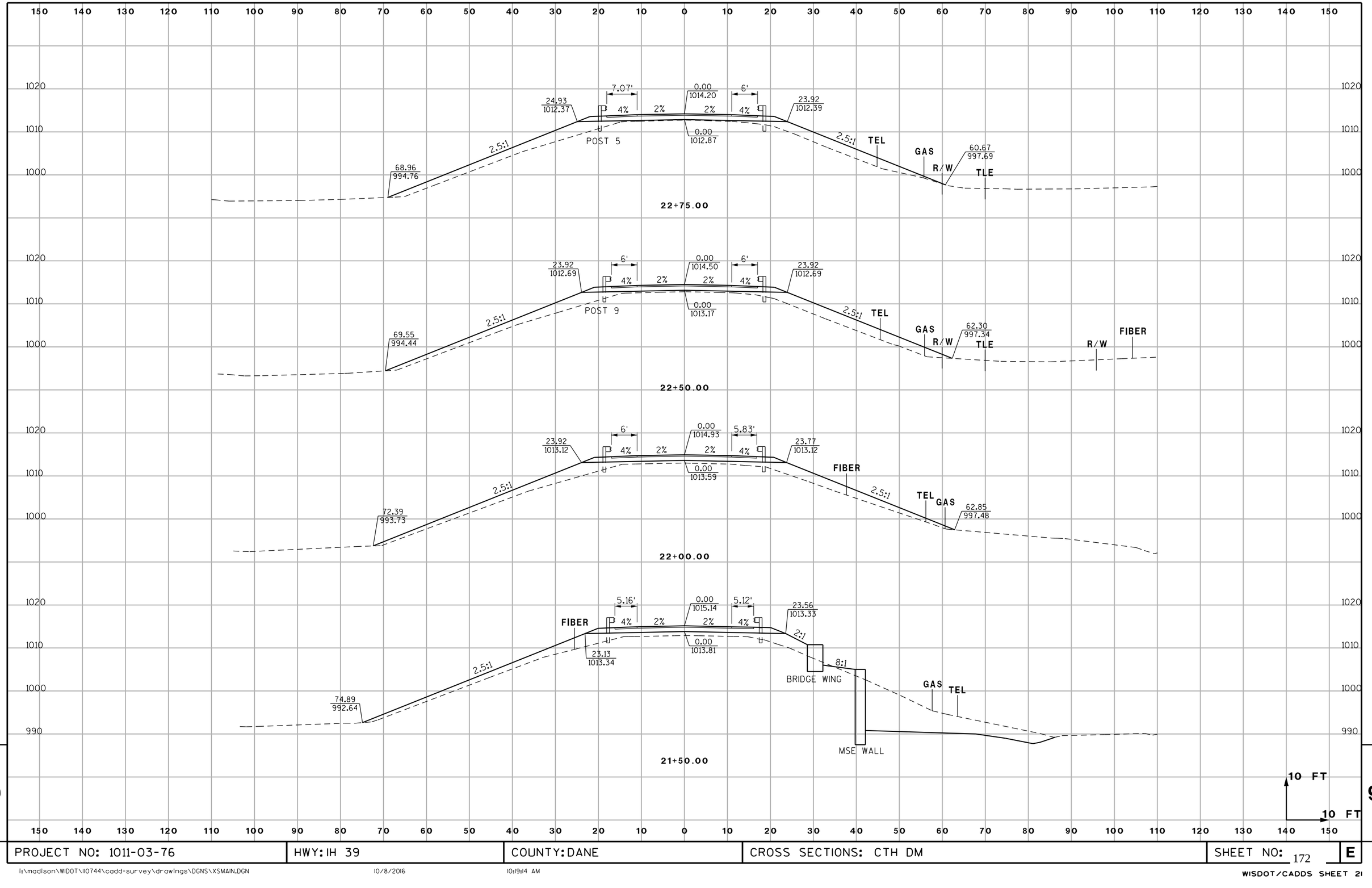
WISDOT/CADDS SHEET 21



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 171 E

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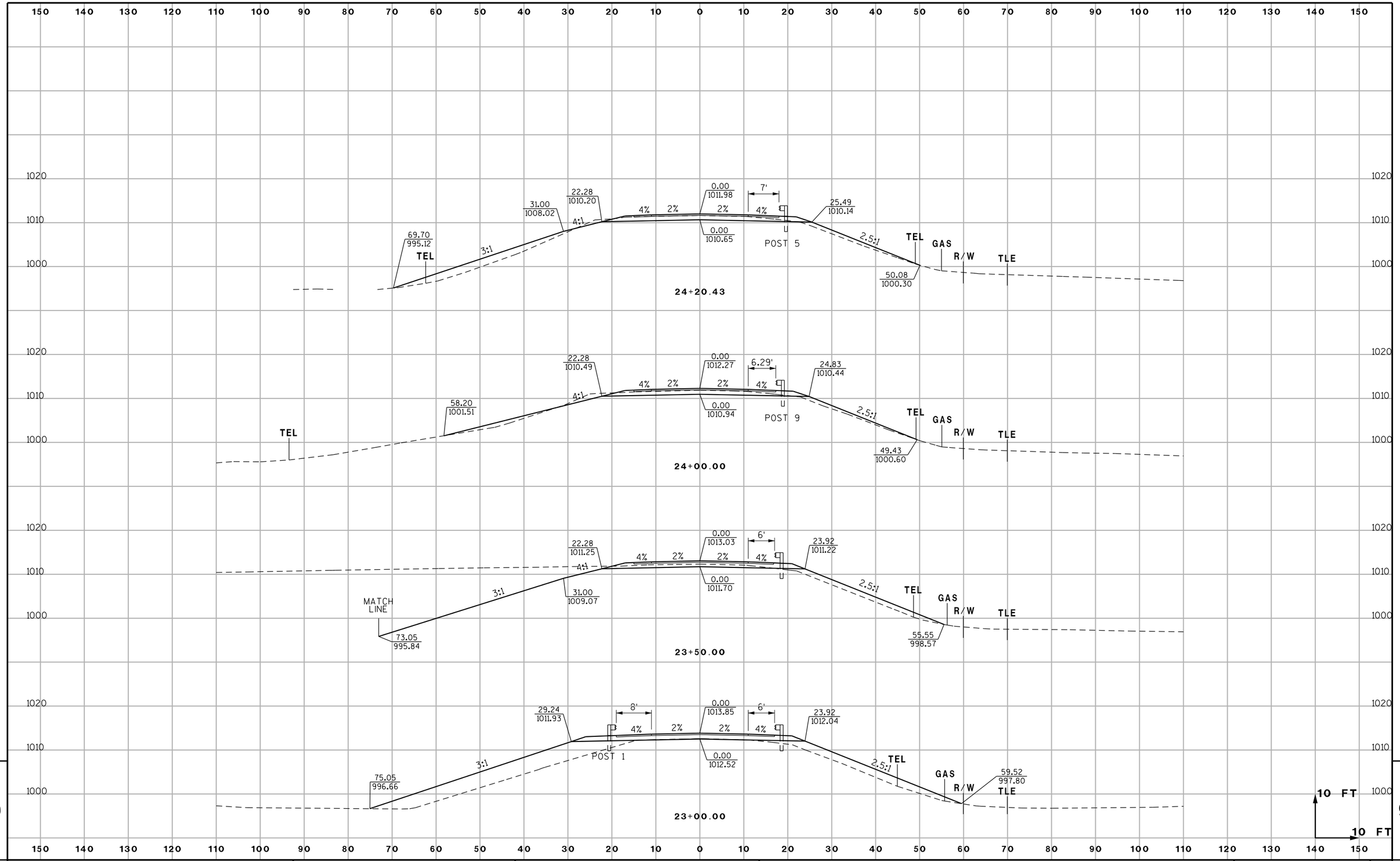
WISDOT/CADDS SHEET 21



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 172 E

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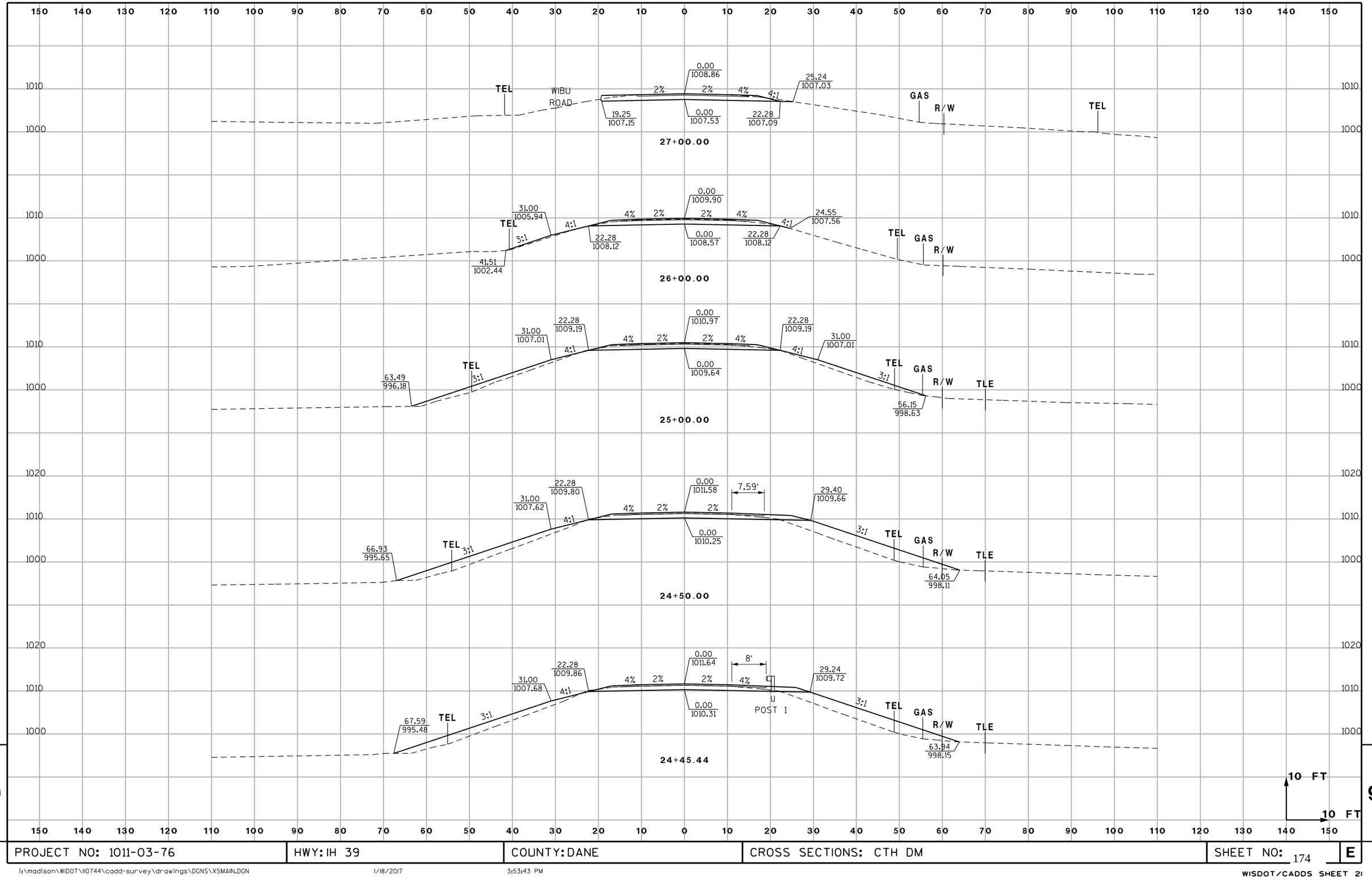
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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 173 E

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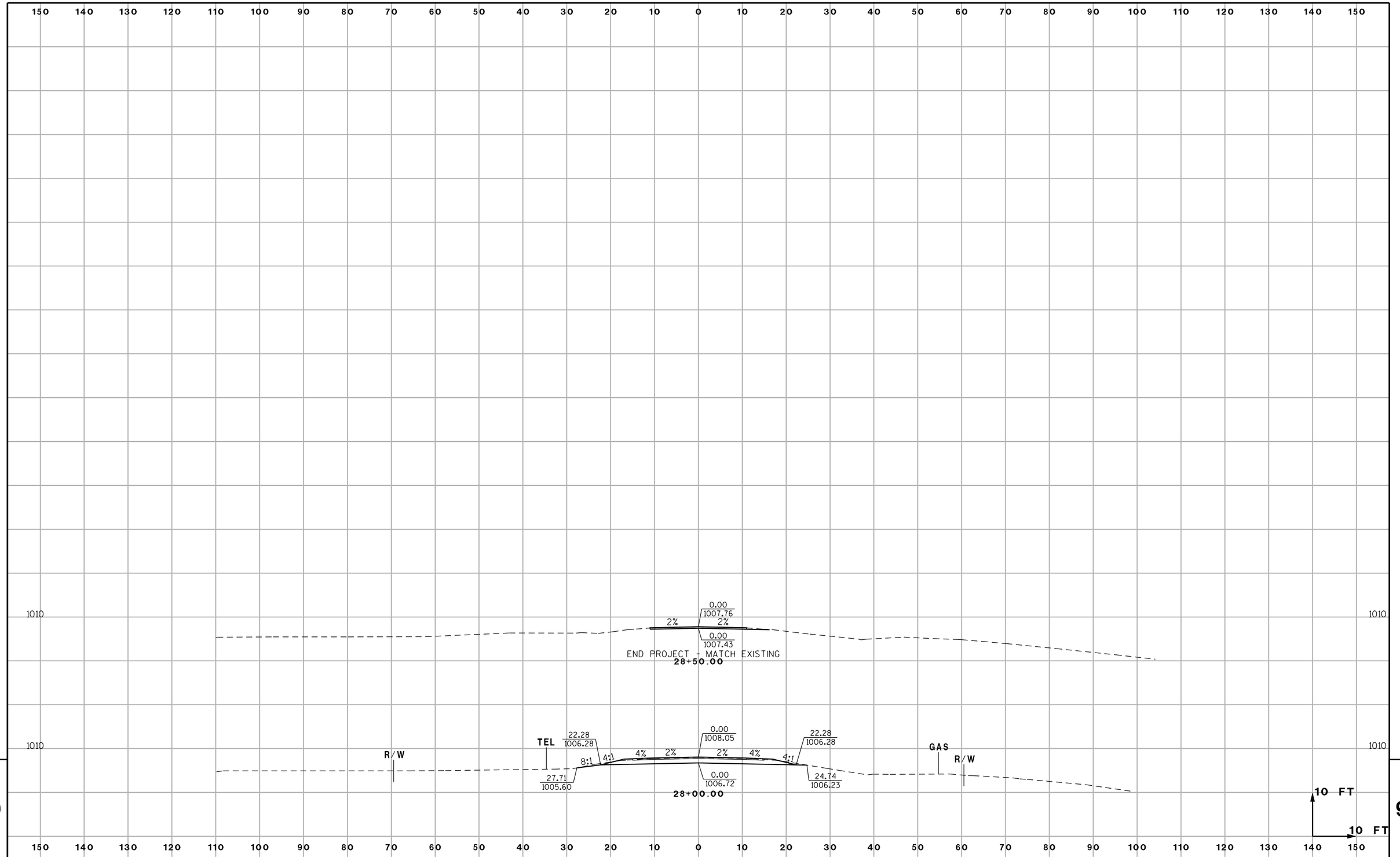
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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: CTH DM	SHEET NO: 174 E

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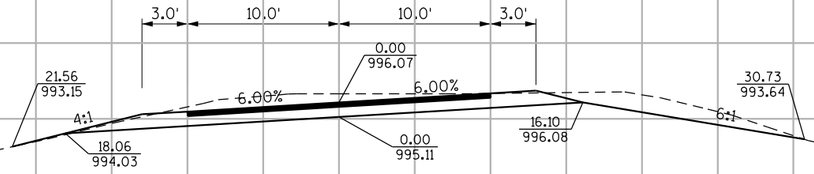
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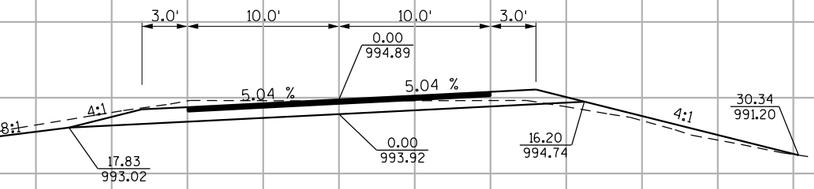
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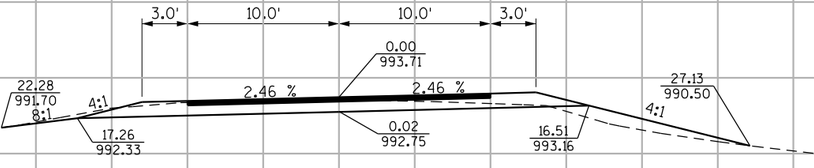
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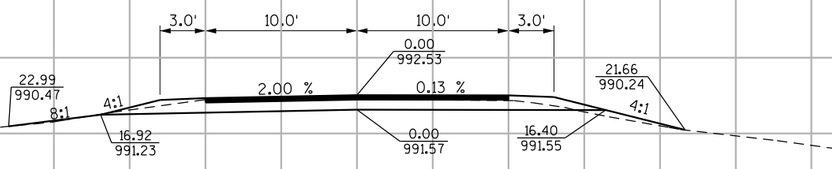
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42A+50



42A+00



41A+50

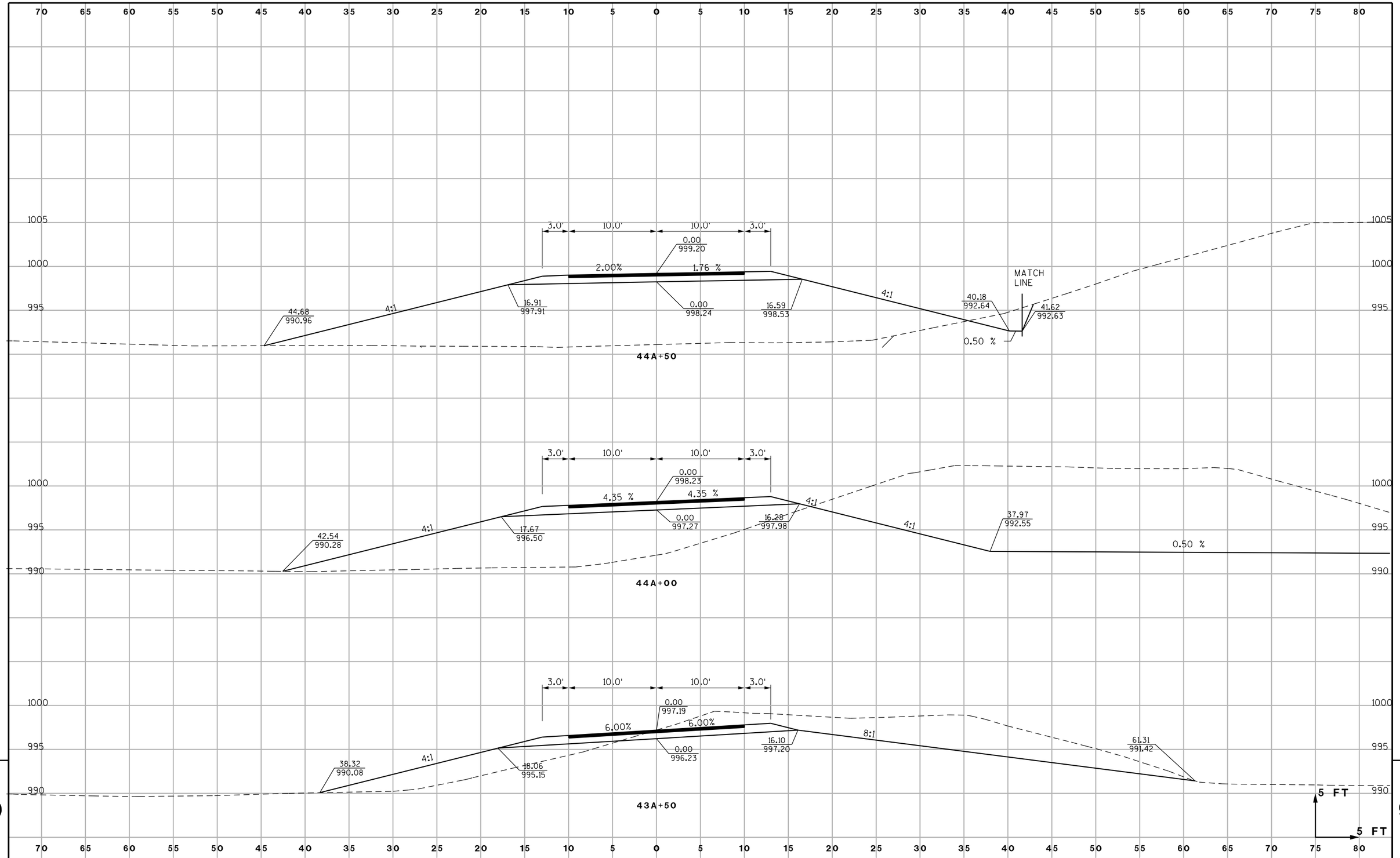
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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'A' LINE	SHEET NO: 176 E

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WISDOT/CADDS SHEET 21

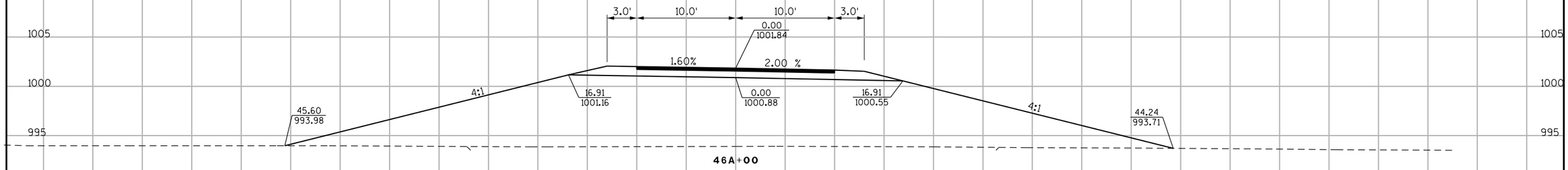


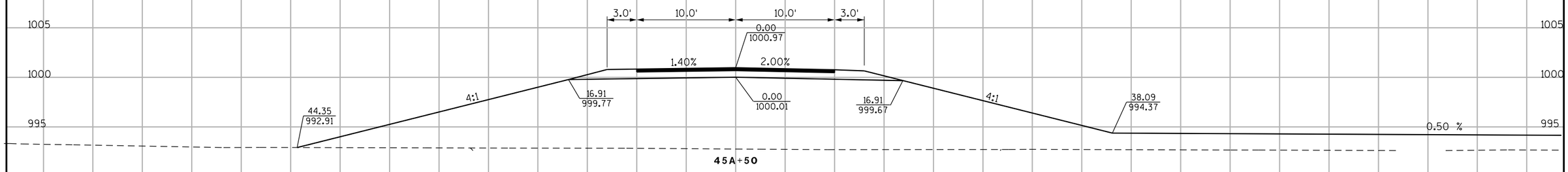
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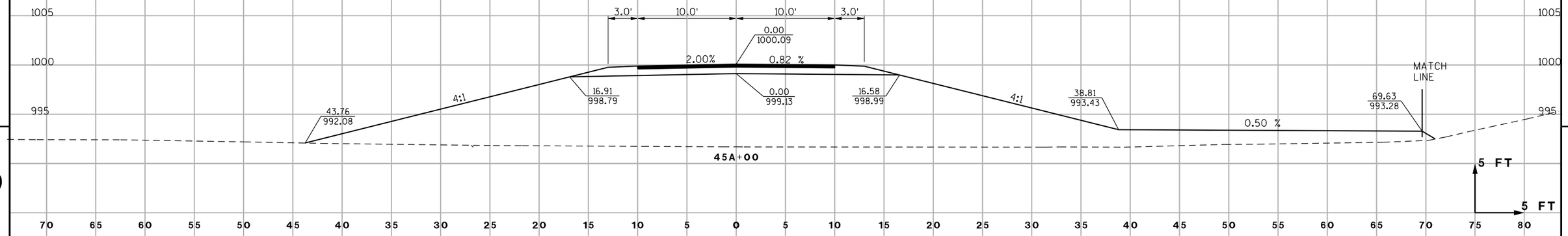
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WISDOT/CADDS SHEET 21

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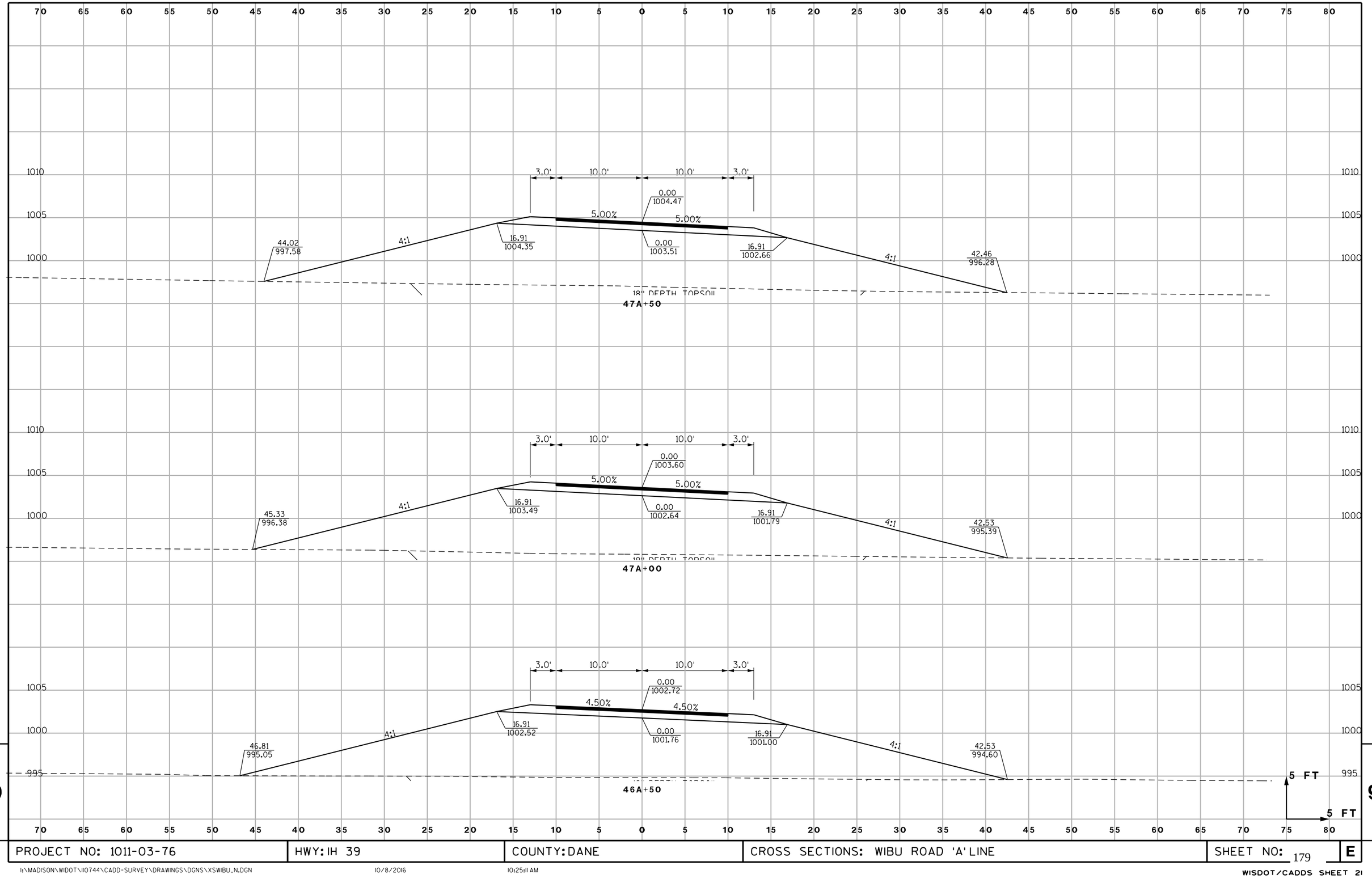




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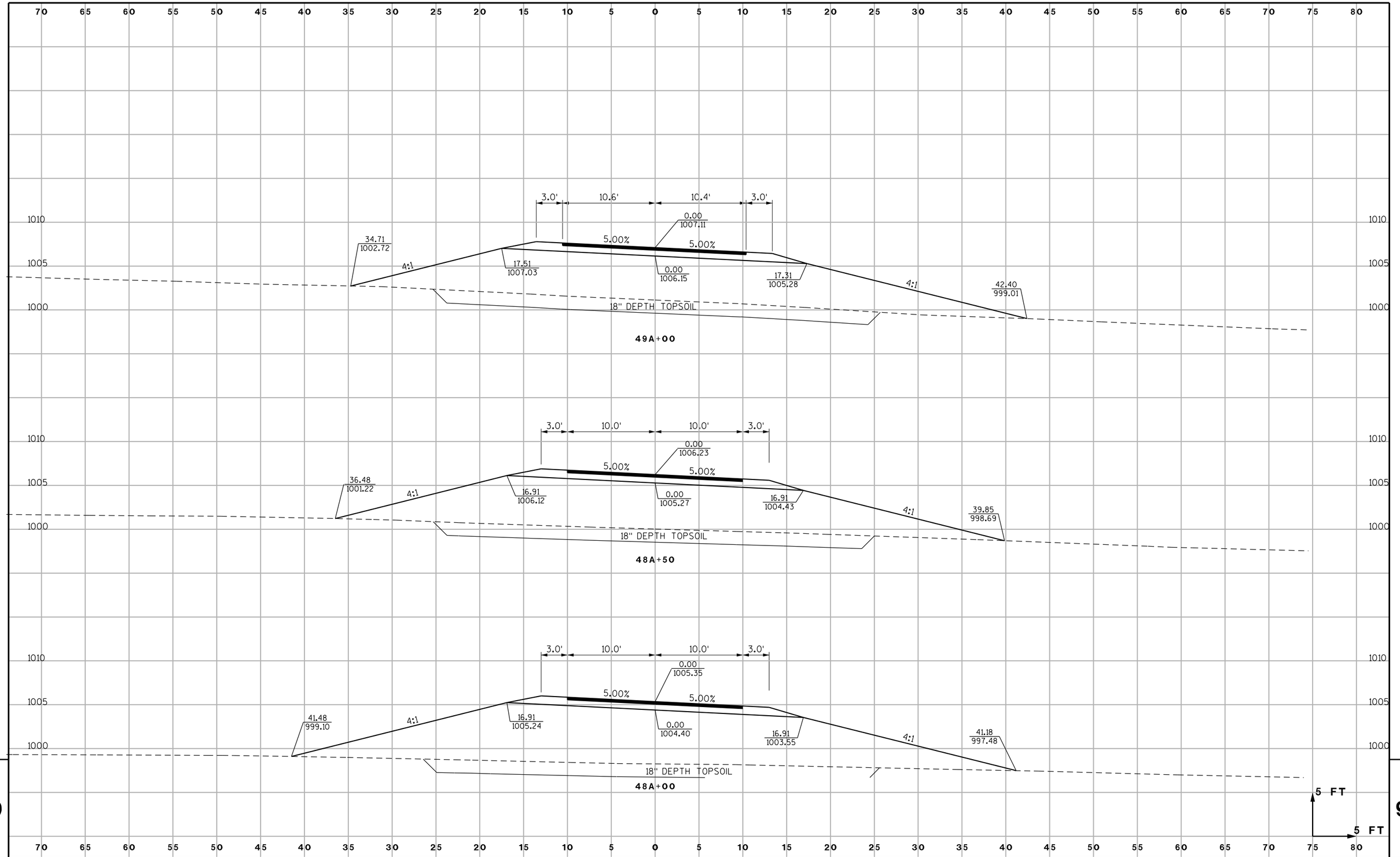
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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'A' LINE	SHEET NO: 178 E



PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'A' LINE	SHEET NO: 179	E

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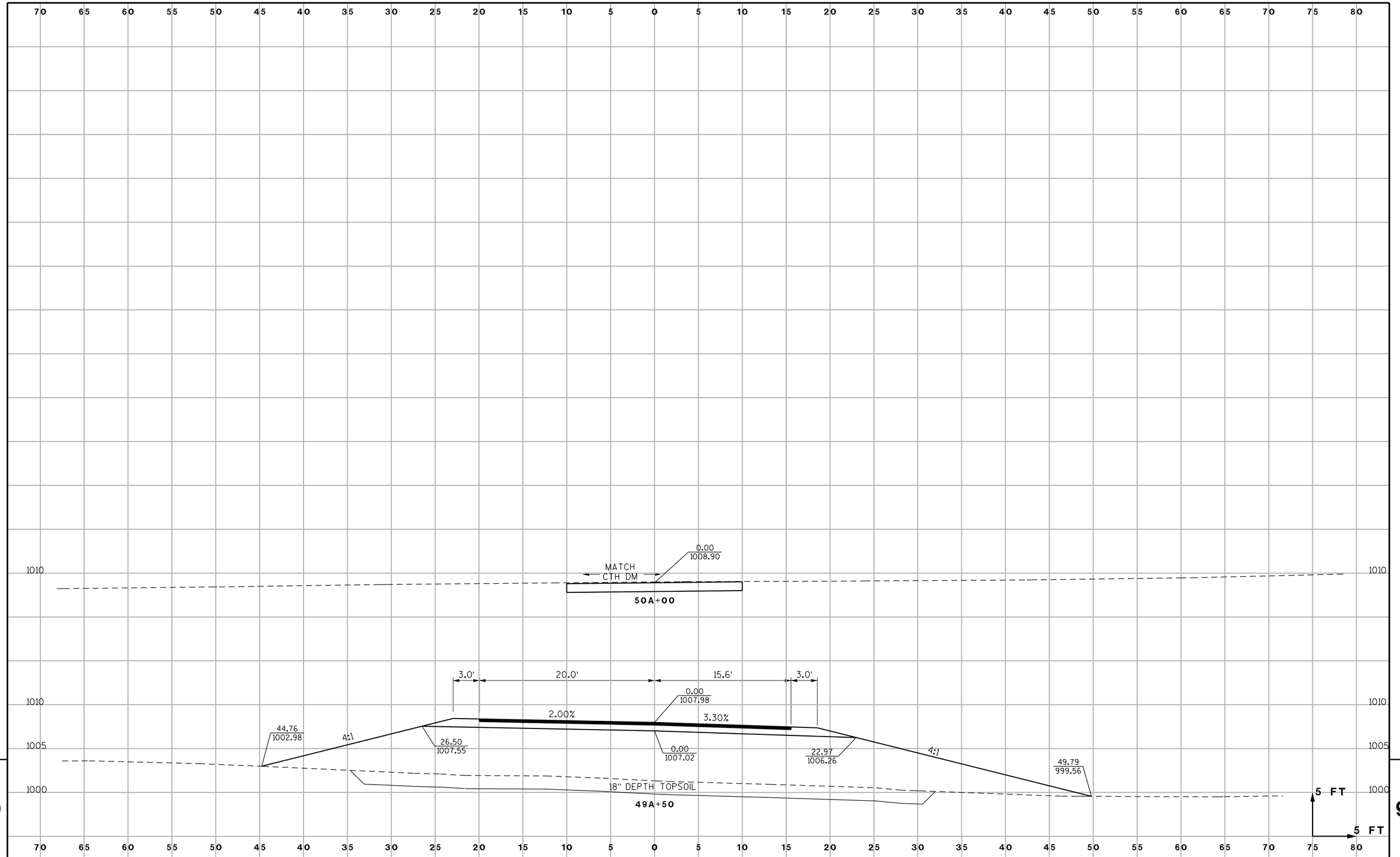


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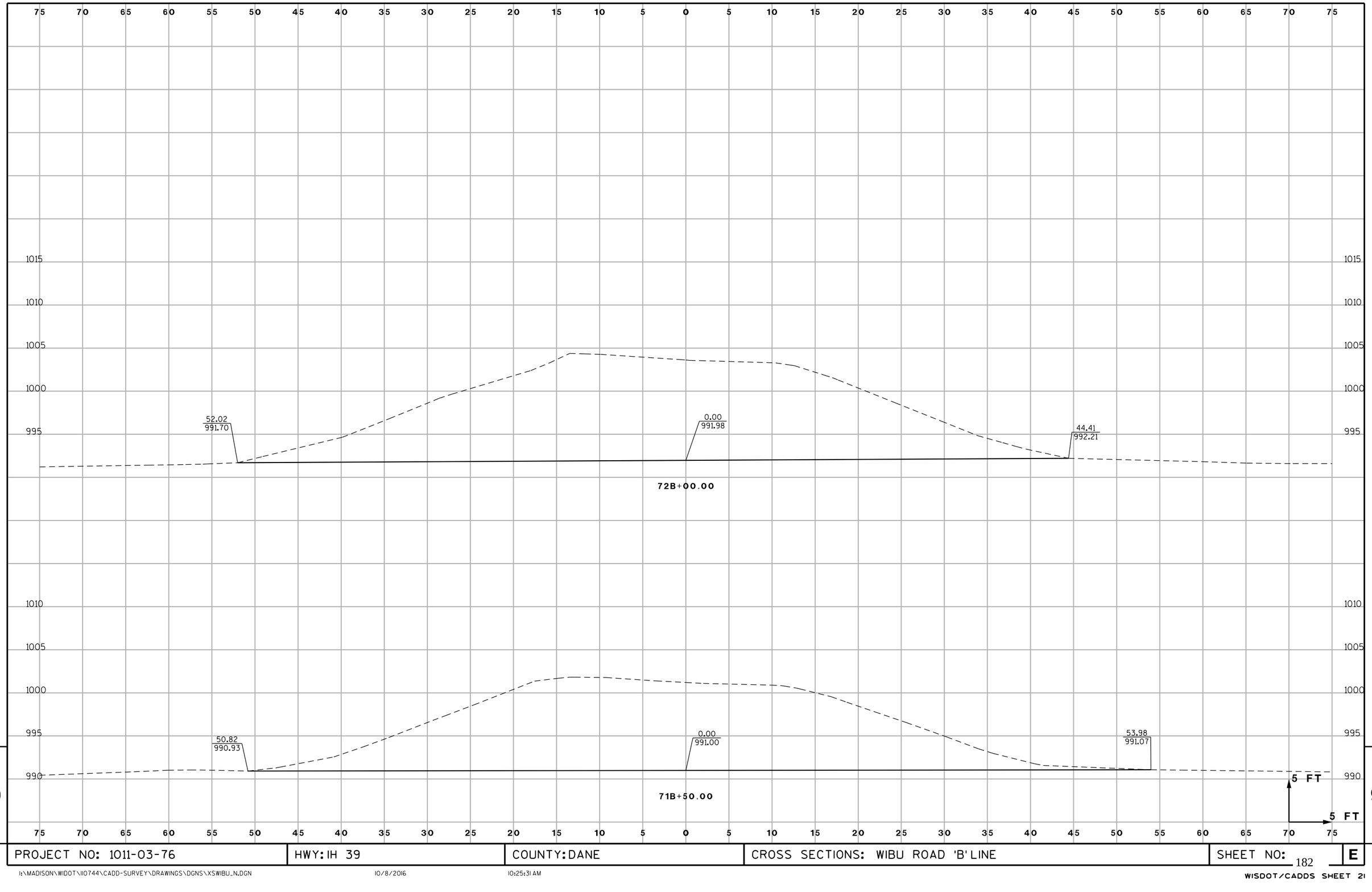


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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'A' LINE	SHEET NO: 181	E

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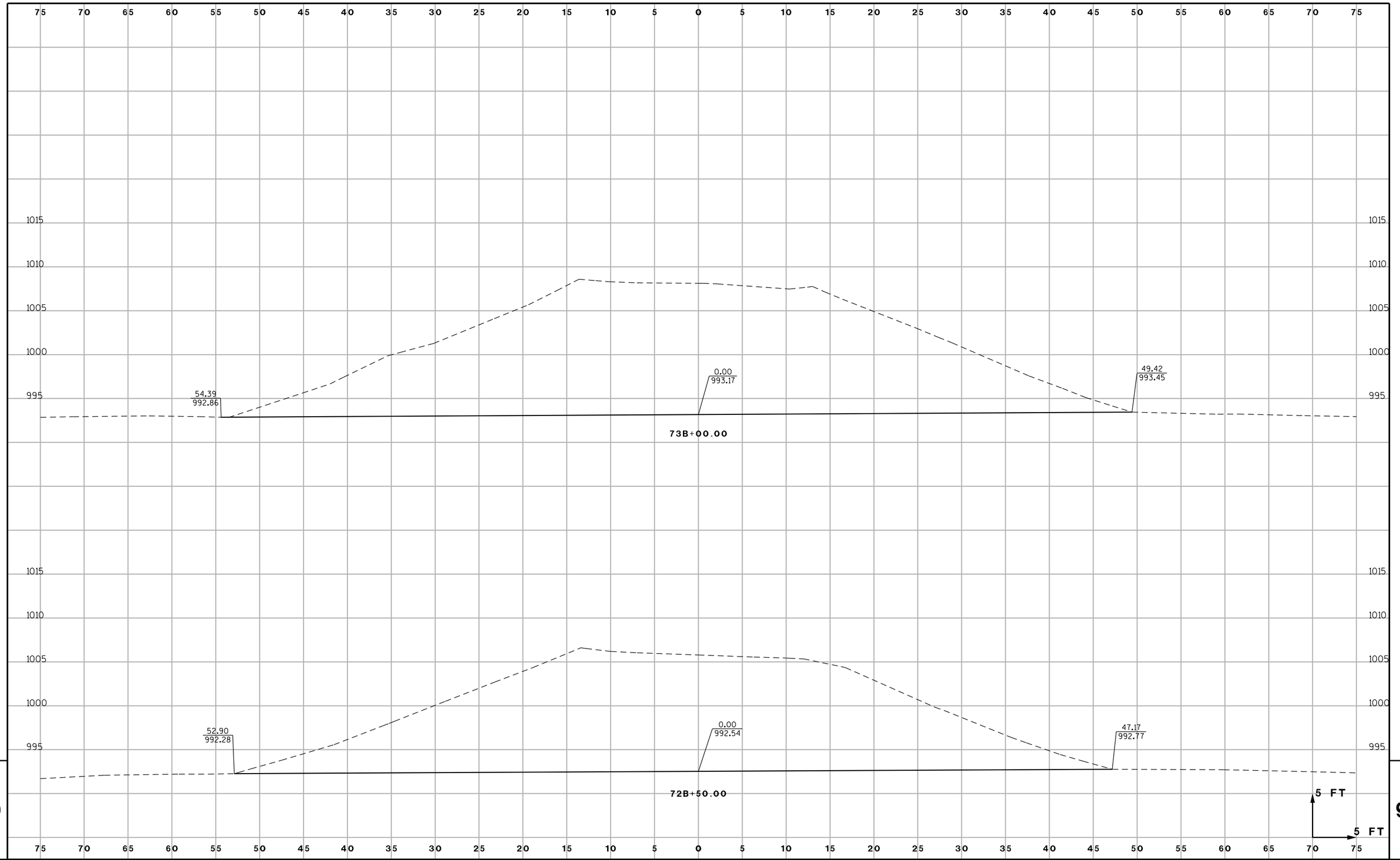
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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'B' LINE	SHEET NO: 182	E

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PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'B' LINE	SHEET NO: 183	E

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WISDOT/CADDS SHEET 21

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

1015
1010
1005
1000
995

60.25
994.58

0.00
995.81

59.30
997.03

74B+00.00

1015
1010
1005
1000
995

56.32
993.66

0.00
994.15

49.43
994.58

5 FT
5 FT

73B+50.00

75 70 65 60 55 50 45 40 35 30 25 20 15 10 5 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75

3

9

9

PROJECT NO: 1011-03-76	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: WIBU ROAD 'B' LINE	SHEET NO: 184	E

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Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

MAD APR 2017

PROJECT ID: 1011-04-79

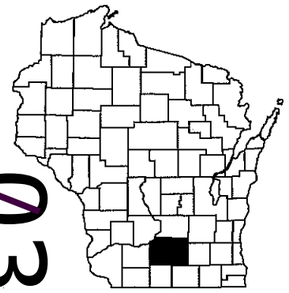
WITH: -

COUNTY: DANE

ORDER OF SHEETS

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

TOTAL SHEETS = 88



03

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MADISON - PORTAGE

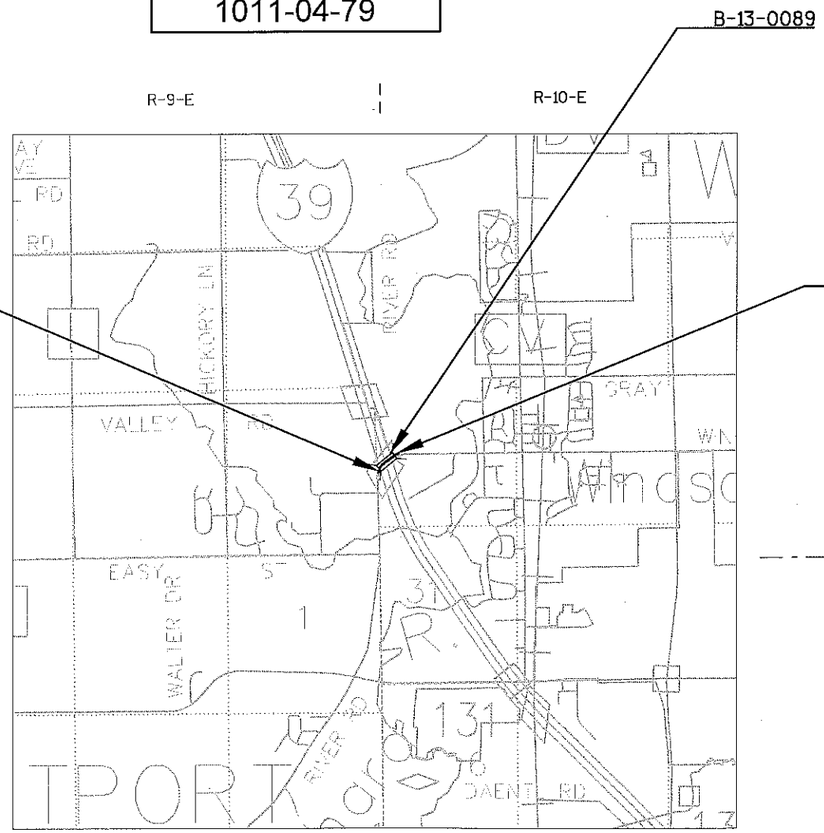
RIVER ROAD BRIDGE B-13-0089

IH 39

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1011-04-79	WISC 2017156	1
-		

STATE PROJECT NUMBER
1011-04-79



LAYOUT

SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.000 mi.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE 2011 ADJUSTMENT OF THE NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88 (2007).

DESIGN DESIGNATION		IH 39	RIVER RD.
A.A.D.T.	(2017)	56,900	2,550
A.A.D.T.	(2037)	77,700	4,600
D.H.V.		18.1%	2.8%
D.D.		58/42	59/41
T.		30.2%	3.3%
DESIGN SPEED		70 MPH	40 MPH
ESALS		-	400,000

CONVENTIONAL SYMBOLS

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	WISDOT
Designer	STEFAN CIOBANU
Project Manager	JIM SIMPSON
Regional Examiner	
Regional Supervisor	KURT JOHNSON

APPROVED FOR THE DEPARTMENT

DATE: 4-21-2016 (Signature)

E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\010101_TI.DWG
LAYOUT NAME - 010101_TI

PLOT DATE : 4/8/2016 6:42 PM

PLOT BY : CIOBANU, STEFAN

PLOT NAME :

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stefan.ciobanu@dot.wi.gov

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

GENERAL NOTES

1. WHEN THE QUANTITY OF BASE AGGREGATE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

3. DISTURBED AREAS WITHIN THE RIGHT-OF-WAY ARE TO BE 4-INCH SALVAGED TOPSOILED/TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

4. A VERTICAL SAW-CUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

5. THE 2-INCH LAYER OF PAVEMENT WILL BE PAID AS ASPHALTIC SURFACE AND SHALL BE PAVED IN ONE LIFT. ASPHALTIC SURFACE TONNAGE BASED ON 112 LBS/SY/IN.

6. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF THE DIGGERS HOTLINE.

7. IF UTILITY CONFLICTS OCCUR DURING CONSTRUCTION FACILITIES ADJUSTMENTS WILL BE COORDINATED WITH CONTRACTOR. IF THERE ARE CONFLICTS WITH NEW BEAM GUARD, SIGNS, OR OTHER WORK UNDER THE PROJECT, THE CONTRACTOR WILL WORK AROUND THE UTILITY FACILITIES.

8. APPLY TACK COAT TO MILLED SURFACES. THE RATE OF APPLICATION IS 0.07 GALLONS PER SQUARE YARD OR AS DIRECTED BY THE ENGINEER.

9. PRIOR TO PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

10. ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

11. THE CONTACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN THE DRIVING LANE.

12. EROSION CONTROL ITEMS ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

13. STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN ON THE PLANS ARE APPROXIMATE. THE EXACT LOCATION OF THE PROPOSED SIGNS IS TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

14. 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. CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

CONVENTIONAL SYMBOLS AND ABBREVIATIONS

STATE, COUNTY, or TOWN LINE
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
PROPOSED REFERENCE LINE
PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
EASEMENT LINE
CORPORATE LIMITS
EXISTING CENTERLINE
LOT & TIE LINES
UTILITIES (TELEPHONE,GAS,ELECTRIC,CABLE TV,FIBER OPTIC) FO (TYPE)
NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
NO ACCESS (BY ACQUISTION)
NO ACCESS (BY STATUTORY AUTHORITY)
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
PARCEL NUMBER (102)
UTILITY PARCEL NUMBER (92)
SIGN NUMBER (OFF PREMISE) (21-)
BUILDING
FOUND IRON PIPE/PIN LS (1" UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN ISIGN
SECTION CORNER SYMBOL

ACCESS POINT/ DRIVEWAY CONNECTION	AP
ACCESS RIGHTS	AR
ACRES	AC.
AND OTHERS	ET.AL.
CENTERLINE	C/L
CERTIFIED SURVEY MAP	CSM
DOCUMENT	DOC.
HIGHWAY EASEMENT	H.E.
LAND CONTRACT	LC
MONUMENT	MON.
PAGE	P.
PERMANENT LIMITED EASEMENT	PLE
PROPERTY LINE	PL
RECORDED AS	(100')
REFERENCE LINE	R/L
REMAINING	REM.
RIGHT-OF-WAY	R/W
SECTION	SEC.
SQUARE FEET	SQ.FT.
STATION	STA.
TEMPORARY LIMITED EASEMENT	TLE
VOLUME	V.

