MAD

PROJECT ID: 3677-00-77

WITH: 3679-00-73

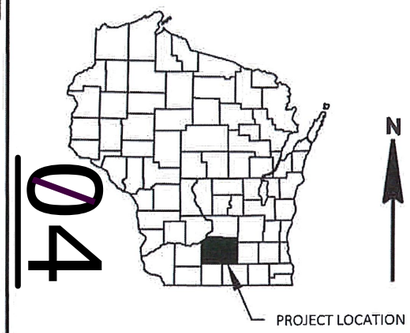
COUNTY: DANE

APRIL 2026

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 = 100



DESIGN DESIGNATION 3677-00-07

A.A.D.T.	2026	=	2,200
A.A.D.T.	2046	=	2,400
D.H.V.		=	296
D.D.		=	60/40
T.		=	12.7%
DESIGN SPEED		=	50 MPH
ESALS		=	438,000

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH N - STH 73

KOSHKONONG CREEK BRIDGE B-13-0916

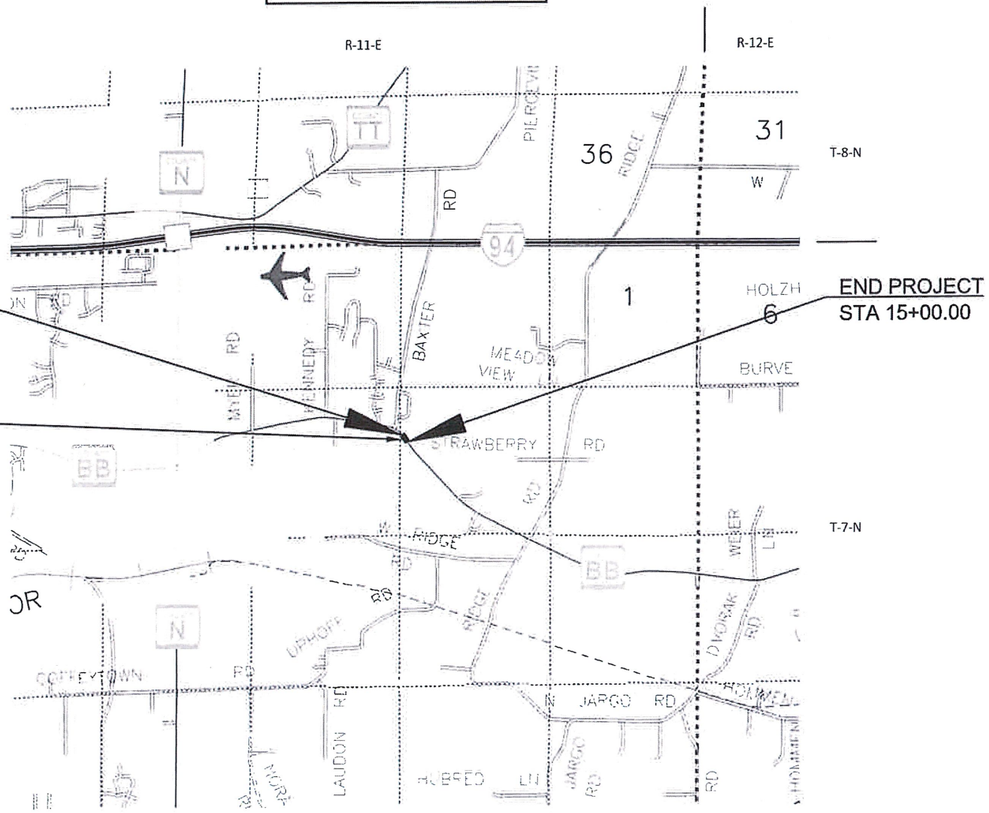
CTH BB

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3677-00-77		

STATE PROJECT NUMBER

3677-00-77



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.076 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	955.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		UTILITIES	
REFERENCE LINE	300 ER'	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
		TELEPHONE	T
MARSH AREA		WATER	W
		UTILITY PEDESTAL	
		POWER POLE	
WOODED OR SHRUB AREA		TELEPHONE POLE	

ACCEPTED FOR

DANE COUNTY

Date 10/9/25 Clement Abongwa

Highway Commissioner

ORIGINAL PLANS PREPARED BY

MSA

1702 Pankratz Street, Madison, WI 53704

608-242-7779 1-800-446-0679 Fax 608-242-5664

WISCONSIN

CHAD D. WAGNER E-45546 MADISON WI

PROFESSIONAL ENGINEER

DATE 10/1/25

(Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	LORRAINE BETZEL
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT

DATE: 10/15/25 Lorraine Betzel

(Signature)

E

GENERAL NOTES

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

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE TOPSOILED, FERTILIZED, AND SEEDED WITH EROSION MAT AS DIRECTED BY THE ENGINEER.

DO NOT USE FERTILIZER WITHIN 20 FEET OF NAVIGABLE WATERWAYS OR WETLANDS.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE IMMEDIATELY AFTER FINISHED GRADING IS COMPLETE.

EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY GRUBBING OR TOPSOIL STRIPPING OPERATIONS.

PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER PIPE IN DRIVEWAY AREA IS INSTALLED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

HMA PAVEMENT AND ASPHALTIC SURFACE TEMPORARY WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT AND TO VERTICAL FACES.

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION
ATTN: LORRAINE BETZEL, P.E.
2101 WRIGHT STREET
MADISON, WI 53704
PHONE: (608) 246-3279
EMAIL: LORRAINE.BETZEL@DOT.WI.GOV

MSA PROFESSIONAL SERVICES, INC.
ATTN: CHAD WAGNER, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 242-6651
E-MAIL: CWAGNER@MSA-PS.COM

DANE COUNTY HIGHWAY DEPARTMENT
ATTN: MARK MISUN, P.E.
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PHONE: (608) 266-9081
E-MAIL: MISUN.MARK@DANECOUNTY.GOV

DNR CONTACT

DNR SOUTH CENTRAL REGION
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

UTILITY CONTACTS

ELECTRIC

ALLIANT ENERGY - ELECTRIC
DAN TREINEN
1521 PROGRESS WAY
STOUGHTON, WI 53589
PHONE: (608) 459-5259
EMAIL: DANTREINEN@ALLIANTENERGY.COM

GAS/PETROLEUM

ALLIANT ENERGY - GAS/PETROLEUM
DAN TREINEN
1521 PROGRESS WAY
STOUGHTON, WI 53589
PHONE: (608) 459-5259
EMAIL: DANTREINEN@ALLIANTENERGY.COM

COMMUNICATIONS

EVERSTREAM
ABBIGAIL STEIN
324 E WISCONSIN AVE. SUITE 730
MILWAUKEE, WI 53202
PHONE: (262) 442-9427
EMAIL: ASTEIN@EVERSTREAM.NET

FRONTIER COMMUNICATIONS
CHRISTOPHER BLUMER
451 BROADWAY DR
SUN PRAIRIE, WI 53590
PHONE: (608) 662-3807
EMAIL: CHRISTOPHER.BLUMER@FTR.COM

SPECTRUM
ALEXANDER DAVIS
2701 DANIELS ST
MADISON, WI 53718
PHONE: (608) 800-2257
EMAIL: ALEXANDER.DAVIS@CHARTER.COM

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

STANDARD ABBREVIATIONS

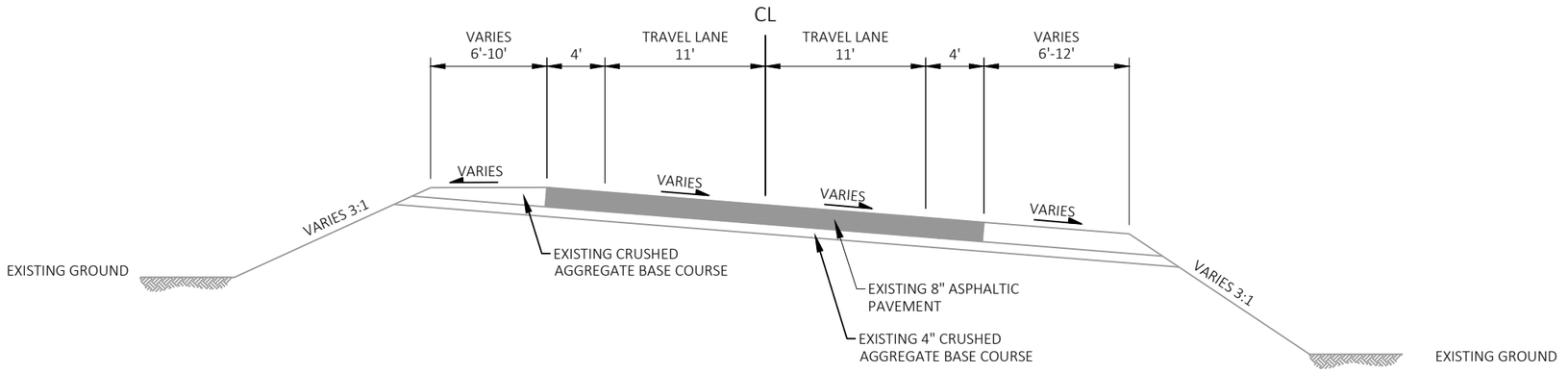
AC	ACRES
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
ASPH	ASPHALT
AVE	AVENUE
BAD	BASE AGGREGATE DENSE
BK	BACK
BLK	BLOCK
BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CL or ℄	CENTERLINE
Δ	CENTRAL ANGLE or DELTA
CMCP	CORRUGATED METAL CULVERT PIPE
CONC	CONCRETE
CP	CONTROL POINT
CPCS	CULVERT PIPE CORRUGATED STEEL
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
D	DEGREE OF CURVATURE
DES	DESIRABLE
E	EAST
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EOP	EDGE OF PAVEMENT
ET AL	AND OTHERS
EW	ENDWALL
EXIST	EXISTING
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
GV	GAS VALVE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HYD	HYDRANT
IN	INCH
INL	INLET
INV	INVERT
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCP	LONG CHORD BEARING
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
N.C.	NORMAL CROWN
NO	NUMBER
PB	PULLBOX
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
POB	POINT OF BEGINNING
PT	POINT OF TANGENCY
R	RADIUS
R	RANGE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REQ'D	REQUIRED
RL or R/L	REFERENCE LINE
RP	RADIUS POINT
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SAN	SANITARY SEWER
SB	SOUTHBOUND
S.E.	SUPERELEVATION
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SQ	SQUARE
ST	STREET
STA	STATION
STD	STANDARD
STH	STATE TRUNK HIGHWAY
STM	STORM SEWER
STR	STRUCTURE
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TYP.	TYPICAL
WM	WATERMIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
MEDIAN STRIP TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25 0.32	0.30 0.40
SIDE SLOPE TURF			0.25			0.27			0.28			0.30 0.38
PAVEMENT:	0.40 - 0.60											
ASPHALT:	0.70 - 0.95											
CONCRETE:	0.80 - 0.95											
BRICK:	0.70 - 0.80											
DRIVES, WALKS:	0.75 - 0.85											
ROOFS:	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

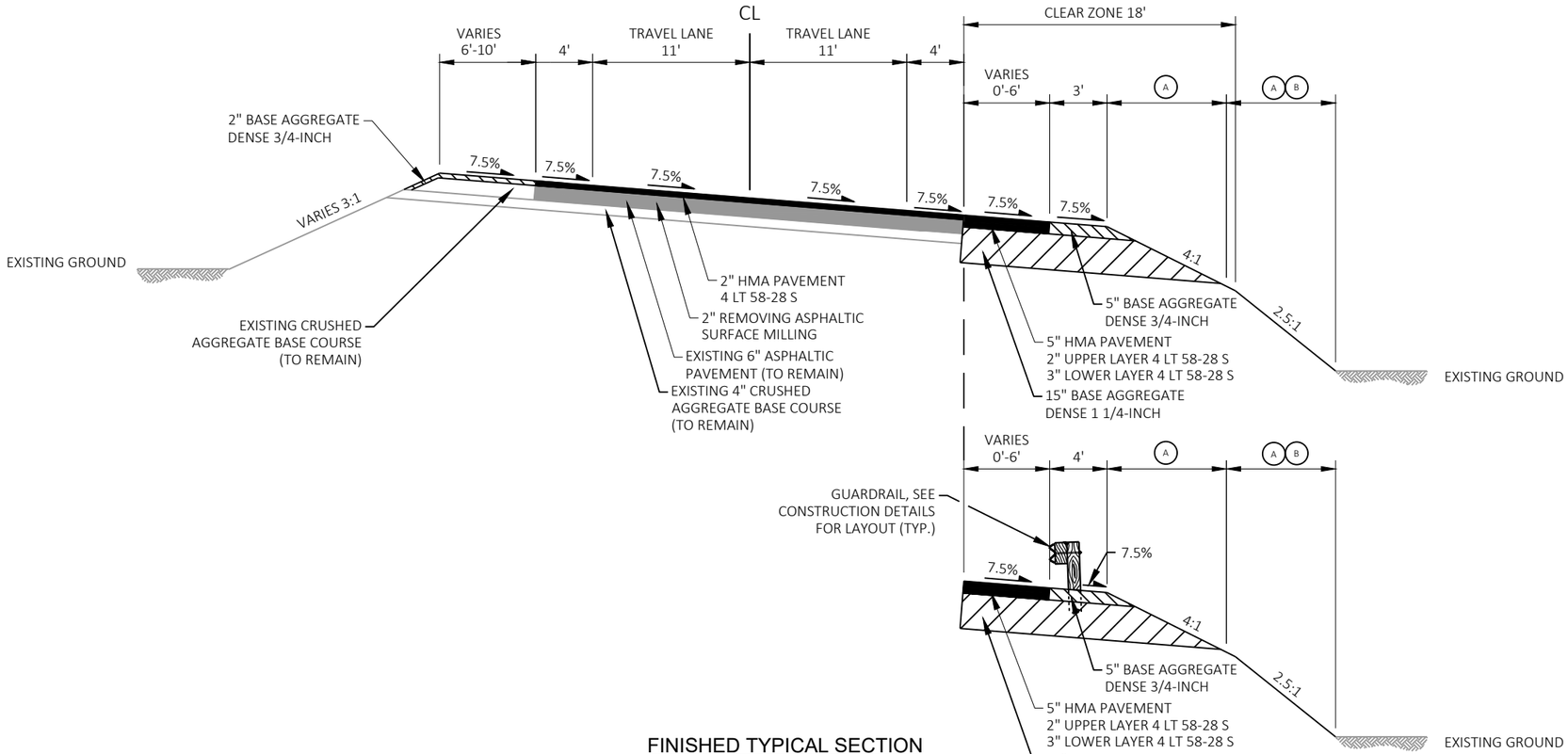
TOTAL PROJECT AREA = 1.10 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.33 ACRES

2



EXISTING TYPICAL SECTION

CTH BB
STA 10+99 - 12+72
STA 13+02 - 15+00



FINISHED TYPICAL SECTION

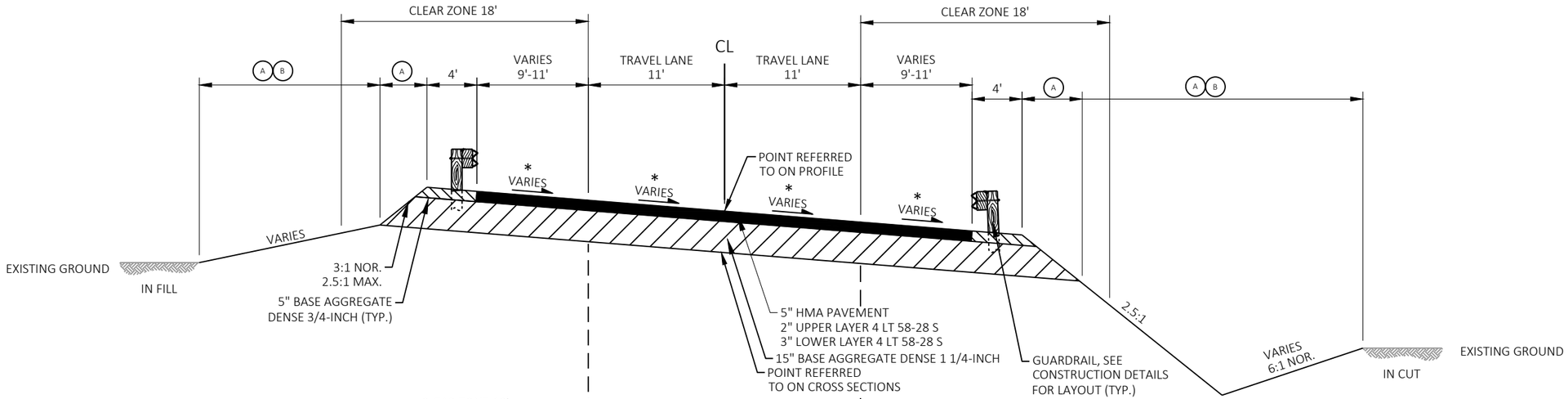
CTH BB
STA 10+99 - 11+75

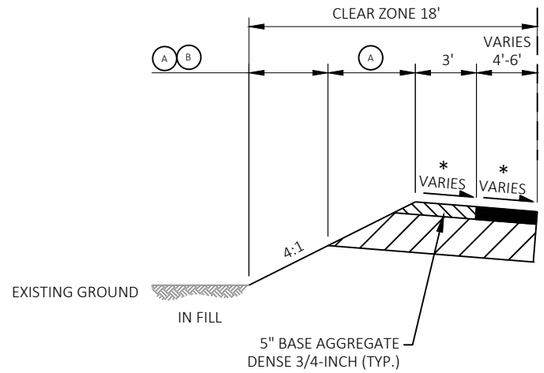
LEGEND

(A) SEED MIXTURE #40 , #75 WITH SEEDING NURSE CROP & FERTILIZER TYPE B (SEE MQ TABLE FOR LOCATIONS)

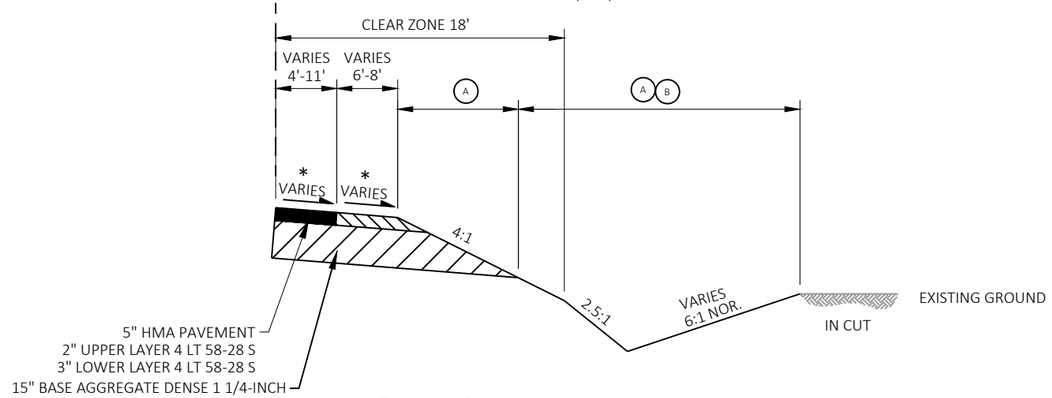
(B) 6" TOPSOIL AND EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E





STA 11+75 - 12+30
STA 13+42 - 15+00



STA 14+10 - 15+00

FINISHED TYPICAL SECTION

CTH BB
STA 11+75 - 12+49
STA 13+25 - 15+00

LEGEND

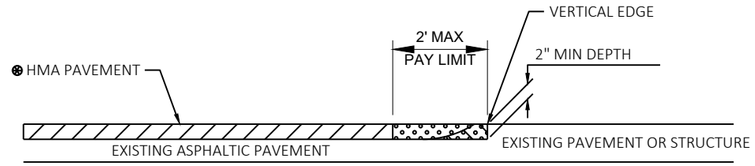
(A) SEED MIXTURE #40 , #75 WITH SEEDING NURSE CROP & FERTILIZER TYPE B (SEE MQ TABLE FOR LOCATIONS)

(B) 6" TOPSOIL AND EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

* SUPERELEVATED SEE PLAN AND PROFILE FOR TRANSITION RATE TABLE.

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

2



REMOVING ASPHALTIC SURFACE, MILLING

REMOVING ASPHALTIC SURFACE, BUTT JOINTS

REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS

BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

STA 10+99

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 5	E

FILE NAME : G:\11\11331\11331036\CADD\C3D\36770007\SHEETSPLAN\021001-CD.DWG
LAYOUT NAME - 021001-cd
PLOT DATE : 11/24/2025 2:03 PM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42

NOTE #1: STEEL PLATE SHORT RADIUS BEAM GUARD
NONSTANDARD RADIUS REQUIRED
RADIUS: 12.5' LENGTH: 37.5'
CONTROLLED RELEASE TERMINAL (CRT) POSTS: 6

NOTE #2: STEEL PLATE SHORT RADIUS BEAM GUARD
STANDARD 90 DEGREE INSTALLATION
RADIUS: 8' LENGTH: 31.25'
CONTROLLED RELEASE TERMINAL (CRT) POSTS: 5

STA 12+23.02
-56.68' LT
EL 861.96

SAWING ASPHALT (TYP.)

PRIVATE DRIVEWAY

OVERHEAD TELEPHONE
(FRONTIER)

KOSHKONONG CREEK

PRIVATE FIELD ENTRANCE

BURIED TELEPHONE
(FRONTIER)

STA 12+13.66
-58.01' LT
EL 861.82

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STA 13+46.48
-59.39' LT
EL 865.66

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STA 13+64.25
-59.45' LT
EL 865.33

EXISTING R/W (TYP.)

STA 11+90.07
-44.99' LT

STA 12+13.65
-44.57' LT
EL 863.08

1.0%

4.00'

4.00'

1.5%

0.7%

0.5%

0.1%

BURIED TELEPHONE
(FRONTIER)

STA 12+24.29
-31.77' LT
EL 864.41

STA 12+36.25
-32.50' LT

STA 12+27.99
-23.40' LT
EL 865.16

STA 12+36.25
-20.00' LT
EL 864.98

STA 12+06.83
-27.20' LT
EL 865.10

BURIED FIBER OPTIC
(EVERSTREAM)

STA 11+90.02
-19.99' LT
EL 865.13

R25'

R12.5'

STA 13+46.50
-28.27' LT
EL 865.57

STA 13+67.57
-33.17' LT
EL 865.53

STA 13+82.46
-35.00' LT

STA 13+38.23
-28.27' LT

STA 13+72.53
-23.75' LT
EL 865.62

STA 13+82.46
-20.00' LT
EL 865.70

R8'

R15'

SHORT RADIUS STEEL PLATE
BEAM GUARD
(SEE NOTE #1)

STA 12+48.43
-20.00' LT
EL 864.92

STEEL THRIE BEAM
STRUCTURE APPROACH
(STA. 12+48 - 12+69)

STA 13+25.73
-20.00' LT

STA 13+38.23
-20.00' LT
EL 865.53

STA 13+44.08
-22.42' LT
EL 865.55

SHORT RADIUS STEEL PLATE
BEAM GUARD
(SEE NOTE #2)

12+00

13+00

14+00

CTH BB

STEEL THRIE BEAM
STRUCTURE APPROACH
(STA. 13+05 - 13+26)

END MGS
TERMINAL EAT
+16.01
20.00' RT

POST 9
+12.81
20.13' RT

POST 5
+87.11
21.08' RT

POST 1
+61.62
22.00' RT

END MGS
TERMINAL EAT
+56.98
20.00' RT

POST 9
+60.11
20.12' RT

POST 5
+85.09
21.06' RT

POST 1
+10.07
22.00' RT

MGS GUARDRAIL 3
(STA. 12+16 - 12+29)

REMOVING GUARDRAIL (TYP.)

MGS THRIE BEAM TRANSITION
(STA. 12+29 - 12+69)

MGS GUARDRAIL
TERMINAL EAT
(STA. 11+61 - 12+16)

CAUTION

BURIED TELEPHONE
(FRONTIER)

BURIED GAS
(ALLIANT ENERGY)

MGS GUARDRAIL 3
(STA. 13+44 - 13+57)

MGS THRIE BEAM
TRANSITION
(STA. 13+05-13+44)

MGS GUARDRAIL TERMINAL EAT
(STA. 13+57 - 14+10)

EXISTING R/W (TYP.)

BURIED ELECTRIC
(ALLIANT ENERGY)

OVERHEAD COMMUNICATION
(SPECTRUM)

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 6	E

2

LEGEND

- EROSION MAT CLASS I TYPE B URBAN
- TURBIDITY BARRIER
- SILT FENCE
- RIPRAP HEAVY (SEE STRUCTURE PLANS)
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- CULVERT PIPE CHECKS

STA 12+31
CP CLASS III-B 15-INCH
OUTLET ELEV: 856.75
INLET ELEV: 858.20
LENGTH: 68 FT
SLOPE: -2.12%

REMOVING SMALL PIPE CULVERT

OVERHEAD COMMUNICATIONS (FRONTIER)

KOSHKONONG CREEK

SEE STRUCTURE PLANS FOR ADDITIONAL RIPRAP INFORMATION (TYP.)

STA 13+44
CP CLASS III-B 15-INCH
OUTLET ELEV: 861.27
INLET ELEV: 862.65
LENGTH: 53 FT
SLOPE: -2.62%

REMOVING SMALL PIPE CULVERT

BURIED FIBER OPTIC (EVERSTREAM)

BURIED TELEPHONE (FRONTIER)

+02.62
-44.46' LT

+19.18
-44.80' LT

+67.80
-37.64' LT

+70.56
-32.36' LT

BP: 10+00.00

11+00

12+00

13+00

14+00

15+00

CTH BB

CAUTION

B-13-0916

BURIED TELEPHONE (FRONTIER)

WETLANDS (TYP.)

EXISTING R/W (TYP.)

BURIED GAS (ALLIANT ENERGY)

BURIED ELECTRIC (ALLIANT ENERGY)

OVERHEAD COMMUNICATION (SPECTRUM)

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	EROSION CONTROL	SHEET 7	E

FILE NAME : G:\11\11331\11331036\CADD\C3D\36770007\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec
PLOT DATE : 12/2/2025 8:36 AM
PLOT BY : KEVIN KLOCKZIEM
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

LEGEND

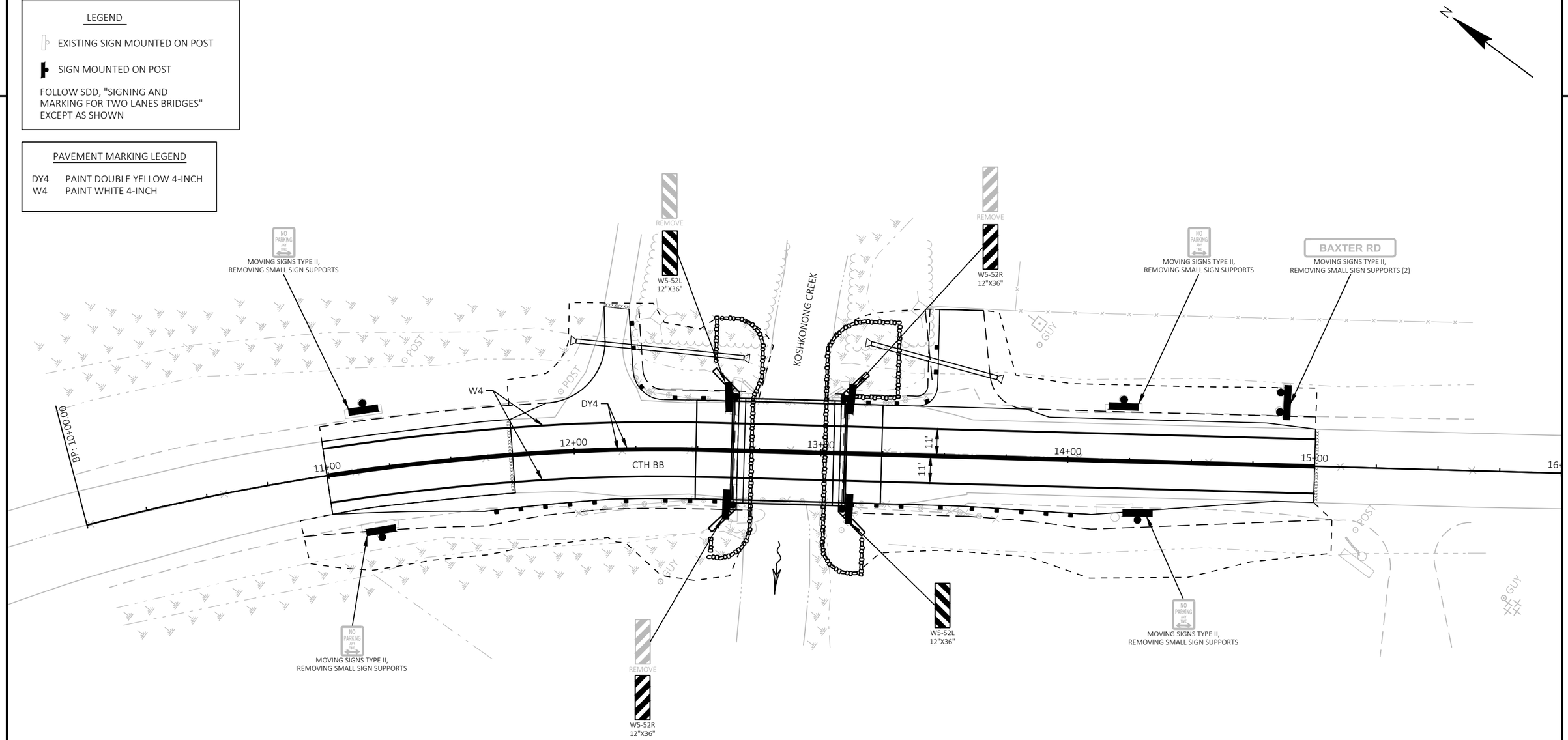
EXISTING SIGN MOUNTED ON POST

SIGN MOUNTED ON POST

FOLLOW SDD, "SIGNING AND MARKING FOR TWO LANES BRIDGES" EXCEPT AS SHOWN

PAVEMENT MARKING LEGEND

DY4 PAINT DOUBLE YELLOW 4-INCH
W4 PAINT WHITE 4-INCH



PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 8	E

FILE NAME : G:\11\11331\11331036\CADD\C3D\36770007\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 11/24/2025 2:06 PM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : 1 IN:40 FT

2

GENERAL NOTES:

1. ALL TC COVERING SIGNS TYPE I/II SHALL BE PAID AS EACH CONTIGUOUS SIGN(S) COVERED PER LOCATION PER CYCLE NOT AS INDIVIDUAL CLUSTER.
2. REFER TO PLATE A4-12 WHEN COVERING ARROWS FOR DESTINATION DIRECTIONAL ARROWS.
3. SEE SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES" FOR SIDE ROAD SIGNING ALONG THE WORKZONE CORRIDOR.
4. DRAWINGS SHOW TC DETOUR FOR A TYPICAL SITUATION. ADDITIONAL TC DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TC DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.
5. SIGN FACES SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE NOTED.
6. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.
7. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.
8. MAINTAIN ACCESS TO DRIVEWAYS AND SIDE ROADS AT ALL TIMES.
9. WO SIGNS ARE THE SAME AS W SIGNS EXCEPT THE BACKGROUND IS ORANGE.

PCMS MESSAGES		
	7 DAYS PRIOR TO CONSTRUCTION/STAGE	
PCMS SITE LOCATION	FRAME A (2 SEC)	FRAME B (2 SEC)
CTH BB EB	BRIDGE OUT BEGINS	D.O.W. MM-DD
CTH BB WB	BRIDGE OUT BEGINS	D.O.W. MM-DD

PCMS NOTES:

1. PCMS LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. PLACE PCMS AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.
3. PLACE REFLECTORIZED DRUMS AHEAD OF PCMS ON THE SHOULDER.

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH SIGN
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- EXISTING SIGN TO BE COVERED

SEE DETAIL 1

SEE DETAIL 2

SEE DETAIL 3

SEE DETAIL 4

ROAD CLOSURE PER SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL A

ROAD CLOSURE PER SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL C & D

ROAD CLOSURE PER SDD BARRICADES AND SIGNS FOR MAINLINE CLOSURES, DETAIL A

SUN PRAIRIE

MEDINA

COTTAGE GROVE

DEERFIELD

Hope

Nora

Koshkonong

Mud L.

Cr.

Cr.

Cr.

GLACIAL DRUMLIN TRAIL

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	DETOUR	SHEET 9	E

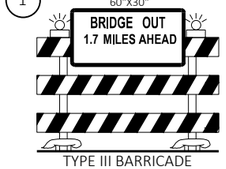
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LAYOUT NAME - 027001-dt

PLOT DATE : 11/24/2025 2:28 PM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : 1 IN:1 MI

WISDOT/CADDS SHEET 42

1

R11-3C
60"X30"

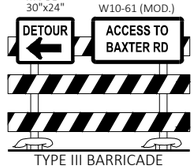


TYPE III BARRICADE

2

M4-9L
30"x24"

W10-61 (MOD.)



TYPE III BARRICADE

3





4



5



6



7



8



9

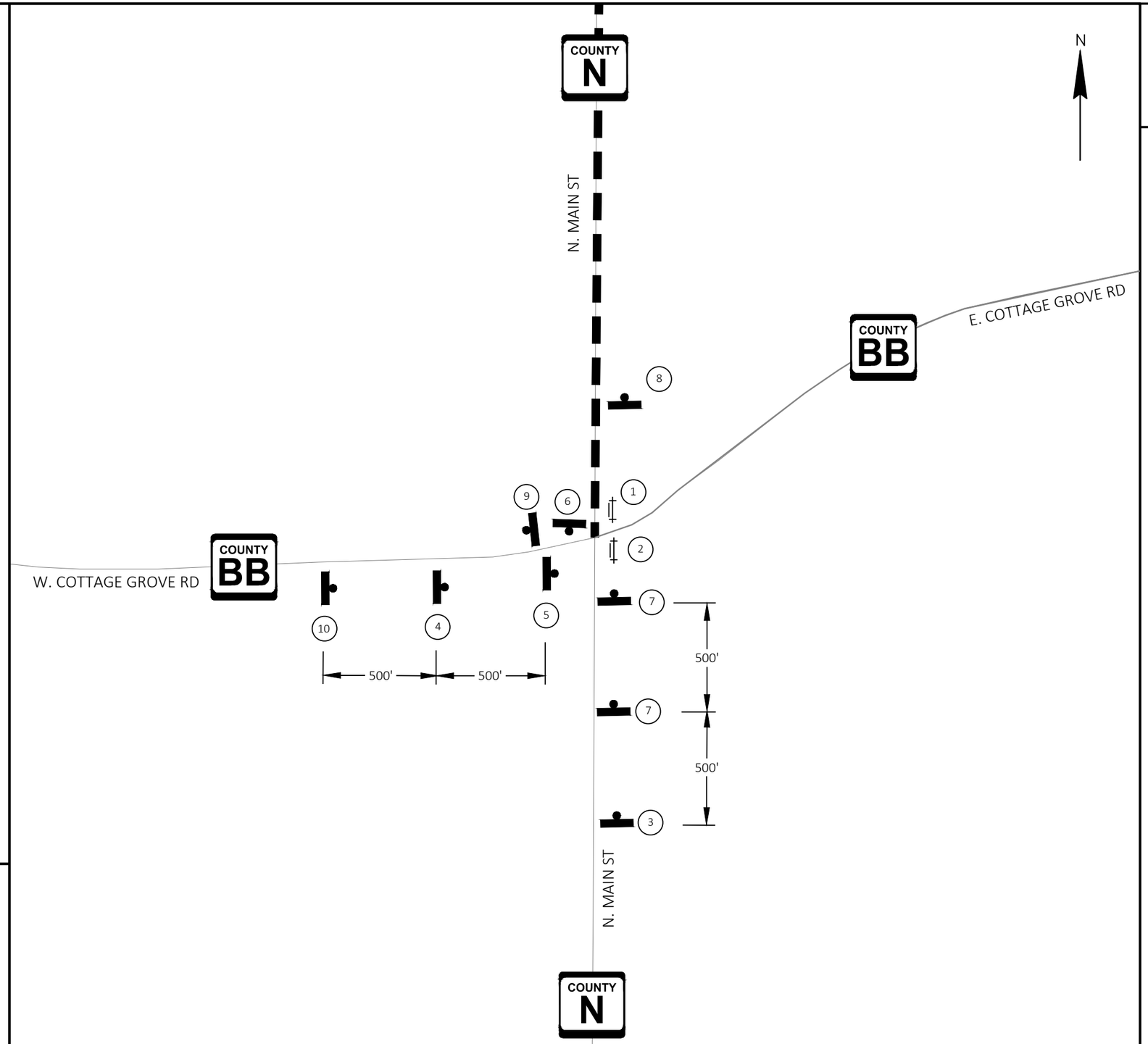


10



LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- EXISTING SIGN TO BE COVERED



2

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	DETOUR - DETAIL 1	SHEET 10	E

1
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
DETOUR AHEAD W20-2A 48"x 48"

2
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"

3
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-1 21"X21"

4
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO5-1L 21"X21"

5
SOUTH COUNTY N
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"

6
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO5-1L 21"X21"
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-1 21"X21"

7
EAST 94
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"

8
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
WEST 94

9
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
94 WEST
N

10
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
94 EAST
N

11
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
EAST 94 N
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-2 21"X21"

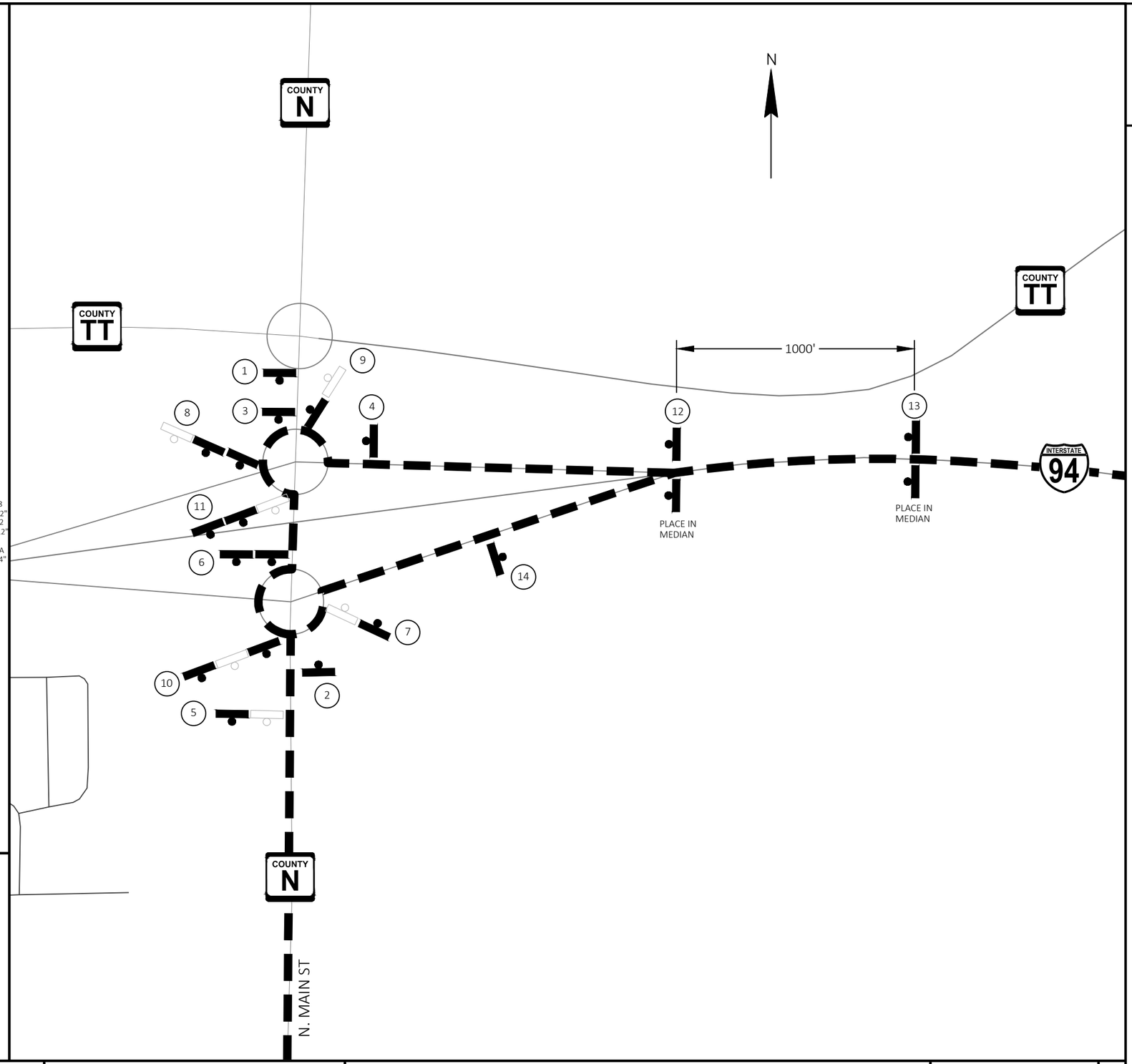
12
DETOUR M4-8 36"X18"
WEST M3-4 36'X18"
COUNTY BB M1-5A 36"X36"
MO6-2 30"X30"

13
DETOUR M4-8 36"X18"
WEST M3-4 36'X18"
COUNTY BB M1-5A 36"X36"
MO5-2R 21"X21"

14
DETOUR M4-8 36"X18"
EAST M3-2 36"X18"
COUNTY BB M1-5A 36"X36"

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- EXISTING SIGN TO BE COVERED



PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	DETOUR - DETAIL 2	SHEET 11	E

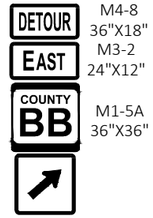
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PLOT DATE : 11/24/2025 2:28 PM
PLOT BY : ETHAN GREENFIELD
PLOT NAME :
PLOT SCALE : ##########

1



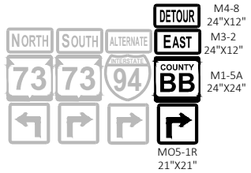
M4-8 36"X18"
M3-2 24"X12"
M1-5A 36"X36"
MO5-2R 21"X21"

2



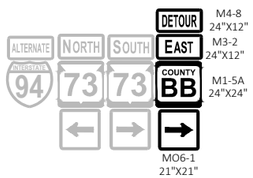
M4-8 36"X18"
M3-2 24"X12"
M1-5A 36"X36"
MO6-2 30"X30"

3



M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO5-1R 21"X21"

4



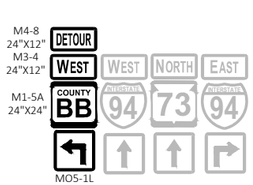
M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

5



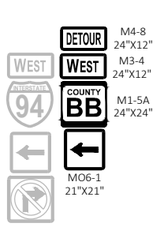
M4-8 24"X12"
M3-2 24"X12"
M1-5A 24"X24"

6



M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
MO5-1L 21"X21"

7



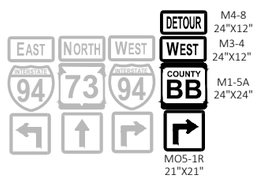
M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

8



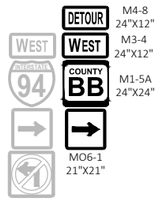
M4-8 36"X18"
M3-4 36'X18"
M1-5A 36"X36"

9



M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
MO5-1R 21"X21"

10



M4-8 24"X12"
M3-4 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

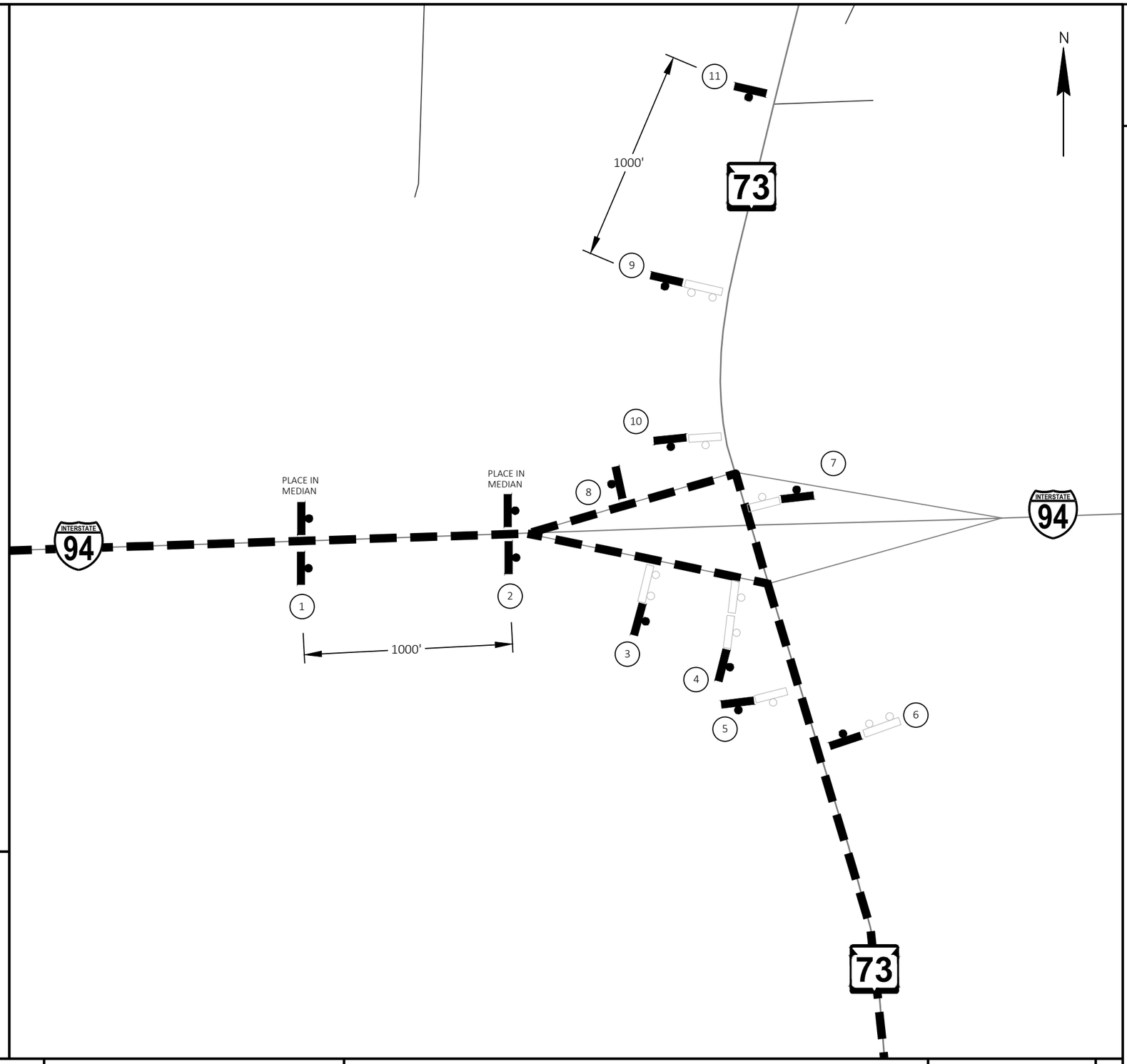
11



M3-4 24"X12"
M1-5A 24"X24"
W20-2A 48"X 48"

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- EXISTING SIGN TO BE COVERED



1
R11-3C
60"X30"
BRIDGE OUT
5.0 MILES AHEAD
TYPE III BARRICADE

2
M4-9R
30"x24"
DETOUR
W10-61 (MOD.)
ACCESS TO
RIDGE RD
TYPE III BARRICADE

3
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
DETOUR AHEAD
W20-2A
48"X 48"

4
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO5-1R
21"X21"

5
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
73
COUNTY BB M1-5A 24"X24"
MO6-1
21"X21"

6
END DETOUR M4-8A 24"X18"
EAST M3-2 24"X12"
COUNTY BB

7
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"
MO6-1
21"X21"

8
NORTH 73 ALTERNATE 94 BUSINESS
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB M1-5A 24"X24"

9
DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
COUNTY BB
COVER WITH
MO6-1
21"X21"

10
JCT
COUNTY BB

11
JCT
73

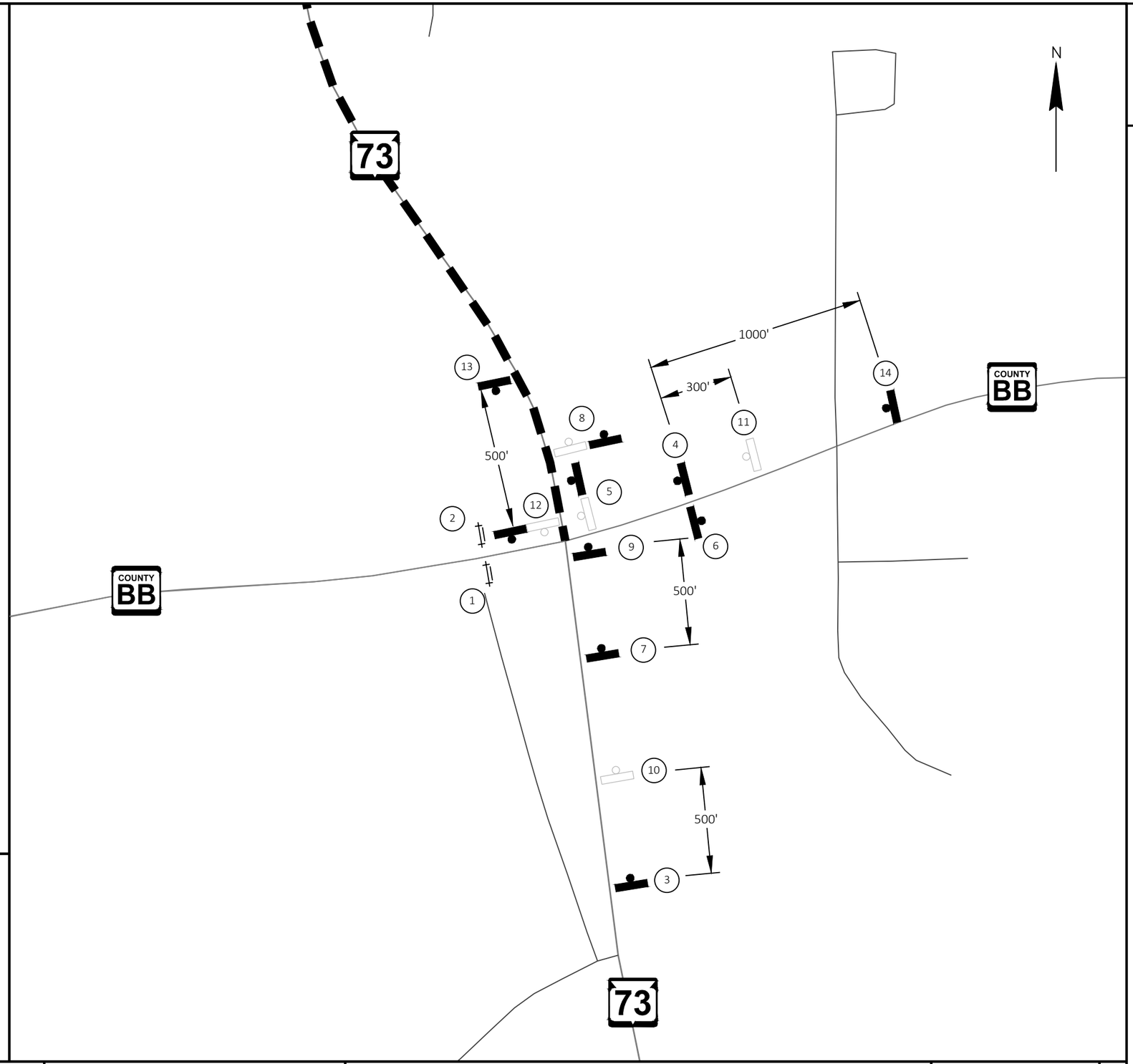
12
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB
COUNTY BB M1-5A 24"X24"
MO6-1
21"X21"

13
DETOUR M4-8 24"X12"
EAST M3-2 24"X12"
COUNTY BB M1-5A 24"X24"
MO5-1L
21"X21"

14
DETOUR AHEAD
W20-2A
48"X 48"

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- EXISTING SIGN TO BE COVERED



3677-00-77

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing	STA	2.000	2.000
0004	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0008	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-13-32	EACH	1.000	1.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	10.000	10.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	250.000	250.000
0014	204.0165	Removing Guardrail	LF	295.000	295.000
0016	205.0100	Excavation Common	CY	930.000	930.000
0018	206.1001	Excavation for Structures Bridges (structure) 01. B-13-0916	EACH	1.000	1.000
0022	210.1500	Backfill Structure Type A	TON	670.000	670.000
0024	213.0100	Finishing Roadway (project) 01. 3677-00-77	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	180.000	180.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,705.000	1,705.000
0032	415.0080	Concrete Pavement 8-Inch	SY	60.000	60.000
0034	415.0410	Concrete Pavement Approach Slab	SY	74.000	74.000
0036	450.4000	HMA Cold Weather Paving	TON	100.000	100.000
0038	455.0605	Tack Coat	GAL	110.000	110.000
0040	460.2000	Incentive Density HMA Pavement	DOL	240.000	240.000
0042	460.5224	HMA Pavement 4 LT 58-28 S	TON	370.000	370.000
0046	502.0100	Concrete Masonry Bridges	CY	248.000	248.000
0048	502.3200	Protective Surface Treatment	SY	306.000	306.000
0052	505.0400	Bar Steel Reinforcement HS Structures	LB	6,220.000	6,220.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	30,685.000	30,685.000
0058	513.4061	Railing Tubular Type M	LF	94.000	94.000
0060	516.0500	Rubberized Membrane Waterproofing	SY	28.000	28.000
0062	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	4.000	4.000
0070	520.3515	Culvert Pipe Class III-B 15-Inch	LF	121.000	121.000
0072	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	780.000	780.000
0082	606.0300	Riprap Heavy	CY	240.000	240.000
0084	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	220.000	220.000
0088	614.0200	Steel Thrie Beam Structure Approach	LF	41.300	41.300
0090	614.0345	Steel Plate Beam Guard Short Radius	LF	68.750	68.750
0092	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	2.000	2.000
0094	614.2300	MGS Guardrail 3	LF	25.000	25.000
0096	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0098	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0100	618.0100	Maintenance and Repair of Haul Roads (project) 01. 3677-00-77	EACH	1.000	1.000
0104	619.1000	Mobilization	EACH	0.430	0.430
0106	624.0100	Water	MGAL	30.000	30.000
0108	625.0100	Topsoil	SY	900.000	900.000
0110	628.1504	Silt Fence	LF	600.000	600.000
0112	628.1520	Silt Fence Maintenance	LF	600.000	600.000
0114	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0116	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0118	628.2008	Erosion Mat Urban Class I Type B	SY	900.000	900.000
0120	628.6005	Turbidity Barriers	SY	320.000	320.000
0122	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0124	629.0210	Fertilizer Type B	CWT	1.000	1.000
0126	630.0140	Seeding Mixture No. 40	LB	30.000	30.000
0128	630.0175	Seeding Mixture No. 75	LB	4.000	4.000

3677-00-77

Line	Item	Item Description	Unit	Total	Qty
0130	630.0400	Seeding Nurse Crop	LB	5.000	5.000
0132	630.0500	Seed Water	MGAL	7.000	7.000
0134	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	8.000	8.000
0136	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0138	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0140	638.2102	Moving Signs Type II	EACH	5.000	5.000
0142	638.2602	Removing Signs Type II	EACH	4.000	4.000
0144	638.3000	Removing Small Sign Supports	EACH	10.000	10.000
0146	642.5001	Field Office Type B	EACH	0.500	0.500
0148	643.0420	Traffic Control Barricades Type III	DAY	1,650.000	1,650.000
0150	643.0705	Traffic Control Warning Lights Type A	DAY	3,250.000	3,250.000
0152	643.0900	Traffic Control Signs	DAY	18,100.000	18,100.000
0156	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0158	643.5000	Traffic Control	EACH	0.500	0.500
0160	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0162	645.0120	Geotextile Type HR	SY	445.000	445.000
0164	646.1005	Marking Line Paint 4-Inch	LF	1,620.000	1,620.000
0166	650.4500	Construction Staking Subgrade	LF	380.000	380.000
0168	650.5000	Construction Staking Base	LF	380.000	380.000
0172	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0174	650.6501	Construction Staking Structure Layout (structure) 01. B-13-0916	EACH	1.000	1.000
0178	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0180	650.9911	Construction Staking Supplemental Control (project) 01. 3677-00-77	EACH	1.000	1.000
0184	650.9920	Construction Staking Slope Stakes	LF	380.000	380.000
0186	690.0150	Sawing Asphalt	LF	70.000	70.000
0188	715.0502	Incentive Strength Concrete Structures	DOL	1,488.000	1,488.000
0190	999.2005.S	Maintaining Bird Deterrent System (station) 01. 12+87	EACH	1.000	1.000
0194	SPV.0090	Special 01. Flashing Stainless Steel	LF	83.000	83.000

3

GRUBBING

CATEGORY	STATION	TO	STATION	LOCATION	201.0205 GRUBBING STA
0010	12+20	-	12+80	LT	1
0010	13+00	-	13+60	LT	1
				TOTAL 0010	2

ASPHALTIC SURFACE REMOVAL

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
0010	10+99	-	11+75	WEST APPROACH	10	250
				TOTAL 0010	10	250

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	12+01	-	13+71	RT	170
0010	12+25	-	13+42	LT	125
				TOTAL 0010	295

EARTHWORK

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	FILL CY (1)	EXPANDED FILL CY (2)	UNUSABLE PAVEMENT CY (3)	WASTE CY
0010	10+86	-	12+65	CTH BB	340	103	134	83	123
0010	13+10	-	15+08	CTH BB	550	54	85	155	311
0010	11+90	-	12+36	PRIVATE DRIVEWAY	25	6	8	-	17
0010	13+38	-	13+83	PRIVATE FIELD ENTRANCE	15	7	9	-	6
				TOTAL 0010	930	170	236	238	457

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%.
(3) - EXISTING PAVEMENT IS INCLUDED IN EXCAVATION COMMON TOTALS. ASPHALT PAVEMENT DEPTH ASSUMED TO BE 8".

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	10+86	-	12+69	WEST APPROACH	70	625	11.00
0010	13+10	-	15+08	EAST APPROACH	70	945	15.00
0010	12+49	-	12+64	WEST CONCRETE APPROACH SLAB	-	50	1.00
0010	13+10	-	13+25	EAST CONCRETE APPROACH SLAB	-	50	1.00
0010	11+90	-	12+36	PRIVATE DRIVEWAY	-	35	1.00
0010	13+38	-	13+83	PRIVATE DRIVEWAY - AGG	40	-	1.00
				TOTAL 0010	180	1,705	30.00

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF
0030	12+49	-	12+64	LT & RT	30	37	15
0030	13+10	-	13+25	LT & RT	30	37	15
				TOTAL 0030	60	74	30

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.5224 HMA PAVEMENT 4 LT 58-28 S TON
0010	10+99	-	12+49	WEST APPROACH	30	40	110
0010	13+25	-	15+00	EAST APPROACH	55	40	210
0010	10+99	-	11+75	MILL AND OVERLAY (LOWER LAYER)	10	20	30
0010	11+90	-	12+36	DRIVEWAY	5	10	20
				TOTAL 0010	100	110	370

PIPE CULVERTS

CATEGORY	STATION	TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH	520.3515 CULVERT PIPE CLASS III-B 15-INCH LF	628.7555 CULVERT PIPE CHECKS EACH	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	12+02	-	12+68	LT	1	2	68	2	1
0010	13+19	-	13+71	LT	1	2	53	2	1
				TOTAL 0010	2	4	121	4	2

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	12+48	-	12+69	LT	20.65	-	-	-	-	-
0010	13+05	-	13+26	LT	20.65	-	-	-	-	-
0010	12+23	-	12+36	LT	-	37.50	-	-	-	-
0010	13+26	-	13+48	LT	-	31.25	-	-	-	-
0010	12+23	-	N/A	LT	-	-	1	-	-	-
0010	13+43	-	N/A	LT	-	-	1	-	-	-
0010	12+16	-	12+29	RT	-	-	-	12.5	-	-
0010	13+44	-	13+57	RT	-	-	-	12.5	-	-
0010	12+29	-	12+69	RT	-	-	-	-	39.4	-
0010	13+05	-	13+44	RT	-	-	-	-	39.4	-
0010	11+61	-	12+16	RT	-	-	-	-	-	1
0010	13+57	-	14+10	RT	-	-	-	-	-	1
				TOTAL 0010	41.30	68.75	2	25	78.8	2

EROSION CONTROL BARRIERS

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY
0010	10+85	-	12+20	RT	150	150	-
0010	10+88	-	12+13	LT	175	175	-
0010	13+05	-	13+86	RT	85	85	-
0010	13+70	-	15+10	LT	190	190	-
0010	12+67	-	12+81	LT & RT	-	-	155
0010	12+94	-	13+05	LT & RT	-	-	165
				TOTAL 0010	600	600	320

EROSION CONTROL MOBILIZATIONS

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	3677-00-77	6	4
	TOTAL 0010	6	4

3

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0175 SEEDING MIXTURE NO. 75 LB	630.0400 SEEDING NURSE CROP LB	630.0500 SEED WATER MGAL
0010	10+86	-	12+68	RT	179	179	0.2	-	2.0	2.3	1.8
0010	11+75	-	12+14	LT	88	88	0.1	-	0.6	0.6	0.5
0010	12+31	-	12+58	LT	66	66	0.1	-	0.6	0.7	0.5
0010	13+15	-	15+08	RT	231	231	0.2	16.1	-	-	2.0
0010	13+15	-	13+41	LT	53	53	0.0	-	0.3	0.4	0.3
0010	13+64	-	15+00	LT	91	91	0.1	8.5	-	-	1.1
0010	UNDISTRIBUTED				192	192	0.3	5.4	0.5	1.0	0.8
				TOTAL 0010	900	900	1.0	30.0	4.0	5.0	7.0

PERMANENT SIGNING

CATEGORY	STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	11+17	LT	1	-	-	1	-	1	EXISTING R7-1D SIGN
0010	11+18	RT	1	-	-	1	-	1	EXISTING R7-1D SIGN
0010	12+63	LT	1	-	3.0	-	1	1	W5-52L
0010	12+63	RT	1	-	3.0	-	1	1	W5-52R
0010	13+10	LT	1	-	3.0	-	1	1	W5-52R
0010	13+10	RT	1	-	3.0	-	1	1	W5-52L
0010	14+22	LT	1	-	-	1	-	1	EXISTING R7-1D SIGN
0010	14+29	RT	1	-	-	1	-	1	EXISTING R7-1D SIGN
0010	14+87	LT	-	2	-	1	-	2	EXISTING BAXTER ROAD SIGN
		TOTAL 0010	8	2	12.0	5	4	10	

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1005 MARKING LINE PAINT 4-INCH LF	REMARKS
0010	10+99	-	15+00	LT	405	EDGE OF LANE - WHITE
0010	10+99	-	15+00	RT	405	EDGE OF LANE - WHITE
0010	10+99	-	15+00	LT	405	CENTERLINE - YELLOW
0010	10+99	-	15+00	RT	405	CENTERLINE - YELLOW
				TOTAL 0010	1,620	

3

TRAFFIC CONTROL

CATEGORY	LOCATION	DETAIL	DURATION DAYS	TRAFFIC CONTROL BARRICADES TYPE III NO. DEVICES	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. DEVICES	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS NO. DEVICES	643.0900 TRAFFIC CONTROL SIGNS DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
0010	W. COTTAGE GROVE RD (CTH BB) AT CTH N	DETOUR - DETAIL 1	80	2	160	4	320	33	2,640	-
0010	CTH N AT IH 94	DETOUR - DETAIL 2	80	-	-	-	-	77	6,160	-
0010	IH 94 AT STH 73	DETOUR - DETAIL 3	80	-	-	-	-	49	3,920	-
0010	STH 73 AT CTH BB	DETOUR - DETAIL 4	80	2	160	4	320	36	2,880	-
0010	--	WEST APPROACH	80	7	560	14	1,120	4	320	7
0010	--	EAST APPROACH	80	7	560	14	1,120	4	320	7
0010	UNDISTRIBUTED		-	-	210	-	370	-	1,860	-
			TOTAL 0010		1,650		3,250		18,100	14

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-13-0916) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	10+86	-	12+65	WEST APPROACH	179	179	-	179
0010	13+10	-	15+08	EAST APPROACH	198	198	-	198
				TOTAL 0010	377	377	0	377
0020	10+86	-	15+08	PROJECT	-	-	1	-
				TOTAL 0020	0	0	1	0

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	11+75	-	11+75	LT & RT	30
0010	12+14	-	12+23	LT	10
0010	15+00	-	15+00	LT & RT	30
				TOTAL 0010	70

PROJECT ITEMS

CATEGORY	PROJECT	213.0100.01 FINISHING ROADWAY (PROJECT) (01. 3677-00-77) EACH	618.0100.01 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (01. 3677-00-77) EACH	619.1000 MOBILIZATION EACH	642.5001 FIELD OFFICE TYPE B EACH	643.5000 TRAFFIC CONTROL EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 3677-00-77) EACH
0010	3677-00-77	1	-	0.43	0.5	0.5	1
	TOTAL 0010	1	0	0.43	0.5	0.5	1
0030	3677-00-77	-	1	-	-	-	-
	TOTAL 0030	0	1	0.00	0.0	0.0	0

C-1	PCC-1
PI STA = 10+93.30	PI STA = 12+21.40
Y = 488523.641	Y = 488425.470
X = 878487.984	X = 878571.184
DELTA = 11°09'35" RT	DELTA = 5°25'45" RT
D = 5°59'58"	D = 7°40'39"
T = 93.30'	T = 35.38'
L = 186.01'	L = 70.72'
R = 955.00'	R = 746.30'
PC STA = 10+00.00	PC STA = 11+86.01
Y = 488581.860	Y = 488452.411
X = 878415.077	X = 878548.244
PT STA = 11+86.01	PT STA = 12+56.73
Y = 488452.411	Y = 488396.479
X = 878548.244	X = 878591.472
DB = S51°23'28"E	DB = S40°24'49"E
DA = S40°13'53"E	DA = S34°59'04"E

CONTROL POINTS				
NO.	DESCRIPTION	ELEV.	X	Y
901	3/4" IRN ROD	867.023	878,800.5620	488,138.9900
902	3/4" IRN ROD	864.190	878,419.7230	488,608.2390

BENCH MARKS				
NO.	DESCRIPTION	ELEV.	X	Y
500	BM *SQUARE ON ABUT	867.023	878,800.5620	488,138.9900
502	BM *SQUARE ON ABUT	863.410	878,582.4610	488,372.0860

CONCRETE APPROACH SLAB
CONCRETE PAVEMENT 8-INCH
MILL AND OVERLAY
SAWING ASPHALT

STA 12+87 STRUCTURE P-13-032
REMOVE STEEL DECK GIRDER
40.0' CLEAR ROADWAY WIDTH
29.5' OVERALL LENGTH
0 DEGREE SKEW

STA 12+87 STRUCTURE B-13-0916
SINGLE-SPAN CONCRETE FLAT SLAB
40.0' CLEAR ROADWAY WIDTH
46.5' OVERALL LENGTH
0 DEGREE SKEW

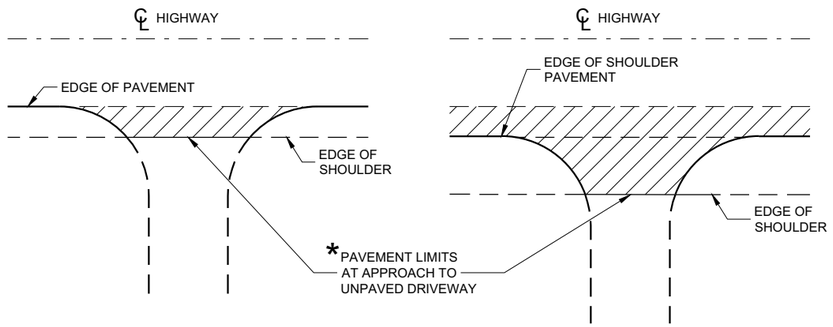
CTH BB SUPERELEVATION TABLE					
TRANSITION EVENT POINTS		RATE			
		LEFT OF REFERENCE LINE		RIGHT OF REFERENCE LINE	
LOCATION	STATION	LEFT SHOULDER	LEFT LANE	RIGHT SHOULDER	RIGHT LANE
Begin Transition	11+75.00'	7.50%	7.50%	-7.50%	-7.50%
Begin Hold for Bridge Super	12+50.00'	4.50%	4.50%	-4.50%	-4.50%
End Hold for Bridge Super	13+25.00'	4.50%	4.50%	-4.50%	-4.50%
End Transition	15+00.00'	-2.50%	-2.50%	0.50%	0.50%

PROJECT NO: 3677-00-77 | HWY: CTH BB | COUNTY: DANE | PLAN AND PROFILE: CTH BB | SHEET 20 | E

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E12-01	SILT SCREEN
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05K	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05L	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

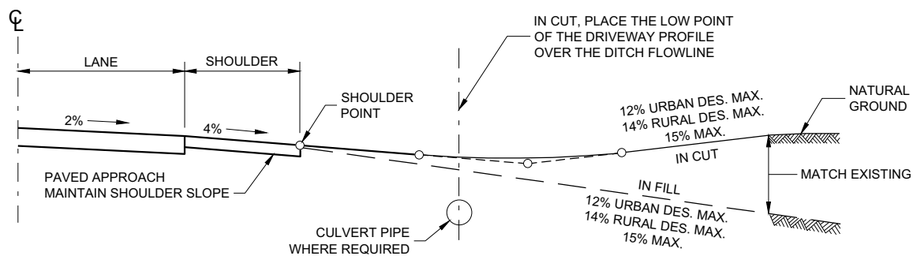
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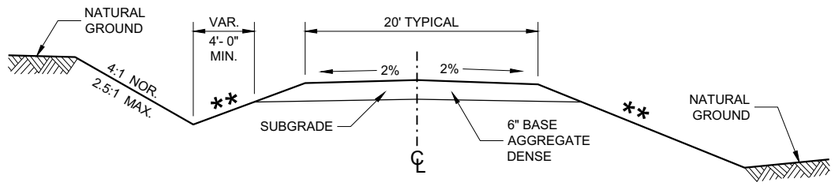
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

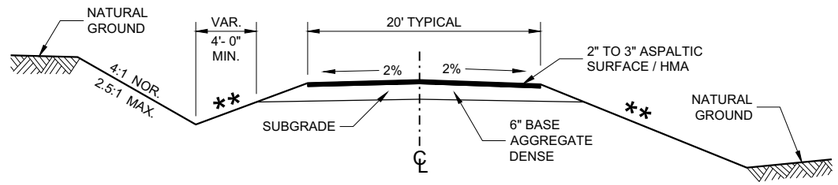


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

6

SDD 08D21 - 01

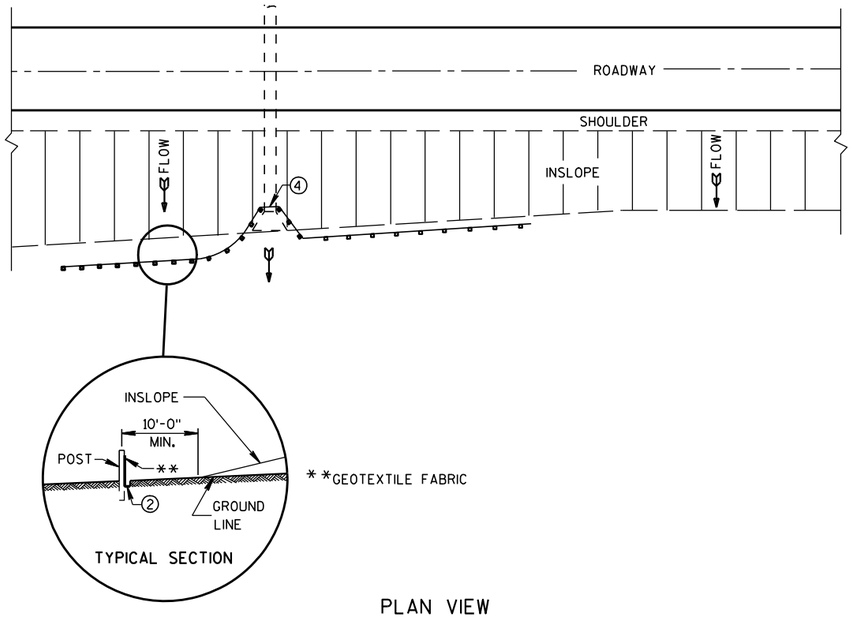
SDD 08D21 - 01

DRIVEWAYS WITHOUT CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

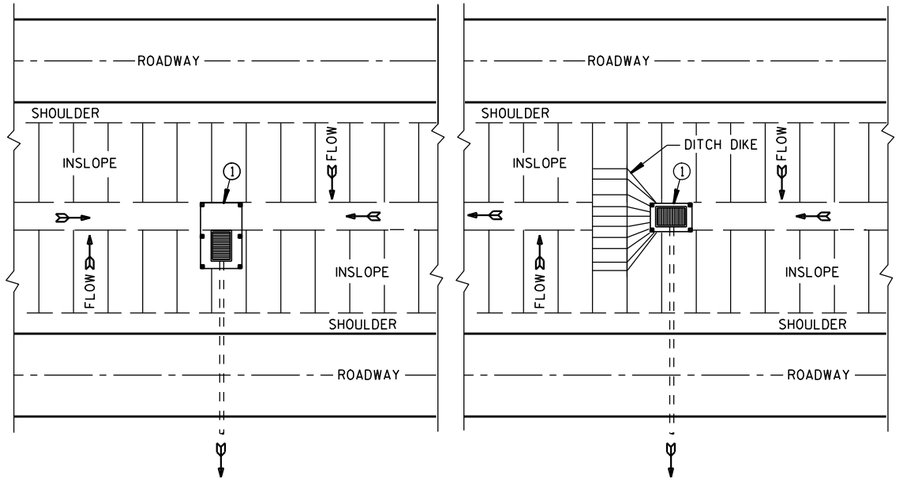
APPROVED
December 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

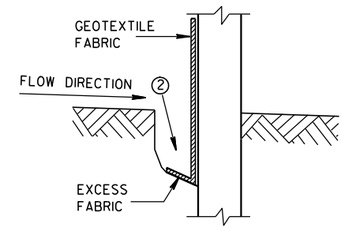
(1) HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

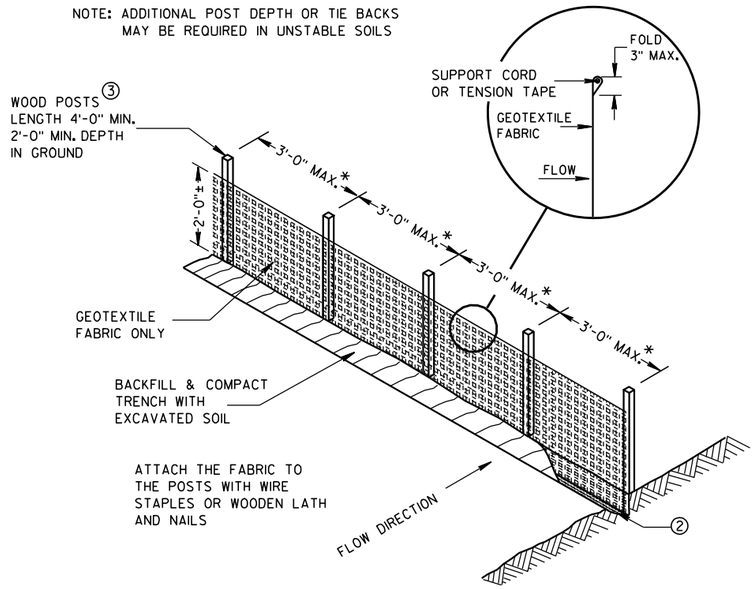
(3) WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

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

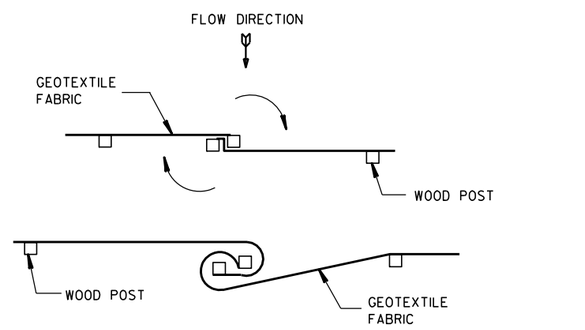


TRENCH DETAIL

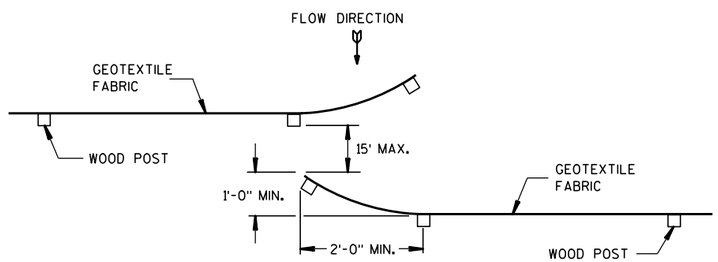


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

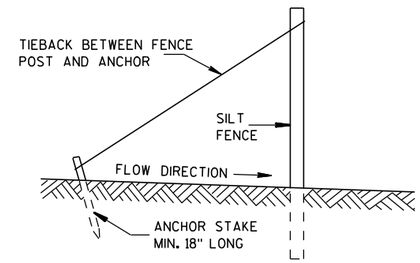


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

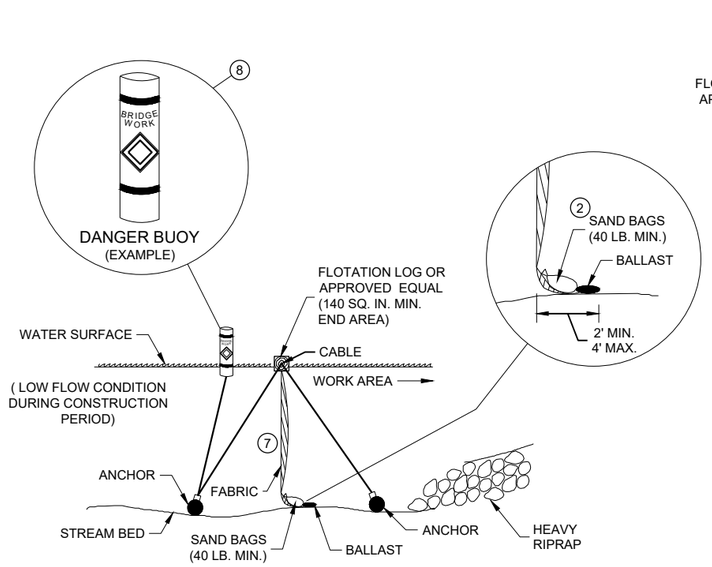
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

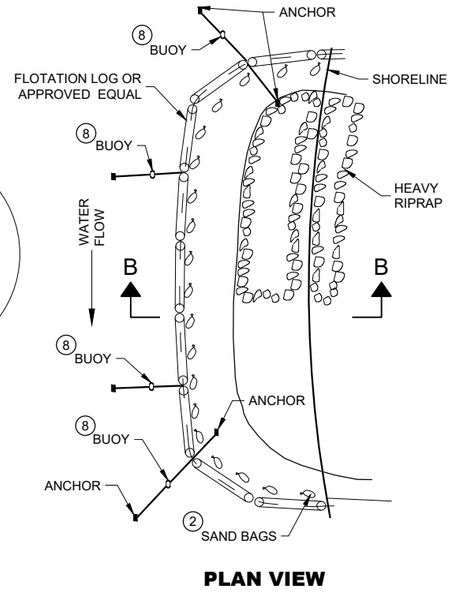
S.D.D. 8 E 9-6

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S.D.D. 8 E 9-6

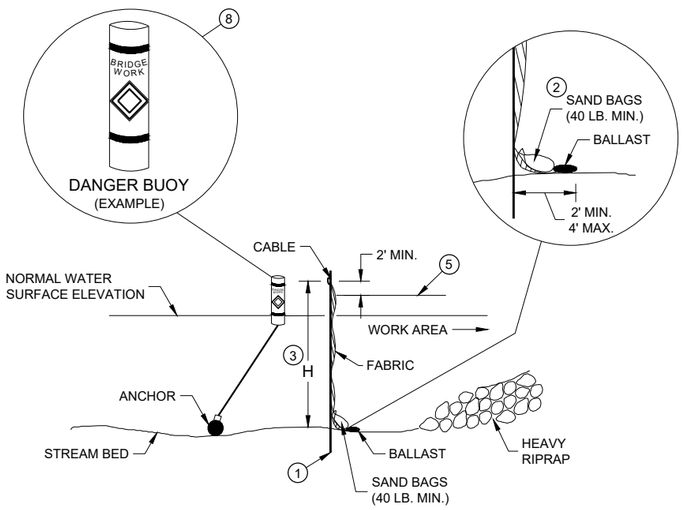


SECTION B - B

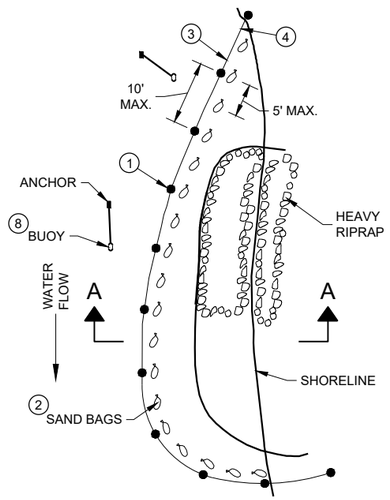


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

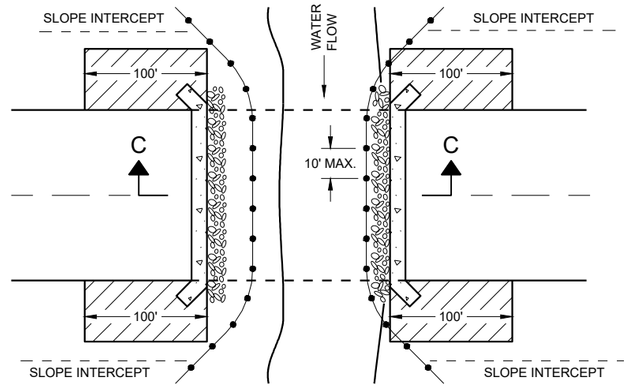
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

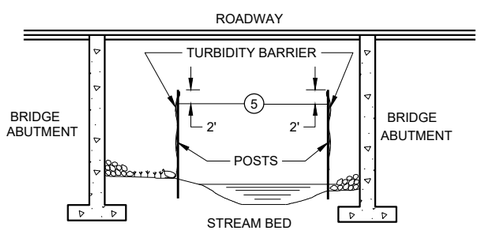
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
3. WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
4. IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
5. ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
6. FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
7. ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
8. USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

6

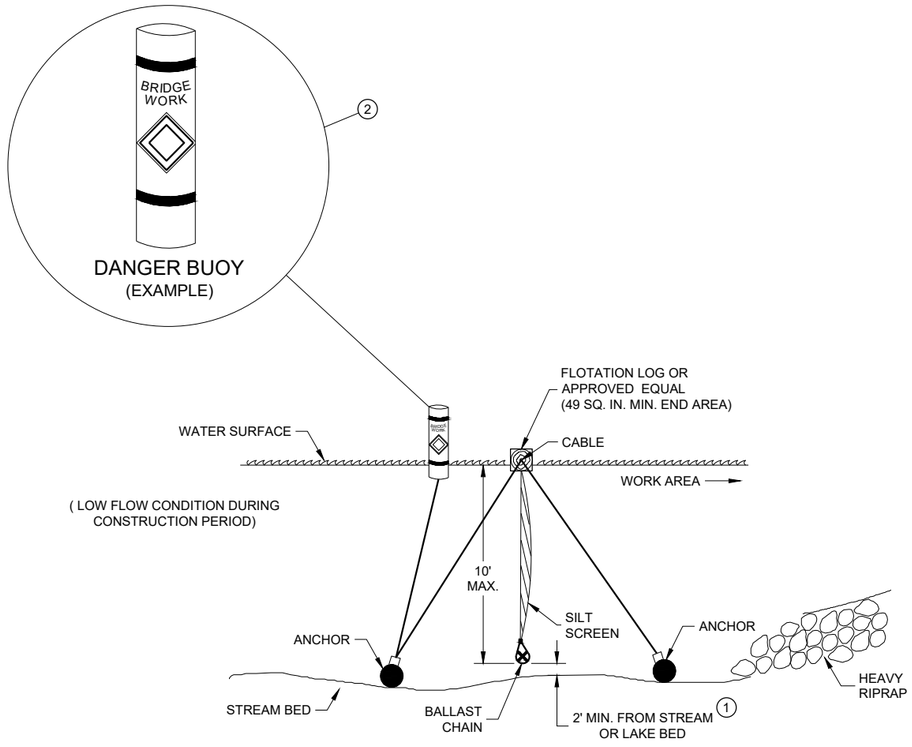
SDD 08E11 - 02

GENERAL NOTES

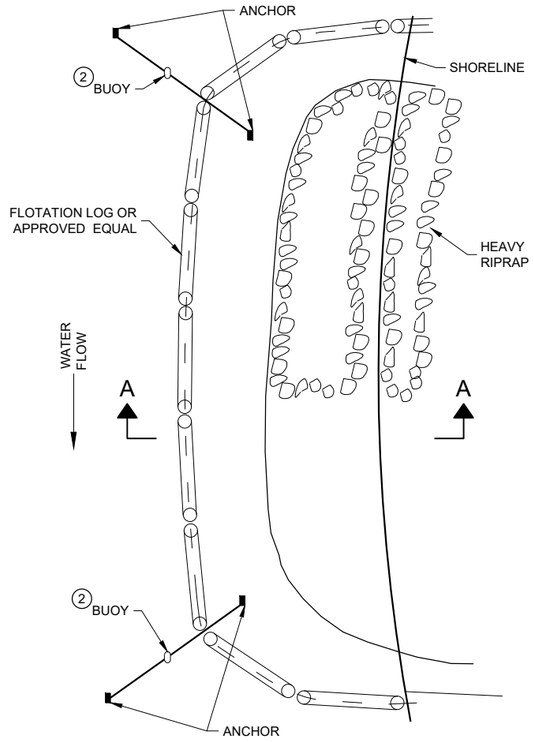
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(1) 2' MINIMUM SHALL BE MAINTAINED DURING CONSTRUCTION PERIOD.

(2) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



SECTION A - A



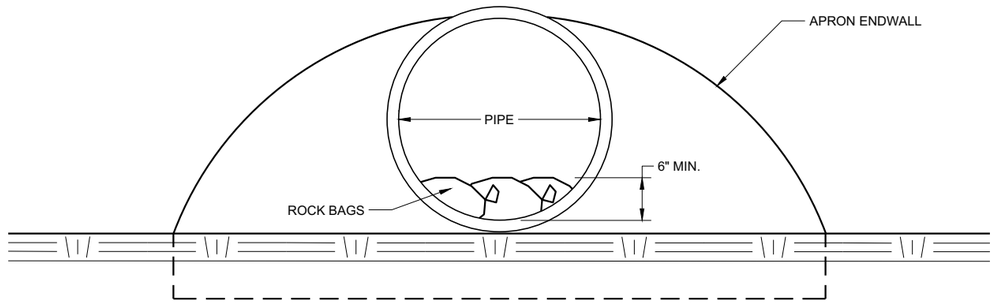
PLAN VIEW

SILT SCREEN PLACEMENT DETAIL

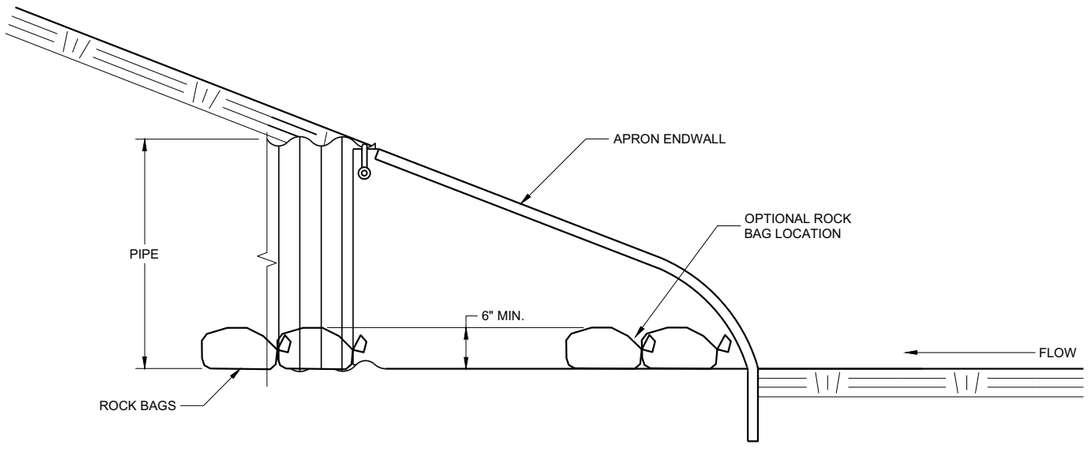
SILT SCREEN	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6/04/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOI ENGINEER
FHWA	

6

SDD 08E12 - 01



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

6
SDD 08E15 - 01

METAL APRON ENDWALLS

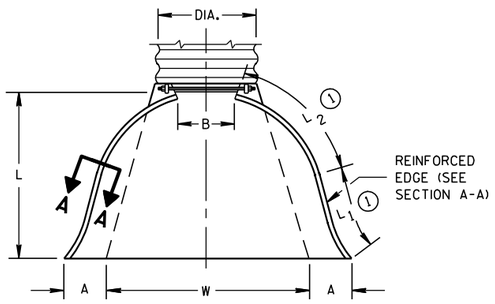
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

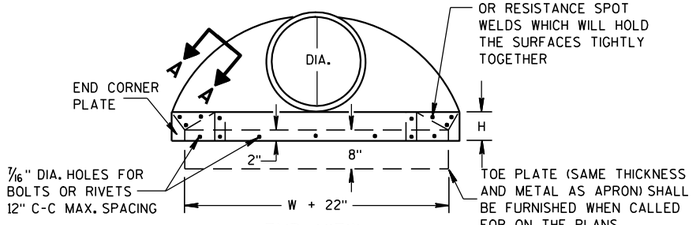
REINFORCED CONCRETE APRON ENDWALLS

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

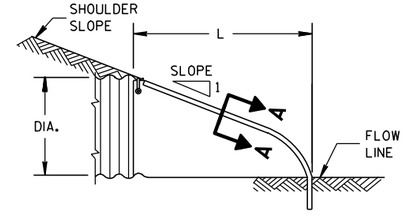
*MINIMUM
**MAXIMUM



PLAN VIEW

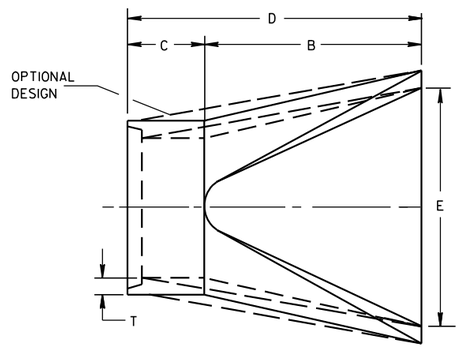


END VIEW

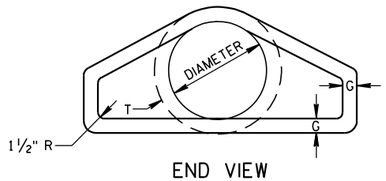


SIDE ELEVATION

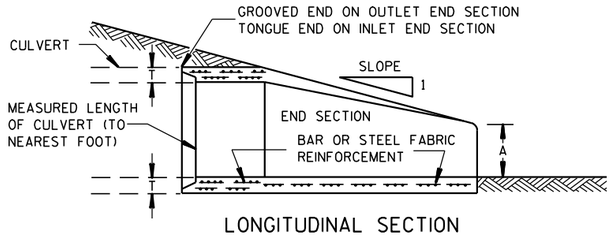
METAL ENDWALLS



PLAN

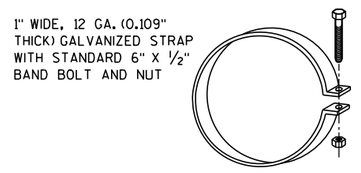


END VIEW



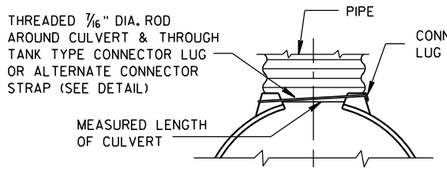
LONGITUDINAL SECTION

CONCRETE ENDWALLS

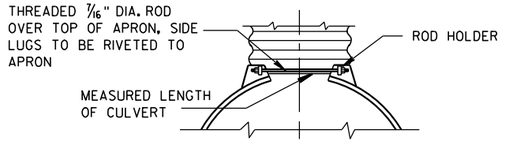


ALTERNATE FOR TYPE 1 CONNECTION

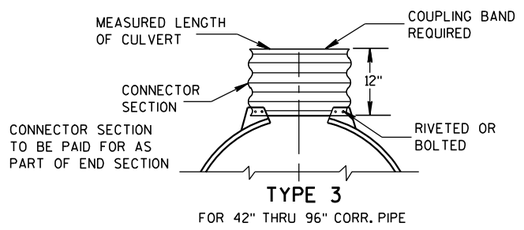
END SECTION CONNECTOR STRAP



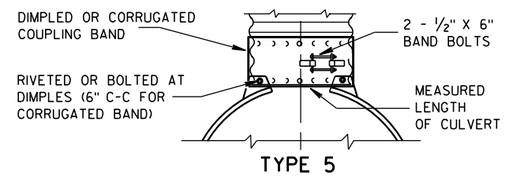
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

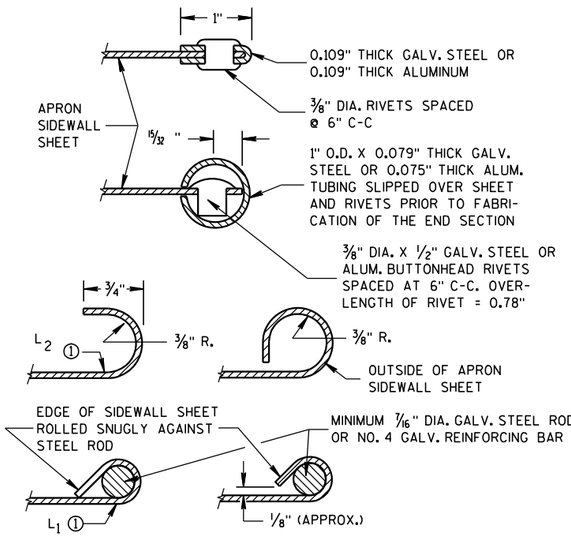
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

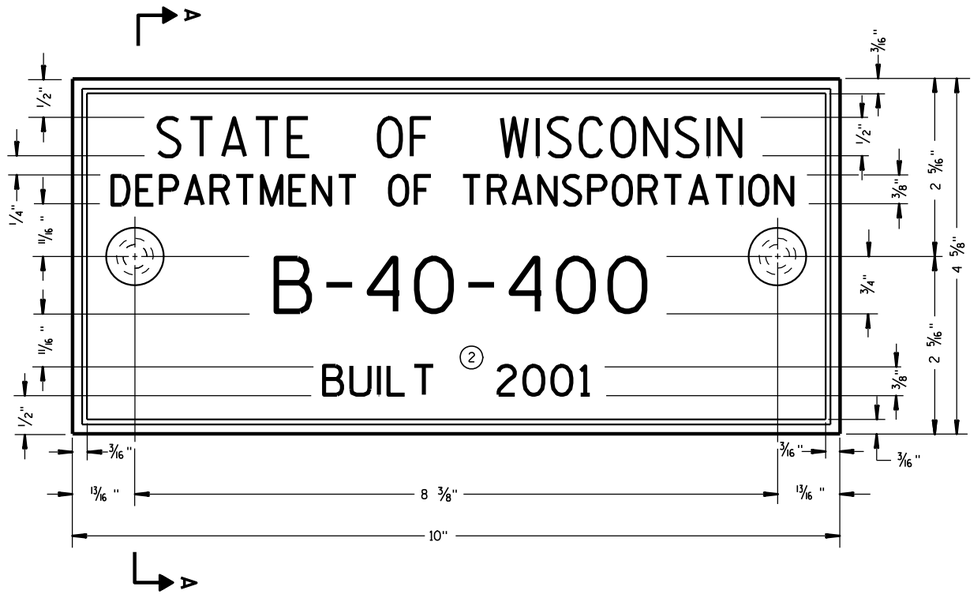
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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



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

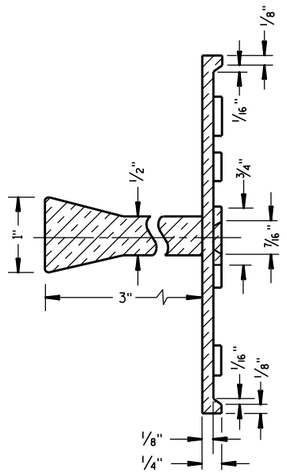
GENERAL NOTES

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.

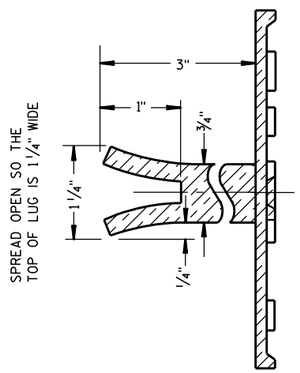
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

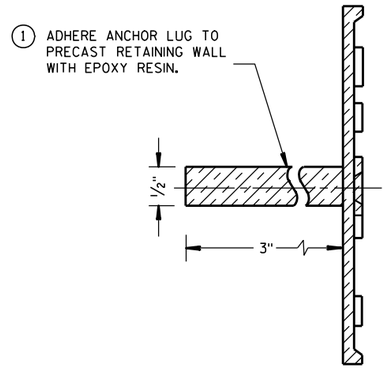
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

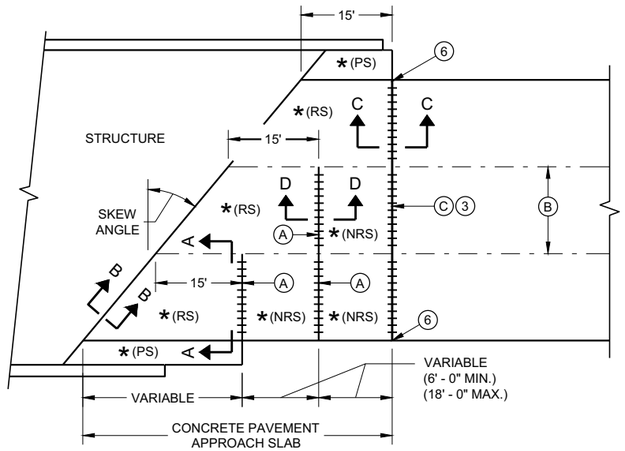
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

6

S.D.D. 12 A 3-10



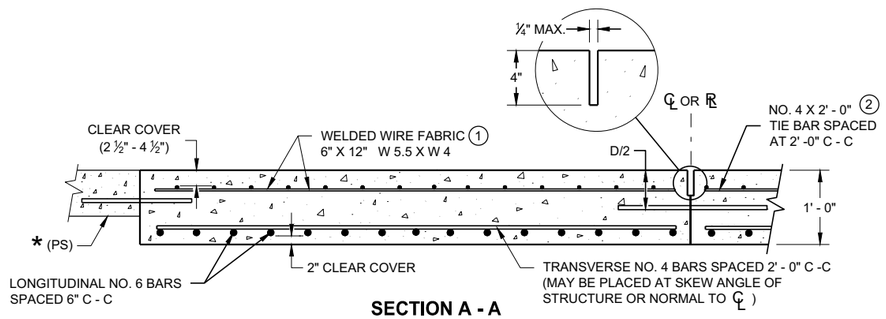
SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)

* (RS) = REINFORCED CONCRETE SLAB

* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

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



SECTION A - A
REINFORCEMENT POSITIONING DETAIL

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

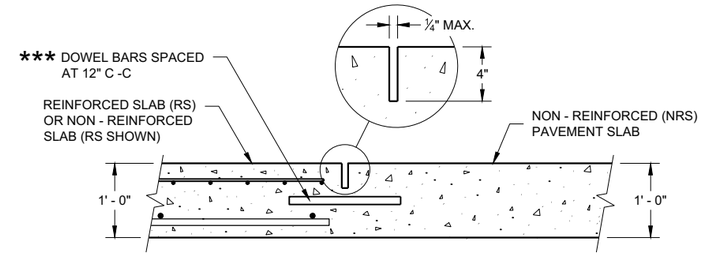
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

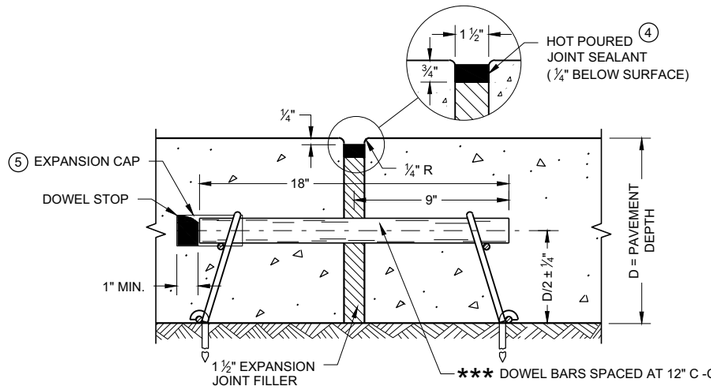
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

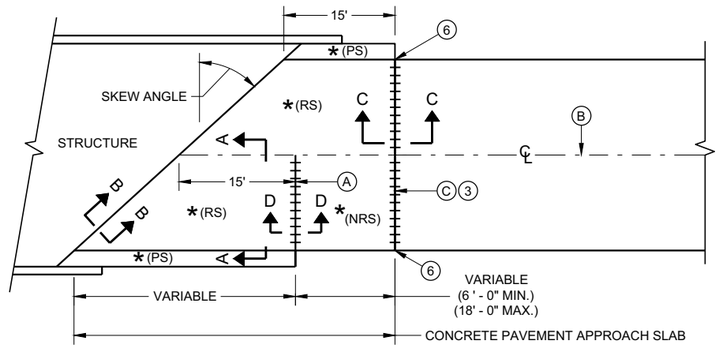
(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



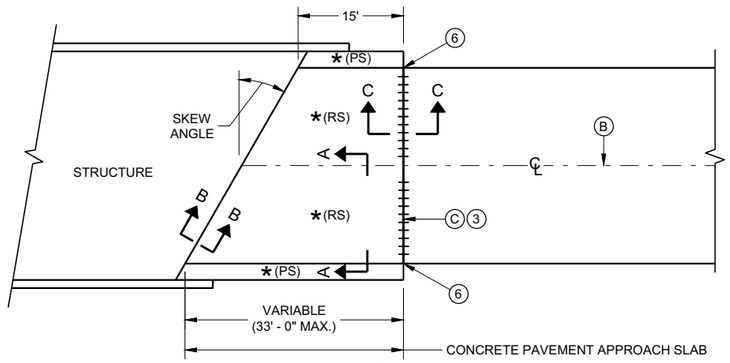
SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

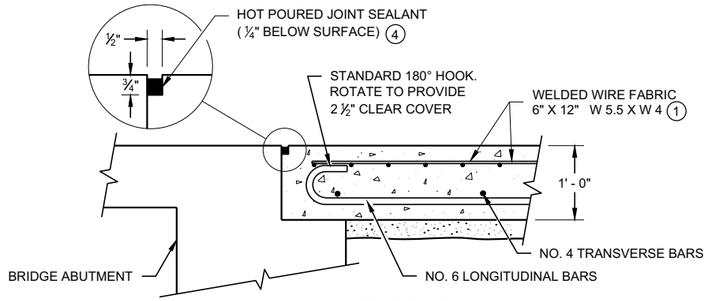


SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')

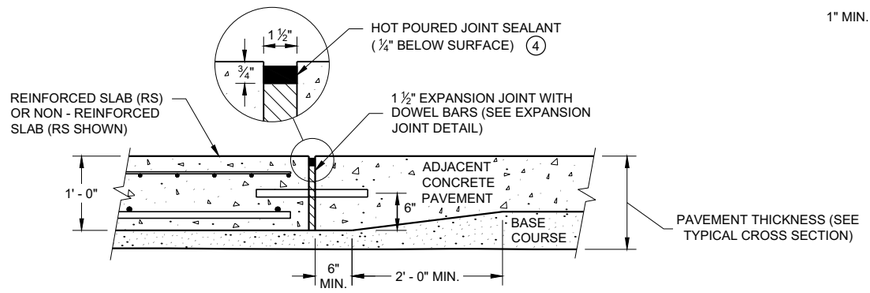


SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

APPROACH SLAB AND ADJACENT PAVEMENT



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

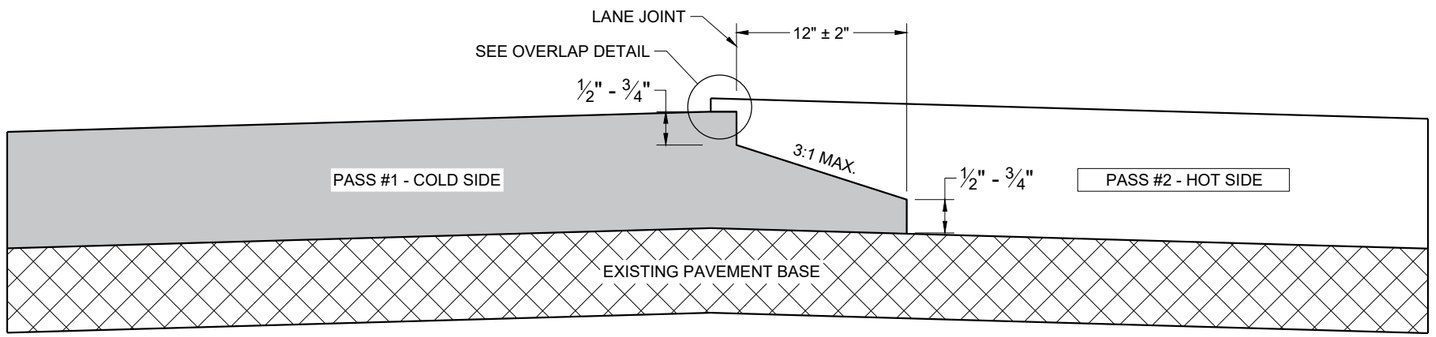
APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISO

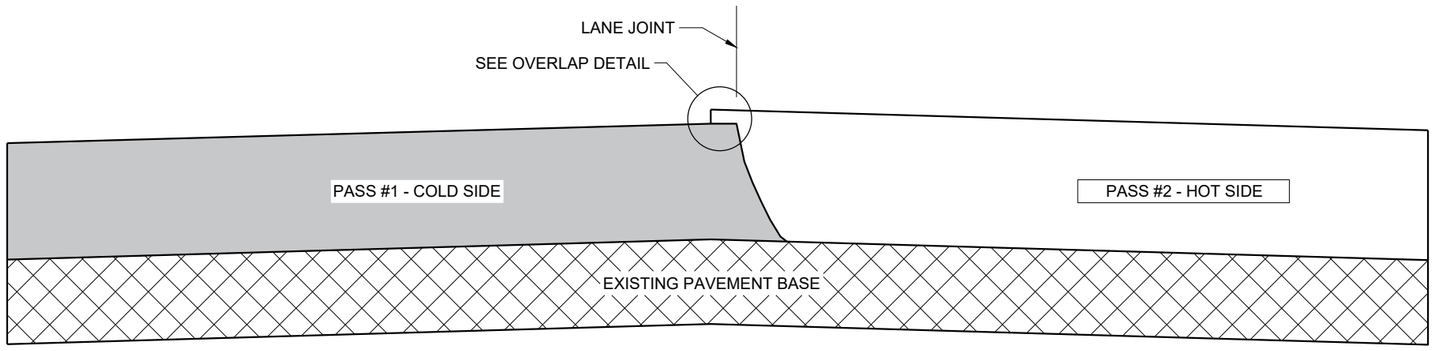
FHWA

6

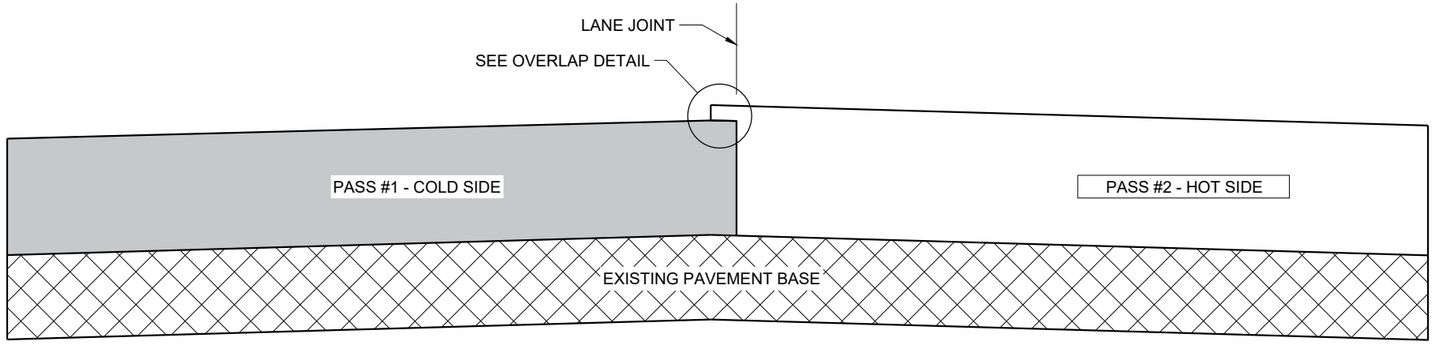
SDD 13B02 - 09a



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

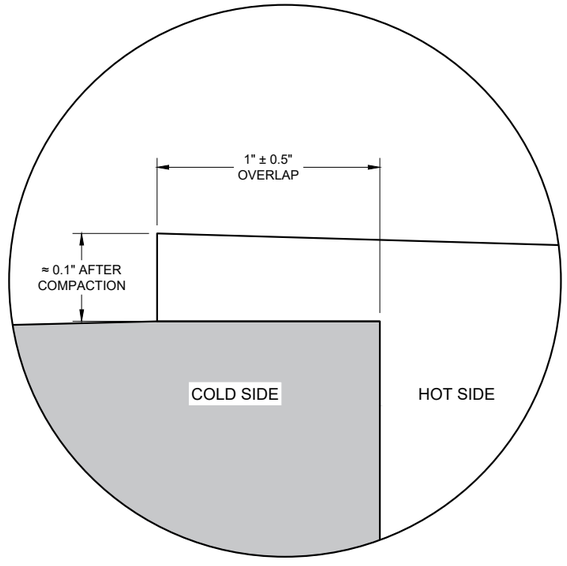
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

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

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

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

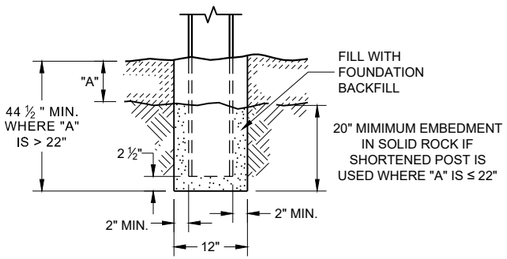
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.

7. 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.