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

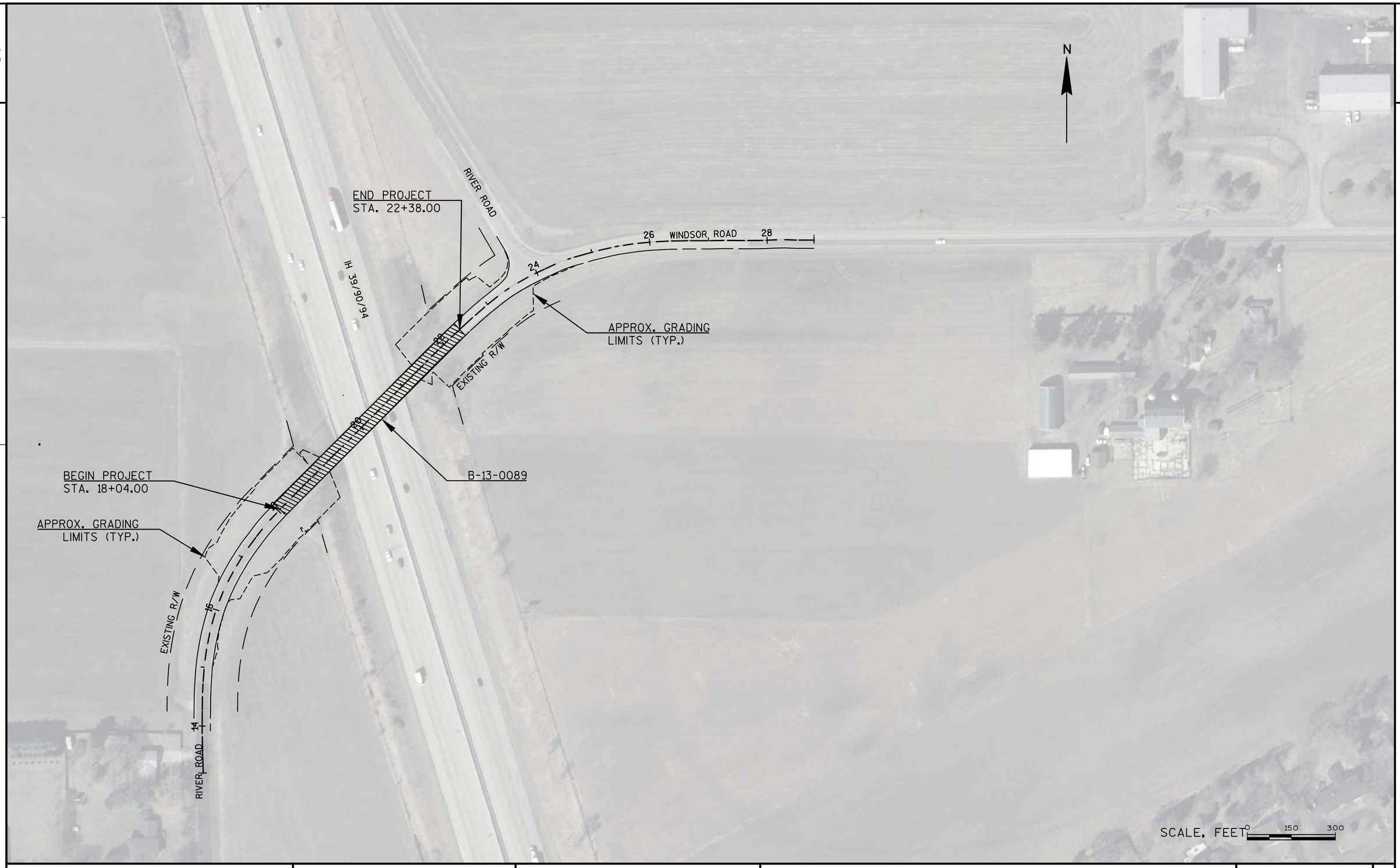
	NON COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	GENERAL NOTES	SHEET 2	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\020101_GN.DWG PLOT DATE : 2/15/2017 9:31 PM PLOT BY : SIMPSON, JAMES L PLOT NAME :

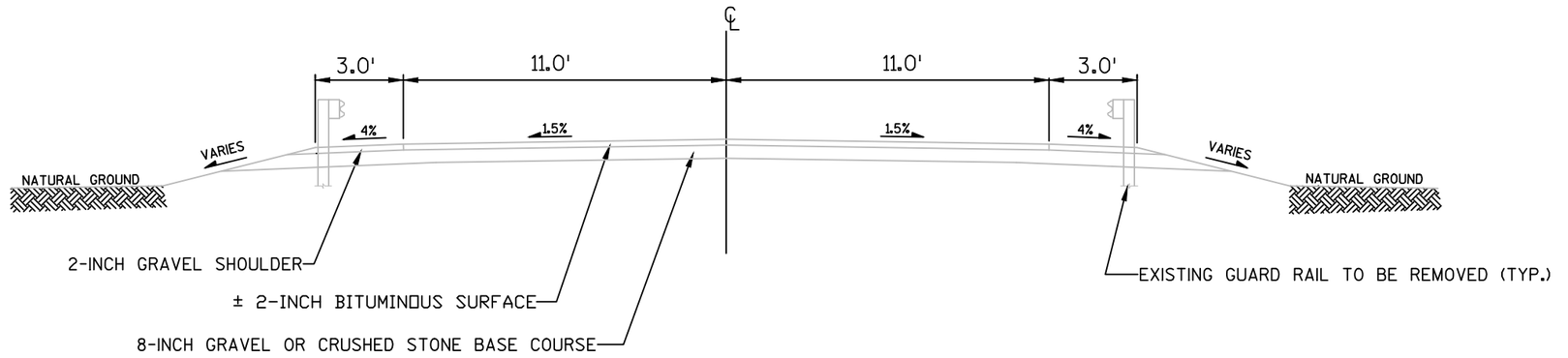
WISDOT/CADDS SHEET 42

2



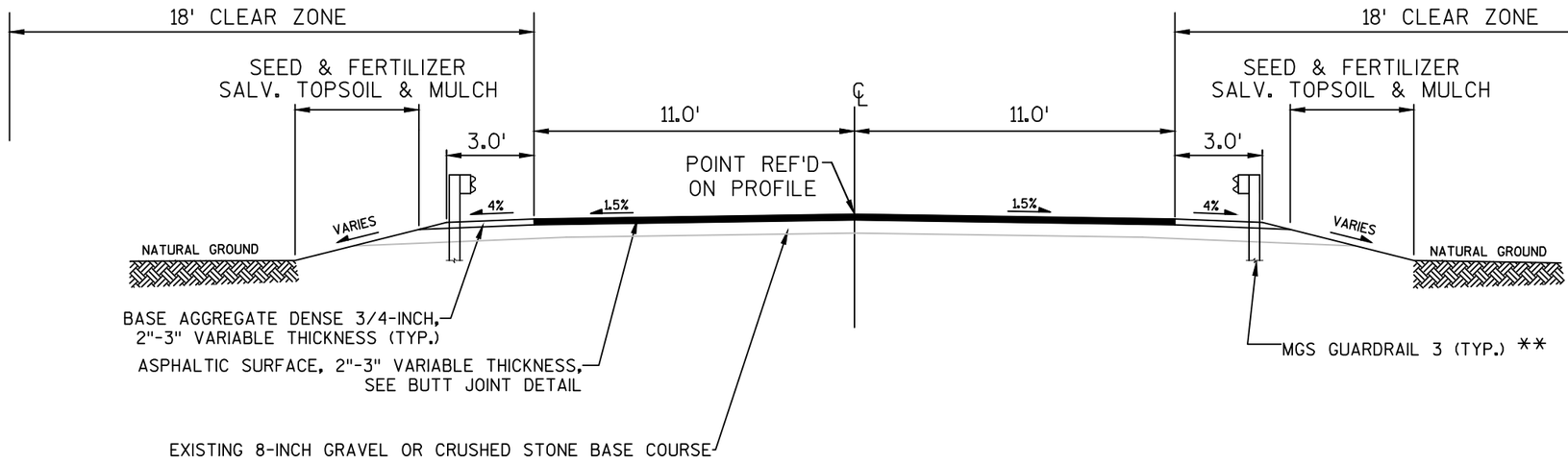
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	PROJECT OVERVIEW	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\020201_PO.DWG PLOT DATE : 5/1/2016 3:09 PM PLOT BY : BAILEY, RYAN R PLOT NAME :
WISDOT/CADDS SHEET 42



TYPICAL EXISTING SECTION - RIVER ROAD

RIVER ROAD
STA. 18+04 - STA. 19+05
STA. 21+37 - STA. 22+36



TYPICAL PROPOSED SECTION - RIVER ROAD

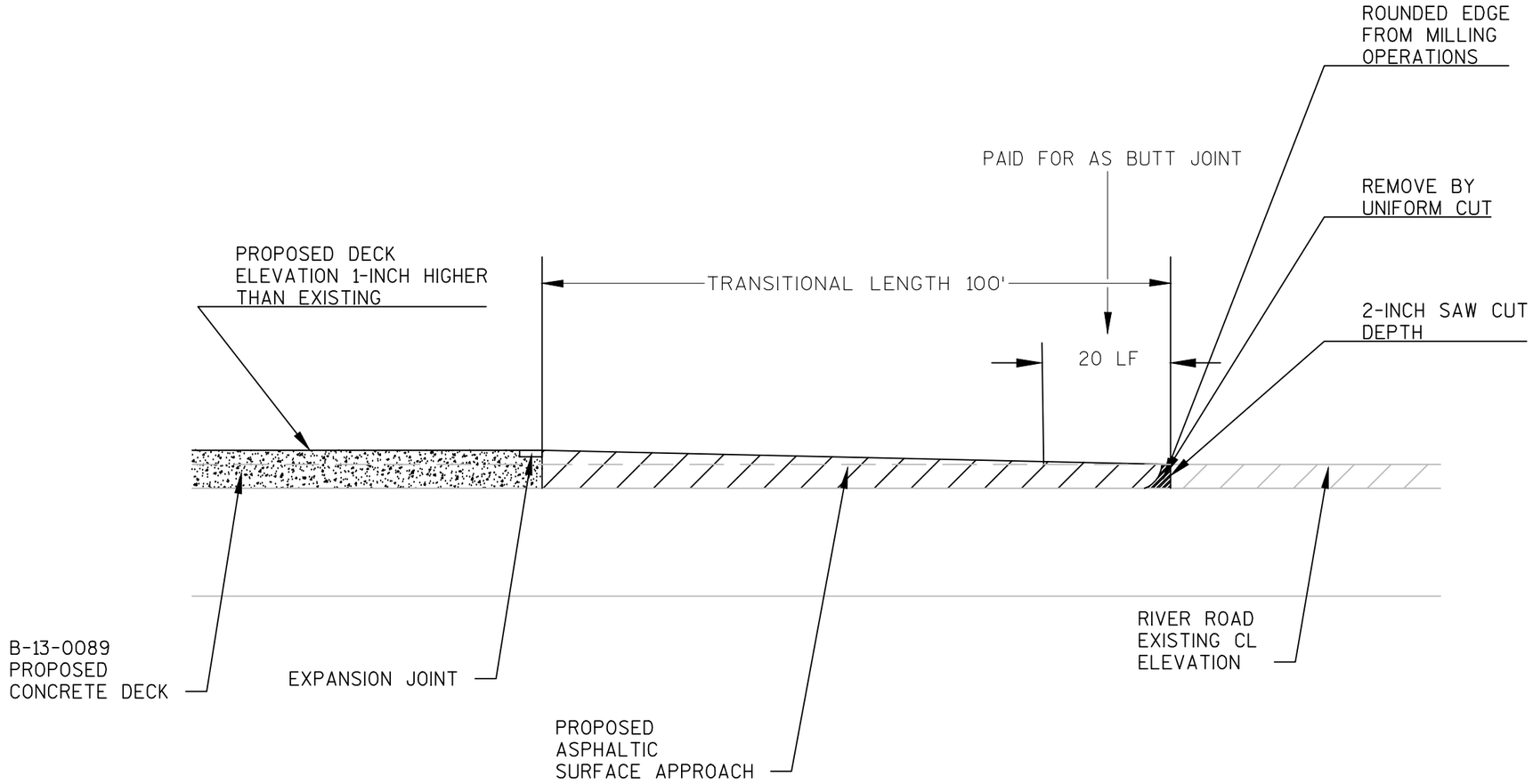
RIVER ROAD
STA. 18+04 - STA. 19+05
STA. 21+37 - STA. 22+36

** STA. 17+37 RT - STA. 18+94 RT
STA. 17+41 LT - STA. 19+07 LT
STA. 21+34 RT - STA.22+90 RT
STA. 21+47 LT - 23+01 LT

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	TYPICAL SECTIONS	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\020301_TS.DWG PLOT DATE : 1/18/2017 12:11 PM PLOT BY : BETZEL, LORRAINE L PLOT NAME :
WISDOT/CADDS SHEET 42

2



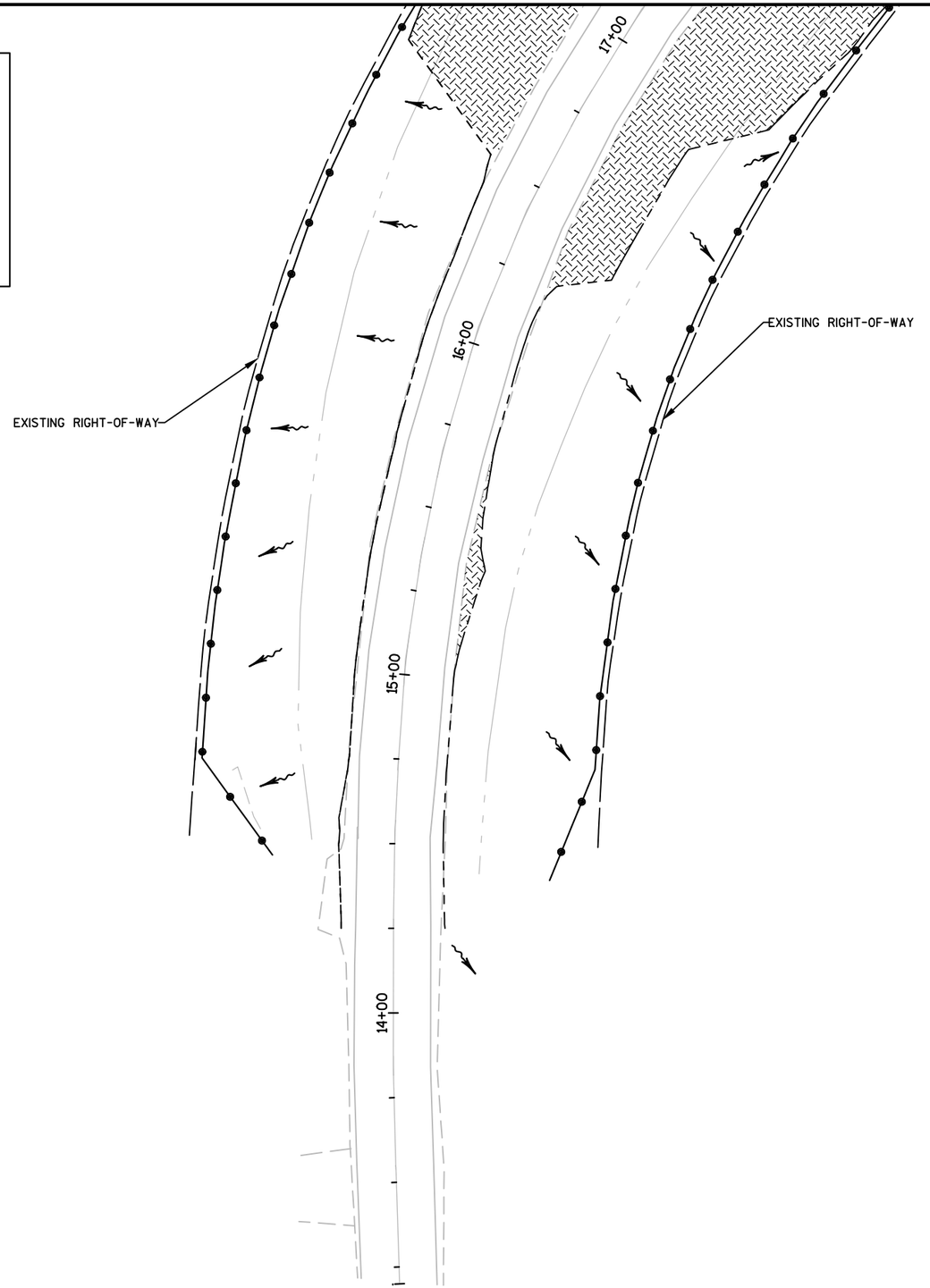
DETAIL OF BUTT JOINT

STA. 18+04 - STA. 19+04
STA. 21+38 - STA. 22+38

2

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- ASPH — ASPHALTIC FLUME
- SURFACE WATER FLOW





2

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\022001_EC.DWG PLOT DATE : 1/19/2017 6:53 PM PLOT BY : SIMPSON, JAMES L PLOT NAME :

WISDOT/CADDS SHEET 42

2

N

ENERGY DISSIPATING RIPRAP AT THE ASPHALTIC FLUMES DISCHARGE POINTS, DIMENSIONS 6'X20'

ENERGY DISSIPATING RIPRAP AT THE ASPHALTIC FLUMES DISCHARGE POINTS, DIMENSIONS 6'X20'

THE FLUMES' ORIENTATION CAN BE MODIFIED IN THE FIELD BY THE ENGINEER

ENERGY DISSIPATING RIPRAP AT THE ASPHALTIC FLUMES DISCHARGE POINTS, DIMENSIONS 6'X20'

EXISTING RIGHT-OF-WAY

ASPH

ASPH

ASPH

21+00

20+00

19+00

18+00

17+00

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- ASPH — ASPHALTIC FLUME
- SURFACE WATER FLOW

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET 7 E

2

N

EXISTING RIGHT-OF-WAY

24+00

25+00

26+00

27+00

23+00

22+00

21+00

EXISTING RIGHT-OF-WAY

ENERGY DISSIPATING RIPRAP AT THE ASPHALTIC FLUMES DISCHARGE POINTS, DIMENSIONS 6'X20'

ASPH

ASPH

THE FLUMES' ORIENTATION CAN BE MODIFIED IN THE FIELD BY THE ENGINEER

ENERGY DISSIPATING RIPRAP AT THE ASPHALTIC FLUMES DISCHARGE POINTS, DIMENSIONS 6'X20'

LEGEND

- EROSION MAT CLASS I TYPE A
- SILT FENCE
- RIP RAP
- SLOPE INTERCEPT
- ASPH — ASPHALTIC FLUME
- SURFACE WATER FLOW

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	EROSION CONTROL	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\022001_EC.DWG PLOT DATE : 1/19/2017 6:54 PM PLOT BY : SIMPSON, JAMES L PLOT NAME :

N

SIGNING LEGEND

- PROPOSED SIGN MOUNTED ON WOOD POST
- PROPOSED TWO SIGNS MOUNTED ON ONE WOOD POST
- EXISTING SIGN MOUNTED ON POST(S)
- (X-X) DENOTES SIGN NUMBER

WINDSOR RD
RIVER RD
EXISTING SIGNS AND SUPPORT TO REMAIN

RIVER ROAD

STOP
EXISTING SIGN AND SUPPORT TO REMAIN

WINDSOR ROAD
25+00
26+00
27+00
28+00

R-3
R-4
35 M.P.H.
REMOVE

REMOVE
R-5

24+00

W11-1
30"X30"
I-12

SHARE THE ROAD
I-13
W16-1P
18"X24"

W5-52R
12"X36"
I-11

23+00
22+00
21+00

REMOVE
R-11

SPEED LIMIT 35
EXISTING SIGN AND SUPPORT TO REMAIN

I-20
W01-7
48"X24"

REMOVE
R-10

I-19
W5-52L
12"X36"

END PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)

I-10
W5-52L
12"X36"

20+00
19+00

I-8
I-9
W1-8
18"X24"

18+00

I-18
W5-52R
12"X36"

REMOVE
R-9

I-6
I-7
W1-8
18"X24"

17+00

R-8
R-7
35 M.P.H.
REMOVE

W11-1
30"X30"
I-16

I-4
I-5
W1-8
18"X24"

16+00

I-15
ALTERNATE SIDE PARKING REGULATIONS IN EFFECT NOV. 15 1 AM - 10 AM
RELOCATE EXISTING SIGN AND SUPPORT

I-17
SHARE THE ROAD
W16-1P
18"X24"

R12-1
24"X30"
WEIGHT LIMIT 8 TONS
WEIGHT LIMIT ENFORCED YEAR ROUND
I-2
I-3
RELOCATE EXISTING SIGN AND SUPPORT

15+00

BEGIN PAVEMENT MARKING 4-INCH EPOXY (DOUBLE YELLOW)

SPEED LIMIT 45
REMOVE
R-2

SPEED LIMIT 35
REMOVE
R-6

SPEED LIMIT 45
I-1
R2-1
24"X30"

14+00
RIVER ROAD

I-14
SPEED LIMIT 35
R2-1
24"X30"

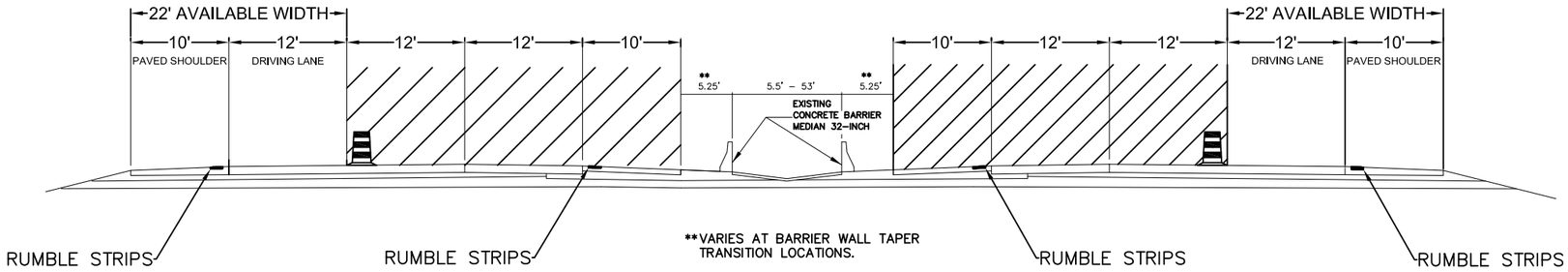
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	PAVEMENT MARKING AND SIGNING	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\023201_PS.DWG
PLOT DATE : 5/1/2016 3:10 PM
PLOT BY : BAILEY, RYAN R
PLOT NAME :
WISDOT/CADDS SHEET 42

2

WB

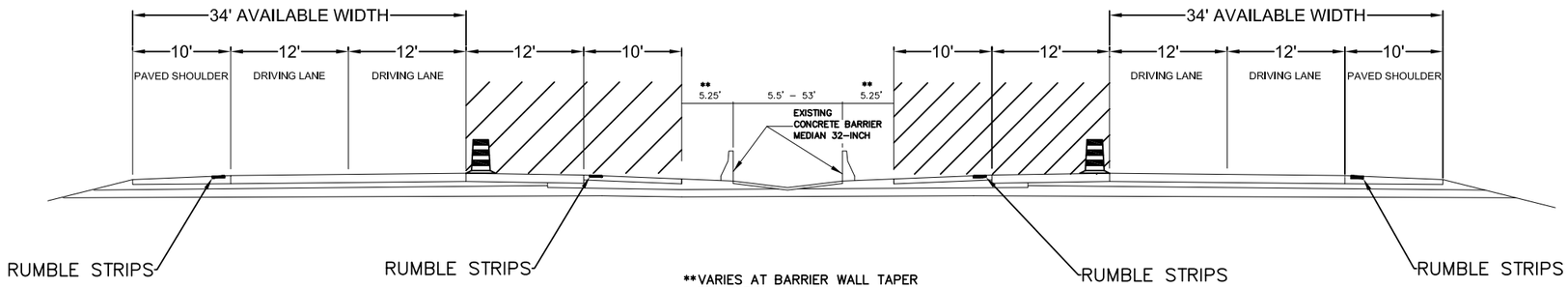
EB



**VARIES AT BARRIER WALL TAPER TRANSITION LOCATIONS.

I–39 TWO LANES CLOSURE

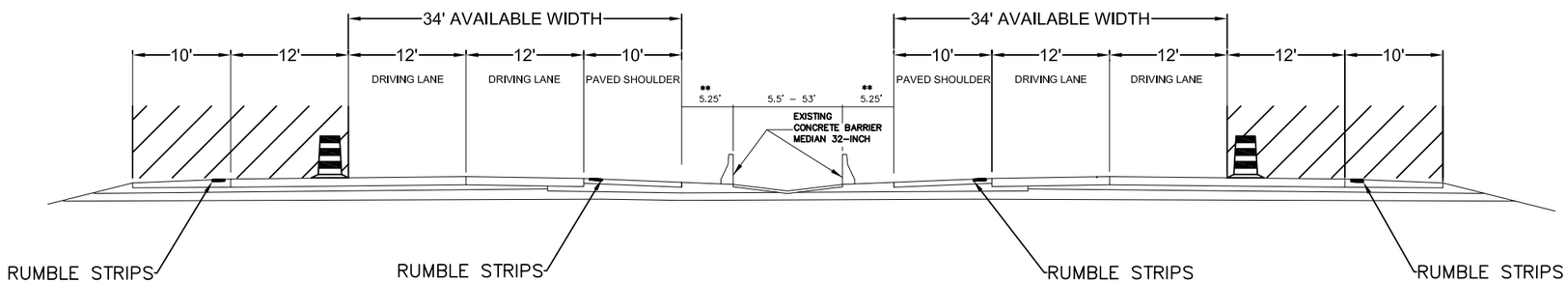
(USED FOR DEBRIS CONTAINMENT INSTALL)



**VARIES AT BARRIER WALL TAPER TRANSITION LOCATIONS.

I–39 ONE LANE CLOSURE

(USED FOR WORK ON CENTER PIER)



**VARIES AT BARRIER WALL TAPER TRANSITION LOCATIONS.

I–39 ONE LANE CLOSURE

(USED FOR WORK ON EDGE PIERS AND DEBRIS CONTAINMENT INSTALL)

LEGEND

WORK ZONE

TRAFFIC CONTROL DRUM

PROJECT NO: 1011–04–79	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL	SHEET E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\LANE CLOSURE DETAIL.DWG PLOT DATE : 5/1/2016 6:05 PM PLOT BY : CIOBANU, STEFAN PLOT NAME :

2

IH 39 LANE CLOSURE SCHEDULE		
TIME	LANE CLOSURE	DAY
9:00 PM- 5:00AM	1 LANE CLOSURE ALLOWED IN EACH DIRECTION	MONDAY THRU THURSDAY
10:00 PM - 5:00 AM	1 LANE CLOSURE ALLOWED IN EACH DIRECTION	SUNDAY PM THRU MONDAY AM

ALL SIGNS TO HAVE STANDARD REFLECTIVE SHEETING.

THE ENGINEER SHALL VERIFY THE EXACT FIELD LOCATION OF THE NEW SIGNS BEFORE PLACEMENT.

POSTS SHALL MEET THE BREAKAWAY REQUIREMENTS OF SECTION 643.2.9.1 OF THE STANDARD SPECIFICATIONS AND SIGN PLATE A4-11.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED OR AS PROVIDED FOR IN THE SDD'S.

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

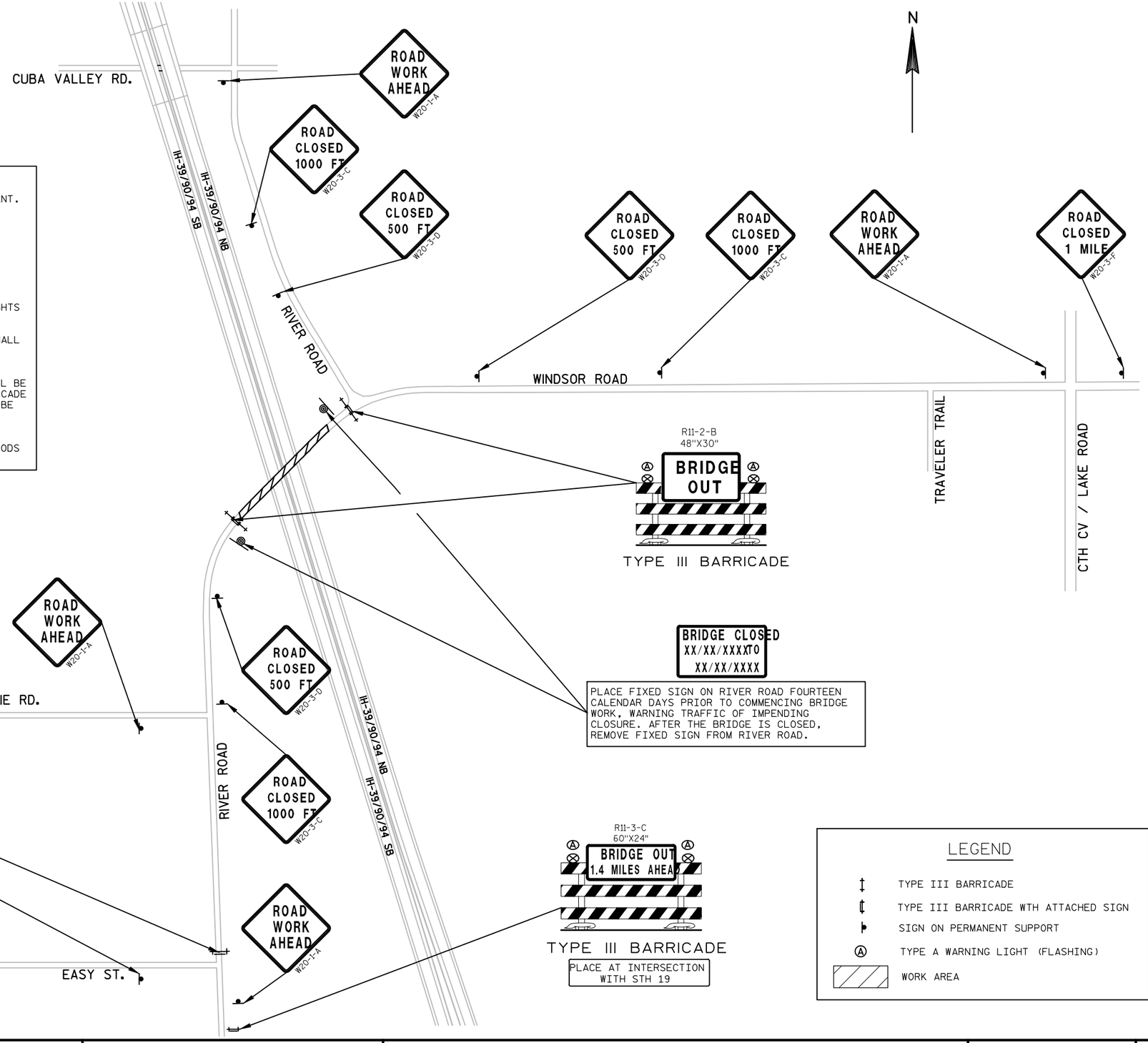
ANY SIGNS, TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. WARNING LIGHTS SHALL NOT BE WORKING ON COVERED OR PURPOSELY "DOWNED" SIGNS OR BARRICADES.

DETAILS OF TRAFFIC CONTROL DEVICES AND THEIR LOCATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE WISCONSIN MANUAL OF TRAFFIC CONTROL DEVICES, THE PLANS, SPECIFICATIONS AND CONTRACT.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN ON THE ROAD CLOSURE BARRICADE DETAIL FOR FULL ROAD CLOSURES. TYPE A LOW INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

DRAWING SHOWS TRAFFIC CONTROL FOR A TYPICAL SITUATION. ADDITIONAL TRAFFIC CONTROL DEVICES MAY BE REQUIRED AND/OR DETAILS MODIFIED DEPENDING ON THE CONTRACTOR'S METHODS OR SEQUENCE OF OPERATIONS.

INSTALL TRAFFIC CONTROL ON IH-39/90/94 PER S.D.D. 15 D 14-3 "TRAFFIC CONTROL TWO LANE CLOSURE ON FREEWAY OR EXPRESSWAY, SHORT TERM (LESS THAN 24 HOURS)



PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL	SHEET 11	E

1011-04-79

Line	Item	Item Description	Unit	Total	Qty
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0050	203.0225.S	Debris Containment (structure) 02. B-13-0089	LS	1.000	1.000
0070	204.0115	Removing Asphaltic Surface Butt Joints	SY	100.000	100.000
0080	204.0120	Removing Asphaltic Surface Milling	SY	410.000	410.000
0100	204.0165	Removing Guardrail	LF	1,000.000	1,000.000
0110	204.0170	Removing Fence	LF	200.000	200.000
0170	208.0100	Borrow	CY	1,670.000	1,670.000
0210	213.0100	Finishing Roadway (project) 02. 1011-04-79	EACH	1.000	1.000
0220	305.0110	Base Aggregate Dense 3/4-Inch	TON	60.000	60.000
0250	305.0500	Shaping Shoulders	STA	4.000	4.000
0330	455.0605	Tack Coat	GAL	36.000	36.000
0360	465.0105	Asphaltic Surface	TON	72.000	72.000
0380	465.0310	Asphaltic Curb	LF	216.000	216.000
0390	465.0315	Asphaltic Flumes	SY	58.000	58.000
0410	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 01. 2-Inch Wide	LF	31.000	31.000
0420	502.2000	Compression Joint Sealer Preformed Elastomeric (width) 02. 3-Inch Wide	LF	62.000	62.000
0430	502.3100	Expansion Device (structure) 01. B-13-0089	LS	1.000	1.000
0440	502.3200	Protective Surface Treatment	SY	623.000	623.000
0460	502.4108	Adhesive Anchors 1-inch	EACH	12.000	12.000
0490	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	1,380.000	1,380.000
0500	506.0605	Structural Steel HS	LB	115.000	115.000
0520	506.2610	Bearing Pads Elastomeric Laminated	EACH	11.000	11.000
0540	506.5000	Bearing Assemblies Fixed (structure) 01. B-13-0089	EACH	11.000	11.000
0550	506.7050.S	Removing Bearings (structure) 01. B-13-0089	EACH	22.000	22.000
0560	509.0301	Preparation Decks Type 1	SY	10.000	10.000
0570	509.0302	Preparation Decks Type 2	SY	5.000	5.000
0580	509.0500	Cleaning Decks	SY	311.000	311.000
0590	509.1000	Joint Repair	SY	35.000	35.000
0600	509.1500	Concrete Surface Repair	SF	115.000	115.000
0610	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0620	509.2500	Concrete Masonry Overlay Decks	CY	48.000	48.000
0640	509.9005.S	Removing Concrete Masonry Deck Overlay (structure) 01. B-13-0089	SY	311.000	311.000
0780	604.9015.S	Reseal Crushed Aggregate Slope Paving	SY	325.000	325.000
0800	606.0200	Riprap Medium	CY	20.000	20.000
0870	614.2300	MGS Guardrail 3	LF	265.000	265.000
0880	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000

1011-04-79

Line	Item	Item Description	Unit	Total	Qty
0890	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0900	616.0100	Fence Woven Wire (height) 01. 4-Ft	LF	200.000	200.000
0930	619.1000	Mobilization	EACH	0.100	0.100
0950	624.0100	Water	MGAL	1.000	1.000
0960	625.0100	Topsoil	SY	410.000	410.000
0970	625.0500	Salvaged Topsoil	SY	4,100.000	4,100.000
0980	627.0200	Mulching	SY	4,100.000	4,100.000
1000	628.1504	Silt Fence	LF	1,890.000	1,890.000
1010	628.1520	Silt Fence Maintenance	LF	3,780.000	3,780.000
1020	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
1030	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
1050	628.2002	Erosion Mat Class I Type A	SY	4,500.000	4,500.000
1110	629.0210	Fertilizer Type B	CWT	3.000	3.000
1120	630.0120	Seeding Mixture No. 20	LB	105.000	105.000
1150	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	10.000	10.000
1170	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	2.000	2.000
1180	637.2210	Signs Type II Reflective H	SF	16.000	16.000
1190	637.2230	Signs Type II Reflective F	SF	50.500	50.500
1200	638.2102	Moving Signs Type II	EACH	3.000	3.000
1210	638.2602	Removing Signs Type II	EACH	11.000	11.000
1220	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
1230	638.4000	Moving Small Sign Supports	EACH	3.000	3.000
1240	642.5201	Field Office Type C	EACH	0.100	0.100
1260	643.0100	Traffic Control (project) 02. 1011-04-79	EACH	1.000	1.000
1270	643.0300	Traffic Control Drums	DAY	414.000	414.000
1280	643.0420	Traffic Control Barricades Type III	DAY	352.000	352.000
1290	643.0705	Traffic Control Warning Lights Type A	DAY	688.000	688.000
1300	643.0715	Traffic Control Warning Lights Type C	DAY	150.000	150.000
1310	643.0800	Traffic Control Arrow Boards	DAY	12.000	12.000
1320	643.0900	Traffic Control Signs	DAY	748.000	748.000
1330	643.1000	Traffic Control Signs Fixed Message	SF	39.000	39.000
1340	643.1050	Traffic Control Signs PCMS	DAY	32.000	32.000
1380	645.0120	Geotextile Type HR	SY	70.000	70.000
1400	646.0106	Pavement Marking Epoxy 4-Inch	LF	865.000	865.000
1490	650.8000	Construction Staking Resurfacing Reference	LF	200.000	200.000
1510	650.9910	Construction Staking Supplemental Control (project) 02. 1011-04-79	LS	1.000	1.000
1520	650.9920	Construction Staking Slope Stakes	LF	995.000	995.000
1530	690.0150	Sawing Asphalt	LF	45.000	45.000
1570	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	300.000	300.000

1011-04-79

Line	Item	Item Description	Unit	Total	Qty
1580	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	175.000	175.000
1610	SPV.0060	Special 01. Cleaning and Painting Bearings.	EACH	11.000	11.000

3

CLEARING AND GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	CLEARING 201.0105 STA	GRUBBING 201.0205 STA	REMARKS
0010	18+05	-	19+05	LT	1	1	
0010	18+05	-	19+05	RT	1	1	
0010	21+36	-	22+36	LT	1	1	
0010	21+36	-	22+36	RT	1	1	
				TOTAL 0010	4	4	

REMOVALS

CATEGORY	STATION	TO	STATION	LOCATION	REMOVING ASPHALTIC SURFACE BUTT JOINTS 204.0115 SY	REMOVING ASPHALTIC SURFACE MILLING 204.0120 SY	REMOVING GUARDRAIL 204.0165 LF	REMOVING FENCE 204.0170 LF	REMARKS
0010	14+59	-	19+07	LT	-	-	448	-	
0010	17+87	-	18+94	RT	-	-	108	-	
0010	18+05	-	18+25	WEST APPROACH	49	-	-	-	
0010	18+25	-	19+05	WEST APPROACH	-	204	-	-	
0010	18+99	-	18+99	RT	-	-	-	50	
0010	19+13	-	19+13	LT	-	-	-	50	
0010	21+29	-	21+29	RT	-	-	-	50	
0010	21+34	-	23+85	RT	-	-	251	-	
0010	21+36	-	22+16	EAST APPROACH	-	204	-	-	
0010	21+46	-	21+46	LT	-	-	-	50	
0010	21+47	-	23+41	LT	-	-	193	-	
0010	22+23	-	22+43	EAST APPROACH	49	-	-	-	
				TOTAL 0010	100	410	1000	200	

3

ASPHALT ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	TACK COAT 455.0605 GAL	ASPHALTIC SURFACE 465.0105 TON	ASPHALTIC CURB 465.0310 LF	ASPHALTIC FLUMES 465.0315 SY	SAWING ASPHALT 690.0150 LF	REMARKS
0010	18+05	-	18+05	RIVER ROAD	-	-	-	-	22	
0010	18+05	-	19+05	RT/LT	18	36	-	-	-	
0010	18+48	-	18+92	RT	-	-	44	-	-	
0010	18+48	-	18+48	RT	-	-	10	16	-	
0010	18+61	-	18+61	LT	-	-	10	12	-	
0010	18+61	-	19+05	LT	-	-	44	-	-	
0010	21+37	-	22+37	RT/LT	18	36	-	-	-	
0010	21+37	-	21+81	RT	-	-	44	-	-	
0010	21+50	-	21+94	LT	-	-	44	-	-	
0010	21+81	-	21+81	RT	-	-	10	15	-	
0010	21+94	-	21+94	LT	-	-	10	15	-	
0010	22+37	-	22+37	RIVER ROAD	-	-	-	-	22	
				TOTAL 0010	36	72	216	58	45	

3

BORROW

CATEGORY	STATION TO STATION	LOCATION	BORROW 208.0100 CY	REMARKS
0010	14+25.000	LT/RT	0.5	
0010	14+50.000	LT/RT	0.9	
0010	14+75.000	LT/RT	0.6	
0010	15+00.000	LT/RT	0.3	
0010	15+25.000	LT/RT	0.6	
0010	15+50.000	LT/RT	0.7	
0010	15+75.000	LT/RT	0.5	
0010	16+00.000	LT/RT	0.4	
0010	16+25.000	LT/RT	0.5	
0010	16+50.000	LT/RT	4.4	
0010	16+75.000	LT/RT	32	
0010	17+00.000	LT/RT	55	
0010	17+25.000	LT/RT	72	
0010	17+50.000	LT/RT	98	
0010	17+75.000	LT/RT	101	
0010	18+00.000	LT/RT	96	
0010	18+25.000	LT/RT	105	
0010	18+50.000	LT/RT	119	
0010	18+75.000	LT/RT	100	
0010	19+00.000	LT/RT	46	
0010	19+25.000	LT/RT	8.1	
0010	21+50.000	LT/RT	22	
0010	21+75.000	LT/RT	58	
0010	22+00.000	LT/RT	76	
0010	22+25.000	LT/RT	80	
0010	22+50.000	LT/RT	84	
0010	22+75.000	LT/RT	92	
0010	23+00.000	LT/RT	107	
0010	23+25.000	LT/RT	86	
0010	23+50.000	LT/RT	45	
0010	23+75.000	LT/RT	20	
0010	24+00.000	LT/RT	0.4	
0010	24+25.000	LT/RT	0.3	
0010	24+50.000	LT/RT	0.2	
0010	24+75.000	LT/RT	0.1	
		TOTAL	1513	
		UNDISTRIBUTED	157	
		TOTAL 0010	1670	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	RIPRAP MEDIUM 606.0200 CY	SILT FENCE 628.1504 LF	SILT FENCE MAINTENANCE 628.1520 LF	MOBILIZATION EROSION CONTROL 628.1905 EACH	MOBILIZATION EMERGENCY EROSION CONTROL 628.1910 EACH	EROSION MAT CLASS I TYPE A 628.2002 SY	GEOTEXTILE FABRIC TYPE HR 645.0120 SY	REMARKS
0010	14+40	-	23+75	PROJECT	-	-	-	5	1	-	-	
0010	14+40	-	18+97	RT	-	519	1037	-	-	1074	-	
0010	14+46	-	19+13	LT	-	647	1295	-	-	1294	-	
0010		18+87		RT	4.5	-	-	-	-	-	16	
0010		19+00		LT	4.5	-	-	-	-	-	16	
0010	21+17	-	24+64	RT	-	423	846	-	-	1133	-	
0010	21+29	-	23+51	LT	-	301	603	-	-	1007	-	
0010		21+41		RT	4.5	-	-	-	-	-	16	
0010		21+53		LT	4.5	-	-	-	-	-	16	
				TOTAL 0010	20	1890	3780	5	1	4500	70	

GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	MGS GUARDRAIL 3 614.2300 LF	THRIE BEAM TRANSITION 614.2500 LF	GUARDRAIL TERMINAL EAT 614.2610 EACH	REMARKS
0010	17+38	-	17+91	LT	-	-	1	
0010	17+39	-	17+92	RT	-	-	1	
0010	17+51	-	17+91	LT	-	40	-	
0010	17+52	-	17+92	RT	-	40	-	
0010	17+91	-	18+66	LT	75	-	-	
0010	17+92	-	18+55	RT	63	-	-	
0010	21+45	-	21+85	LT	-	40	-	
0010	21+85	-	22+48	LT	63	-	-	
0010	21+34	-	21+74	RT	-	40	-	
0010	21+74	-	22+37	RT	63	-	-	
0010	22+37	-	22+90	RT	-	-	1	
	22+48	-	23+01	LT	-	-	1	
				TOTAL 0010	265	160	4	

TRAFFIC CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	TRAFFIC CONTROL (1011-04-79) 643.0100 EACH	TRAFFIC CONTROL DRUMS 643.0300 DAY	TRAFFIC CONTROL BARRICADES TYPE III 643.0420 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A 643.0705 DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE C 643.0715 DAY	TRAFFIC CONTROL ARROW BOARDS 643.0800 DAY	TRAFFIC CONTROL SIGNS 643.0900 DAY	TRAFFIC CONTROL SIGNS FIXED MESSAGE 643.1000 SF	TRAFFIC CONTROL SIGNS PCMS 643.1050 DAY	REMARKS
0010	-		-	PROJECT	1	414	-	-	-	-	688	-	-	
0010	-		-	IH 39	-	-	8	-	150	12	60	-	32	
0010	-		-	RIVER ROAD	-	-	344	688	-	-	-	39	-	
				TOTAL 0010	1	414	352	688	150	12	748	39	32	

STAKING

CATEGORY	STATION	TO	STATION	LOCATION	CONSTRUCTION STAKING RESURFACING REFERENCE 650.8000 LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (1011-04-79) 650.9910 LS	CONSTRUCTION STAKING SLOPE STAKES 650.9920 LF	REMARKS
0010				PROJECT	-	1	-	
0010	18+05		19+05	WEST APPROACH	100	-	-	
0010	21+37		22+37	EAST APPROACH	100	-	-	
0010	14+25	-	24+18	RIVER ROAD	-	-	993	
				TOTAL 0010	200	1	995	

FINISHING ROADWAY (PROJECT)

CATEGORY	STATION TO	STATION	LOCATION	FINISHING PROJECT (1011-04-79) 213.0100 EACH	REMARKS
0010			PROJECT	1	
			TOTAL 0010	1	

FIELD OFFICE TYPE C

CATEGORY	STATION TO	STATION	LOCATION	FIELD OFFICE TYPE C 642.5201 EACH	REMARKS
0010			PROJECT	0.1	
			TOTAL 0010	0.1	

WATER

CATEGORY	STATION TO	STATION	LOCATION	WATER 624.0100 MGAL	REMARKS
0010			PROJECT	1	
			TOTAL 0010	1	

SIGN ITEMS

CATEGORY	SIGN #	SIGN CODE	STATION	TO STATION	LOCATION	POSTS WOOD 4X6-INCH X 14-FT 634.0614 EACH	POSTS WOOD 4X6-INCH X 18-FT 634.0618 EACH	SIGNS TYPE TYPE II REFLECTIVE H 637.2210 SF	SIGNS TYPE TYPE II REFLECTIVE F 637.2230 SF	MOVING SIGNS TYPE II 638.2102 EACH	REMOVING SIGNS TYPE II 638.2602 EACH	REMOVING SMALL SIGN SUPPORTS 638.3000 EACH	MOVING SMALL SIGN SUPPORTS 638.4000 EACH	REMARKS
0010	1-1	R2-1	13+75		LT	1	-	5	-	-	-	-	-	SPEED LIMIT 45 MPH
0010	1-14	R2-1	13+75		RT	1	-	5	-	-	1	1	-	SPEED LIMIT 35 MPH
0010	R-1	-	14+60		LT	-	-	-	-	-	1	1	-	BRIDGE HASH MARKS
0010	R-2	-	14+65		LT	-	-	-	-	-	1	1	-	SPEED LIMIT 45 MPH
0010	1-2,3	-	14+75		LT	-	-	-	-	2	-	-	2	WEIGHT LIMIT 8 TONS& WEIGHT LIMIT ENFORCED YEAR ROUND
0010	1-4,5	W1-8	15+50		LT	1	-	-	6	-	-	-	-	CHEVRON
0010	1-15	-	15+70		RT	-	-	-	-	1	-	-	1	ALTERNATE SIDE PARKING REGULATIONS IN EFFECT NOV. 15 1 AM - 10 AM
0010	1-16,17	W11-1 & W16-1P	16+60		RT	-	1	3	6.25	-	-	-	-	BIKE CROSSING & SHARE THE ROAD
0010	1-6,7	W1-8	16+70		LT	1	-	-	6	-	-	-	-	CHEVRON
0010	R7,8	-	17+65		RT	-	-	-	-	-	2	2	-	ROAD CURVES RIGHT & ADVISORY SPEED LIMIT
0010	1-8,9	W1-8	17+80		LT	1	-	-	6	-	-	-	-	CHEVRON
0010	R-9	-	17+85		RT	-	-	-	-	-	1	1	-	BRIDGE HASH MARKS
0010	1-18	W5-52R	19+00		RT	1	-	-	3	-	-	-	-	BRIDGE HASH MARKS
0010	1-10	W5-52L	19+05		LT	1	-	-	3	-	-	-	-	BRIDGE HASH MARKS
0010	1-19	W5-52L	21+30		RT	1	-	-	3	-	-	-	-	BRIDGE HASH MARKS
0010	1-11	W5-52R	21+40		LT	1	-	-	3	-	-	-	-	BRIDGE HASH MARKS
0010	1-12	W11-1 & W16-1P	22+75		LT	-	1	3	6.25	-	-	-	-	BIKE CROSSING & SHARE THE ROAD
0010	R3,4	-	22+85		LT	-	-	-	-	-	2	2	-	ROAD CURVES RIGHT & ADVISORY SPEED LIMIT
0010	R-5	-	23+45		LT	-	-	-	-	-	1	1	-	BRIDGE HASH MARKS
0010	R-10	-	23+80		RT	-	-	-	-	-	1	1	-	BRIDGE HASH MARKS
0010	1-20	W01-7	24+00		RT	1	-	-	8	-	1	1	-	
TOTAL 0010						10	2	16	50.5	3	11	11	3	

PAVEMENT MARKING EPOXY 4-INCH

CATEGORY	STATION TO	STATION	LOCATION	646.0106 LF	REMARKS
0010	18+05	- 22+37	RIVER ROAD	864	
TOTAL 0010				865	

3

LANDSCAPING

CATEGORY	STATION TO	STATION	LOCATION	TOPSOIL 625.0100 SY	SALVAGED TOPSOIL 625.0500 SY	MULCHING 627.0200 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB	REMARKS
0010	-	-	PROJECT	-	-	-	2.6	100	
0010	14+50 -	19+00	LT	118	1176	1176	-	-	15% UNDISTRIBUTED
0010	14+50 -	18+80	RT	98	976	976	-	-	15% UNDISTRIBUTED
0010	17+37 -	17+90	RT	-	-	-	0.02	0.8	EAT
0010	17+41 -	17+94	LT	-	-	-	0.02	0.8	EAT
0010	21+25	23+75	RT	103	1030	1030	-	-	15% UNDISTRIBUTED
0010	21+25 -	23+30	LT	92	915	915	-	-	15% UNDISTRIBUTED
0010	22+37 -	22+90	RT	-	-	-	0.02	0.8	EAT
0010	22+48 -	23+01	LT	-	-	-	0.02	0.8	EAT
			TOTAL 0010	410	4100	4100	3	105	

BASE AGGREGATE DENSE 3/4-INCH

CATEGORY	STATION TO	STATION	LOCATION	305.0110 TON	REMARKS
0010	16+12 -	18+94	RT	13	15% UNDISTRIBUTED
0010	14+59 -	19+07	LT	21	
0010	21+34 -	24+18	RT	13	
0010	21+47 -	0+55	LT	12	End Station On River Road
			TOTAL 0010	60	

SHAPING SHOULDERS

CATEGORY	STATION TO	STATION	LOCATION	SHAPING SHOULDERS 305.0500 STA	REMARKS
0010	18+05 -	19+05	LT/RT	2	
0010	21+37	22+37	LT/RT	2	
			TOTAL 0010	4	

FENCE WOVEN WIRE (HEIGHT)

CATEGORY	STATION TO	STATION	LOCATION	FENCE WOVEN WIRE (4 FEET) 616.0100 LF	REMARKS
0010	-		NW PARAPET END	50	TIE TO EXISTING FENCE
0010	-		SW PARAPET END	50	TIE TO EXISTING FENCE
0010	-		NE PARAPET END	50	TIE TO EXISTING FENCE
0010	-		SE PARAPET END	50	TIE TO EXISTING FENCE
			TOTAL 0010	200	

BENCHMARK TABLE

NO.	STA.	OFFSET	DESCRIPTION	ELEV.
1	18+99.8	12.8' RT	BRASS DISK IN BRIDGE	934.85'

EXISTING RIGHT-OF-WAY
REMOVE AND REPLACE FENCE
SLOPE INTERCEPT
ATC MANAGEMENT INC.
CHARTER COMMUNICATIONS
SB IH 39/90/94
NB IH 39/90/94
CHARTER COMMUNICATIONS
REMOVE AND REPLACE FENCE
EXISTING RIGHT-OF-WAY
SLOPE INTERCEPT
PROPOSED SHOULDER
CHARTER COMMUNICATIONS
N
18+00
11'
3'
19+00
20+00
21+00
3' 22+00
11'
23+00
RIVER ROAD
B-13-0089
RIVER ROAD
BM*1
PROPOSED EDGE OF PAVEMENT
REMOVE AND REPLACE FENCE
EXISTING RIGHT-OF-WAY
SLOPE INTERCEPT
REMOVE AND REPLACE FENCE
AT&T LEGACY
PROPOSED EDGE OF PAVEMENT
PROPOSED SHOULDER
SLOPE INTERCEPT
EXISTING RIGHT-OF-WAY
BEGIN PROJECT
STA. 18+04.00
END PROJECT
STA. 22+38.00
PROPOSED PROFILE AT ℄
EXISTING PROFILE AT ℄
940
930
17
18
19
20
21
22
23
931.02
932.20
933.53
934.39
934.93
935.28
935.51
935.56
935.27
934.69
934.29
933.87
933.48
931.02
932.20
933.57
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933.87
933.48

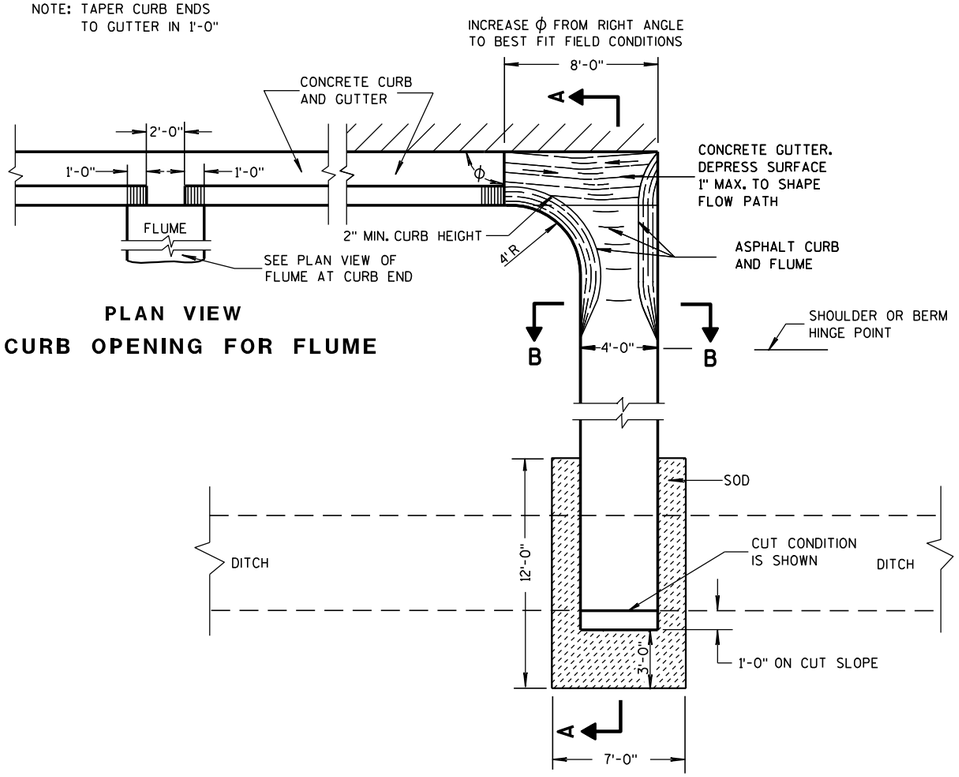
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	PLAN AND PROFILE: RIVER ROAD	SHEET 21	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP
PLOT DATE : 5/1/2016 3:11 PM
PLOT BY : BAILEY, RYAN R
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

Standard Detail Drawing List

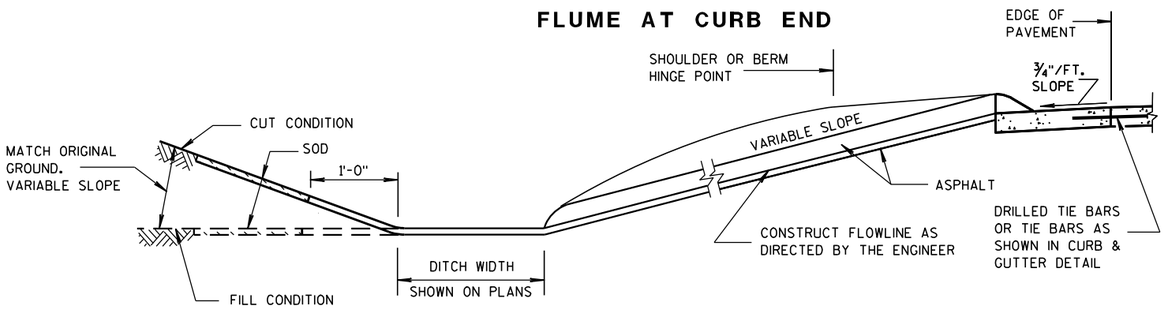
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E09-06	SILT FENCE
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15B01-08A	FENCE WOVEN WIRE
15B01-08B	FENCE WOVEN WIRE
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)

ASPHALTIC FLUME

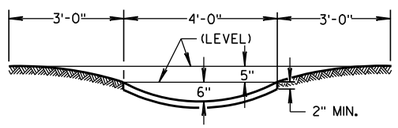


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

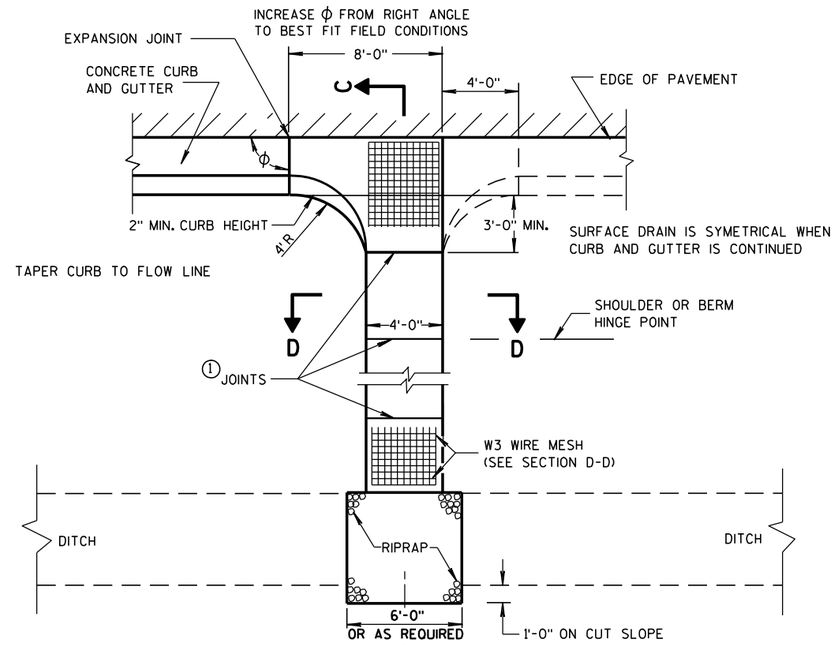
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE ⅛ TO ¼ INCH WIDE BY 1½ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

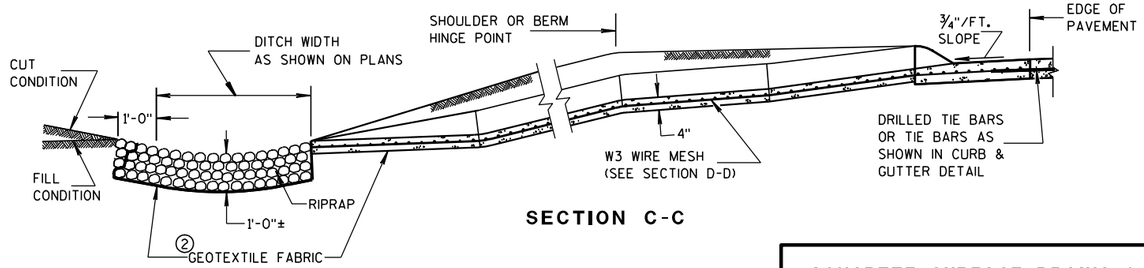
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

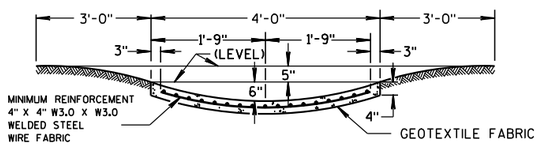
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

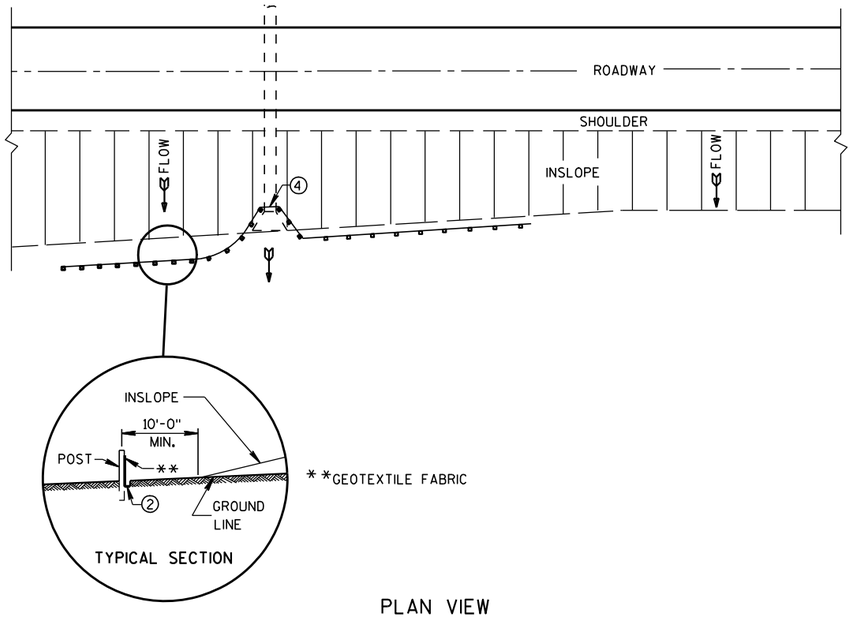
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
MENT
FHWA

6

S.D.D. 8 D 4-5

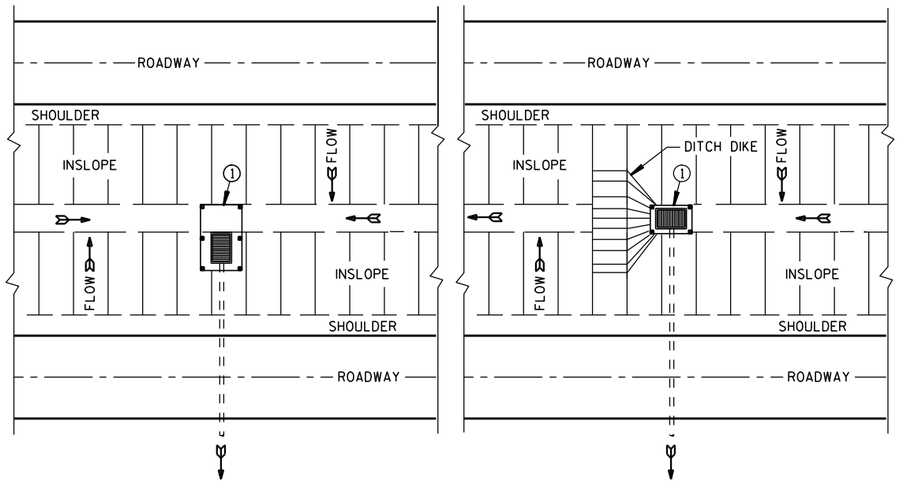
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S.D.D. 8 D 4-5



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

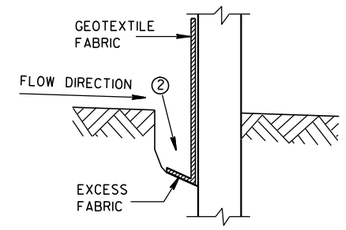
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

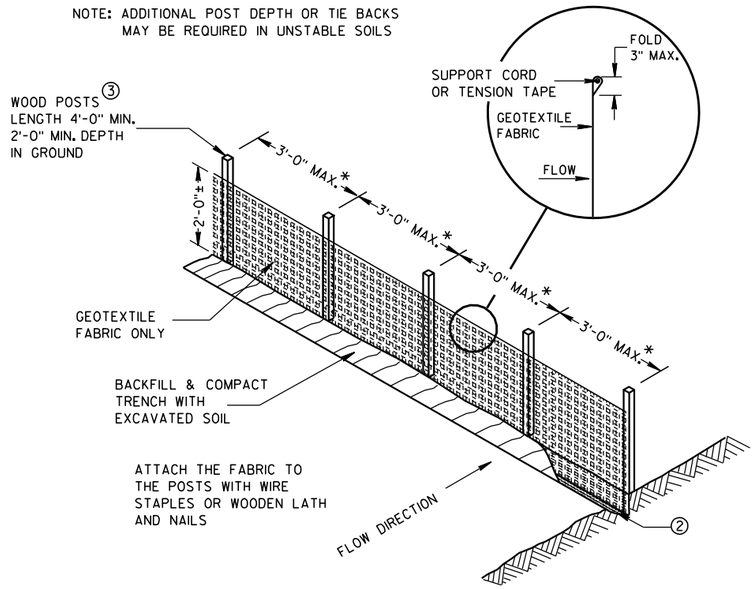
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

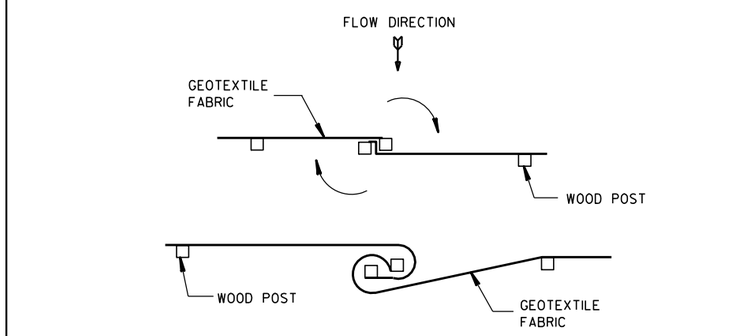
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



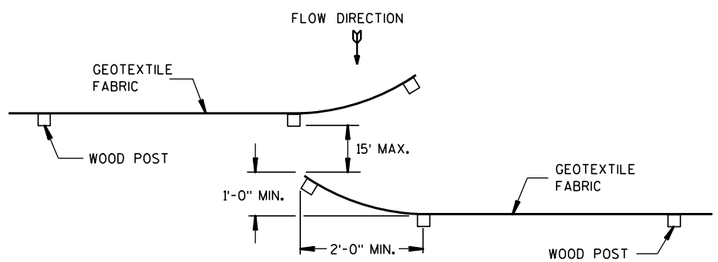
TRENCH DETAIL



SILT FENCE

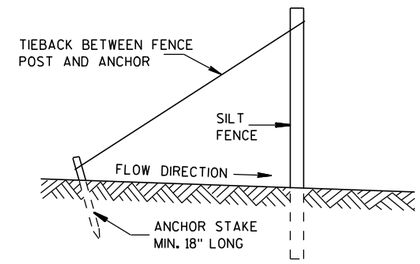


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

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

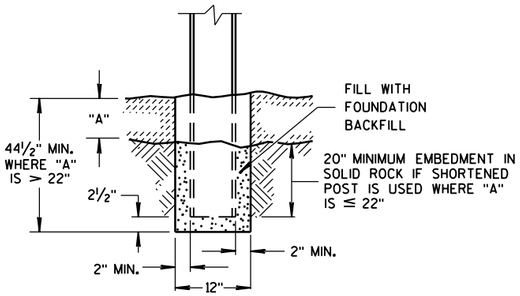
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

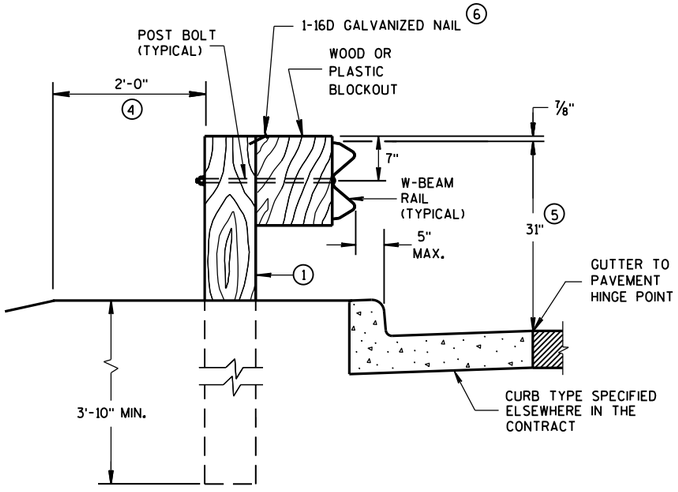
④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



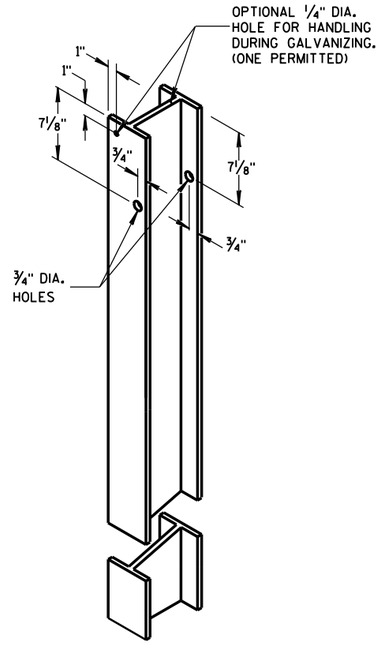
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



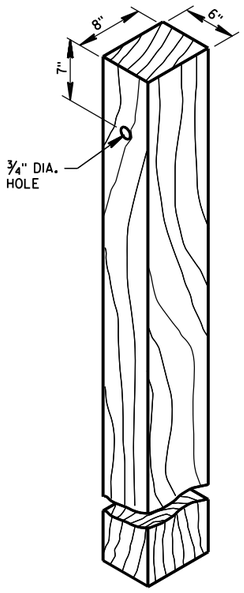
END VIEW
LOCATED ALONG A CURBED ROADWAY

END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

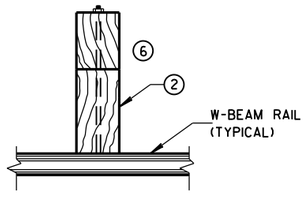
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



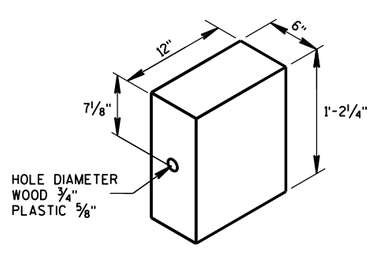
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



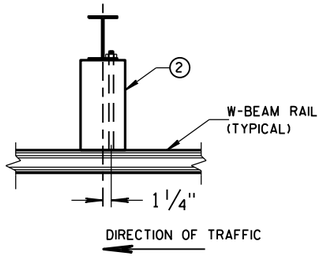
WOOD POST
(6" X 8") NOMINAL ①



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT ②



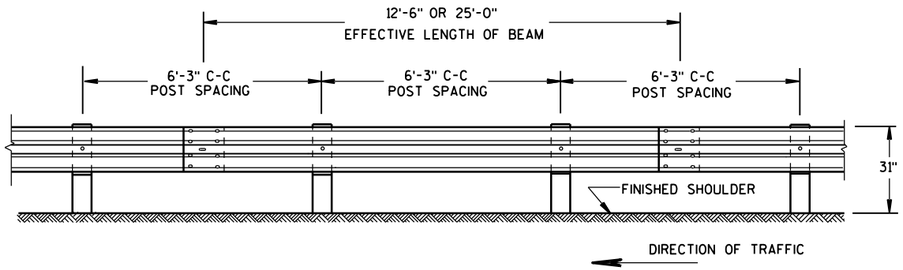
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

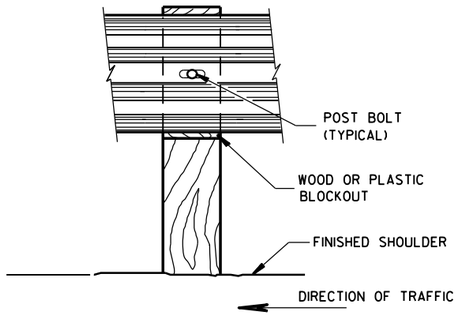
6

S.D.D. 14 B 42-4a



FRONT VIEW

POST SPACING STANDARD INSTALLATION



FRONT VIEW AT WOOD POST

7. PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

8. DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

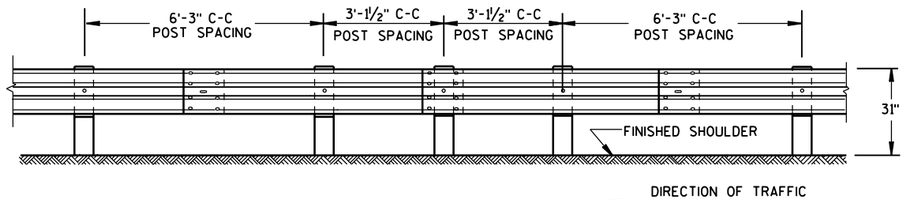
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

10. PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

11. 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

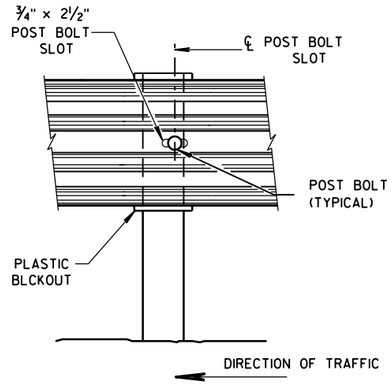
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

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

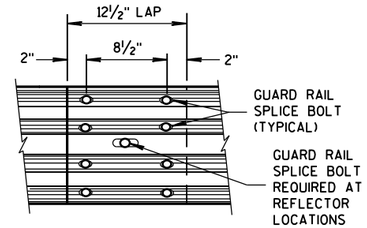


FRONT VIEW

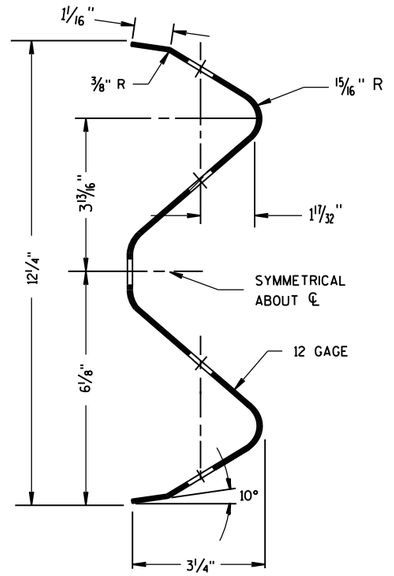
HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



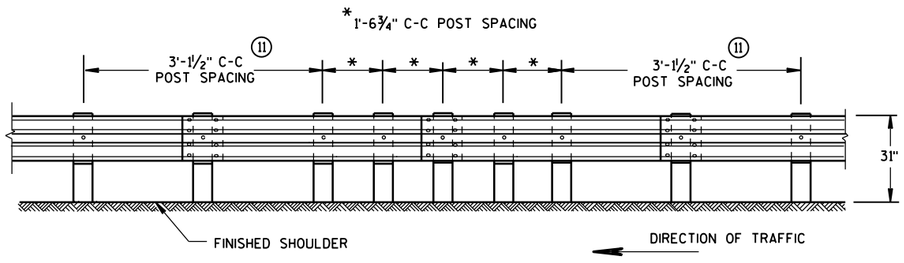
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE

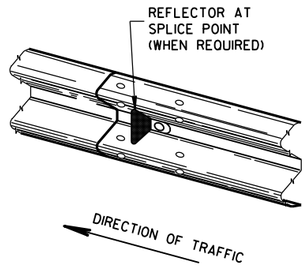


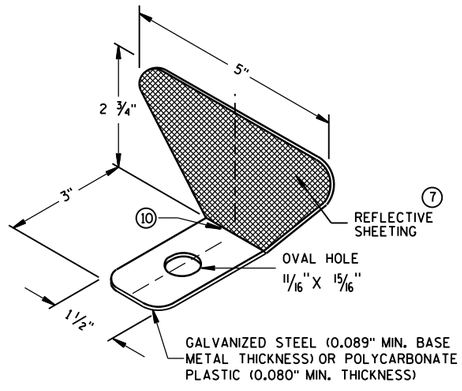
SECTION THRU W-BEAM RAIL



FRONT VIEW

QUARTER POST SPACING (QS)





ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION 7

REFLECTOR SPACING 8

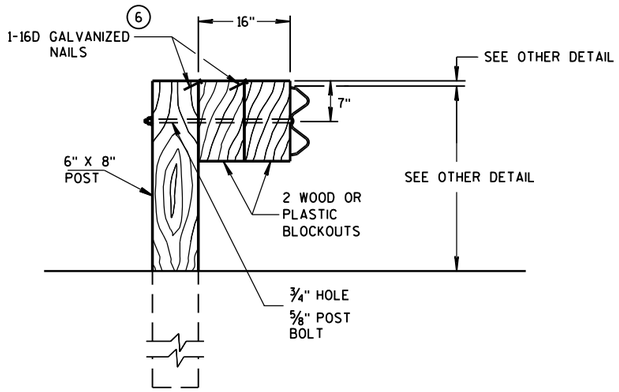
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 9	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 10	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

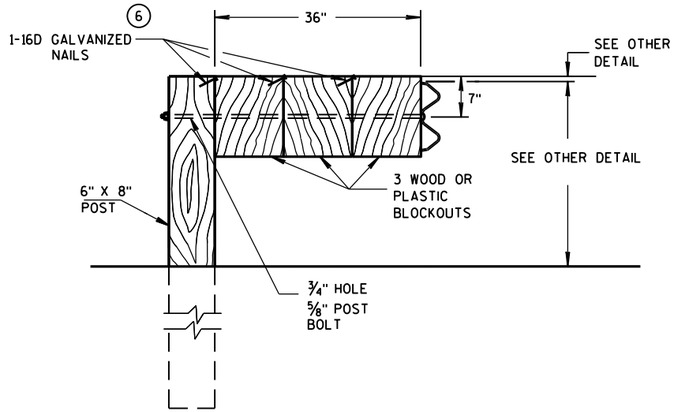
6

S.D.D. 14 B 42-4b



DETAIL FOR 16" BLOCKOUT DEPTH

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

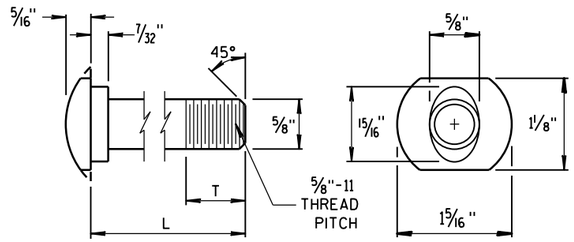


DETAIL FOR 36" BLOCKOUT DEPTH

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

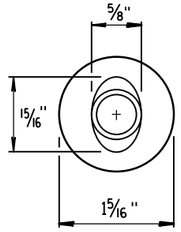
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

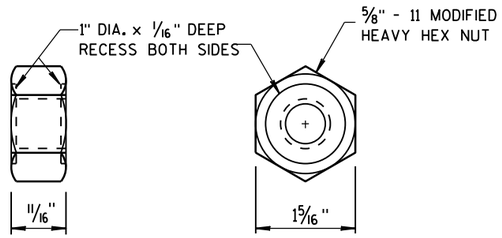


POST BOLT TABLE

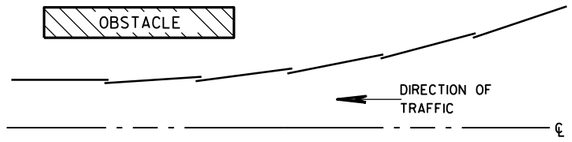
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

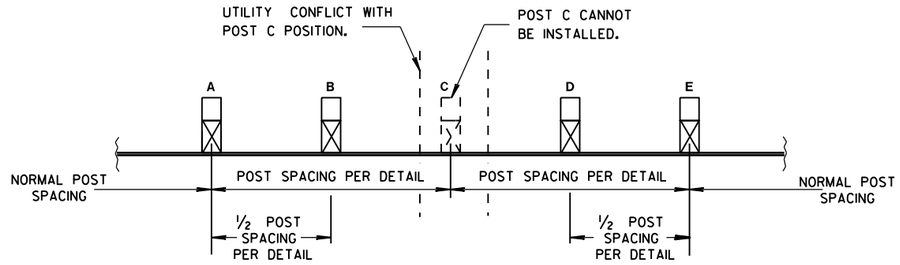


POST BOLT, SPLICE BOLT AND RECESS NUT

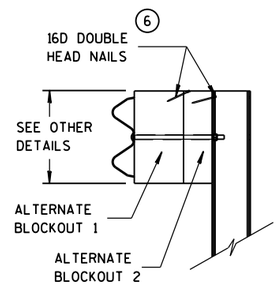


PLAN VIEW

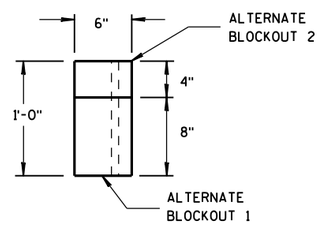
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

GENERAL NOTES

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

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

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

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

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

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

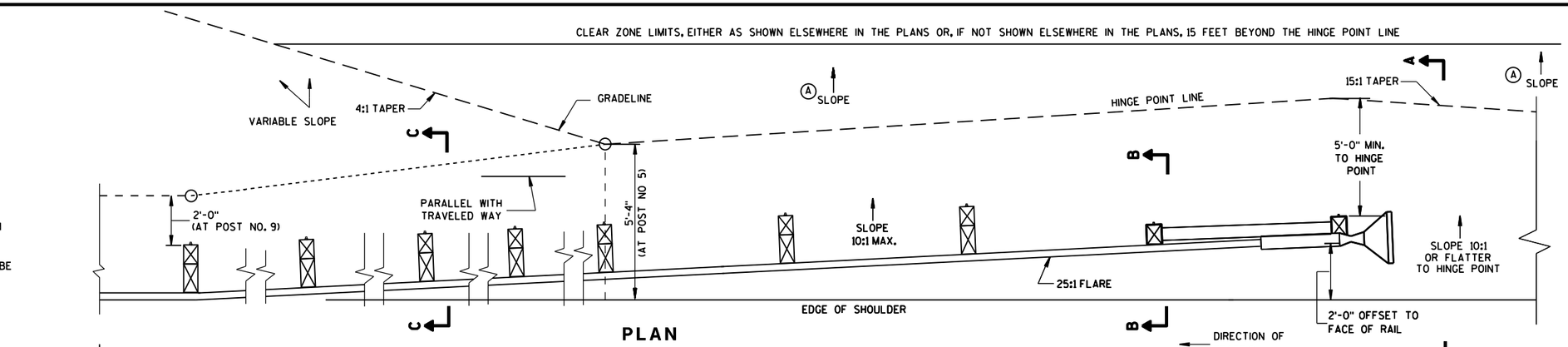
SEE SDD 14B42 FOR MORE INFORMATION.

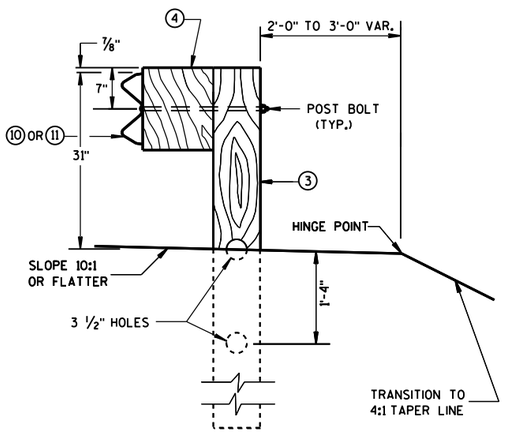
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

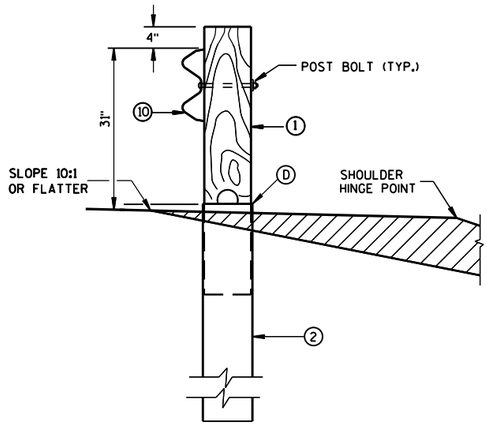
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

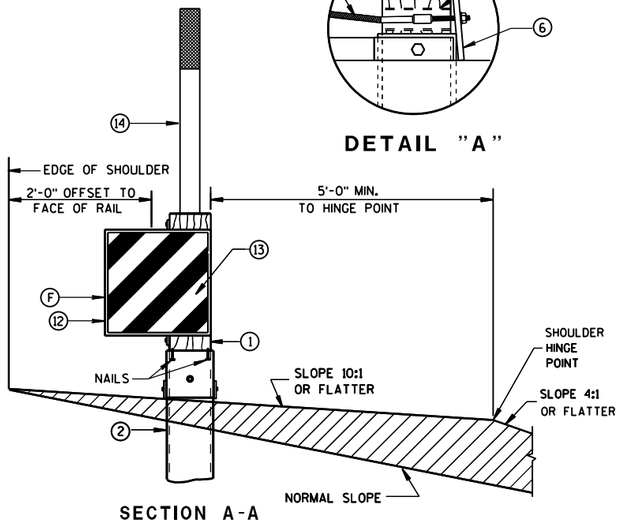




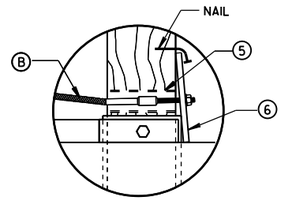
SECTION C-C
TYPICAL AT POST NOS. 3-9



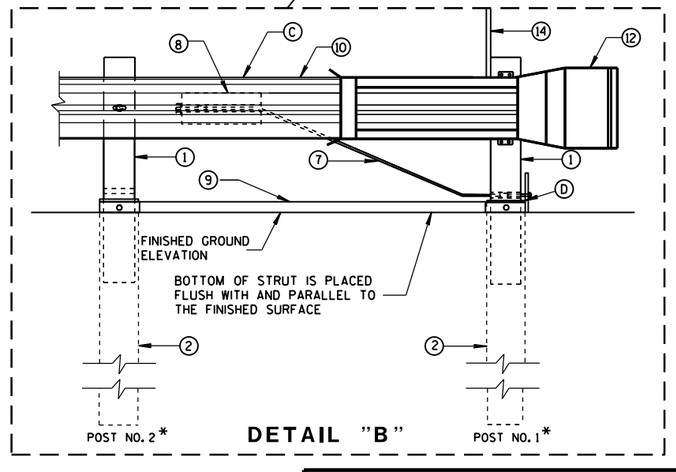
SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*



DETAIL "A"



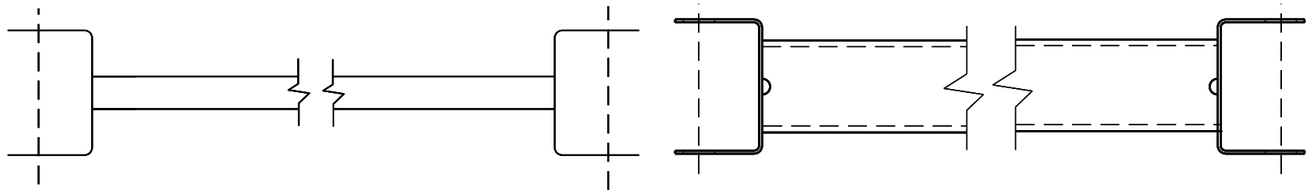
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

S.D.D. 14 B 44-2a

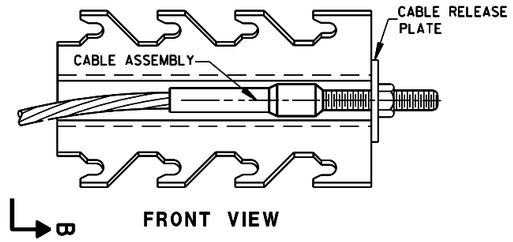
S.D.D. 14 B 44-2a



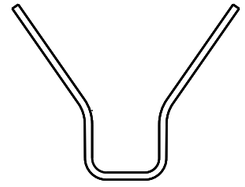
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

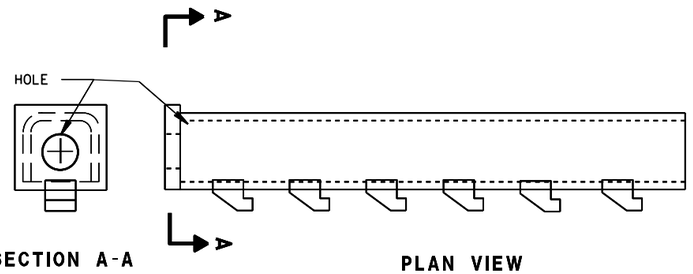
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR CABLE BOX
(9)	GROUND STRUT
(10)	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
(11)	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
(12)	END SECTION EAT
(13)	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
(14)	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



FRONT VIEW



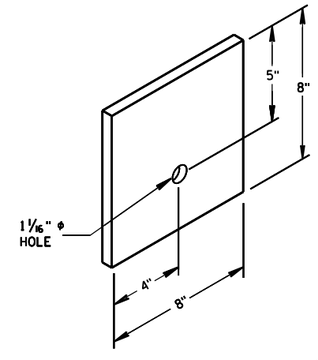
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



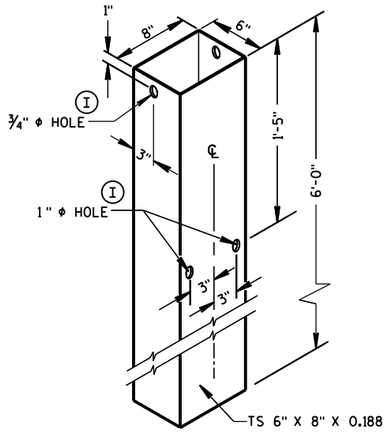
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

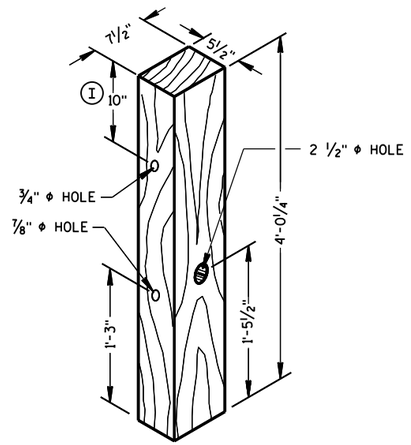
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

S.D.D. 14 B 44-2b

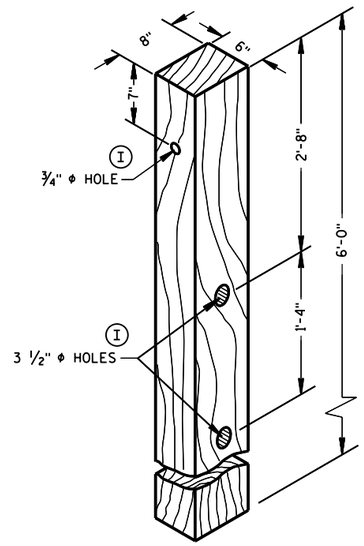


FOUNDATION TUBE (2)



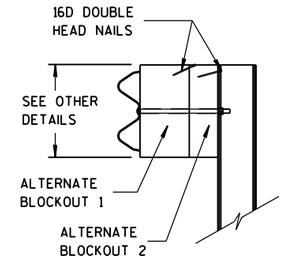
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

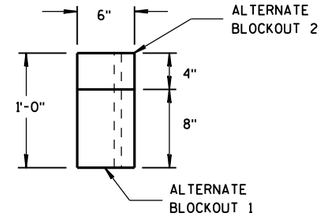


POSTS NUMBER 3-9

WOOD CRT POST (3)

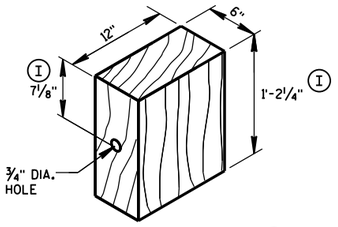


SIDE VIEW



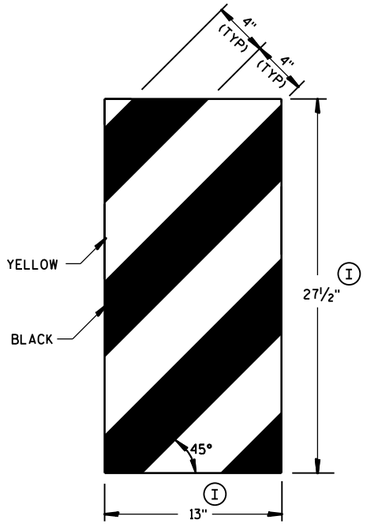
TOP VIEW

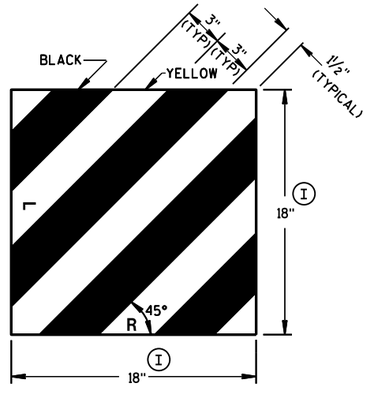
ALTERNATE WOOD BLOCKOUT DETAIL



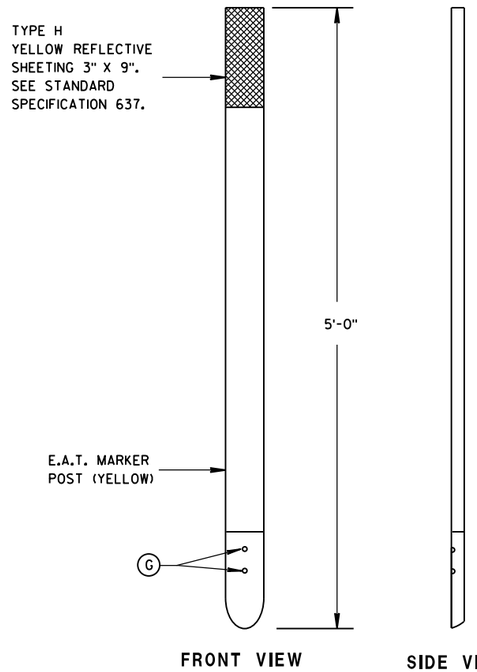
WOOD BLOCKOUT (4)

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





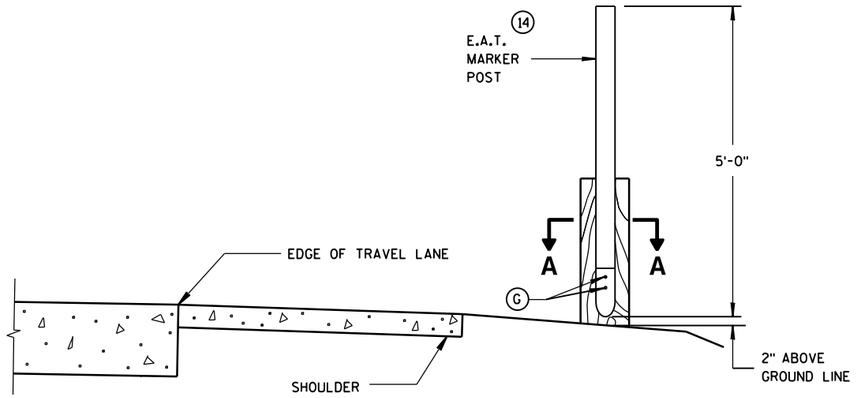
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

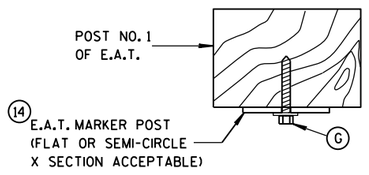
SIDE VIEW

E.A.T. MARKER POST (14)



TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)

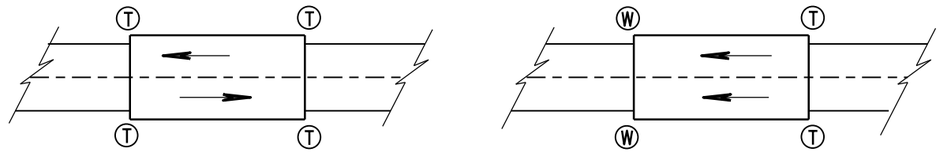


SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA



TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

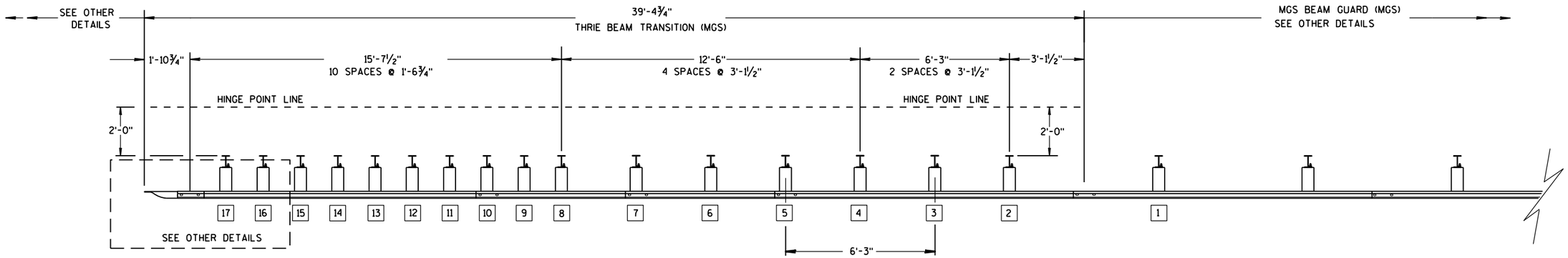
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

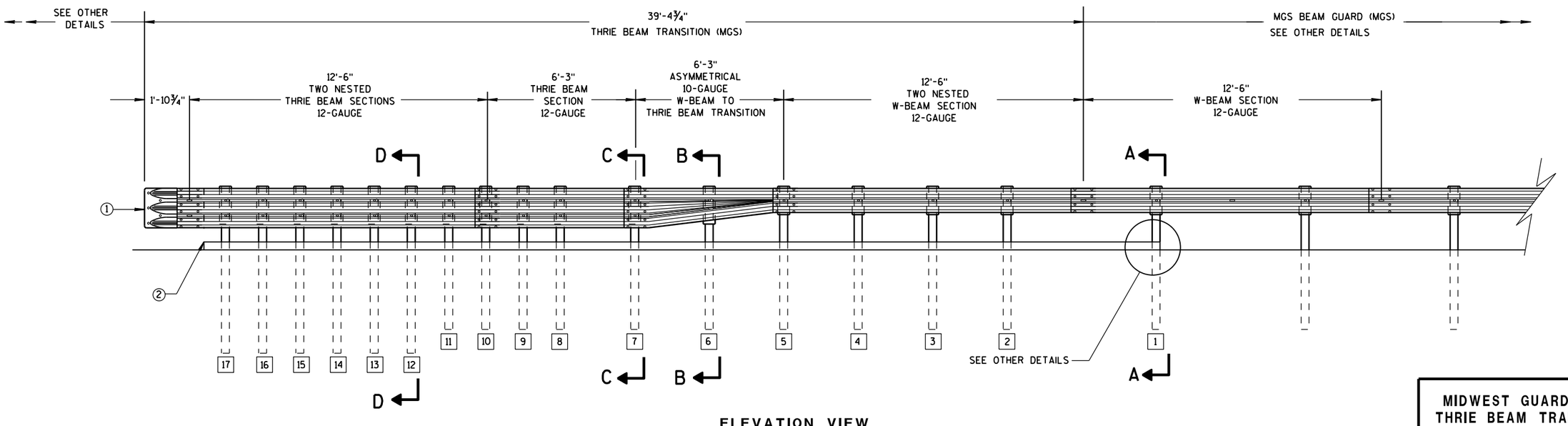
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

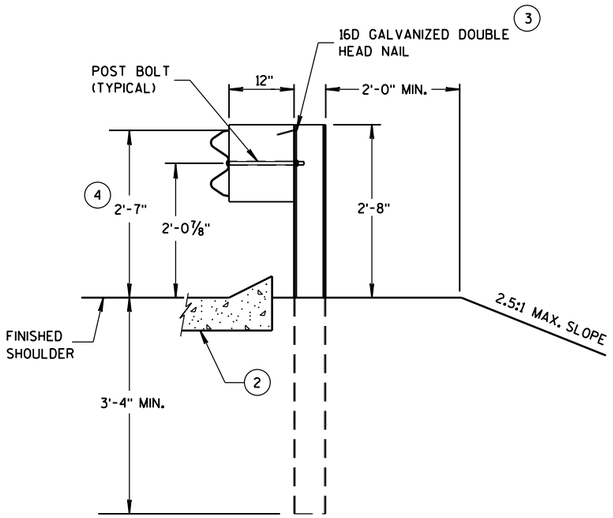
S.D.D. 14 B 45-4a

GENERAL NOTES

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

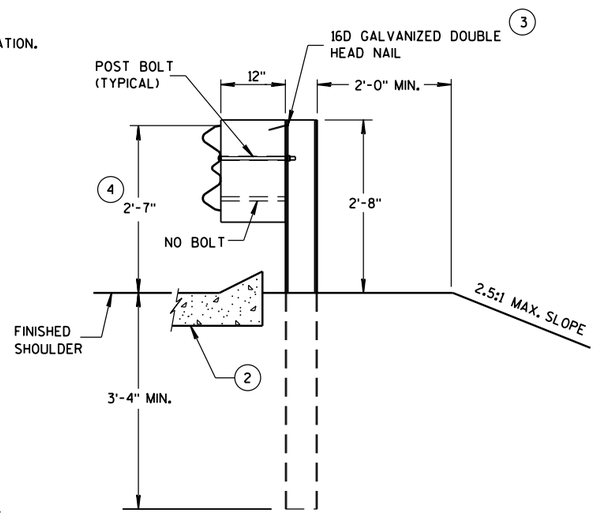
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