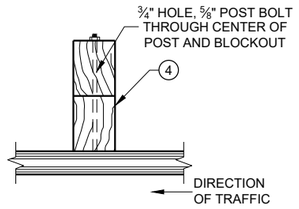
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

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



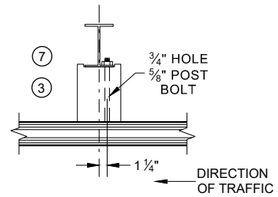
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



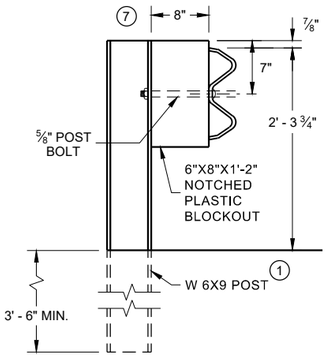
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



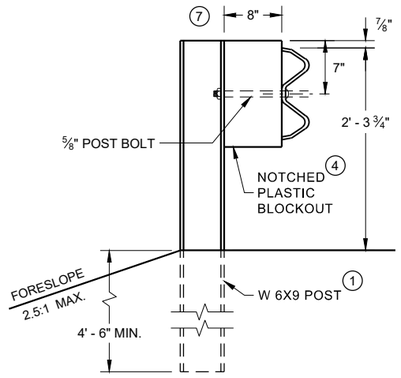
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



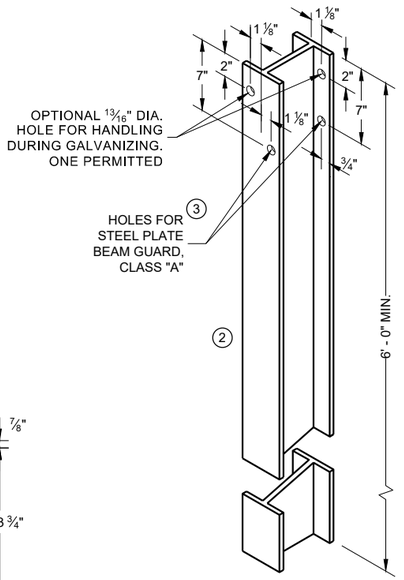
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



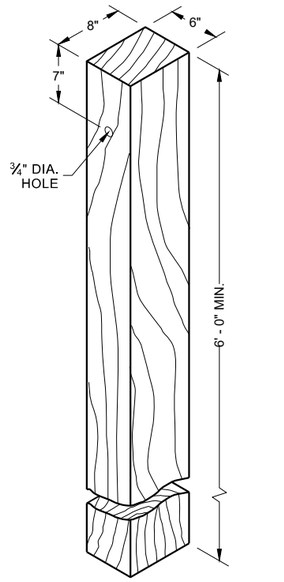
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

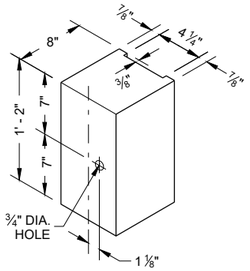


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

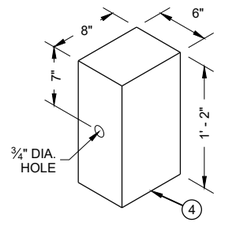
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



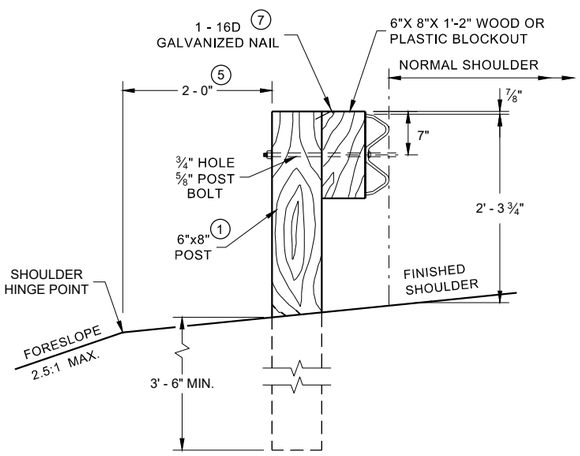
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

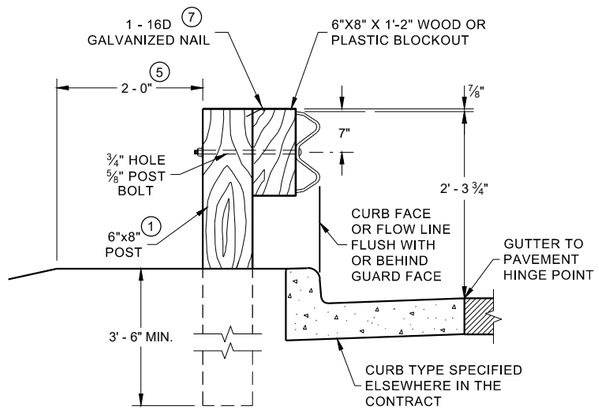


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



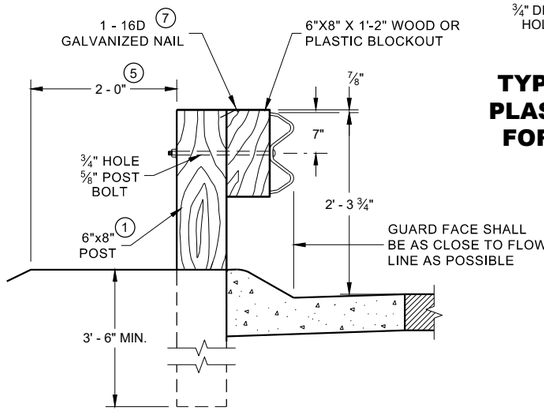
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



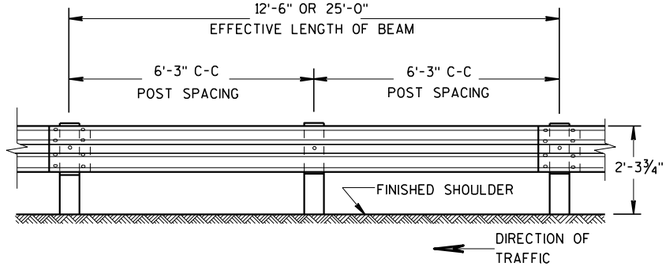
END VIEW

LOCATED ALONG A MOUNTABLE CURBED ROADWAY

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

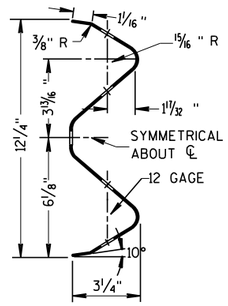
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B15 -11a

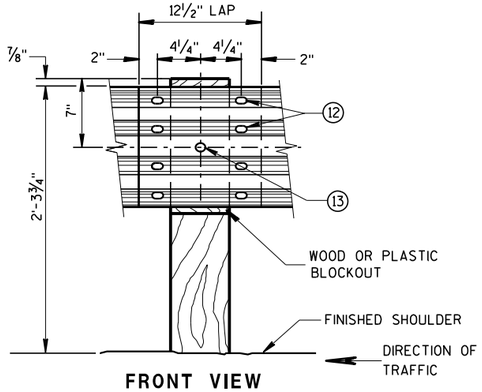


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

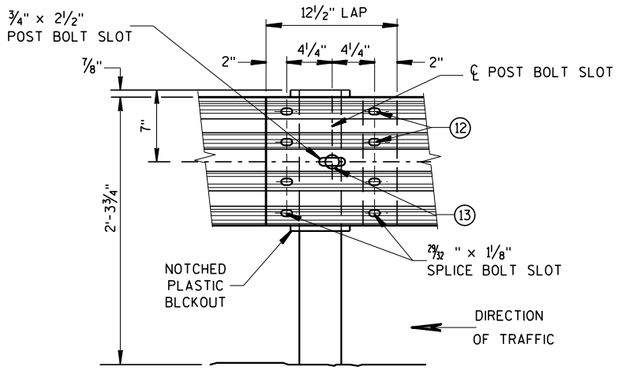
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.

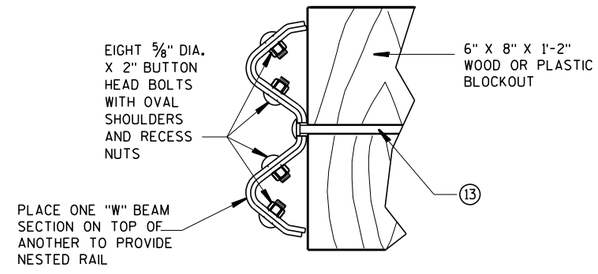
FRONT VIEW

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



FRONT VIEW

BEAM SPLICE AT STEEL POST

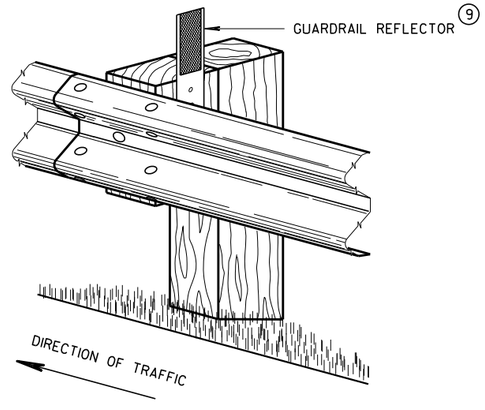


NESTED W BEAM (NW)

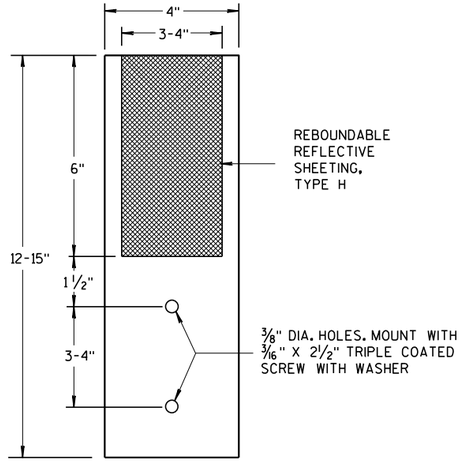
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

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

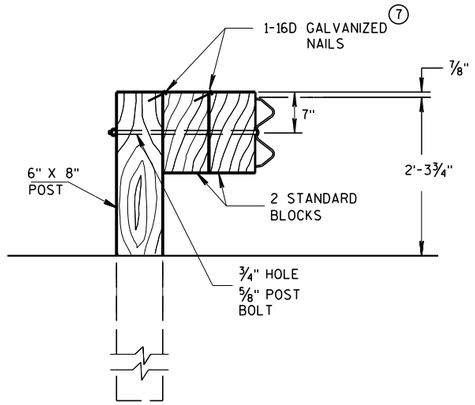
STATE OF WISCO 32
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

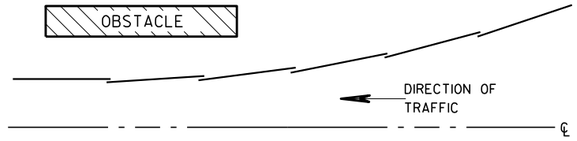
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

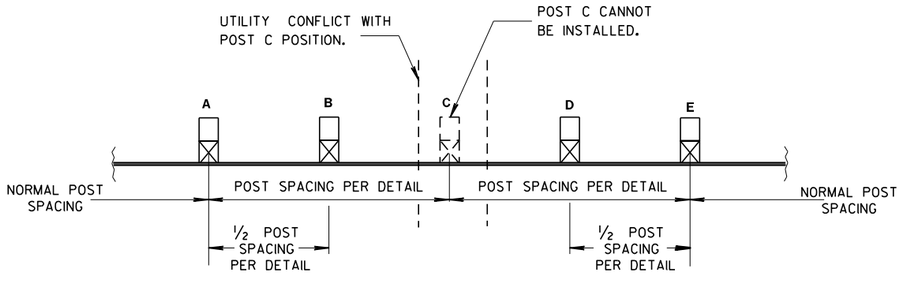
THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED



PLAN VIEW
BEAM LAPPING DETAIL

DETAIL FOR TRIPLE BLOCKS

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



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

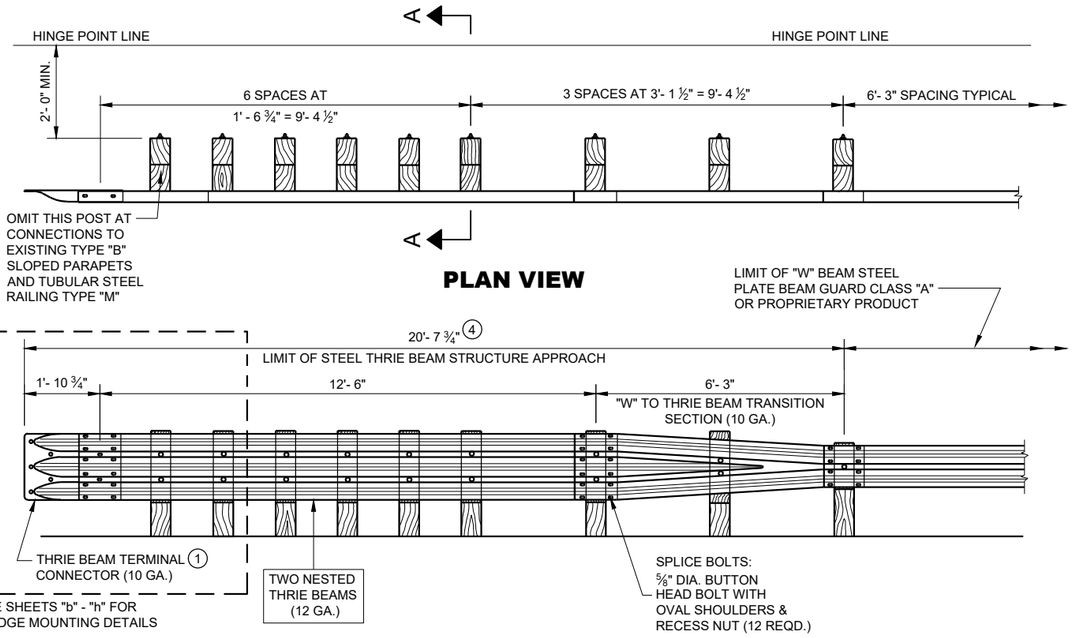
APPROVED
June 2017
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
33
FHWA

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S.D.D. 14 B 15-11c

6

S.D.D. 14 B 15-11c



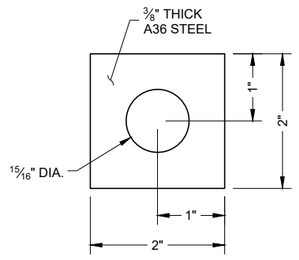


PLATE WASHER DETAIL

GENERAL NOTES

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

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

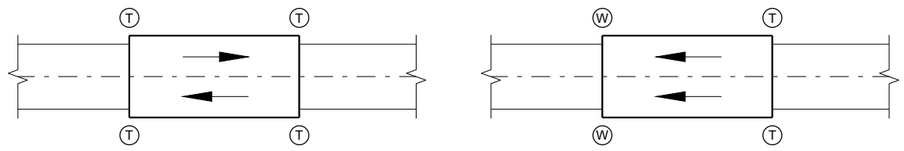
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

(2) MINIMUM EMBEDMENT SHALL BE 4'- 0".

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

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



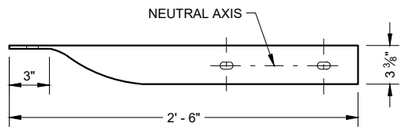
TWO WAY TRAFFIC

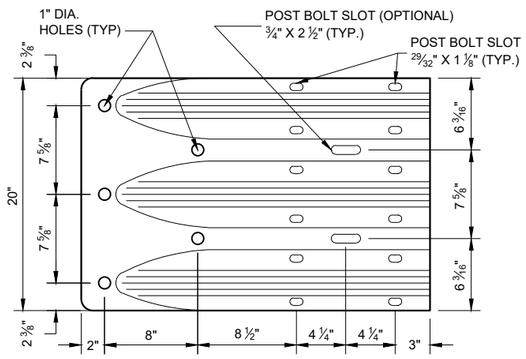
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

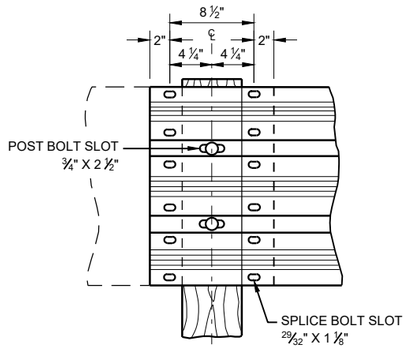
(W) W-BEAM CONNECTION WHEN REQUIRED

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

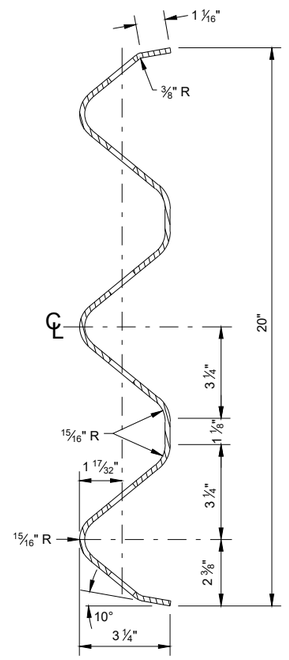




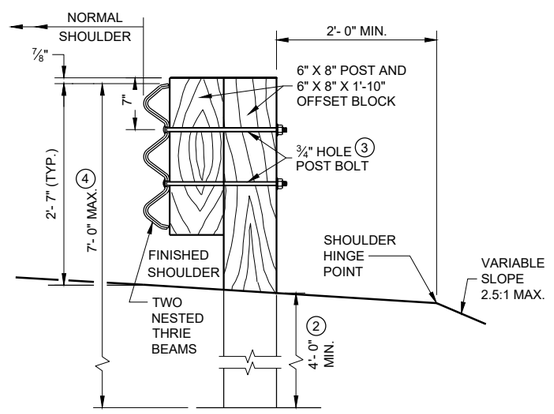
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

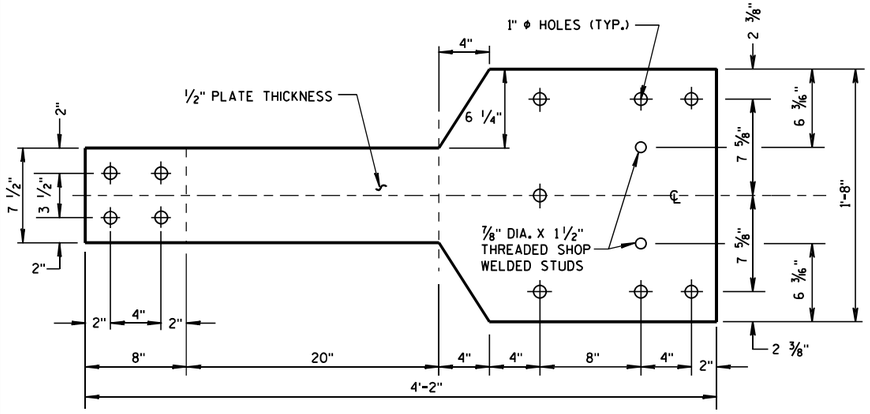
FHWA

6

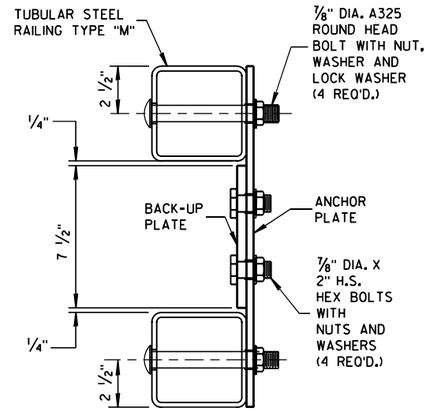
SDD 14B20 - 12a

GENERAL NOTES

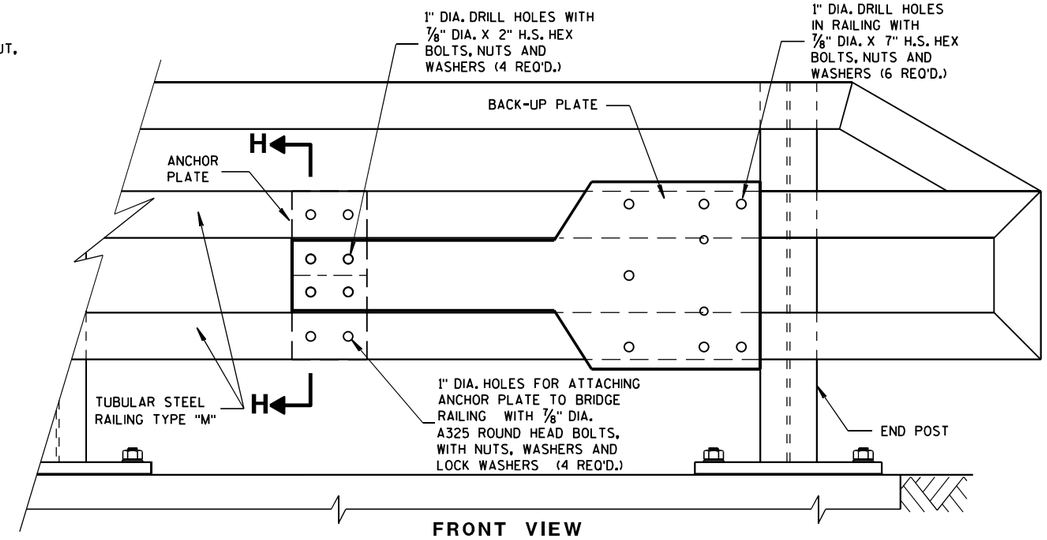
① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.



FRONT VIEW

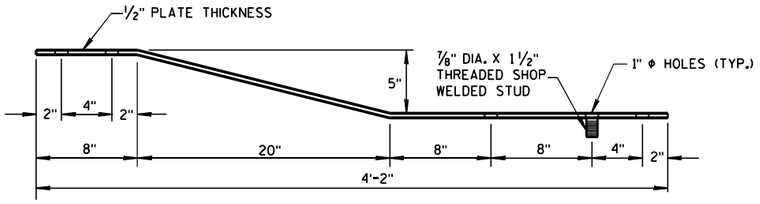


SECTION H-H



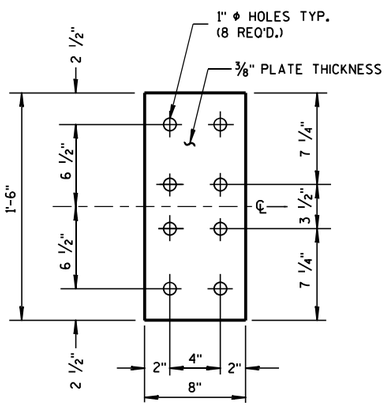
FRONT VIEW

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



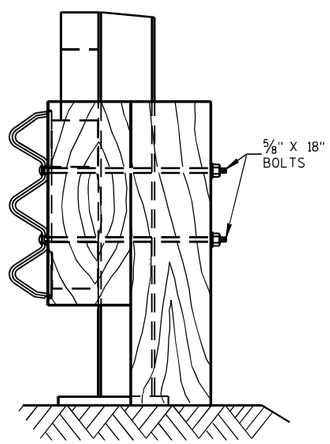
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

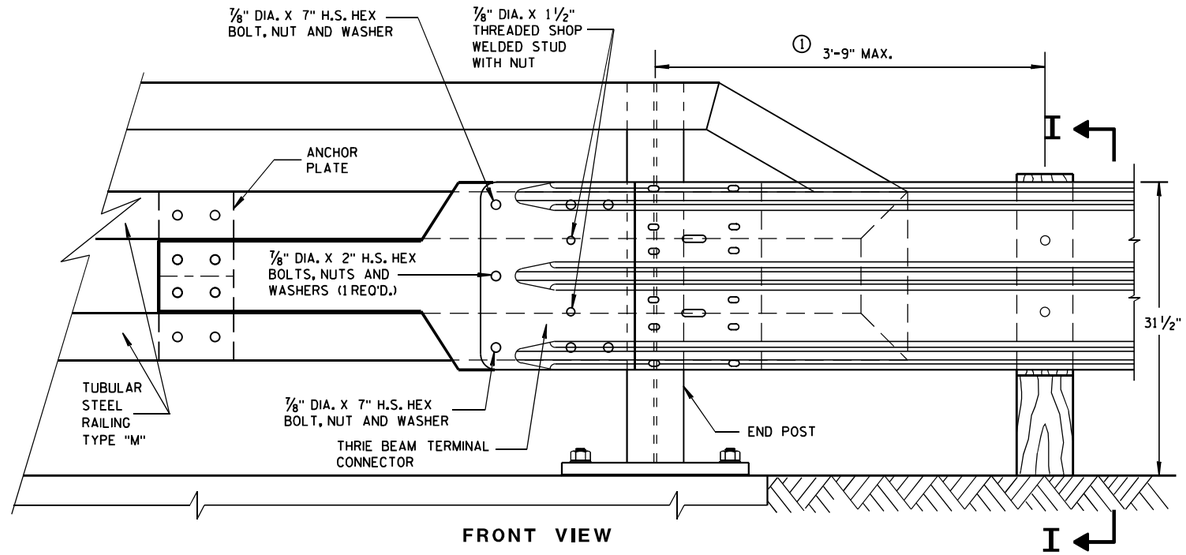


FRONT VIEW

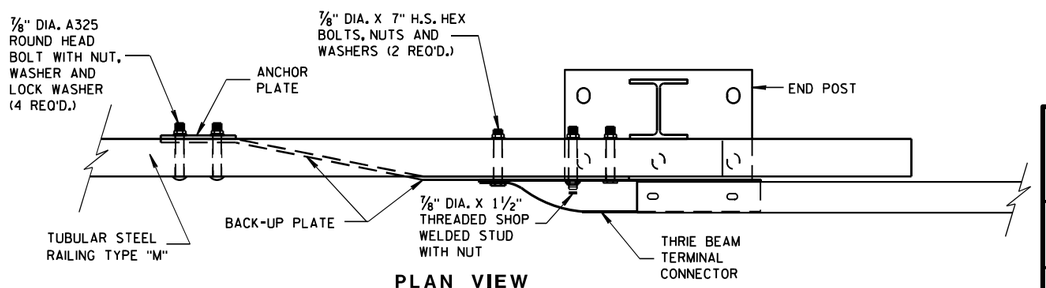
ANCHOR PLATE DETAIL, TYPE "M"



SECTION I-I



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

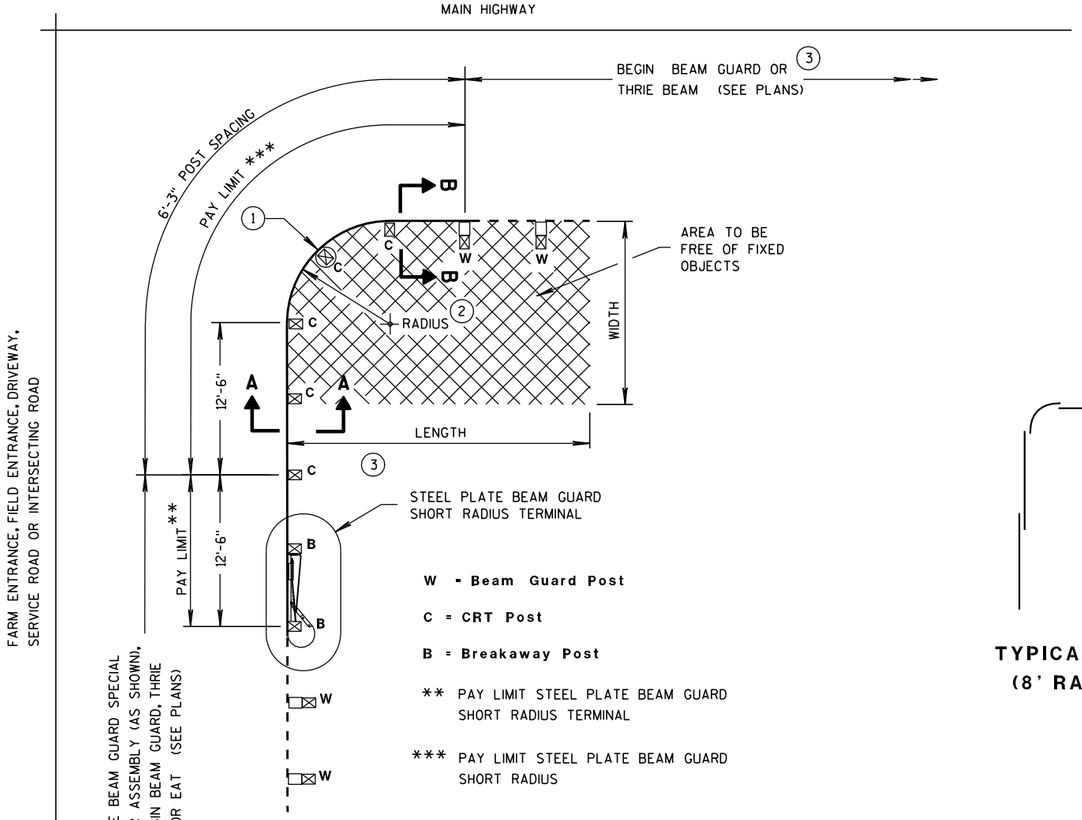
APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER
FHWA

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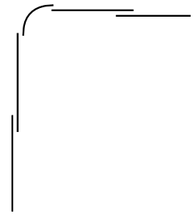
SDD 14B20 - 12f

6

SDD 14B20 - 12f



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

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

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

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

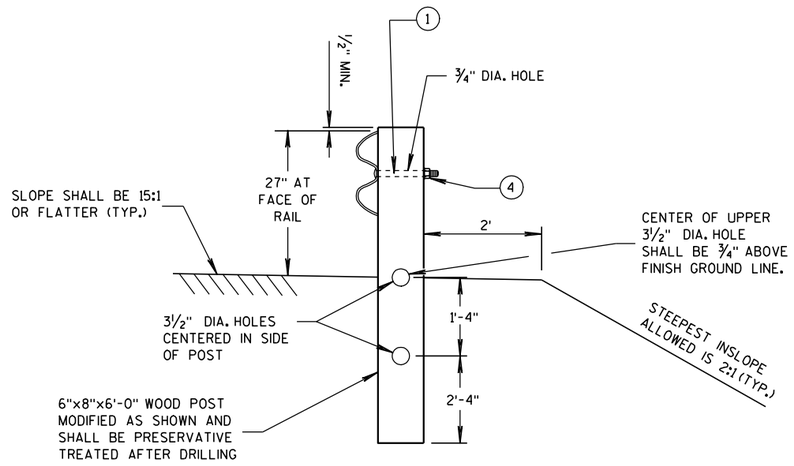
(2) RADIUS FROM 8' - 36'. SEE PLAN.

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

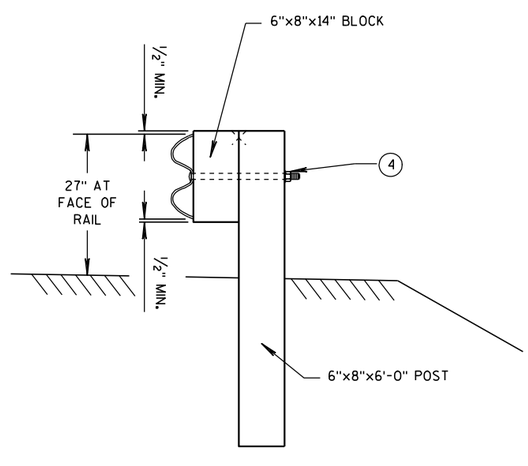
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

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

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



SECTION A-A
(CRT POST)



SECTION B-B
(BEAM GUARD POST)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

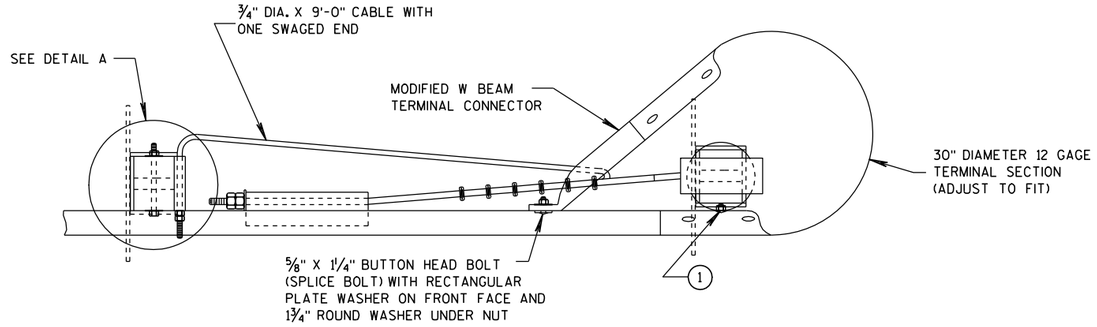
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

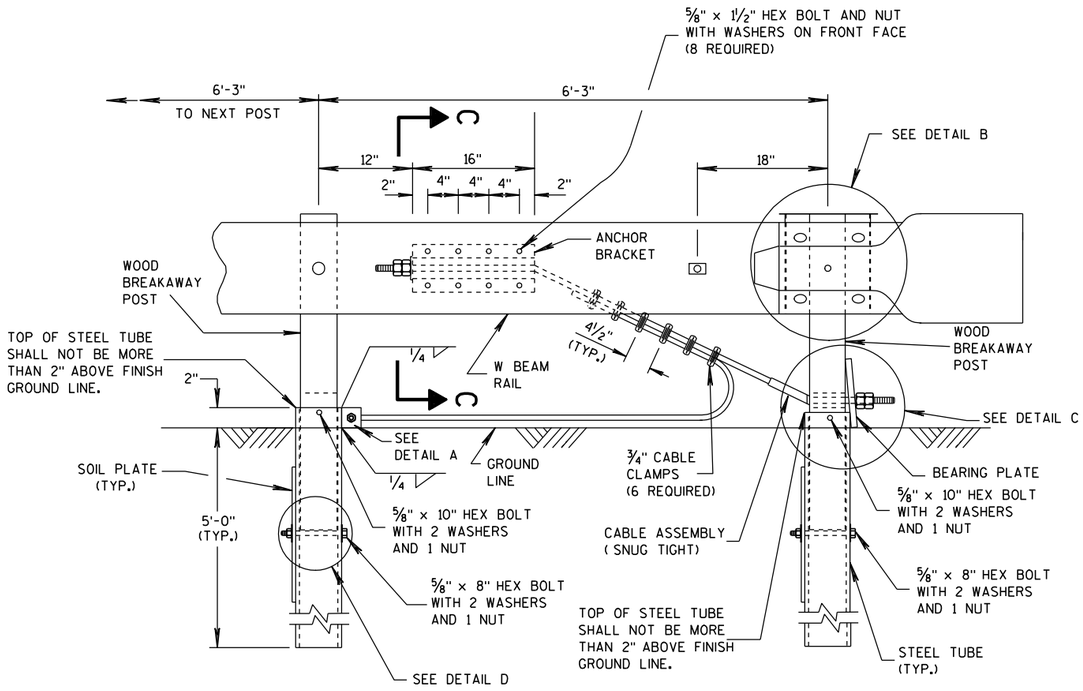
S.D.D. 14 B 27-1a

6

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



PLAN VIEW



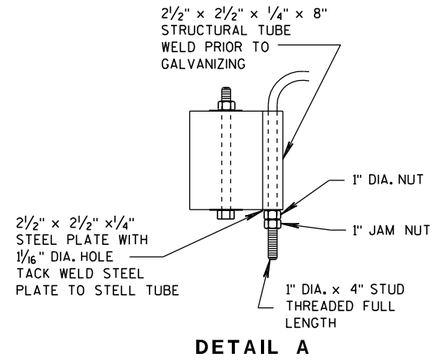
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

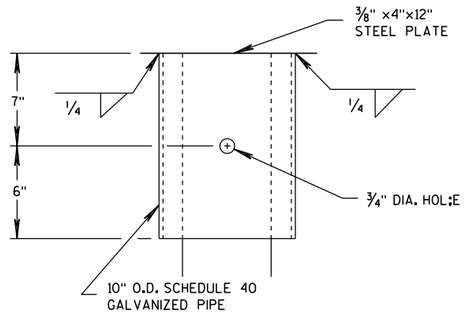
GENERAL NOTES

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

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



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

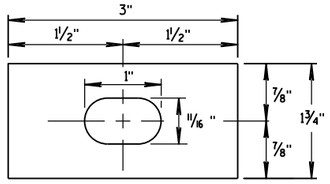
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

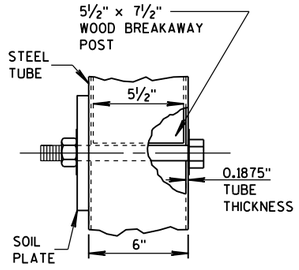
S.D.D. 14 B 27-1b

6

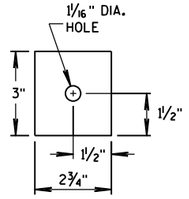
S.D.D. 14 B 27-1b



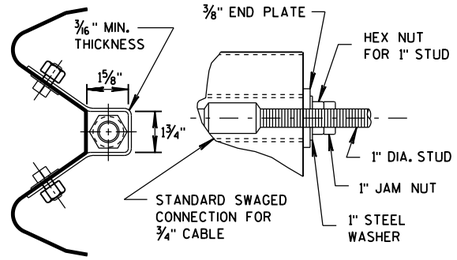
RECTANGULAR PLATE WASHER



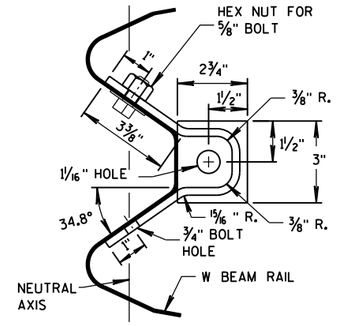
DETAIL D



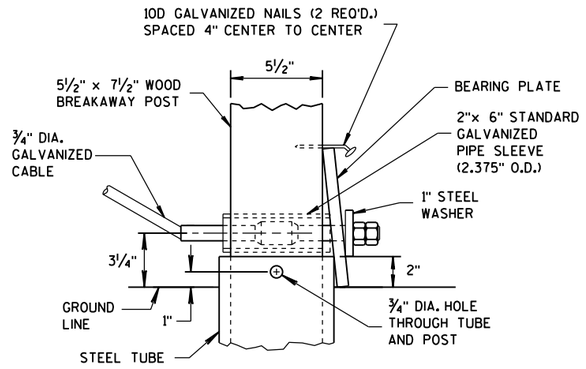
END PLATE



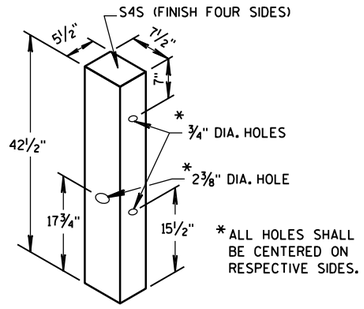
SECTION C-C
(END PLATE REMOVED)



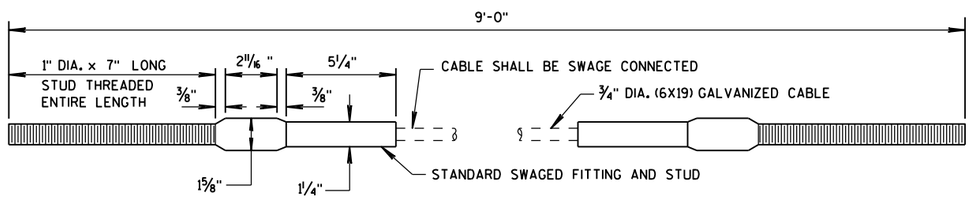
ANCHOR BRACKET



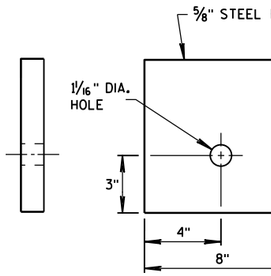
DETAIL C



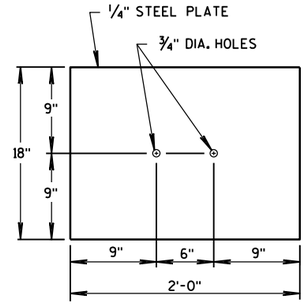
WOOD BREAKAWAY POST



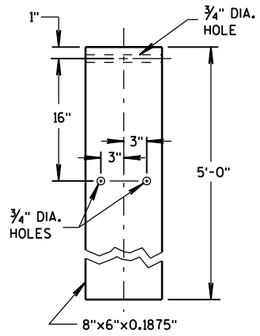
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

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

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

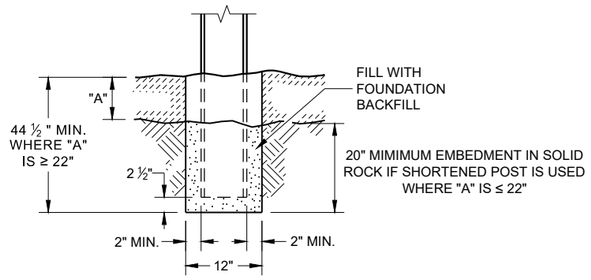
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

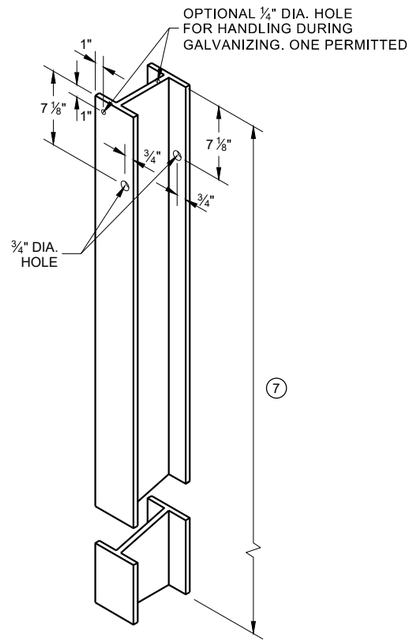
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

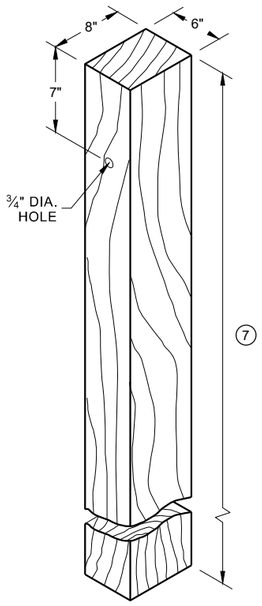
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



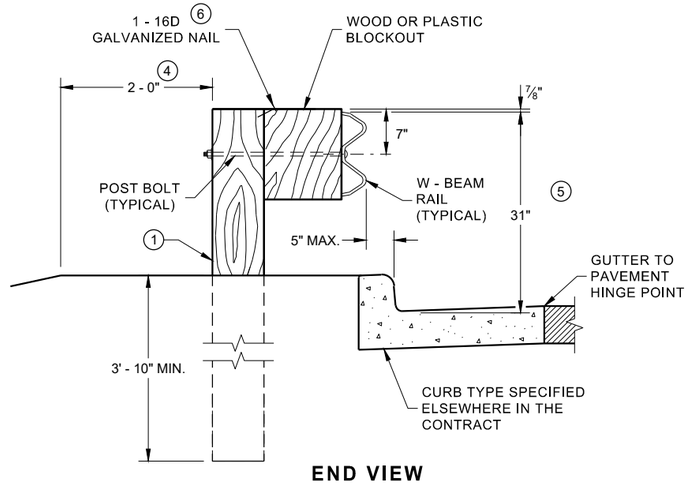
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



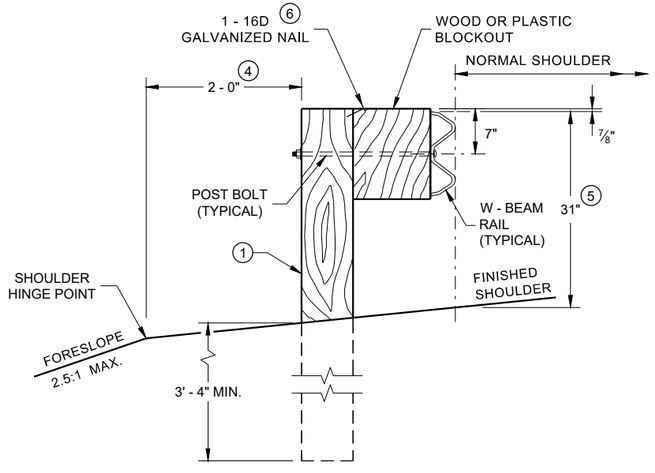
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



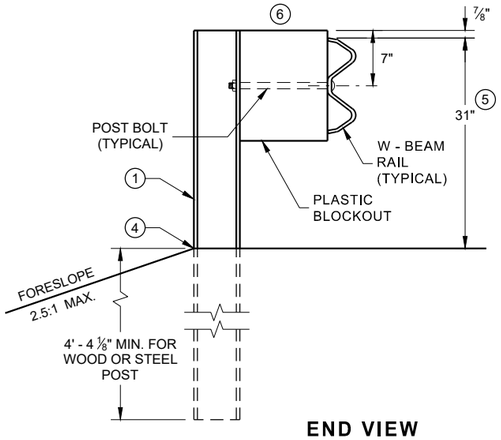
WOOD POST (6" X 8") NOMINAL (1)



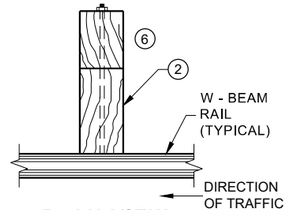
END VIEW
LOCATED ALONG A CURBED ROADWAY



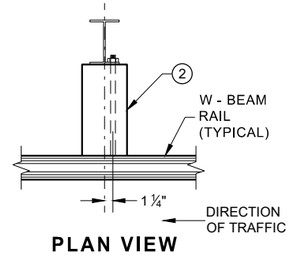
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



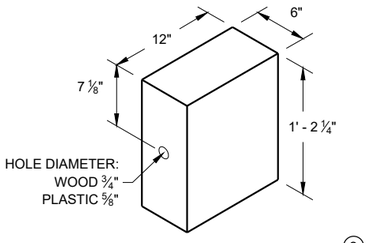
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM



WOOD OR PLASTIC BLOCKOUT (2)

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

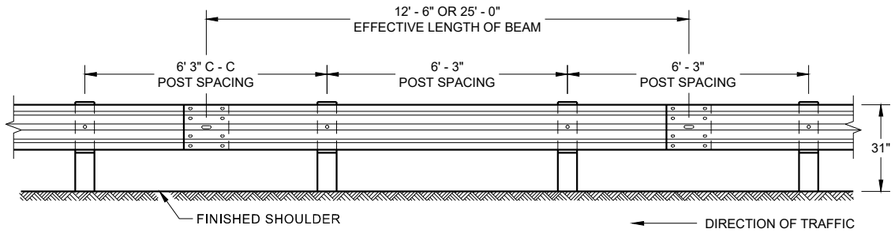
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

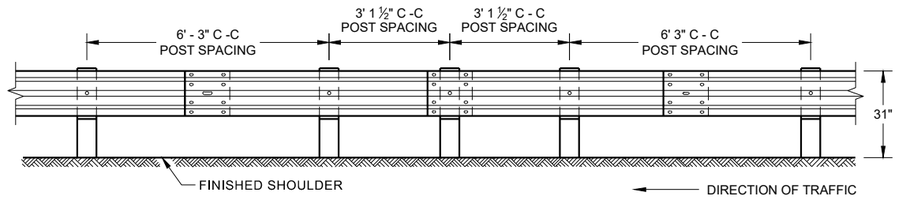
SDD 14B42 - 07a

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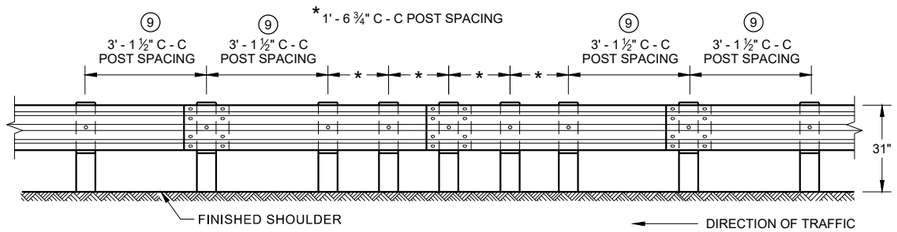
SDD 14B42 - 07a



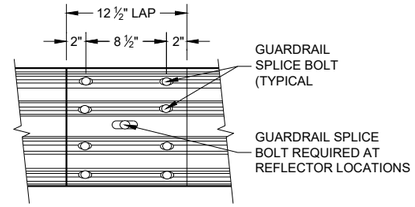
FRONT VIEW
POST SPACING STANDARD INSTALLATION



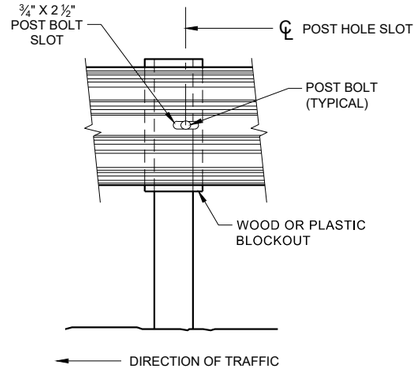
FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)



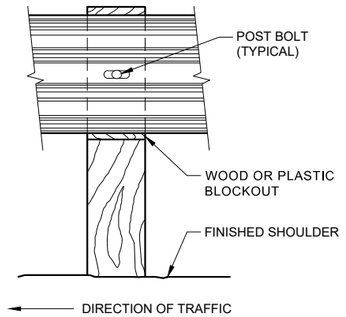
FRONT VIEW
QUARTER POST SPACING (QS)



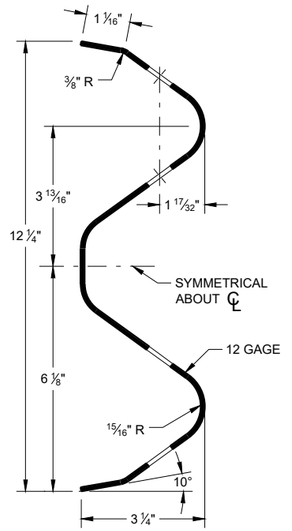
FRONT VIEW
MID-SPAN BEAM SPLICE



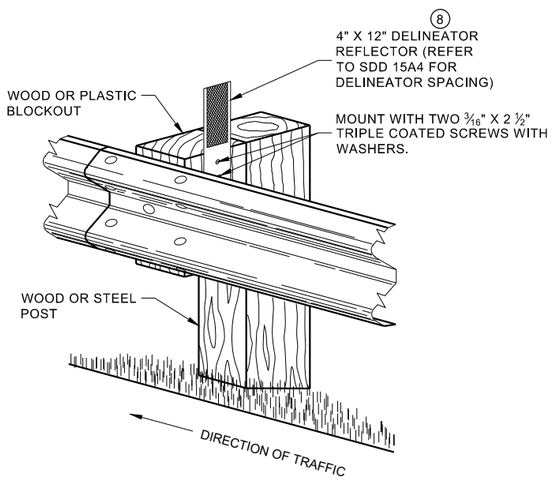
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

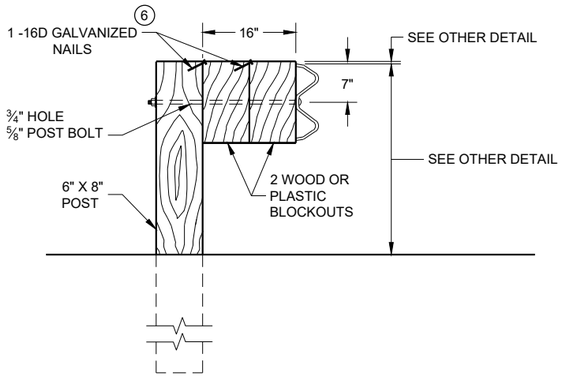
POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

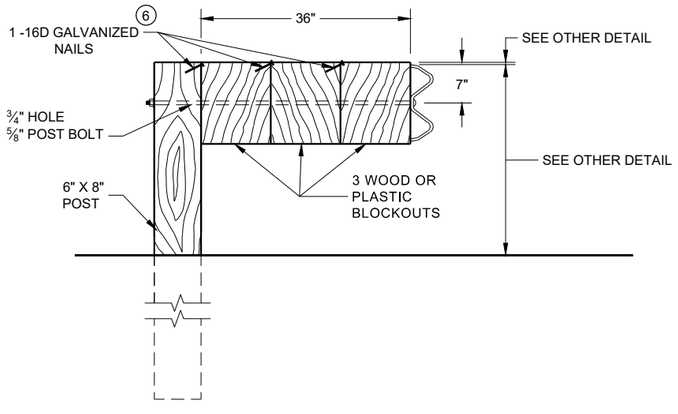
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B42 - 07b



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.



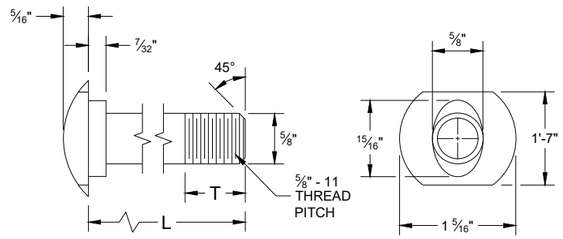
DETAIL FOR 36" BLOCKOUT DEPTH

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.

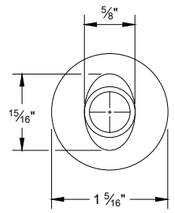
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

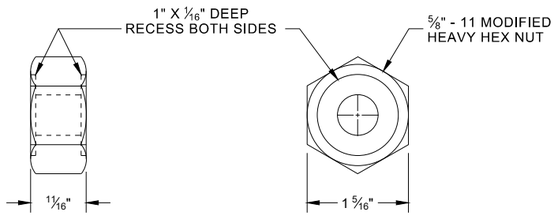


POST BOLT TABLE

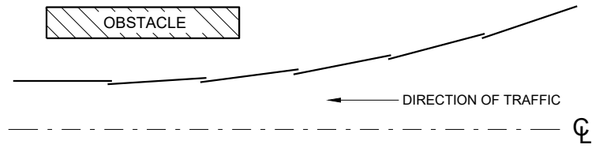
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



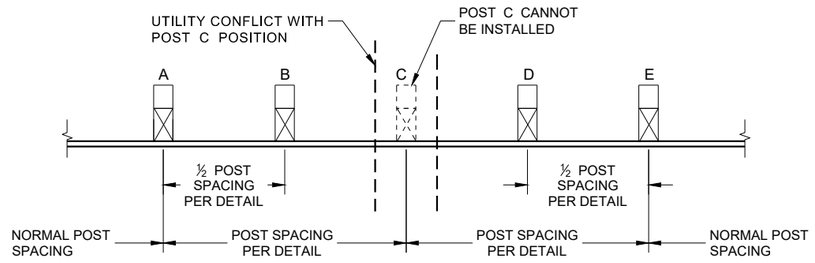
ALTERNATE BOLT HEAD



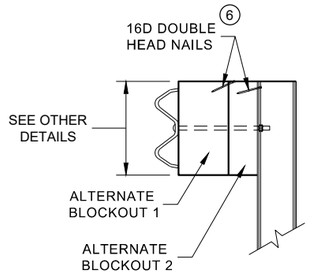
POST BOLT, SPLICE BOLT AND RECESS NUT



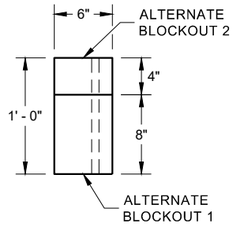
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW

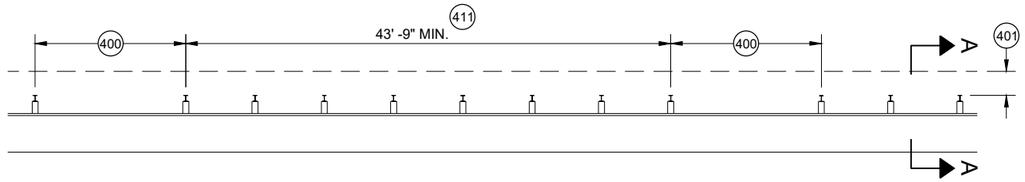


PLAN VIEW

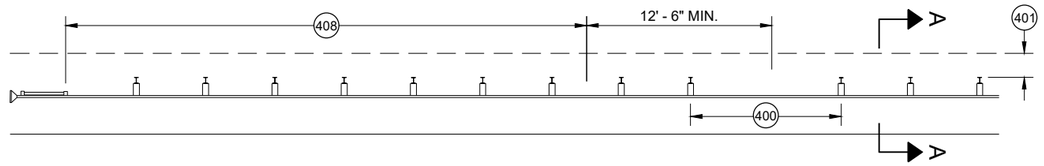
ALTERNATE WOOD BLOCKOUT DETAIL

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

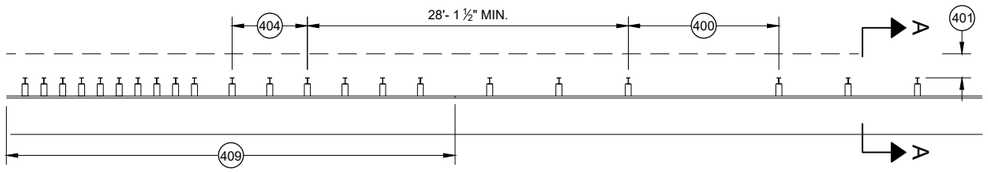
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL



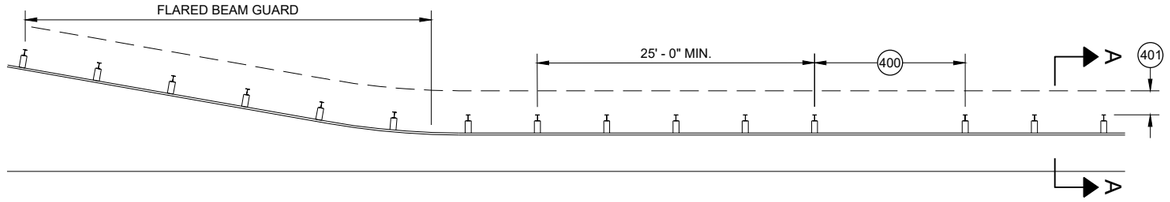
MISSING POST IN MGS GUARDRAIL



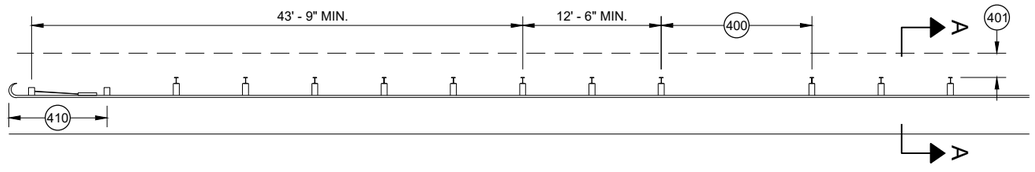
MISSING POST IN MGS GUARDRAIL NEAR EAT



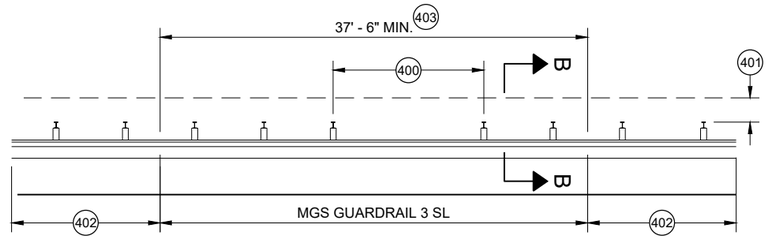
MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION



MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD

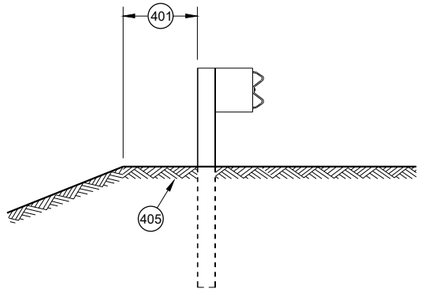


MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL

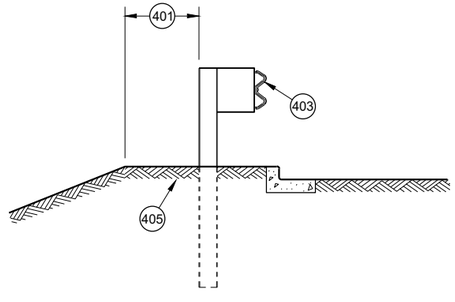


MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL) 407

(400) MAX SPAN 12' - 6"
(401) 2' MIN.
(402) MGS GUARDRAIL 3
(403) NESTING BEAM GUARD
(404) ASYMMETRIC TRANSITION
(405) SOIL WELL DRAINED AND COMPACTED
(406) SEE OTHER DRAWINGS IN THIS SDD
(407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
(408) SEE SDD 14B44
(409) SEE SDD 14B45
(410) SEE SDD 14B47
(411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



SECTION A - A 406



SECTION B - B 406

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B42 - 07d

SDD 14B42 - 07d

GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

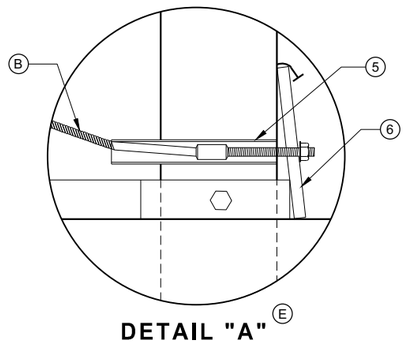
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

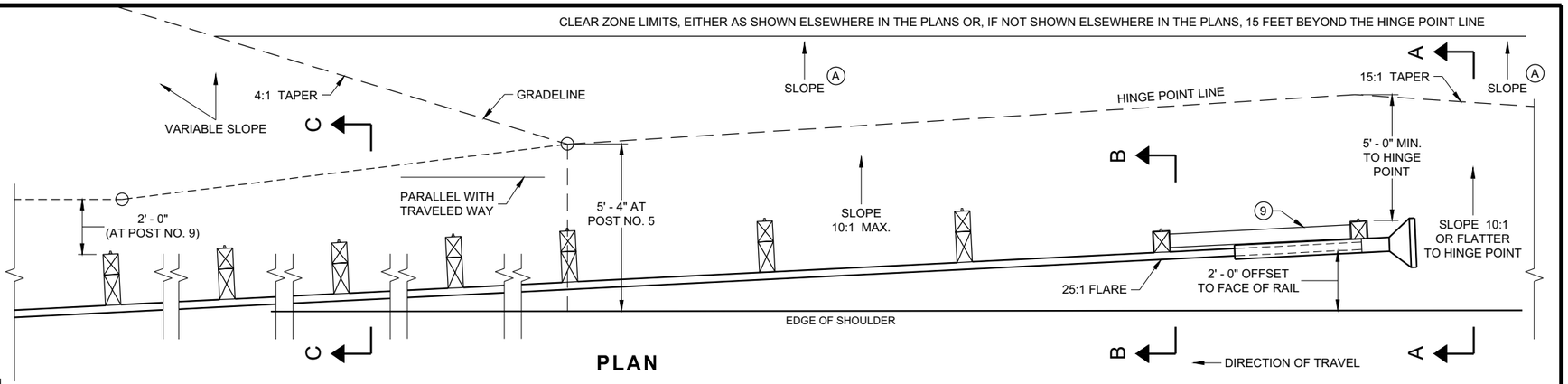
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

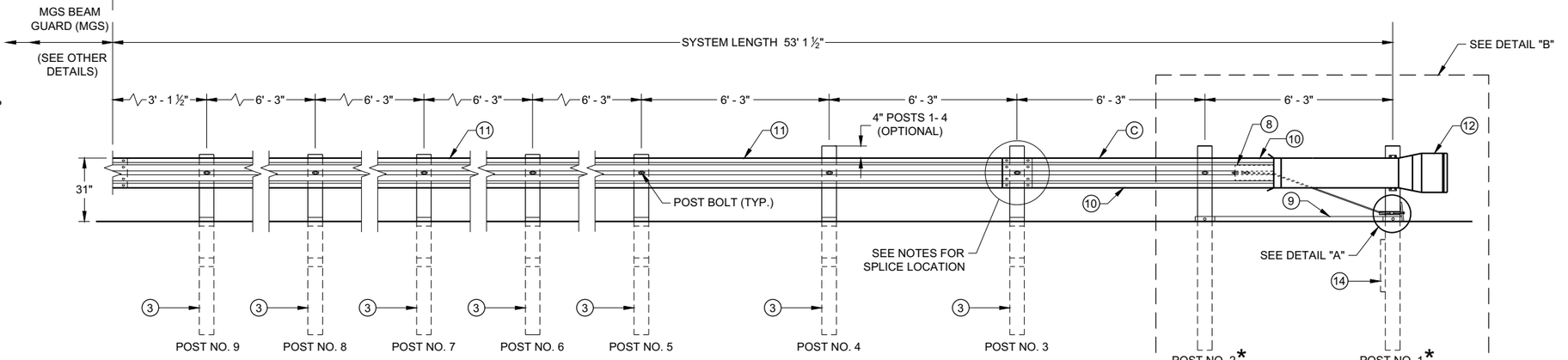
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



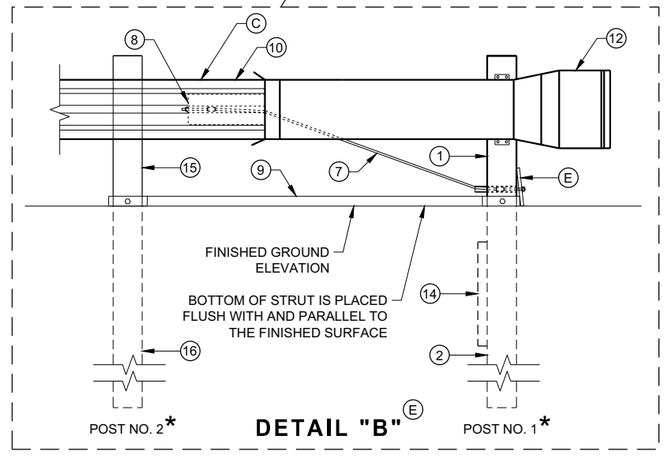
DETAIL "A" (E)



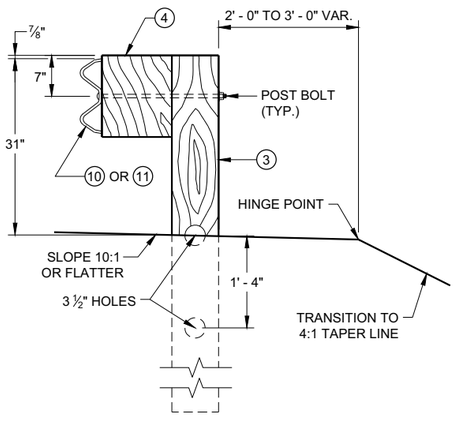
PLAN



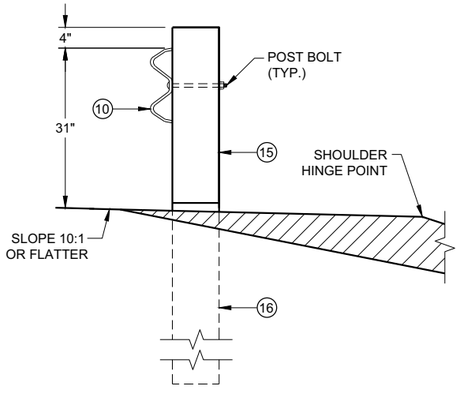
ELEVATION



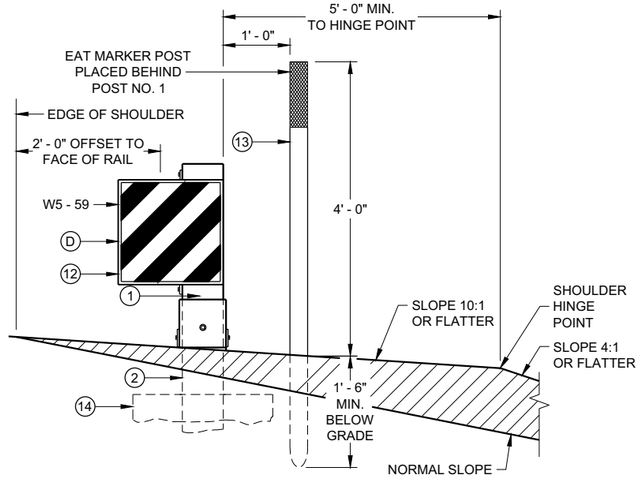
DETAIL "B" (E)



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



SECTION B - B
TYPICAL AT POST NO. 2*



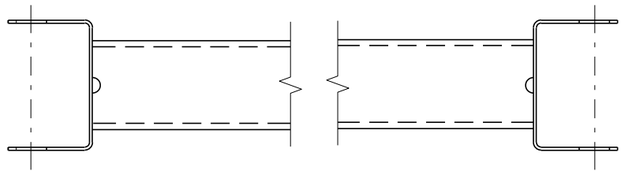
SECTION A - A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

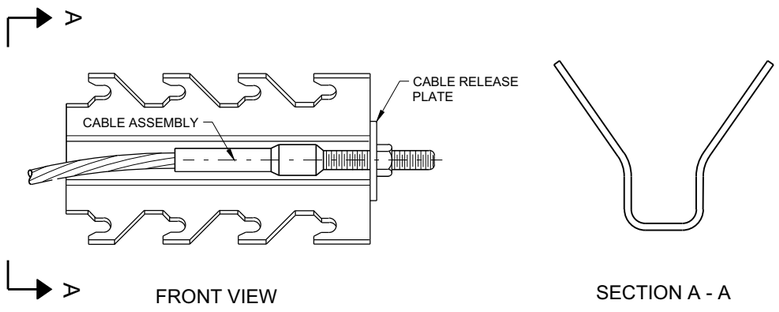
SDD 14B44 - 04a



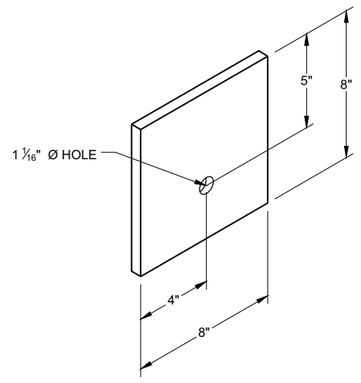
GENERIC GROUND STRUT (9) (E)

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX (9) (E)



BEARING PLATE (6) (E)

6

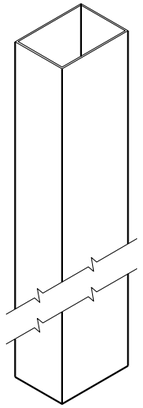
6

SDD 14B44 - 04b

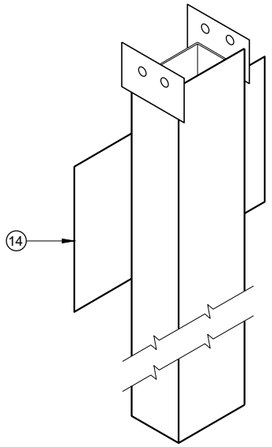
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

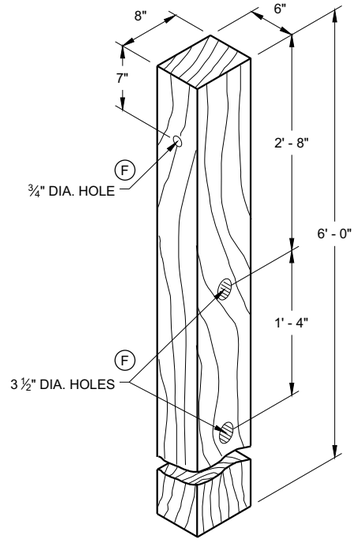
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



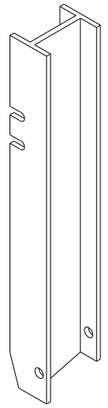
UPPER POST NO. 1 (1) (E)



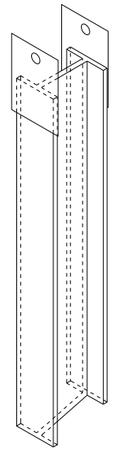
LOWER POST NO. 1 (2) (E)



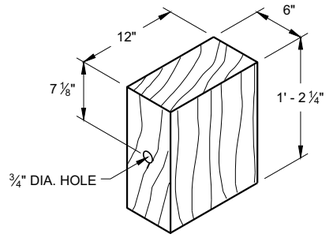
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



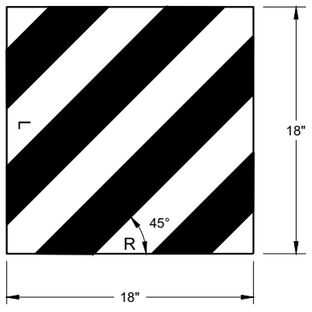
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

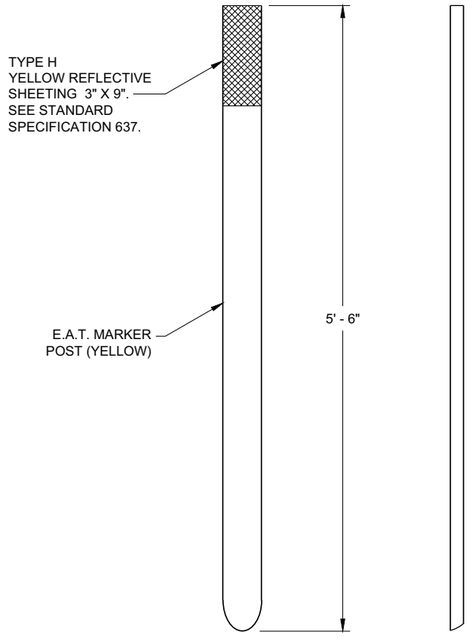


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



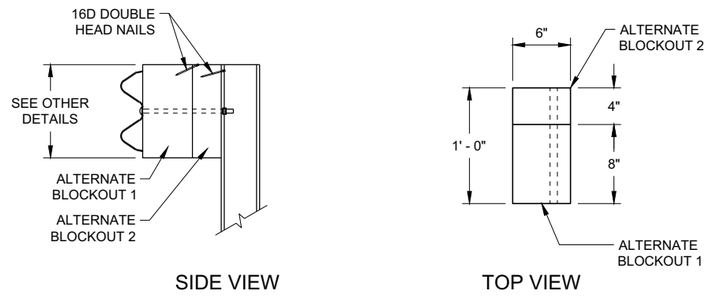
W5 - 59

REFLECTIVE SHEETING DETAIL (E)



FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

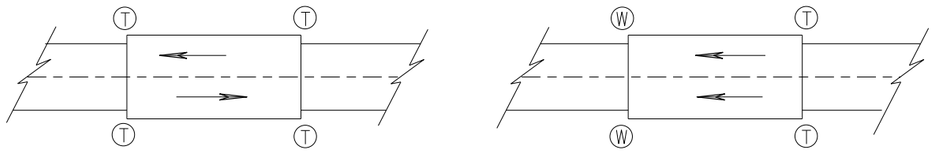
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA

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SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

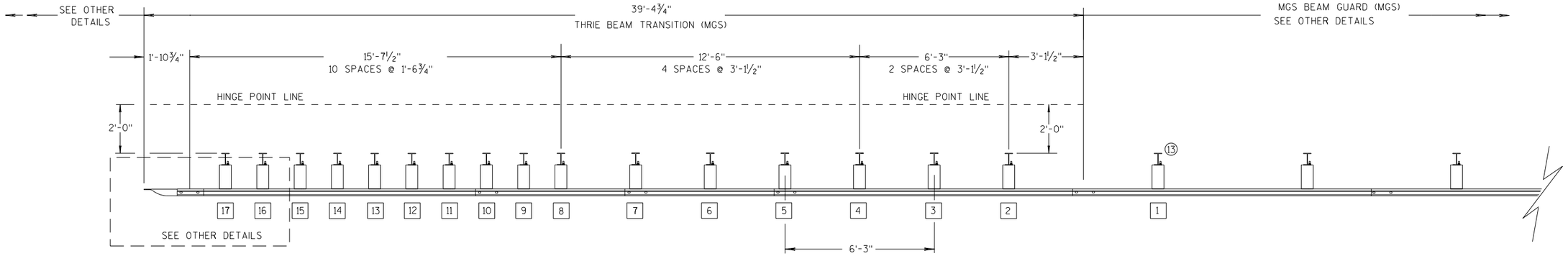
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

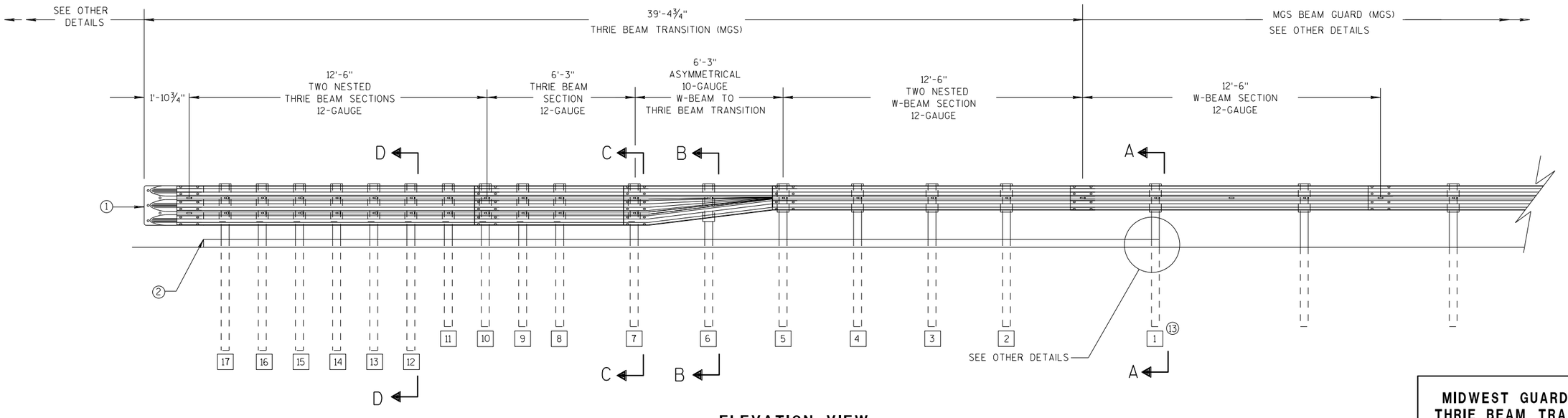
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

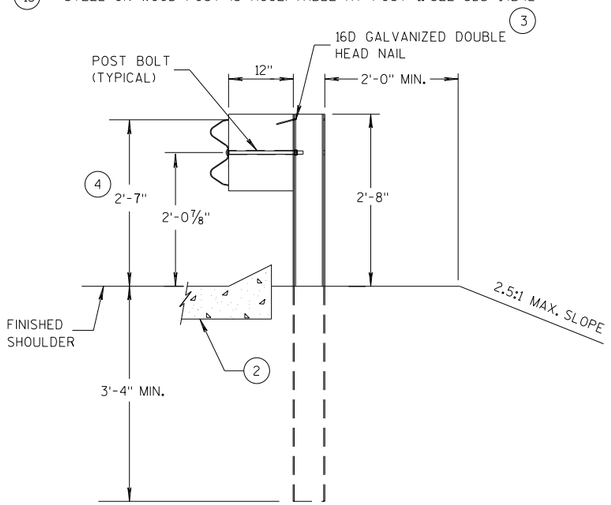
GENERAL NOTES

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

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

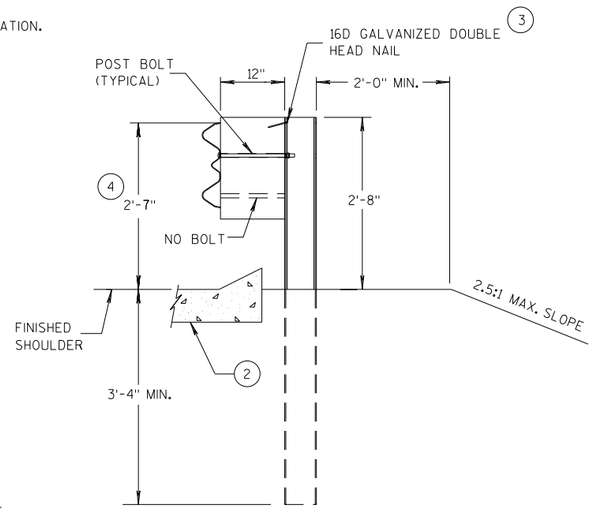
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



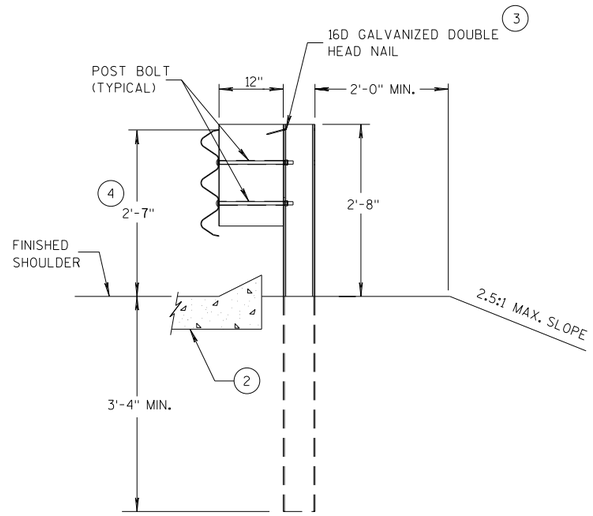
SECTION A-A (13)

POSTS 1-5



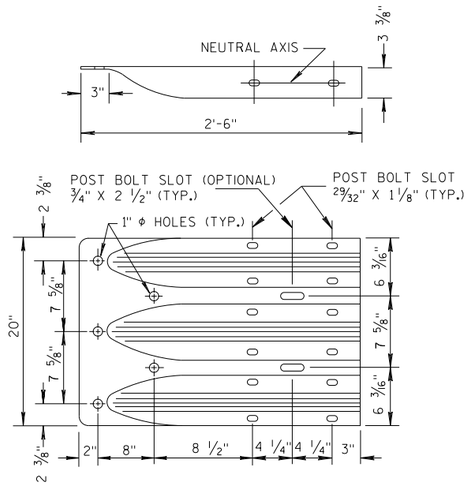
SECTION B-B

POST 6

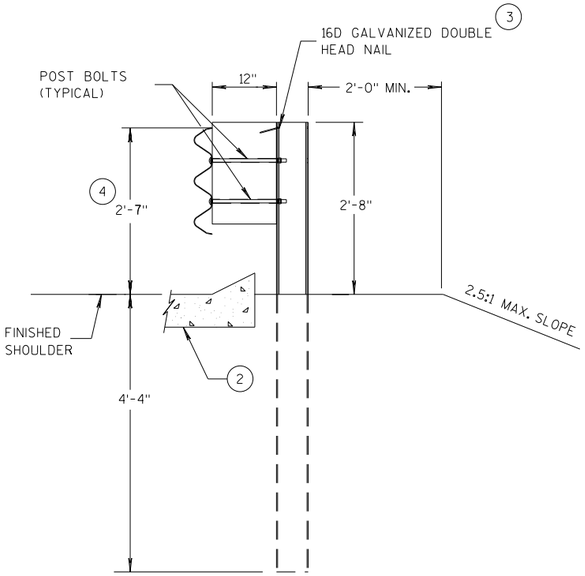


SECTION C-C

POSTS 7-11

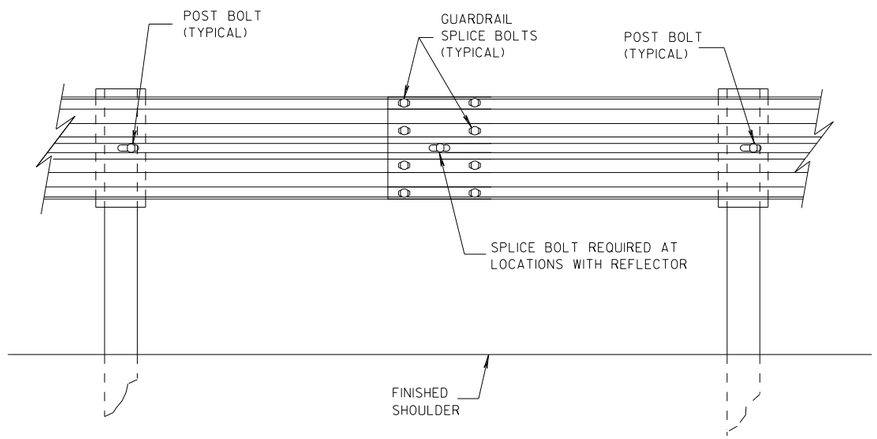


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

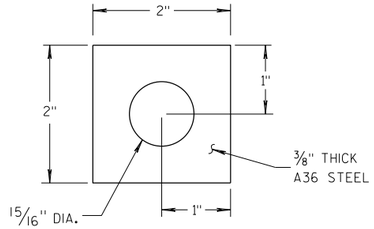
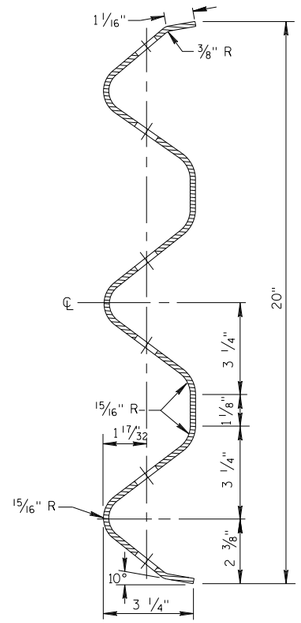


PLATE WASHER DETAIL



SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

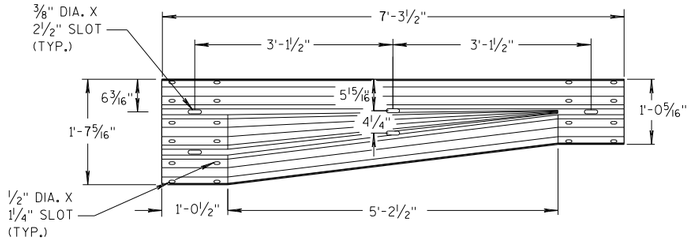
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 47

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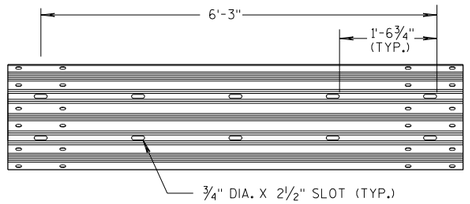
S.D.D. 14 B 45-5b

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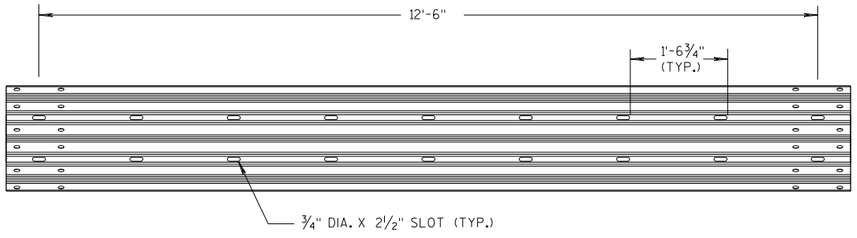
S.D.D. 14 B 45-5b



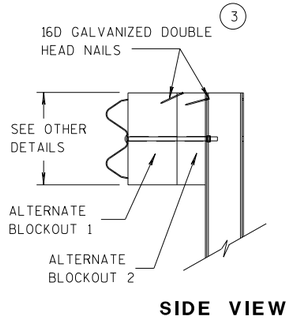
W-BEAM TO THRIE BEAM TRANSITION SECTION



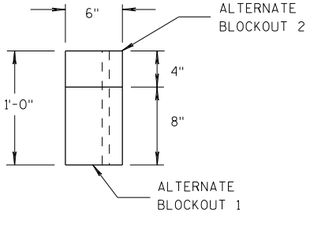
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

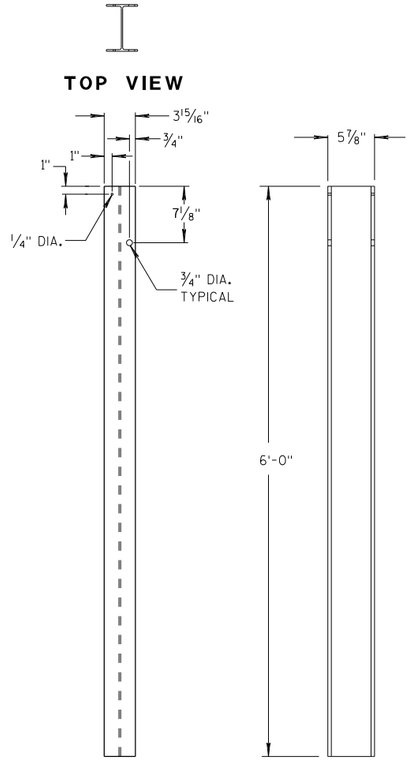


SIDE VIEW



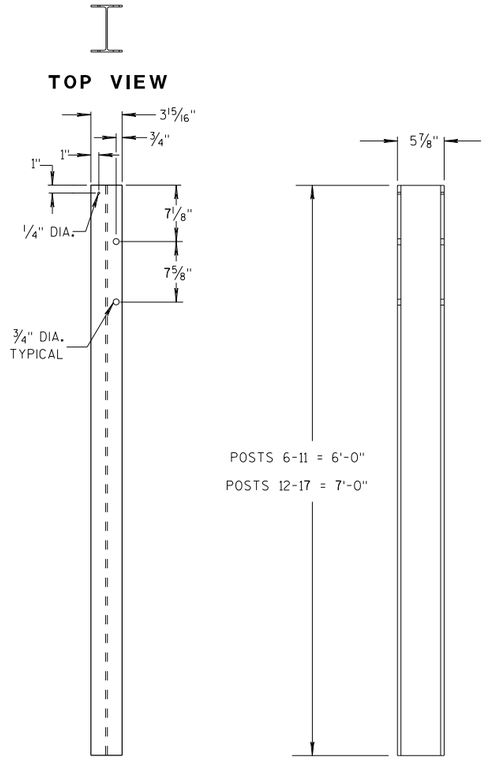
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



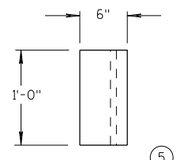
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

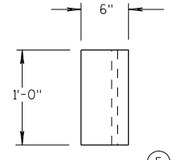


FRONT VIEW SIDE VIEW

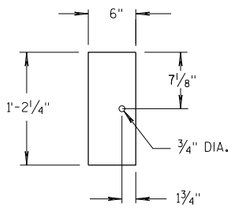
STEEL POSTS 6-17



TOP VIEW (5)

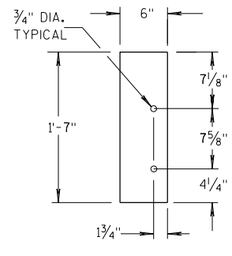


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

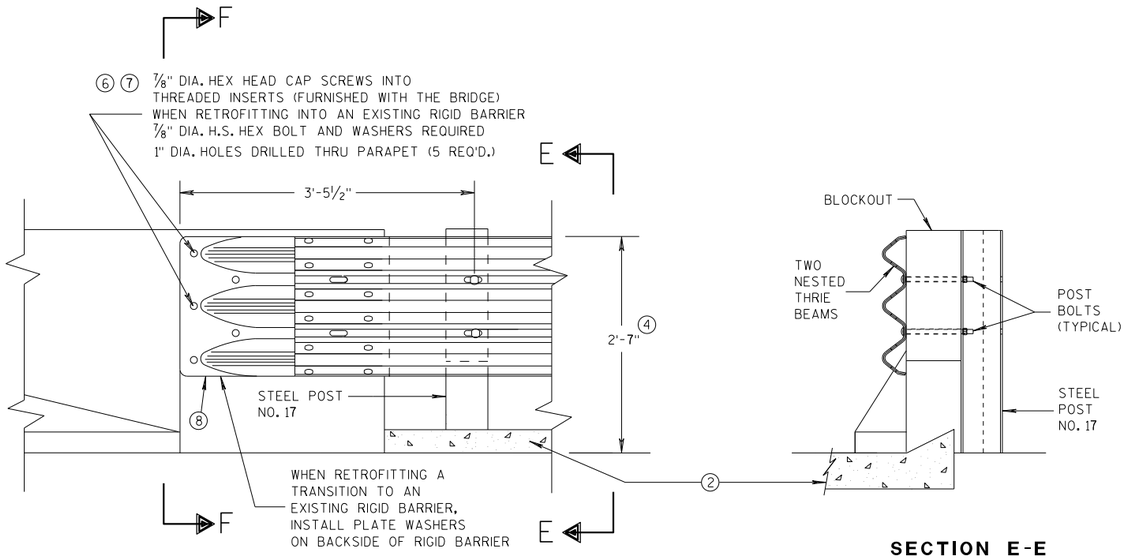
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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S.D.D. 14 B 45-5c



FRONT VIEW

SECTION E-E

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

GENERAL NOTES

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

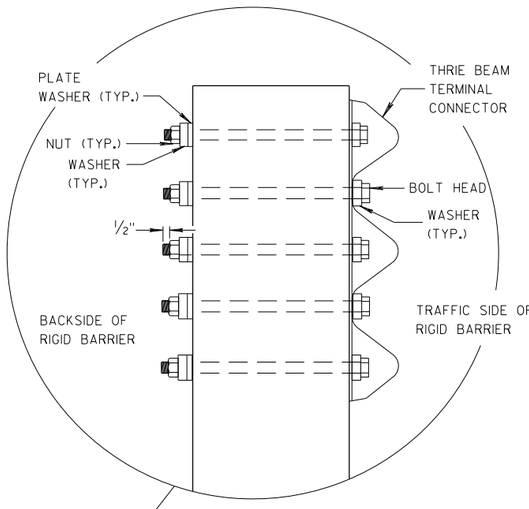
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

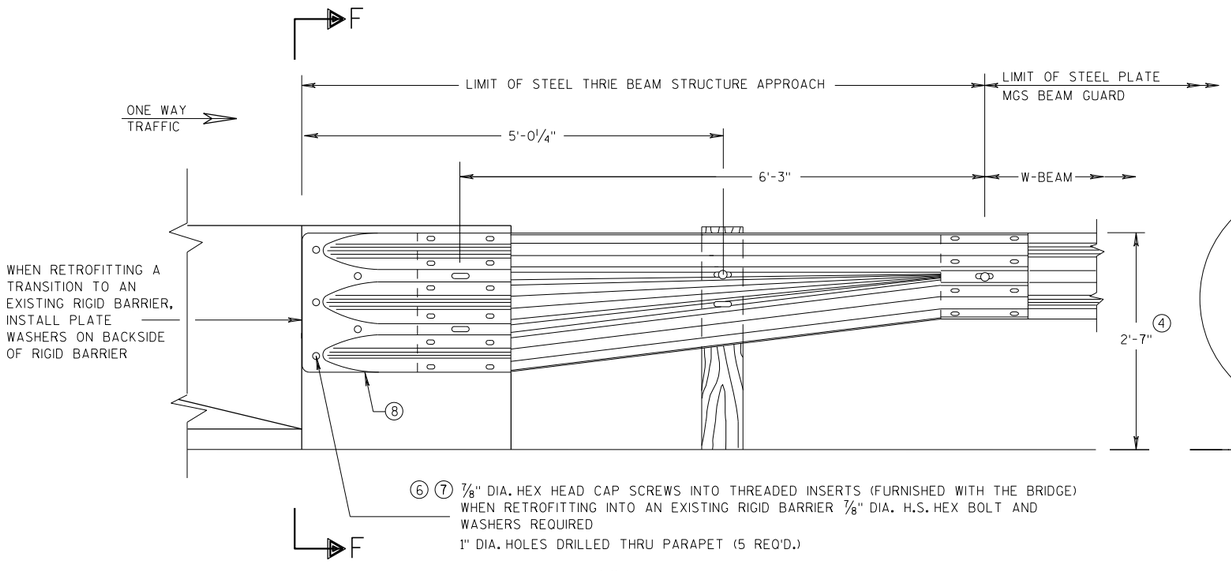
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

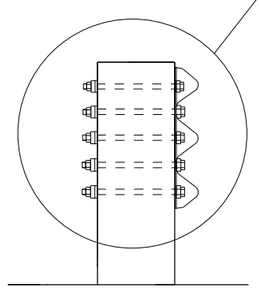
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" 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".

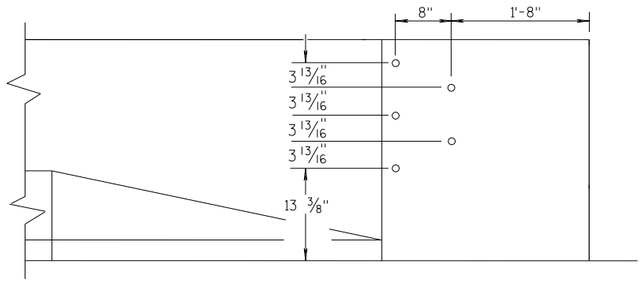




FRONT VIEW



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

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07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS D UNIT SUPERVI
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FHWA

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S.D.D. 14 B 45-5d

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S.D.D. 14 B 45-5d

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.

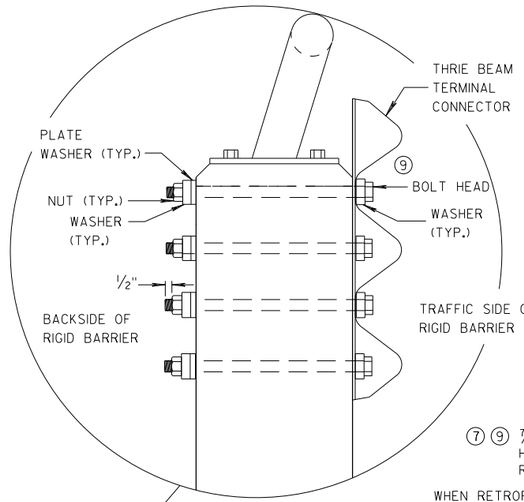
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

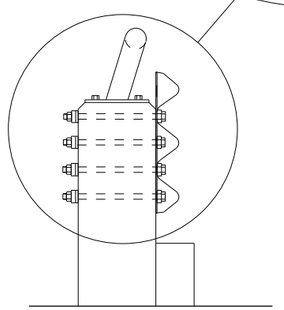
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

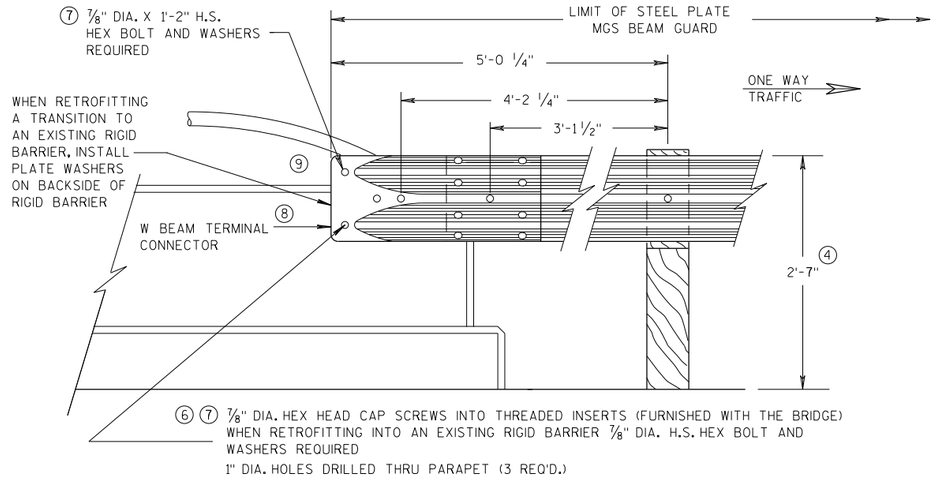
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

(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.





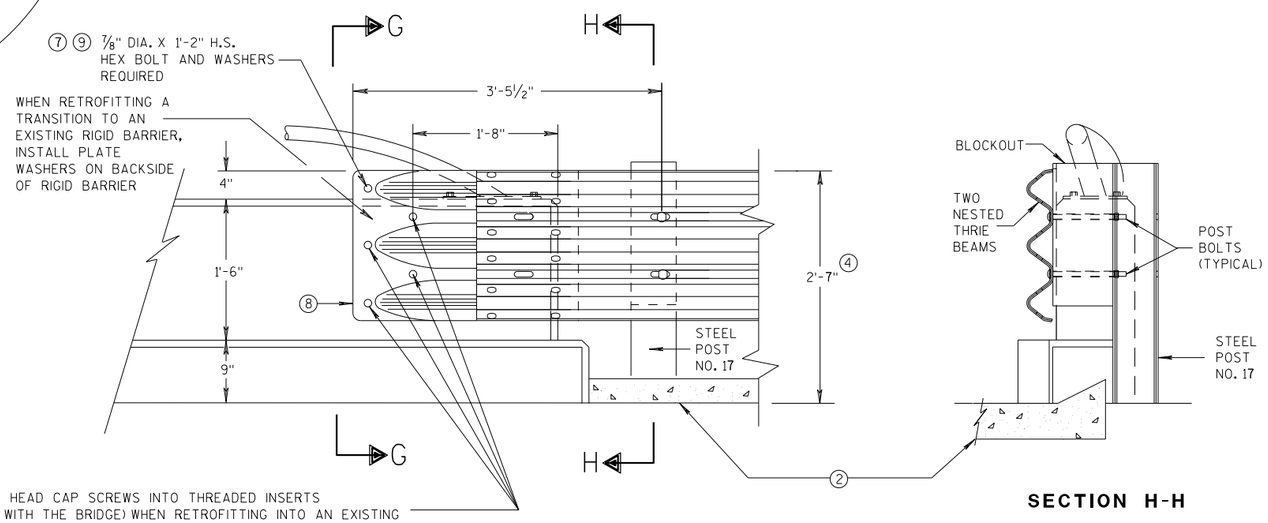
SECTION G-G



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET

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



FRONT VIEW

SECTION H-H

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

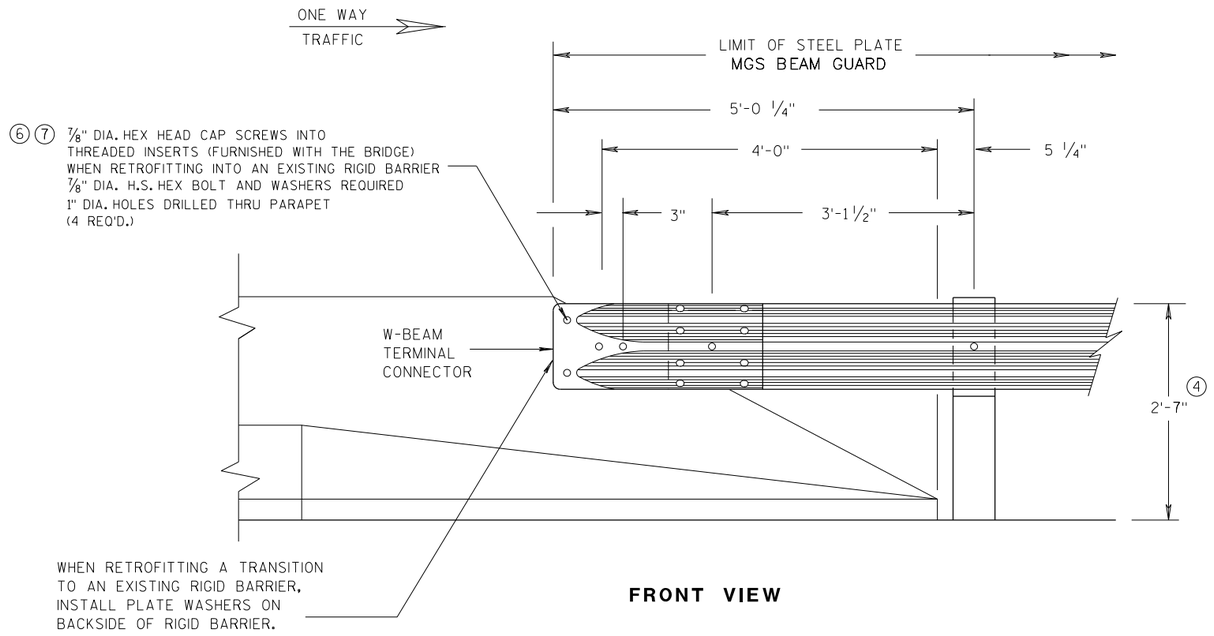
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FHWA

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S.D.D. 14 B 45-5e

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S.D.D. 14 B 45-5e



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

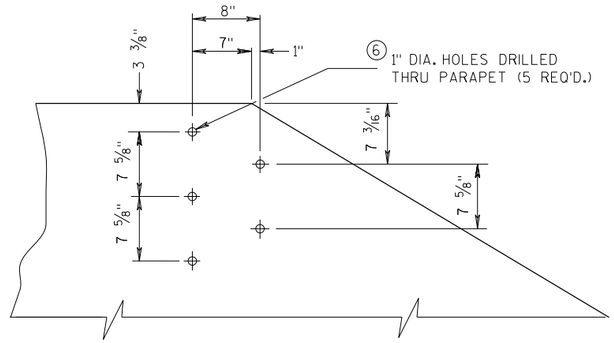
GENERAL NOTES

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

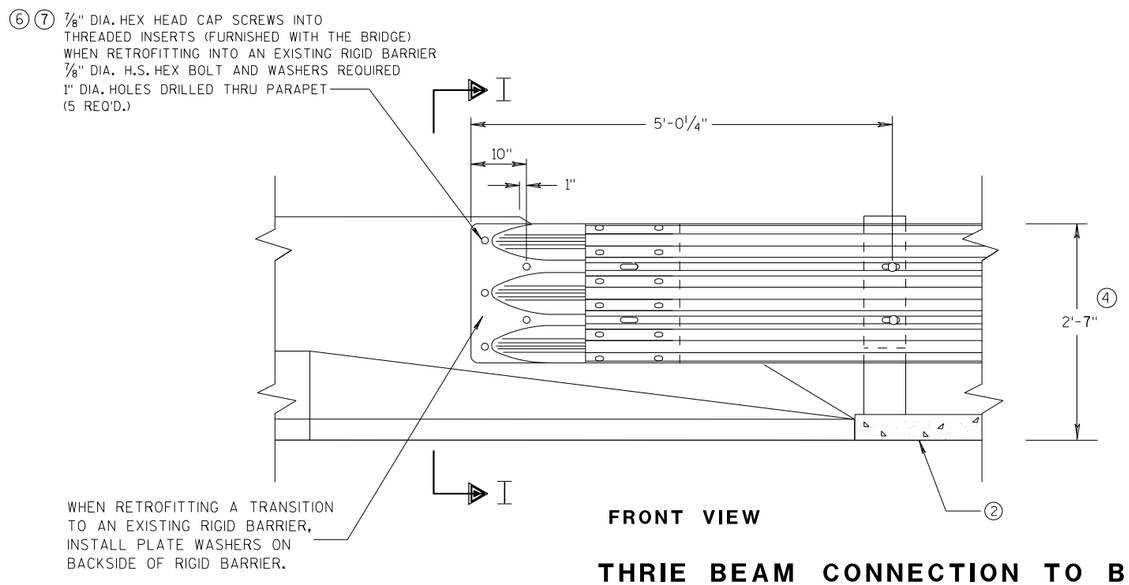
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

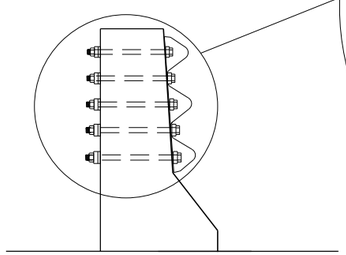
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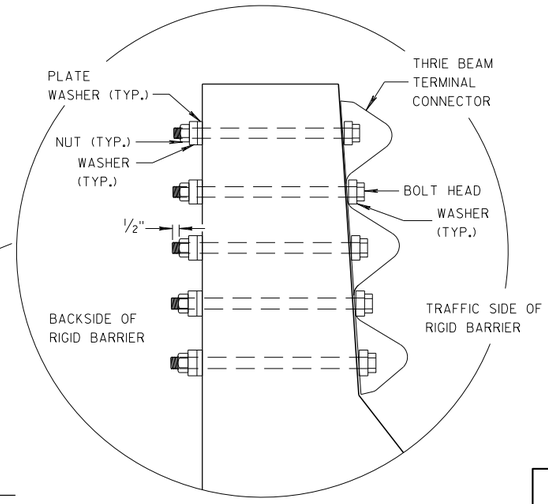
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



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

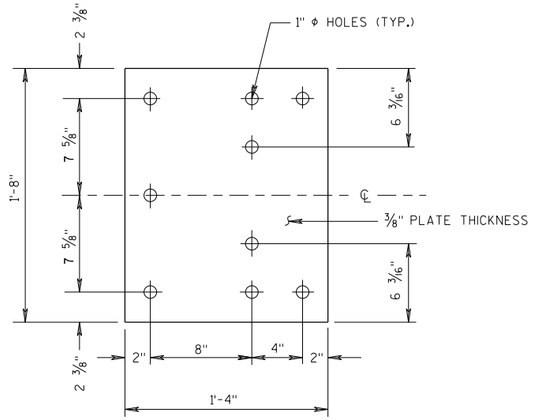
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FHWA

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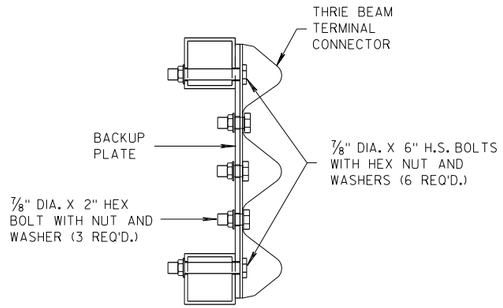
S.D.D. 14 B 45-5f

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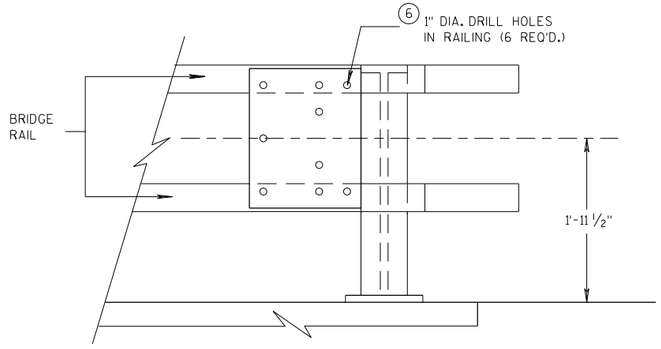
S.D.D. 14 B 45-5f



BACK-UP PLATE DETAIL



SECTION J-J

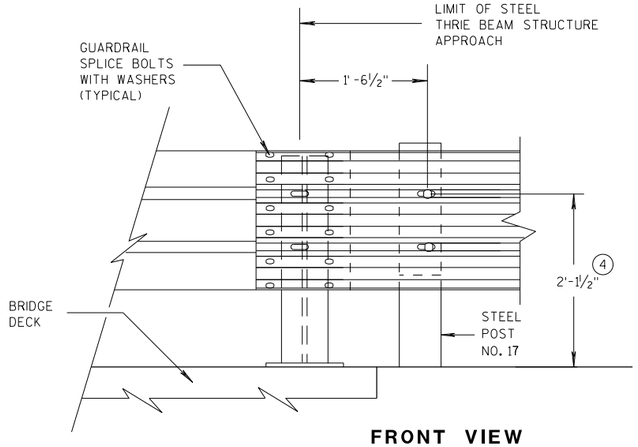


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

GENERAL NOTES

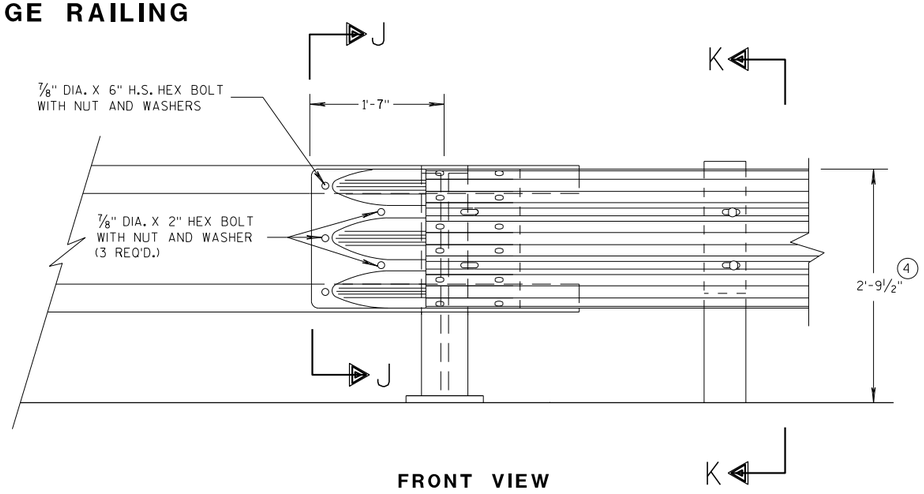
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

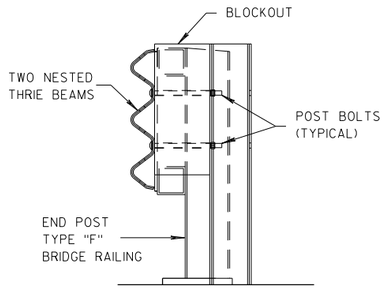


FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



FRONT VIEW



SECTION K-K

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED 07/2018 — DATE — FHWA

/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

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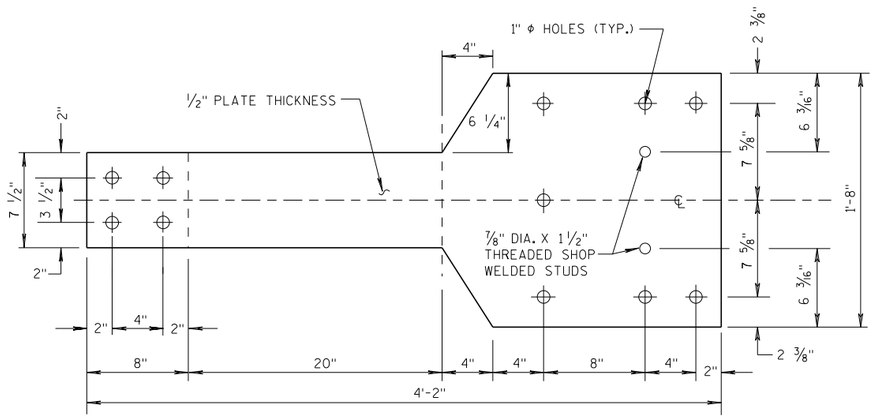
S.D.D. 14 B 45-5g

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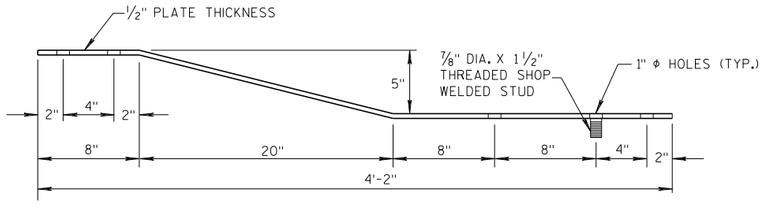
S.D.D. 14 B 45-5g

GENERAL NOTES

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

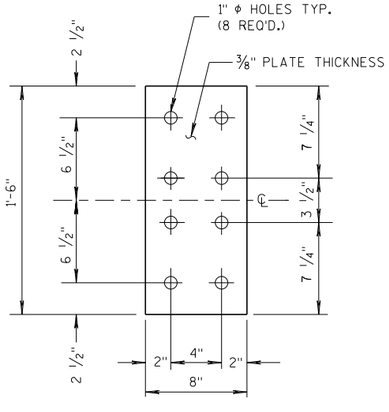


FRONT VIEW



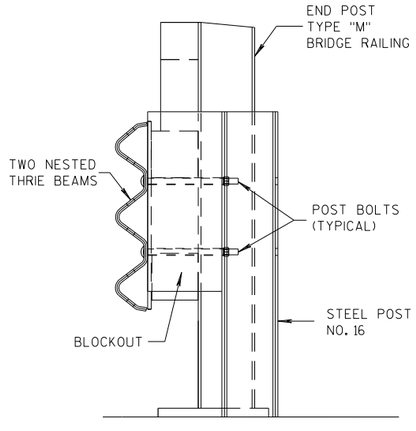
PLAN VIEW

BACK-UP PLATE DETAIL, TYPE "M"

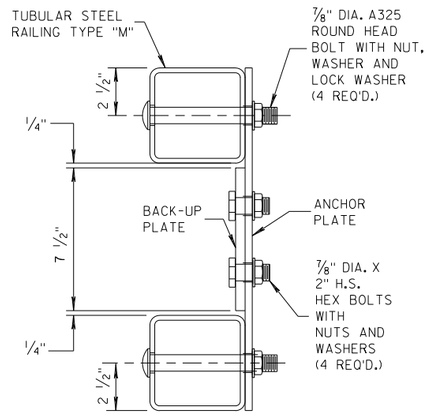


FRONT VIEW

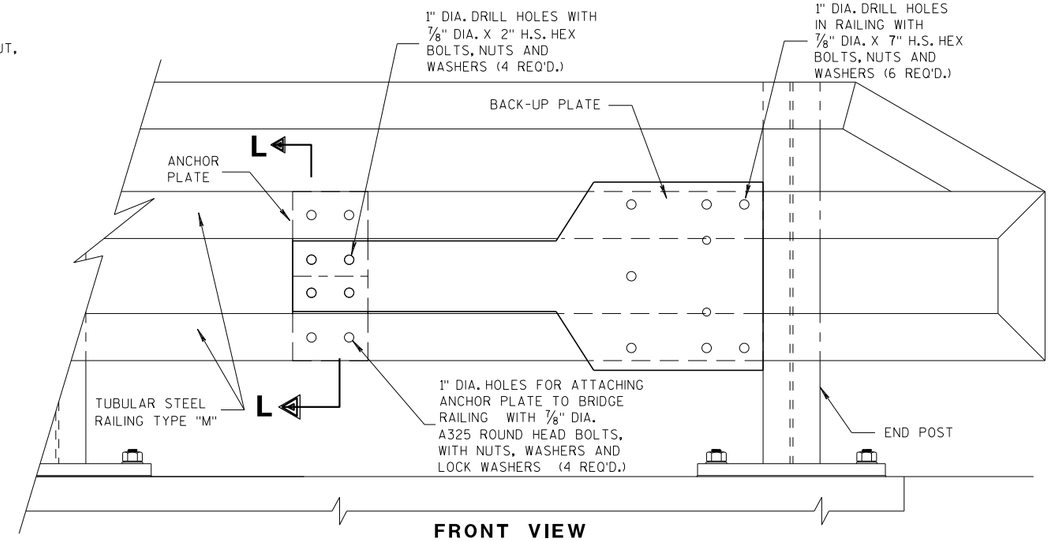
ANCHOR PLATE DETAIL, TYPE "M"



SECTION M-M

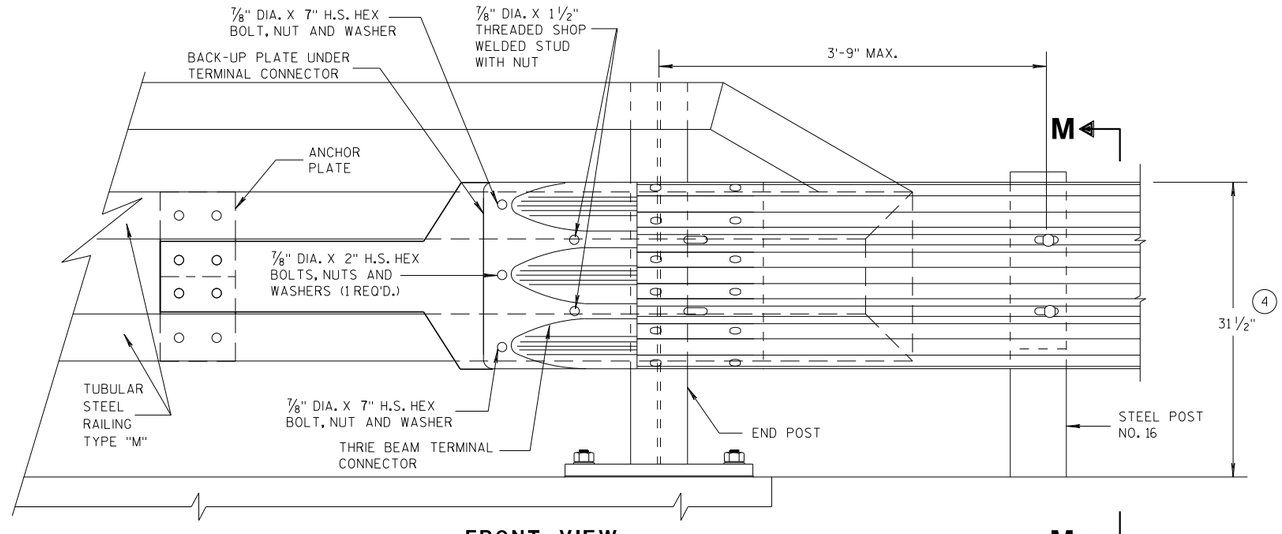


SECTION L-L

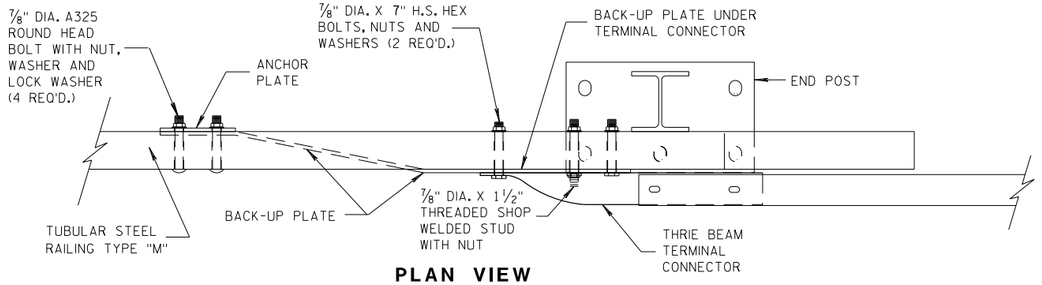


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
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S.D.D. 14 B 45-5h

6

S.D.D. 14 B 45-5h

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.