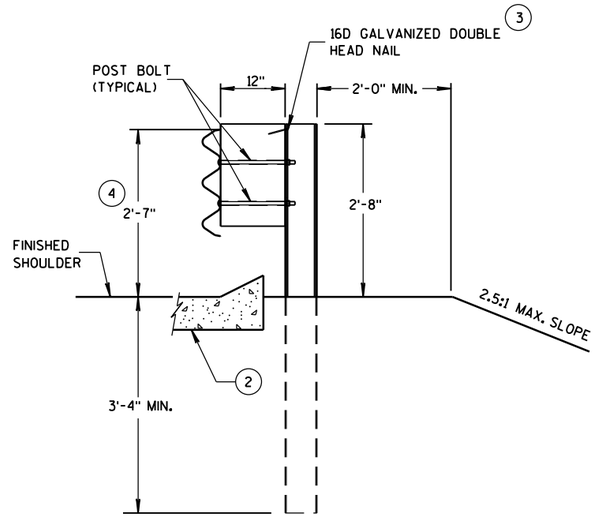
SECTION A-A

POSTS 1-5



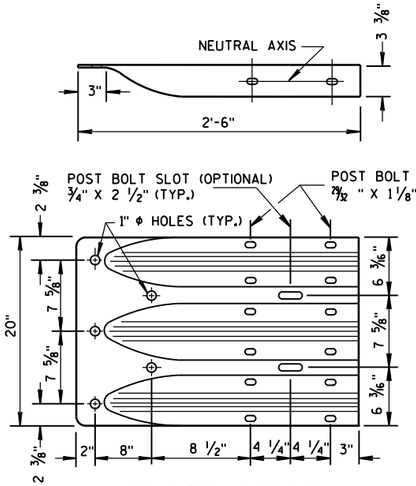
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

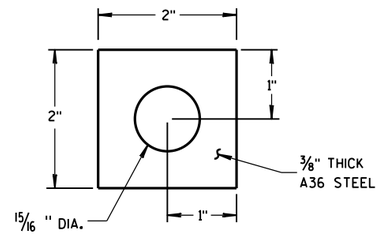
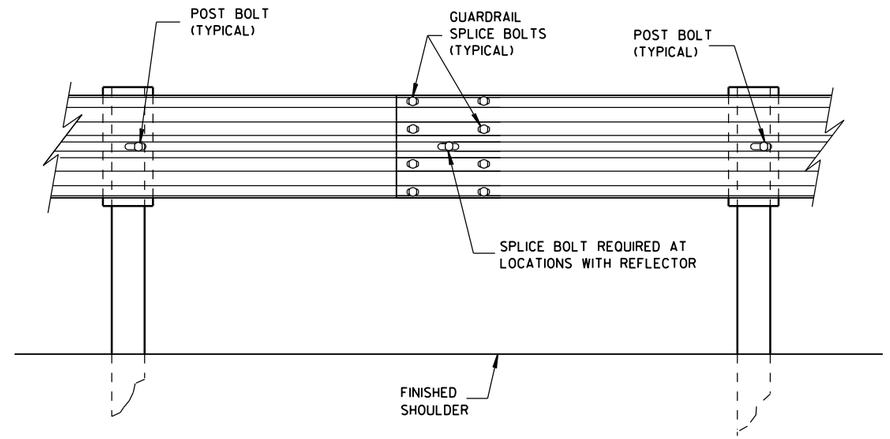
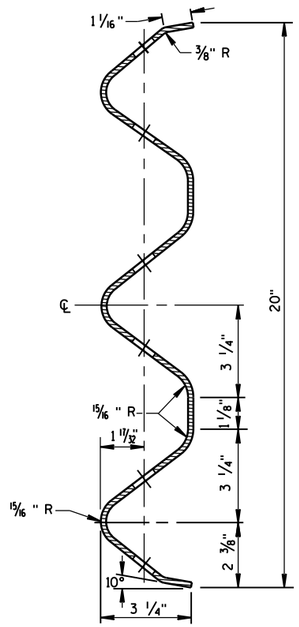


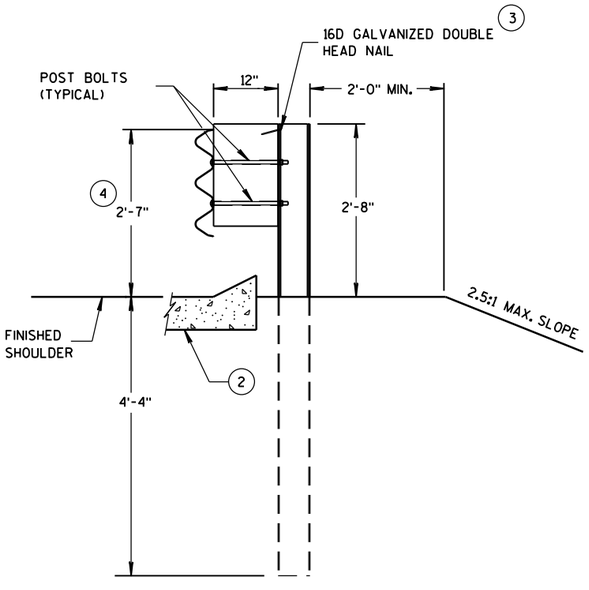
PLATE WASHER DETAIL



SPLICE DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

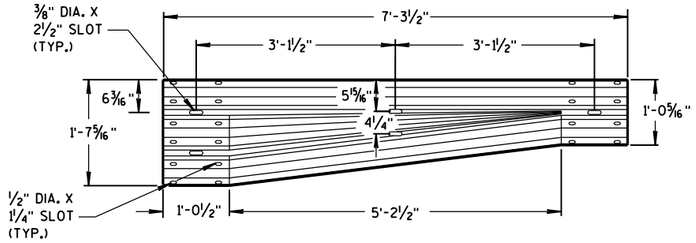
POSTS 12-17

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

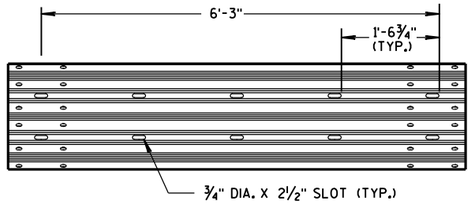
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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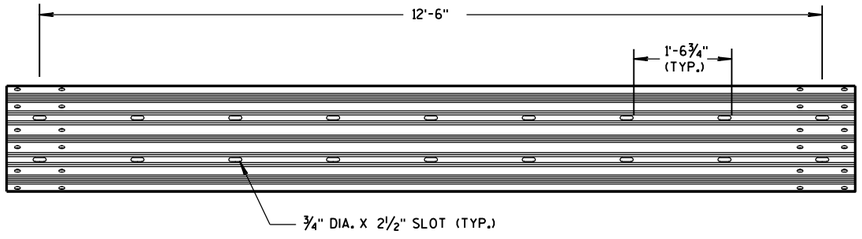
S.D.D. 14 B 45-4b



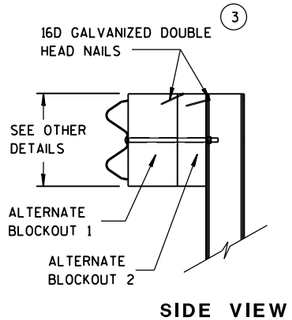
W-BEAM TO THRIE BEAM TRANSITION SECTION



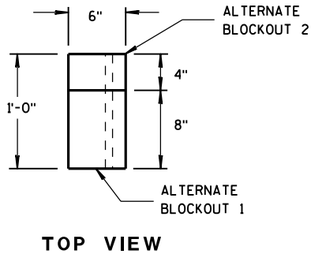
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

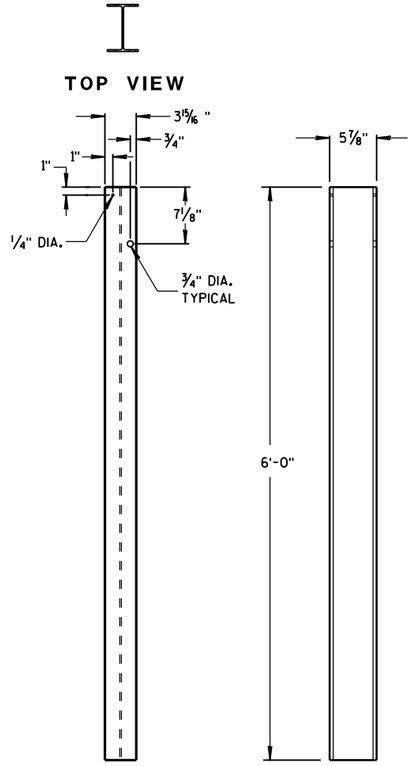


SIDE VIEW

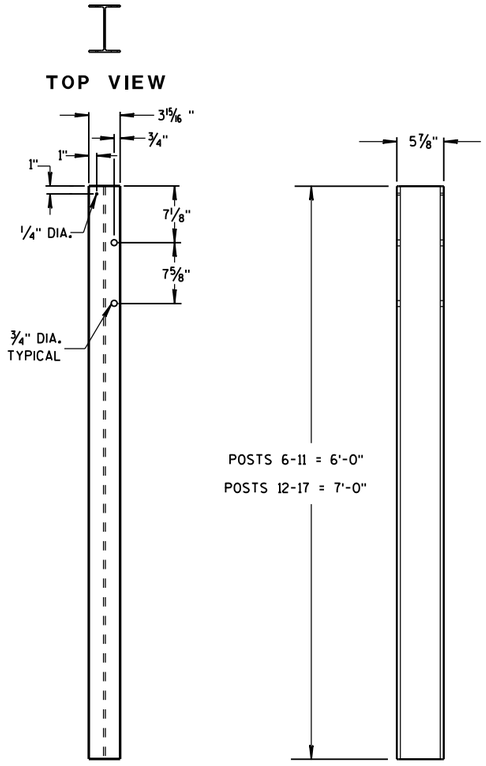


TOP VIEW

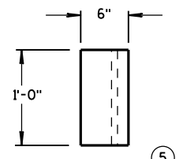
ALTERNATE WOOD BLOCKOUT DETAIL



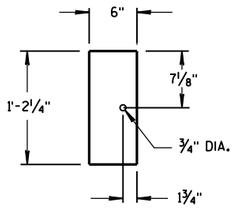
STEEL POSTS 1-5



STEEL POSTS 6-17

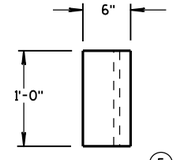


TOP VIEW

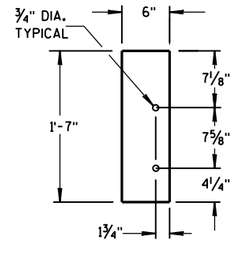


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

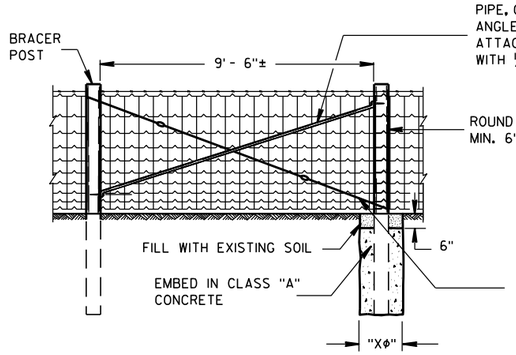
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

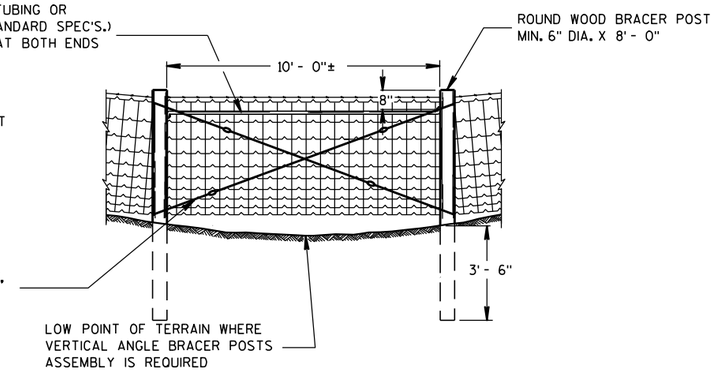
S.D.D. 14 B 45-4c

NOTE: PULL OR STRETCHER POST ASSEMBLIES SHALL BE PLACED MIDWAY BETWEEN END POSTS AND CORNER POSTS WHERE A RUN OF FENCE EXCEEDS 660' BUT IS LESS THAN 1,320'. FOR RUNS OF FENCE IN EXCESS OF 1,320' MAXIMUM SPACING OF PULL OR STRETCHER POST ASSEMBLIES SHALL BE 660'± C-C.

ILLUSTRATION SHOWS POSITION OF STANDARD STEEL BRACE, DOUBLE STRAND GALVANIZED WIRE, AND THE POST TO BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM LEFT TO RIGHT. THE BRACES SHALL BE POSITIONED ON THE OPPOSITE DIAGONALS AND THE OPPOSITE POST SHALL BE EMBEDDED IN CONCRETE WHEN WIRE FENCE IS INSTALLED FROM RIGHT TO LEFT.



PULL OR STRETCHER POSTS ASSEMBLY



VERTICAL ANGLE BRACER POSTS ASSEMBLY

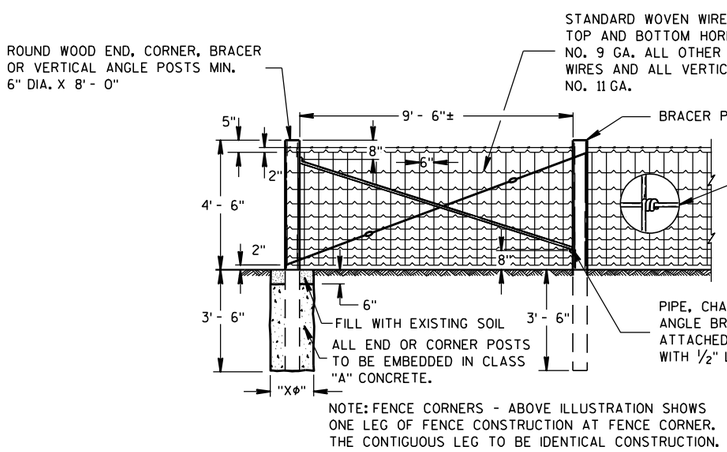
GENERAL NOTES

"XΦ" = DIAMETER OF THE POST PLUS 12".

FENCE STAPLES SHOULD NEVER BE DRIVEN VERTICALLY INTO WOOD POSTS (WITH BOTH LEGS PARALLEL WITH THE WOOD GRAIN). DOING SO CAN SEPARATE THE GRAIN AND SIGNIFICANTLY REDUCE THE HOLDING POWER. ROTATING THE STAPLES SLIGHTLY OFF VERTICAL STRADDLES THE GRAIN AND PROVIDES MORE RESISTANCE TO PULL-OUT.

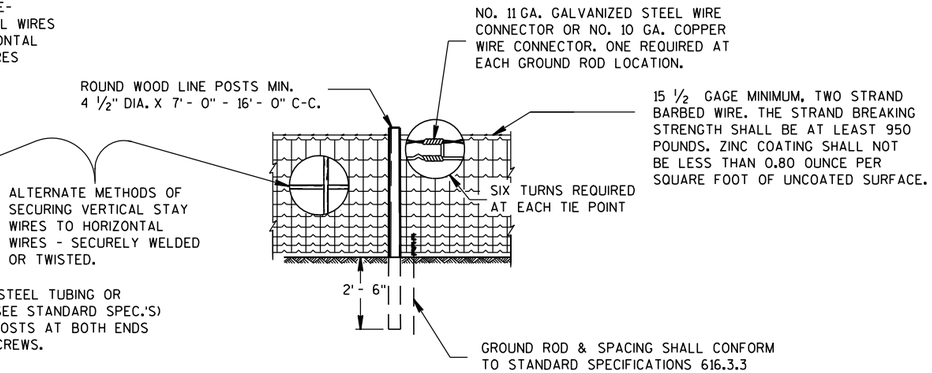
DO NOT STAPLE WIRE TIGHT TO THE LINE POSTS. ALLOW MOVEMENT OF WIRE FOR EXPANSION AND CONTRACTION. STAPLE ARRANGEMENT SHALL BE THE SAME FOR ALL OTHER POSTS EXCEPT THAT THEY SHALL BE DRIVEN TIGHT TO POSTS. ALL STAPLES SHALL BE 2" X 9 GAGE AND SHALL BE MANUFACTURED FROM GALVANIZED WIRE OR HOT DIP GALVANIZED AFTER FORMING. STAPLES SHALL HAVE SLASH-CUT POINTS.

FENCE SHALL BE LOCATED 3'-0" INSIDE THE RIGHT OF WAY LINE UNLESS OTHERWISE INDICATED ON THE PLANS.



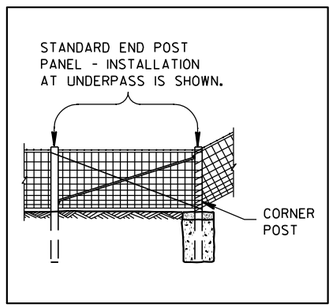
NOTE: FENCE CORNERS - ABOVE ILLUSTRATION SHOWS ONE LEG OF FENCE CONSTRUCTION AT FENCE CORNER. THE CONTIGUOUS LEG TO BE IDENTICAL CONSTRUCTION.

END OR CORNER POSTS ASSEMBLY

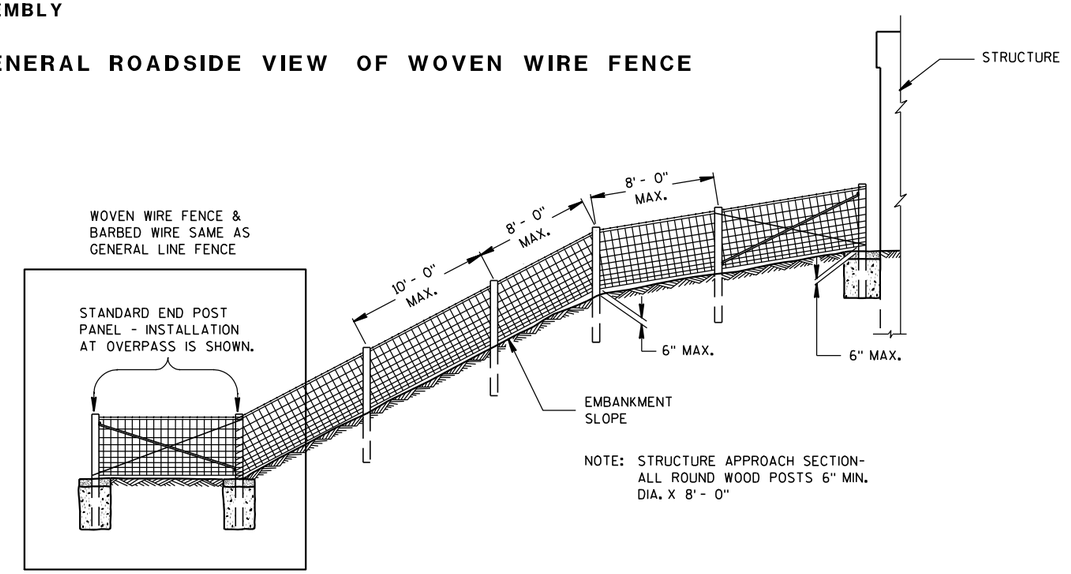


LINE FENCE CONSTRUCTION

GENERAL ROADSIDE VIEW OF WOVEN WIRE FENCE



ALTERNATE FENCE DESIGN AT STRUCTURE



NOTE: STRUCTURE APPROACH SECTION- ALL ROUND WOOD POSTS 6" MIN. DIA. X 8' - 0"

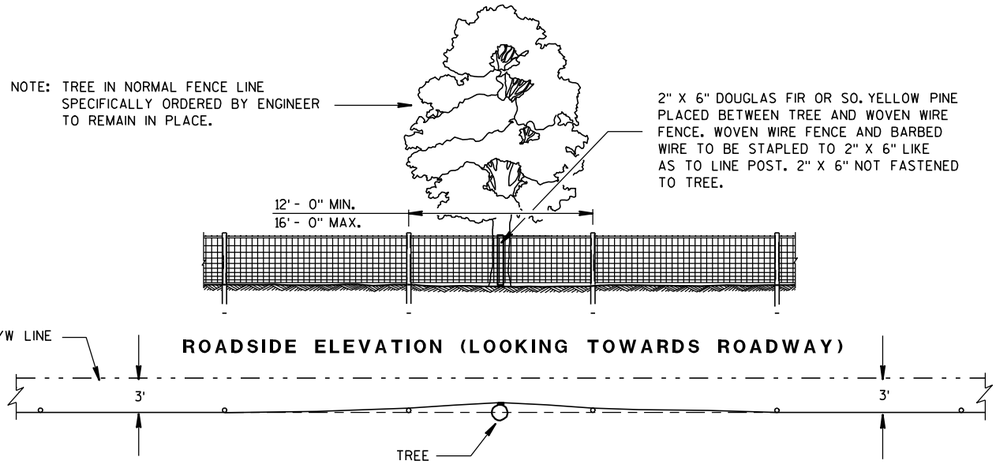
FENCE DESIGN AT STRUCTURE APPROACH

FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

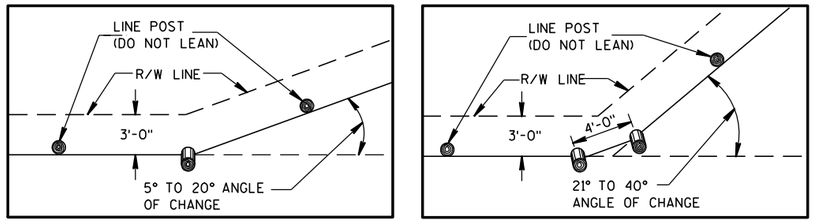
6

S.D.D. 15 B 1-8a



PLAN VIEW

FENCE DESIGN AT TREES REMAINING IN NORMAL FENCE LINE



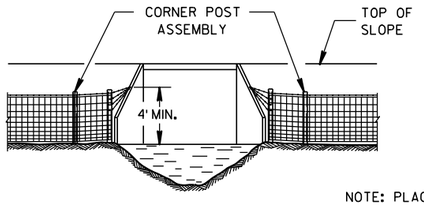
PLAN VIEW
SINGLE POST CORNER

PLAN VIEW
DOUBLE POST CORNER

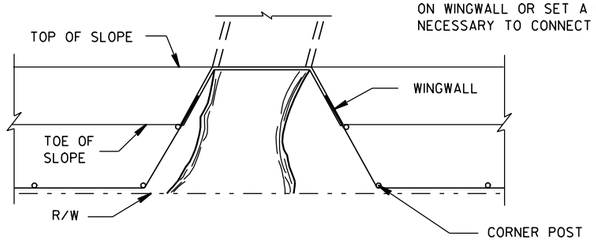
RIGHT OF WAY LINE CHANGE 40° AND LESS

NOTE: SINGLE AND DOUBLE POSTS SHALL BE A MIN. 6" DIA. X 8'-0" WITH A LEAN OF 4" TOWARD THE OUTSIDE OF THE CURVE.

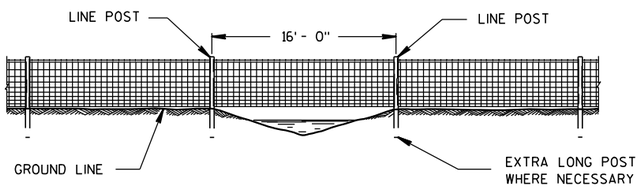
WHEN THE RIGHT OF WAY LINE CHANGE IS MORE THAN 40° USE THE CORNER OR STRETCHER POSTS ASSEMBLY.



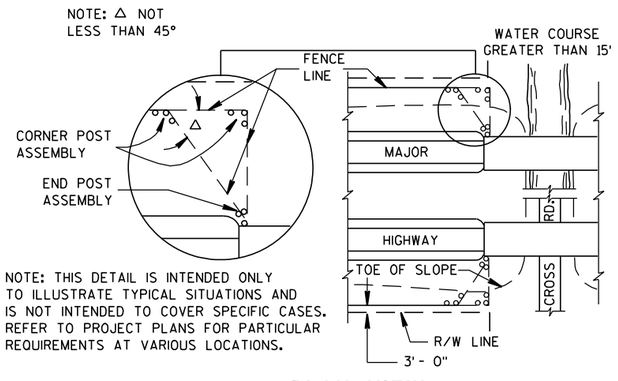
NOTE: PLACE A MINIMUM OF 4 STRANDS OF BARBED WIRE, 6" MAXIMUM CENTERS IN FAN SHAPE CONNECTED TO AN EYE BOLT ON WINGWALL OR SET A LONE POST WHEN NECESSARY TO CONNECT BARBED WIRE.



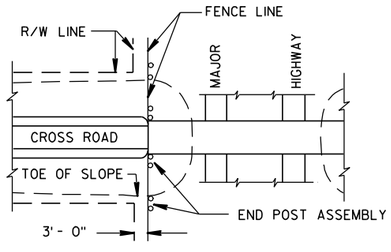
FENCE INSTALLATION TO WINGWALLS



FENCE CONSTRUCTION OVER STREAM COURSES OF 15 FT. OR LESS IN WIDTH



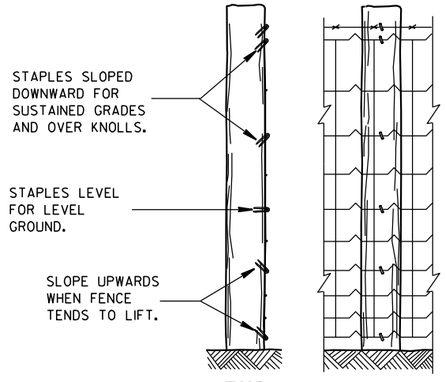
PLAN VIEW
MAJOR HIGHWAY OVERPASS OR STREAM COURSE CROSSING OF GREATER THAN 15 FT. IN WIDTH



PLAN VIEW
MAJOR HIGHWAY UNDERPASS

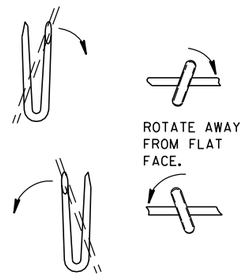
FENCE LOCATION AT STRUCTURES

NOTE: WHEN POSTS ARE DRIVEN THE SMALL END SHALL BE DOWN.



END ELEVATION **FARM SIDE ELEVATION**

FENCE MOUNTING DETAIL



LINE POST

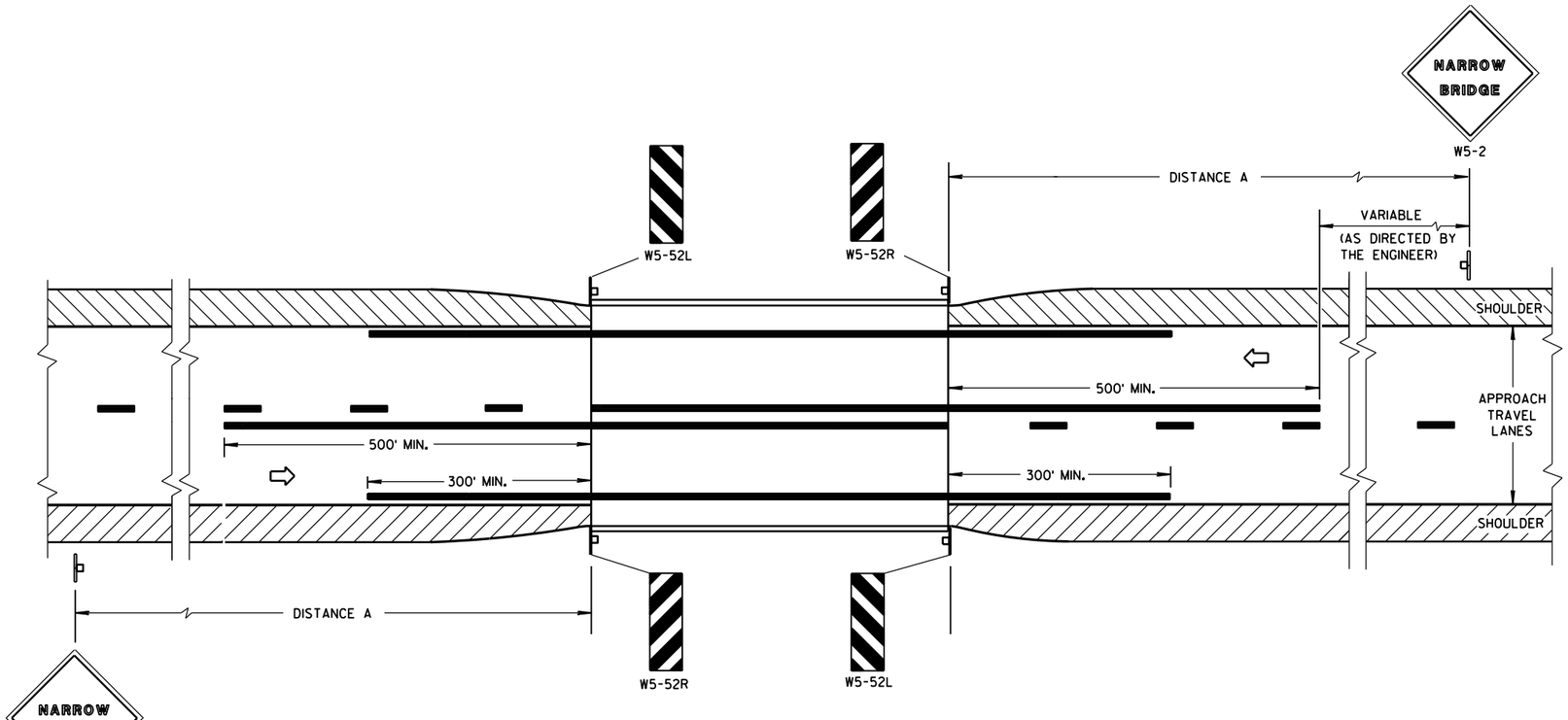
FENCE WOVEN WIRE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/4/2008 — DATE
/S/ Jerry H. ---
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 15 B 1-8b



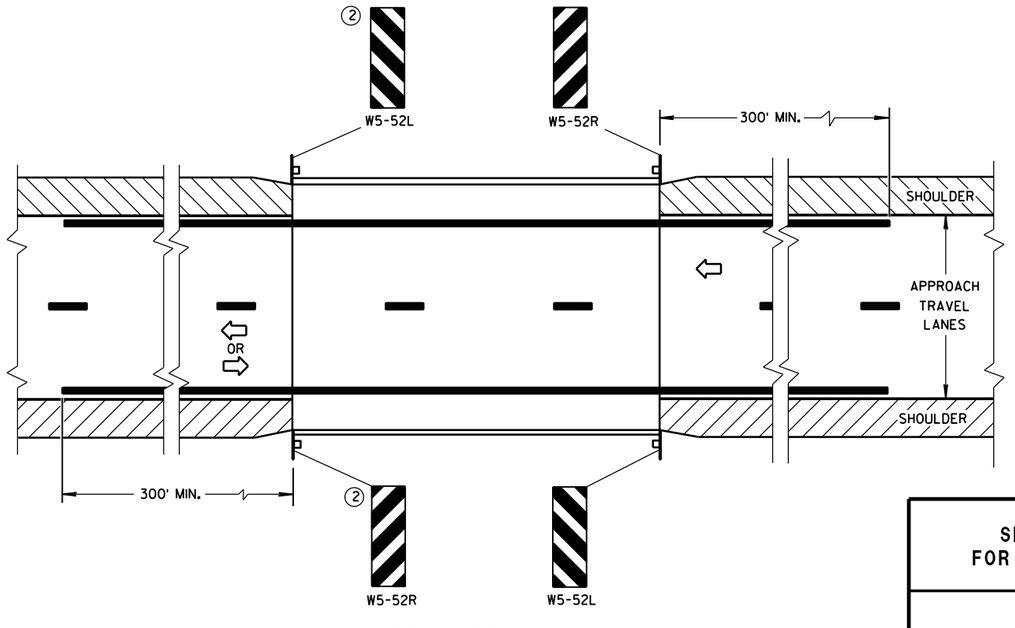
SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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



SITUATION 2

WARRANTING CRITERIA:

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

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.

① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

② OMIT ON ONE-WAY TRAVELLED WAYS.

③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.

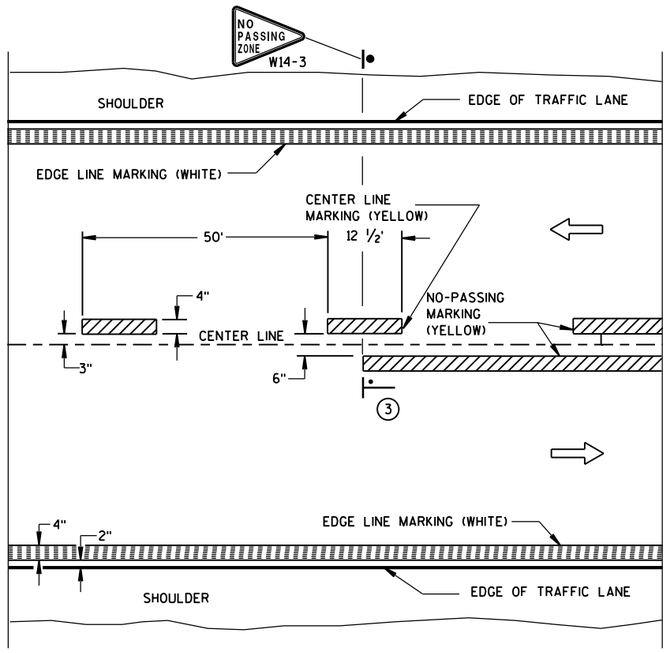
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

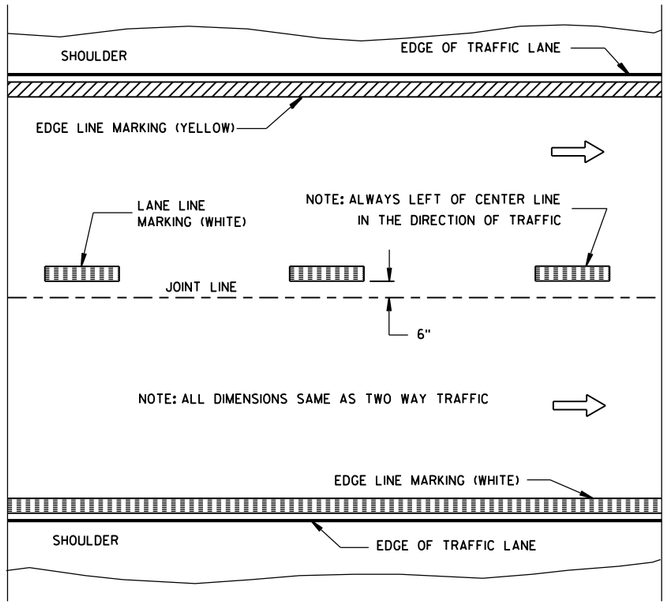
APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ...EER
FHWA

6

S.D.D. 15 C 6-8

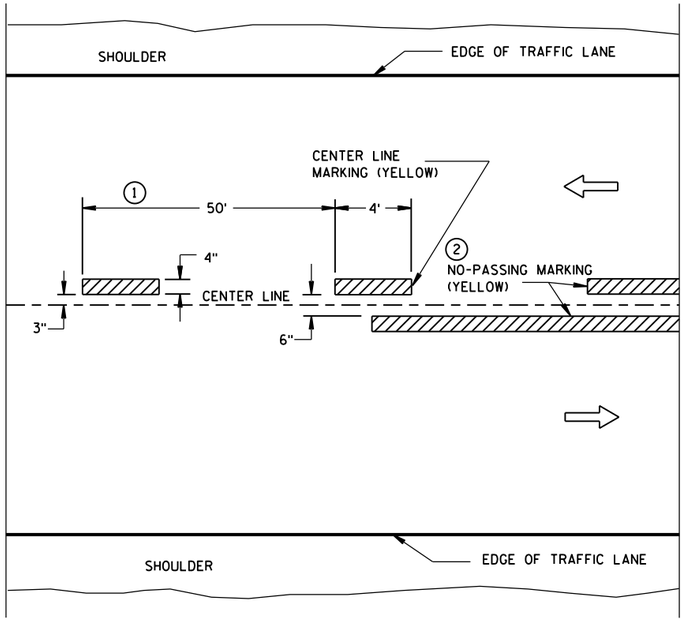


TWO WAY TRAFFIC

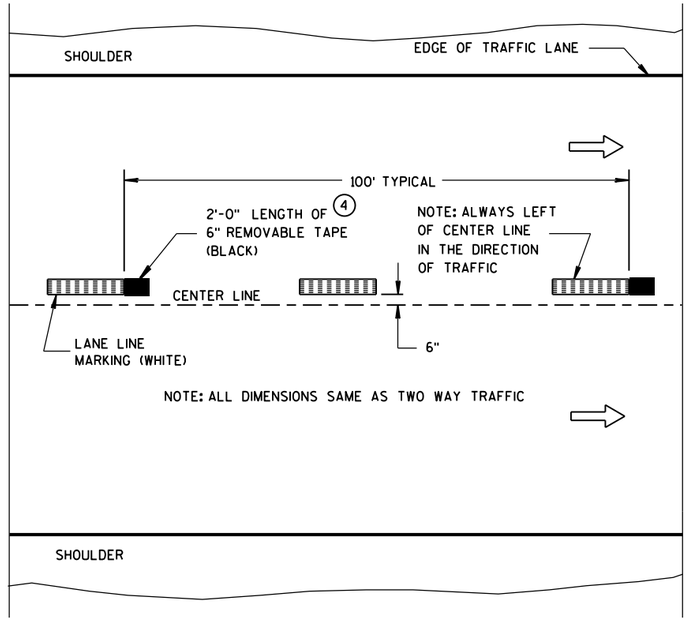


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

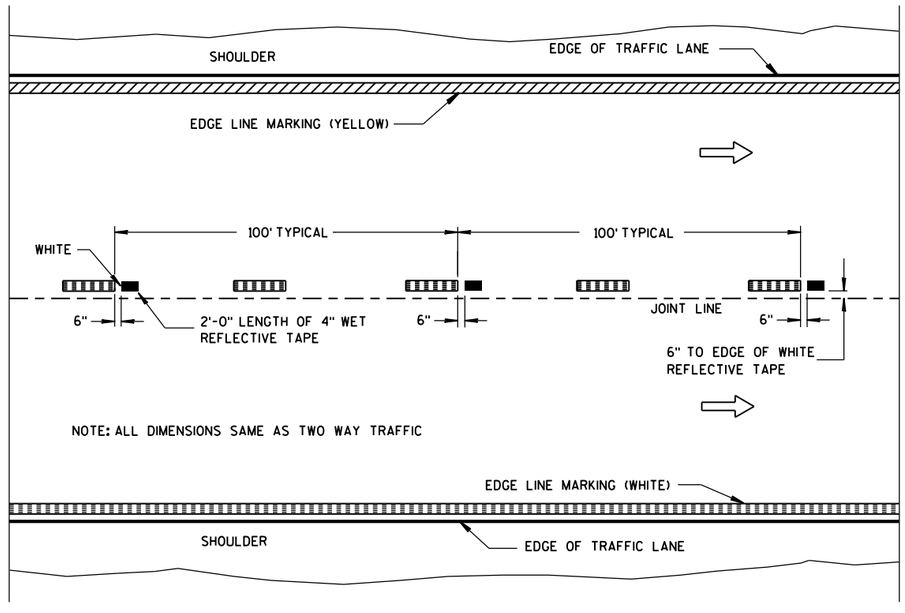
GENERAL NOTES

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

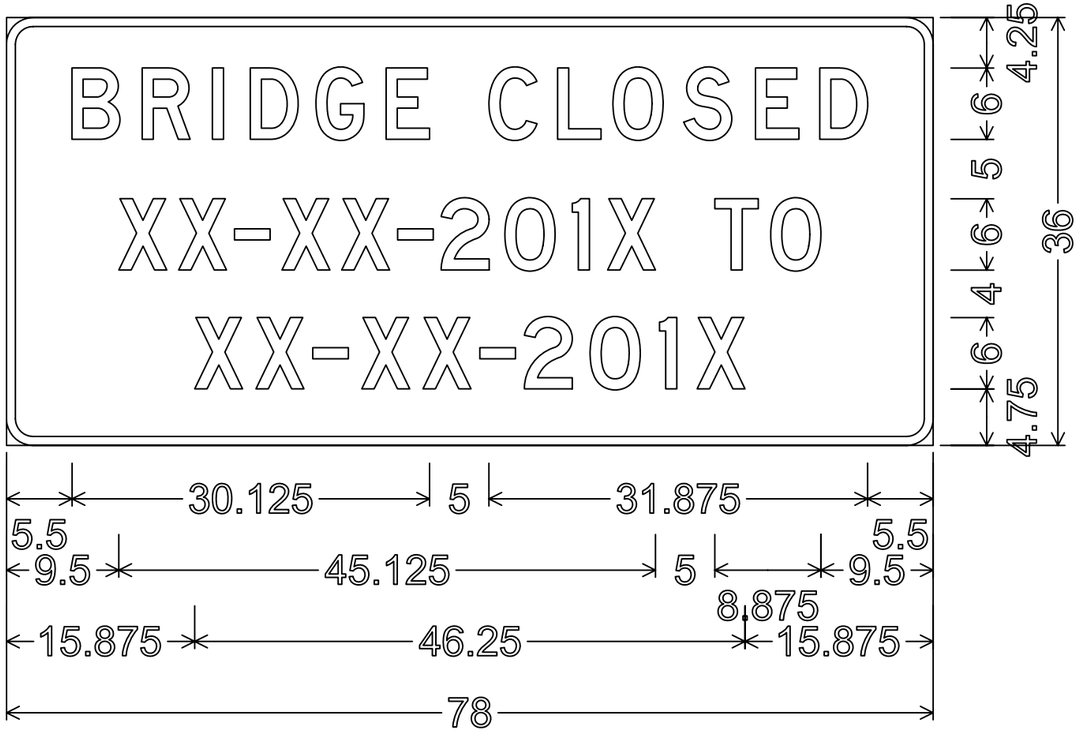
PAVEMENT MARKING (MAINLINE)

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



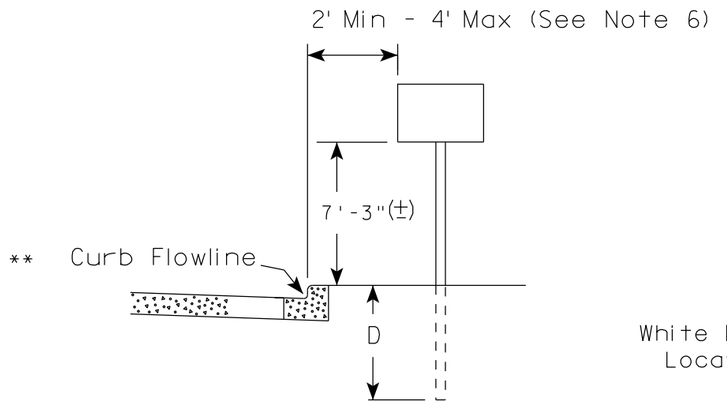
2.250" Radius, 0.750" Border, Black on Orange;
"BRIDGE" D; "CLOSED" D;
"XX-XX-201X" D 89% spacing;
"TO" D 93% spacing; "XX-XX-201X" D;

7

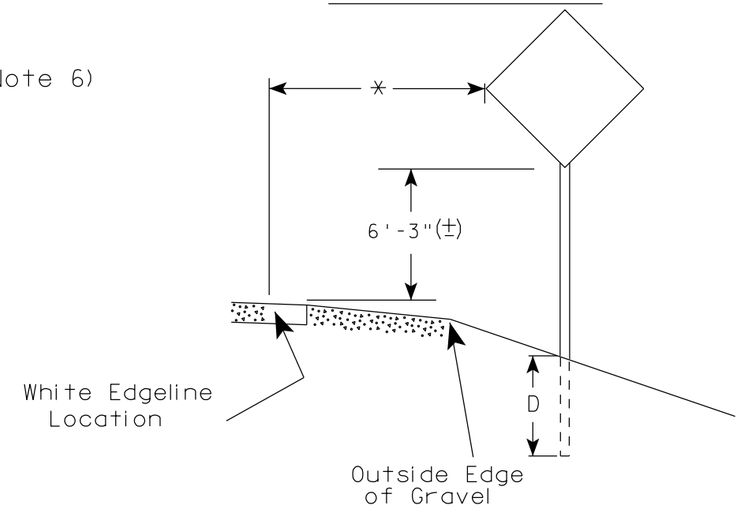
7

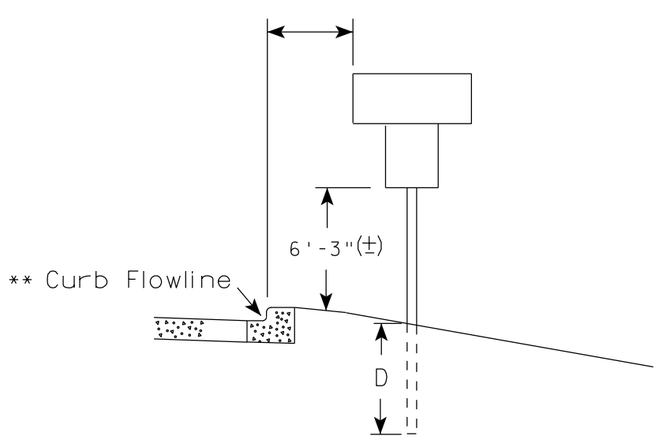
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	TRAFFIC CONTROL	SHEET 38	E

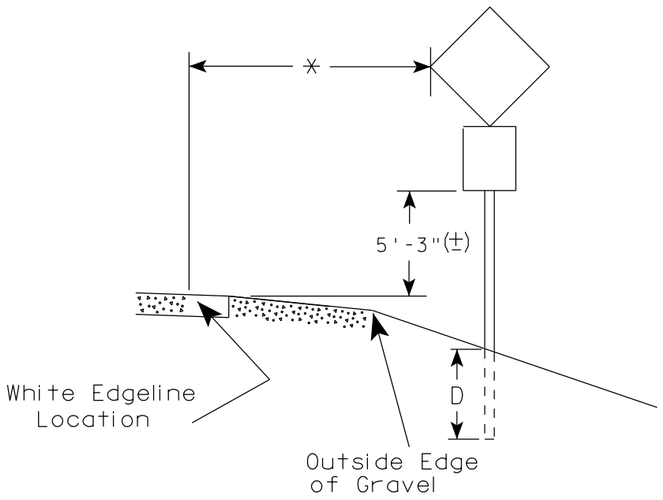
URBAN AREA



RURAL AREA (See Note 2)







GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

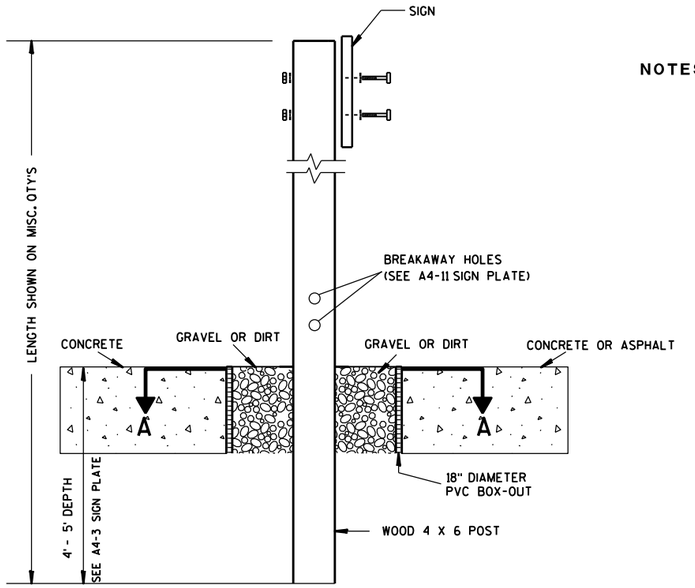
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

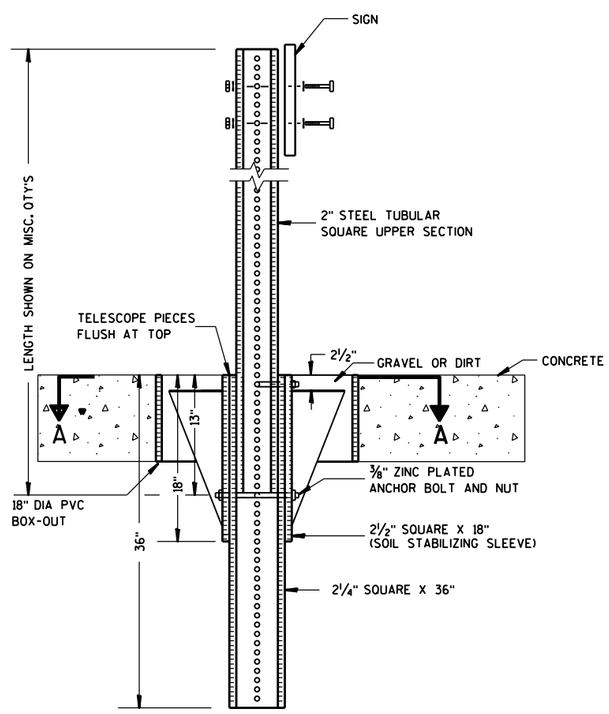
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

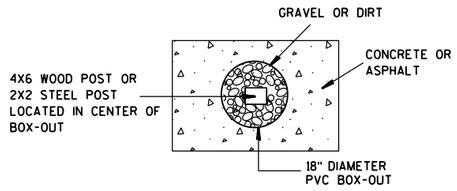
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

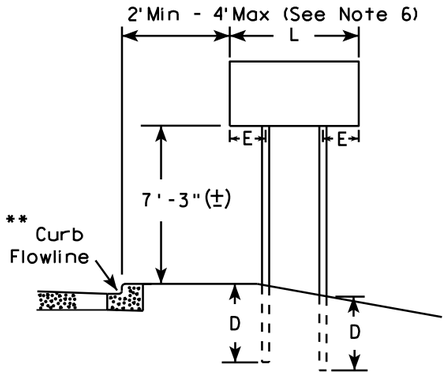
APPROVED Matthew R Rauch
for State Traffic Engineer

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

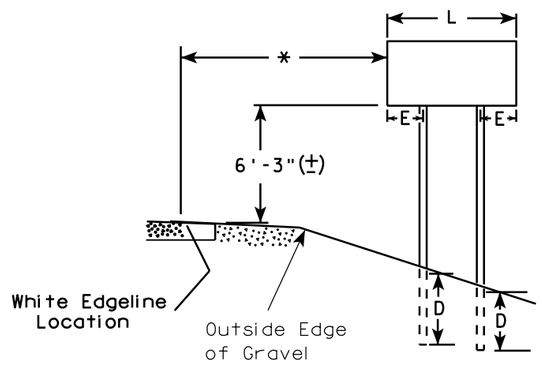
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

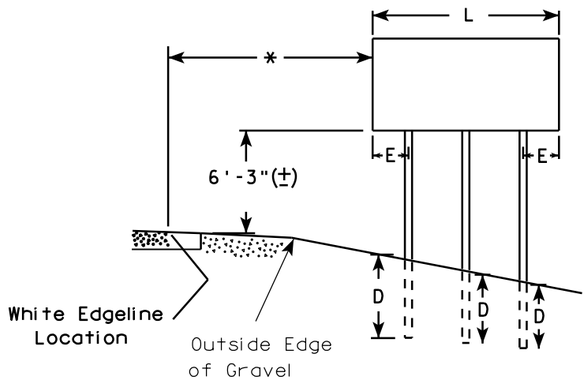
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

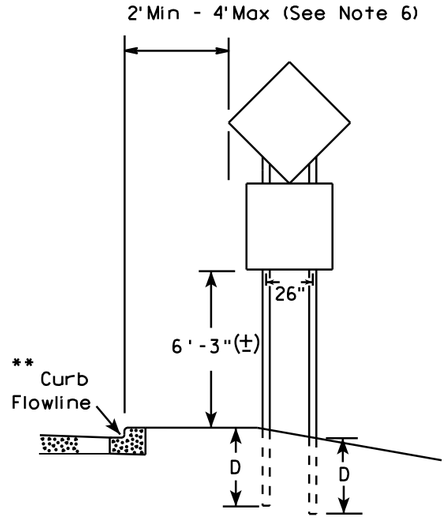
URBAN AREA



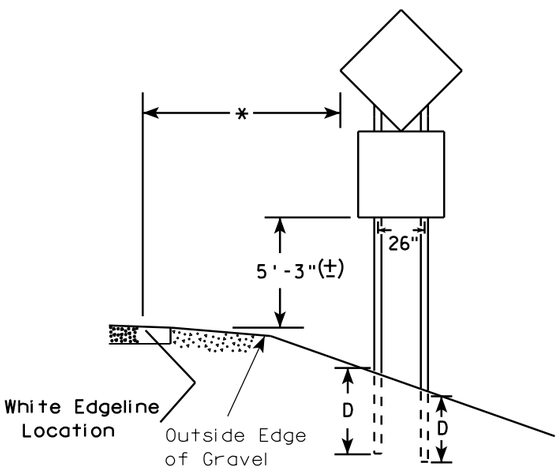
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

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

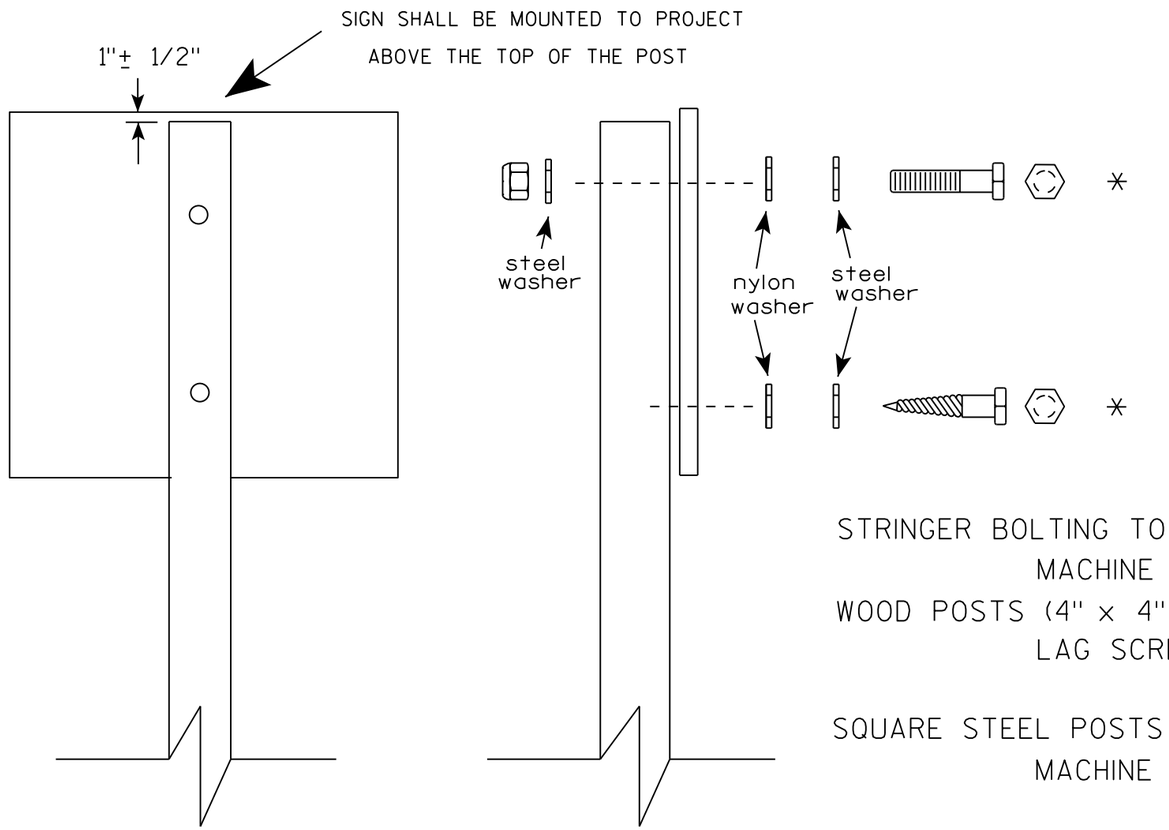
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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



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

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

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

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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

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

3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

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

3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

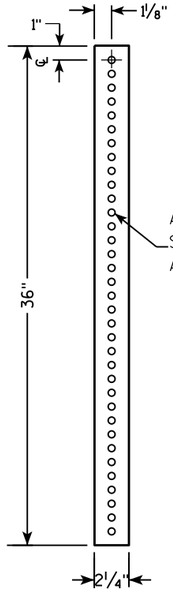
DATE 8/11/16 PLATE NO. A4-8.8

PROJECT NO: SHEET NO: E

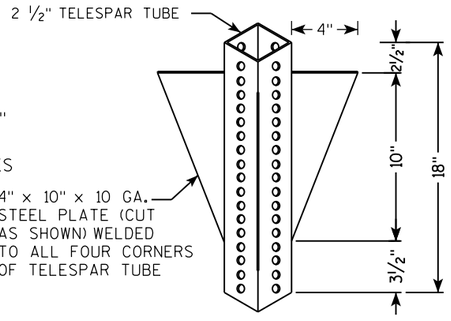
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

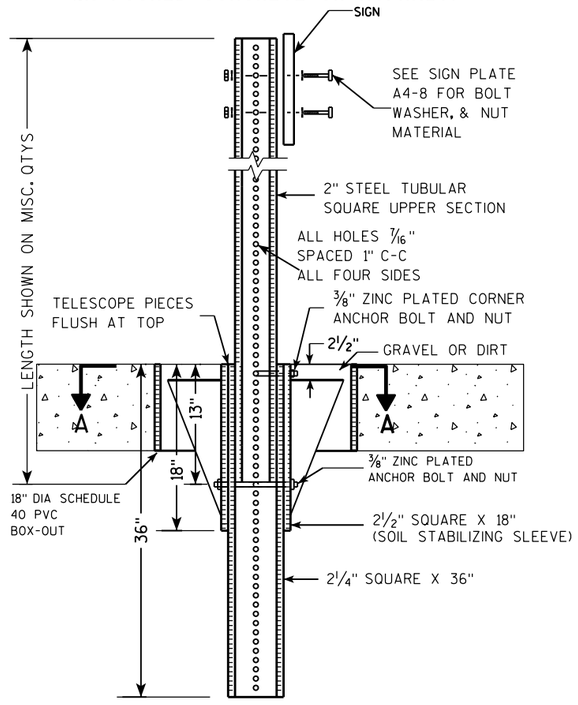
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



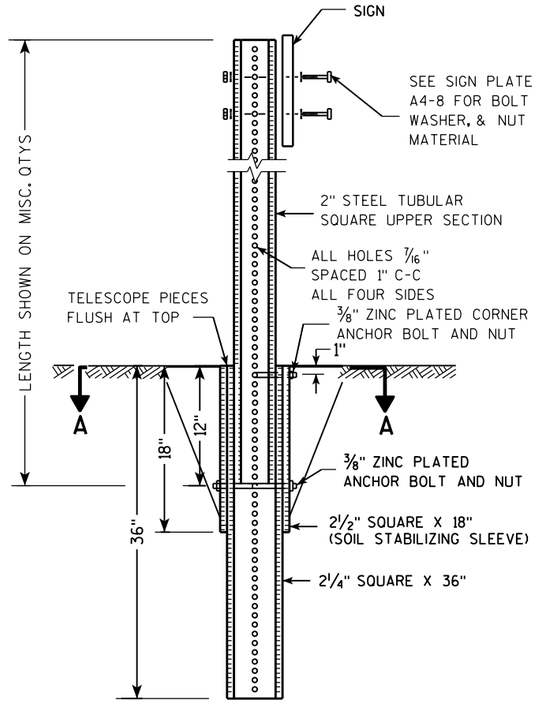
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

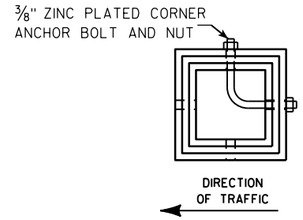


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

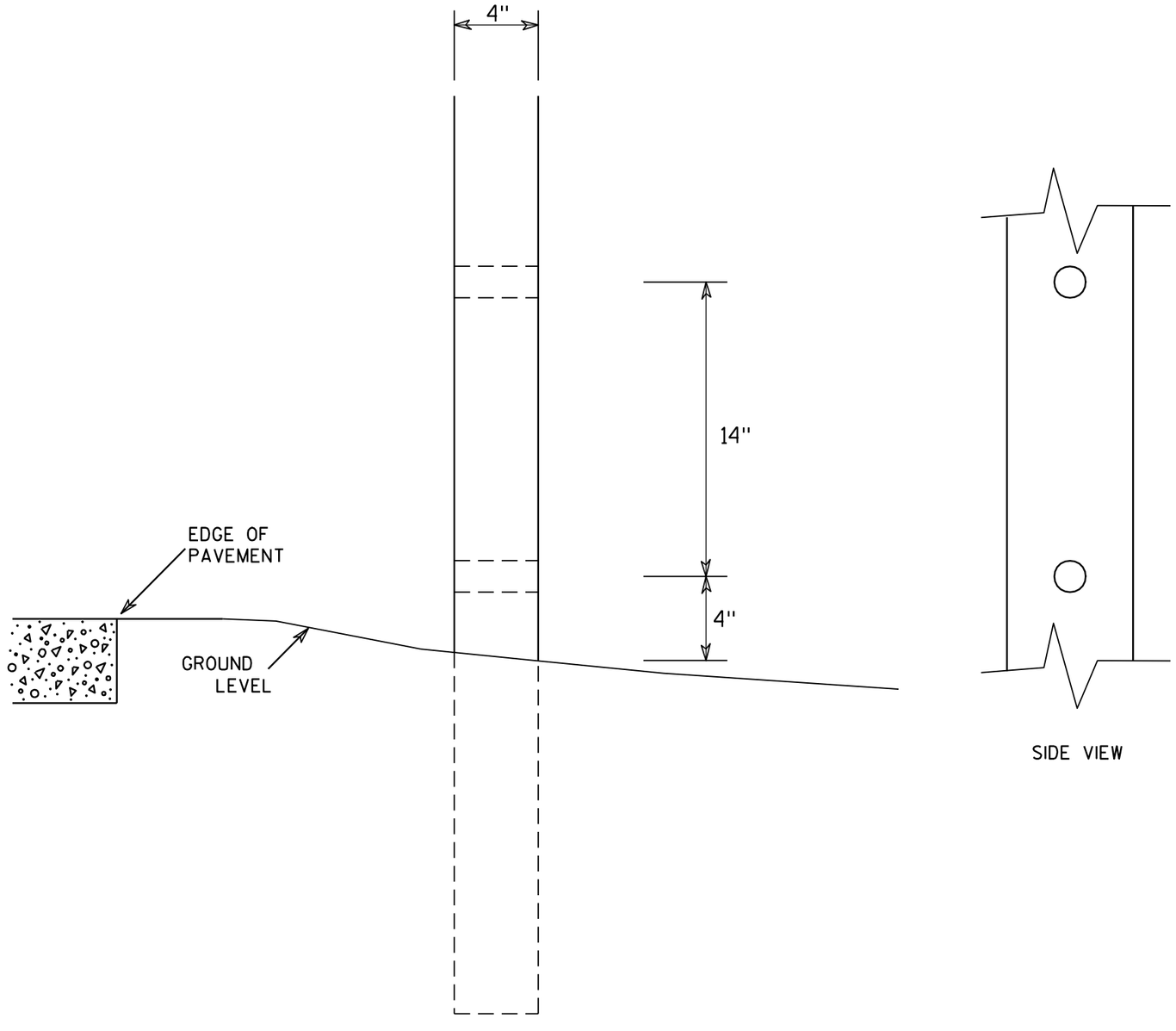
DATE 2/05/15 PLATE A4-9.9

43

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

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

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

7

7

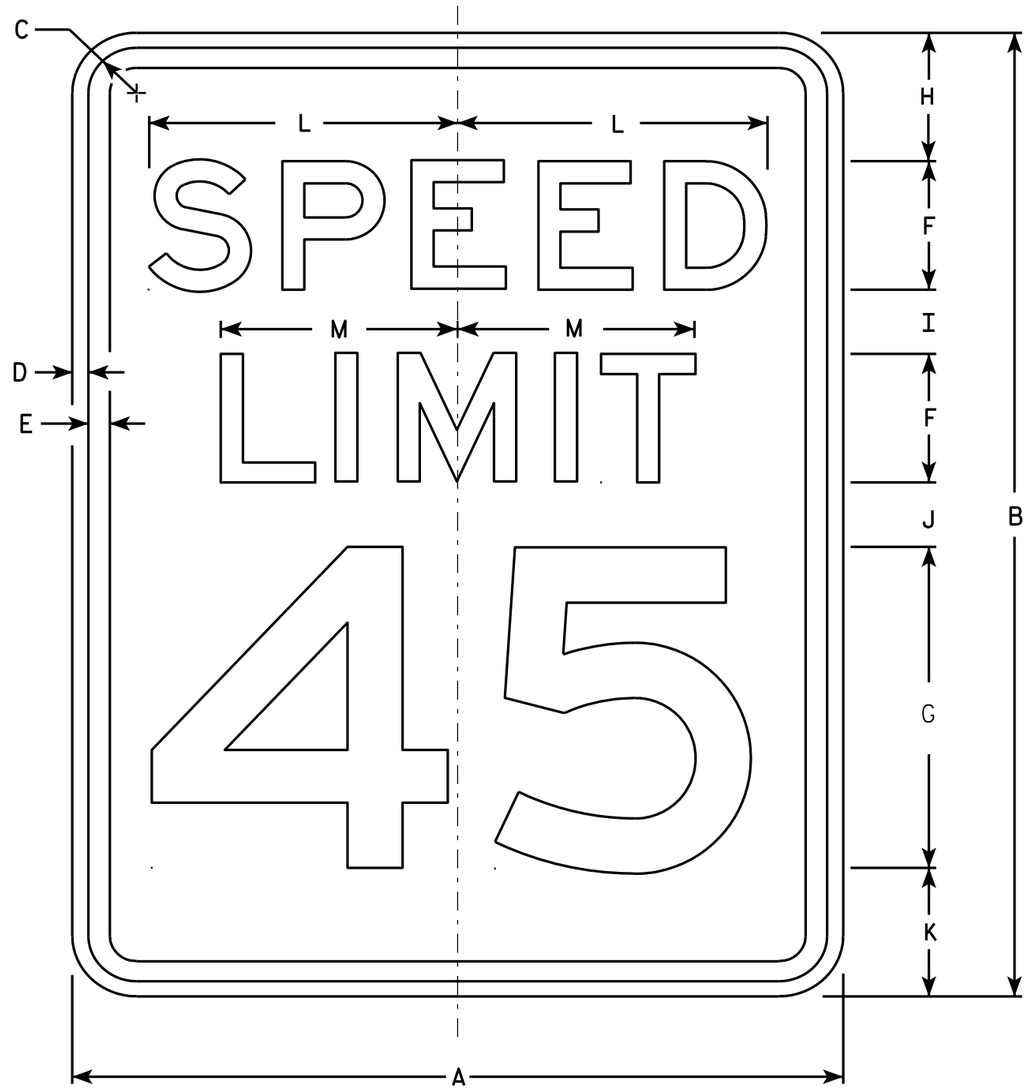
4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 44	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

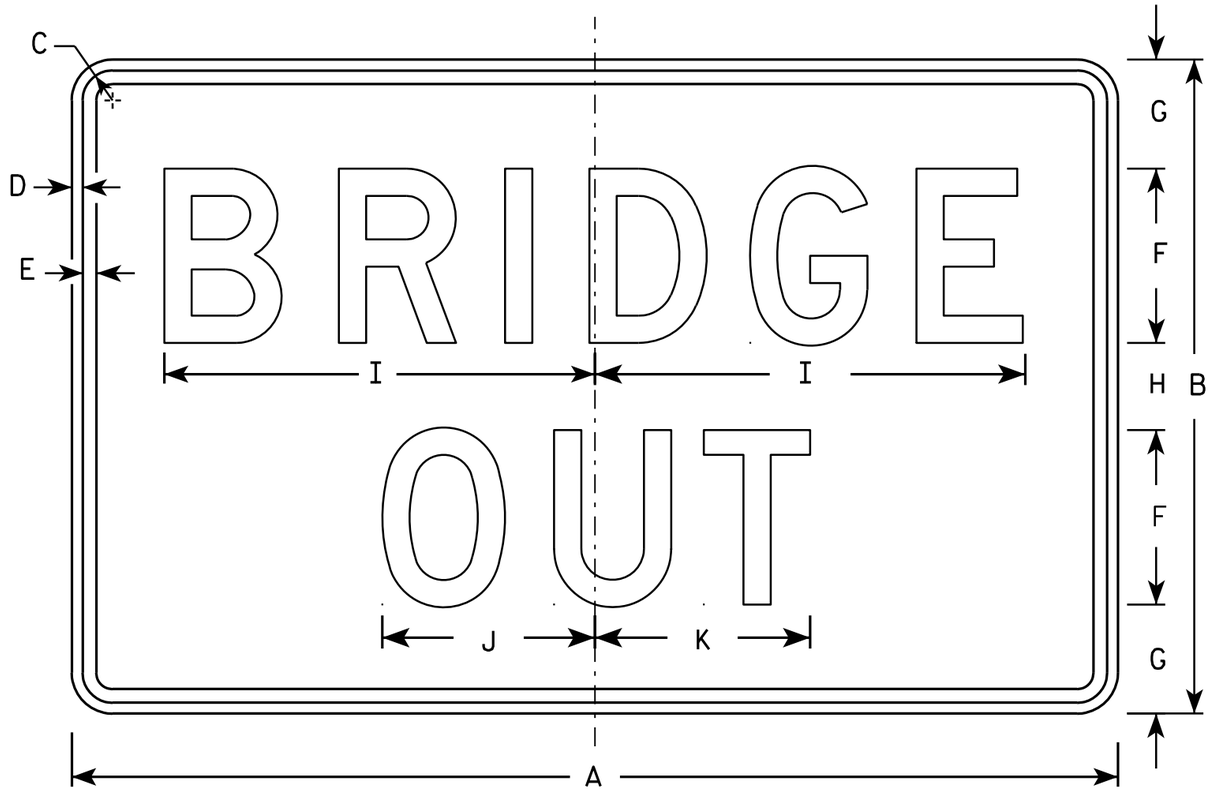
STANDARD SIGN
R2-1

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: 45	E



R11-2B

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

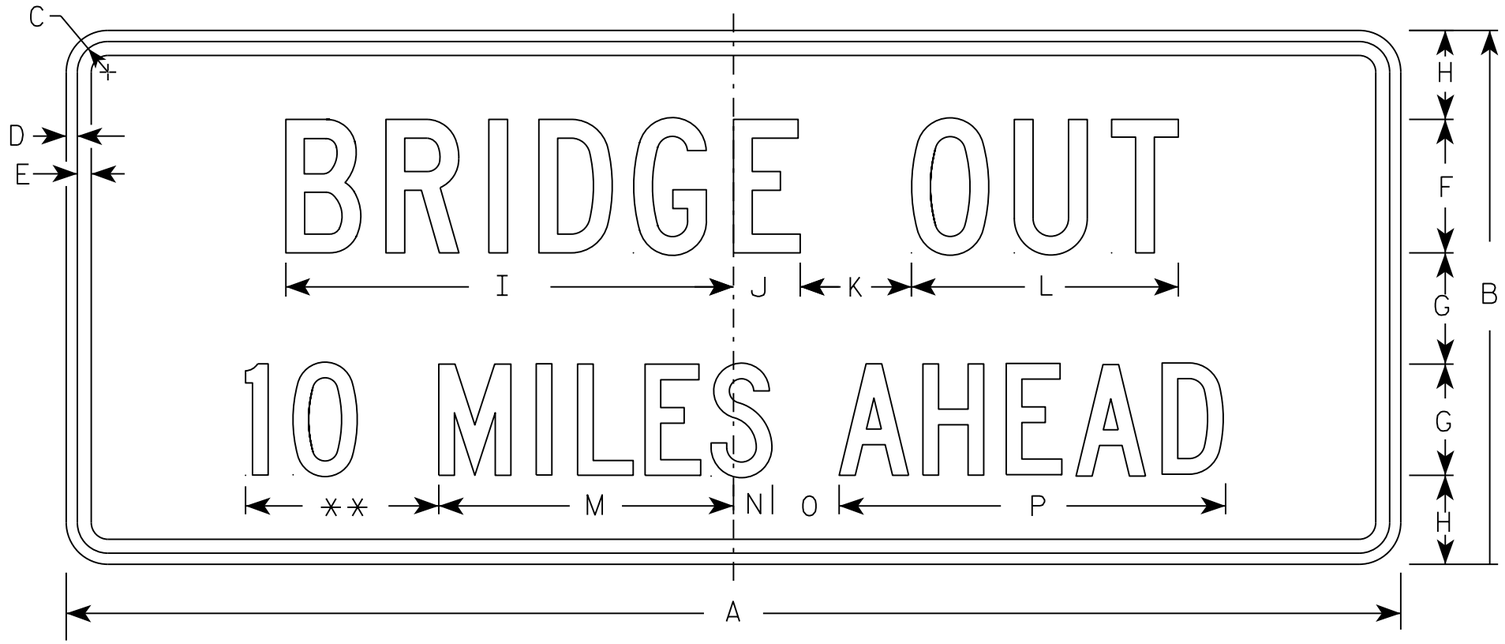
DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO:

SHEET NO: 46 E

NOTES

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



R11-3C

** 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	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4											3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8											10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

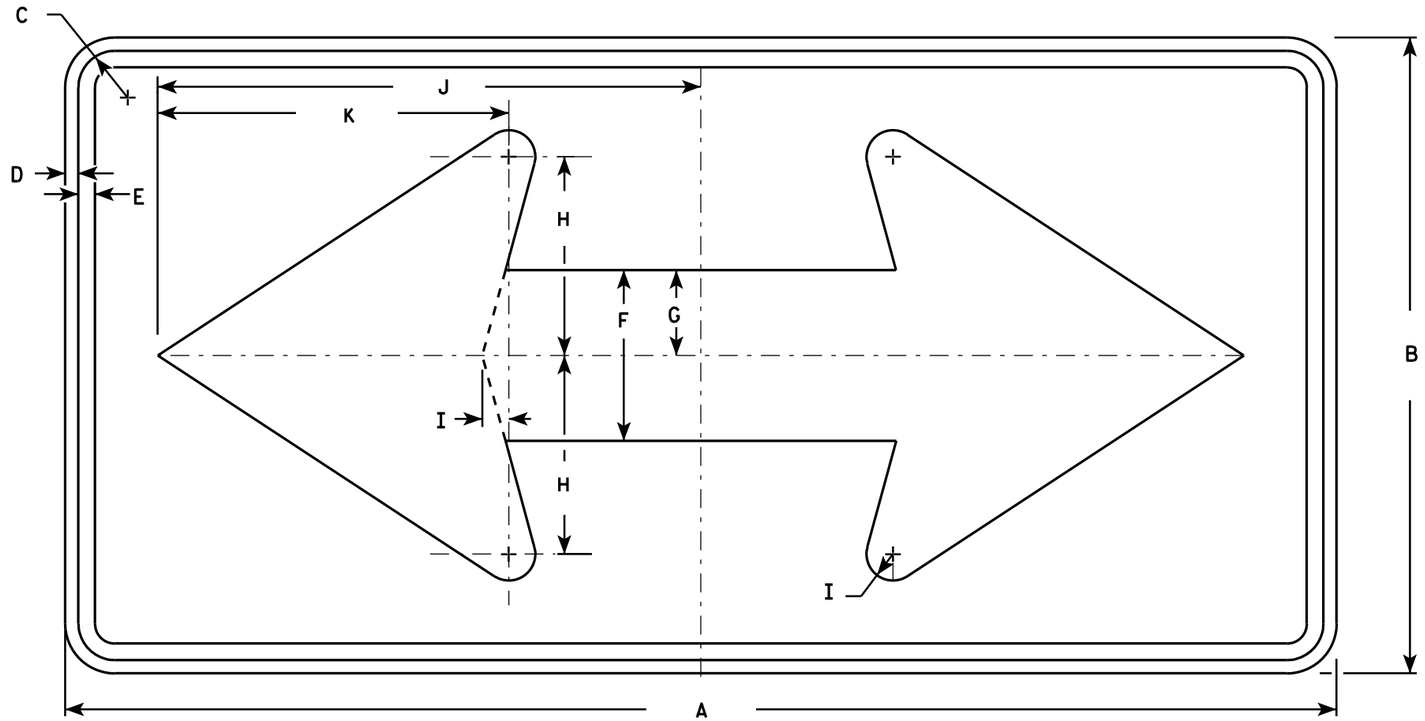
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/28/16 PLATE R11-3C.3

PROJECT NO:

SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R113C.DGN PLOT DATE : 28-JUL-2016 16:56 PLOT BY : ** platuser **



W1-7

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

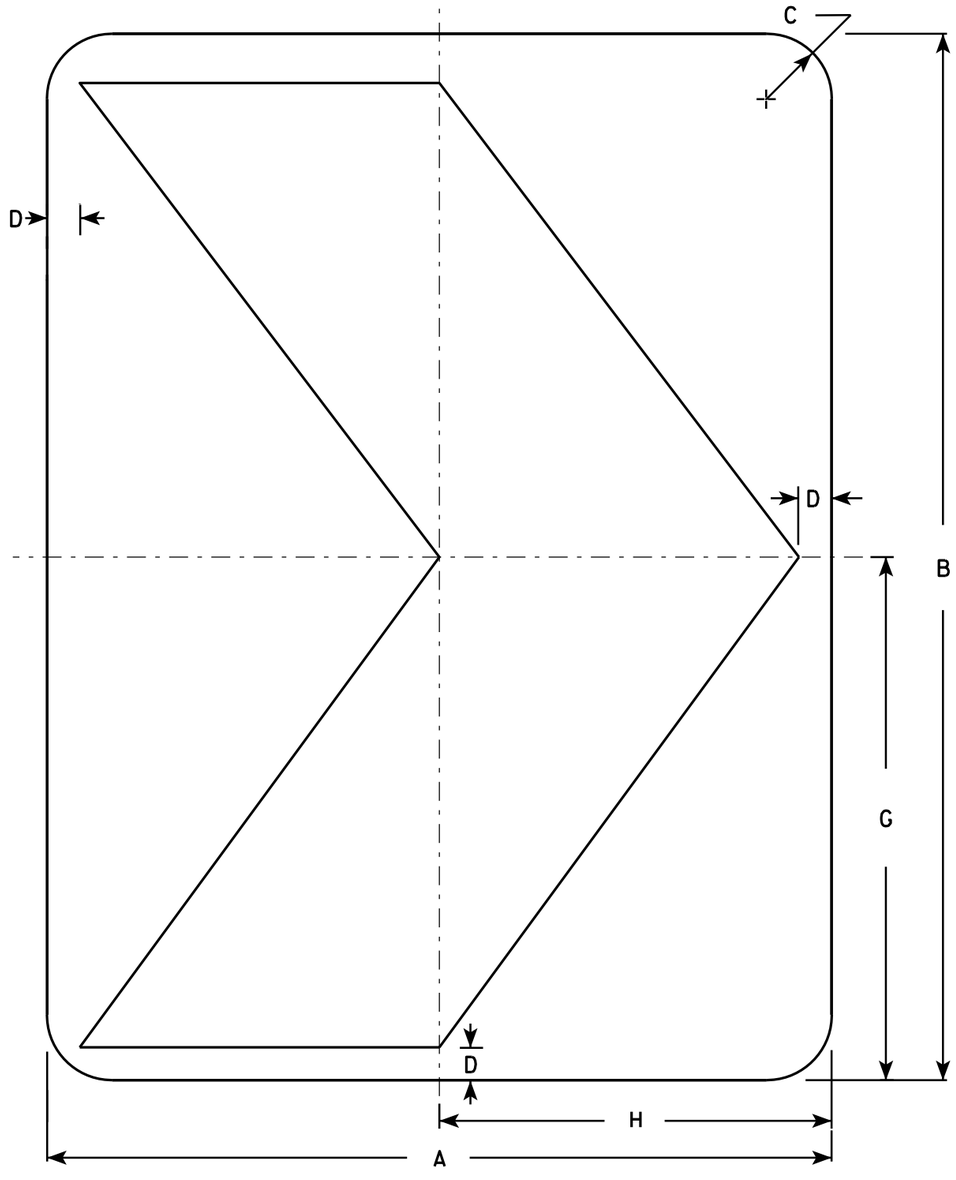
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 48 | E



W1-8

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	12	18	1 ½	½			9	6																			1.5
2S	18	24	1 ½	¾			12	9																			3.0
2M	18	24	1 ½	¾			12	9																			3.0
3	24	30	1 ½	1			15	12																			5.0
4	30	36	1 ⅞	1 ¼			18	15																			7.5
5	36	48	2 ¼	1 ½			24	18																			12.0

STANDARD SIGN
W1-8

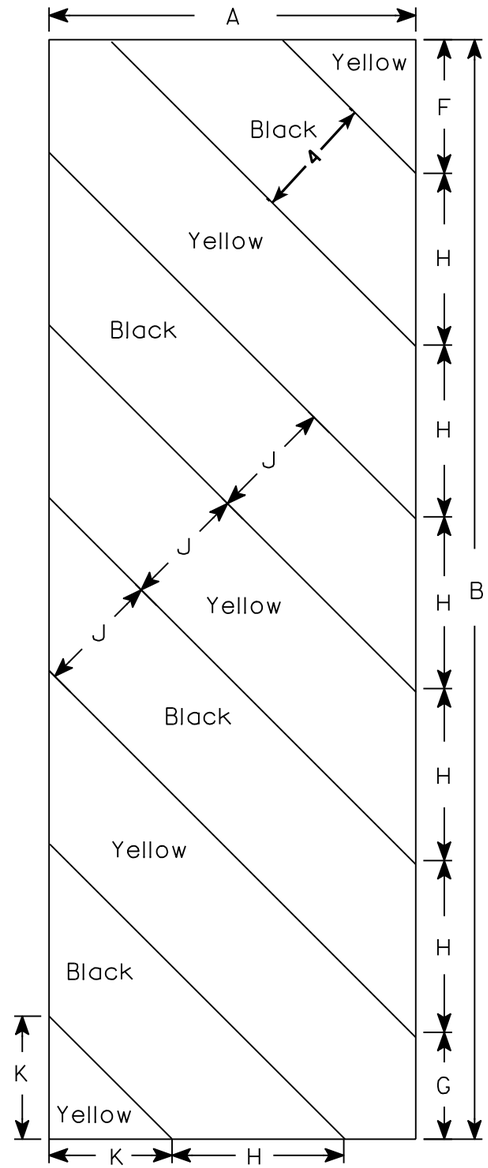
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

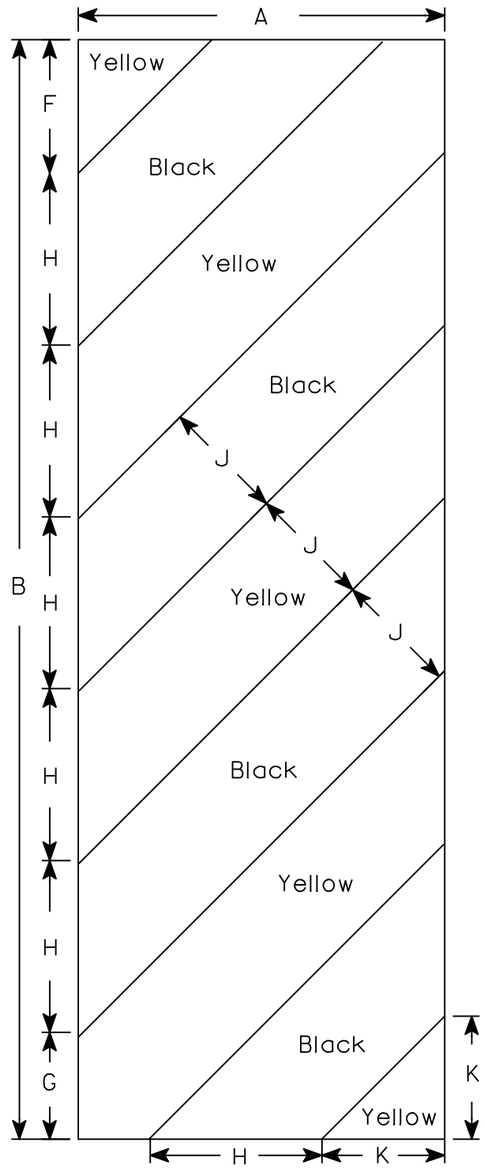
DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO: 49 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

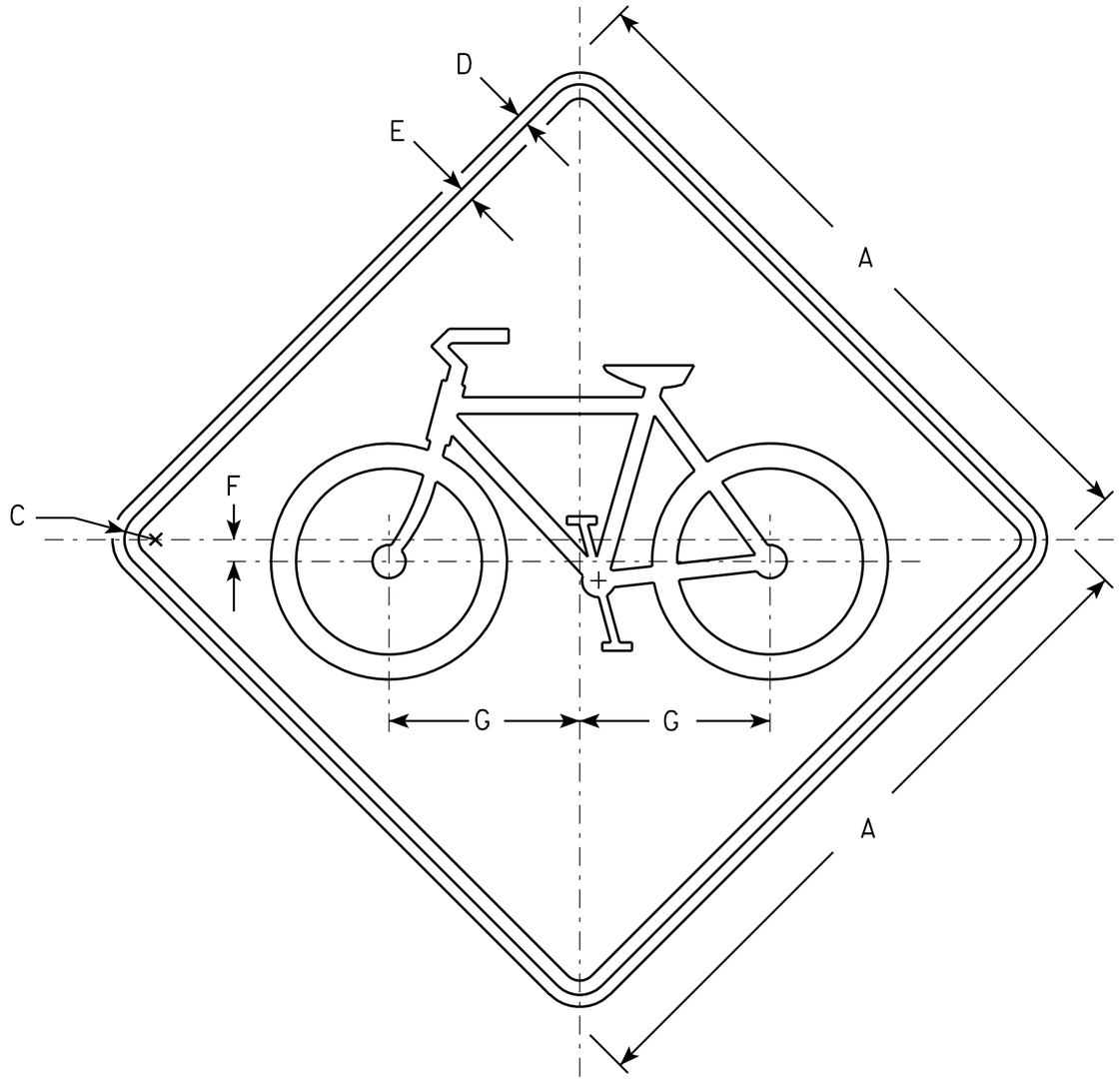
W5-52L & W5-52R

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: 50	E



W11-1

NOTES

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

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	3/4	1/2	3/4	6 5/8																				4.0
2S	30		1 3/8	1/2	5/8	1	8 1/2																				6.25
2M	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
3	36		1 5/8	5/8	3/4	1 1/4	10																				9.0
4	48		2 1/4	3/4	1	1 5/8	13 3/8																				16.0
5																											16.0

STANDARD SIGN
W11-1

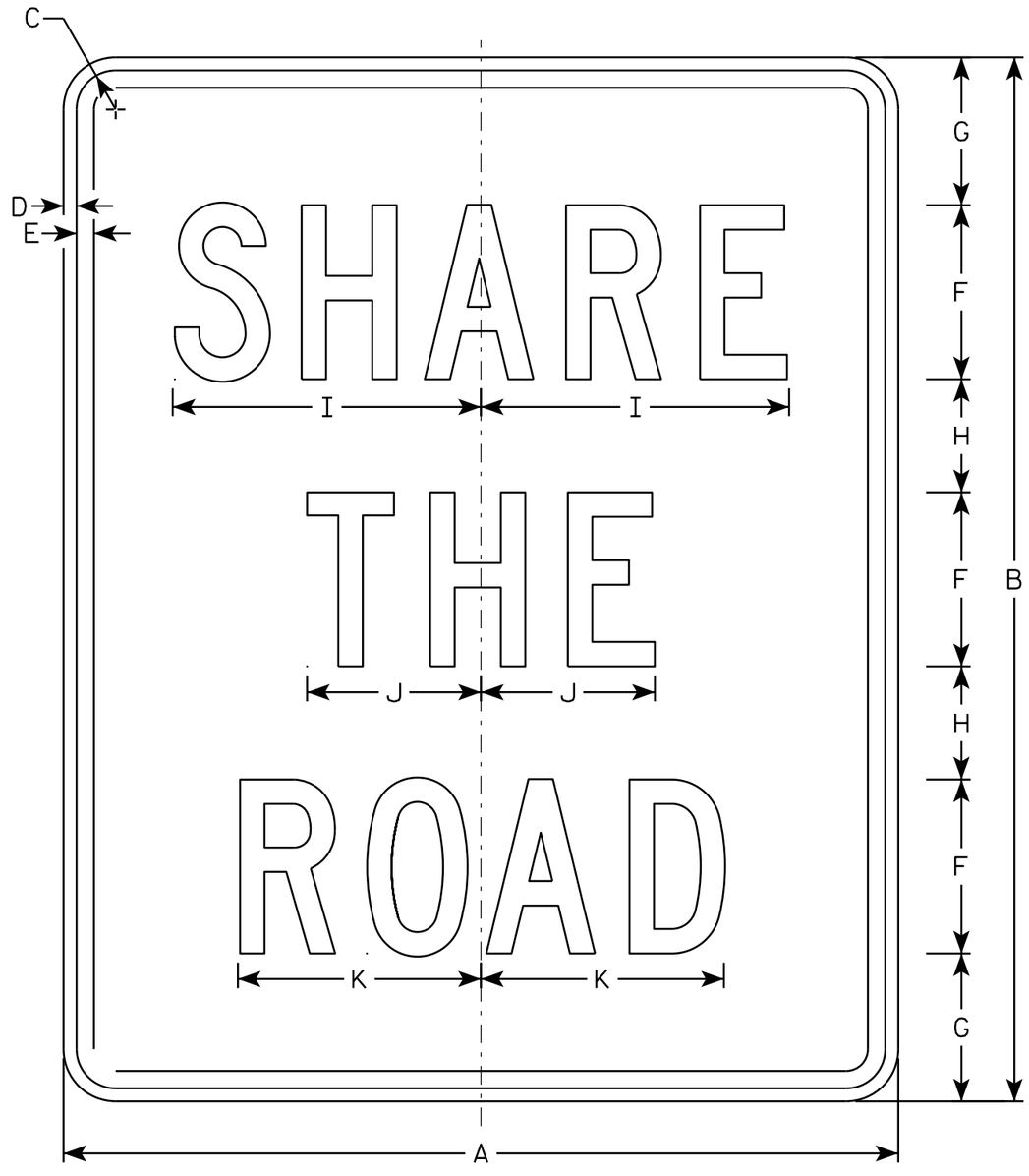
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/21/10 PLATE NO. W11-1.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 51 | E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W111.DGN PLOT DATE : 21-DEC-2010 10:08 PLOT BY : dotsja PLOT NAME : PLOT SCALE : 7.945391:1.000000
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. 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.

W16-1P

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	18	24	1 1/8	3/8	1/2	4	3 3/8	2 5/8	6 5/8	3 3/4	5 3/8																3.0
2M	18	24	1 1/8	3/8	1/2	4	3 3/8	2 5/8	6 5/8	3 3/4	5 3/8																3.0
3	24	30	1 1/8	3/8	1/2	5	4 1/4	3 1/4	8 7/8	5	7																5.0
4	24	30	1 1/8	3/8	1/2	5	4 1/4	3 1/4	8 7/8	5	7																5.0
5																											

STANDARD SIGN
W16-1P

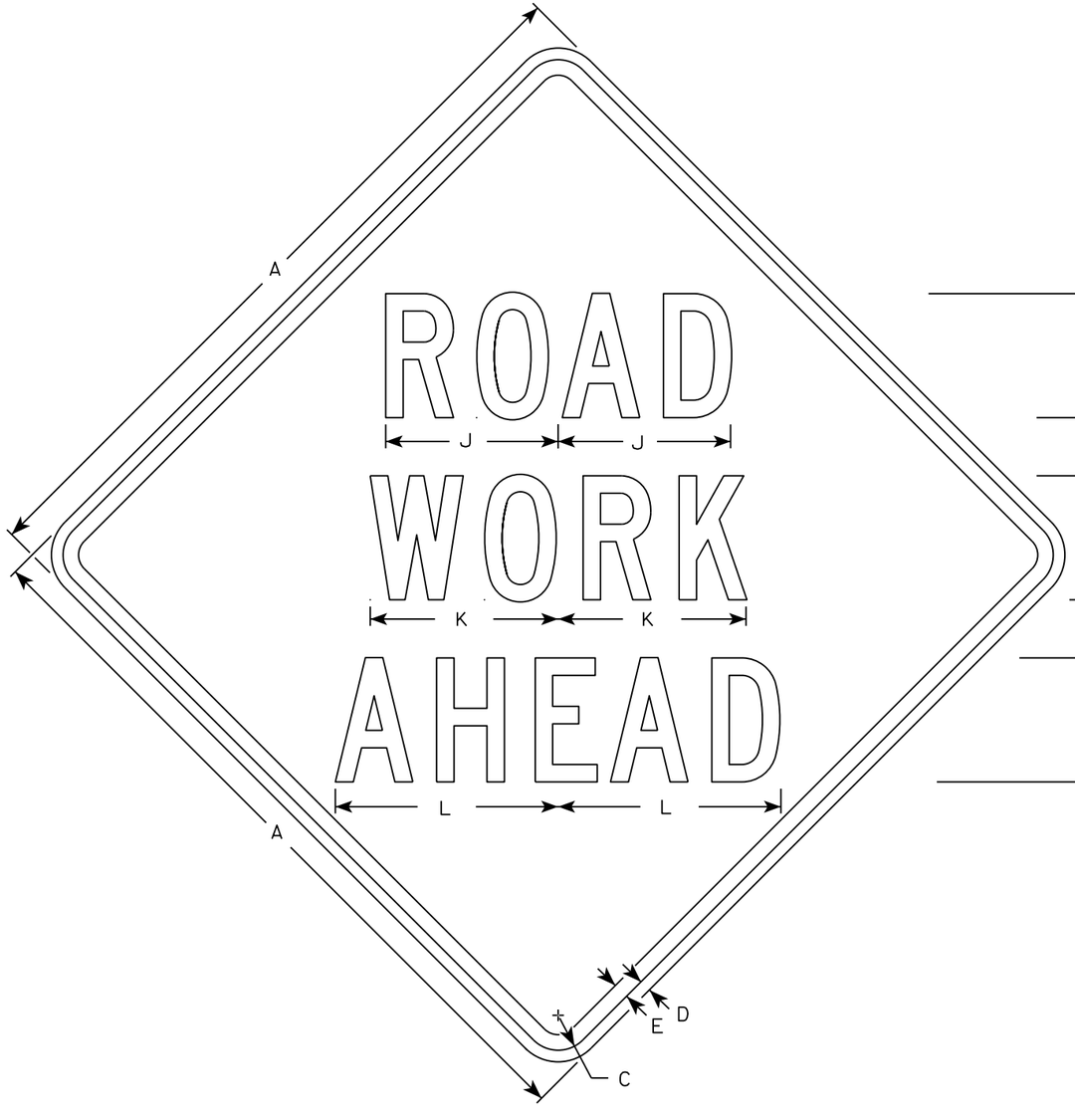
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

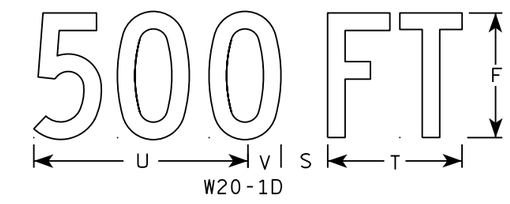
DATE 9/21/11 PLATE NO. W16-1P.2

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

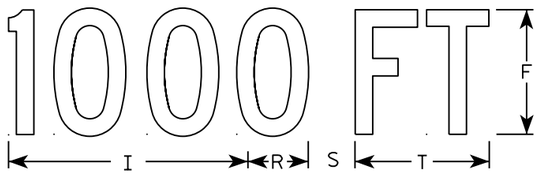
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W161P.DGN PLOT DATE : 27-JUL-2015 13:51 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 4.280853:1.000000
WISDOT/CADDS SHEET 42



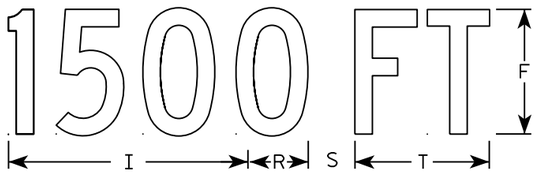
W20-1A



W20-1D



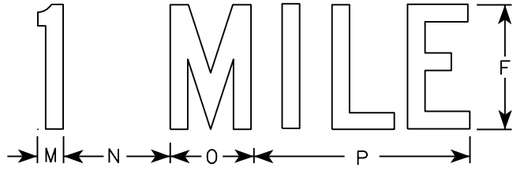
W20-1C



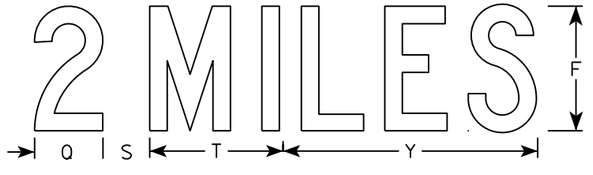
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 3/8	1/2	5/8	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9		2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

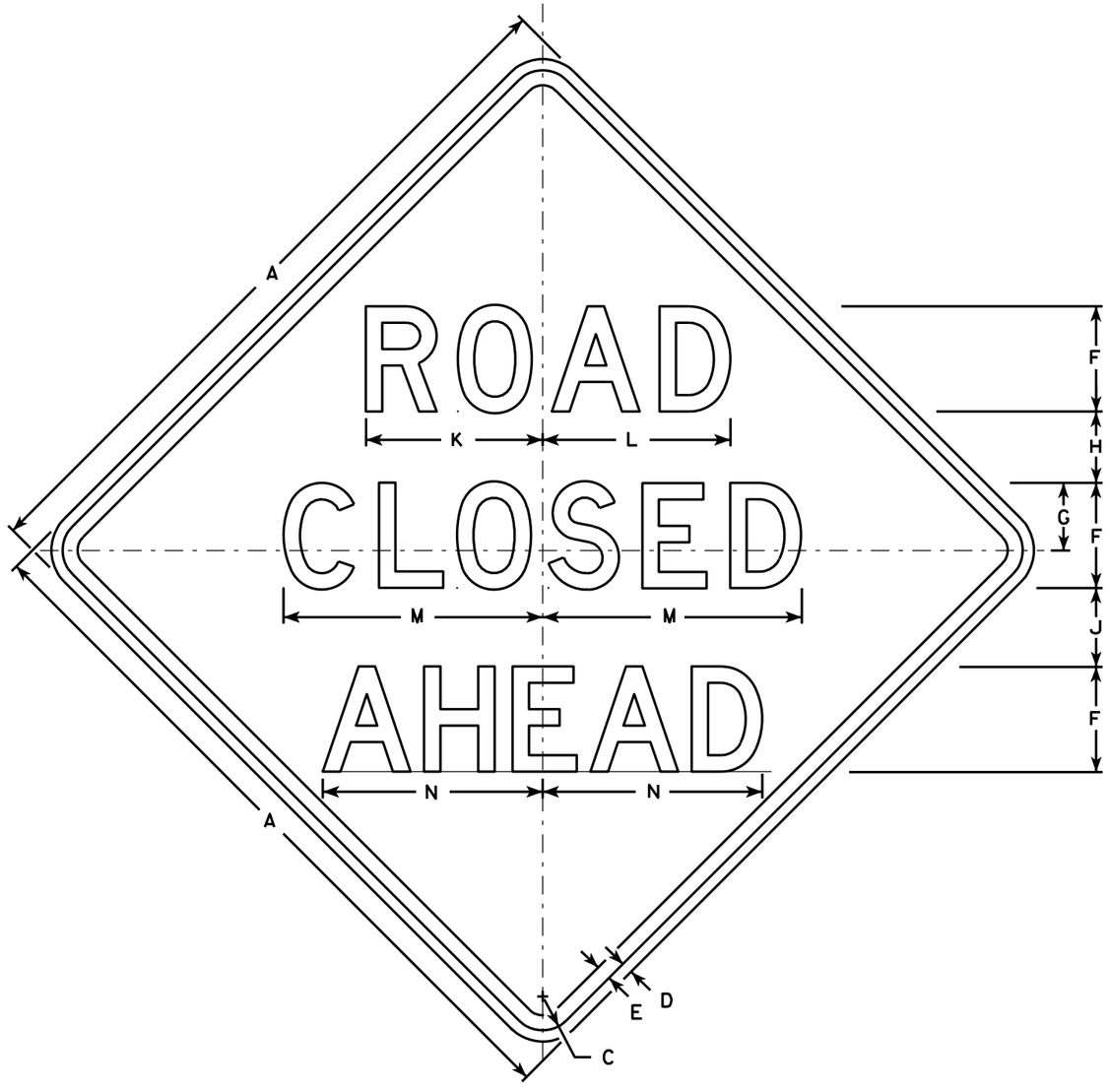
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

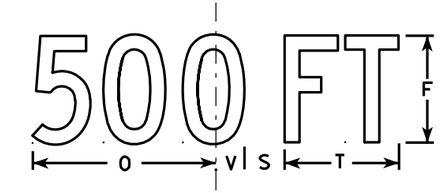
PROJECT NO:

SHEET NO: E

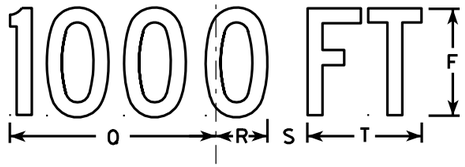
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W201.DGN PLOT DATE : 01-DEC-2015 18:24 PLOT BY : $$ plotuser $$



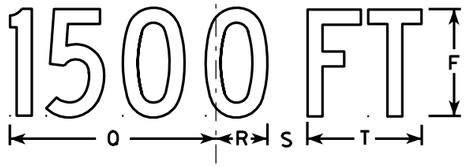
W20-3A



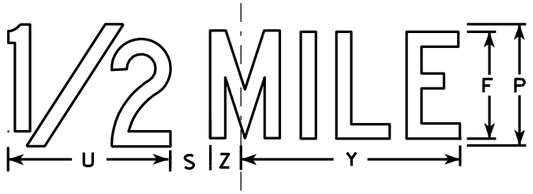
W20-3D



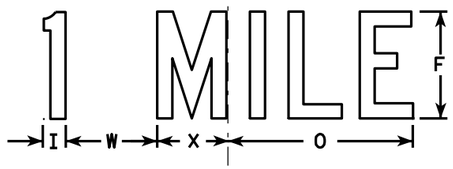
W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

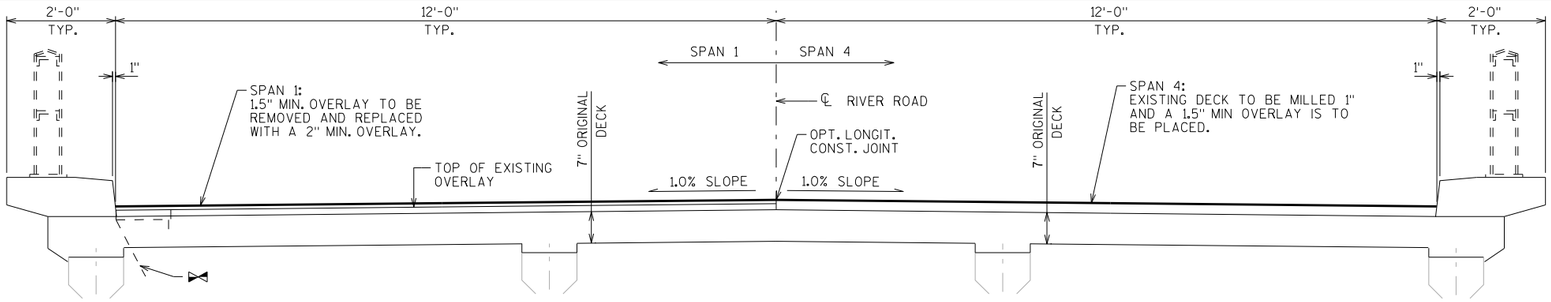
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2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

STANDARD SIGN
W20-3A, B, C, D, F & G

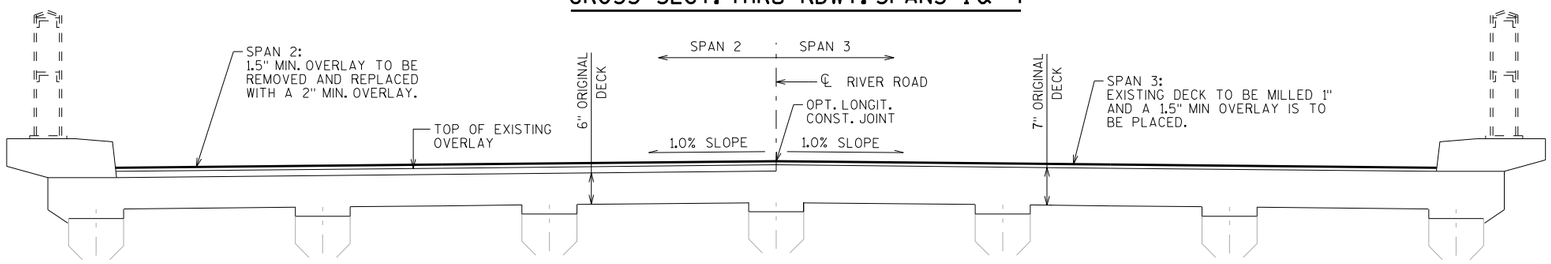
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 54 | E



CROSS SECT. THRU RDWY. SPANS 1 & 4



CROSS SECT. THRU RDWY. SPANS 2 & 3

TOTAL ESTIMATED QUANTITIES

	BID ITEM NUMBER	BID ITEMS	UNIT	TOTALS
	203.0225.S	DEBRIS CONTAINMENT B-13-89	LS	1
	502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 2-INCH	LF	31
	502.2000	COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 3-INCH	LF	62
	502.3100	EXPANSION DEVICE B-13-89	LS	1
	502.3200	PROTECTIVE SURFACE TREATMENT	SY	623
◔	502.4108	ADHESIVE ANCHORS 1-INCH	EACH	12
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,380
	506.0605	STRUCTURAL STEEL HS	LB	115
	506.2610	BEARING PADS ELASTOMERIC LAMINATED	EACH	11
	506.5000	BEARING ASSEMBLIES FIXED B-13-89	EACH	11
	506.7050.S	REMOVING BEARING B-13-89	EACH	22
	509.0301	PREPARATION DECKS TYPE 1	SY	10
	509.0302	PREPARATION DECKS TYPE 2	SY	5
	509.0500	CLEANING DECKS	SY	311
	509.1000	JOINT REPAIR	SY	35
◪	509.1500	CONCRETE SURFACE REPAIR	SF	115
	509.2000	FULL-DEPTH DECK REPAIR	SY	1
◭	509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	48
	509.9005.S	REMOVING CONCRETE MASONRY DECK OVERLAY B-13-89	SY	311
	604.9015.S	RESEAL CRUSHED AGGREGATE SLOPE PAVING	SY	325
◪	SPV.0060	CLEANING AND PAINTING BEARINGS	EACH	11

AVERAGE OVERLAY THICKNESS = 2.5" SPANS 1 & 2
= 2" SPANS 3 & 4

◪ CONCRETE SURFACE REPAIR ON SUBSTRUCTURE AND GIRDER ENDS AS DIRECTED BY THE FIELD ENGINEER.