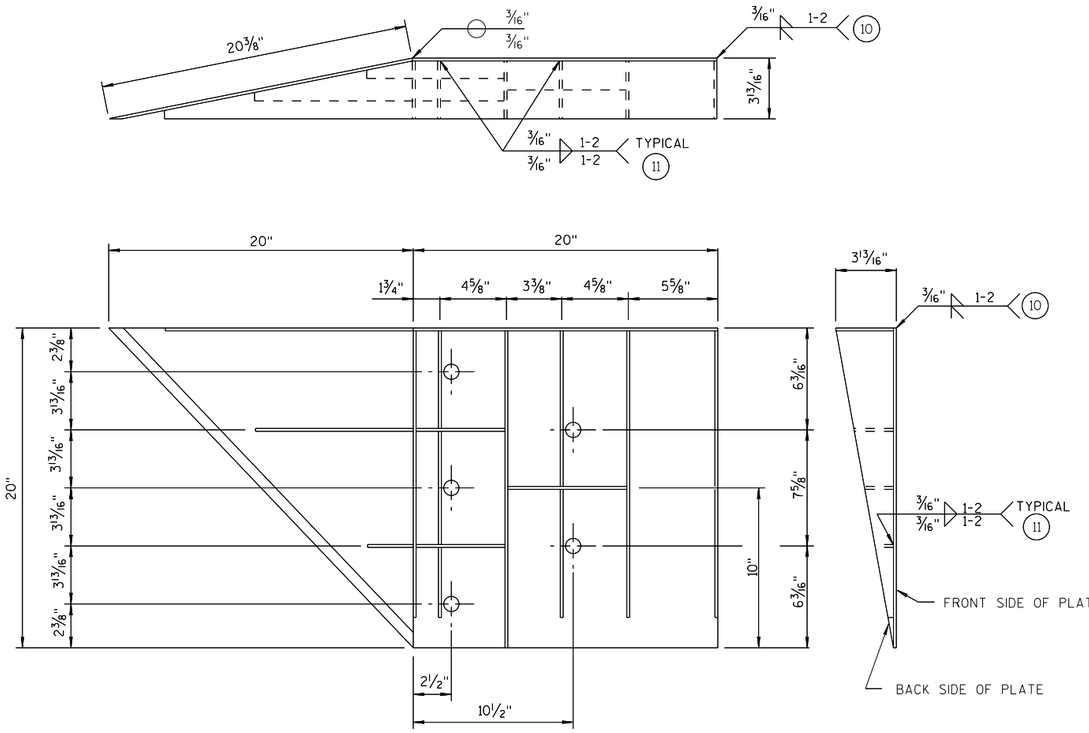
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

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)

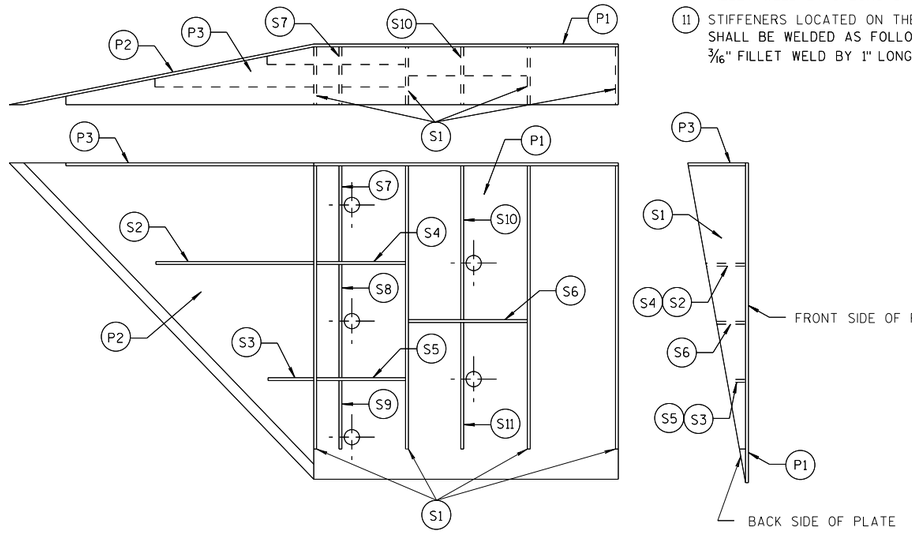


PLATE AND STIFFENER IDENTIFICATION

(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 5/8" x 18 3/4"	1/4"
S2	1		10 1/4" x 2 7/16" x 10 3/8" x 1/2"	1/4"
S3	1		3" x 1 1/16" x 3 1/8" x 1/2"	1/4"
S4	1		6 1/8" x 2 7/16"	1/4"
S5	1		6 1/8" x 1 1/16"	1/4"
S6	1		7 3/4" x 1 3/4"	1/4"
S7	1		2 9/16" x 6" x 3 5/8" x 5 7/8"	1/4"
S8	1		1 5/32" x 7 1/2" x 2 1/2" x 7 3/8"	1/4"
S9	1		6 1/16" x 6 3/16" x 1 3/32"	1/4"
S10	1		1 7/8" x 9 7/8" x 3 5/8" x 9 11/16"	1/4"
S11	1		8 1/2" x 8 3/4" x 1 13/16"	1/4"

SINGLE SLOPE CONNECTION PLATE

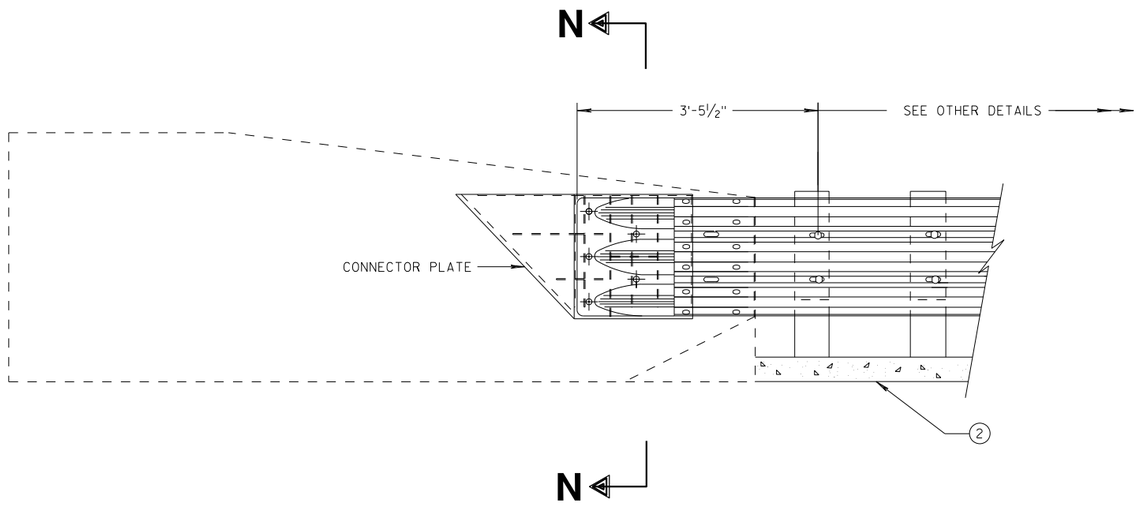
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

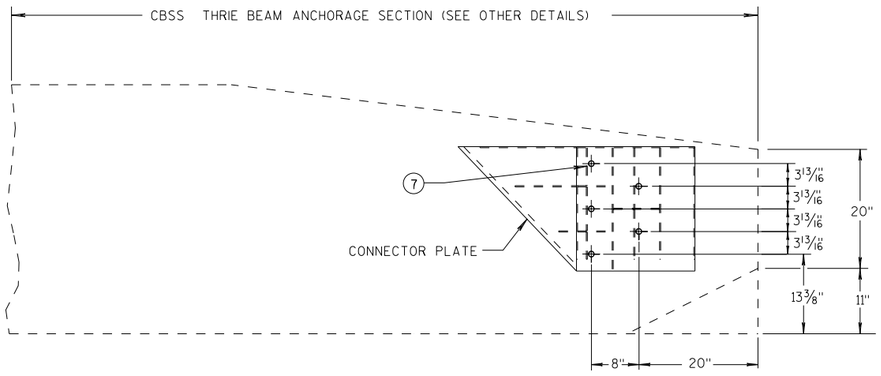
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THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



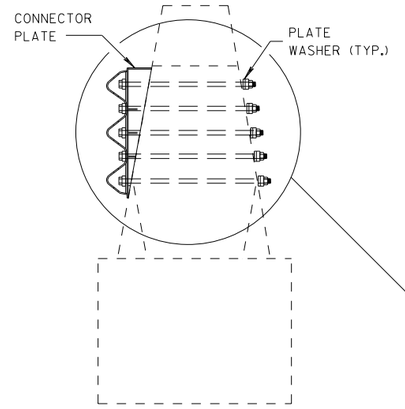
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

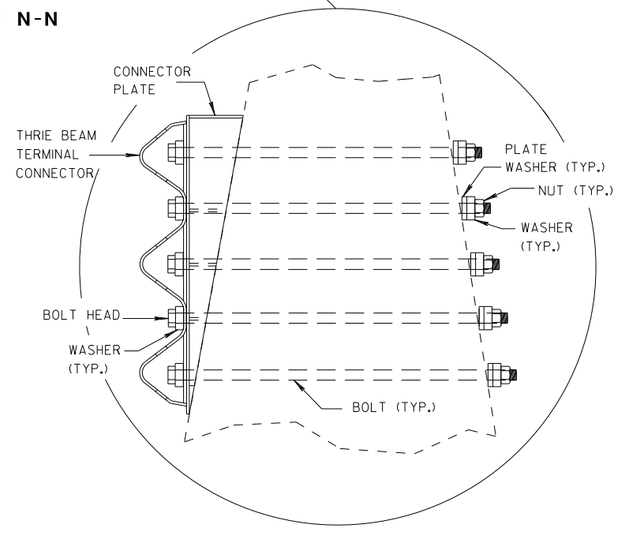
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" 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

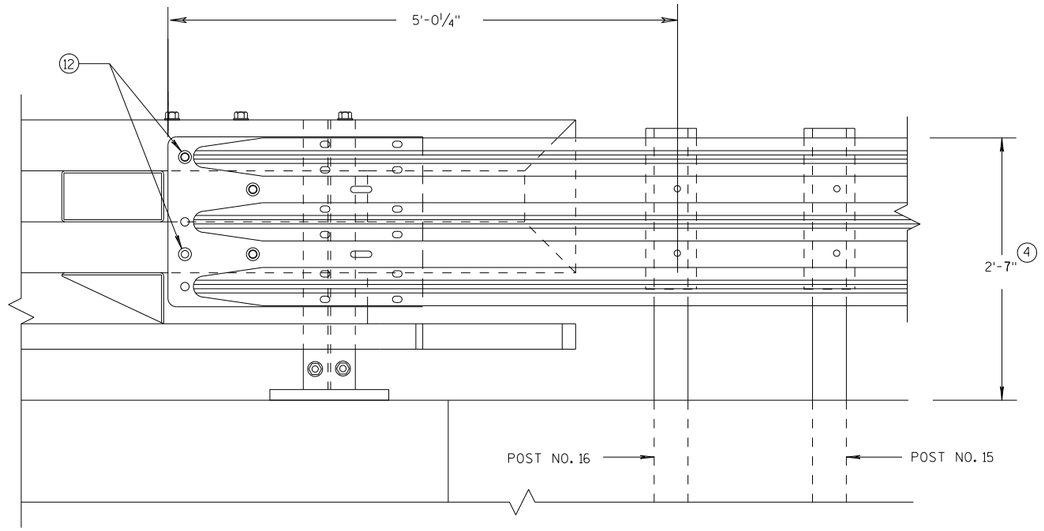
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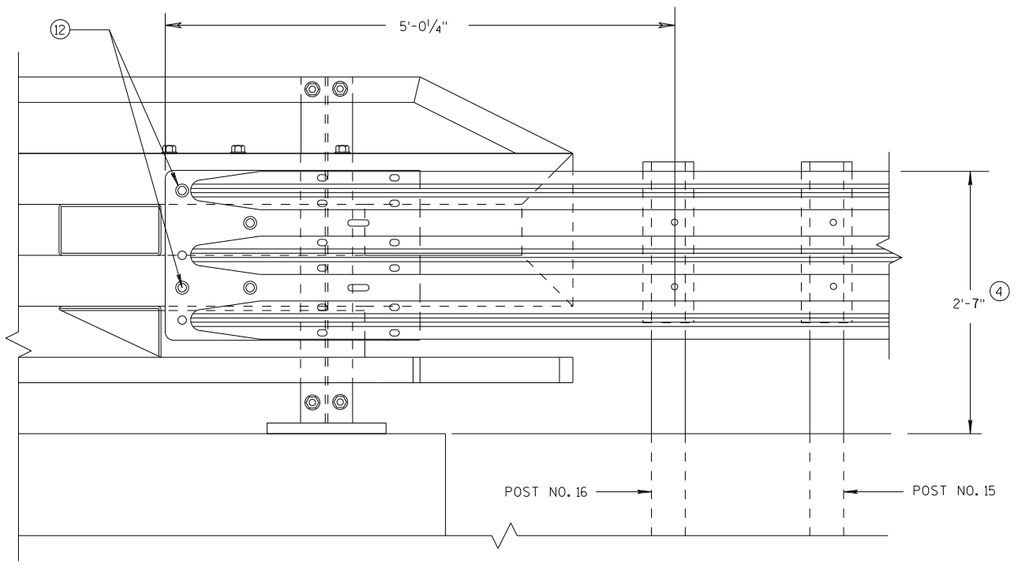
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S.D.D. 14 B 45-5j



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 1/2-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
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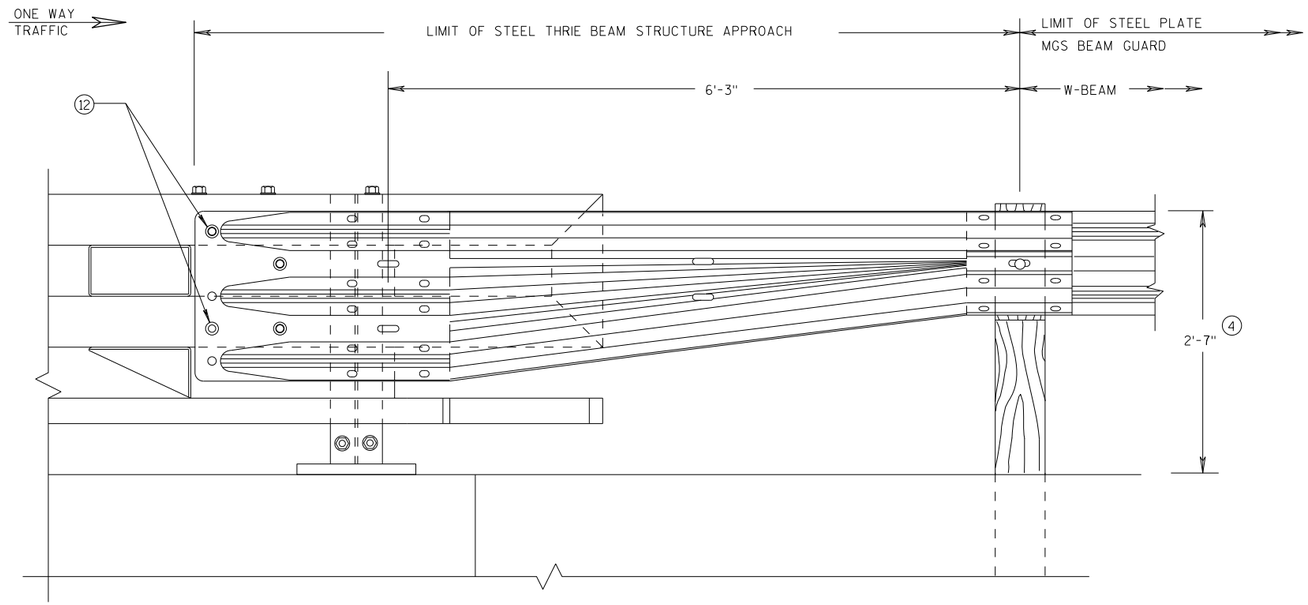
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S.D.D. 14 B 45-5k

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S.D.D. 14 B 45-5k



FRONT VIEW

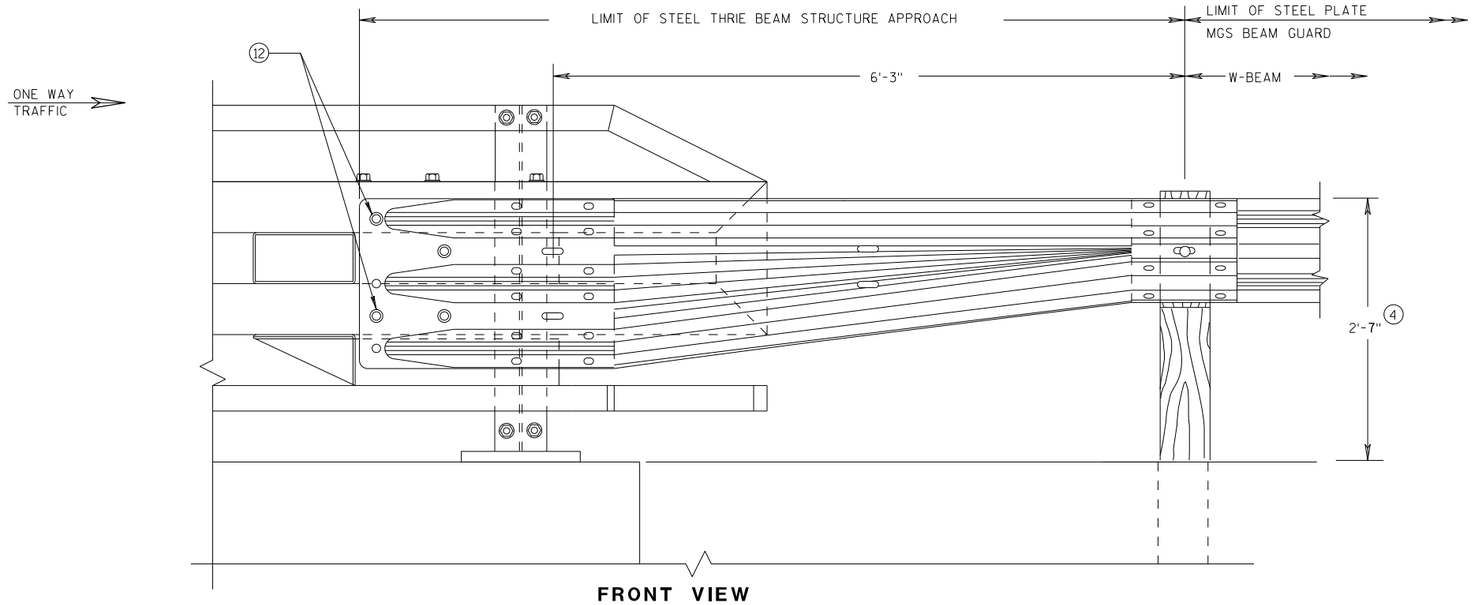
W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

(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 1/2-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
DEPARTMENT OF TRANSPORTATION

APPROVED
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FHWA

/S/ Rodney Taylor
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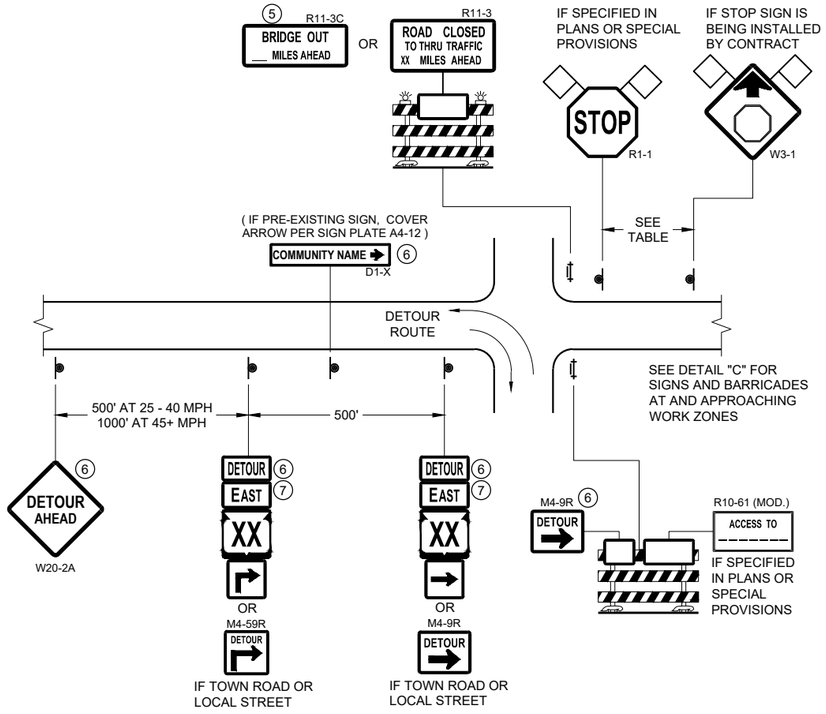
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S.D.D. 14 B 45-5L

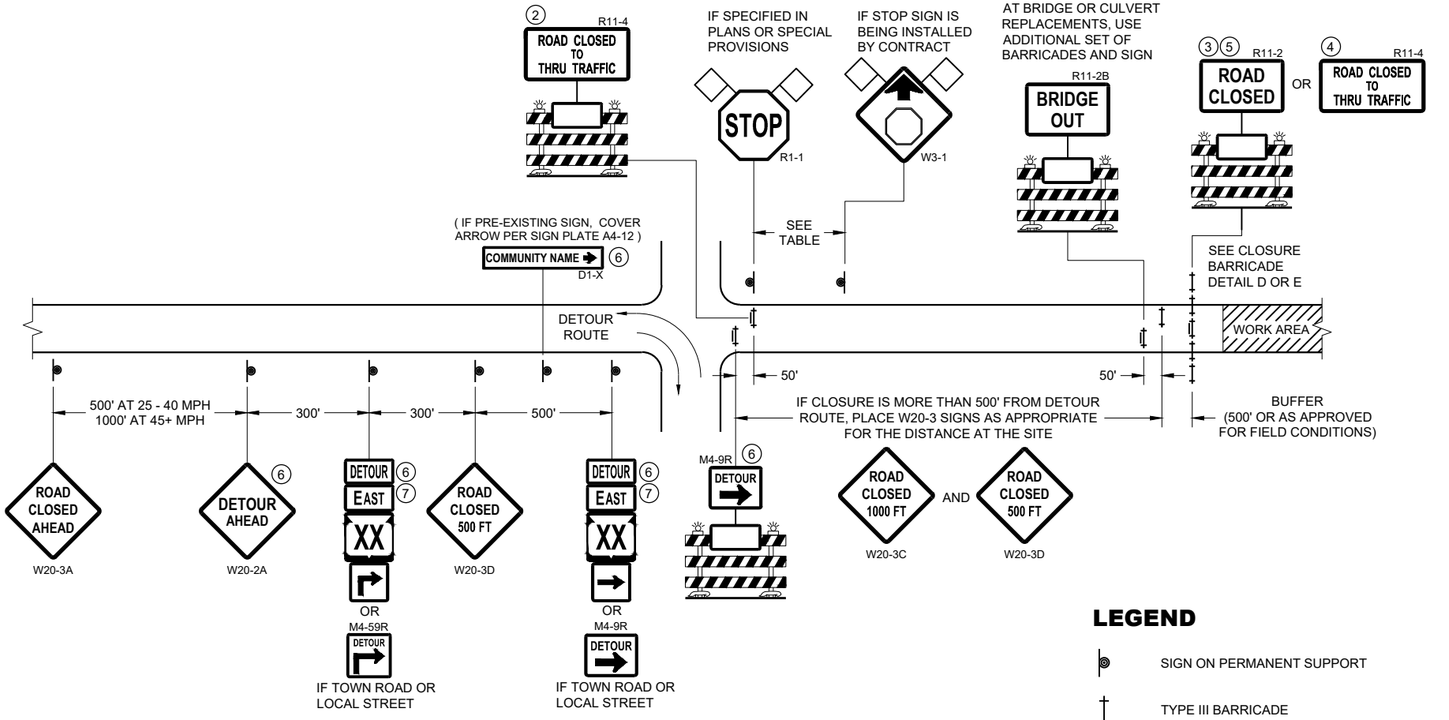
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S.D.D. 14 B 45-5L



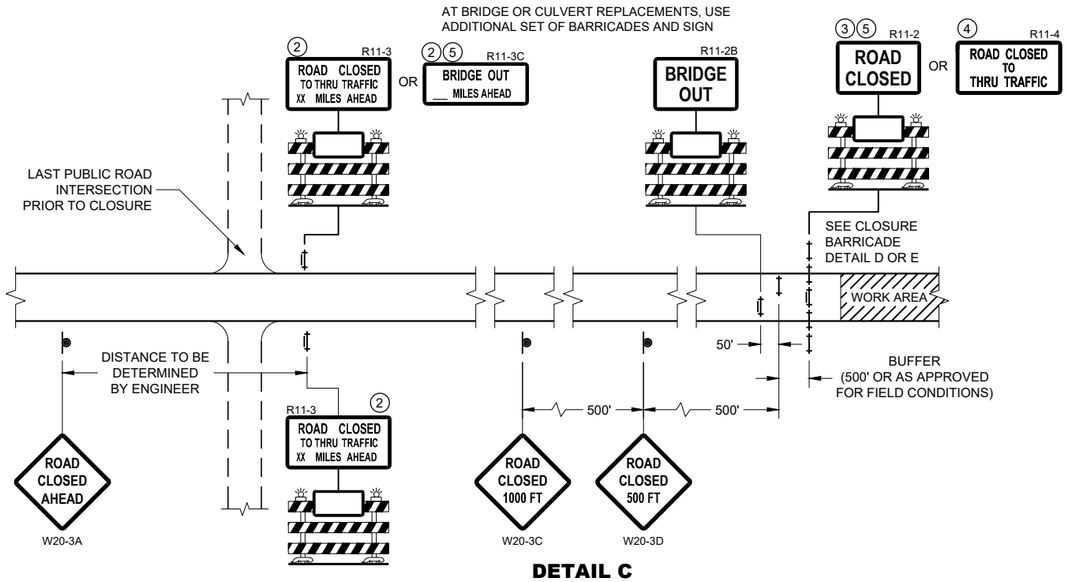
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

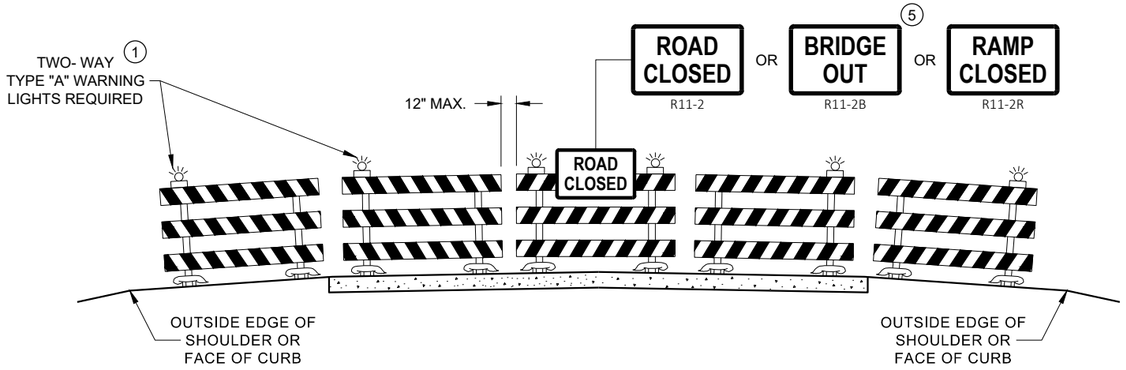
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

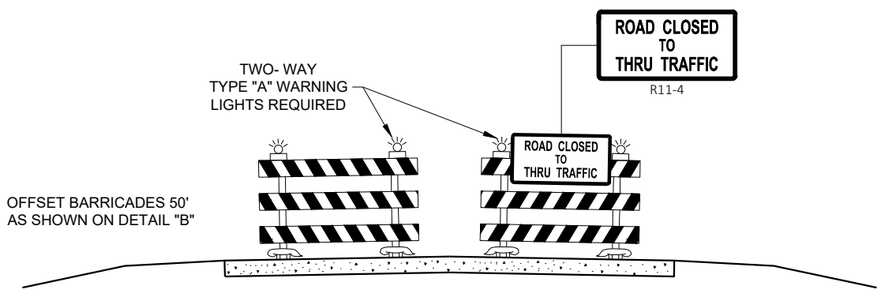
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SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

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SDD 15C02 - 09b

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SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

500' AT 25-40 MPH
1000' AT 45+ MPH

500'

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-8a END DETOUR WEST XX *

DETOUR EAST XX / WEST XX

DETOUR ROUTE

WORK AREA

DETOUR EAST XX

WEST XX OR M4-9L DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR NEXT X MILES * G20-51

DETOUR WEST XX * OR M4-59L DETOUR ** IF TOWN ROAD OR LOCAL STREET

MATCH POINT

* M4-59L DETOUR ** OR DETOUR EAST XX * IF TOWN ROAD OR LOCAL STREET

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-9L DETOUR ** OR DETOUR EAST XX IF TOWN ROAD OR LOCAL STREET

500'

DETOUR WEST XX

DETOUR WEST XX OR M4-9R DETOUR ** IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX * OR M4-59R * DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR ROUTE

500' AT 25 - 40 MPH
1000' AT 45+ MPH

500'

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX

500'

DETOUR EAST XX

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX *

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

500' AT 25 - 40 MPH
1000' AT 45+ MPH

DETOUR EAST XX *

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

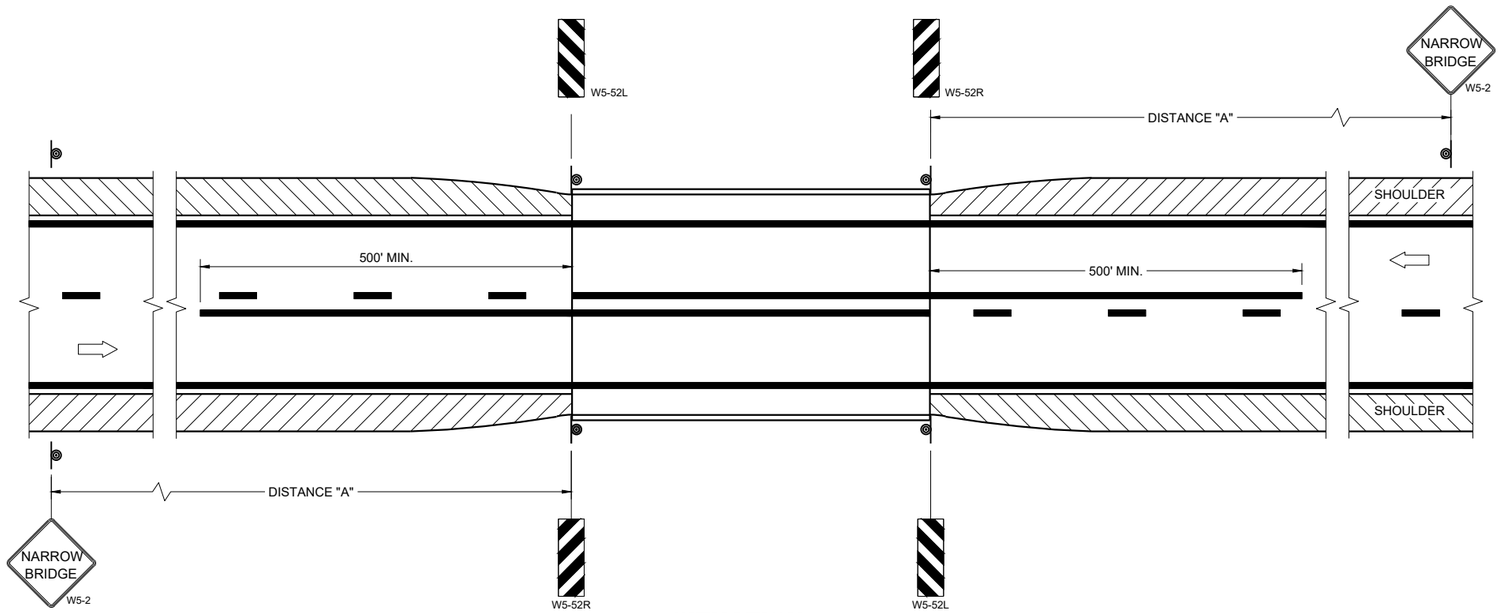
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

6

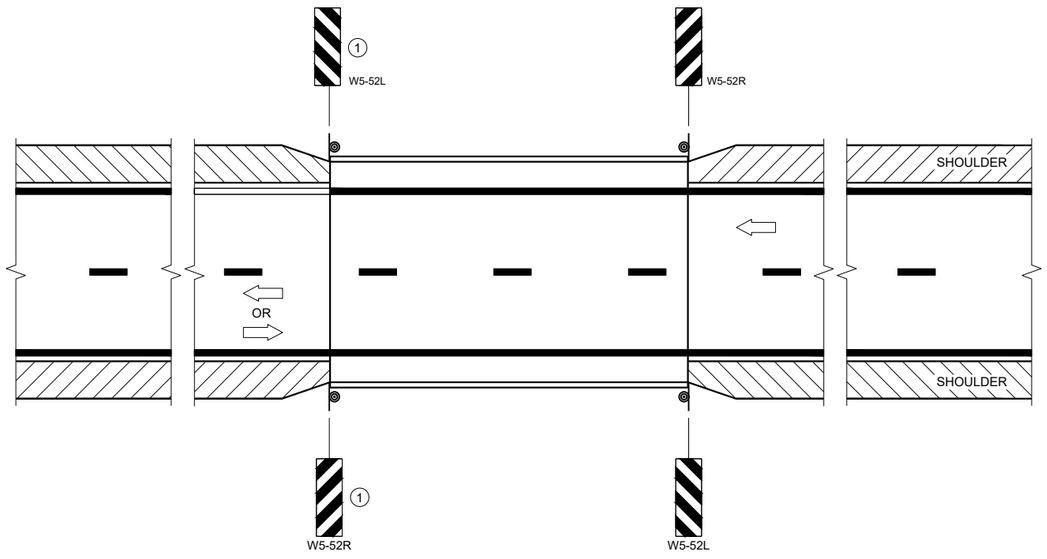
SDD 15C02 - 09c

SDD 15C02 - 09c



SITUATION 1

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



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 THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

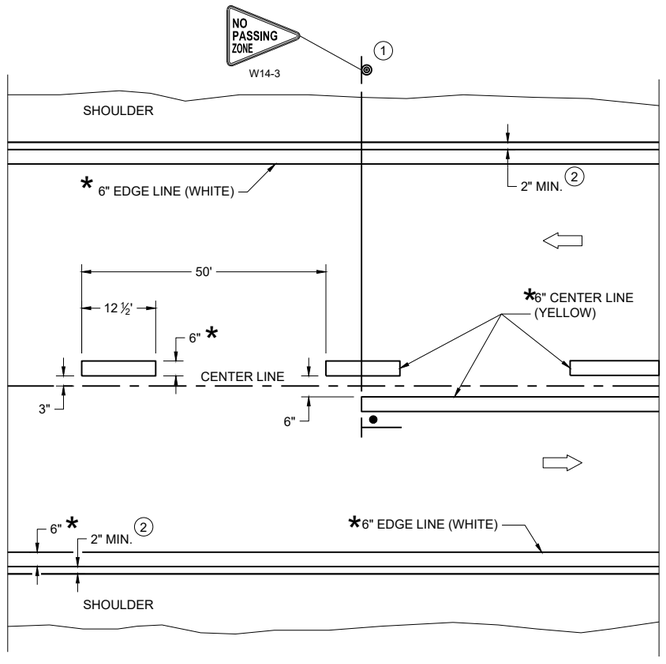
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

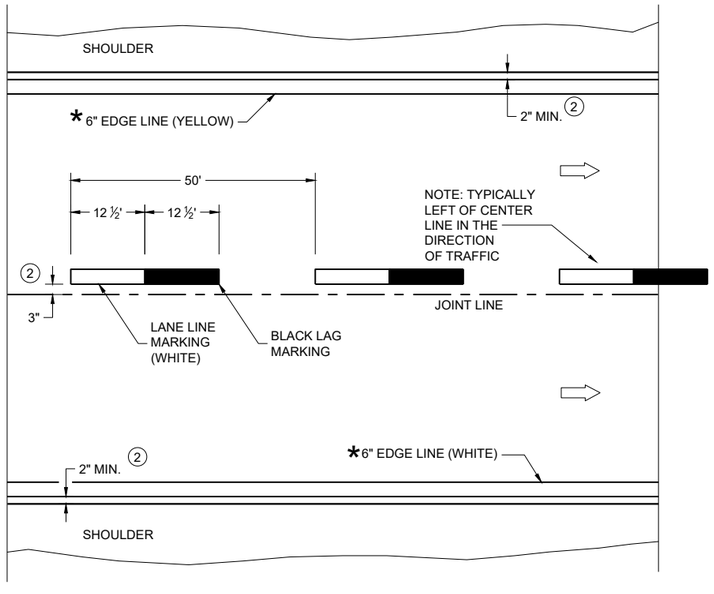
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

SDD 15C08-24a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

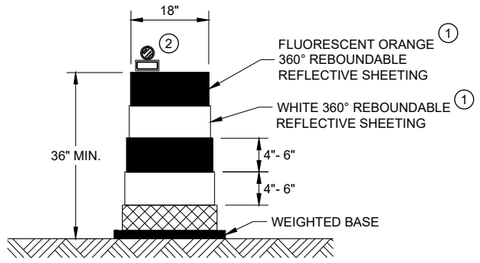
FHWA

6

SDD 15C08-24a

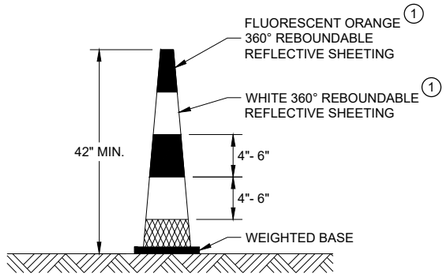
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

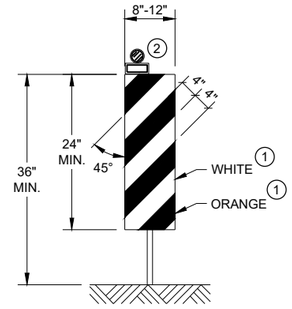
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

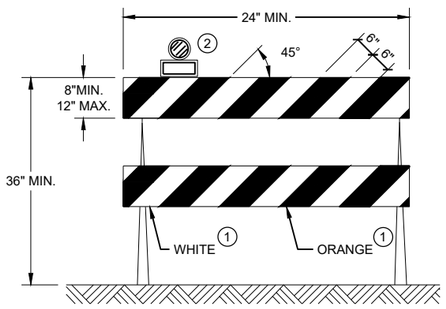
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



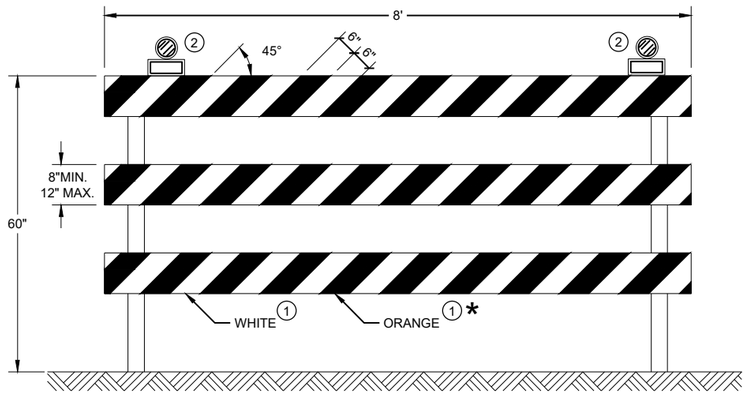
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

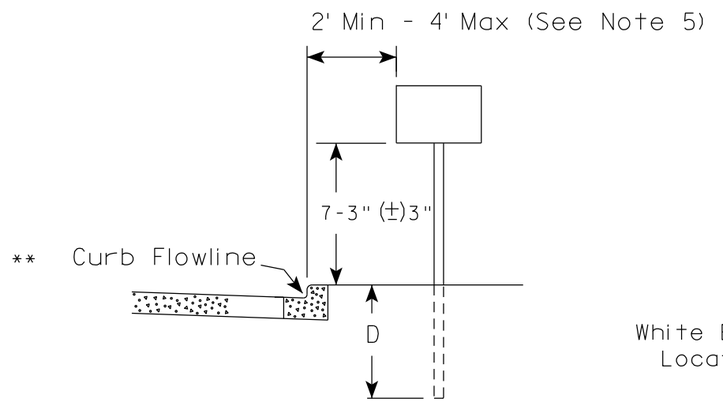
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SDD 15C11 - 10b

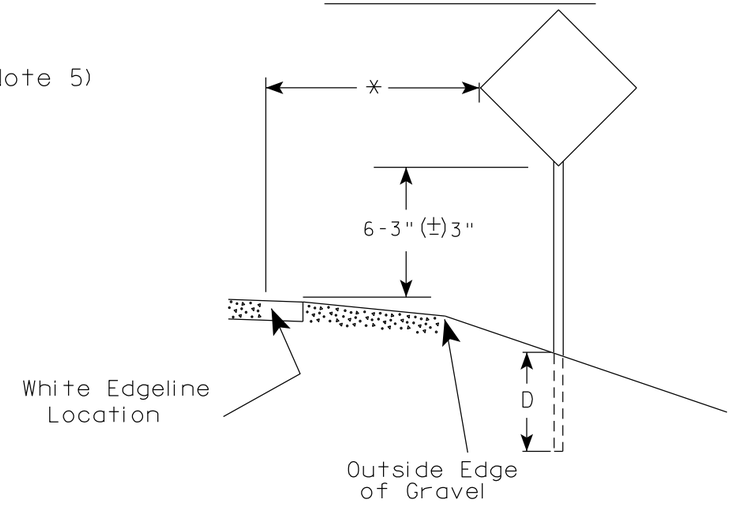
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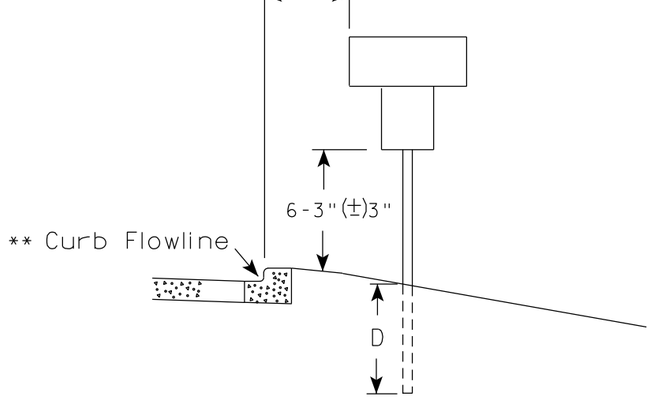
SDD 15C11 - 10b

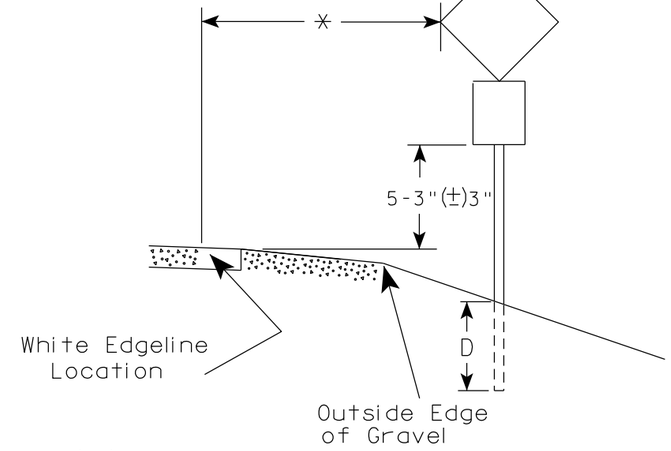
URBAN AREA



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 or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

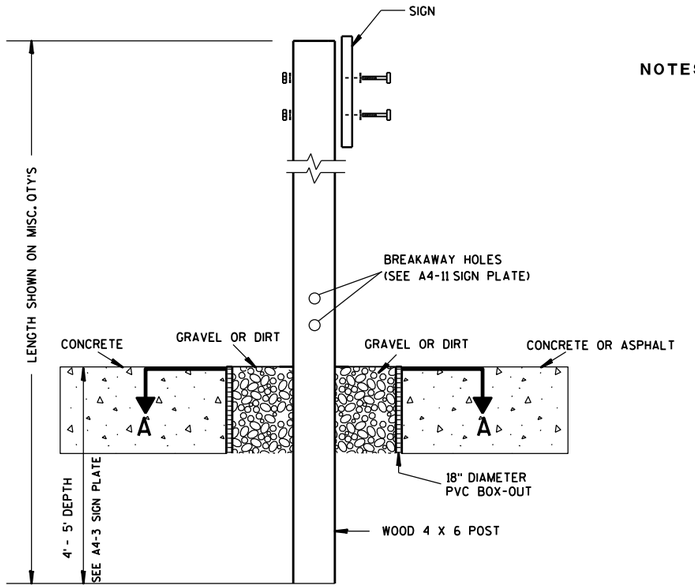
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

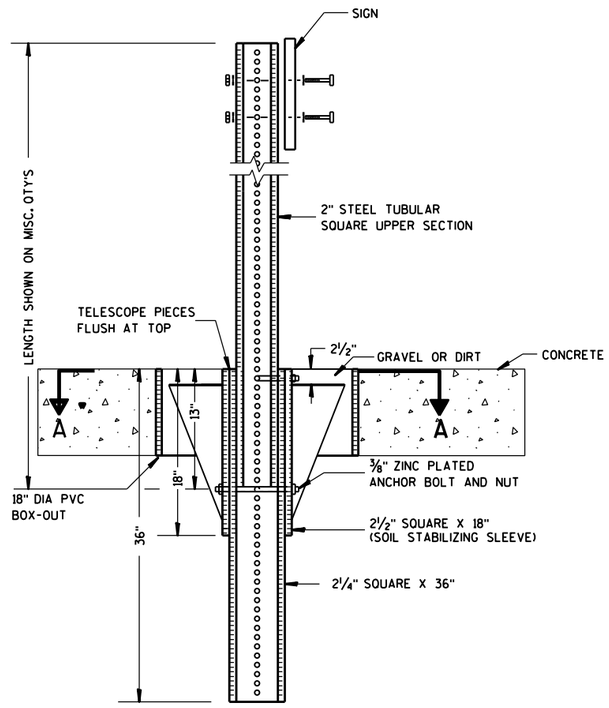
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 64	E



ELEVATION VIEW

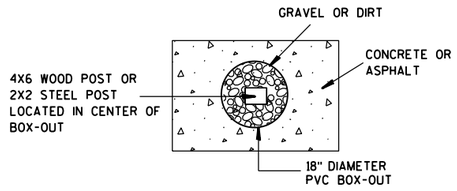
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

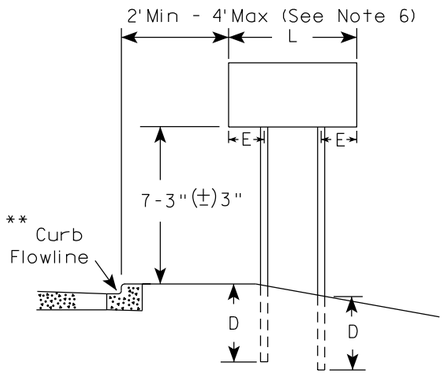
APPROVED Matthew R Rauch
for State Traffic Engineer

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

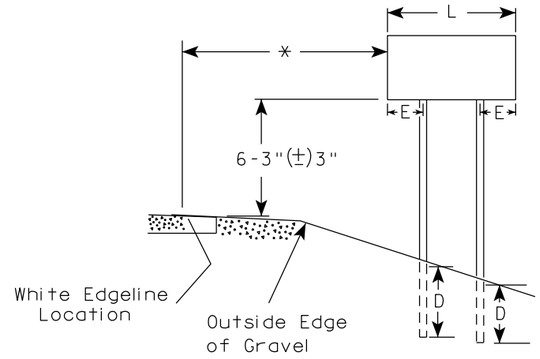
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

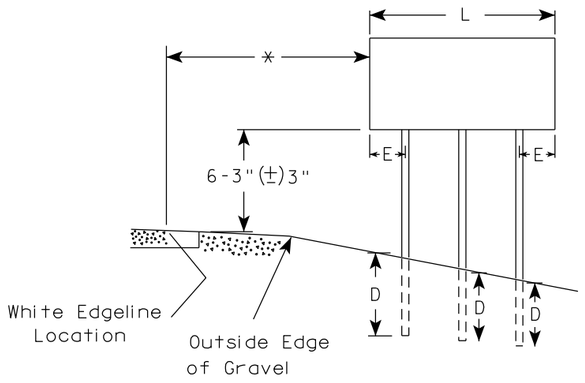
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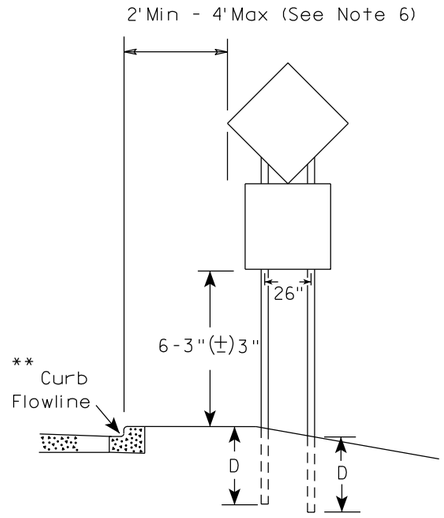
URBAN AREA



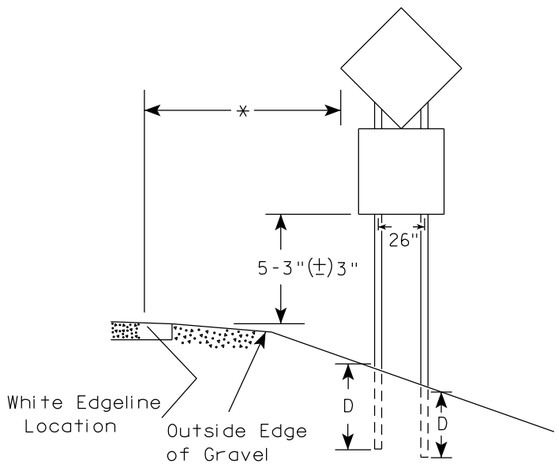
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 3".

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

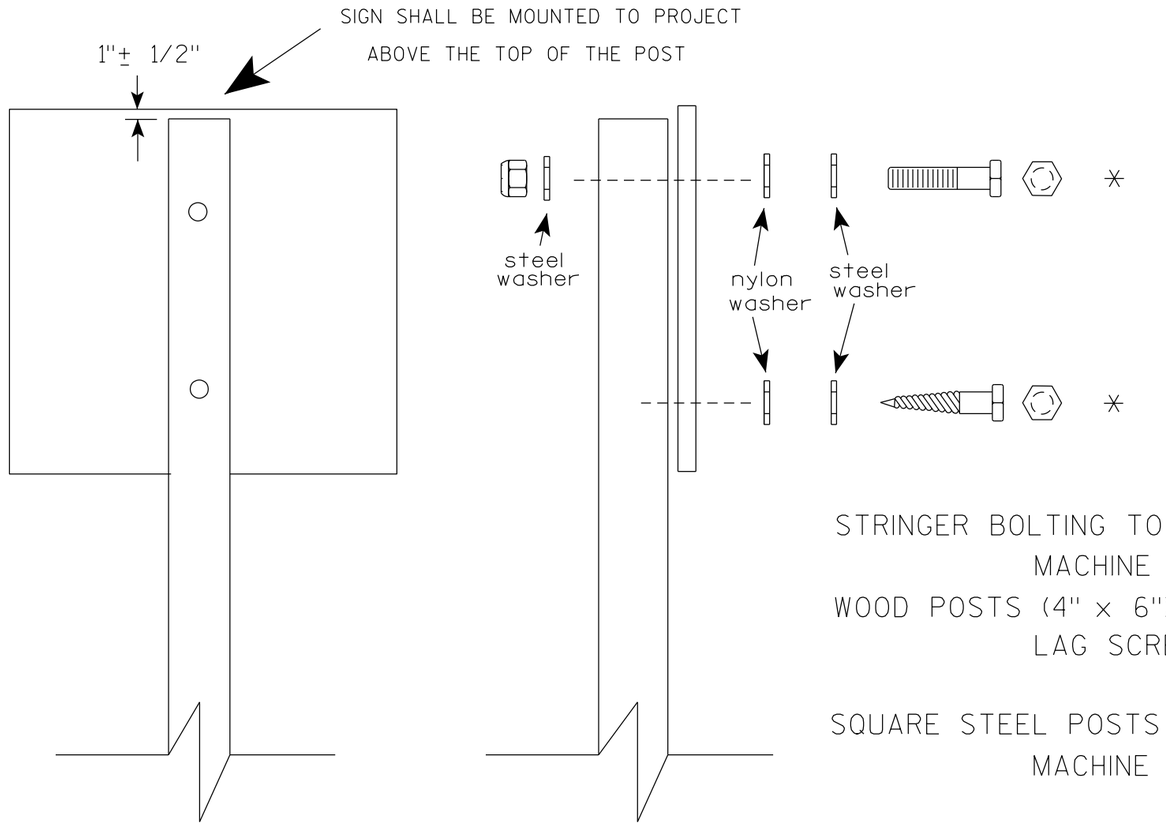
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



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

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

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

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

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 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

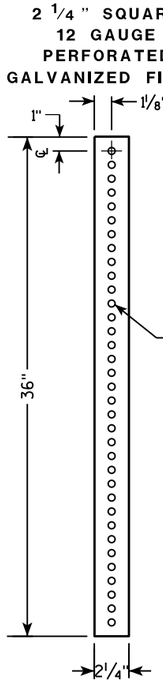
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

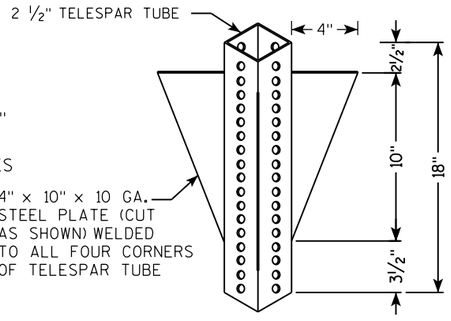
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

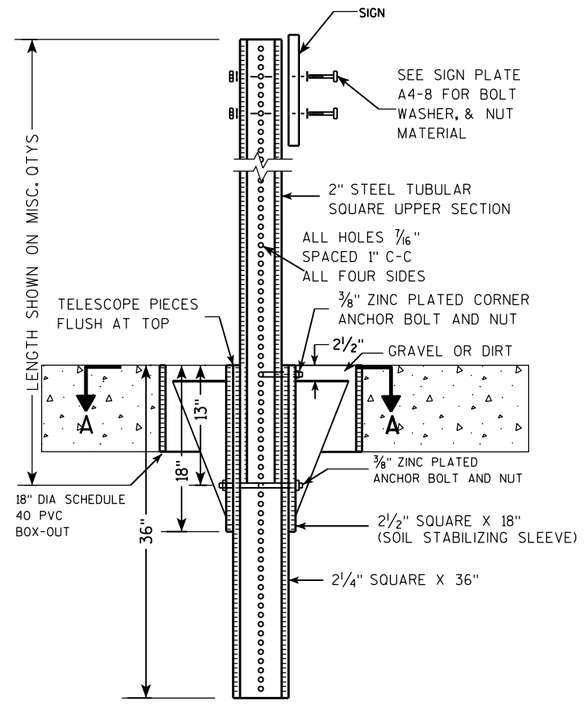
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



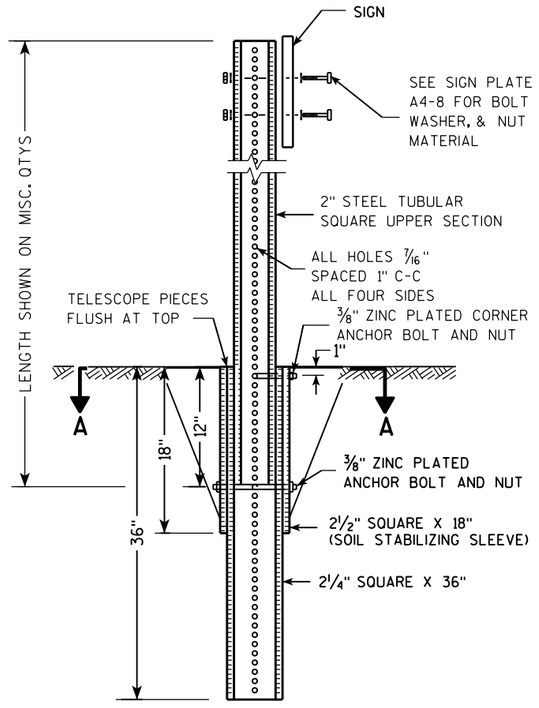
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

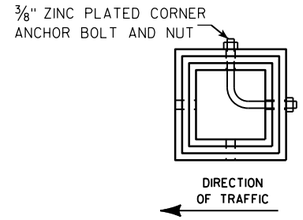


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

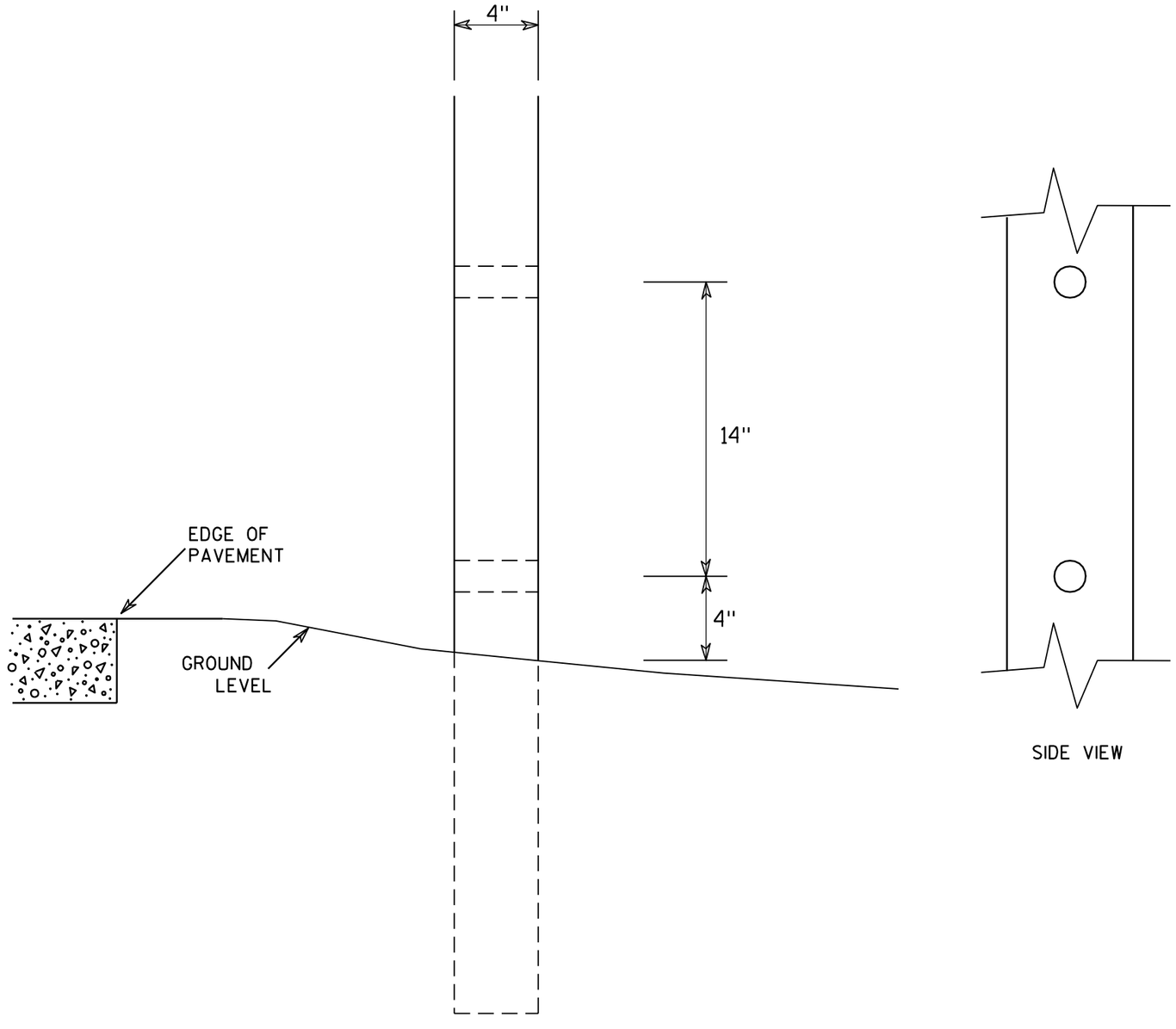
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 68 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

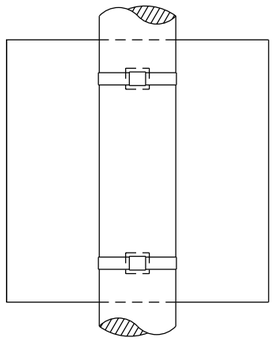
APPROVED Chester J Spang
for State Traffic Engineer

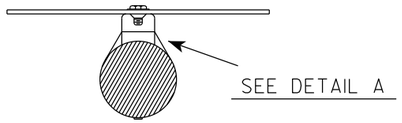
DATE 3/27/97 PLATE NO. A4-11.2

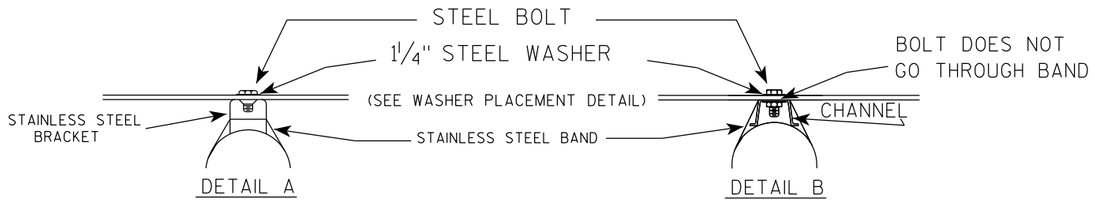
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E

BANDING

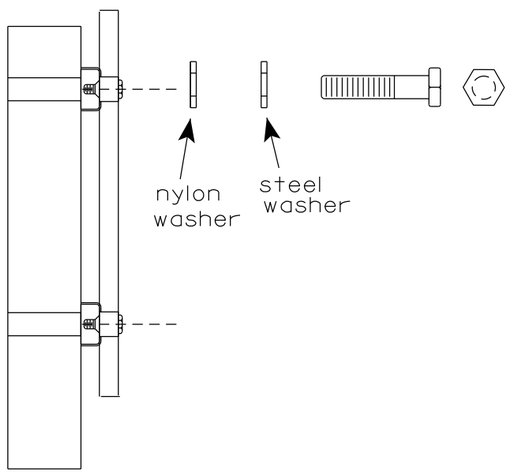
SINGLE SIGN







WASHER PLACEMENT

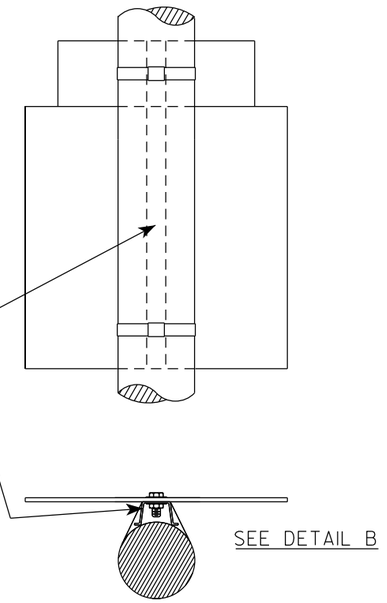


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

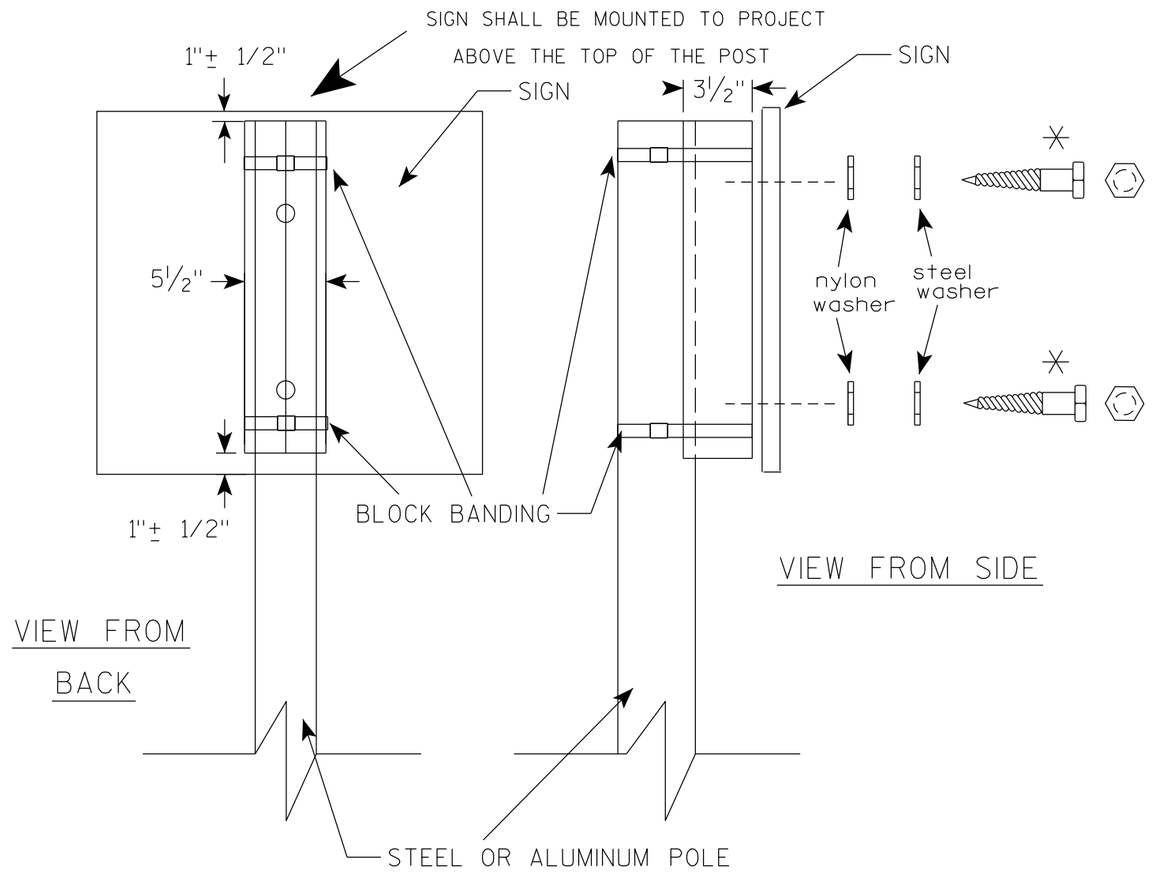
DATE 6/10/19 PLATE NO. A5-9.4

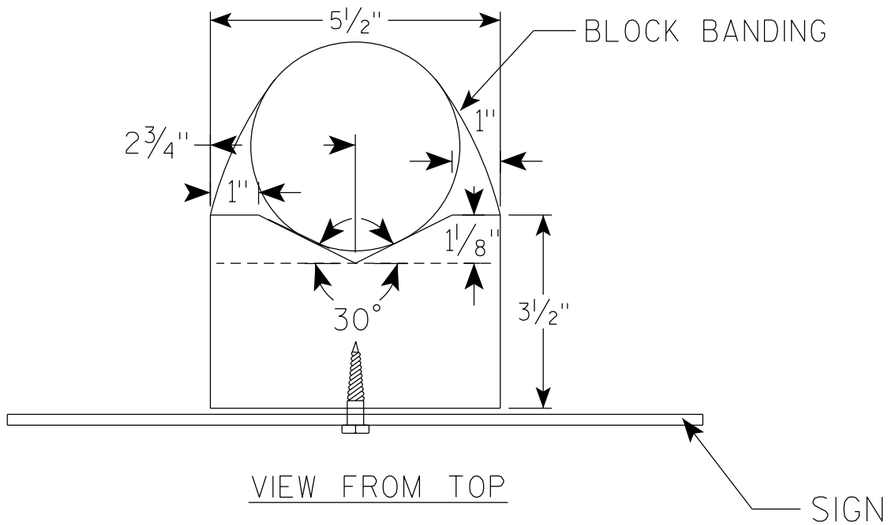
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 70	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

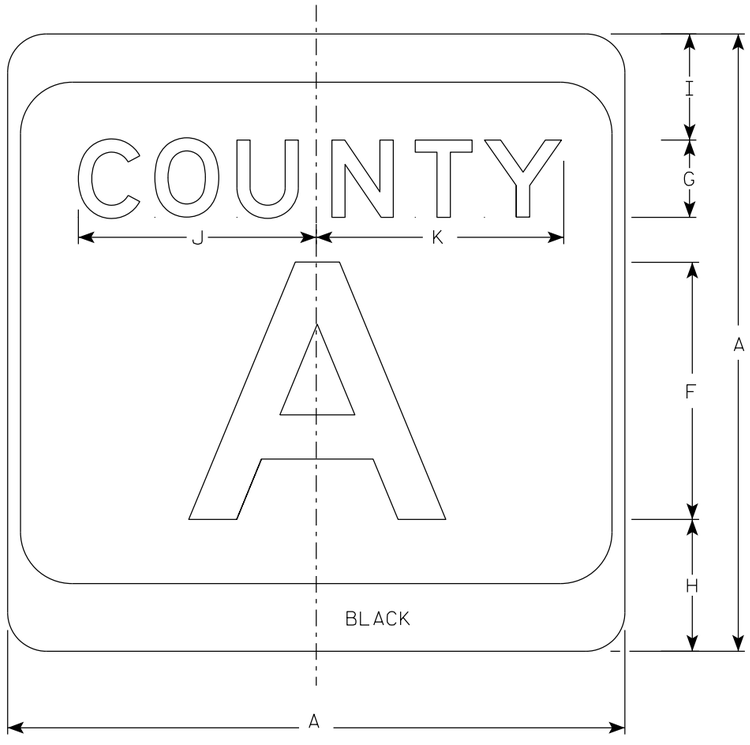
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

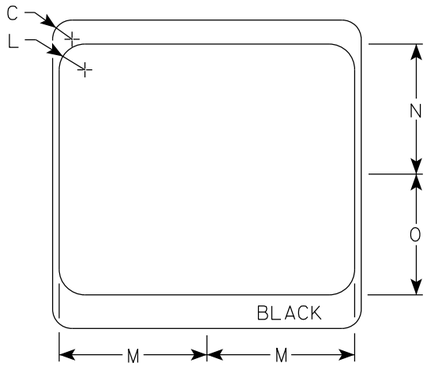
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 71 E

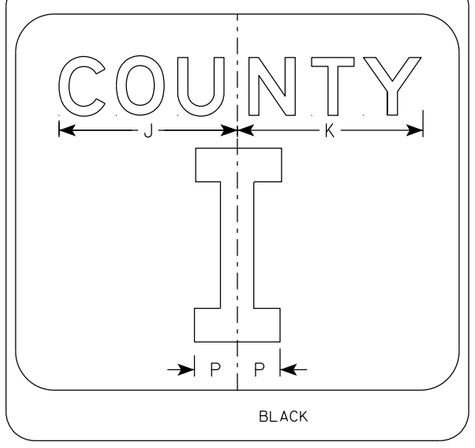


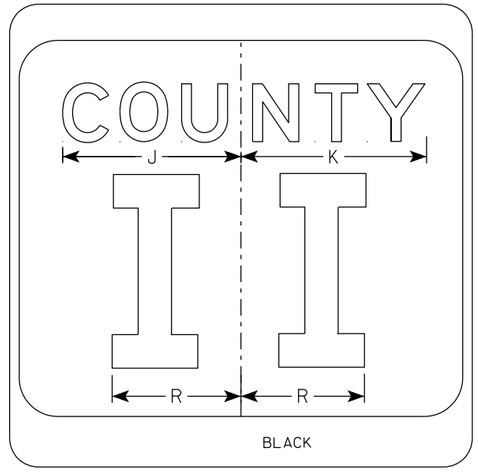
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. 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.
5. Substitute appropriate letters & optically center 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																											
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
2M	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

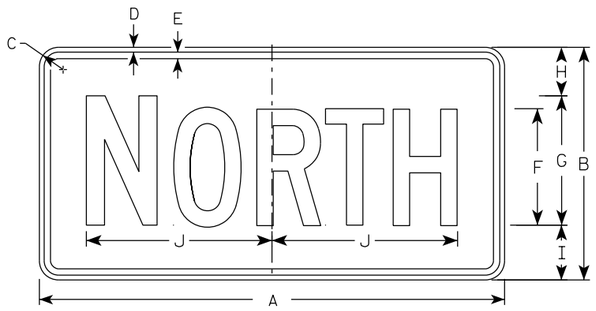
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

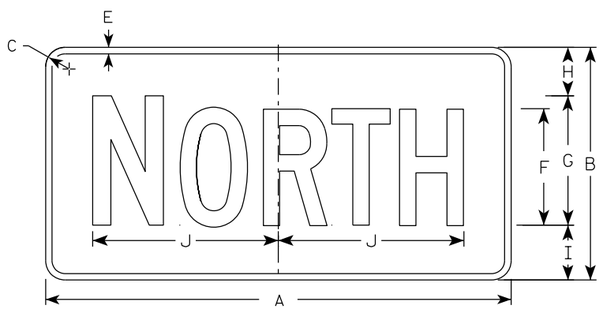
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

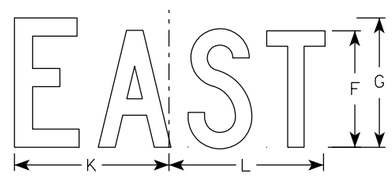
7



M3-1
MM3-1
MP3-1



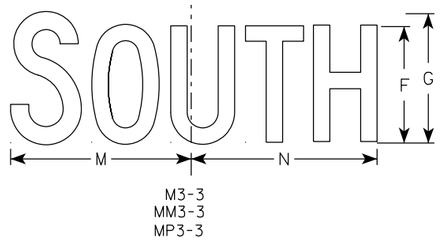
MB3-1
MK3-1
MN3-1



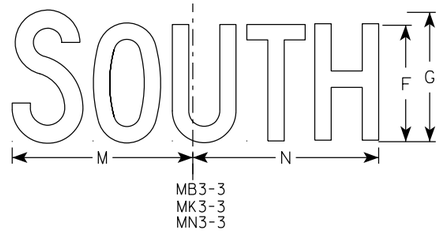
M3-2
MM3-2
MP3-2



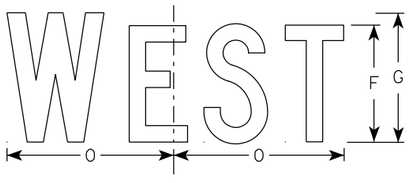
MB3-2
MK3-2
MN3-2



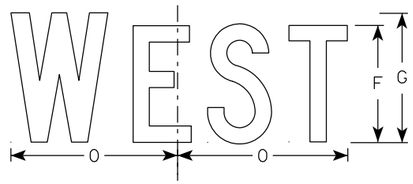
M3-3
MM3-3
MP3-3



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 Reflective
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																											
2S	24	12	1 1/2	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												2.00
2M	24	12	1 1/2	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												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

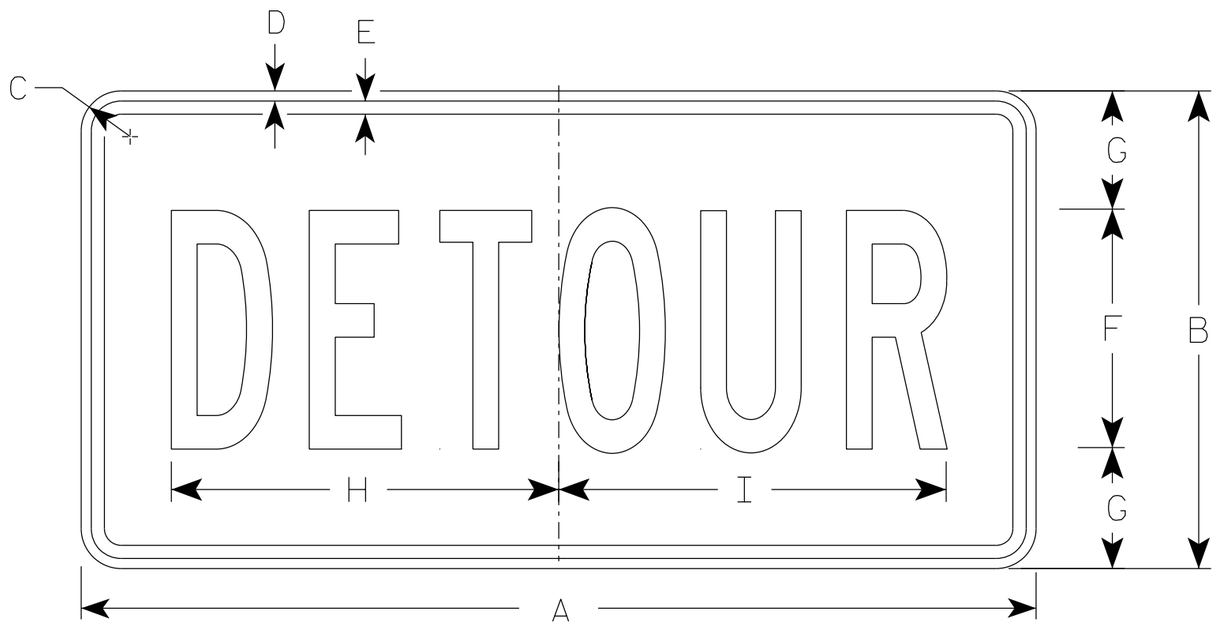
DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 73 | E

7

NOTES

1. Sign is Type II - Type F Reflective
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.



M4-8

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 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

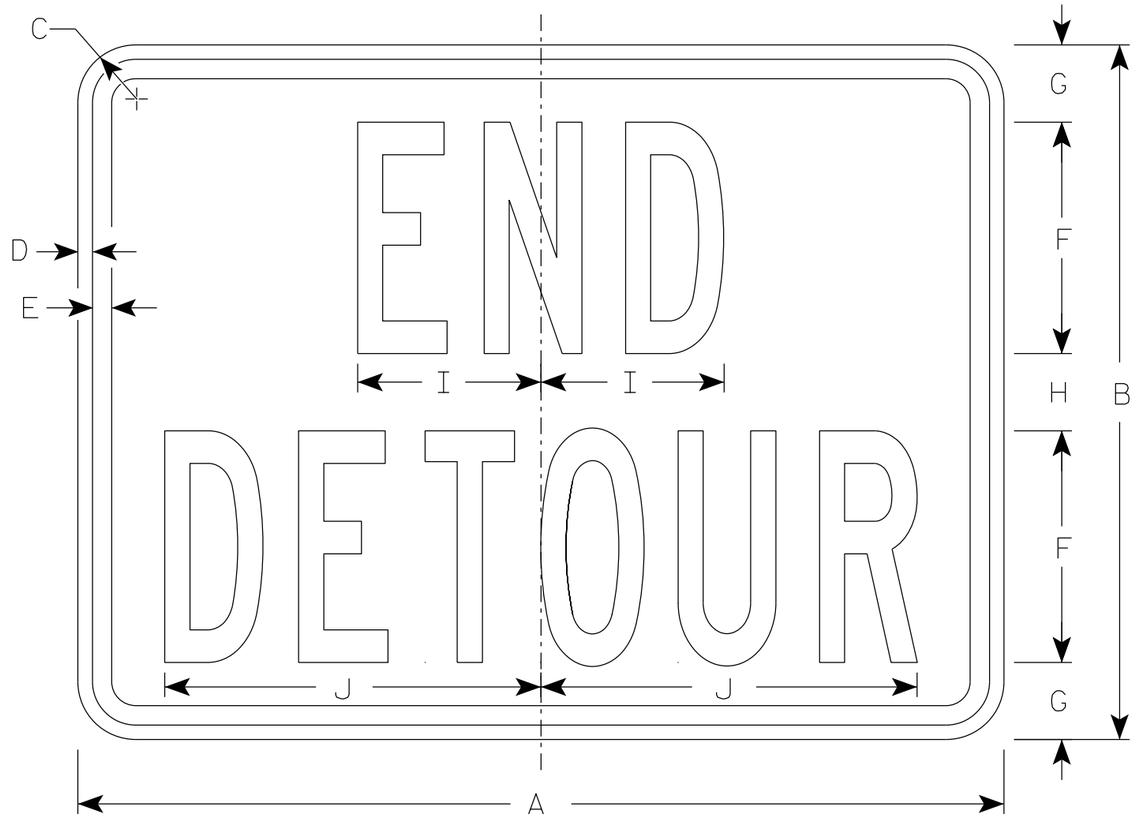
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
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 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

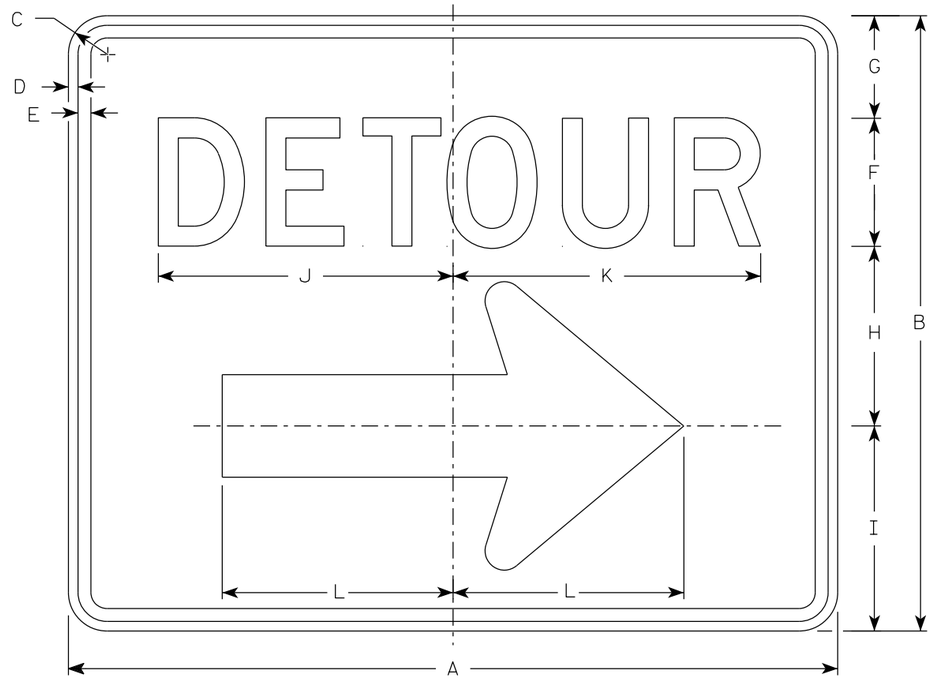
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

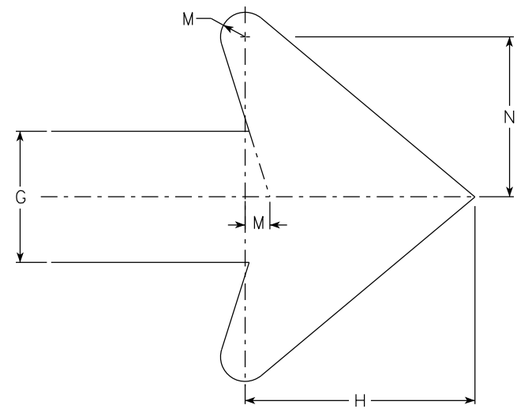
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 75 | E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

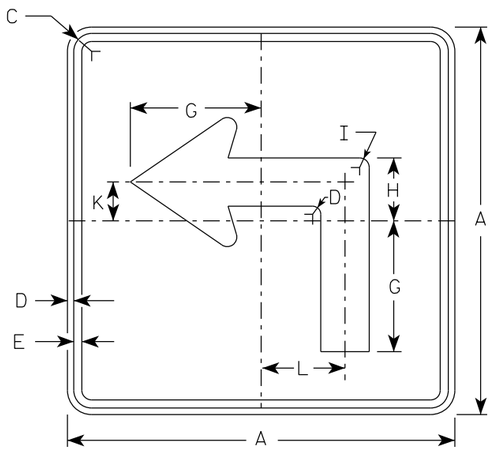
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

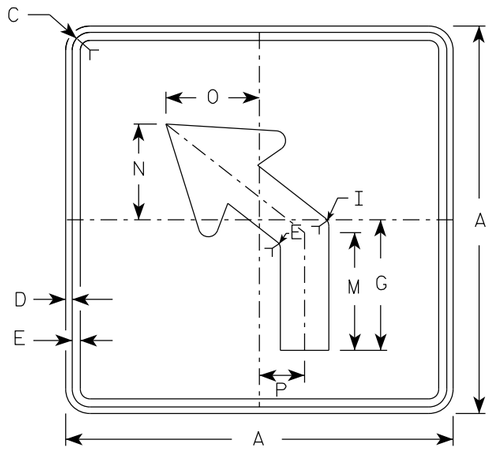
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

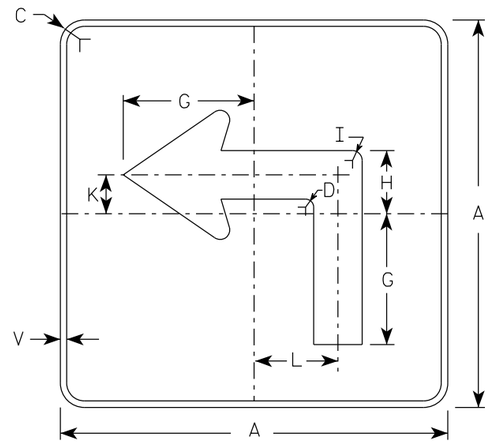
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



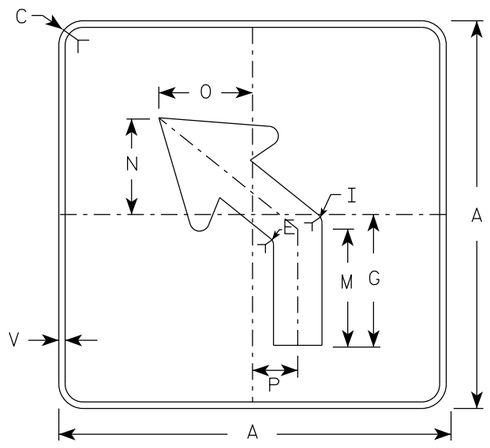
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

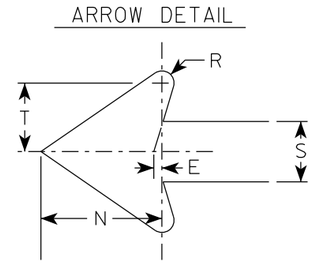


MB5-2L
MK5-2L
MN5-2L
MR5-2L

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
   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.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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		1/2					3.06
2M	21		1 1/2	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		1/2					3.06
3	30		1 7/8	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		1/2					6.25
4	30		1 7/8	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		1/2					6.25
5	30		1 7/8	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		1/2					6.25

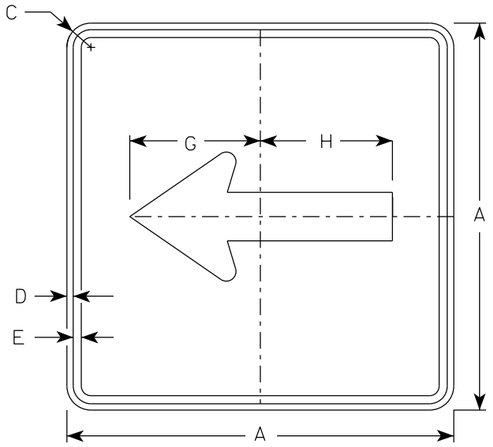
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

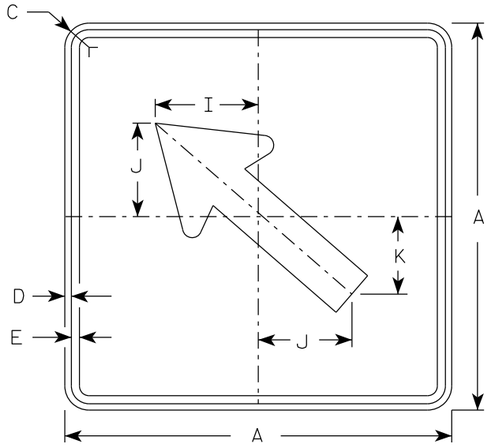
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

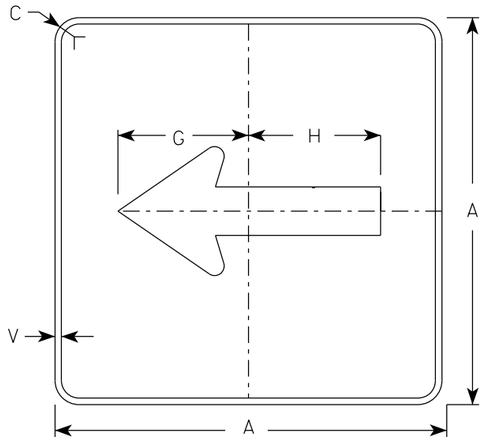
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E



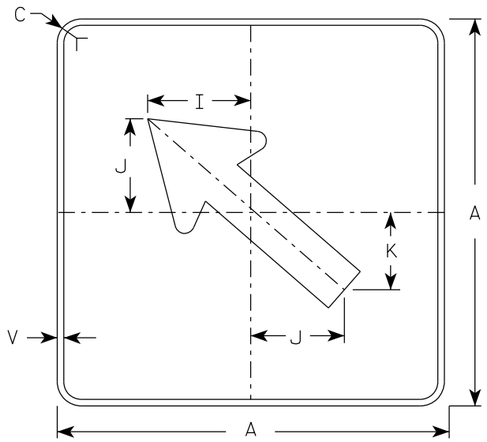
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

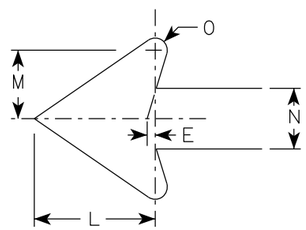


MB6-2
MK6-2
MN6-2
MR6-2

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. 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

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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							1/2					3.06
2M	21		1 1/2	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							1/2					3.06
3	30		1 7/8	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							1/2					6.25
4	30		1 7/8	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							1/2					6.25
5	30		1 7/8	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							1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

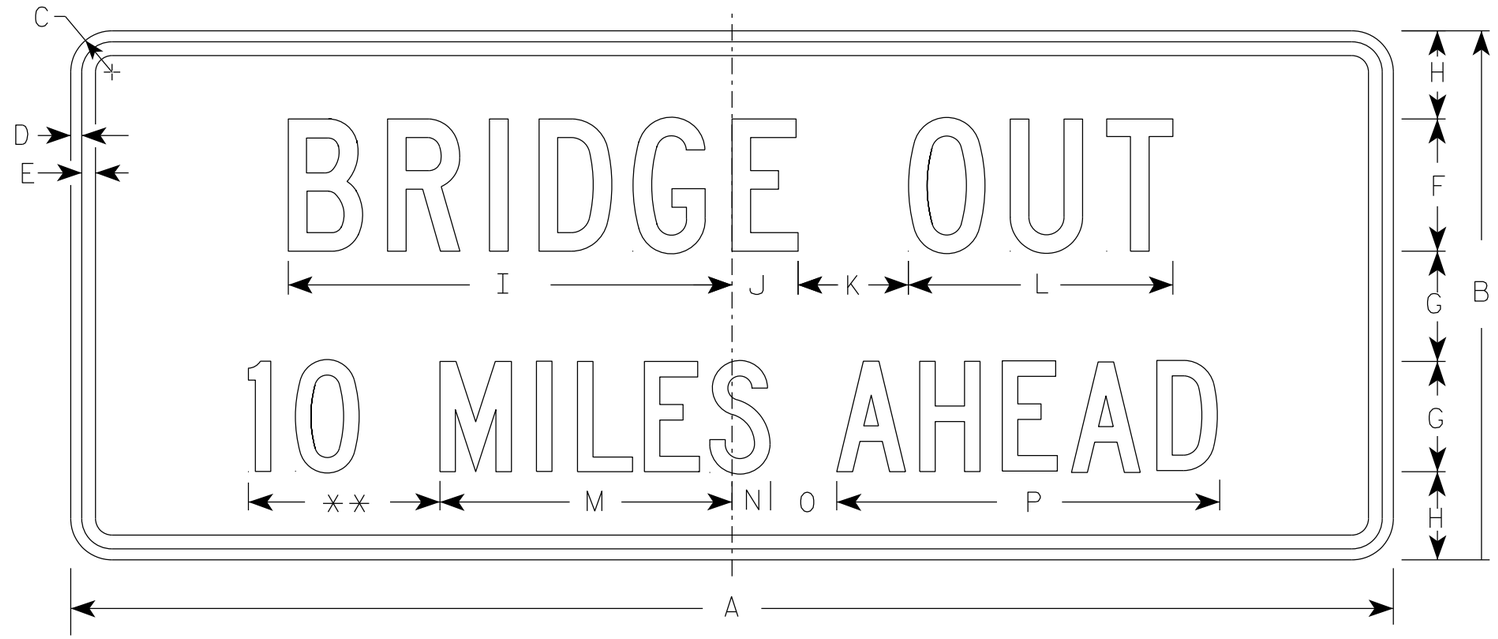
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E

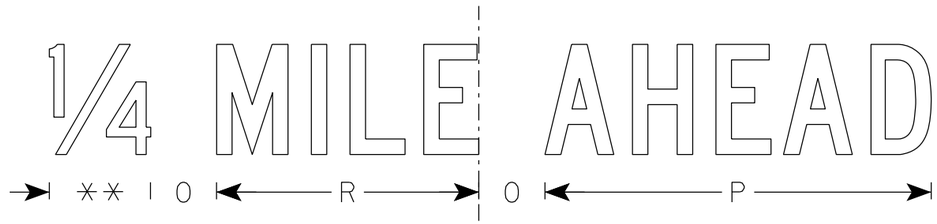
NOTES

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 1/2	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		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

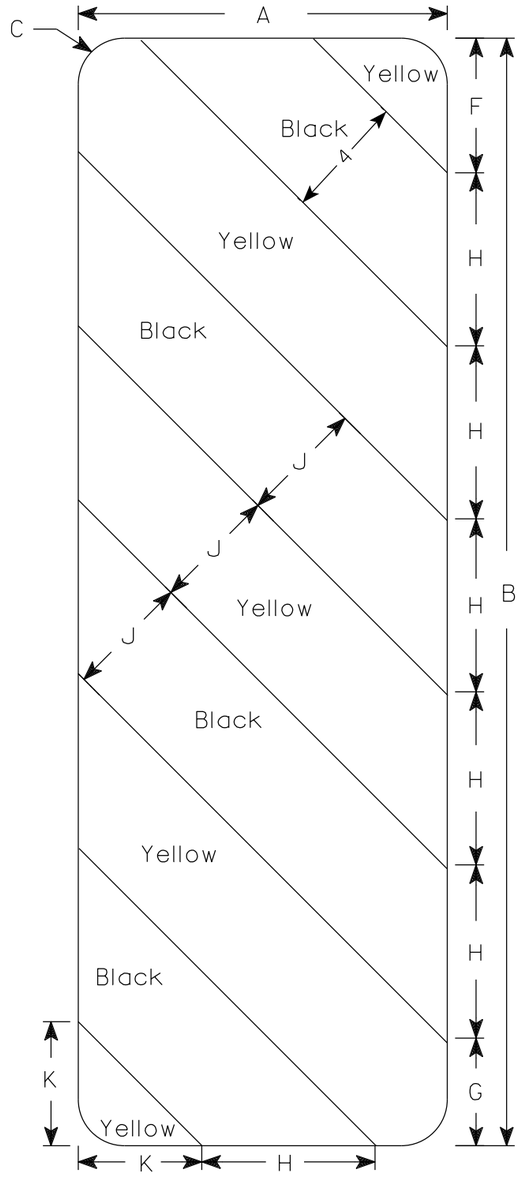
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

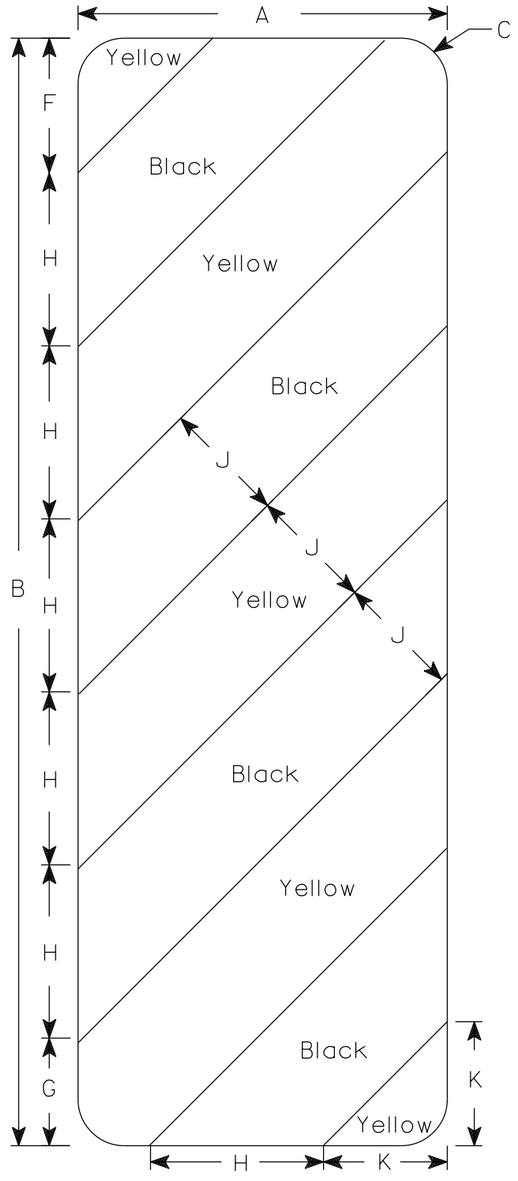
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 79 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. 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	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

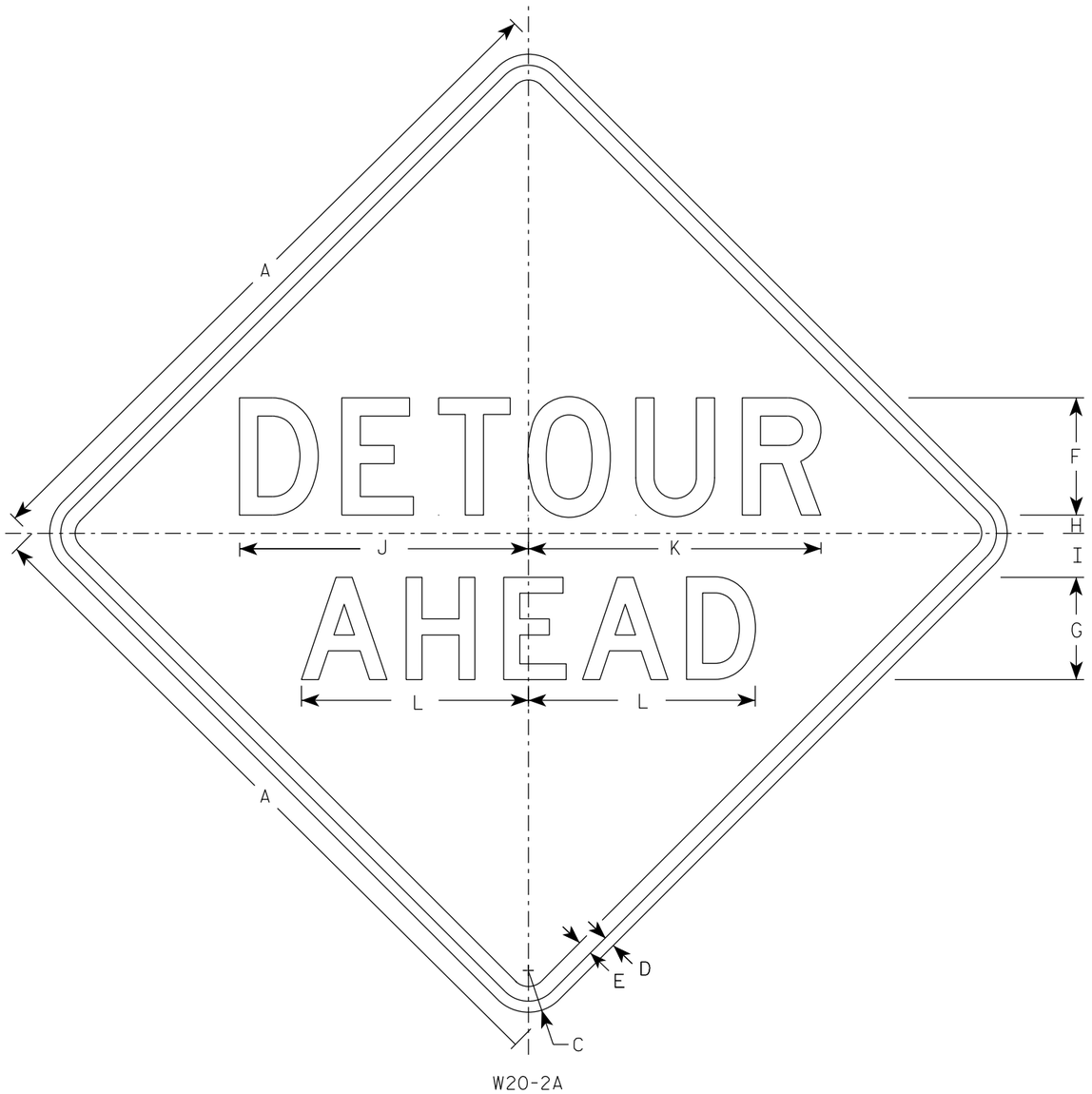
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

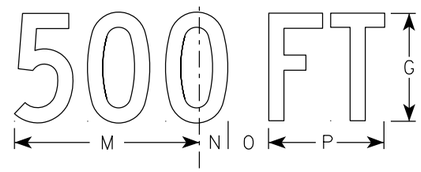
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10

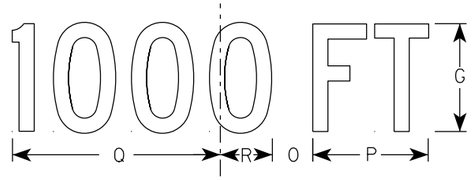
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 80 E



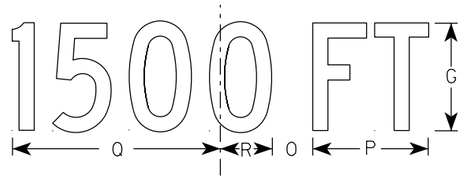
W20-2A



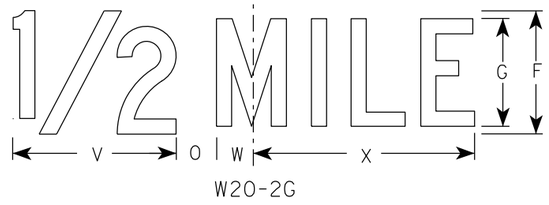
W20-2D



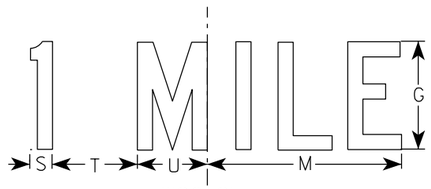
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
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	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	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		3	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		3	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		3	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		3	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		3	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

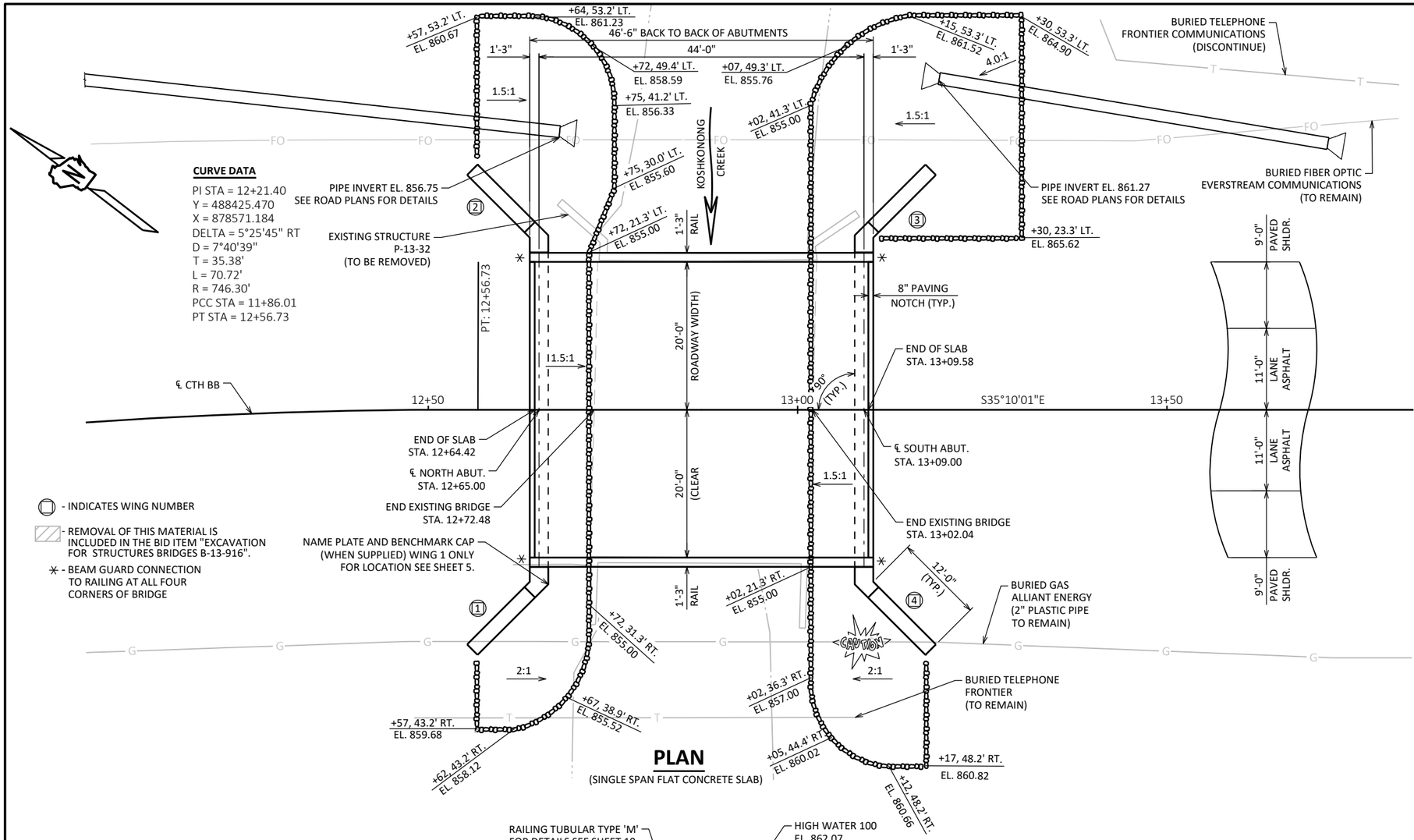
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

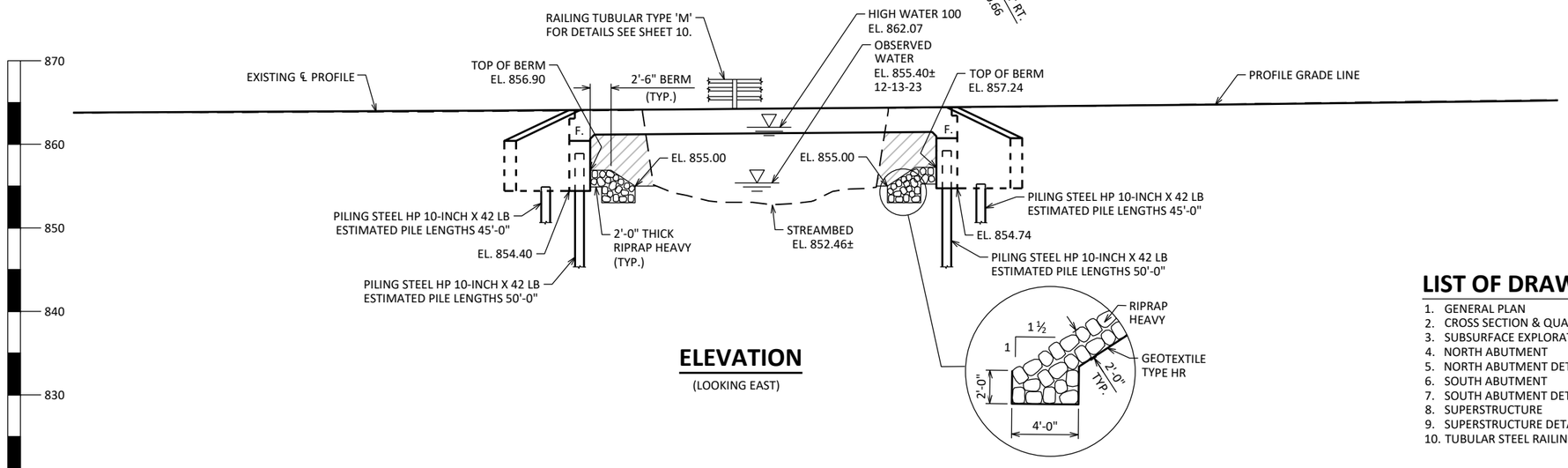
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



PLAN

(SINGLE SPAN FLAT CONCRETE SLAB)



ELEVATION

(LOOKING EAST)

LIST OF DRAWINGS:

1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. NORTH ABUTMENT
5. NORTH ABUTMENT DETAILS
6. SOUTH ABUTMENT
7. SOUTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. TUBULAR STEEL RAILING TYPE M

STATE PROJECT NUMBER

3677-00-77

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.27
OPERATING RATING: RF = 1.65
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE — f'_c = 4,000 PSI
ALL OTHER — f'_c = 3,500 PSI

HIGH-STRENGTH BAR STEEL REINFORCEMENT:
GRADE 60 — f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10-INCH X 42 LB PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED PILE LENGTHS ARE 50'-0" LONG AT BOTH ABUTMENTS.
ESTIMATED PILE LENGTHS ARE 45'-0" IN ALL WING WALLS.