◭ BID ITEM INCLUDES CONCRETE FOR PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, JOINT REPAIR, AND FULL-DEPTH DECK REPAIR.

◪ CLEAN & PAINT BEARINGS AT THE EAST ABUTMENT AND ON THE SPAN 3 SIDE OF PIER 2.

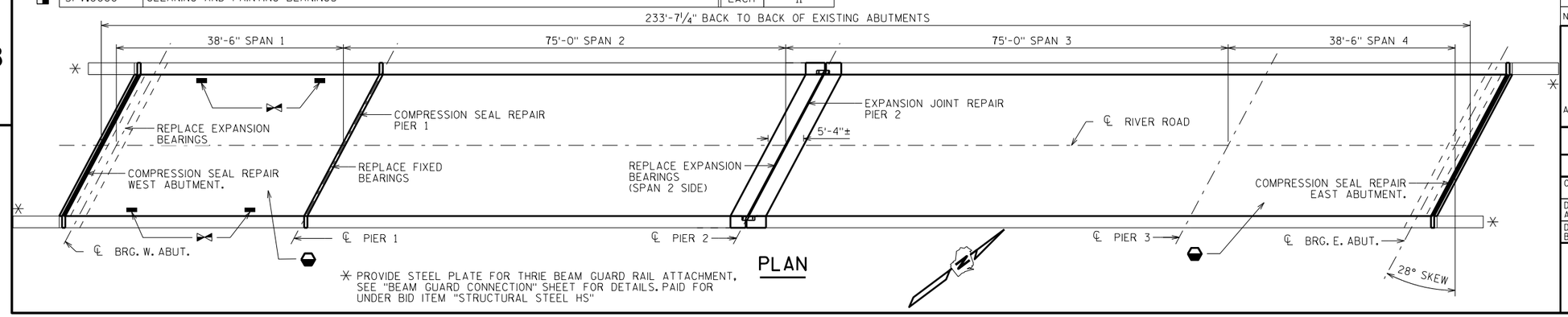
◔ BID ITEM INCLUDES ADHESIVE ANCHORS FOR ANCHORED LAMINATED ELASTOMERIC BEARINGS.

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
1	19+14±	S.W. CORNER OF BRIDGE	934.79

TRAFFIC VOLUME

RIVER ROAD	IH 39/90/94
A.D.T.=2,550 (2017)	A.D.T.=56,900 (2017)
R.D.S.=40 M.P.H.	R.D.S.=70 M.P.H.



PLAN

✳ PROVIDE STEEL PLATE FOR THRIE BEAM GUARD RAIL ATTACHMENT, SEE "BEAM GUARD CONNECTION" SHEET FOR DETAILS. PAID FOR UNDER BID ITEM "STRUCTURAL STEEL HS"

DESIGN DATA

STATE PROJECT NUMBER
1011-04-79

LIVE LOAD:

DESIGN RATING; HS-20
INVENTORY RATING; HS-10
OPERATIONAL RATING; HS-16
MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

MATERIAL PROPERTIES:

CONCRETE MASONRY - DECK OVERLAY —— f'c = 4,000 P.S.I.
CONCRETE MASONRY - ALL OTHER —— f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 —— fy = 60,000 P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS SHOWN ARE BASED ON THE EXISTING ORIGINAL STRUCTURE PLANS.

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

ANY EXCAVATION NECESSARY TO COMPLETE THE OVERLAY OR JOINT REPAIR AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY SHOWN ON THE PLANS BY MORE THAN ½".

THE EXISTING OVERLAY ON SPANS 1 & 2 SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING CONCRETE MASONRY DECK OVERLAY".

A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM SPANS 3 & 4 OF THE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PREPARATION DECKS TYPE 1, PREPARATION DECKS TYPE 2, FULL DEPTH DECK REPAIR, AND CONCRETE SURFACE REPAIR AREAS TO BE DETERMINED BY THE FIELD ENGINEER.

ALL REQUIRED PAINTING SHALL BE GRAY, FED. COLOR #26293.

⋈ REMOVE STEEL GRATING AND DETERIORATED CONCRETE AROUND DRAIN. FILL EXISTING FLOOR DRAIN WITH NEW CONCRETE. THIS SHALL BE CONSIDERED INCIDENTAL TO AND PAID FOR UNDER THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS"

⬭ RESEAL ALL EXISTING SLOPE PAVING AT BOTH ABUTMENTS. THIS SHALL BE PAID FOR/COVERED UNDER THE BID ITEM "RESEAL CRUSHED AGGREGATE SLOPE PAVING".

LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. JOINT REPAIR
3. EXPANSION JOINT DETAILS
4. COVER PLATE DETAILS
5. FIXED BEARING DETAILS
6. EXPANSION BEARING DETAILS
7. COMPRESSION SEAL REPAIR
8. BEAM GUARD CONNECTION

STRUCTURE DESIGN CONTACT:
MICHAEL LARSON (608) 267-4539
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY

BUREAU OF STRUCTURES
ACCEPTED William C. Dreher 1/25/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-13-89

RIVER ROAD OVER IH 39/90/94

COUNTY	TOWN/CITY/VILLAGE
DANE	WINDSOR

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGNED CK'D.	DRAWN BY	PLANS CK'D.
MJL	PMM	MJL	PMM

CONCRETE OVERLAY

SHEET 1 OF 8

55

I.D. 1011-04-09A DATE: JAN. 2017

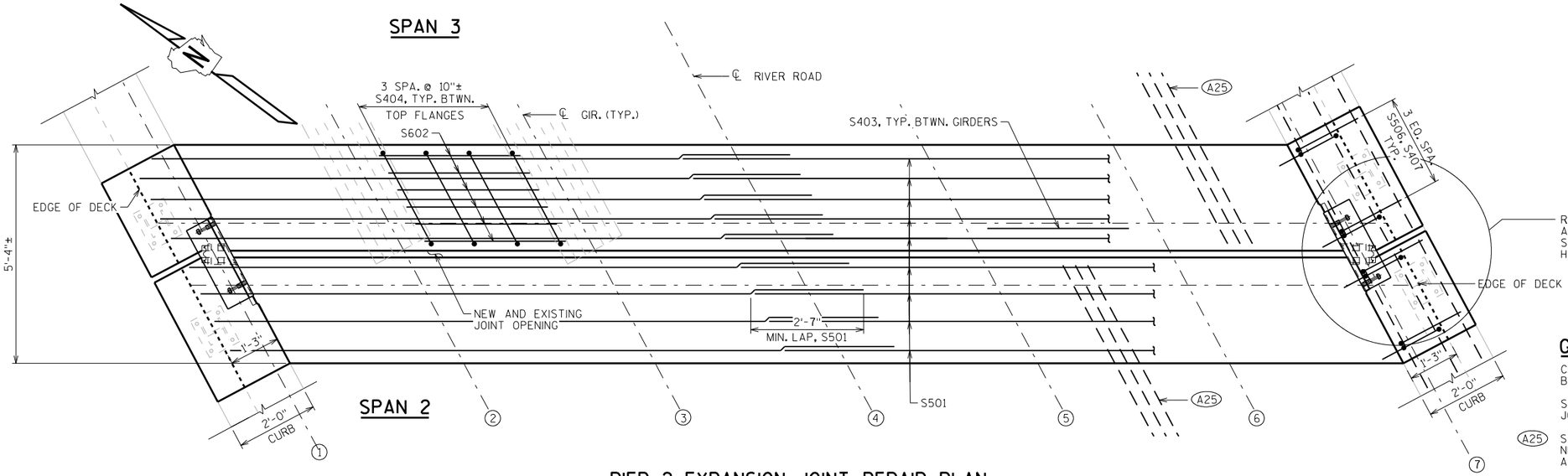
SCALE = 10.00

8

8

STATE PROJECT NUMBER

1011-04-79



PIER 2 EXPANSION JOINT REPAIR PLAN

GENERAL NOTES

CURB REPLACEMENT SHALL BE INCLUDED UNDER THE BID ITEM "JOINT REPAIR".

SEE SHEET 3 FOR THE NEW EXPANSION DEVICE & JOINT DETAILS WITHIN THE NEW JOINT REPAIR AREAS.

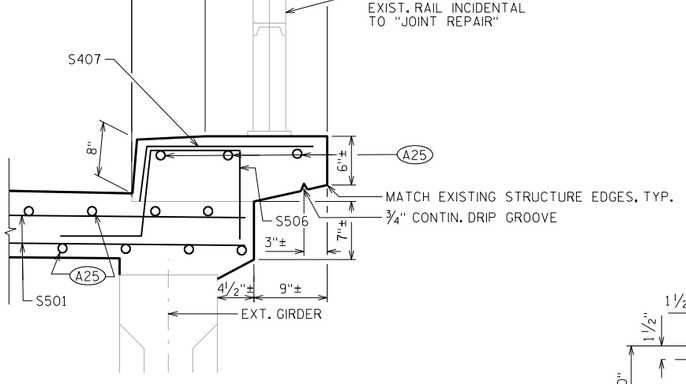
(A25) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK. TRIM REBAR AS NECESSARY TO ACCOMODATE NEW JOINT OPENING.

BILL OF BARS

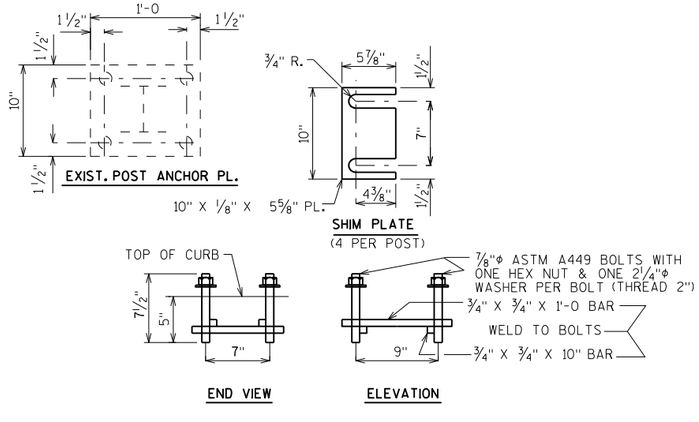
NOTE:
THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
S501	X	36	16'-2"		DECK - HORIZ. - TRANS. - TOP AND BOT.
S602	X	72	3'-2"		DIAPHRAGM - HORIZ.
S403	X	24	3'-2"		DECK - HORIZ. - TRANS. - BETWEEN GIRDERS
S404	X	24	5'-1"	X	DIAPHRAGM - VERT. - SPAN 3
S405	X	24	4'-9"	X	DIAPHRAGM - VERT. - SPAN 2
S506	X	16	2'-11"	X	DECK & CURB - VERT.
S407	X	16	2'-0"	X	CURB - VERT.
S508	X	27	3'-2"	X	WEST ABUT. PAVING NOTCH - VERT.
S509	X	4	15'-0"		WEST ABUT. PAVING NOTCH - LONGIT.

◯ INDICATES GIRDER NUMBER

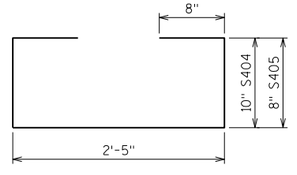


SECTION THRU CURB

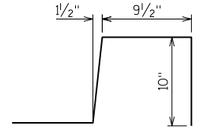


RAIL ANCHOR BOLTS

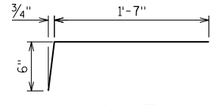
(ANCHOR BOLTS AND PLACEMENT INCIDENTAL TO JOINT REPAIR)



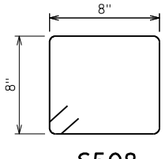
S404, S405



S506



S407



S508

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-89

DRAWN BY MJL | PLANS CK'D. PMM

JOINT REPAIR

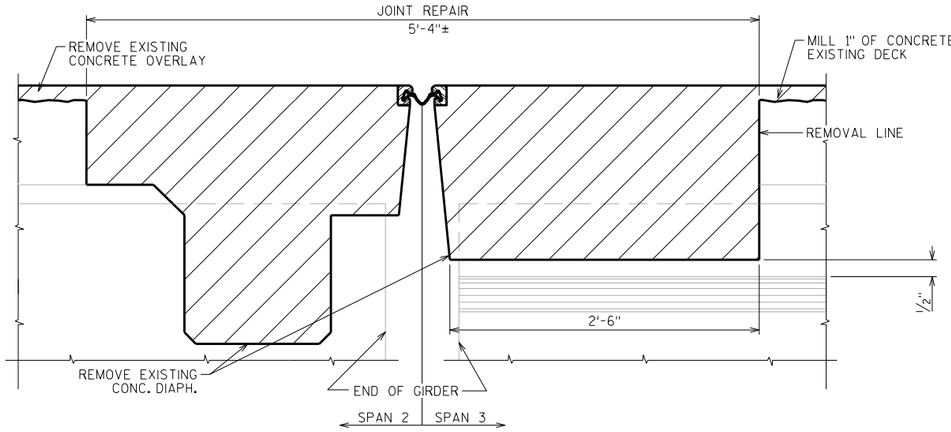
SHEET 2

56

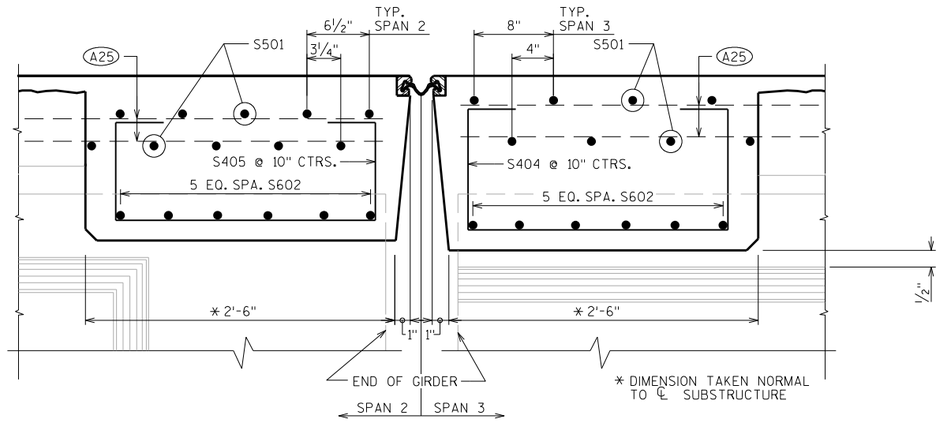
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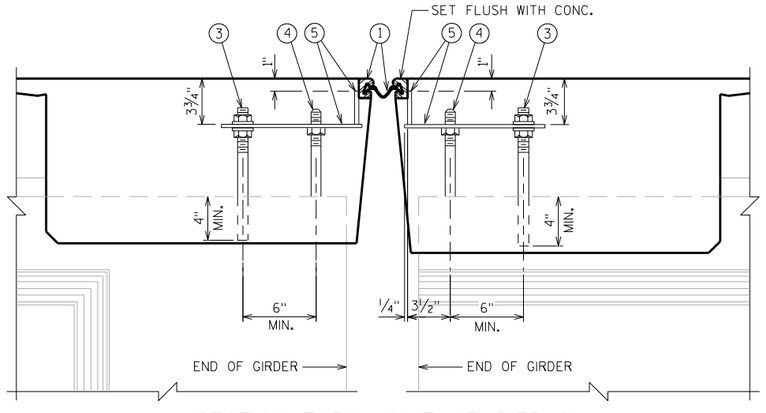
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SECTION THRU EXISTING EXPANSION JOINT AT PIER 2

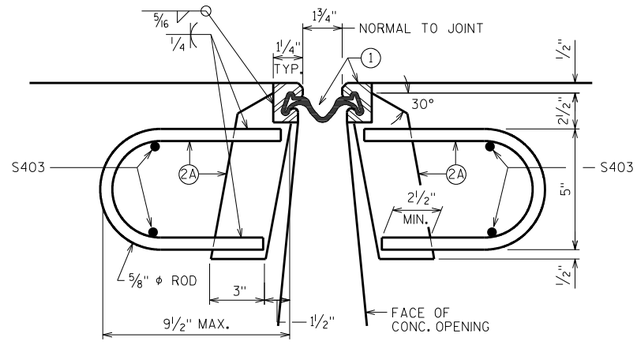


SECTION THRU NEW EXPANSION JOINT AT PIER 2



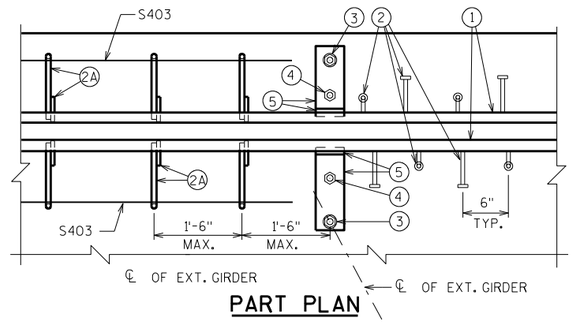
SECTION THRU JOINT AT PIER 2

NORMAL TO ℄ SUBSTRUCTURE

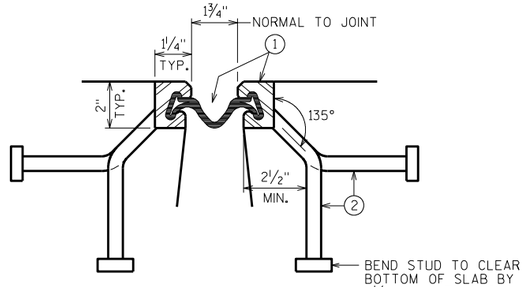


SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

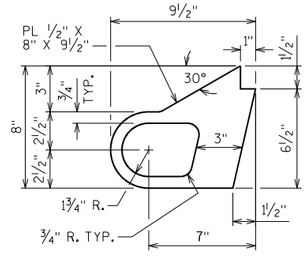


PART PLAN



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



ALTERNATE STRIP SEAL ANCHOR

LEGEND

1. NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
2. STUDS 5/8"ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
2A. 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
3. 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
4. 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
5. FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 11"2" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.
6. GALVANIZED PLATE 3/8" THICK X 2'-2" LONG WITH HOLES FOR NO. 7.
7. 3/4" ϕ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.
8. 3/4" ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
9. 3/4" ϕ X 2 1/4" GALVANIZED THREADED COUPLING.
10. 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

A25. SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK. TRIM REBAR AS NECESSARY TO ACCOMODATE NEW JOINT OPENING.

NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-13-89".

STATE PROJECT NUMBER

1011-04-79

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-13-89

DRAWN BY MJL | PLANS CK'D. PMM

EXPANSION JOINT DETAILS

SHEET 3

57

SCALE = 1.00

8

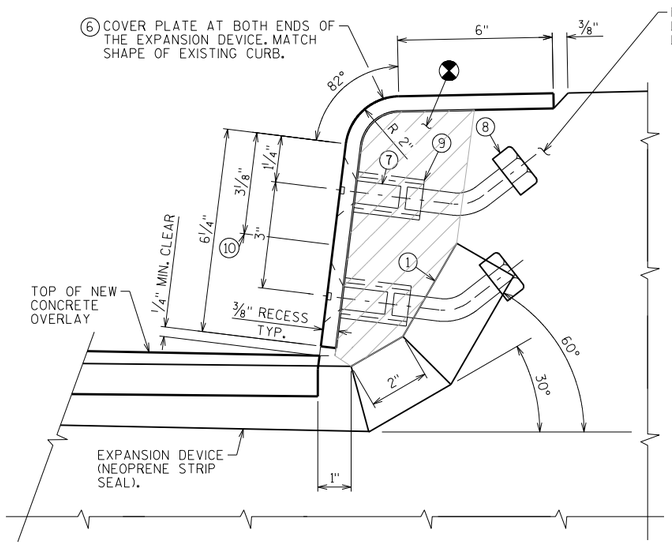
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STATE PROJECT NUMBER

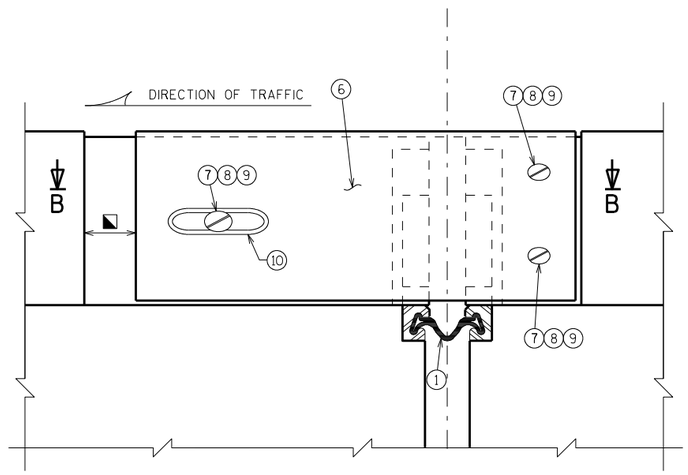
1011-04-79

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◪ JOINT OPENING DIM. ALONG SKEW PLUS 1/2".



SECTION A-A



VIEW OF PARAPET PLATE FROM ROADWAY

LEGEND

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

(2) STUDS 5/8"Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) 3/4" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER.

(4) 3/4"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

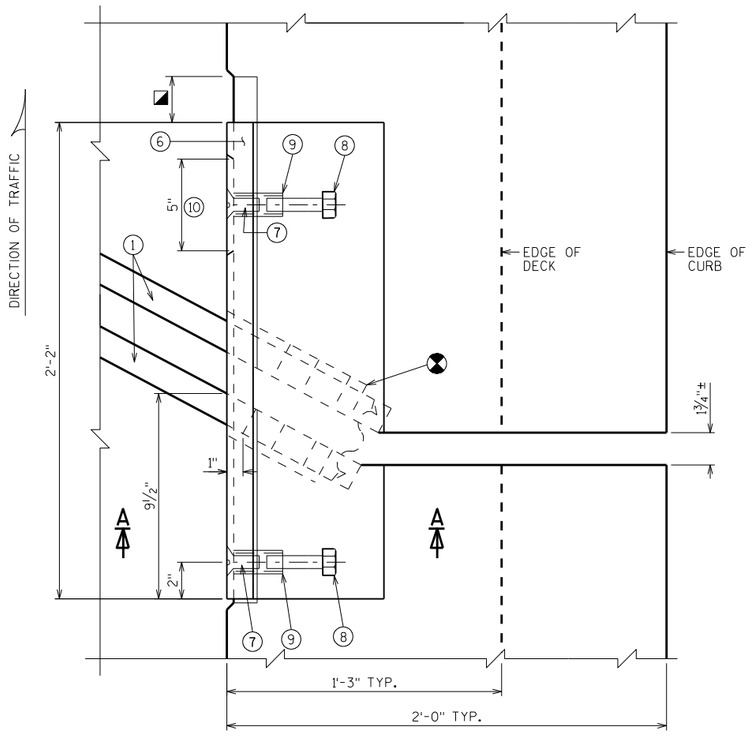
(6) BENT GALVANIZED PLATE 3/8" THICK X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) 3/4" Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

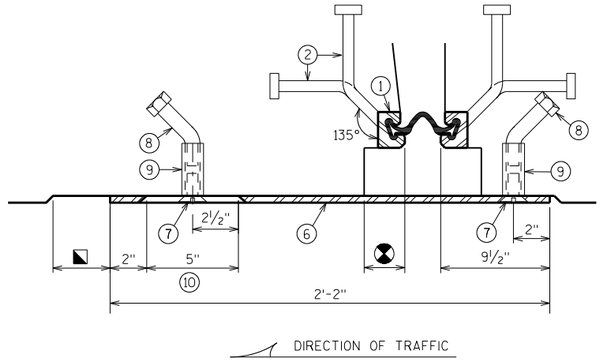
(8) 3/4" Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) 3/4" Φ X 2 1/4" GALVANIZED THREADED COUPLING.

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



PLAN



SECTION B-B

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-13-89

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COVER PLATE DETAILS

SHEET 4

58

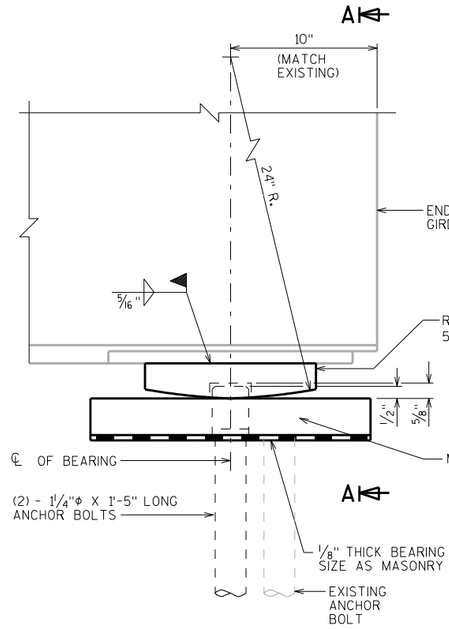
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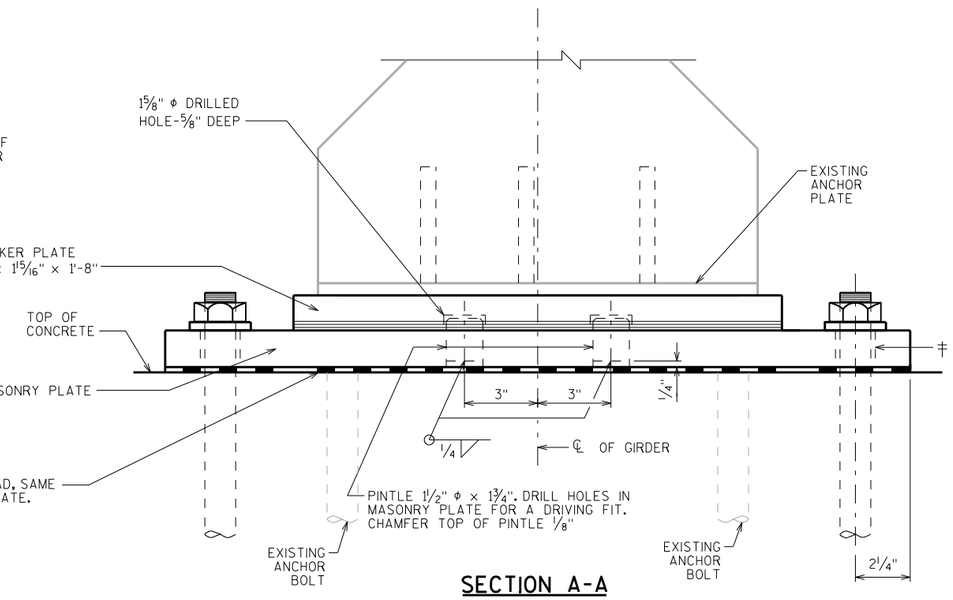
STATE PROJECT NUMBER

1011-04-79



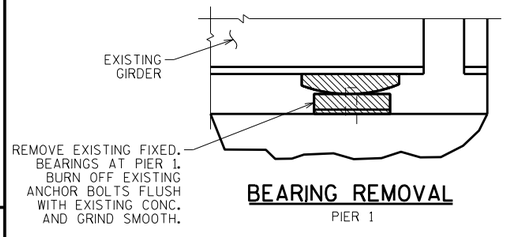
FIXED BEARING ASSEMBLY

BEARING TYPE 'B' & 'E'



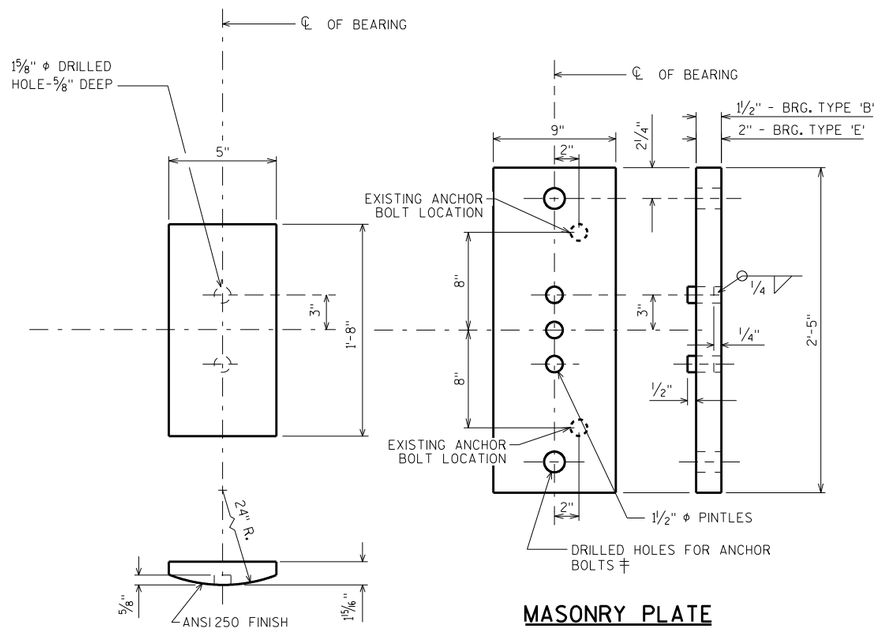
SECTION A-A

BEARING TYPE 'B' & 'E'



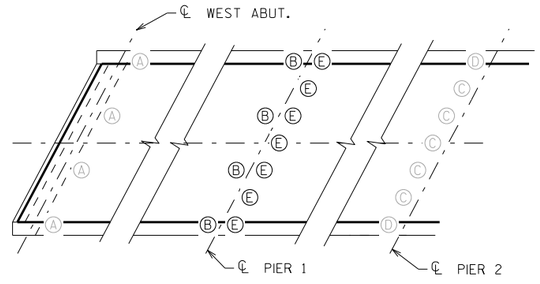
BEARING REMOVAL

PIER 1



ROCKER PLATE

MASONRY PLATE



BEARING REPLACEMENT LOCATIONS

SEE "EXPANSION BEARING DETAILS" SHEET FOR BEARING TYPES 'A', 'C', & 'D'.

BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT, AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C".

ALL MATERIAL IN "FIXED BEARING DETAILS", INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES FIXED B-13-89", EACH.

ROCKER PLATE SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER.

MASONRY PLATE SHALL BE GALVANIZED.

IF REQUIRED, PLACE SHIM PLATES BETWEEN THE BEARING PAD AND MASONRY PLATE. PLATES SHALL HAVE THE SAME PLAN DIMENSIONS AS THE MASONRY PLATE

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE SHALL HAVE A DIAMETER 3/8" LARGER THAN ANCHOR BOLT.

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STRUCTURE B-13-89

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FIXED BEARING DETAILS

SHEET 5

59

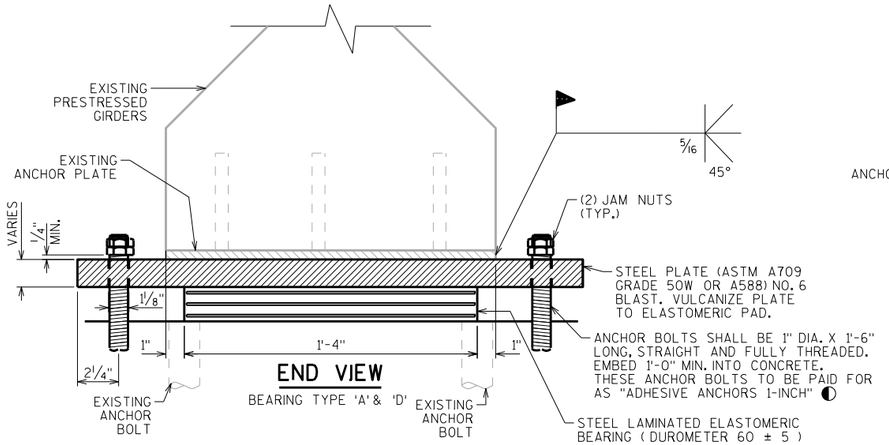
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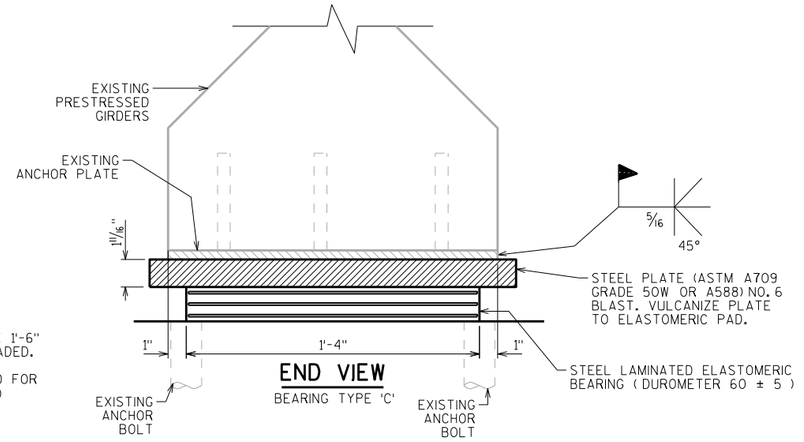
STATE PROJECT NUMBER

1011-04-79



END VIEW

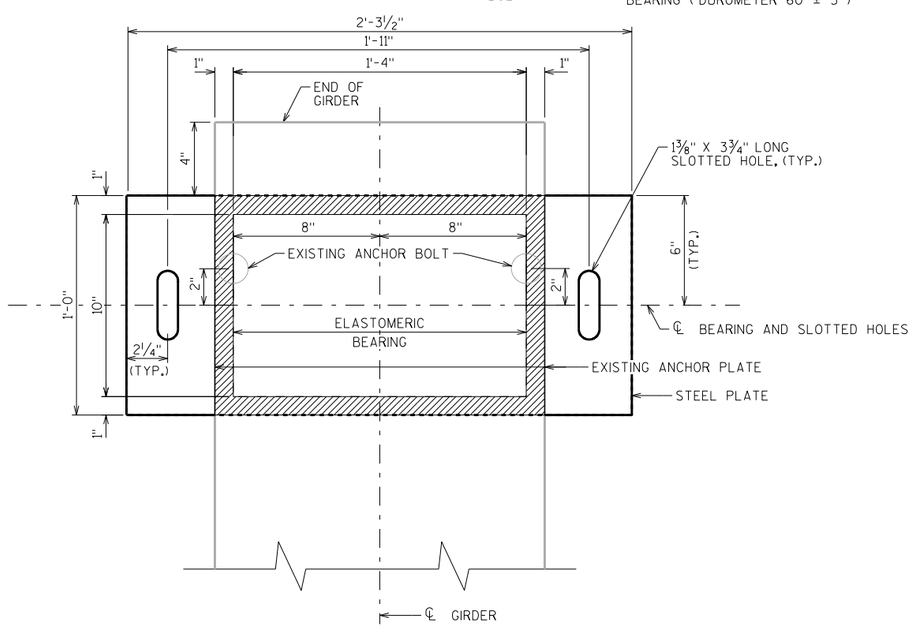
BEARING TYPE 'A' & 'D'



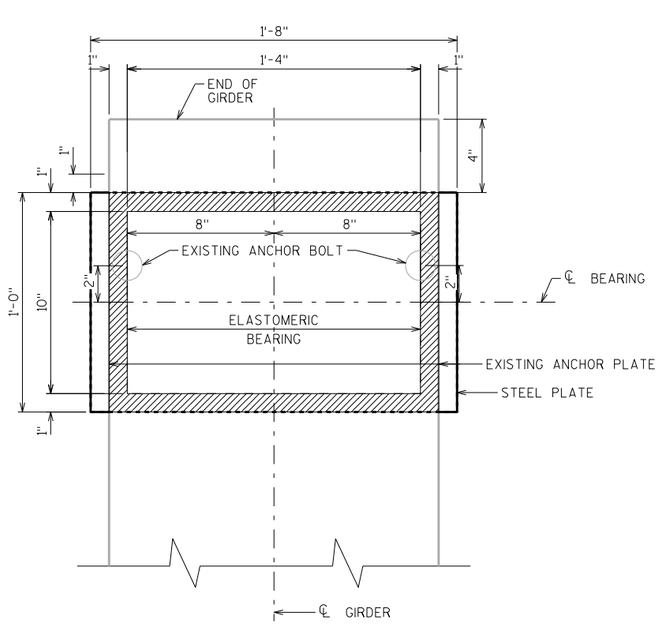
END VIEW

BEARING TYPE 'C'

◐ ANCHOR BOLTS SHALL BE AT THE CENTERLINE OF SLOTTED HOLE AT 60° F.
ANCHOR BOLT LOCATION SHALL BE ADJUSTED 1/8" TOWARDS END OF GIRDER FOR EACH 10° FALL IN TEMPERATURE.
ANCHOR BOLT LOCATION SHALL BE ADJUSTED 1/8" AWAY FROM END OF GIRDER FOR EACH 10° RISE IN TEMPERATURE.

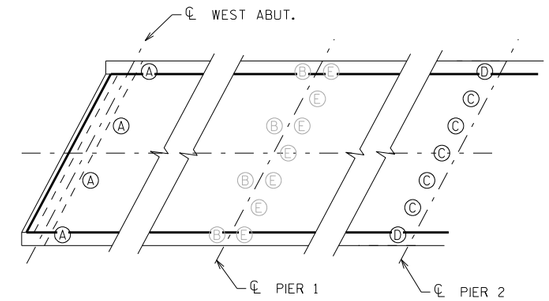


PLAN VIEW



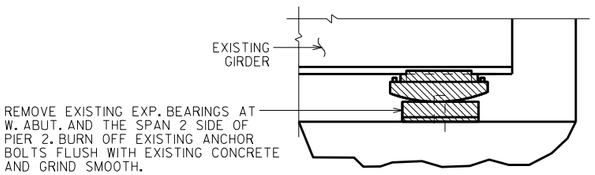
PLAN VIEW

BEARING TYPE 'C'



BEARING REPLACEMENT LOCATIONS

SEE "FIXED BEARING DETAILS" SHEET FOR BEARING TYPES 'B' & 'E'.



REMOVE EXISTING EXP. BEARINGS AT W. ABUT. AND THE SPAN 2 SIDE OF PIER 2. BURN OFF EXISTING ANCHOR BOLTS FLUSH WITH EXISTING CONCRETE AND GRIND SMOOTH.

BEARING REMOVAL

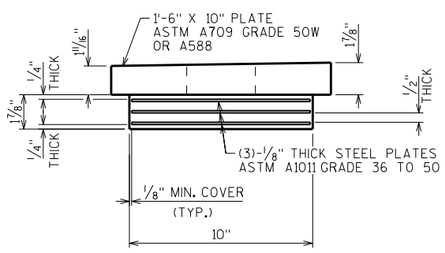
BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 85° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

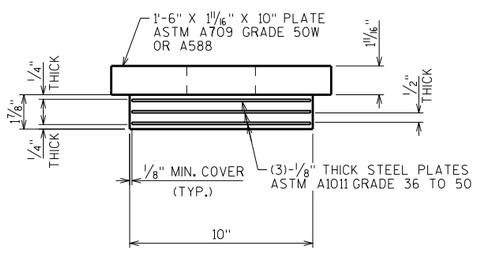
ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.



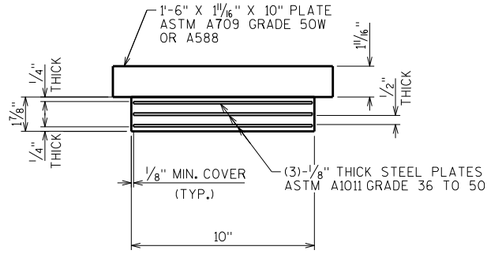
SECTION THRU ELASTOMERIC BEARING

BEARING TYPE 'A'



SECTION THRU ELASTOMERIC BEARING

BEARING TYPE 'D'



SECTION THRU ELASTOMERIC BEARING

BEARING TYPE 'C'

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STRUCTURE B-13-89

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EXPANSION BEARING DETAILS

SHEET 6

60

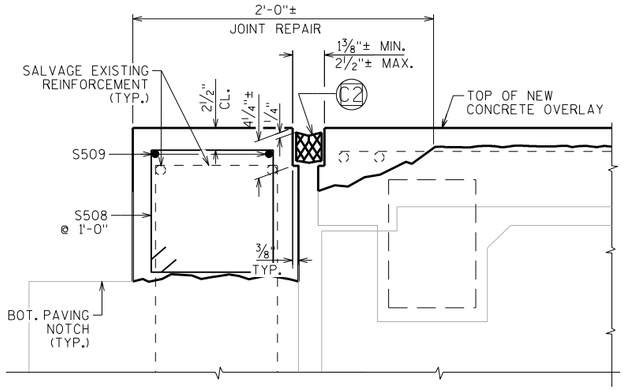
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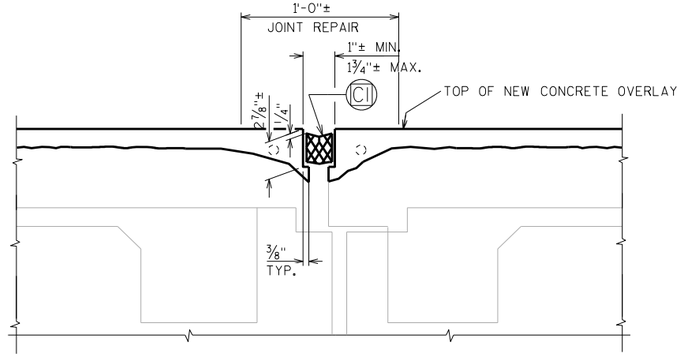
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STATE PROJECT NUMBER

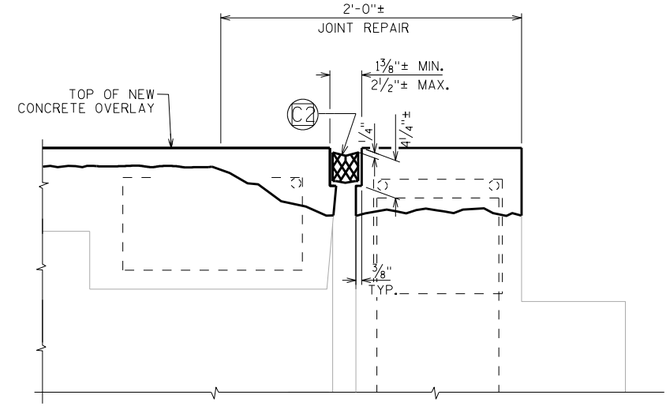
1011-04-79



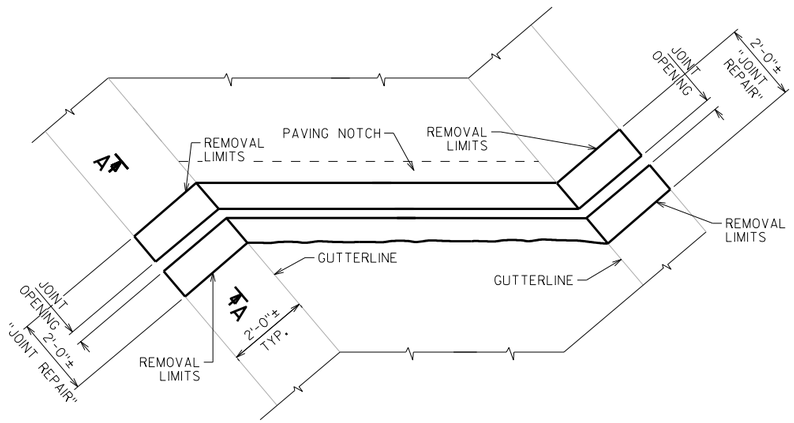
SECTION THRU PROPOSED JOINT AT WEST ABUTMENT



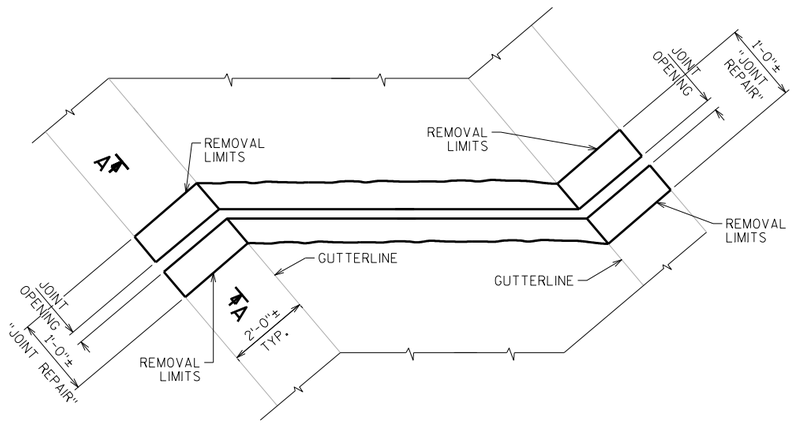
SECTION THRU PROPOSED JOINT AT PIER 1



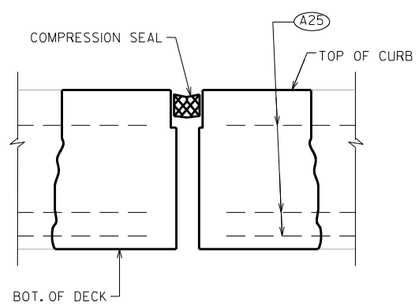
SECTION THRU PROPOSED JOINT AT EAST ABUTMENT



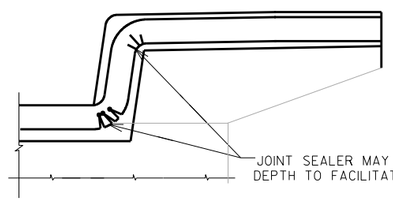
PLAN OF JOINT AT WEST ABUTMENT, AND EAST ABUTMENT



PLAN OF JOINT AT PIER 1



SECTION A



SECTION AT CURB

C1 COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 2"

C2 COMPRESSION JOINT SEALER PREFORMED ELASTOMERIC 3"

NOTES

REMOVAL LIMITS TO BE DETERMINED BY FIELD ENGINEER.

A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK. TRIM REBAR AS NECESSARY TO ACCOMODATE NEW JOINT OPENING.

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STRUCTURE B-13-89

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COMPRESSION SEAL REPAIR

SHEET 7

61

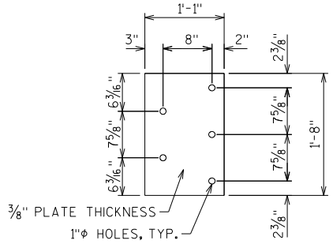
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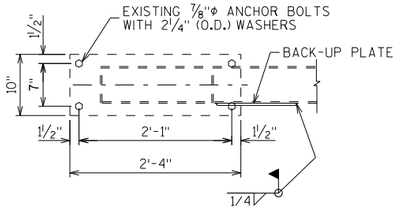
8

STATE PROJECT NUMBER

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BACK-UP PLATE DETAIL



PLAN VIEW

NOTES

ALL PLATE STEEL SHOWN SHALL BE ASTM A709 GRADE 50.

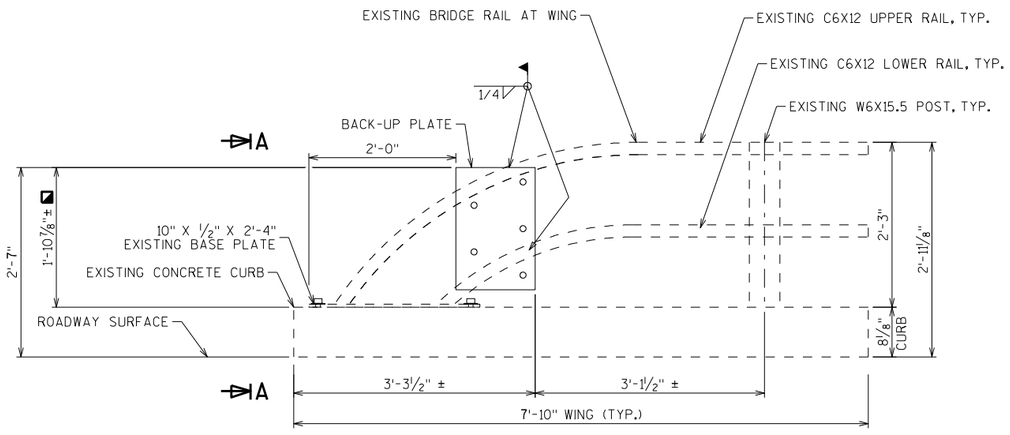
BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

FIELD WELD ACCORDING TO AWS D1.1 USING 7018 ELECTRODES WHICH ARE SEALED AND PROPERLY STORED PRIOR TO USE.

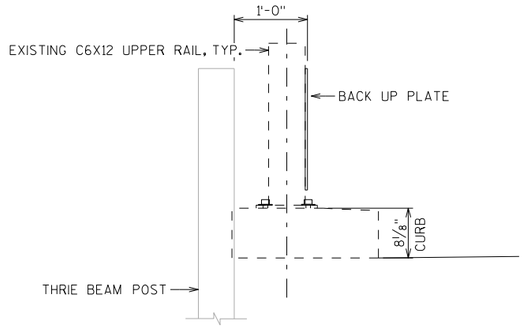
THRIE BEAM GUARD RAIL IS NOT INCLUDED AS A BID ITEM UNDER STRUCTURE B-13-89. THRIE BEAM GUARD RAIL IS SHOWN FOR REFERENCE ONLY.

BACKUP PLATE TO BE SHOP PAINTED WITH A WELDABLE PRIMER. TOUCH UP AREAS IN FIELD AT THE DIRECTION OF THE ENGINEER. PAINTING OF THE BACKUP PLATE TO BE PAID FOR UNDER BID ITEM "STRUCTURAL STEEL HS"

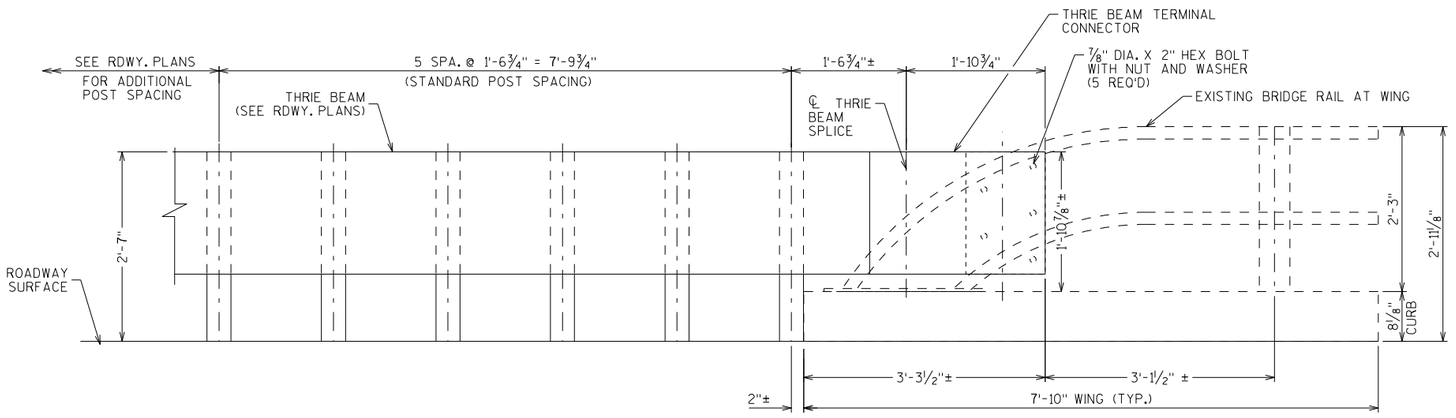
◪ CONTACT THE BEAUREU OF STRUCTURES IF THIS DIMENSION VARIES BY MORE THAN ½"



BACK-UP PLATE ELEVATION VIEW



VIEW A-A



THRIE BEAM CONNECTION ELEVATION VIEW

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BEAM GUARD CONNECTION

SHEET 8

62

8

8

SCALE = 1.00

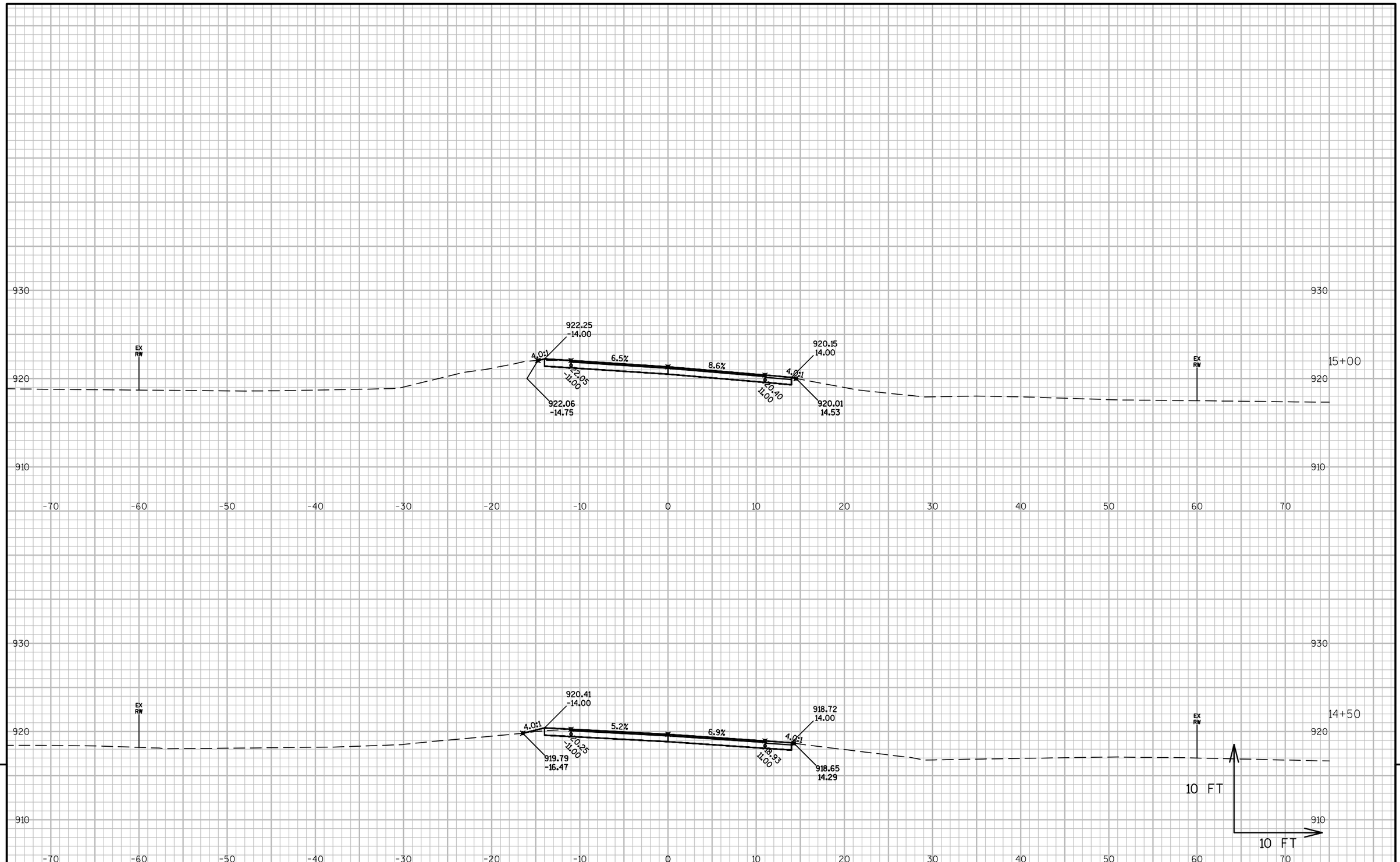
Station	Cut Area (Sq.ft.)	Cut Volume (Cu.yd.)	Reusable Volume (Cu.yd.)	Fill Area (Sq.ft.)	Fill Volume (Cu.yd.)	Cum. Cut Vol. (Cu.yd.)	Cum. Reusable Vol. (Cu.yd.)	Cum. Fill Vol. (Cu.yd.)	Cum. Net Vol. (Cu.yd.)
14+25.000	0	0	0	1.02	0.47	0	0	0.47	-0.47
14+50.000	0.06	0.03	0.03	0.95	0.91	0.03	0.03	1.39	-1.36
14+75.000	0	0.03	0.03	0.28	0.58	0.06	0.06	1.97	-1.91
15+00.000	0	0	0	0.41	0.32	0.06	0.06	2.29	-2.23
15+25.000	0.14	0.07	0.07	0.82	0.57	0.13	0.13	2.86	-2.73
15+50.000	0.23	0.17	0.17	0.72	0.72	0.3	0.3	3.58	-3.28
15+75.000	0.1	0.15	0.15	0.44	0.54	0.45	0.45	4.12	-3.67
16+00.000	0.09	0.09	0.09	0.43	0.41	0.54	0.54	4.53	-3.99
16+25.000	0.15	0.11	0.11	0.61	0.49	0.65	0.65	5.02	-4.37
16+50.000	0.09	0.11	0.11	9.56	4.37	0.76	0.76	9.39	-8.62
16+75.000	0.02	0.06	0.06	57.37	31.7	0.82	0.82	41.09	-40.27
17+00.000	0.17	0.09	0.09	60.37	55.32	0.91	0.91	96.41	-95.5
17+25.000	0.16	0.15	0.15	96.41	72.11	1.06	1.06	168.52	-167.46
17+50.000	0.31	0.22	0.22	115.54	98.12	1.28	1.28	266.64	-265.36
17+75.000	0.73	0.49	0.49	104.06	100.92	1.78	1.78	367.56	-365.79
18+00.000	0.21	0.44	0.44	103.75	96.21	2.21	2.21	463.77	-461.56
18+25.000	0.04	0.12	0.12	124.44	105.29	2.33	2.33	569.06	-566.73
18+50.000	0.16	0.09	0.09	133.06	119.22	2.42	2.42	688.28	-685.86
18+75.000	0.79	0.44	0.44	81.85	99.5	2.86	2.86	787.77	-784.92
19+00.000	0.44	0.57	0.57	17.45	45.97	3.43	3.43	833.75	-830.32
19+25.000	0	0.2	0.2	0	8.08	3.63	3.63	841.82	-838.19
21+50.000	0.85	0.39	0.39	48.28	22.35	4.03	4.03	864.18	-860.15
21+75.000	1.45	1.07	1.07	76.61	57.82	5.09	5.09	922	-916.9
22+00.000	0.77	1.01	1.01	86.78	76.45	6.11	6.11	998.44	-992.34
22+25.000	1.16	0.93	0.93	89.94	80.3	7.04	7.04	1078.74	-1071.71
22+50.000	2.96	1.91	1.91	90.93	83.74	8.95	8.95	1162.48	-1153.53
22+75.000	0	1.41	1.41	111.26	92	10.36	10.36	1254.48	-1244.12
23+00.000	0.05	0.02	0.02	123.13	107.24	10.38	10.38	1361.73	-1351.34
23+25.000	1.83	0.88	0.88	63.91	85.57	11.27	11.27	1447.29	-1436.03
23+50.000	1.45	1.62	1.62	46.71	44.76	12.89	12.89	1492.05	-1479.17
23+75.000	0	0.71	0.71	0.54	19.56	13.6	13.6	1511.62	-1498.02
24+00.000	0	0	0	0.38	0.41	13.6	13.6	1512.02	-1498.43
24+25.000	0	0	0	0.23	0.28	13.6	13.6	1512.31	-1498.71
24+50.000	0	0	0	0.19	0.19	13.6	13.6	1512.49	-1498.9
24+75.000	0	0	0	0	0.08	13.6	13.6	1512.58	-1498.98

CUMULATIVE FILL	1513	CYD
+10% UNDISTRIBUTED		
TOTAL BORROW	**1670**	CYD

9

9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET	E

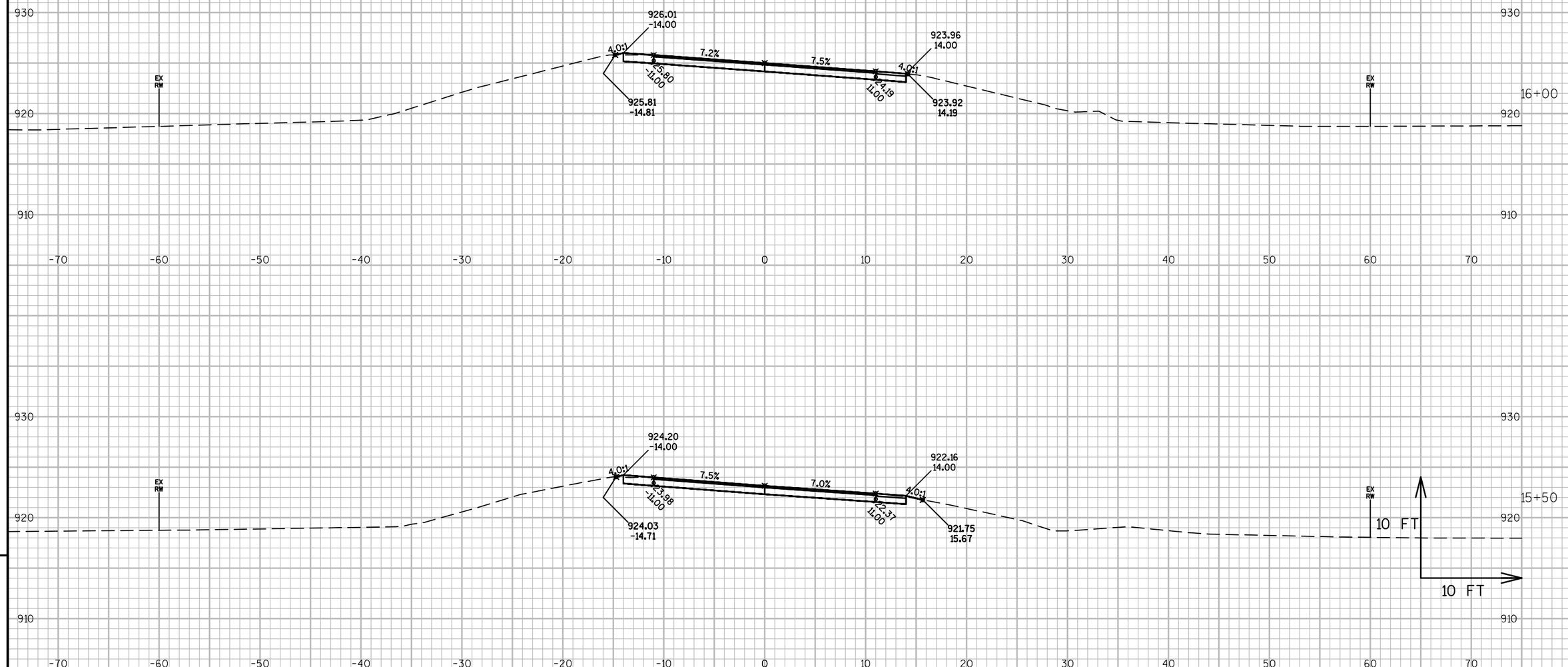


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 64	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (69)

PLOT DATE : 5/1/2016 2:56 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

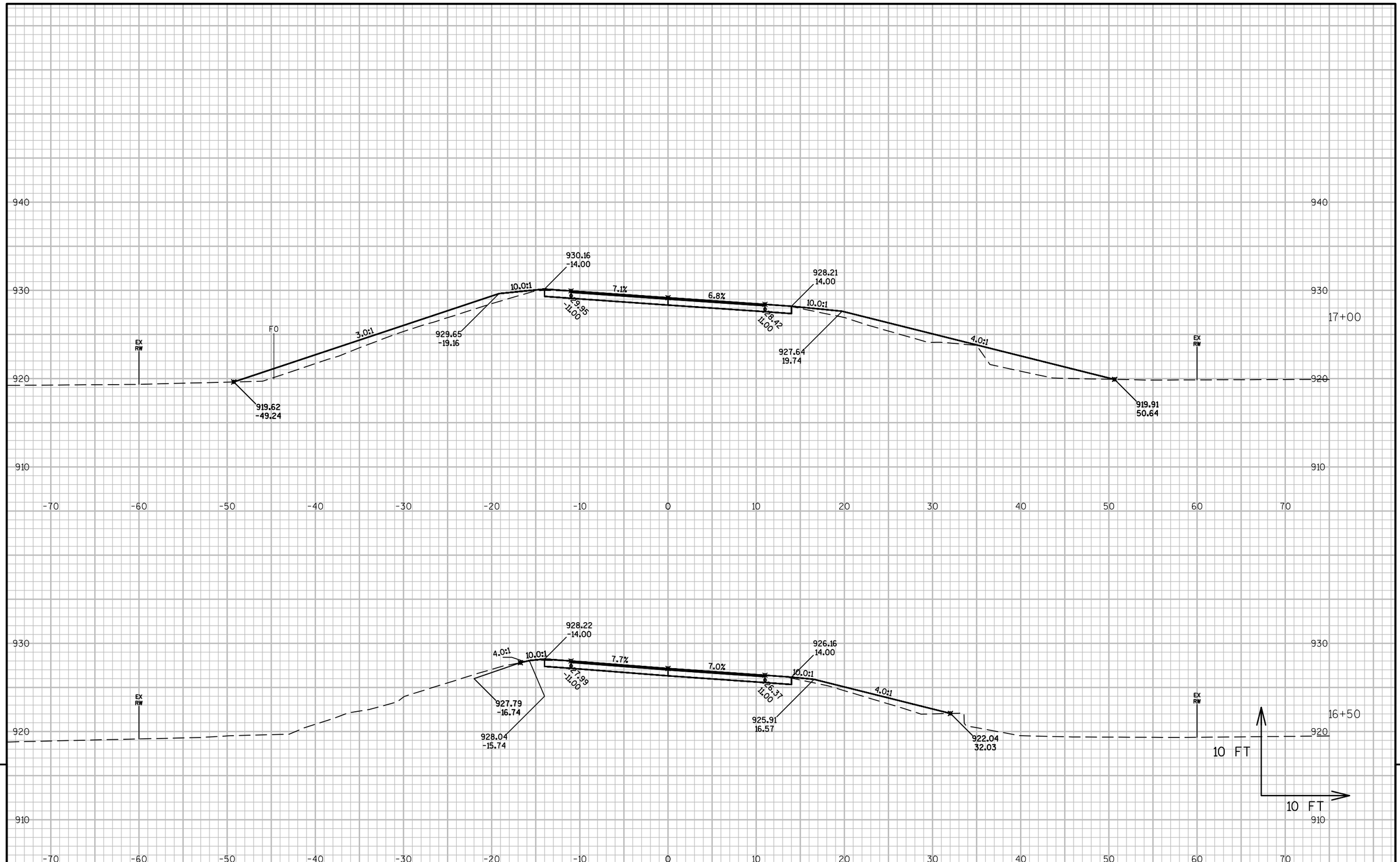


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 65	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (70)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

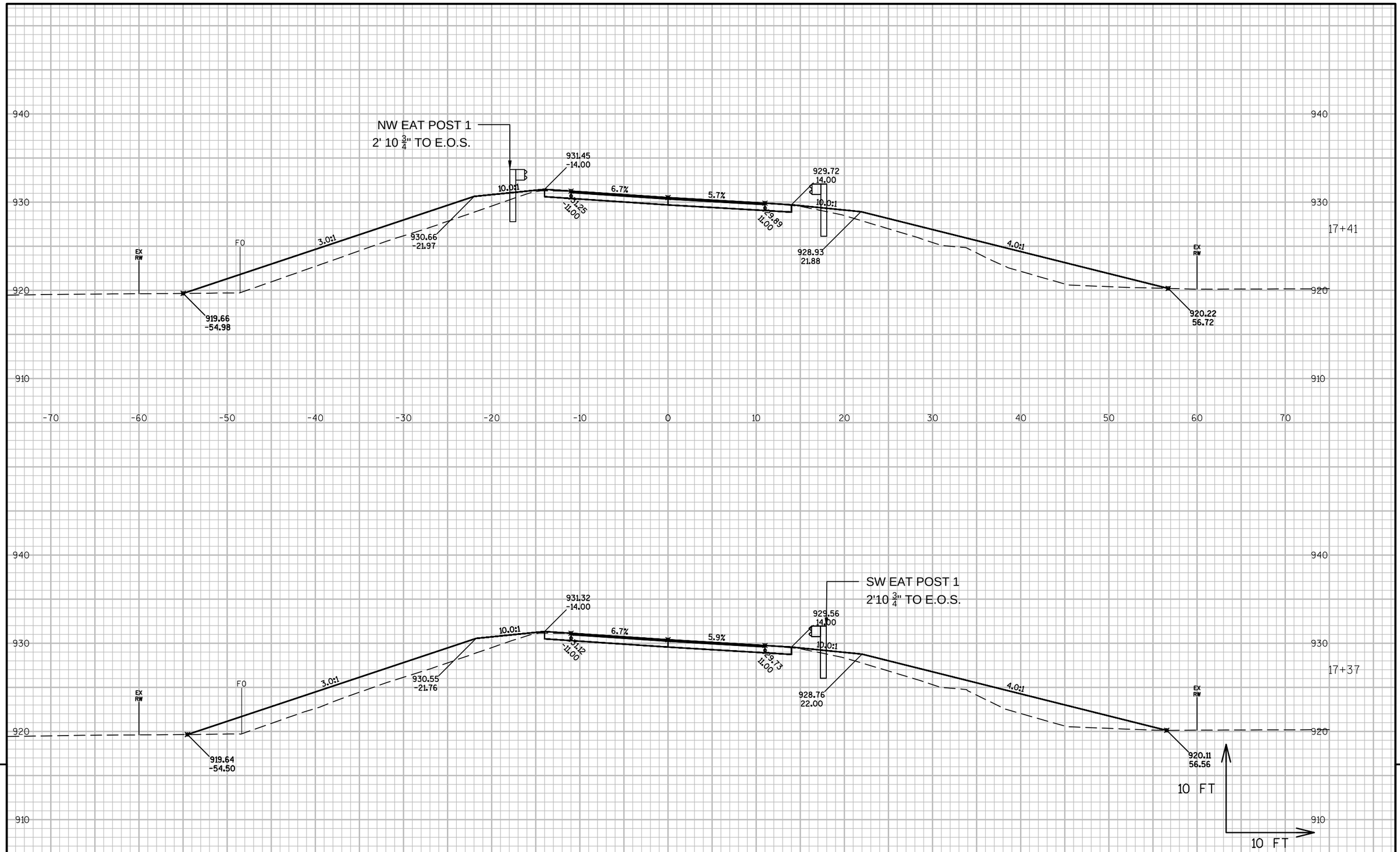


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 66	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (71)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

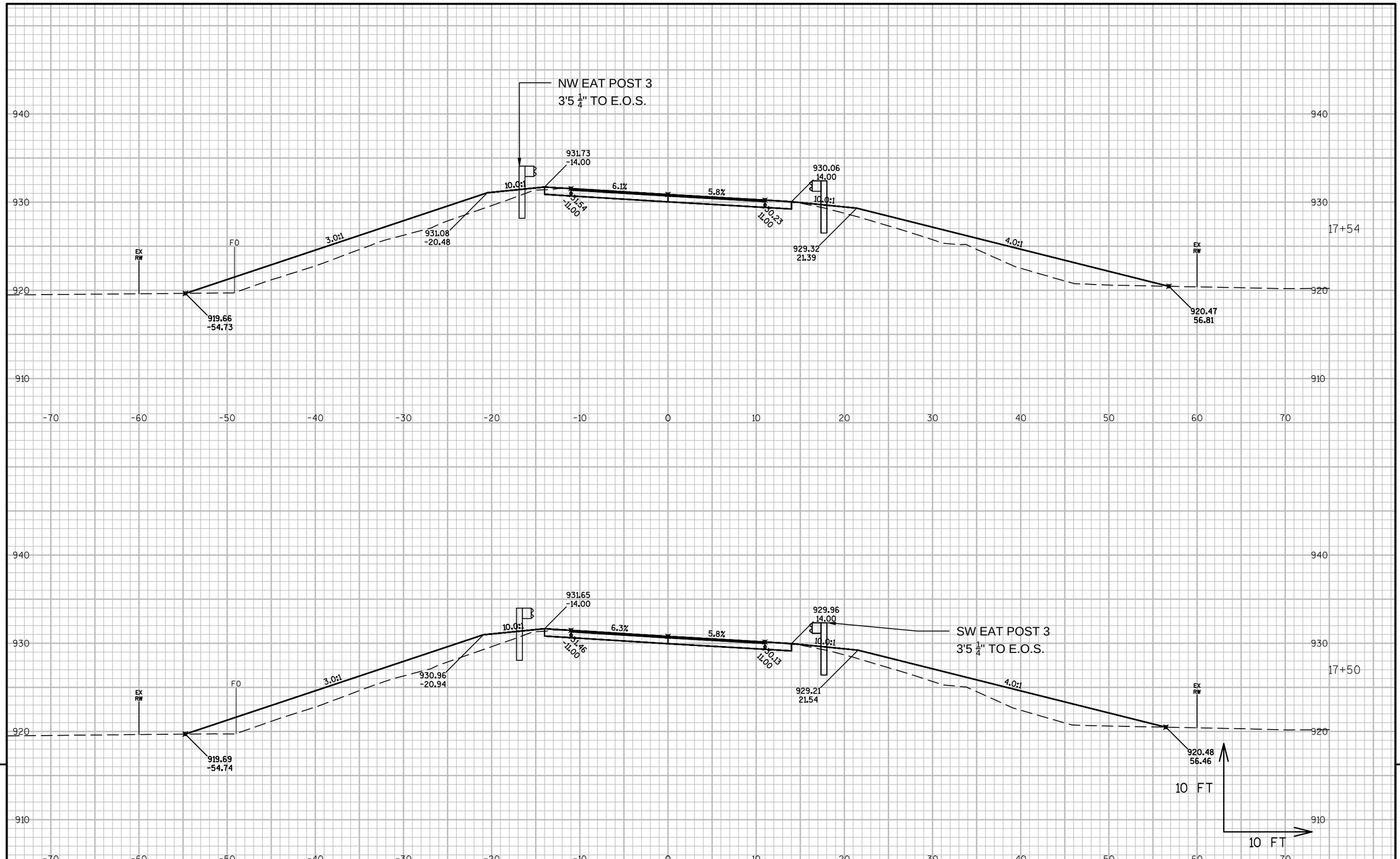
9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 67	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (72)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

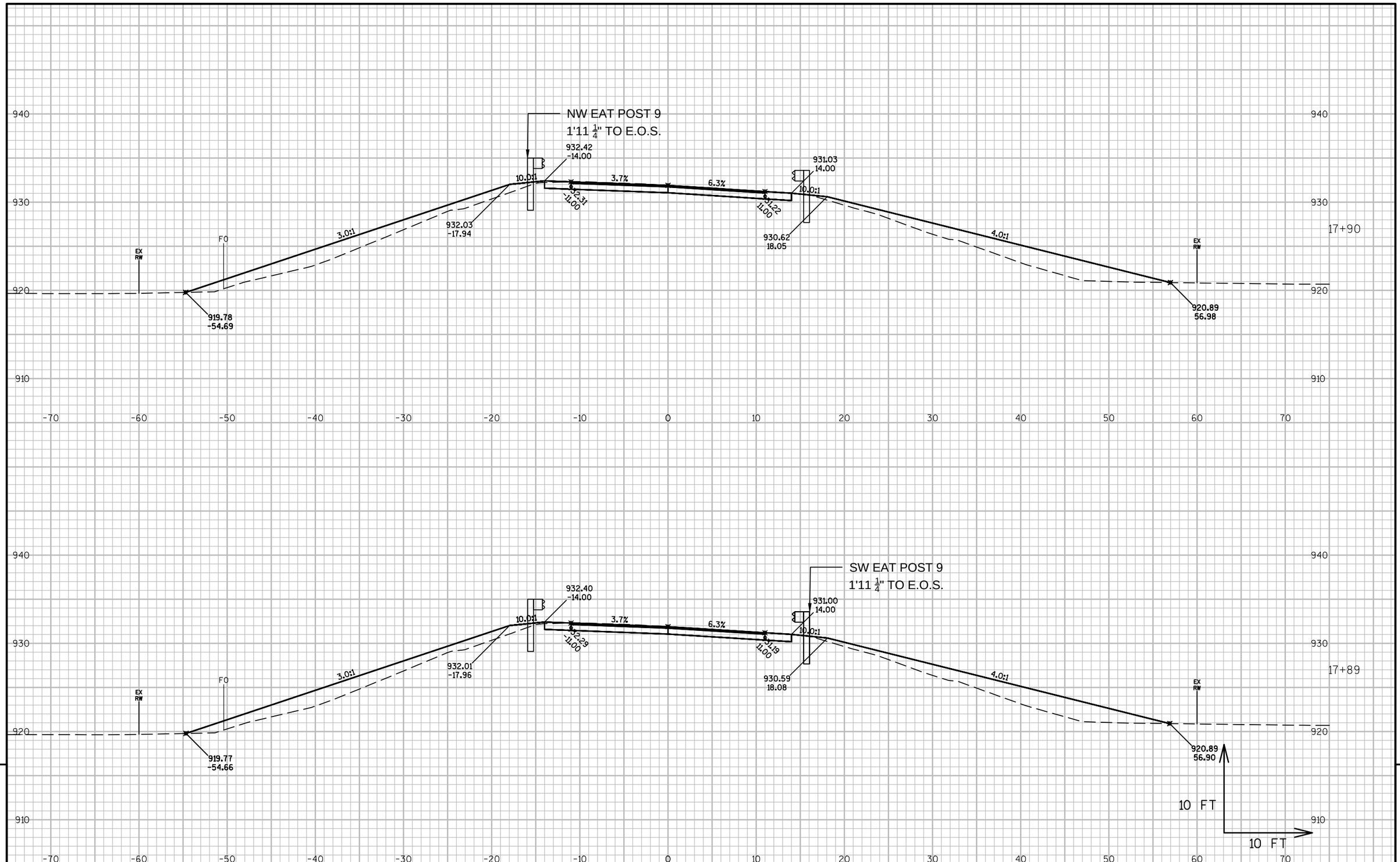


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 68	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (73)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

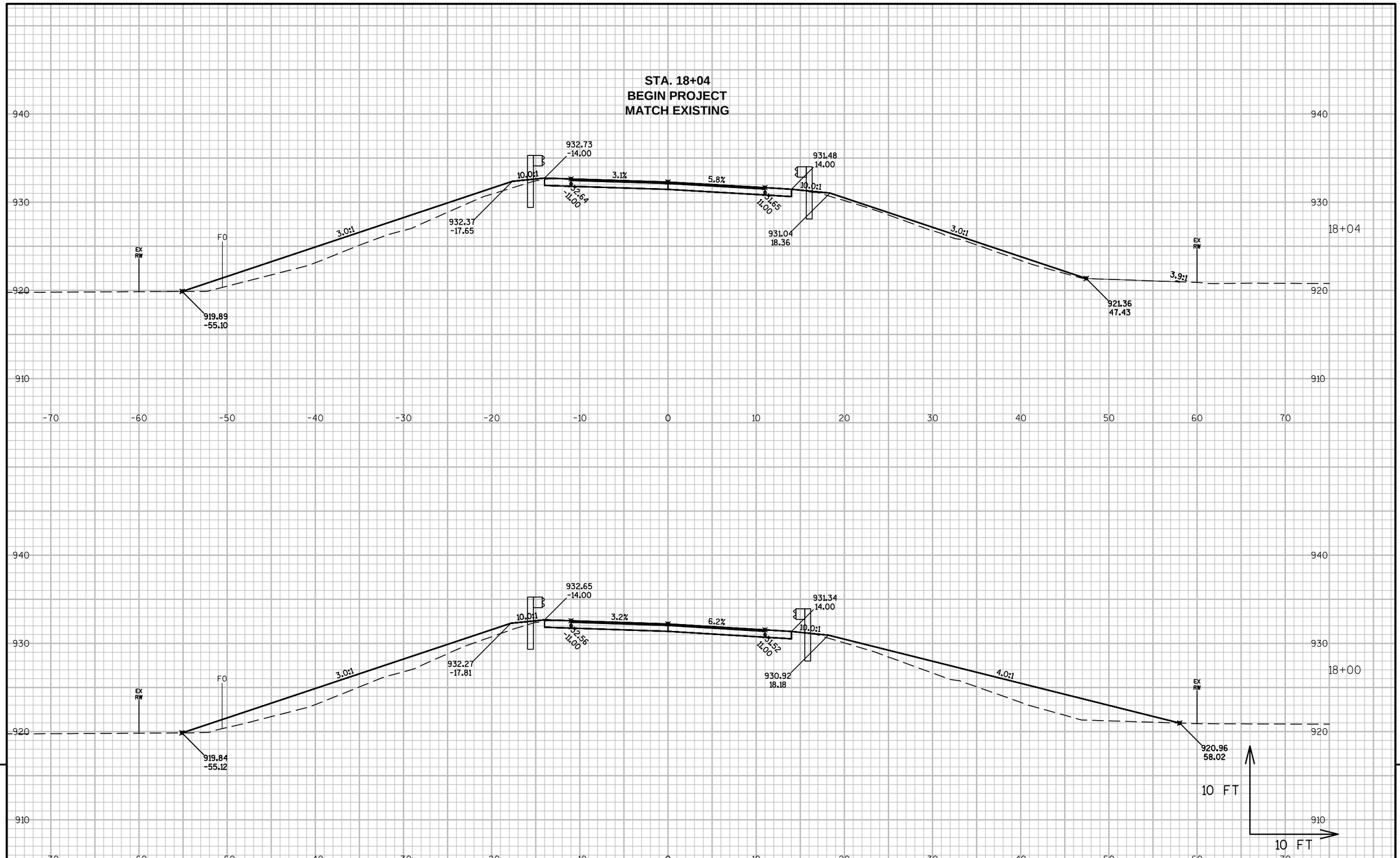


9	PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 69 E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (74)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

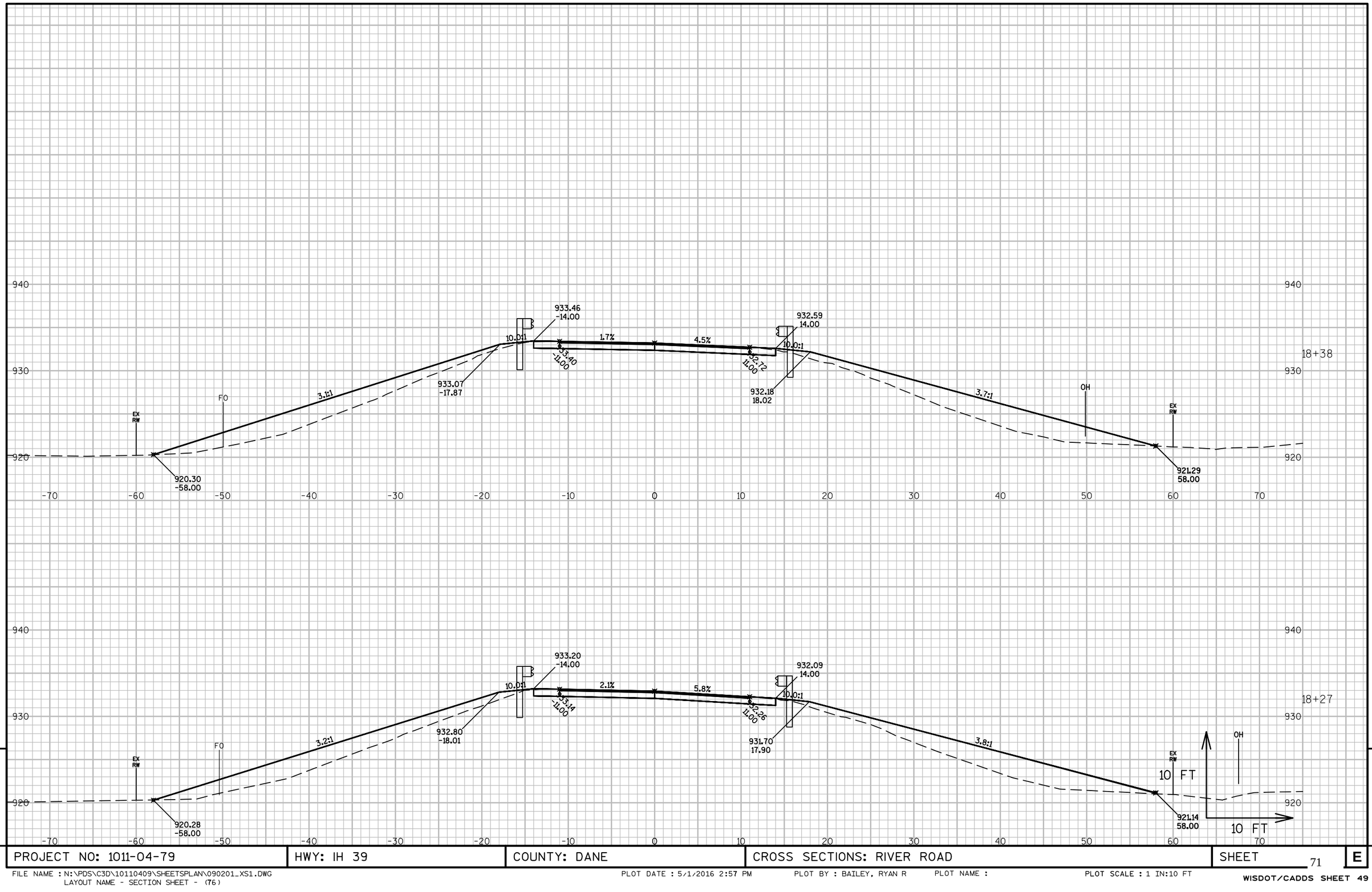


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 70	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (75)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

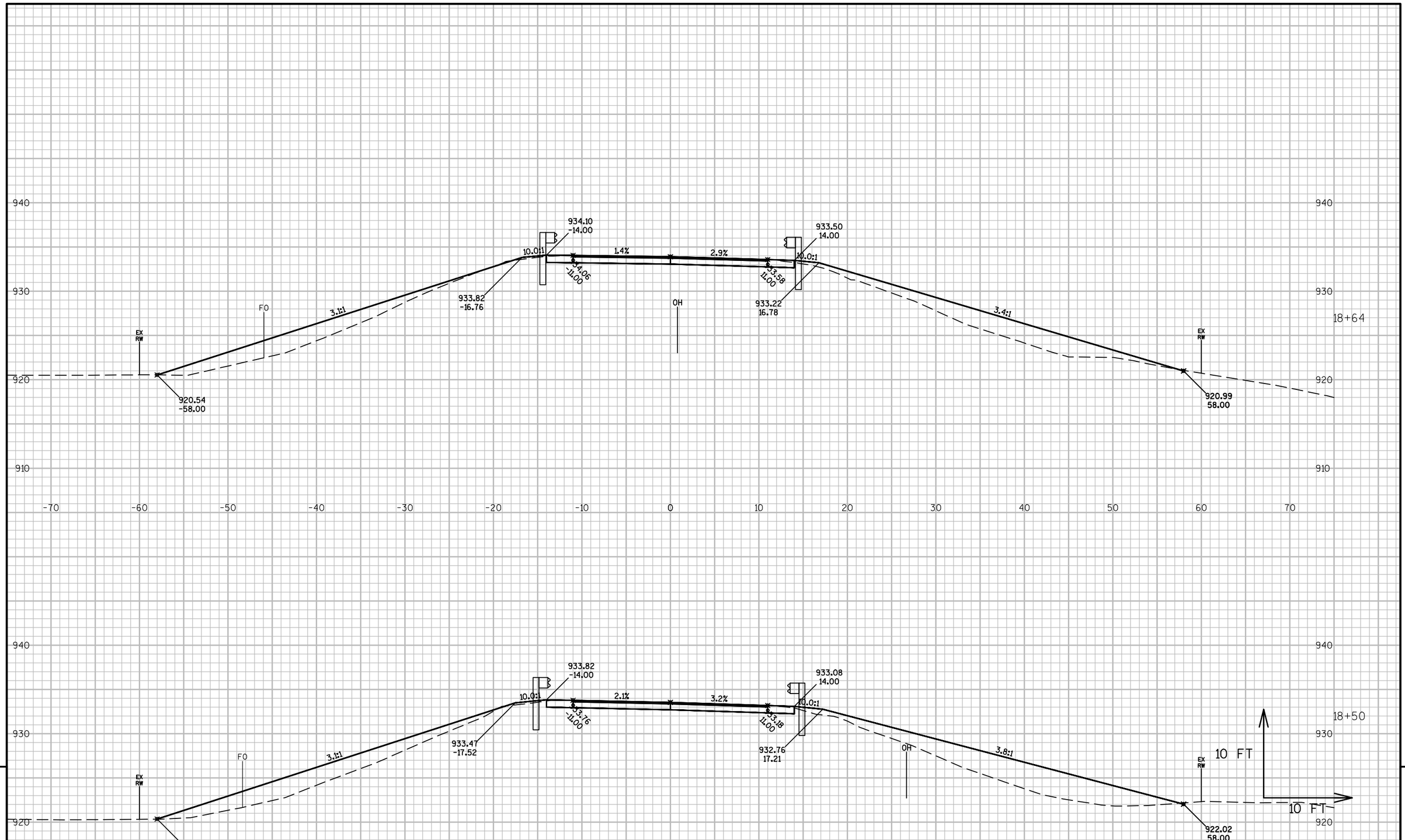
9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 71	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (76)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



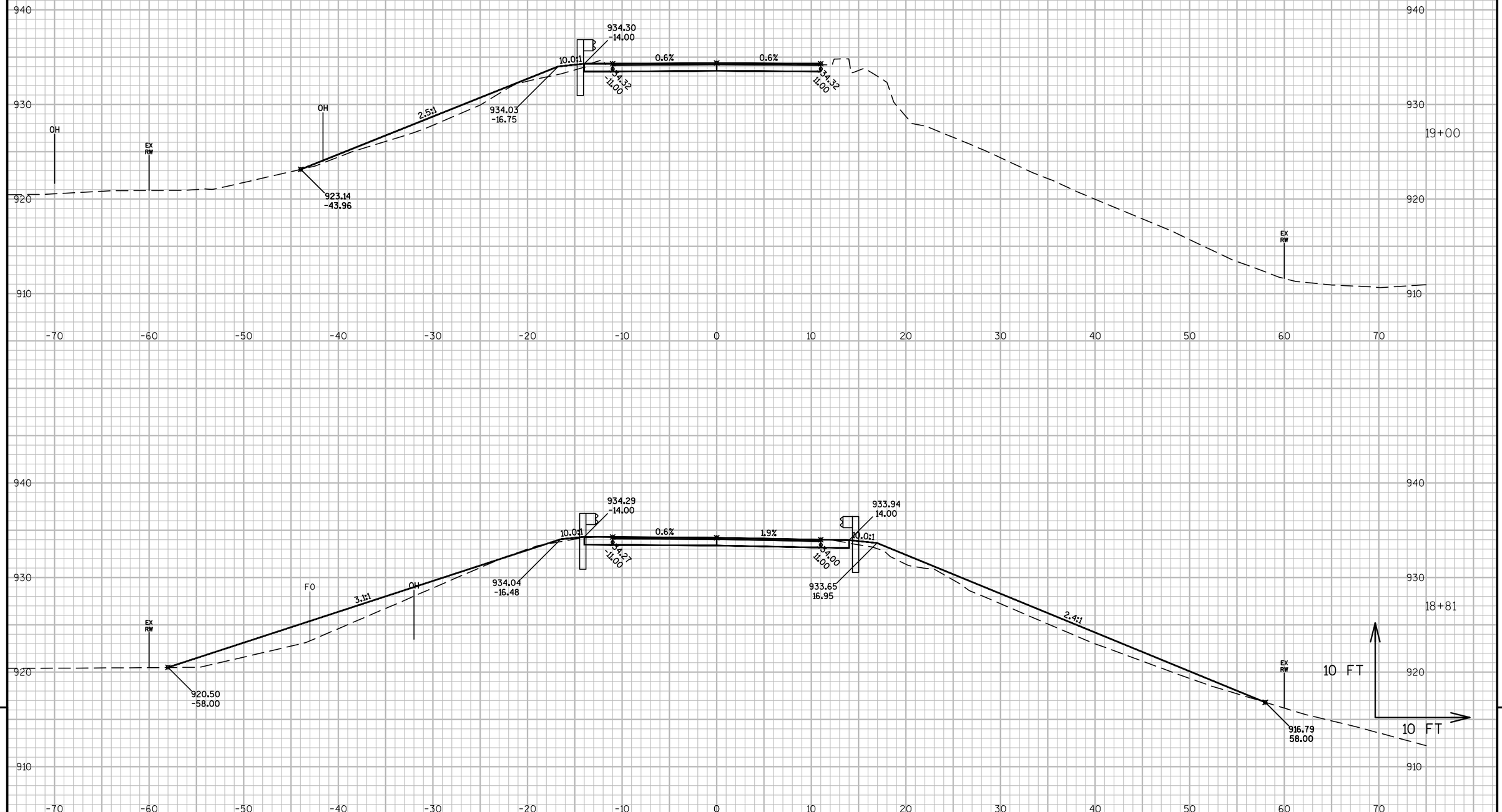
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 72	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (77)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

STA. 19+05 TO STA. 21+37
STRUCTURE B-13-0089

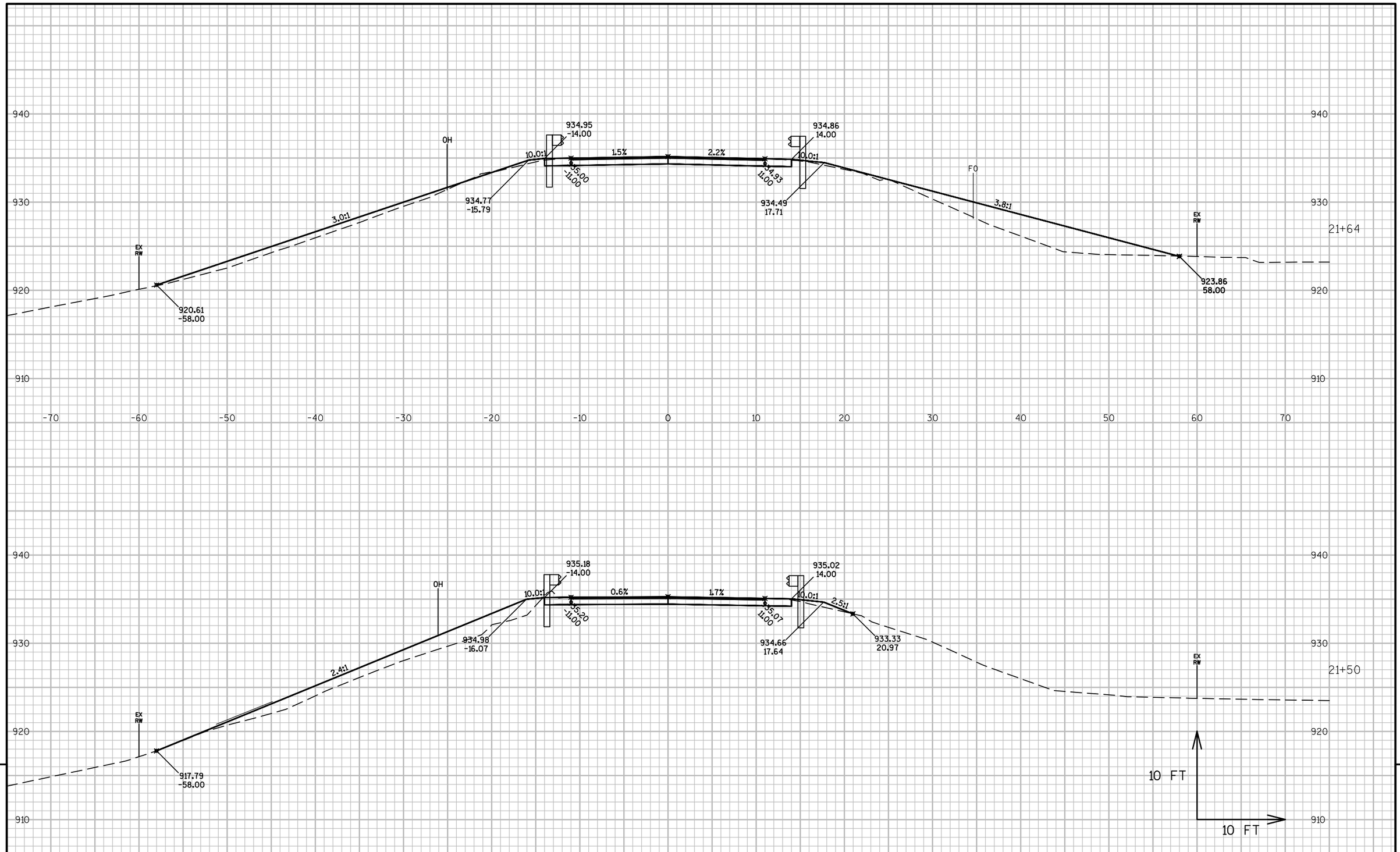


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 73 E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (78)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