**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 PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:
Q_{100}= 1,502 C.F.S.
V_{100}= 5.1 F.P.S.
HW_{100}= EL. 862.07
WATERWAY AREA = 296 SQ. FT.
DRAINAGE AREA = 36.5 SQ. MI.
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:
Q_2= 681 C.F.S.
V_2= 3.50 F.P.S.
HW_2= EL. 859.33

TRAFFIC VOLUME

CTH BB
A.A.D.T. (2026) = 2,200
A.A.D.T. (2046) = 2,400
ROADWAY DESIGN SPEED = 50 MPH

WISCONSIN PROFESSIONAL ENGINEER
JULIA I. ZEHNER
E-50015
PRAIRIE DU SAC
WI
10.16.2025

CONSULTANT DESIGN CONTACT:
JULIA ZEHNER
(608) 355-8878

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 12/02/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-13-916

CTH BB OVER KOSHKONONG CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
DANE	COTTAGE GROVE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

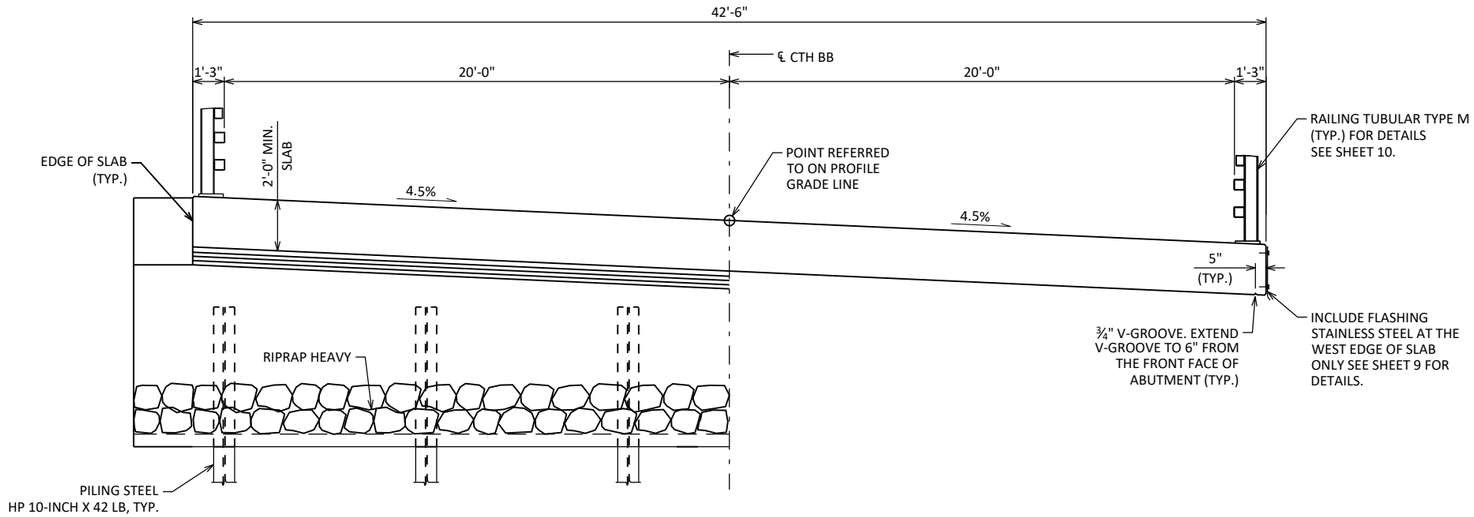
DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
DS	JZ	EKK	JDH

GENERAL PLAN

SHEET 1 OF 10
82

8

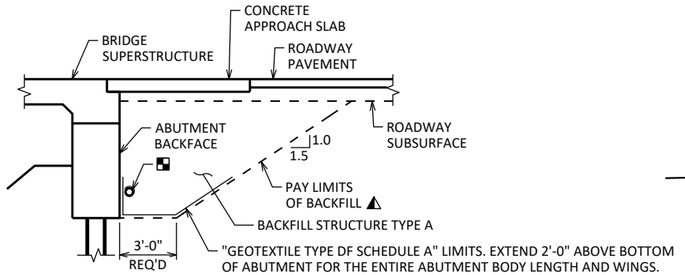
8



AT ABUTMENTS **IN-SPAN**

CROSS SECTION THRU BRIDGE

(LOOKING SOUTH)



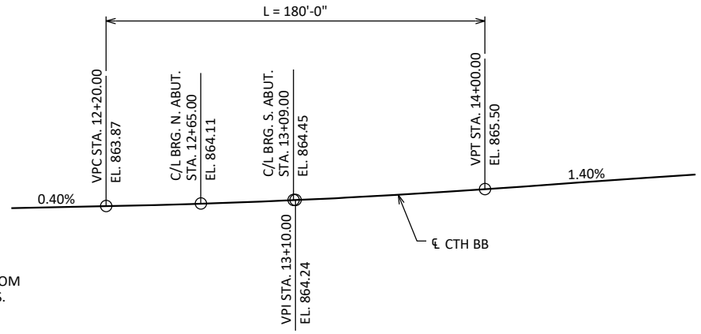
TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

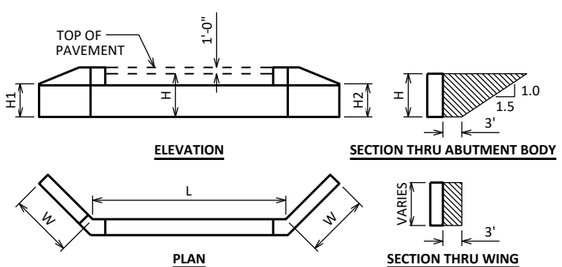
▪ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	NORTH ABUT.	SOUTH ABUT.	SUPER	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-13-32	EACH	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-916	EACH	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	335	335	-	670
502.0100	CONCRETE MASONRY BRIDGES	CY	48.2	48.2	150.8	248
502.3200	PROTECTIVE SURFACE TREATMENT	SY	25	25	256	306
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	3110	3110	-	6220
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2050	2050	26585	30685
513.4061	RAILING TUBULAR TYPE M	LF	-	-	94	94
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	14	14	-	28
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	390	390	-	780
606.0300	RIPRAP HEAVY	CY	100	140	-	240
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	110	110	-	220
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	45	45	-	90
645.0120	GEOTEXTILE TYPE HR	SY	185	260	-	445
SPV.0090.01	FLASHING STAINLESS STEEL	LF	-	-	83	83
	NON-BID ITEMS					
	PREFORMED FILLER	SIZE				½" & ¼"



PROFILE GRADE - CTH BB



ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

STATE PROJECT NUMBER

3677-00-77

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-13-916" SHALL BE THE EXISTING GROUNDLINE.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE P-13-32, A 29.5 FT. LONG, 40.0 FT. CLEAR WIDTH, SINGLE SPAN STEEL DECK GIRDER BRIDGE ON CONCRETE ABUTMENTS.

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 TYPE A.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCE TO THE USGS NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.

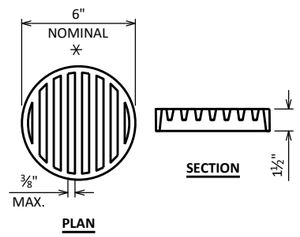
EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, TO THE EXPOSED FRONT FACES OF WINGS, TO THE END 1'0" OF THE ABUTMENT BODY FRONT FACES, AND TO THE FACE AND TOP OF THE PAVING NOTCHES.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

AT ABUTMENTS CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.



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.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JDH

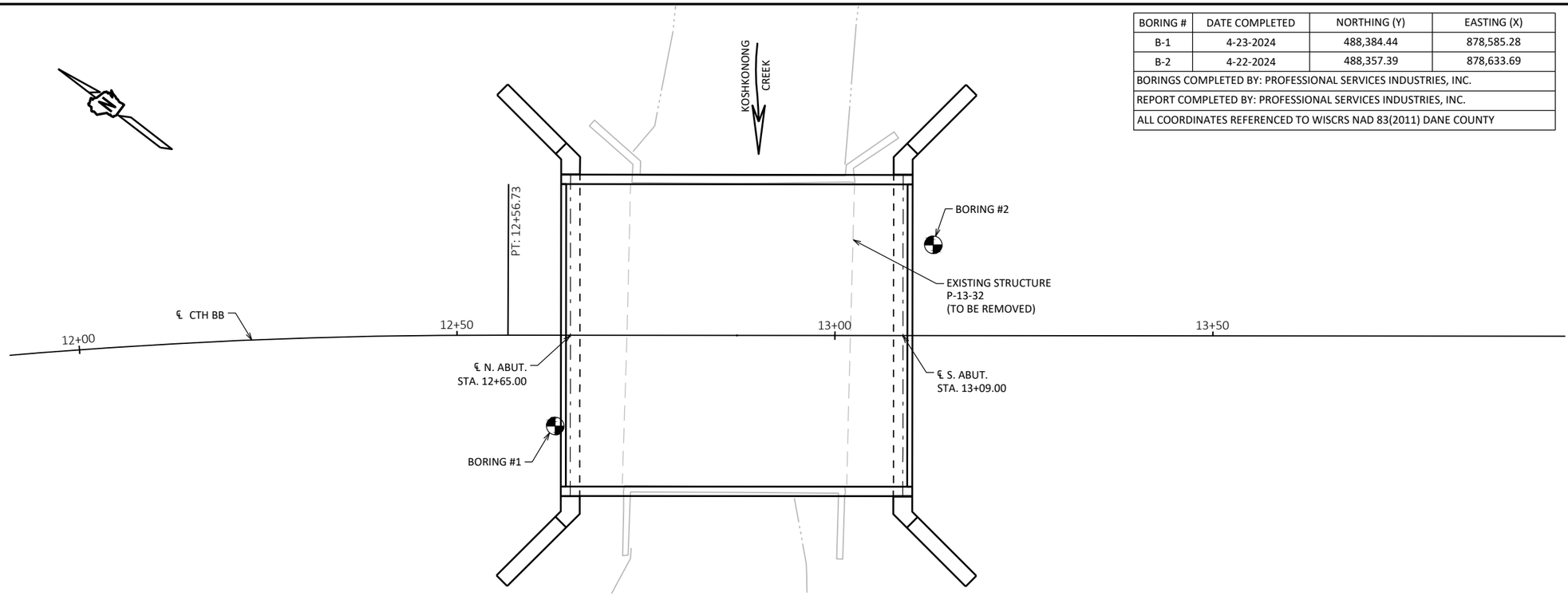
CROSS SECTION, QUANTITIES, & NOTES

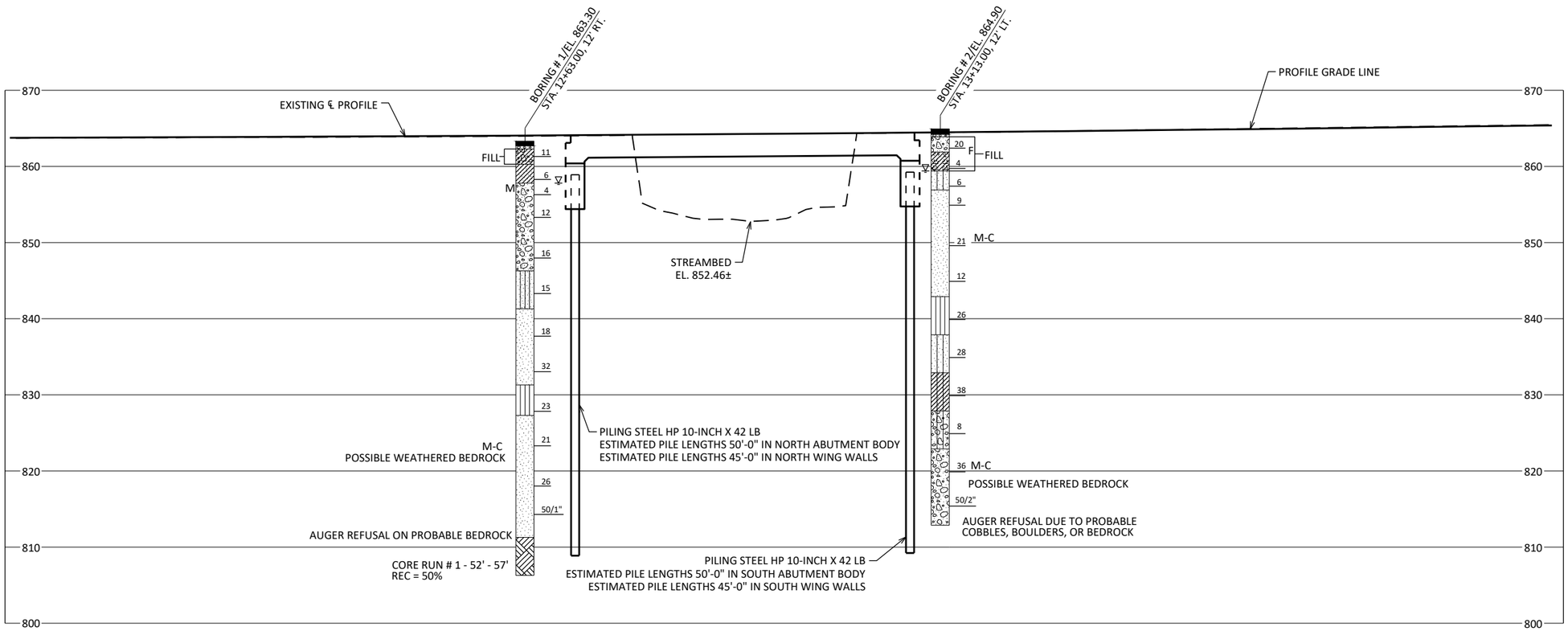
SHEET 2 OF 10
83

8

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	4-23-2024	488,384.44	878,585.28
B-2	4-22-2024	488,357.39	878,633.69
BORINGS COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WISCRS NAD 83(2011) DANE COUNTY			





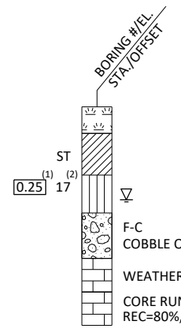
STATE PROJECT NUMBER

3677-00-77

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

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JDH

SUBSURFACE EXPLORATION

SHEET 3 OF 10
84

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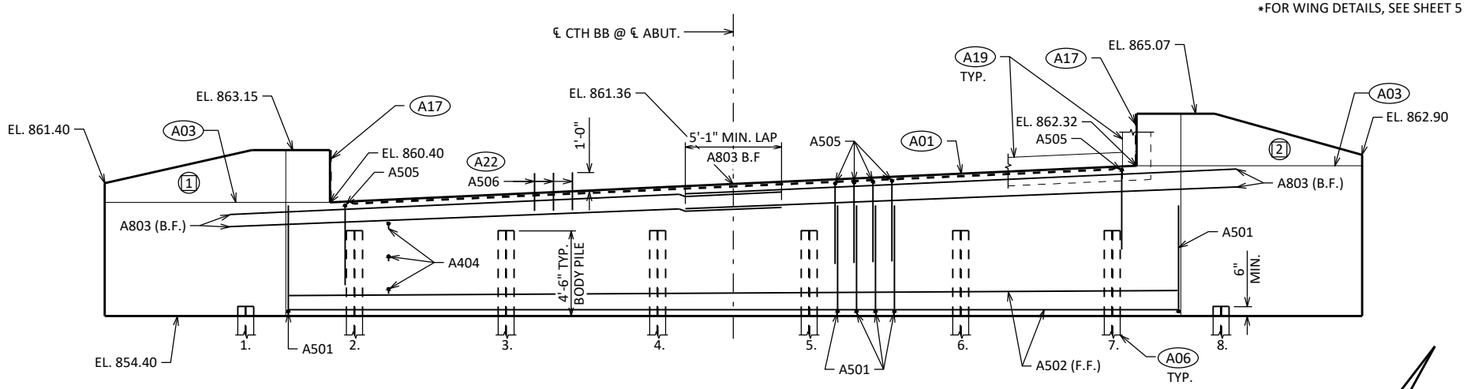
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4/1/2024 3:15 PM

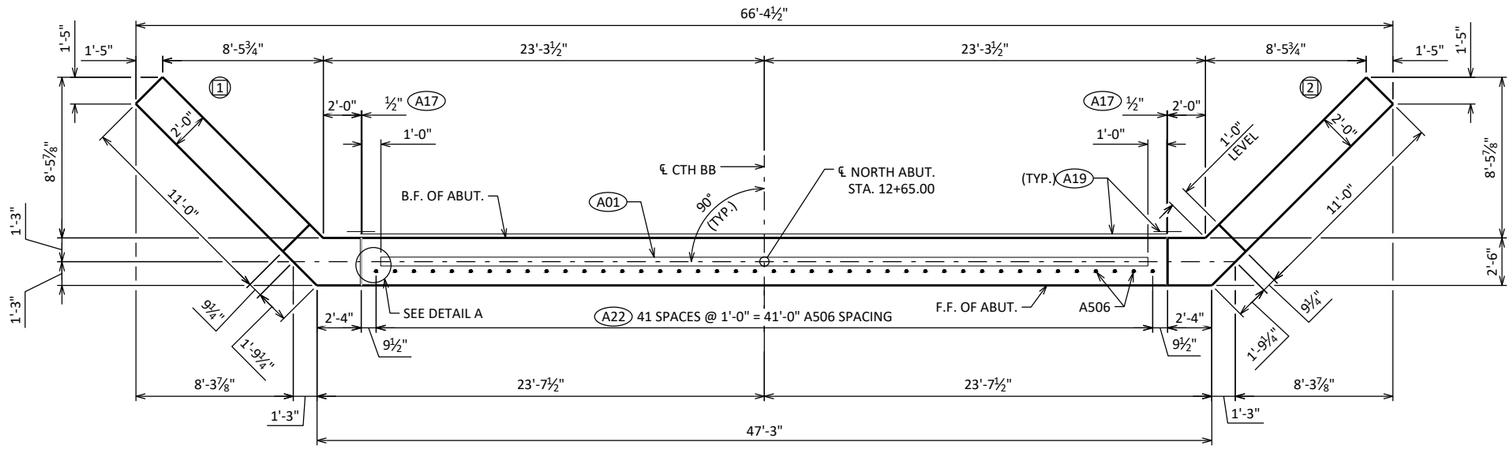
NOTE:

*FOR WING DETAILS, SEE SHEET 5

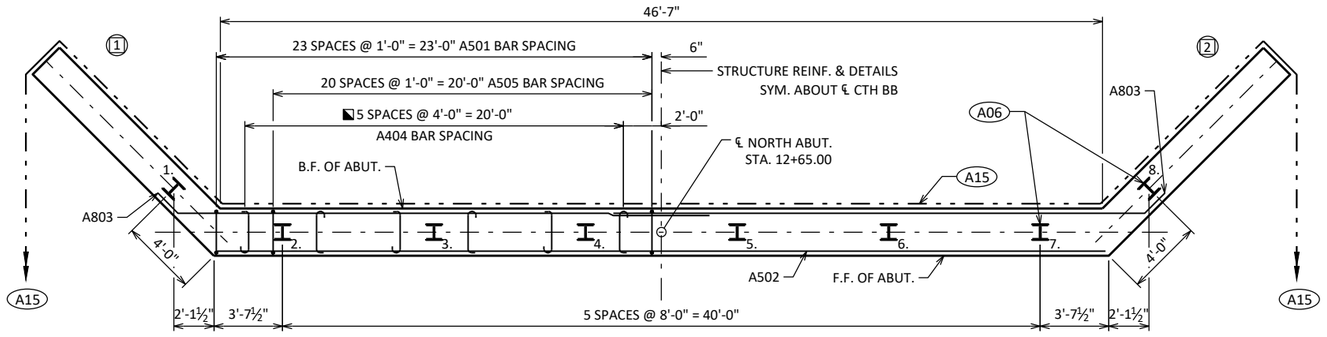


ELEVATION

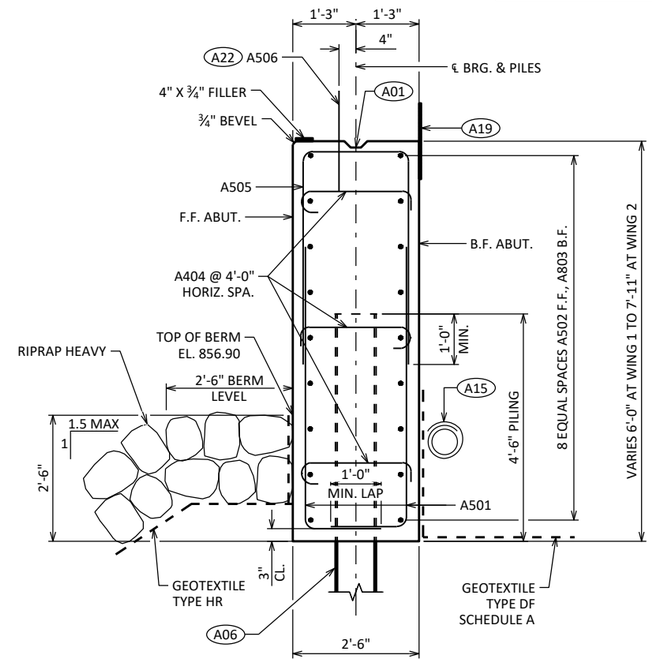
(LOOKING NORTH)



PLAN



PILE PLAN



SECTION THRU BODY

LEGEND

(1) INDICATES WING NUMBER.

A01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 6

A03 OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE RMW ON B.F. OF WING. COST OF RMW AT WING IS INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

A06 SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 50'-0" IN THE ABUTMENT BODY AND 45'-0" IN THE WINGS.

A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

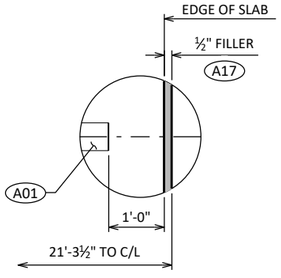
A17 ½" FILLER, EXTEND AS SHOWN: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

A19 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

A22 BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

◪ ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

F.F. - FRONT FACE B.F. - BACK FACE CL. - CLEAR



DETAIL A

STATE PROJECT NUMBER

3677-00-77

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JZ

NORTH ABUTMENT

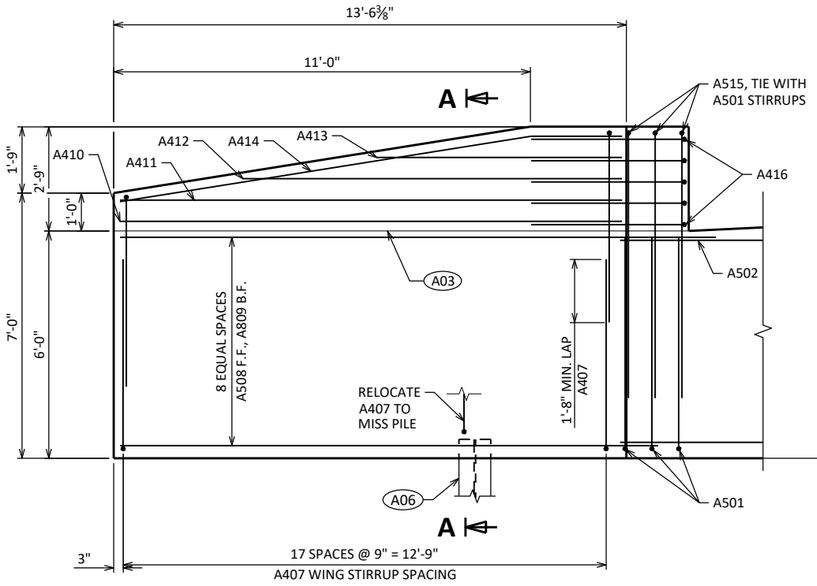
SHEET 4
85

8

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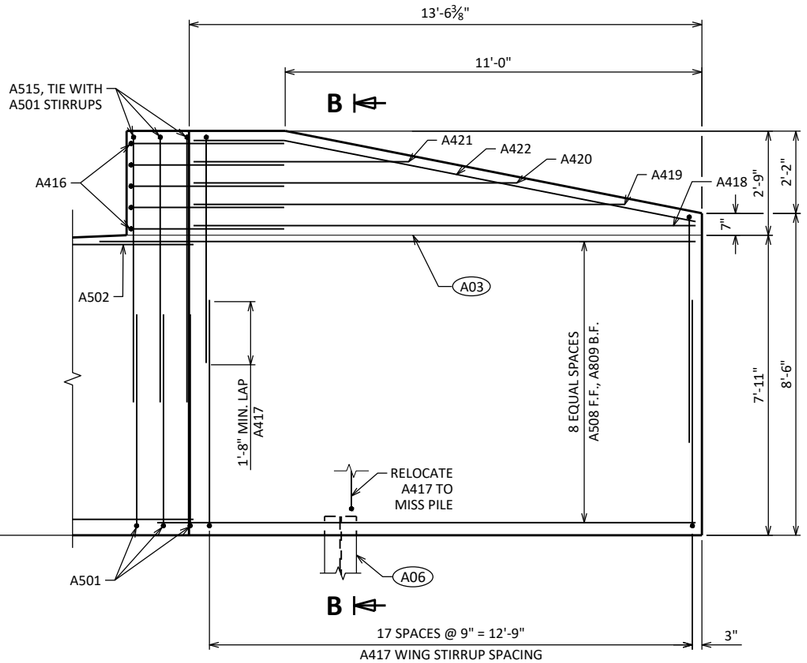
STATE PROJECT NUMBER

3677-00-77



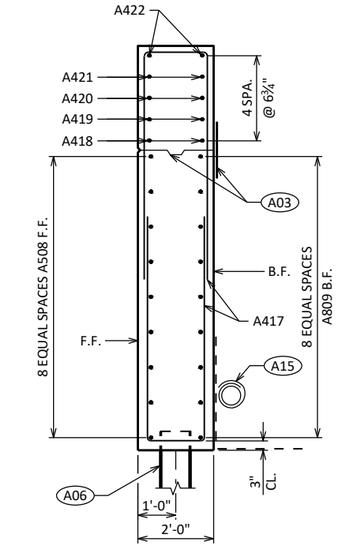
WING 1 ELEVATION

SHOWING F.F. WING

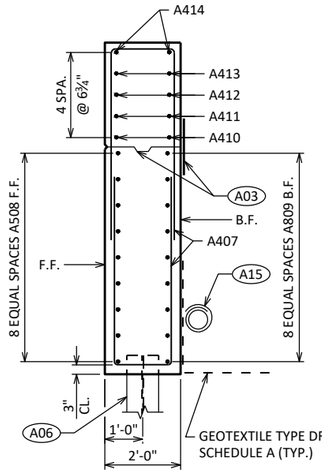


WING 2 ELEVATION

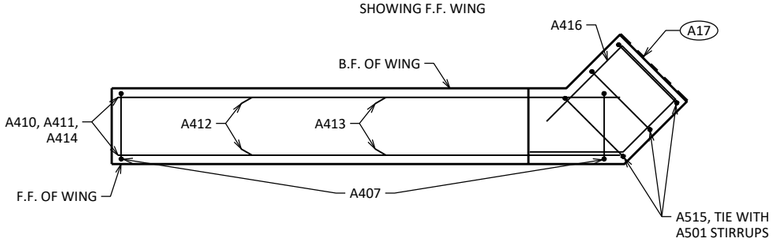
SHOWING F.F. WING



SECTION A-A THRU WING 1



SECTION B-B THRU WING 2



WING 1 PLAN

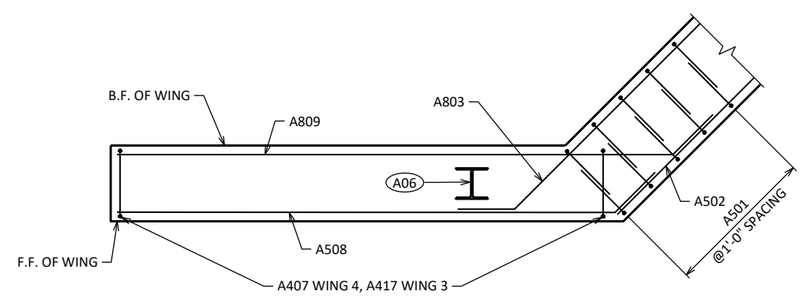
SHOWING UPPER WING REINFORCEMENT

WING 2 PLAN

SHOWING UPPER WING REINFORCEMENT

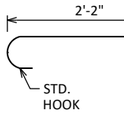
SEE SHEET 4 FOR LEGEND OF

A03 A06 A15 A17 F.F. B.F. CL.

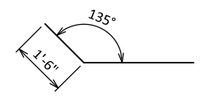


WING 1 PLAN

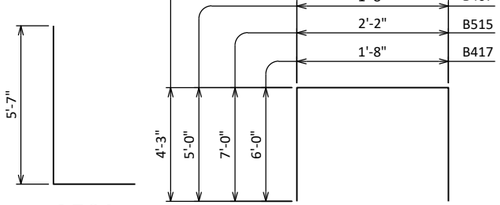
SHOWING LOWER WING REINFORCEMENT
WING 2 SIMILAR



A404

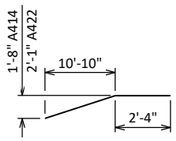


A803, A508, A809

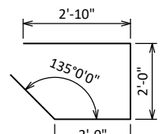


A501

A505, A407, A515, A417



A414, A422



A416

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
A501		96	7'-1"	X	ABUT. BODY STIRRUPS
A502		9	47'-0"		ABUT. BODY - F.F. - HORIZ.
A803		18	29'-9"	X	ABUT. BODY - B.F - HORIZ.
A404		36	3'-0"	X	ABUT. BODY TIES - HORIZ.
A505		42	10'-5"	X	ABUT. BODY STIRRUPS - TOP U BAR
A506	X	42	2'-0"		ABUT. BODY - TOP DOWELS - VERT.
A407	X	36	11'-6"	X	WING 4 STIRRUPS - VERT.
A508	X	18	14'-8"	X	WINGS LOWER HORIZ. - F.F.
A809	X	18	16'-2"	X	WINGS LOWER HORIZ. - B.F.
A410	X	2	13'-3"		WING 2 UPPER - F.F. & B.F. - HORIZ.
A411	X	2	13'-3"		WING 2 UPPER - F.F. & B.F. - HORIZ.
A412	X	2	10'-0"		WING 2 UPPER - F.F. & B.F. - HORIZ.
A413	X	2	6'-5"		WING 2 - UPPER - F.F. & B.F. - HORIZ.
A414	X	2	13'-3"	X	WING 2 - TOP - F.F. & B.F. - HORIZ.
A515	X	6	15'-11"	X	WINGS UPPER CORNER - VERT.
A416	X	10	9'-1"	X	WINGS UPPER CORNER - HORIZ.
A417	X	36	13'-6"	X	WING 1 STIRRUPS - VERT.
A418	X	2	13'-3"		WING 1 - UPPER - F.F. & B.F. - HORIZ.
A419	X	2	11'-4"		WING 1 - UPPER - F.F. & B.F. - HORIZ.
A420	X	2	8'-6"		WING 1 - UPPER - F.F. & B.F. - HORIZ.
A421	X	2	5'-8"		WING 1 - UPPER - F.F. & B.F. - HORIZ.
A422	X	2	13'-4"	X	WING 1 - TOP - F.F. & B.F. - HORIZ.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JZ

NORTH ABUTMENT DETAILS

SHEET 5
86

8

8

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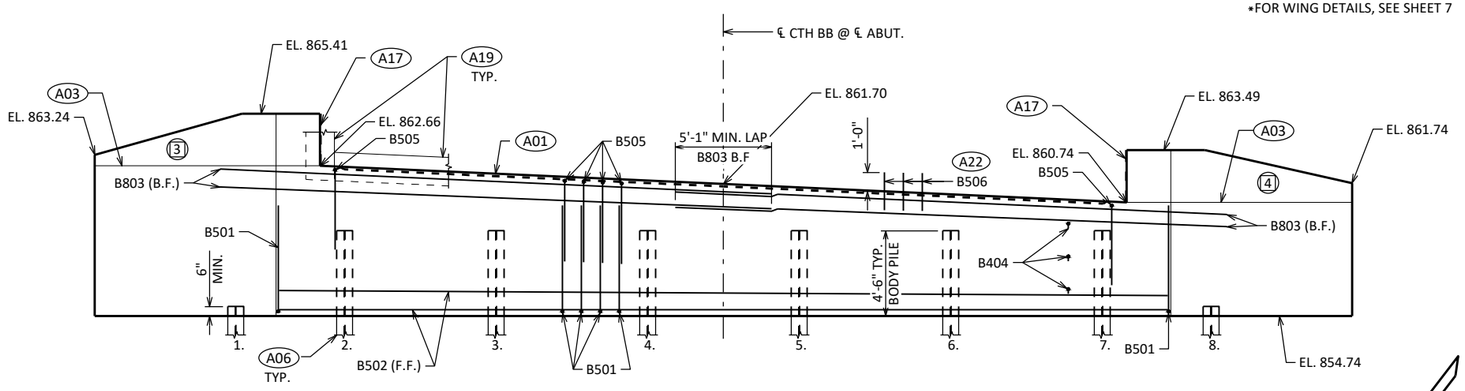
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NOTE:

*FOR WING DETAILS, SEE SHEET 7

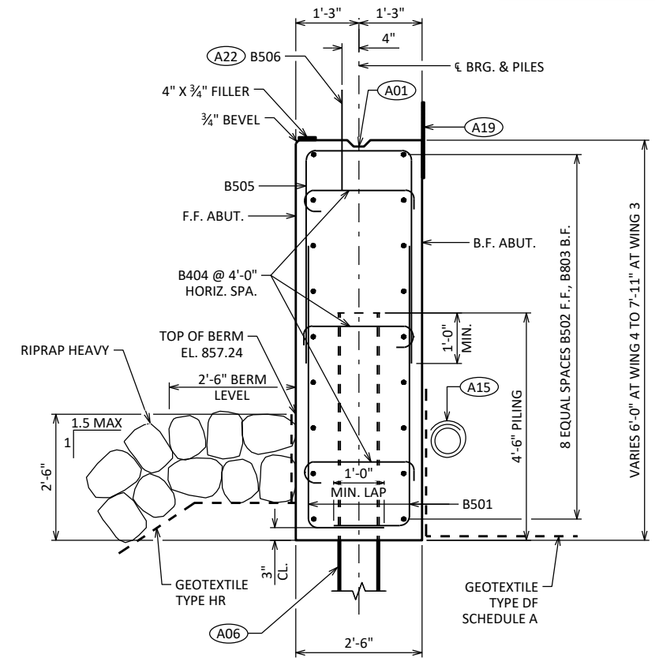
STATE PROJECT NUMBER

3677-00-77

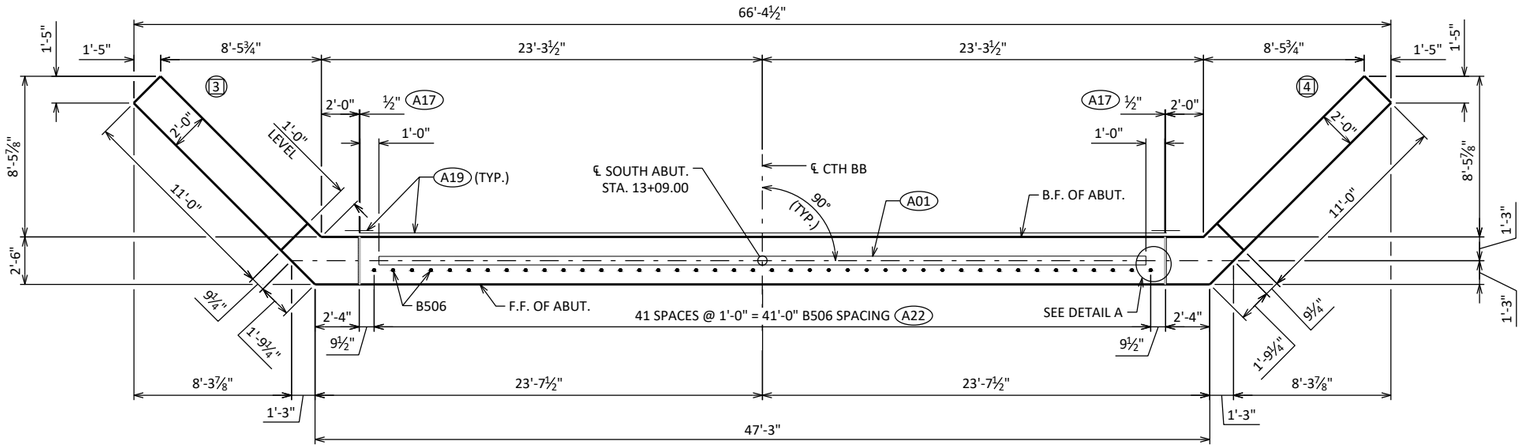


ELEVATION

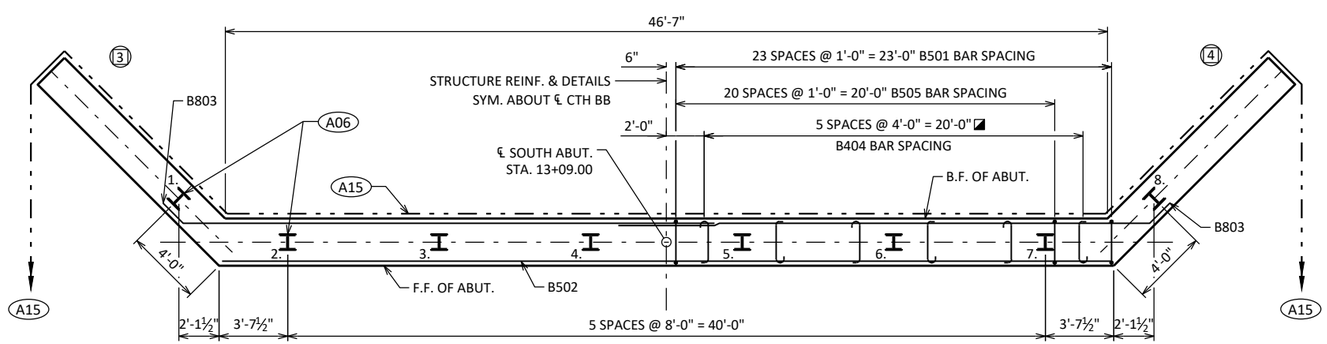
(LOOKING SOUTH)



SECTION THRU BODY



PLAN



PILE PLAN

LEGEND

(1) INDICATES WING NUMBER.

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 X 6

(A03) OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE RMW ON B.F. OF WING. COST OF RMW AT WING IS INCIDENTAL TO "CONCRETE MASONRY BRIDGES".

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, WITH A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 50'-0" IN THE ABUTMENT BODY AND 45'-0" IN THE WINGS.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

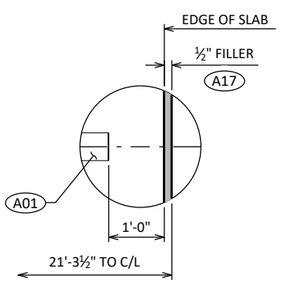
(A17) ½" FILLER, EXTEND AS SHOWN: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) BARS @ 1'-0" CTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

◪ ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

F.F. - FRONT FACE B.F. - BACK FACE CL. - CLEAR



DETAIL A

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

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SOUTH ABUTMENT

SHEET 6
87

8

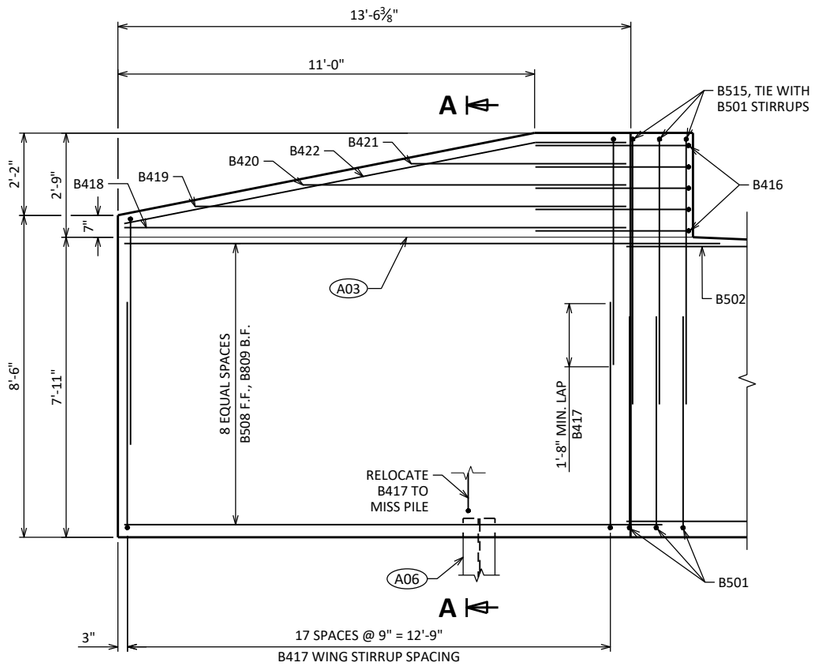
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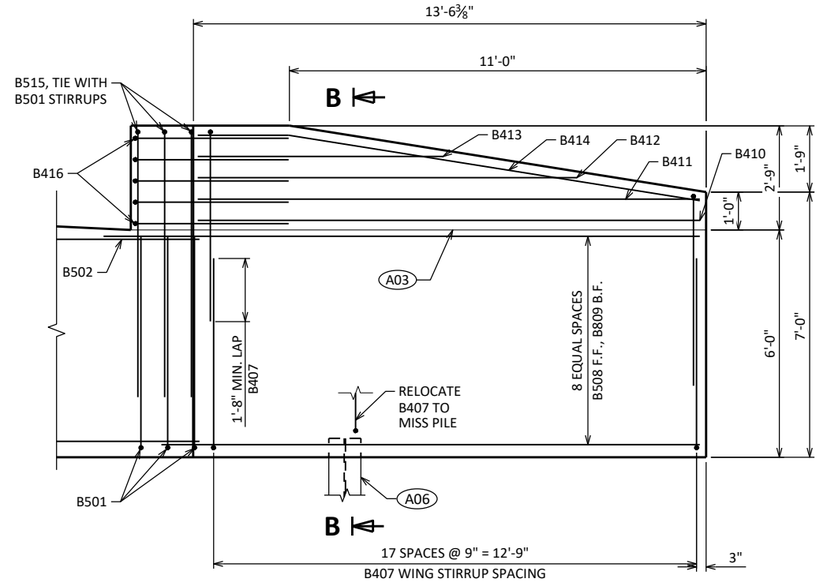
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STATE PROJECT NUMBER

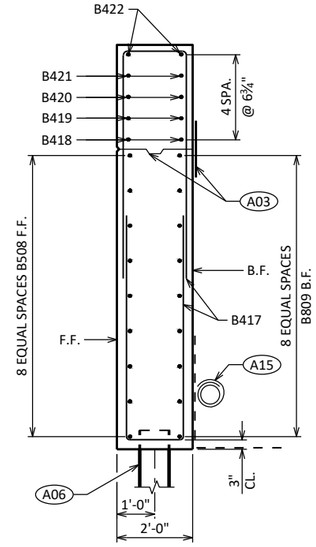
3677-00-77



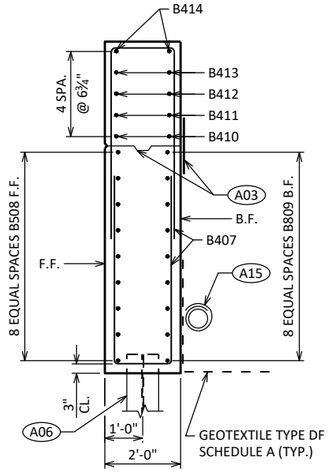
WING 3 ELEVATION



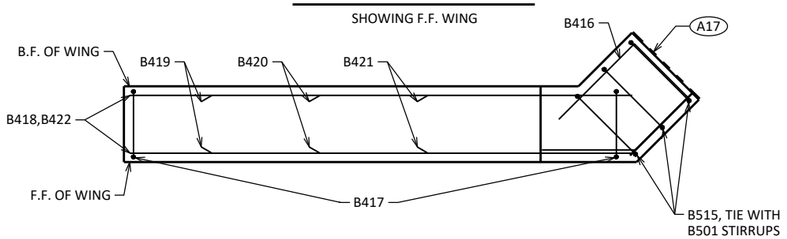
WING 4 ELEVATION



SECTION A-A THRU WING 3

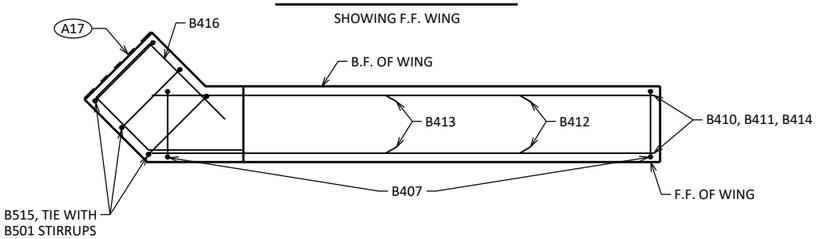


SECTION B-B THRU WING 4



WING 3 ELEVATION

SHOWING F.F. WING



WING 4 ELEVATION

SHOWING F.F. WING

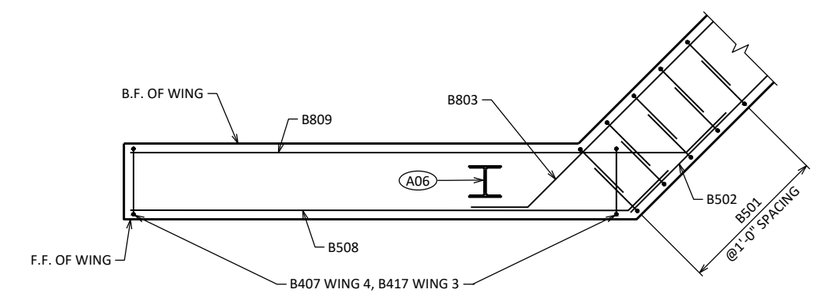
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	LOCATION
B501		96	7'-1"	X	ABUT. BODY STIRRUPS
B502		9	47'-0"		ABUT. BODY - F.F. - HORIZ.
B803		18	29'-9"	X	ABUT. BODY - B.F - HORIZ.
B404		36	3'-0"	X	ABUT. BODY TIES - HORIZ.
B505		42	10'-5"	X	ABUT. BODY STIRRUPS - TOP U BAR
B506	X	42	2'-0"		ABUT. BODY - TOP DOWELS - VERT.
B407	X	36	11'-6"	X	WING 4 STIRRUPS - VERT.
B508	X	18	14'-8"	X	WINGS LOWER HORIZ. - F.F.
B809	X	18	16'-2"	X	WINGS LOWER HORIZ. - B.F.
B410	X	2	13'-3"		WING 4 UPPER - F.F. & B.F. - HORIZ.
B411	X	2	13'-3"		WING 4 UPPER - F.F. & B.F. - HORIZ.
B412	X	2	10'-0"		WING 4 UPPER - F.F. & B.F. - HORIZ.
B413	X	2	6'-5"		WING 4 - UPPER - F.F. & B.F. - HORIZ.
B414	X	2	13'-3"	X	WING 4 - TOP - F.F. & B.F. - HORIZ.
B515	X	6	15'-11"	X	WINGS UPPER CORNER - VERT.
B416	X	10	9'-1"	X	WINGS UPPER CORNER - HORIZ.
B417	X	36	13'-6"	X	WING 3 STIRRUPS - VERT.
B418	X	2	13'-3"		WING 3 - UPPER - F.F. & B.F. - HORIZ.
B419	X	2	11'-4"		WING 3 - UPPER - F.F. & B.F. - HORIZ.
B420	X	2	8'-6"		WING 3 - UPPER - F.F. & B.F. - HORIZ.
B421	X	2	5'-8"		WING 3 - UPPER - F.F. & B.F. - HORIZ.
B422	X	2	13'-4"	X	WING 3 - TOP - F.F. & B.F. - HORIZ.

WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 3 PLAN

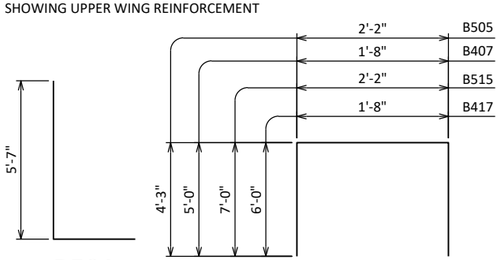
SHOWING LOWER WING REINFORCEMENT
WING 4 SIMILAR

SEE SHEET 6 FOR LEGEND OF

A03 A06 A15 A17 F.F. B.F. CL.

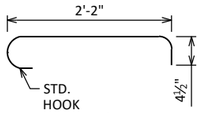
WING 4 PLAN

SHOWING UPPER WING REINFORCEMENT

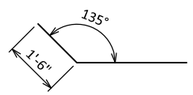


B501

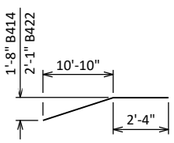
B505, B407, B515, B417



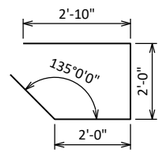
B404



B803, B508, B809



B414, B422



B416

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

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SOUTH ABUTMENT DETAILS

SHEET 7
88

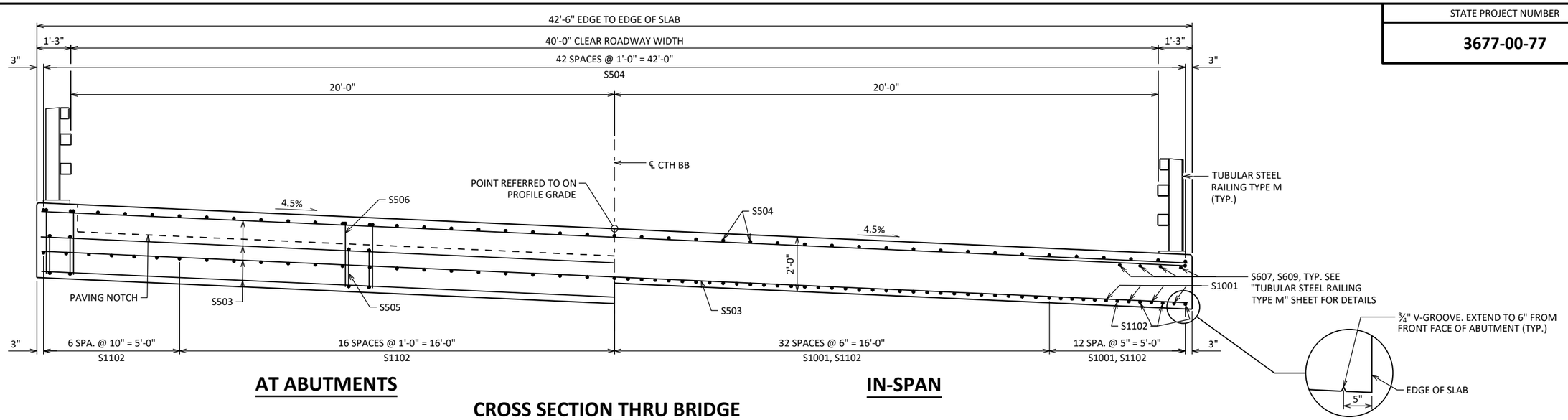
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G:\11\11331\11331036\CADD\C3D\36770007\SheetsPlan\Structure\11331036_B-13-916_07 SOUTH ABUT.DETAILS.dwg

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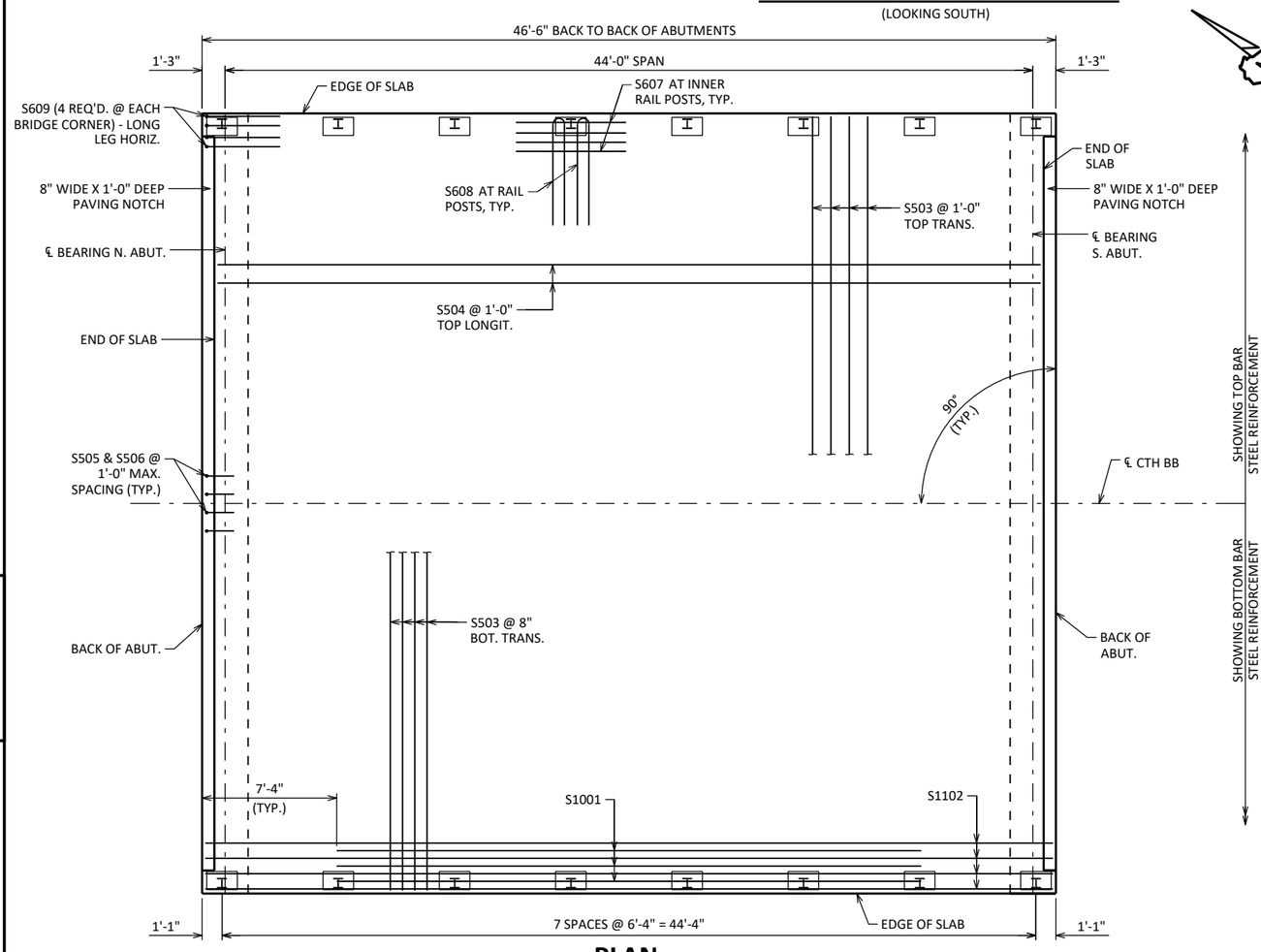
STATE PROJECT NUMBER
3677-00-77



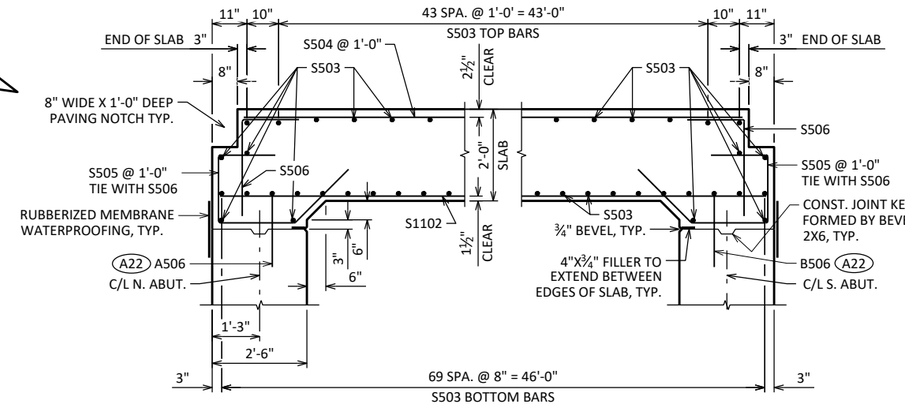
AT ABUTMENTS **IN-SPAN**

CROSS SECTION THRU BRIDGE

(LOOKING SOUTH)



PLAN



LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO C/L ROADWAY UNLESS OTHERWISE NOTED.

(A22) A506, B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

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SUPERSTRUCTURE

SHEET 8
89

STATE PROJECT NUMBER

3677-00-77

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
S1001	X	44	31'-10"		SLAB - BOTTOM - IN SPAN - LONGIT.
S1102	X	45	46'-2"		SLAB - BOTTOM @ ABUTS. & IN SPAN - LONGIT.
S503	X	124	42'-2"		SLAB - TOP & BOTTOM - TRANS.
S504	X	43	44'-10"		SLAB - LONGIT.
S505	X	86	7'-0"	X	DIAPHRAGM @ ABUTS. - STIRRUP - VERT.
S506	X	86	3'-9"	X	DIAPRAGM @ ABUTS. - TIE - VERT.
S607	X	48	6'-0"		SLAB @ RAIL POST, 4 PER POST
S608	X	32	11'-4"	X	SLAB @ RAIL POST, 2 PER POST
S609	X	16	4'-8"	X	SLAB @ RAIL POST, 4 PER CORNER

NOTES

THE BID ITEM "FLASHING STAINLESS STEEL" SHALL INCLUDE PROVIDING AND INSTALLING THE STAINLESS STEEL FLASHING, SILICONE CAULK AND $\frac{3}{16}$" CONCRETE SCREWS.

FLASHING TO BE INSTALLED AFTER PROTECTIVE SURFACE TREATMENT APPLICATION.

CONCRETE SCREWS SHALL BE 410 STAINLESS STEEL.

EXTEND FLASHING TO B.F. OF ABUTMENT DIAPHRAGM.

TOP OF FLASHING TO BEGIN APPROX. 1-INCH BELOW TOP OF SLAB SURFACE.

THE FLASHING IS TO BE A CONSTANT HEIGHT BASED ON THE THINNEST SLAB DEPTH OVER THE BRIDGE LENGTH.

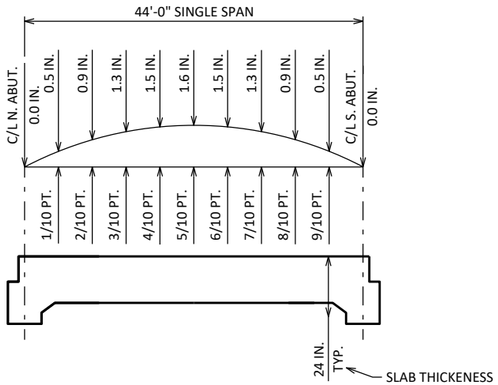
CAULK SHALL BE NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER.

PROVIDE 2" MINIMUM FLASHING OVERLAP, FASTEN WITH $\frac{3}{16}$" X 2" (MIN.) CONCRETE SCREWS.

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS-BUILT PLANS.

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

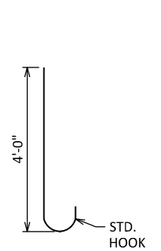


CAMBER AND SLAB THICKNESS DIAGRAM

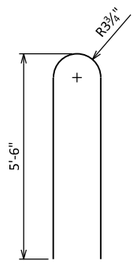
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

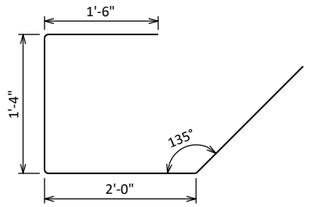
	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION



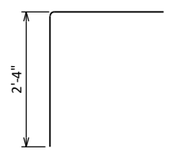
S609



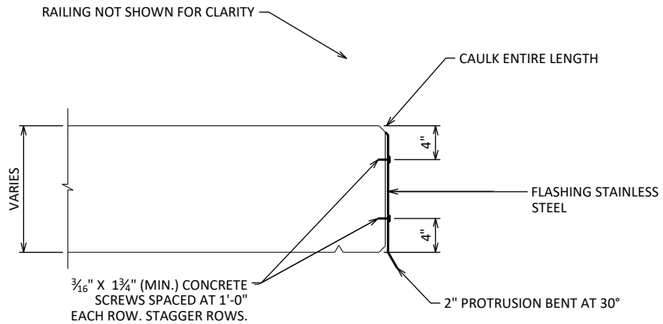
S608



S505



S506



FLASHING DETAIL

(AT WEST EDGE OF SLAB ONLY)

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG NORTH ABUT.	1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	C/L BRG SOUTH ABUT.
EAST EDGE OF SLAB	865.07	865.10	865.13	865.16	865.19	865.22	865.26	865.29	865.33	865.37	865.41
CENTERLINE	864.11	864.14	864.17	864.20	864.23	864.27	864.30	864.34	864.37	864.41	864.45
WEST EDGE OF SLAB	863.15	863.18	863.21	863.25	863.28	863.31	863.35	863.38	863.42	863.46	863.49

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	N. ABUTMENT	5/10 PT.	S. ABUTMENT
E. EDGE OF SLAB			
CROWN OR R/L			
W. EDGE OF SLAB			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF SLAB LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JZ

SUPERSTRUCTURE DETAILS

SHEET 9
90

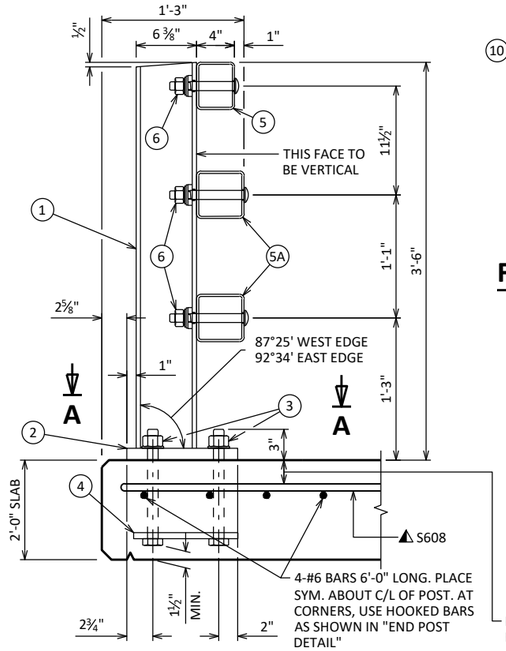
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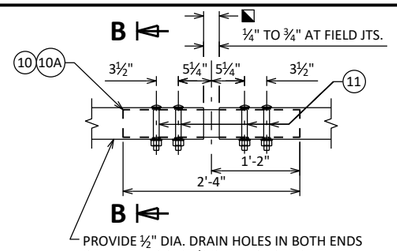
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STATE PROJECT NUMBER

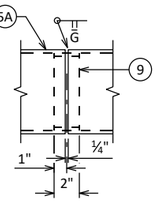
3677-00-77



SECTION THRU RAILING ON DECK

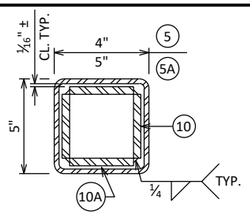


FIELD ERECTION JOINT DETAIL

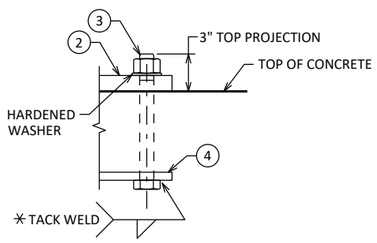


SHOP RAIL SPLICE DETAIL

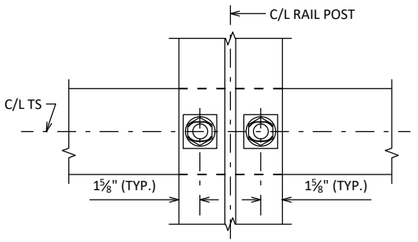
LOCATION MUST BE SHOWN ON SHOP DRAWINGS



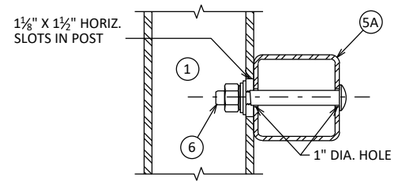
SECTION B-B



ANCHOR BOLTS



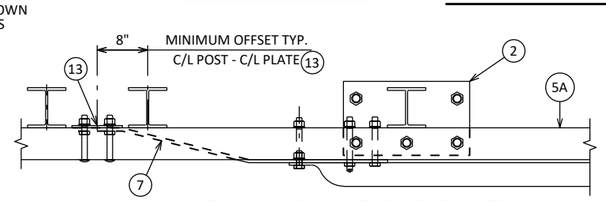
SECTION THRU POST WEB



SECTION THRU RAIL

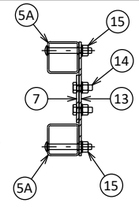
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

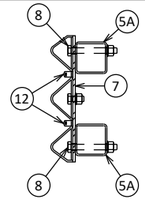


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C



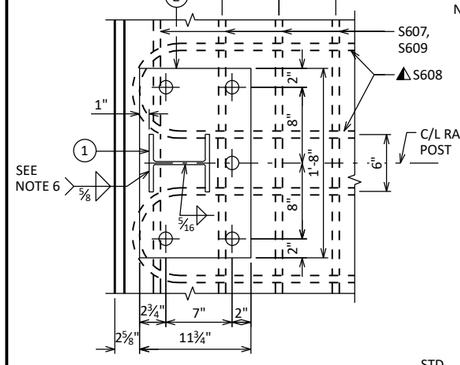
SECTION D-D

LEGEND

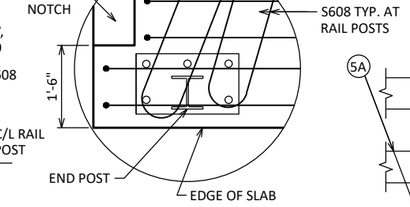
1. W6 X 25 WITH 1⅛" X 1½" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" X 11¾" X 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 - 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" X 11" X 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 X 4 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 X 5 X 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1⅝" X 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 - ⅞" X 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" X 3⅝" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" X 2⅝" X 2'-4" PLATE USED IN NO. 5, ⅜" X 3⅝" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 15/16" X 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" X 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. X 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" X 8" X 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
14. ⅞" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. 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.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.

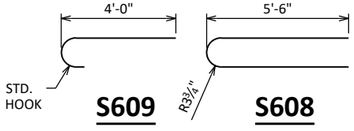


SECTION A-A

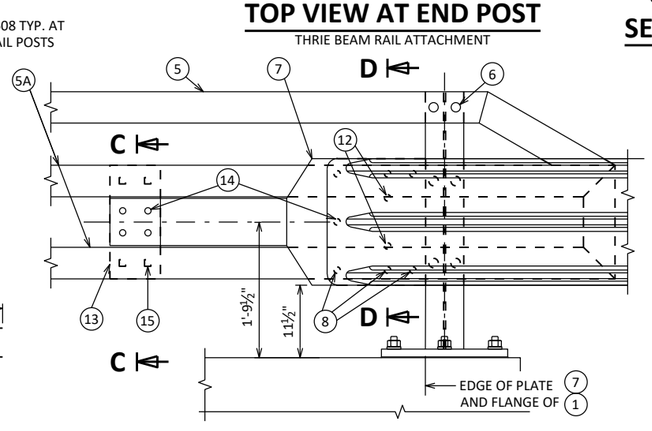


END POST DETAIL

REINFORCEMENT AT CORNERS

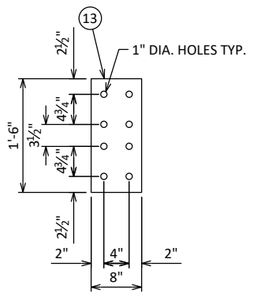


S609 S608



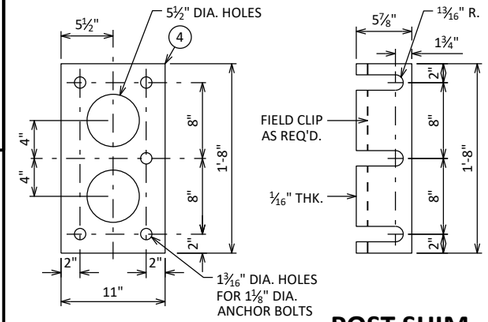
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



ANCHOR PLATE

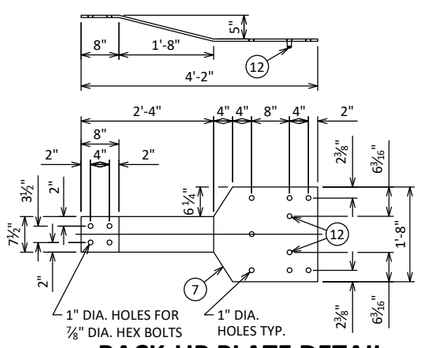
AT BEAM GUARD ATTACHMENT



ANCHOR PLATE

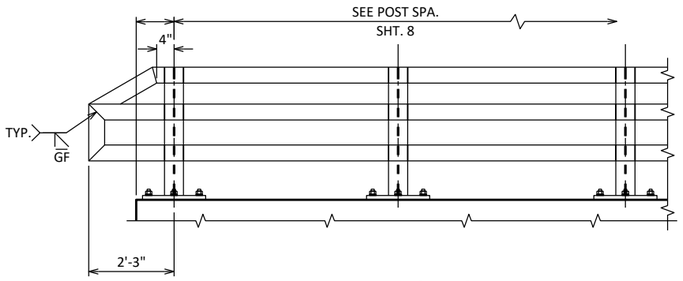
AT RAIL TO DECK CONNECTION

POST SHIM DETAIL



BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT



PART ELEVATION OF RAILING

▲ TIE TO TOP MAT OF STEEL.

✳ ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.

◥ RDWY. OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & (¼" TO ¾") OPENING FOR A1 ABUTMENT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-916

DRAWN BY EKK | PLANS CK'D JZ

TUBULAR STEEL RAILING TYPE M

SHEET 10
91

SCALE = 2.00

8

8

G:\11\11331\11331036\CADD\C3D\36770007\SheetsPlan\Structure\11331036_13-916_10 RAILING TYPE 'M'.dwg

4/30/2025 10:50 AM

CTH BB - WEST APPROACH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		
10+86.01	1086.01	0.00	17.28	0.00	0.00	0	0	0	0	0	0
11+00.00	1100.00	13.99	16.55	0.00	1.76	9	0	0	9	0	9
11+25.00	1125.00	25	17.20	0.00	7.59	16	0	4	25	5	20
11+50.00	1150.00	25	16.17	0.00	8.41	15	0	7	40	14	26
11+61.62	1161.62	11.62	16.23	0.00	5.66	7	0	3	47	18	29
11+75.00	1175.00	13.38	83.07	19.95	2.11	25	5	2	72	21	46
11+87.12	1187.12	12.12	82.95	20.02	1.41	37	9	1	109	22	73
12+04.13	1204.13	17.01	74.25	22.36	1.00	50	13	1	159	23	109
12+25.00	1225.00	20.87	70.47	25.75	3.11	56	19	2	215	26	143
12+36.30	1236.30	11.3	81.08	26.03	63.33	32	11	14	247	44	146
12+52.90	1252.90	16.6	90.32	24.85	71.91	53	16	42	300	99	128
12+64.38	1264.38	11.48	100.18	22.40	56.79	40	10	27	340	134	123

CTH BB - EAST APPROACH

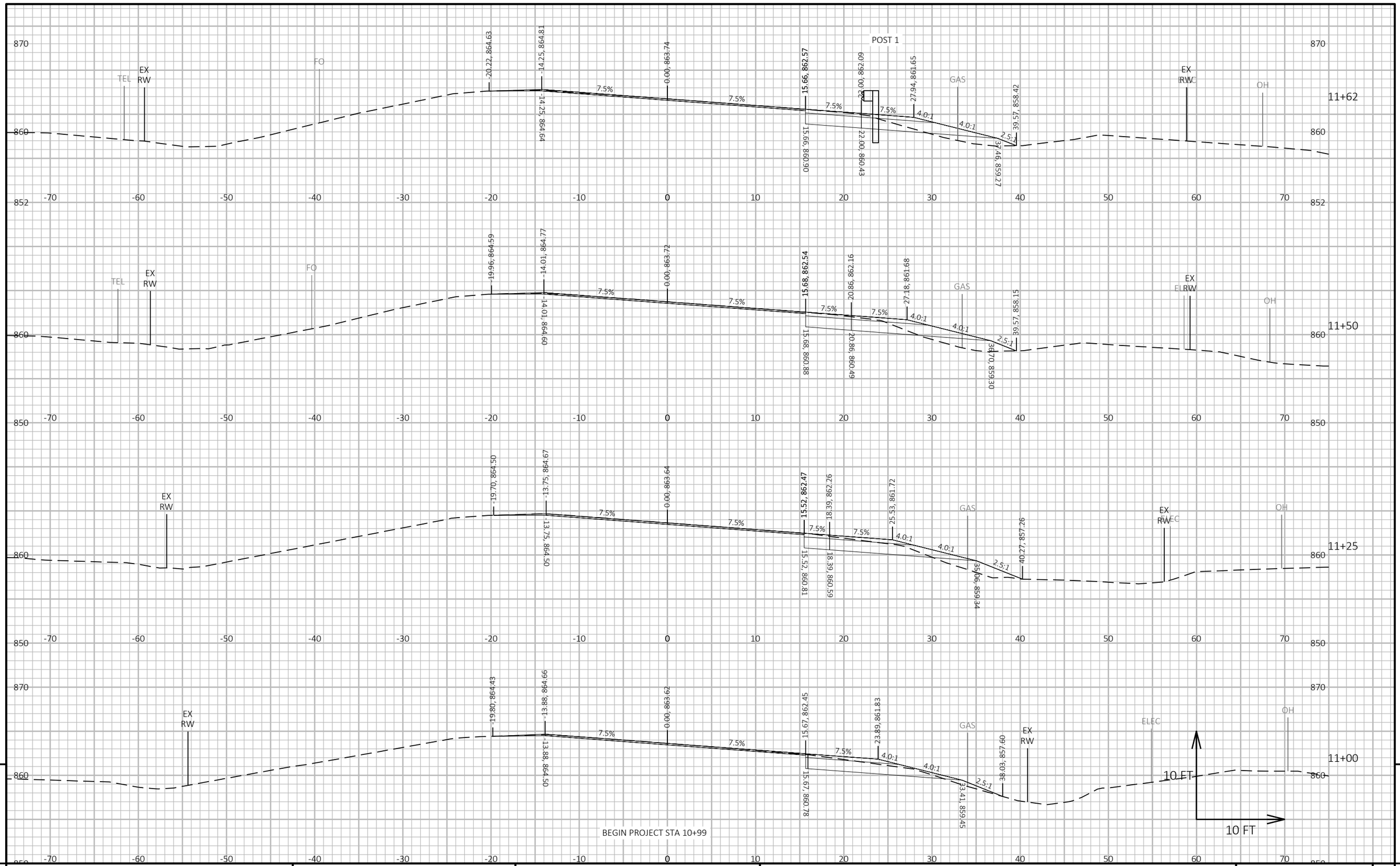
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT 1.00	EXPANDED FILL 1.30	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	NOTE 1		
13+09.60	1309.60	0.00	82.00	23.37	40.24	0	0	0	0	0	0
13+30.92	1330.92	21.32	89.41	26.71	26.86	68	20	26	68	34	14
13+50.00	1350.00	19.08	78.01	22.84	0.04	59	18	10	127	47	42
13+75.00	1375.00	25	75.23	19.91	1.53	71	20	1	198	48	92
13+85.09	1385.09	10.09	80.33	20.27	2.74	29	8	1	227	49	112
14+10.07	1410.07	24.98	77.62	19.89	8.08	73	19	5	300	56	159
14+25.00	1425.00	14.93	76.83	20.54	8.38	43	11	5	343	62	185
14+50.00	1450.00	25	71.94	20.21	8.85	69	19	8	412	73	224
14+75.00	1475.00	25	73.12	19.86	4.38	67	19	6	479	81	264
15+00.00	1500.00	25	59.47	19.89	1.89	61	18	3	540	85	304
15+07.60	1507.60	7.6	11.51	0.00	1.34	10	3	0	550	85	311

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

9

9

PROJECT NO: 3677-00-77 | HWY: CTH BB | COUNTY: DANE | EARTHWORK DATA | SHEET 92 | E

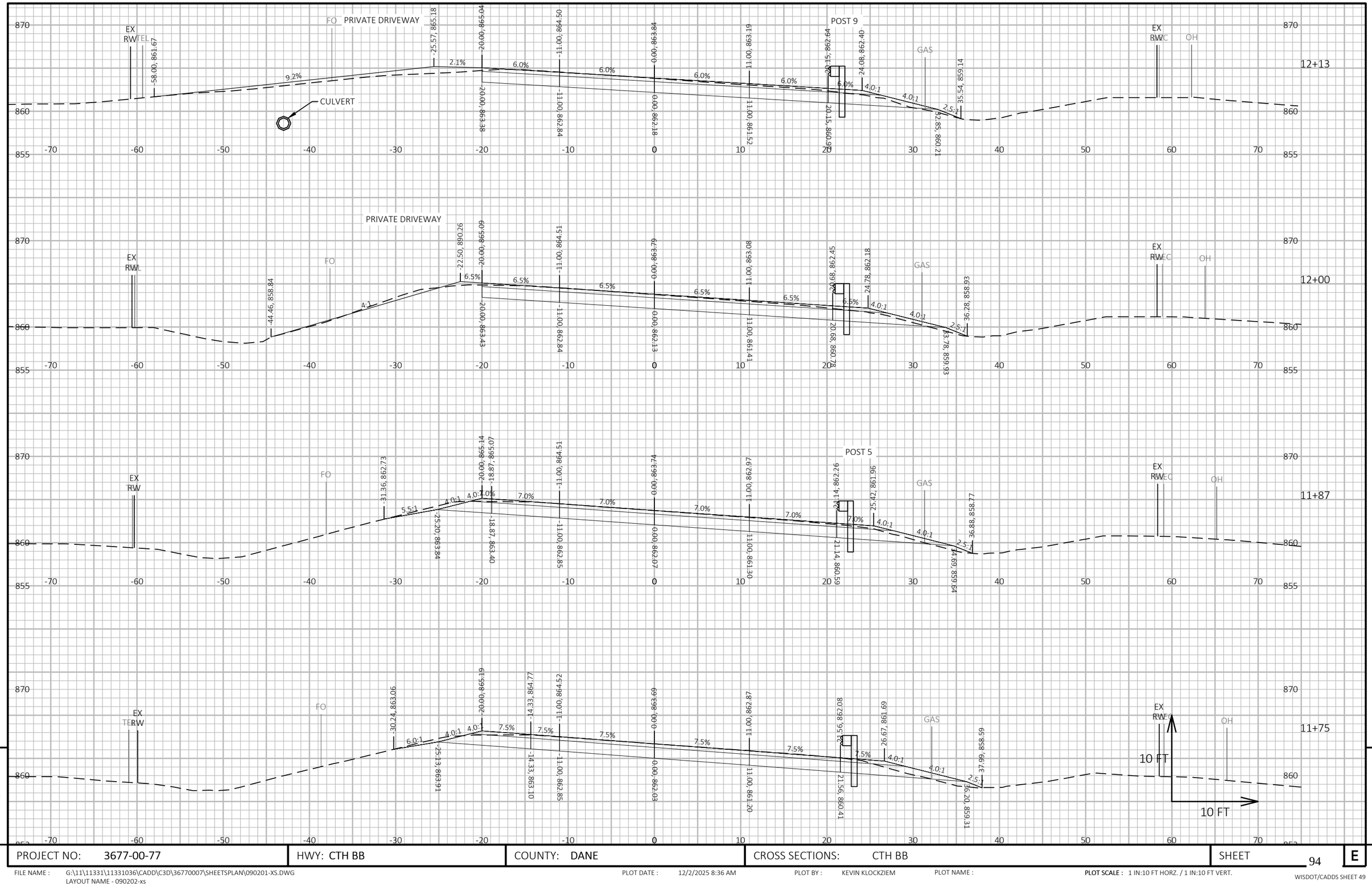


9 9

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 93	E

FILE NAME : G:\11\11331\11331036\CADD\C3D\36770007\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090201-xs

PLOT DATE : 12/2/2025 8:36 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 94	E

FILE NAME : G:\11\11331\11331036\CADD\C3D\36770007\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090202-xs

PLOT DATE : 12/2/2025 8:36 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

SEE BRIDGE PLANS FOR RIPRAP LOCATIONS

STRUCTURE B-13-0916

PRIVATE DRIVEWAY

CULVERT (TYP.)

13+25

12+50

12+25

10 FT

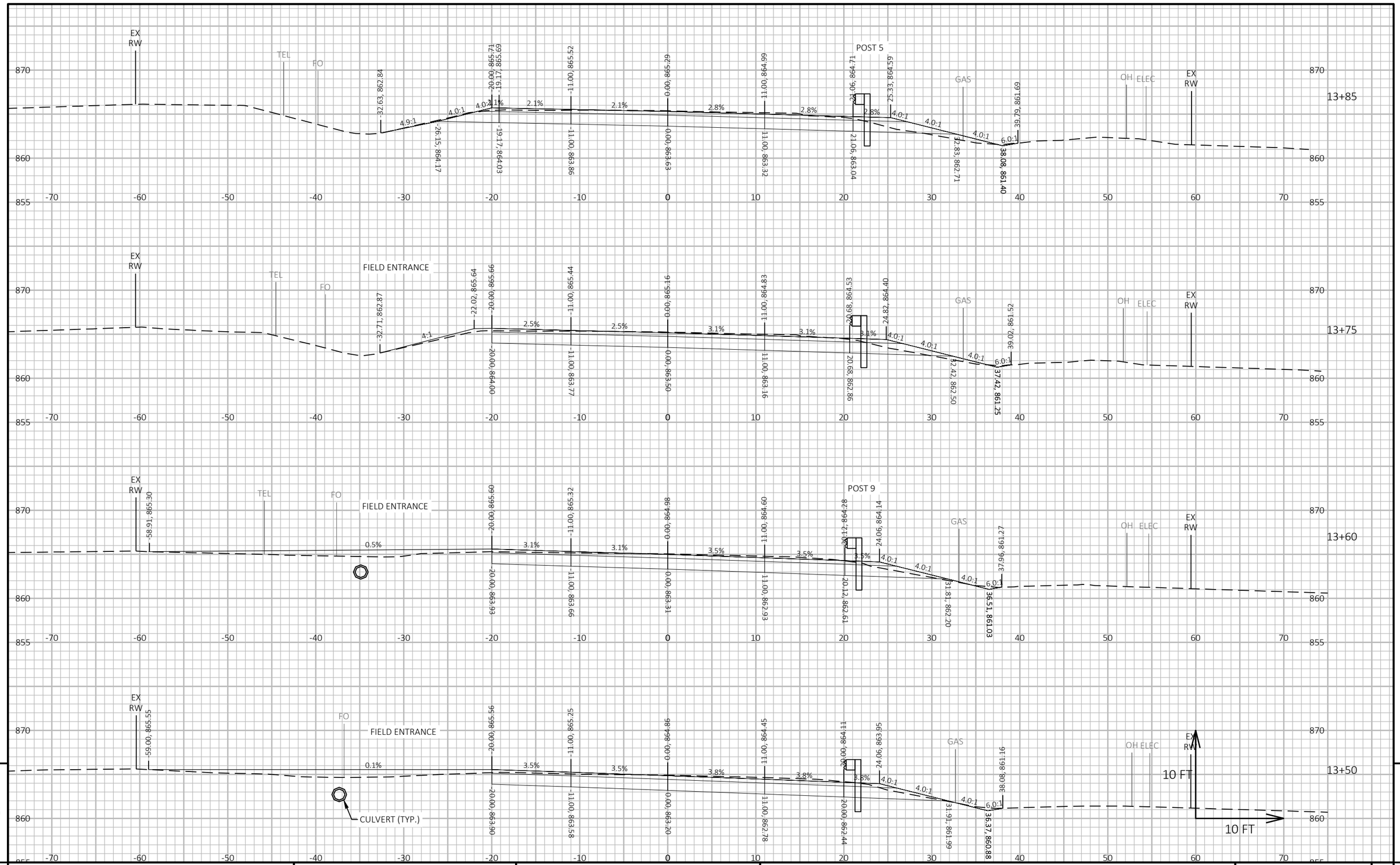
10 FT

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 95	E

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LAYOUT NAME - 090203-xs

PLOT DATE : 12/2/2025 8:36 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 96	E

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LAYOUT NAME - 090204-xs

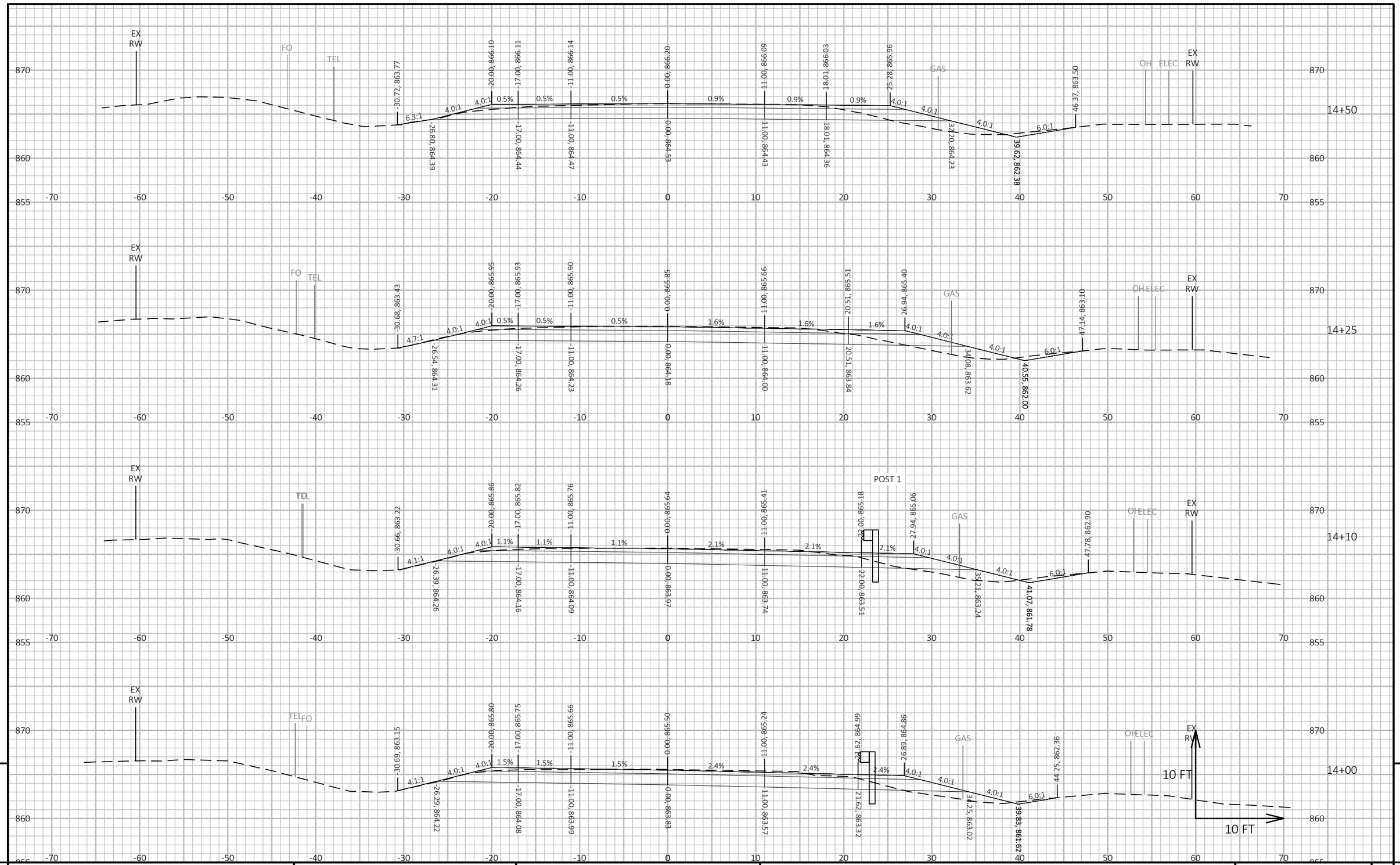
PLOT DATE : 12/2/2025 8:36 AM

PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

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PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 97	E

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LAYOUT NAME - 090205-xs

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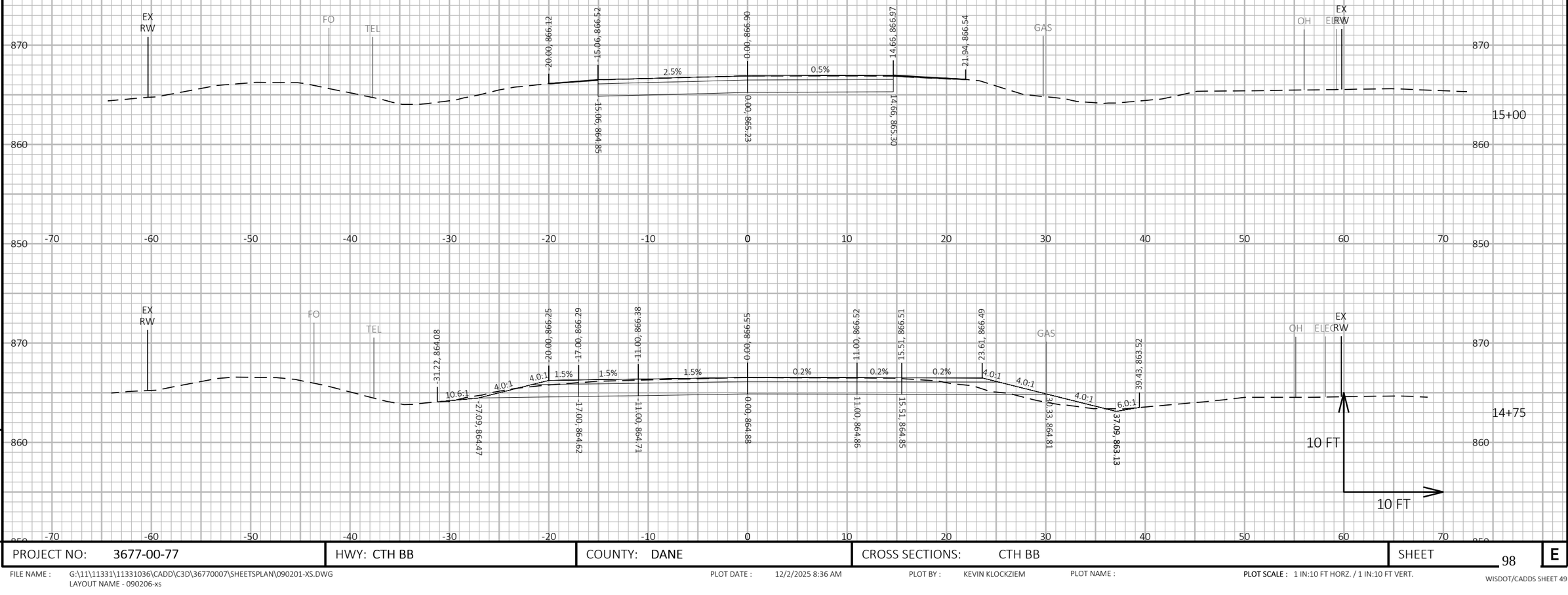
PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

END PROJECT STA 15+00



9

9

PROJECT NO: 3677-00-77	HWY: CTH BB	COUNTY: DANE	CROSS SECTIONS: CTH BB	SHEET 98	E

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LAYOUT NAME - 090206-xs

PLOT DATE : 12/2/2025 8:36 AM

PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

MAD

PROJECT ID: 3679-00-73

WITH: 3677-00-77

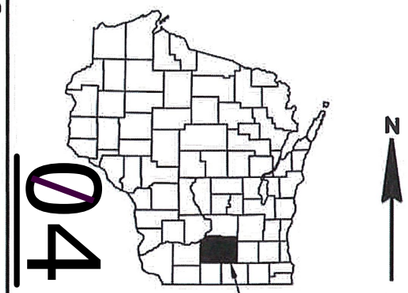
COUNTY: DANE

APRIL 2026

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 = 102



DESIGN DESIGNATION

A.A.D.T.	2026	=	6500
A.A.D.T.	2046	=	9600
D.H.V.		=	705
D.D.		=	60/40
T.		=	12.0%
DESIGN SPEED		=	60 MPH
ESALS		=	1,642,500

CONVENTIONAL SYMBOLS

PLAN		PROFILE	
CORPORATE LIMITS		GRADE LINE	
PROPERTY LINE		ORIGINAL GROUND	
LOT LINE		MARSH OR ROCK PROFILE (To be noted as such)	ROCK
LIMITED HIGHWAY EASEMENT		SPECIAL DITCH	LABEL
EXISTING RIGHT OF WAY		GRADE ELEVATION	95.36
PROPOSED OR NEW R/W LINE		CULVERT (Profile View)	
SLOPE INTERCEPT		**UTILITIES**	
REFERENCE LINE	300'EB	ELECTRIC	E
EXISTING CULVERT		FIBER OPTIC	FO
PROPOSED CULVERT (Box or Pipe)		GAS	G
COMBUSTIBLE FLUIDS	CAUTION	SANITARY SEWER	SAN
		STORM SEWER	SS
MARSH AREA		TELEPHONE	T
		WATER	W
		UTILITY PEDESTAL	
WOODED OR SHRUB AREA		POWER POLE	
		TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH TT - CTH T

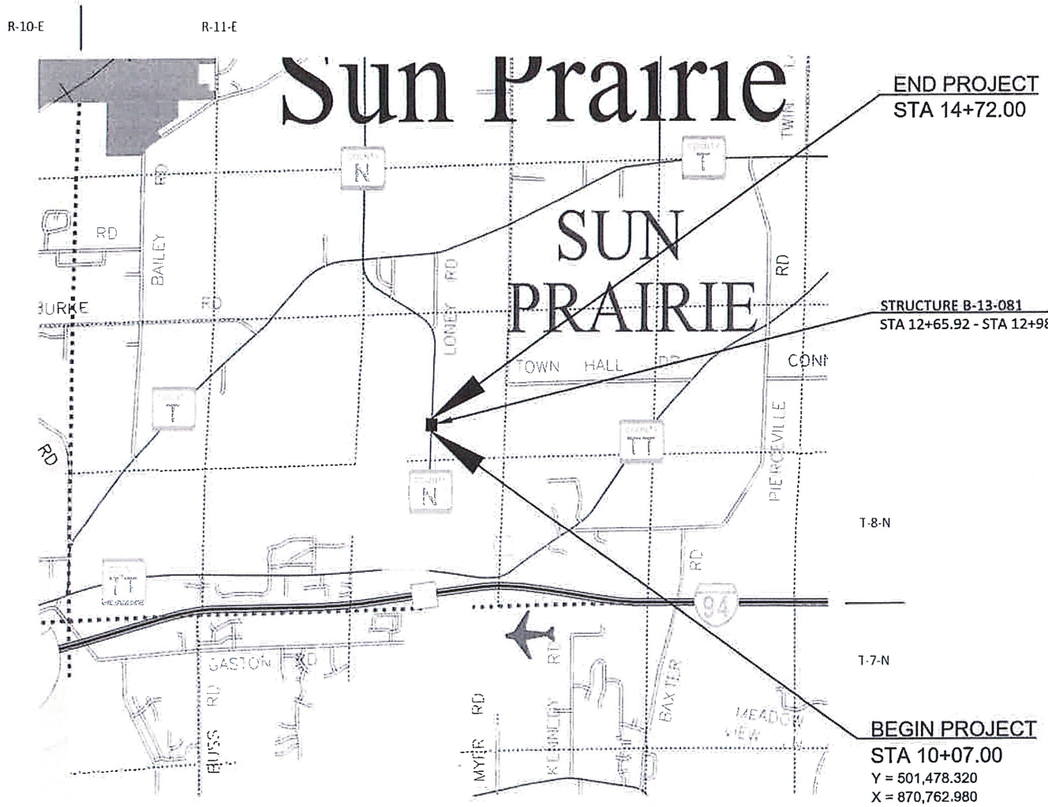
KOSHKONONG CREEK BRIDGE B-13-0911

CTH N

DANE COUNTY

STATE PROJECT NUMBER
3679-00-73

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3679-00-73		



LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.088 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), DANE COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID G18.

ACCEPTED FOR

DANE COUNTY

Date 10/9/25 Clement Abongwa

Highway Commissioner

ORIGINAL PLANS PREPARED BY

MSA

1702 Pankratz Street, Madison, WI 53704

608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
CHAD D. WAGNER
E-45546
MADISON
WI
PROFESSIONAL ENGINEER

DATE: 10/1/25 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MSA PROFESSIONAL SERVICES, INC.
Designer	MSA PROFESSIONAL SERVICES, INC.
Project Manager	LORRAINE BETZEL
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT

DATE 10/15/25 Lorraine Betzel (Signature)

E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\010101-TI.DWG

PLOT DATE : 10/1/2025 3:17 PM

PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

GENERAL NOTES

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

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD. MAINTAIN ALL EROSION CONTROL UNTIL THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

ALL DISTURBED AREAS WITHIN THE RIGHT OF WAY SHALL BE TOPSOILED, FERTILIZED, AND SEEDED WITH EROSION MAT AS DIRECTED BY THE ENGINEER.

DO NOT USE FERTILIZER WITHIN 20 FEET OF NAVIGABLE WATERWAYS OR WETLANDS.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE IMMEDIATELY AFTER FINISHED GRADING IS COMPLETE.

EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY GRUBBING OR TOPSOIL STRIPPING OPERATIONS.

PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER PIPE IN DRIVEWAY AREA IS INSTALLED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.

HMA PAVEMENT AND ASPHALTIC SURFACE TEMPORARY WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.

APPLY TACK COAT AT A RATE OF 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT AND TO VERTICAL FACES.

DESIGN CONTACTS

WISCONSIN DEPARTMENT OF TRANSPORTATION
SOUTHWEST REGION
ATTN: LORRAINE BETZEL, P.E.
2101 WRIGHT STREET
MADISON, WI 53704
PHONE: (608) 246-3279
EMAIL: LORRAINE.BETZEL@DOT.WI.GOV

DANE COUNTY HIGHWAY COMMISSIONER
ATTN: MARK MISUN, P.E.
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PHONE: (608) 575-2824
E-MAIL: MISUN.MARK@DANECOUNTY.GOV

MSA PROFESSIONAL SERVICES, INC.
ATTN: CHAD WAGNER, P.E.
1702 PANKRATZ STREET
MADISON, WI 53704
PHONE: (608) 242-6651
E-MAIL: CWAGNER@MSA-PS.COM

DNR CONTACT

DNR SOUTH CENTRAL REGION
ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

UTILITY CONTACTS

ELECTRIC

ALLIANT ENERGY
ADAM KROHN
6462 BLANCHAR'S CROSSING
WINDSOR, WI 53598
PHONE: (608) 458-3162
EMAIL: ADAMKROHN@ALLIANTENERGY.COM

COMMUNICATIONS

EVERSTREAM
ABBIGAIL STEIN
324 E WISCONSIN AVE. SUITE 730
MILWAUKEE, WI 53202
PHONE: (262) 442-9427
EMAIL: ASTEIN@EVERSTREAM.NET

FRONTIER COMMUNICATIONS
CHRISTOPHER BLUMER
451 BROADWAY DR
SUN PRAIRIE, WI 53590
PHONE: (608) 662-3807
EMAIL: CHRISTOPHER.BLUMER@FTR.COM

SPECTRUM
BRAD WAGNER
2701 DANIELS ST
MADISON, WI 53718
PHONE: (608) 640-9407
EMAIL: BRAD.WAGNER@CHARTER.COM

GAS/PETROLEUM

WE ENERGIES
NICK WAGNER
500 S 116TH STREET
WEST ALLIS, WI 53214
PHONE: (414) 944-5662
EMAIL: NICHOLAS.WAGNER@WE-ENERGIES.COM

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

STANDARD ABBREVIATIONS

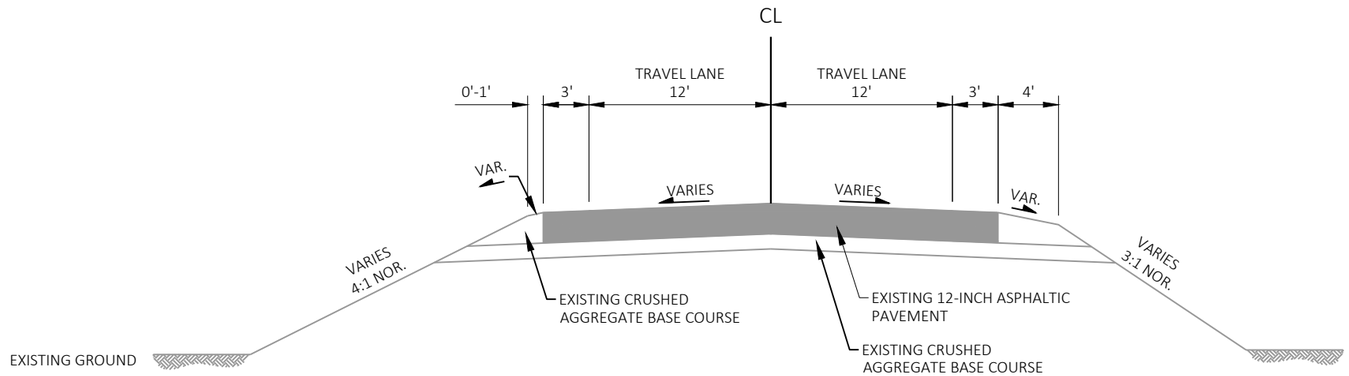
AC	ACRES
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ALUM.	ALUMINUM
A.P.	ACCESS POINT
ASPH	ASPHALT
AVE	AVENUE
BAD	BASE AGGREGATE DENSE
BK	BACK
BLK	BLOCK
BOC	BACK OF CURB
BOW	BACK OF SIDEWALK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CL or ℄	CENTERLINE
Δ	CENTRAL ANGLE or DELTA
CMCP	CORRUGATED METAL CULVERT PIPE
CONC	CONCRETE
CP	CONTROL POINT
CPCS	CULVERT PIPE CORRUGATED STEEL
CSM	CERTIFIED SURVEY MAP
CTH	COUNTY TRUNK HIGHWAY
D	DEGREE OF CURVATURE
DES	DESIRABLE
E	EAST
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EOP	EDGE OF PAVEMENT
ET AL	AND OTHERS
EW	ENDWALL
EXIST	EXISTING
FT	FOOT
FT2	SQUARE FEET
GN	GRID NORTH
GV	GAS VALVE
HERCP	HORIZONTAL ELLIPTICAL REINFORCED CONCRETE PIPE
HYD	HYDRANT
IN	INCH
INL	INLET
INV	INVERT
IP	IRON PIPE
L	LENGTH
L	LENGTH OF CURVE
LC	LONG CHORD
LCP	LONG CHORD BEARING
LF	LINEAR FEET
LT	LEFT
MH	MANHOLE
MON	MONUMENT
N	NORTH
NB	NORTHBOUND
N.C.	NORMAL CROWN
NO	NUMBER
PB	PULLBOX
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
POB	POINT OF BEGINNING
PT	POINT OF TANGENCY
R	RADIUS
R	RANGE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REQ'D	REQUIRED
RL or R/L	REFERENCE LINE
RP	RADIUS POINT
RT	RIGHT
R/W	RIGHT OF WAY
S	SOUTH
SAN	SANITARY SEWER
SB	SOUTHBOUND
S.E.	SUPERELEVATION
SEC	SECTION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
SSPRCHE	STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
SQ	SQUARE
ST	STREET
STA	STATION
STD	STANDARD
STH	STATE TRUNK HIGHWAY
STM	STORM SEWER
STR	STRUCTURE
T	TANGENT
TAN	TANGENT
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T or TN	TOWN
TYP.	TYPICAL
WM	WATERMIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
X	EAST GRID COORDINATE
Y	NORTH GRID COORDINATE

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
MEDIAN STRIP TURF	0.19	0.20	0.24	0.19	0.22	0.26	0.20	0.23	0.30	0.20	0.25 0.32	0.30 0.40
SIDE SLOPE TURF			0.25			0.27			0.28			0.30 0.38
PAVEMENT:	0.40 - 0.60											
ASPHALT:	0.70 - 0.95											
CONCRETE:	0.80 - 0.95											
BRICK:	0.70 - 0.80											
DRIVES, WALKS:	0.75 - 0.85											
ROOFS:	0.75 - 0.95											
GRAVEL ROADS, SHOULDERS	0.40 - 0.60											

TOTAL PROJECT AREA = 1.12 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.49 ACRES

2

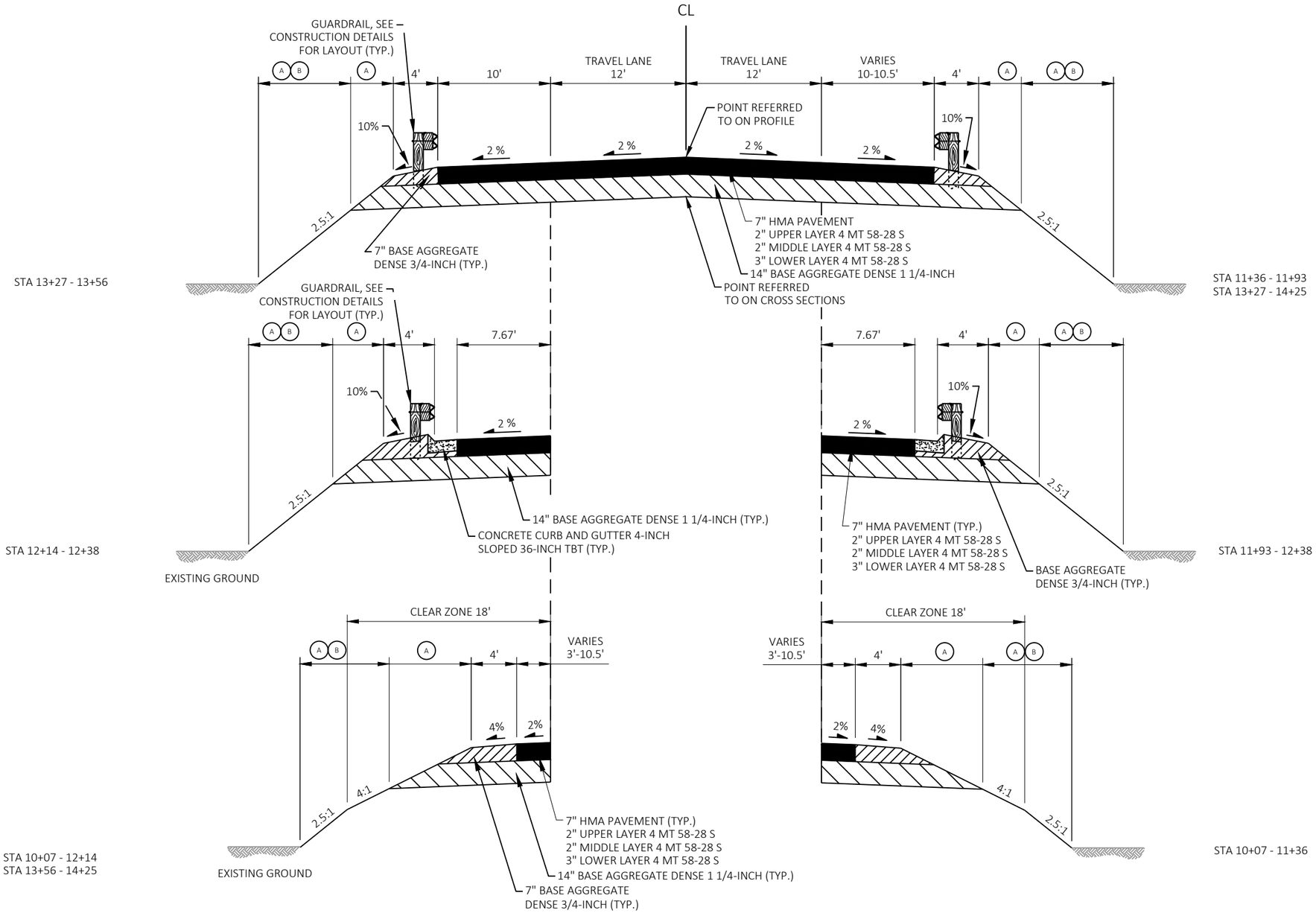


EXISTING TYPICAL SECTION

CTH N
STA 10+07 - 12+66
STA 12+99 - 14+72

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	TYPICAL SECTIONS	SHEET 3	E

2



LEGEND

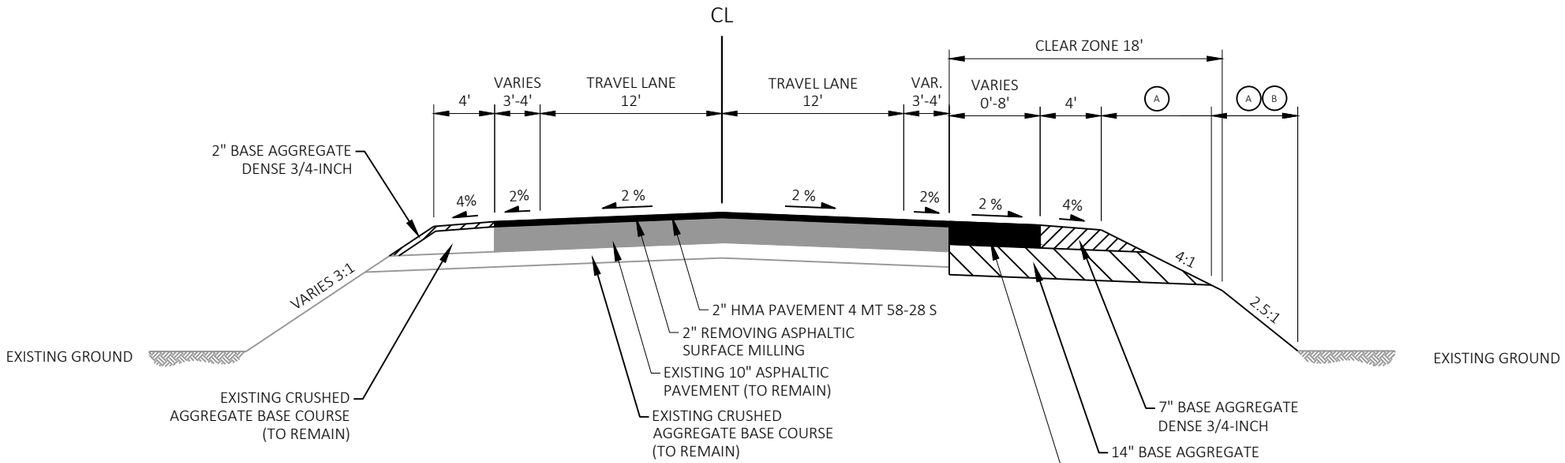
- (A) SEED MIXTURE #75 WITH SEEDING NURSE CROP & FERTILIZER TYPE B
- (B) 6" TOPSOIL AND EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

FINISHED TYPICAL SECTION

CTH N
STA 10+07 - 12+38
STA 13+27 - 14+25

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	TYPICAL SECTIONS	SHEET 4	E

2



FINISHED TYPICAL SECTION

CTH N
STA 14+25 - 14+72

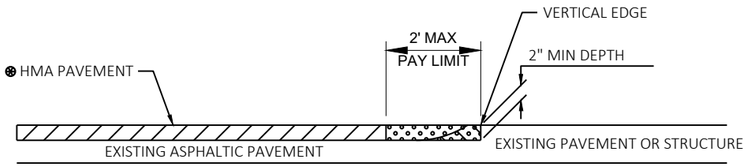
LEGEND

(A) SEED MIXTURE #75 WITH SEEDING NURSE CROP & FERTILIZER TYPE B

(B) 6" TOPSOIL AND EROSION MAT (SEE EROSION CONTROL PLANS FOR EROSION MAT TYPE)

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	TYPICAL SECTIONS	SHEET 5	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\020301-TS.DWG
LAYOUT NAME - 020303-ts
PLOT DATE : 12/2/2025 9:14 AM
PLOT BY : KEVIN KLOCKZIEM
PLOT NAME :
PLOT SCALE : 1 IN:10 FT
WISDOT/CADDS SHEET 42



REMOVING ASPHALTIC SURFACE, MILLING

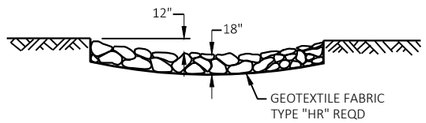
REMOVING ASPHALTIC SURFACE, BUTT JOINTS

REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

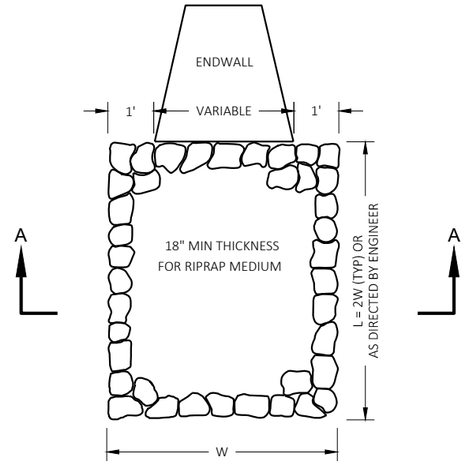
SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS

BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)

STA 14+72



SECTION A-A



RIPRAP MEDIUM TREATMENT AT CULVERTS

NOTE #1: STEEL PLATE SHORT RADIUS BEAM GUARD
NONSTANDARD RADIUS REQUIRED
RADIUS: 9' LENGTH: 37.5'
CONTROLLED RELEASE TERMINAL (CRT) POSTS: 6

NOTE #2: STEEL PLATE SHORT RADIUS BEAM GUARD
NONSTANDARD RADIUS REQUIRED
RADIUS: 9' LENGTH: 37.5'
CONTROLLED RELEASE TERMINAL (CRT) POSTS: 6

N

+11.65
-67.51' LT
EL 902.43
STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

R/W (TYP.)

+88.46
-57.20' LT
EL 902.50

30.0'
3.1%

+18.46
-57.20' LT
EL 903.42

TLE (TYP.)

+81.95
-57.22' LT
EL 903.00

+61.72
-62.50' LT
EL 903.43

+51.95
-57.22' LT
EL 903.70

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

30.0'
2.4%

OVERHEAD ELECTRIC & COMMUNICAITON
(ALLIANT ENERGY & SPECTRUM)

BURIED FIBER OPTIC (EVERSTREAM)

BURIED TELEPHONE (FRONTIER)

+71.52
-27.10' LT
EL 906.09

+14.04
-31.00' LT

4.0'

3.6%

+64.10
-35.37' LT
EL 906.53

2.3%

+62.80
-32.00' LT

30.0'

+56.23
-31.00' LT

+07.42
-32.00' LT

+06.20
-35.41' LT
EL 906.00

1.4%

+63.98
-26.42' LT
EL 907.17

+67.85
-23.37' LT
EL 906.47

+06.27
-26.46' LT
EL 906.49

+98.68
-27.14' LT
EL 906.86

+02.35
-23.38' LT
EL 906.89

+07.42
-22.00' LT
EL 907.71

R10'

R9'

R9'

R10'

+62.80
-22.00' LT
EL 906.81

+14.04
-22.00' LT
EL 906.87

+43.73
-22.00' LT

+56.23
-22.00' LT
EL 907.56

SHORT RADIUS STEEL PLATE
BEAM GUARD
(SEE NOTE #1)

STEEL THRIE BEAM
STRUCTURE APPROACH
(STA. 12+20 - 12+41)

STEEL THRIE BEAM
STRUCTURE APPROACH
(STA. 13+23 -13+44)

SHORT RADIUS STEEL PLATE
BEAM GUARD
(SEE NOTE #2)

12+00

13+00

14+00

CTH N

END MGS
TERMINAL EAT
+89.02
22.00' RT

END MGS
TERMINAL EAT
+74.98
22.00' RT

POST 1
+35.89
22.50' RT

POST 5
+60.77
22.27' RT

POST 9
+85.89
22.03' RT

POST 9
+78.11
22.03' RT

POST 5
+03.23
22.27' RT

POST 1
+28.11
22.50' RT

MGS GUARDRAIL
TERMINAL EAT
(STA. 11+36 - 11+89)

MGS GUARDRAIL 3
(STA. 11+89 - 12+02)

MGS THRIE BEAM
TRANSITION
(STA. 12+02 - 12+41)

CAUTION

REMOVING
GUARDRAIL (TYP.)

BURIED GAS (WE
ENERGIES)

MGS THRIE BEAM
TRANSITION
(STA. 13+23 - 13+62)

MGS GUARDRAIL 3
(STA. 13+62 - 13+75)

MGS GUARDRAIL
TERMINAL EAT
(STA. 13+75 - 14+28)

CONCRETE SURFACE DRAIN (TYP.)

EXISTING R/W (TYP.)

BURIED FIBER OPTIC
(FRONTIER)

POST

KOSHKONONG CREEK

POST

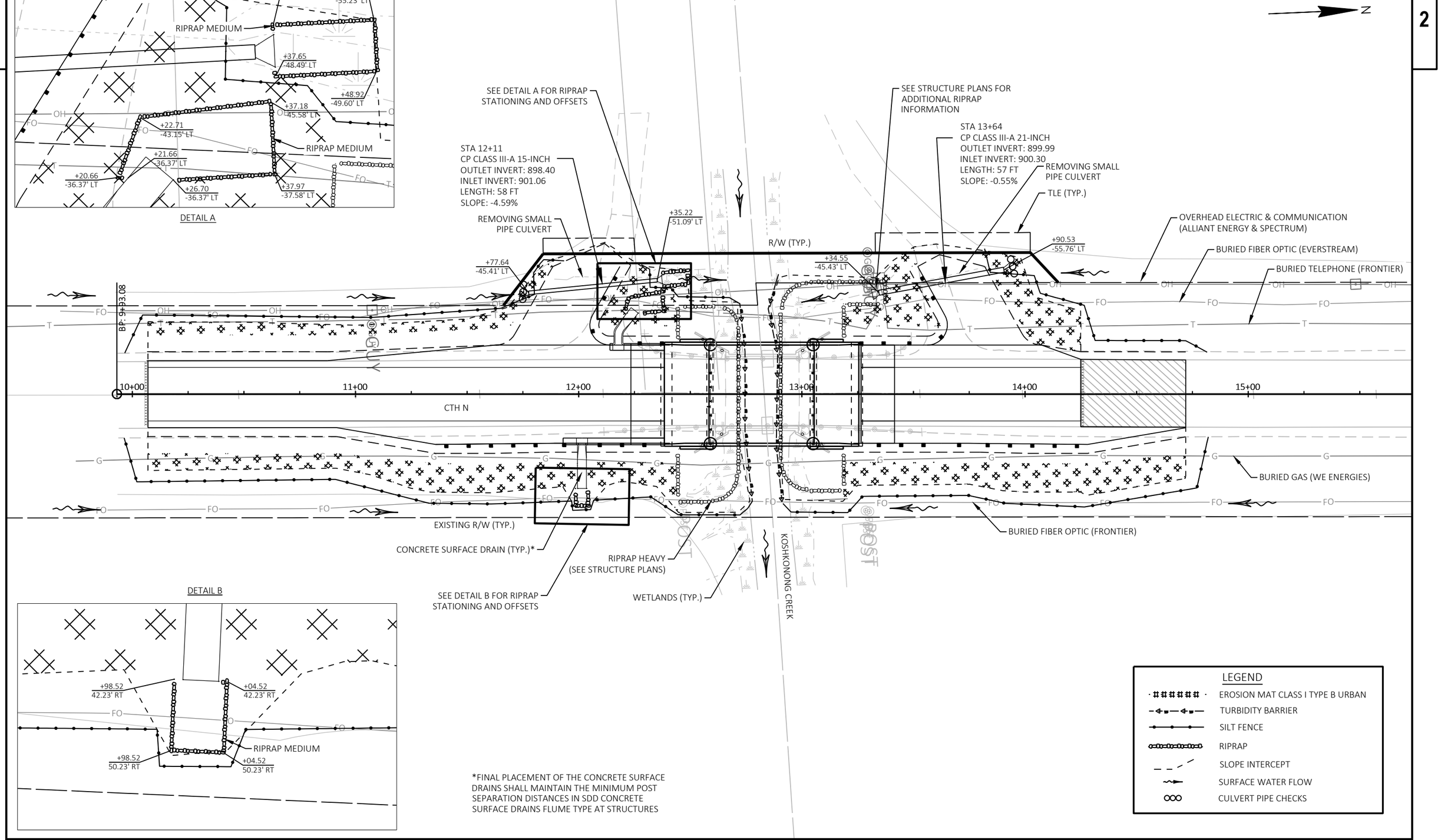
© GuyGeis

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CONSTRUCTION DETAILS	SHEET 7	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\021002-CD.DWG
LAYOUT NAME - 021002-cd
PLOT DATE : 12/2/2025 11:01 AM
PLOT BY : KEVIN KLOCKZIEM
PLOT NAME :
PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 42

2

DETAIL A



DETAIL B

*FINAL PLACEMENT OF THE CONCRETE SURFACE DRAINS SHALL MAINTAIN THE MINIMUM POST SEPARATION DISTANCES IN SDD CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

LEGEND

- EROSION MAT CLASS I TYPE B URBAN
- TURBIDITY BARRIER
- SILT FENCE
- RIPRAP
- SLOPE INTERCEPT
- SURFACE WATER FLOW
- CULVERT PIPE CHECKS

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	EROSION CONTROL	SHEET 8	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\022001-EC.DWG
LAYOUT NAME - 022001-ec
PLOT DATE : 12/2/2025 9:45 AM
PLOT BY : KEVIN KLOCKZIEM
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

2

LEGEND

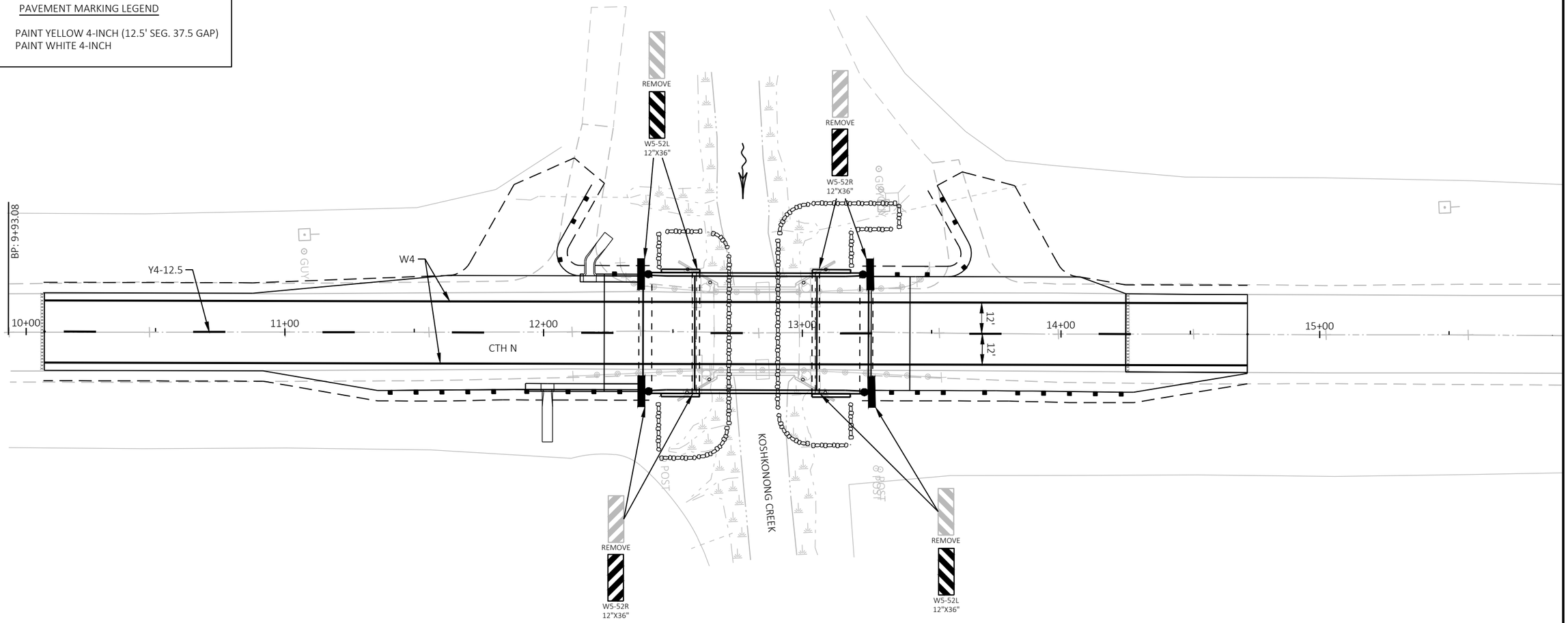
EXISTING SIGN MOUNTED ON POST

SIGN MOUNTED ON POST

FOLLOW SDD, "SIGNING AND MARKING FOR TWO LANES BRIDGES" EXCEPT AS SHOWN

PAVEMENT MARKING LEGEND

Y4-12.5	PAINT YELLOW 4-INCH (12.5' SEG. 37.5 GAP)
W4	PAINT WHITE 4-INCH



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	PERMANENT SIGNING	SHEET 9	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\023201-PS.DWG
LAYOUT NAME - 023201-ps

PLOT DATE : 11/24/2025 11:52 AM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

2

GENERAL NOTES:

1. ALL TC COVERING SIGNS TYPE I/II SHALL BE PAID AS EACH CONTIGUOUS SIGN(S) COVERED PER LOCATION PER CYCLE NOT AS INDIVIDUAL CLUSTER.
2. REFER TO PLATE A4-12 WHEN COVERING ARROWS FOR DESTINATION DIRECTIONAL ARROWS.
3. SEE SDD "BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES" FOR SIDE ROAD SIGNING ALONG THE WORKZONE CORRIDOR.
4. DRAWINGS SHOW TC DETOUR FOR A TYPICAL SITUATION. ADDITIONAL TC DEVICES MAY BE REQUIRED AND/OR LAYOUT DETAILS MODIFIED DEPENDING ON SITE CONDITIONS AS DIRECTED BY THE ENGINEER. ALL CHANGES TO THE TC DETOUR PLAN SHALL BE REVIEWED WITH THE PROJECT ENGINEER.
5. SIGN FACES SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION MANUAL OF STANDARD HIGHWAY SIGNS, UNLESS OTHERWISE NOTED.
6. TRAFFIC CONTROL PLANS ARE NOT TO SCALE.
7. COVER, REMOVE, OR ALTER ANY EXISTING OR PROPOSED SIGNS THAT DISPLAY A CONFLICTING MESSAGE WITH THE PROPOSED DETOUR ROUTE FOR THE PHASE THAT IS ACTIVE.
8. MAINTAIN ACCESS TO DRIVEWAYS AND SIDE ROADS AT ALL TIMES.
9. WO SIGNS ARE THE SAME AS W SIGNS EXCEPT THE BACKGROUND IS ORANGE.

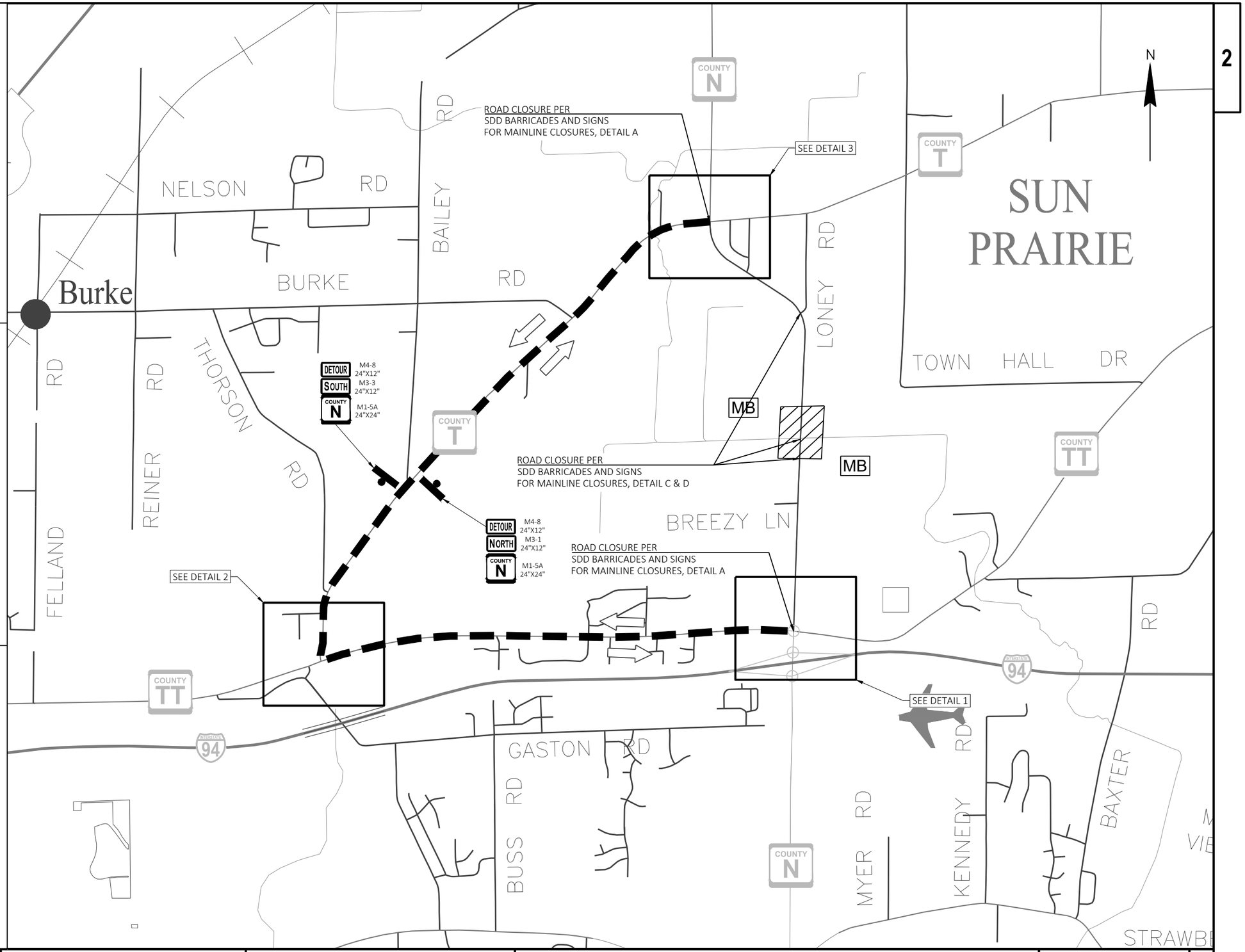
PCMS MESSAGES		
PCMS SITE LOCATION	7 DAYS PRIOR TO CONSTRUCTION/STAGE	
	FRAME A (2 SEC)	FRAME B (2 SEC)
NB	BRIDGE OUT BEGINS	D.O.W. MM-DD
SB	BRIDGE OUT BEGINS	D.O.W. MM-DD

PCMS NOTES:

1. PCMS LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. PLACE PCMS AS FAR AWAY FROM THE LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.
3. PLACE REFLECTORIZED DRUMS AHEAD OF PCMS ON THE SHOULDER.

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE WITH SIGN
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- EXISTING SIGN TO BE COVERED



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	DETOUR	SHEET 10	E

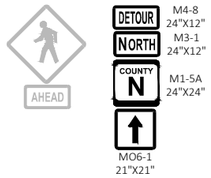
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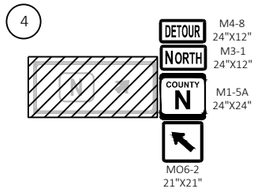
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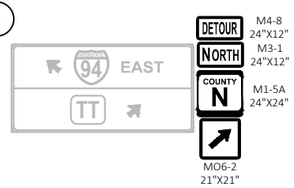
3



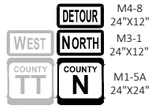
4



5



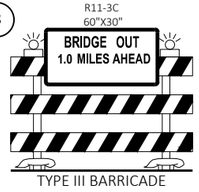
6



7

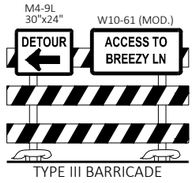


8



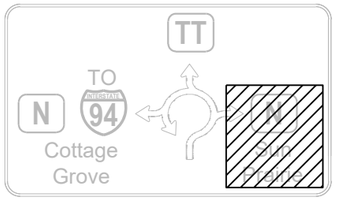
TYPE III BARRICADE

9

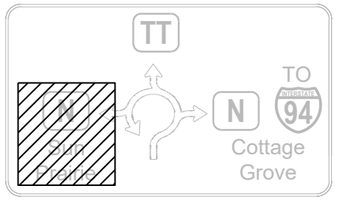


TYPE III BARRICADE

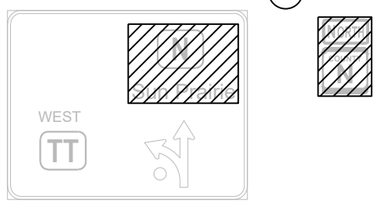
10



11



12



13

14

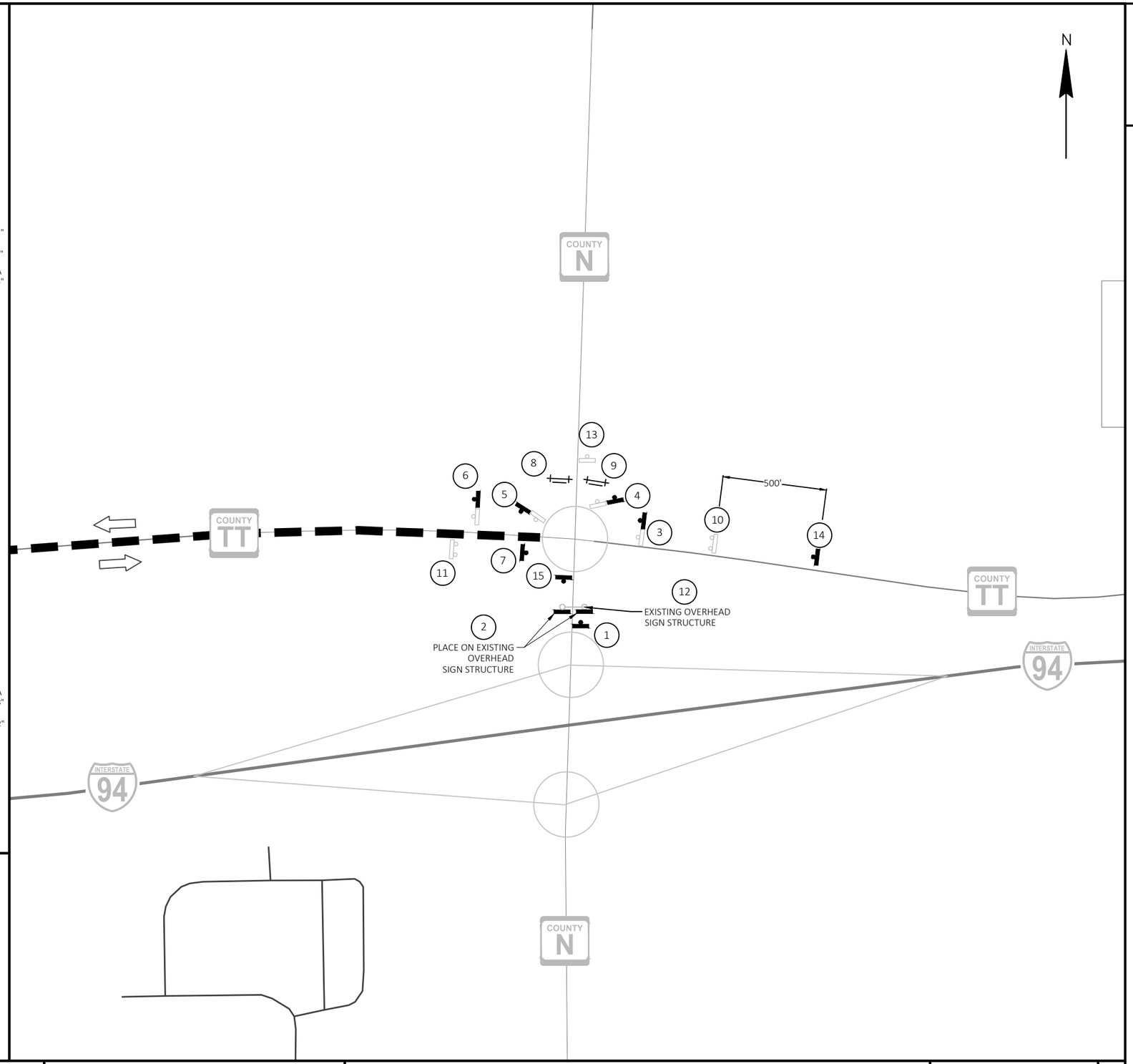


15



LEGEND

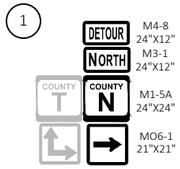
- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- TYPE III BARRICADE
- EXISTING SIGN TO BE COVERED



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	DETOUR DETAIL 1	SHEET 11	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027002-dt

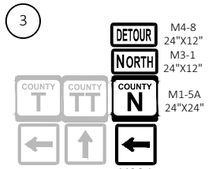
PLOT DATE : 11/24/2025 12:05 PM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : ##########

1


M4-8 24"X12"
M3-1 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

2


M4-8 24"X12"
M3-1 24"X12"
M1-5A 24"X24"
MO5-1R 21"X21"

3


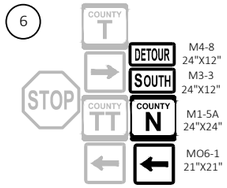
M4-8 24"X12"
M3-1 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

4

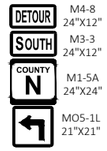

M4-8 24"X12"
M3-1 24"X12"
M1-5A 24"X24"
MO5-1L 21"X21"

5


M3-1 24"X12"
M1-5A 24"X24"

6


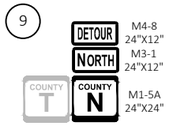
M4-8 24"X12"
M3-3 24"X12"
M1-5A 24"X24"
MO6-1 21"X21"

7


M4-8 24"X12"
M3-3 24"X12"
M1-5A 24"X24"
MO5-1L 21"X21"

8

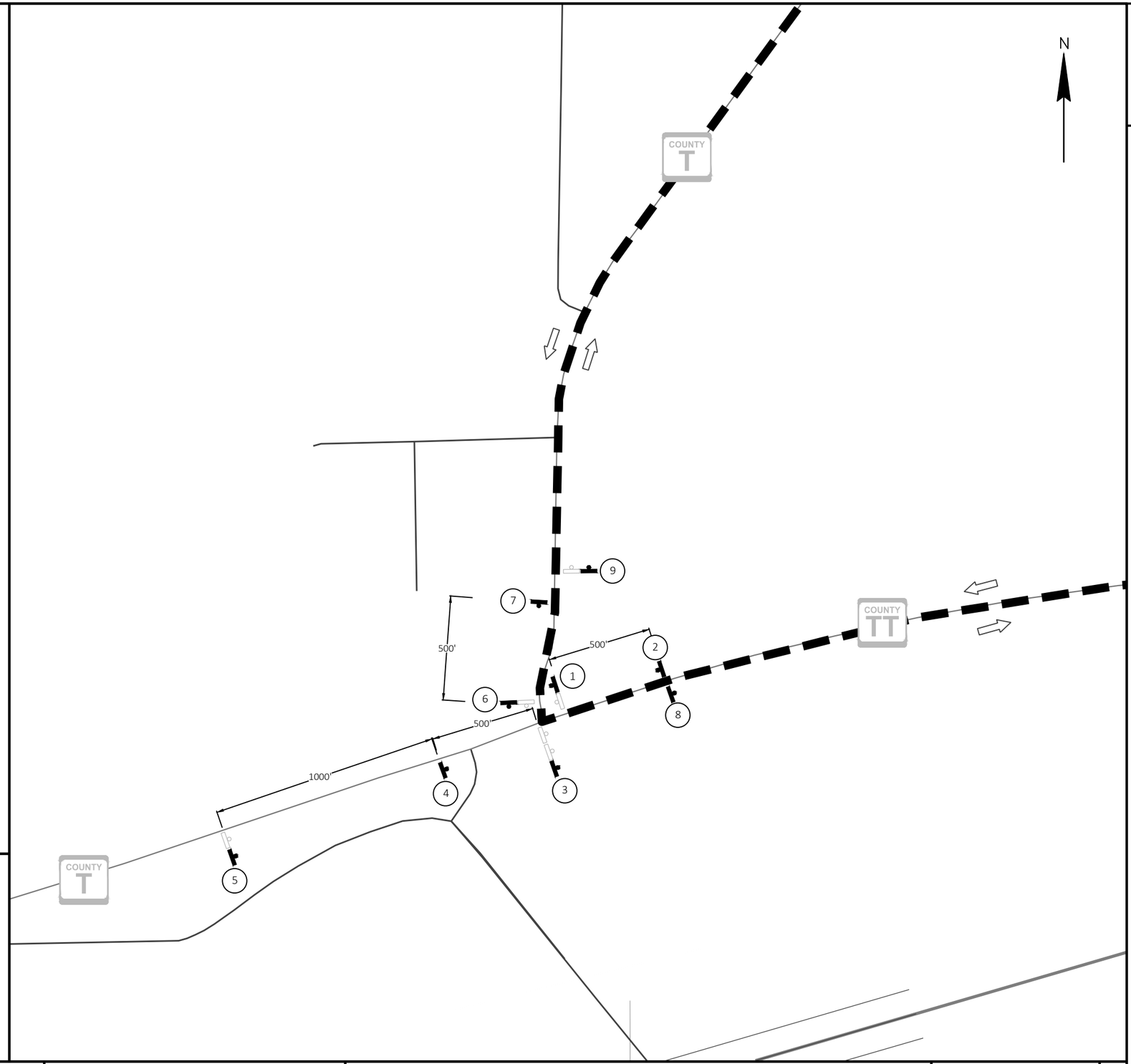

M4-8 24"X12"
M3-3 24"X12"
M1-5A 24"X24"

9


M4-8 24"X12"
M3-1 24"X12"
M1-5A 24"X24"

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- TYPE III BARRICADE
- EXISTING SIGN TO BE COVERED



2

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	DETOUR DETAIL 2	SHEET 12	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\027001-DT.DWG
LAYOUT NAME - 027003-dt
PLOT DATE : 11/24/2025 12:05 PM PLOT BY : ETHAN GREENFIELD PLOT NAME : PLOT SCALE : ############
WISDOT/CADDS SHEET 42

1
R11-3C
60"X30"
BRIDGE OUT
1.3 MILES AHEAD
TYPE III BARRICADE

2
M4-9L
30"x24"
DETOUR
W10-61 (MOD.)
ACCESS TO
LONELY LN
TYPE III BARRICADE

3
DETOUR M4-8 24"X12"
SOUTH M3-3 24"X12"
COUNTY T / COUNTY N M1-5A 24"X24"
MO6-1 21"X21"

4
DETOUR M4-8 24"X12"
SOUTH M3-3 24"X12"
COUNTY N M1-5A 24"X24"
MO5-1R 21"X21"

5
JCT SOUTH M3-3 24"X12"
COUNTY TT / COUNTY N M1-5A 24"X24"
DETOUR AHEAD
W20-3A 48" X 48"

6
SOUTH M3-3 24"X12"
COUNTY N M1-5A 24"X24"
DETOUR AHEAD
W20-3A 48" X 48"

7
COUNTY T / ADOPT A HIGHWAY / AMERICAN FAMILY INSURANCE
DETOUR M4-8 24"X12"
SOUTH M3-3 24"X12"
COUNTY N M1-5A 24"X24"

8
DETOUR M4-8 24"X12"
SOUTH M3-3 24"X12"
STOP / COUNTY N / COUNTY N M1-5A 24"X24"
MO6-1 21"X21"

9
DETOUR M4-8 24"X12"
SOUTH M3-3 24"X12"
COUNTY N M1-5A 24"X24"
MO6-1 21"X21"

10

11
DETOUR M4-8 24"X12"
NORTH M3-1 24"X12"
STOP / COUNTY N / COUNTY N M1-5A 24"X24"
MO6-1 21"X21"

12
ROAD CLOSED AHEAD
W20-3A

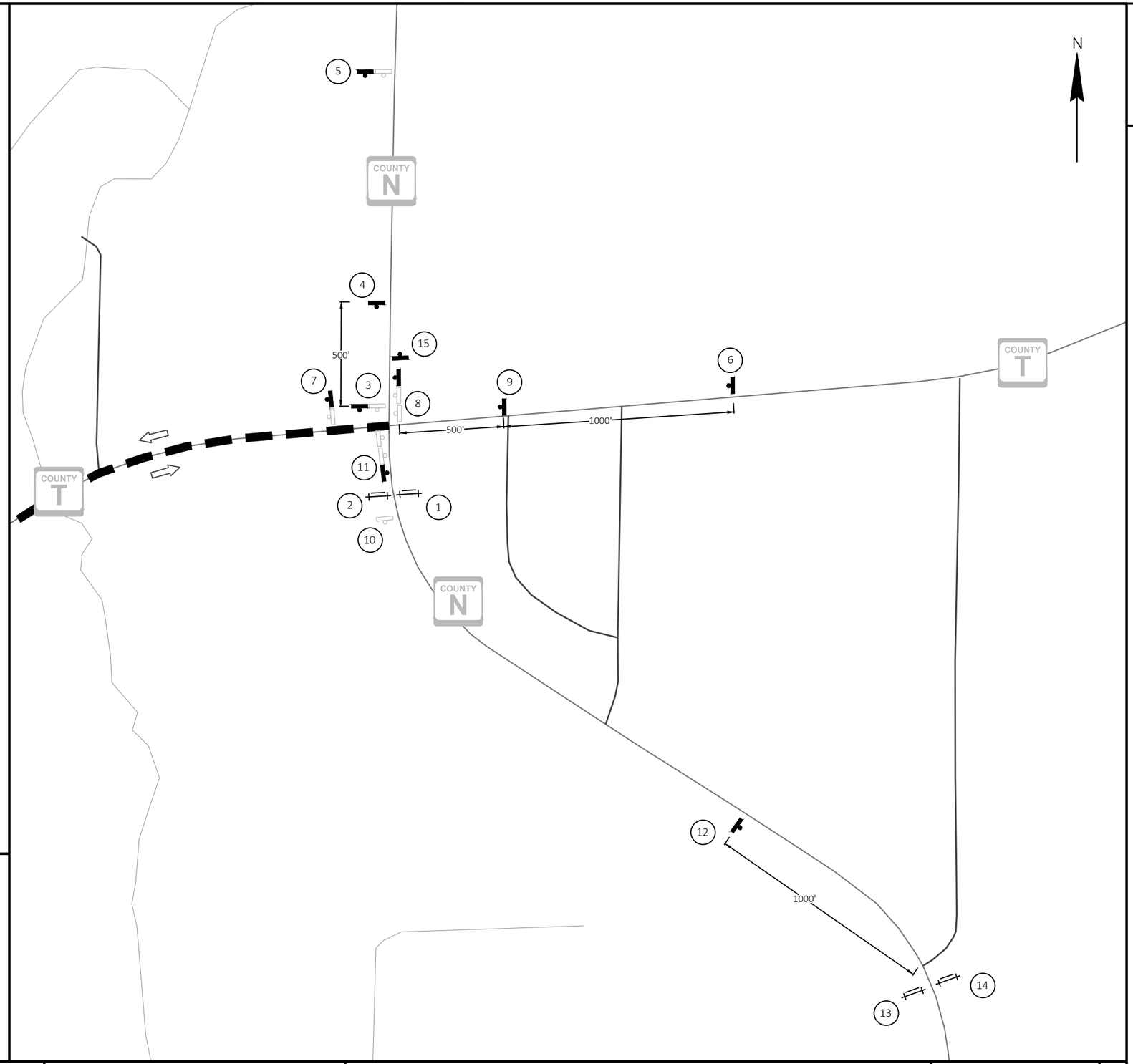
13
R11-3C
60"X30"
BRIDGE OUT
0.6 MILES AHEAD
TYPE III BARRICADE

14
R11-3
60" X 30"
ROAD CLOSED
TO THRU TRAFFIC
0.6 MILES AHEAD
TYPE III BARRICADE

15
END DETOUR M4-8A 24"X18"
NORTH M3-1 24"X12"
COUNTY N / NO ATV TRAFFIC

LEGEND

- DETOUR ROUTE
- WORK AREA. ROAD CLOSED
- DIRECTION OF TRAFFIC
- SIGN ON EXISTING SUPPORT(S)
- SIGN ON PERMANENT SUPPORT(S)
- PLACE ONE SIGN OR BARRICADE IN MEDIAN AND ONE SIGN OR BARRICADE ON RIGHT SIDE
- TYPE III BARRICADE WITH SIGN
- TYPE III BARRICADE
- EXISTING SIGN TO BE COVERED



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	DETOUR DETAIL 3	SHEET 13	E

3679-00-73

Line	Item	Item Description	Unit	Total	Qty
0004	203.0100	Removing Small Pipe Culverts	EACH	2.000	2.000
0006	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. B-13-0081	EACH	1.000	1.000
0010	204.0115	Removing Asphaltic Surface Butt Joints	SY	10.000	10.000
0012	204.0120	Removing Asphaltic Surface Milling	SY	160.000	160.000
0014	204.0165	Removing Guardrail	LF	271.000	271.000
0016	205.0100	Excavation Common	CY	1,160.000	1,160.000
0020	206.1001	Excavation for Structures Bridges (structure) 02. B-13-0911	EACH	1.000	1.000
0022	210.1500	Backfill Structure Type A	TON	450.000	450.000
0026	213.0100	Finishing Roadway (project) 02. 3679-00-73	EACH	1.000	1.000
0028	305.0110	Base Aggregate Dense 3/4-Inch	TON	300.000	300.000
0030	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,042.000	2,042.000
0032	415.0080	Concrete Pavement 8-Inch	SY	60.000	60.000
0034	415.0410	Concrete Pavement Approach Slab	SY	80.000	80.000
0036	450.4000	HMA Cold Weather Paving	TON	136.000	136.000
0038	455.0605	Tack Coat	GAL	150.000	150.000
0040	460.2000	Incentive Density HMA Pavement	DOL	350.000	350.000
0044	460.6224	HMA Pavement 4 MT 58-28 S	TON	540.000	540.000
0046	502.0100	Concrete Masonry Bridges	CY	427.000	427.000
0048	502.3200	Protective Surface Treatment	SY	478.000	478.000
0050	502.3210	Pigmented Surface Sealer	SY	89.000	89.000
0052	505.0400	Bar Steel Reinforcement HS Structures	LB	6,010.000	6,010.000
0054	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	63,115.000	63,115.000
0056	505.0800.S	Bar Steel Reinforcement HS Stainless Structures	LB	425.000	425.000
0060	516.0500	Rubberized Membrane Waterproofing	SY	26.000	26.000
0062	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	2.000	2.000
0064	520.1021	Apron Endwalls for Culvert Pipe 21-Inch	EACH	2.000	2.000
0066	520.3315	Culvert Pipe Class III-A 15-Inch	LF	58.000	58.000
0068	520.3321	Culvert Pipe Class III-A 21-Inch	LF	57.000	57.000
0072	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	800.000	800.000
0074	601.0588	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBT	LF	40.000	40.000
0076	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	30.000	30.000
0078	602.3010	Concrete Surface Drains	CY	3.400	3.400
0080	606.0200	Riprap Medium	CY	14.000	14.000
0082	606.0300	Riprap Heavy	CY	320.000	320.000
0084	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	210.000	210.000
0086	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0088	614.0200	Steel Thrie Beam Structure Approach	LF	41.300	41.300
0090	614.0345	Steel Plate Beam Guard Short Radius	LF	75.000	75.000
0092	614.0390	Steel Plate Beam Guard Short Radius Terminal	EACH	2.000	2.000
0094	614.2300	MGS Guardrail 3	LF	25.000	25.000
0096	614.2500	MGS Thrie Beam Transition	LF	78.800	78.800
0098	614.2610	MGS Guardrail Terminal EAT	EACH	2.000	2.000
0102	618.0100	Maintenance and Repair of Haul Roads (project) 02. 3679-00-73	EACH	1.000	1.000
0104	619.1000	Mobilization	EACH	0.570	0.570
0106	624.0100	Water	MGAL	29.000	29.000
0108	625.0100	Topsoil	SY	1,000.000	1,000.000
0110	628.1504	Silt Fence	LF	920.000	920.000
0112	628.1520	Silt Fence Maintenance	LF	920.000	920.000
0114	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000

3679-00-73

Line	Item	Item Description	Unit	Total	Qty
0116	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0118	628.2008	Erosion Mat Urban Class I Type B	SY	1,000.000	1,000.000
0120	628.6005	Turbidity Barriers	SY	280.000	280.000
0122	628.7555	Culvert Pipe Checks	EACH	5.000	5.000
0124	629.0210	Fertilizer Type B	CWT	1.000	1.000
0128	630.0175	Seeding Mixture No. 75	LB	10.000	10.000
0130	630.0400	Seeding Nurse Crop	LB	10.000	10.000
0132	630.0500	Seed Water	MGAL	8.000	8.000
0134	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0138	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0142	638.2602	Removing Signs Type II	EACH	4.000	4.000
0144	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0146	642.5001	Field Office Type B	EACH	0.500	0.500
0148	643.0420	Traffic Control Barricades Type III	DAY	2,200.000	2,200.000
0150	643.0705	Traffic Control Warning Lights Type A	DAY	4,400.000	4,400.000
0152	643.0900	Traffic Control Signs	DAY	13,900.000	13,900.000
0154	643.0920	Traffic Control Covering Signs Type II	EACH	6.000	6.000
0156	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0158	643.5000	Traffic Control	EACH	0.500	0.500
0160	645.0111	Geotextile Type DF Schedule A	SY	175.000	175.000
0162	645.0120	Geotextile Type HR	SY	585.000	585.000
0164	646.1005	Marking Line Paint 4-Inch	LF	1,050.000	1,050.000
0166	650.4500	Construction Staking Subgrade	LF	380.000	380.000
0168	650.5000	Construction Staking Base	LF	380.000	380.000
0170	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	40.000	40.000
0172	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0176	650.6501	Construction Staking Structure Layout (structure) 02. B-13-0911	EACH	1.000	1.000
0178	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0182	650.9911	Construction Staking Supplemental Control (project) 02. 3679-00-73	EACH	1.000	1.000
0184	650.9920	Construction Staking Slope Stakes	LF	380.000	380.000
0186	690.0150	Sawing Asphalt	LF	60.000	60.000
0188	715.0502	Incentive Strength Concrete Structures	DOL	2,562.000	2,562.000
0192	999.2005.S	Maintaining Bird Deterrent System (station) 02. 12+82	EACH	1.000	1.000

3

ASPHALTIC SURFACE REMOVAL

CATEGORY	STATION	TO	STATION	LOCATION	204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY
0010	14+25	-	14+72	NORTH APPROACH	10	160
				TOTAL 0010	10	160

REMOVING GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	204.0165 REMOVING GUARDRAIL LF
0010	12+10	-	13+55	RT	143
0010	12+30	-	13+50	LT	128
				TOTAL 0010	271

EARTHWORK

CATEGORY	STATION	TO	STATION	LOCATION	205.0100 EXCAVATION COMMON CY	FILL CY (1)	EXPANDED FILL CY (2)	UNUSABLE PAVEMENT CY(3)	WASTE CY
0010	10+07	-	12+38	CTH N	780	145.00	189.00	254.00	335.00
0010	13+25	-	14+72	CTH N	350	138.00	179.00	126.00	41.00
0010	11+60	-	12+14	SOUTH FIELD ENTRANCE	25	49.00	63.70	-	-
0010	13+56	-	14+07	NORTH FIELD ENTRANCE	5	15.00	19.50	-	-
				TOTAL 0010	1,160	347	451	380	376

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%.
(3) - EXISTING PAVEMENT IS INCLUDED IN EXCAVATION COMMON TOTALS. ASPHALT PAVEMENT DEPTH ASSUMED TO BE 12".

BASE AGGREGATE DENSE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON	624.0100 WATER MGAL
0010	10+07	-	12+23	SOUTH APPROACH	110	1,070	17.00
0010	13+41	-	14+25	NORTH APPROACH	70	575	9.00
0010	12+23	-	12+38	SOUTH CONCRETE APPROACH SLAB	-	50	1.00
0010	13+26	-	13+41	NORTH CONCRETE APPROACH SLAB	-	55	1.00
0010	11+60	-	12+14	SOUTH FIELD ENTRANCE	60	-	0.50
0010	13+56	-	14+07	NORTH FIELD ENTRANCE	60	-	0.50
				TOTAL 0010	300	1,750	29.00

CONCRETE PAVEMENT APPROACH SLAB

CATEGORY	STATION	TO	STATION	LOCATION	415.0080 CONCRETE PAVEMENT 8-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT LF
0030	12+23	-	12+38	LT & RT	26	40	15
0030	13+26	-	13+41	LT & RT	34	40	15
				TOTAL 0030	60	80	30

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	450.4000 HMA COLD WEATHER PAVING TON	455.0605 TACK COAT GAL	460.6224 HMA PAVEMENT 4 MT 58-28 S TON
0010	10+07	-	12+39	SOUTH APPROACH	88	90	350
0010	13+26	-	14+72	NORTH APPROACH & SHOULDER	43	45	170
0010	14+25	-	14+72	NORTH OVERLAY	5	15	20
				TOTAL 0010	136	150	540

PIPE CULVERTS

CATEGORY	STATION	TO	STATION	LOCATION	203.0100 REMOVING SMALL PIPE CULVERTS EACH	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH	520.1021 APRON ENDWALLS FOR CULVERT PIPE 21-INCH EACH	520.3315 CULVERT PIPE CLASS III-A 15-INCH LF	520.3321 CULVERT PIPE CLASS III-A 21-INCH LF	* 606.0200 RIPRAP MEDIUM CY	628.7555 CULVERT PIPE CHECKS EACH	** 645.0120 GEOTEXTILE TYPE HR SY	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH
0010	11+77	-	12+36	SOUTH FIELD ENTRANCE	1	2	-	58	-	4	2	10	1
0010	13+34	-	13+91	NORTH FIELD ENTRANCE	1	-	2	-	57	-	3	-	1
				TOTAL 0010	2	2	2	58	57	4	5	10	2

* ADDITIONAL QUANTITIES LISTED ELSEWHERE
**ADDITIONAL QUANTITIES LISTED ELSEWHERE AND WITH STRUCTURE ITEMS

CONCRETE CURB AND GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	601.0588 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBT LF	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF
0010	11+93	-	12+23	RT	30	-	30
0010	12+14	-	12+23	LT	10	-	10
0010	12+23	-	12+38	RT	-	15	-
0010	12+23	-	12+38	LT	-	15	-
				TOTAL 0010	40	30	40

CONCRETE SURFACE DRAINS

CATEGORY	STATION	LOCATION	602.3010 CONCRETE SURFACE DRAINS CY	* 606.0200 RIPRAP MEDIUM CY	** 645.0120 GEOTEXTILE TYPE HR SY
0010	12+01	RT	1.8	3	10
0010	12+18	LT	1.6	7	20
		TOTAL 0010	3.4	10	30

* ADDITIONAL QUANTITIES LISTED ELSEWHERE
**ADDITIONAL QUANTITIES LISTED ELSEWHERE AND WITH STRUCTURE ITEMS

GUARDRAIL

CATEGORY	STATION	TO	STATION	LOCATION	614.0200 STEEL THRIE BEAM STRUCTURE APPROACH LF	614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF	614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
0010	11+36	-	11+89	RT	-	-	-	-	-	1
0010	11+89	-	12+02	RT	-	-	-	12.5	-	-
0010	12+02	-	12+41	RT	-	-	-	-	39.4	-
0010	12+07	-	12+20	LT	-	37.5	-	-	-	-
0010	12+14	-	NA	LT	-	-	1	-	-	-
0010	12+14	-	12+41	LT	20.65	-	-	-	-	-
0010	13+23	-	13+44	LT	20.65	-	-	-	-	-
0010	13+23	-	13+62	RT	-	-	-	-	39.4	-
0010	13+44	-	13+65	LT	-	37.5	-	-	-	-
0010	13+63	-	13+75	RT	-	-	-	12.5	-	-
0010	13+58	-	NA	LT	-	-	1	-	-	-
0010	13+75	-	14+28	RT	-	-	-	-	-	1
				TOTAL 0010	41.30	75.0	2	25.0	78.8	2

3

EROSION CONTROL BARRIERS

CATEGORY	STATION	TO	STATION	LOCATION	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.6005 TURBIDITY BARRIERS SY
0010	9+96	-	12+75	RT	305	305	-
0010	9+96	-	11+94	LT	225	225	-
0010	12+28	-	12+70	LT	50	50	-
0010	12+95		14+82	RT	210	210	-
0010	13+81		14+82	LT	130	130	-
0010	12+70	-	12+75	LT & RT	-	-	135
0010	12+90	-	12+95	LT & RT	-	-	145
				TOTAL 0010	920	920	280

EROSION CONTROL MOBILIZATIONS

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	3679-00-73	6	4
	TOTAL 0010	6	4

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0100 TOPSOIL SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	629.0210 FERTILIZER TYPE B CWT	630.0175 SEEDING MIXTURE NO. 75 LB	630.0400 SEEDING NURSE CROP LB	630.0500 SEED WATER MGAL
0010	10+07	-	12+00	RT	205	205	0.21	2.1	2.4	1.9
0010	10+07	-	11+95	LT	120	120	0.16	1.6	1.8	1.4
0010	12+00	-	12+45	RT	55	55	0.05	0.5	0.5	0.4
0010	12+05	-	12+45	LT	55	55	0.05	0.5	0.5	0.4
0010	13+15	-	13+65	LT	85	85	0.07	0.7	0.8	0.6
0010	13+80	-	14+25	LT	95	95	0.06	0.6	0.7	0.5
0010	13+15	-	14+72	RT	200	200	0.18	1.8	2.1	1.6
0010	UNDISTRIBUTED				185	185	0.22	2.2	1.2	1.2
				TOTAL 0010	1,000	1,000	1.00	10.0	10.0	8.0

PERMANENT SIGNING

CATEGORY	STATION	LOCATION	634.0612 POSTS WOOD 4X6-INCH X 12-FT EACH	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	12+65	LT	1	3.0	1	1	W5-52L
0010	12+65	RT	1	3.0	1	1	W5-52R
0010	13+05	LT	1	3.0	1	1	W5-52R
0010	13+05	RT	1	3.0	1	1	W5-52L
		TOTAL 0010	4	12.0	4	4	

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1005 MARKING LINE PAINT 4-INCH LF	REMARKS
0010	10+07	-	14+72	LT	465	EDGE OF LANE - WHITE
0010	10+07	-	14+72	RT	465	EDGE OF LANE - WHITE
0010	10+07	-	14+72	ON LINE	120	CENTERLINE - YELLOW
				TOTAL 0010	1,050	

3

TRAFFIC CONTROL

CATEGORY	LOCATION	DETAIL	DURATION DAYS	TRAFFIC CONTROL BARRICADES TYPE III NO. DEVICES	643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY	TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. DEVICES	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	TRAFFIC CONTROL SIGNS NO. DEVICES	643.0900 TRAFFIC CONTROL SIGNS DAY	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS DAY
0010	--	DETOUR- OVERVIEW	100	-	-	-	-	6	600	-	-
0010	CTH N AT CTH TT	DETOUR - DETAIL 1	100	2	200	4	400	41	4,100	5	-
0010	CTH TT AT CTH T	DETOUR - DETAIL 2	100	-	-		-	33	3,300	-	-
0010	CTH T AT CTH N	DETOUR - DETAIL 3	100	4	400	8	800	38	3,800	1	-
0010	--	NORTH APPROACH	100	7	700	14	1,400	4	400	-	7
0010	--	SOUTH APPROACH	100	7	700	14	1,400	4	400	-	7
0010	UNDISTRIBUTED		-	-	220	-	440	-	1,300	-	-
			TOTAL 0010		2,220		4,440		13,300	6	14

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-13-0911) EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
0010	10+07	-	12+38	SOUTH APPROACH	230	230	230	-	230
0010	13+25	-	14+72	NORTH APPROACH	150	150	150	-	150
				TOTAL 0010	380	380	380	0	380
0020	10+07	-	14+72	PROJECT	-	-	-	1	-
				TOTAL 0020	0	0	0	1	0

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF
0010	10+07	-	10+07	LT & RT	30
0010	14+25	-	14+25	LT & RT	30
				TOTAL 0010	60

PROJECT ITEMS

CATEGORY	PROJECT	213.0100.02 FINISHING ROADWAY (PROJECT) (02. 3679-00-73) EACH	618.0100.02 MAINTENANCE AND REPAIR OF HAUL ROADS (PROJECT) (02. 3679-00-73) EACH	619.1000 MOBILIZATION EACH	642.5001 FIELD OFFICE TYPE B EACH	643.5000 TRAFFIC CONTROL EACH	650.9911.02 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (02. 3679-00-73) EACH
0010	3679-00-73	1	-	0.57	0.5	0.5	1
	TOTAL 0010	1	0	0.57	0.5	0.5	1
0030	3679-00-73	-	1	-	-	-	-
	TOTAL 0030	0	1	0.00	0.0	0.0	0

RECEIVED 2/28/2025 DANE COUNTY CLERK

Relocation Order # 800

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE (P.L.)
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) (W (TYPE))
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING TO BE REMOVED
BRIDGE CULVERT

SECTION CORNER SYMBOL (18, 23, 24, 26, 25, 9)
SECTION CORNER MONUMENT
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN (SIGN)
OFF-PREMISE SIGN (#1-25, SIGN)

R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP

	COMPENSABLE	NON-COMPENSABLE
ELECTRIC POLE	■	□
TELEPHONE POLE	●	⌀
PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)	◆	◇

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)

PARCEL NUMBER 25
UTILITY NUMBER 40
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	⊠

CONVENTIONAL ABBREVIATIONS

ACCESS RIGHTS	AR	POINT OF COMPOUND CURVE	PCC
ACRES	AC	POINT OF INTERSECTION	PI
AHEAD	AH	PROPERTY LINE	PL
ALUMINUM	ALUM	RECORDED AS	(100')
AND OTHERS	ET AL	REEL / IMAGE	R/I
BACK	BK	REFERENCE LINE	R/L
BLOCK	BLK	REMAINING	REM
CENTERLINE	C/L	RESTRICTIVE DEVELOPMENT EASEMENT	RDE
CERTIFIED SURVEY MAP	CSM	RIGHT	RT
CONCRETE	CONC	RIGHT OF WAY	R/W
COUNTY	CO	SECTION	SEC
COUNTY TRUNK HIGHWAY	CTH	SEPTIC VENT	SEPV
DISTANCE	DIST	SQUARE FEET	SF
CORNER	COR	STATE TRUNK HIGHWAY	STH
DOCUMENT NUMBER	DOC	STATION	STA
EASEMENT	EASE	TELEPHONE PEDESTAL	TP
EXISTING	EX	TEMPORARY LIMITED EASEMENT	TLE
GAS VALVE	GV	TRANSPORTATION PROJECT PLAT	TPP
GRID NORTH	GN	UNITED STATES HIGHWAY	USH
HIGHWAY EASEMENT	HE	VOLUME	V
IDENTIFICATION	ID		
LAND CONTRACT	LC		
LEFT	LT		
MONUMENT	MON		
NATIONAL GEODETIC SURVEY	NGS		
NUMBER	NO		
OUTLOT	OL		
PAGE	P		
POINT OF TANGENCY	PT		
PERMANENT LIMITED EASEMENT	PLE		
POINT OF BEGINNING	POB		
POINT OF CURVATURE	PC		

CURVE DATA ABBREVIATIONS

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE	Δ /DELTA
LENGTH OF CURVE	L
TANGENT	T
DIRECTION AHEAD	DA
DIRECTION BACK	DB

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DANE COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY AND PERMANENT EASEMENT MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"X24" REBAR) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

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.

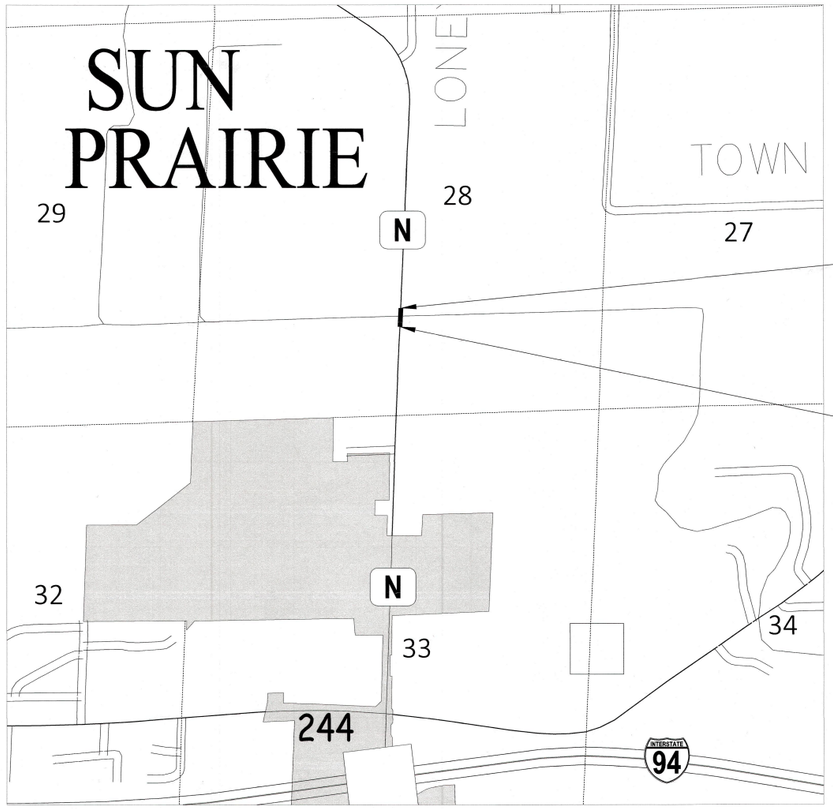
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, 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 DESIRABLE. ALL (TLES) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE DANE COUNTY HIGHWAY DEPARTMENT.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE ARE LISTED ON THE DETAIL PAGES.



TOTAL NET LENGTH OF CENTERLINE = 248.68 FEET

APPROXIMATELY 1176 FEET SOUTH OF AND
47 FEET WEST OF THE CENTER 1/4 CORNER OF
SECTION 28, T8N, R11E, TOWN OF SUN PRAIRIE, WI.

END RELOCATION ORDER
STA 14+14.97
Y= 501,885.879
X= 870,781.382

BEGIN RELOCATION ORDER
STA 11+66.29
Y= 501,637.453
X= 870,770.165

APPROXIMATELY 1191 FEET NORTH OF AND
52 FEET EAST OF THE SOUTH 1/4 CORNER OF
SECTION 28, T8N, R11E, TOWN OF SUN PRAIRIE, WI.

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
3679-00-03	1	2
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT OF WAY REQUIRED FOR

CTH TT - CTH T

KOSHKONONG CREEK BRIDGE B-13-0911

CTH N	DANE COUNTY
CONSTRUCTION PROJECT NUMBER	

ORIGINAL PLAT PREPARED BY
MSA
1702 Pankratz Street, Madison, WI 53704
608-242-7779 1-800-446-0679 Fax: 608-242-5664

WISCONSIN
BRADLEY L. TISDALE
S-2824
WAUNAKEE
WI
LAND SURVEYOR

02/18/2025 (DATE)
Bradley L Tisdale (Professional Land Surveyor)



THIS PLAT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES AND ACCESS RIGHTS.

REVISION DATE	DANE COUNTY HIGHWAY DEPARTMENT
	APPROVED FOR THE COUNTY DATE: 02/25/25 Clement Abongwa (Signature)

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\RW\11331037_CTH N_PLAT.DWG
PLOT DATE : 2/6/2025 2:22 PM
PLOT BY : BRAD TISDALE
PLOT NAME :

4

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE COUNTY.

PARCEL NUMBER	OWNER(S)	INTEREST(S) REQUIRED	R/W ACRES REQUIRED			TLE ACRES
			NEW	EXISTING	TOTAL	
1	ERNEST FARMS, LLC, A WISCONSIN LIMITED LIABILITY COMPANY	TLE/FEE	0.077	0.217	0.294	0.021
2	MICHAEL S. MCMAHON AND ALLEN J. MCMAHON, AS TENANTS IN COMMON	FEE	0.018	0.029	0.047	--

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	OWNER(S)	PARCEL AFFECTED	INTEREST REQUIRED
80	ALLIANT ENERGY (WP&L)	1, 2	RELEASE OF RIGHTS
81	EVERSTREAM	1, 2	RELEASE OF RIGHTS
82	FRONTIER COMMUNICATIONS	1	RELEASE OF RIGHTS

EASEMENT TABLE

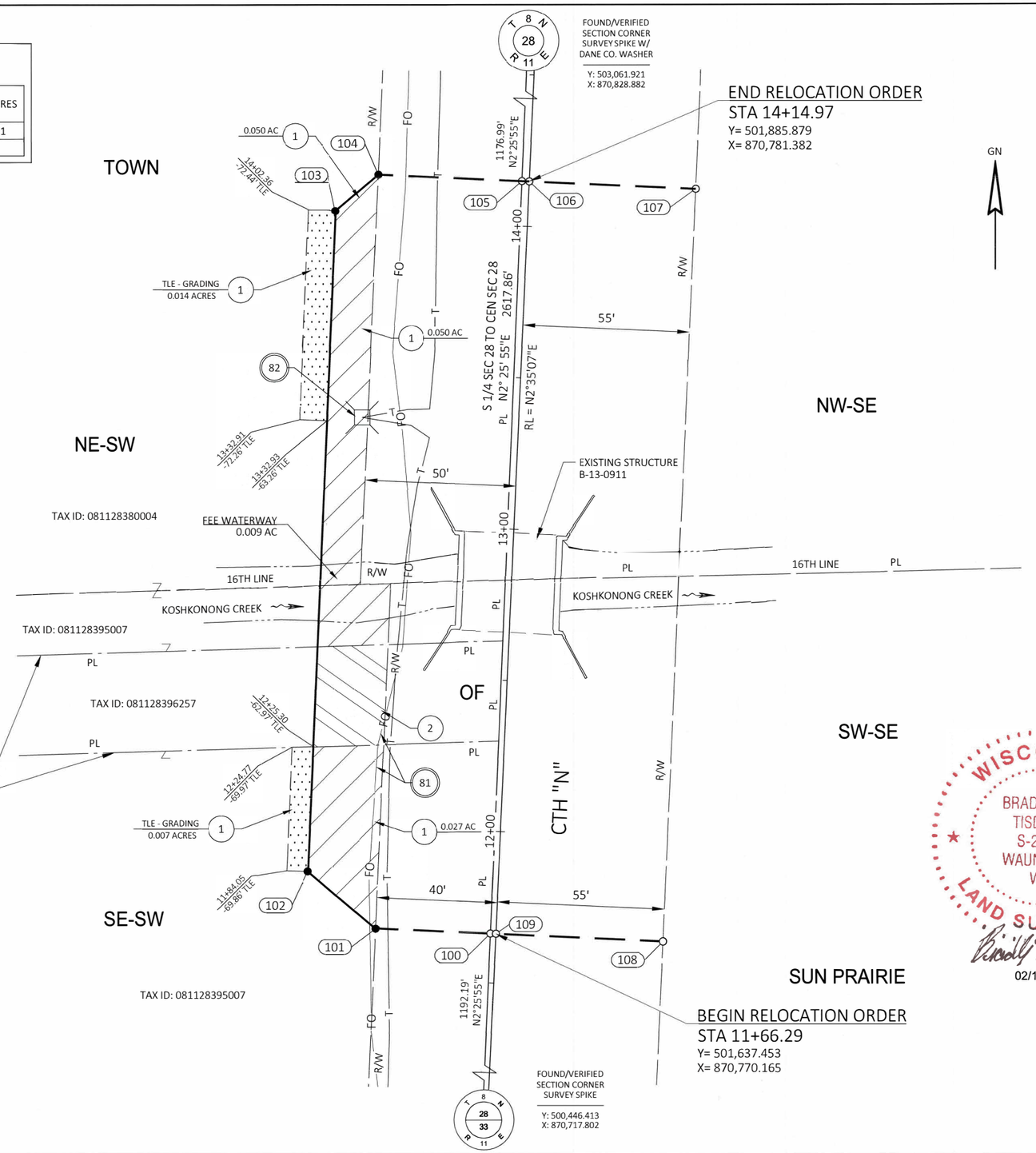
UTILITY NUMBER	OWNER	RECORDING INFORMATION	PARCEL AFFECTED
80	ALLIANT ENERGY (WP&L)	VOL. 304, P. 308 DOCUMENT #938709	1, 2

COURSE TABLE

LINE	BEARING	DISTANCE
100-101	N87°24'53"W	37.97'
101-102	N49°50'28"W	29.15'
102-103	N02°25'55"E	218.31'
103-104	N49°28'20"E	18.42'
104-105	S87°24'53"E	47.55'
105-106	S87°24'53"E	2.44'
106-107	S87°24'53"E	55.00'
107-108	S02°31'45"W	248.68'
108-109	N87°24'53"W	55.25'
109-100	N87°24'53"W	1.78'
100-105	N02°25'55"E	248.68'

R/W STATION AND OFFSETS

POINT	STATION	OFFSET
100	11+66.29	-1.78'
101	11+66.29	-39.75'
102	11+84.07	-62.86'
103	14+02.39	-63.44'
104	14+14.97	-50.00'
105	14+14.97	-2.44'
106	14+14.97	0.00'
107	14+14.97	55.00'
108	11+66.29	55.25'
109	11+66.29	0.00'



WISCONSIN
BRADLEY L. TISDALE
S-2824
WAUNAKEE
WI
LAND SURVEYOR
02/18/2025

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), DANE COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

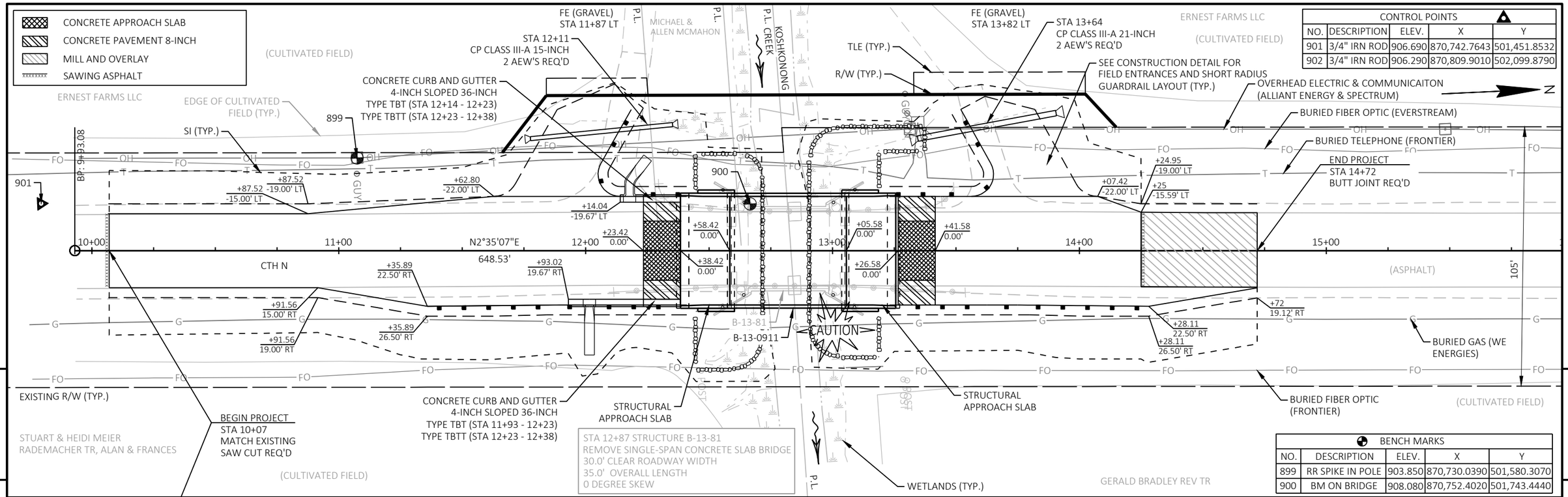
ALL NEW RIGHT-OF-WAY AND PERMANENT EASEMENT MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"X24" REBAR) UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE DANE COUNTY HIGHWAY DEPARTMENT.

EXISTING HIGHWAY RIGHT-OF-WAY FOR CTH N ESTABLISHED FROM PREVIOUS DANE COUNTY HIGHWAY COMMISSION PROJECT 1203.

REVISION DATE	DATE	SCALE, FEET	HWY: CTH N	STATE R/W PROJECT NUMBER 3679-00-03	PLAT SHEET 4. 02	
	GRID FACTOR N/A	0 20 40	COUNTY: DANE	CONSTRUCTION PROJECT NUMBER	PS&E SHEET	E

FILE NAME : 11331037_CTH N_PLAT.DWG
LAYOUT NAME - RW 1 I N100 FT
PLOT DATE : 2/6/2025 4:07 PM PLOT BY : BRAD TI SDALE PLOT NAME : PLOT SCALE :
WISDOT/CADDS SHEET 75



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	PLAN AND PROFILE: CTH N	SHEET 22 E

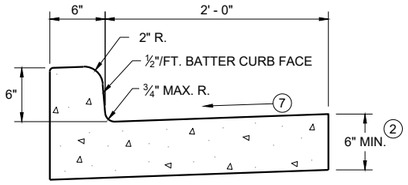
FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\050101-PP.DWG
LAYOUT NAME - 050101-pp

PLOT DATE : 12/2/2025 9:52 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : PLOT SCALE : 1 IN:40 FT

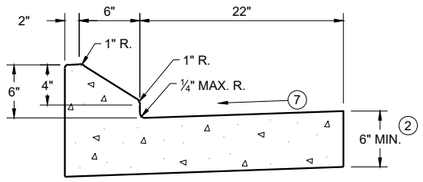
WISDOT/CADDS SHEET 44

Standard Detail Drawing List

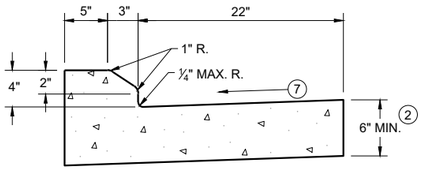
08D01-24A	CONCRETE CURB & GUTTER
08D01-24B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-08A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08B	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-08C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13B02-09B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
14B20-12A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-12D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B27-01A	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01B	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B27-01C	STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-04A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-04C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-05A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-05J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-24A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS



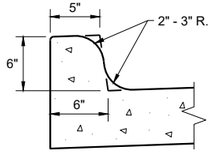
TYPES A (1) & D



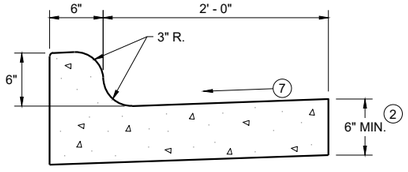
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

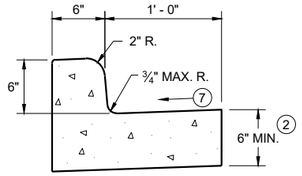


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



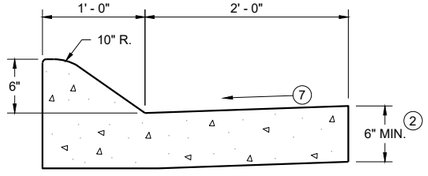
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

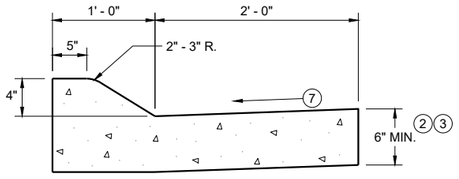


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

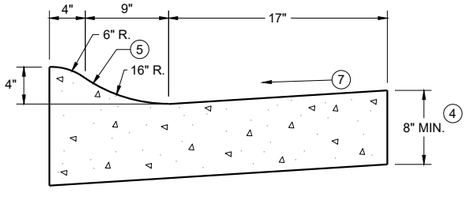


6" SLOPED CURB TYPES A (1) & D



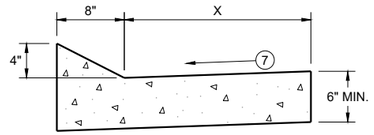
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T
CONCRETE CURB AND GUTTER 30"

TBT & TBTT	X
30"	22"
36"	28"

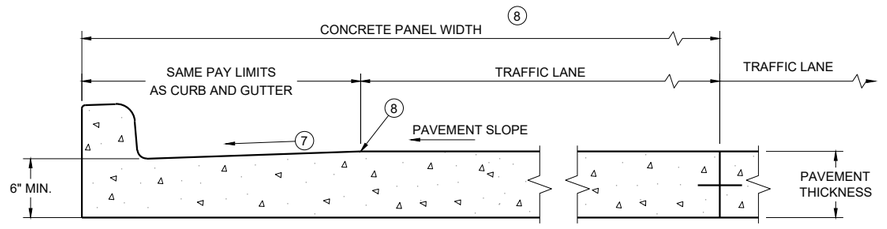


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

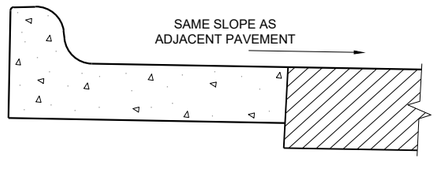
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

PAVEMENT THICKNESS	MAXIMUM PANEL WIDTH
LESS THAN 10"	12'
10" & ABOVE	15'



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB AND GUTTER *

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

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

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

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

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

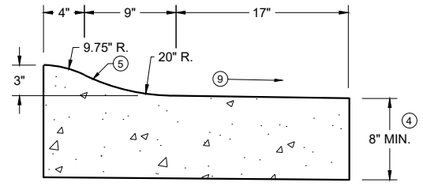
(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

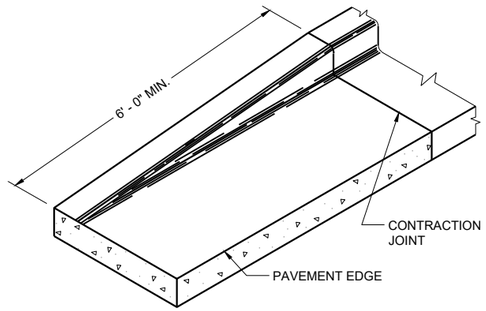
(9) SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY



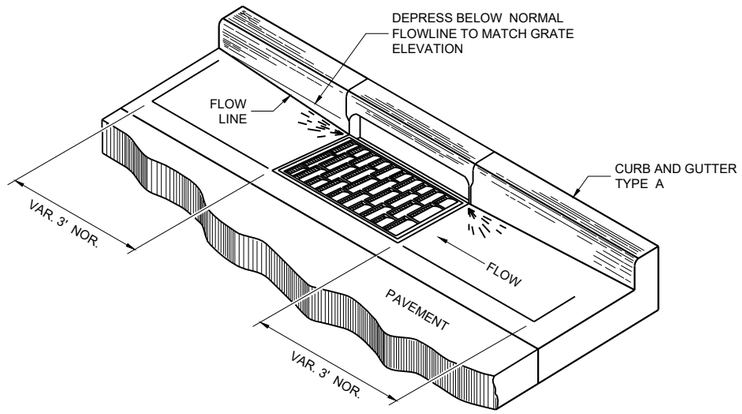
3" SLOPED CURB TYPES R (1) & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

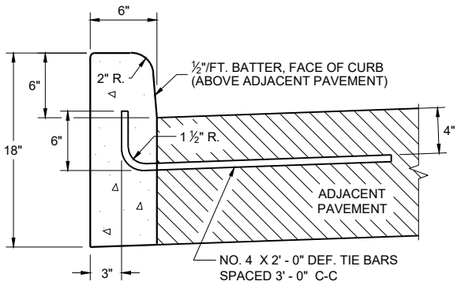
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

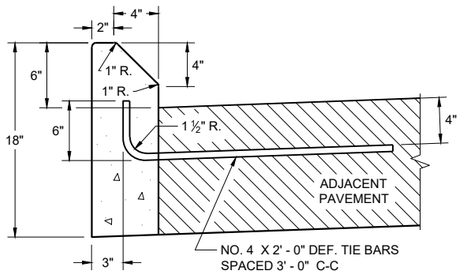
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

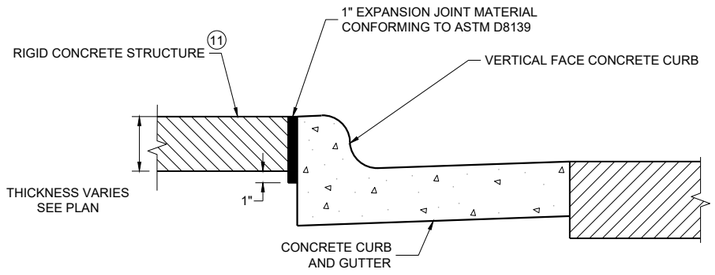


TYPES A (1) & D

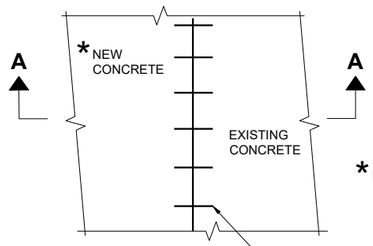


TYPES G (1) & J

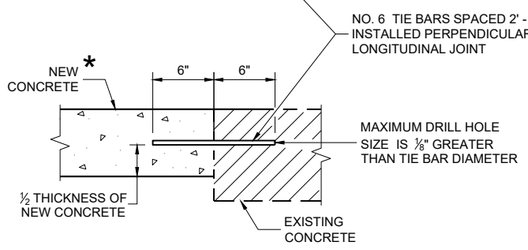
CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)

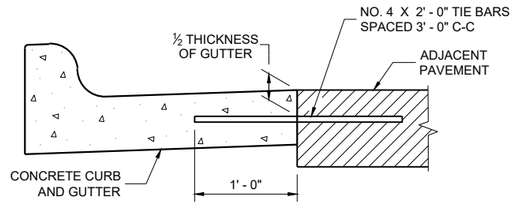


PLAN VIEW

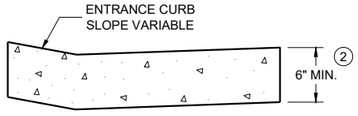


SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



TYPICAL TIE BAR LOCATION (1)



DRIVEWAY ENTRANCE CURB (10)

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2025 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6
SDD 08D01-24b

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

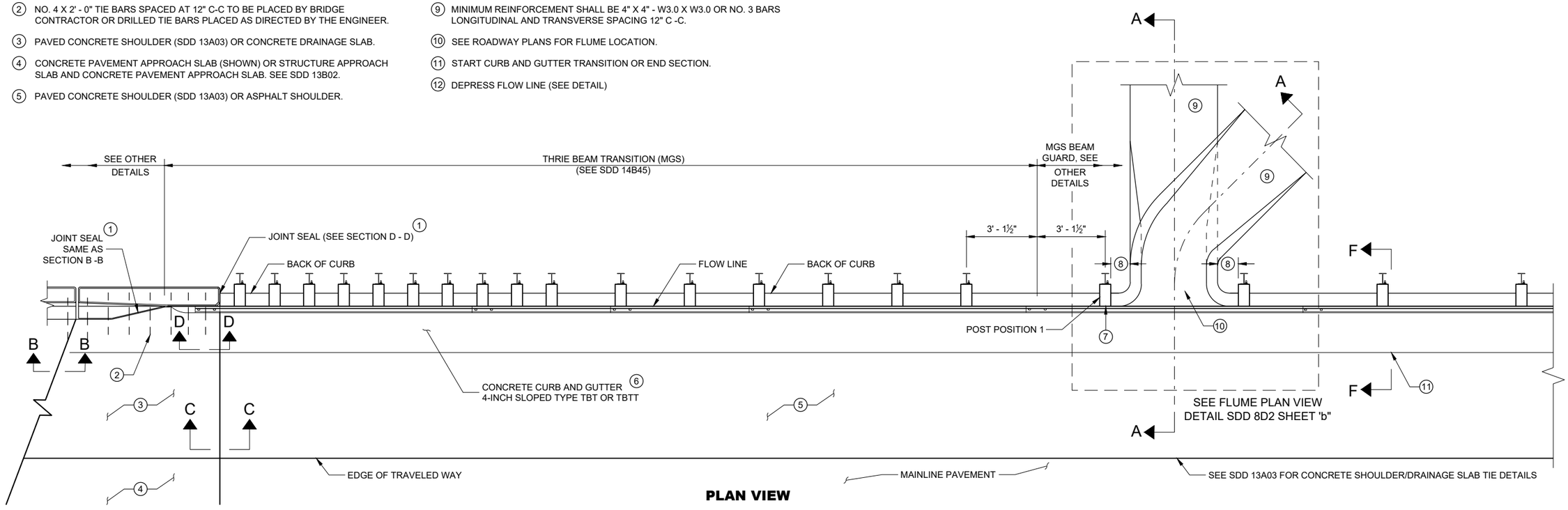
(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

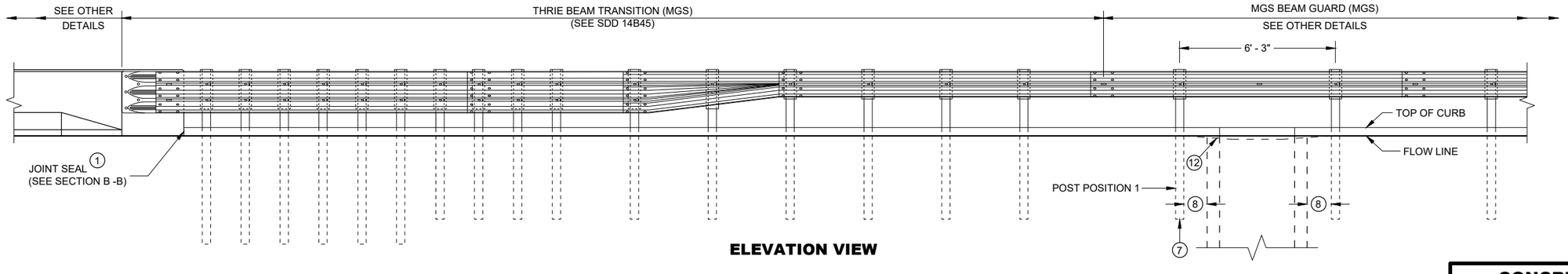
(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)



PLAN VIEW



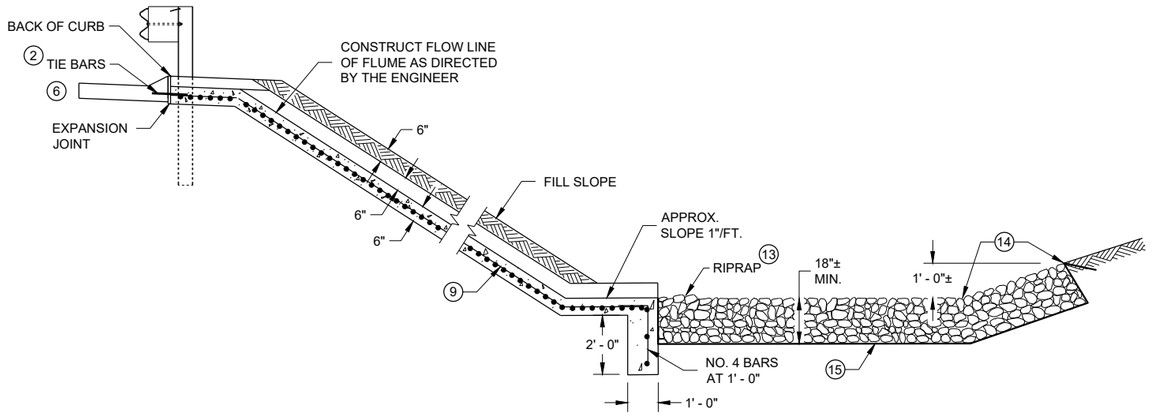
ELEVATION VIEW

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

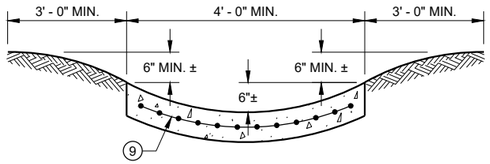
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

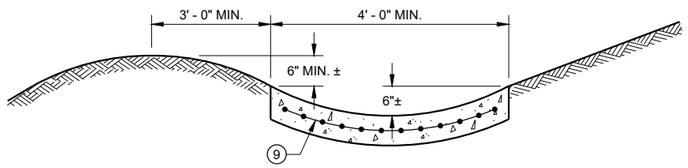
SDD 08D02 - 08a



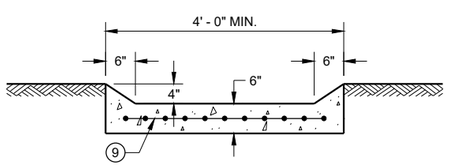
SECTION A - A



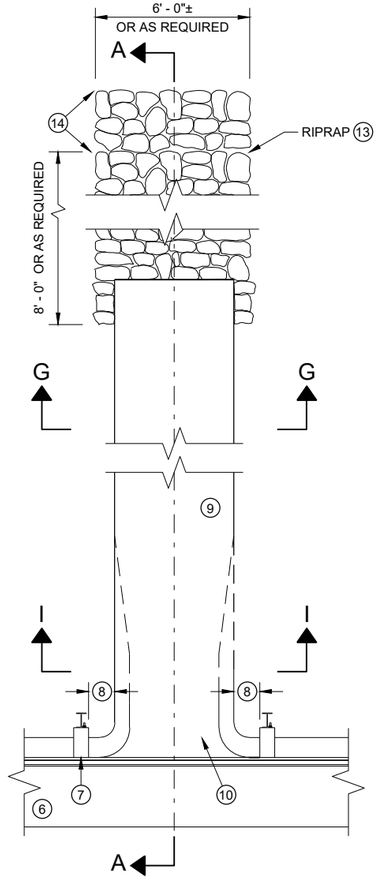
SECTION G - G



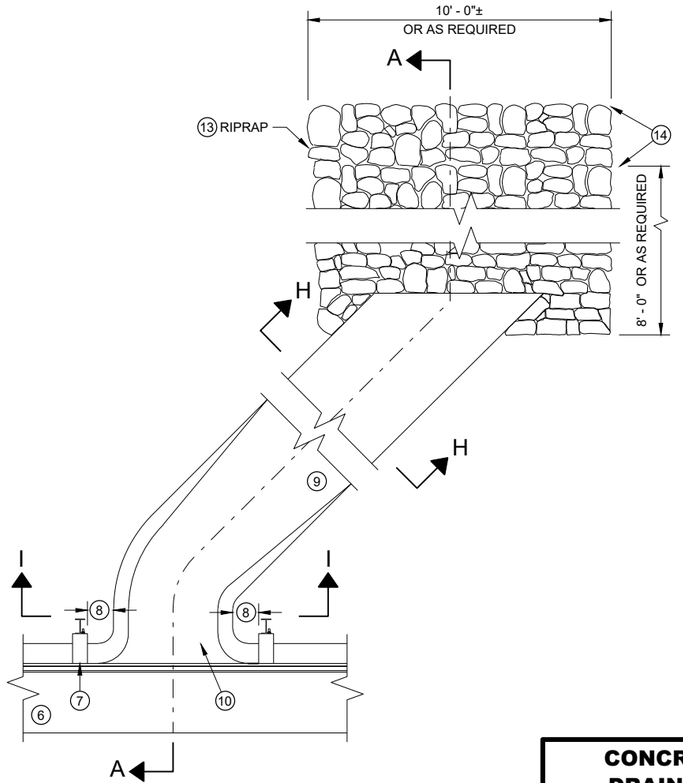
SECTION H - H



SECTION I - I



PLAN VIEW PERPENDICULAR FLUME



PLAN VIEW SKEWED FLUME

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. USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.
2. NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.
3. PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.
4. CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.
5. PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.
6. CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.
7. PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)
8. CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.
9. MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.
10. SEE ROADWAY PLANS FOR FLUME LOCATION.
11. START CURB AND GUTTER TRANSITION OR END SECTION.
12. DEPRESS FLOW LINE (SEE DETAIL)
13. MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.
14. LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH AS REQUIRED.
15. GEOTEXTILE TYPE HR.

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

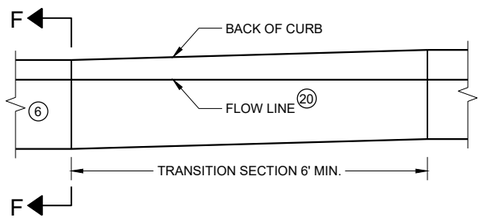
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

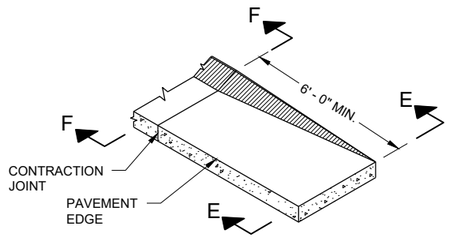
SDD 08D02 - 08b

6

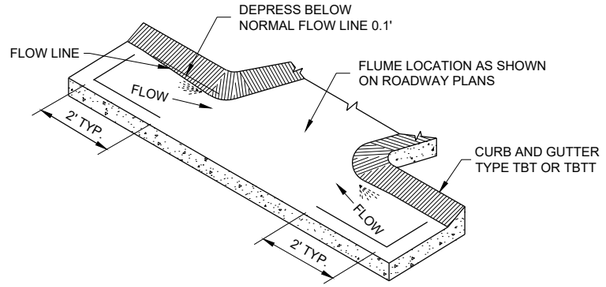
SDD 08D02 - 08b



CURB AND GUTTER TRANSITION SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER END SECTION
CONCRETE CURB AND GUTTER 4-INCH SLOPED
36 INCH TYPE TBT OR TBTT



CURB AND GUTTER FLOW LINE DEPRESSION
AT FLUMES CONCRETE CURB AND GUTTER
4-INCH SLOPED 36 INCH TYPE TBT OR TBTT

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) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

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

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2' -0" TIE BARS SPACED AT 3' - 0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

(7) PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

(8) CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

(9) MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

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

(15) GEOTEXTILE TYPE HR.

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

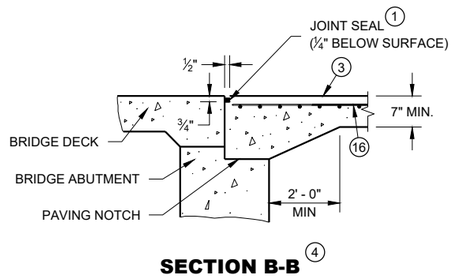
(17) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

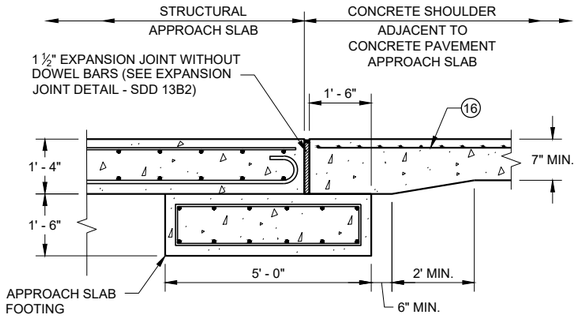
(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

(20) MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

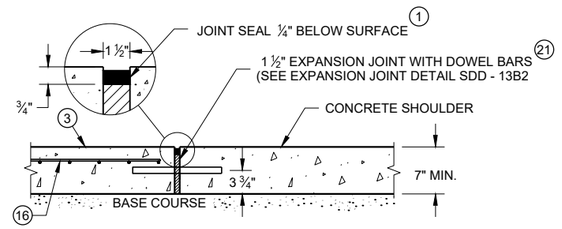
(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



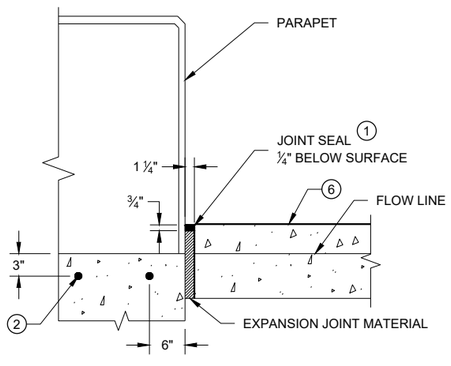
SECTION B-B (4)



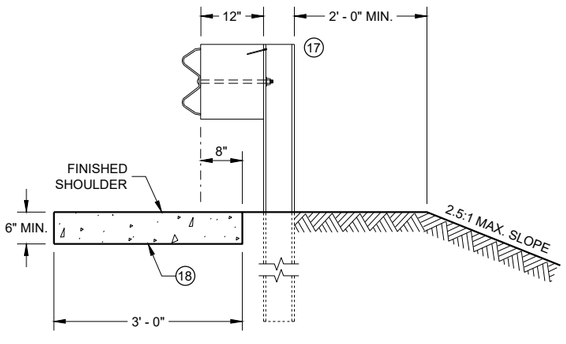
SECTION C - C
JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



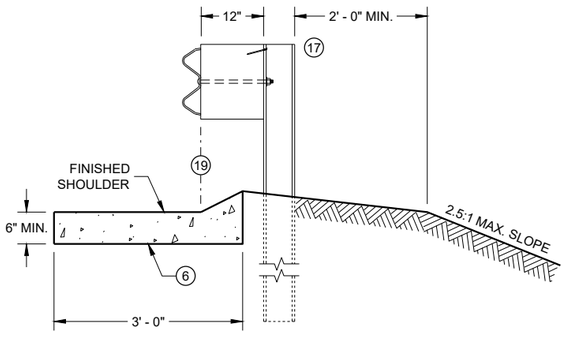
SECTION C - C
JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS



SECTION D - D



SECTION E - E



SECTION F - F

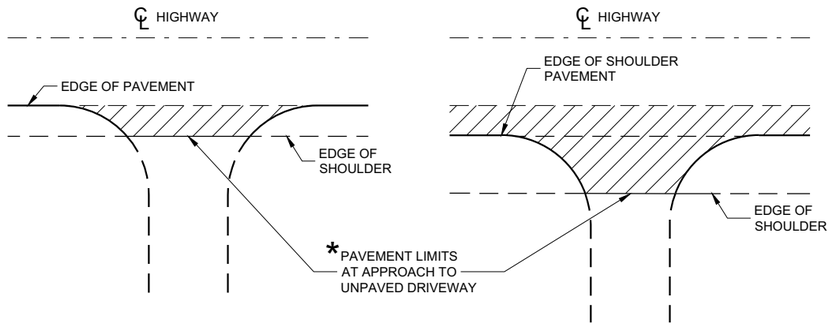
CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

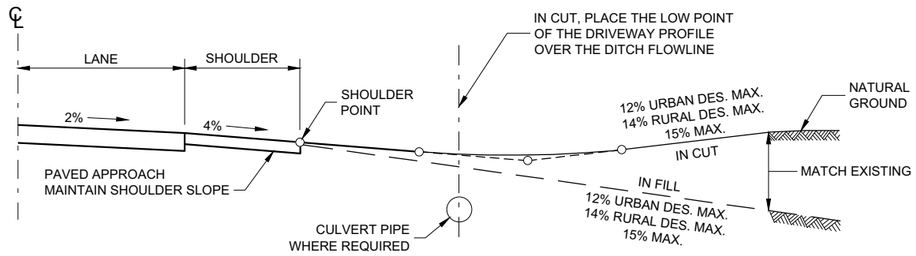
6
SDD 08D02 - 08c



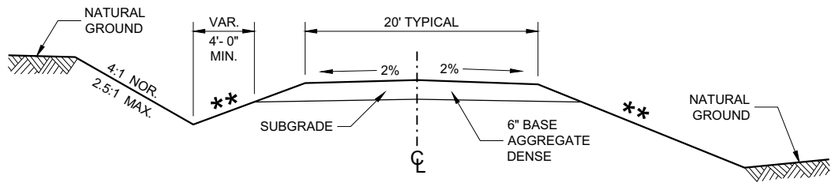
PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)



TYPICAL DRIVEWAY PROFILES

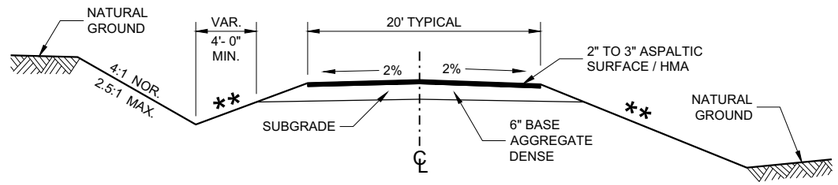


IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



IN CUT **IN FILL**

TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE

6

6

SDD 08D21 - 01

SDD 08D21 - 01

DRIVEWAYS WITHOUT CURB AND GUTTER

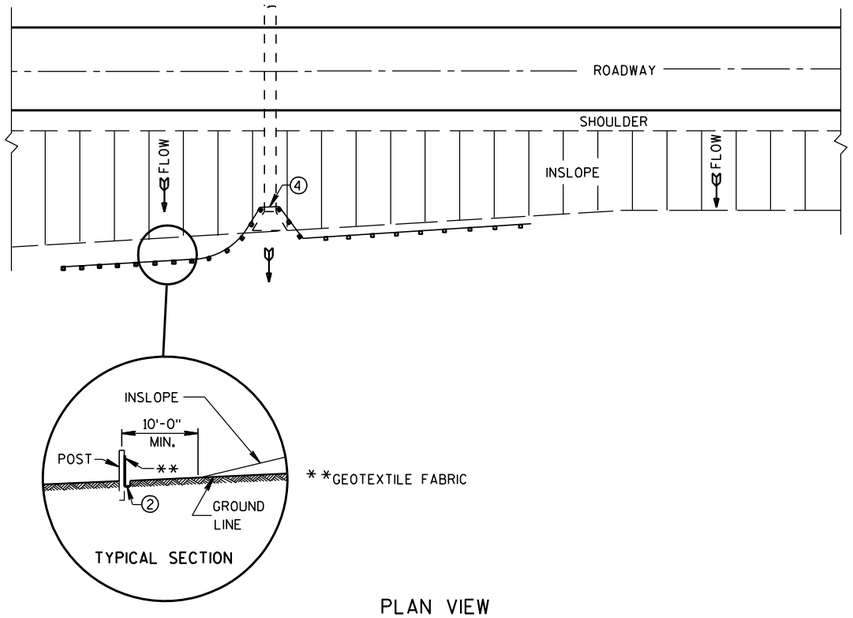
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

December 2017
DATE

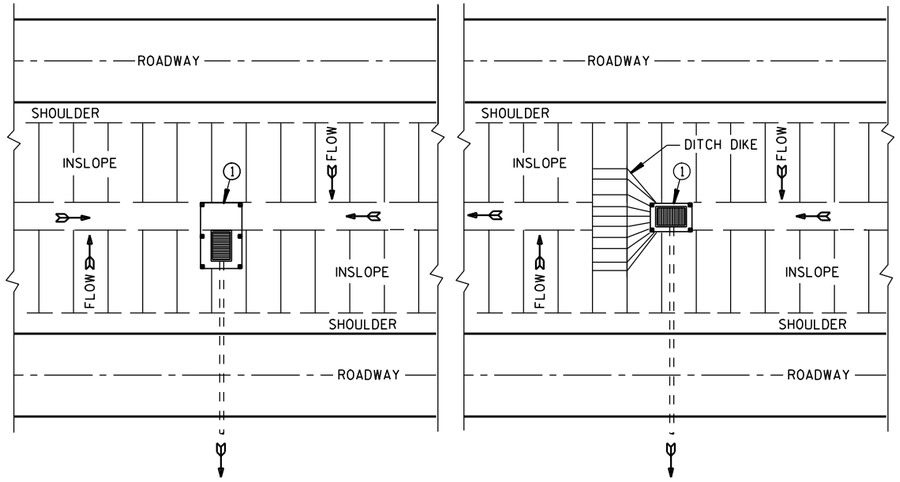
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



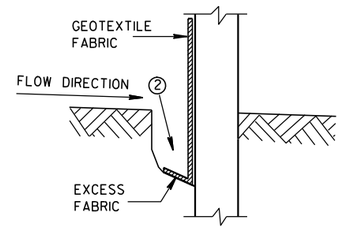
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

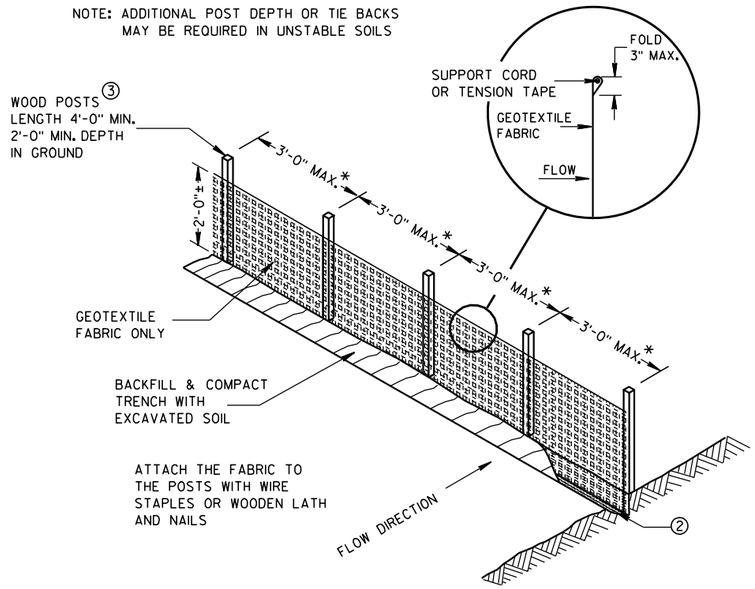
GENERAL NOTES

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

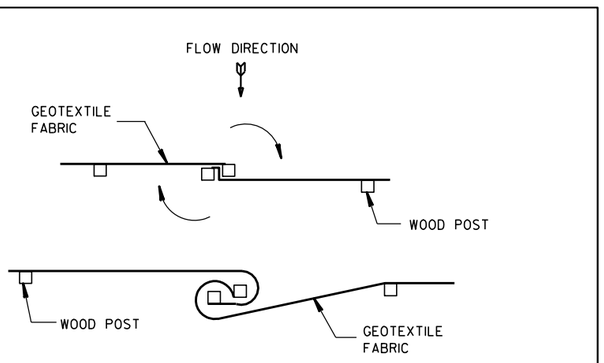
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL 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.



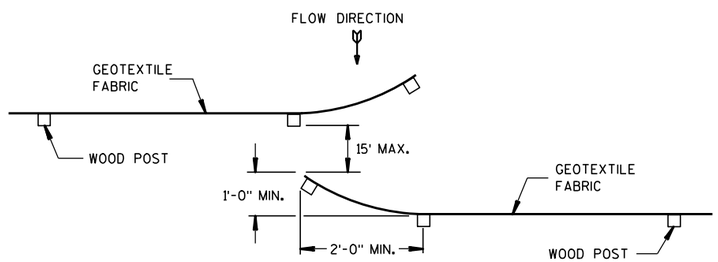
TRENCH DETAIL



SILT FENCE

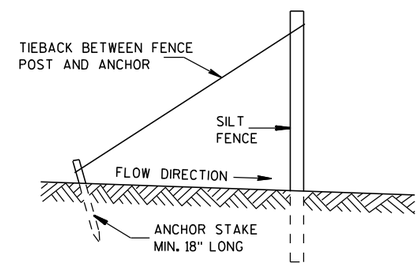


TWIST METHOD



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

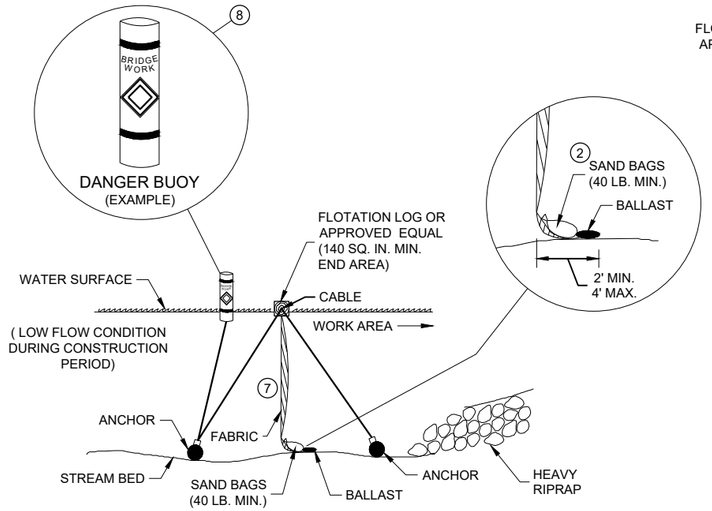
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

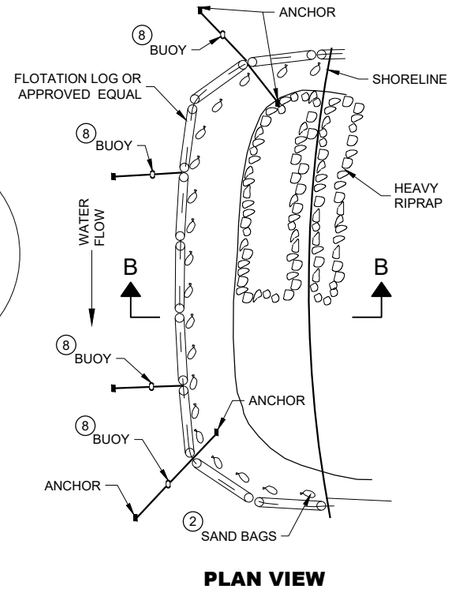
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

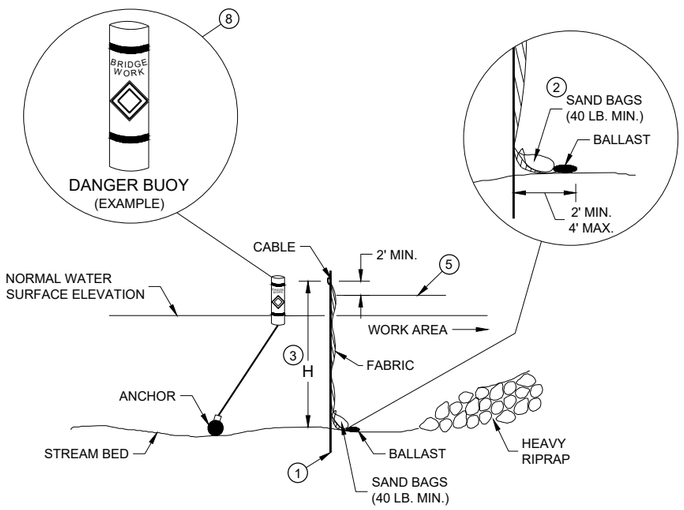


SECTION B - B

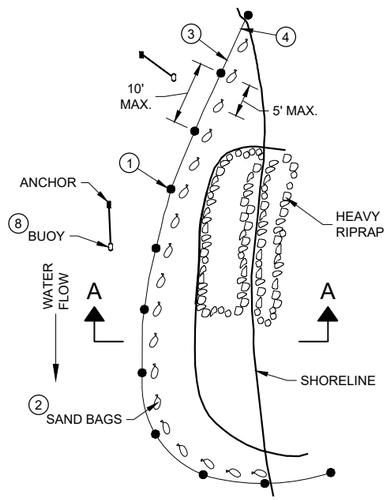


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

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.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

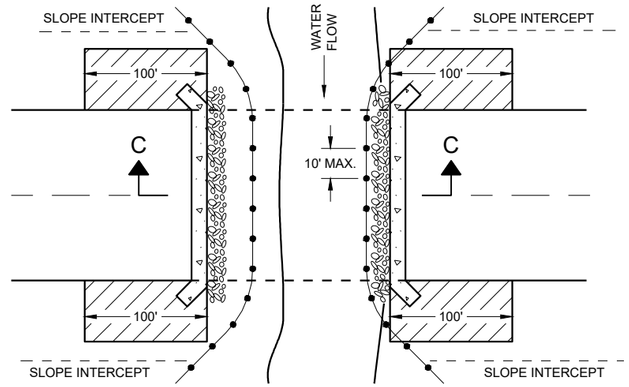
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

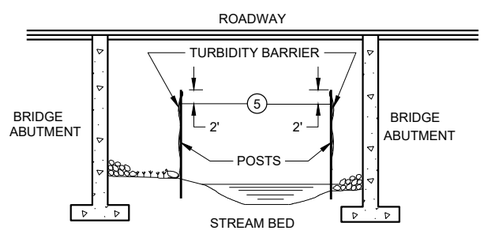
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

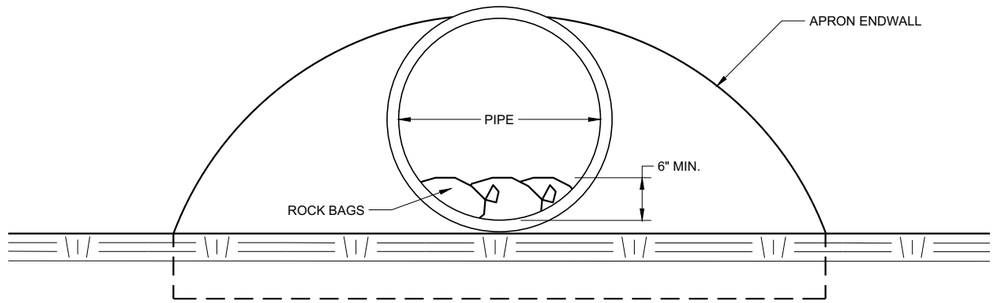
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

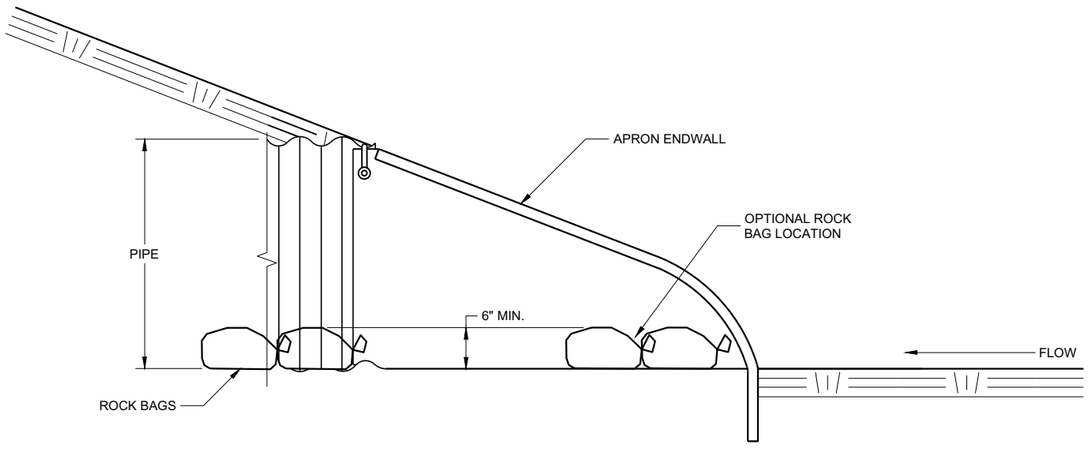
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOI
ENGINEER

FHWA

6
SDD 08E11 - 02



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGI
FHWA	

6

SDD 08E15 - 01

METAL APRON ENDWALLS

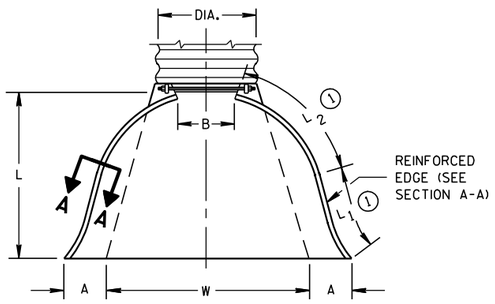
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

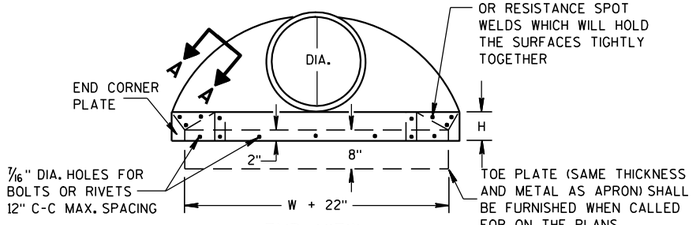
REINFORCED CONCRETE APRON ENDWALLS

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

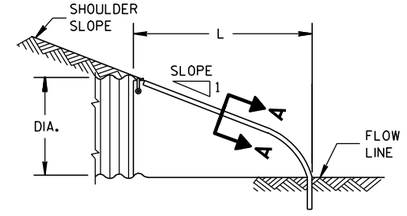
*MINIMUM
**MAXIMUM



PLAN VIEW

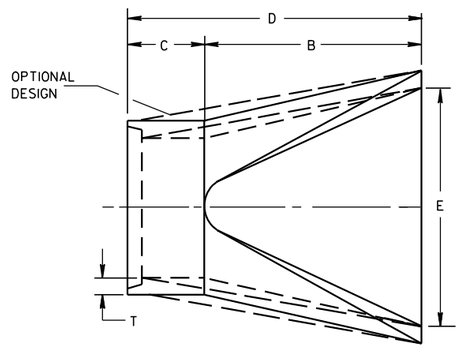


END VIEW

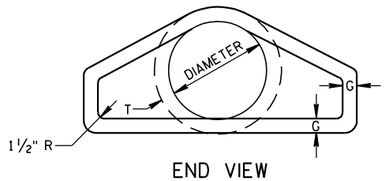


SIDE ELEVATION

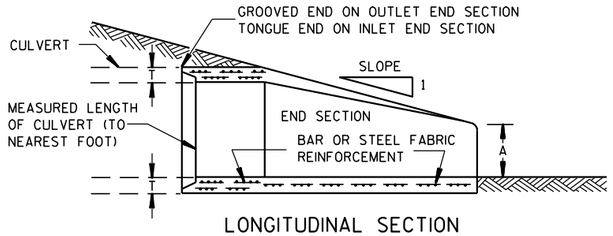
METAL ENDWALLS



PLAN

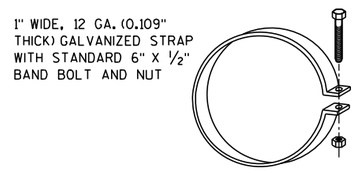


END VIEW



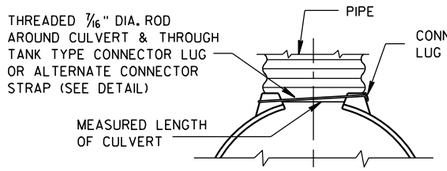
LONGITUDINAL SECTION

CONCRETE ENDWALLS

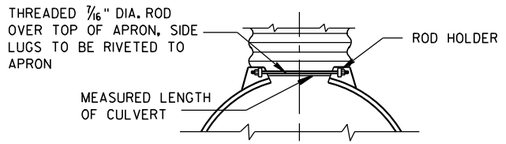


ALTERNATE FOR TYPE 1 CONNECTION

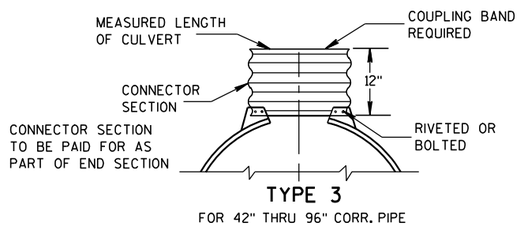
END SECTION CONNECTOR STRAP



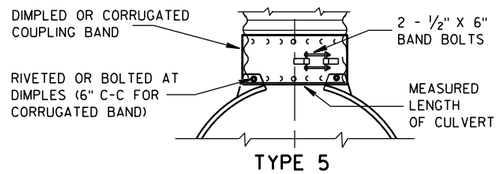
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

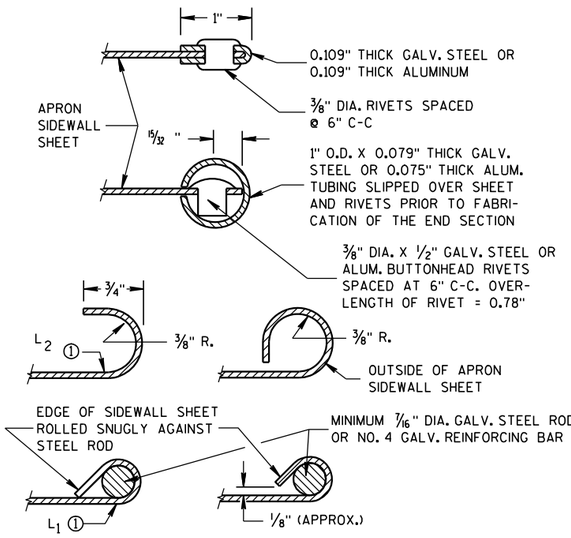
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

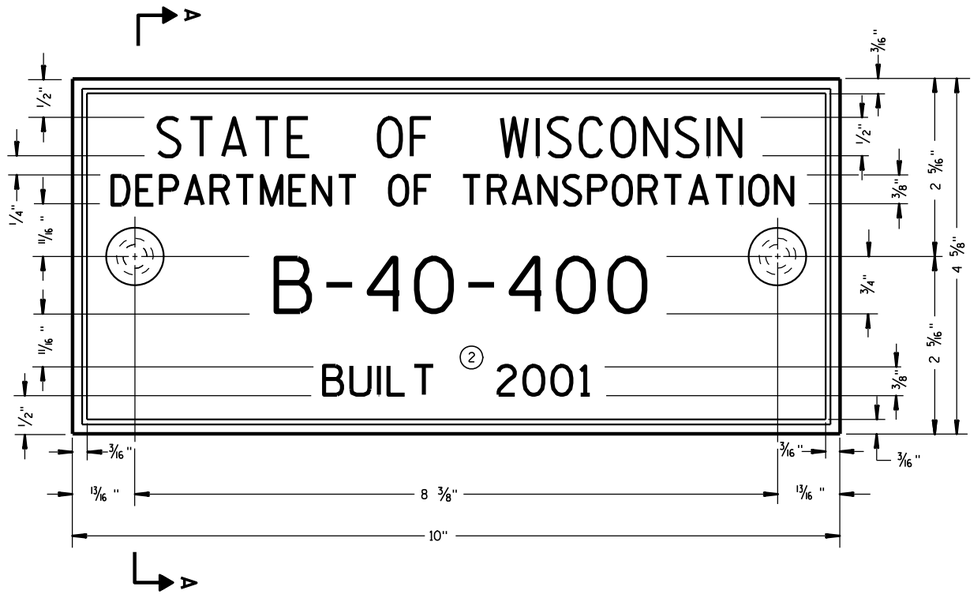
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

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



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

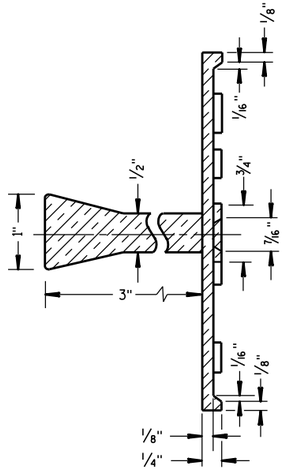
GENERAL NOTES

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.

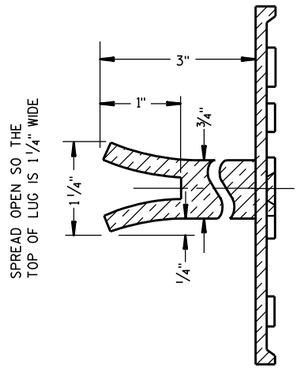
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(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

FOR MULTI-UNIT STRUCTURES LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

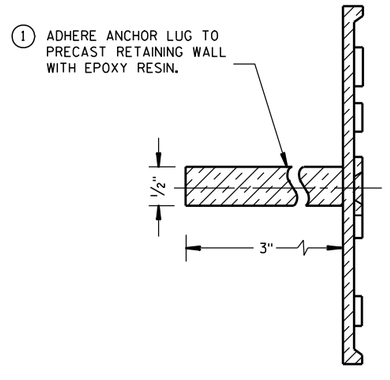
COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

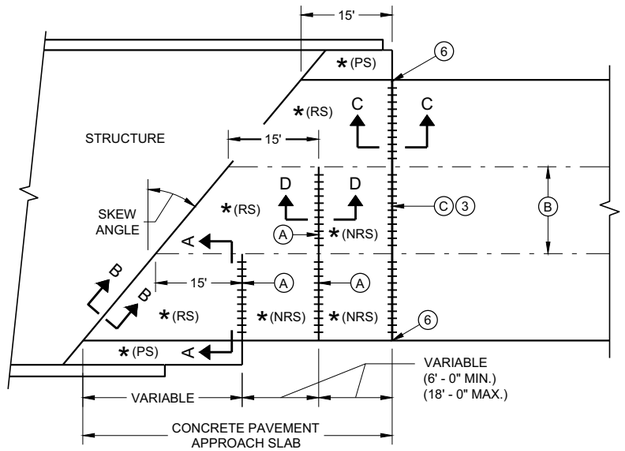
3/26/10 DATE

/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

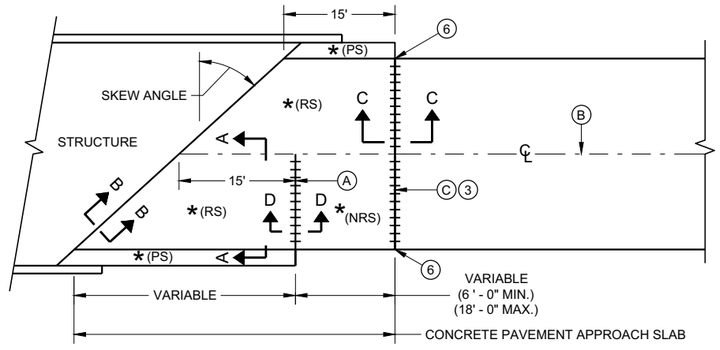
FHWA

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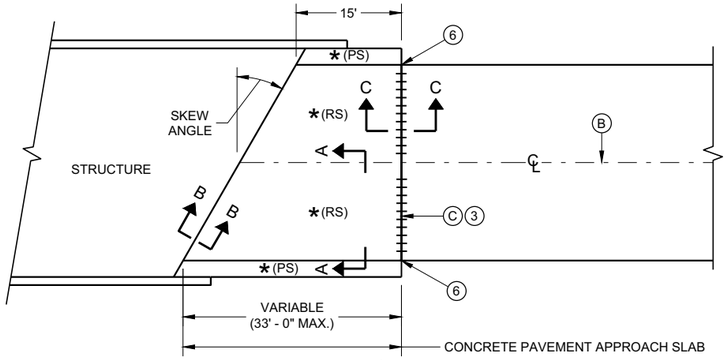
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN TWO LANES)



SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')



SKEWS ≤ 20°
(PAVEMENT WIDTH ≤ 30')

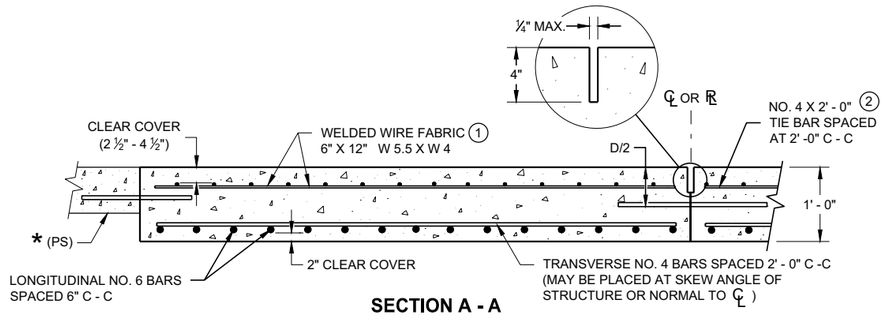
APPROACH SLAB AND ADJACENT PAVEMENT

* (RS) = REINFORCED CONCRETE SLAB

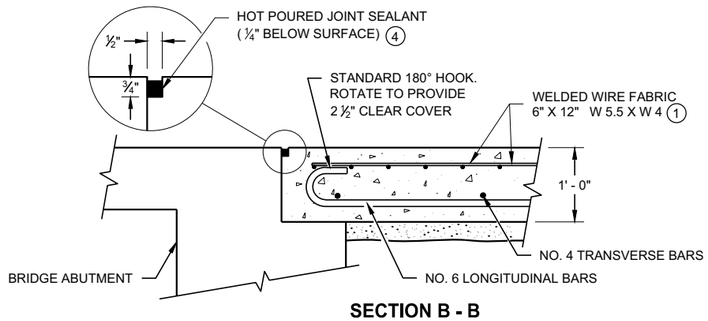
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB

* (NRS) - NON - REINFORCED CONCRETE SLAB

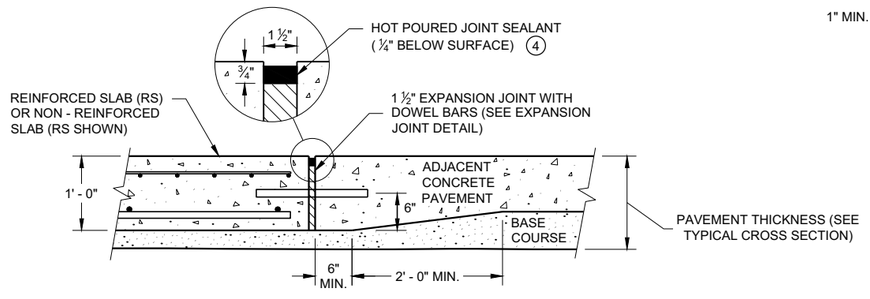
*** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT



SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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

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

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

(4) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

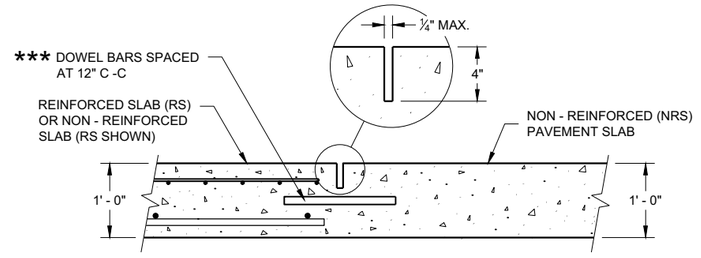
(5) PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.

(6) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

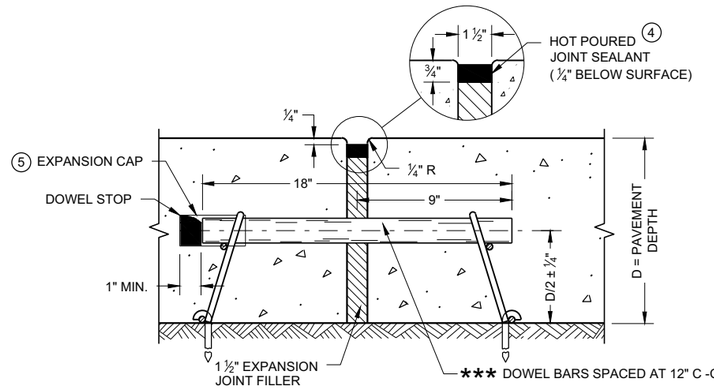
(A) STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℞.

(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞ .



SECTION D - D
CONTRACTION JOINT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

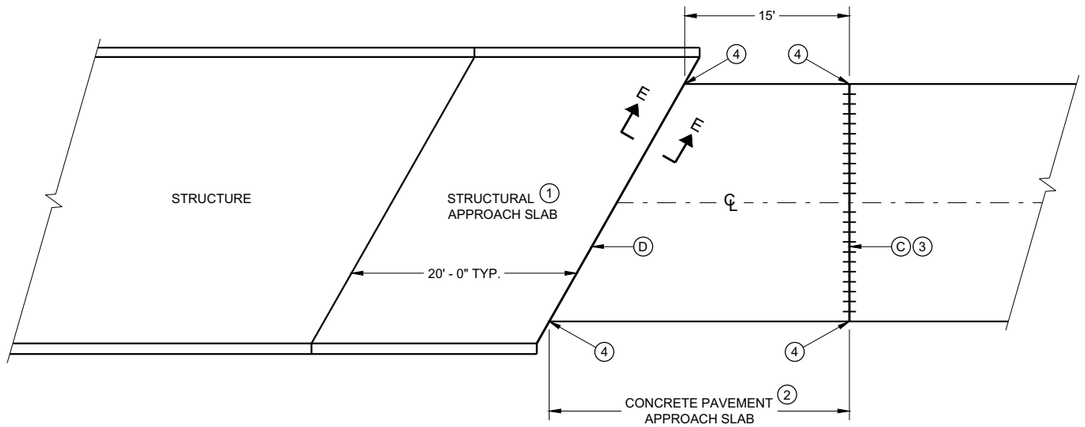
APPROVED
November 2018
DATE

/S/ Peter Kemp, P.E.
PAVEMENT SUPERVIS

FHWA

6

SDD 13B02 - 09a



BRIDGE APPROACHES

GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

(1) SEE BRIDGE PLAN.

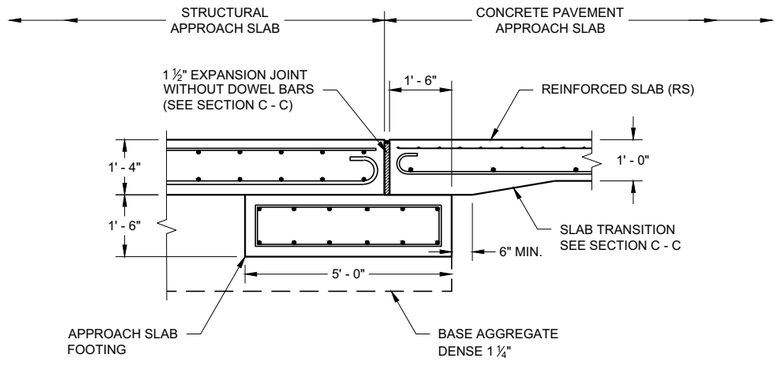
(2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS

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

(4) EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(C) 1 ½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℞.

(D) 1 ½" EXPANSION JOINT (NO DOWELS)



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

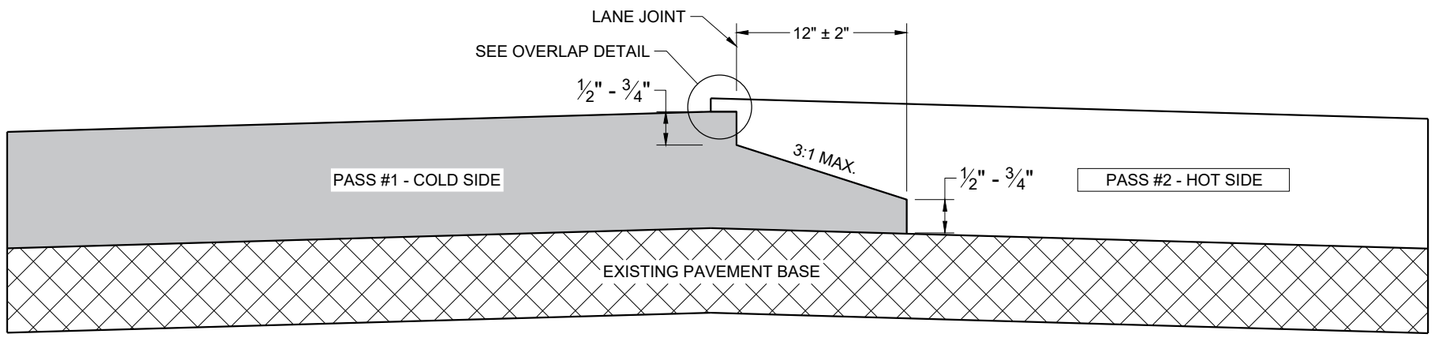
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018
DATE
/S/ Peter Kemp P.E.
PAVEMENT SUPERVIS

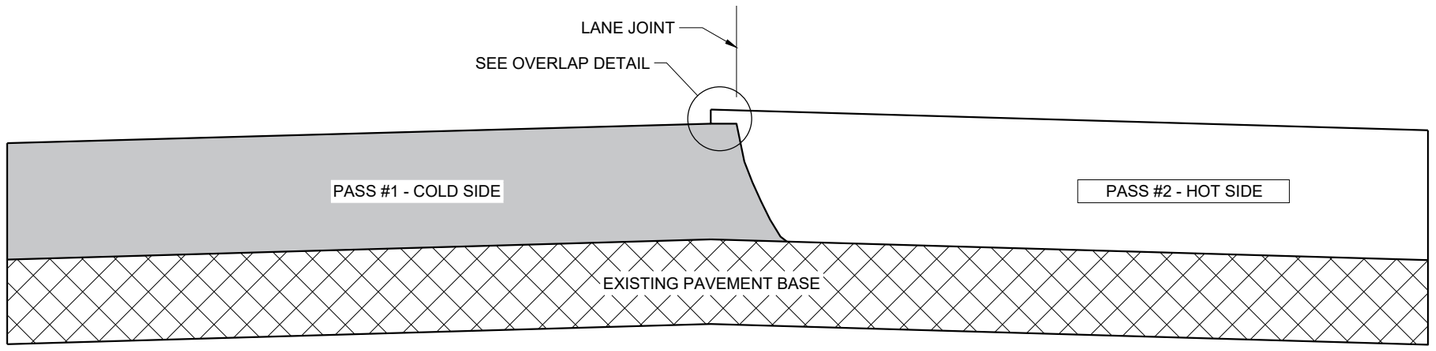
FHWA

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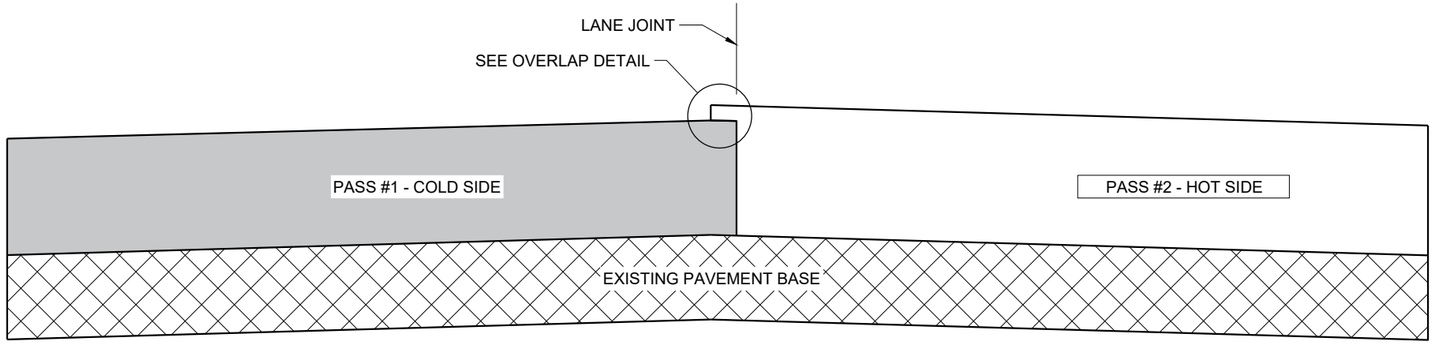
SDD 13B02 - 09b



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

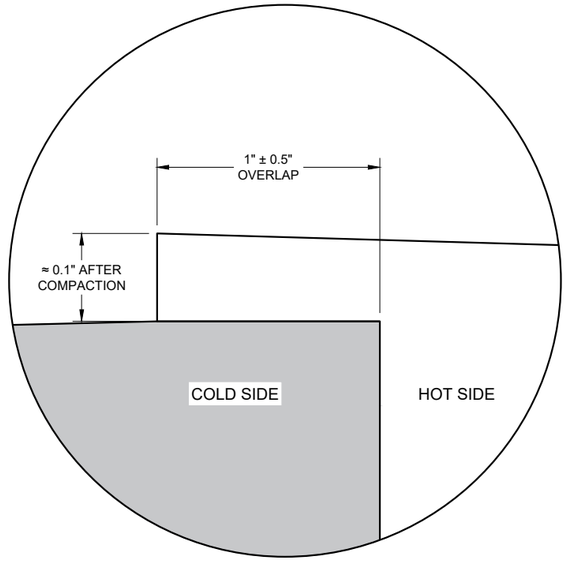
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY 1" ± 0.5" AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY 0.1" AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO 2" FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA

SDD 14B15a Steel Plate Beam Guard, Class "A", Installation and Elements

GENERAL NOTES

1. WOOD OR STEEL POSTS (w6X9 OR w6X8.5) AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6"X8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL AND WOOD POSTS IN A SINGLE INSTALLATION.

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

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

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

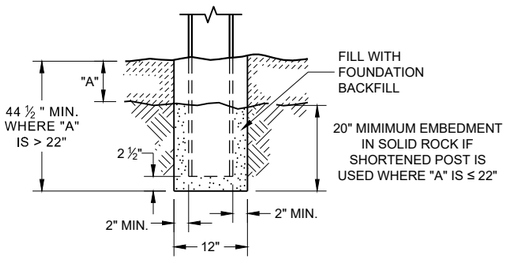
5. IF THE DISTACE FROM BACK OF POST TO SHOULDER HIGHE POINT IS LESS THAN 2 FEET, INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).

6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCHES IN DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT ADEQUATELY.

7. 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.

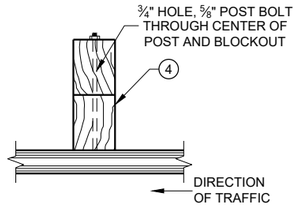
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.

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



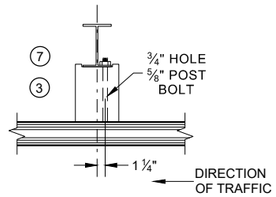
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (6)



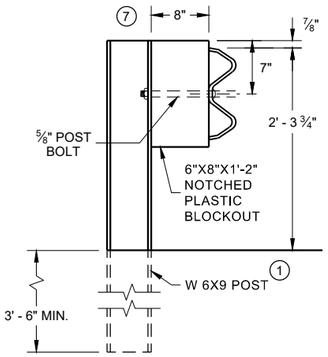
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



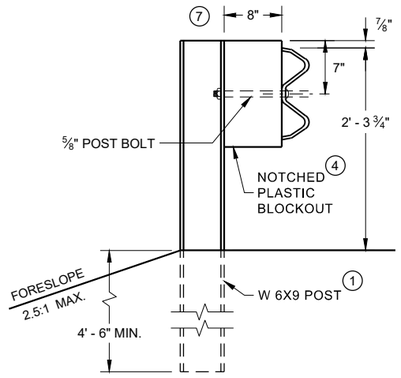
PLAN VIEW

WOOD POST, BLOCKOUT AND BEAM



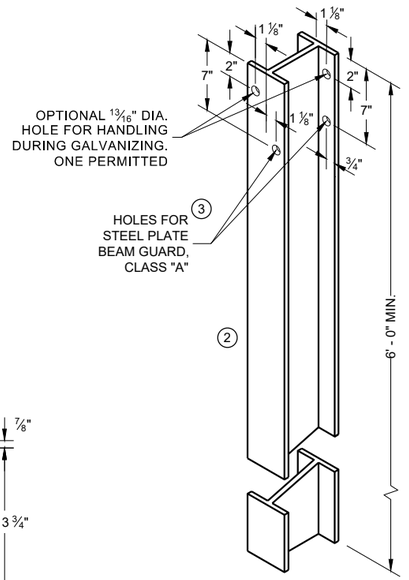
END VIEW

STEEL POST AND NOTCHED PLASTIC BLOCKOUT ALTERNATIVE STANDARD INSTALLATION



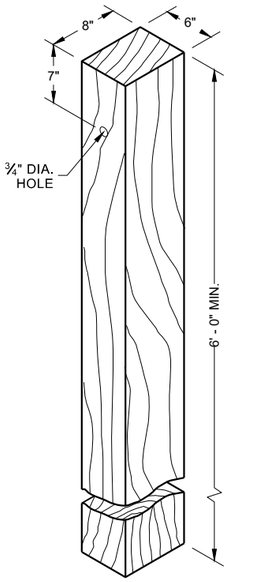
END VIEW

LONGER POST AT HALF POST SPACING W BEAM (LHW)

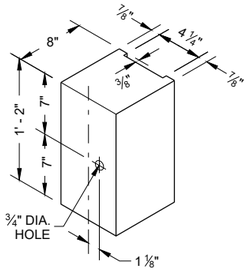


STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)

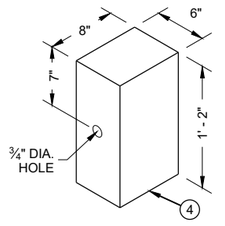
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



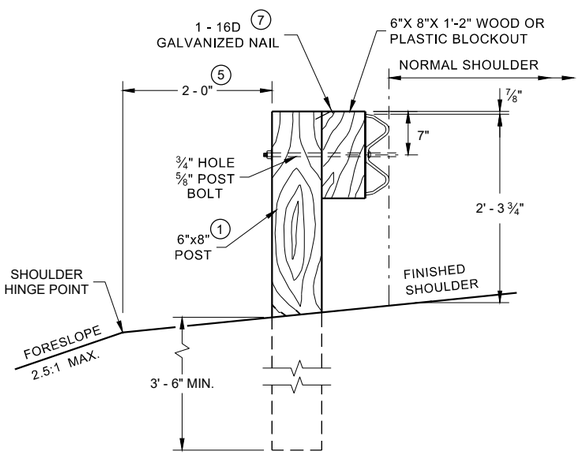
WOOD POST (6" X 8") NOMINAL (1)



TYPICAL NOTCHED PLASTIC BLOCKOUT FOR STEEL POSTS

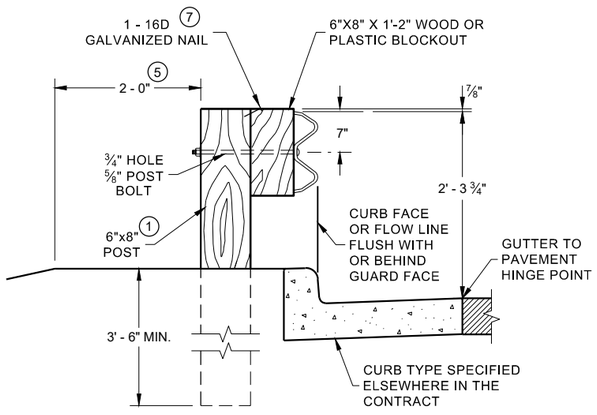


WOOD OR PLASTIC BLOCKOUT FOR WOOD POSTS



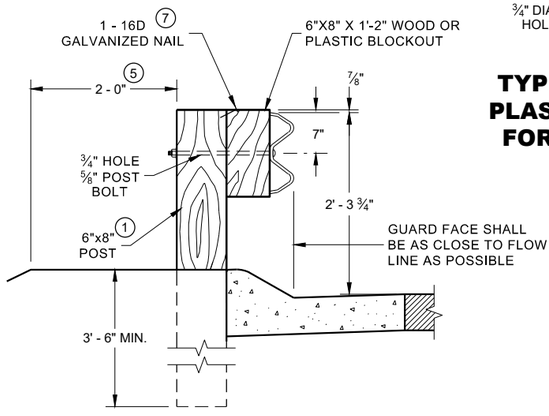
END VIEW

LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



END VIEW

LOCATED ALONG A CURBED ROADWAY



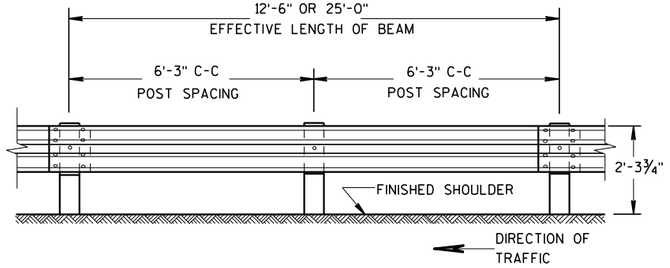
END VIEW

LOCATED ALONG A MOUNTABLE CURBED ROADWAY

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

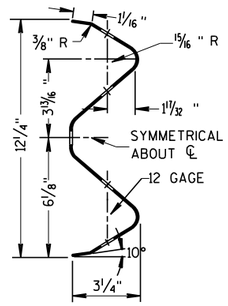
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6
SDD 14B15 -11a

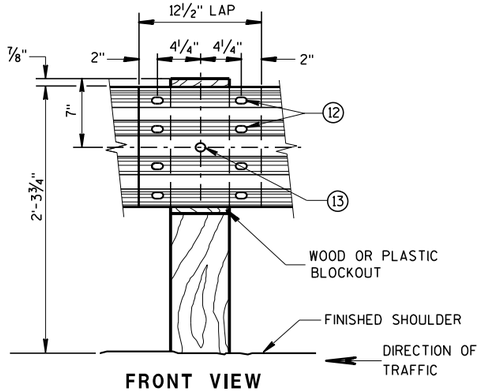


FRONT VIEW

POST SPACING STANDARD INSTALLATION



SECTION THRU W BEAM



FRONT VIEW

BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

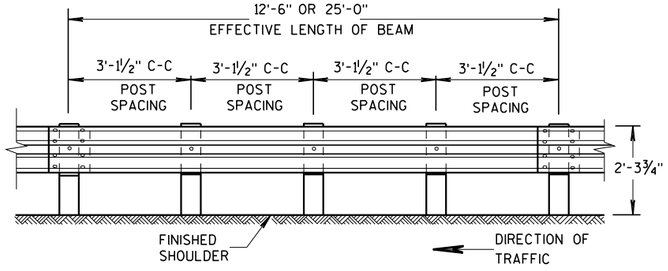
GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.

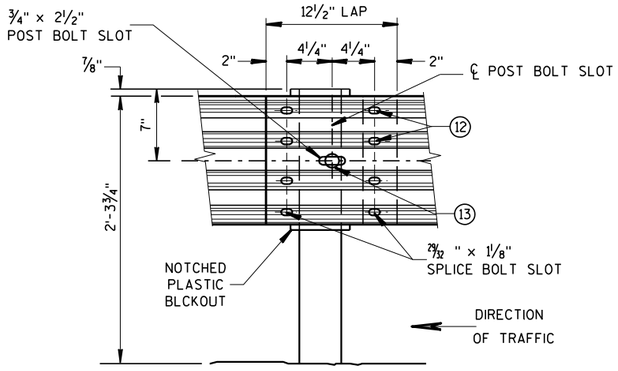
(12) 8 -5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



FRONT VIEW

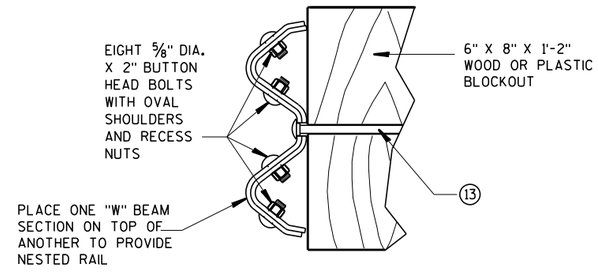
POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)



FRONT VIEW

BEAM SPLICE AT STEEL POST

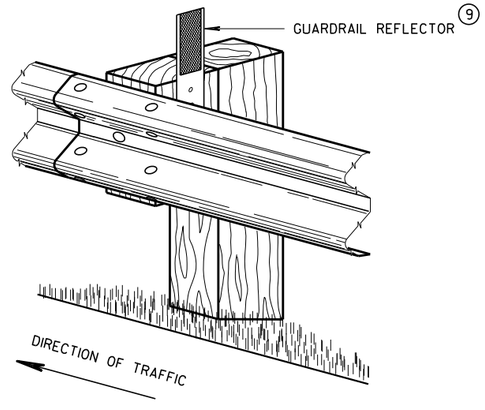
TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD



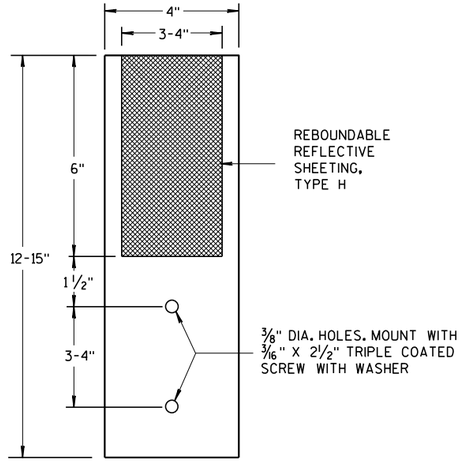
NESTED W BEAM (NW)

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

* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



4" X 12" GUARDRAIL REFLECTOR DETAIL AND TYPICAL INSTALLATION *



4"x 12" GUARDRAIL REFLECTOR

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

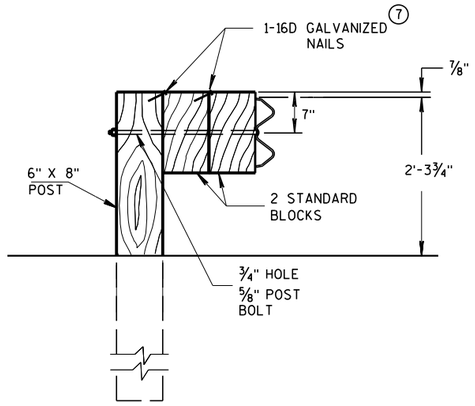
STATE OF WISCO 39
DEPARTMENT OF TRANSPORTATION

6

S.D.D. 14 B 15-11b

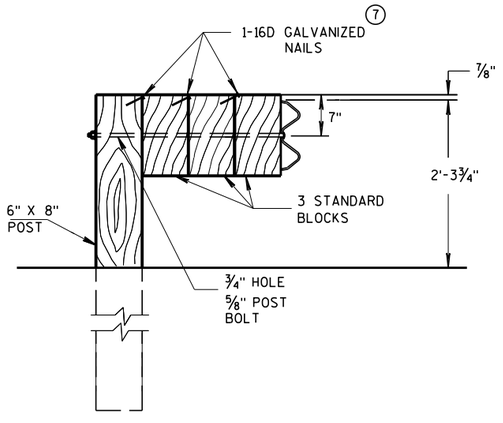
6

S.D.D. 14 B 15-11b



DETAIL FOR DOUBLE BLOCKS

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

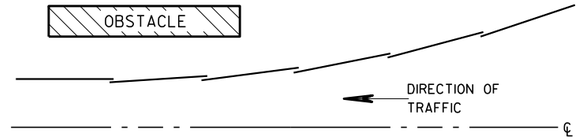


DETAIL FOR TRIPLE BLOCKS

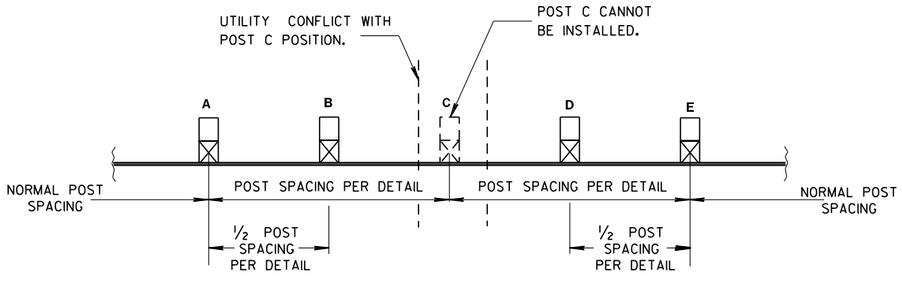
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

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

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



PLAN VIEW
BEAM LAPPING DETAIL



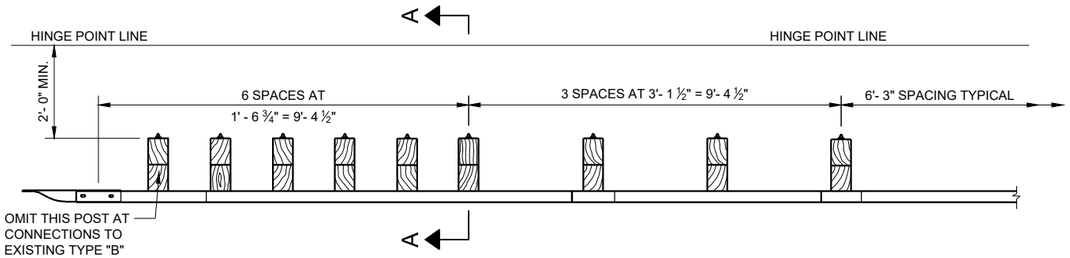
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

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

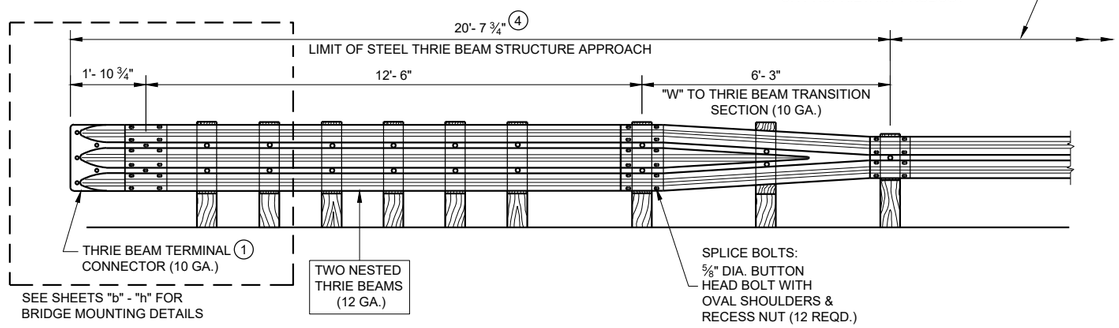
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

S.D.D. 14 B 15-11c



PLAN VIEW



FRONT VIEW

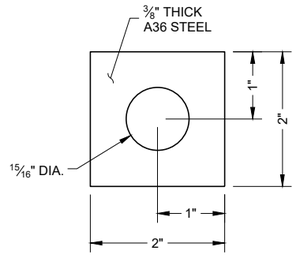


PLATE WASHER DETAIL

GENERAL NOTES

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

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

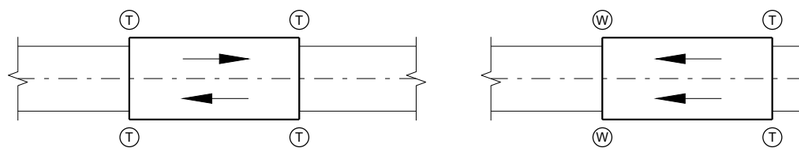
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 ½" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

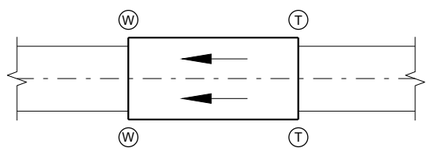
(2) MINIMUM EMBEDMENT SHALL BE 4'- 0".

(3) POST BOLTS ARE ⅝" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A ⅝" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

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



TWO WAY TRAFFIC

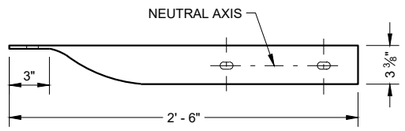


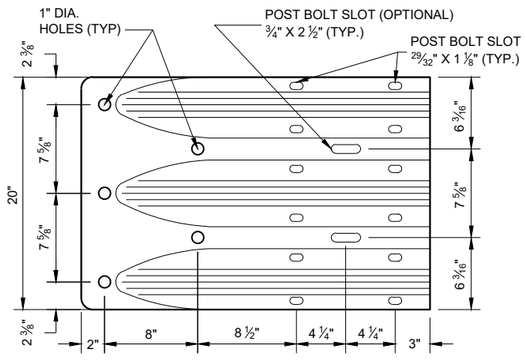
ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

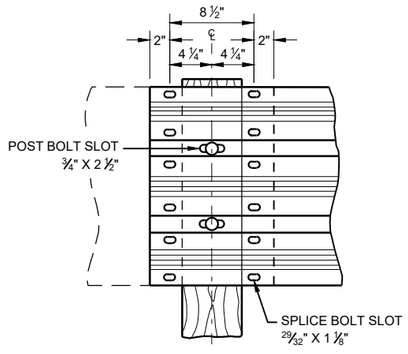
(W) W-BEAM CONNECTION WHEN REQUIRED

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

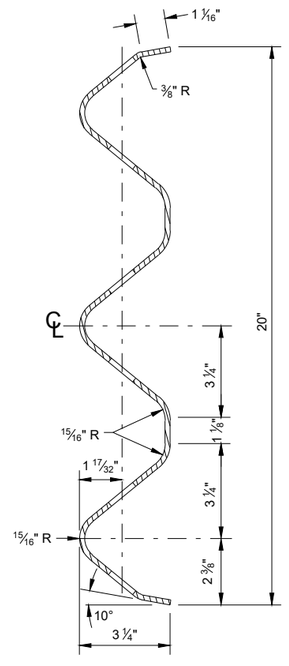




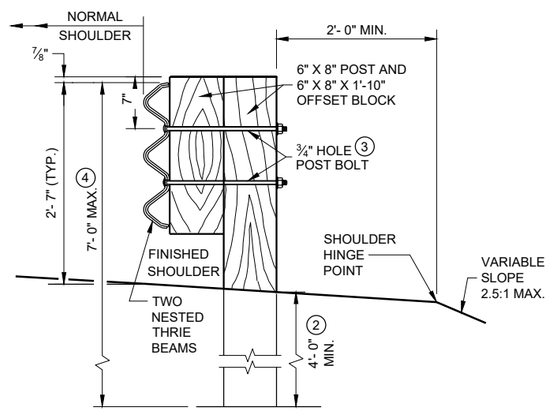
THRIE BEAM TERMINAL CONNECTOR



THRIE BEAM SPLICE



SECTION THRU BEAM RAIL ELEMENT



SECTION A-A

STEEL THRIE BEAM STRUCTURE APPROACH

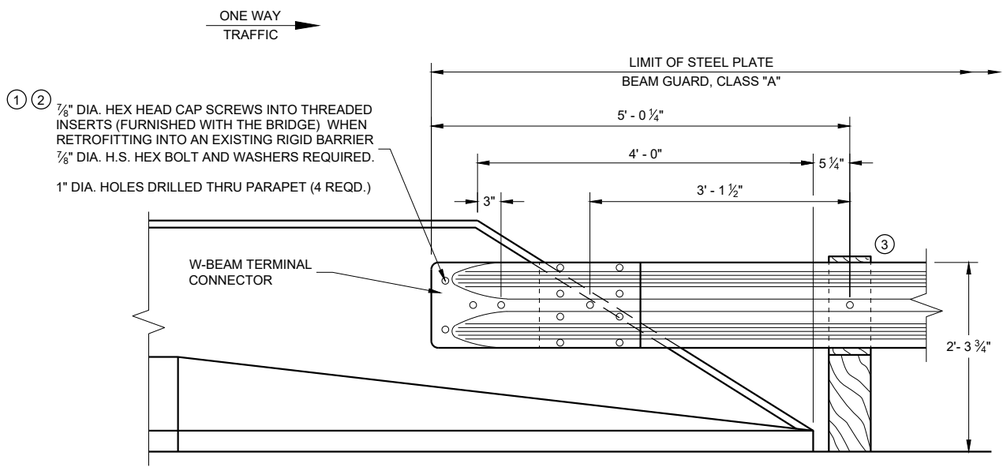
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 14B20 - 12a

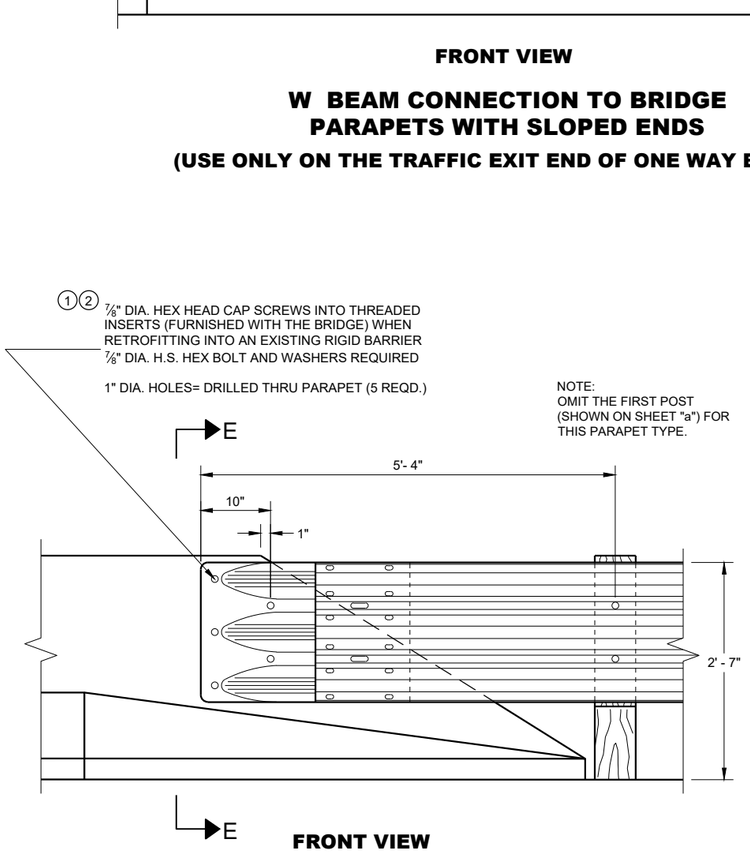
6
SDD 14B20 - 12a



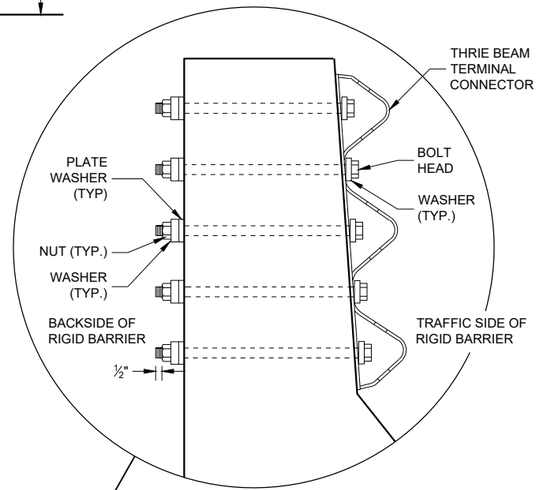
FRONT VIEW

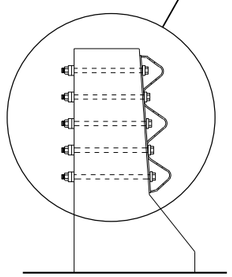
W BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

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



FRONT VIEW





SECTION E - E

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

GENERAL NOTES

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

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

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

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

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

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

DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

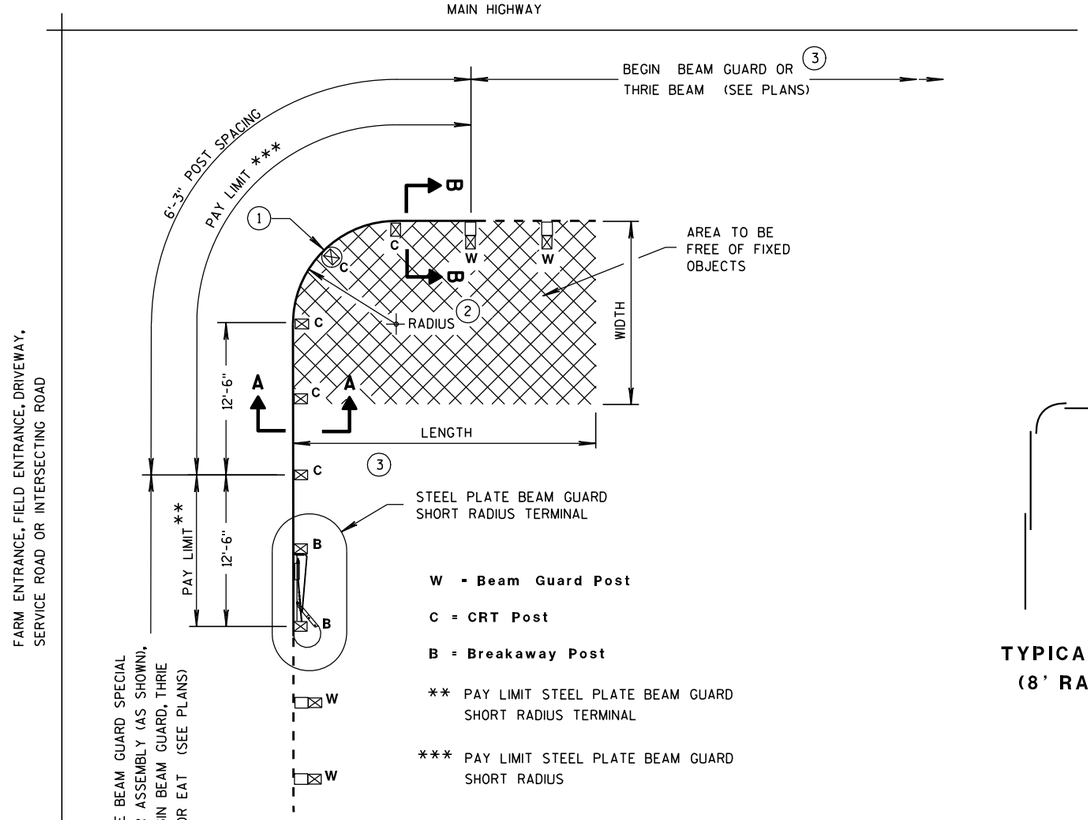
STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2022 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVE ENGINEER
FHWA	42

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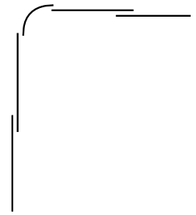
SDD 14B20 - 12d

6

SDD 14B20 - 12d



TYPICAL LAYOUT
(8' RADIUS SHOWN)



TYPICAL LAP SPLICES
(8' RADIUS SHOWN)

GENERAL NOTES

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

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

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

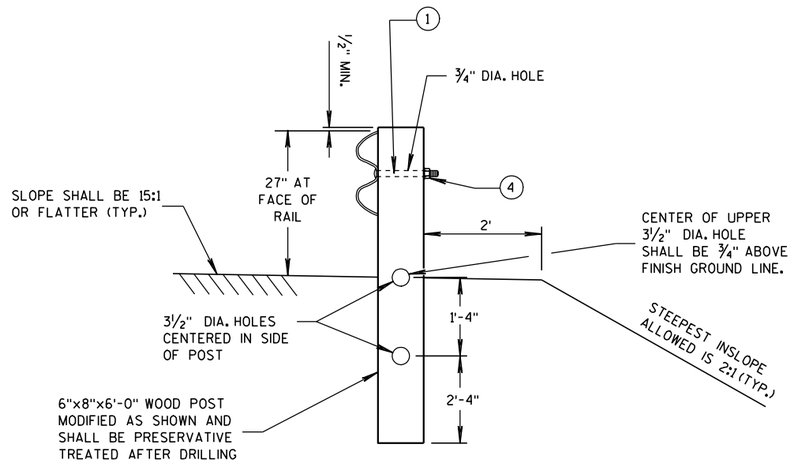
(2) RADIUS FROM 8' - 36'. SEE PLAN.

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

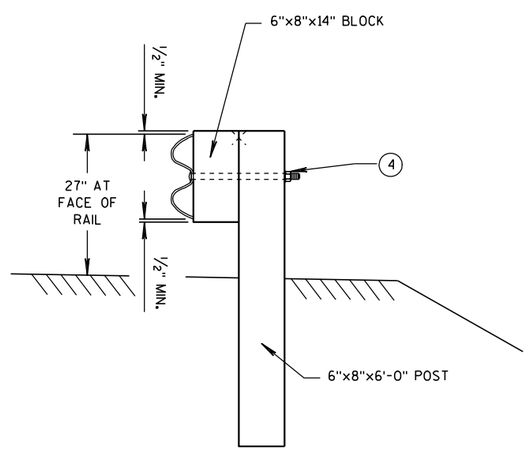
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

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

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



SECTION A-A
(CRT POST)

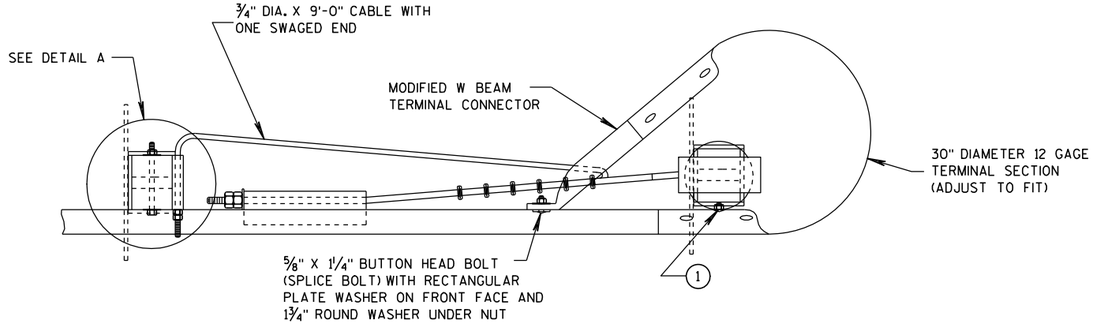


SECTION B-B
(BEAM GUARD POST)

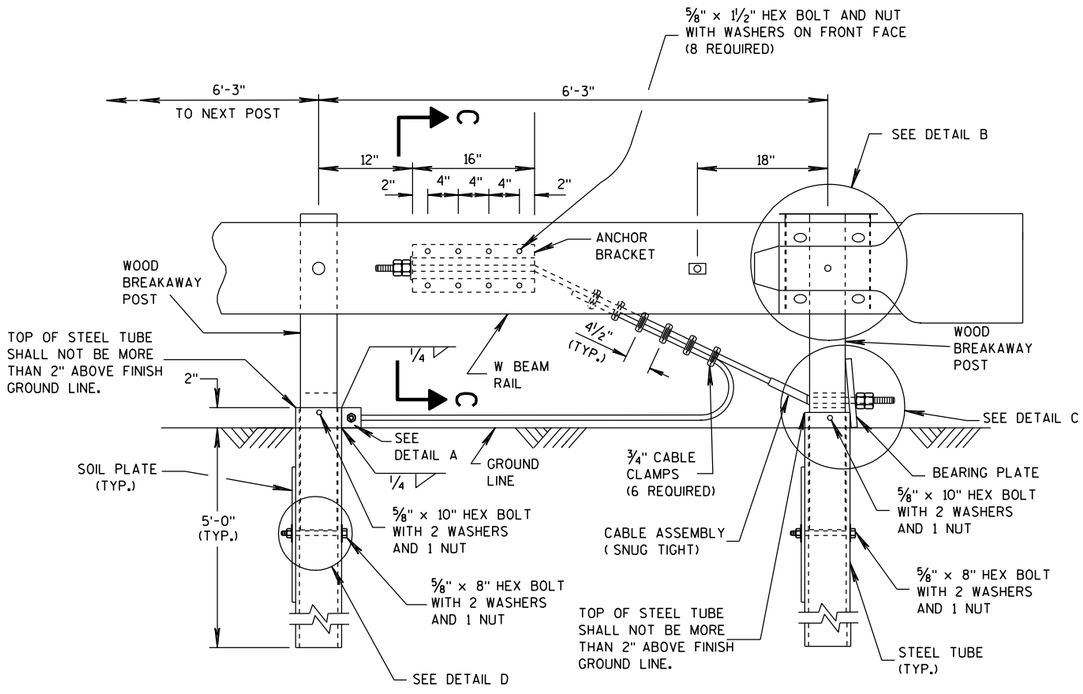
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

6
S.D.D. 14 B 27-1a



PLAN VIEW



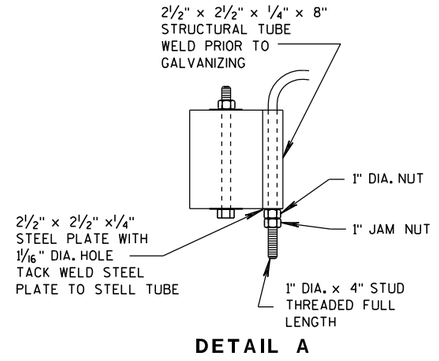
ELEVATION VIEW

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

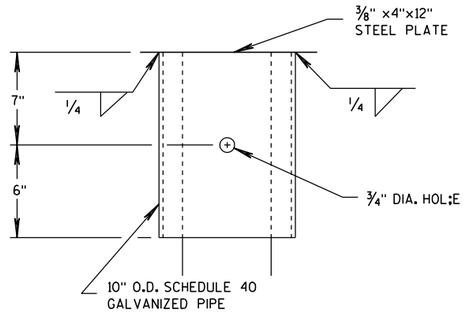
GENERAL NOTES

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

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



DETAIL A



DETAIL B

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

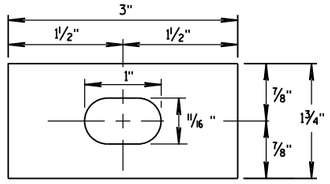
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

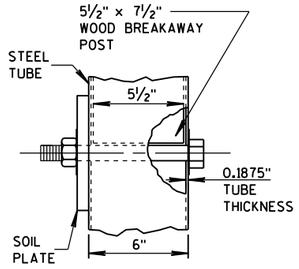
S.D.D. 14 B 27-1b

6

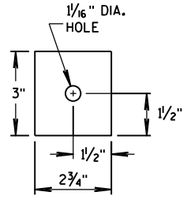
S.D.D. 14 B 27-1b



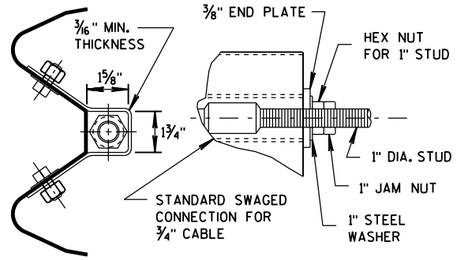
RECTANGULAR PLATE WASHER



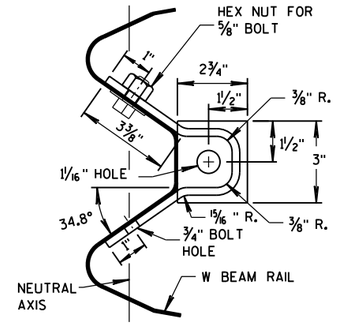
DETAIL D



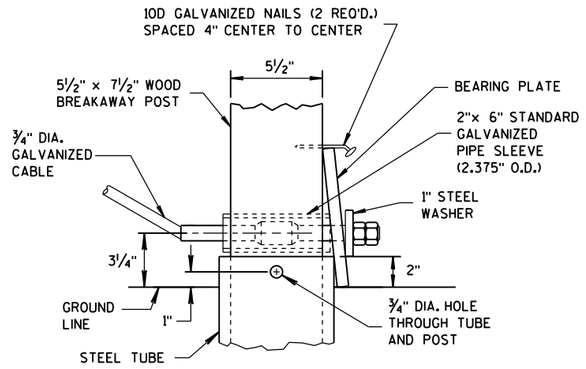
END PLATE



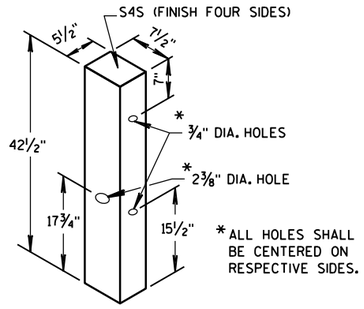
SECTION C-C
(END PLATE REMOVED)



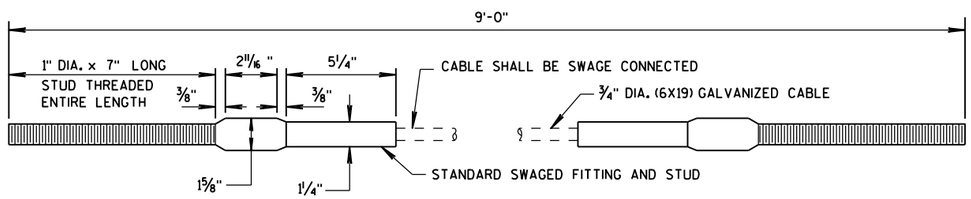
ANCHOR BRACKET



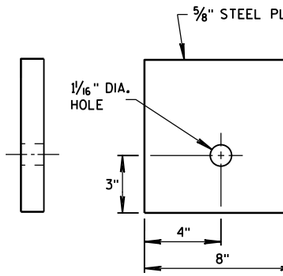
DETAIL C



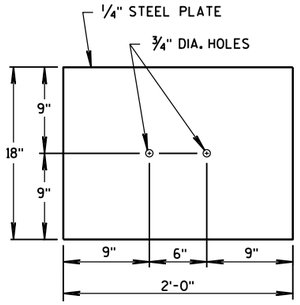
WOOD BREAKAWAY POST



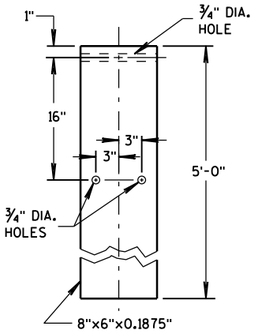
CABLE ASSEMBLY



BEARING PLATE



SOIL PLATE



STEEL TUBE

STEEL PLATE BEAM GUARD
SHORT RADIUS TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

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

6

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

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

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

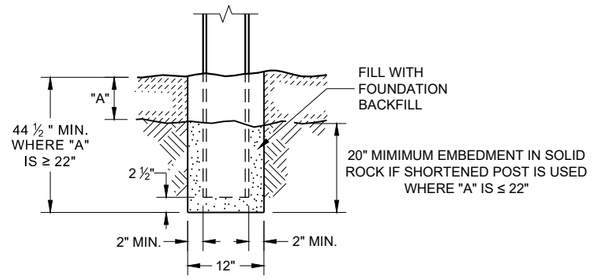
(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

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

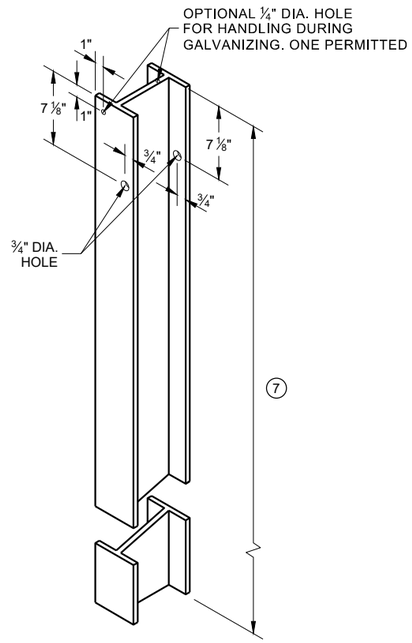
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ±1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 ¾" TO 32".

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

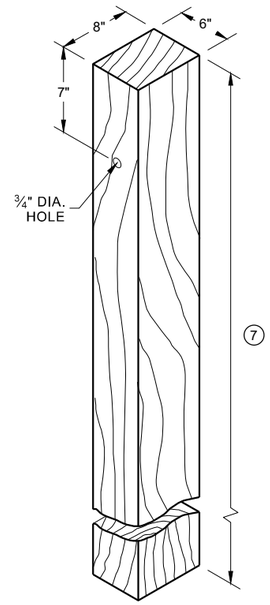
(7) TOTAL POST LENGTH FOR TYPE K IS 7' - 0".
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



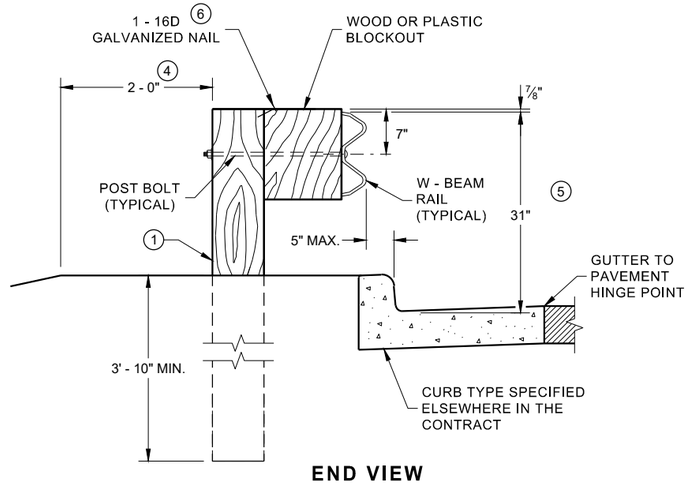
END VIEW
SETTING STEEL OR WOOD POST IN ROCK (3)



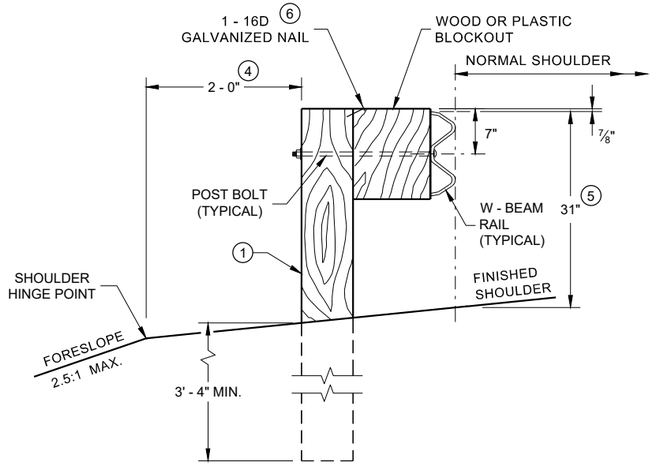
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



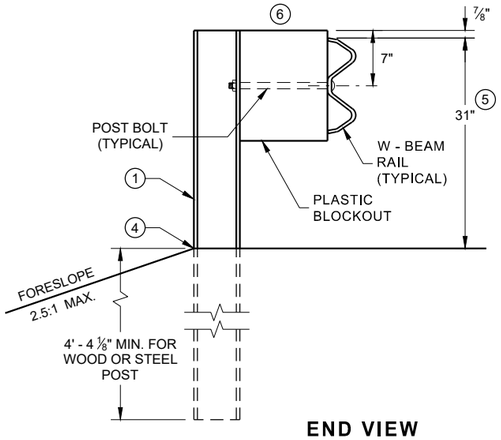
WOOD POST (6" X 8") NOMINAL (1)



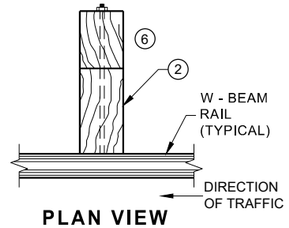
END VIEW
LOCATED ALONG A CURBED ROADWAY



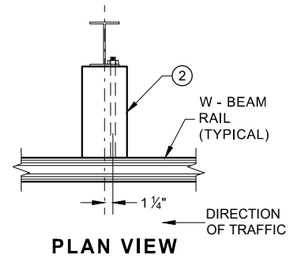
END VIEW
LOCATED ALONG A ROADWAY SHOULDER STANDARD INSTALLATION



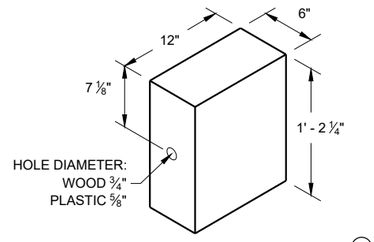
END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, PLASTIC BLOCKOUT & BEAM

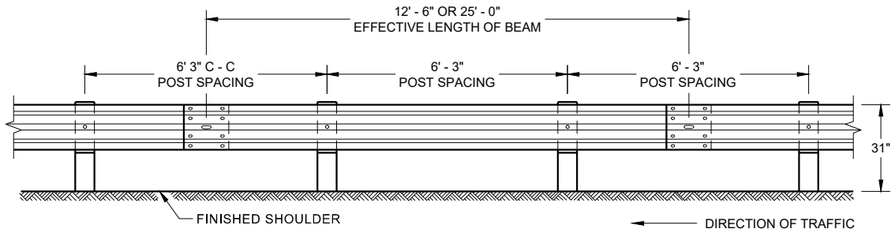


WOOD OR PLASTIC BLOCKOUT (2)

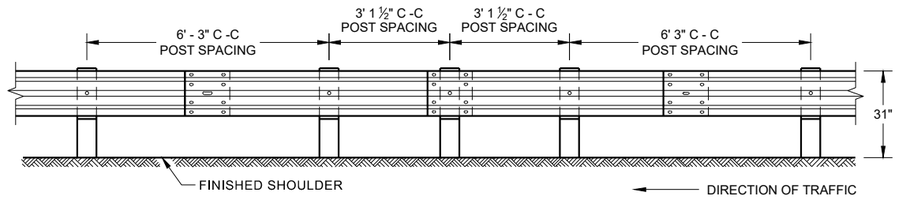
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

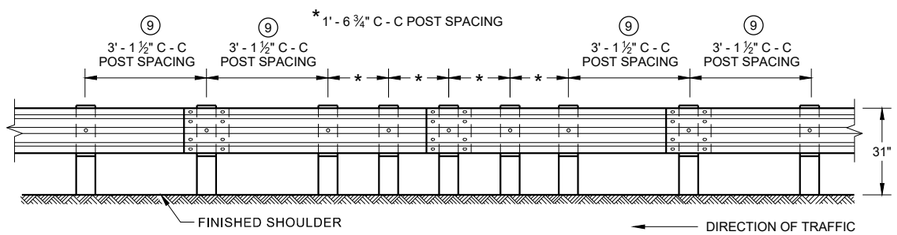
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SDD 14B42 - 07a



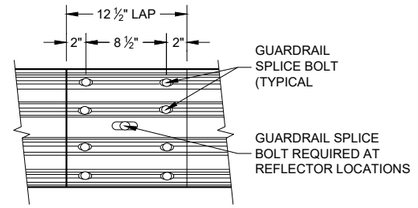
FRONT VIEW
POST SPACING STANDARD INSTALLATION



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



FRONT VIEW
QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

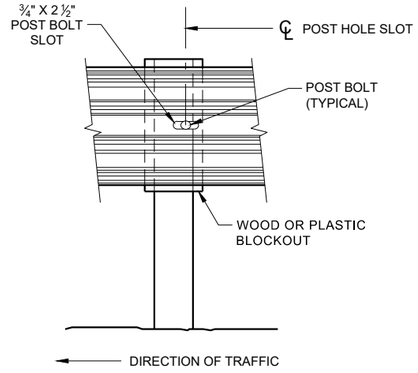
GENERAL NOTES

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

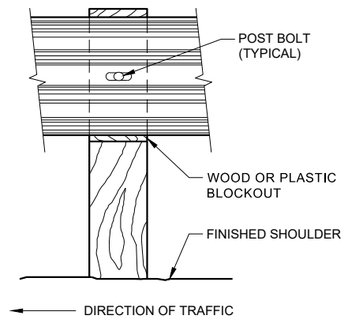
⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

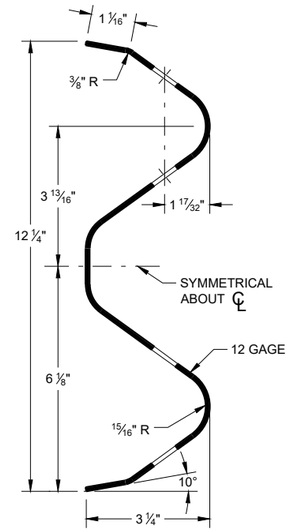
GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



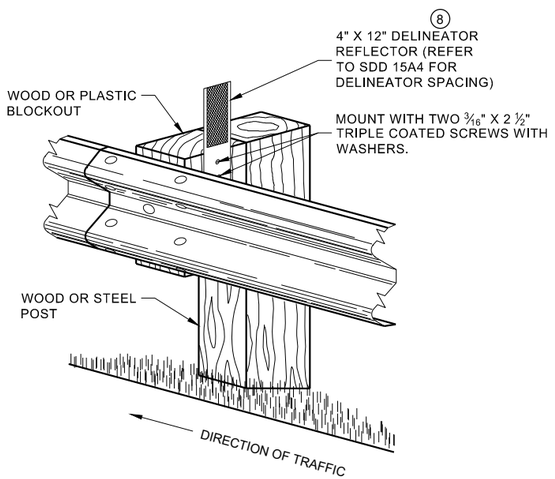
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



SECTION THRU W-BEAM RAIL

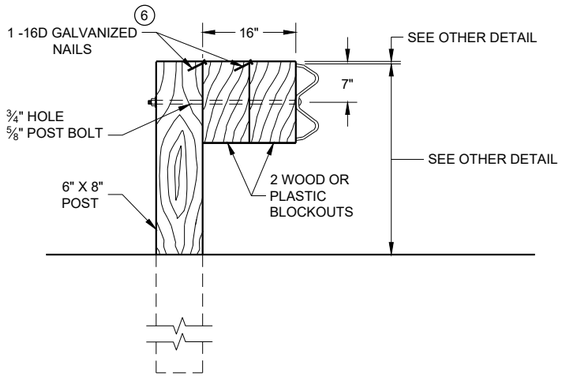


ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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SDD 14B42 - 07b

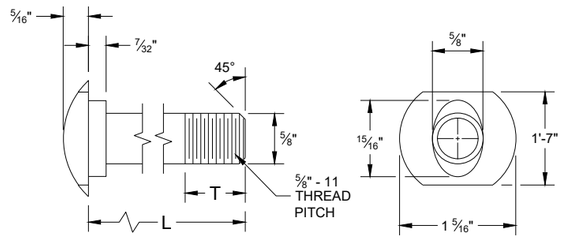


DETAIL FOR 16" BLOCKOUT DEPTH

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

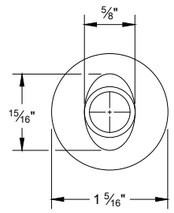
NOTE:

1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3⁄16".
2. IF THE BOLT EXTENDS MORE THAN ¼" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

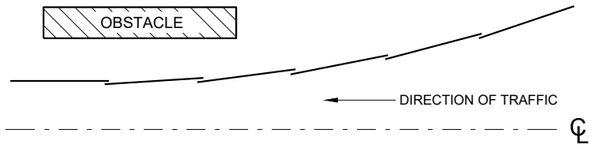


POST BOLT TABLE

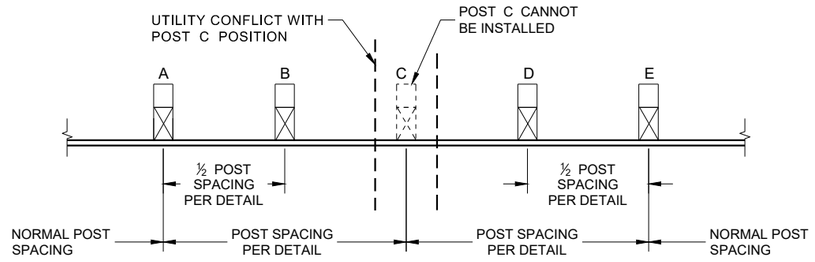
L	T (MIN.)
1 ¼"	1 ⅛"
2"	1 ¾"
10"	4"
14"	4 1⁄16"
18"	4"
21"	4 1⁄16"
25"	4"



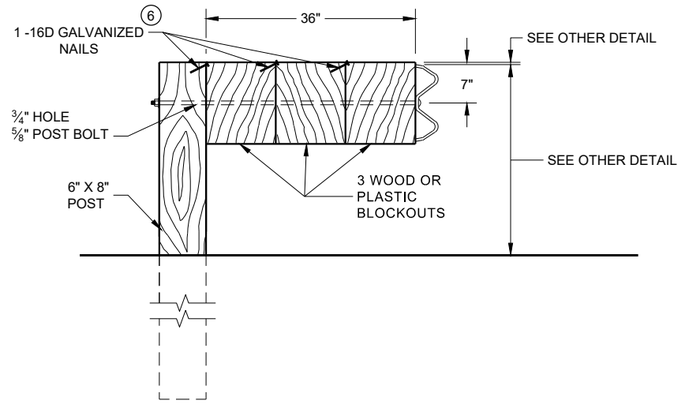
ALTERNATE BOLT HEAD



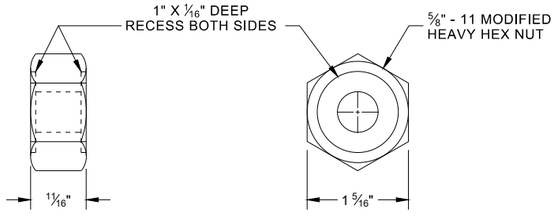
PLAN VIEW
BEAM LAPPING DETAIL



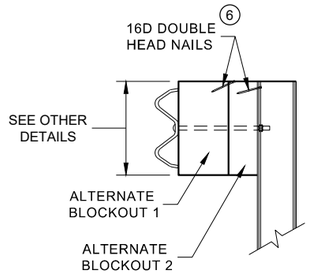
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



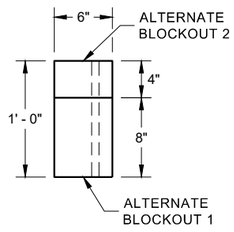
DETAIL FOR 36" BLOCKOUT DEPTH



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

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

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

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

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

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GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.

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

(E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

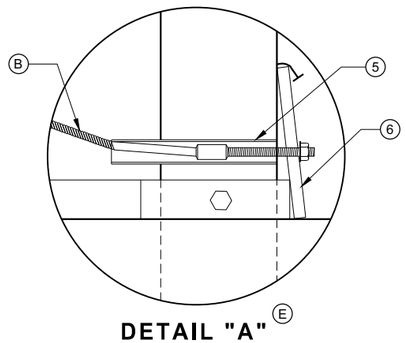
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

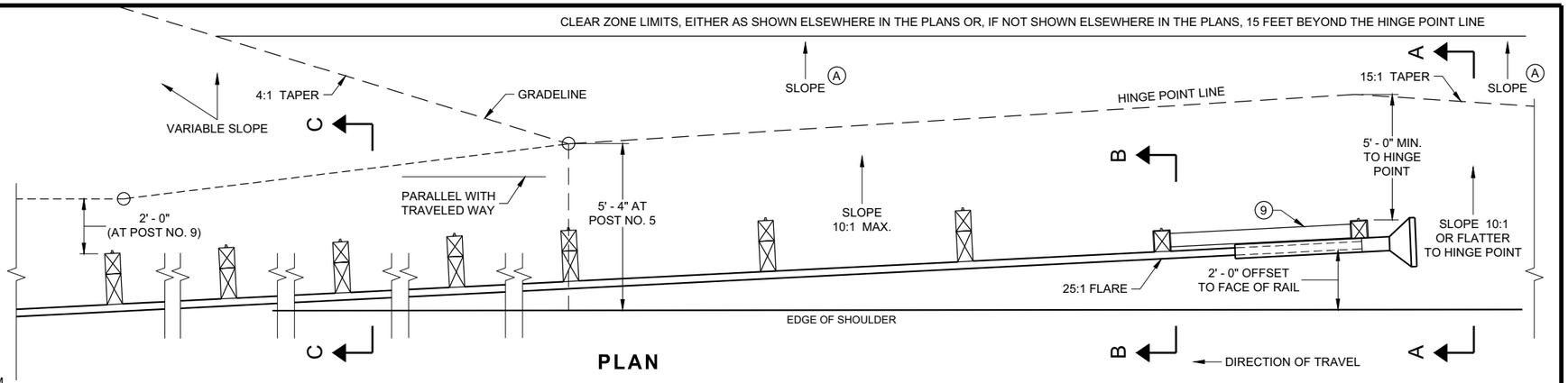
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

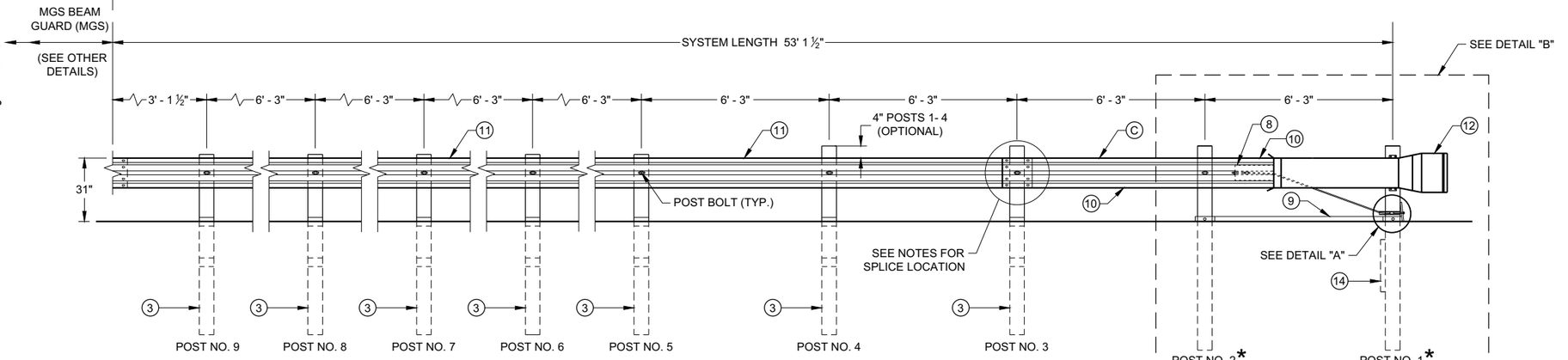
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

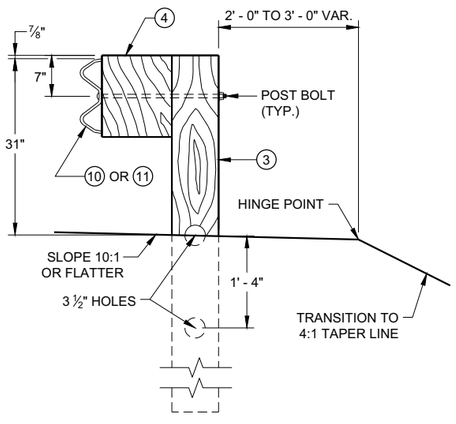
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



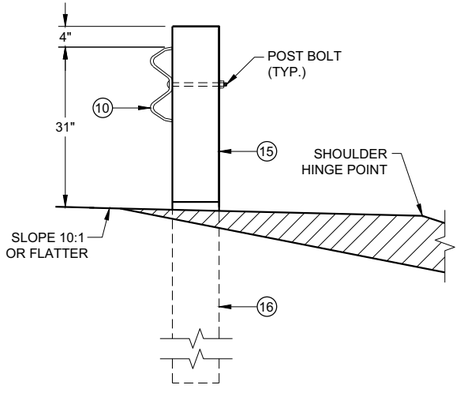
DETAIL "A" (E)



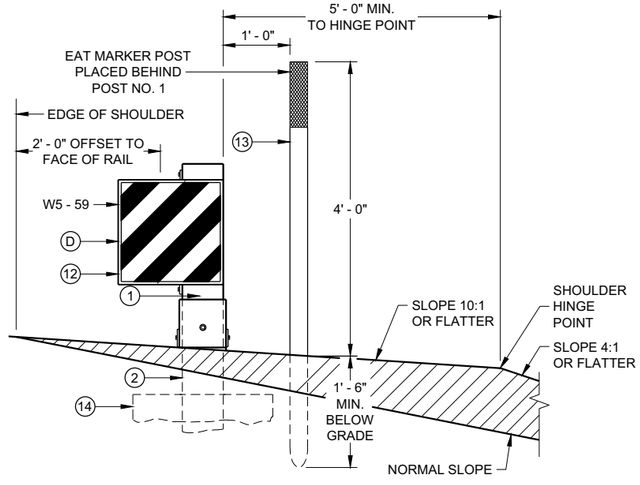




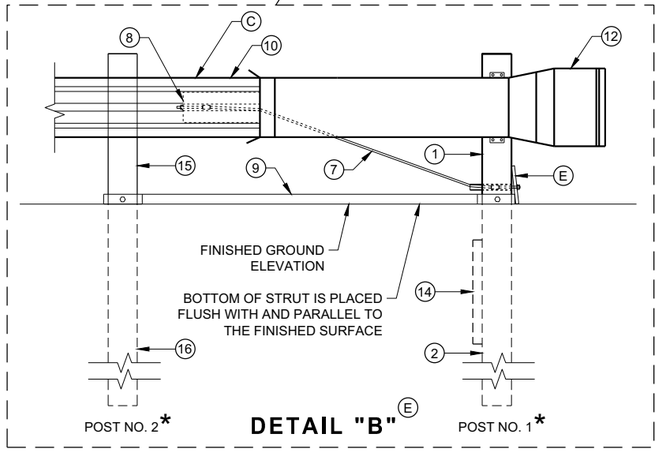
SECTION C - C
TYPICAL AT POST NOS. 3 - 9



SECTION B - B
TYPICAL AT POST NO. 2*



SECTION A - A
TYPICAL AT POST NO. 1*

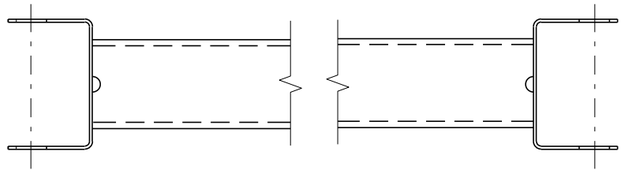


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a

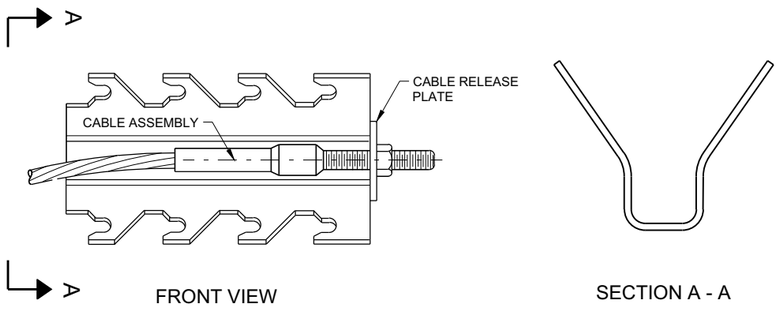
SDD 14B44 - 04a



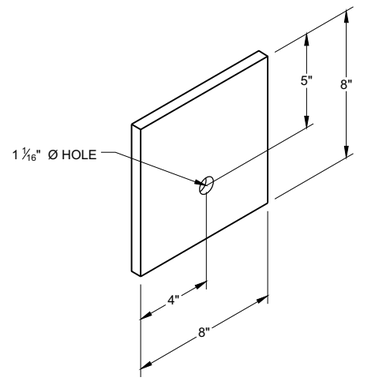
GENERIC GROUND STRUT ⑨ Ⓔ

BILL OF MATERIALS

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



GENERIC ANCHOR CABLE BOX ⑨ Ⓔ



BEARING PLATE ⑥ Ⓔ

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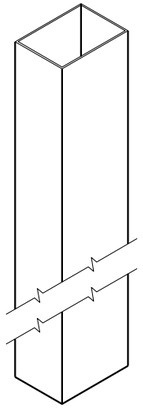
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SDD 14B44 - 04b

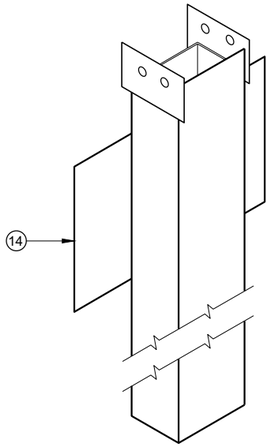
SDD 14B44 - 04b

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

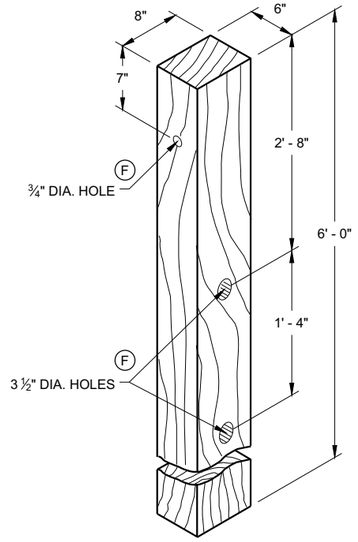
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



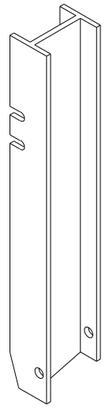
UPPER POST NO. 1 (1) (E)



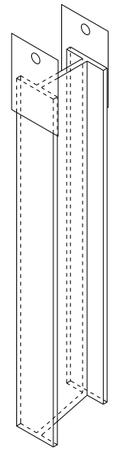
LOWER POST NO. 1 (2) (E)



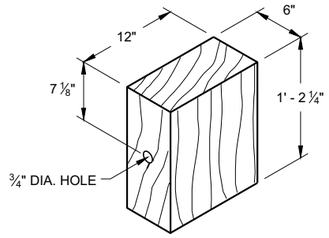
WOOD CRT POST (3) (E)
POSTS NUMBER 3-9



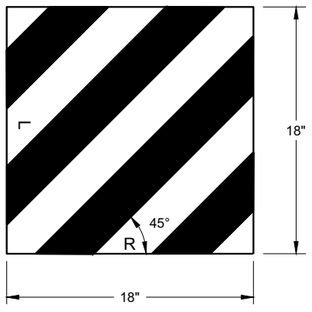
UPPER POST NO. 2 (15) (E)



LOWER POST NO. 2 (16) (E)

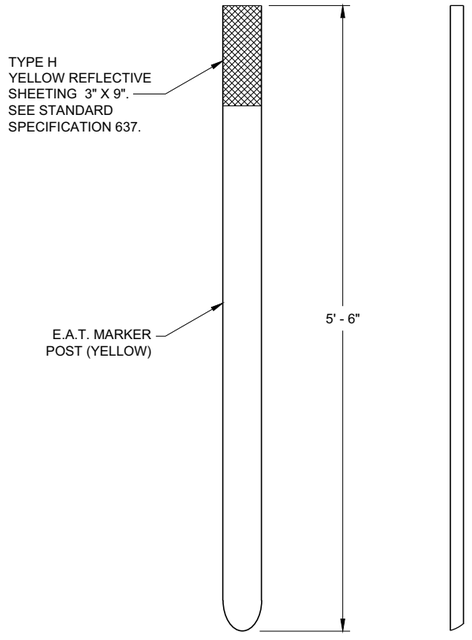


WOOD BLOCKOUT (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



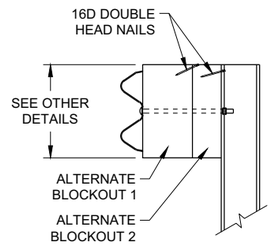
W5 - 59

REFLECTIVE SHEETING DETAIL (E)

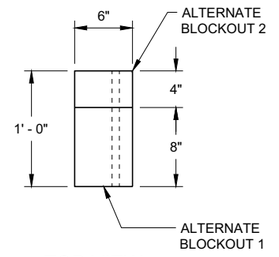


FRONT VIEW SIDE VIEW

E.A.T. MARKER POST (13)



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

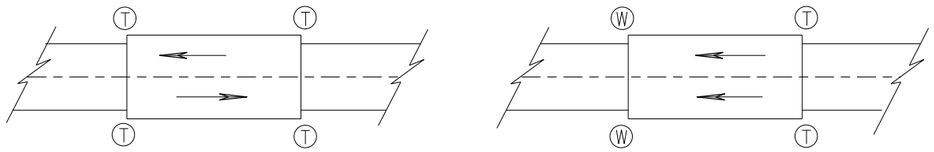
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVE
UNIT SUPERVISOR

FHWA

6

SDD 14B44 - 04c



TWO WAY TRAFFIC

ONE WAY TRAFFIC

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

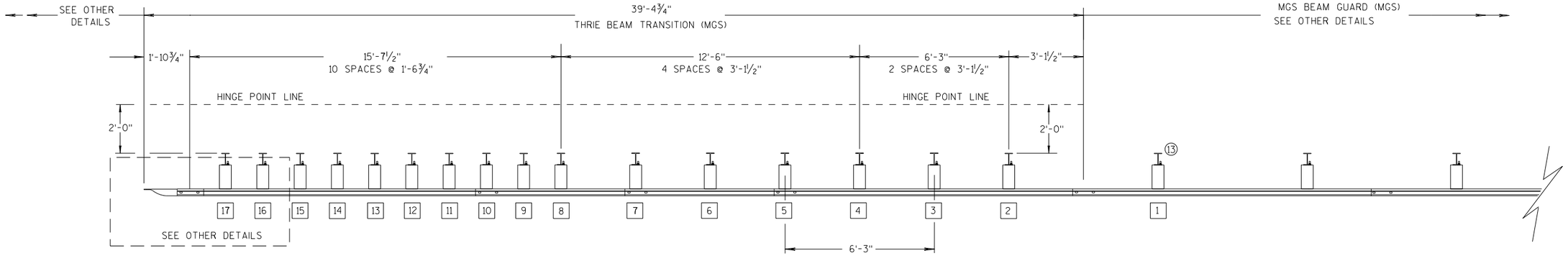
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

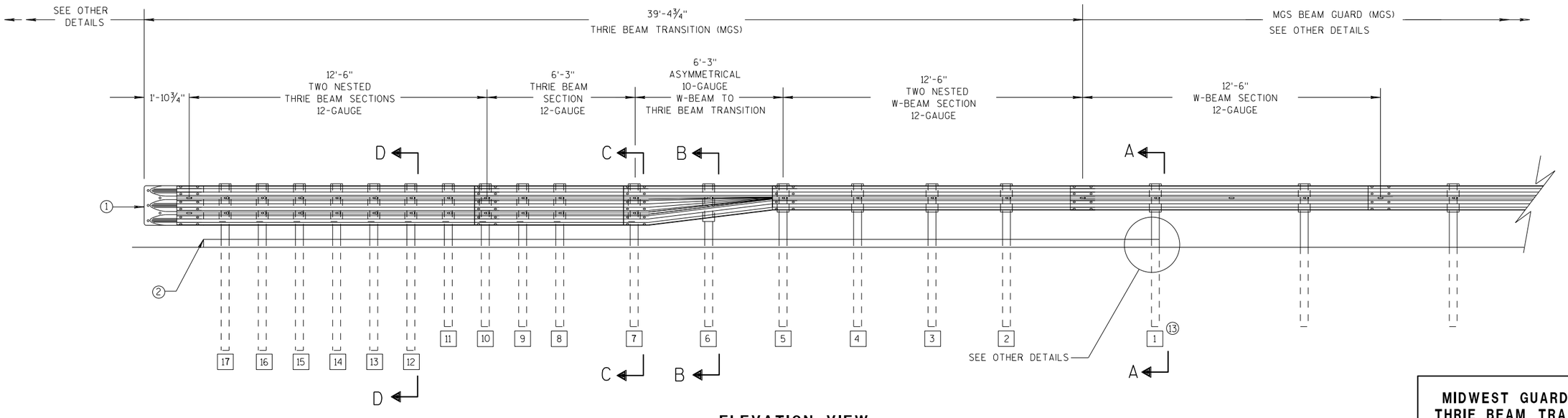
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 14 B 45-5a

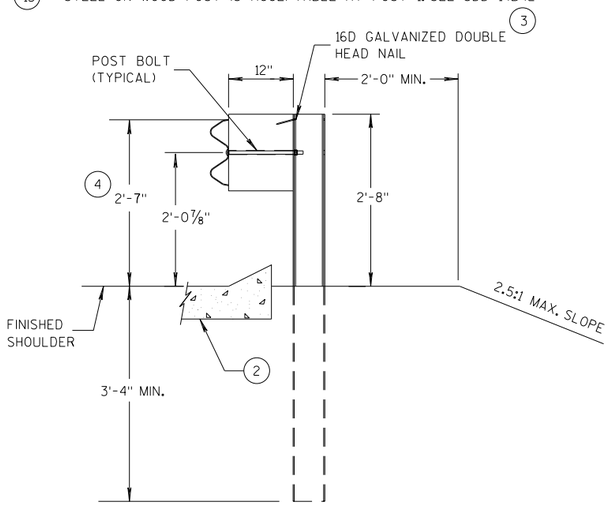
GENERAL NOTES

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

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

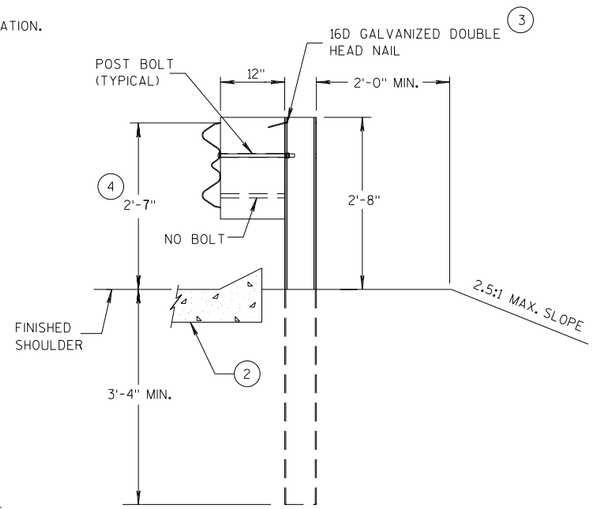
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



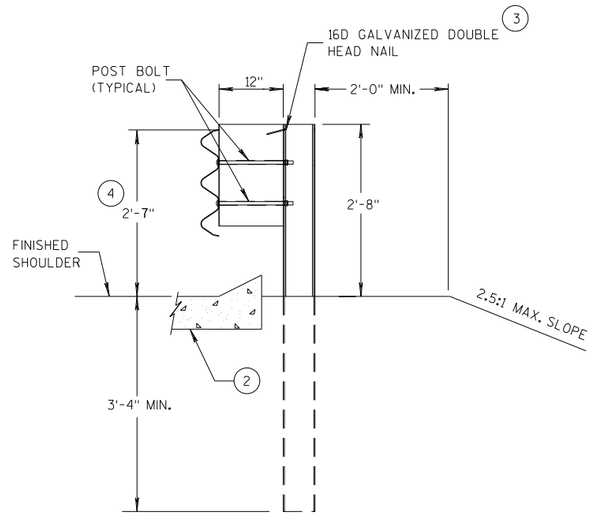
SECTION A-A (13)

POSTS 1-5



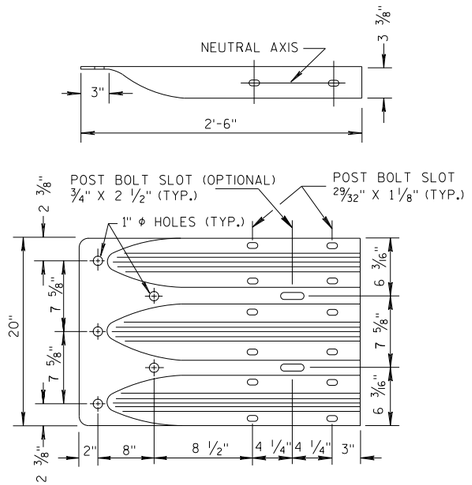
SECTION B-B

POST 6

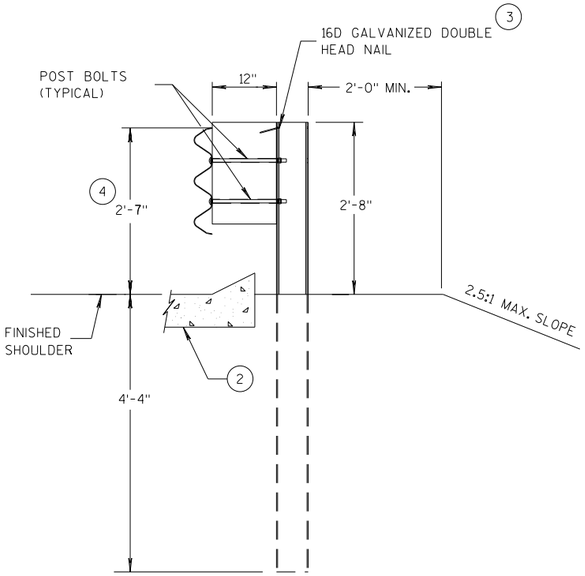


SECTION C-C

POSTS 7-11

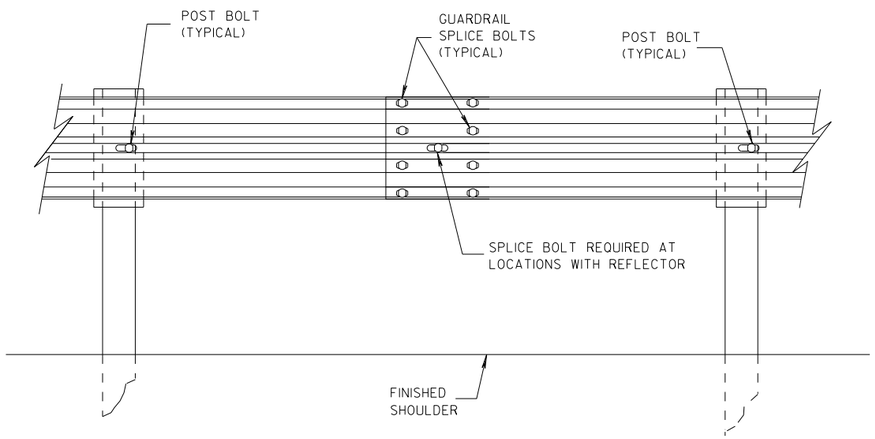


THRIE BEAM TERMINAL CONNECTOR



SECTION D-D

POSTS 12-17



SPLICE DETAIL

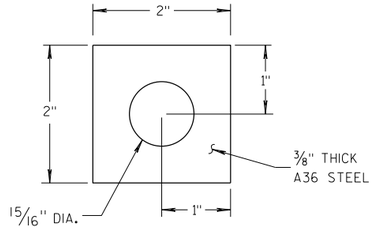
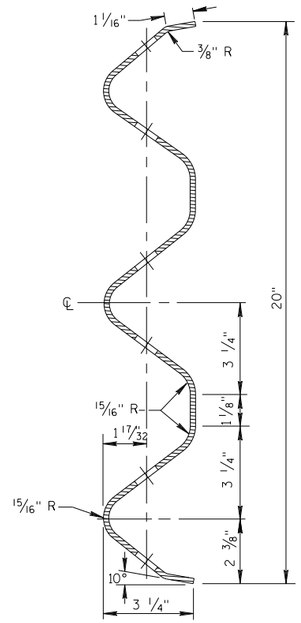


PLATE WASHER DETAIL



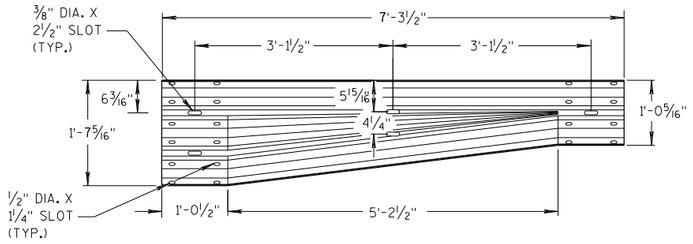
SECTION THRU THRIE BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

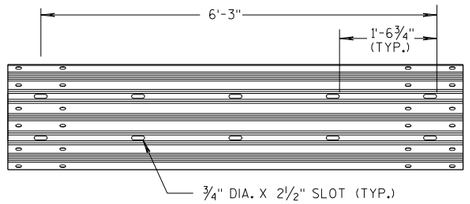
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOF

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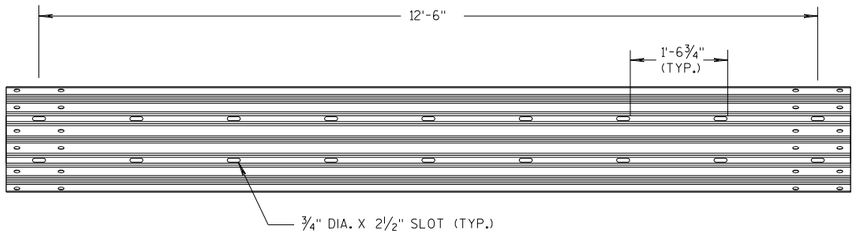
S.D.D. 14 B 45-5b



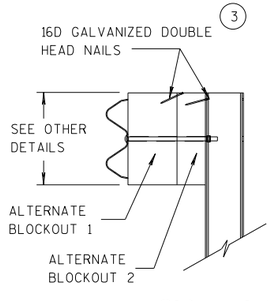
W-BEAM TO THRIE BEAM TRANSITION SECTION



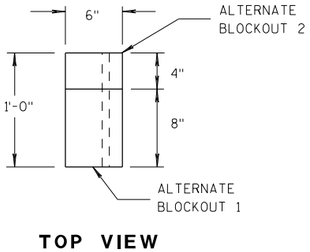
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

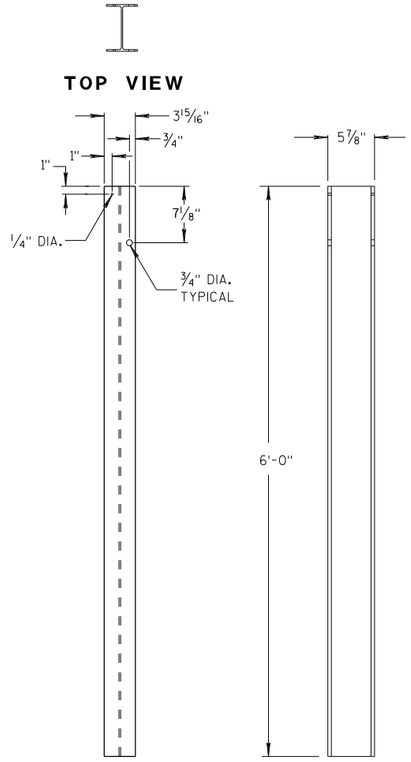


SIDE VIEW



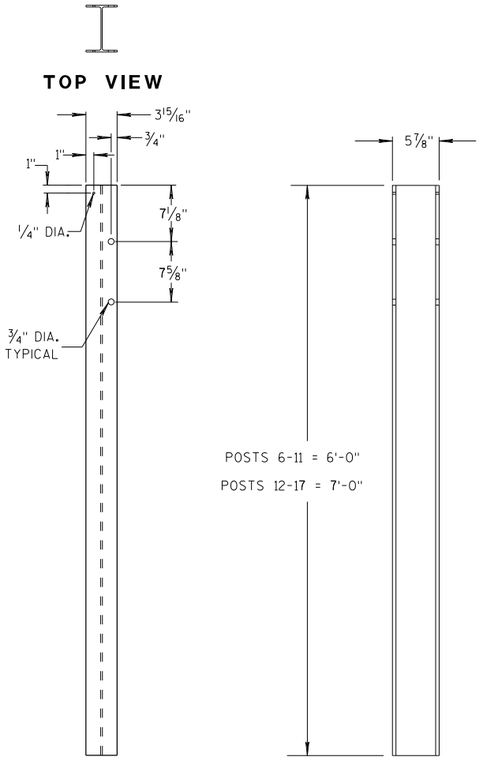
TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



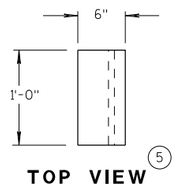
FRONT VIEW SIDE VIEW

STEEL POSTS 1-5 (13)

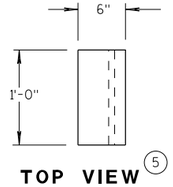


FRONT VIEW SIDE VIEW

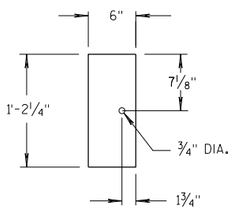
STEEL POSTS 6-17



TOP VIEW (5)

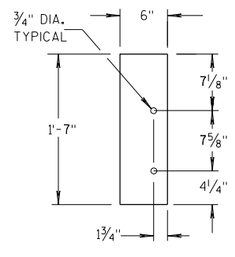


TOP VIEW (5)



FRONT VIEW

BLOCKOUT POSTS 1-5



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

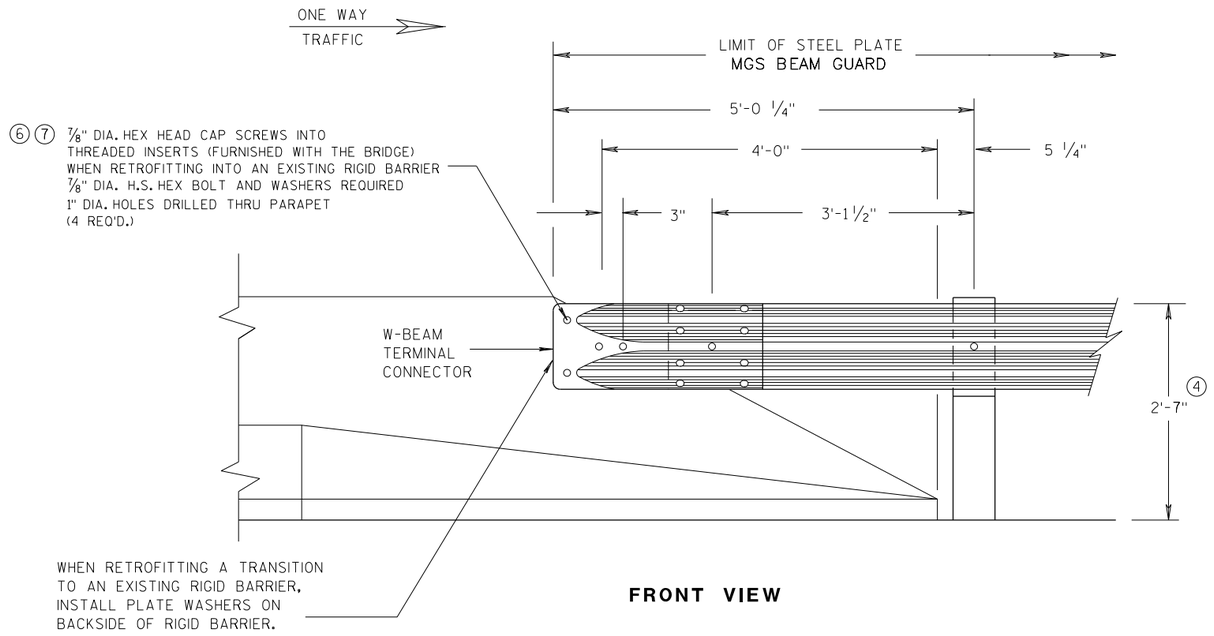
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

(13) STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 14 B 45-5c



FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

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

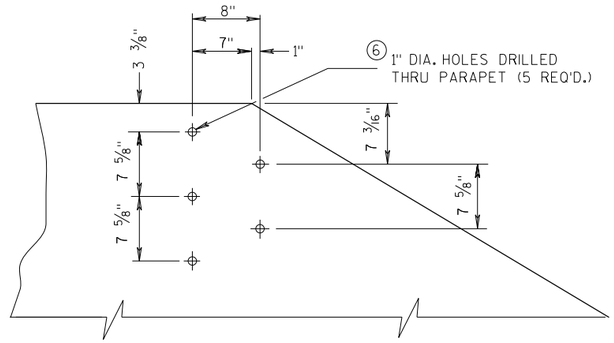
GENERAL NOTES

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

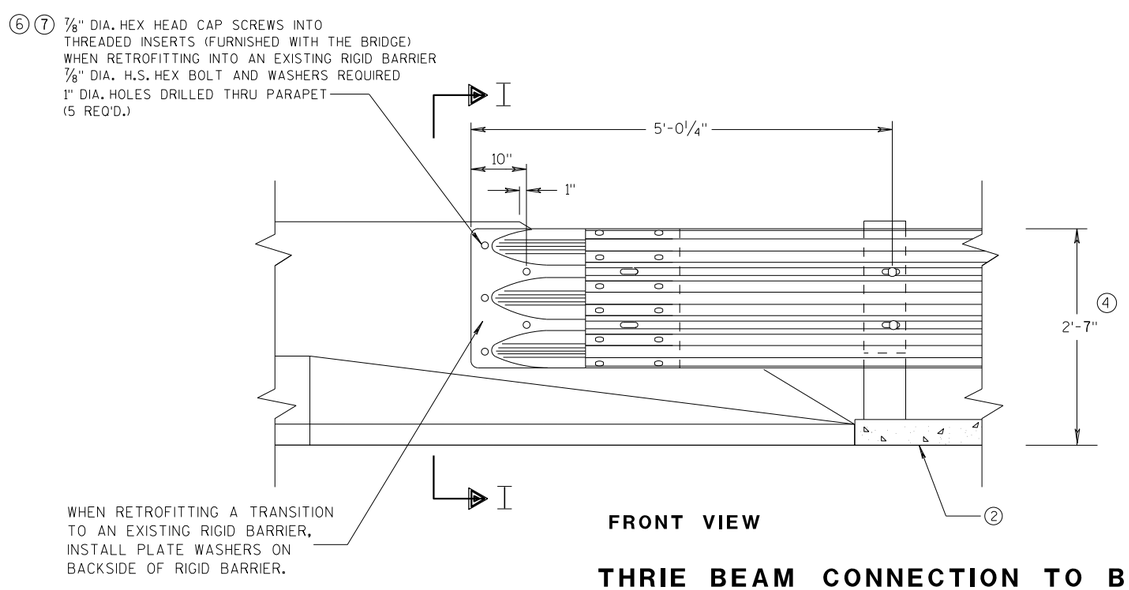
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

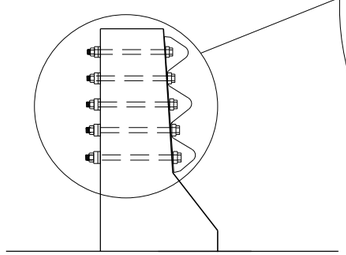
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



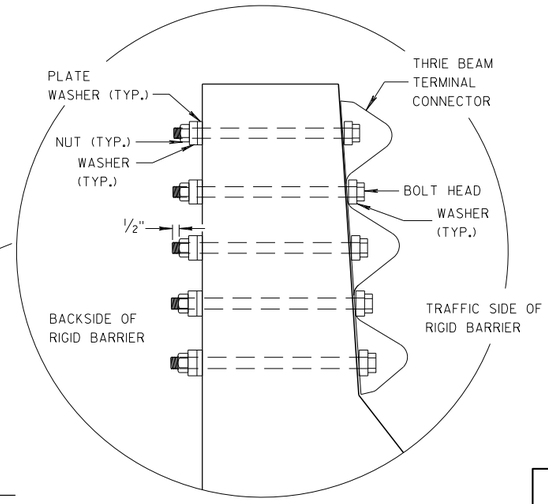
DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION



FRONT VIEW



SECTION I-I



THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

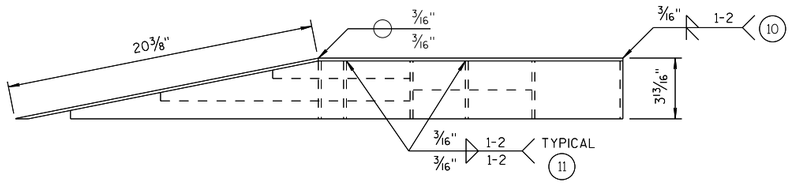
APPROVED
07/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS [illegible] UNIT SUPERVI[illegible]ENT
FHWA

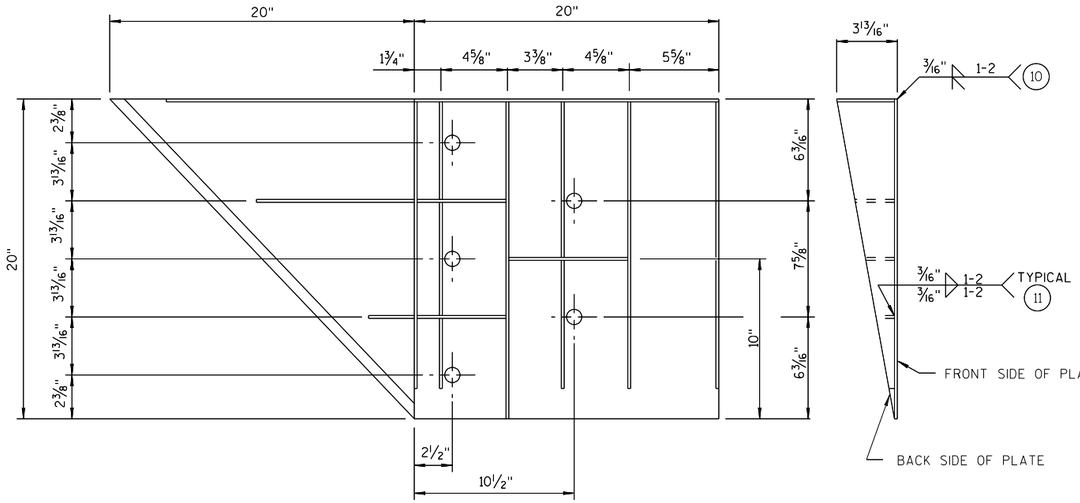
6

S.D.D. 14 B 45-5f

6

S.D.D. 14 B 45-5f





WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

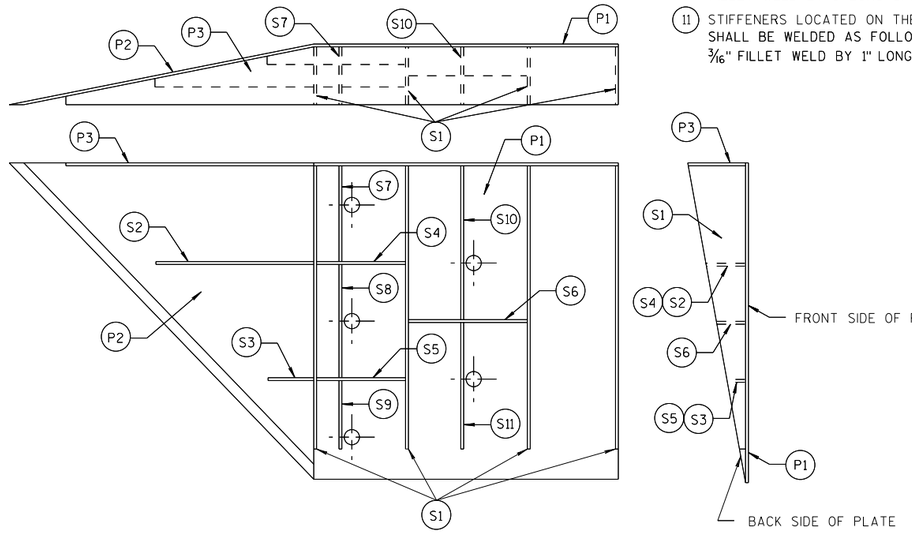


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

CONNECTOR PLATE DIMENSION (PER ASSEMBLY)

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

SINGLE SLOPE CONNECTION PLATE

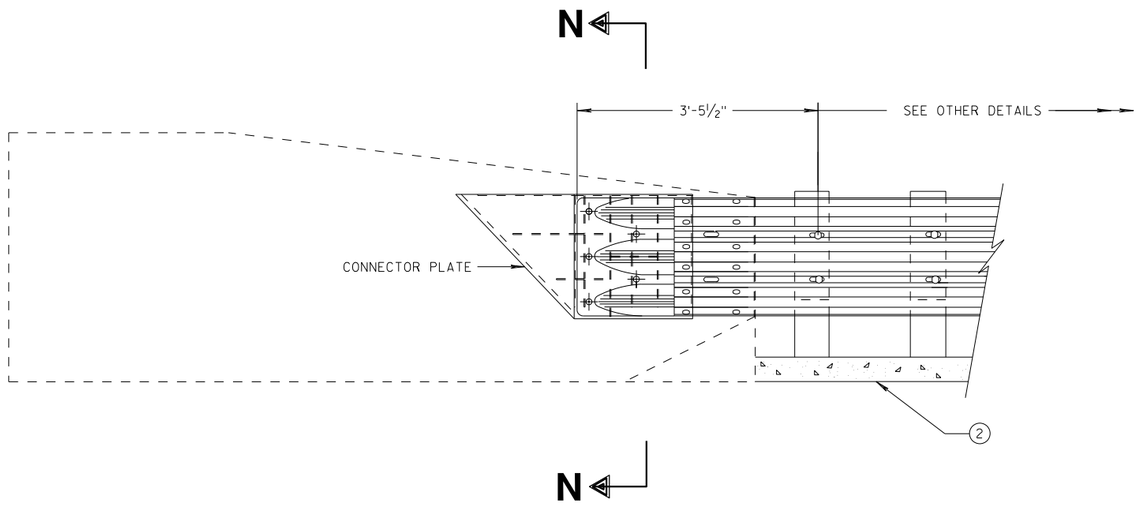
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

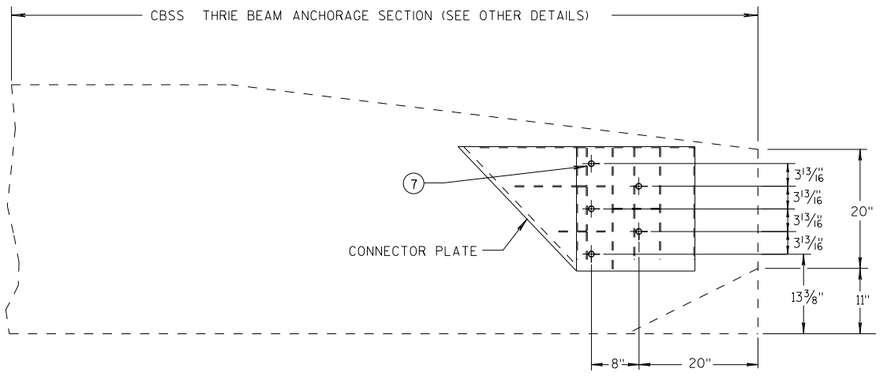
APPROVED
7/2018
DATE
FHWA

/S/ Rodney Taylor
ROADWAY STANDARDS I
UNIT SUPERVI

6
S.D.D. 14 B 45-5i



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



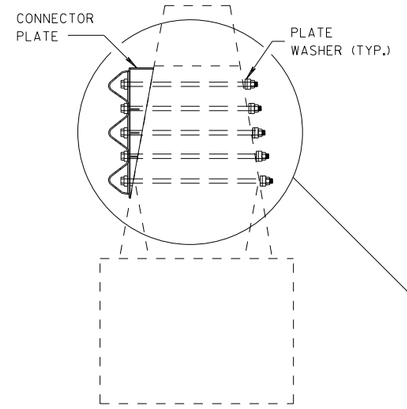
SINGLE SLOPE CONNECTION PLATE PLACEMENT

GENERAL NOTES

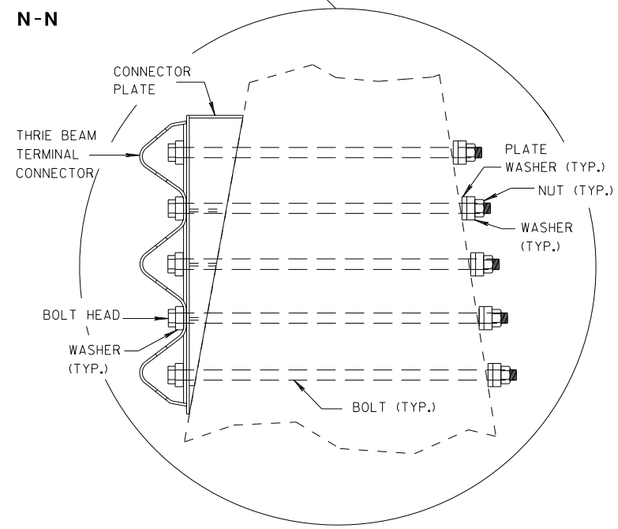
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(7) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



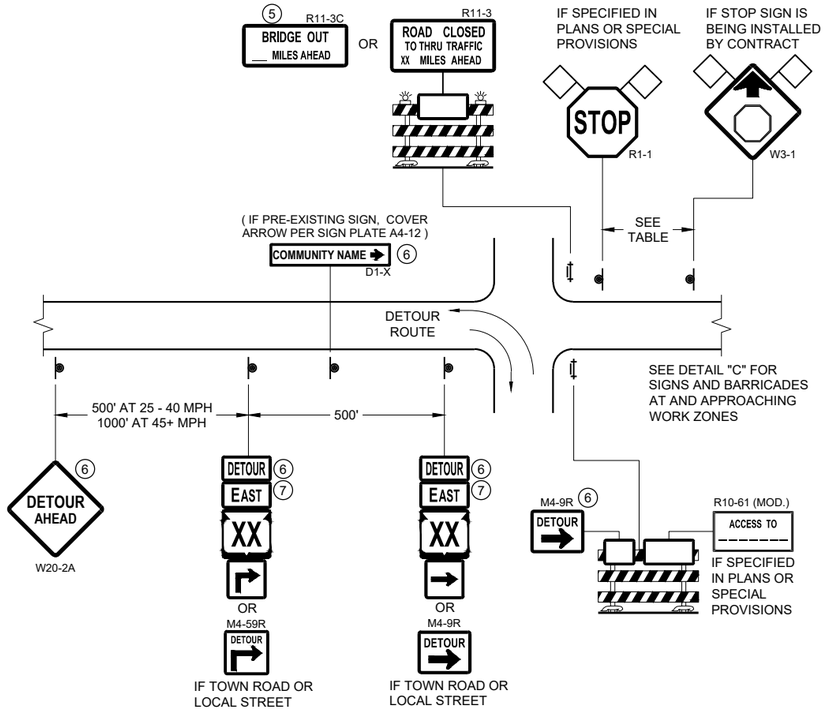
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DI
UNIT SUPERVIS
FHWA

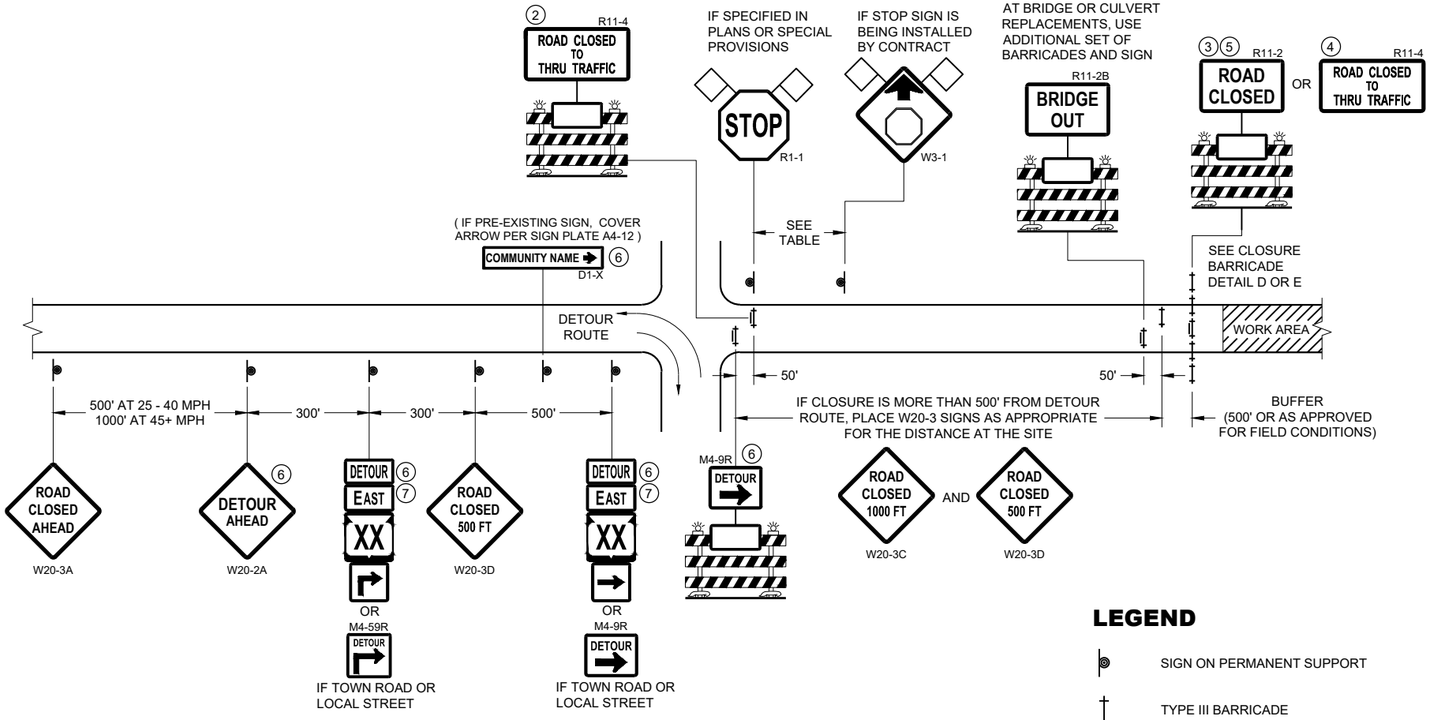
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S.D.D. 14 B 45-5j



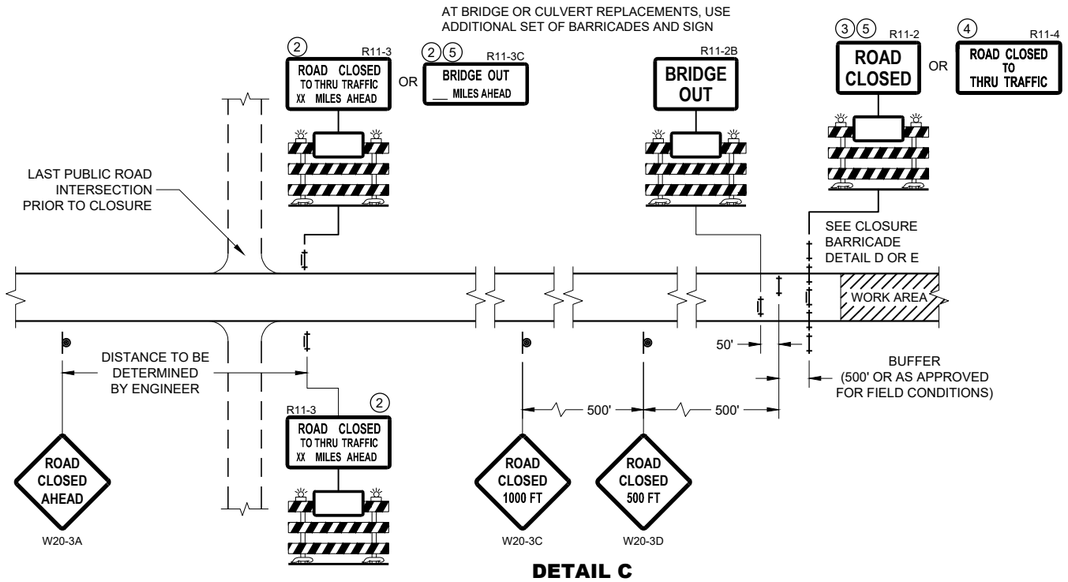
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

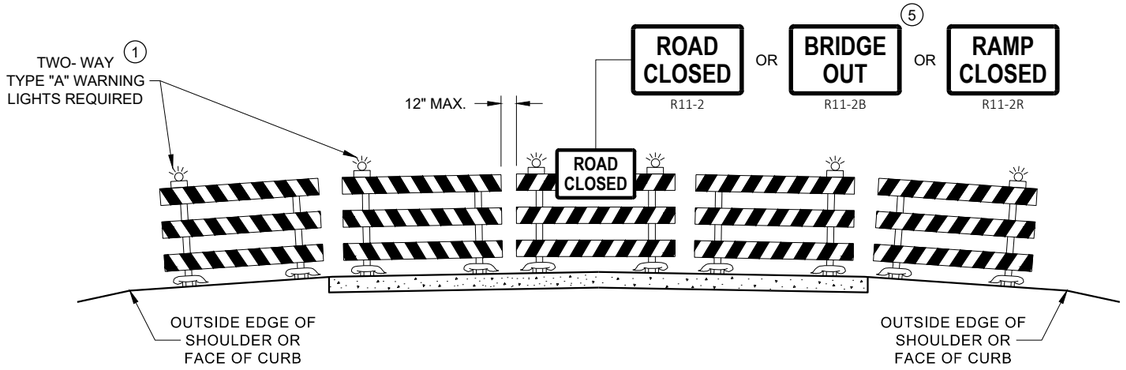
APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

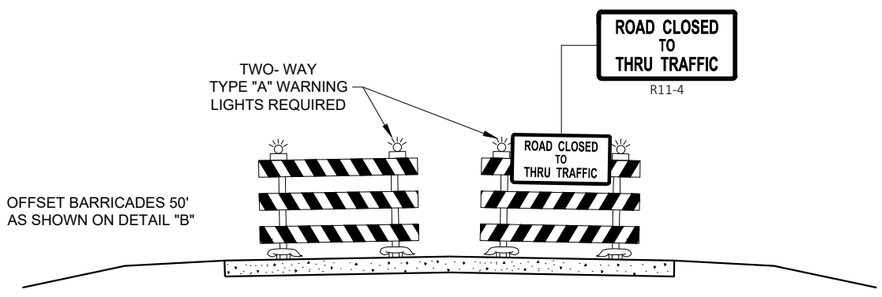
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SDD 15C02 - 09a

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR — M4 - 8
- EAST — M3 - X
- XX — M1 - 4 OR XX — M1 - 6 OR COUNTY X — M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A 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

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

500' AT 25-40 MPH
1000' AT 45+ MPH

500'

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-8a END DETOUR WEST XX *

DETOUR EAST XX / WEST XX

DETOUR ROUTE

WORK AREA

DETOUR EAST XX

WEST XX OR M4-9L DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR NEXT X MILES * G20-51

DETOUR WEST XX * OR M4-59L DETOUR ** IF TOWN ROAD OR LOCAL STREET

MATCH POINT

* M4-59L DETOUR ** OR DETOUR EAST XX * IF TOWN ROAD OR LOCAL STREET

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

M4-9L DETOUR ** OR DETOUR EAST XX IF TOWN ROAD OR LOCAL STREET

500'

DETOUR WEST XX

DETOUR WEST XX OR M4-9R DETOUR ** IF TOWN ROAD OR LOCAL STREET

DETOUR WEST XX * OR M4-59R * DETOUR ** IF TOWN ROAD OR LOCAL STREET

500'

DETOUR ROUTE

500' AT 25 - 40 MPH
1000' AT 45+ MPH

500'

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

DETOUR EAST XX *

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX

500'

DETOUR EAST XX

D1-X COMMUNITY NAME *
(IF PRE-EXISTING SIGN, COVER ARROW PER SIGN PLATE A4-12)

DETOUR EAST XX *

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

500' AT 25 - 40 MPH
1000' AT 45+ MPH

DETOUR EAST XX *

M3-X 24" X 12"
M1-X 24" X 24"
DETOUR AHEAD
W20-2A
USE ON STATE TRUNK, U.S. OR INTERSTATE HIGHWAYS, OR AS SPECIFIED IN THE CONTRACT

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

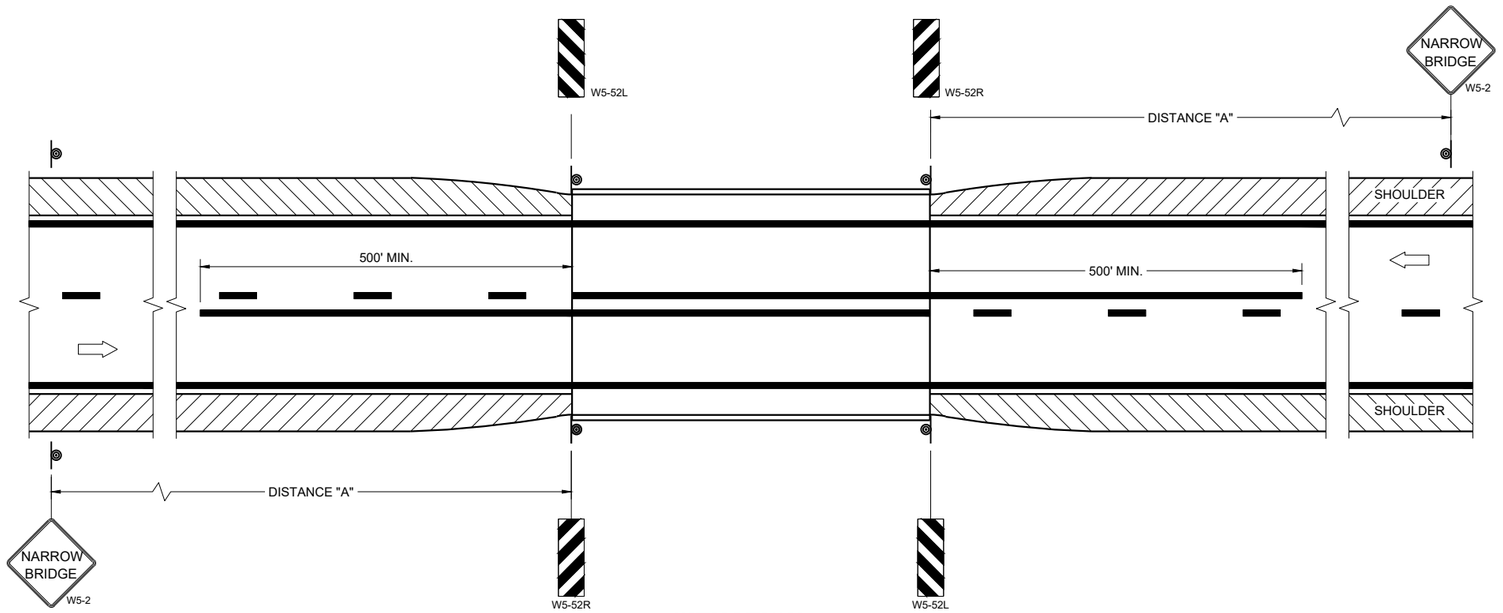
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

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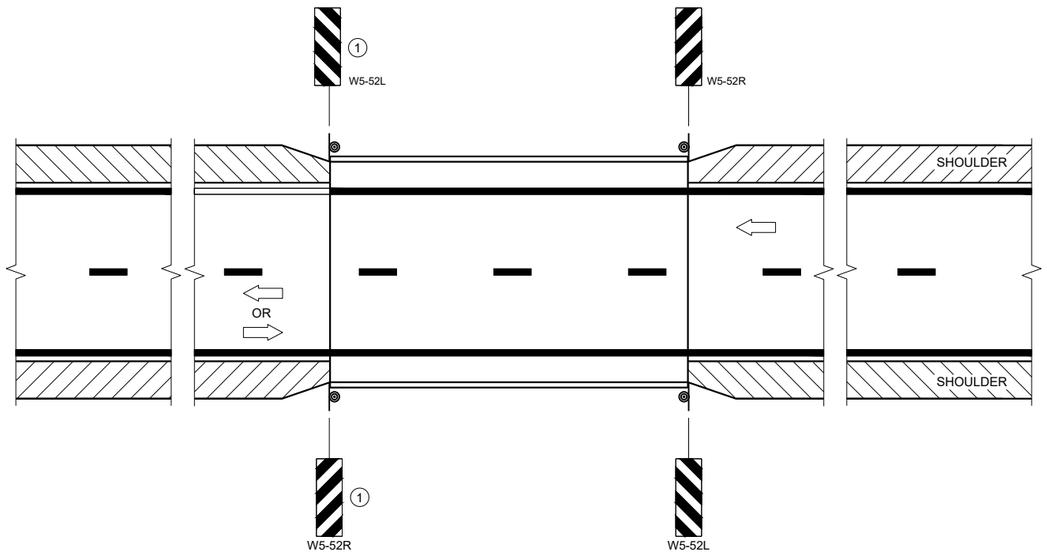
SDD 15C02 - 09c

SDD 15C02 - 09c



SITUATION 1

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



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 THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

(1) OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

DISTANCE TABLE

POSTED OR 85TH PERCENTILE SPEED	DISTANCE "A"
25	150'
30	200'
35	250'
40	300'
45	400'
50	550'
55	700'

SIGNING AND MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Jeannie Silver
Statewide Pavement Marking Engineer
FHWA

6
SDD 15C06-12

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

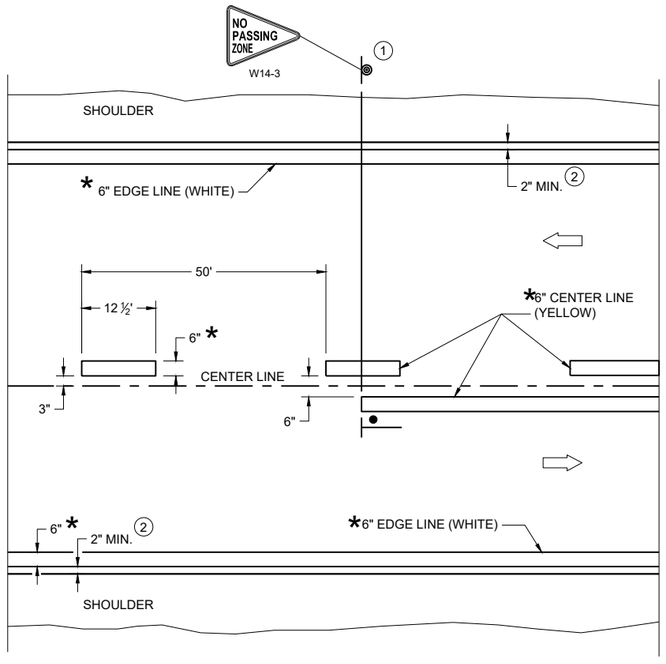
*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

LEGEND

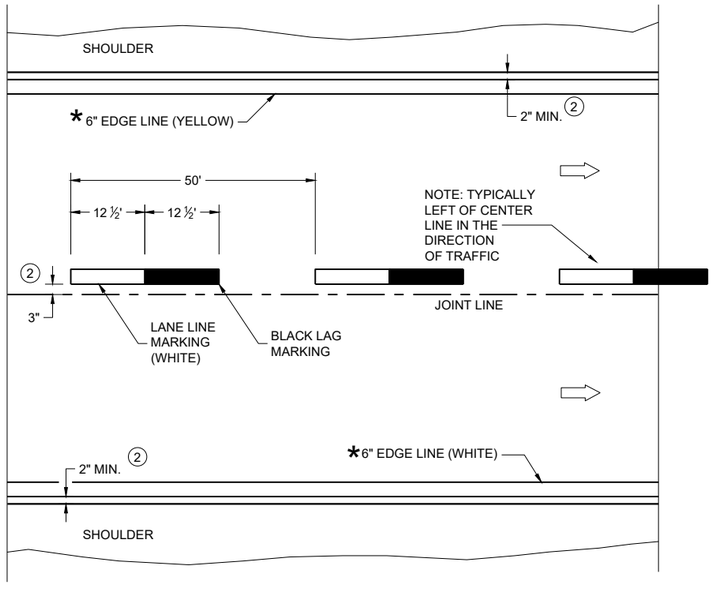
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

SDD 15C08-24a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2024
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

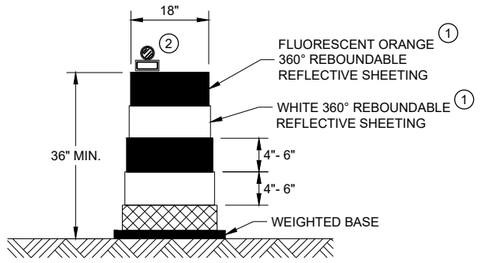
FHWA

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SDD 15C08-24a

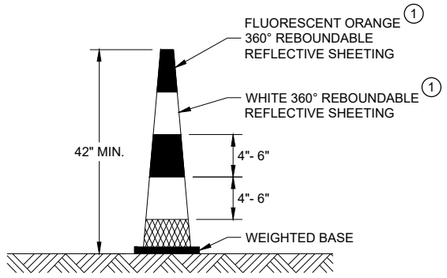
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

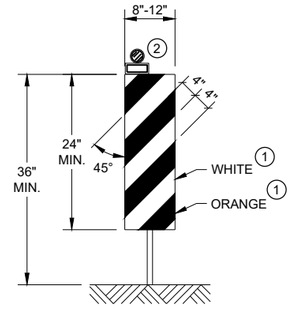
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

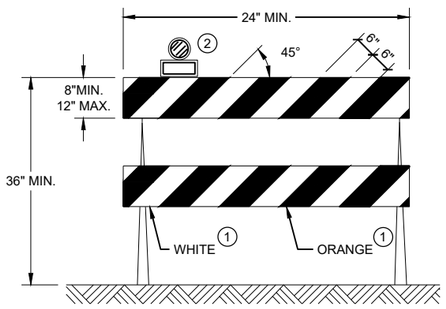
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



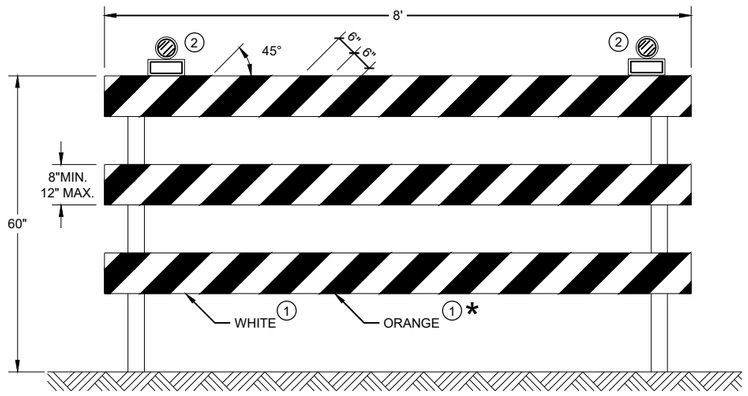
VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

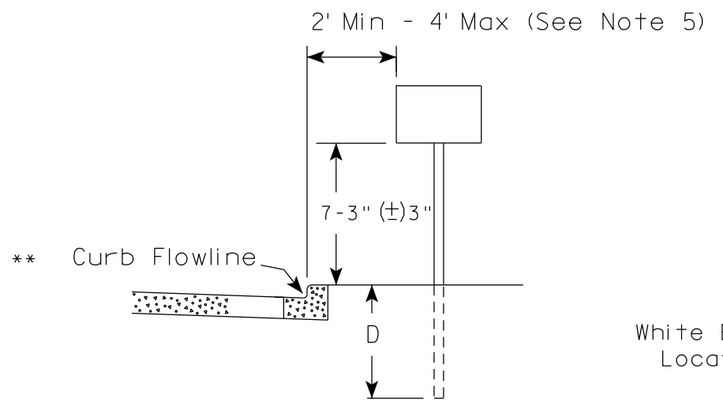
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SDD 15C11 - 10b

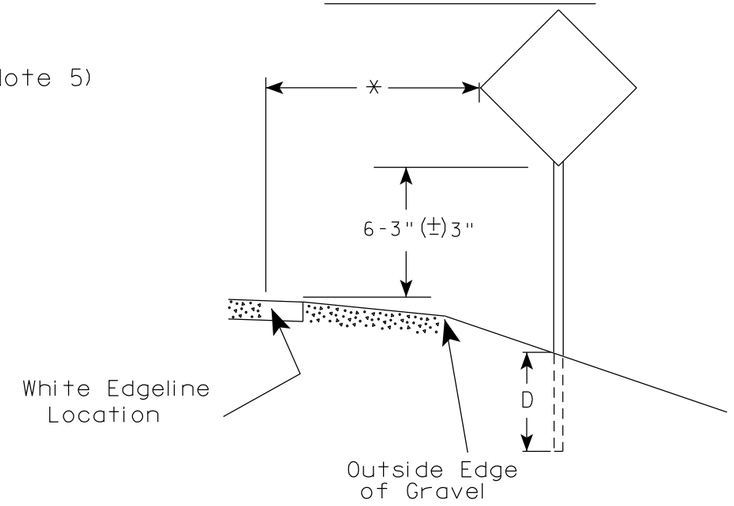
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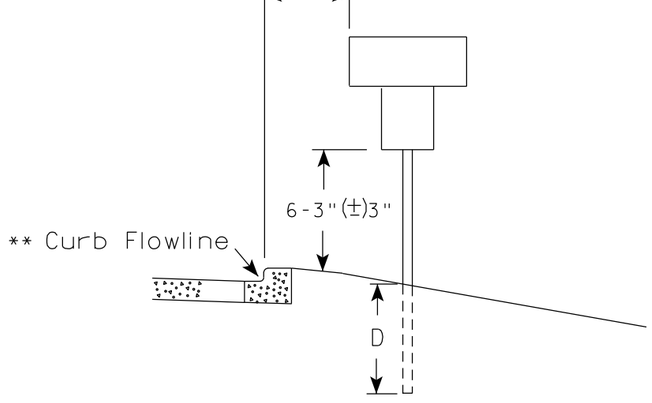
SDD 15C11 - 10b

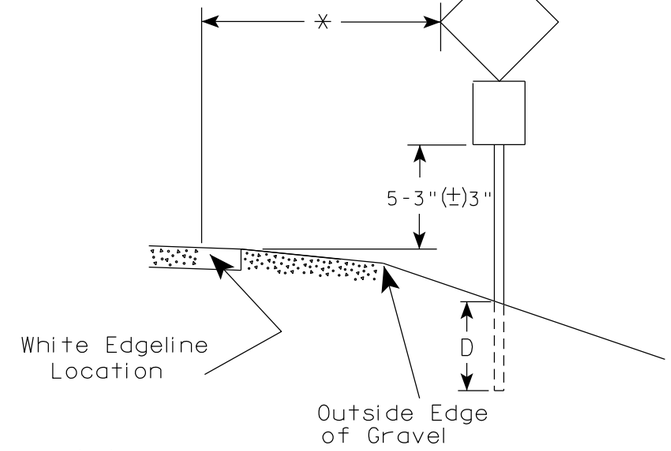
URBAN AREA



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 or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directd by the Engineer.

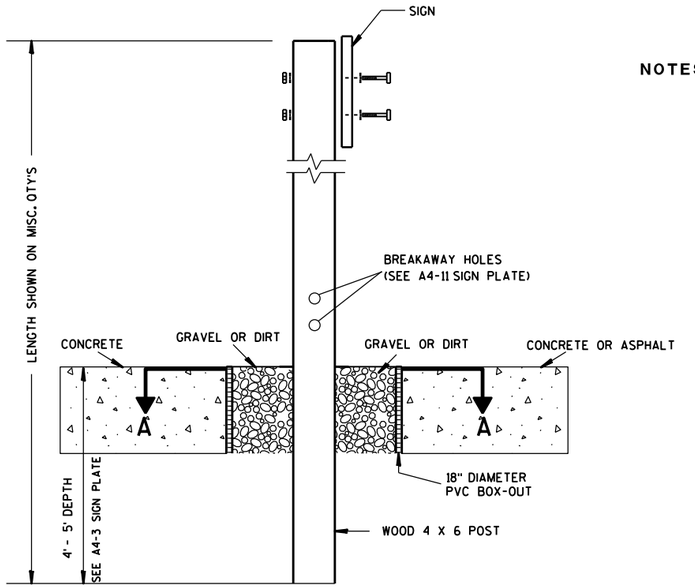
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

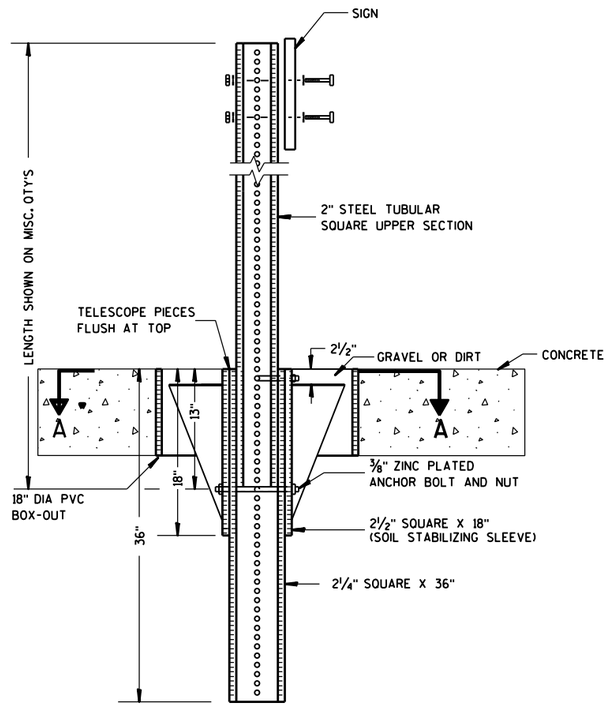
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 64	E



ELEVATION VIEW

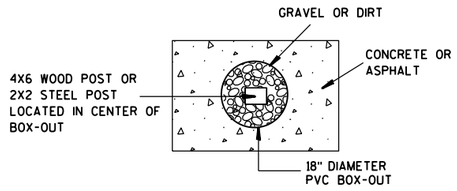
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

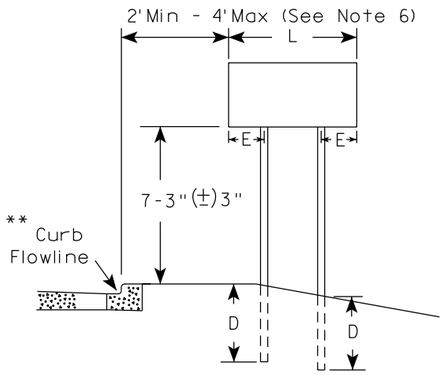
APPROVED Matthew R Rauch
for State Traffic Engineer

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

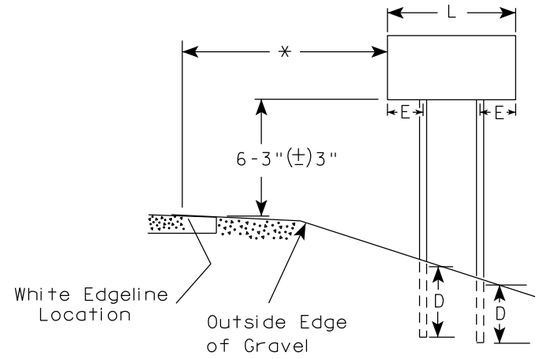
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

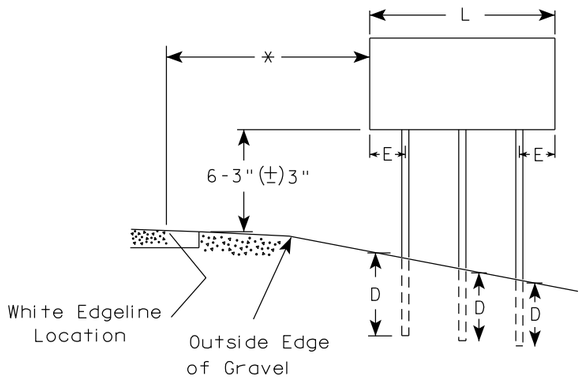
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

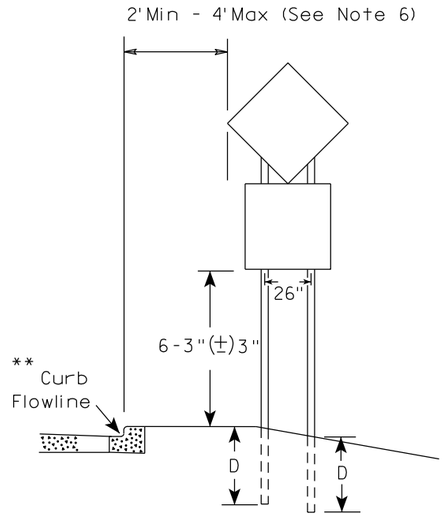
URBAN AREA



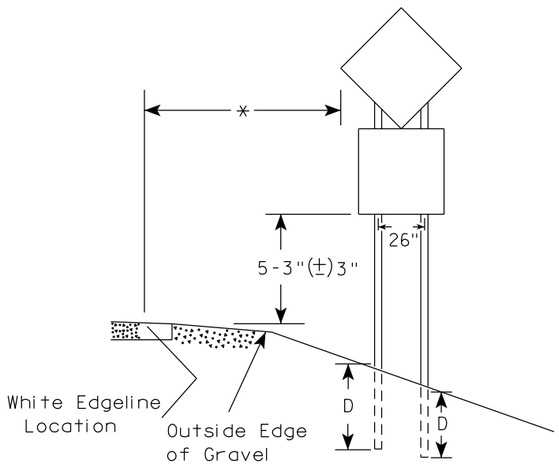
RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)		
	L	E
***	Greater than 48" Less than 60"	12"
	60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 3".

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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

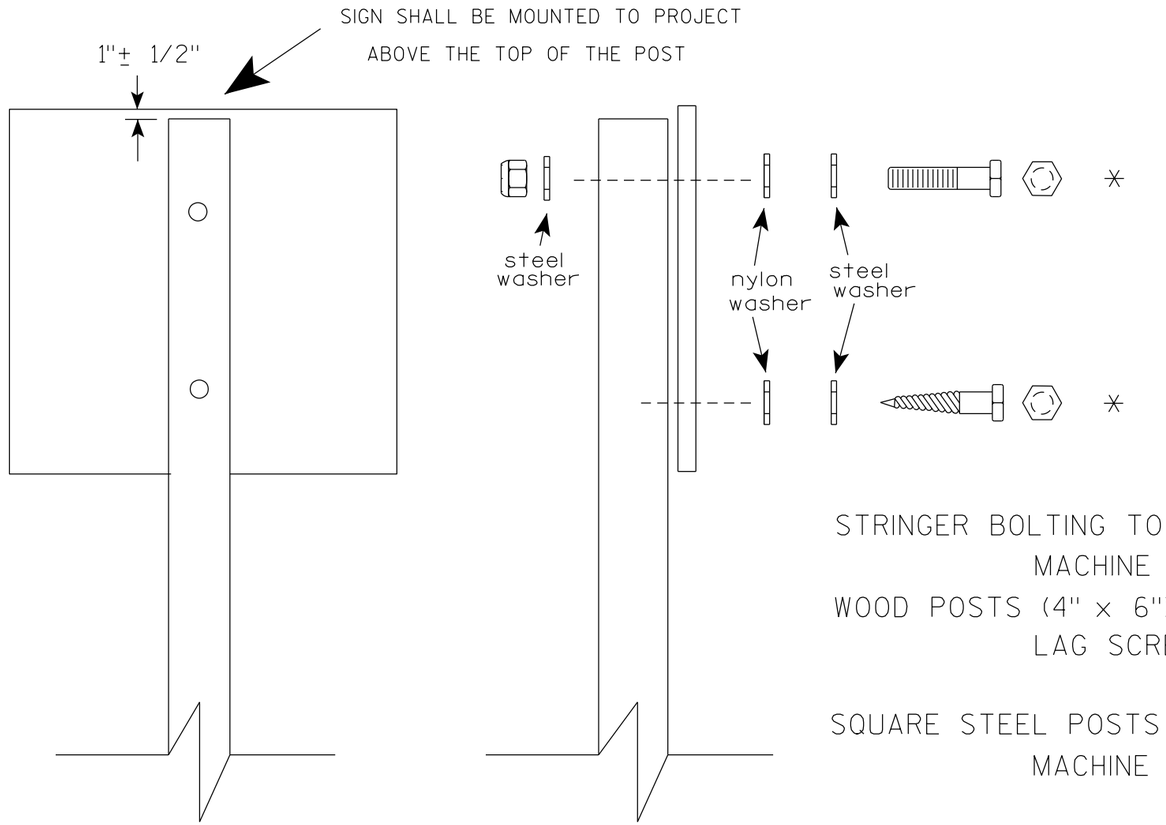
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 66	E



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

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

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

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

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 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

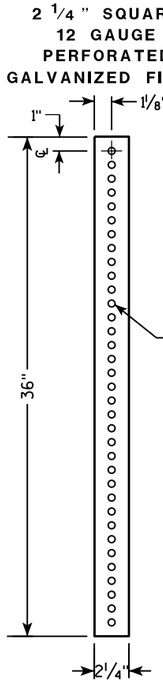
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

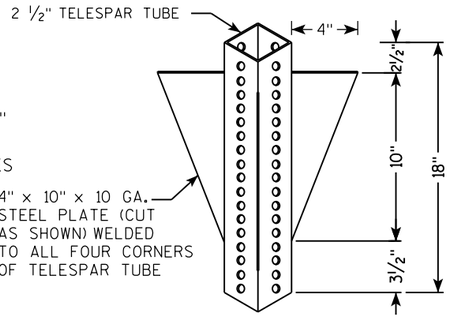
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

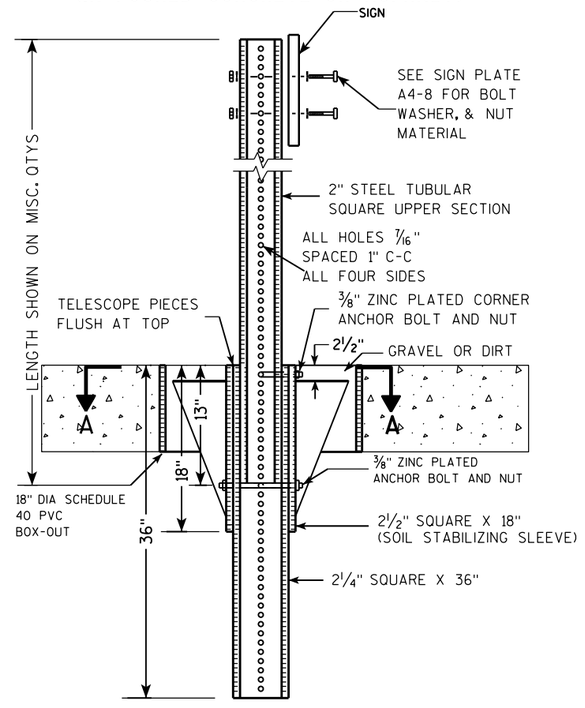
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



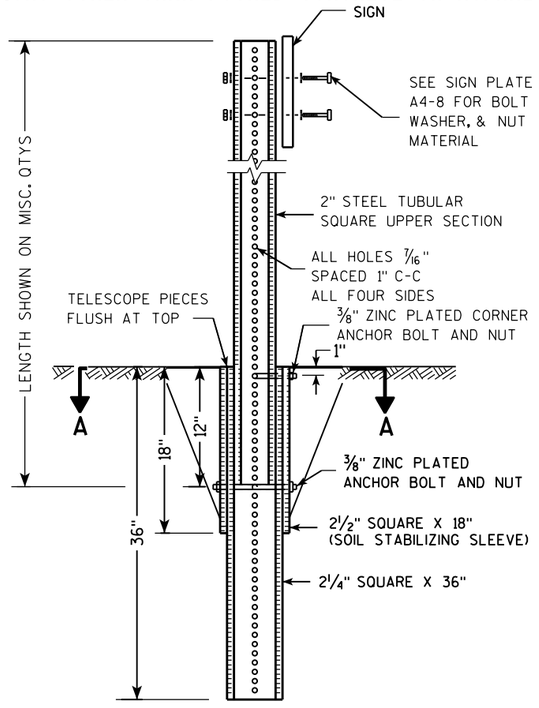
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

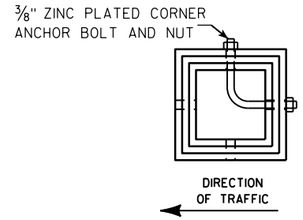


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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).

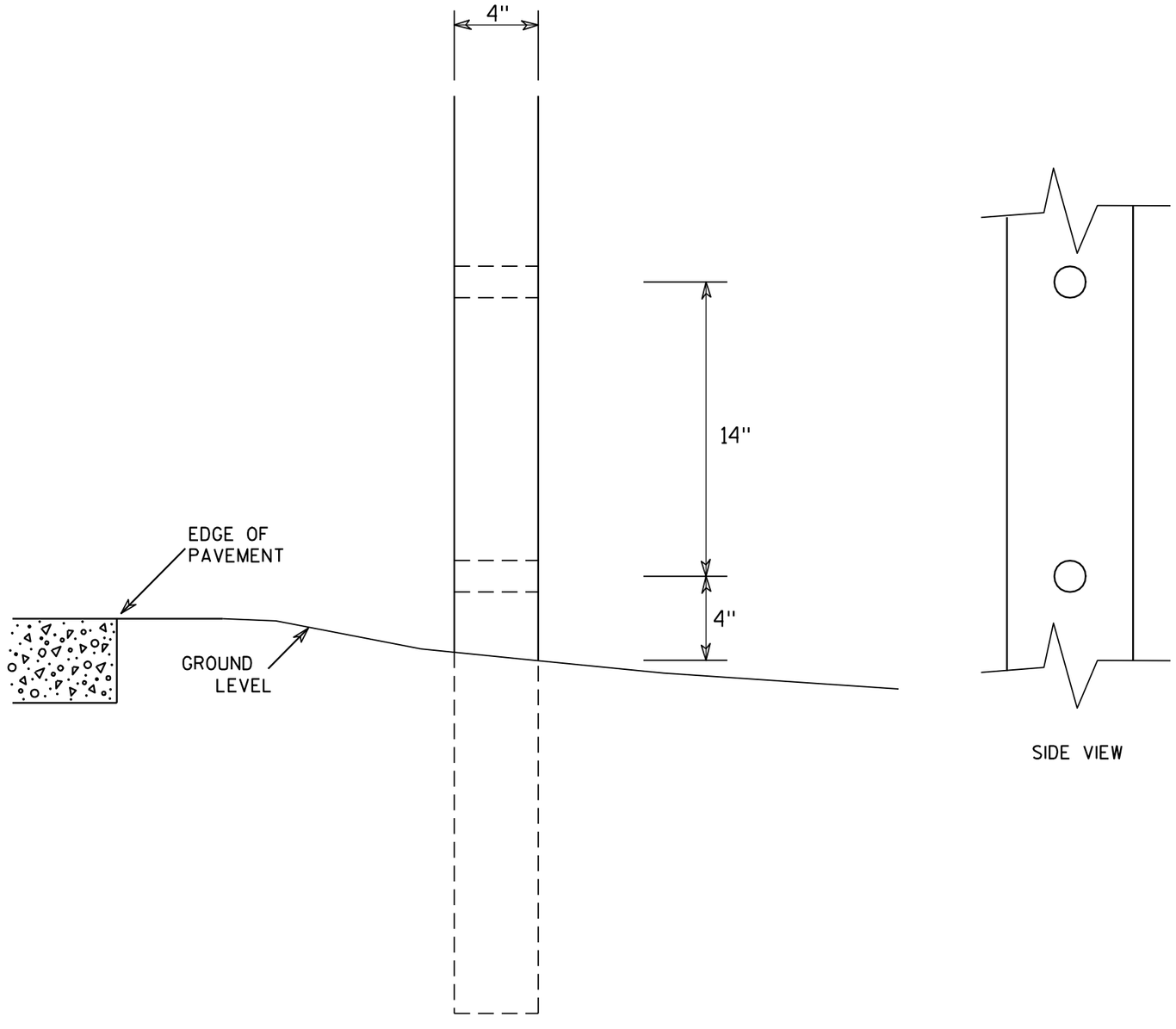
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE 68 A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

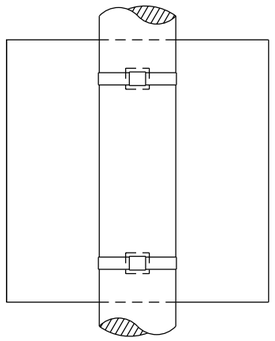
APPROVED Chester J Spang
for State Traffic Engineer

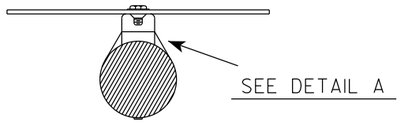
DATE 3/27/97 PLATE NO. A4-11.2

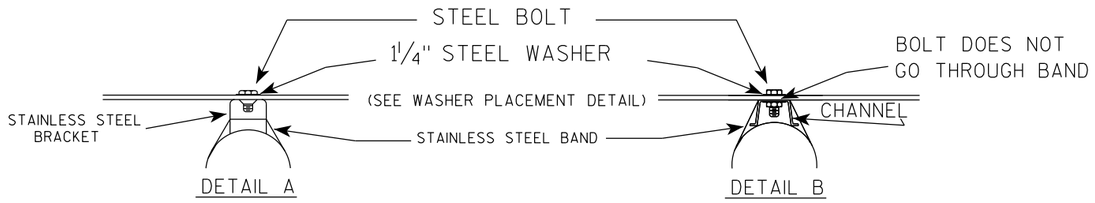
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 69	E

BANDING

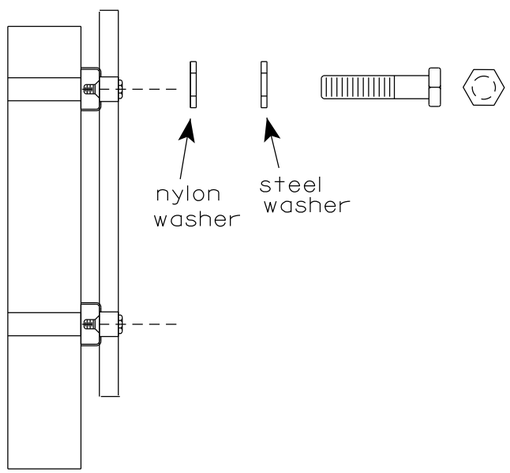
SINGLE SIGN







WASHER PLACEMENT

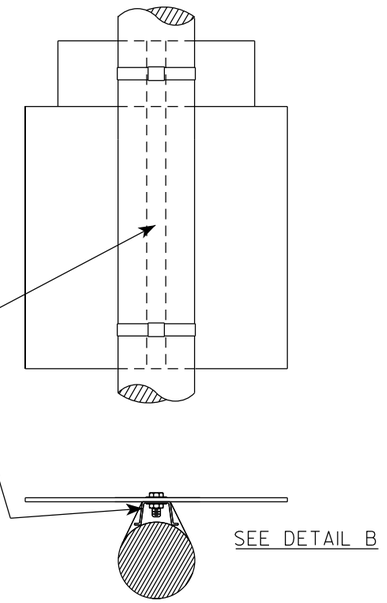


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

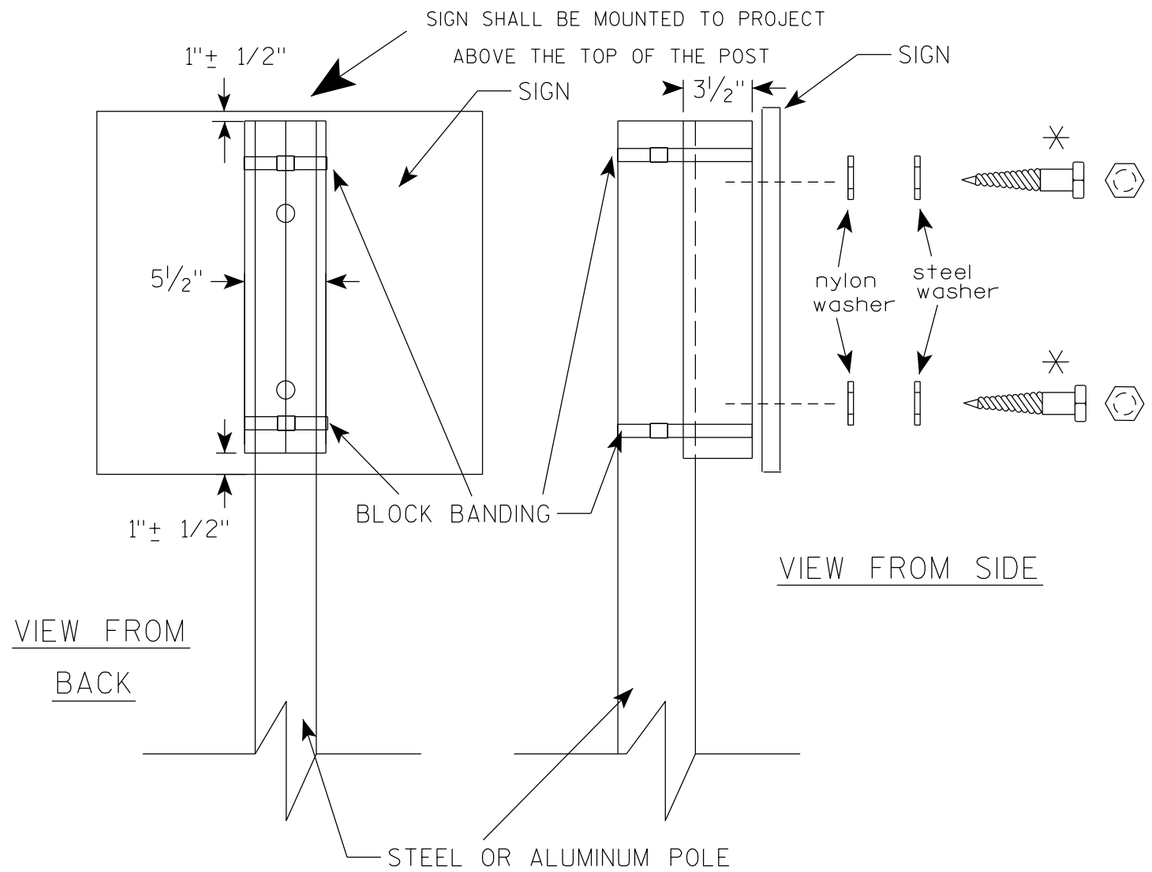
DATE 6/10/19 PLATE NO. A5-9.4

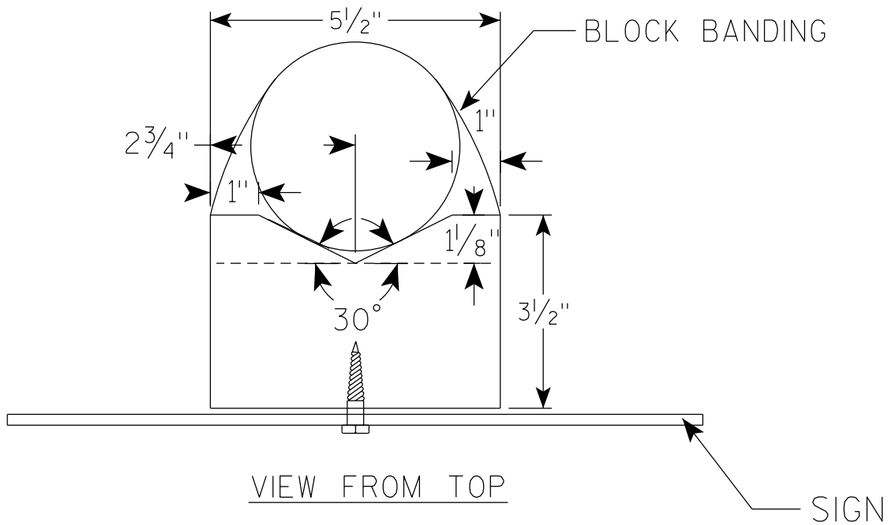
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 70	E

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7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

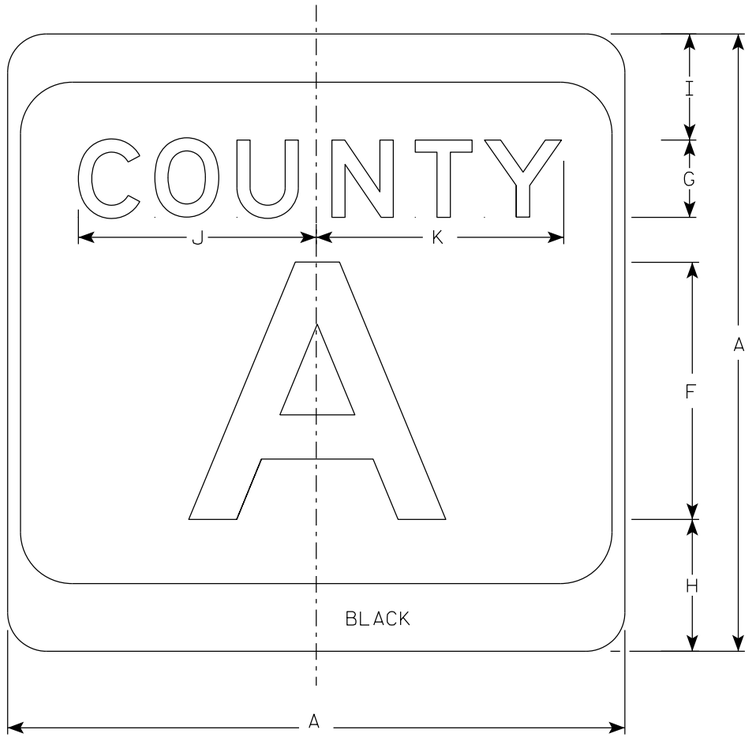
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

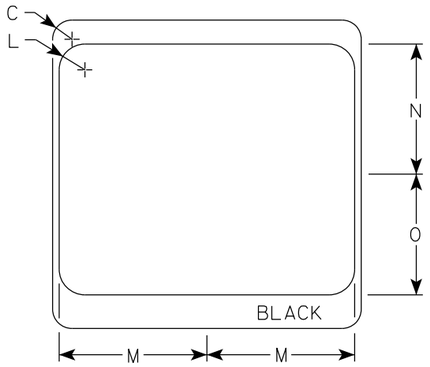
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 71 E

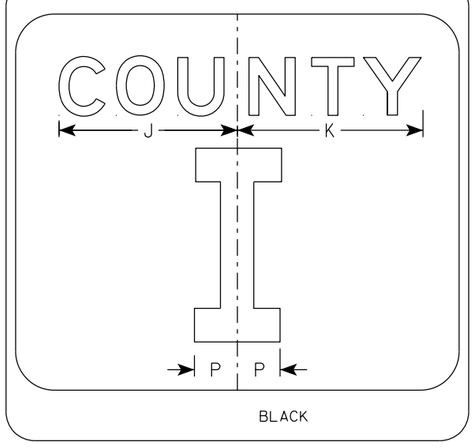


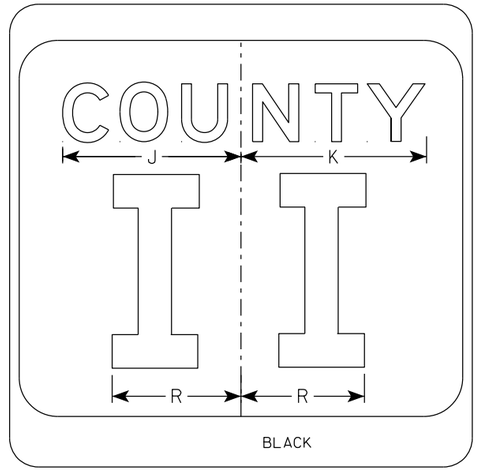
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. 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.
5. Substitute appropriate letters & optically center 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																											
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
2M	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

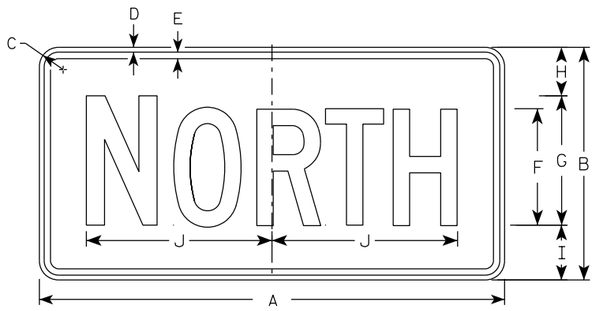
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-5A.9

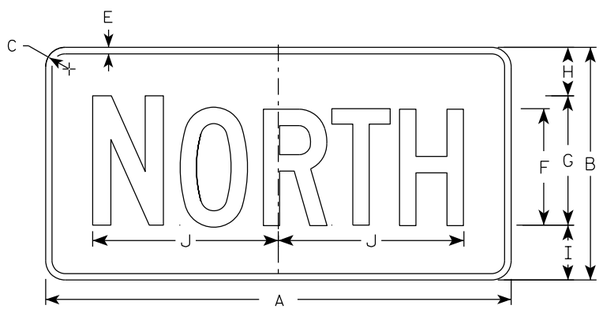
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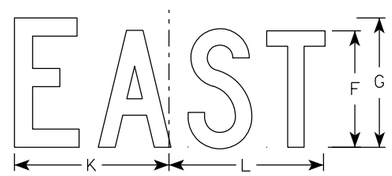
7



M3-1
MM3-1
MP3-1



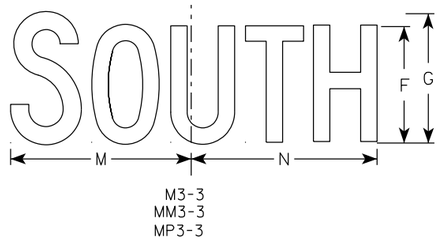
MB3-1
MK3-1
MN3-1



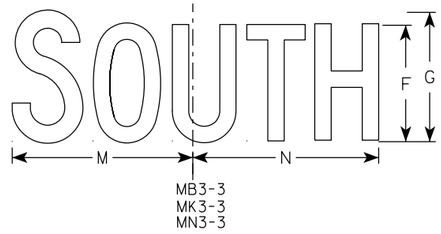
M3-2
MM3-2
MP3-2



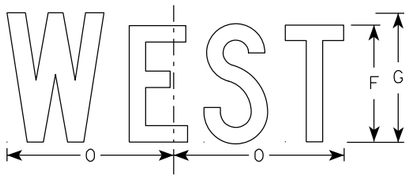
MB3-2
MK3-2
MN3-2



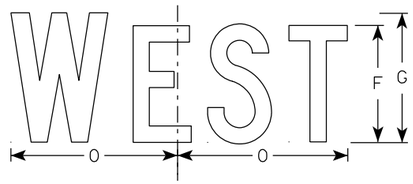
M3-3
MM3-3
MP3-3



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 Reflective
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																											
2S	24	12	1 1/2	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												2.00
2M	24	12	1 1/2	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												2.00
3	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
4	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5
5	36	18	1 1/2	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13												4.5

STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

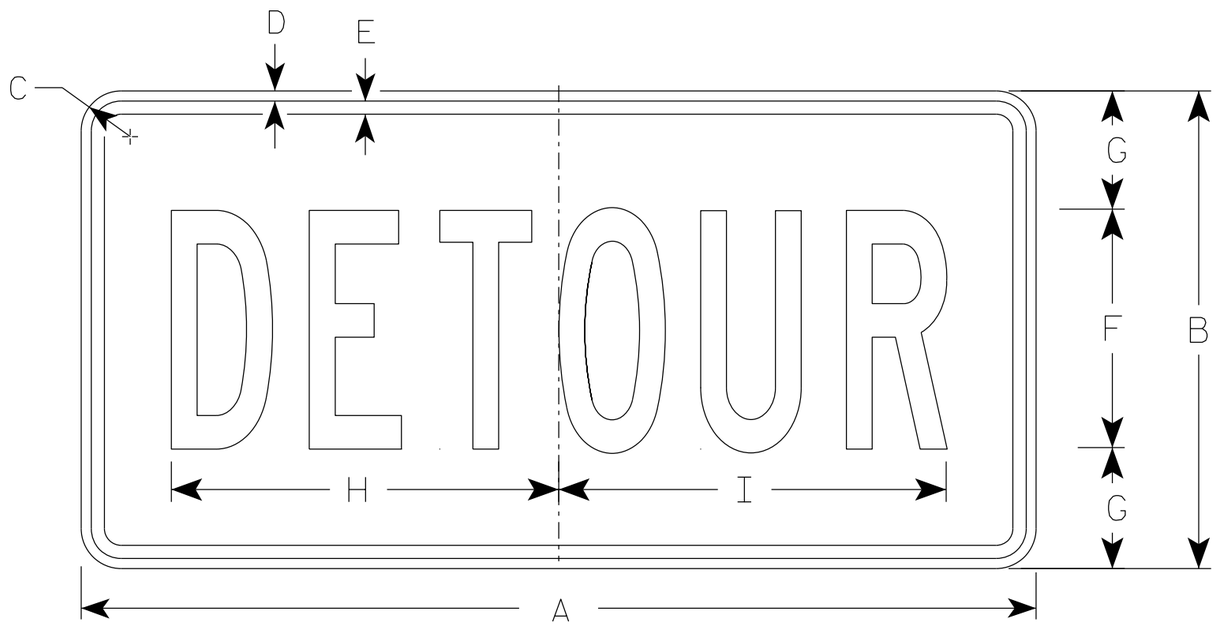
DATE 2/8/2023 PLATE NO. M3-1.15

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 73 | E

7

NOTES

1. Sign is Type II - Type F Reflective
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.



M4-8

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 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
2M	24	12	1 1/2	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
5	36	18	1 1/2	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5

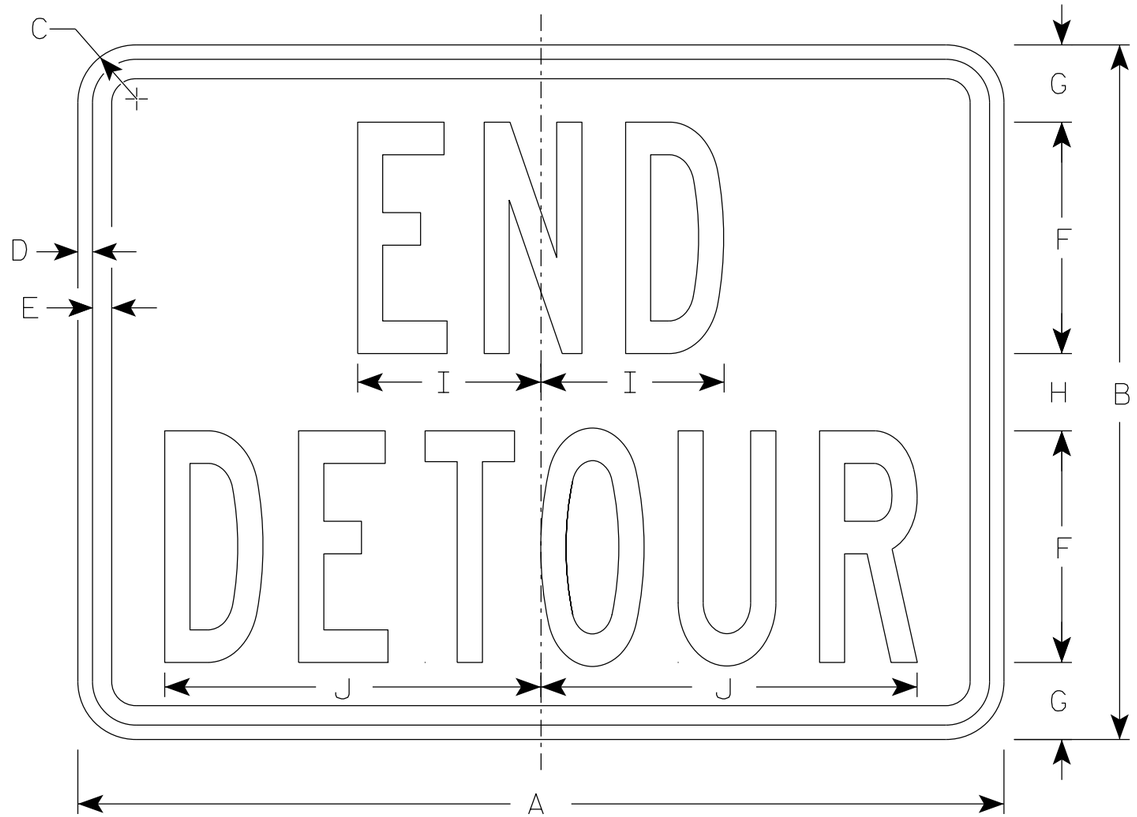
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8.4

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 74	E



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
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 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

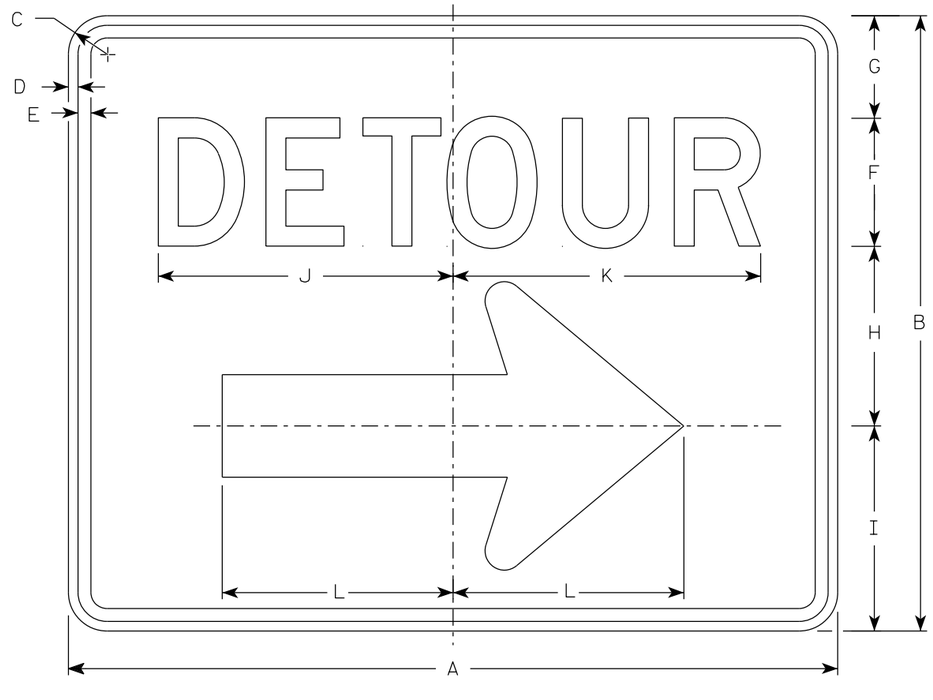
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

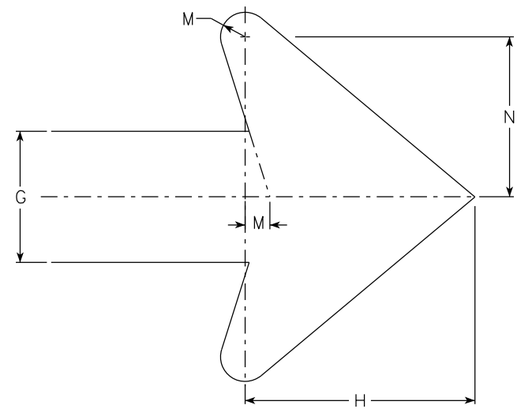
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 75 | E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 7/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

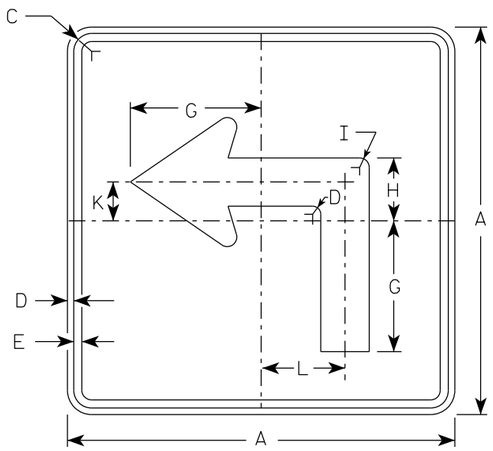
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

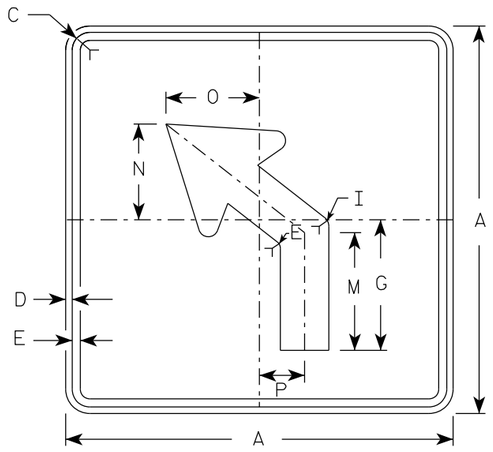
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9R.6

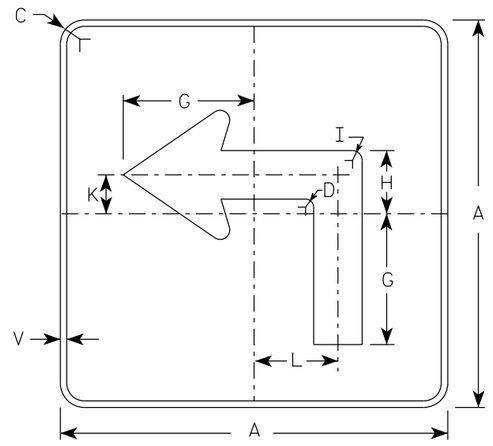
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



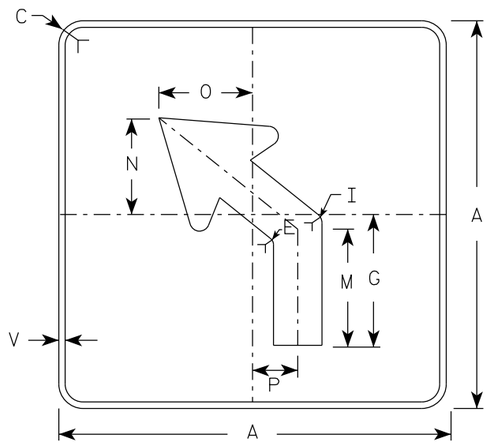
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

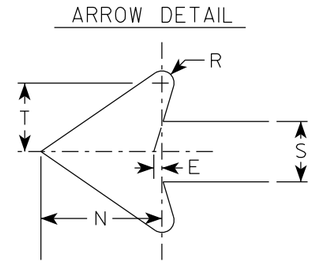


MB5-2L
MK5-2L
MN5-2L
MR5-2L

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
   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.

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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		1/2					3.06
2M	21		1 1/2	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		1/2					3.06
3	30		1 7/8	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		1/2					6.25
4	30		1 7/8	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		1/2					6.25
5	30		1 7/8	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		1/2					6.25

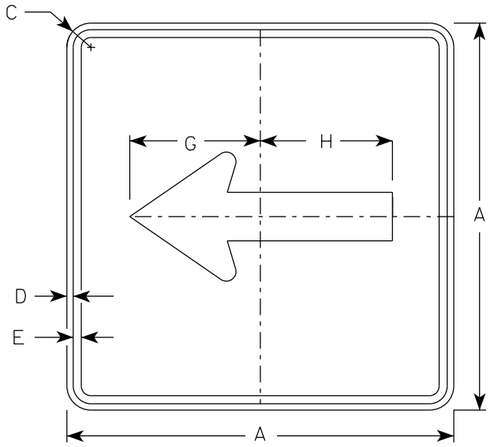
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

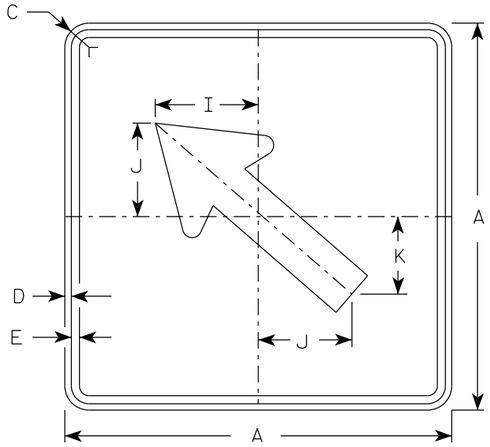
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

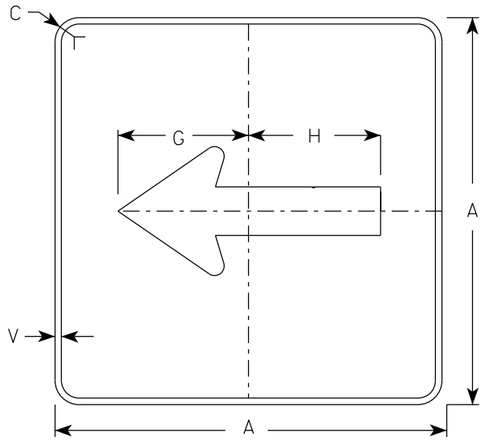
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 77 | E



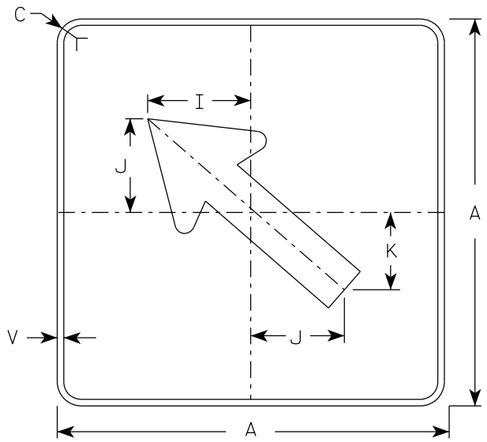
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

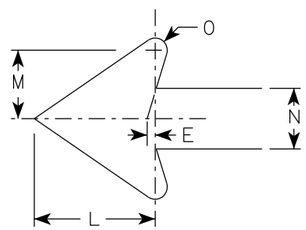


MB6-2
MK6-2
MN6-2
MR6-2

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. 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

ARROW DETAIL



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	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							1/2					3.06
2M	21		1 1/2	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							1/2					3.06
3	30		1 7/8	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							1/2					6.25
4	30		1 7/8	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							1/2					6.25
5	30		1 7/8	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							1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

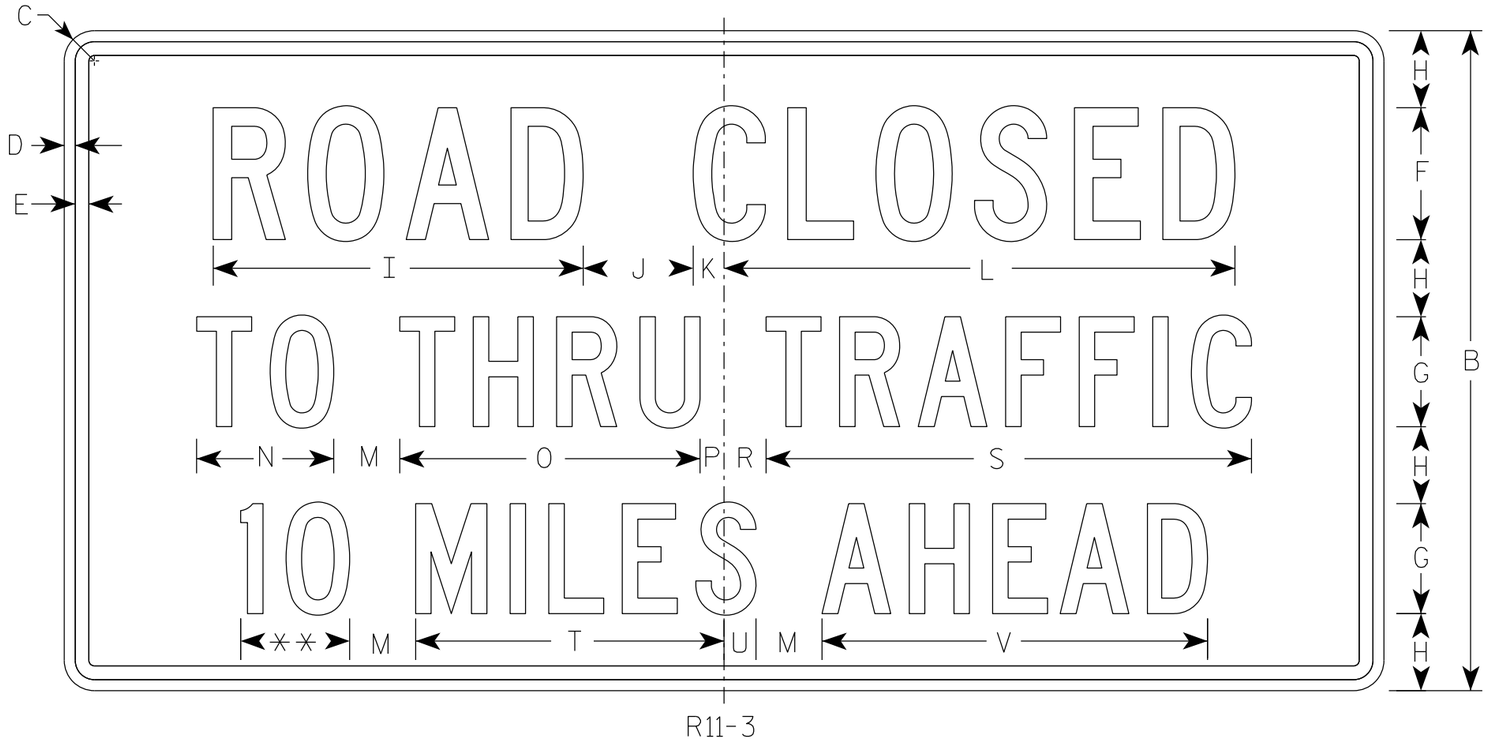
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 78 | E

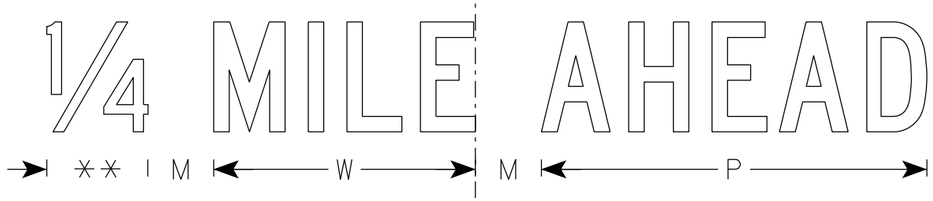
NOTES

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.



R11-3

** 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 1/2	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8				4.5
2S	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
2M	60	30	1 7/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8				12.5
3																											
4																											
5																											

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

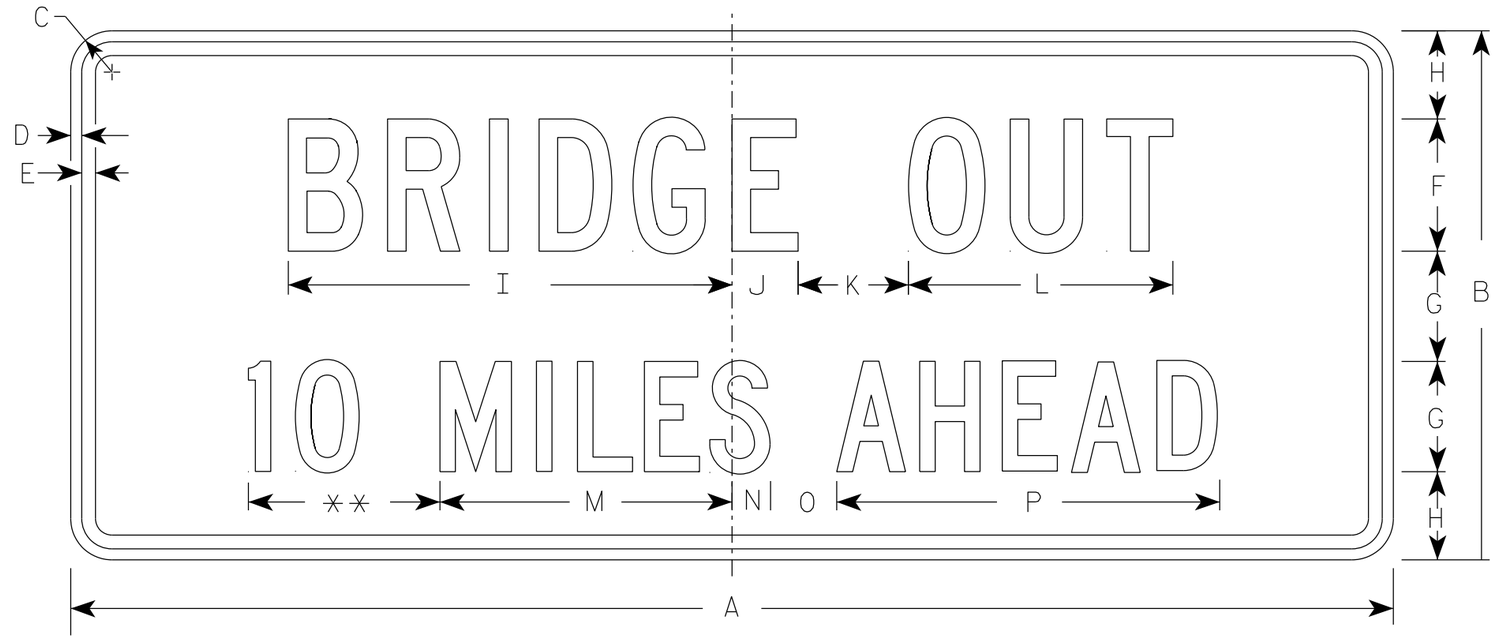
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-3.10

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 79 E

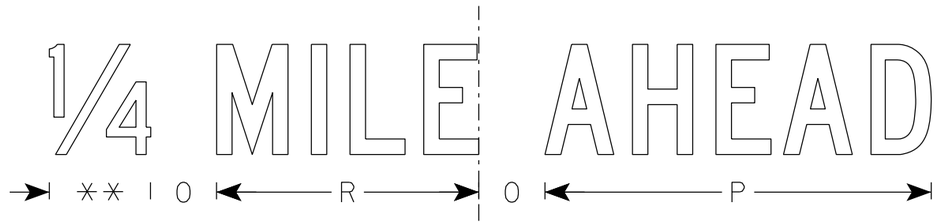
NOTES

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 1/2	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		7 1/8									3.75
2S	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 7/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

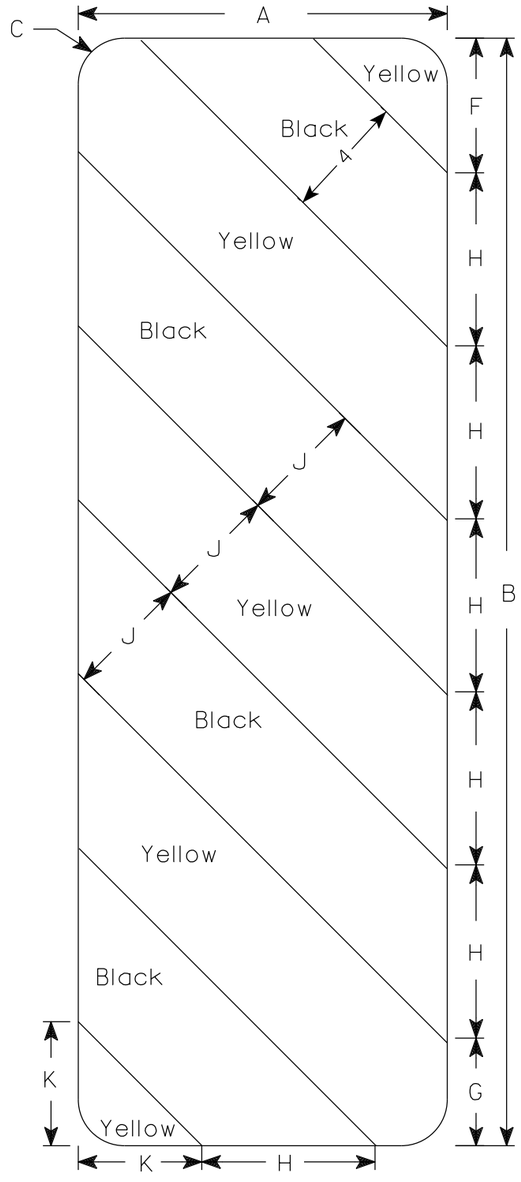
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

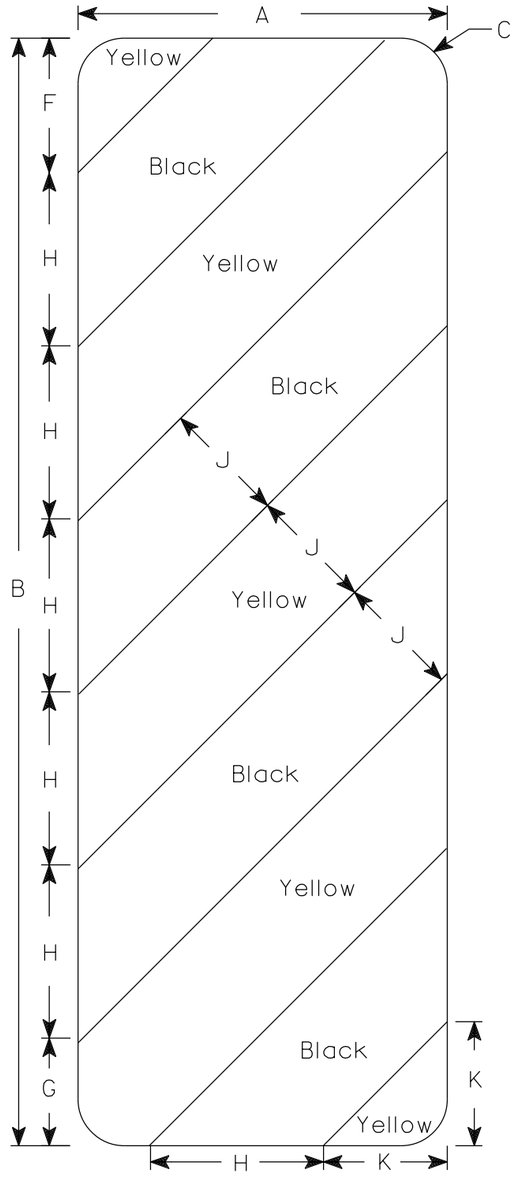
DATE 2/5/24 PLATE NO. R11-3C.4

PROJECT NO:

SHEET NO: 80 E



W5-52L



W5-52R

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. 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	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36	1 1/2			4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54	1 1/2			6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

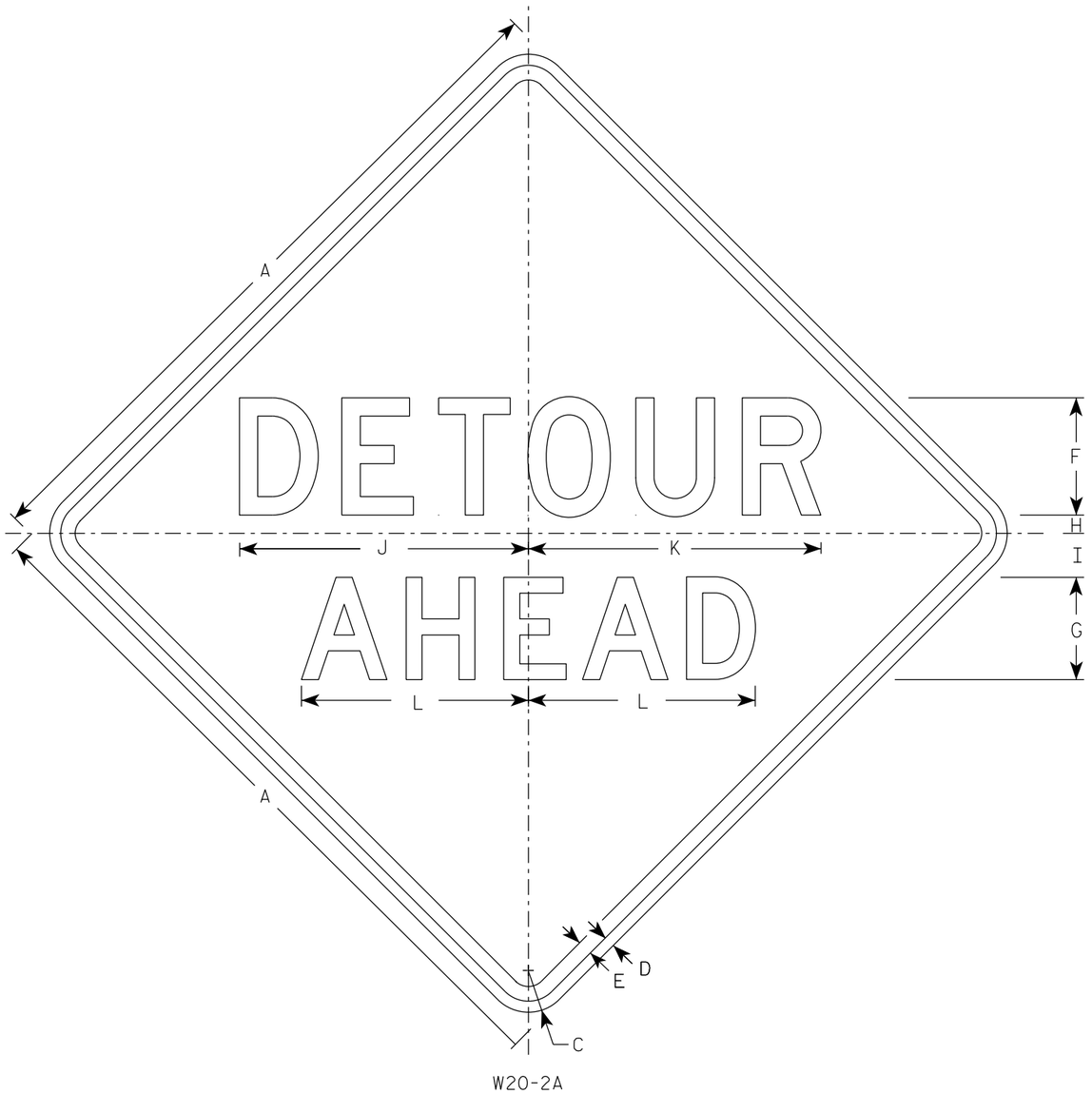
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

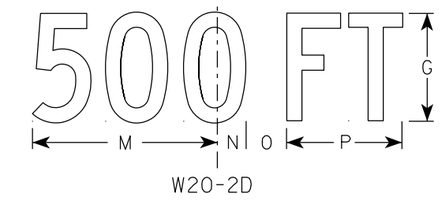
DATE 3/4/2024 PLATE NO. W5-52.10

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

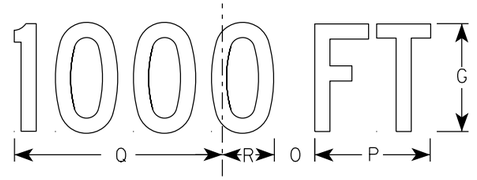
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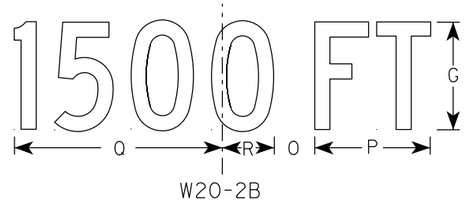
W20-2A



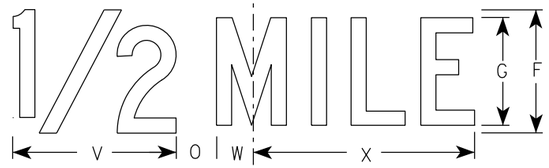
W20-2D



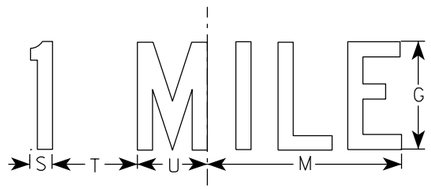
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
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	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	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		3	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		3	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		3	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		3	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		3	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

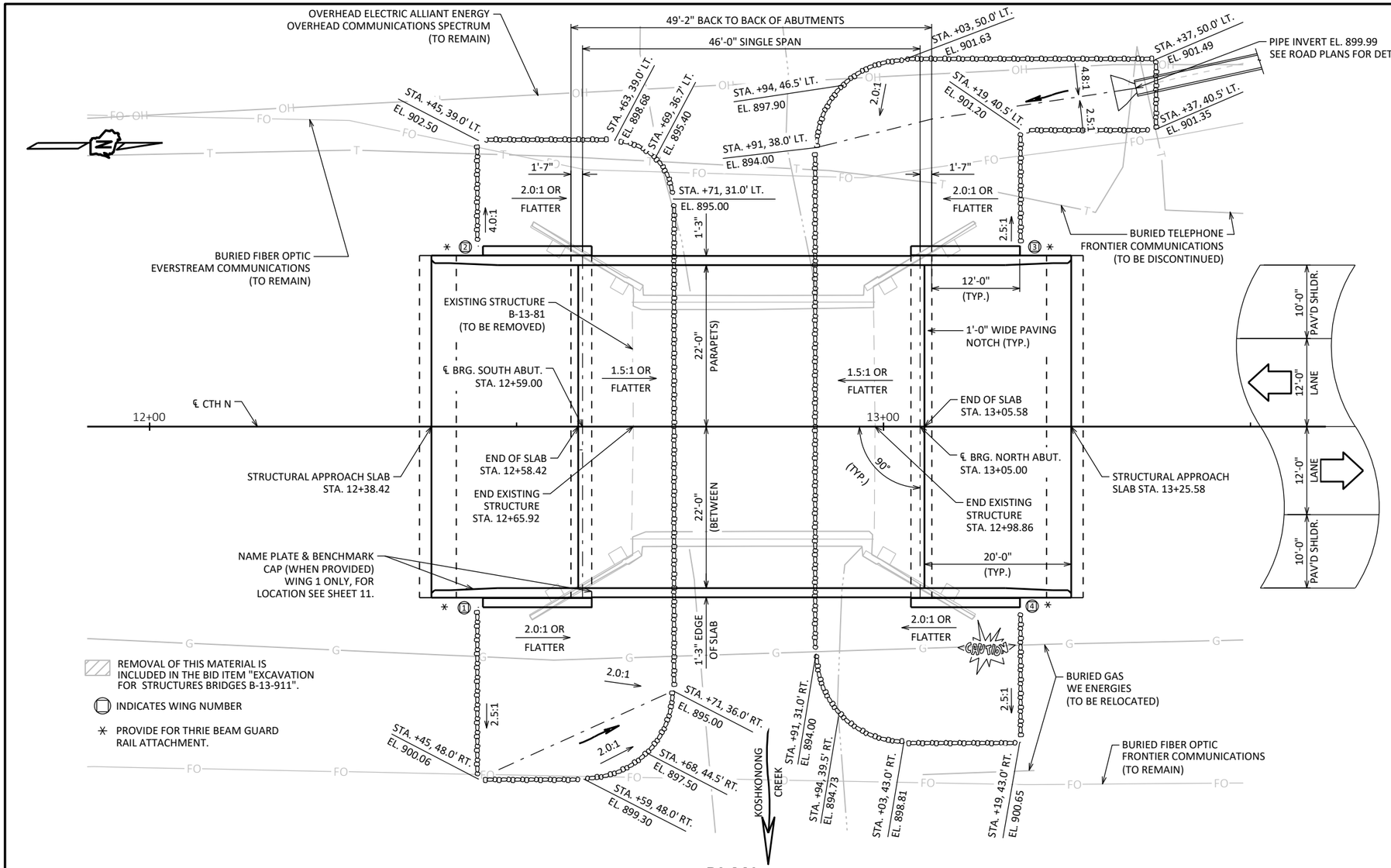
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

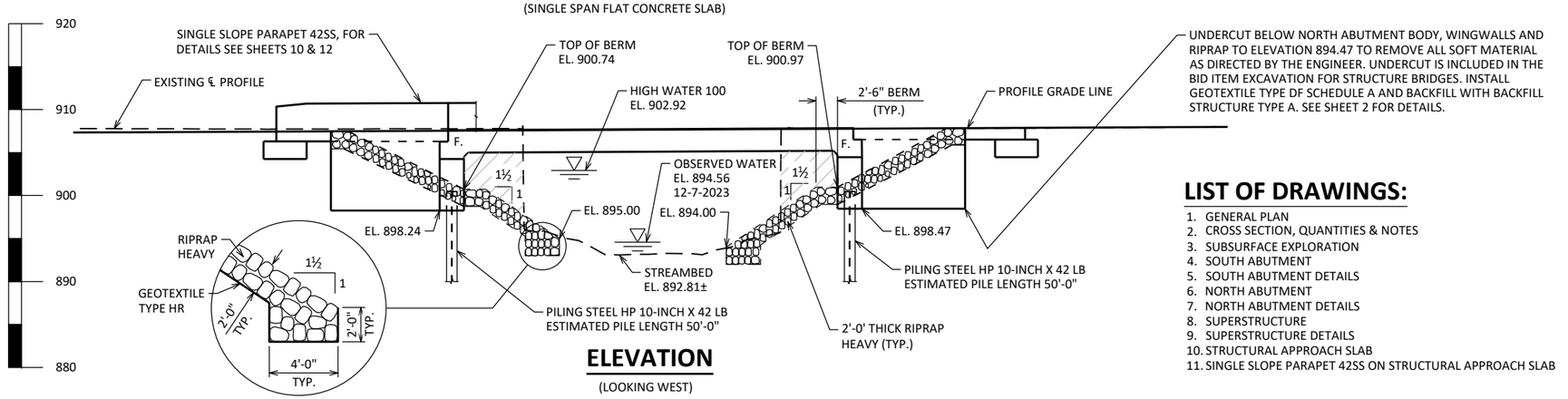
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



PLAN

(SINGLE SPAN FLAT CONCRETE SLAB)



ELEVATION

(LOOKING WEST)

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.34
OPERATING RATING: RF = 1.74
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING
SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE & STRUCTURAL APPROACH SLAB —— f'_c = 4,000 PSI
ALL OTHER —— f'_c = 3,500 PSI

HIGH-STRENGTH BAR STEEL REINFORCEMENT:
GRADE 60 —— f_y = 60,000 PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 50'-0" LONG AT SO. ABUT.
ESTIMATED 50'-0" LONG AT NO. ABUT.

**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 PILE CAPACITY.

HYDRAULIC DATA

100-YEAR FREQUENCY:
Q_{100}= 1,414 C.F.S.
V_{100}= 5.0 F.P.S.
HW_{100}= EL. 902.92
WATERWAY AREA = 281 SQ. FT.
DRAINAGE AREA = 23.4 SQ. MI.
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:
Q_2= 495 C.F.S.
V_2= 2.6 F.P.S.
HW_2= EL. 900.61

ROADWAY OVERTOPPING
FREQUENCY = >100 YEARS

TRAFFIC VOLUME

CTH N
A.A.D.T. (2026) = 6,500
A.A.D.T. (2046) = 9,600
ROADWAY DESIGN SPEED = 60 MPH

LIST OF DRAWINGS:

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. STRUCTURAL APPROACH SLAB
11. SINGLE SLOPE PARAPET 42SS ON STRUCTURAL APPROACH SLAB

WISCONSIN PROFESSIONAL ENGINEER
JULIA I. ZEHNER
E-50015
PRAIRIE DU SAC
WI
10-17-2025

CONSULTANT DESIGN CONTACT:
JULIA ZEHNER
(608) 355-8878

BRIDGE OFFICE CONTACT:
AARON BONK
(608) 261-0261

NO.	DATE	REVISION	BY

MSA
ENGINEERING | ARCHITECTURE | SURVEYING
FUNDING | PLANNING | ENVIRONMENTAL
1702 PANKRATZ STREET, MADISON WI 53704
(608) 242-7779 www.msa-ps.com
© MSA Professional Services, Inc.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED JLR 12/02/25
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STATE PROJECT NUMBER
3679-00-73

STRUCTURE B-13-911

CTH N OVER KOSHKONONG CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
DANE	SUN PRAIRIE

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATION

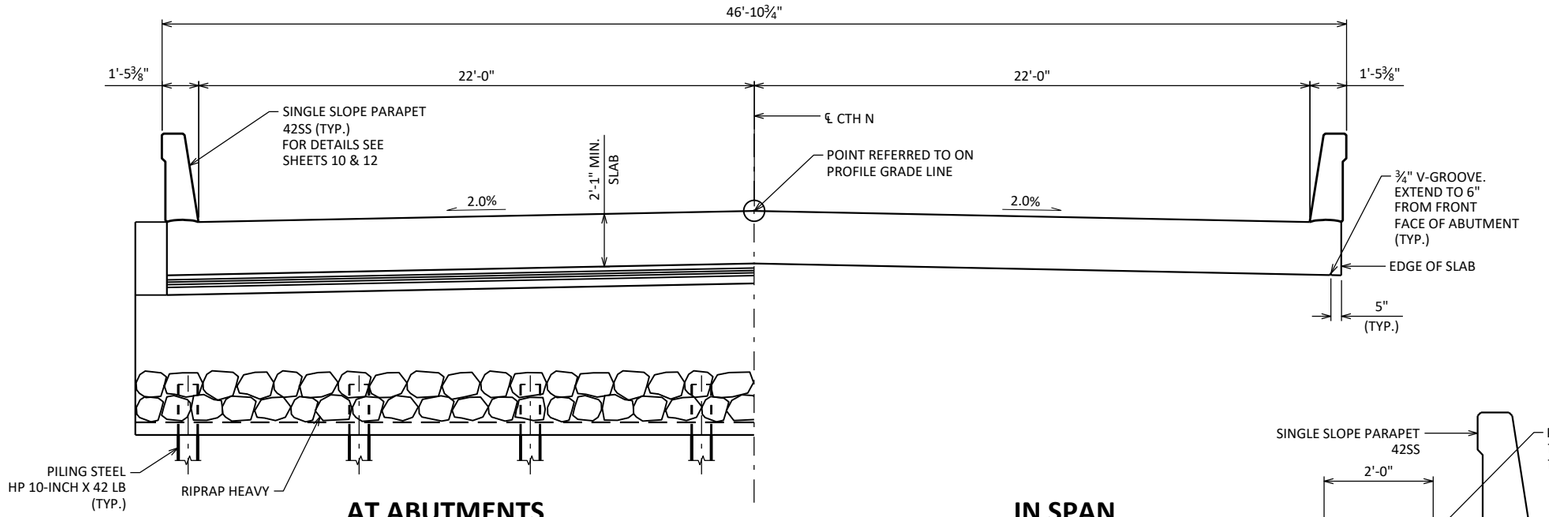
DESIGNED BY	DESIGNED CK'D	DRAWN BY	PLANS CK'D
DS	JZ	EKK	DS

GENERAL PLAN

SHEET 1 OF 11
83

8

8

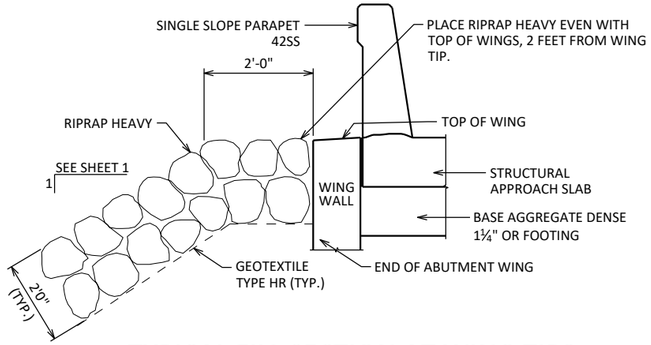


AT ABUTMENTS

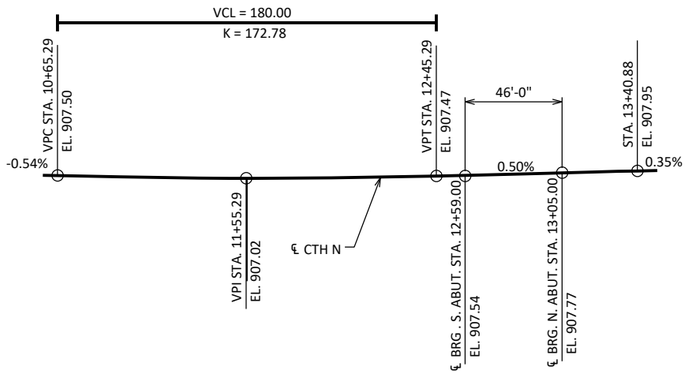
CROSS SECTION THRU BRIDGE

(LOOKING NORTH)

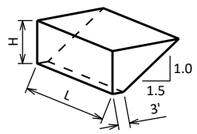
IN SPAN



TYPICAL FILL SECTION AT WING TIPS



PROFILE GRADE LINE - CTH N



ABUTMENT BACKFILL DIAGRAM

L = OUT TO OUT OF ABUTMENT BODY INCLUDING WINGS (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)
V_{CY} = V_{CF}(EF)/27
V_{TON} = V_{CY}(2.0)

TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	SOUTH APPROACH	SOUTH ABUT.	NORTH ABUT.	NORTH APPROACH	SUPER	TOTAL
203.0250	REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-13-81	EACH	-	-	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-911	EACH	-	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	-	140	310	-	-	450
305.0120	BASE AGGREGATE DENSE 1 1/4 INCH	TON	146	-	-	146	-	292
502.0100	CONCRETE MASONRY BRIDGES	CY	64.1	52.7	52.8	64.1	193.3	427
502.3200	PROTECTIVE SURFACE TREATMENT	SY	105	-	-	105	268	478
502.3210	PIGMENTED SURFACE SEALER	SY	21	-	-	21	47	89
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	-	3,005	3,005	-	-	6,010
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	10,860	1,780	1,780	10,860	37,835	63,115
505.0800.S	BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES	LB	-	-	-	-	425	425
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	-	13	13	-	-	26
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	-	400	400	-	-	800
606.0300	RIPRAP HEAVY	CY	-	140	180	-	-	320
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	105	105	-	-	210
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	2	-	-	2	-	4
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	-	50	125	-	-	175
645.0120	GEOTEXTILE TYPE HR	SY	-	235	310	-	-	545
	NON-BID ITEMS							
	PREFORMED FILLER	SIZE						½" & ¼"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-13-0911" SHALL BE THE EXISTING GROUNDLINE.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE B-13-81, A 33.0 FT. SPAN CONCRETE FLAT SLAB BRIDGE WITH A 30 FT. CLEAR WIDTH SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS WITH CIP PILES. ORIGINAL 1957 STRUCTURE PLANS ARE AVAILABLE THROUGH THE WISCONSIN DEPARTMENT OF TRANSPORTATION HSI DATABASE.

CONTRACTOR SHALL SALVAGE EXISTING VERTICAL CONTROL STATION DF9953_2V15 AND PROVIDE TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION SURVEY GROUP AT ADDRESS:

WISDOT BUREAU OF TECHNICAL SERVICES
GEODECTIC SURVEYS UNIT
3502 KINSMAN BOULEVARD
MADISON, WI 53704

PAYMENT FOR SALVAGING AND RETURNING VERTICAL CONTROL STATION IS INCIDENTAL TO BID ITEM "REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS B-13-81".

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

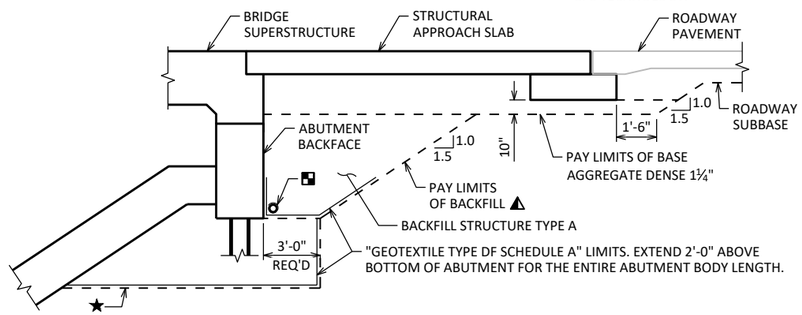
AT THE BACK FACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A. EXCLUDED IS THE "BASE AGGREGATE DENSE 1 1/4-INCH" AS DETAILED ON THE STRUCTURAL APPROACH SLAB SHEETS.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE EXPOSED TOP OF DECK AND APPROACH SLAB SURFACES AND TO THE VERTICAL AND HORIZONTAL SURFACES OF THE PAVING NOTCHES AT ABUTMENT DIAPHRAGMS.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS, INCLUDING PARAPETS ON APPROACH SLABS.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 (2012 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.



TYPICAL SECTION THRU ABUTMENT

⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

▩ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

★ BACKFILL PAY LIMITS FOR UNDERCUT. UNDERCUT BELOW NORTH ABUTMENT BODY, WINGWALLS AND RIPRAP TO ELEVATION 894.47 TO REMOVE ALL SOFT MATERIAL AS DIRECTED BY THE ENGINEER. UNDERCUT IS INCLUDED IN THE BID ITEM EXCAVATION FOR STRUCTURE BRIDGES. INSTALL GEOTEXTILE TYPE DF SCHEDULE A AND BACKFILL WITH BACKFILL STRUCTURE TYPE A. BACKFILL ALL EXCAVATED AREAS WITH BACKFILL STRUCTURE TYPE A. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

STATE PROJECT NUMBER

3679-00-73

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D DS

CROSS SECTION, QUANTITIES & NOTES

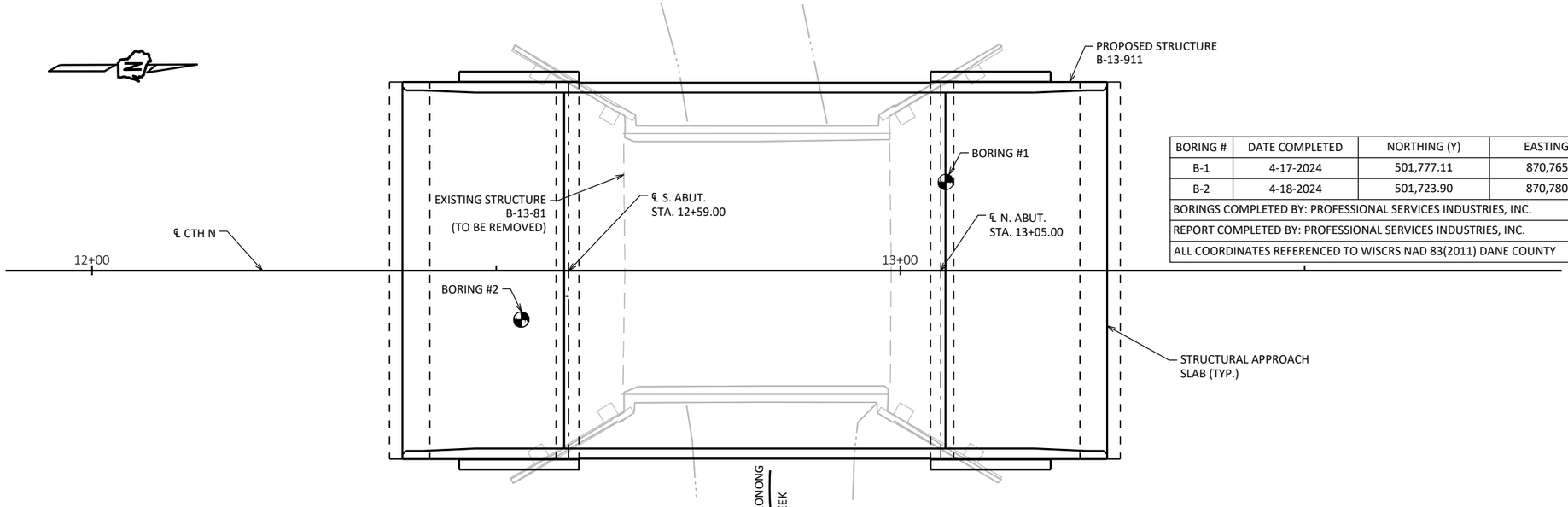
SHEET 2
84

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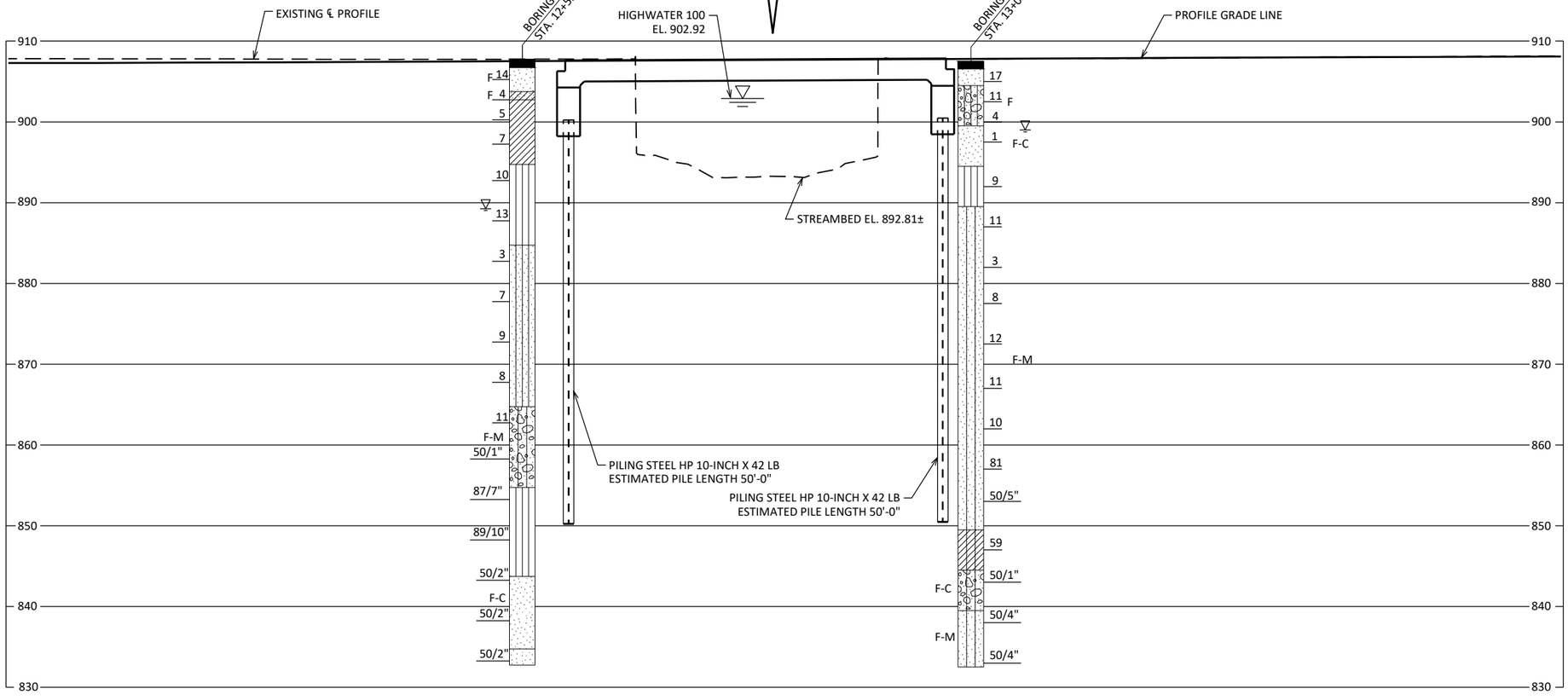
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STATE PROJECT NUMBER

3679-00-73



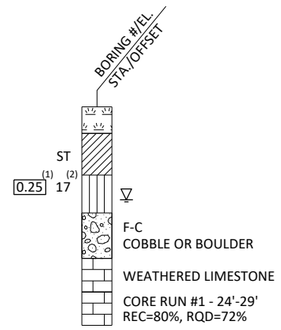
BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B-1	4-17-2024	501,777.11	870,765.52
B-2	4-18-2024	501,723.90	870,780.14
BORINGS COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
REPORT COMPLETED BY: PROFESSIONAL SERVICES INDUSTRIES, INC.			
ALL COORDINATES REFERENCED TO WISCRS NAD 83(2011) DANE COUNTY			



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

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D DS

SUBSURFACE EXPLORATION

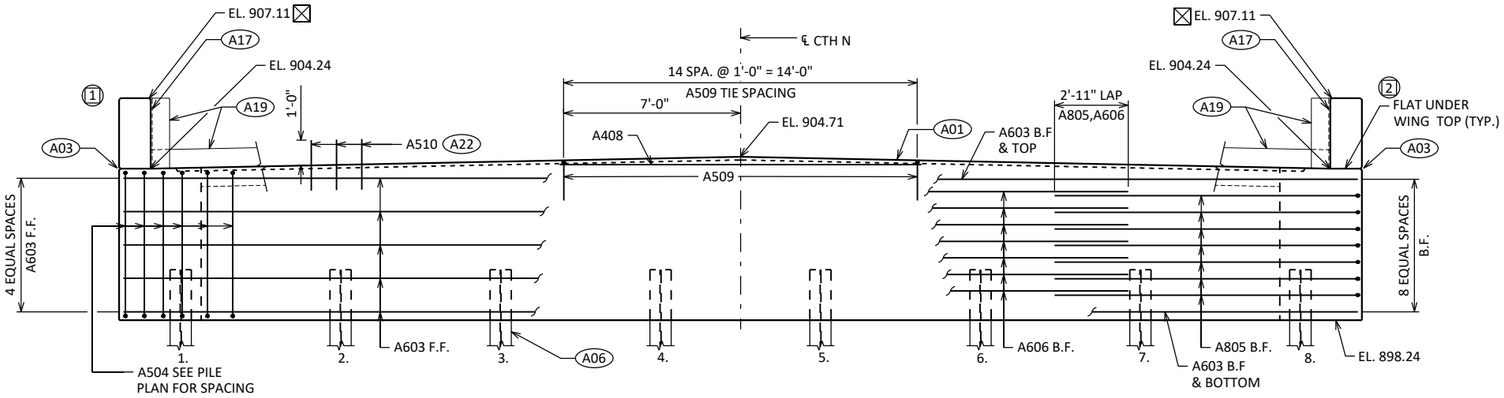
SHEET 3
85

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8

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6/10/2025 9:01 AM

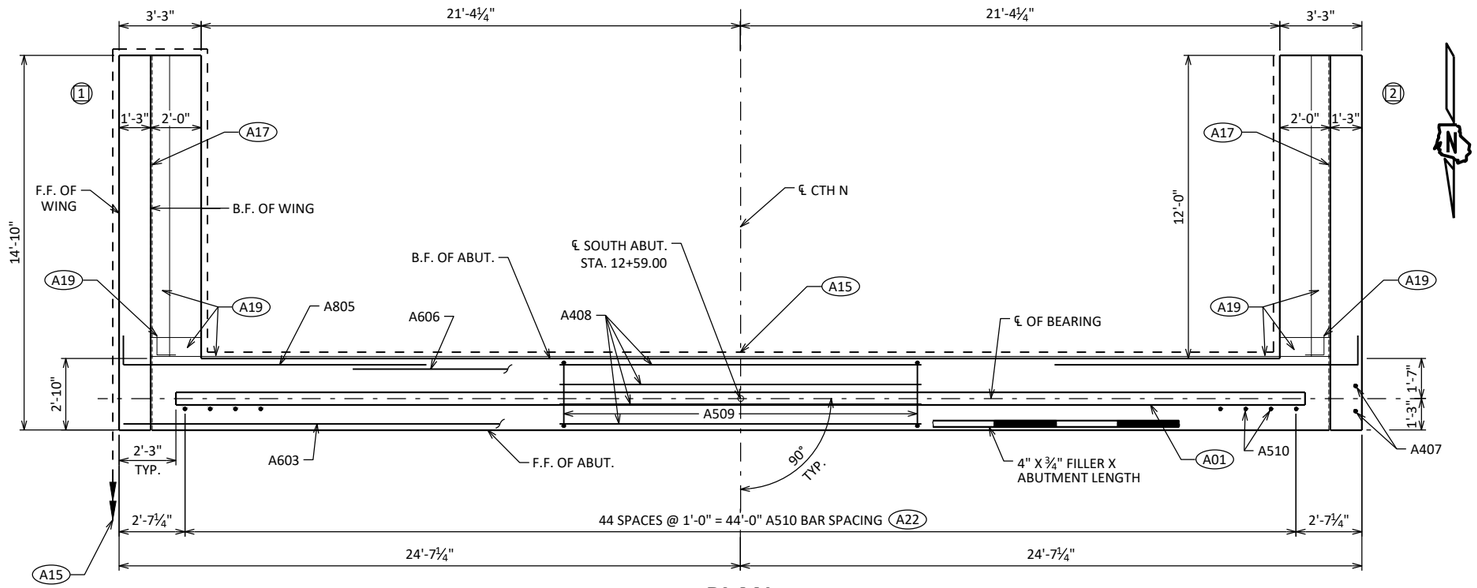


FRONT FACE BAR STEEL REINF.

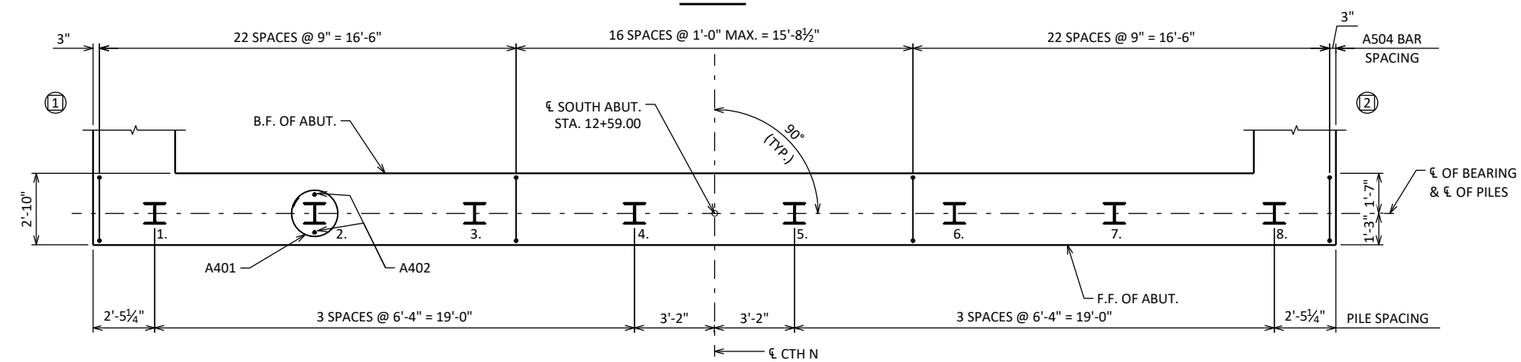
ELEVATION

(LOOKING SOUTH)

BACK FACE BAR STEEL REINF.

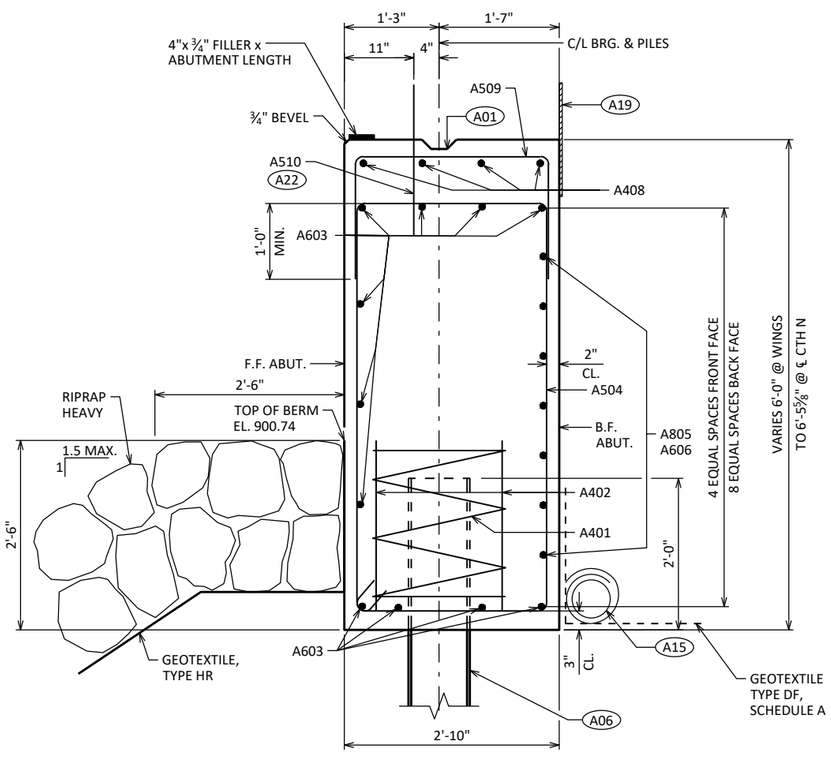


PLAN



PILE PLAN

NOTES:
FOR WING DETAILS SEE SHEET 5.
☒ ELEVATIONS GIVEN AT THE F.F. ABUTMENT



SECTION THRU BODY

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 50'-0" 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) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(1) INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

STATE PROJECT NUMBER
3679-00-73

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D JZ

SOUTH ABUTMENT

SHEET 4
86

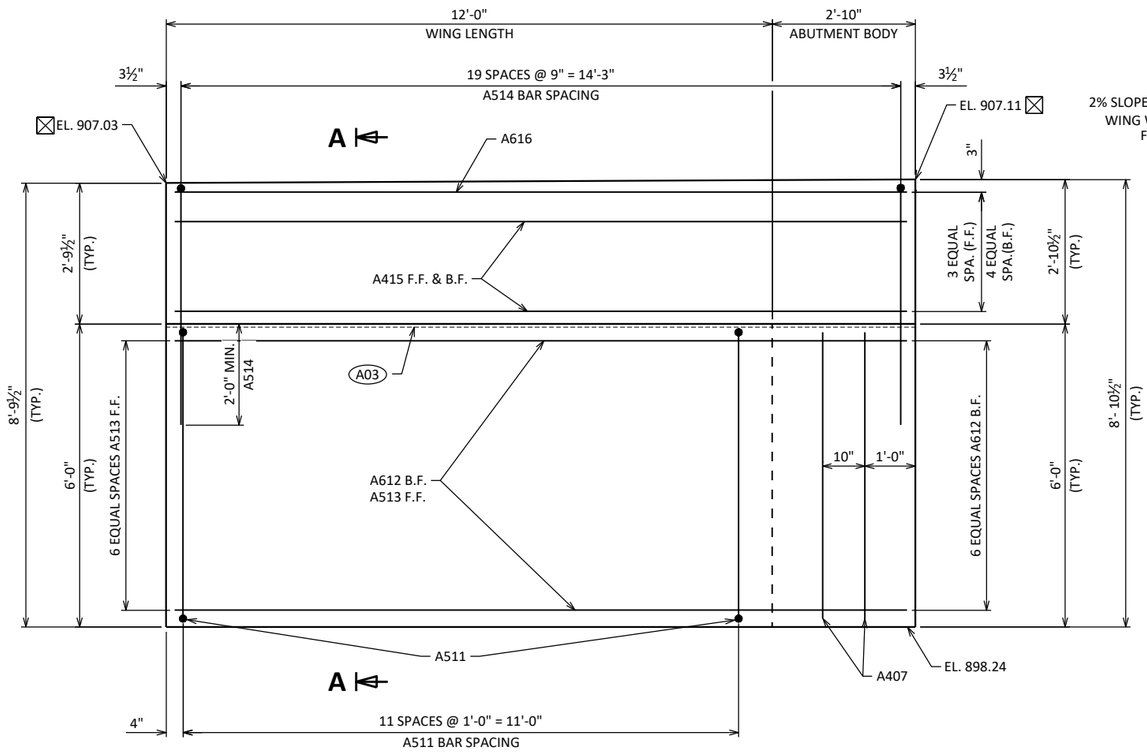
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8

STATE PROJECT NUMBER

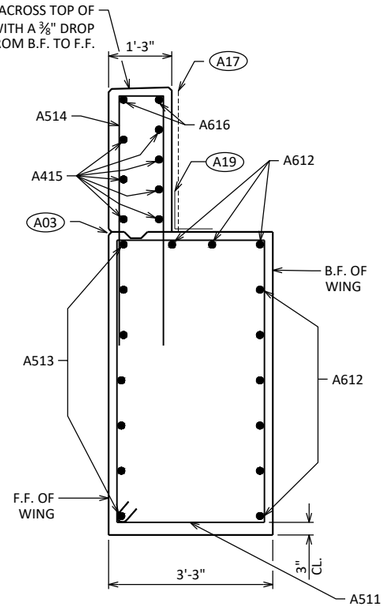
3679-00-73

NOTES:
☒ ELEVATION AND DIMENSION GIVEN AT THE B.F. OF WING



SECTION A - A THRU WING

(WING 1 SHOWN, WING 2 SIMILAR)

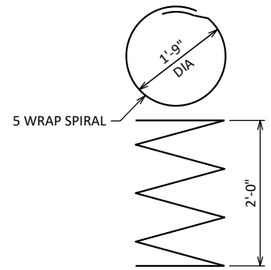


BILL OF BARS

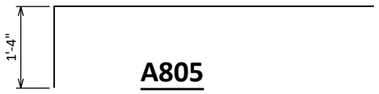
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401		8	28'-0"	X		ABUTMENT BODY -1 SPIRAL WRAP @ EACH PILING
A402		16	2'-3"			ABUTMENT BODY - 2 @ EACH PILING - VERT.
A603		11	48'-10"			ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
A504		61	16'-10"	X		ABUTMENT BODY - STIRRUP - VERT.
A805		14	13'-2"	X		ABUTMENT BODY - B.F. @ WINGS - HORIZ.
A606		7	30'-9"			ABUTMENT BODY - B.F. - CENTER - HORIZ.
A407		4	5'-7"			ABUTMENT BODY - END VERT.
A408		4	14'-4"			ABUTMENT BODY - TOP - HORIZ.
A509		15	5'-3"	X		ABUTMENT BODY - TOP -VERT.
A510	X	45	2'-0"			ABUTMENT BODY - TOP - DOWELS - VERT.
A511	X	24	17'-8"	X		WINGS 1 & 2 - BASE - STIRRUP - VERT.
A612	X	18	14'-0"			WINGS 1 & 2 - BASE - B.F. & CENTER - HORIZ.
A513	X	14	14'-6"			WINGS 1 & 2 - BASE - F.F. - HORIZ.
A514	X	40	10'-4"	X		WINGS 1 & 2 - TOP - STIRRUP - VERT.
A415	X	14	14'-6"			WINGS 1 & 2 - TOP - F.F. & B.F. - HORIZ.
A616	X	4	14'-6"			WINGS 1 & 2 - TOP -F.F. & B.F. -HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



A401

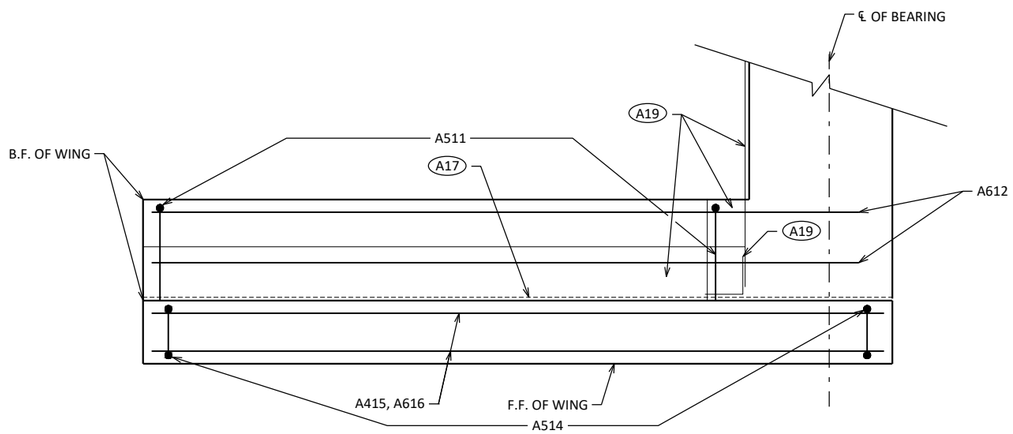


A805

STD. 90° HOOK

ELEVATION - WING

(WING 1 SHOWN, WING 2 SIMILAR)



PLAN -WING

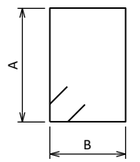
(WING 1 SHOWN, WING 2 SIMILAR)

LEGEND

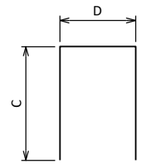
(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A17) ½" FILLER (INCLUDED IN WING LEGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACE OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

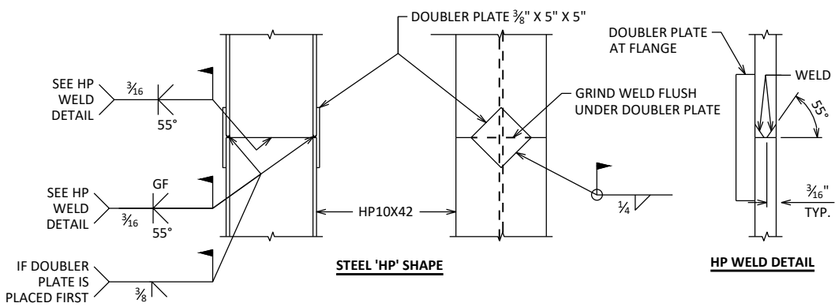
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.



MARK	A	B
A504	5'-7"	2'-6"
A511	5'-7"	2'-11"



MARK	C	D
A509	1'-6"	2'-6"
A514	4'-10"	11"



STEEL 'HP' SHAPE

HP WELD DETAIL

'HP' PILE DETAILS

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

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SOUTH ABUTMENT DETAILS

SHEET 5
87

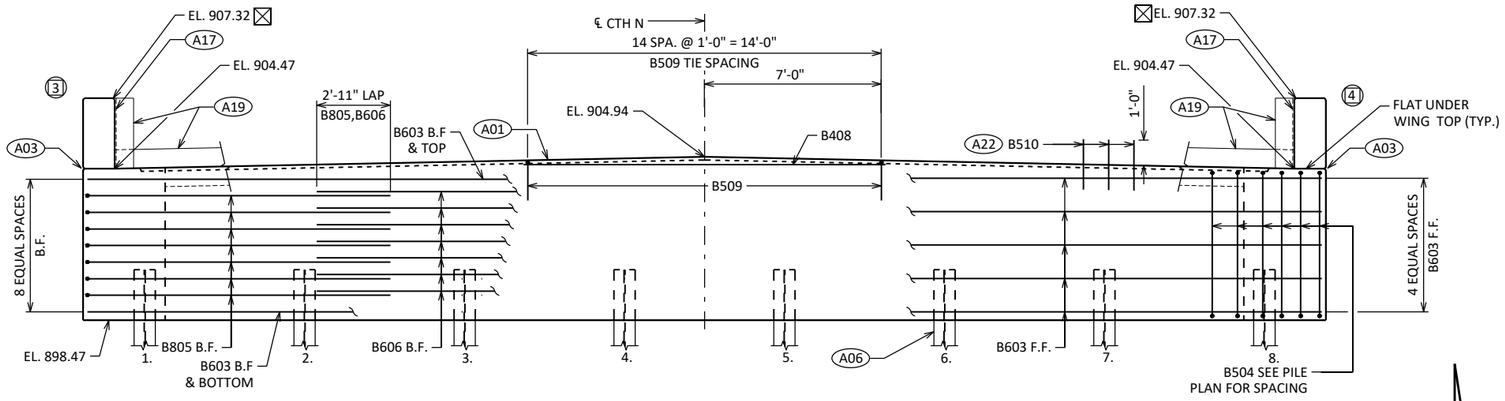
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8

STATE PROJECT NUMBER

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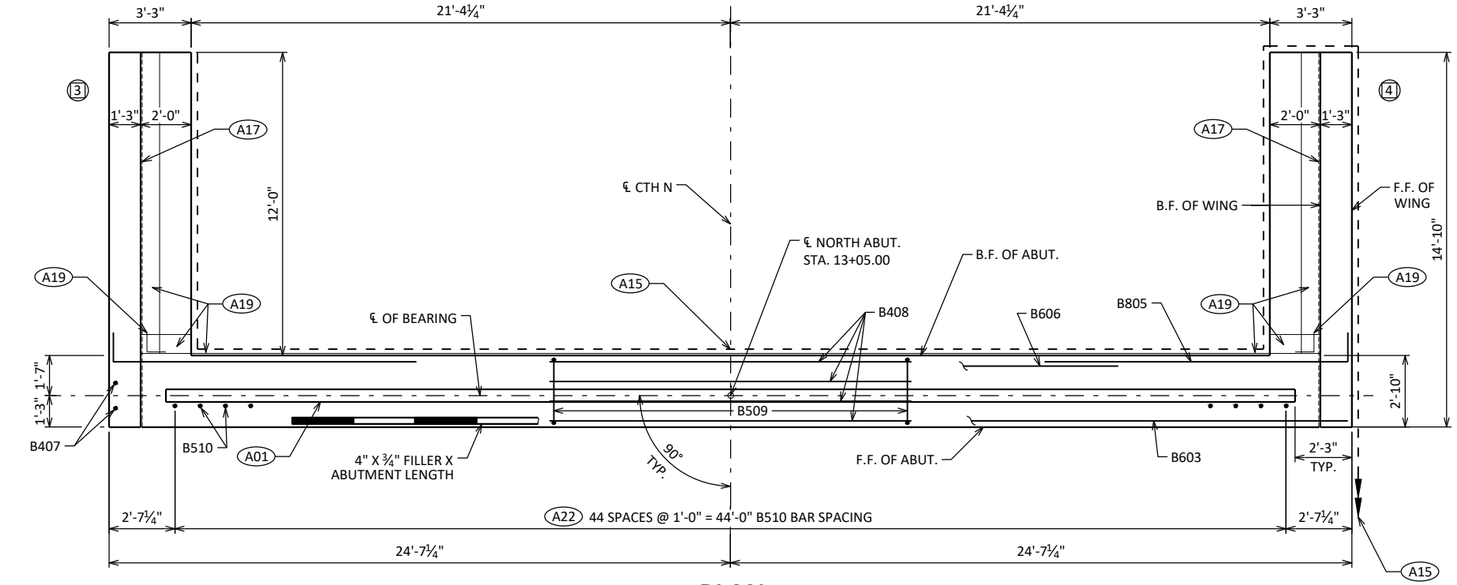
NOTES:
FOR WING DETAILS SEE SHEET 7.
☒ ELEVATIONS GIVEN AT THE F.F. ABUTMENT



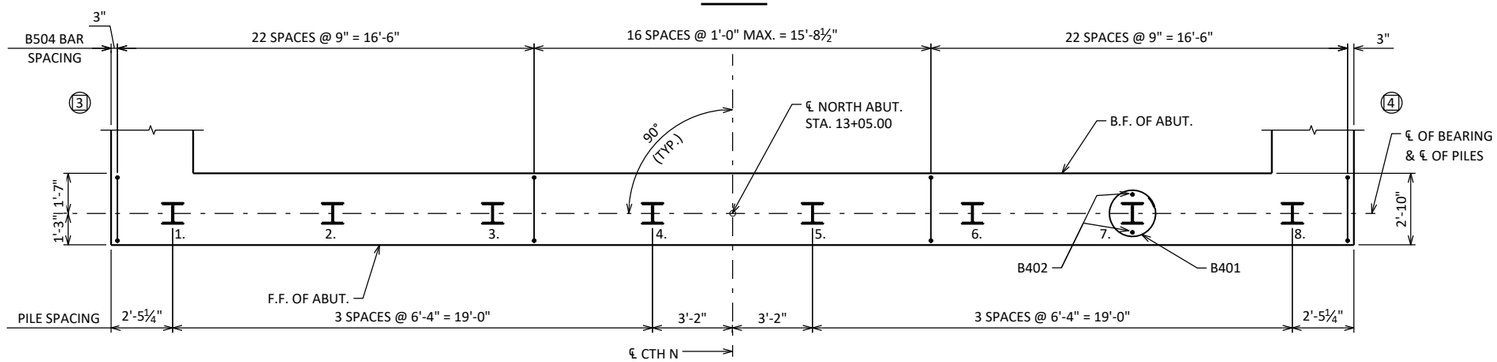
BACK FACE BAR STEEL REINF.

ELEVATION
(LOOKING NORTH)

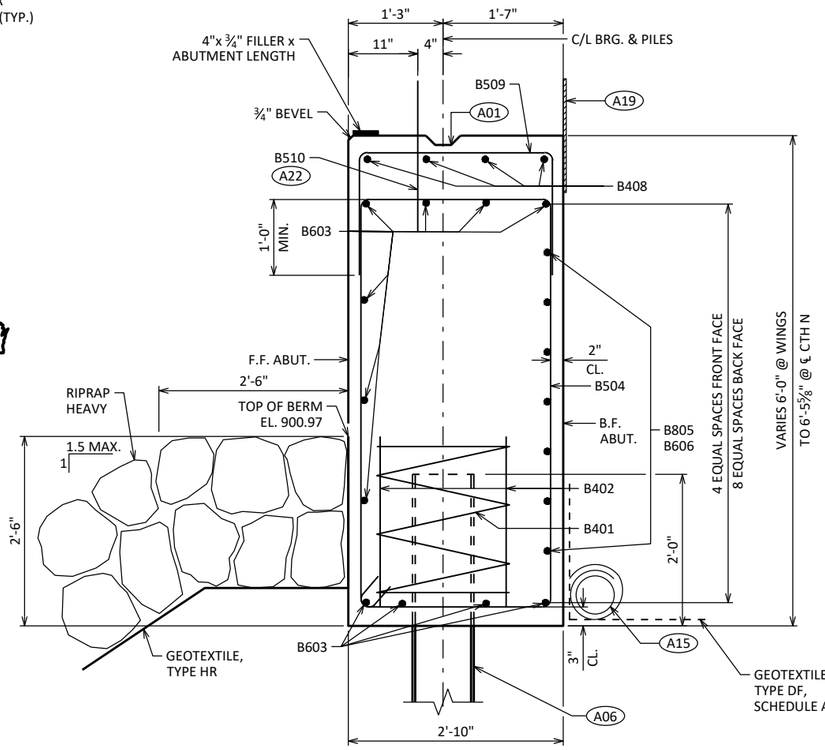
FRONT FACE BAR STEEL REINF.



PLAN



PILE PLAN



SECTION THRU BODY

(A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2 x 6.

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 x 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING, ESTIMATED 50'-0" 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) ½" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A22) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(3) INDICATES WING NUMBER

F.F. - FRONT FACE

B.F. - BACK FACE

CL. - CLEAR

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

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NORTH ABUTMENT

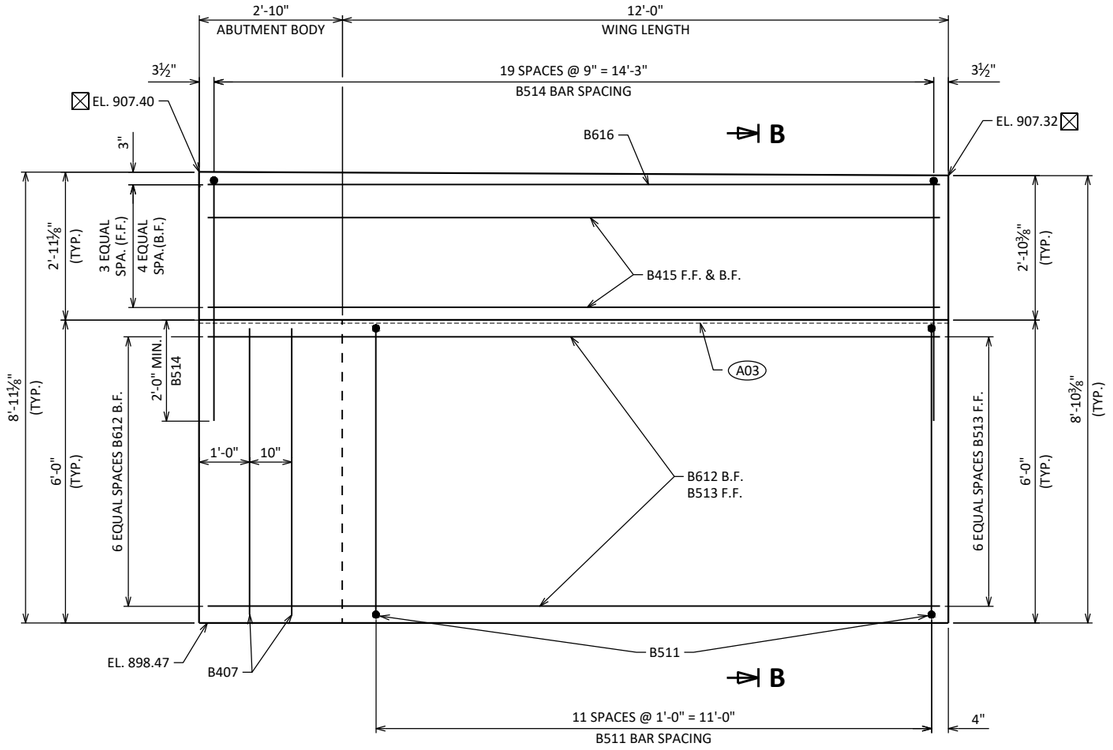
SHEET 6
88

8

8

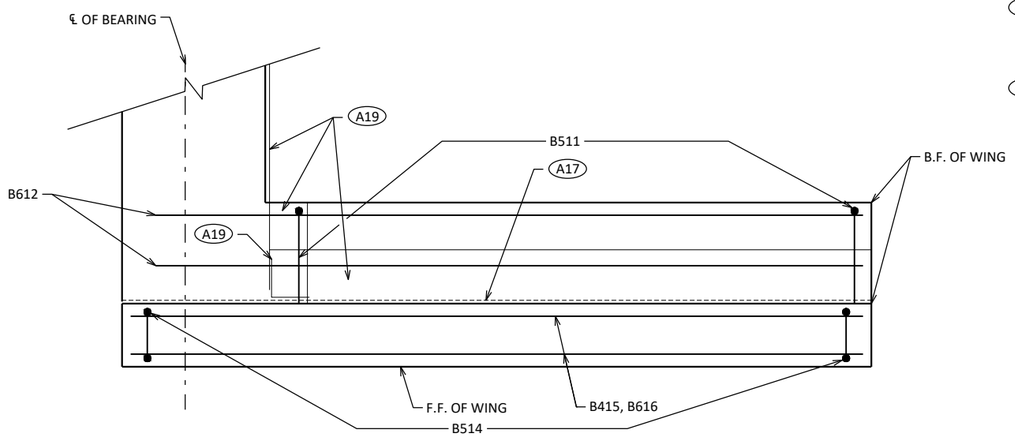
NOTES:
☒ ELEVATION AND DIMENSION GIVEN AT THE B.F. OF WING

STATE PROJECT NUMBER
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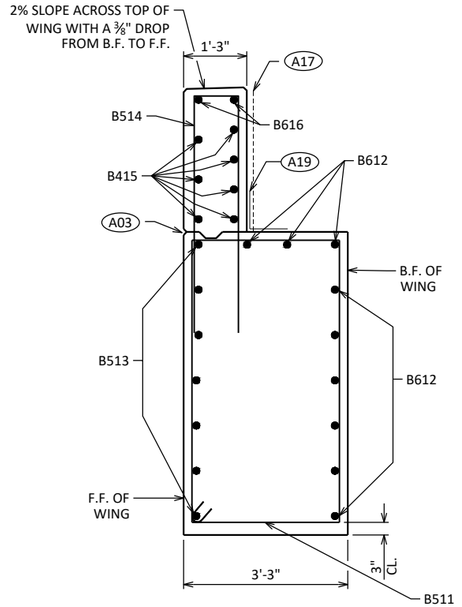
ELEVATION - WING

(WING 3 SHOWN, WING 4 SIMILAR)



PLAN -WING

(WING 3 SHOWN, WING 4 SIMILAR)



SECTION B - B THRU WING

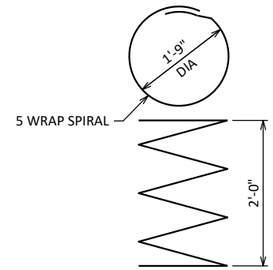
(WING 3 SHOWN, WING 4 SIMILAR)

BILL OF BARS

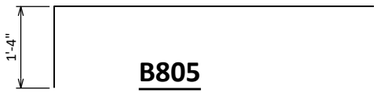
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
B401		8	28'-0"	X		ABUTMENT BODY -1 SPIRAL WRAP @ EACH PILING
B402		16	2'-3"			ABUTMENT BODY - 2 @ EACH PILING - VERT.
B603		11	48'-10"			ABUTMENT BODY - F.F., TOP & BOTTOM - HORIZ.
B504		61	16'-10"	X		ABUTMENT BODY - STIRRUP - VERT.
B805		14	13'-2"	X		ABUTMENT BODY - B.F. @ WINGS - HORIZ.
B606		7	30'-9"			ABUTMENT BODY - B.F. - CENTER - HORIZ.
B407		4	5'-7"			ABUTMENT BODY - END VERT.
B408		4	14'-4"			ABUTMENT BODY - TOP - HORIZ.
B509		15	5'-3"	X		ABUTMENT BODY - TOP -VERT.
B510	X	45	2'-0"			ABUTMENT BODY - TOP - DOWELS - VERT.
B511	X	24	17'-8"	X		WINGS 3 & 4 - BASE - STIRRUP - VERT.
B612	X	18	14'-0"			WINGS 3 & 4 - BASE - B.F. & CENTER - HORIZ.
B513	X	14	14'-6"			WINGS 3 & 4 - BASE - F.F. - HORIZ.
B514	X	40	10'-4"	X		WINGS 3 & 4 - TOP - STIRRUP - VERT.
B415	X	14	14'-6"			WINGS 3 & 4 - TOP - F.F. & B.F. - HORIZ.
B616	X	4	14'-6"			WINGS 3 & 4 - TOP -F.F. & B.F. -HORIZ.

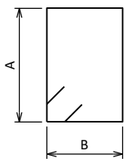
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



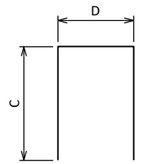
B401



B805
STD. 90° HOOK



MARK	A	B
B504	5'-7"	2'-6"
B511	5'-7"	2'-11"



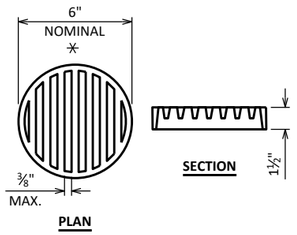
MARK	C	D
B509	1'-6"	2'-6"
B514	4'-10"	11"

LEGEND

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 X 6. (18" RMW @ B.F. & ¾" "V" GROOVE @ F.F. IF JOINT IS USED).

(A17) ½" FILLER (INCLUDED IN WING LEGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACE OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" 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.



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.

NO.	DATE	REVISION	BY

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DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

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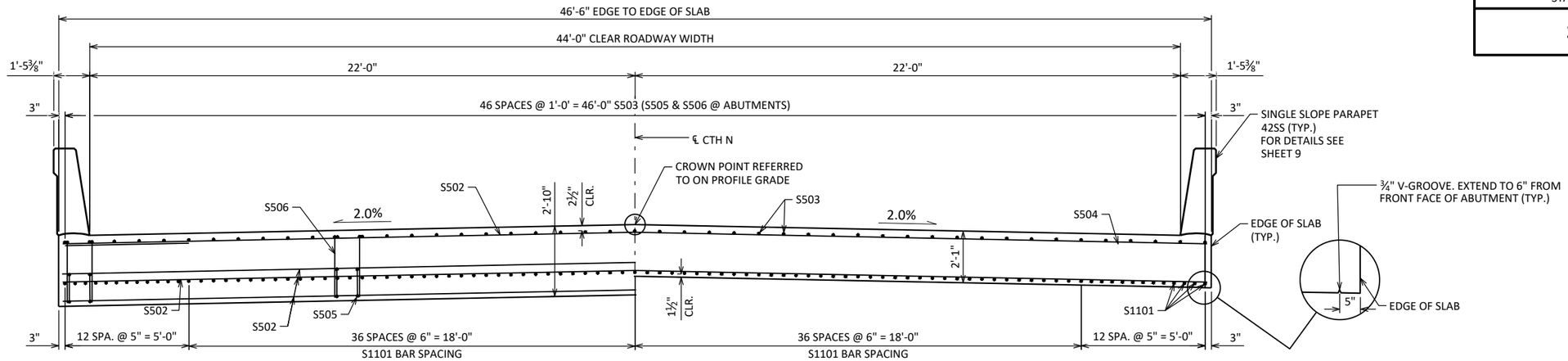
NORTH ABUTMENT DETAILS

SHEET 7
89

8

8

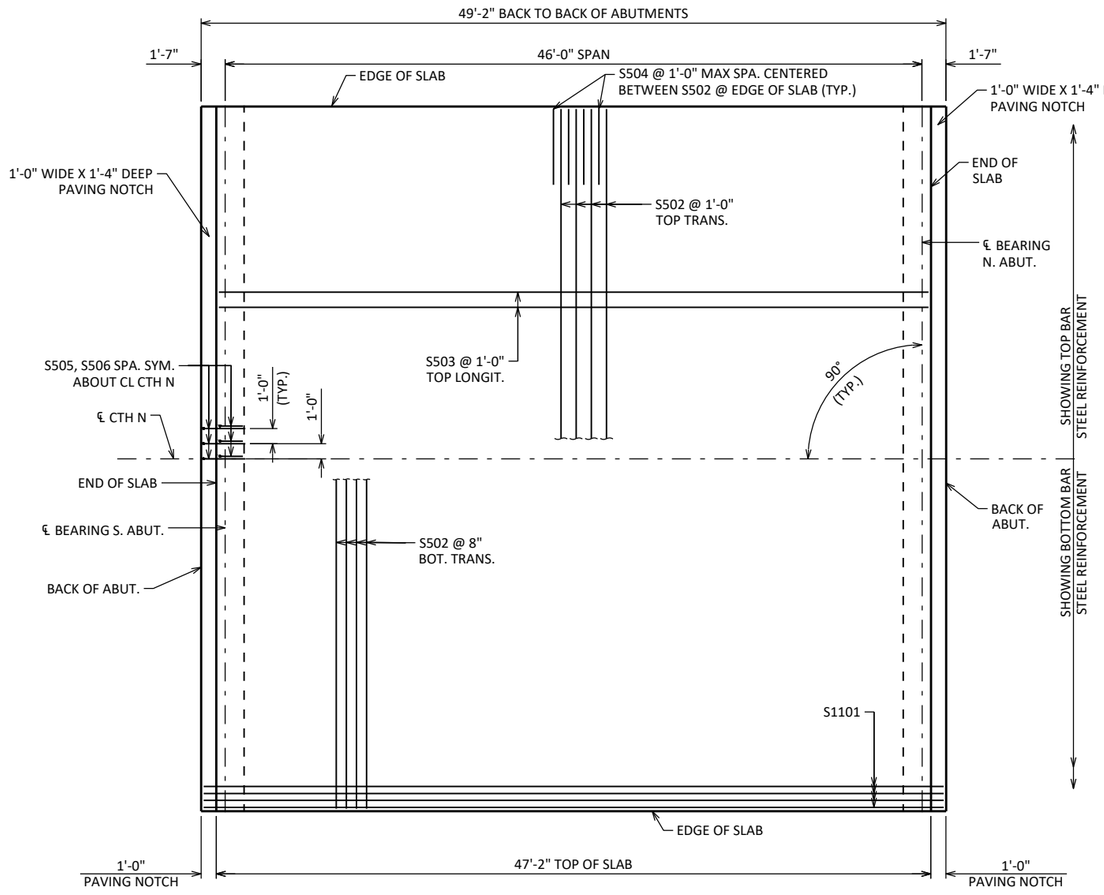
STATE PROJECT NUMBER
3679-00-73



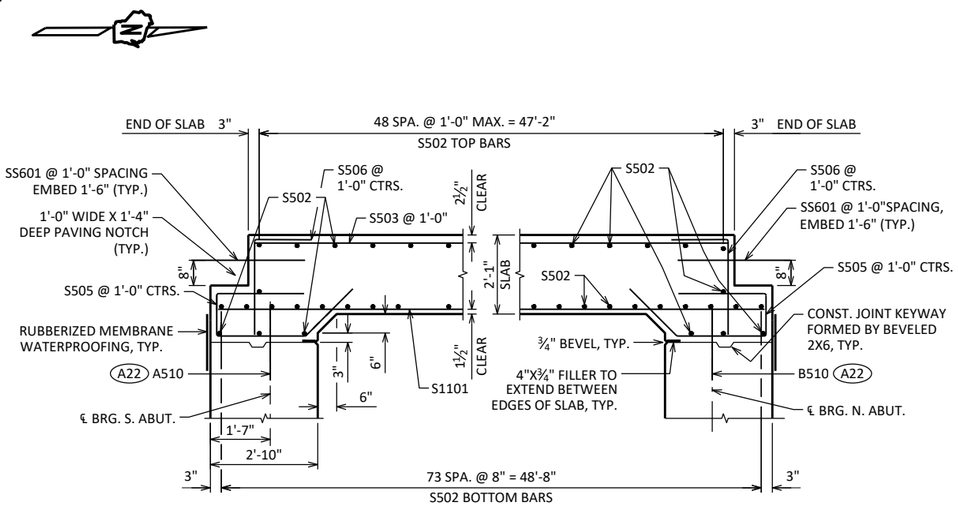
AT ABUTMENTS **IN SPAN**

CROSS SECTION THRU BRIDGE

(LOOKING NORTH)



PLAN



LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO C/L ROADWAY UNLESS OTHERWISE NOTED.

A22 A510, B510 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D JZ

SUPERSTRUCTURE

SHEET 8
90

8

8

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CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

	TOP OF SLAB ELEVATION AT FINAL GRADE
LESS	SLAB THICKNESS
PLUS	CAMBER
PLUS	FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
EQUALS	TOP OF SLAB FALSEWORK ELEVATION

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
S1101	X	97	48'-10"		SLAB - BOTTOM - LONGIT.
S502	X	131	46'-2"		SLAB - TOP & BOTTOM - TRANS.
S503	X	47	46'-10"		SLAB - TOP @ ABUTS. & IN SPAN - LONGIT.
S504	X	94	5'-0"		SLAB TOP @ EDGES
S505	X	94	7'-11"	X	DIAPHRAGM @ ABUTS. - LONGIT.
S506	X	94	3'-10"	X	DIAPHRAGM @ ABUTS. VERT.
S507	X	142	4'-5"	X	PARAPET STIRRUP - INTO SLAB VERT.
S508	X	142	6'-8"	X	PARAPET STIRRUP - VERT.
S509	X	16	46'-10"		PARAPET ON BRIDGE - LONGIT.
SS601		94	3'-0"		BRIDGE SLAB TO APPROACH SLAB - LONGIT.

STAINLESS STEEL BAR. DO NOT EPOXY COAT.

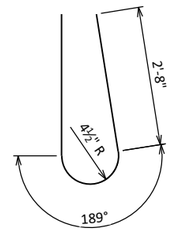
NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS-BUILT PLANS.

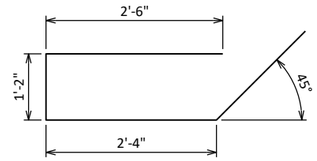
TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

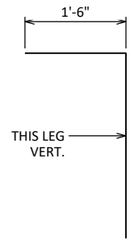
S507



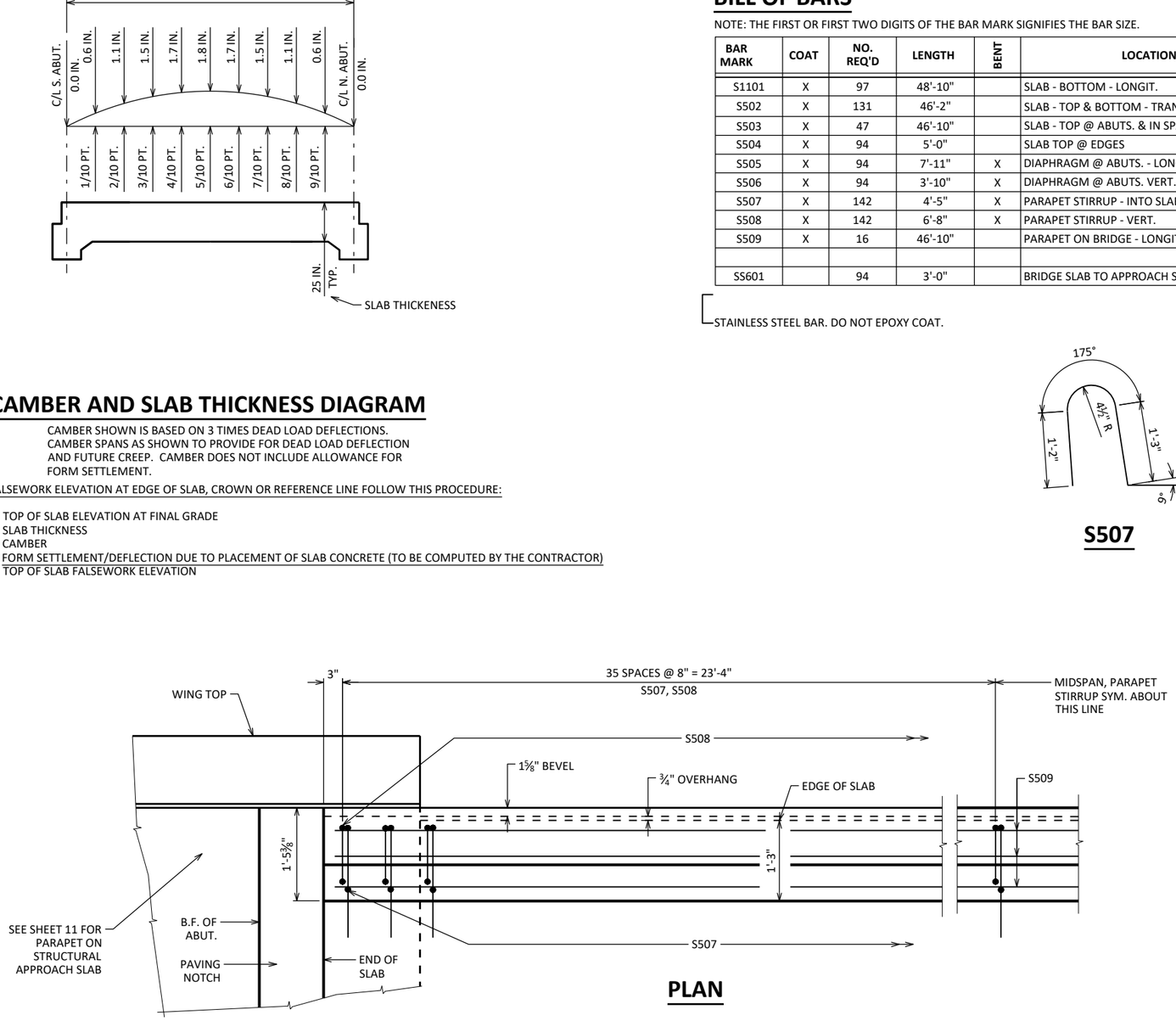
S508



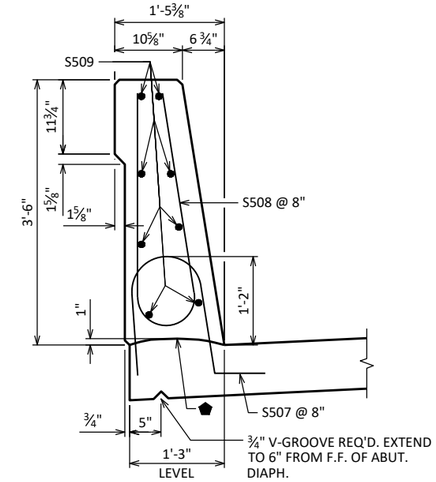
S505



S506



PLAN



SECTION THRU PARAPET ON DECK

⬟ CONST. JOINT - STRIKE OFF AS SHOWN.

TOP OF SLAB ELEVATIONS

LOCATION	C/L BRG SOUTH ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	C/L BRG NORTH ABUT.
WEST EDGE OF SLAB	907.10	907.12	907.15	907.17	907.19	907.22	907.24	907.26	907.28	907.31	907.33
CENTERLINE	907.54	907.56	907.59	907.61	907.63	907.66	907.68	907.70	907.72	907.75	907.77
EAST EDGE OF SLAB	907.10	907.12	907.15	907.17	907.19	907.22	907.24	907.26	907.28	907.31	907.33

SURVEY TOP OF SLAB ELEVATIONS

LOCATION	S. ABUTMENT	5/10 PT.	N. ABUTMENT
E. GUTTER			
CROWN OR R/L			
W. GUTTER			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF SLAB LINES AND CROWN OR C/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D JZ

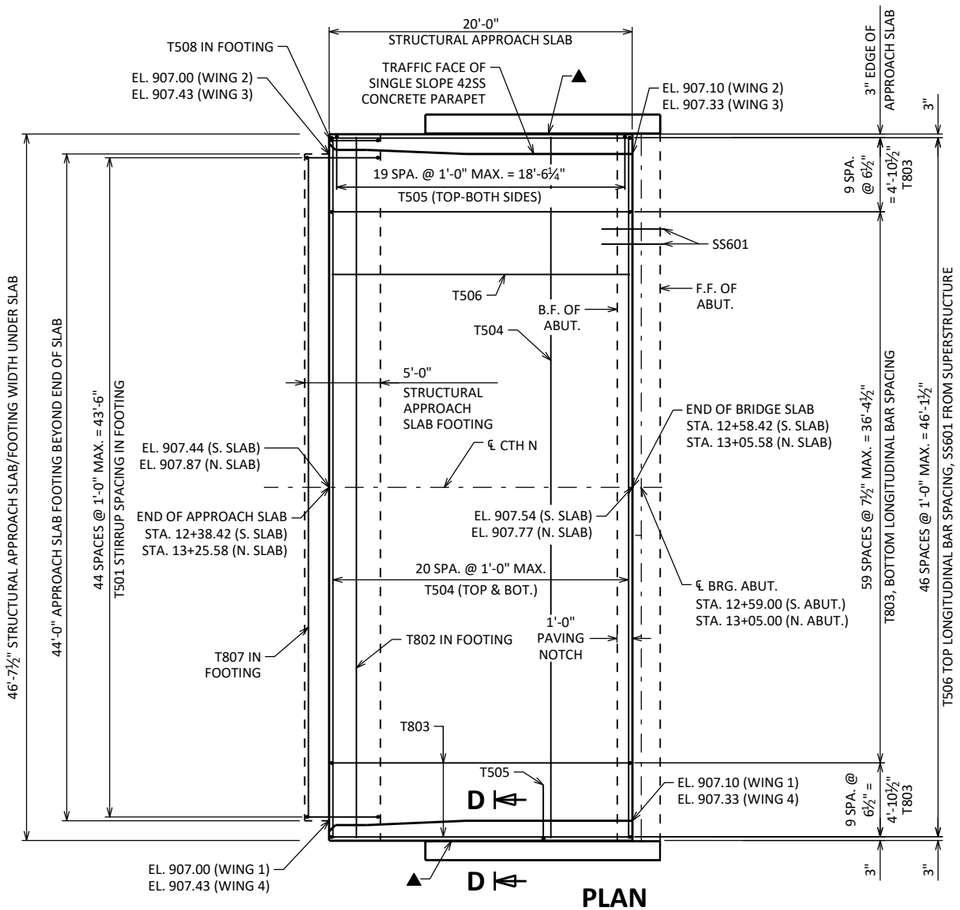
SUPERSTRUCTURE DETAILS

SHEET 9
91

SCALE = 2.25

8

8



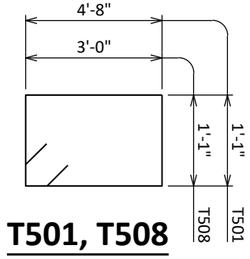
PLAN

(SOUTH APPROACH SLAB SHOWN,
NORTH APPROACH SLAB MIRROR IMAGE)

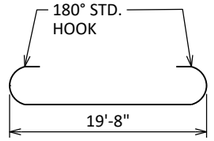
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

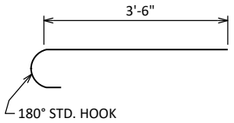
BAR MARK	COAT	SOUTH APPR. SLAB	NORTH APPR. SLAB	LENGTH	BENT	BAR SERIES	LOCATION
T501	X	45	45	12'-2"	X		APPROACH SLAB FOOTING - STIRRUP - VERT.
T802	X	8	8	46'-3"			APPROACH SLAB FOOTING - TRANS.
T803	X	78	78	21'-6"	X		APPROACH SLAB - BOT. - LONGIT.
T504	X	42	42	46'-3"			APPROACH SLAB - TOP & BOTTOM - TRANS.
T505	X	40	40	4'-1"	X		APPROACH SLAB - TOP @ EDGES - TRANS.
T506	X	47	47	19'-8"			APPROACH SLAB - TOP - LONGIT.
T807	X	4	4	43'-8"			APPROACH SLAB - FOOTING - NOTCHES - TRANS.
T508	X	4	4	8'-10"	X		APPROACH SLAB - FOOTING - STIRRUP - NOTCHES - VERT.



T501, T508



T803



T505

NOTES:

ELEVATIONS GIVEN ARE AT TOP OF STRUCTURAL APPROACH SLAB.

ELEVATIONS AT EDGE OF STRUCTURAL APPROACH SLAB ARE SAME AS ELEVATIONS GIVEN AT CORRESPONDING TRAFFIC FACE OF PARAPET.

LEGEND

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF THE FOOTING.

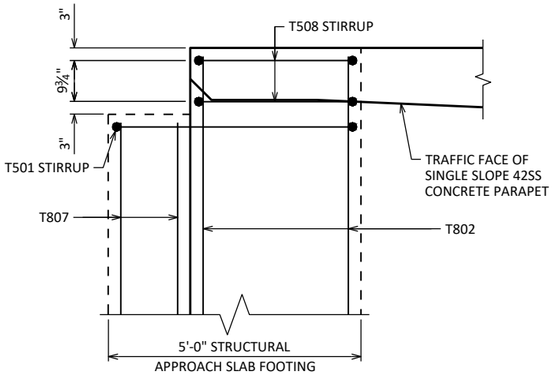
(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

▲ SEAL ALL EXPOSED HORIZONTAL & VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).

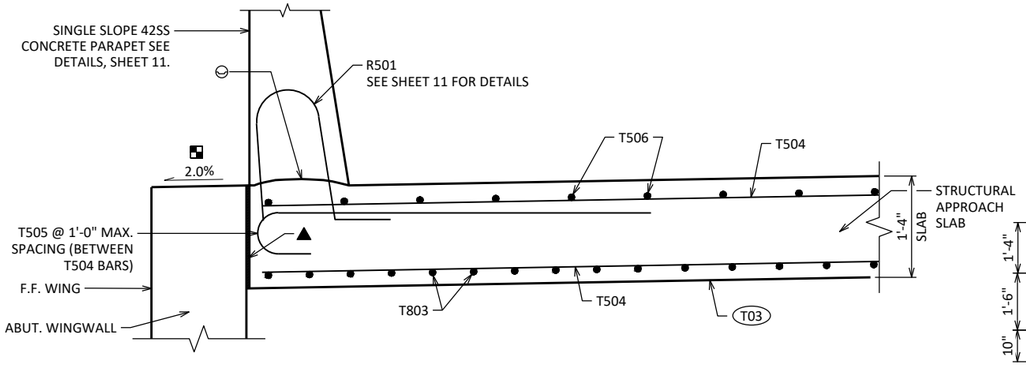
⊖ CONSTRUCTION JOINT LEVEL WITH 1" RAISED RELIEF - STRIKE OFF AS SHOWN.

◪ SLOPE TO DRAIN.

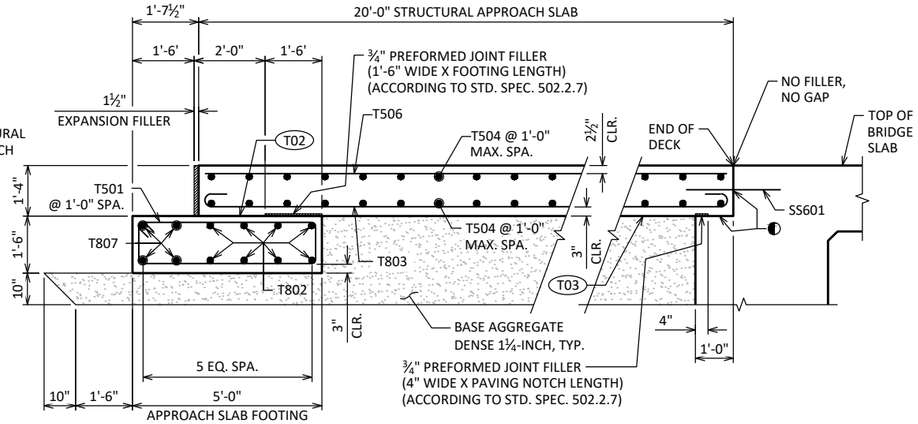
◐ APPLY PROTECTIVE SURFACE TREATMENT TO PAVING NOTCH SURFACES PRIOR TO POURING STRUCTURAL APPROACH SLAB.



FOOTING - CORNER DETAIL AT WINGS



SECTION D-D THRU EDGE OF STRUCTURAL APPROACH SLAB



SECTION THRU APPROACH SLAB

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D JZ

STRUCTURAL APPROACH SLAB

SHEET 10
92

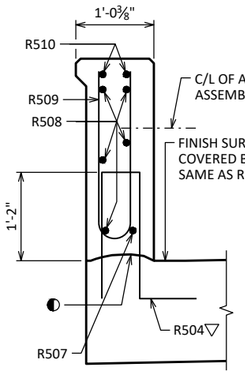
STATE PROJECT NUMBER
3679-00-73

8

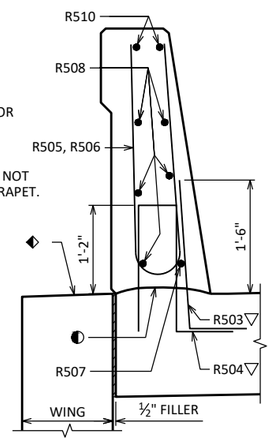
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STATE PROJECT NUMBER

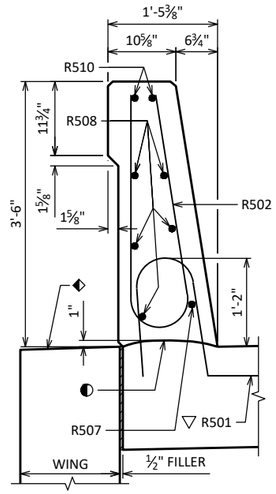
3679-00-73



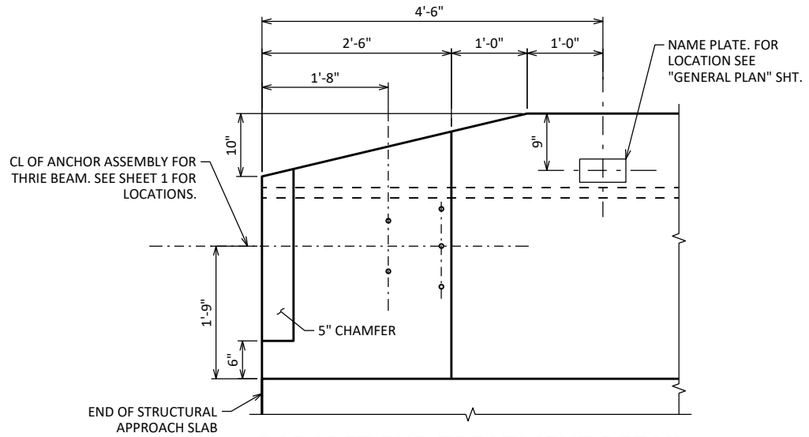
SECTION A-A



SECTION B-B



SECTION C-C



PARAPET END TREATMENT DETAIL

LOOKING AT INSIDE FACE OF PARAPET

BILL OF BARS

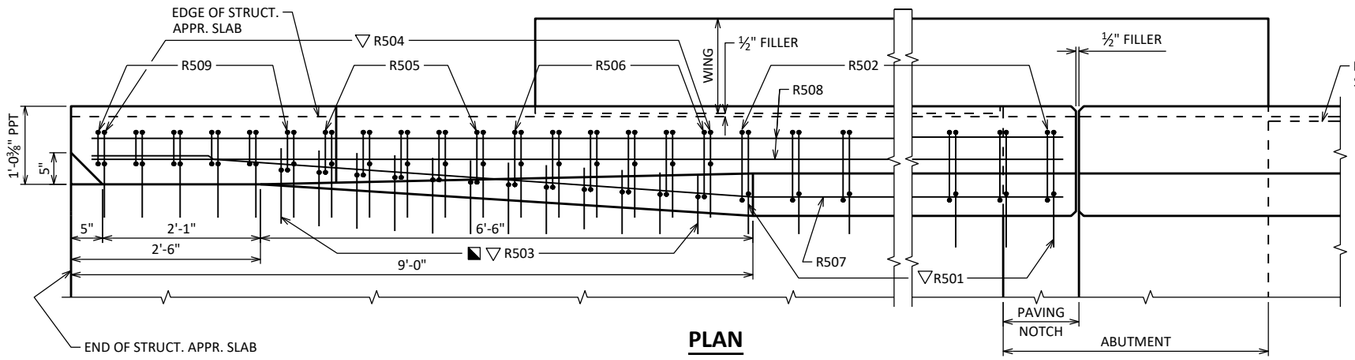
BAR MARK	COAT	SOUTH APPR. SLAB	NORTH APPR. SLAB	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	34	34	4'-5"	X		PARAPET VERT.
R502	X	34	34	6'-8"	X		PARAPET VERT.
R503	X	24	24	2'-9"	X		PARAPET VERT.
R504	X	34	34	4'-4"	X		PARAPET VERT.
R505	X	10	10	6'-5"	X		PARAPET VERT.
R506	X	12	12	6'-6"	X		PARAPET VERT.
R507	X	2	2	19'-8"	X		PARAPET HORIZ.
R508	X	10	10	19'-8"			PARAPET HORIZ.
R509	X	12	12	5'-5"	X	⚠	PARAPET VERT.
R510	X	4	4	19'-8"	X		PARAPET HORIZ.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

BAR SERIES TABLE

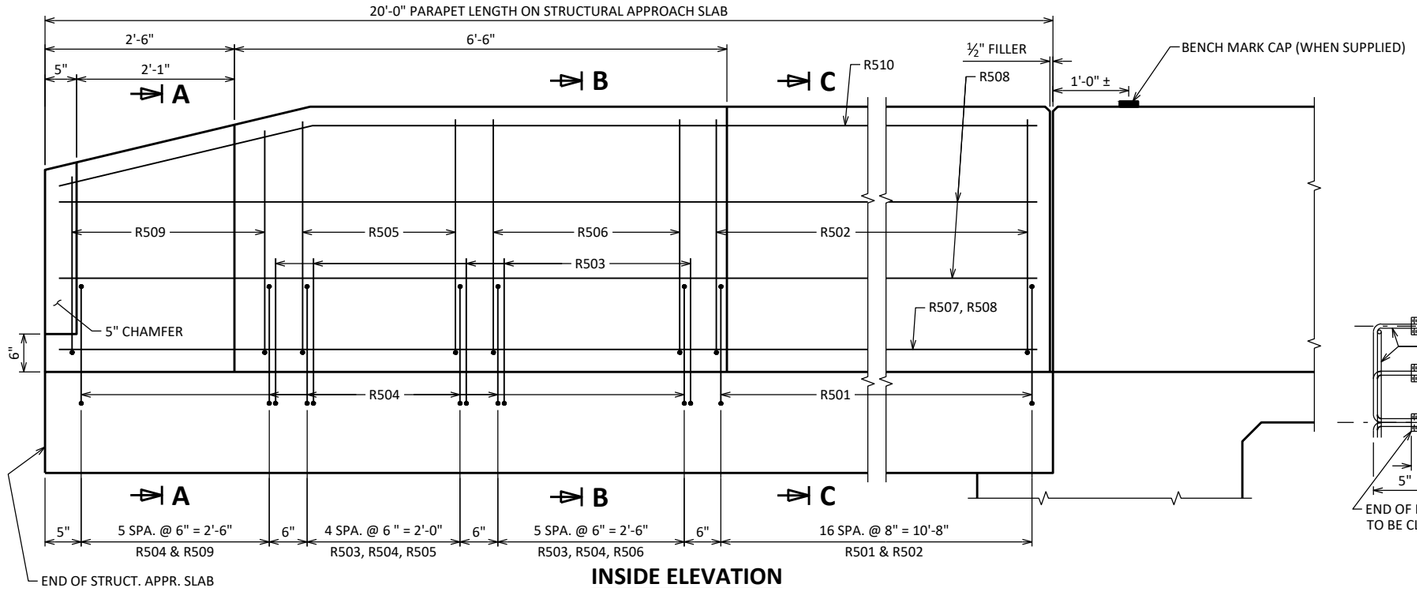
BUNDLE AND TAG EACH SERIES SEPARATELY.

BAR MARK	NO. REQ'D.	LENGTH
R509	4 SERIES OF 6	4'-9" TO 6'-1"



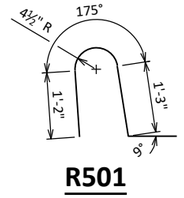
PLAN

SW CORNER SHOWN, NW SIMILAR

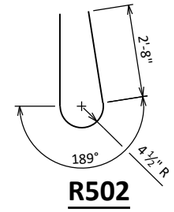


INSIDE ELEVATION

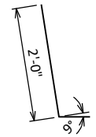
SW CORNER SHOWN, NW SIMILAR
WING & STRUCTURAL APPROACH SLAB FOOTING NOT SHOWN FOR CLARITY



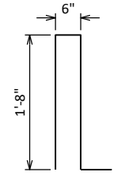
R501



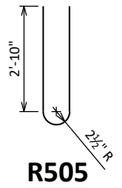
R502



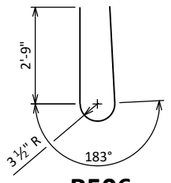
R503



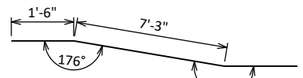
R504



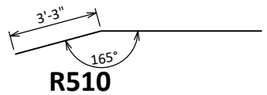
R505



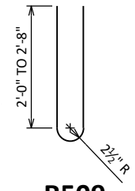
R506



R507

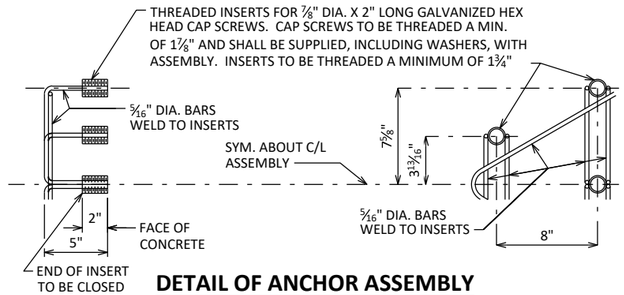


R510



R509

- CONST. JOINT - STRIKE OFF AS SHOWN
- SLOPE FOR DRAINAGE
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▽ R501, R503, AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH ASTM F2329.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-13-911

DRAWN BY EKK | PLANS CK'D JZ

SINGLE SLOPE PARAPET 42SS ON STRUCTURAL APPROACH SLAB

SHEET 11
93

SCALE = 2.00

8

8

G:\11\11331\11331037\CADD\C3D\36790003\SheetsPlan\Structure\11331037_11 SINGLE SLOPE PARAPET 42SS.dwg

6/10/2025 12:05 PM

CTH N - SOUTH APPROACH

STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.30	
10+07.00	1007.00	0.00	72.00	29.92	9.66	0	0	0	0	0	0
10+25.00	1025.00	18	74.55	29.92	8.66	49	20	6	49	8	21
10+50.00	1050.00	25	78.40	29.97	7.40	71	28	7	120	17	55
10+75.00	1075.00	25	83.99	29.77	5.14	75	28	6	195	25	94
11+00.00	1100.00	25	88.60	29.69	5.97	80	28	5	275	31	140
11+35.89	1135.89	35.89	97.61	29.57	22.75	124	39	19	399	56	200
11+59.63	1159.63	23.74	99.30	30.07	36.42	87	26	26	486	90	227
11+85.77	1185.77	26.14	95.27	29.68	20.65	94	29	28	580	126	256
12+00.00	1200.00	14.23	94.61	29.72	21.71	50	16	11	630	140	276
12+25.00	1225.00	25	118.04	28.24	18.28	98	27	19	728	165	322
12+37.40	1237.40	12.4	96.27	30.03	59.12	49	13	18	777	189	335

CTH N - NORTH APPROACH

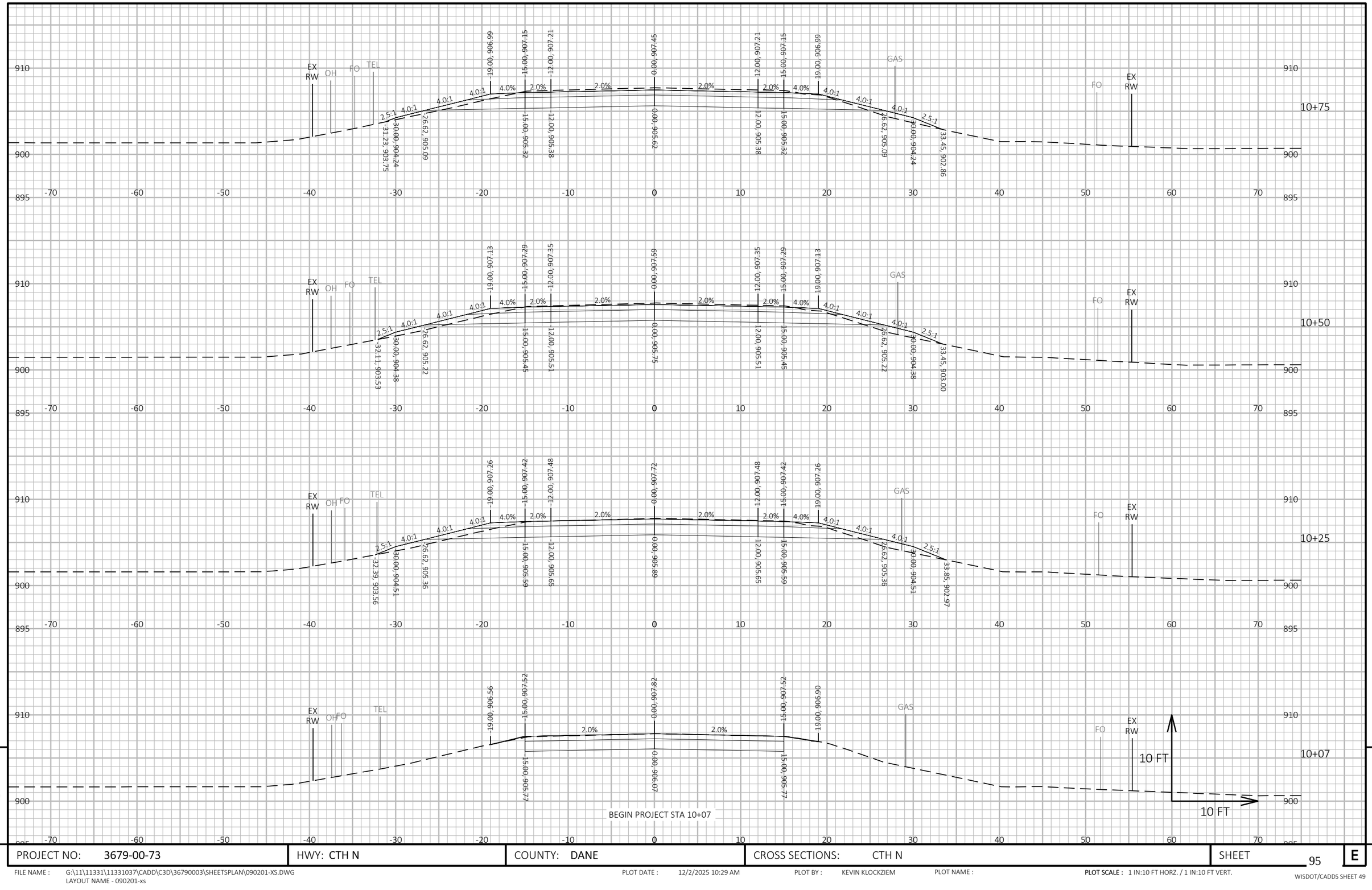
STATION	REAL STATION	DISTANCE	AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		
			CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	SALVAGED/UNUSABLE PAVEMENT MATERIAL	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						NOTE 1	NOTE 2	NOTE 3	1.00 NOTE 1	1.30	
13+25.00	1325.00	0.00	71.19	29.95	49.55	0	0	0	0	0	0
13+50.00	1350.00	25.00	99.60	30.01	18.52	79	28	32	79	42	9
13+75.00	1375.00	25.00	77.79	30.26	14.52	82	28	15	161	61	44
14+00.00	1400.00	25.00	76.19	30.29	25.04	71	28	18	232	85	64
14+24.85	1424.85	24.85	72.91	30.29	41.26	69	28	31	301	125	64
14+50.00	1450.00	25.15	8.67	0.00	23.03	38	14	30	339	164	49
14+72.00	1472.00	22.00	9.79	0.00	7.61	8	0	12	347	179	42

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL	THIS DOES NOT SHOW UP IN CROSS SECTIONS
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME

9

9

PROJECT NO: 3679-00-73 | HWY: CTH N | COUNTY: DANE | EARTHWORK DATA | SHEET 94 | E



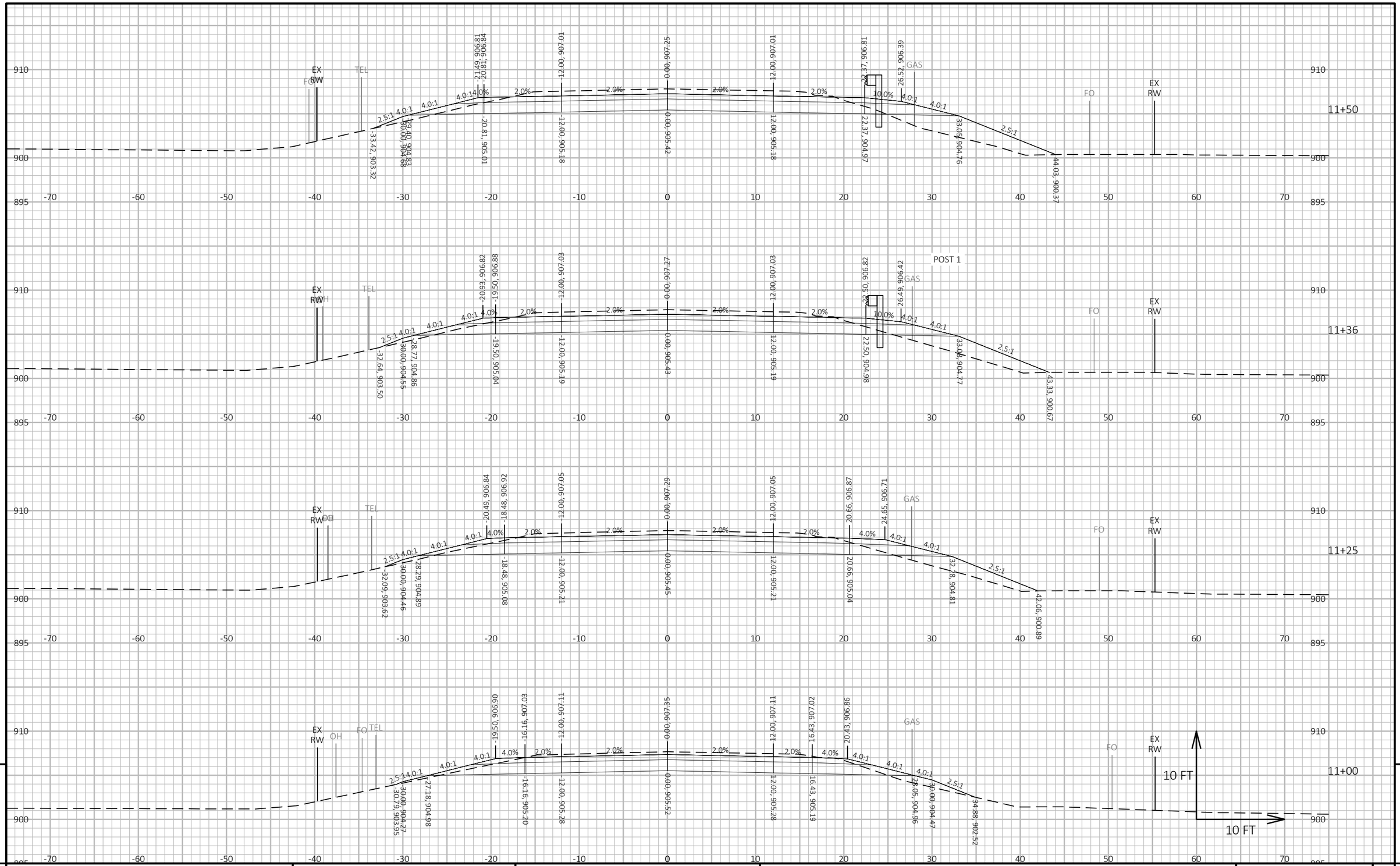
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9

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 95	E

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LAYOUT NAME - 090201-xs

PLOT DATE : 12/2/2025 10:29 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



9

9

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 96	E

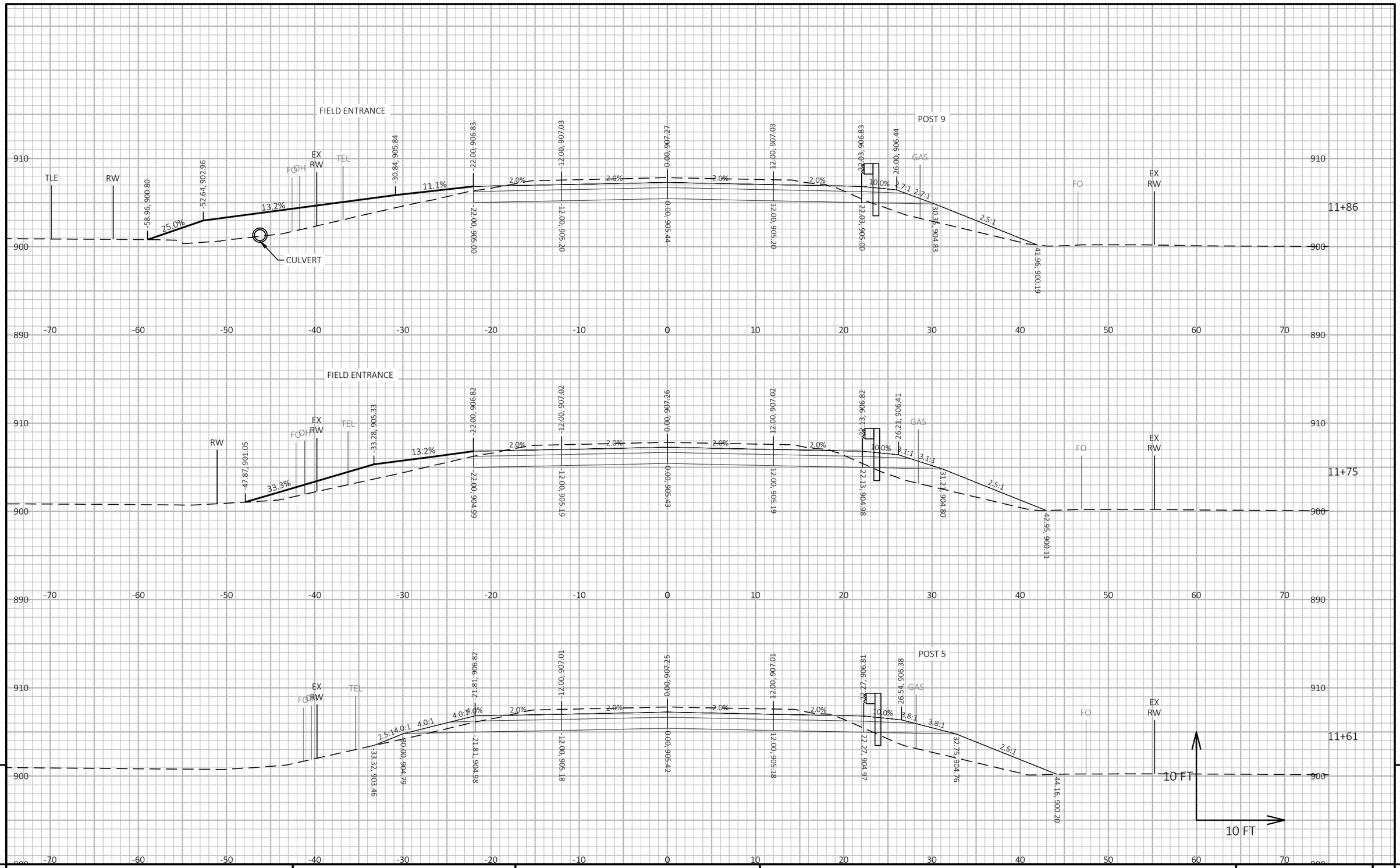
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LAYOUT NAME - 090202-xs

PLOT DATE : 12/2/2025 10:29 AM

PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 97	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 12/2/2025 10:29 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

SEE BRIDGE PLANS FOR
RIPRAP LOCATIONS

RW
EX RW
OH
FO
TEL
GAS
2.5:1
4.8:1
10.0%
2.0%
52.24, 901.65
43.84, 899.90
26.00, 907.03
22.00, 907.43
12.00, 907.63
0.00, 907.87
30.00, 905.43
22.00, 905.60
12.00, 905.80
0.00, 906.04
12.00, 905.80
22.00, 905.60
29.96, 905.44
40.77, 901.13
13+25

STRUCTURE B-13-0911

TLE
RW
OH
FO
EX RW
TEL
4.0:1
15.5:1
10.0%
2.0%
-57.62, 903.31
24.67, 907.03
22.67, 907.23
19.67, 906.99
12.00, 907.14
0.00, 907.38
33.25, 904.88
19.67, 905.15
12.00, 905.31
0.00, 905.55
12.00, 905.31
19.67, 905.15
30.91, 904.93
39.52, 901.49
12+25

CULVERT (TYP.)

FIELD ENTRANCE

TLE
RW
BD
EX RW
TEL
GAS
FO
25.0%
12.4%
7.7%
2.0%
10.0%
-67.19, 901.12
-62.64, 900.45
35.71, 905.80
22.00, 906.86
12.00, 907.06
0.00, 907.30
12.00, 907.12
19.67, 906.91
22.67, 907.15
26.00, 906.82
22.00, 905.63
12.00, 905.23
0.00, 905.47
12.00, 905.23
19.67, 905.08
30.91, 904.85
42.49, 900.22
12+00
10 FT
10 FT

9

9

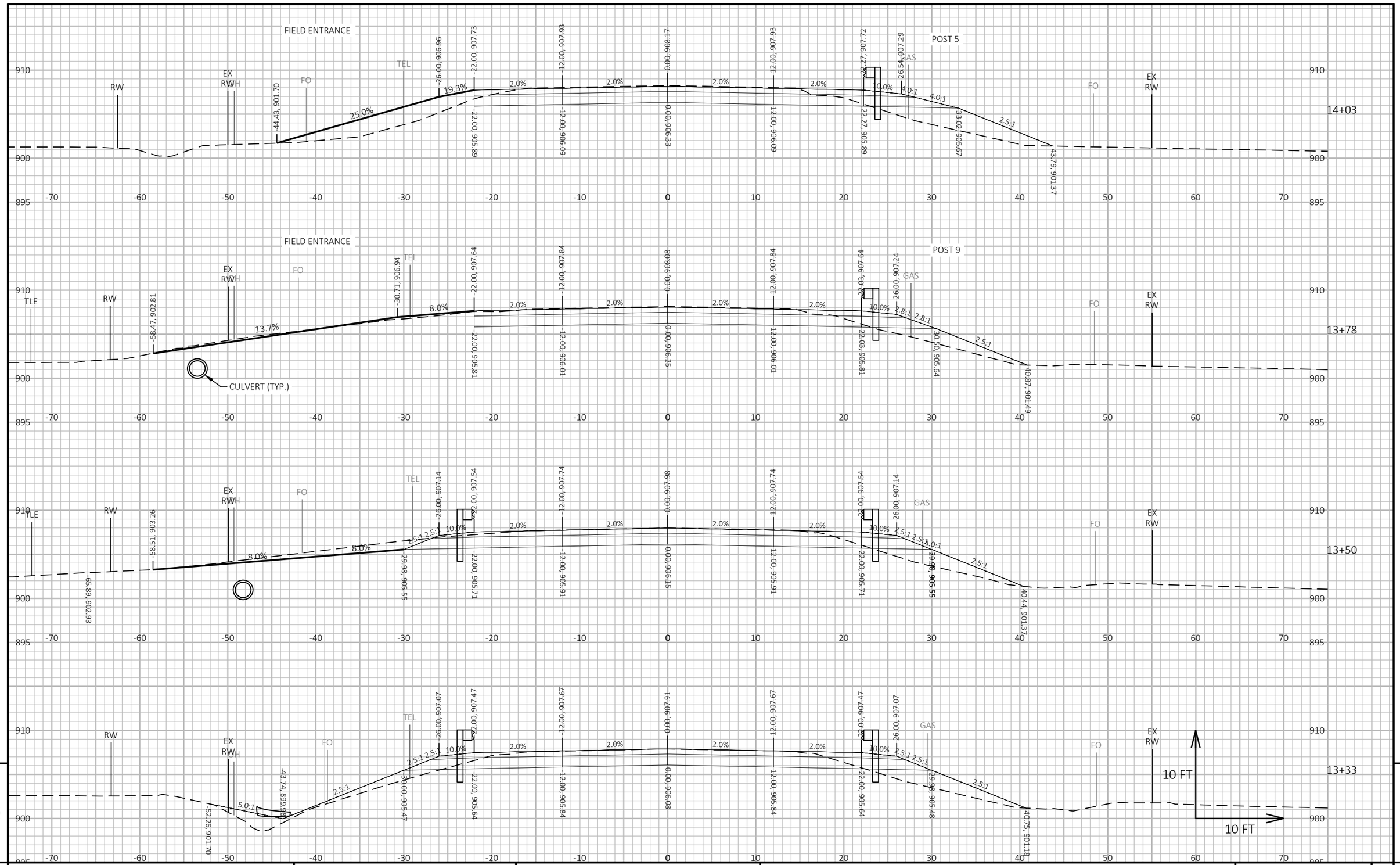
PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 98	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090204-xs

PLOT DATE : 12/2/2025 10:29 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 99	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090205-xs

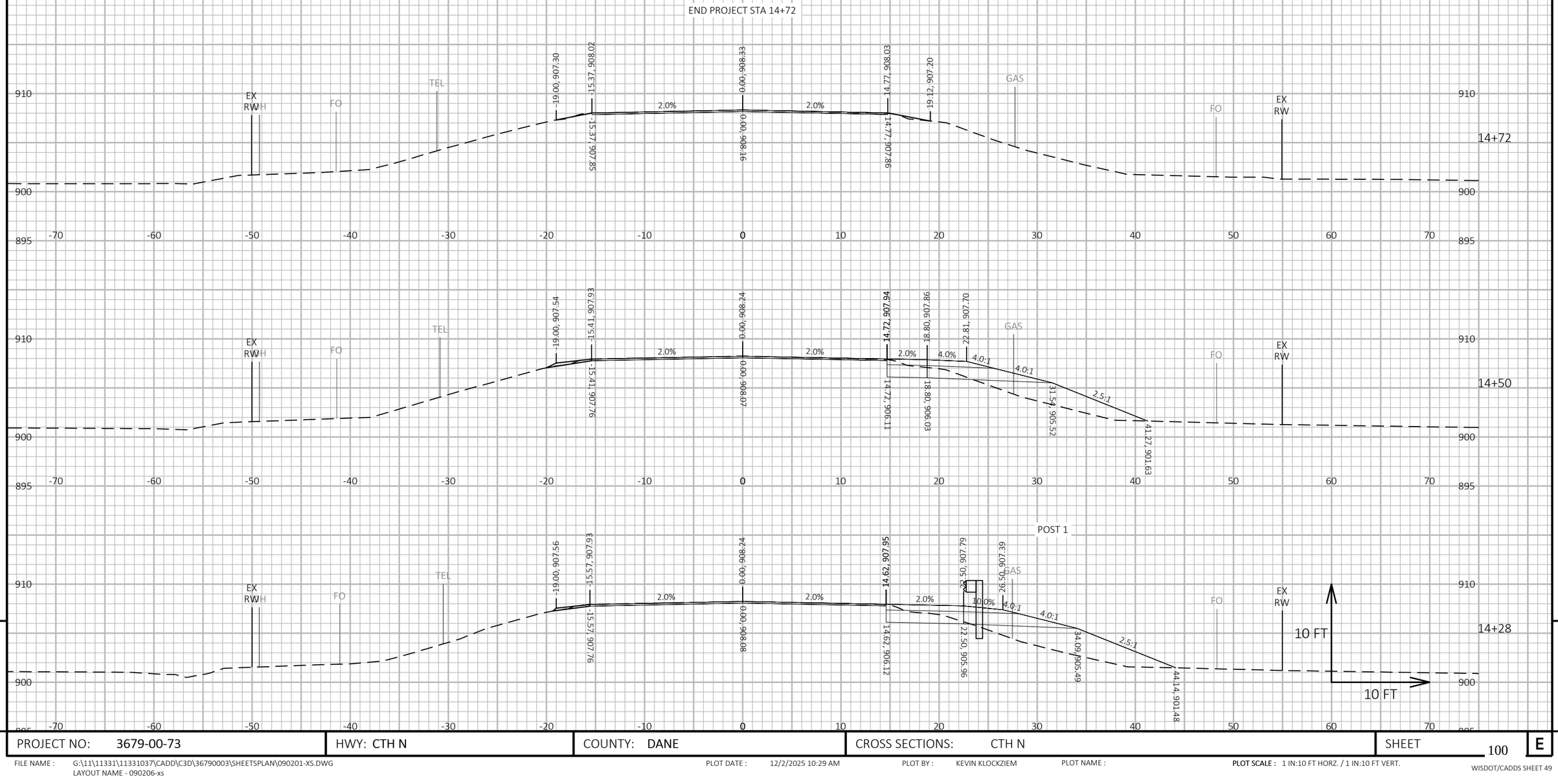
PLOT DATE : 12/2/2025 10:29 AM

PLOT BY : KEVIN KLOCKZIEM

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

END PROJECT STA 14+72



PROJECT NO: 3679-00-73	HWY: CTH N	COUNTY: DANE	CROSS SECTIONS: CTH N	SHEET 100	E

FILE NAME : G:\11\11331\11331037\CADD\C3D\36790003\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090206-xs

PLOT DATE : 12/2/2025 10:29 AM PLOT BY : KEVIN KLOCKZIEM PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

Wisconsin Department of Transportation

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through innovation and exceptional service.

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