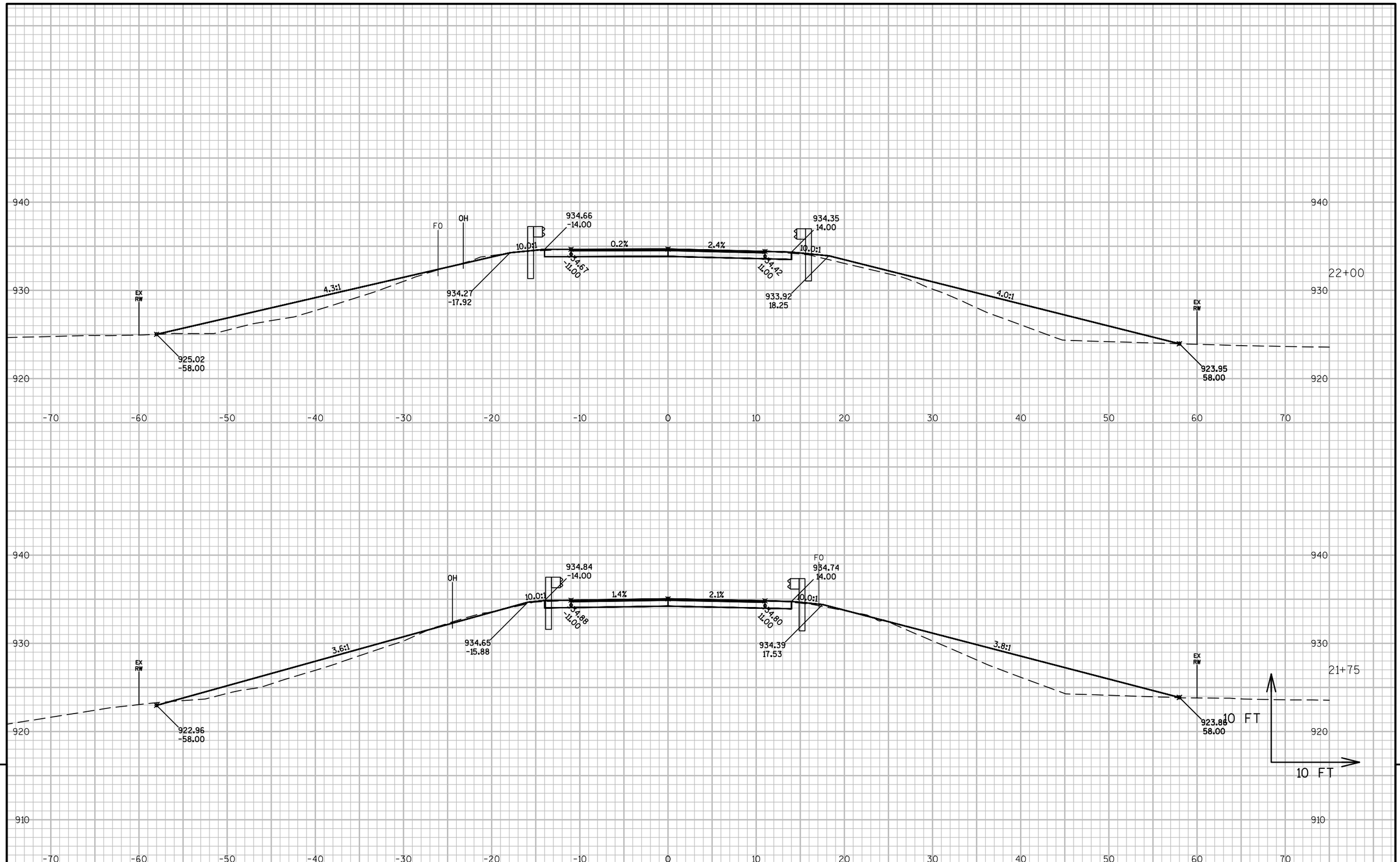
9 9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 74	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (79)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 75	E

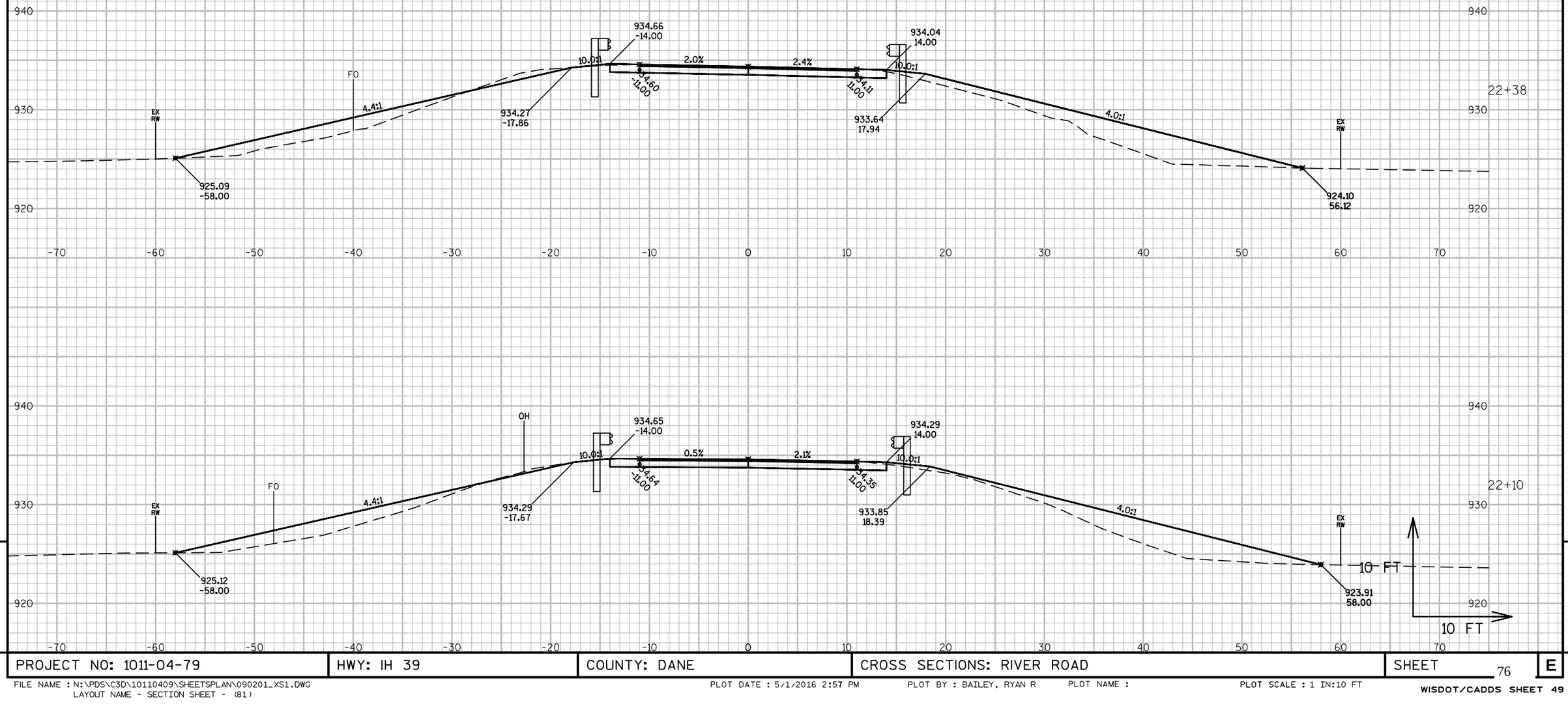
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FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (80)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

STA. 22+38
END PROJECT
MATCH EXISTING

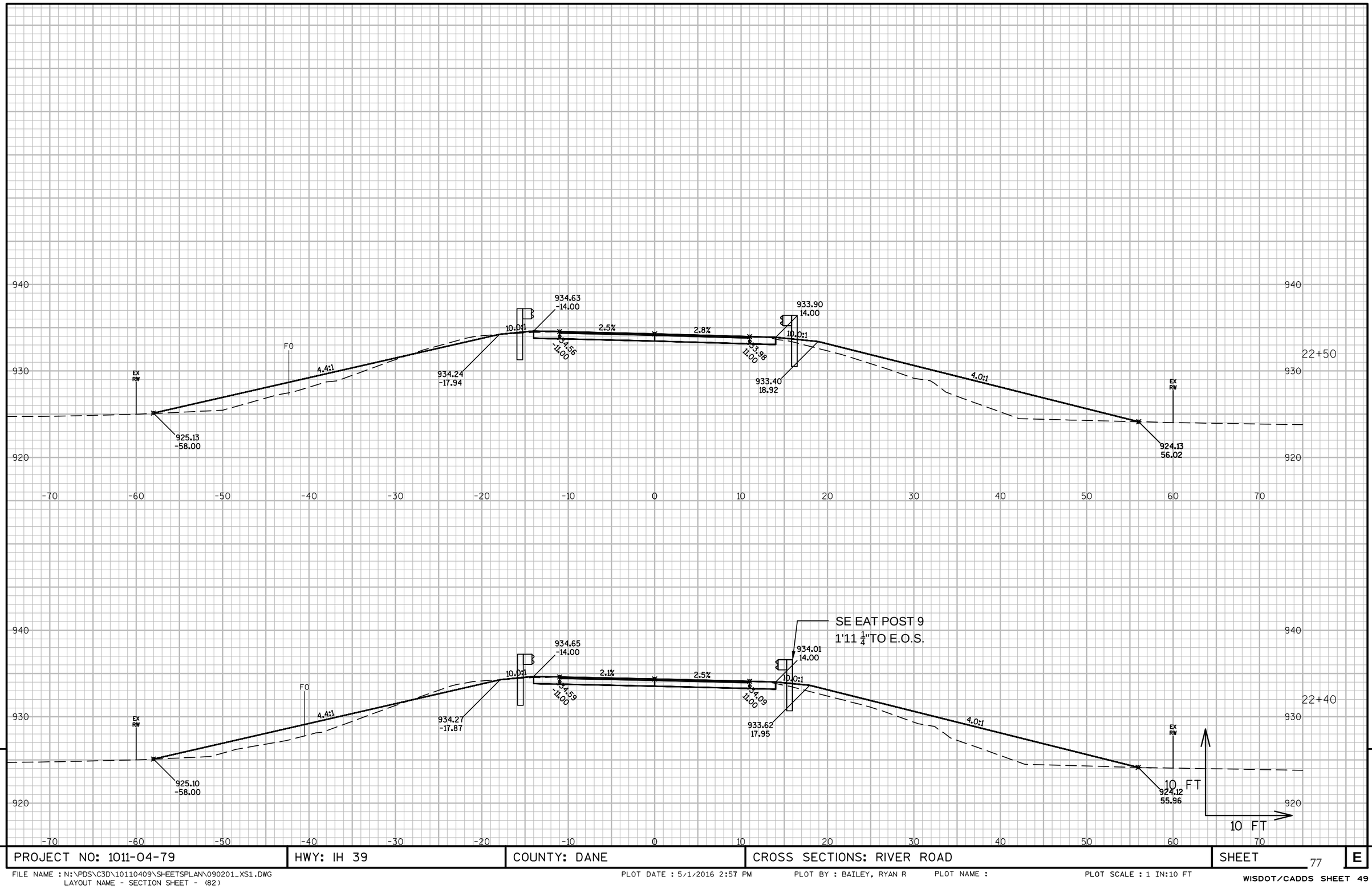


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 76	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (81)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

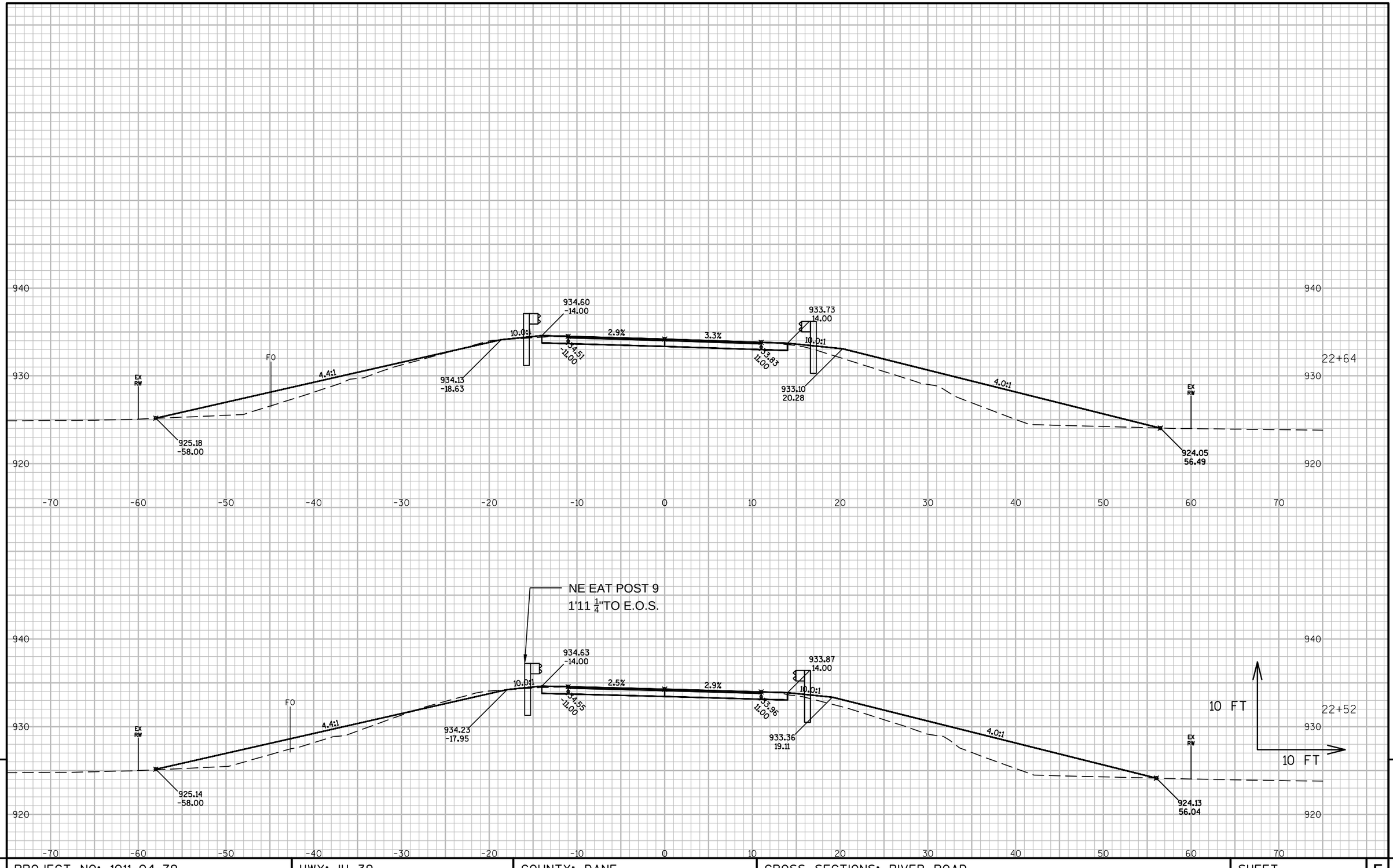


9 9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 77	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (82)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT



9

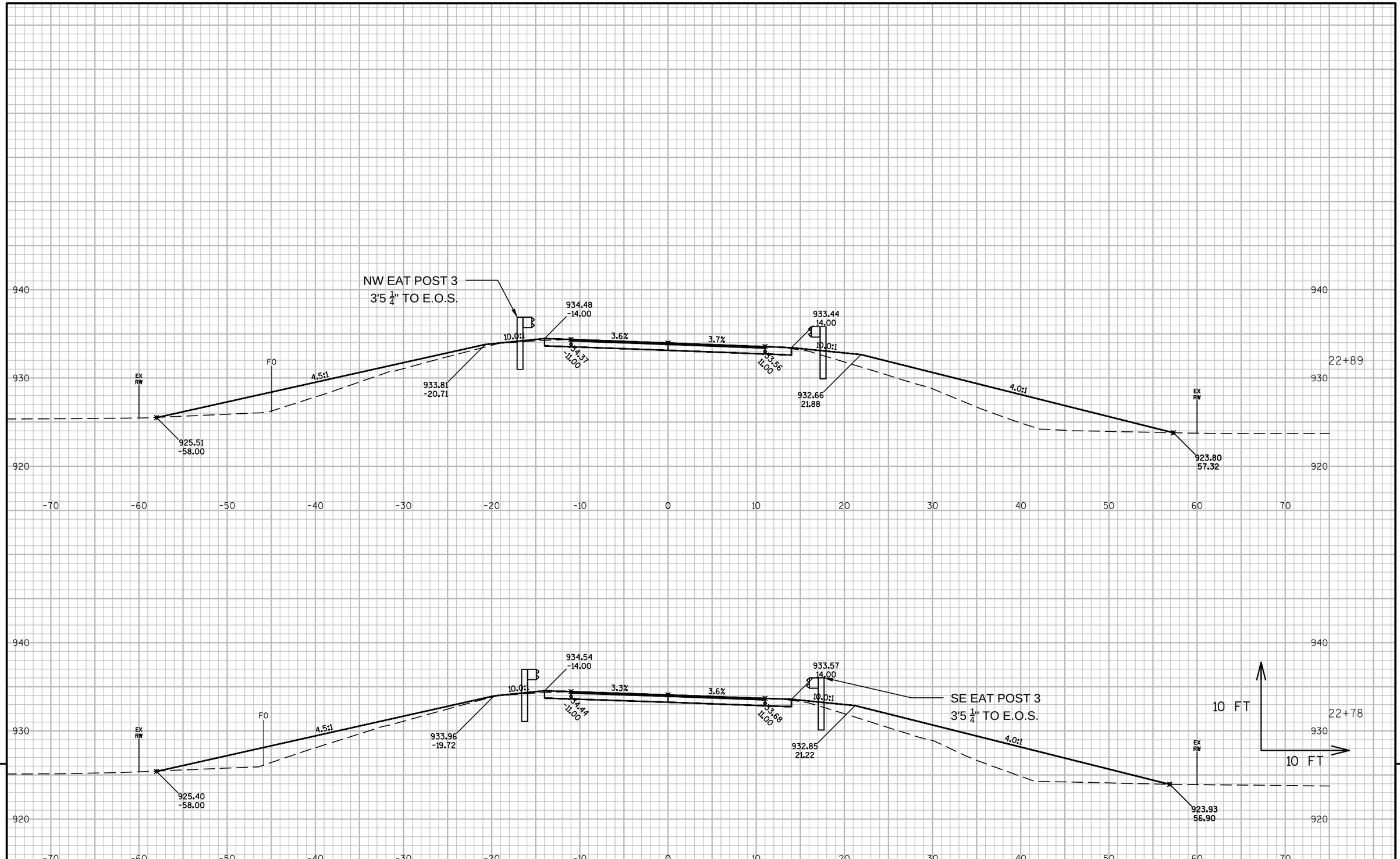
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PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 78	E

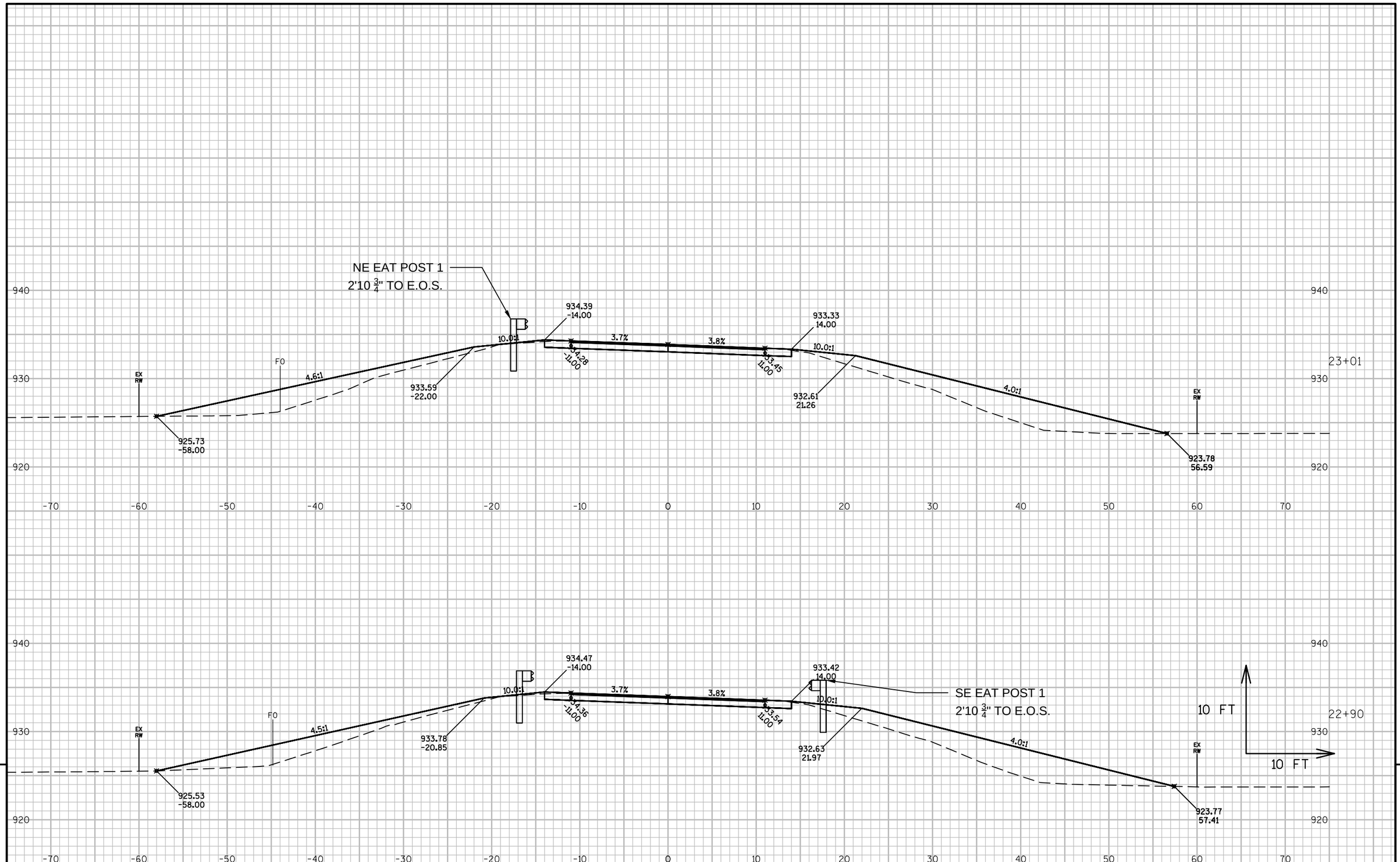
FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (83)

PLOT DATE : 5/1/2016 2:57 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

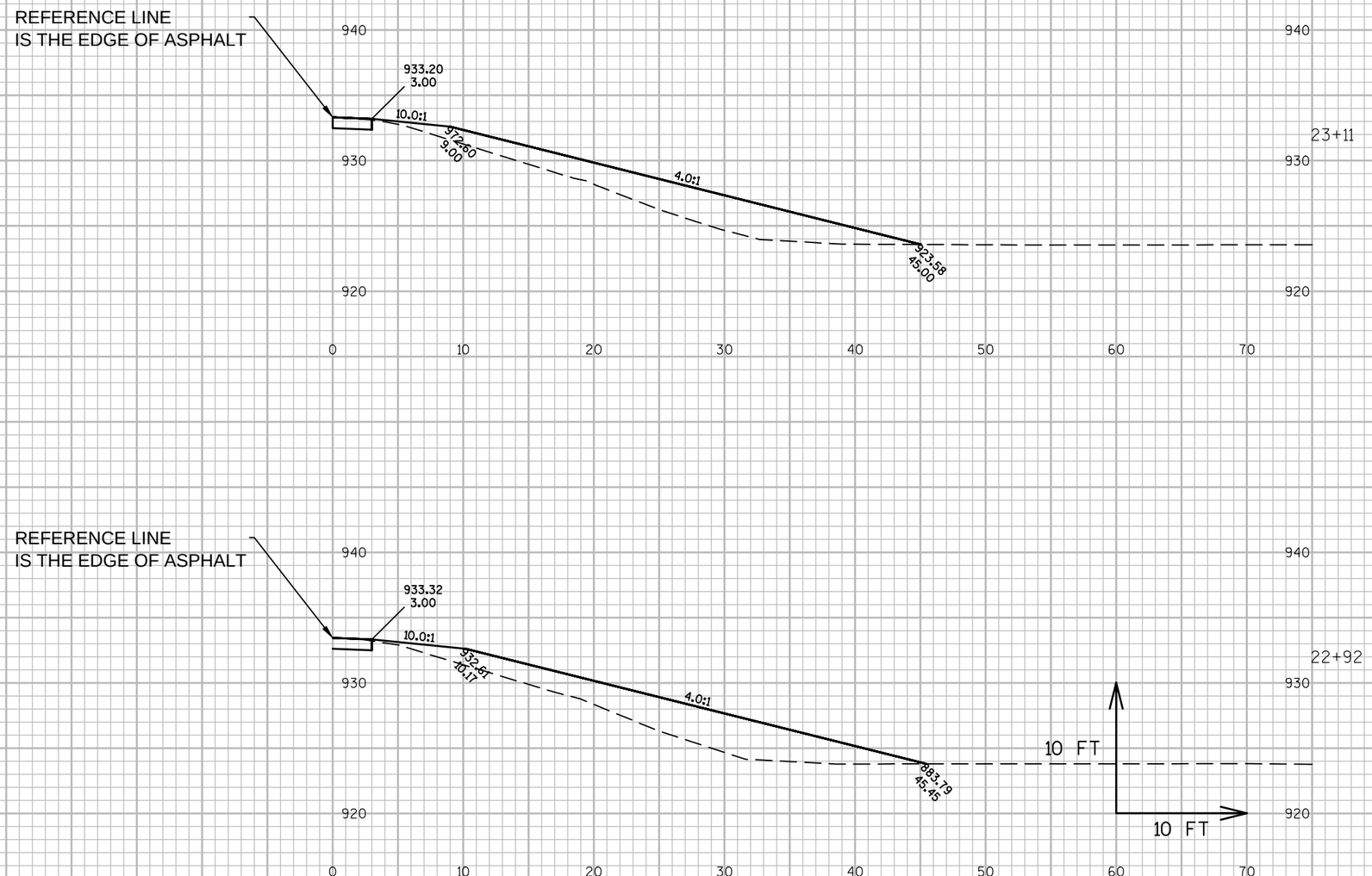


PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 79	E



9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 80	E



9

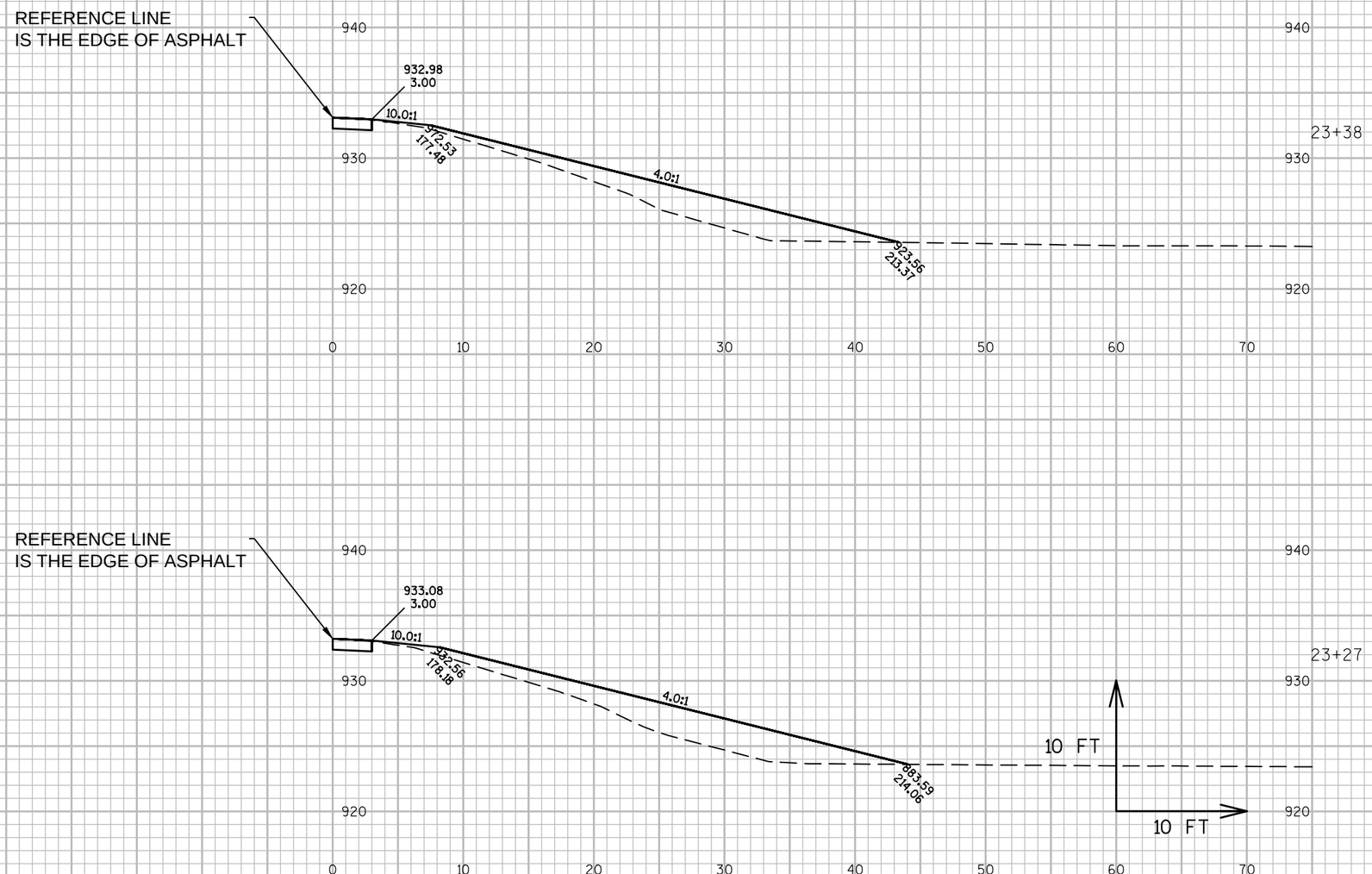
9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 81	E

FILE NAME : \\MAD31ZP1\N3PUBLIC\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (93)

PLOT DATE : 5/1/2016 2:55 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49



9

9

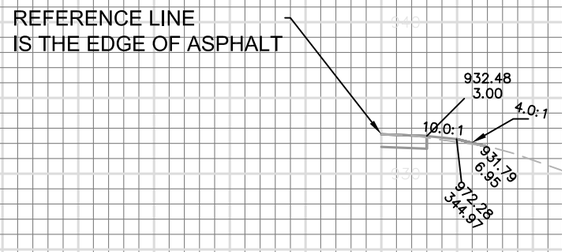
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 82	E

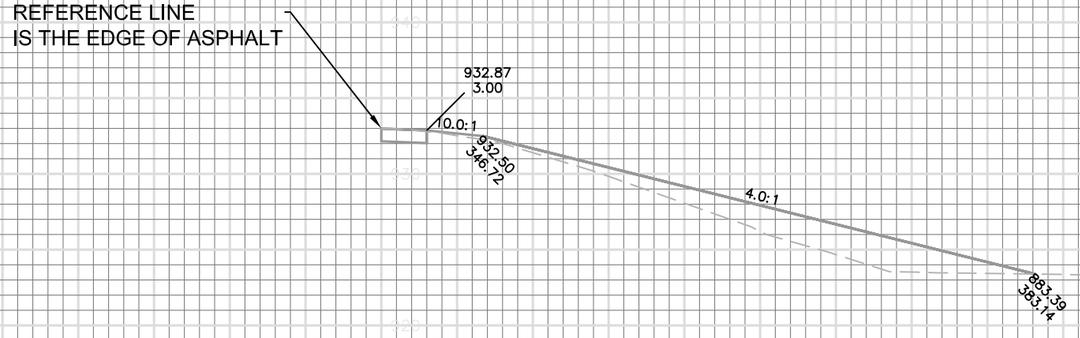
FILE NAME : \\MAD31ZP1\N3PUBLIC\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (94)

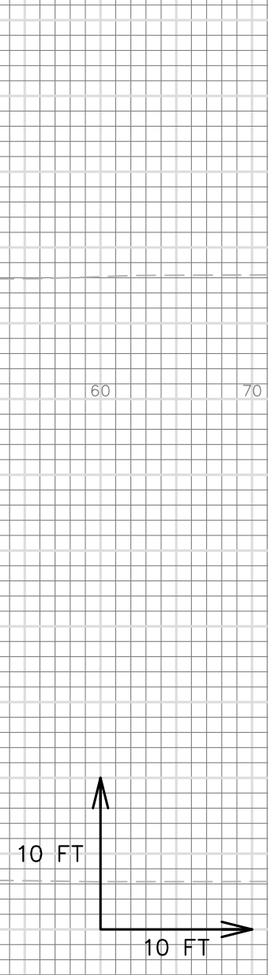
PLOT DATE : 5/1/2016 2:55 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

AT STA. 23+71,
MATCH EXISTING SHOULDER





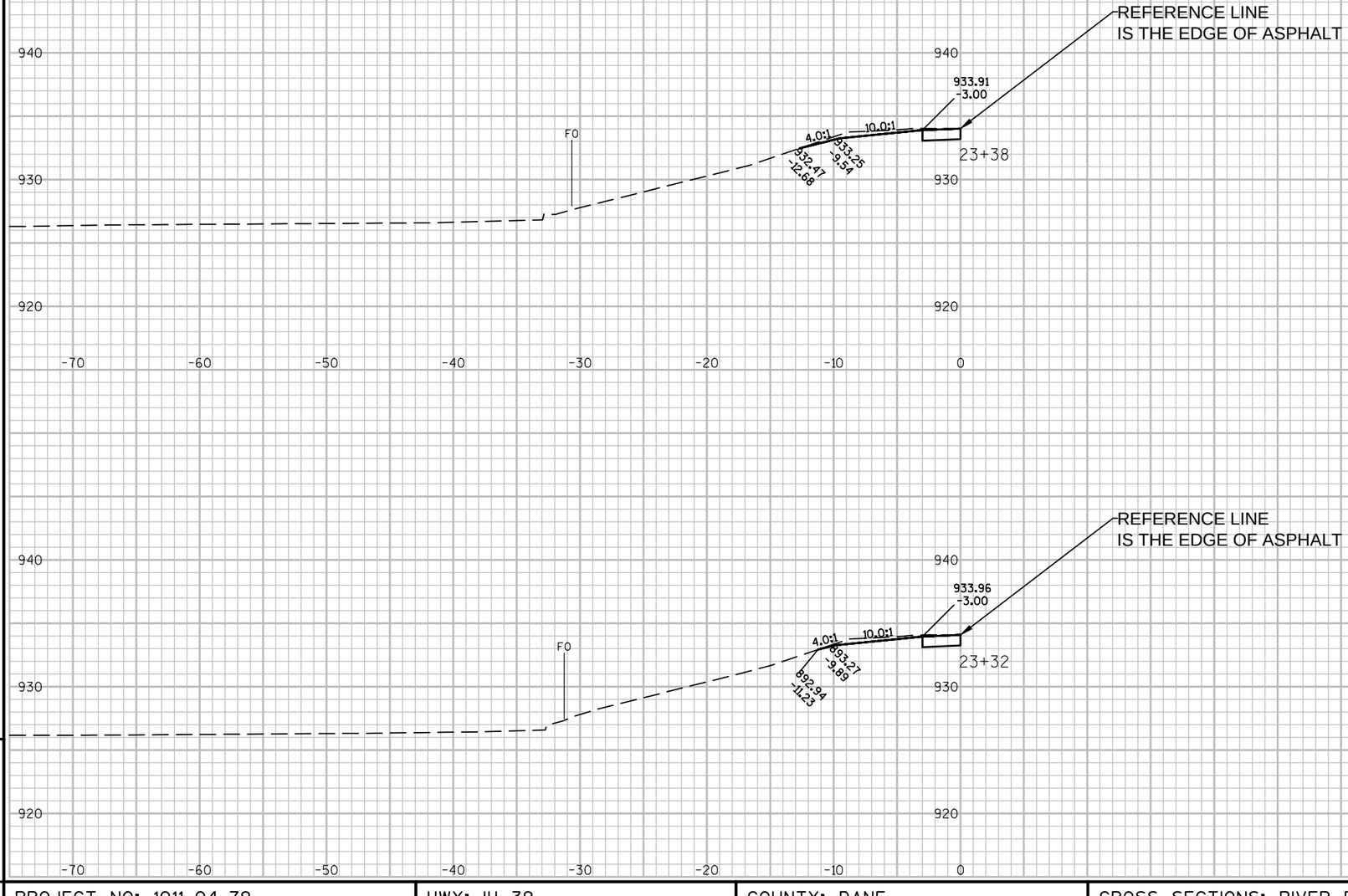


9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - SECTION SHEET - (95)

PLOT DATE : 5/1/2016 6:30 PM PLOT BY : CIOBANU, STEFAN PLOT NAME : PLOT SCALE : 1 IN:10 FT

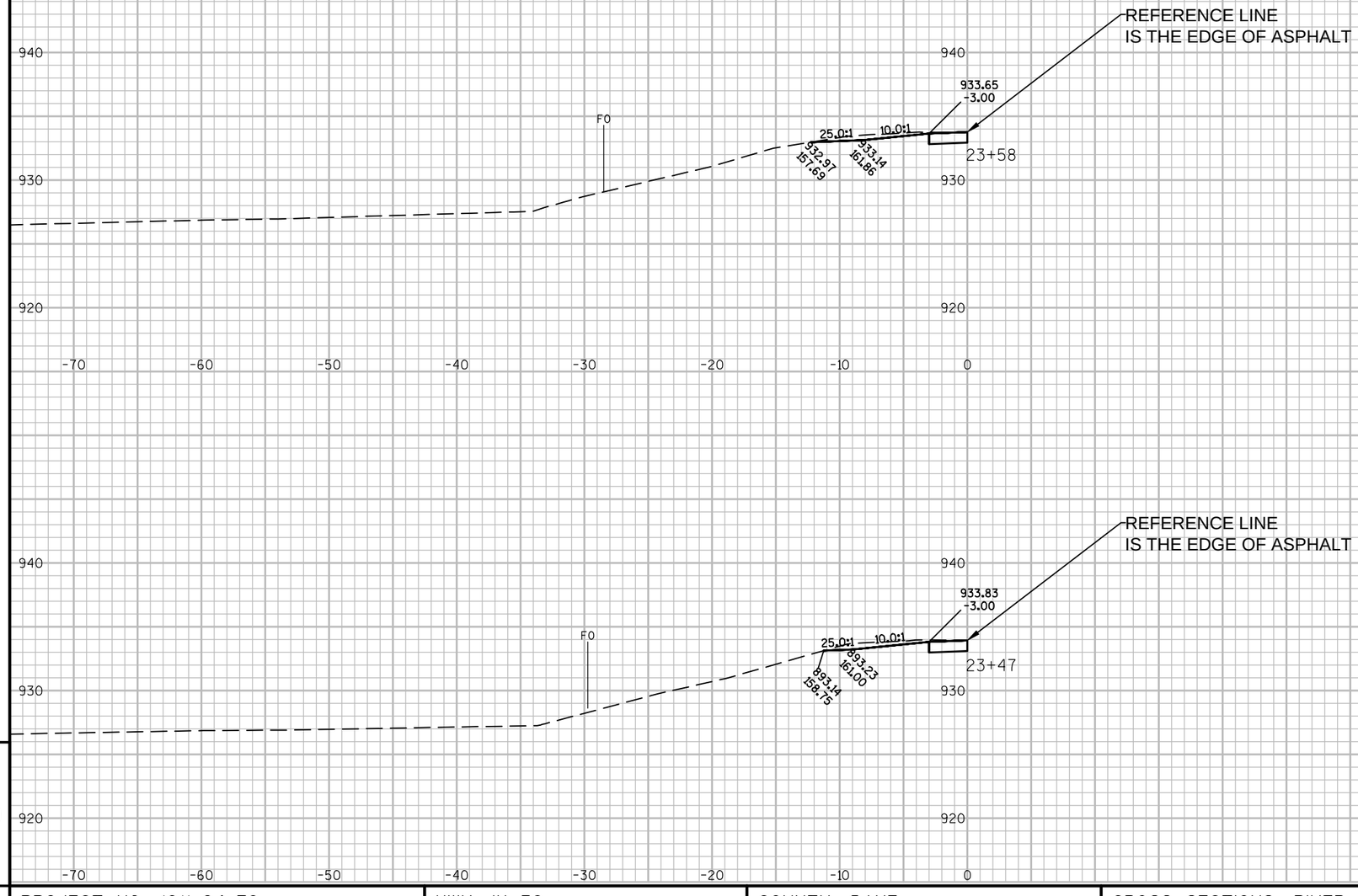


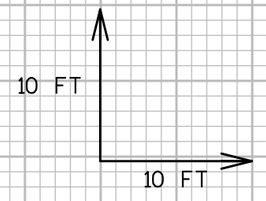
PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 84	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - 090201_XS1 - SECTION SHEET - (89)

PLOT DATE : 5/1/2016 3:02 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49





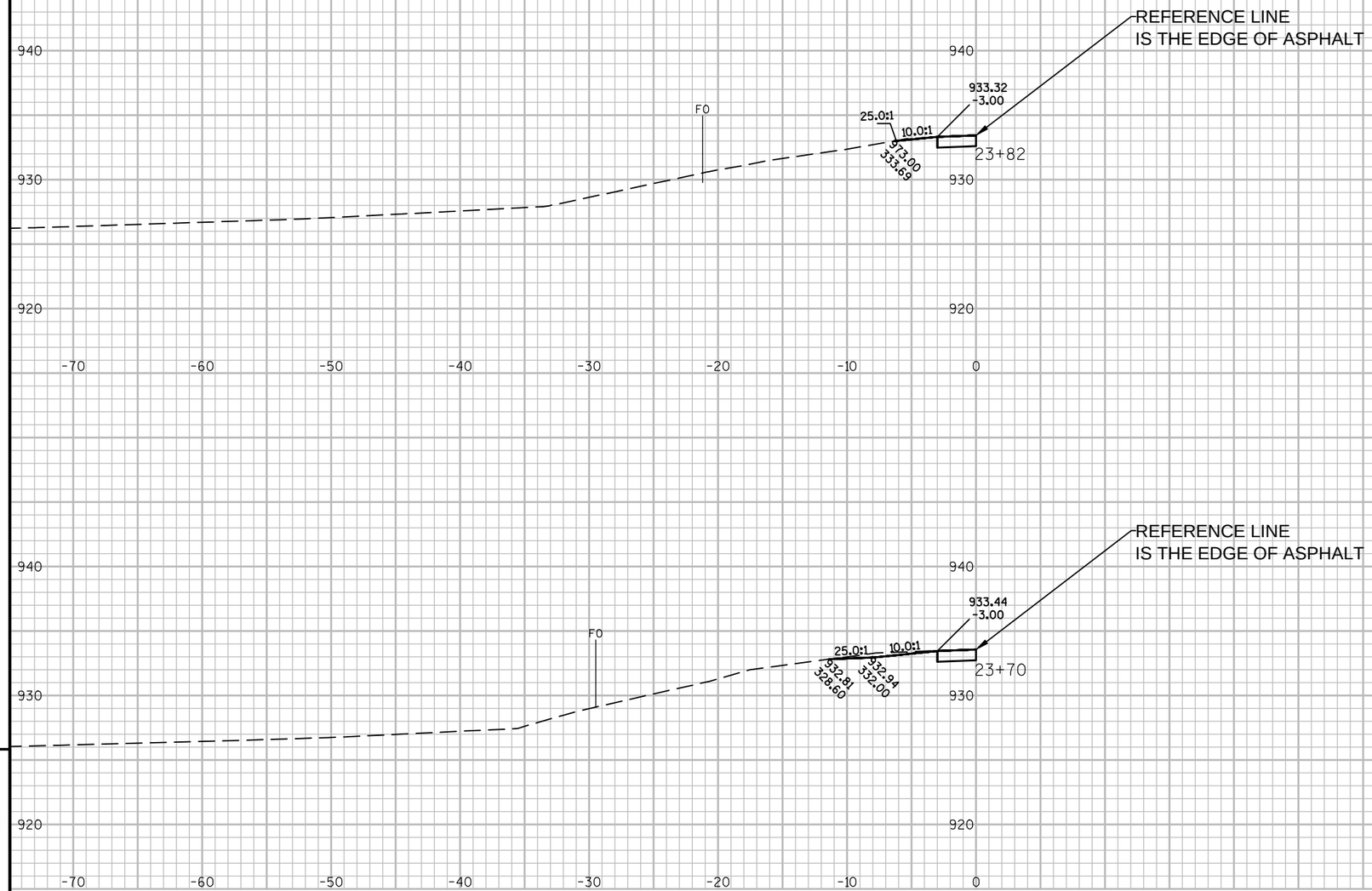
9

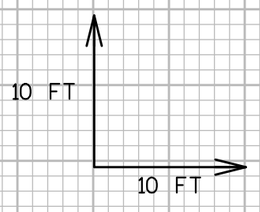
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PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 85	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - 090201_XS1 - SECTION SHEET - (90)

PLOT DATE : 5/1/2016 3:02 PM PLOT BY : BAILEY, RYAN R PLOT NAME : PLOT SCALE : 1 IN:10 FT



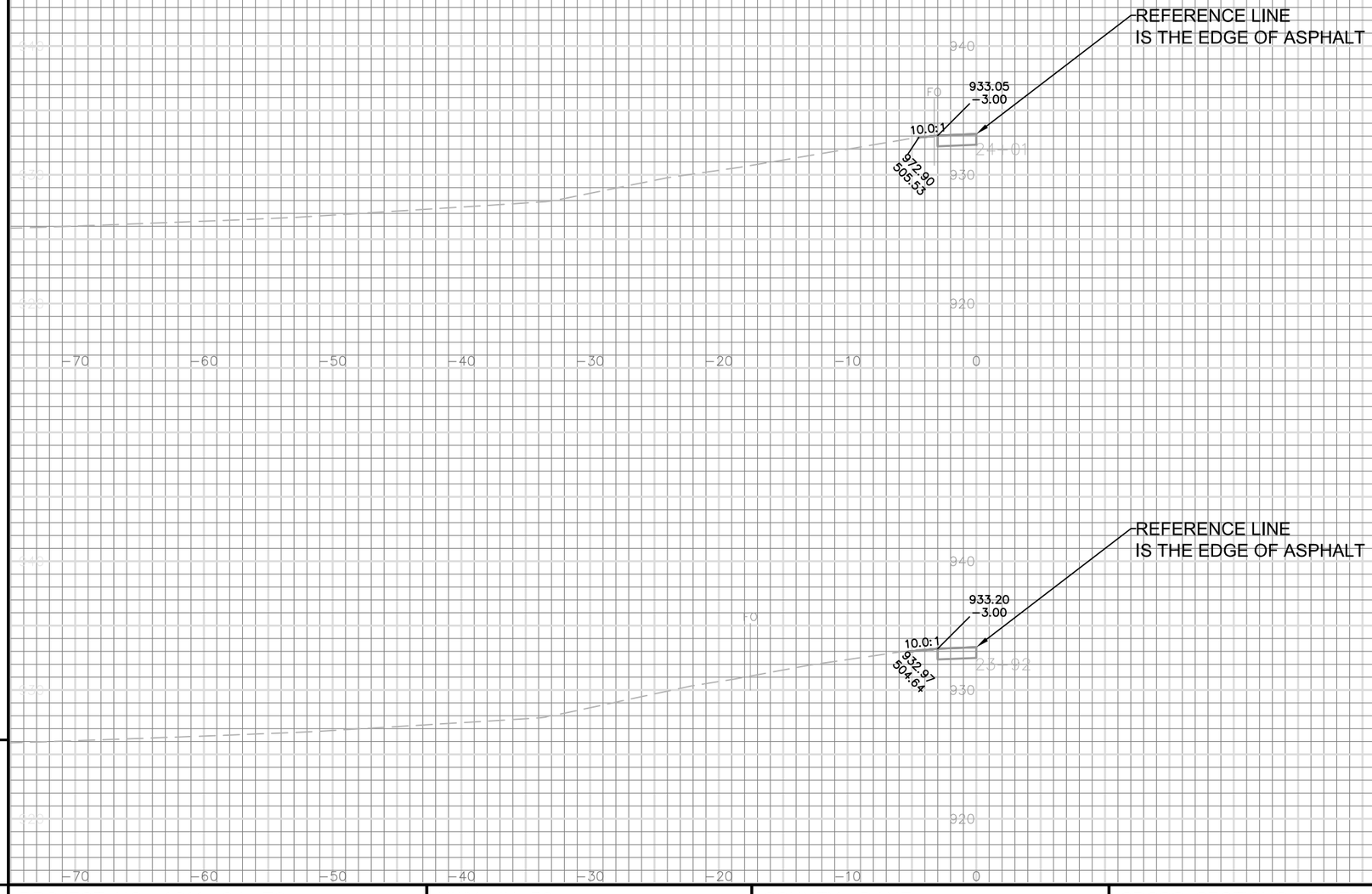


9

9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET 86	E

AT STA. 24+01,
MATCH EXISTING SHOULDER



9

9

PROJECT NO: 1011-04-79	HWY: IH 39	COUNTY: DANE	CROSS SECTIONS: RIVER ROAD	SHEET	E

FILE NAME : N:\PDS\C3D\10110409\SHEETSPLAN\090201_XS1.DWG
LAYOUT NAME - 090201_XS1 - SECTION SHEET - (92)

PLOT DATE : 5/1/2016 6:34 PM PLOT BY : CIOBANU, STEFAN PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov