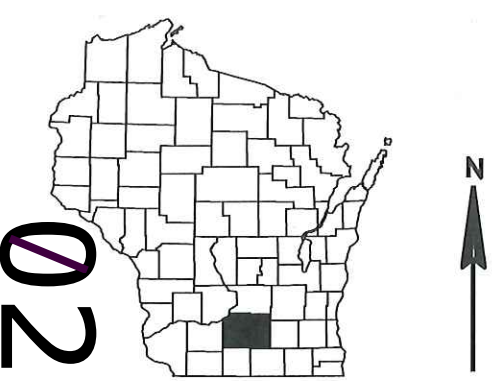


MAD PROJECT ID: 3672-00-70 WITH: 3672-00-72 COUNTY: DANE

APRIL 2025 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	3672-00-01
A.A.D.T.	2025 = 500
A.A.D.T.	2045 = 540
D.H.V.	= 60/40
D.D.	= 62
T.	= 6.6%
DESIGN SPEED	= 55 MPH
ESALS	= 59,000

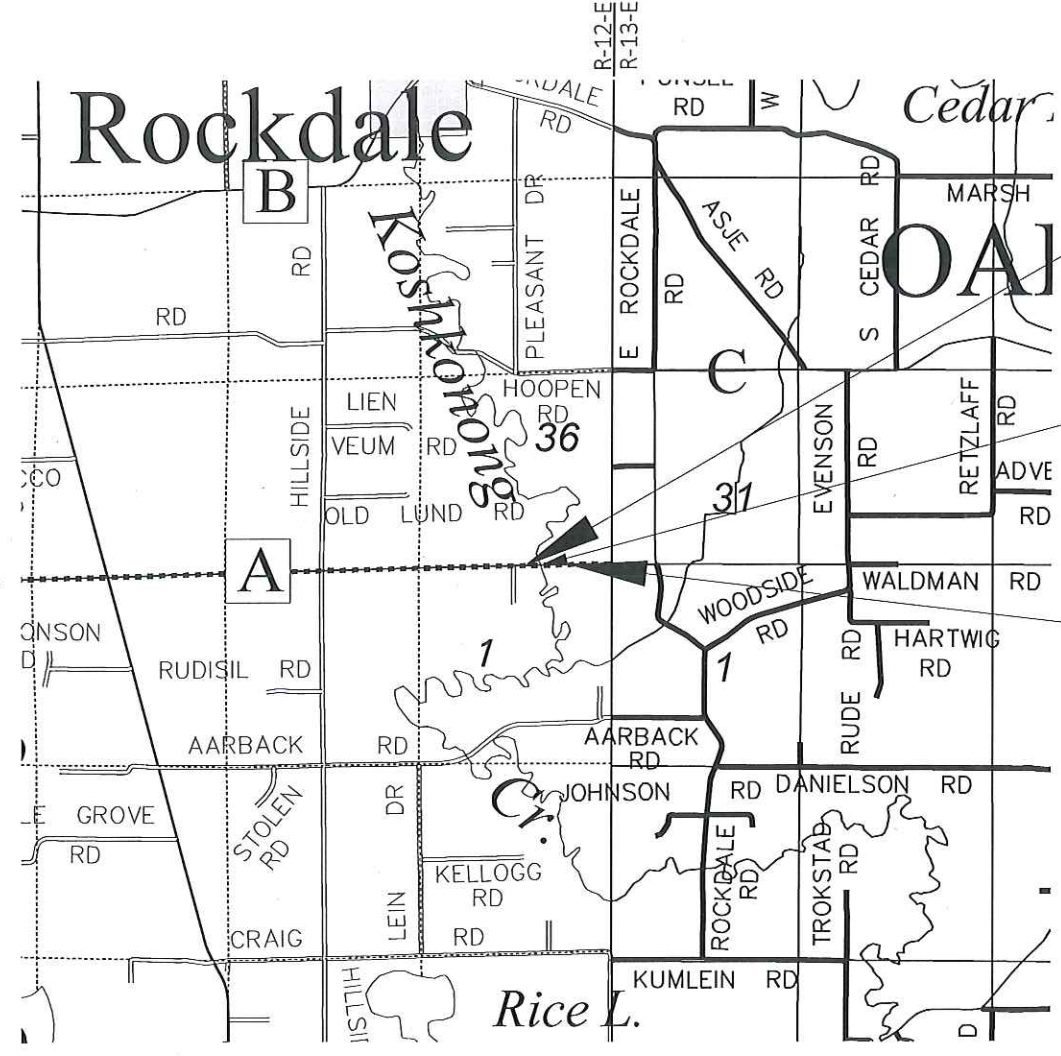
CONVENTIONAL SYMBOLS

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

PROFILE	
GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
T CHRISTIANA - T OAKLAND (CTH A)
KOSHKONONG CREEK BRIDGE, B-13-0909
CTH A
DANE COUNTY

STATE PROJECT NUMBER
3672-00-70



BEGIN PROJECT
STA 102+68.49
Y= 432,263.262
X= 918,285.318

STRUCTURE B-13-0909
STA 105+84.24 - STA 106+68.83

END PROJECT
STA 109+12.66

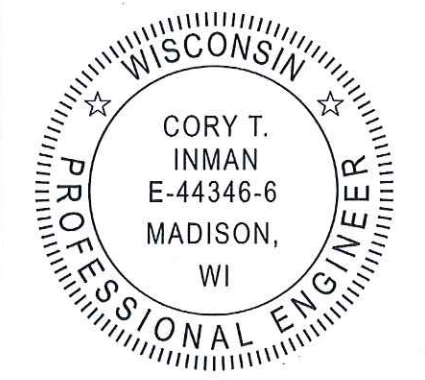
LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.122 MI

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 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3672-00-70	WISC 2025408	1

ACCEPTED FOR
DANE COUNTY
DATE: 10/25/24
Clement Abongwa
(Signature and Title of Official)

emcs
1600 Aspen Commons, Suite 230
Middleton, WI 53562
608.827.8810 Fax 608.833.3198



10/16/24
(Date)
Cory T. Inman
(Signature)

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	EMCS, INC
Designer	EMCS, INC
Project Manager	ZACH PEARSON
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT
DATE: 10/28/2024
ZACHARY PEARSON
(Signature)

E

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
TYPICAL SECTIONS
EROSION CONTROL
TRAFFIC CONTROL
DETOUR PLAN

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.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND EROSION MATTED AS DIRECTED BY THE ENGINEER.
- (SALVAGED) TOPSOIL AND EROSION MAT HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- DO NOT REMOVE ANY TREES WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- FERTILIZER SHALL NOT BE USED WITHIN 20' OF NAVIGABLE WATERWAYS OR WETLANDS.
- APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
- A CONVERSION FACTOR OF 2.10 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.
- A CONVERSION FACTOR OF 2.00 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH.
- A CONVERSION FACTOR OF 112 LB/SY/IN. IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.
- ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TOTAL LAYER PAVEMENT THICKNESS	LAYERS	GRADATION
4" ASPHALTIC SURFACE	2" (UPPER LAYER) 2" (LOWER LAYER)	12.5 mm (UPPER LAYER) 12.5 mm (LOWER LAYER)



UTILITIES

ALLIANT ENERGY - ELECTRICITY

DAN TREINEN
1521 PROGRESS LN
STOUGHTON, WI 53589
P: 608-459-5259
EMAIL: DANTREINEN@ALLIANTENERGY.COM

FRONTIER - COMMUNICATIONS

CHRIS POLLACK
421 4TH ST
WAUSAU, WI 54403
P: 715-847-1240
C: 715-297-4773
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

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
ROW CROPS:	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIPTURF:	.19	.20	.24	.19	.22	.26	.20	.23	.30	.20	.25	.30
	.24	.26	.30	.25	.28	.33	.26	.30	.37	.27	.32	.40
SIDE SLOPETURF:			.25			.27			.28			.30
			.32			.34			.36			.38
PAVEMENT:												
ASPHALT:	.70 - .95											
CONCRETE:	.80 - .95											
BRICK:	.70 - .80											
DRIVES, WALKS:	.75 - .85											
ROOFS:	.75 - .95											
GRAVEL ROADS, SHOULDERS:	.40 - .60											

TOTAL PROJECT AREA = 1.04 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.77 ACRES

STANDARD ABBREVIATIONS

AGG	AGGREGATE	MGAL	1000 GALLONS
<	ANGLE	N	NORTH
AE,AEW	APRON ENDWALL	NB	NORTHBOUND
ASPH.	ASPHALTIC	NOR.	NORMAL
A.D.T.	AVERAGE DAILY TRAFFIC	PAV'T	PAVEMENT
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	P.L.E.	PERMANENT LIMITED EASEMENT
C/L	CENTER LINE	P.C.	POINT OF CURVATURE
Δ	CENTRAL ANGLE OR DELTA	P.I.	POINT OF INTERSECTION
CMCP	CORRUGATED METAL CULVERT PIPE	P.T.	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	P.E.	PRIVATE ENTRANCE
CO.	COUNTY	R	RADIUS OR RANGE
CTH	COUNTY TRUNK HIGHWAY	R/L	REFERENCE LINE
CR.	CREEK	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
CY	CUBIC YARD	REQ'D	REQUIRED
C&G	CURB AND GUTTER	RT	RIGHT
D	DEGREE OF CURVE	R/W	RIGHT OF WAY
D.H.V.	DESIGN HOURLY VOLUME	RD.	ROAD
D.D.	DIRECTIONAL DISTRIBUTION	SHLD.	SHOULDER(S)
EA	EACH	S	SOUTH
E	EAST	SB	SOUTHBOUND
EB	EASTBOUND	S.F.	SQUARE FOOT (FEET)
ELEC.	ELECTRIC(AL), ELEC. CABLE	SDD	STANDARD DETAIL DRAWING(S)
EL., ELEV.	ELEVATION	STH	STATE TRUNK HIGHWAY
ESALS	EQUIVALENT SINGLE AXLE LOADS	STA.	STATION
EXC.	EXCAVATION	S.E.	SUPERELEVATION
EXIST	EXISTING	S.I.	SLOPE INTERCEPT
F.E.	FIELD ENTRANCE	T.	PERCENT TRUCKS
CWT	HUNDRED WEIGHT	TEL.	TELEPHONE
IH	INTERSTATE HIGHWAY	T.L.E.	TEMPORARY LIMITED EASEMENT
LT	LEFT	TYP	TYPICAL
L.	LENGTH OF CURVE	VAR	VARIABLE
L.F.	LINEAR FOOT(FEET)	W	WEST
LC.	LONG CHORD	WB	WESTBOUND
LS	LUMP SUM		

OTHER AGENCIES

WDNR LIAISON

ERIC HEGGELUND
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

DANE COUNTY HIGHWAY DEPARTMENT

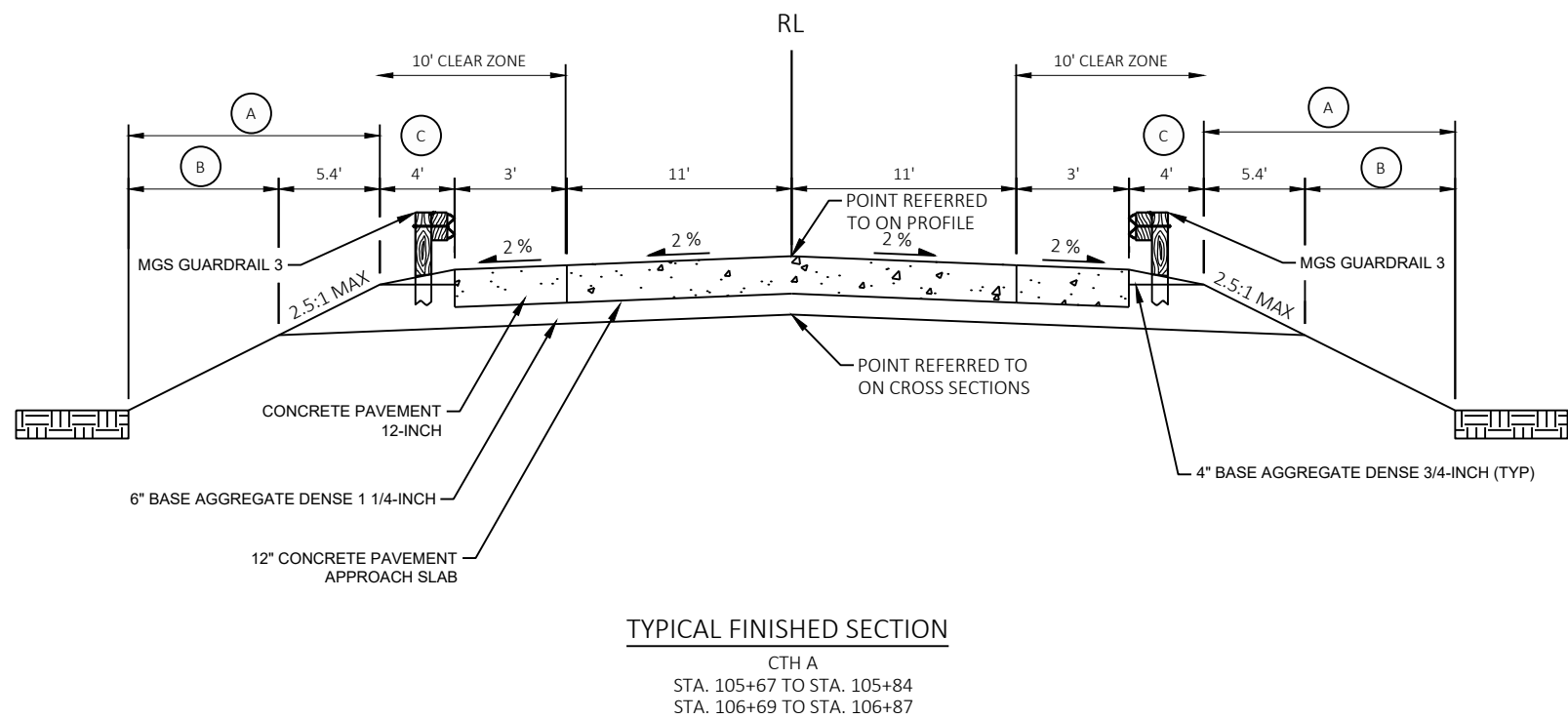
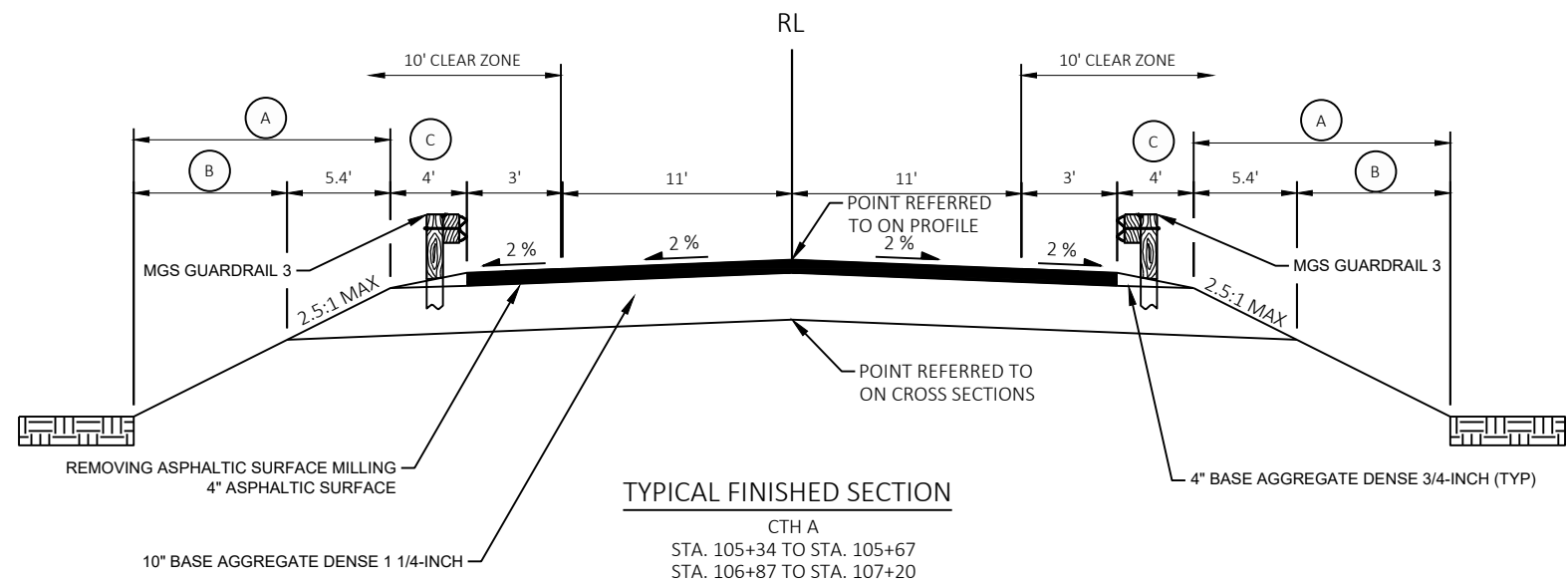
DANE COUNTY
MARK MISUN
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PHONE: (608) 266-9081
EMAIL: MISUN.MARK@DANECOUNTY.GOV

CONSULTANT DESIGN

EMCS, INC.
CORY INMAN
1600 ASPEN COMMONS, SUITE 230
MIDDLETON, WI 53562
PHONE: (608) 665-9819
EMAIL: CINMAN@EMCSINC.COM



- ☒ A SEEDING MIXTURE NO. 20
- ☐ B SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B
- ☐ C 10:1 SHOULDER SLOPE



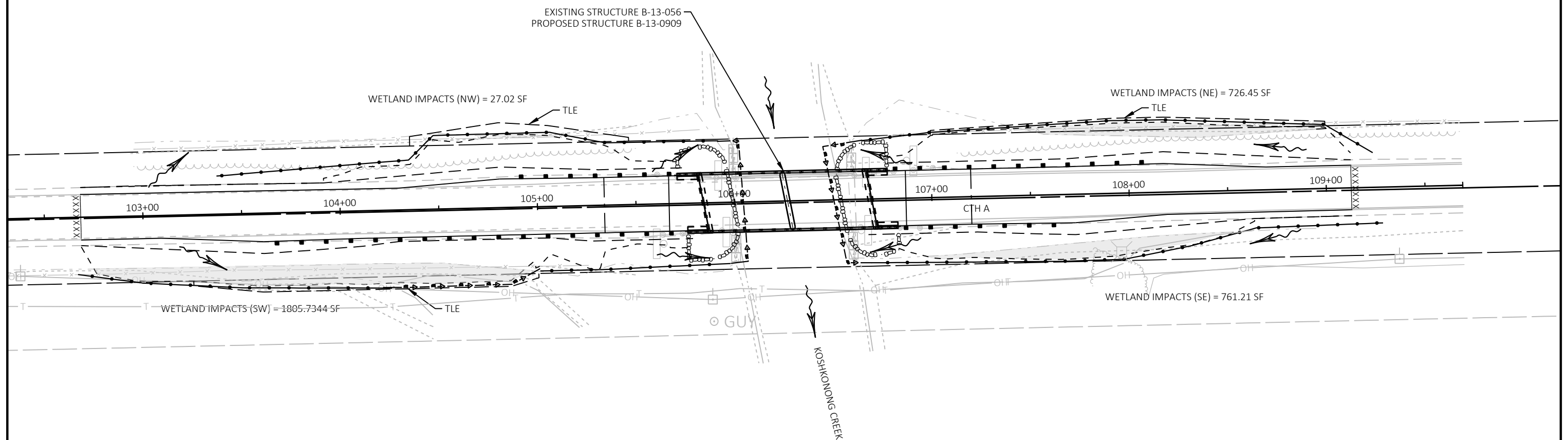
- (A) SEEDING MIXTURE NO. 20
- (B) SALVAGED TOPSOIL AND EROSION MAT URBAN CLASS I TYPE B
- (C) 10:1 SHOULDER SLOPE

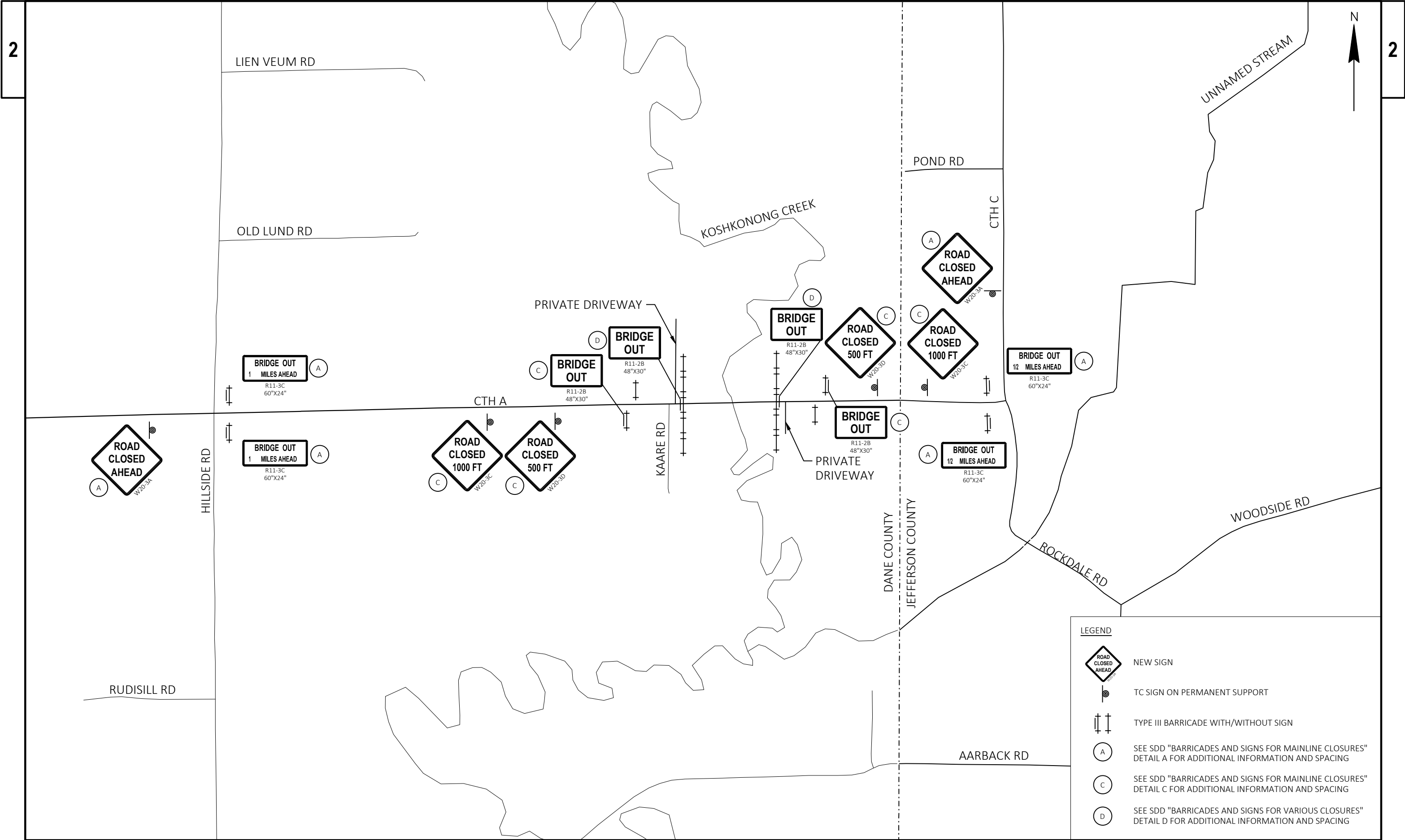
LEGEND

- WETLAND IMPACTS
- RIPRAP HEAVY (SEE STRUCTURE PLANS)
- SLOPE INTERCEPT
- WETLAND BOUNDARY
- TURBIDITY BARRIER
- SILT FENCE
- SURFACE WATER FLOW
- EXISTING RIGHT-OF-WAY
- TEMPORARY LIMITED EASEMENT

NOTE: ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL HAVE EROSION MAT URBAN CLASS I TYPE B AND SEEDING MIXTURE NO. 20

N





DETOUR NOTES

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE TRAFFIC CONTROL PLAN, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL. PAID FOR AS TRAFFIC CONTROL COVERING SIGNS TYPE II UNLESS OTHERWISE NOTED.

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

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

ALL "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING NOT SHOWN IN DETAILS.

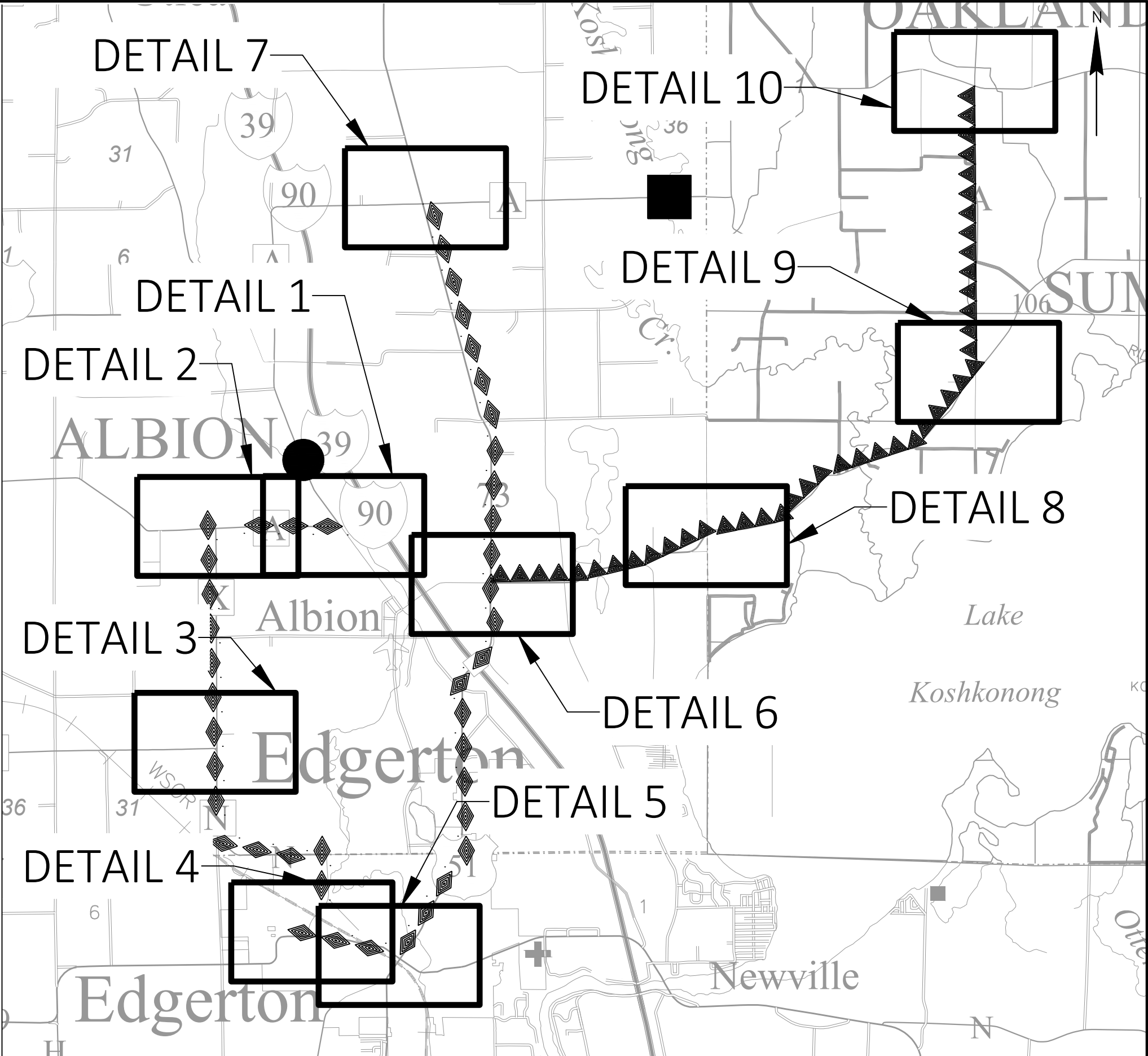
SEVEN CALENDAR DAYS IN ADVANCE OF CLOSING CTH A, PLACE PCMS AT THE EAST AND WEST END OF THE DETOUR ROUTE ON CTH A AS DETERMINED BY THE ENGINEER. MESSAGE TO READ AS LISTED BELOW OR AS APPROVED BY THE ENGINEER.

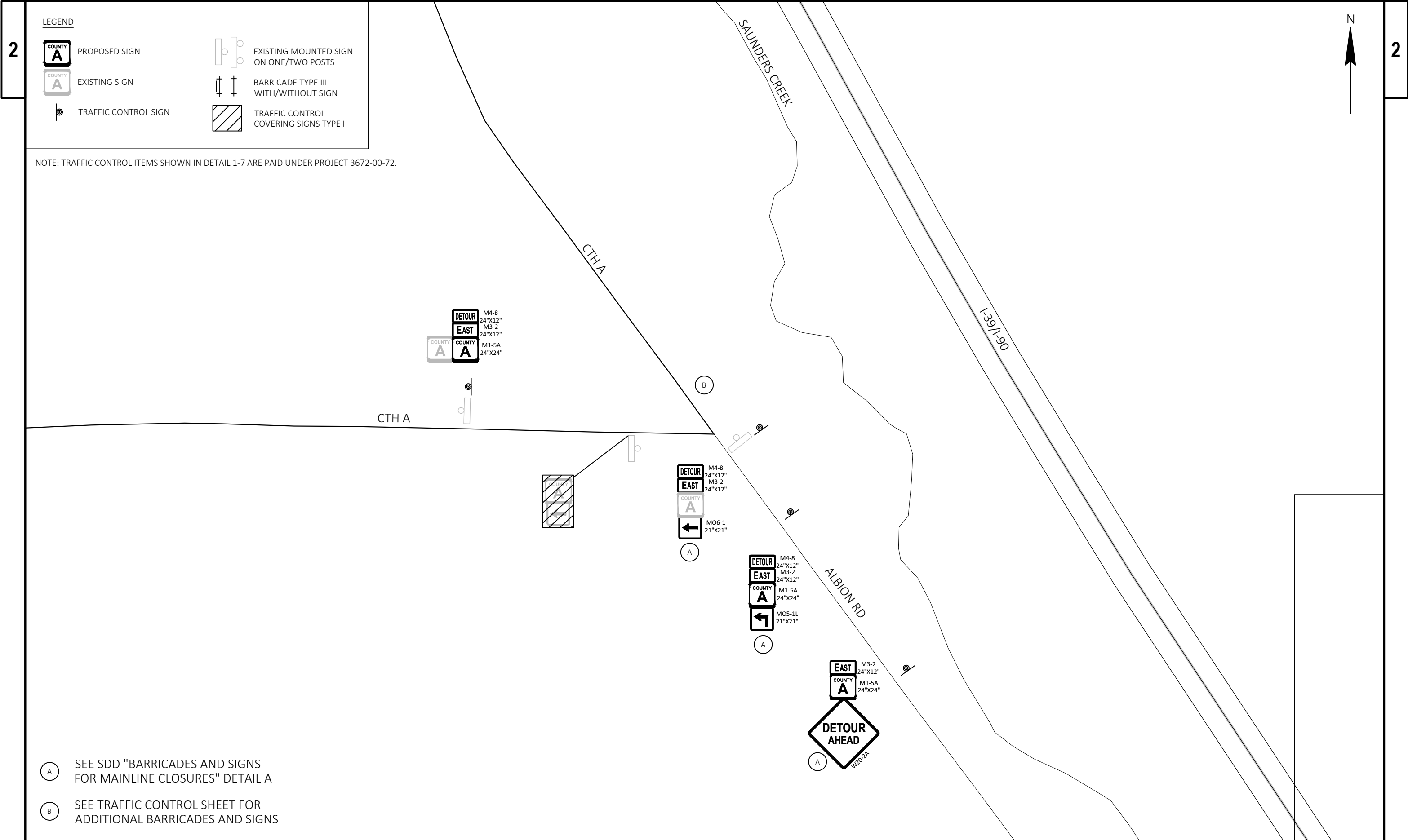
DO NOT PLACE ANY ITEMS WITH 50 FEET OF RAILROAD RIGHT-OF-WAY.

TRAFFIC CONTROL SIGNS PCMS MESSAGES	
PCMS SIGN LOCATION	PHASE 1
CTH A AT US 51	ROAD TO CLOSE (DATE)
CTH A AT CTH X	ROAD TO CLOSE (DATE)

LEGEND

-  PROJECT 3672-00-70 DETOUR
-  PROJECT 3672-00-72 DETOUR
-  PROJECT 3672-00-70 LOCATION
-  PROJECT 3672-00-72 LOCATION





LEGEND

COUNTY
A

PROPOSED SIGN

COUNTY
A

EXISTING SIGN

TRAFFIC CONTROL SIGN

EXISTING MOUNTED SIGN
ON ONE/TWO POSTS

BARRICADE TYPE III
WITH/WITHOUT SIGN

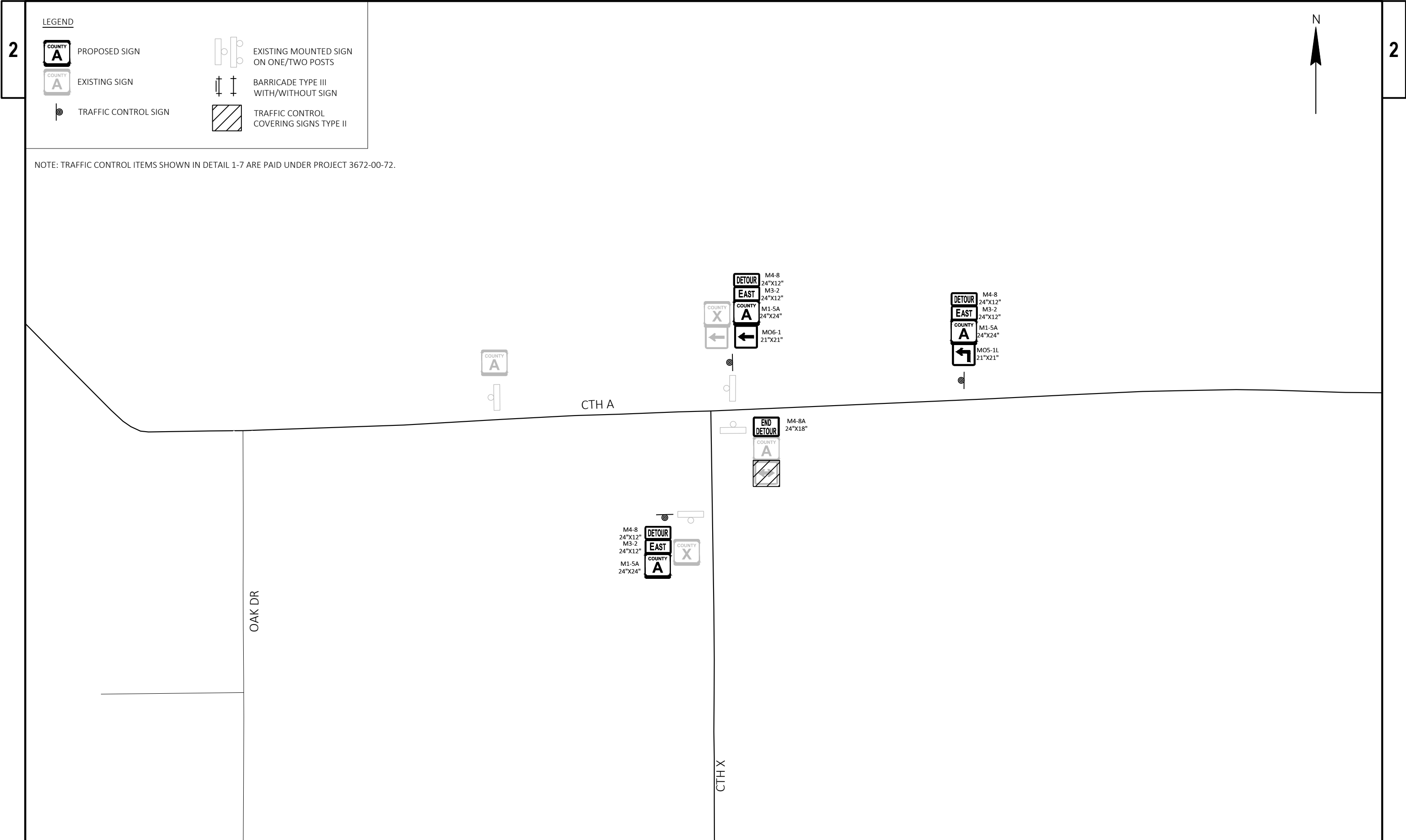
TRAFFIC CONTROL
COVERING SIGNS TYPE II

NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.

- A

SEE SDD "BARRICADES AND SIGNS
FOR MAINLINE CLOSURES" DETAIL A
- B

SEE TRAFFIC CONTROL SHEET FOR
ADDITIONAL BARRICADES AND SIGNS



LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN
-  TRAFFIC CONTROL SIGN
-  EXISTING MOUNTED SIGN ON ONE/TWO POSTS
-  BARRICADE TYPE III WITH/WITHOUT SIGN
-  TRAFFIC CONTROL COVERING SIGNS TYPE II

NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.

2

LEGEND



PROPOSED SIGN



EXISTING SIGN



TRAFFIC CONTROL SIGN



EXISTING MOUNTED SIGN
ON ONE/TWO POSTS

BARRICADE TYPE III
WITH/WITHOUT SIGNTRAFFIC CONTROL
COVERING SIGNS TYPE II

NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.

CTHX

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



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



M4-8
24"X12"
M3-4
24"X12"
M1-5A
24"X24"



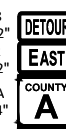
CTH N

CTH N

DETOUR	M4-8 24"x12"
EAST	M3-2 24"x12"
COUNTY A	M1-5A 24"x24"
→	MO6-1 21"x21"



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



M4-8
24"x12"
M3-4
24"x12"
M1-5A
24"x24"
MO6-1
21"x21"



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



PROJECT NO: 3672-00-70

HWY: CTH A

COUNTY: DANE

DETOUR - DETAIL 3

SHEET

10

-
-
-

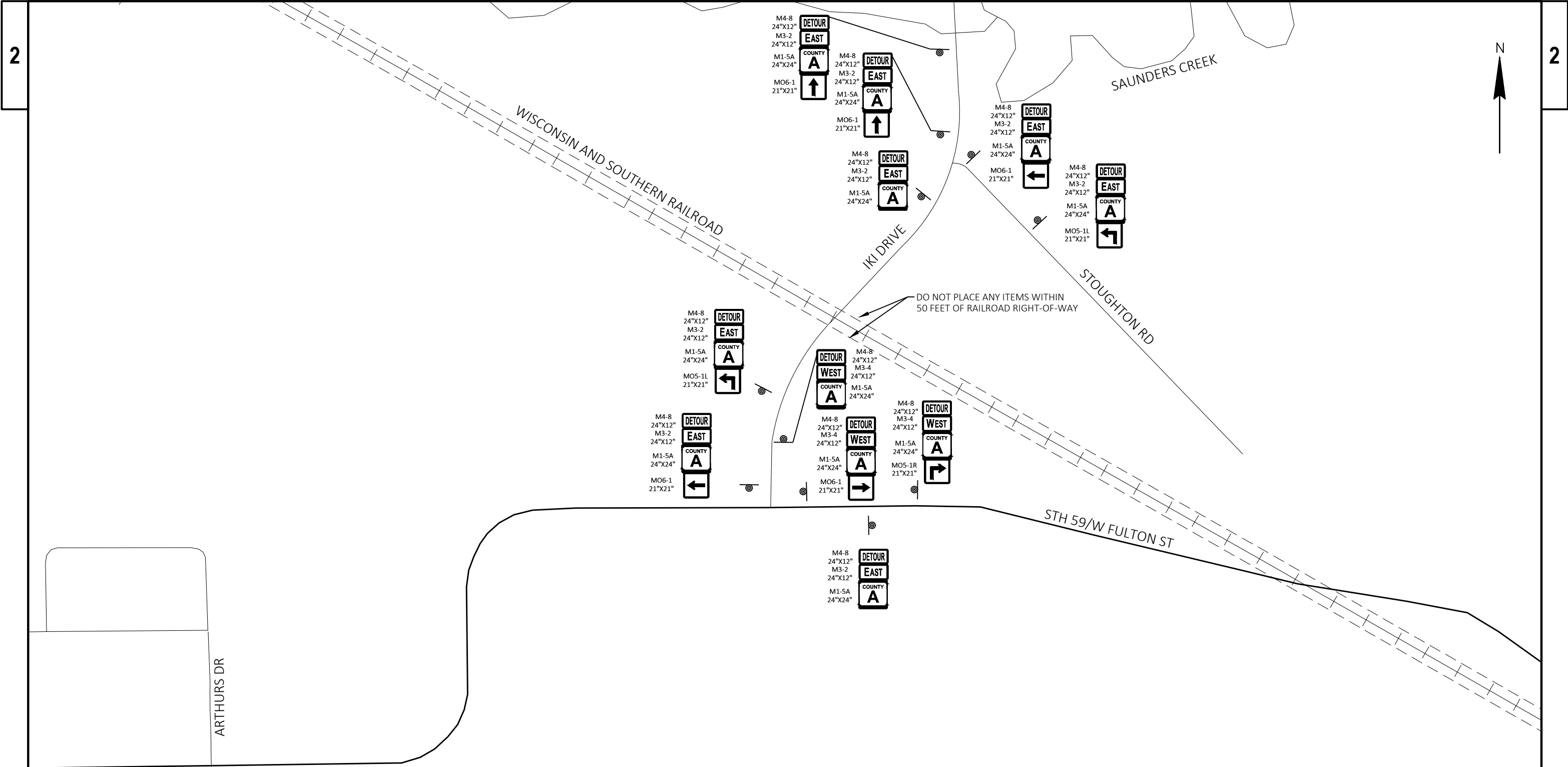
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LAYOUT NAME - DETOUR CTH A - DETAIL 3

PLOT DATE : 10/30/2024 10:10 AM

PLOT BY : JORDYN BENN

PLOT NAME :

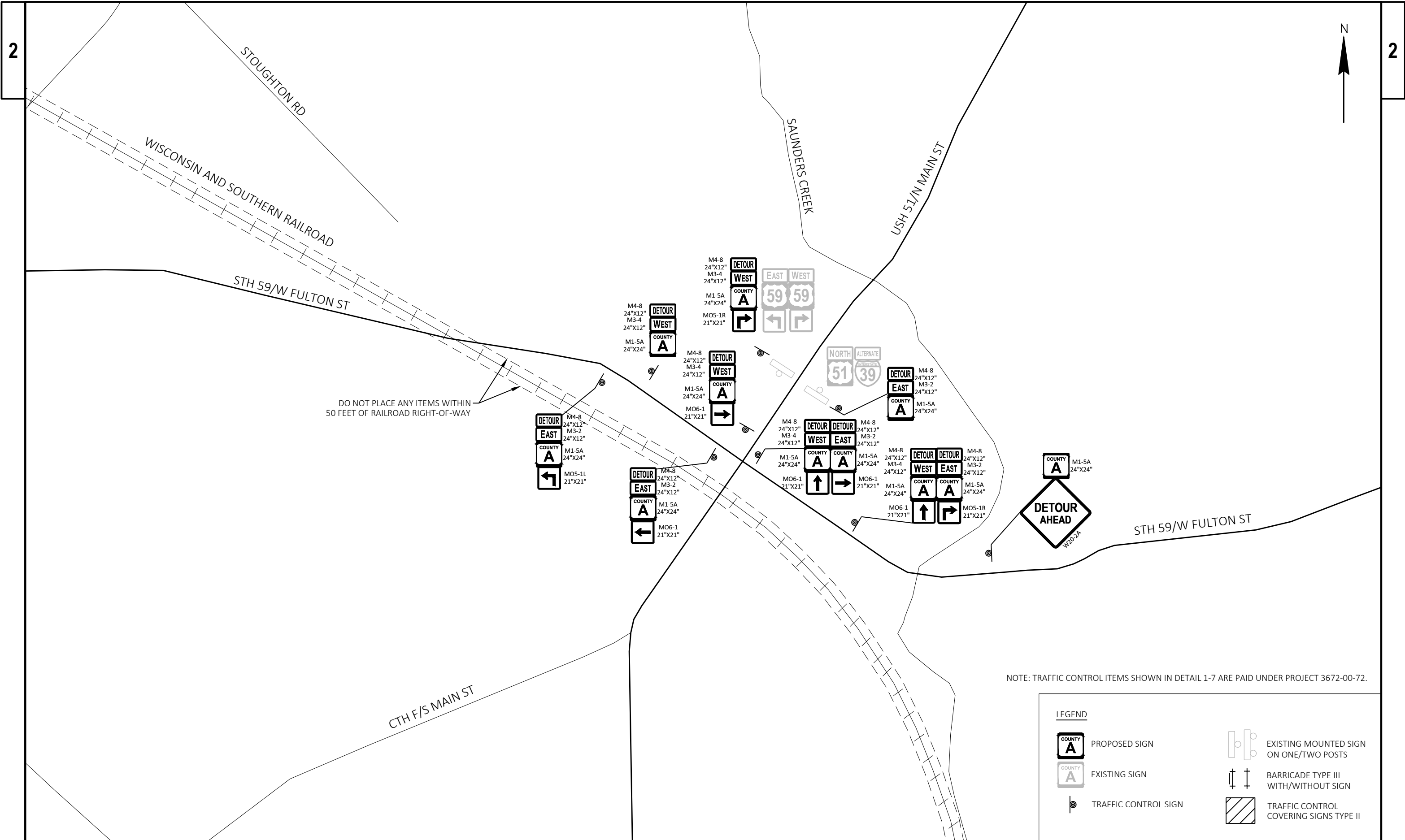
WISDOT/CADDS SHEET 42

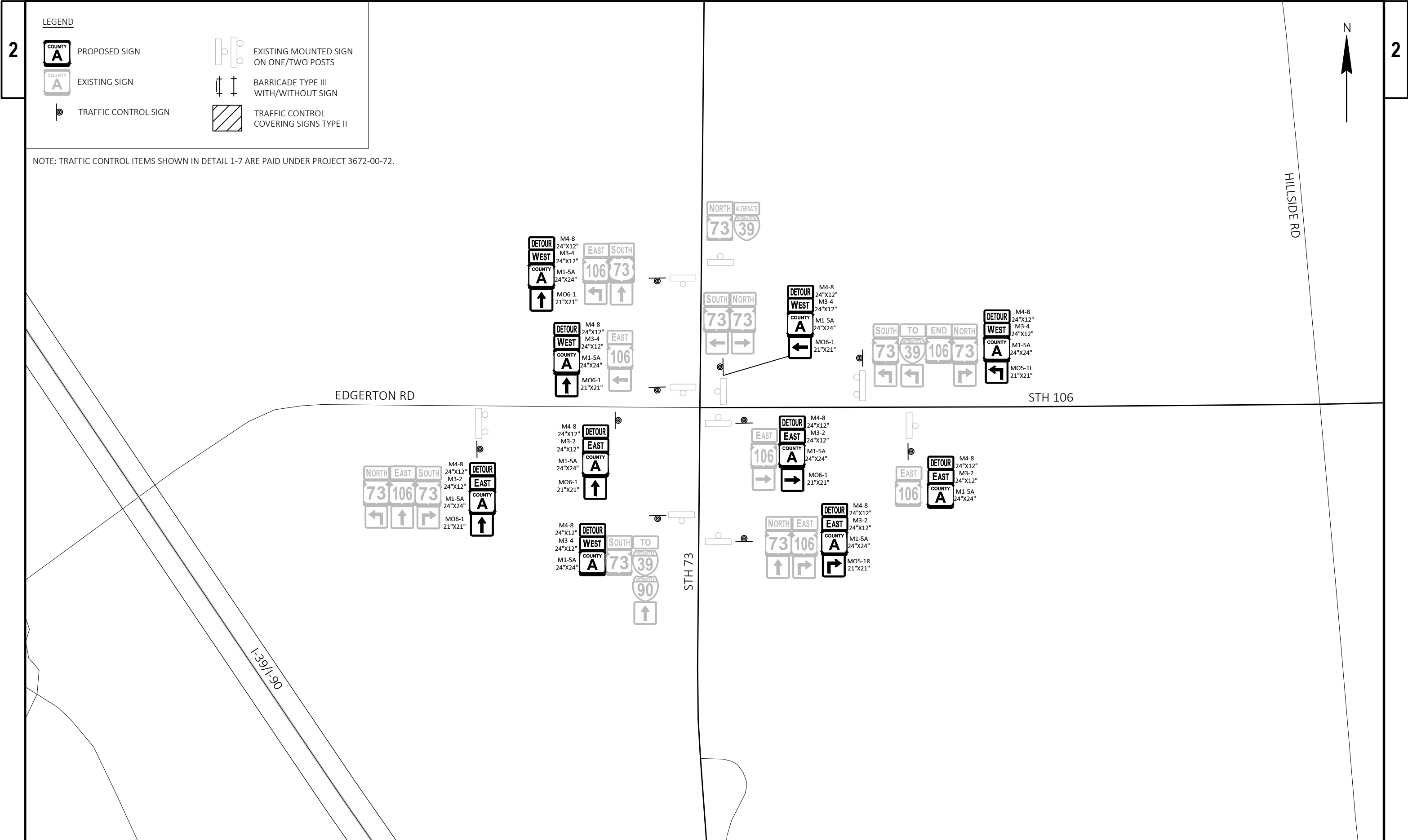


LEGEND

- | | | | |
|--|----------------------|--|--|
| | PROPOSED SIGN | | EXISTING MOUNTED SIGN ON ONE/TWO POSTS |
| | EXISTING SIGN | | BARRICADE TYPE III WITH/WITHOUT SIGN |
| | TRAFFIC CONTROL SIGN | | TRAFFIC CONTROL COVERING SIGNS TYPE II |

NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.



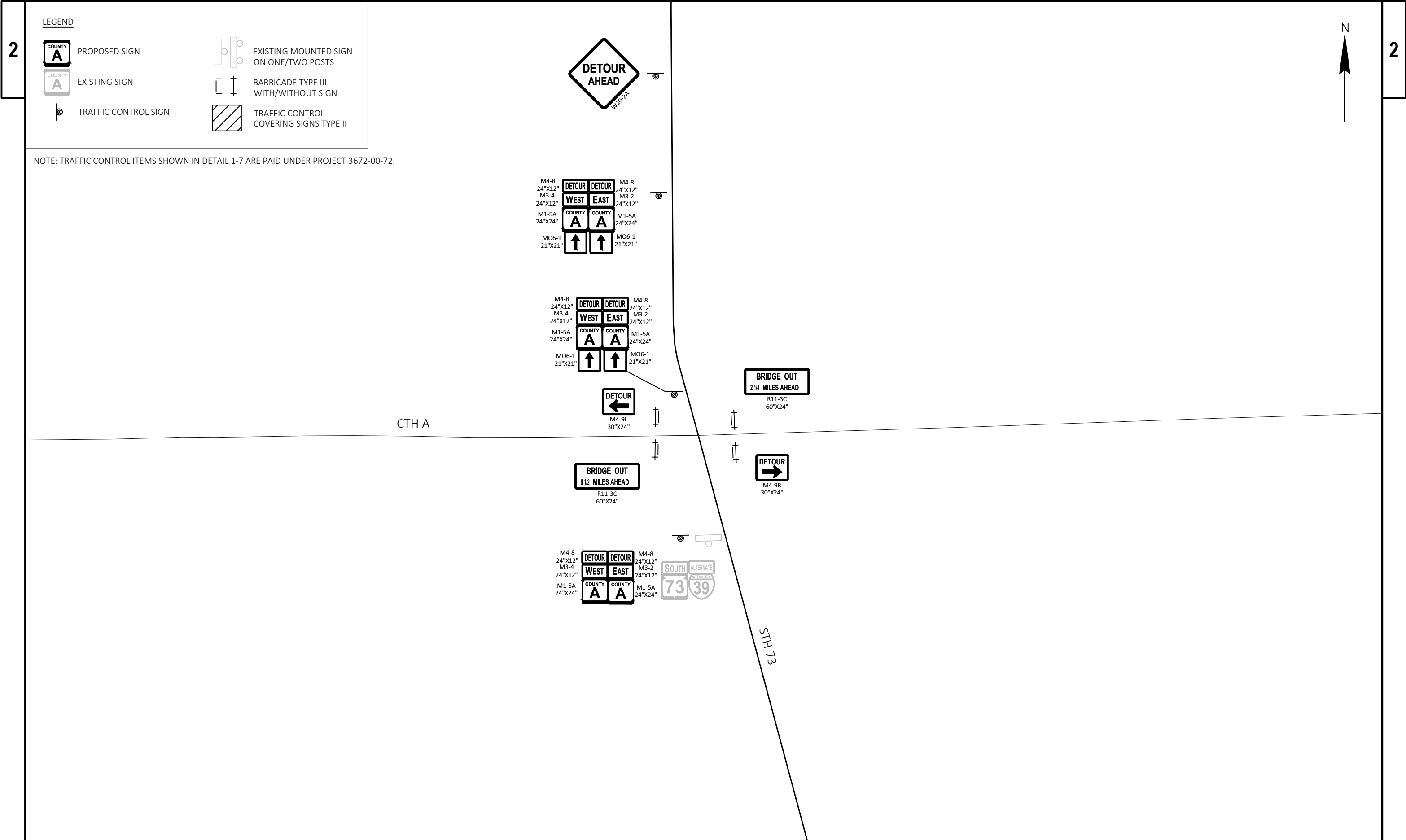


LEGEND

PROPOSED SIGN

EXISTING SIGN

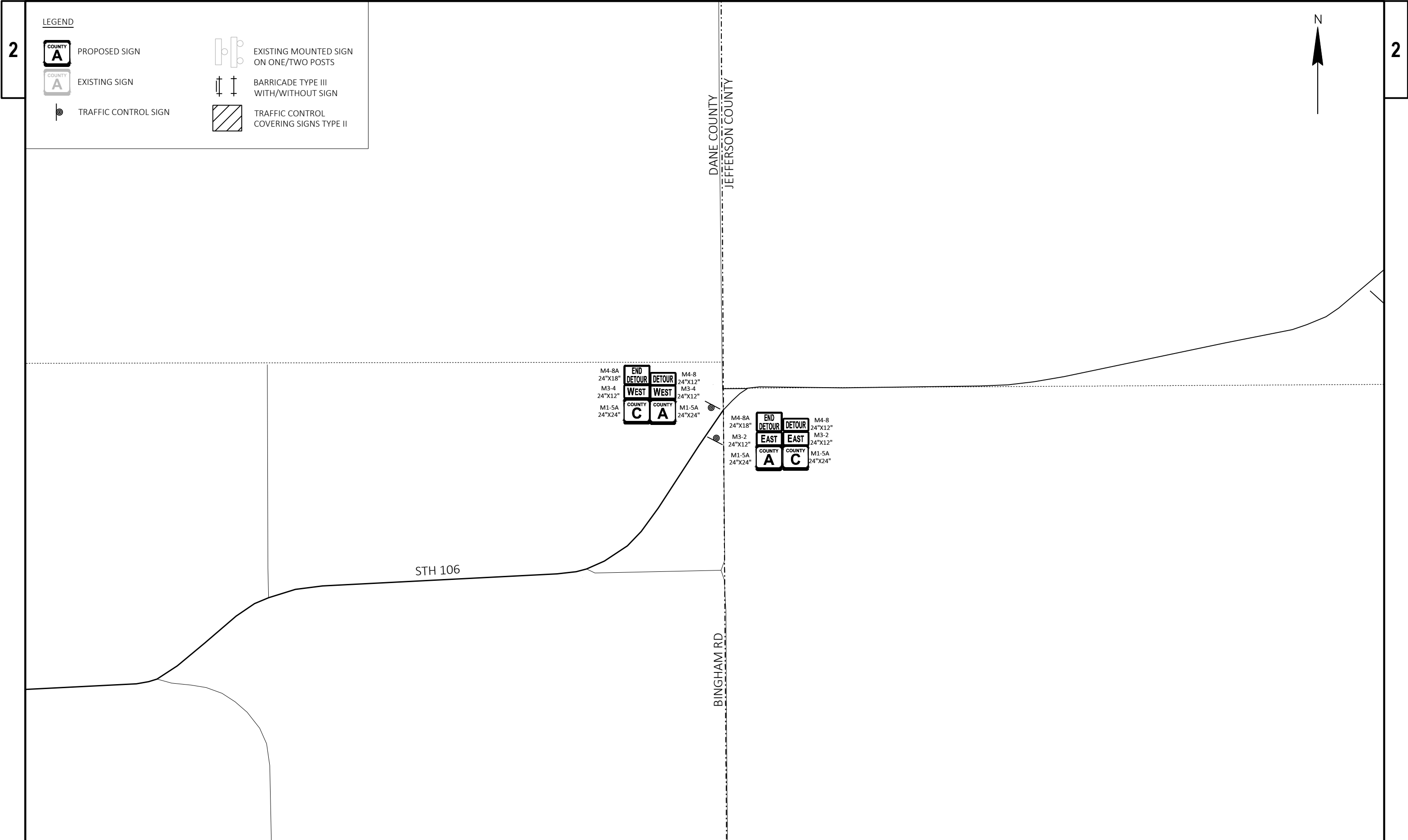
NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.



LEGEND

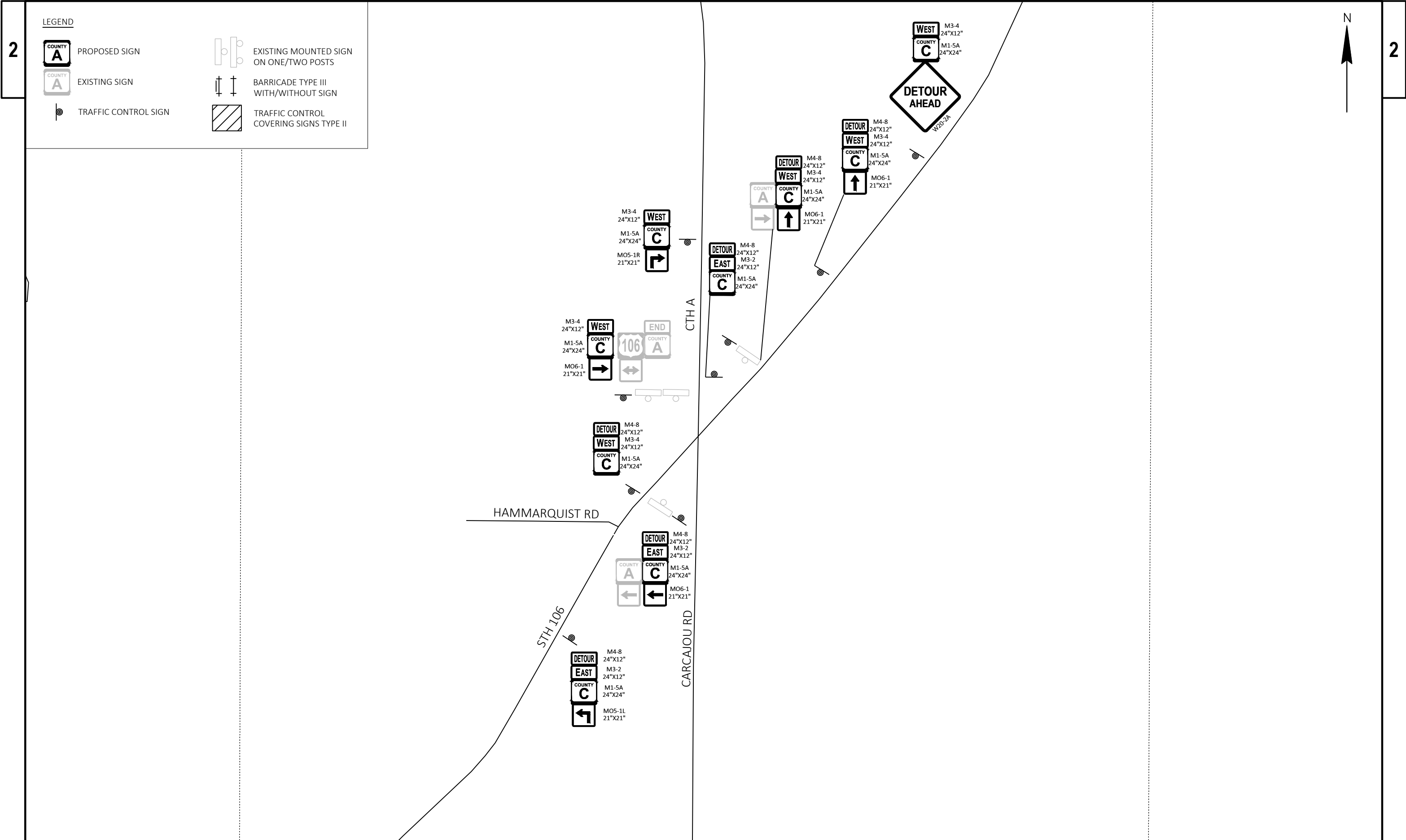
- PROPOSED SIGN
- EXISTING SIGN
- TRAFFIC CONTROL SIGN
- EXISTING MOUNTED SIGN
ON ONE/TWO POSTS
- BARRICADE TYPE III
WITH/WITHOUT SIGN
- TRAFFIC CONTROL
COVERING SIGNS TYPE II

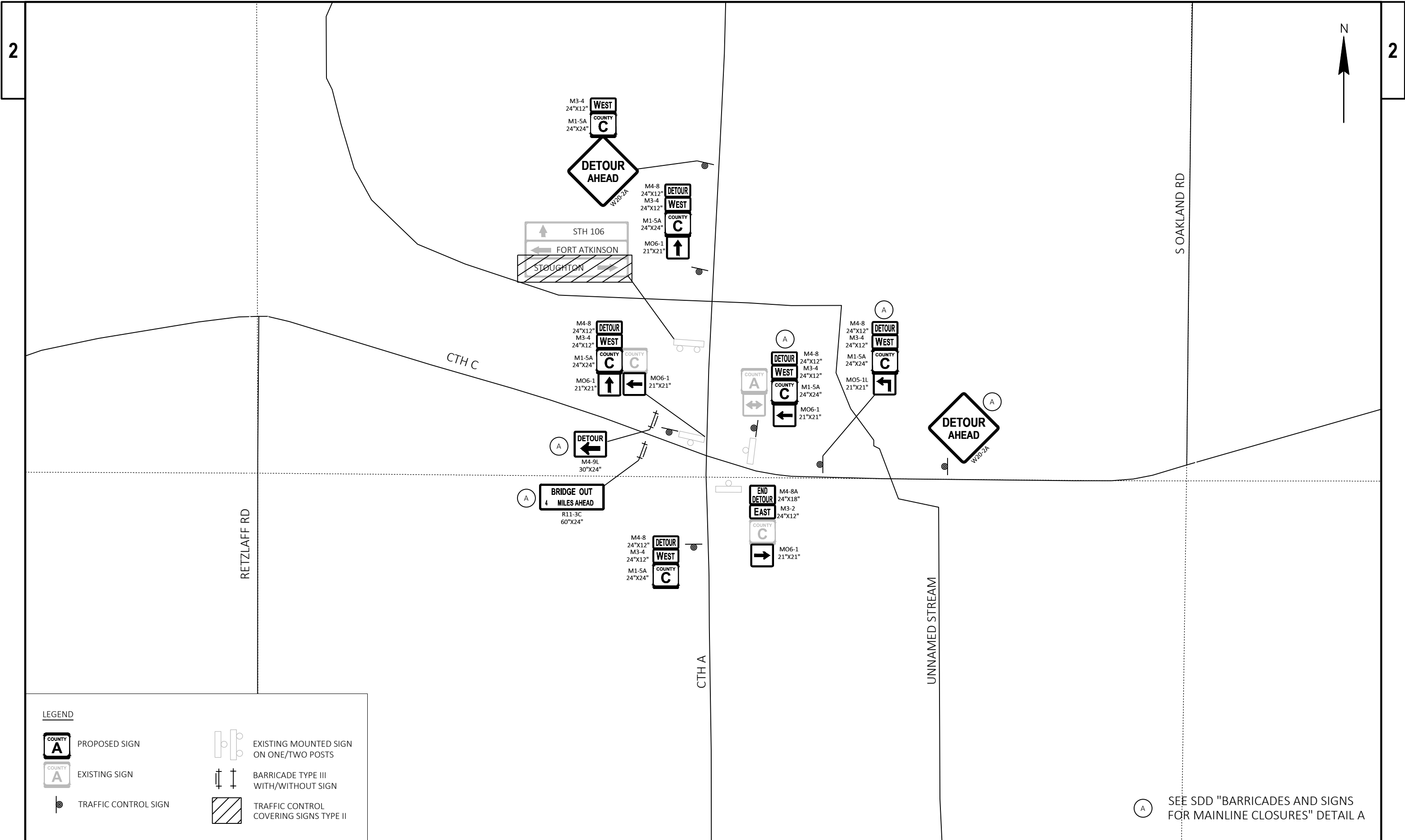
NOTE: TRAFFIC CONTROL ITEMS SHOWN IN DETAIL 1-7 ARE PAID UNDER PROJECT 3672-00-72.



LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN
-  TRAFFIC CONTROL SIGN
-  EXISTING MOUNTED SIGN ON ONE/TWO POSTS
-  BARRICADE TYPE III WITH/WITHOUT SIGN
-  TRAFFIC CONTROL COVERING SIGNS TYPE II





LEGEND

PROPOSED SIGN

EXISTING SIGN

TRAFFIC CONTROL SIGN

EXISTING MOUNTED SIGN ON ONE/TWO POSTS

BARRICADE TYPE III WITH/WITHOUT SIGN

TRAFFIC CONTROL COVERING SIGNS TYPE II

DETOUR NOTES

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

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REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING NOT SHOWN IN DETAILS.

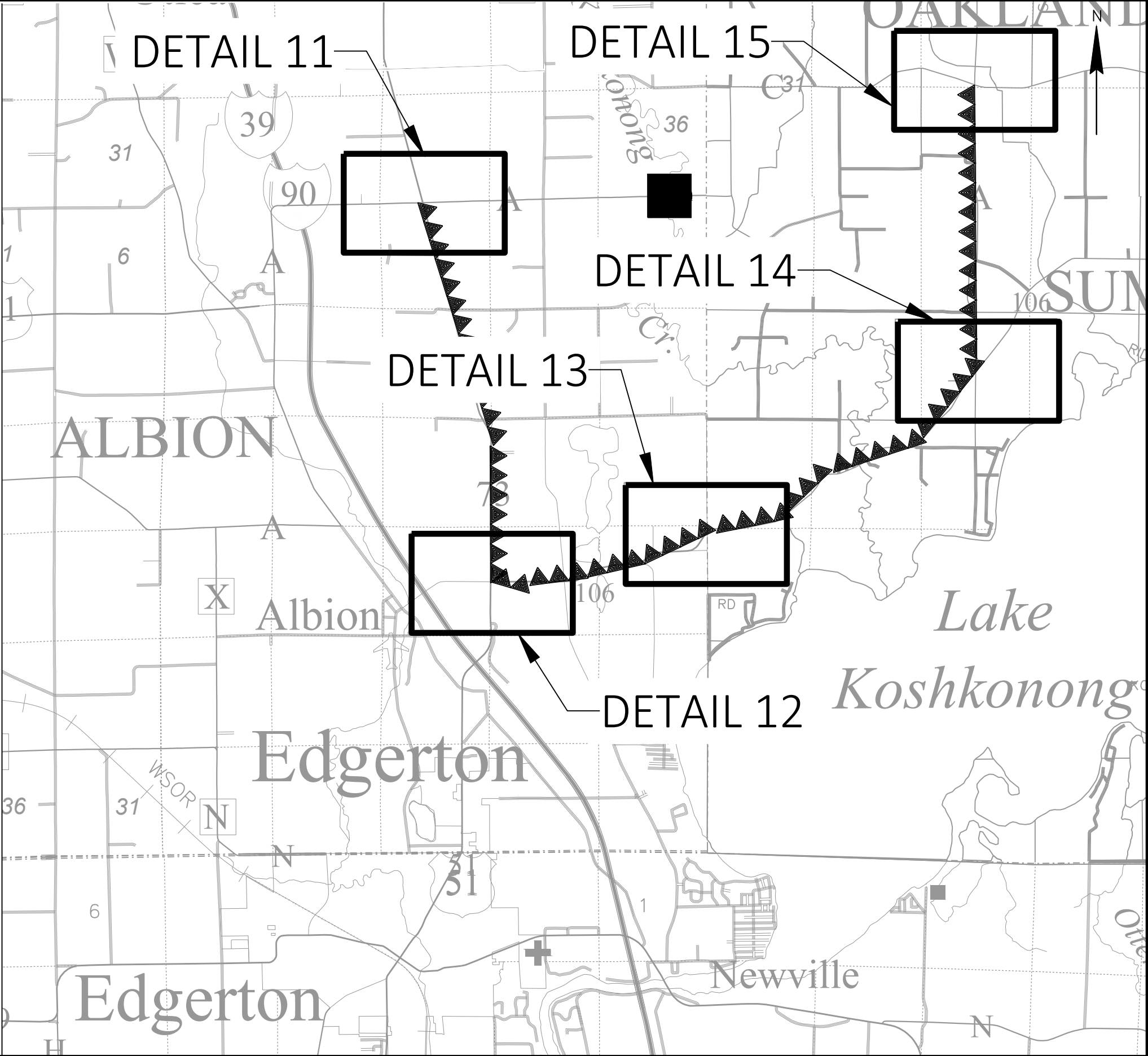
SEVEN CALENDAR DAYS IN ADVANCE OF CLOSING CTH A, PLACE PCMS AT THE EAST AND WEST END OF THE DETOUR ROUTE ON CTH A AS DETERMINED BY THE ENGINEER. MESSAGE TO READ AS LISTED BELOW OR AS APPROVED BY THE ENGINEER.

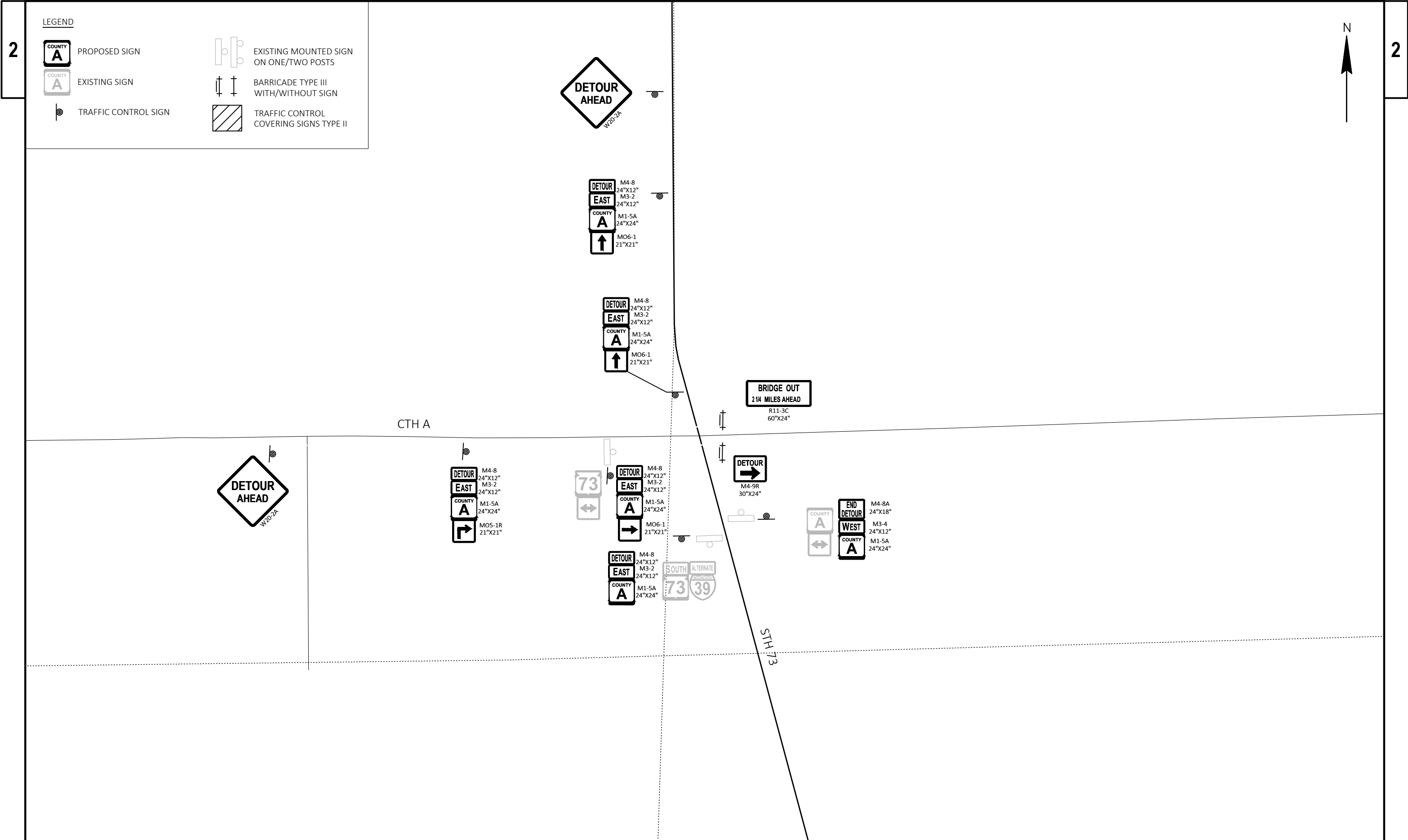
DO NOT PLACE ANY ITEMS WITHIN 50 FEET OF RAILROAD RIGHT-OF-WAY.

TRAFFIC CONTROL SIGNS PCMS MESSAGES	
PCMS SIGN LOCATION	PHASE 1
CTH A AT STH 73	ROAD TO CLOSE (DATE)
CTH C AT CTH A	ROAD TO CLOSE (DATE)

LEGEND

-  PROJECT 3672-00-70 DETOUR
-  PROJECT 3672-00-70 LOCATION





LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN
-  TRAFFIC CONTROL SIGN
-  EXISTING MOUNTED SIGN ON ONE/TWO POSTS
-  BARRICADE TYPE III WITH/WITHOUT SIGN
-  TRAFFIC CONTROL COVERING SIGNS TYPE II

PROJECT NO: 3672-00-70

HWY: CTH A

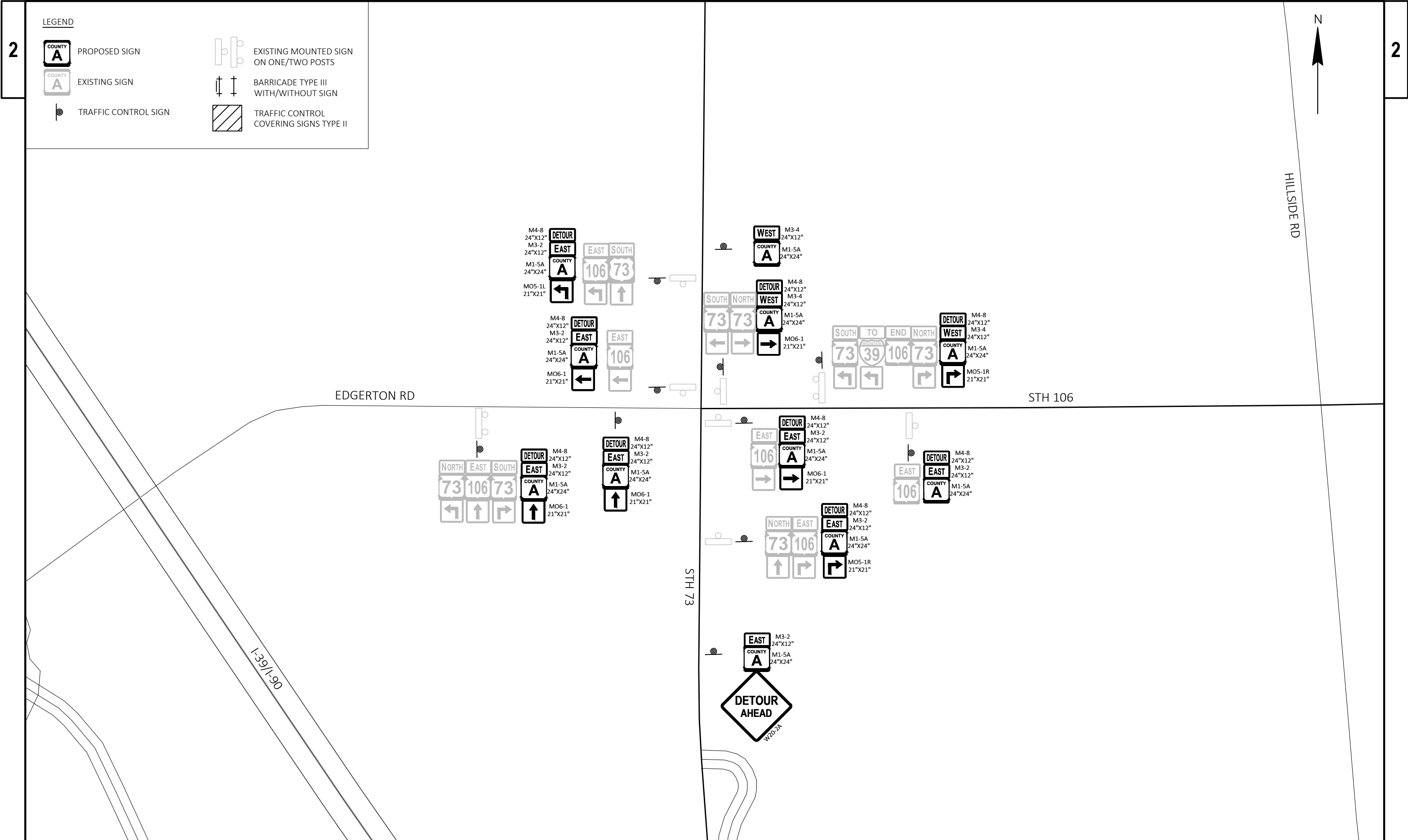
COUNTY: DANE

STAGE 2 DETOUR - DETAIL 11

SHEET

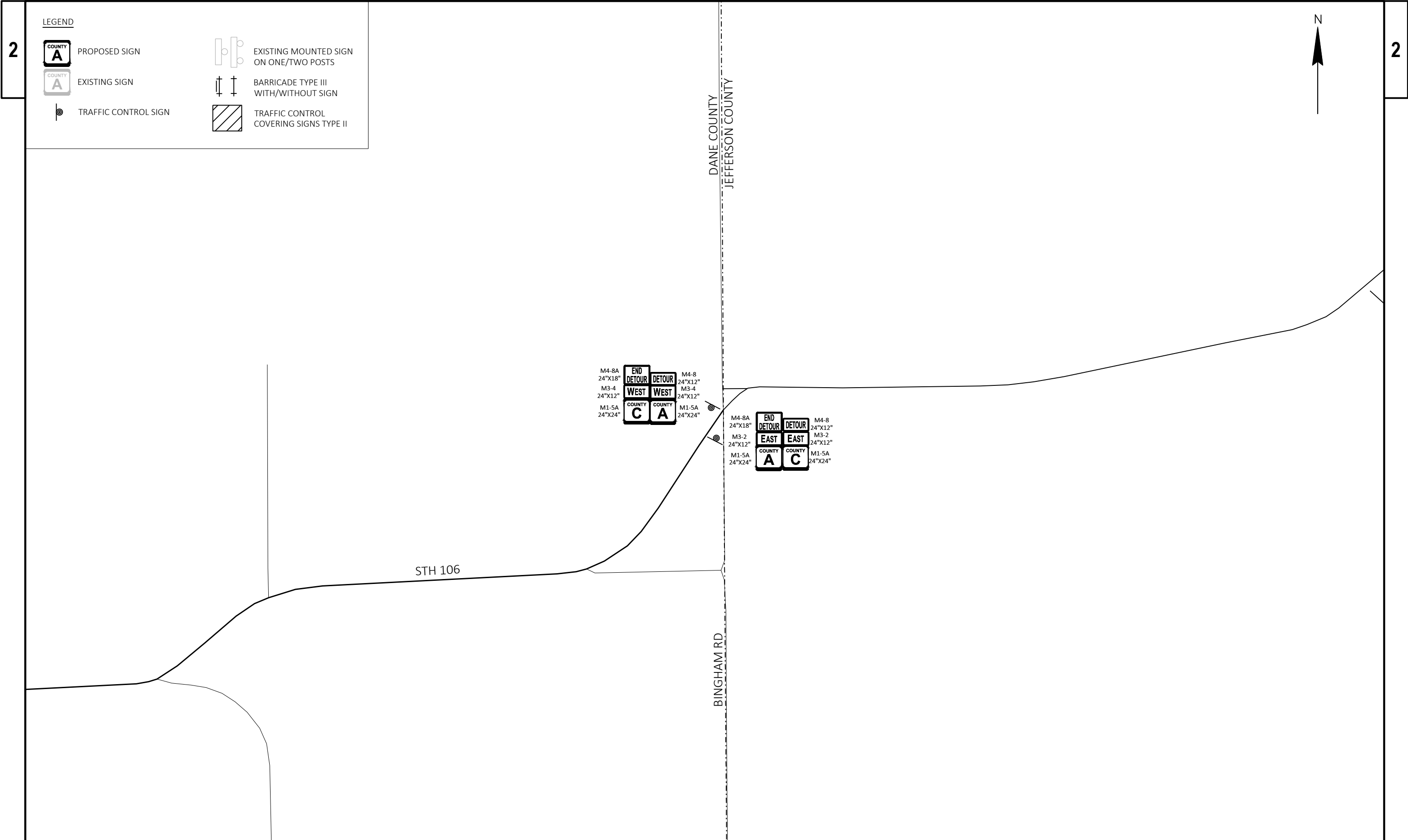
19

E



LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN
-  TRAFFIC CONTROL SIGN
-  EXISTING MOUNTED SIGN ON ONE/TWO POSTS
-  BARRICADE TYPE III WITH/WITHOUT SIGN
-  TRAFFIC CONTROL COVERING SIGNS TYPE II



LEGEND

COUNTY
A

PROPOSED SIGN

COUNTY
A

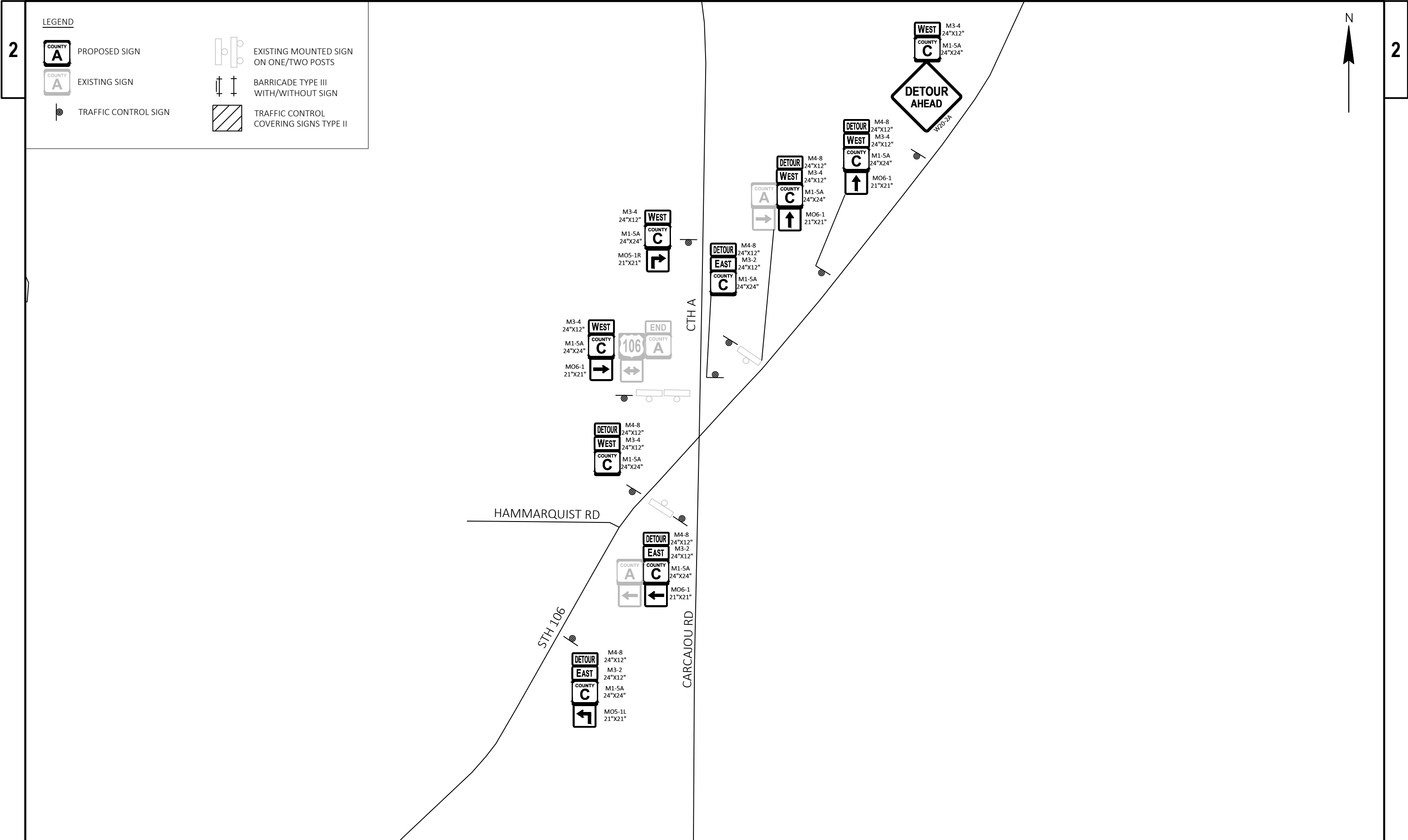
EXISTING SIGN

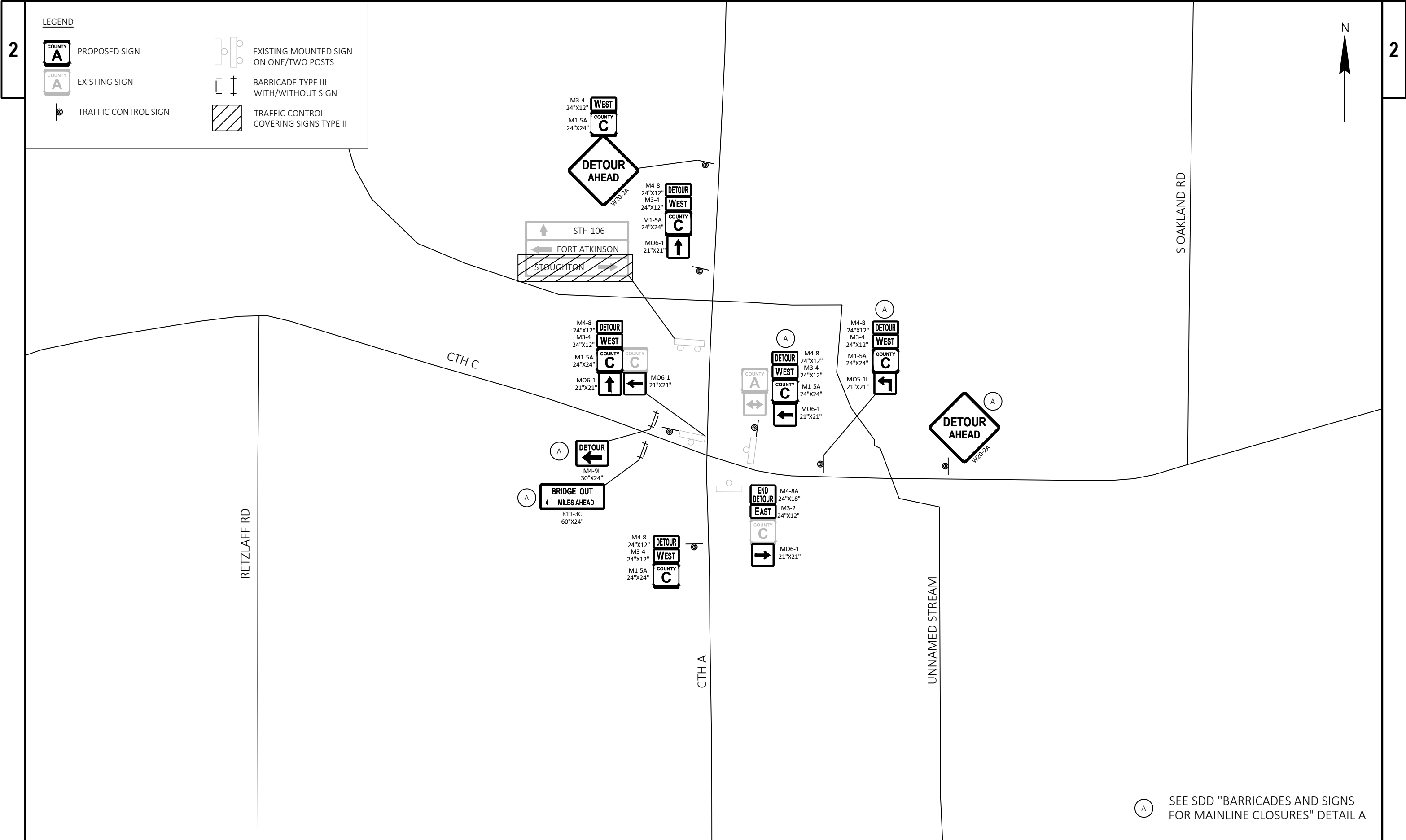
TRAFFIC CONTROL SIGN

EXISTING MOUNTED SIGN
ON ONE/TWO POSTS

BARRICADE TYPE III
WITH/WITHOUT SIGN

TRAFFIC CONTROL
COVERING SIGNS TYPE II





Estimate Of Quantities By Plan Sets

3672-00-70					
Line	Item	Item Description	Unit	Total	Qty
0002	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-13-056	EACH	1.000	1.000
0004	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. B-13-056	EACH	1.000	1.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	1,179.000	1,179.000
0010	204.0165	Removing Guardrail	LF	212.000	212.000
0012	205.0100	Excavation Common	CY	267.000	267.000
0014	206.1001	Excavation for Structures Bridges (structure) 01. B-13-909	EACH	1.000	1.000
0018	206.5001	Cofferdams (structure) 01. B-13-909	EACH	1.000	1.000
0022	208.0100	Borrow	CY	448.000	448.000
0024	210.1500	Backfill Structure Type A	TON	240.000	240.000
0028	213.0100	Finishing Roadway (project) 01. 3672-00-70	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	124.000	124.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	513.000	513.000
0038	415.0120	Concrete Pavement 12-Inch	SY	24.000	24.000
0040	415.0410	Concrete Pavement Approach Slab	SY	88.000	88.000
0042	455.0605	Tack Coat	GAL	107.000	107.000
0044	465.0105	Asphaltic Surface	TON	340.000	340.000
0046	502.0100	Concrete Masonry Bridges	CY	258.000	258.000
0048	502.3200	Protective Surface Treatment	SY	363.000	363.000
0050	502.9000.S	Underwater Substructure Inspection (structure) 01. B-13-909	EACH	1.000	1.000
0054	505.0400	Bar Steel Reinforcement HS Structures	LB	5,840.000	5,840.000
0056	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	38,590.000	38,590.000
0058	513.4061	Railing Tubular Type M	LF	214.000	214.000
0060	516.0500	Rubberized Membrane Waterproofing	SY	18.000	18.000
0062	550.0500	Pile Points	EACH	20.000	20.000
0064	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	1,500.000	1,500.000
0068	606.0300	Riprap Heavy	CY	150.000	150.000
0070	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	136.000	136.000
0072	614.2300	MGS Guardrail 3	LF	75.000	75.000
0074	614.2330	MGS Guardrail 3 K	LF	100.000	100.000
0076	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0078	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0080	618.0100	Maintenance and Repair of Haul Roads (project) 01. 3672-00-70	EACH	1.000	1.000
0084	619.1000	Mobilization	EACH	0.700	0.700
0086	624.0100	Water	MGAL	13.000	13.000
0088	625.0500	Salvaged Topsoil	SY	1,084.000	1,084.000
0092	628.1504	Silt Fence	LF	1,040.000	1,040.000
0094	628.1520	Silt Fence Maintenance	LF	1,040.000	1,040.000
0096	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0098	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0100	628.2008	Erosion Mat Urban Class I Type B	SY	1,084.000	1,084.000
0102	628.6005	Turbidity Barriers	SY	342.000	342.000
0104	629.0210	Fertilizer Type B	CWT	1.000	1.000
0106	630.0120	Seeding Mixture No. 20	LB	41.000	41.000
0108	630.0200	Seeding Temporary	LB	21.000	21.000
0110	630.0500	Seed Water	MGAL	33.000	33.000
0112	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0114	638.2102	Moving Signs Type II	EACH	4.000	4.000
0116	638.2602	Removing Signs Type II	EACH	2.000	2.000
0118	638.3000	Removing Small Sign Supports	EACH	6.000	6.000

Estimate Of Quantities By Plan Sets

3672-00-70					
Line	Item	Item Description	Unit	Total	Qty
0120	642.5001	Field Office Type B	EACH	0.700	0.700
0122	643.0420	Traffic Control Barricades Type III	DAY	2,490.000	2,490.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	4,980.000	4,980.000
0126	643.0900	Traffic Control Signs	DAY	15,586.000	15,586.000
0128	643.0920	Traffic Control Covering Signs Type II	EACH	2.000	2.000
0130	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0132	643.5000	Traffic Control	EACH	0.700	0.700
0136	645.0111	Geotextile Type DF Schedule A	SY	90.000	90.000
0138	645.0120	Geotextile Type HR	SY	300.000	300.000
0140	646.1020	Marking Line Epoxy 4-Inch	LF	2,097.500	2,097.500
0142	650.4500	Construction Staking Subgrade	LF	560.000	560.000
0144	650.5000	Construction Staking Base	LF	560.000	560.000
0146	650.6501	Construction Staking Structure Layout (structure) 01. B-13-909	EACH	1.000	1.000
0150	650.7000	Construction Staking Concrete Pavement	LF	30.000	30.000
0152	650.9911	Construction Staking Supplemental Control (project) 01. 3672-00-70	EACH	1.000	1.000
0156	650.9920	Construction Staking Slope Stakes	LF	560.000	560.000
0158	690.0150	Sawing Asphalt	LF	46.000	46.000
0160	715.0502	Incentive Strength Concrete Structures	DOL	1,440.000	1,440.000
0162	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	500.000	500.000
0164	999.2005.S	Maintaining Bird Deterrent System (station) 01. 106+27	EACH	1.000	1.000
0168	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0170	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

3

REMOVAL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	204.0165 REMOVING GUARDRAIL LF
0010	102+68	-	105+34	WEST	685	-
0010	107+20	-	109+13	EAST	494	-
0010	105+52	-	106+08	WEST	-	107
0010	106+51	-	107+07	EAST	-	105
TOTAL 0010					1,179	212

3

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)	AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDINATE +/- (14)	208.0100 BORROW
			CUT (2)			FACTOR 1.25		
DIVISION 1	102+68.488/105+84.242	WEST ABUTMENT	137	137	325	406	-269	269
DIVISION 1 SUBTOTAL			137	137	325	406	-269	269
DIVISION 2	106+69.426/109+12.665	EAST ABUTMENT	130	130	247	309	-179	179
DIVISION 2 SUBTOTAL			130	130	247	309	-179	179
GRAND TOTAL			267	267	572	715	-448	448
TOTAL COMMON EXC			267					

NOTES:
 ALL QUANTITIES SHOWN IN CY
 (1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
 (2) SALVAGED/UNSUALE PAVEMENT MATERIAL IS INCLUDED IN CUT.
 (13) EXPANDED FILL FACTOR = 1.25X EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
 (14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

BASE AGGREGATE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110	305.0120	624.0100
					BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	WATER MGAL
0010	102+68	-	105+84	WEST	67	270	7
0010	106+69	-	109+13	EAST	57	243	6
TOTAL 0010					124	513	13

CONCRETE ITEMS

					415.0120	415.0410
					CONCRETE PAVEMENT 12-INCH SY	CONCRETE PAVEMENT APPROACH SLAB SY
CATEGORY	STATION	TO	STATION	LOCATION		
0010	105+67	-	105+84	WEST	12	0
0010	106+69	-	106+87	EAST	12	0
TOTAL 0010					24	0
0030	105+67	-	105+84	WEST	0	43
0030	106+69	-	106+87	EAST	0	45
TOTAL 0030					0	88
PROJECT TOTAL					24	88

3

ASPHALTIC ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	213.0100.01	455.0605	465.0105
					FINISHING ROADWAY (PROJECT) (01. 3672-00-70) EACH	TACK COAT GAL	ASPHALTIC SURFACE TON
0010	102+68	-	105+67	WEST	0	61	193
0010	107+20	-	109+13	EAST	0	46	147
0010	102+68	-	109+13	PROJECT 3672-00-70	1	0	0
TOTAL 0010					1	107	340

GUARDRAIL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	614.2300	614.2330	614.2500	614.2610
					MGS GUARDRAIL 3 LF	MGS GUARDRAIL 3 K LF	MGS THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH
0010	104+81	-	105+71	NORTHWEST	-	-	39.4	1
0010	104+36	-	105+79	SOUTHWEST	25	100	39.4	1
0010	106+75	-	108+18	NORTHEAST	50	-	39.4	1
0010	106+80	-	107+72	SOUTHEAST	-	-	39.4	1
TOTAL 0010					75	100	157.6	4

3

EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	628.1504	628.1520	628.2008	628.6005	REMARKS
					SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE B SY	TURBIDITY BARRIERS SY	
0010	102+68	-	105+84	WEST	516	516	534	223	SEE NOTE 1
0010	106+69	-	109+13	EAST	524	524	451	119	SEE NOTE 2
0010				UNDISTRIBUTED	-	-	99	-	
TOTAL 0010					1,040	1,040	1,084	342	

NOTE 1: TURBIDITY BARRIER CALCULATED BASED ON A HEIGHT OF 11.5 FT (Q2-STREAMBED+2 FT FLAP+2 FT ABOVE Q2) AND LENGTH OF 81 FT BENEATH STRUCTURE, HEIGHT OF 9 FT AND LENGTH OF 82 FT ALONG ROADWAY

NOTE 2: TURBIDITY BARRIER CALCULATED BASED ON A HEIGHT OF 11.5 FT (Q2-STREAMBED+2 FT FLAP+2 FT ABOVE Q2) AND LENGTH OF 93 FT

EROSION CONTROL MOBILIZATIONS

CATEGORY	LOCATION	628.1905	628.1910
		MOBILIZATIONS EROSION CONTROL EACH	MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	PROJECT 3670-00-70	6	6
TOTAL 0010		6	6

RESTORATION ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500	629.0210	630.0120	630.0200	630.0500
					SALVAGED TOPSOIL SY	FERTILIZER TYPE B CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB	SEED WATER MGAL
0010	102+68	-	105+84	WEST	534	0.45	20	10	16
0010	106+69	-	109+13	EAST	451	0.45	17	9	14
0010				UNDISTRIBUTED	99	0.1	4	2	3
TOTAL 0010					1,084	1	41	21	33

PROJECT NO: 3672-00-70

HWY: CTH A

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E

3

3

TRAFFIC CONTROL ITEMS

CATEGORY	STAGE	LOCATION	DURATION DAY	643.0420		643.0705		643.0900		643.0920			643.1050		643.5000	COMMENTS
				TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL COVERING SIGNS TYPE II			TRAFFIC CONTROL SIGNS PCMS		TRAFFIC CONTROL	
				NO.	DAY	NO.	DAY	NO.	DAY	NO.	CYCLES	EACH	NO.	DAY	EACH	
0010	1	COUNTY LINE	31	--	--	--	--	12	372	--	1	--	--	--	--	STAGE 1 - DETAIL 8
		STH 106 AND CTH A	31	--	--	--	--	31	961	--	1	--	--	--	--	STAGE 1 - DETAIL 9
		CTH A AND CTH C	31	2	62	4	124	29	899	1	1	1	--	--	--	STAGE 1 - DETAIL 10
		CTH A	31	18	558	36	1,116	14	434	--	1	--	--	--	--	ROAD CLOSURE
		CTH A	7	--	--	--	--	--	--	--	1	--	2	14	--	ADVANCE WARNING PCMS
		PROJECT 3672-00-70		--	--	--	--	--	--	--	1	--	--	--	0.35	
		STAGE 1 SUBTOTAL		20	620	40	1,240	86	2,666			1	2	14	0.35	
0010	2	CTH A AND STH 73	85	2	170	4	340	26	2,210	--	1	--	--	--	--	STAGE 2 - DETAIL 11
		STH 73 AND STH 106	85	--	--	--	--	40	3,400	--	1	--	--	--	--	STAGE 2 - DETAIL 12
		COUNTY LINE	85	--	--	--	--	12	1,020	--	1	--	--	--	--	STAGE 2 - DETAIL 13
		STH 106 AND CTH A	85	--	--	--	--	31	2,635	--	1	--	--	--	--	STAGE 2 - DETAIL 14
		CTH A AND CTH C	85	2	170	4	340	29	2,465	1	1	1	--	--	--	STAGE 2 - DETAIL 15
		CTH A	85	18	1,530	36	3,060	14	1,190	--	1	--	--	--	--	ROAD CLOSURE
		PROJECT 3672-00-70		--	--	--	--	--	--	--	1	--	--	--	0.35	
		STAGE 2 SUBTOTAL		22	1,870	44	3,740	152	12,920			1	--	--	0.35	
		TOTAL 0010		42	2,490	84	4,980	238	15,586			2	2	14	0.70	

MOVING AND REMOVING SIGNS

CATEGORY	STATION	TO	STATION	LOCATION	634.0616	638.2102	638.2602	638.3000
					POSTS WOOD 4X6-INCH X 16-FT EACH	MOVING SIGNS TYPE II EACH	REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH
0010	102+68	-	105+84	WEST	2	2	1	3
0010	106+69	-	109+13	EAST	2	2	1	3
TOTAL 0010					4	4	2	6

NOTE 1: MOVE TWO BRIDGE HASHMARKS (W5-52) AND REMOVE WEIGHT LIMIT 25 TONS (R12-1) SIGNS

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1020	REMARKS
					MARKING LINE EPOXY 4-INCH LF	
0010	102+68	-	109+13	CTH A	162.5	WB YELLOW CENTERLINE 12.5 FT LINE 37.5 FT SKIP
0010	102+68	-	109+13	CTH A	645	EB YELLOW CENTERLINE SOLID
0010	102+68	-	109+13	CTH A	1,290	WB/EB WHITE EDGELINES
TOTAL 0010					2,097.5	

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4500	650.5000	650.6501.01	650.7000	650.9911.01	650.9920
		CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (01. B-13-909) EACH	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 3672-00-70) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	CTH A	560	560	-	30	1	560
	TOTAL 0010	560	560	0	30	1	560
0020	CTH A	-	-	1	-	-	-
	TOTAL 0020	0	0	1	0	0	0
PROJECT TOTAL		560	560	1	30	1	560

SAWING

CATEGORY	LOCATION	690.0150
		SAWING ASPHALT LF
0010	WEST LIMITS	23
0010	EAST LIMITS	23
TOTAL 0010		46

PROJECT NO: 3672-00-70

HWY: CTH A

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

28

E

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

R/W PROJECT NUMBER: 3672-00-01	EXHIBIT NUMBER: 4.01
--------------------------------	----------------------

THAT PART OF THE SW 1/4 OF THE SE 1/4 OF SECTION 36, TOWNSHIP 6 NORTH, RANGE 12 EAST, TOWN OF CHRISTIANA, DANE COUNTY WISCONSIN AND THE NW 1/4 OF THE NE 1/4 OF SECTION 1, TOWNSHIP 5 NORTH, RANGE 12 EAST TOWN OF ALBION, DANE COUNTY, WISCONSIN.



PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	KYLE MELTON	TLE	817
2	SCOTT N. MICKELSON AND JULIE M. MICKELSON	TLE	996

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
201	GENERAL TELEPHONE COMPANY OF WISCONSIN (COMMUNICATION)	RELEASE OF RIGHTS

THIS MAP IS APPROVED FOR THE COUNTY OF DANE

SIGNATURE: _____ DATE: _____

PRINT NAME: CLEMENT ABONGWA

FILE NAME : TLE EXHIBIT.DWG

PLOT DATE : 10/14/2024 7:49 AM

R/W PROJECT: R/W PROJ NO

R/W PROJECT NUMBER: 3672-00-01	EXHIBIT NUMBER: 4.02
--------------------------------	----------------------

THAT PART OF THE SW 1/4 OF THE SE 1/4 OF SECTION 36, TOWNSHIP 6 NORTH,
RANGE 12 EAST, TOWN OF ALBION, DANE COUNTY, WISCONSIN.

THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER(S)	INTEREST REQUIRED	TLE S.F.
1	KYLE MELTON	TLE	889

THIS MAP IS APPROVED FOR THE COUNTY OF DANE

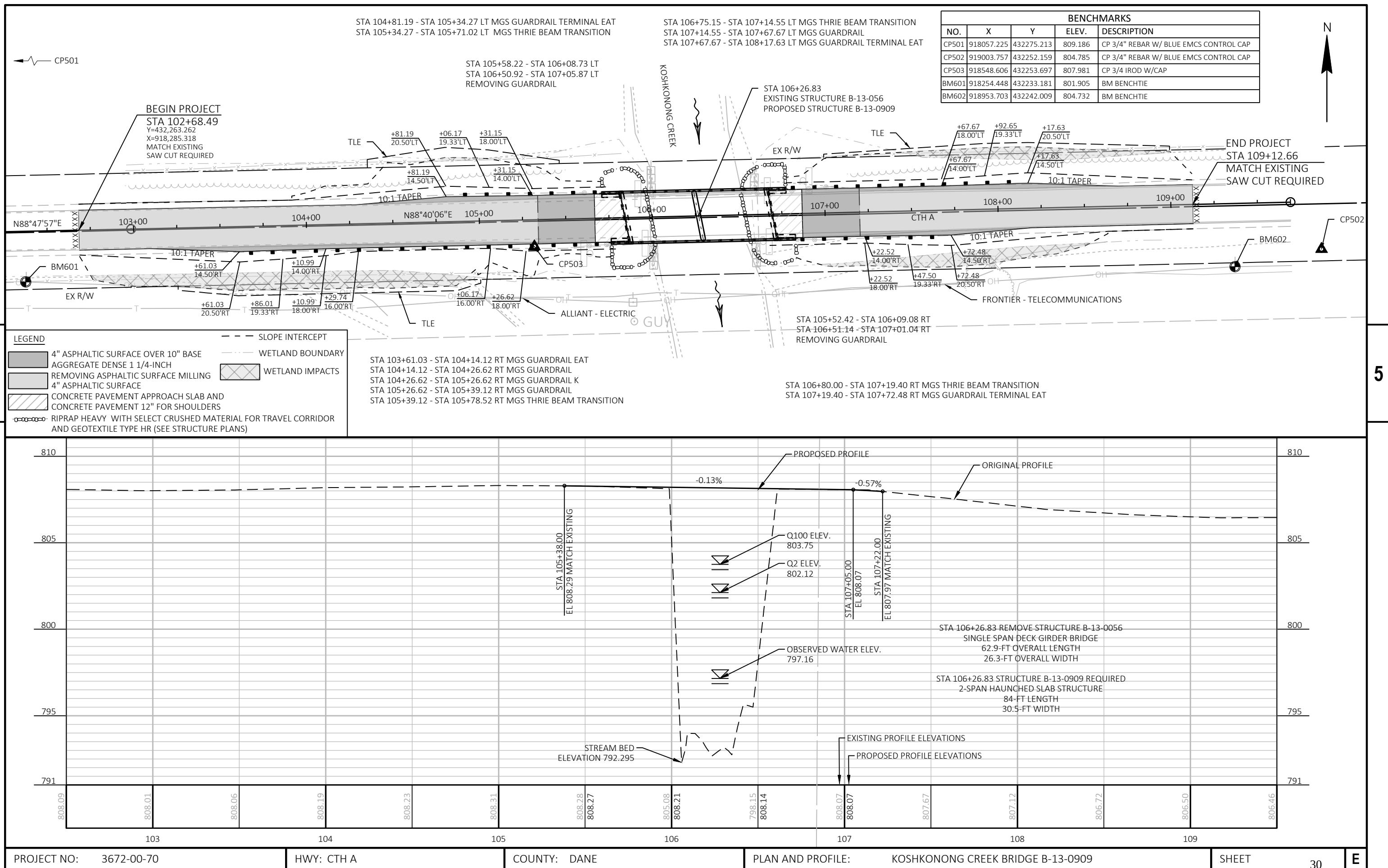
SIGNATURE: Charmy A. Diaz DATE: 10/23/2020

PRINT NAME: CLEMENT ABONG 29

FILE NAME : TLE EXHIBIT.DWG

PLOT DATE : 10/14/2024 7:49 AM

R/W PROJECT: R/W PROJ NO



Standard Detail Drawing List

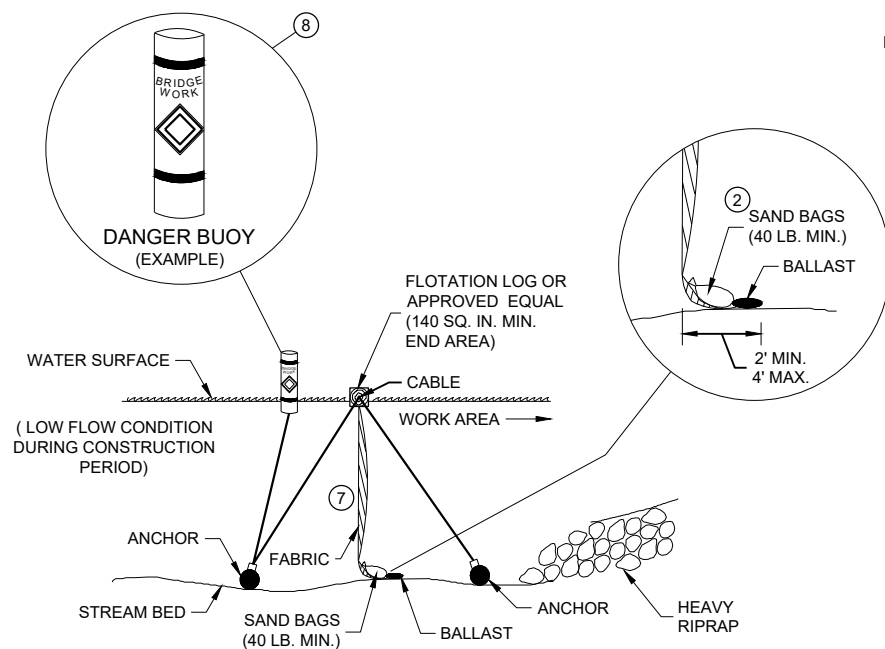
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
13A03-07	CONCRETE PAVEMENT SHOULDERS
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07B	MIDWEST GUARDRAIL SYSTEM (MGS) 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)
14B45-05G	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
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C06-12	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS



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

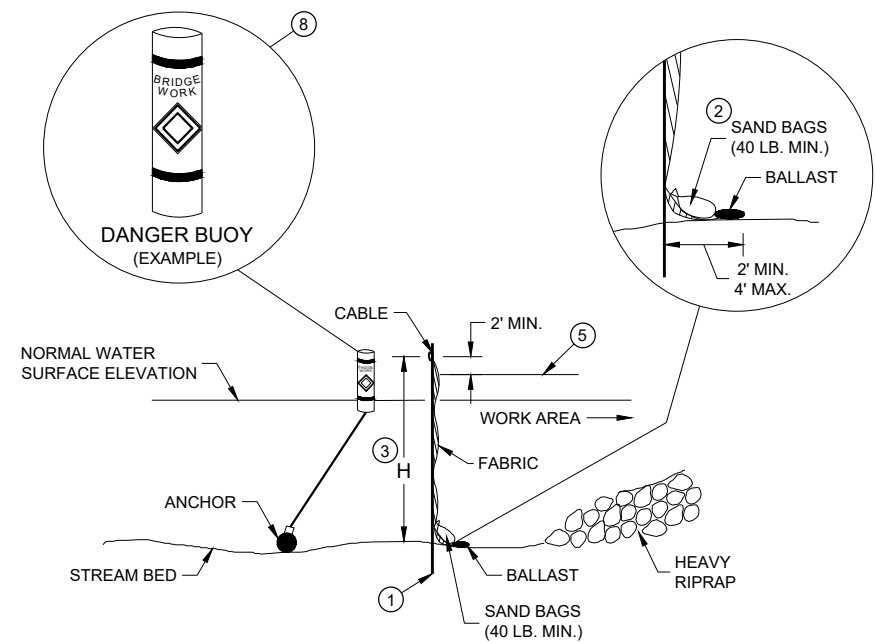


SILT FENCE
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION
APPROVED <u>4-29-05</u> DATE <u>/S/ Beth Connolly</u> CHIEF ROADWAY DEVELOP <u>32</u> INCHES FHWA



SECTION B - B

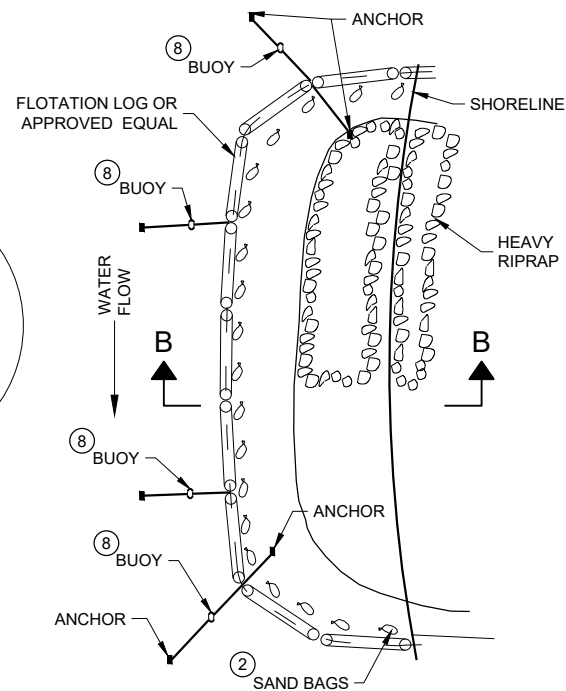
TURBIDITY BARRIER - FLOAT ALTERNATIVE CAUTION - SEE NOTE 6



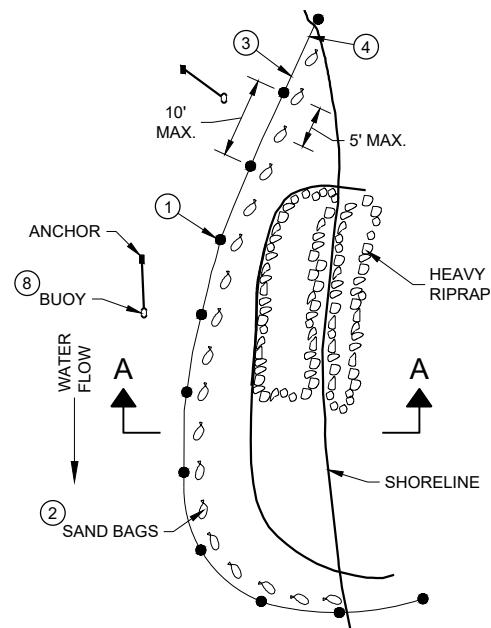
SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS



PLAN VIEW



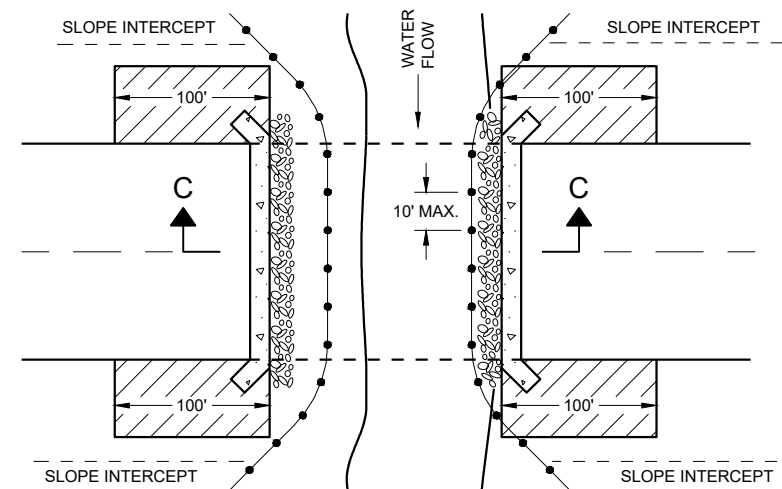
PLAN VIEW

GENERAL NOTES

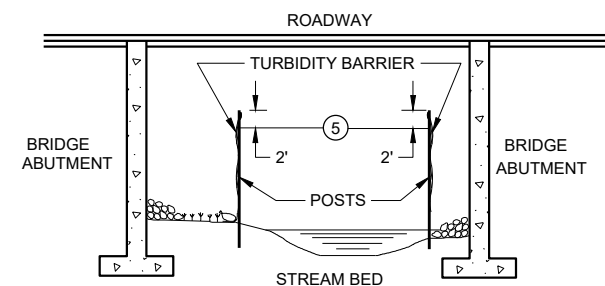
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

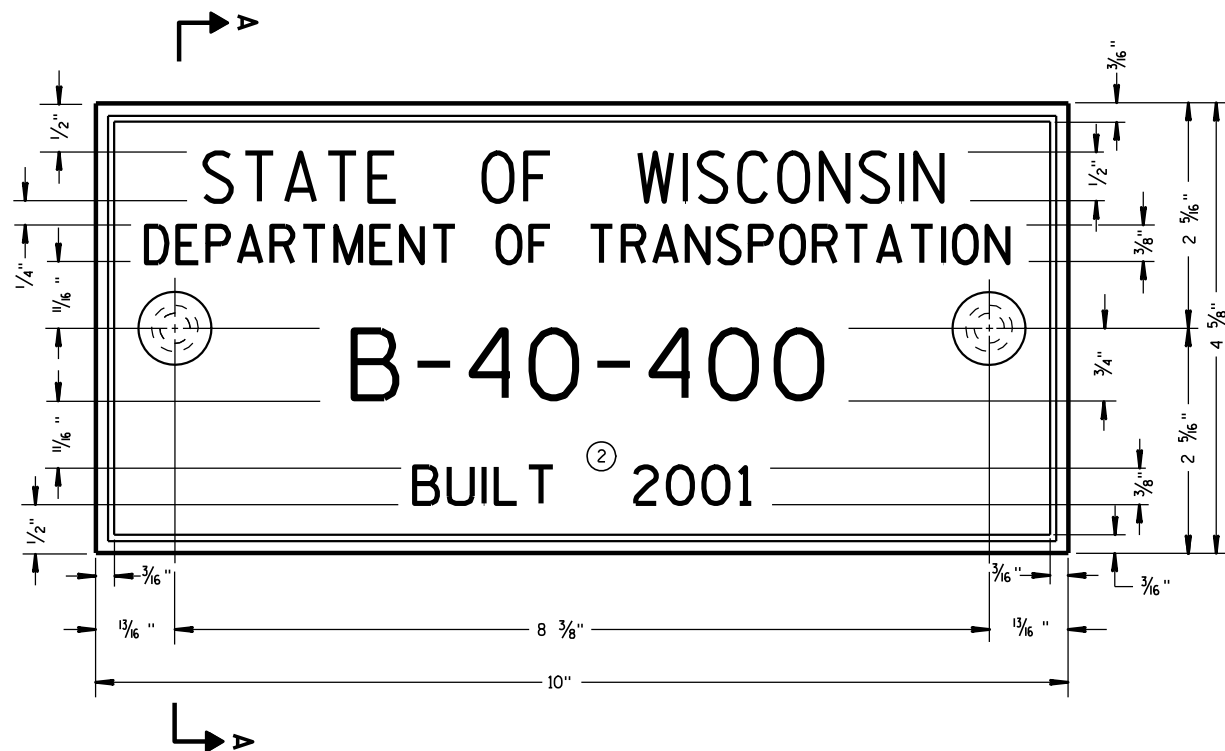
TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

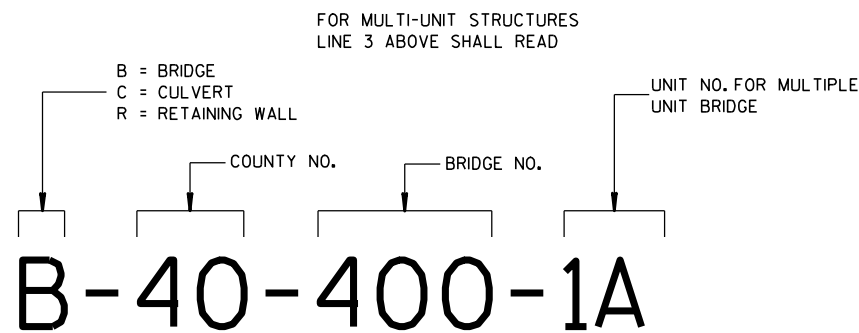
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPER
ENGINEER 33

FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



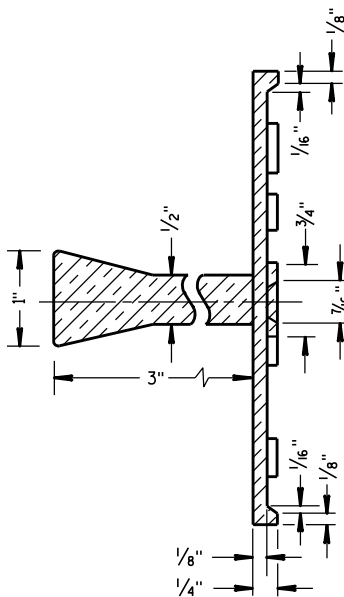
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

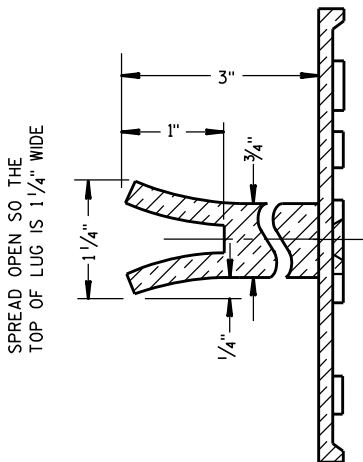
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

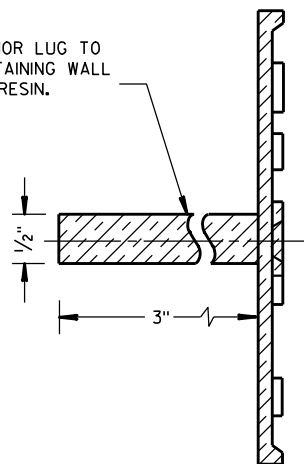


SECTION A-A



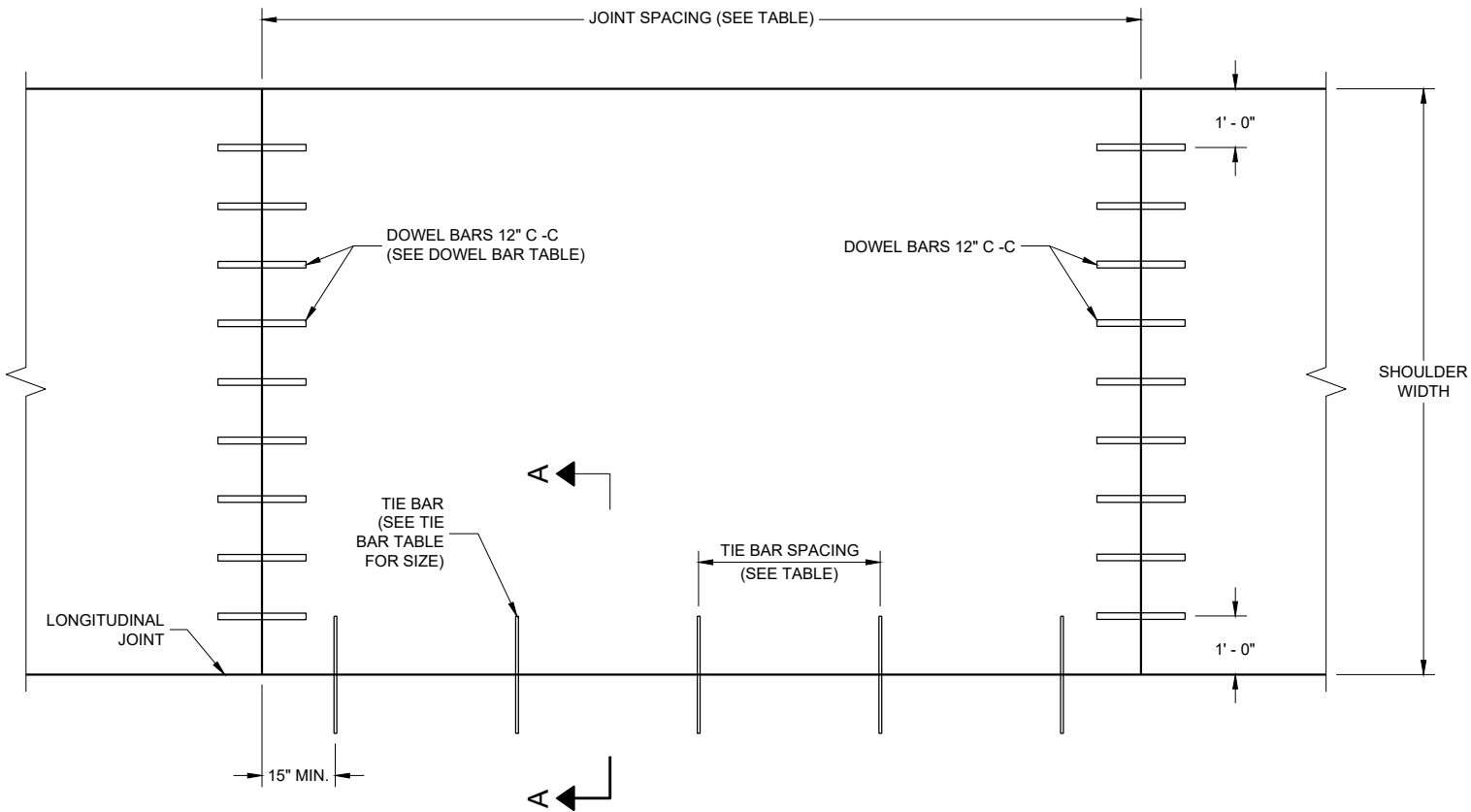
ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)		
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION		
APPROVED DATE 3/26/10	CHIEF STRUCTURAL DEVELOPER /S/ Scot Beck 34	JEER



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

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

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

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

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

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

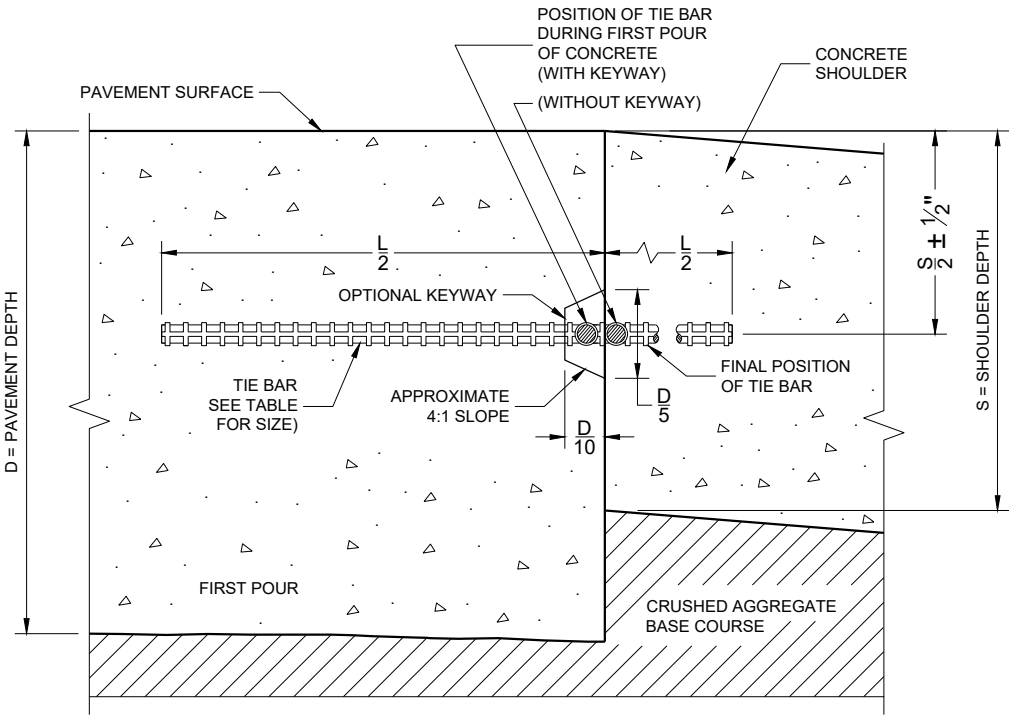
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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

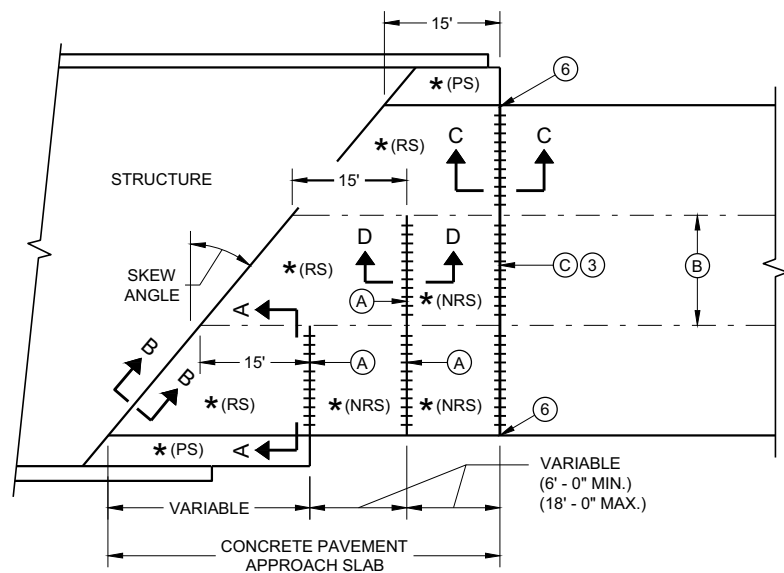


SECTION A - A
LONGITUDINAL CONSTRUCTION JOINT

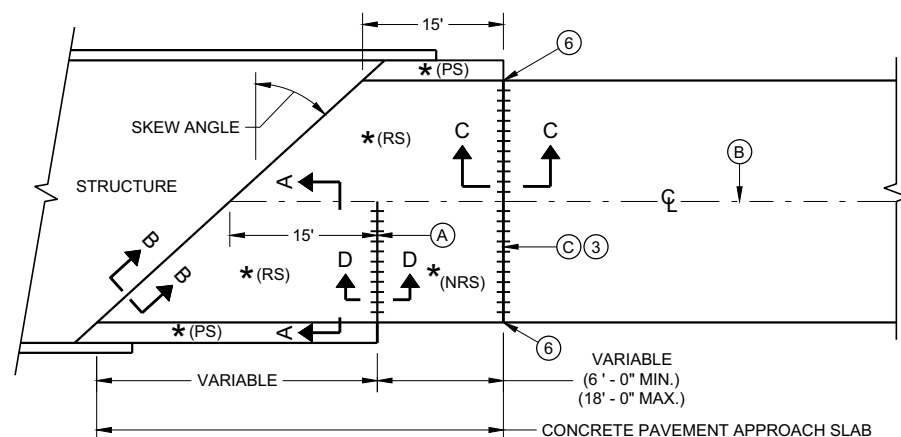
CONCRETE PAVEMENT
SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

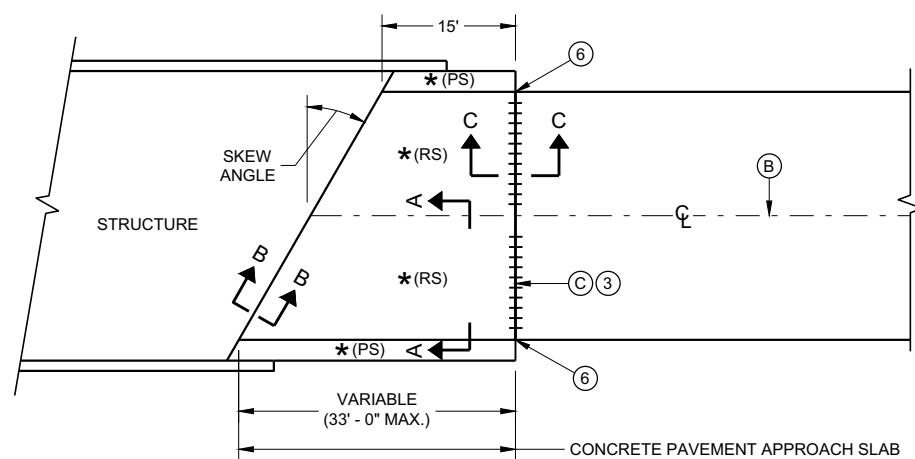
APPROVED
November 2022 /S/ Peter Kemp
DATE PAVEMENT SUPERVISOR 35
FHWA



**SKewed APPROACH
(PAVEMENT MORE THAN TWO LANES)**



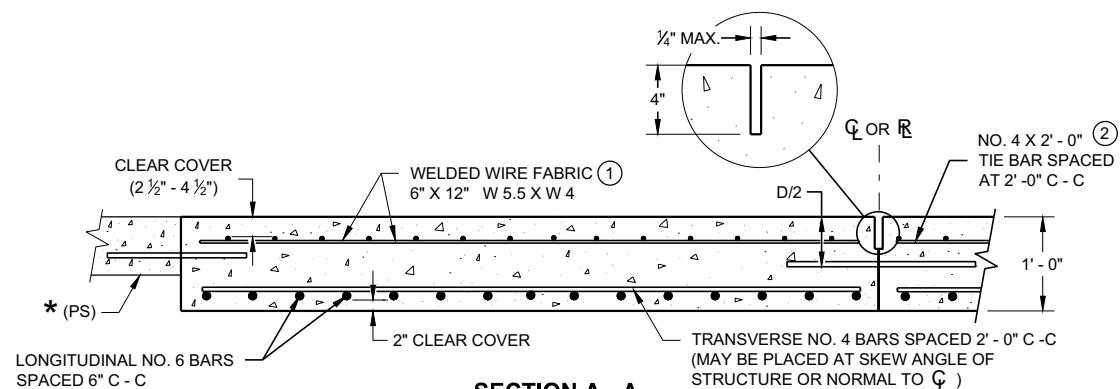
**SKews > 20°
(PAVEMENT WIDTH ≤ 30')**



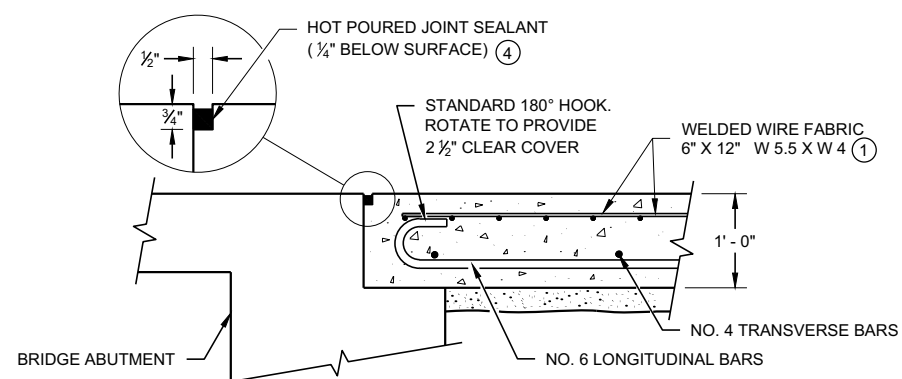
**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')**

APPROACH SLAB AND ADJACENT PAVEMENT

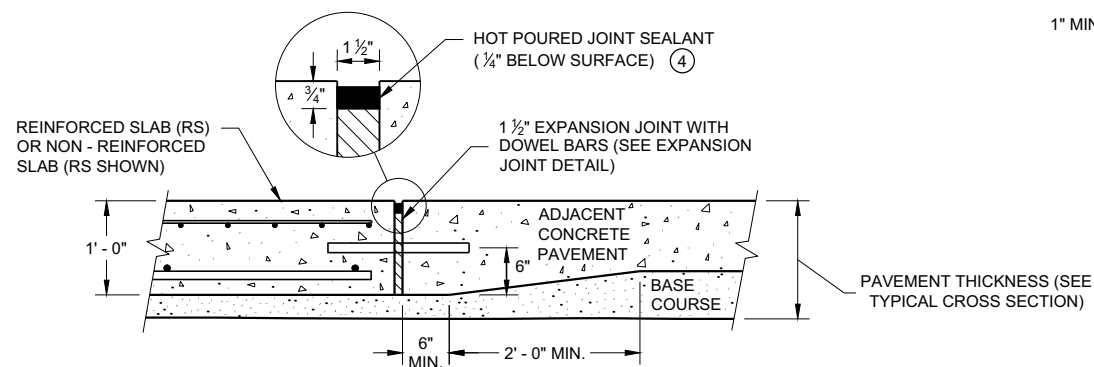
- * (RS) = REINFORCED CONCRETE SLAB
- * (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
- * (NRS) = NON - REINFORCED CONCRETE SLAB
- *** STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11 AND SDD 13C13)



**SECTION A - A
REINFORCEMENT POSITIONING DETAIL**



**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



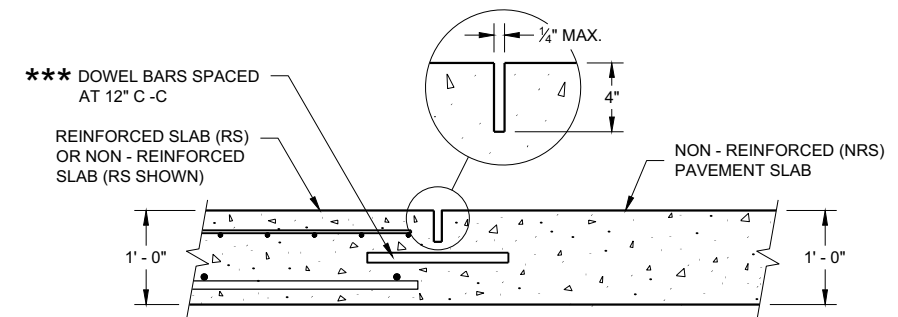
**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

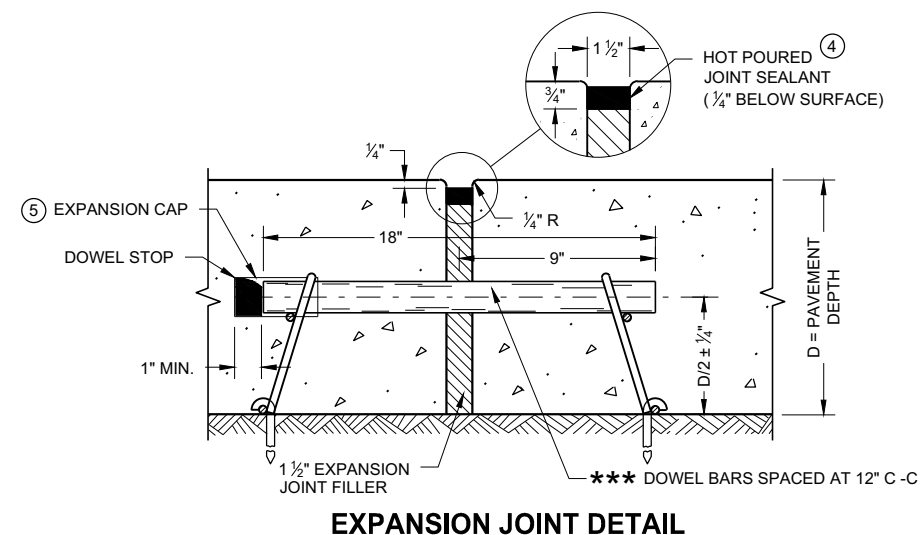
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

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 $\mathcal{C}$ OR $\mathcal{R}$.
- (B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
- (C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO $\mathcal{C}$ OR $\mathcal{R}$.



**SECTION D - D
CONTRACTION JOINT**

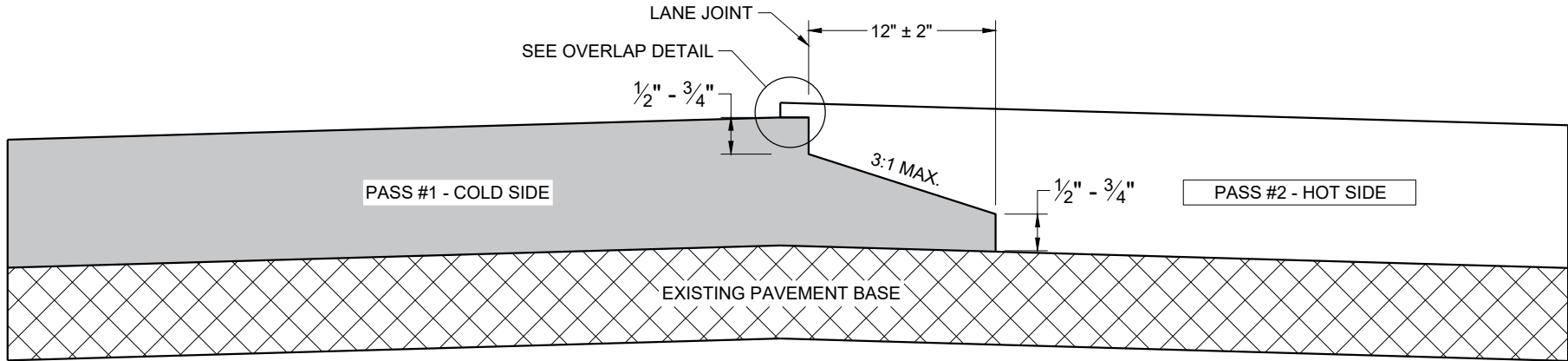


EXPANSION JOINT DETAIL

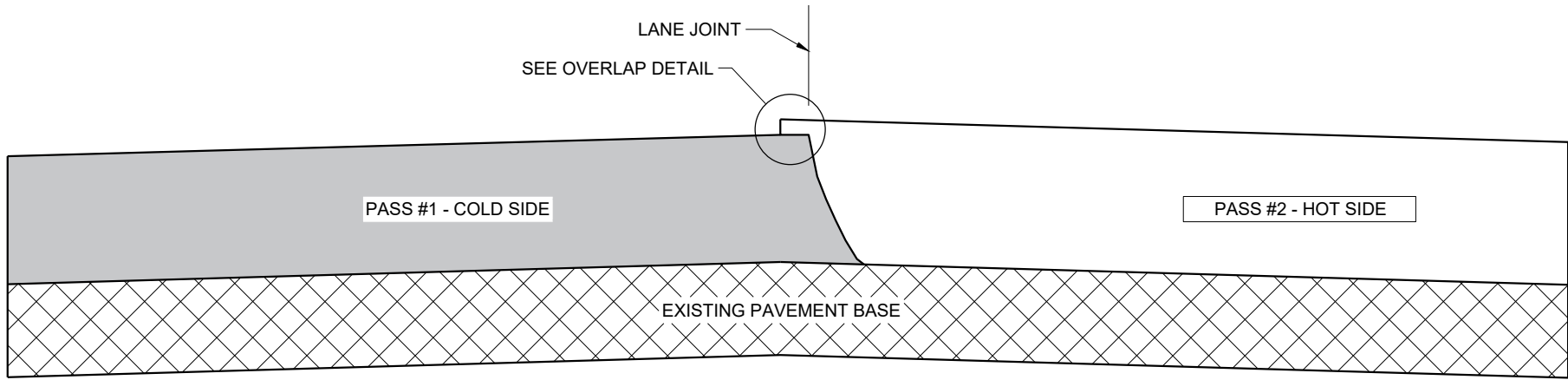
CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

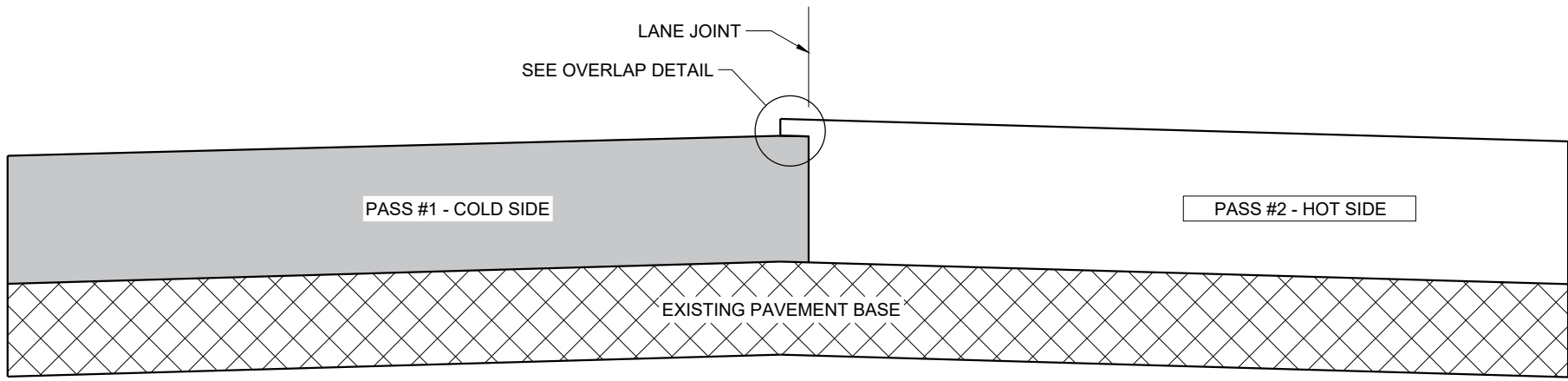
APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR 36
FHWA



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

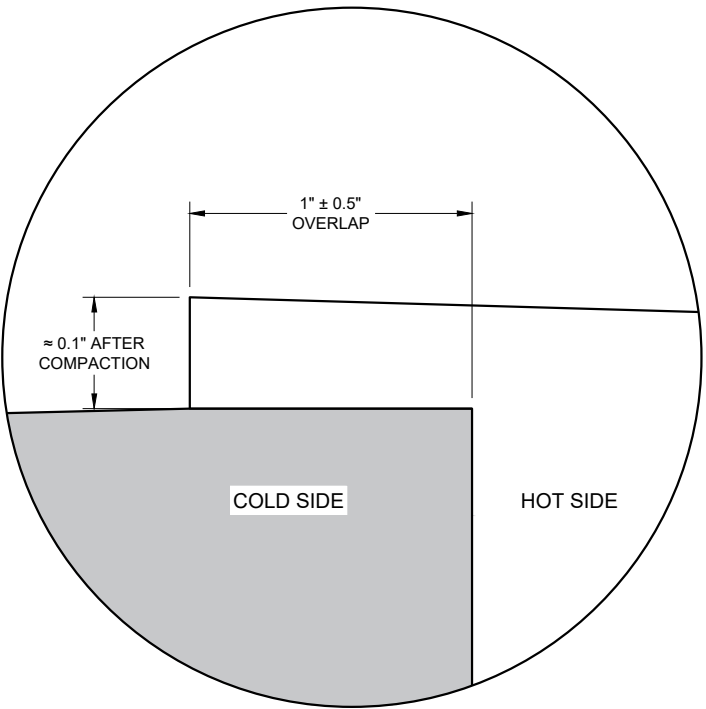
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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.

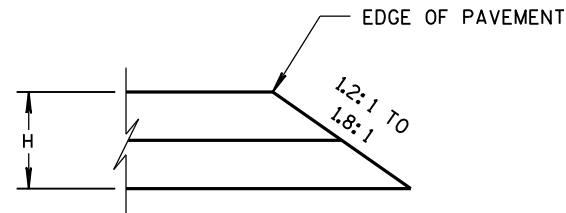


OVERLAP DETAIL (TYPICAL)

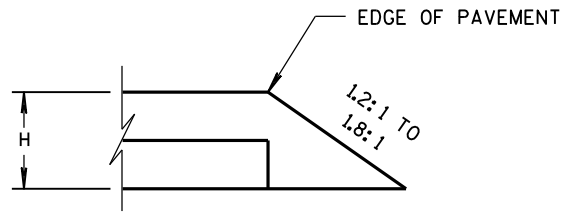
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

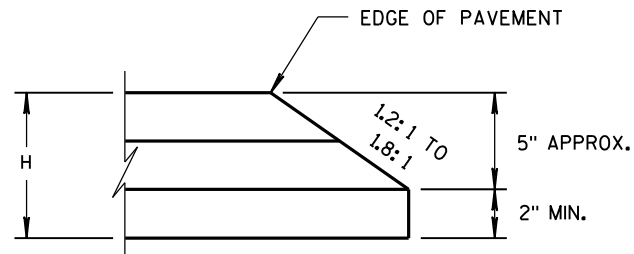
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 37
FHWA



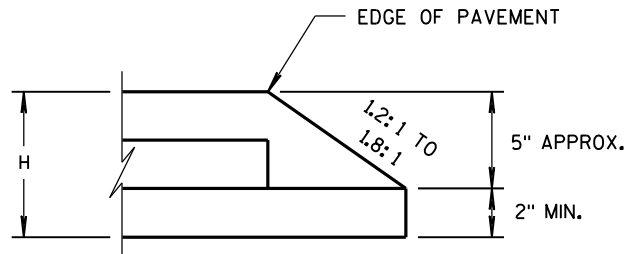
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

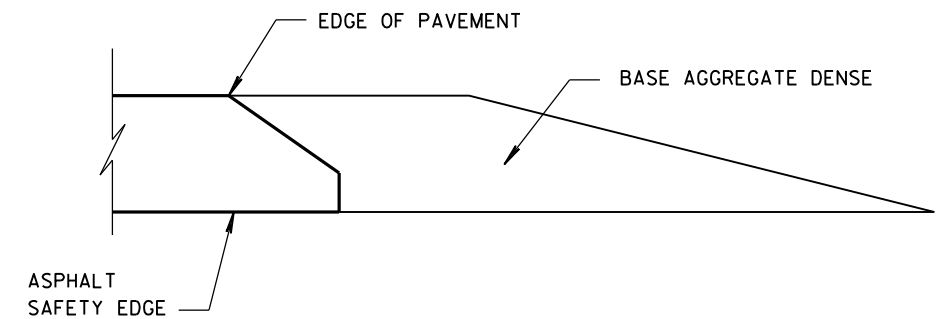


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



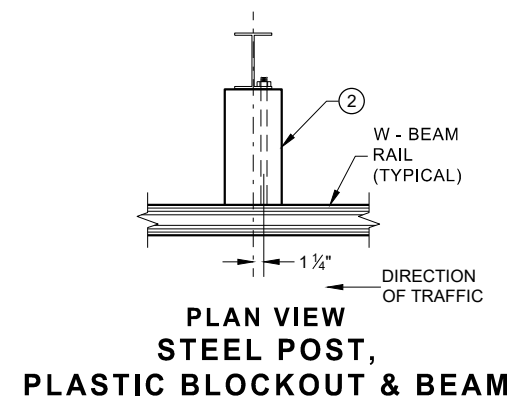
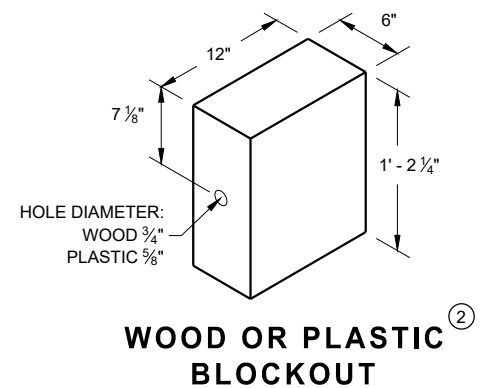
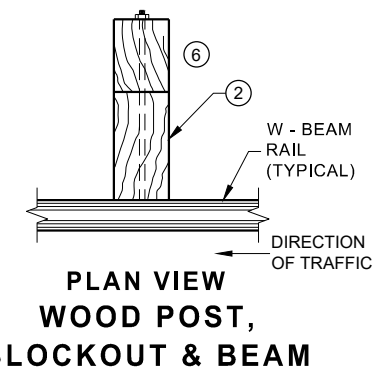
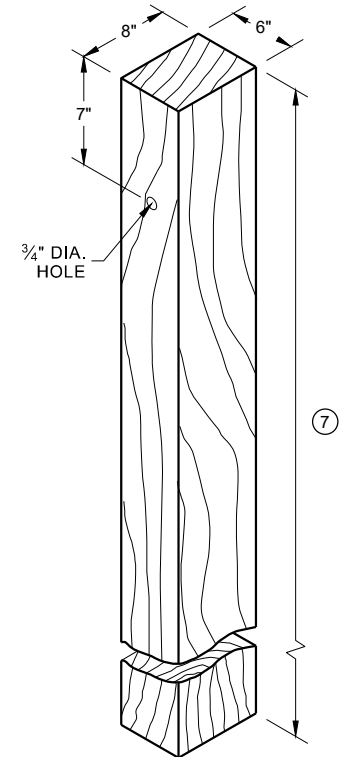
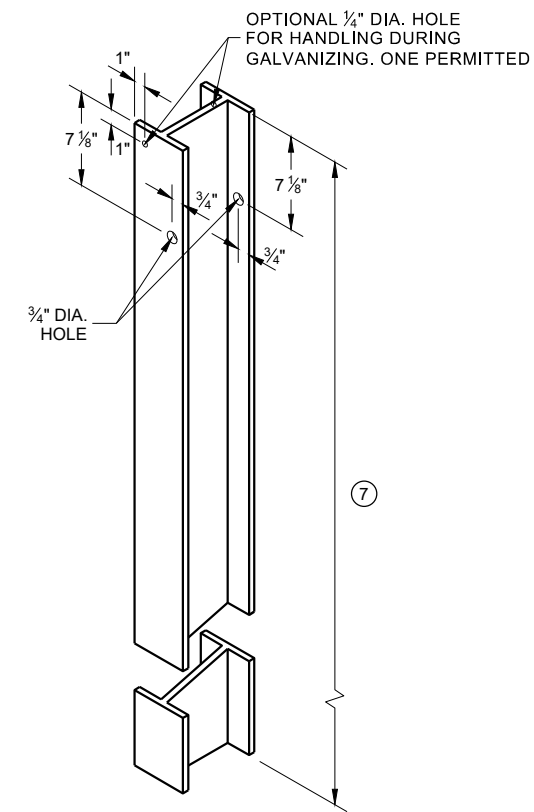
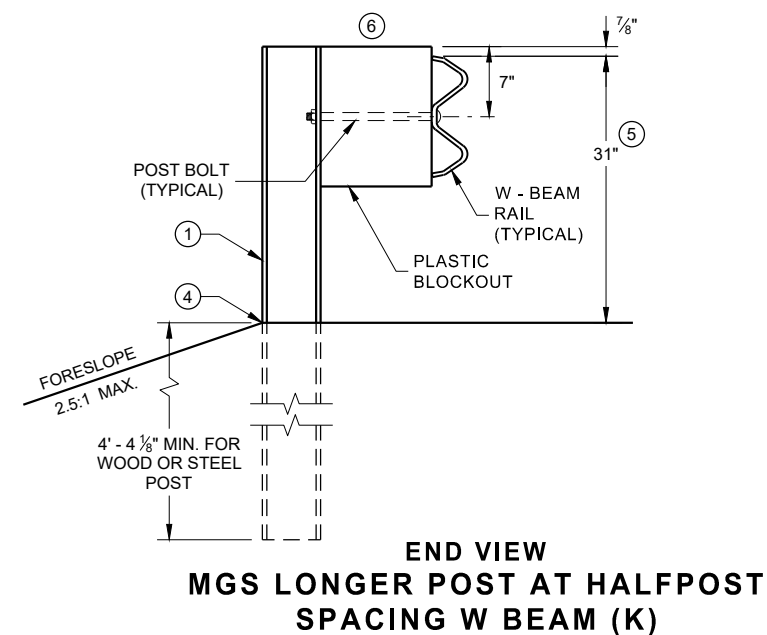
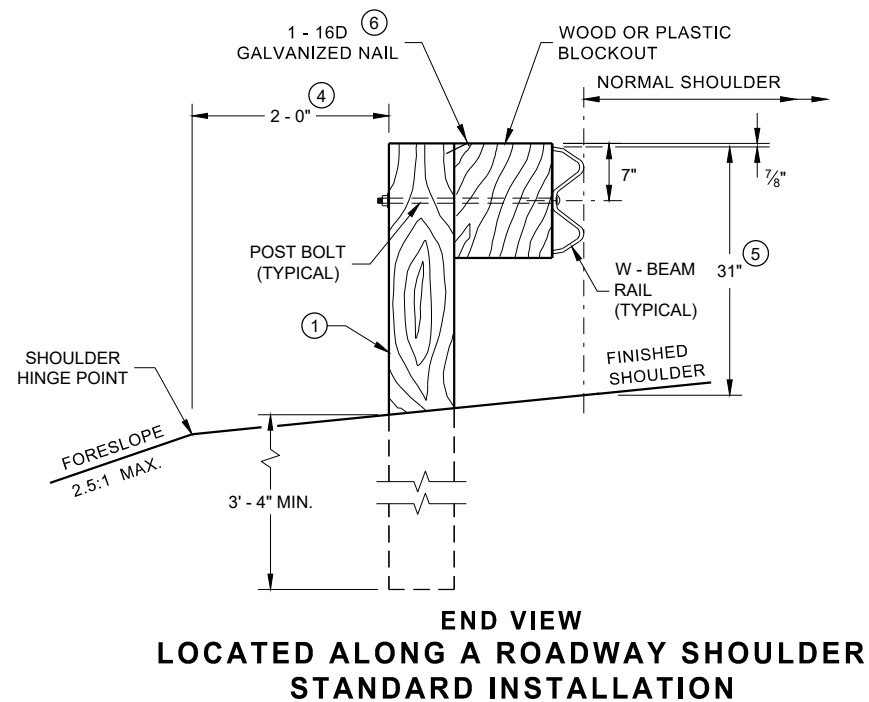
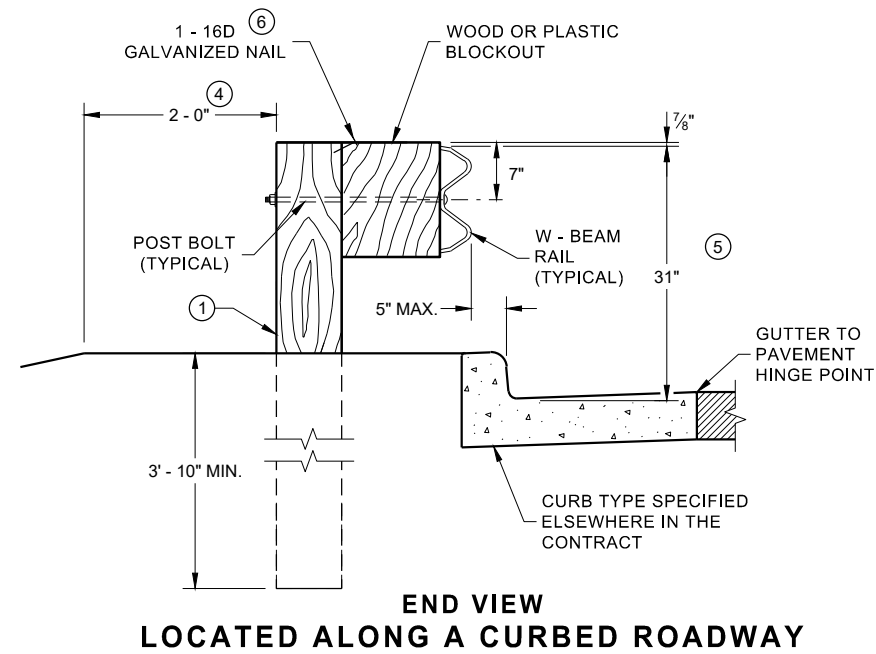
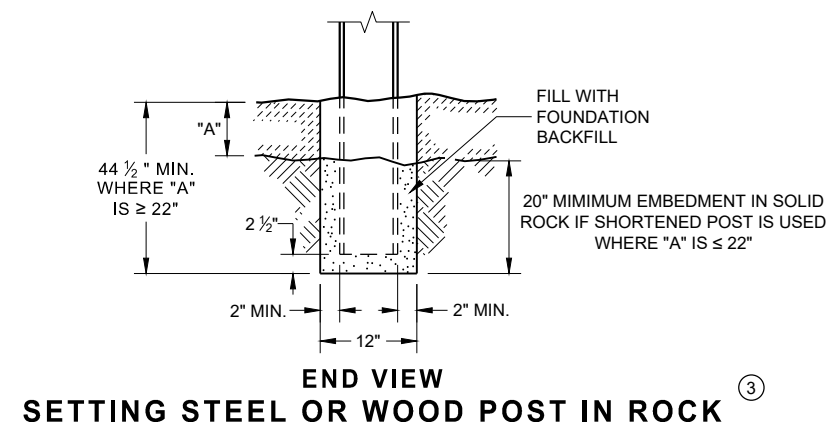
FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

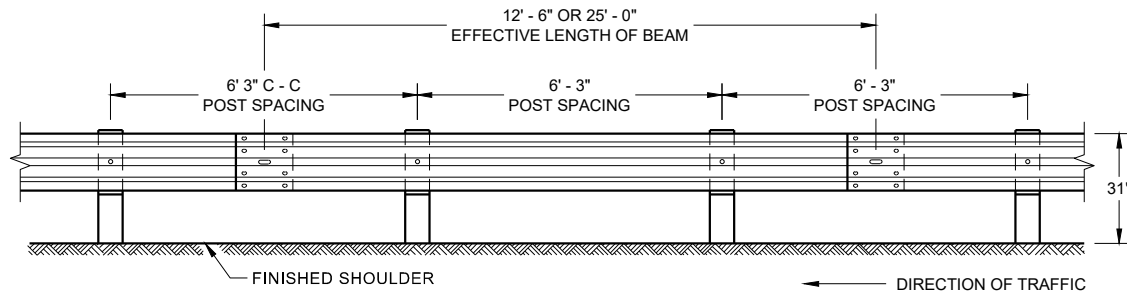
APPROVED
DATE 11/30/2012
DATE 11/30/2012
ROADWAY STANDARDS ENGINEER 38
JERRY H. ZOGA
ENGINEER
ENT

- 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 TO LENGTH AND 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 $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" 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".

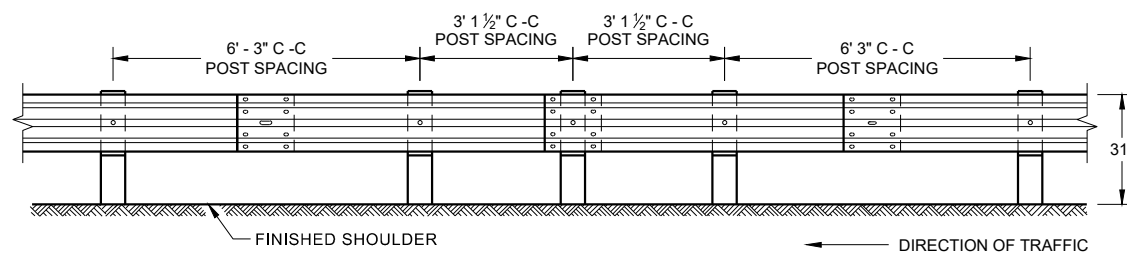


MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

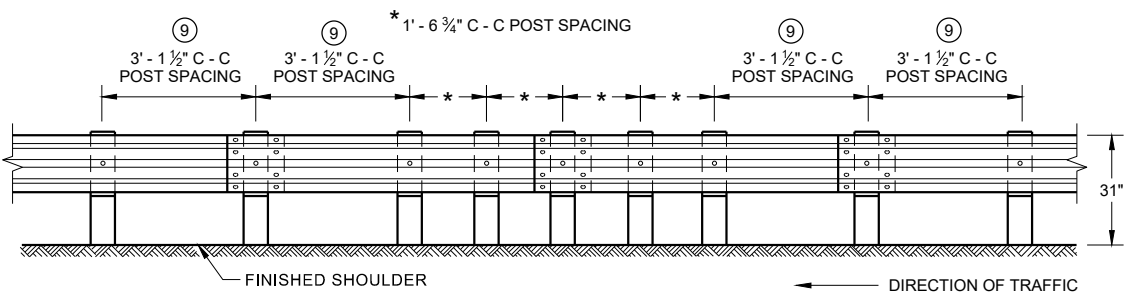
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 39



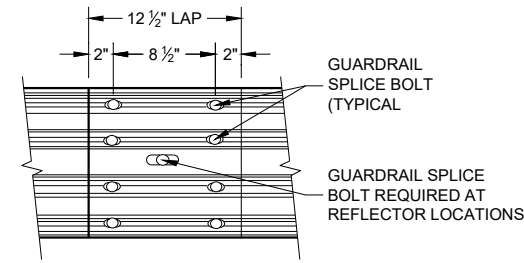
**FRONT VIEW
POST SPACING STANDARD INSTALLATION**



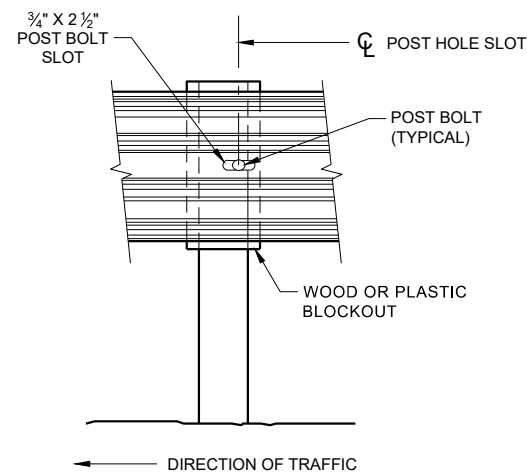
**FRONT VIEW
HALF POST SPACING (HS) AND
HALF POST SPACING WITH LONGER POSTS (K)**



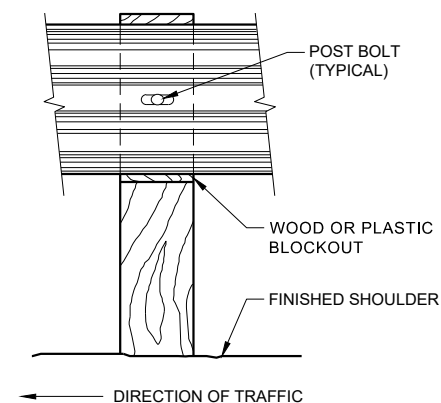
**FRONT VIEW
QUARTER POST SPACING (QS)**



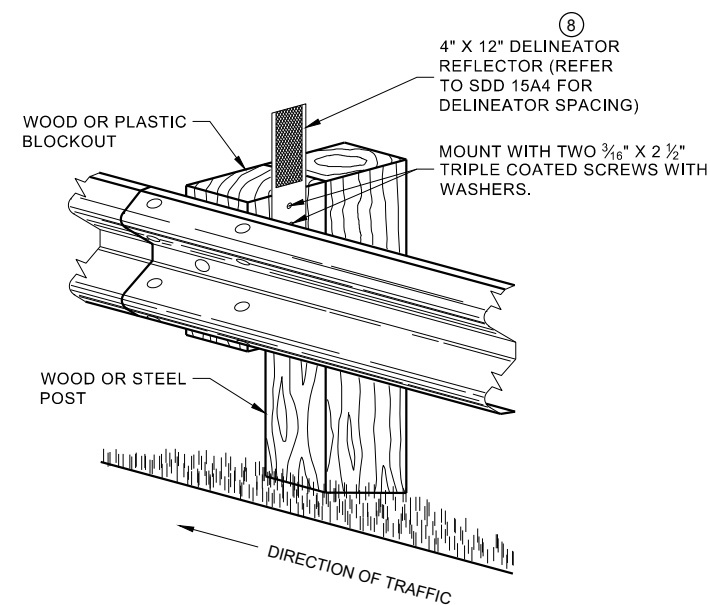
**FRONT VIEW
MID-SPAN BEAM SPLICE**



FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



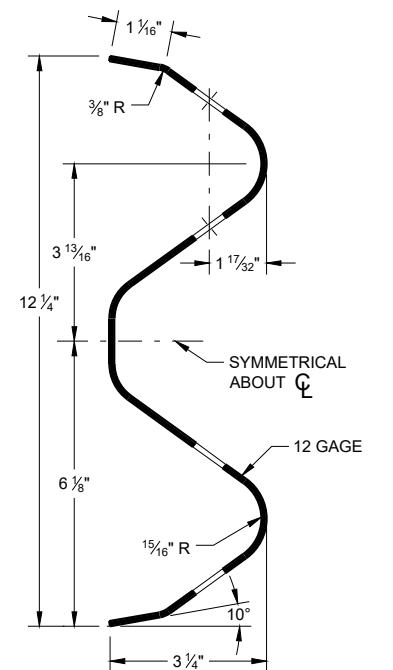
**ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION**

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 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

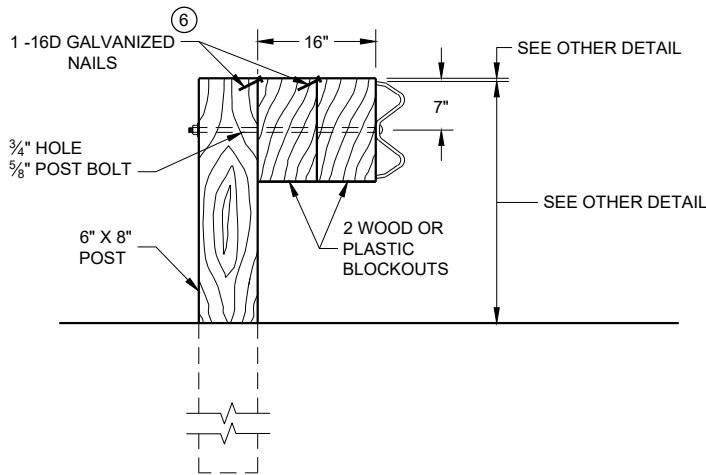
GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



SECTION THRU W-BEAM RAIL

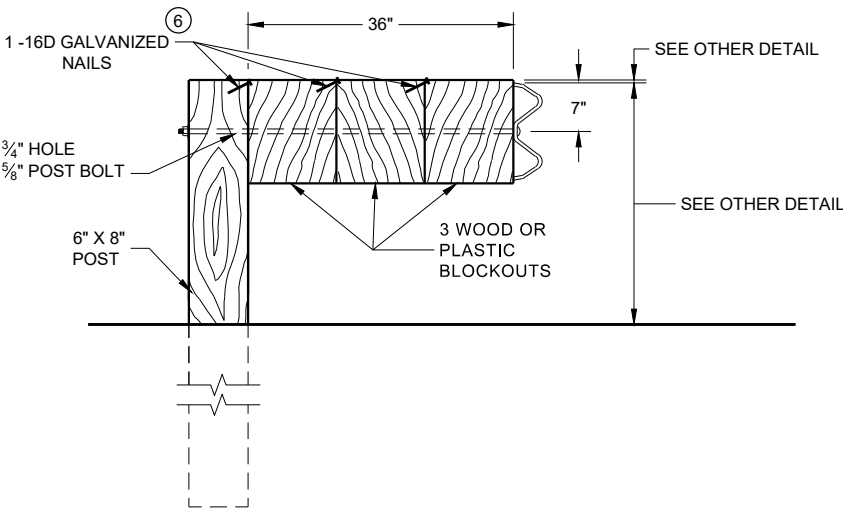
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

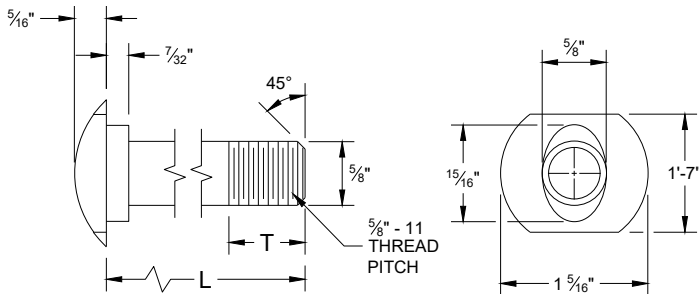
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

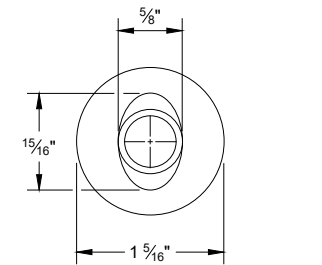
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

- NOTE:
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 3/16".
 - 2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

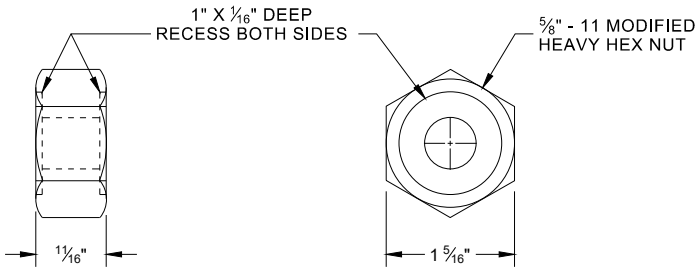


POST BOLT TABLE

L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"

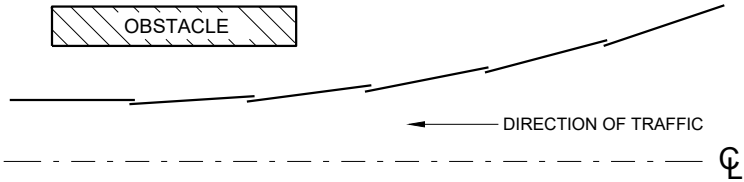


ALTERNATE BOLT HEAD

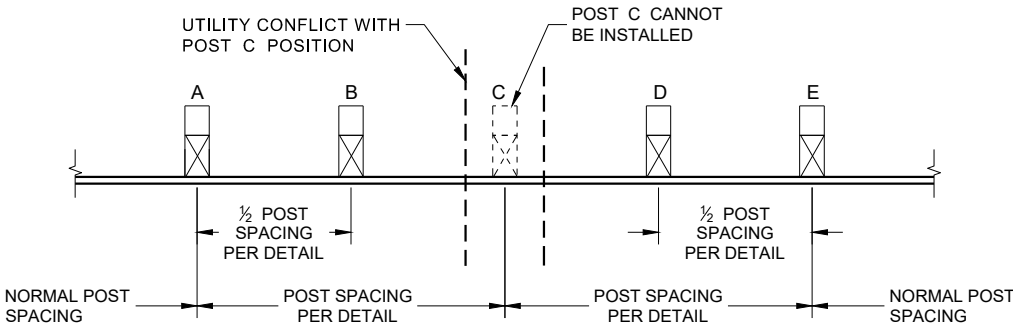


POST BOLT, SPLICE BOLT
AND RECESS NUT

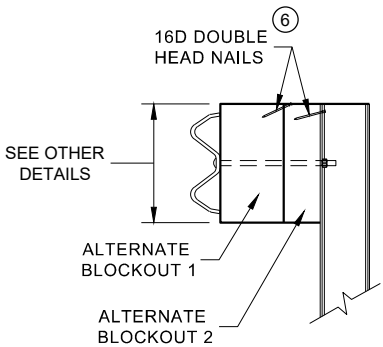
- 6 WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



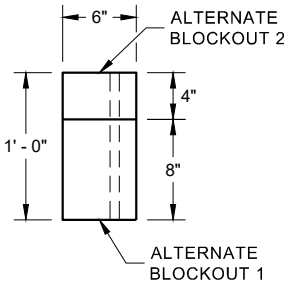
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
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- 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.

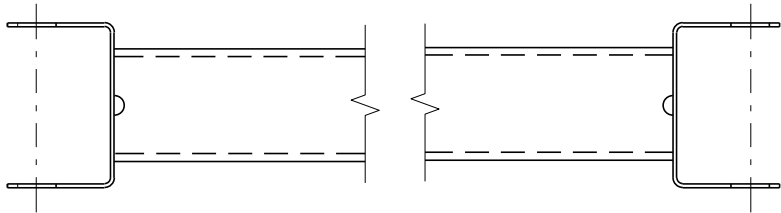
SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

THE CENTER OF THE UPPER 3 1/2" 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.



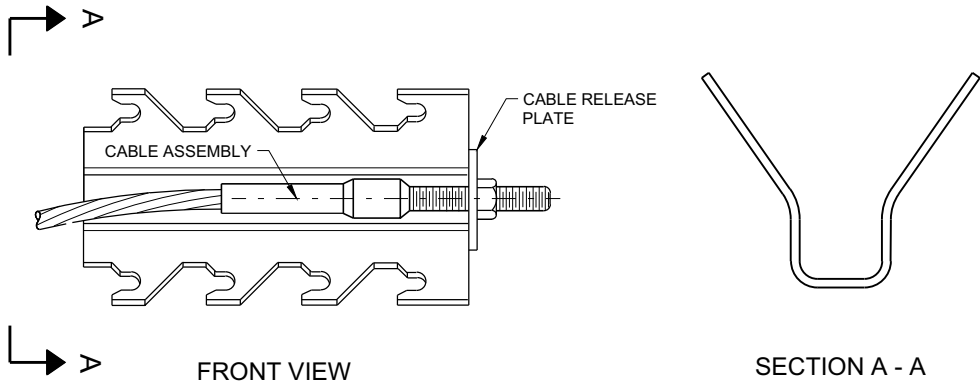
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 42

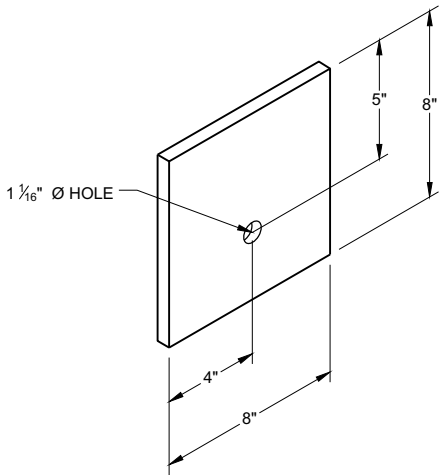


GENERIC GROUND STRUT⁹ ^E

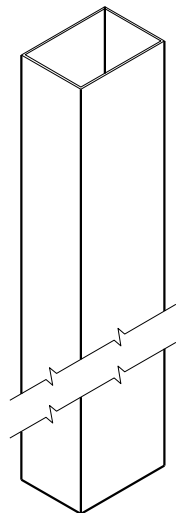
BILL OF MATERIALS	
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
①	UPPER POST NO. 1 6" X 6" TUBE
②	LOWER POST NO. 1
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED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



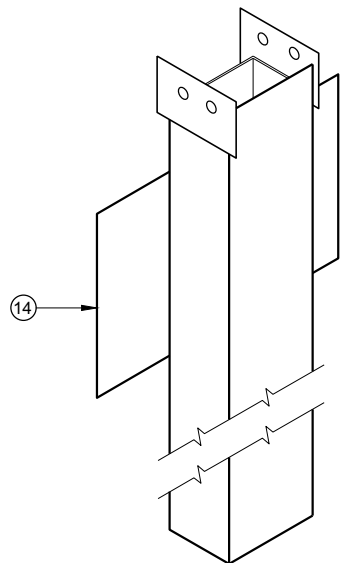
GENERIC ANCHOR CABLE BOX⁹ ^E



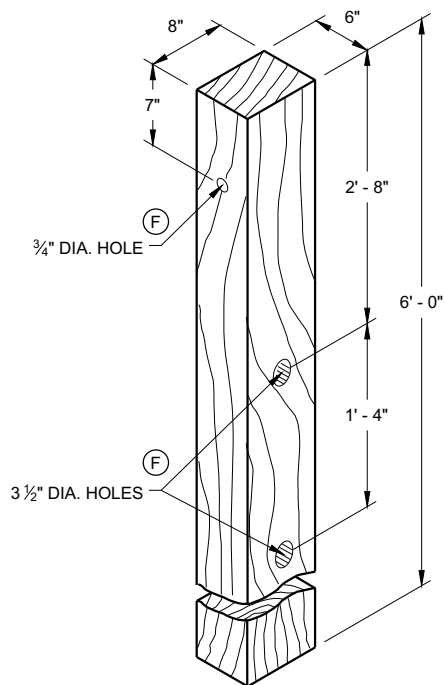
BEARING PLATE⁶ ^E



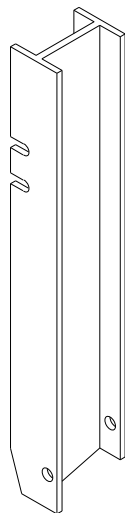
UPPER POST NO. 1 ⁽¹⁾ (E)



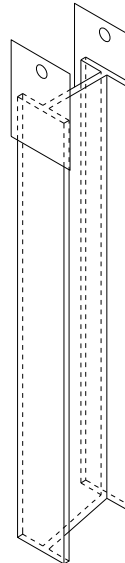
LOWER POST NO. 1 ⁽²⁾ (E)



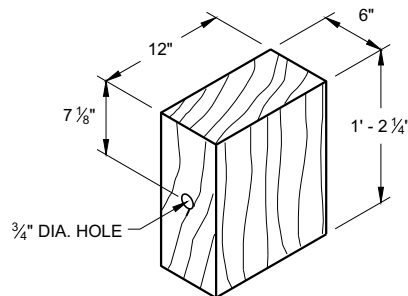
WOOD CRT POST ⁽³⁾ (E)
POSTS NUMBER 3-9



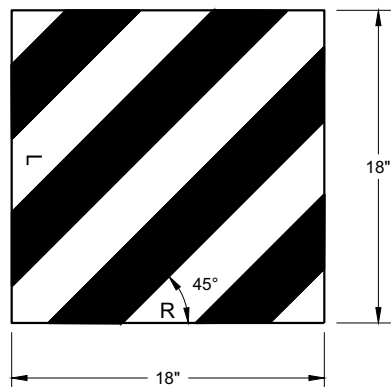
UPPER POST NO. 2 ⁽¹⁵⁾ (E)



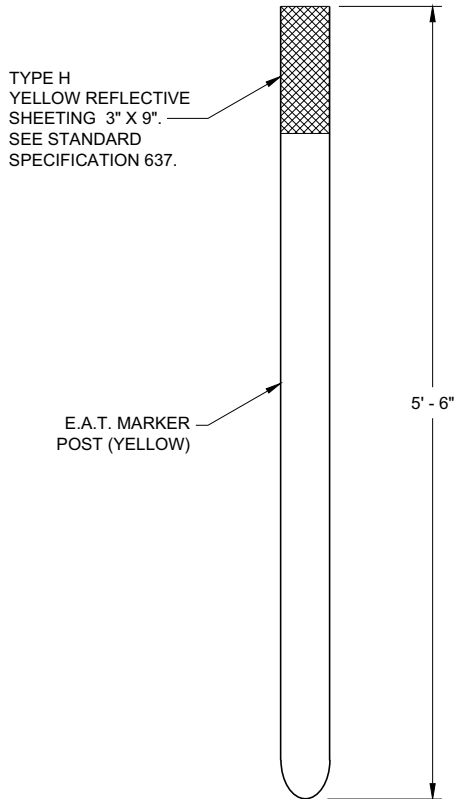
LOWER POST NO. 2 ⁽¹⁶⁾ (E)



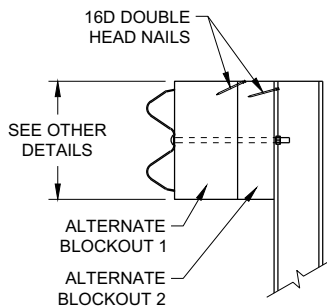
WOOD BLOCKOUT ⁽⁴⁾
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



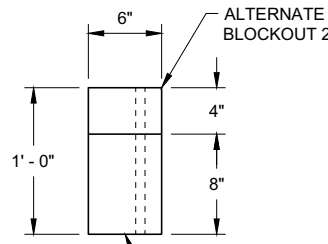
REFLECTIVE SHEETING DETAIL ^(E)
W5 - 59



E.A.T. MARKER POST ⁽¹³⁾



SIDE VIEW



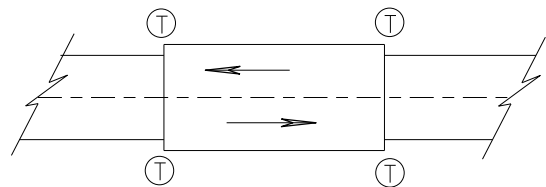
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

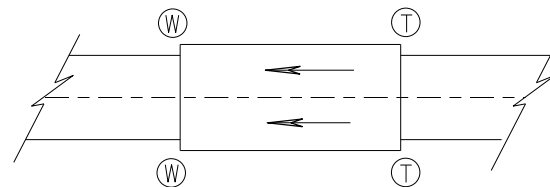
**MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR 44
FHWA



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

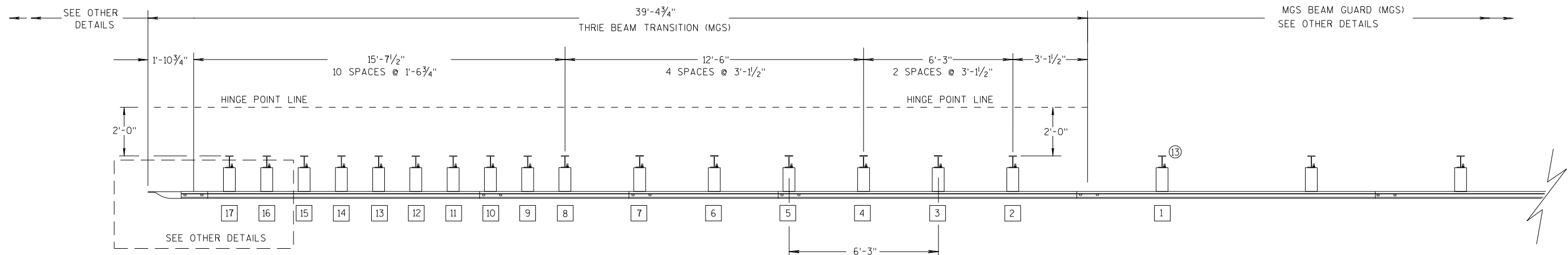
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

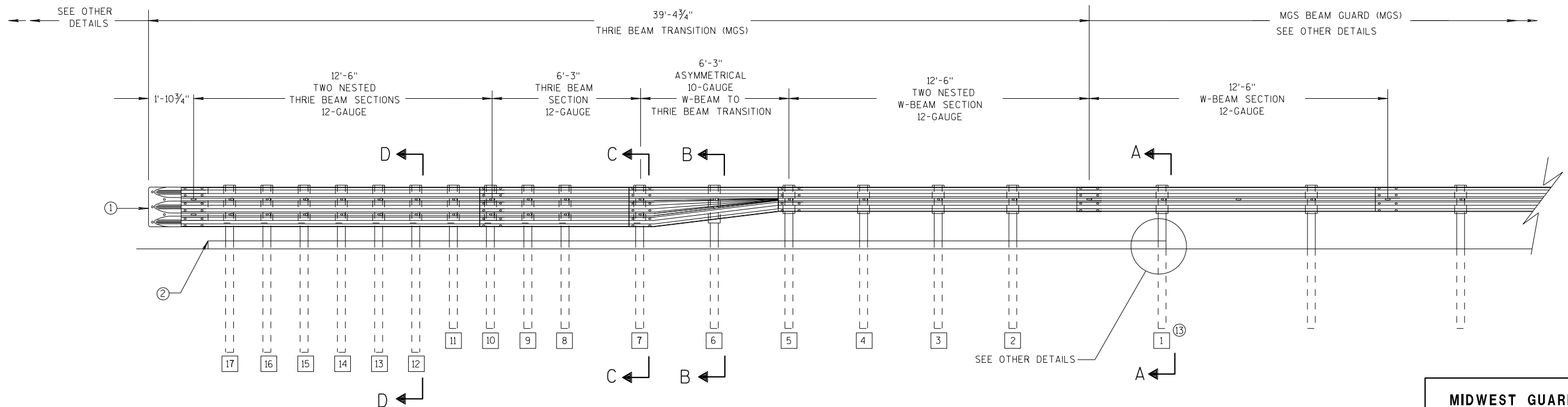
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

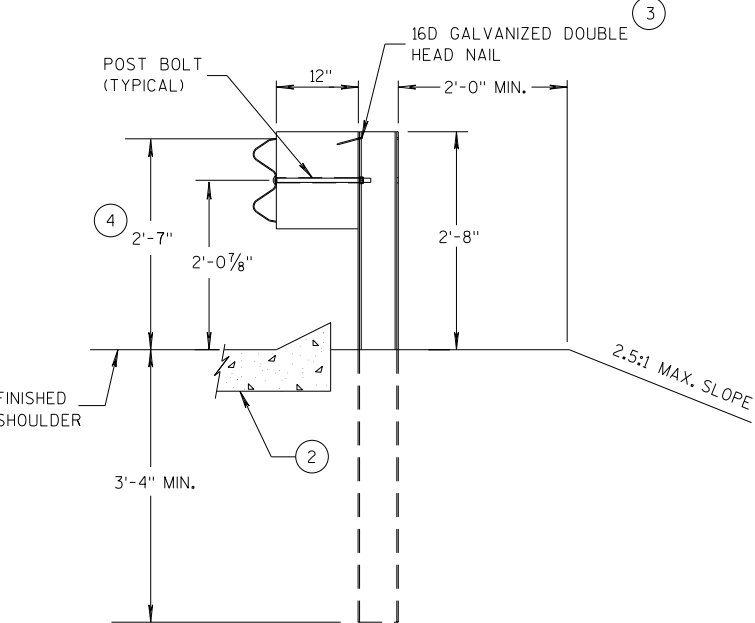
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

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

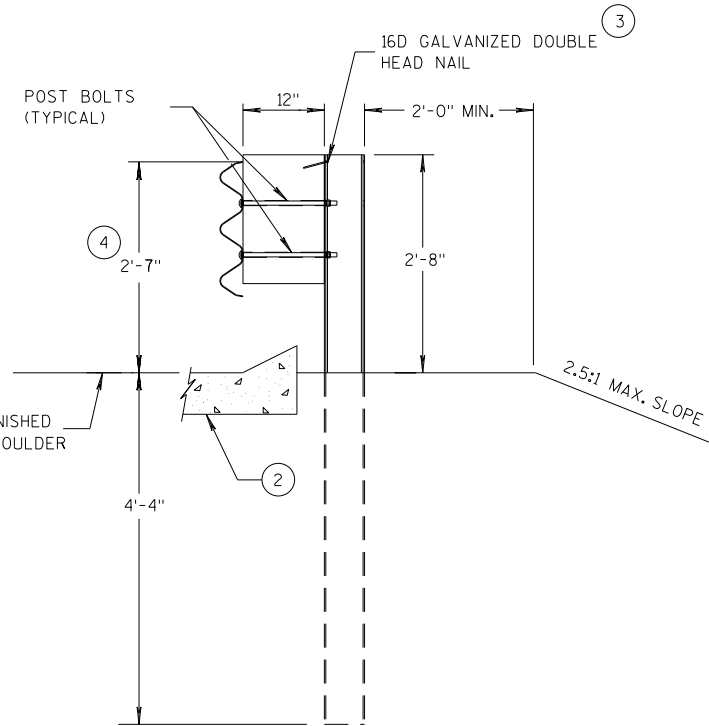
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

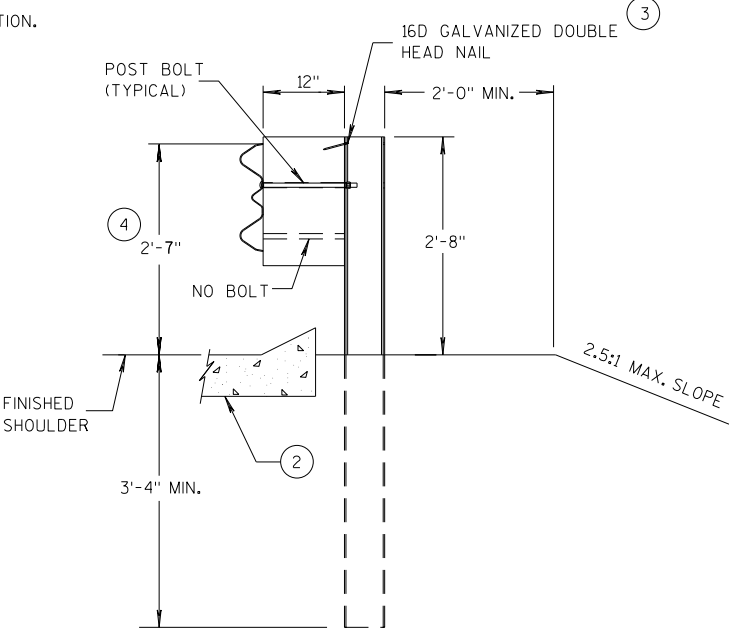
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



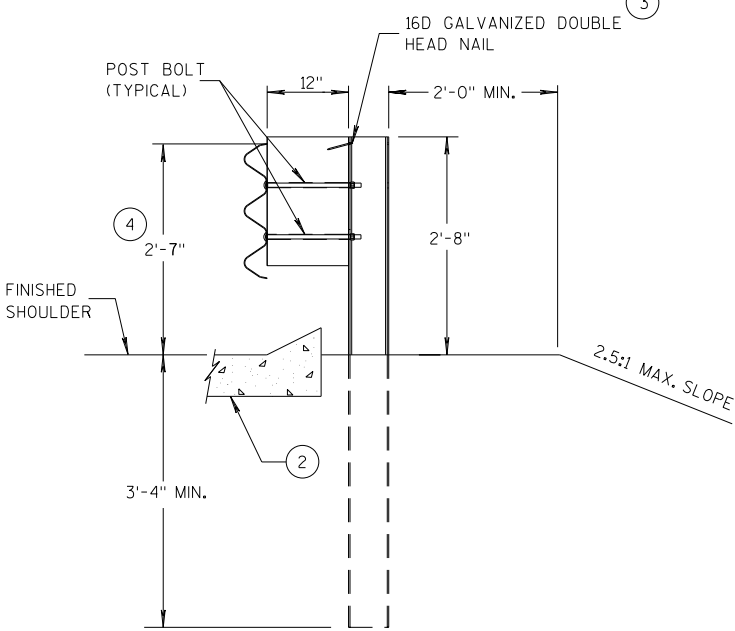
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

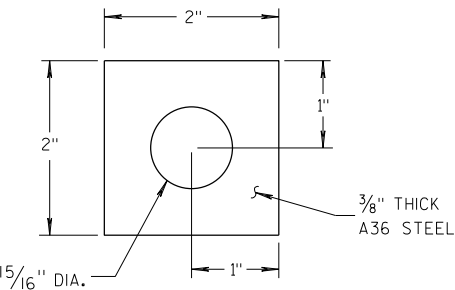
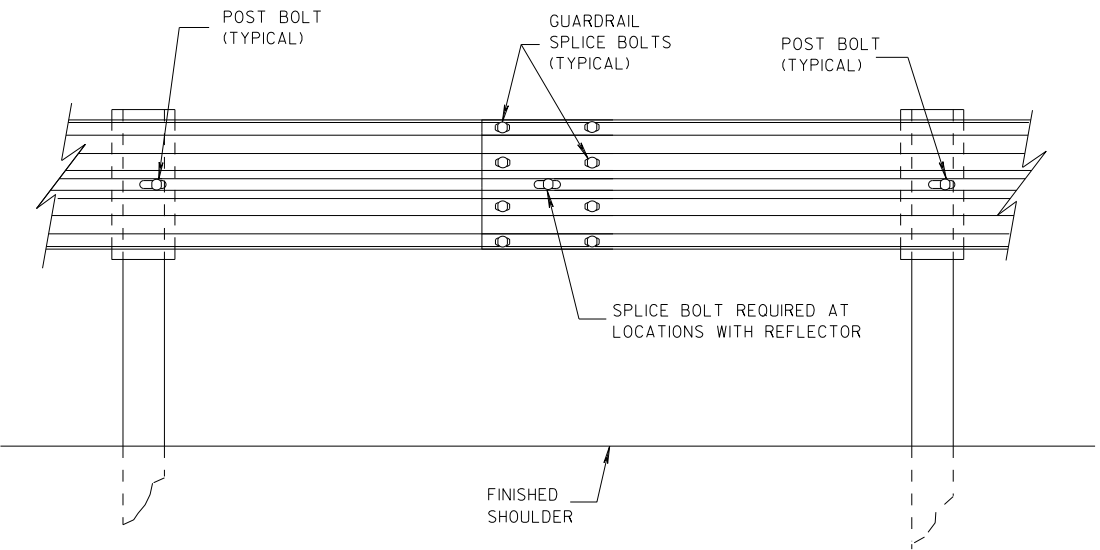
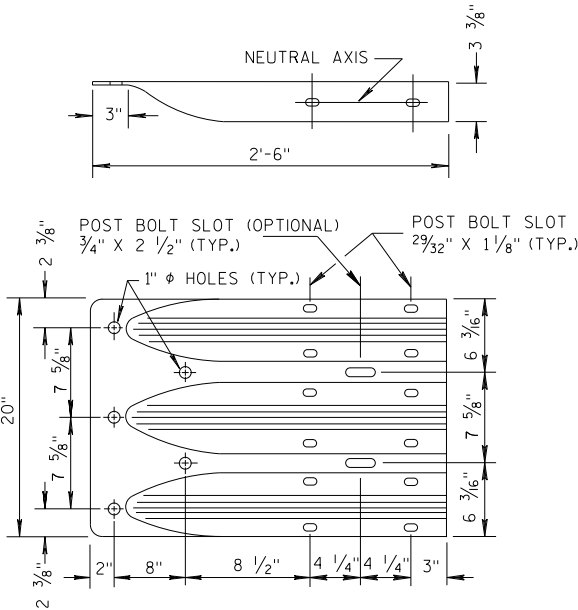


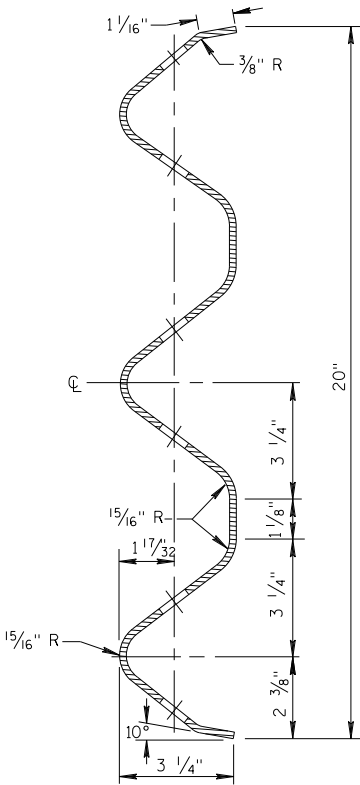
PLATE WASHER DETAIL



SPLICE DETAIL



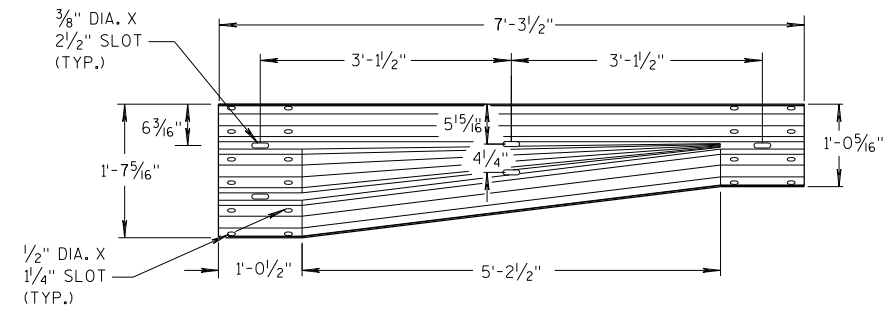
THRIE BEAM
TERMINAL CONNECTOR



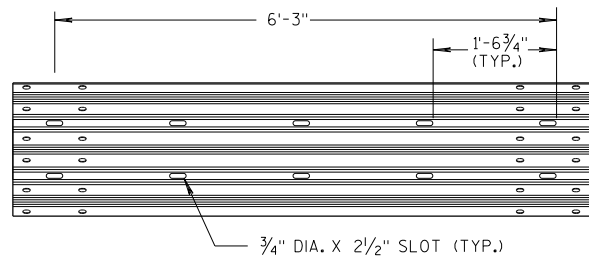
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

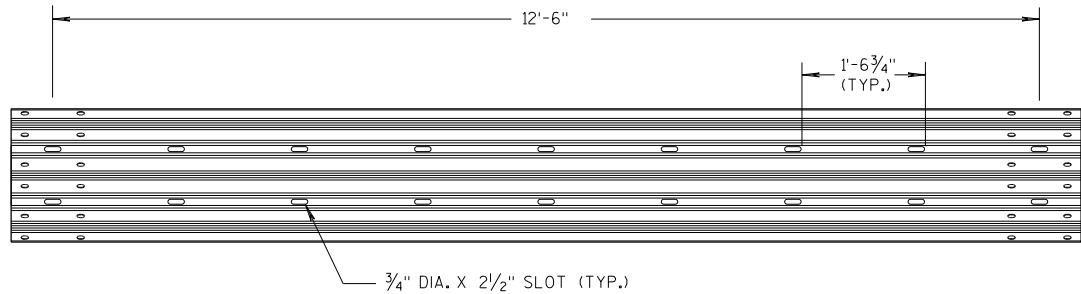
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



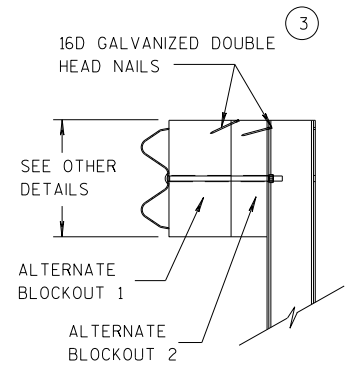
W-BEAM TO THRIE BEAM TRANSITION SECTION



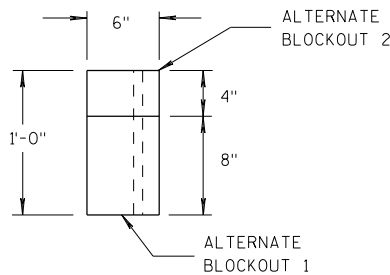
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

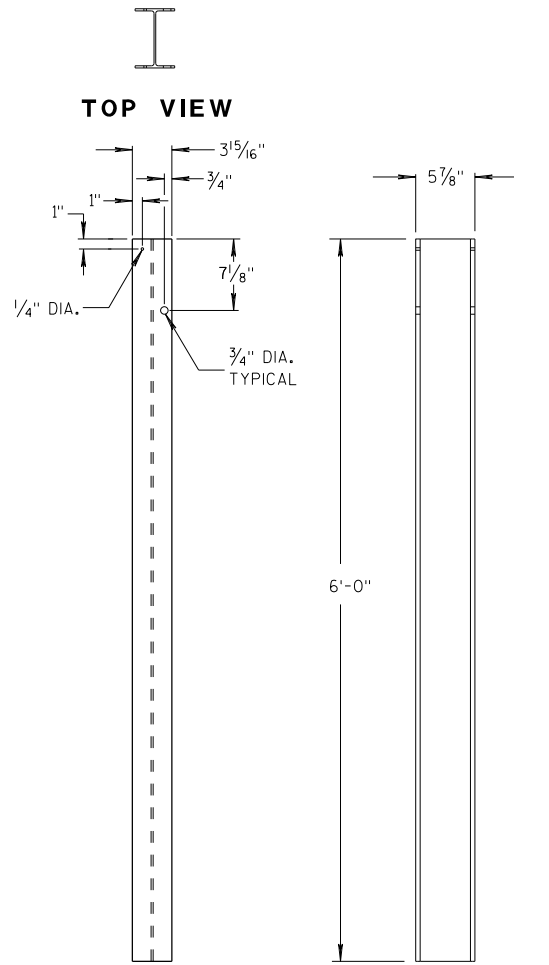


SIDE VIEW



TOP VIEW

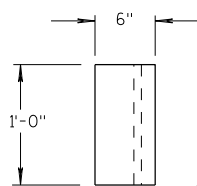
ALTERNATE WOOD BLOCKOUT DETAIL



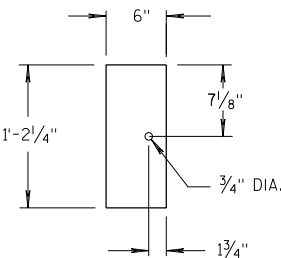
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

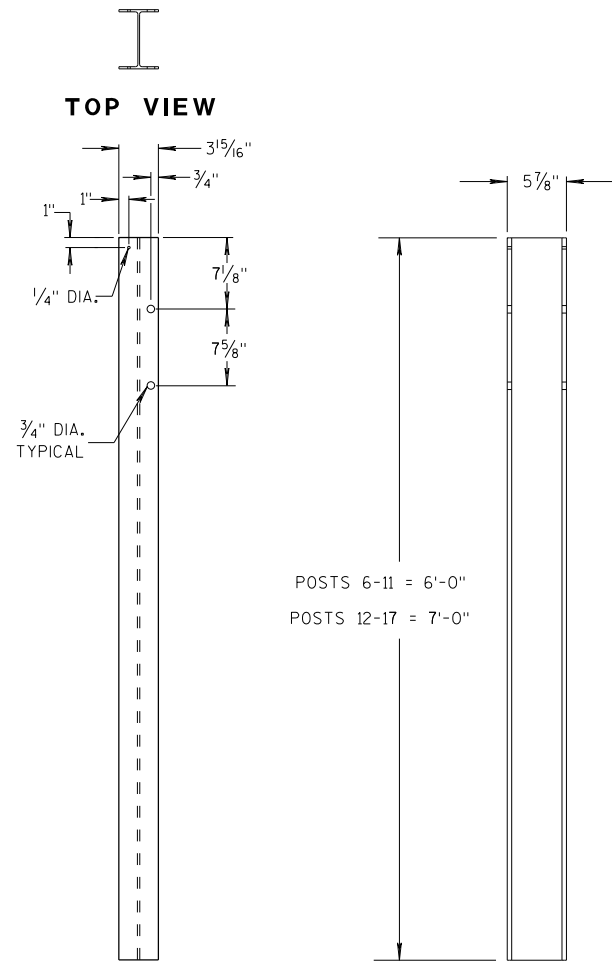


TOP VIEW



FRONT VIEW

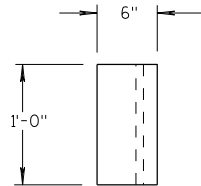
BLOCKOUT POSTS 1-5



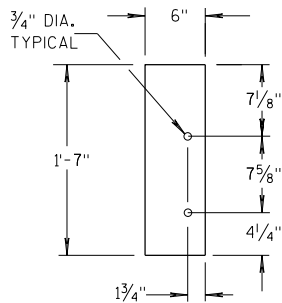
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

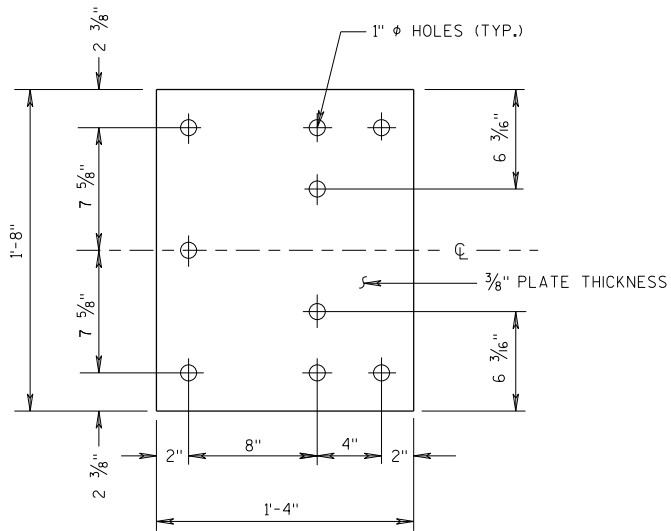
③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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

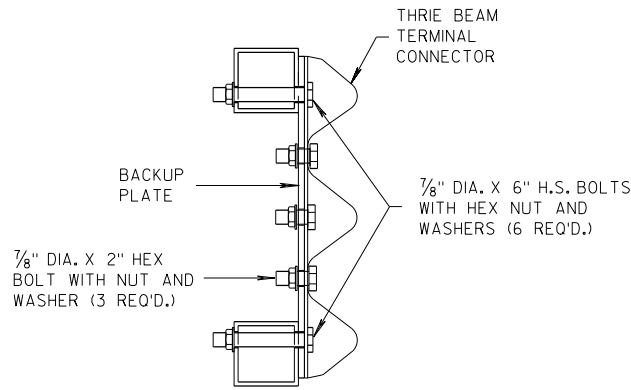
⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

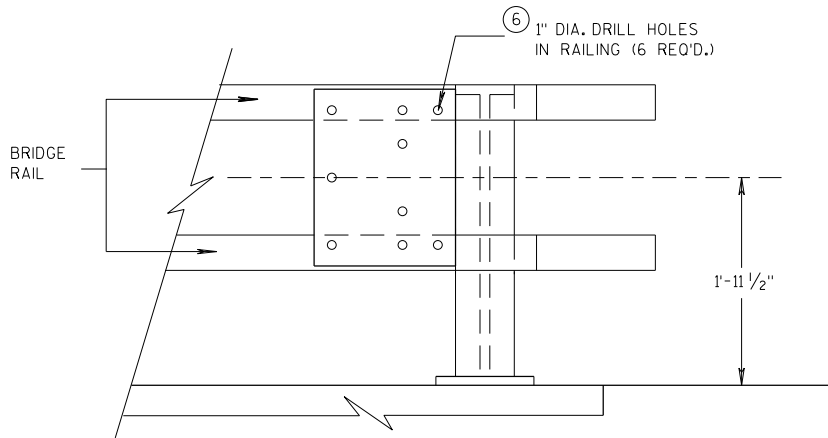
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



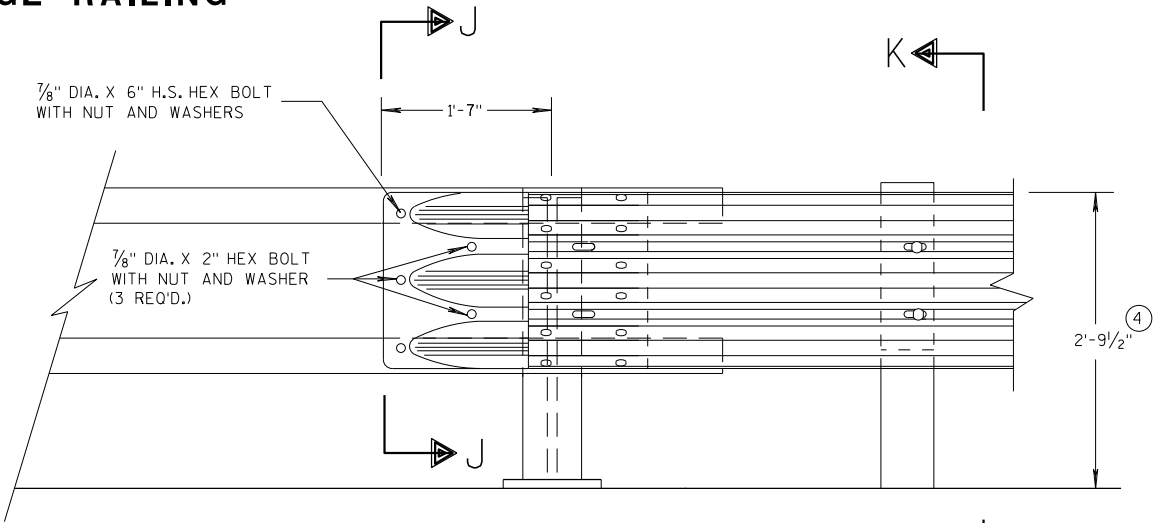
BACK-UP PLATE DETAIL



SECTION J-J

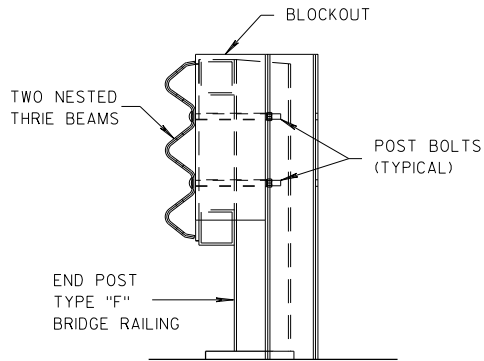


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

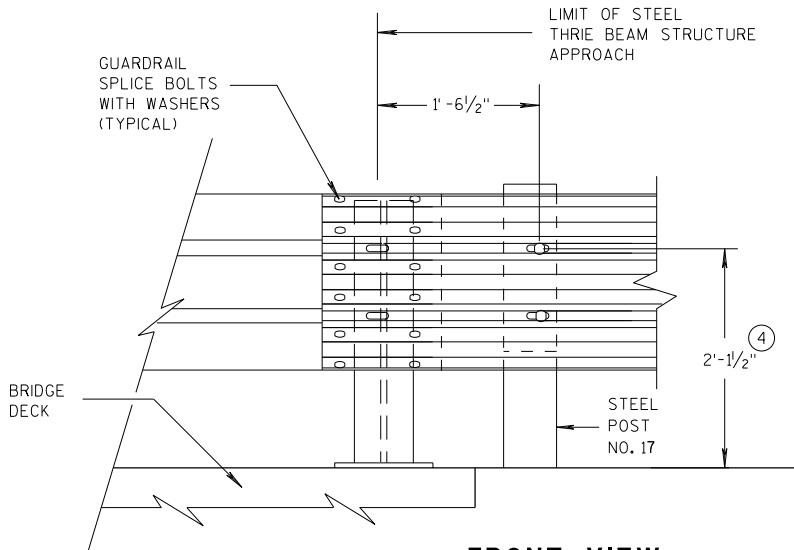
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



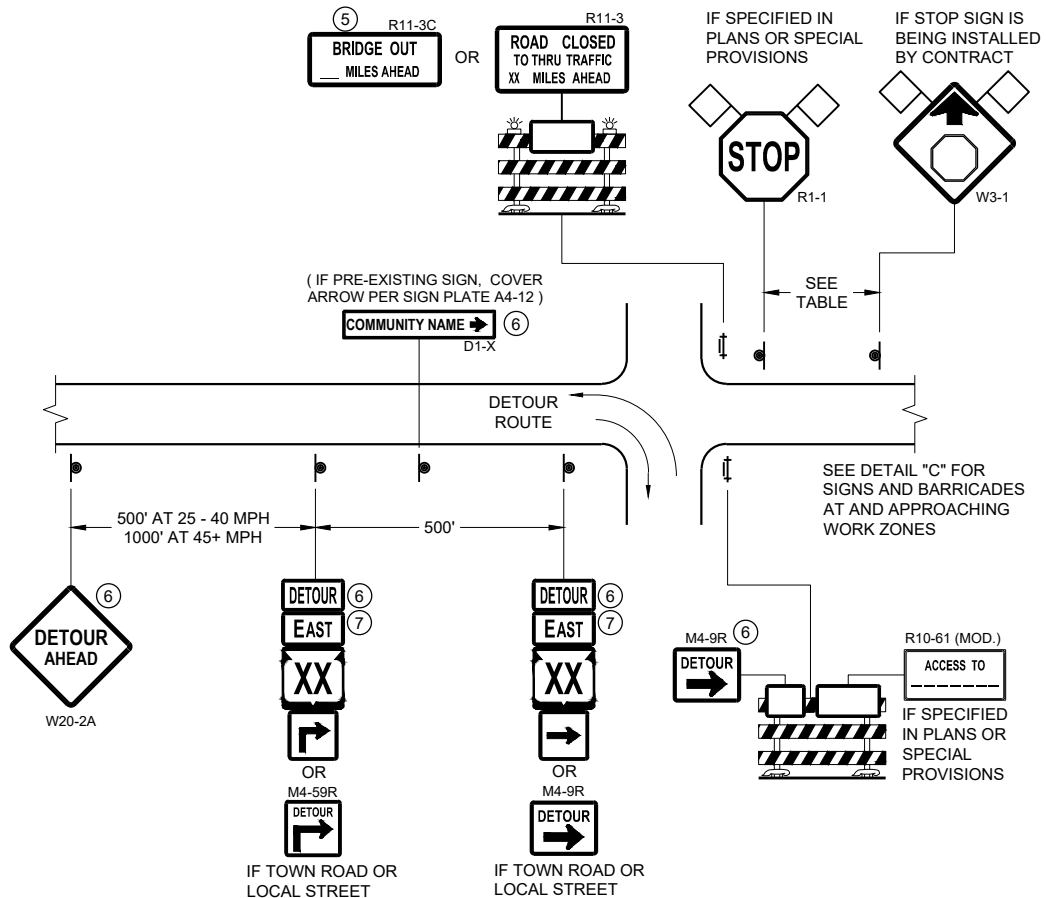
FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

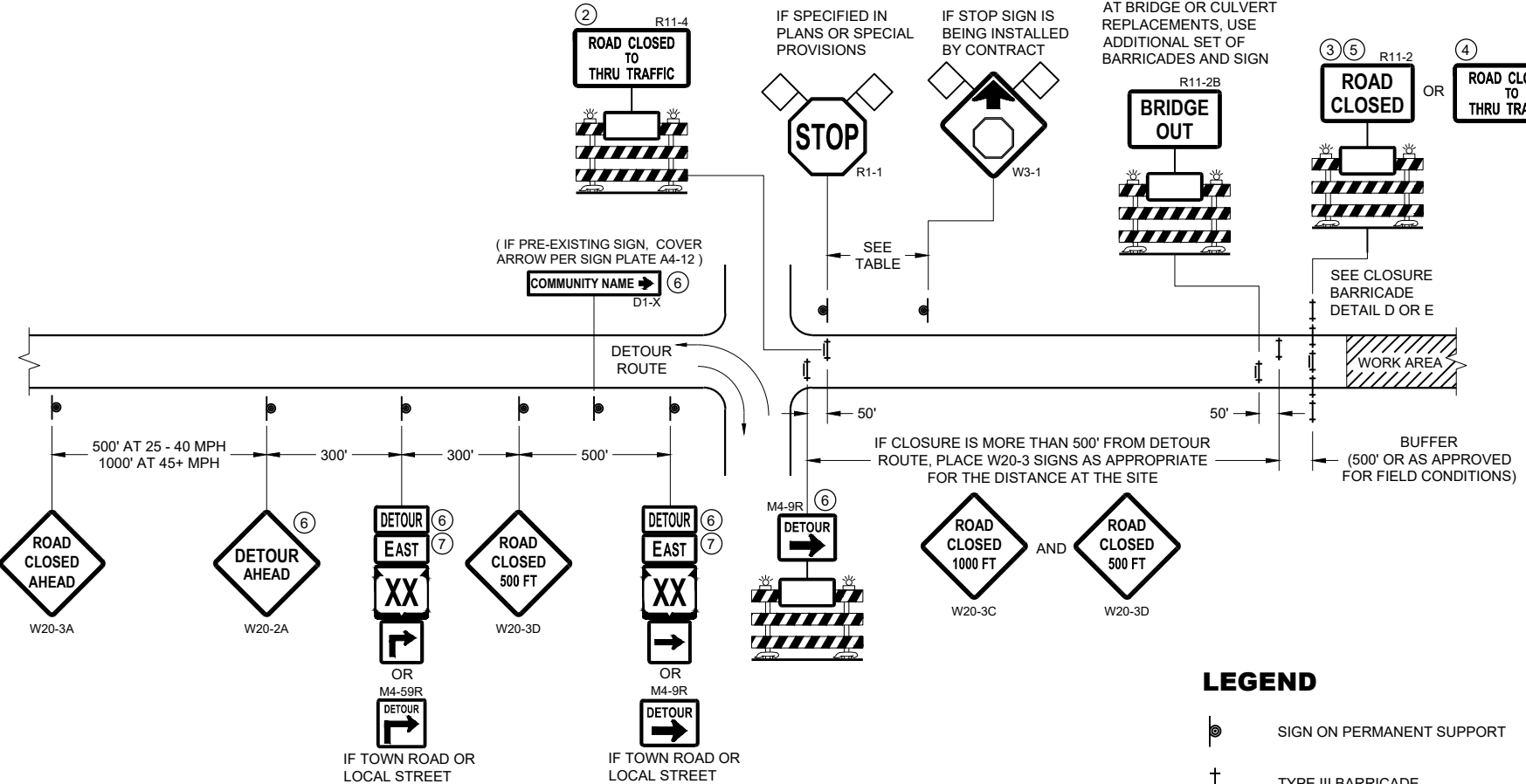
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

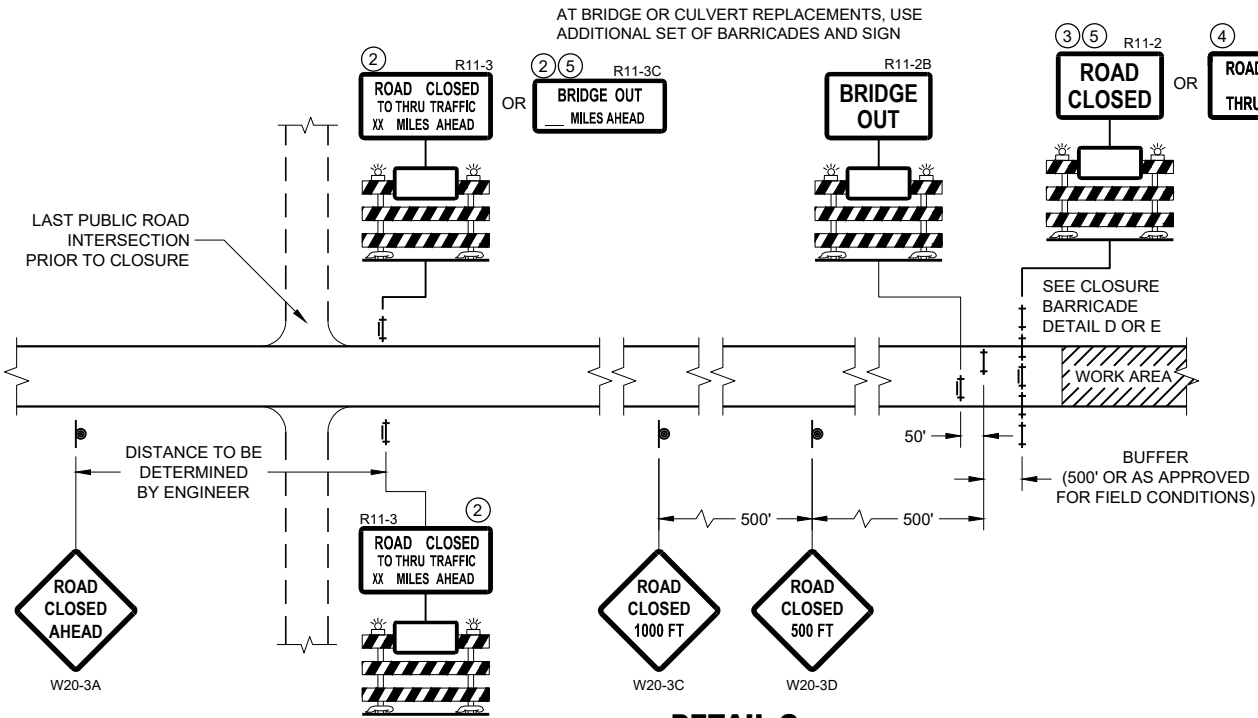
APPROVED
07/2018
DATE
/S/ Rodney Taylor 48
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



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

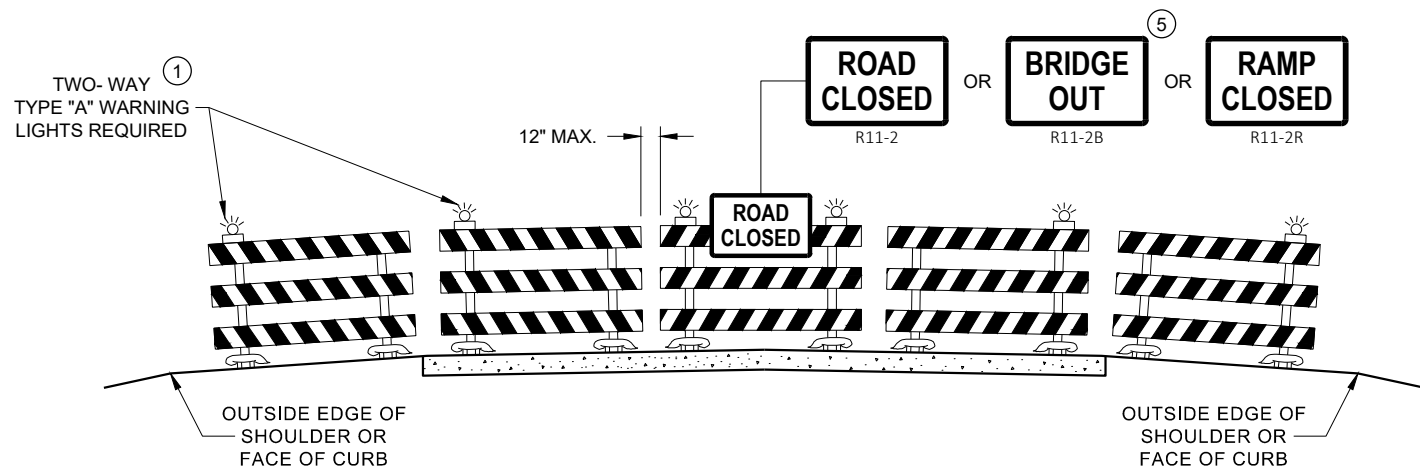
LEGEND

- 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
- OR M05 - 1 OR M06 - 1

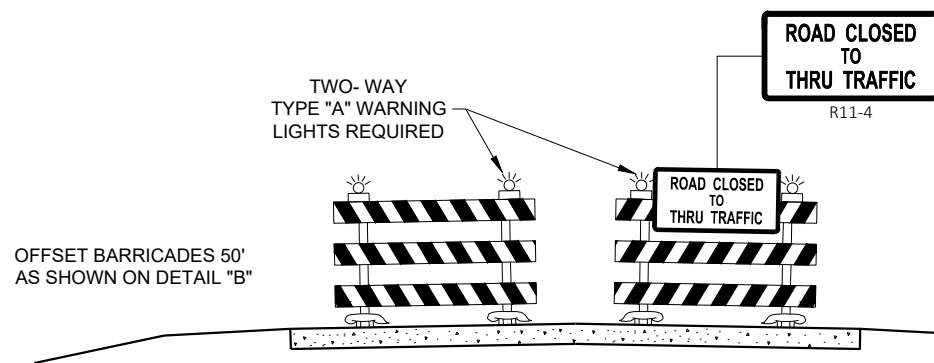
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 49
FHWA



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:

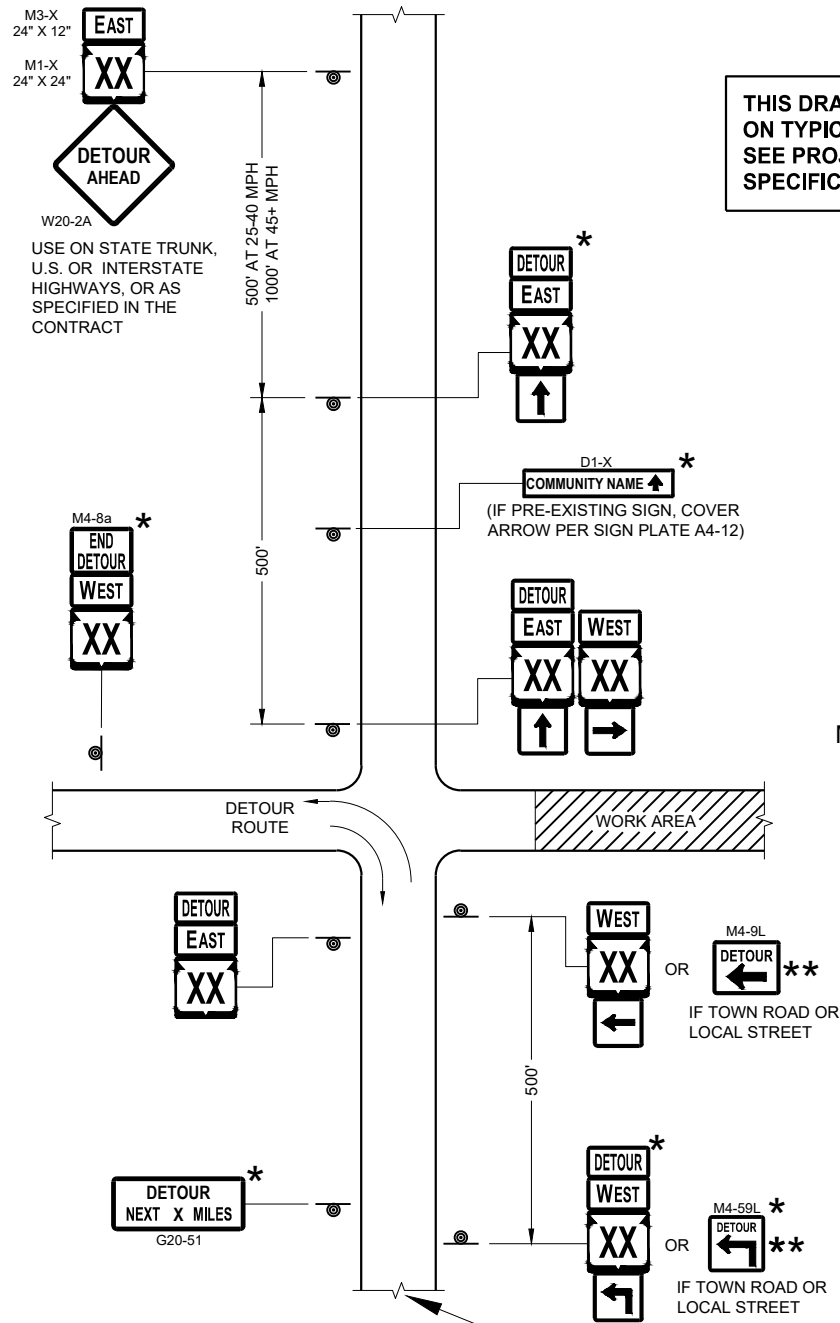
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 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

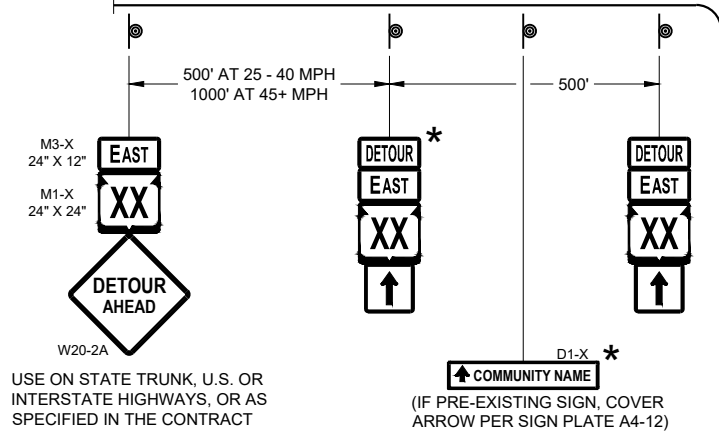
APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 50
FHWA



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

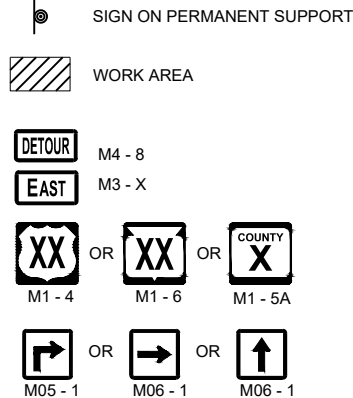
THIS DRAWING PROVIDES GENERAL GUIDANCE
ON TYPICAL DETOUR SIGN LAYOUT AND SPACING.
SEE PROJECT DETOUR SIGNING SHEETS FOR
SPECIFIC DETAILS FOR EACH PROJECT.

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND



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.

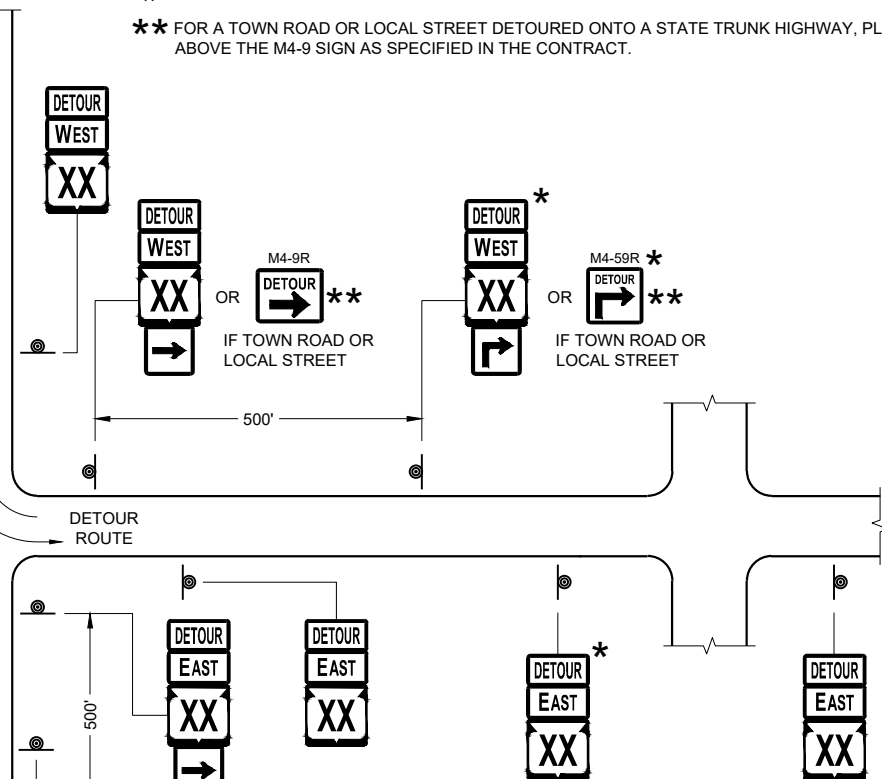
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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.

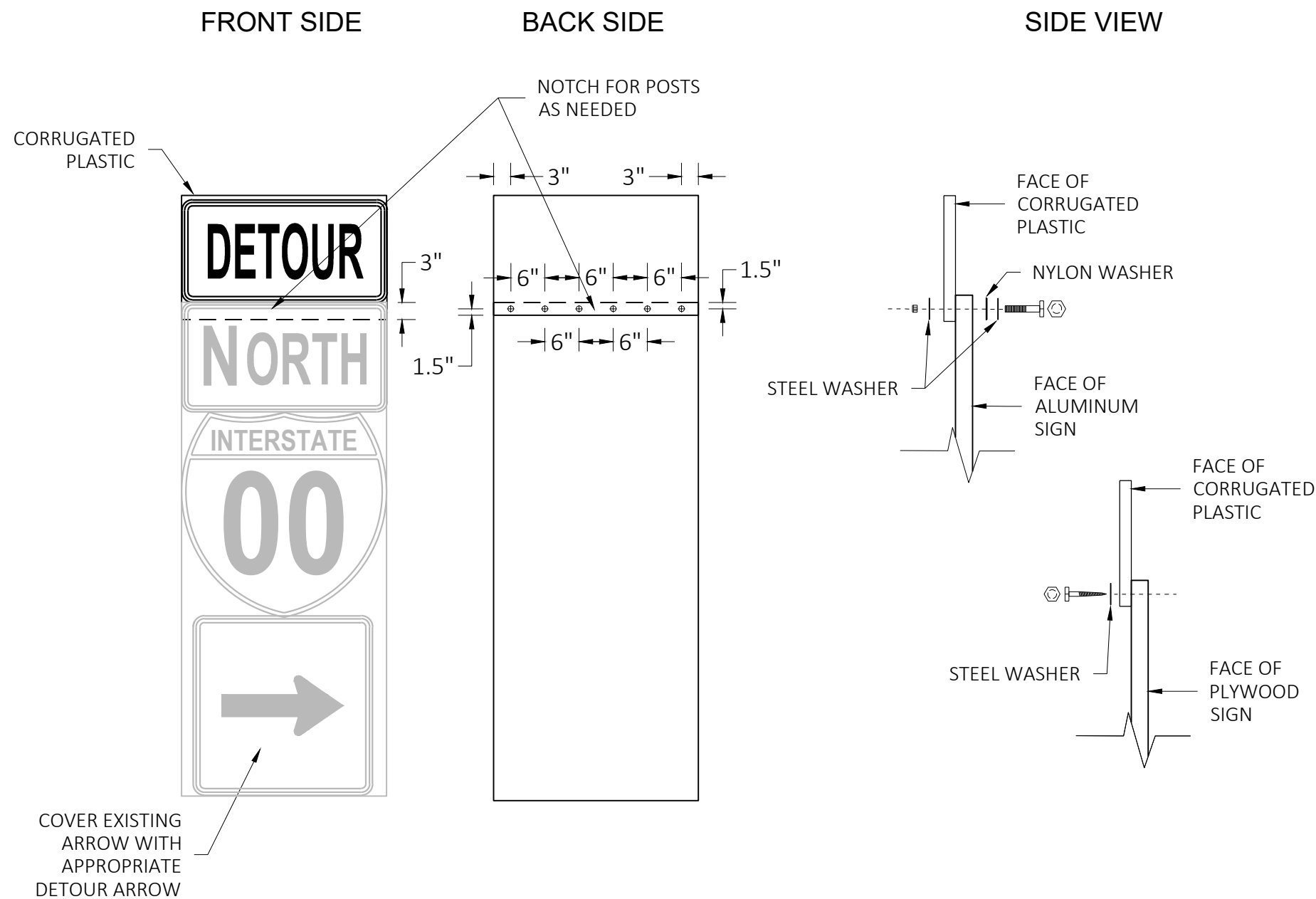


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 51
FHWA



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3.
- ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

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

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

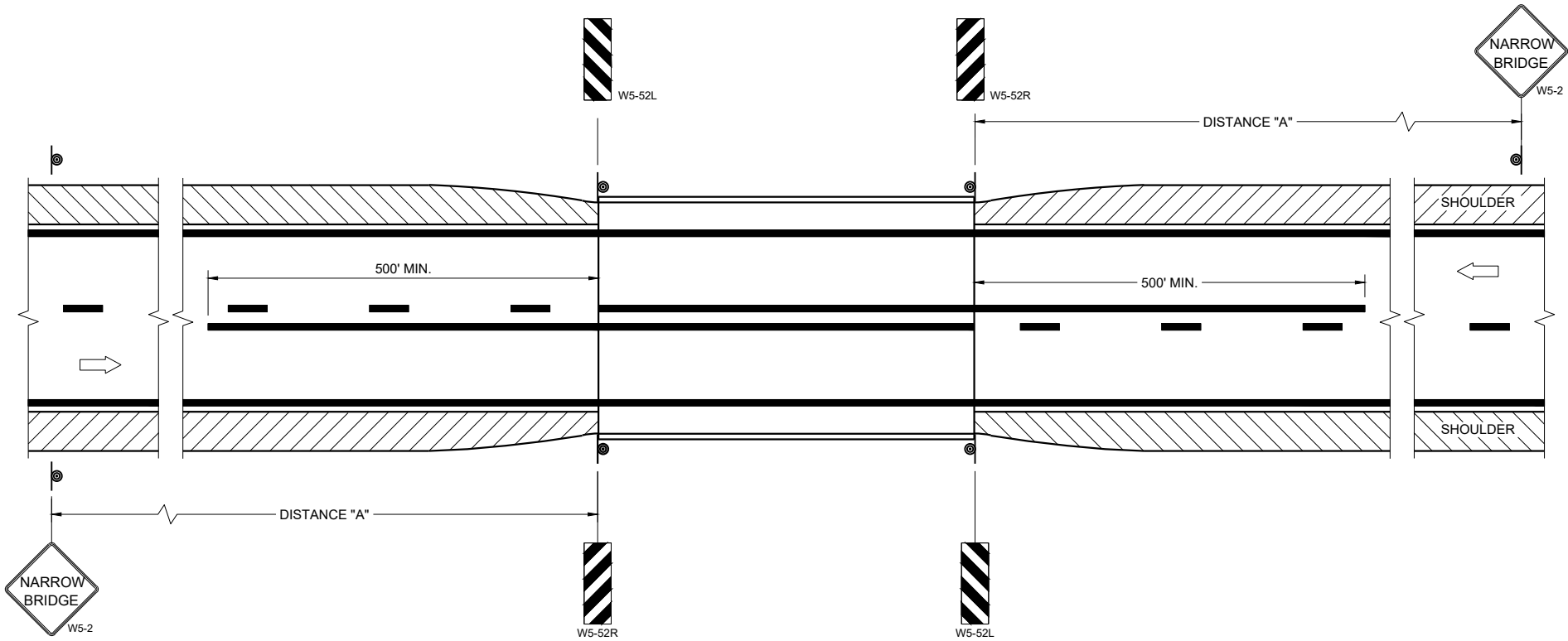
APPROVED

May 2023
DATE

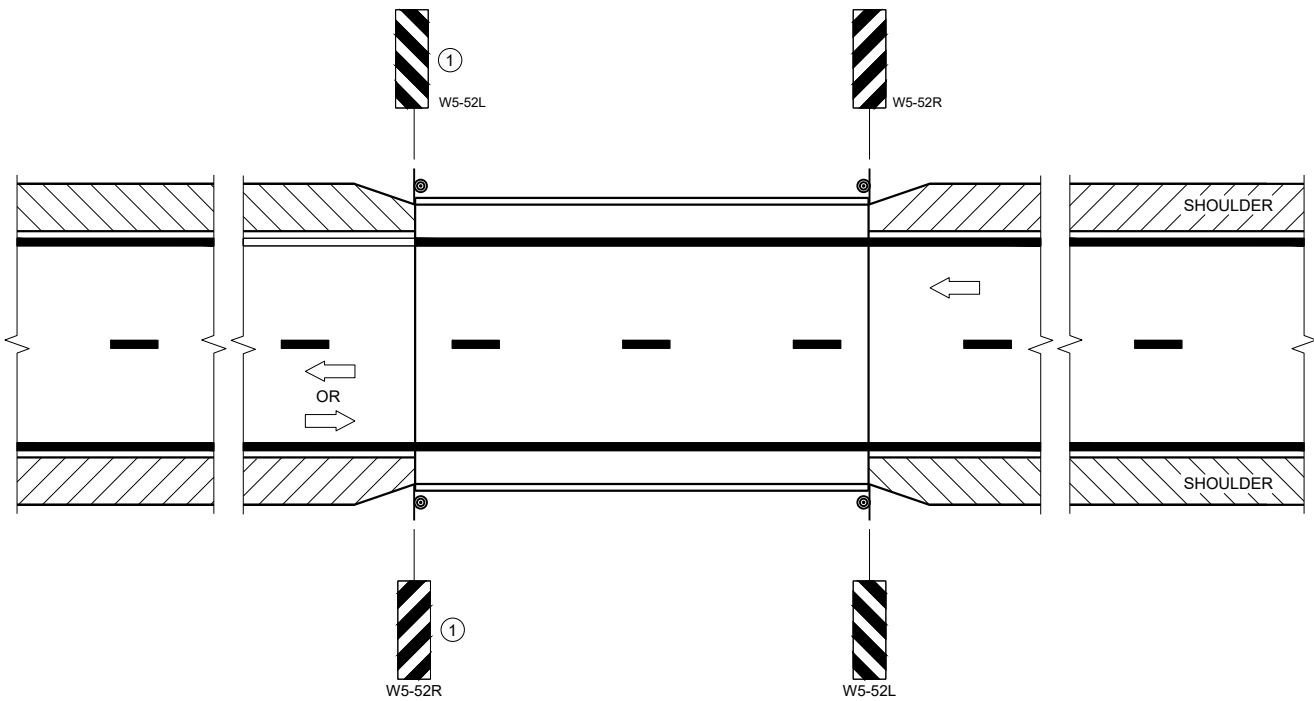
/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA

52



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'

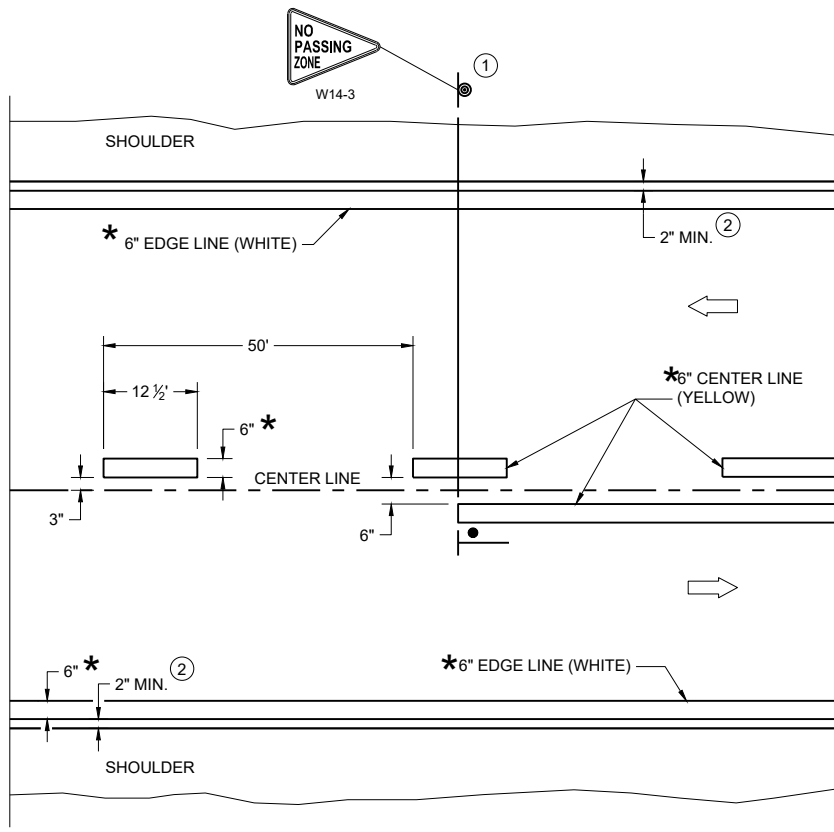
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

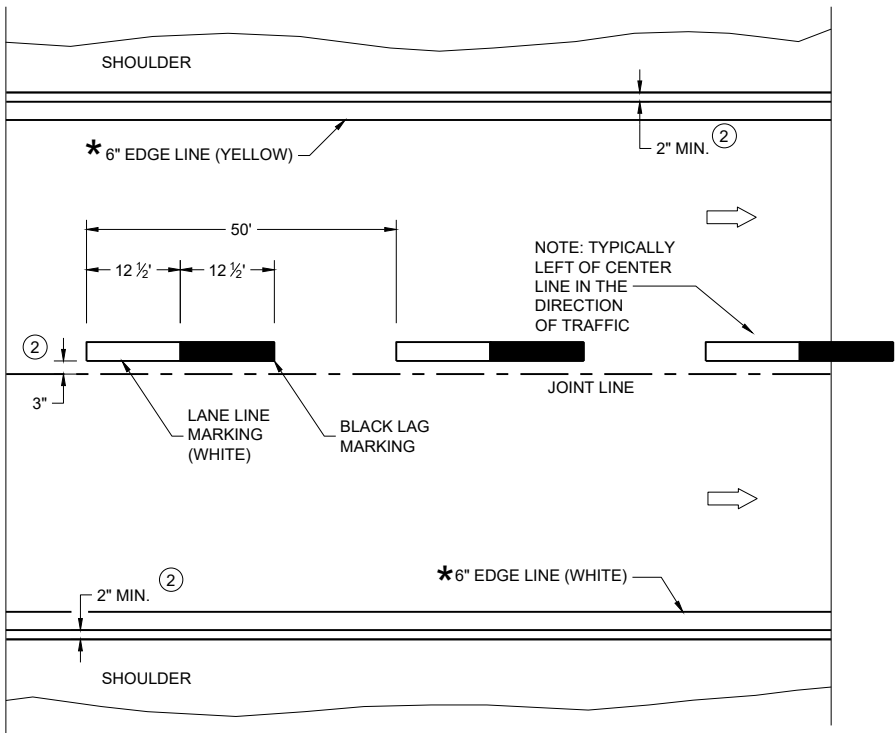
APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA 53



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

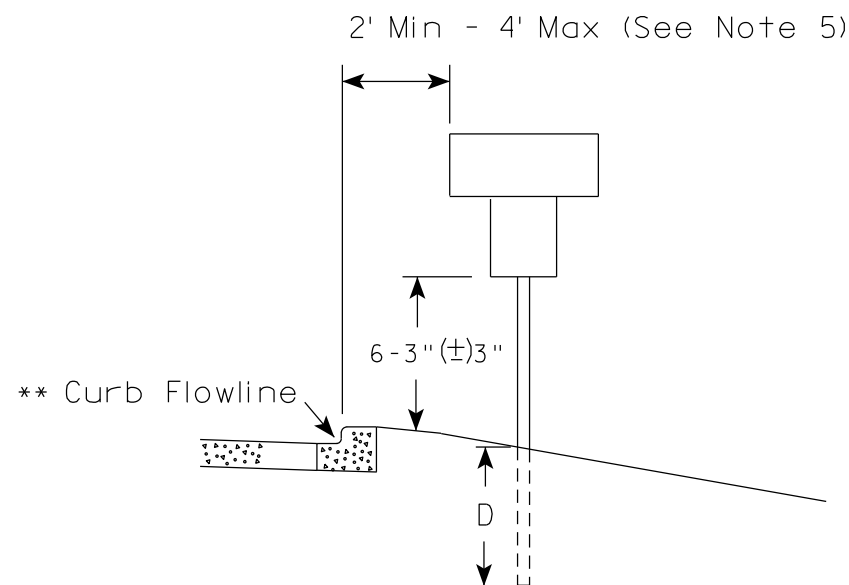
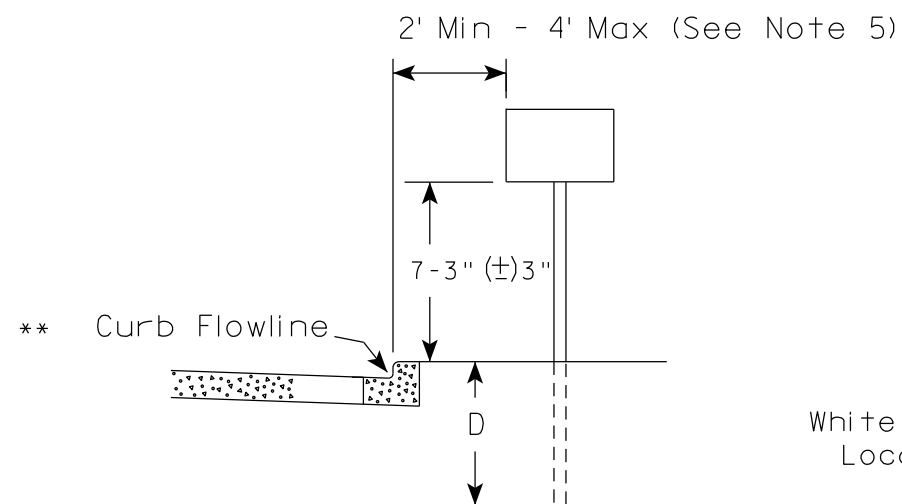
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

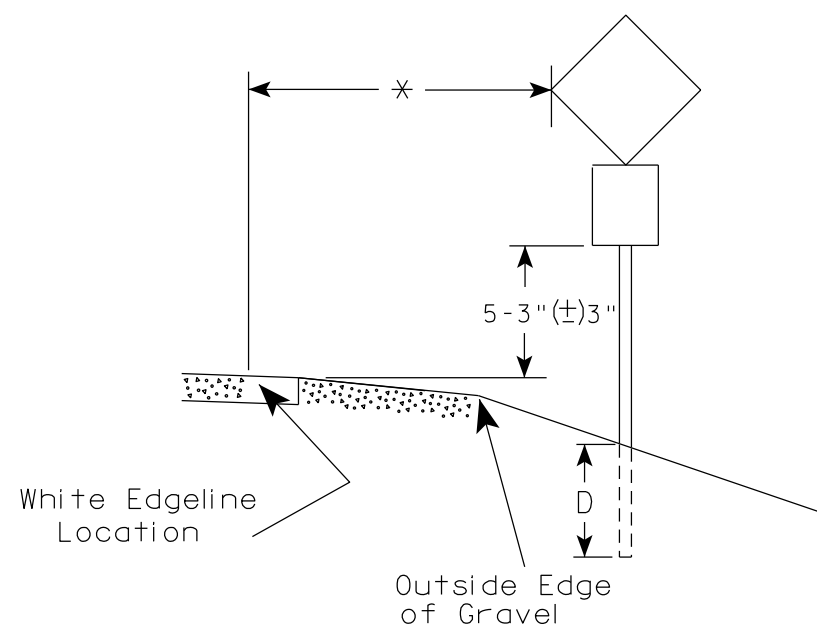
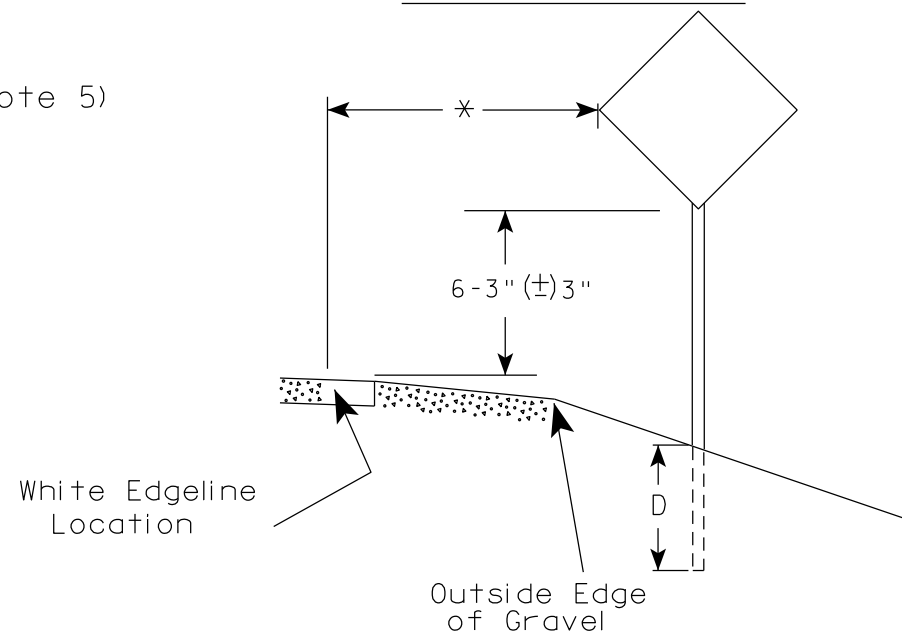
PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer
FHWA	

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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

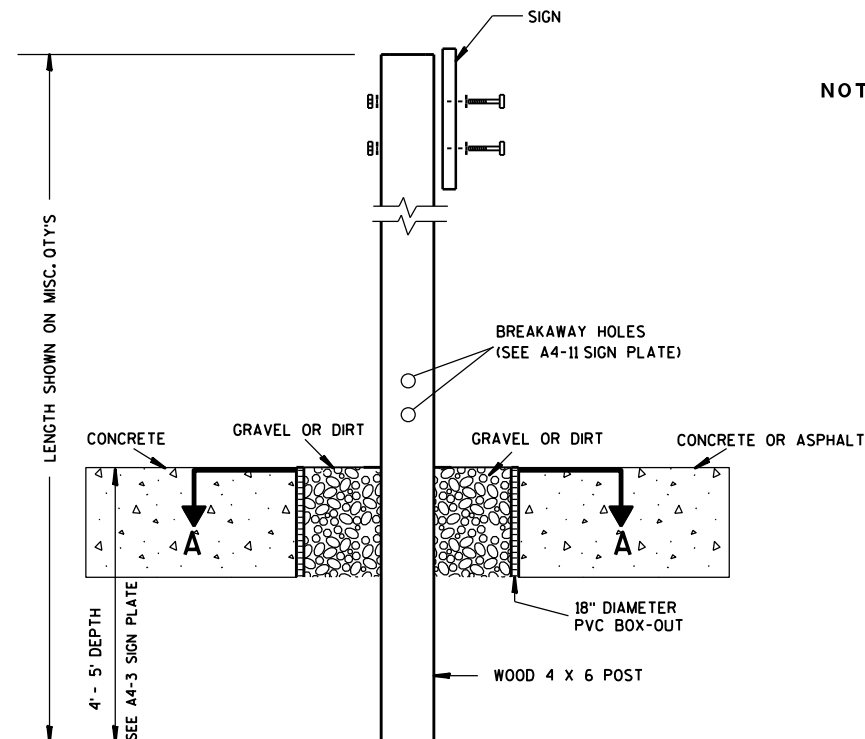
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

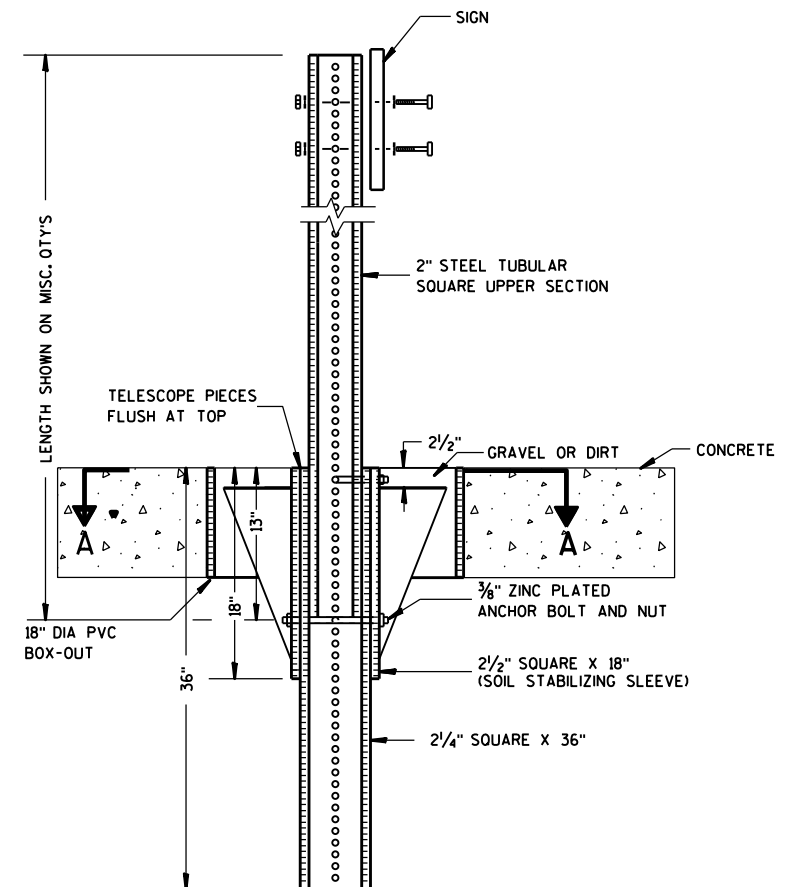
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

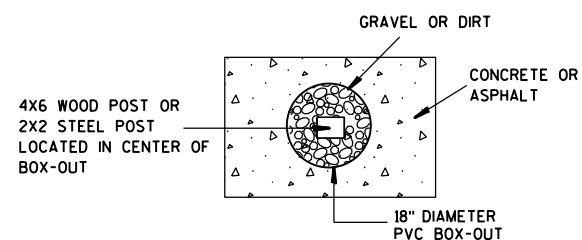
DATE 12/6/23 PLATE NO. A4-3.23



- 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 PLAT 56 A4-3B.1

PROJECT NO:

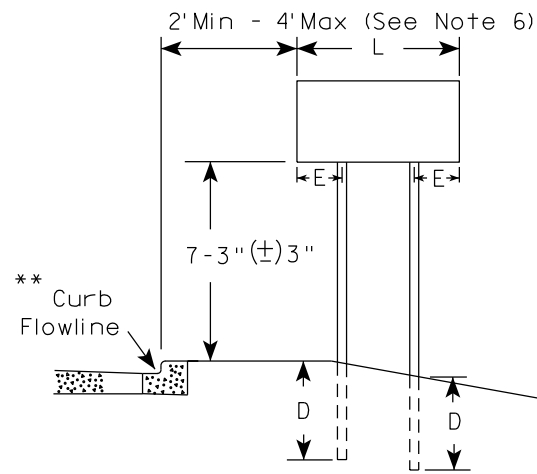
HWY:

COUNTY:

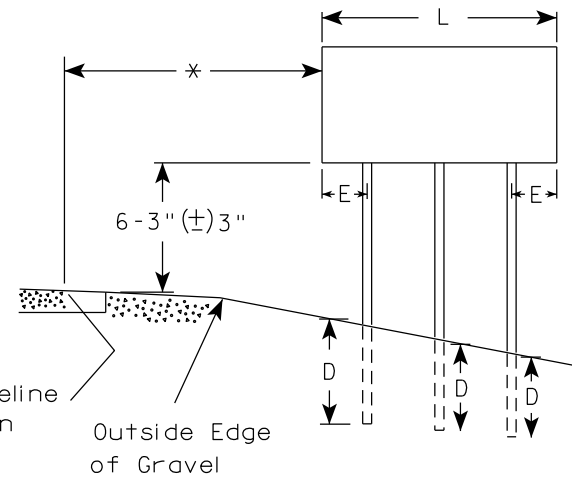
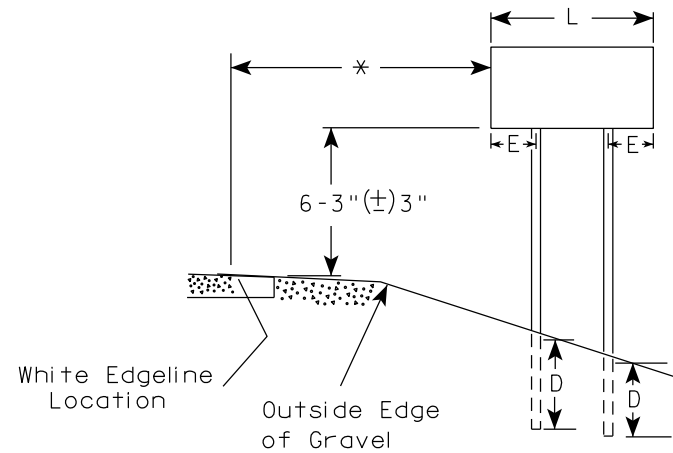
SHEET NO:

E

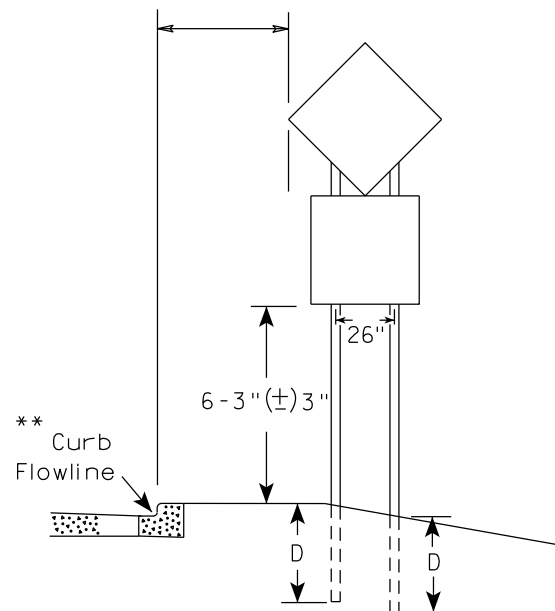
URBAN AREA



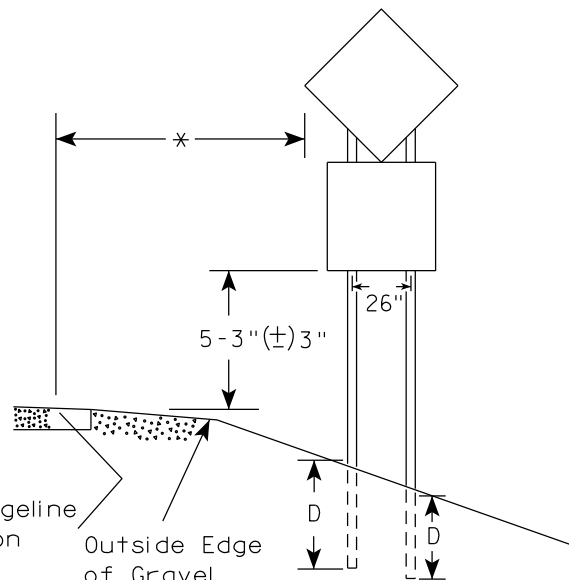
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



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"

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

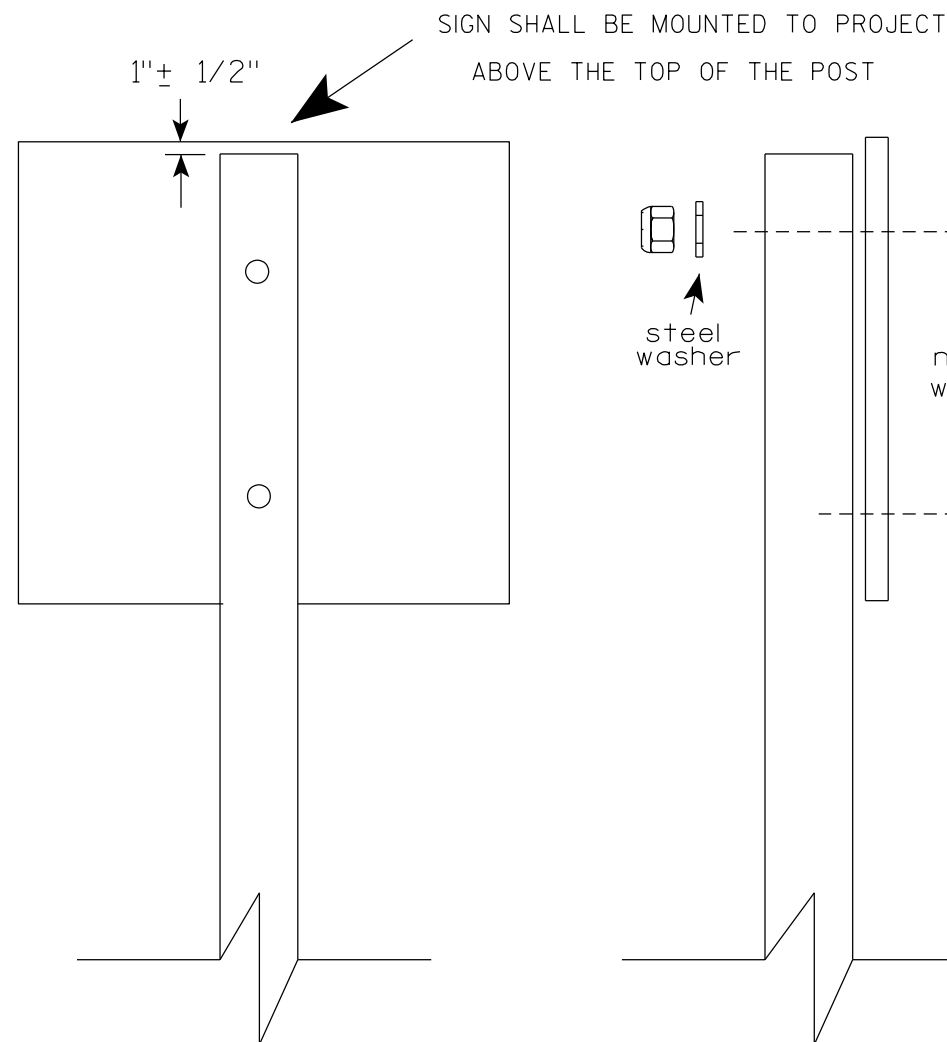
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 57

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.

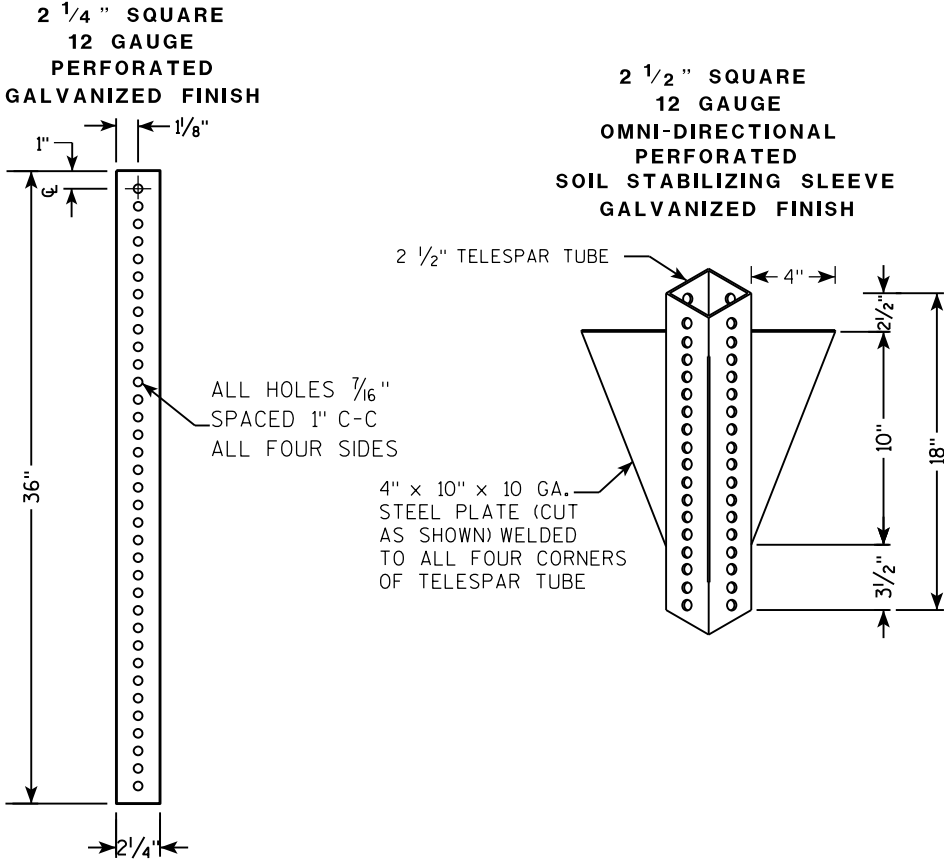
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

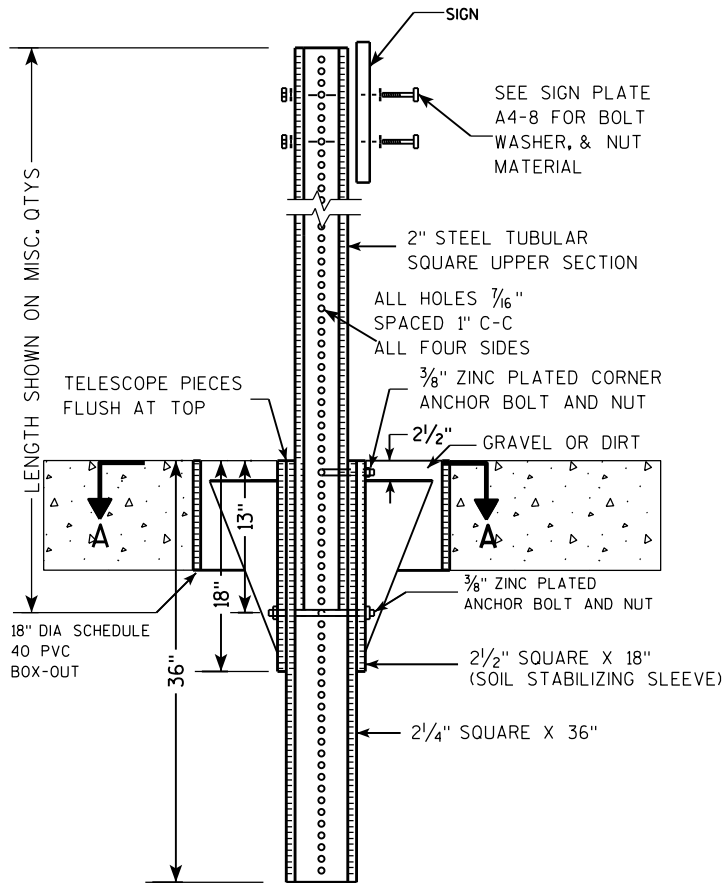
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

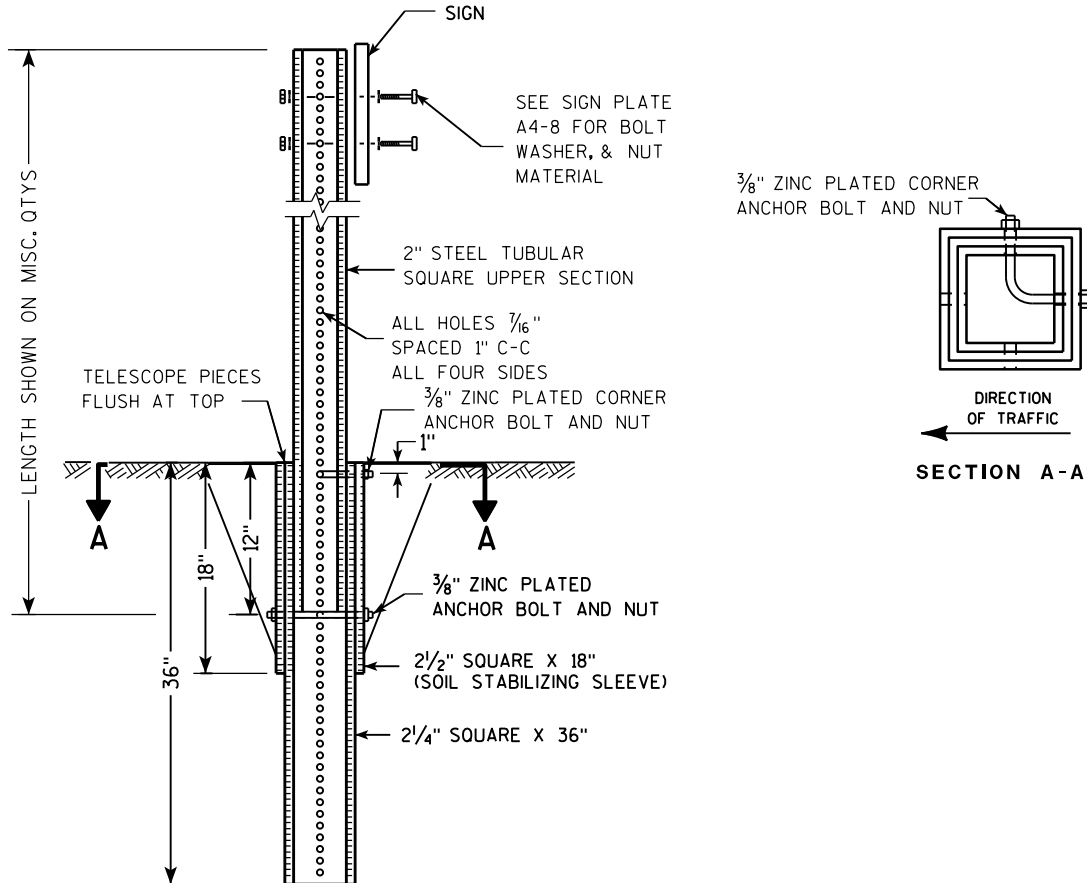
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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)



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

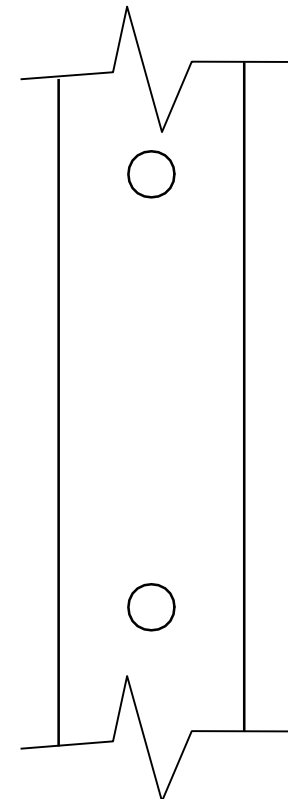
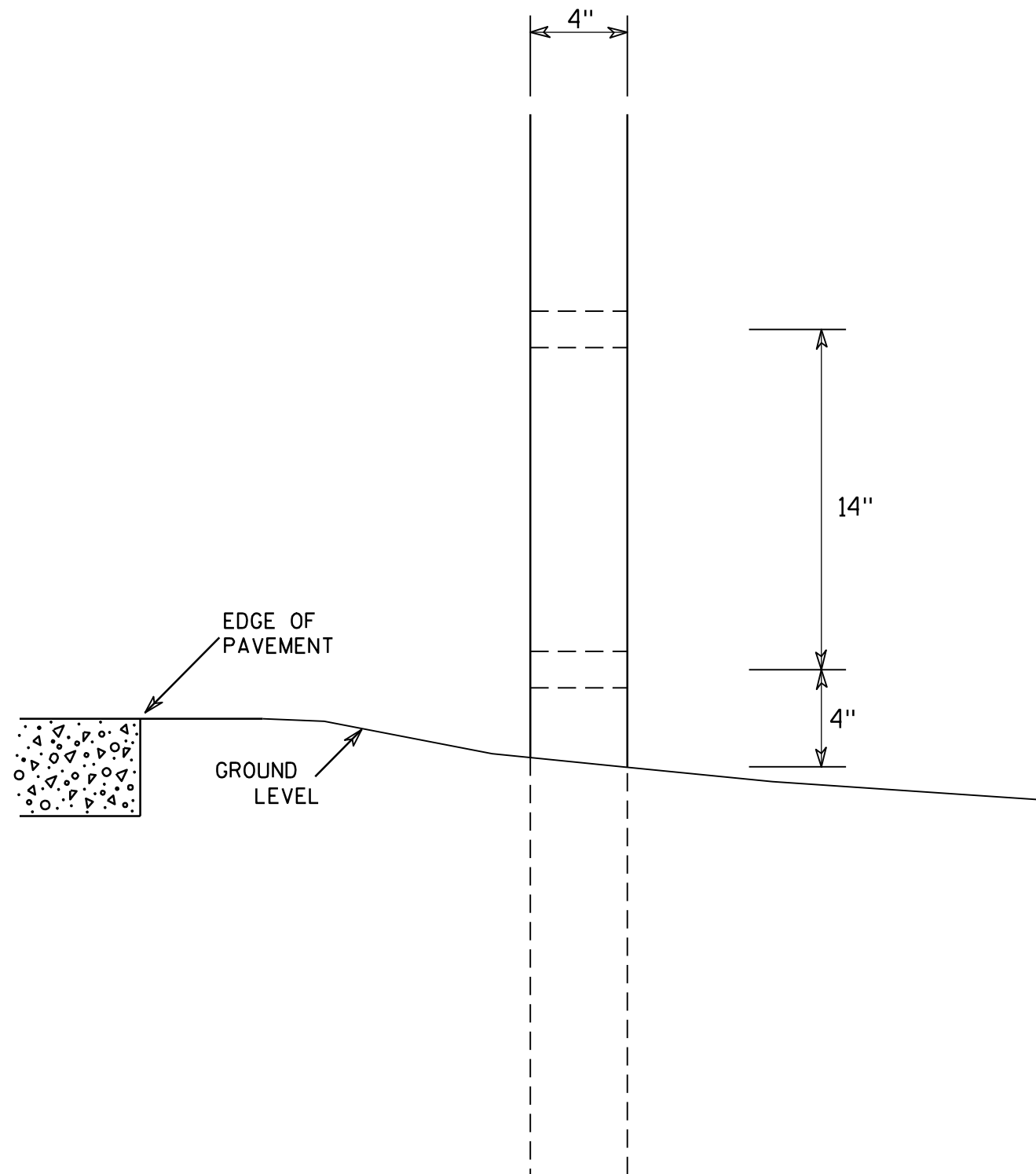
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 59 14-9.9



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

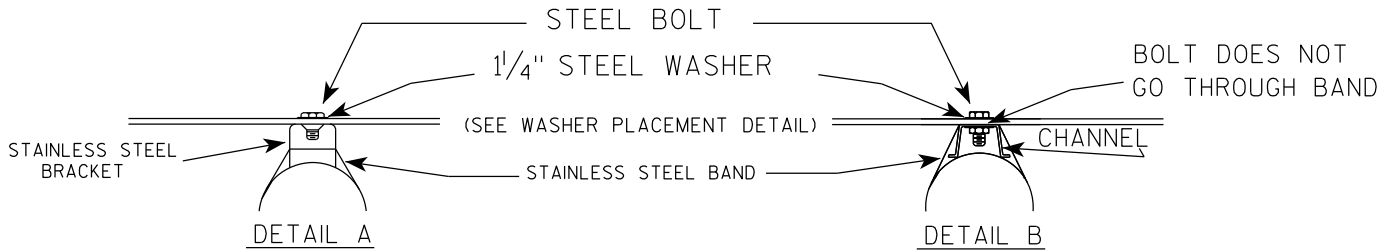
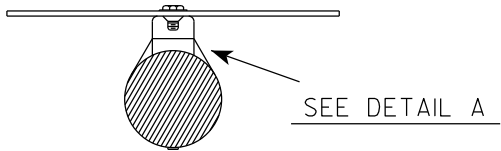
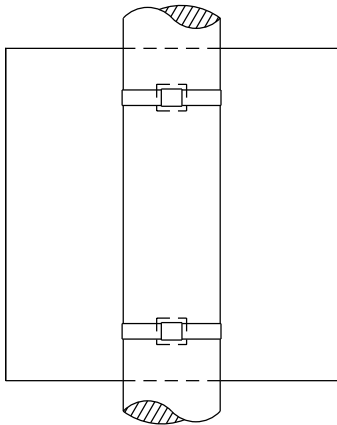
COUNTY:

SHEET NO: 60

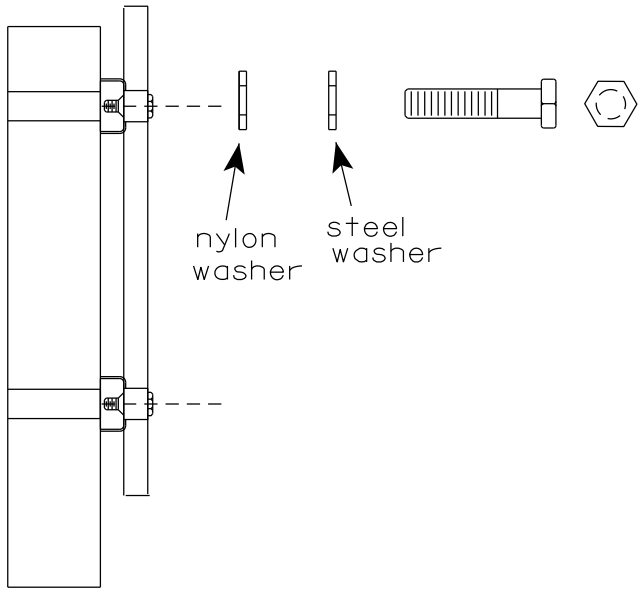
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

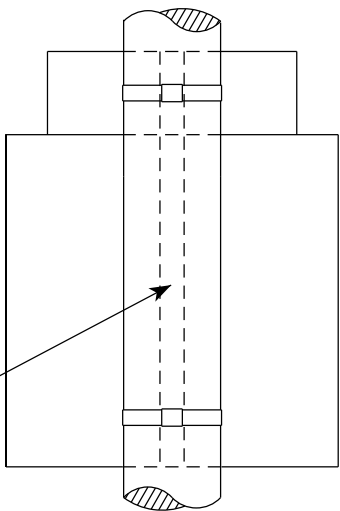


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

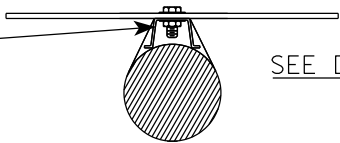
GENERAL NOTES

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 3/4" 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



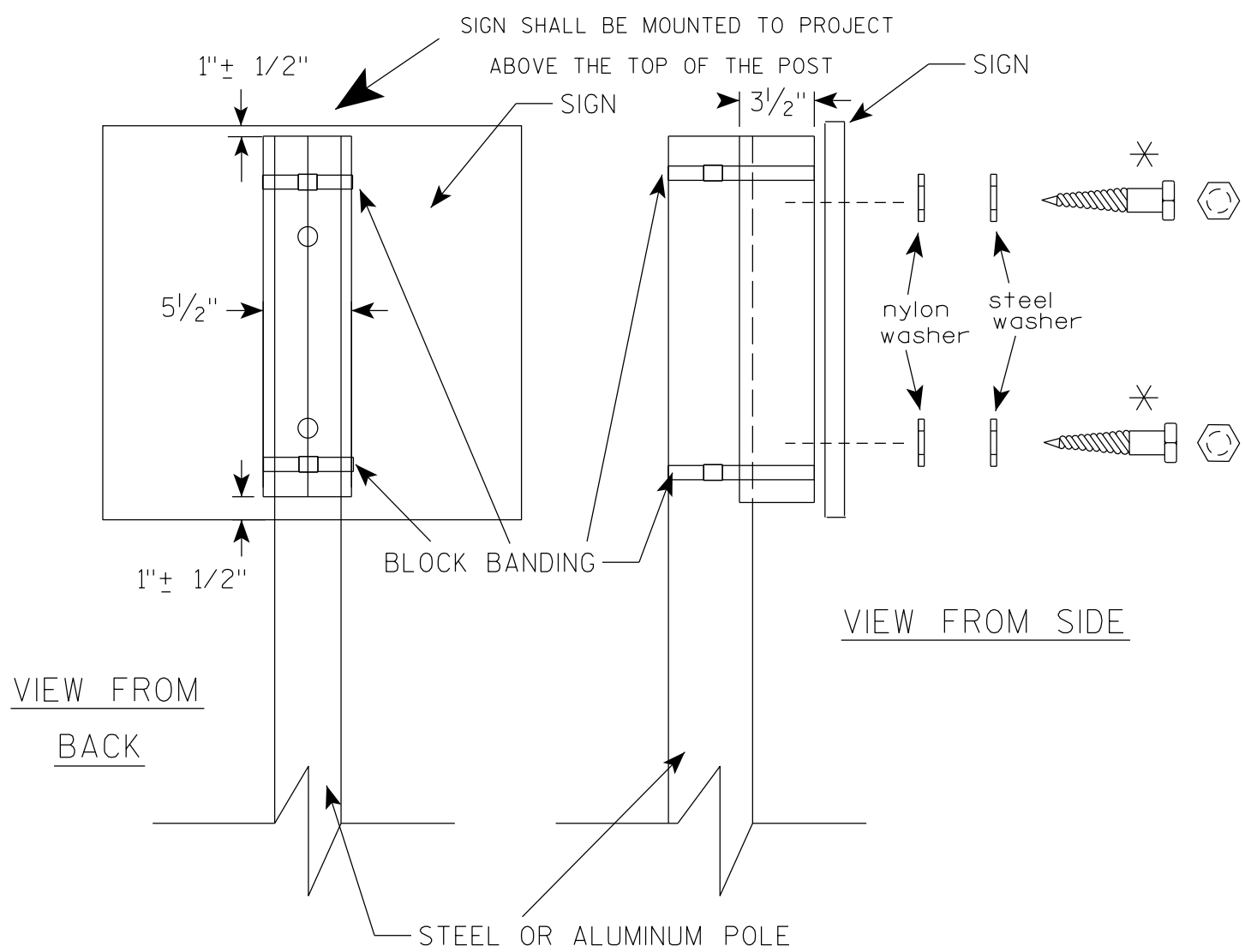
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

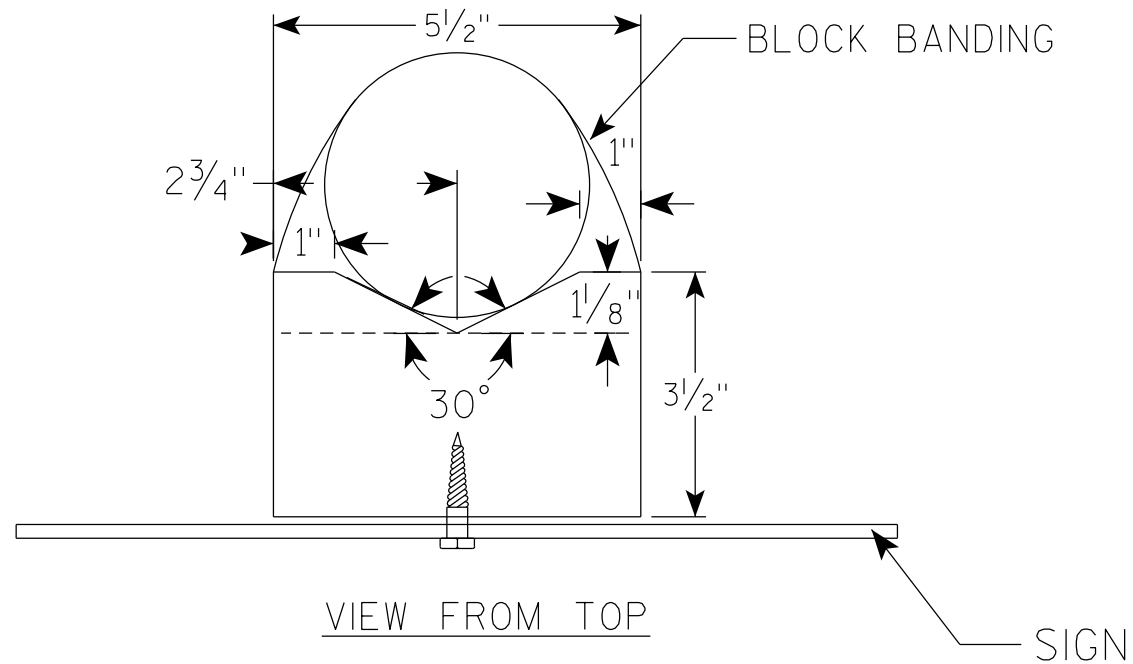
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

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

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

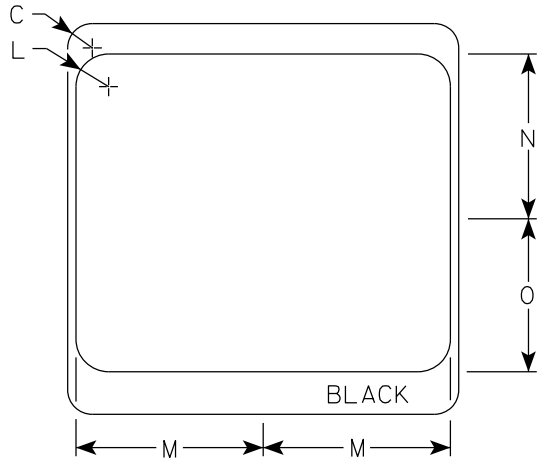
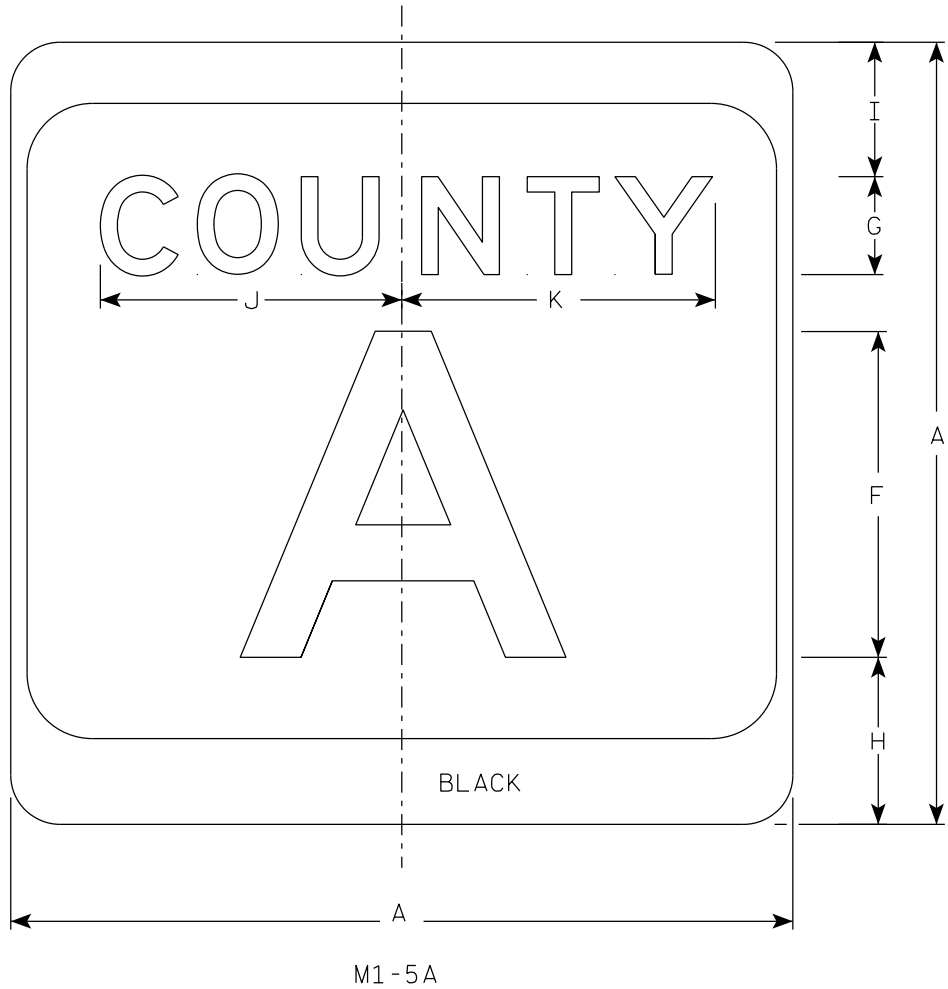
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

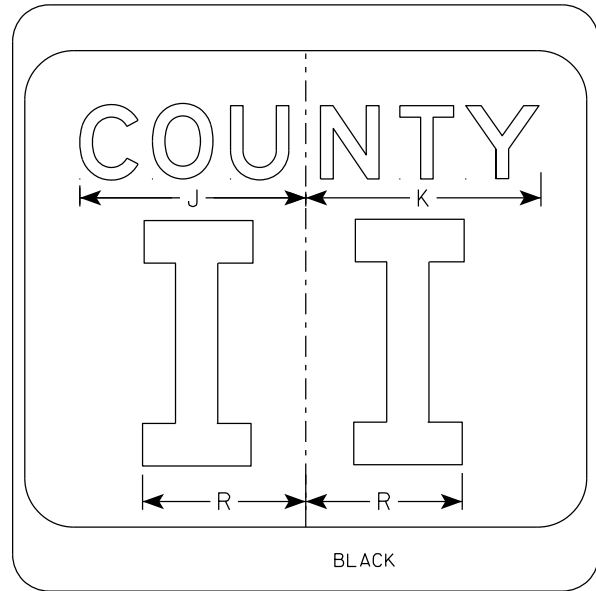
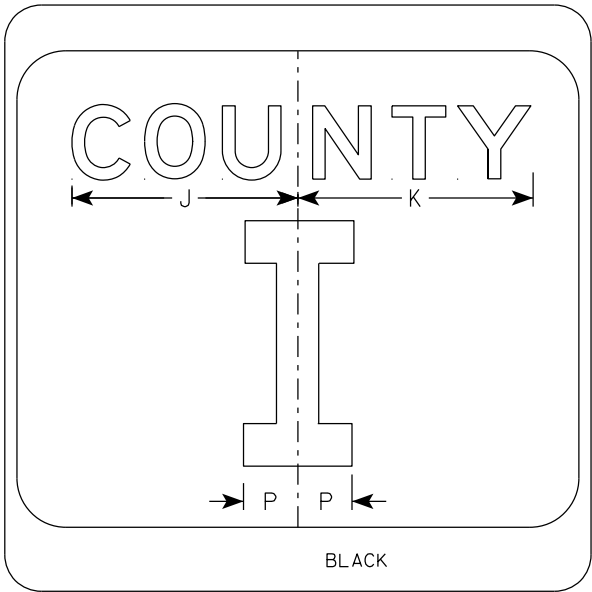
SHEET NO: 62

E

7



- 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

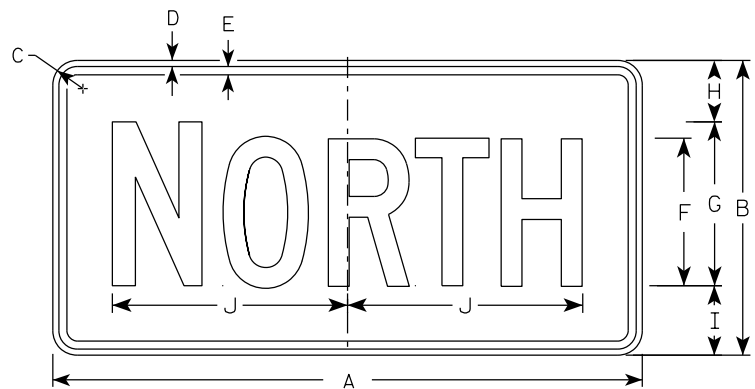
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

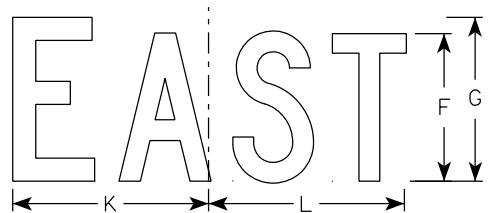
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

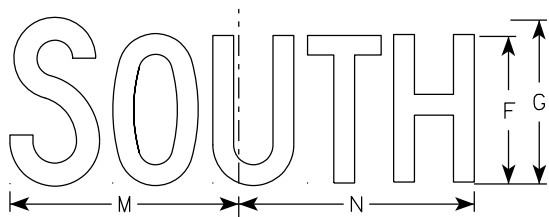
7



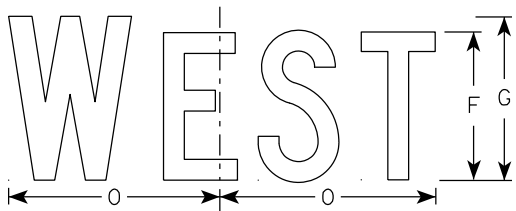
M3-1
MM3-1
MP3-1



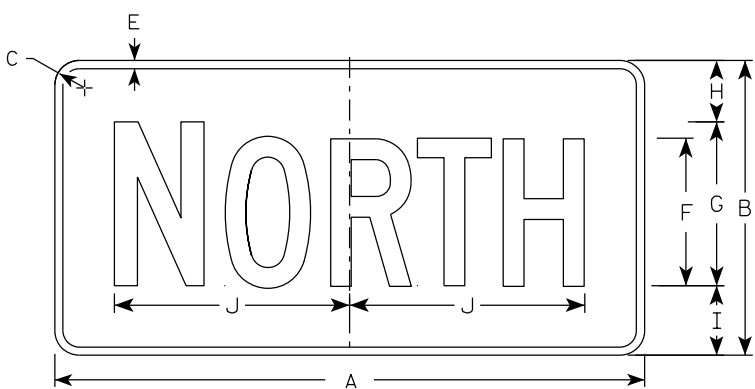
M3-2
MM3-2
MP3-2



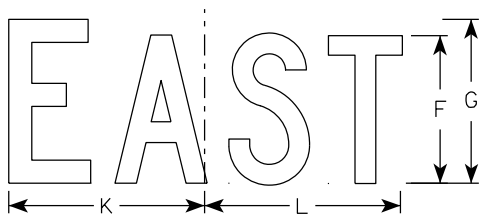
M3-3
MM3-3
MP3-3



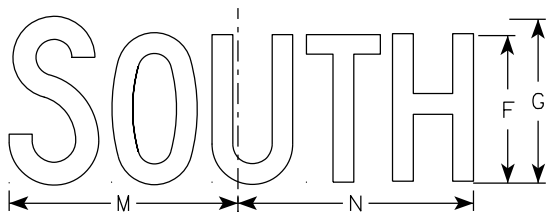
M3-4
MM3-4
MP3-4



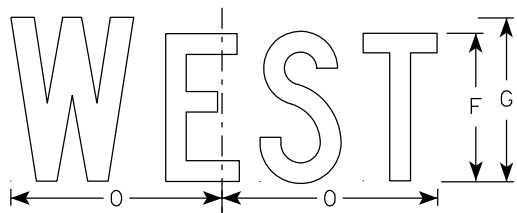
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 64	E
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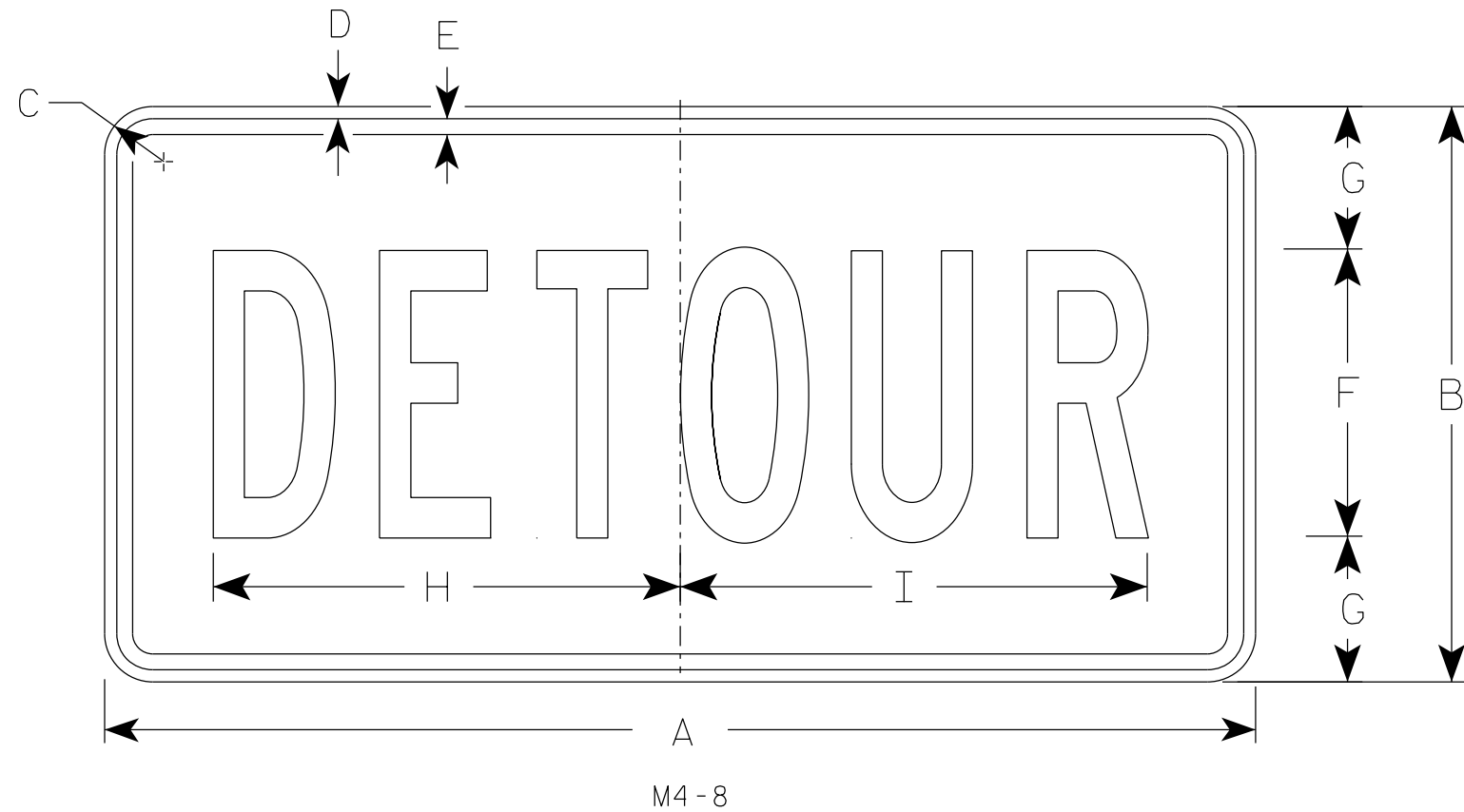
STANDARD SIGNS
M3-1 THRU M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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

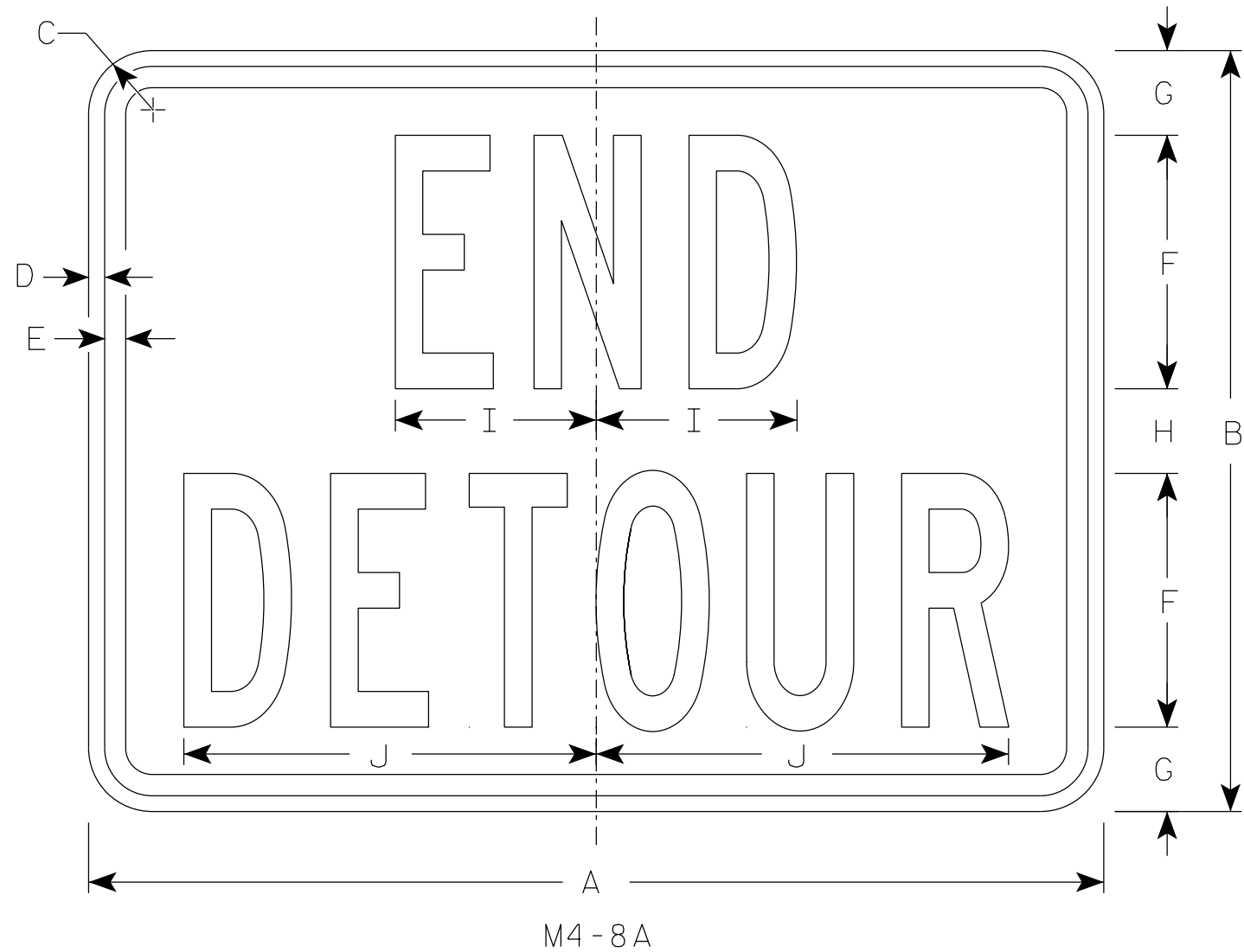
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

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.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

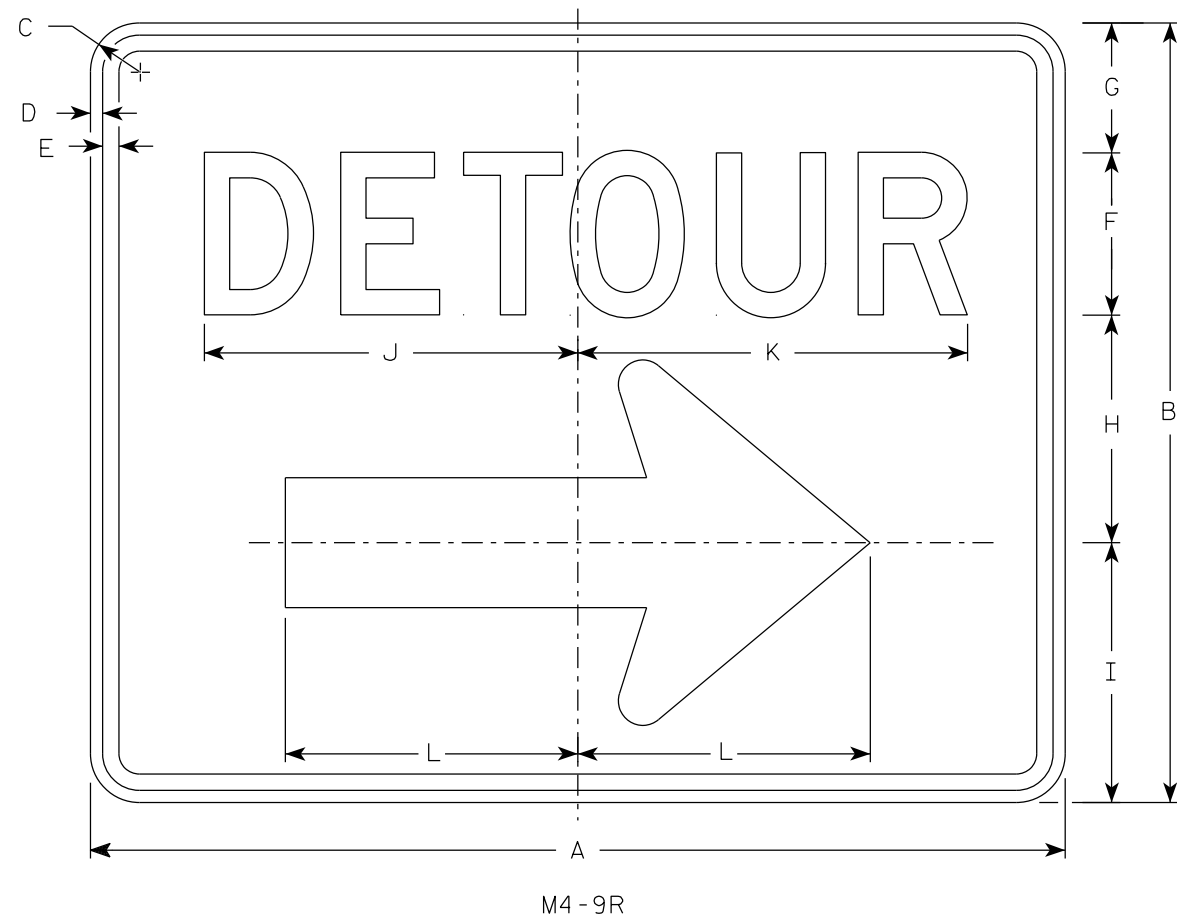
STANDARD SIGN

M4-8A

WISCONSIN DEPT OF TRANSPORTATION

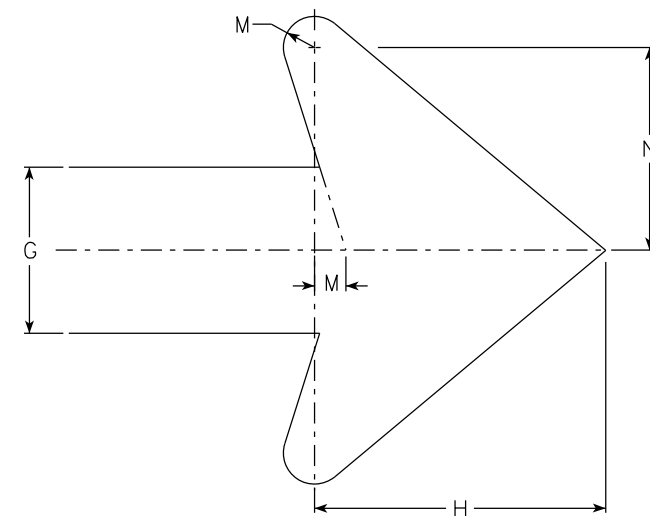
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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



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

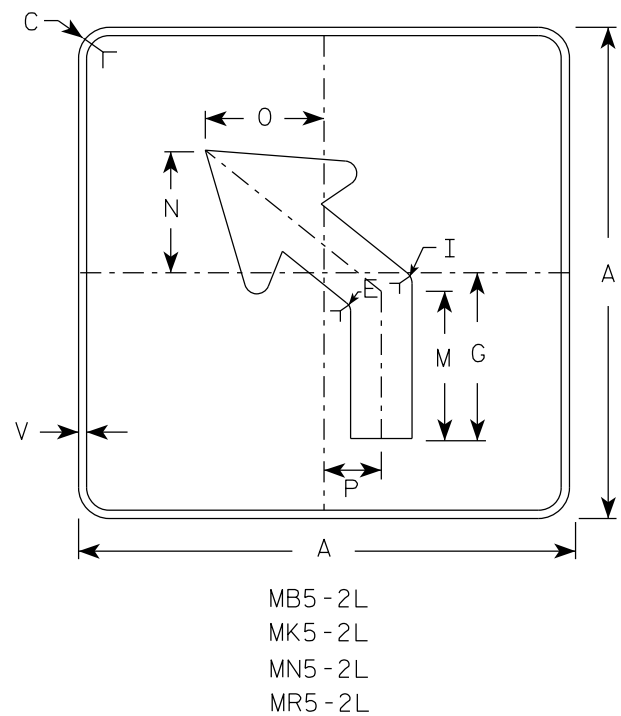
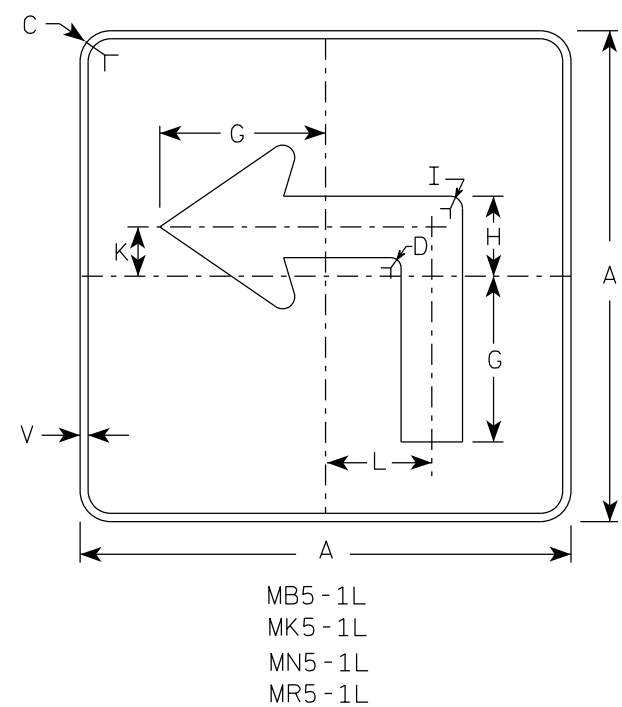
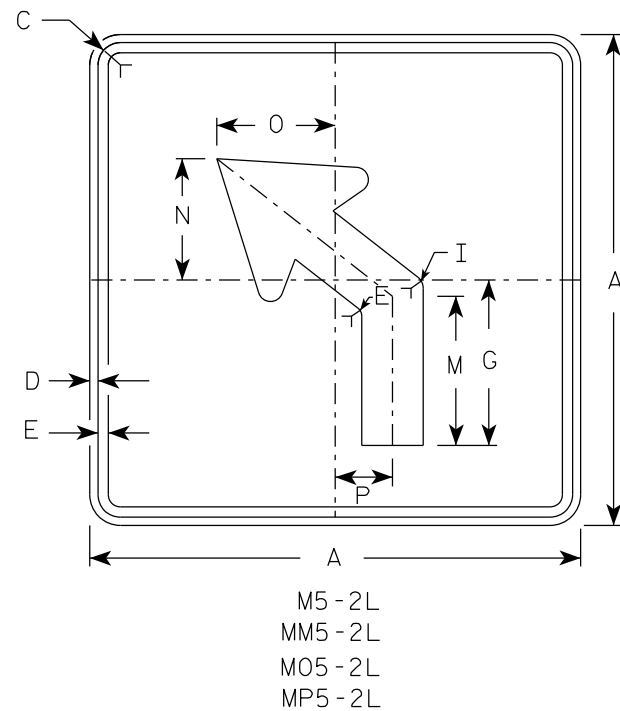
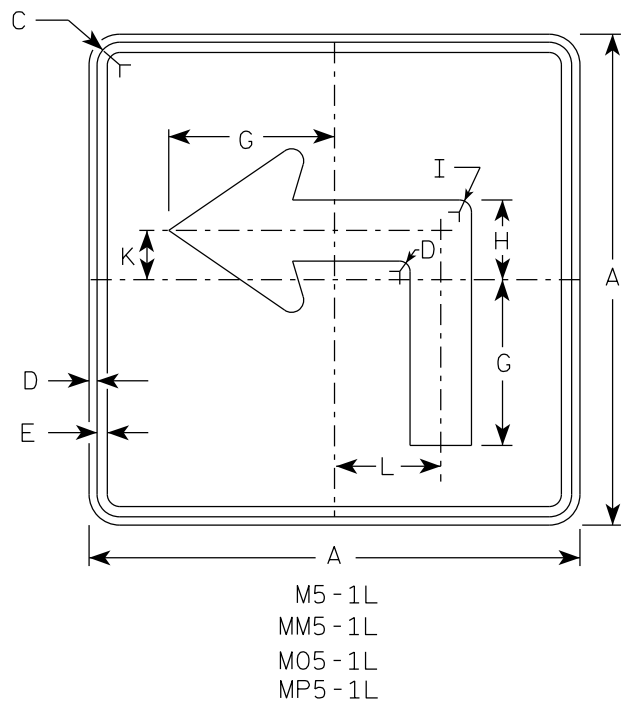
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
2M	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/2	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8											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

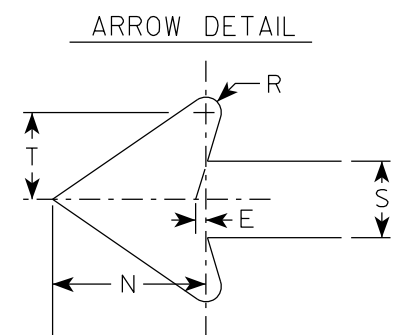
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

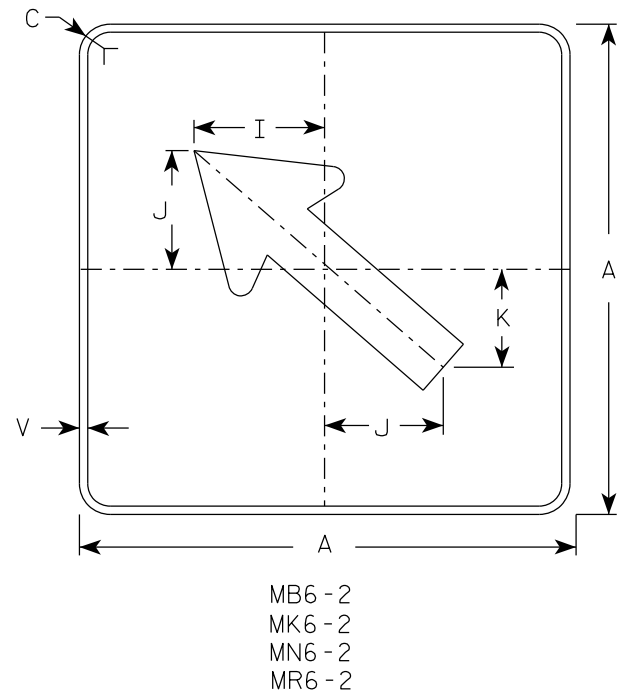
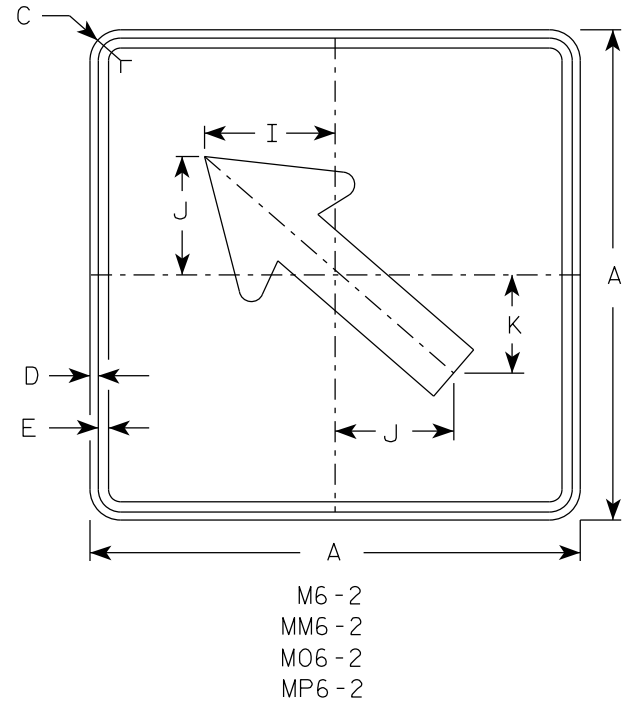
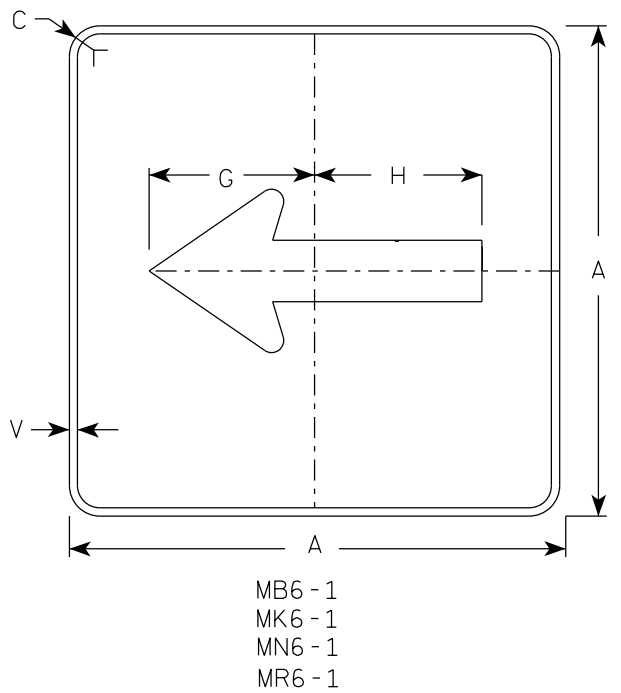
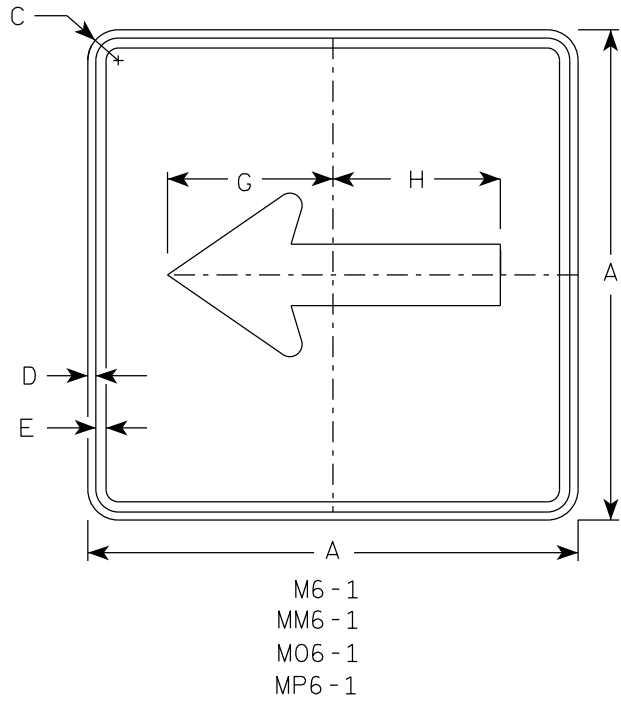


- NOTES
- Signs are Type II - Type H reflective except as shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - | | | |
|-----------|-------|---|
| 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 |
| M05-1 and | M05-2 | 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 |
 - M5-1R same as M5-1L except arrow points right.
 - M5-2R same as M5-2L except arrow tilts right.

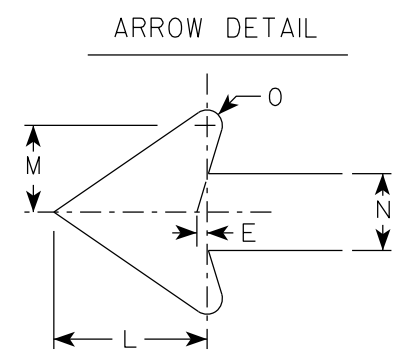


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	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

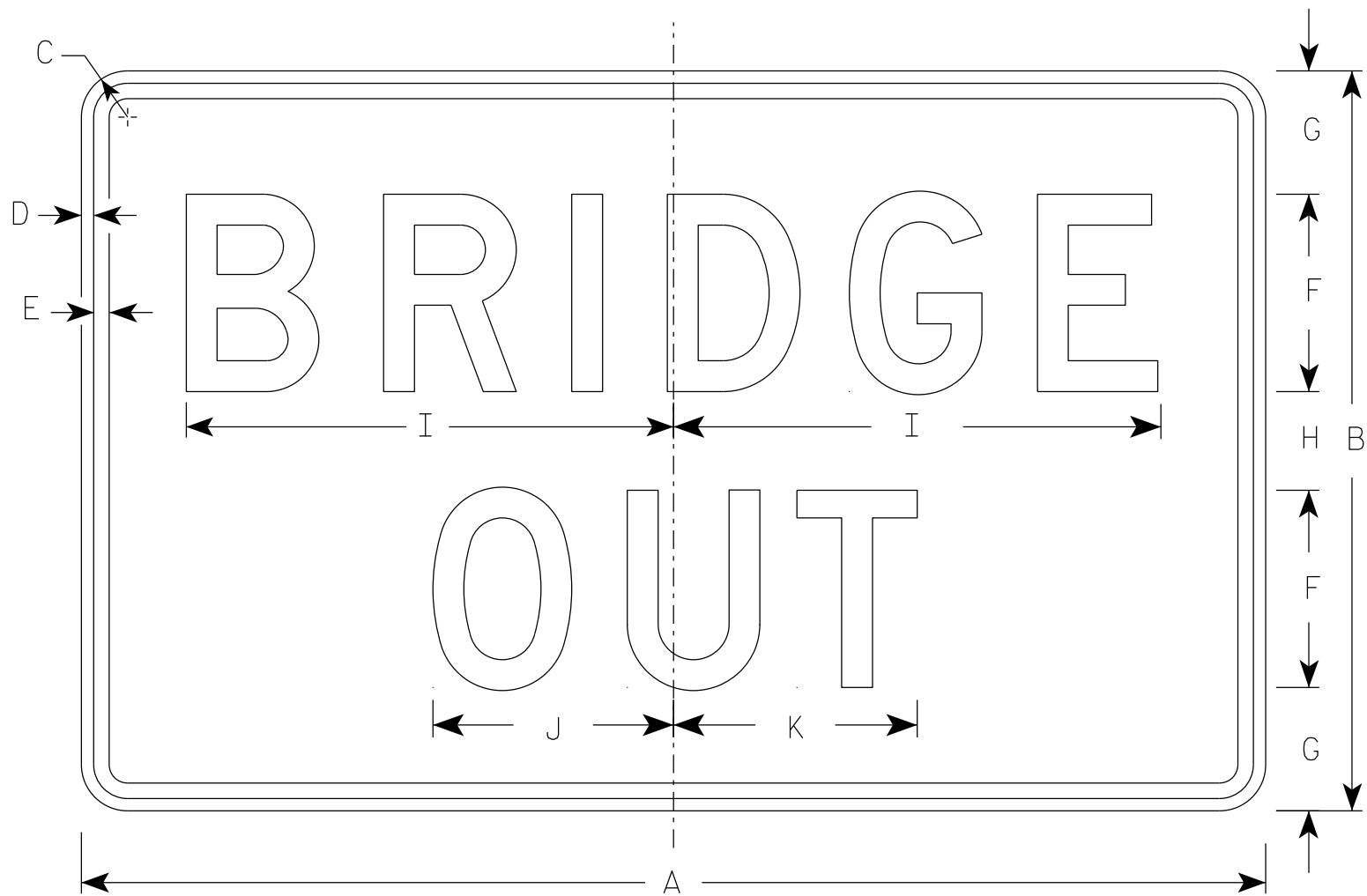
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 68	E
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- NOTES
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
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
M06-1 and M06-2 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



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



R11-2B

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

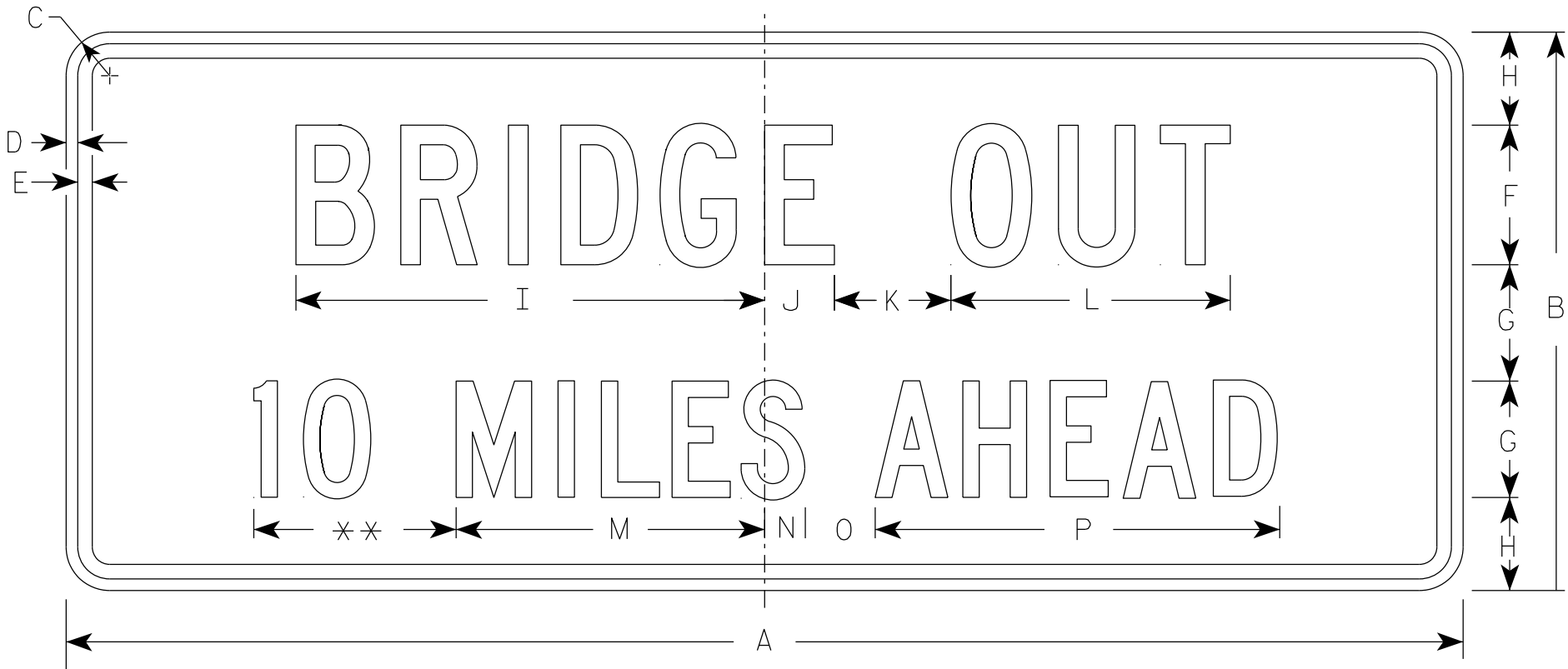
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

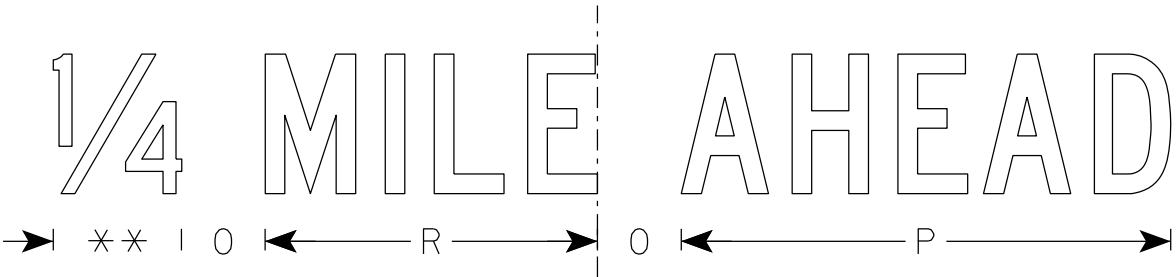
Background - White

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

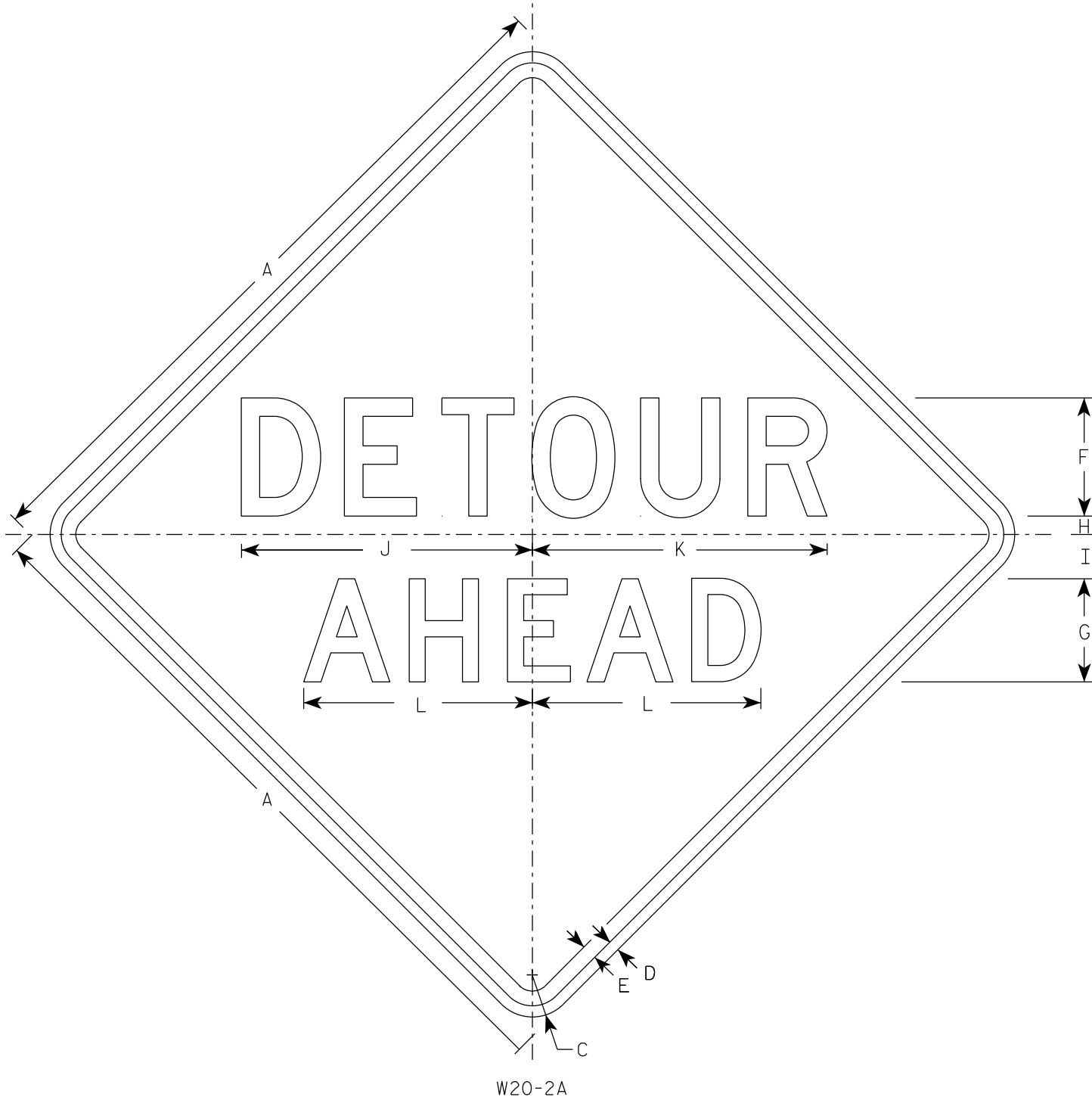
APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

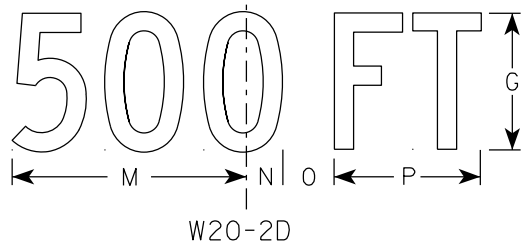
PROJECT NO:

SHEET NO: 71

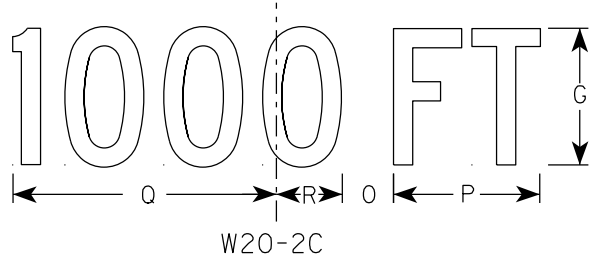
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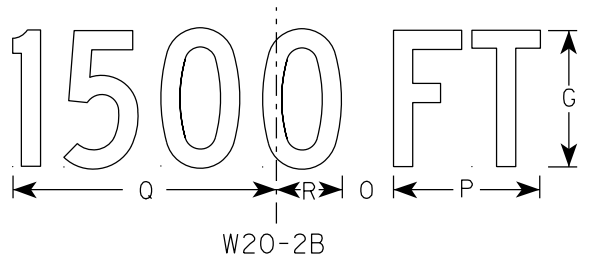
W20-2A



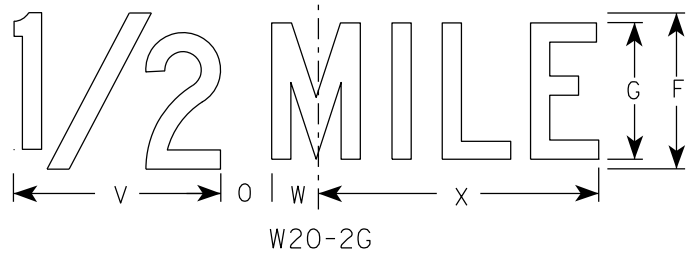
W20-2D



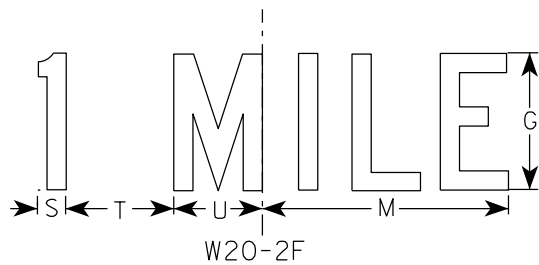
W20-2C



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

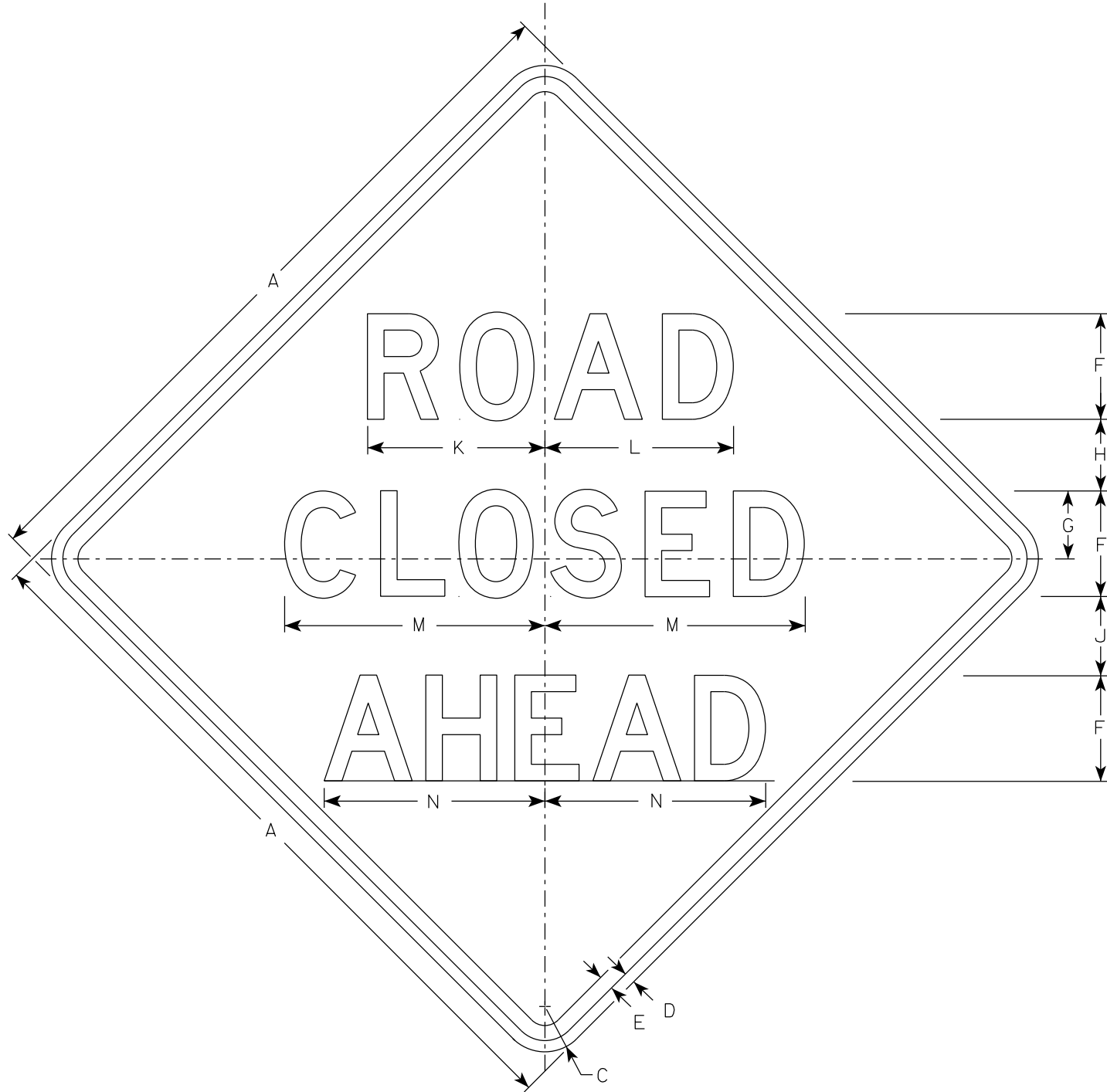
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

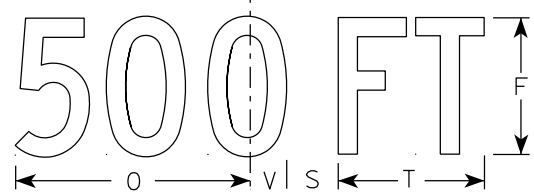
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

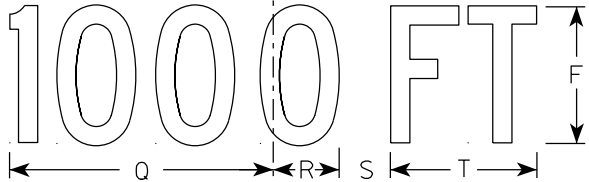
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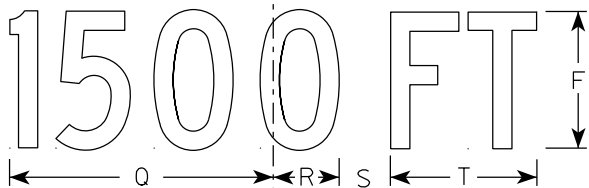
W20-3A



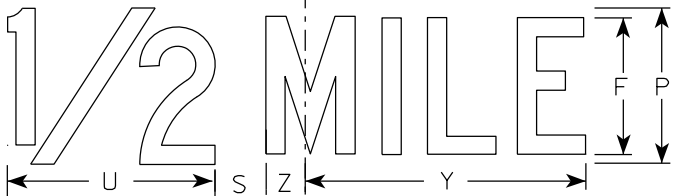
W20-3D



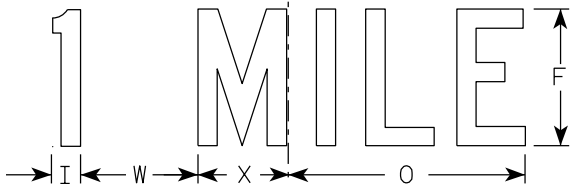
W20-3C



W20-3B



W20-3G



W20-3F

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. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
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4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.005
OPERATING RATING: RF = 1.303
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: $f'_c = 4,000$ PSI
SUPERSTRUCTURE $f'_c = 3,500$ PSI
ALL OTHER $f'_c = 3,500$ PSI
BAR STEEL REINFORCEMENT: $f_y = 60,000$ PSI
GRADE 60

LEGEND

(X) INDICATES WING NUMBER

* ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL

FOUNDATION DATA

ABUTMENTS AND PIER TO BE SUPPORTED ON HP10x42 PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 75'-0" LONG AT ABUTMENTS AND PIER.

**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:
 $Q_{100} = 3,114$ C.F.S.
 $V_{100} = 5.7$ F.P.S.
 $HW_{100} = EL. 803.75$ FT
WATERWAY AREA = 549 SQ. FT.
DRAINAGE AREA = 152.9 SQ. MI.
ROADWAY OVERTOPPING = N/A
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:
 $Q_2 = 1,777$ C.F.S.
 $V_2 = 3.87$ F.P.S.
 $HW_2 = EL. 802.12$ FT

TRAFFIC DATA

CTH A:
ADT = 500 (2025)
ADT = 540 (2045)
R.D.S. = 55 MPH



9/3/2024

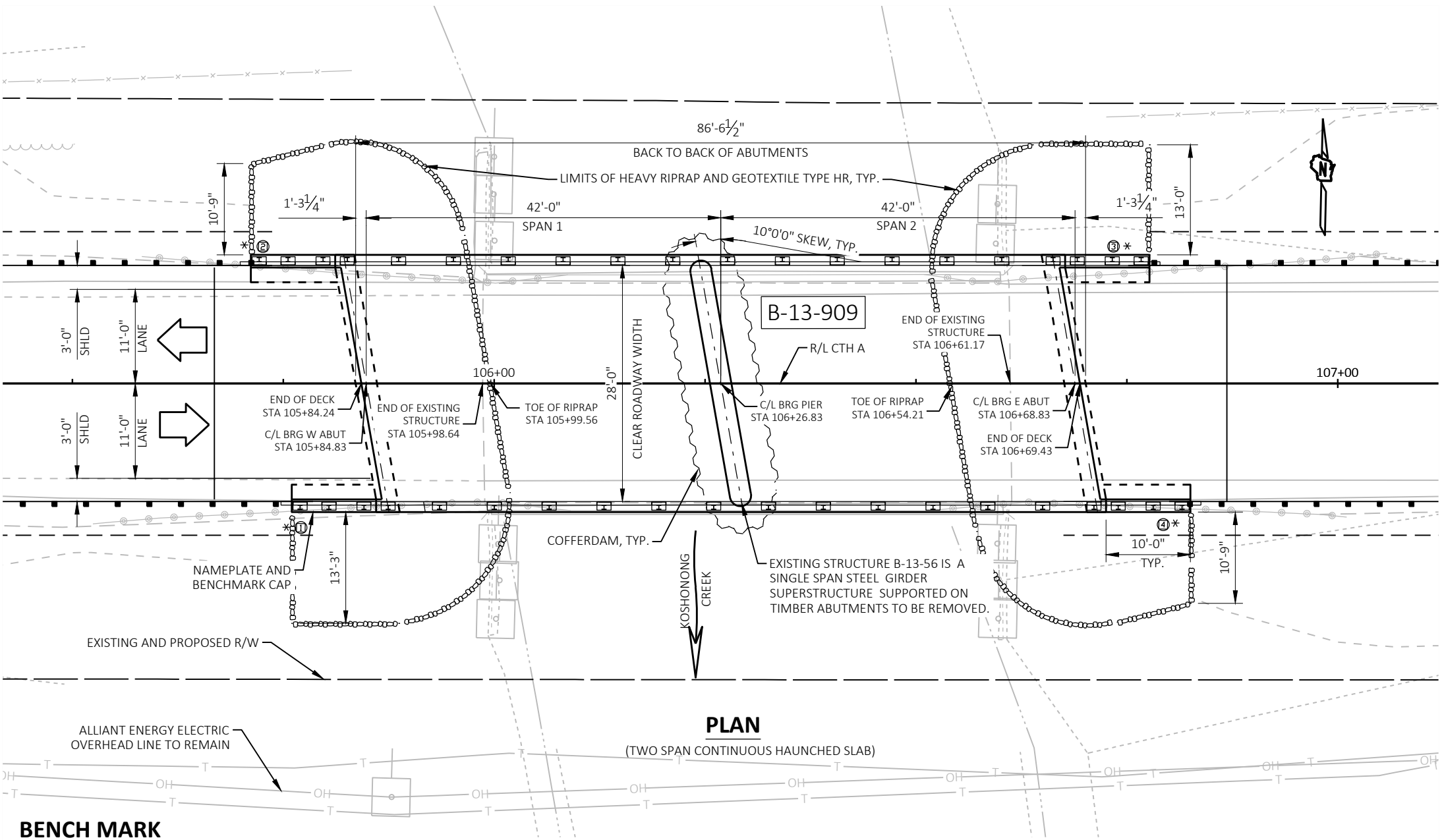
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED			SDR 11/20/24 DATE
STRUCTURE B-13-909			
CTH A OVER KOSHKONONG CREEK			
COUNTY	DANE	TOWN	ALBION
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	JRM	DESIGNED CK'D	AJC
DRAWN BY	AMR	PLANS CK'D	AJC
GENERAL PLAN & ELEVATION			SHEET 1 OF 12 74

LIST OF DRAWINGS:

- GENERAL PLAN & ELEVATION
- TYPICAL SECTION & QUANTITIES
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT DETAILS
- EAST ABUTMENT
- EAST ABUTMENT DETAILS
- ABUTMENT DETAILS
- PIER
- SUPERSTRUCTURE
- SUPERSTRUCTURE DETAILS
- TUBULAR STEEL RAILING TYPE "M"

STRUCTURE DESIGN CONTACTS:

TONY CASTLE(EMCS) 414-935-5740
AARON BONK(WISDOT) 608-261-0261

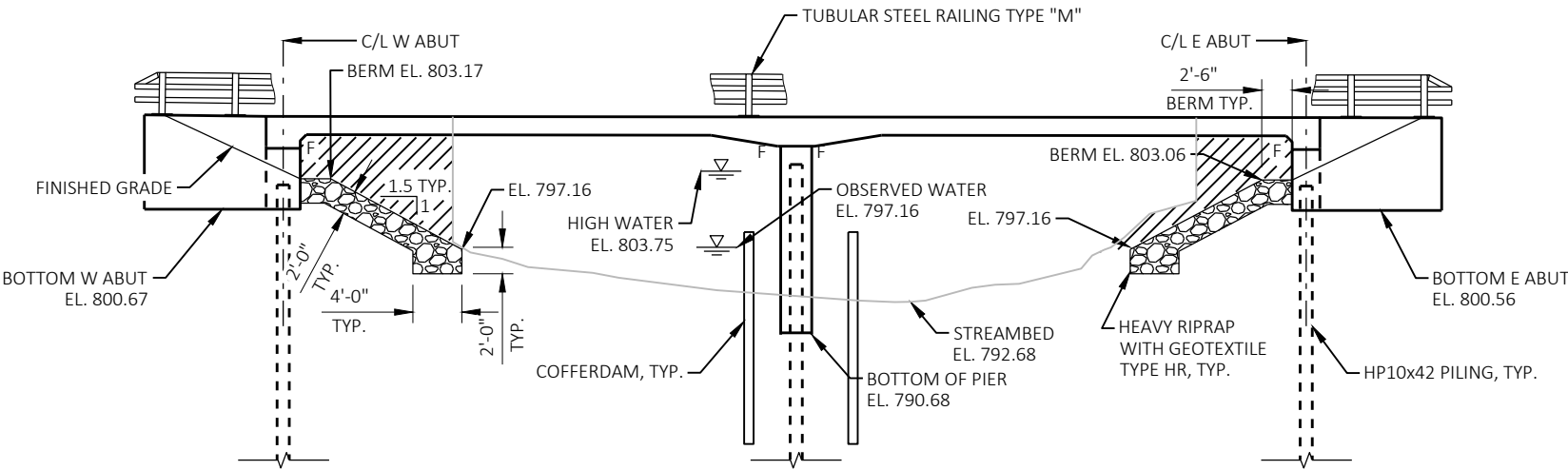
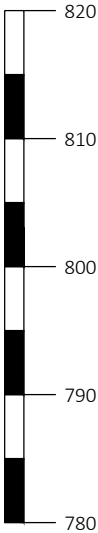


PLAN

(TWO SPAN CONTINUOUS HAUNCHED SLAB)

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
503	105+31.49	CP 3/4 IROD W/ CAP	807.981



ELEVATION

(LOOKING NORTH)

COST OF EXCAVATION IN HATCHED AREAS SHALL BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-13-909"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCE TO NAVD 88.

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

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-13-909" SHALL BE THE EXISTING GROUNDLINE.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

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.

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.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

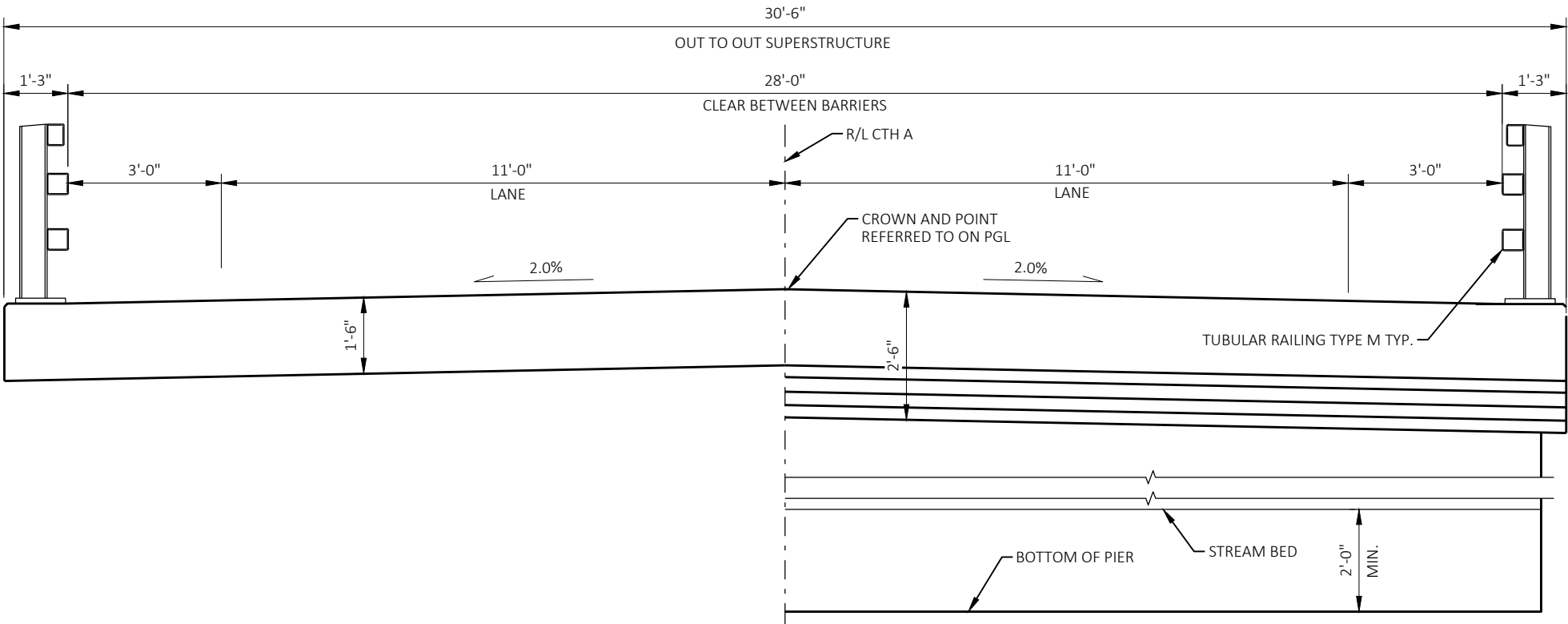
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

AT PIER, COFFERDAM REQUIRED. CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH STANDARD SPEC 502.3.5.3. CONCRETE POURED UNDERWATER SHALL NOT EXCEED 10.0 FEET IN DEPTH, UNLESS APPROVED OTHERWISE.

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

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE TOP OF SLAB, INCLUDING THE SLAB EDGE AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS AND FRONT FACE OF ABUTMENT TO 1'-0" PAST THE EDGE OF SLAB.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE I, II, OR III OR AASHTO DESIGNATION M213.

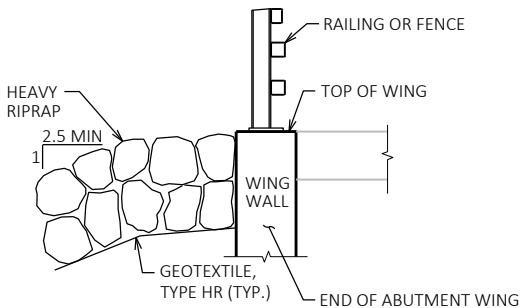


IN SPAN

AT PIER

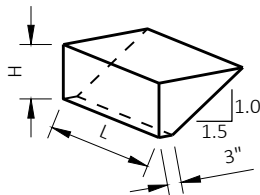
CROSS SECTION THRU ROADWAY

LOOKING UP STATION
(PILES OMITTED FOR CLARITY)



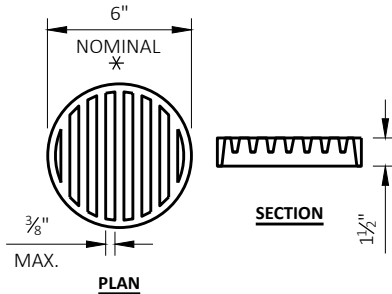
NOTE: PLACE HEAVY RIP RAP
EVEN WITH TOP OF WING,
2 FEET FROM WING TIP

TYPICAL FILL SECTION AT WING TIPS



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)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$

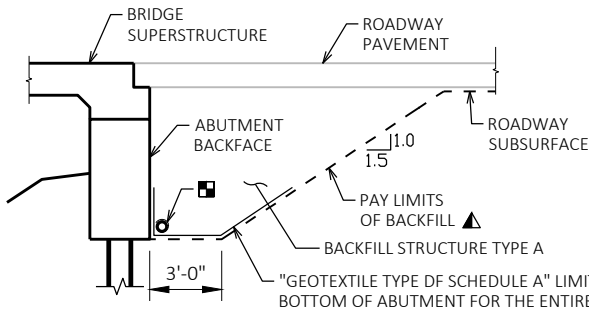


RODENT SHIELD DETAIL

✱ 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 COMMERCIALY 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.



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.

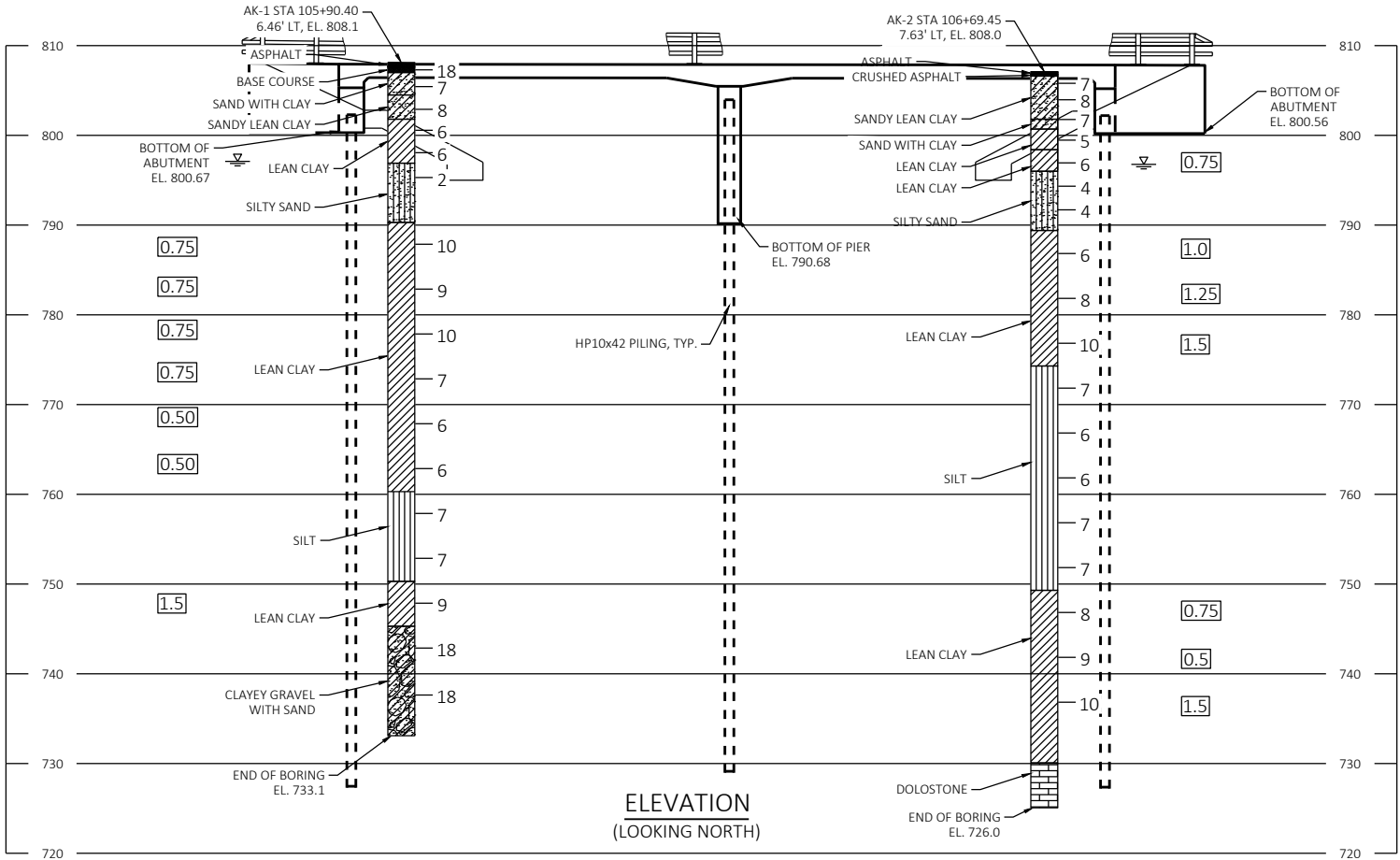
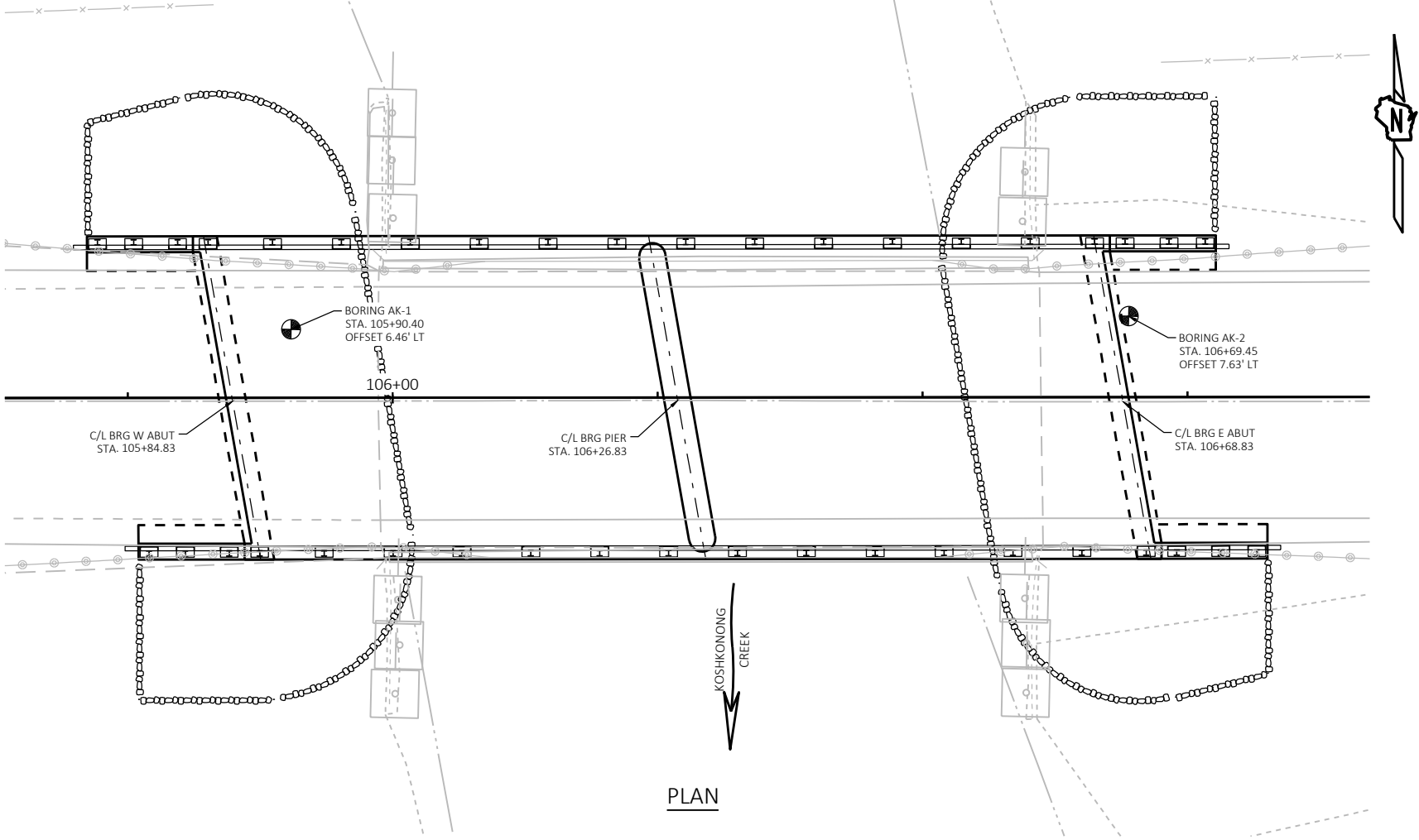
TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	W ABUT.	PIER	E ABUT.	SUPER	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-13-56	EACH	-	-	-	-	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-909	EACH	-	-	-	-	1
206.5001	COFFERDAMS B-13-909	EACH	-	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120	-	120	-	240
502.0100	CONCRETE MASONRY BRIDGES	CY	29.5	40.2	29.5	158.8	258
502.3200	PROTECTIVE SURFACE TREATMENT	SY	20	-	20	323	363
502.9000.S	UNDERWATER SUBSTRUCTURE INSPECTION B-13-909	EACH	-	-	-	-	1
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,900	2,040	1,900	-	5,840
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,260	60	1,260	36,010	38,590
513.4061	RAILING TUBULAR TYPE M	LF	-	-	-	214	214
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	9	-	9	-	18
550.0500	PILE POINTS	EACH	5	10	5	-	20
550.1100	PIILING STEEL HP 10-INCH X 42 LB	LF	375	750	375	-	1,500
606.0300	RIPRAP HEAVY	CY	75	-	75	-	150
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	68	-	68	-	136
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	45	-	45	-	90
645.0120	GEOTEXTILE TYPE HR	SY	150	-	150	-	300
NON-BID ITEMS							
	FILLER	SIZE	-	-	-	-	1/2", 3/4"
	NAME PLATE	EACH	-	-	-	-	1

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		JRM	PLANS CK'D AJC
TYPICAL SECTION & QUANTITIES		SHEET 2 OF 12 75	

SCALE =

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
AK-1	12/1/2023	432277	918607
AK-2	12/1/2023	432280	918686
BORINGS COMPLETED BY: GESTRA ENGINEERING INC.			
REPORT COMPLETED BY: GESTRA ENGINEERING INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011)		DANE COUNTY	



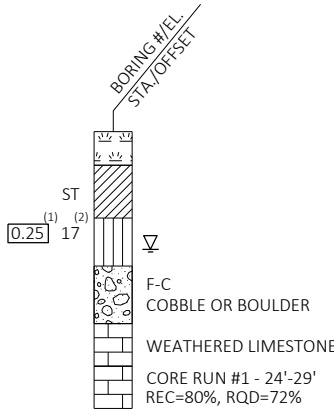
STATE PROJECT NUMBER

3672-00-70

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
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

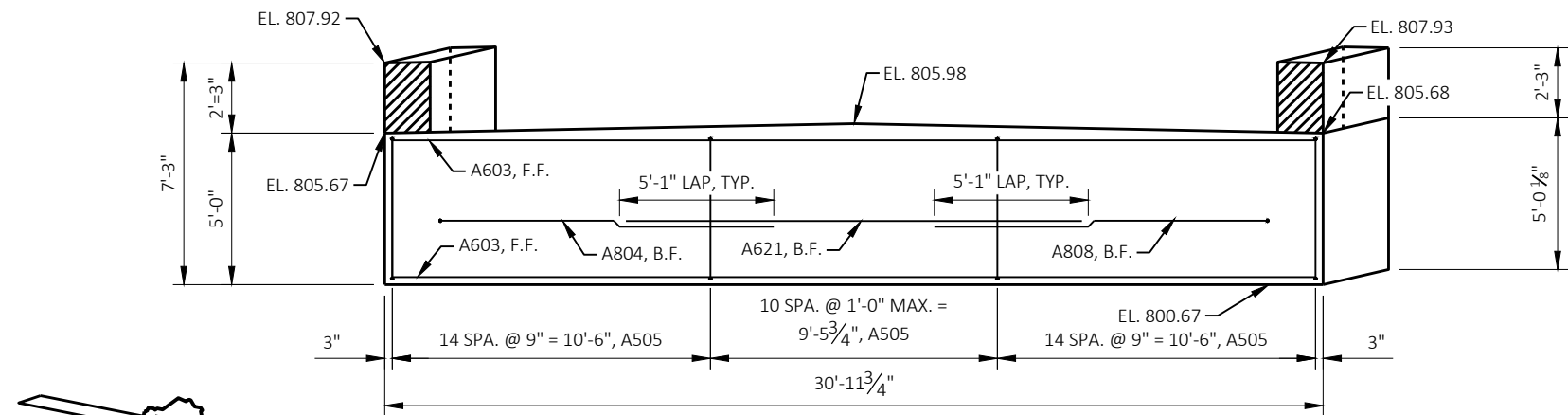
STRUCTURE B-13-909

DRAWN BY	AMR	PLANS CK'D	AJC
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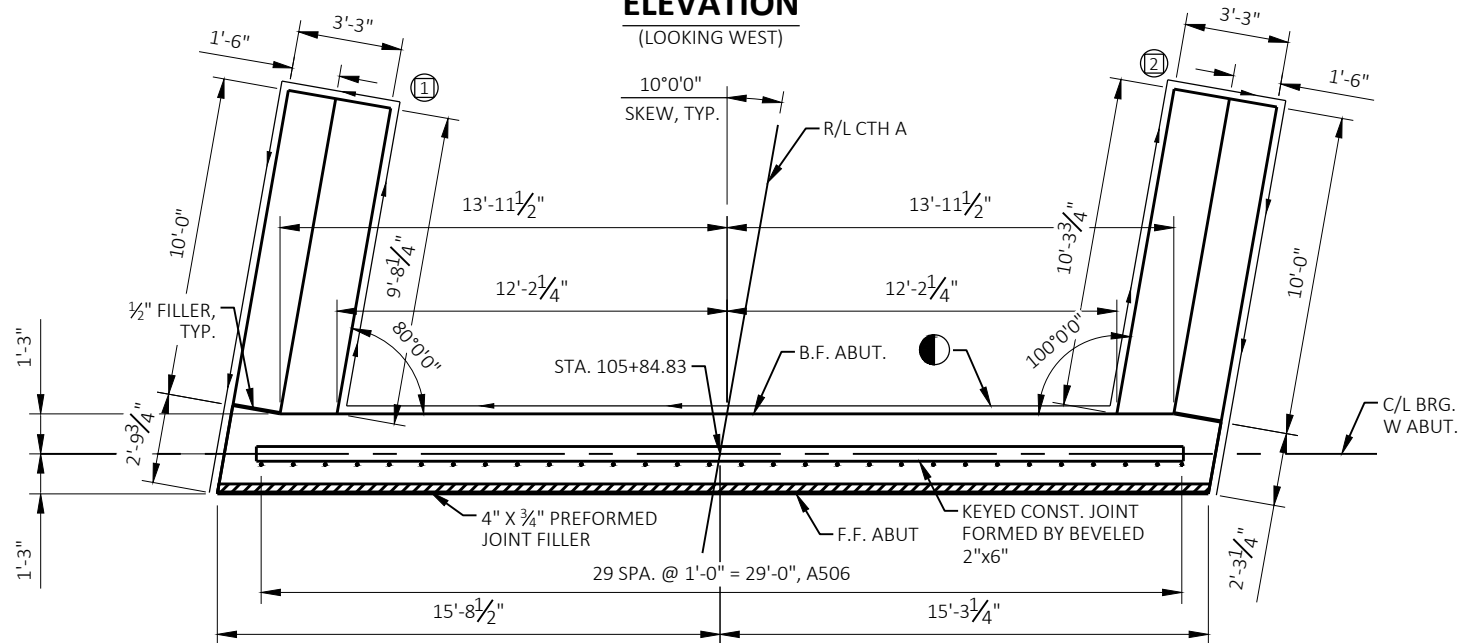
SUBSURFACE
EXPLORATION

SHEET 3 OF 12
76

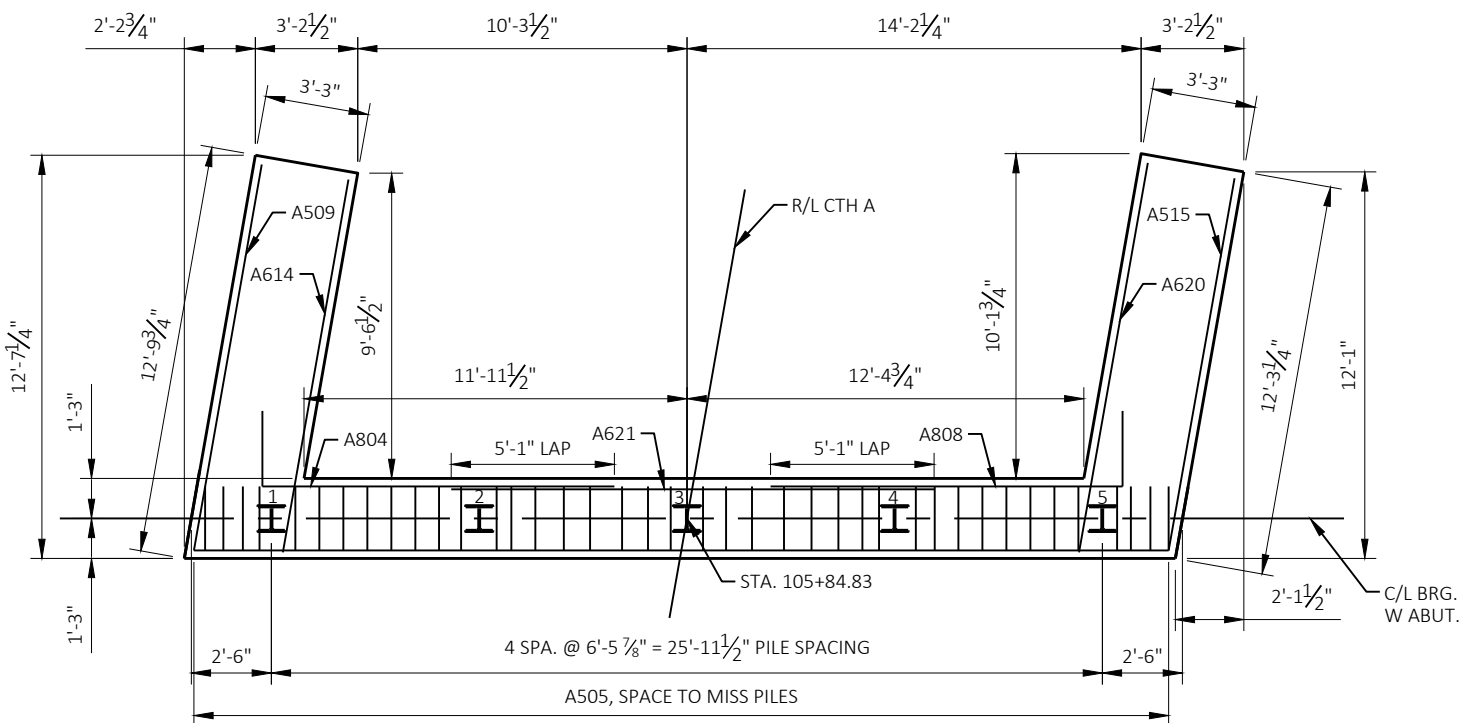
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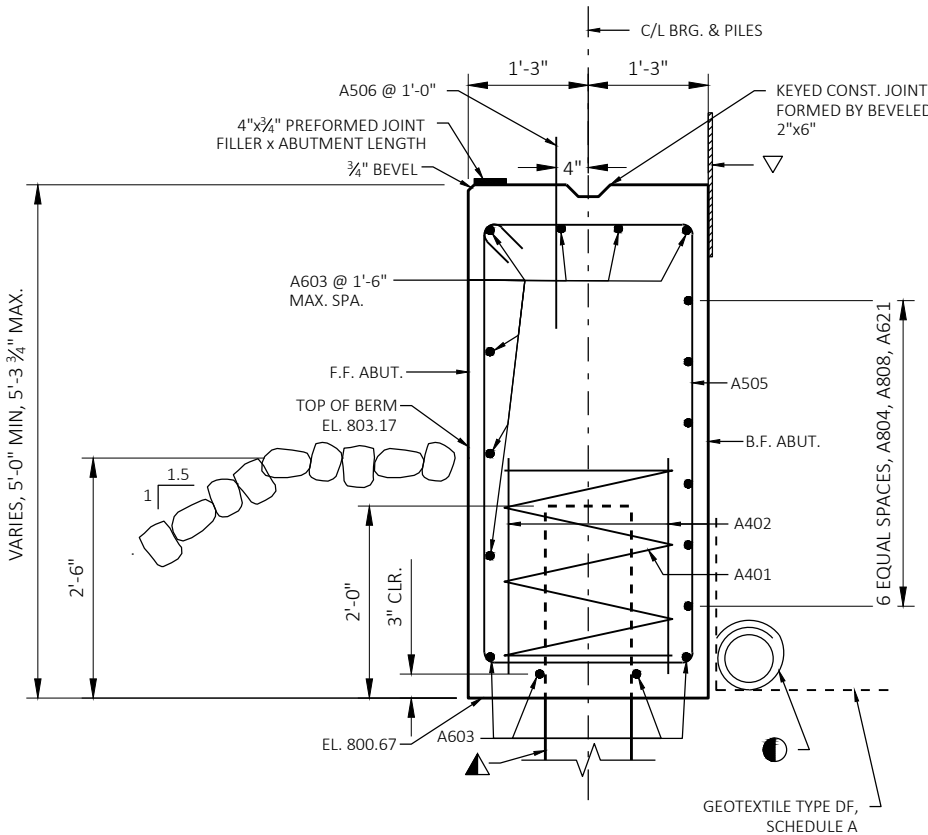
ELEVATION
(LOOKING WEST)



PLAN



PILE PLAN

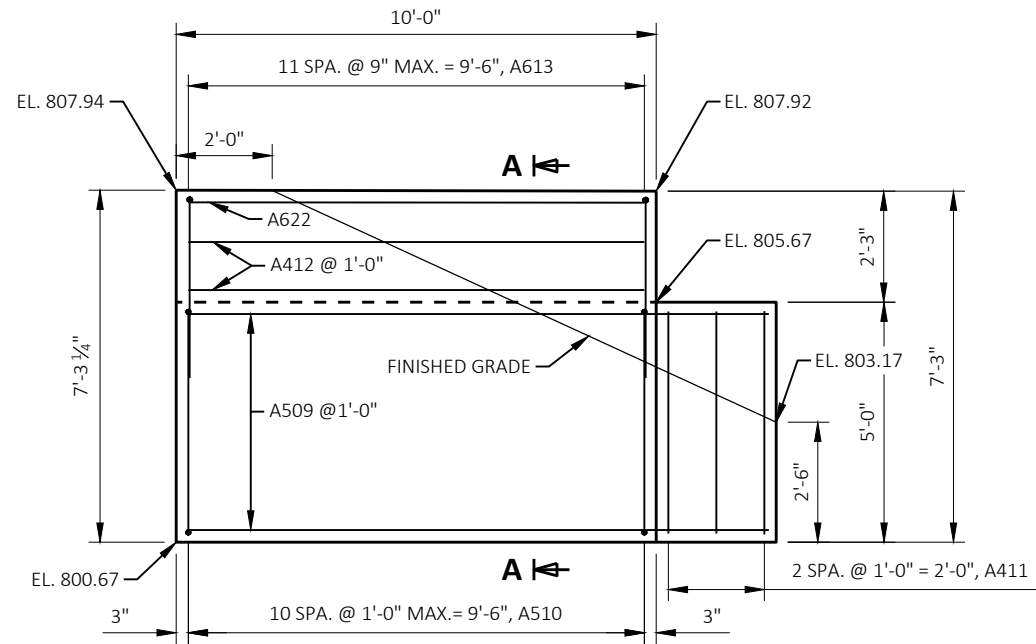


SECTION THRU BODY

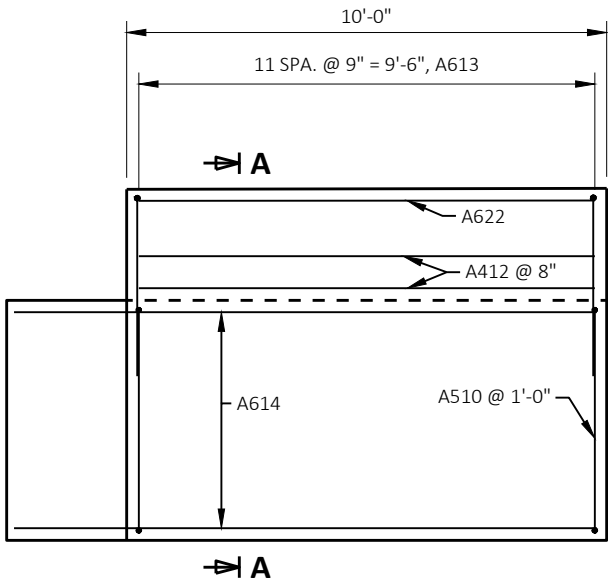
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "CROSS SECTION & QUANTITIES" SHEET. RODENT SHIELD TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- SUPPORT ABUTMENT ON PILING STEEL HP 10-INCH x 42 LB, ESTIMATED 75 FEET LONG, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. SEE ADDITIONAL FOUNDATION DATA ON SHEET 1 AND PILE SPLICE DETAILS ON SHEET 8.

SEE SHEET 8 FOR BILL OF BARS.

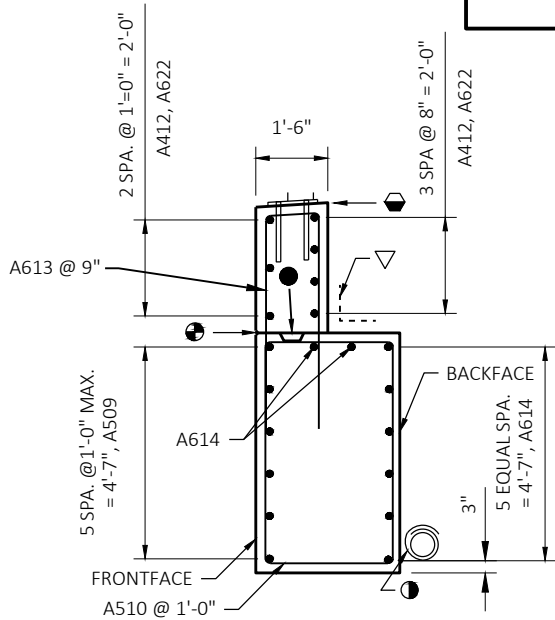
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		AMR	PLANS CK'D A/C
WEST ABUTMENT		SHEET 4 OF 12 77	



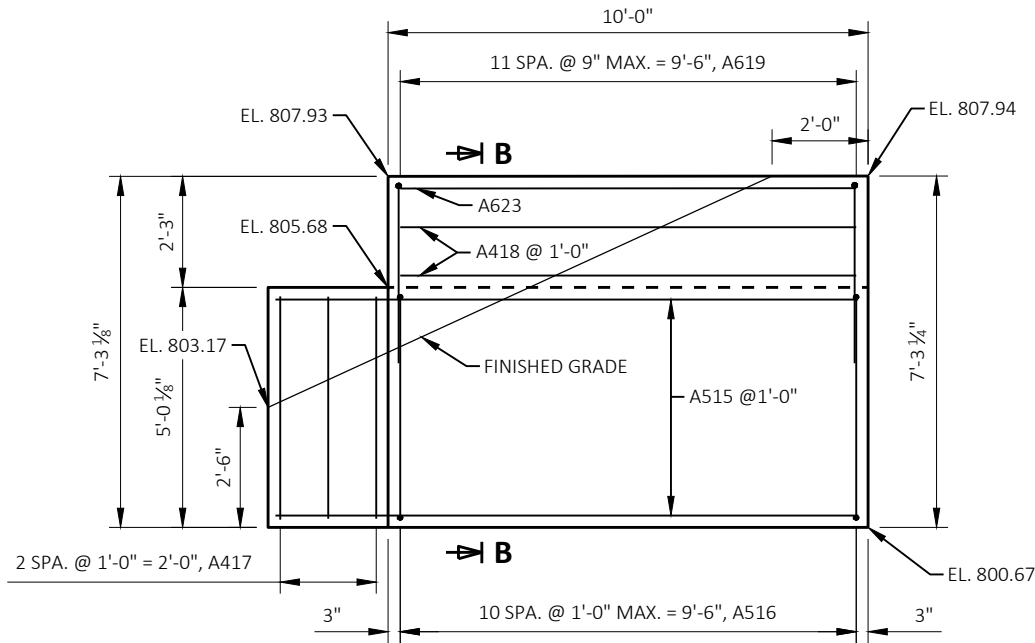
WING 1 ELEVATION
(FRONT FACE)



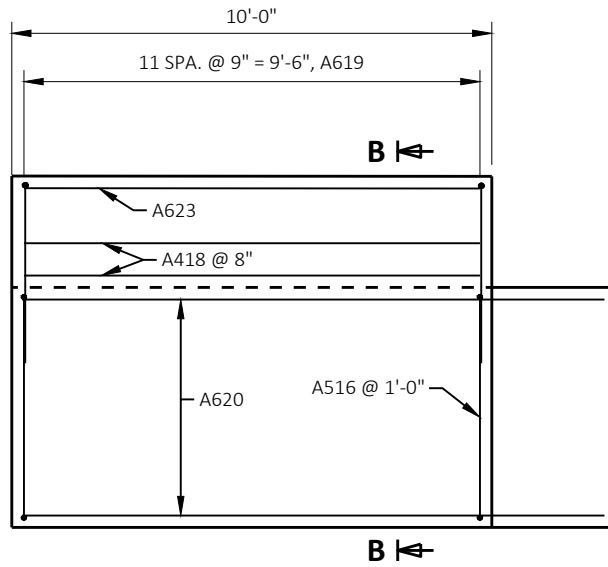
WING 1 ELEVATION
(BACK FACE)



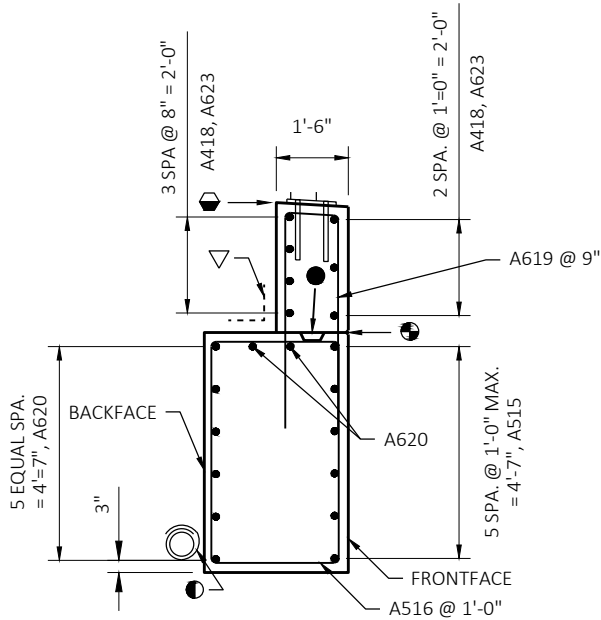
SECTION A-A



WING 2 ELEVATION
(FRONT FACE)



WING 2 ELEVATION
(BACK FACE)



SECTION B-B

8

- SLOPE SAME AS SUPERSTRUCTURE.
- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" X 6".
- 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON 'CROSS SECTION & QUANTITIES' SHEET. RODENT SHIELD TO BE INCLUDED IN BID ITEM 'PIPE UNDERDRAIN WRAPPED 6-INCH'.

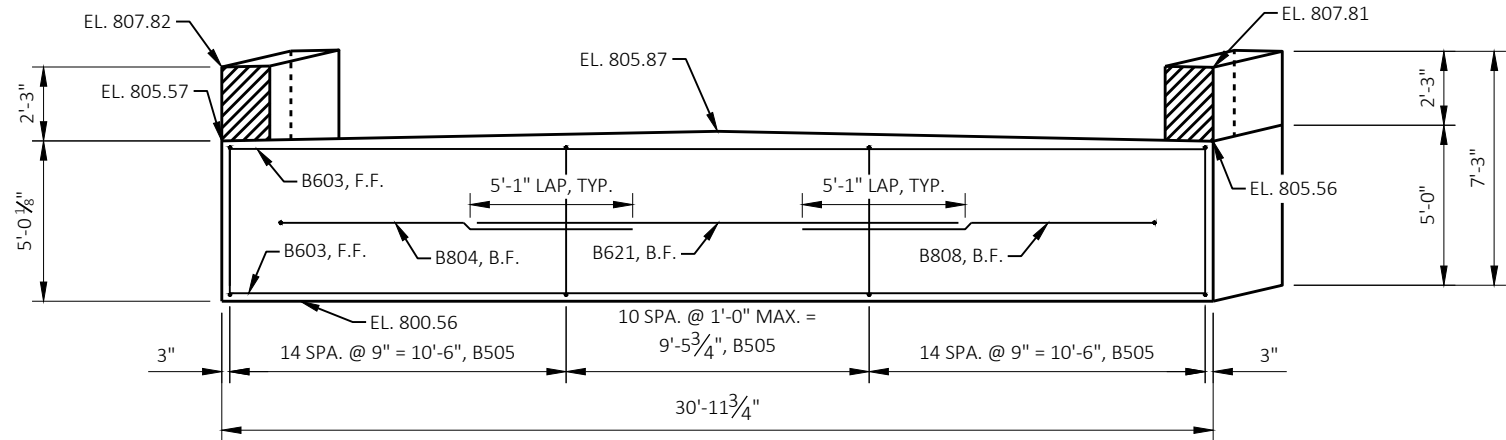
FOR PILE SPLICE DETAIL SEE "ABUTMENT DETAILS" SHEET.

SEE SHEET 8 FOR BILL OF BARS.

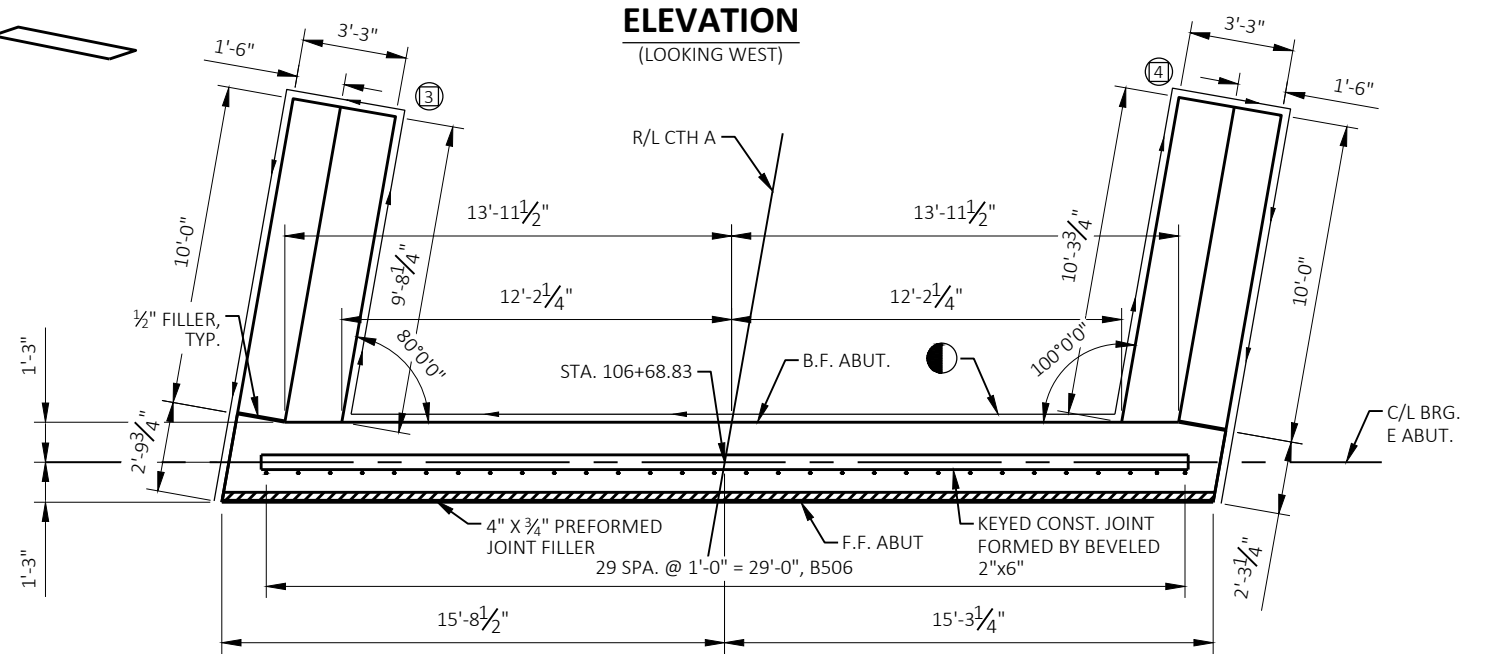
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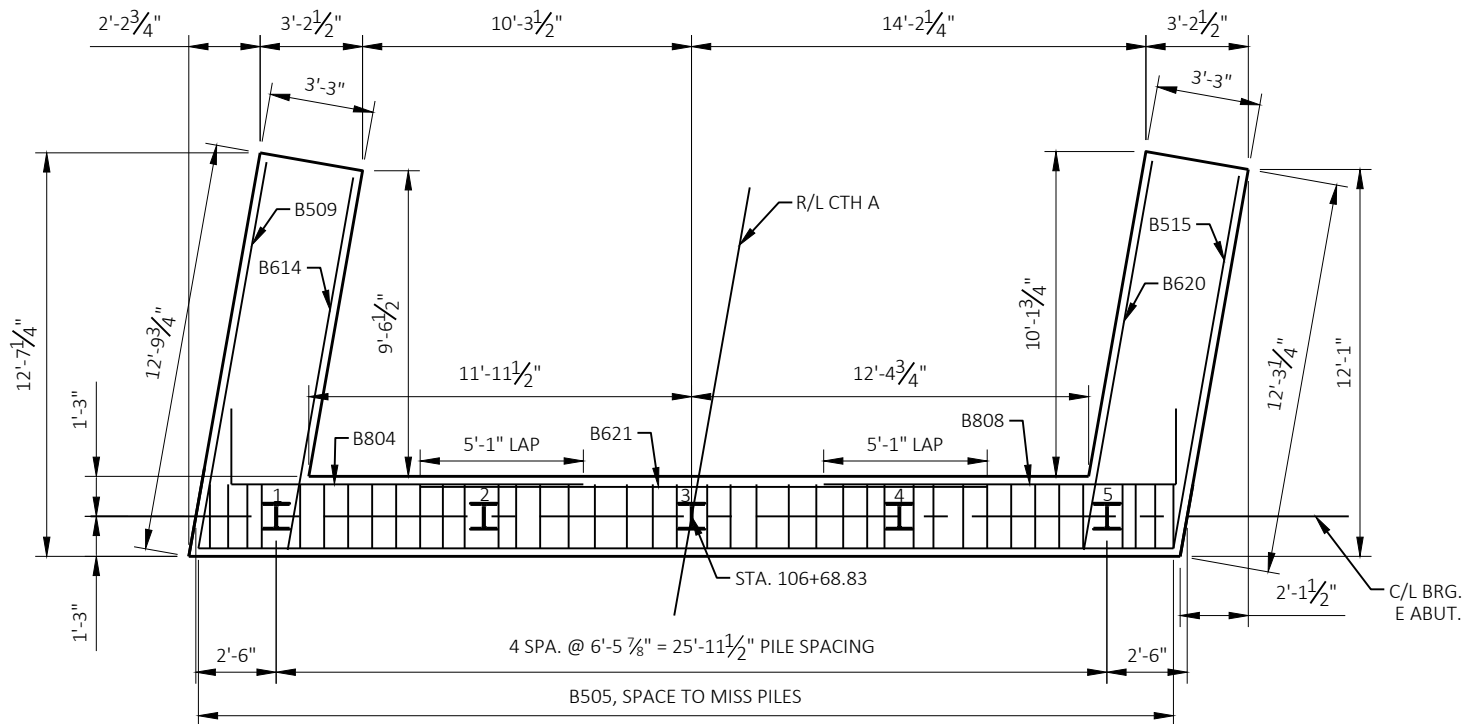
NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-13-909				
		DRAWN BY	AMR	PLANS CK'D AJC
WEST ABUTMENT DETAILS			SHEET 5 OF 12	
			78	



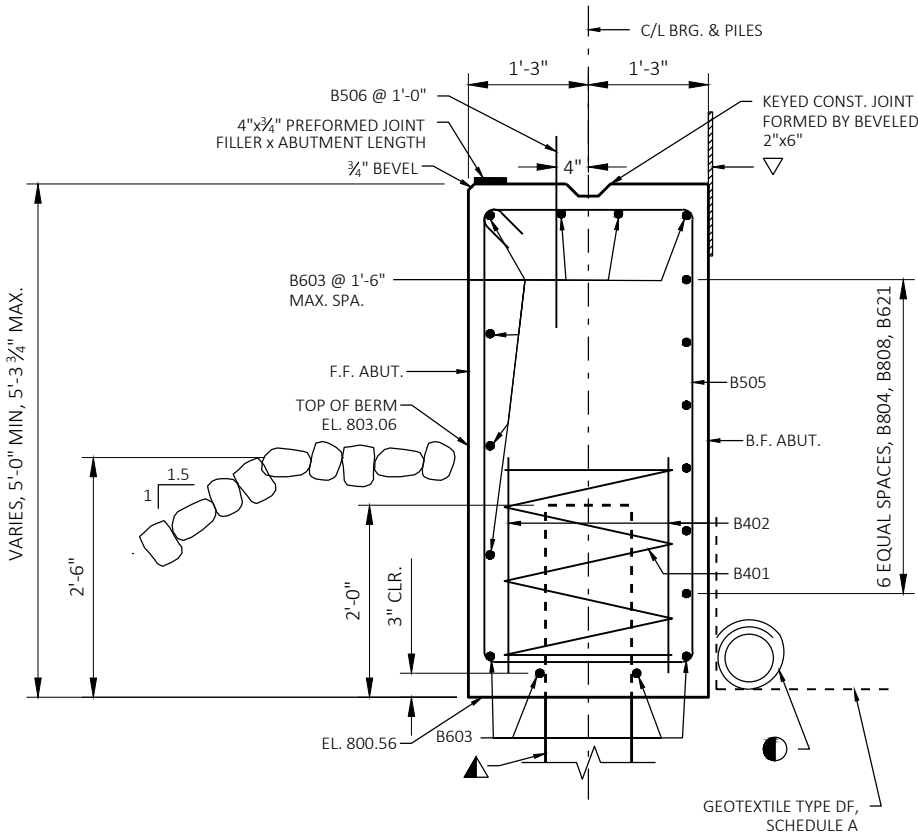
ELEVATION
(LOOKING WEST)



PLAN



PILE PLAN



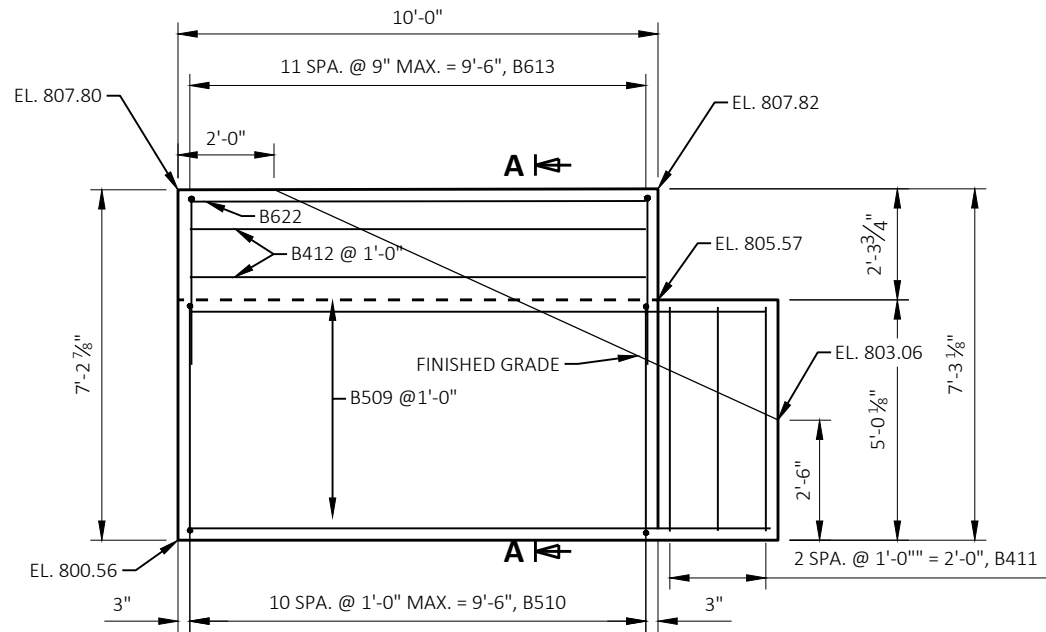
SECTION THRU BODY

- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "CROSS SECTION & QUANTITIES" SHEET. RODENT SHIELD TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ▲ SUPPORT ABUTMENT ON PILING STEEL HP 10-INCH x 42 LB, ESTIMATED 75 FEET LONG, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. SEE ADDITIONAL FOUNDATION DATA ON SHEET 1 AND PILE SPACING DETAILS ON SHEET 8.
- ☆ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SCREEN AT ENDS OF PIPE UNDERDRAIN. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH".

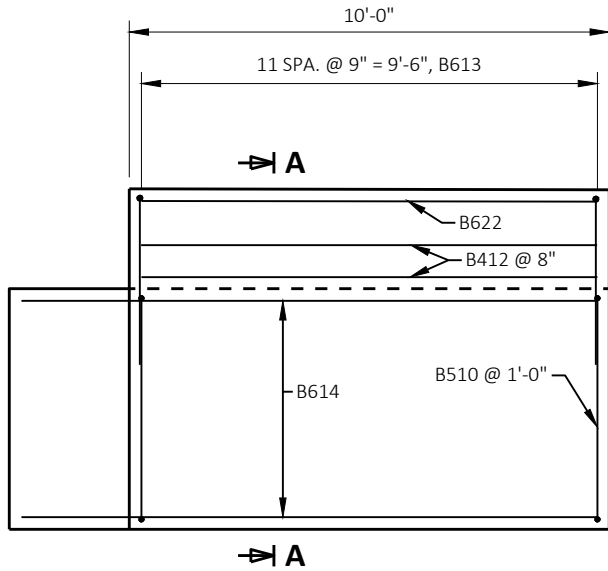
SEE SHEET 8 FOR BILL OF BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		AMR	PLANS CK'D AJC
EAST ABUTMENT		SHEET 6 OF 12 79	

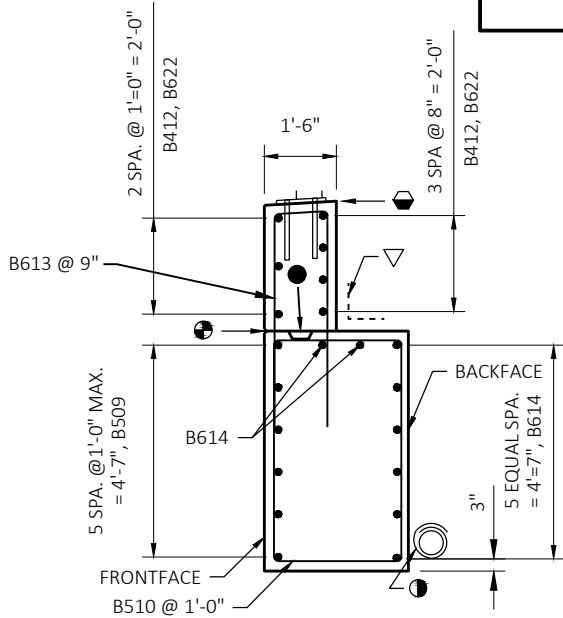
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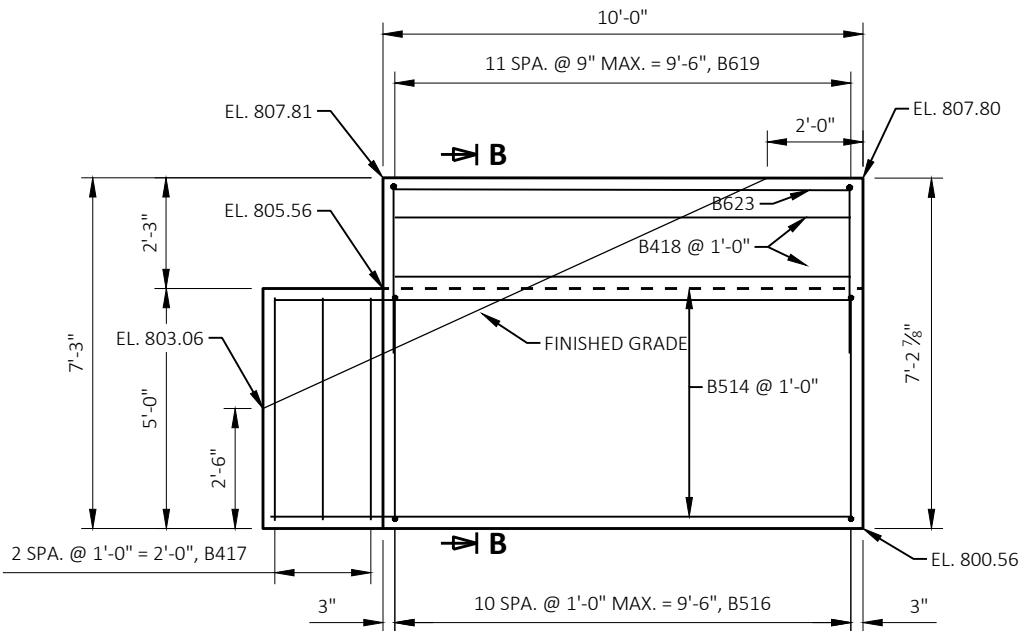
WING 3 ELEVATION
(FRONT FACE)



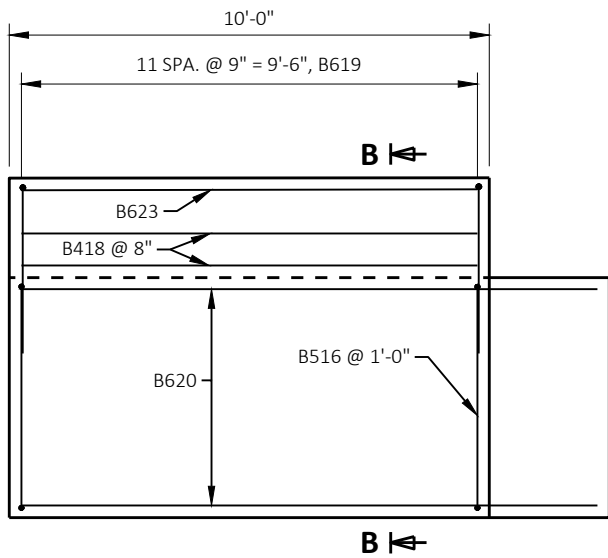
WING 3 ELEVATION
(BACK FACE)



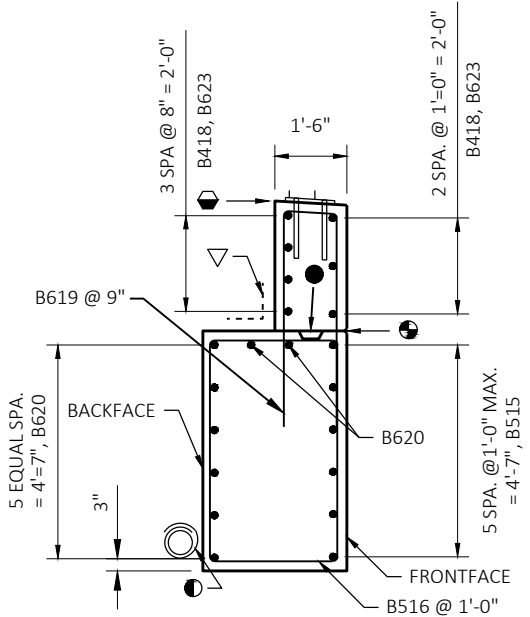
SECTION A-A



WING 4 ELEVATION
(FRONT FACE)



WING 4 ELEVATION
(BACK FACE)



SECTION B-B

- SLOPE SAME AS SUPERSTRUCTURE.
- 3/4" "V" GROOVE ON FRONT FACE OF WINGWALL.
- OPT. KEYED CONST. JOINT - FORMED BY A SURFACED BEVELED 2" X 6".
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.
- PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON 'CROSS SECTION & QUANTITIES' SHEET. RODENT SHIELD TO BE INCLUDED IN BID ITEM 'PIPE UNDERDRAIN WRAPPED 6-INCH'.

FOR PILE SPLICE DETAIL SEE "ABUTMENT DETAILS" SHEET.

SEE SHEET 8 FOR BILL OF BARS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		AMR	PLANS CK'D AJC
EAST ABUTMENT DETAILS		SHEET 7 OF 12 80	

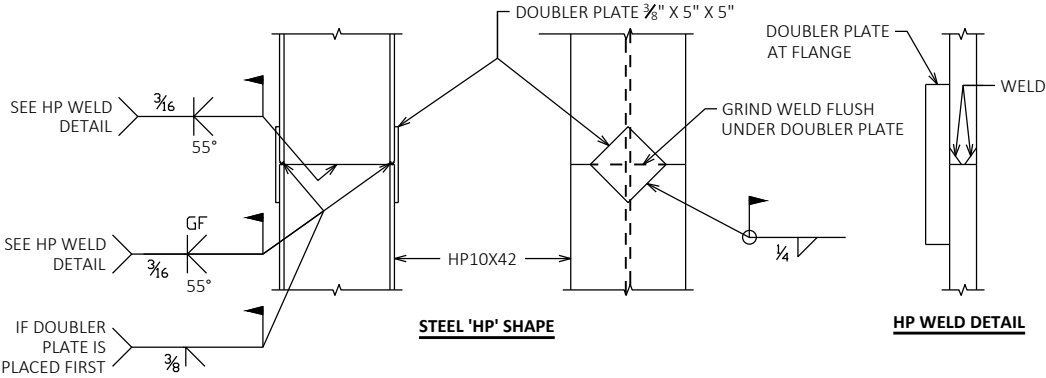
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WEST ABUTMENT BILL OF BARS

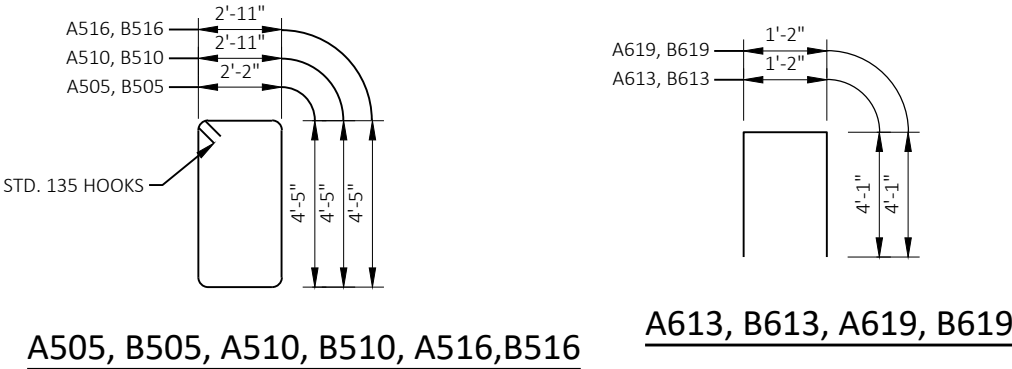
BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
A401		5	28'-0"	X	ABUT PILES - 1 PER PILE
A402		10	2'-3"		ABUT PILES - 2 PER PILE
A603		11	30'-5"		ABUT BODY - HORZ
A804		7	12'-2"	X	ABUT BODY - HORZ
A505		39	13'-10"	X	ABUT BODY STIRRUPS
A506		30	2'-0"		ABUT. BODY DOWEL
A808		7	12'-2"	X	ABUT BODY - HORZ
A509	X	6	12'-5"		WING 1 LOWER HORIZ FF
A510	X	11	15'-4"	X	WING 1 - STIRRUP
A411	X	3	4'-7"		WING 1 LOWER VERT. FF
A412	X	5	9'-8"		WING 1 UPPER HORIZ.
A613	X	12	9'-0"	X	WING 1 UPPER VERT.
A614	X	8	11'-9"		WING 1 LOWER HORIZ BF
A515	X	6	11'-11"		WING 2 LOWER HORIZ FF
A516	X	11	15'-4"	X	WING 2 - STIRRUP
A417	X	3	4'-7"		WING 2 LOWER VERT
A418	X	5	9'-8"		WING 2 UPPER HORIZ
A619	X	12	9'-0"	X	WING 2 UPPER VERT
A620	X	8	12'-2"		WING 2 LOWER HORIZ
A621		7	19'-1"		ABUT BODY - HORZ
A622	X	2	9'-8"		WING 1 UPPER HORIZ.
A623	X	2	9'-8"		WING 2 UPPER HORIZ.

EAST ABUTMENT BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
B401		5	28'-0"	X	ABUT PILES - 1 PER PILE
B402		10	2'-3"		ABUT PILES - 2 PER PILE
B603		11	30'-5"		ABUT BODY - HORZ
B804		7	12'-2"	X	ABUT BODY - HORZ
B505		39	13'-10"	X	ABUT BODY STIRRUPS
B506		30	2'-0"		ABUT. BODY DOWEL
B808		7	12'-2"	x	ABUT BODY - HORZ
B509	X	6	12'-5"		WING 3 LOWER HORIZ FF
B510	X	11	15'-4"	X	WING 3 - STIRRUP
B411	X	3	4'-7"		WING 3 LOWER VERT. FF
B412	X	5	9'-8"		WING 3 UPPER HORIZ.
B613	X	12	9'-0"	X	WING 3 UPPER VERT.
B614	X	8	11'-9"		WING 3 LOWER HORIZ BF
B515	X	6	11'-11"		WING 4 LOWER HORIZ FF
B516	X	11	15'-4"	X	WING 4 - STIRRUP
B417	X	3	4'-7"		WING 4 LOWER VERT
B418	X	5	9'-8"		WING 4 UPPER HORIZ
B619	X	12	9'-0"	X	WING 4 UPPER VERT
B620	X	8	12'-2"		WING 4 LOWER HORIZ
B621		7	19'-1"		ABUT BODY - HORZ
B622	X	2	9'-8"		WING 3 UPPER HORIZ.
B623	X	2	9'-8"		WING 4 UPPER HORIZ.

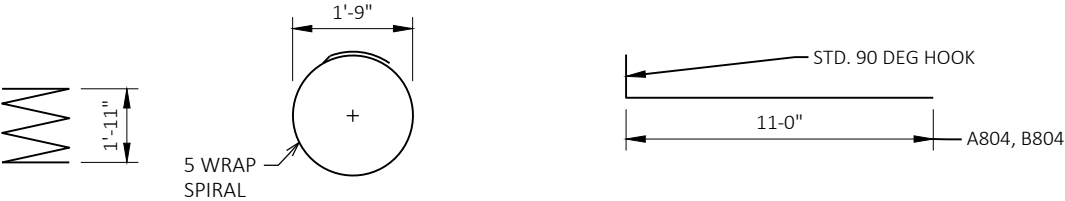


'HP' PILE DETAILS



A505, B505, A510, B510, A516, B516

A613, B613, A619, B619



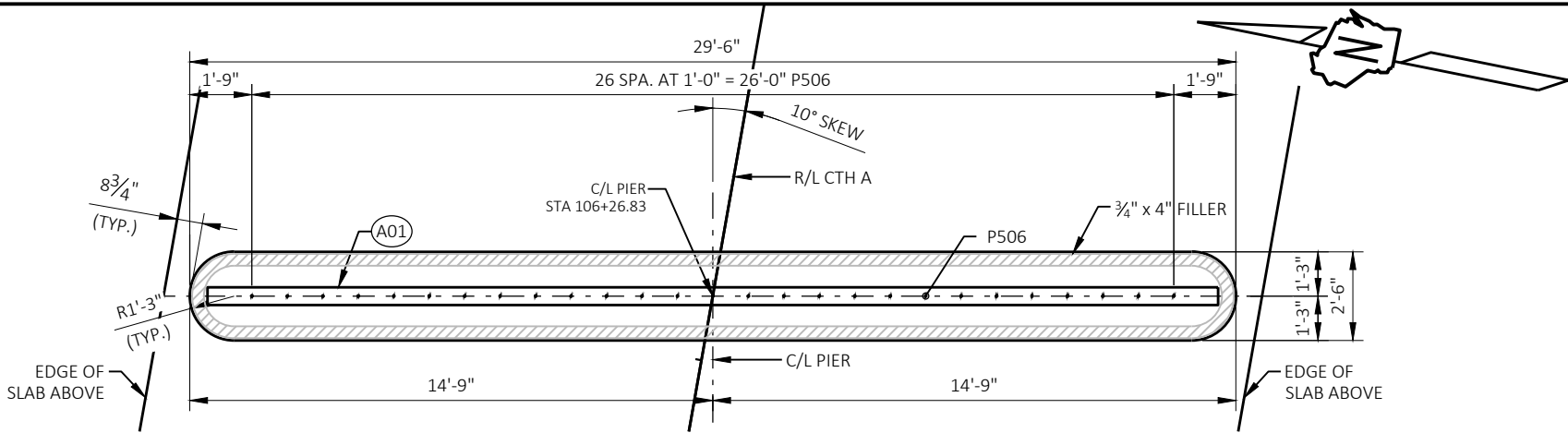
A401, B401

A804, B804, A808, B808

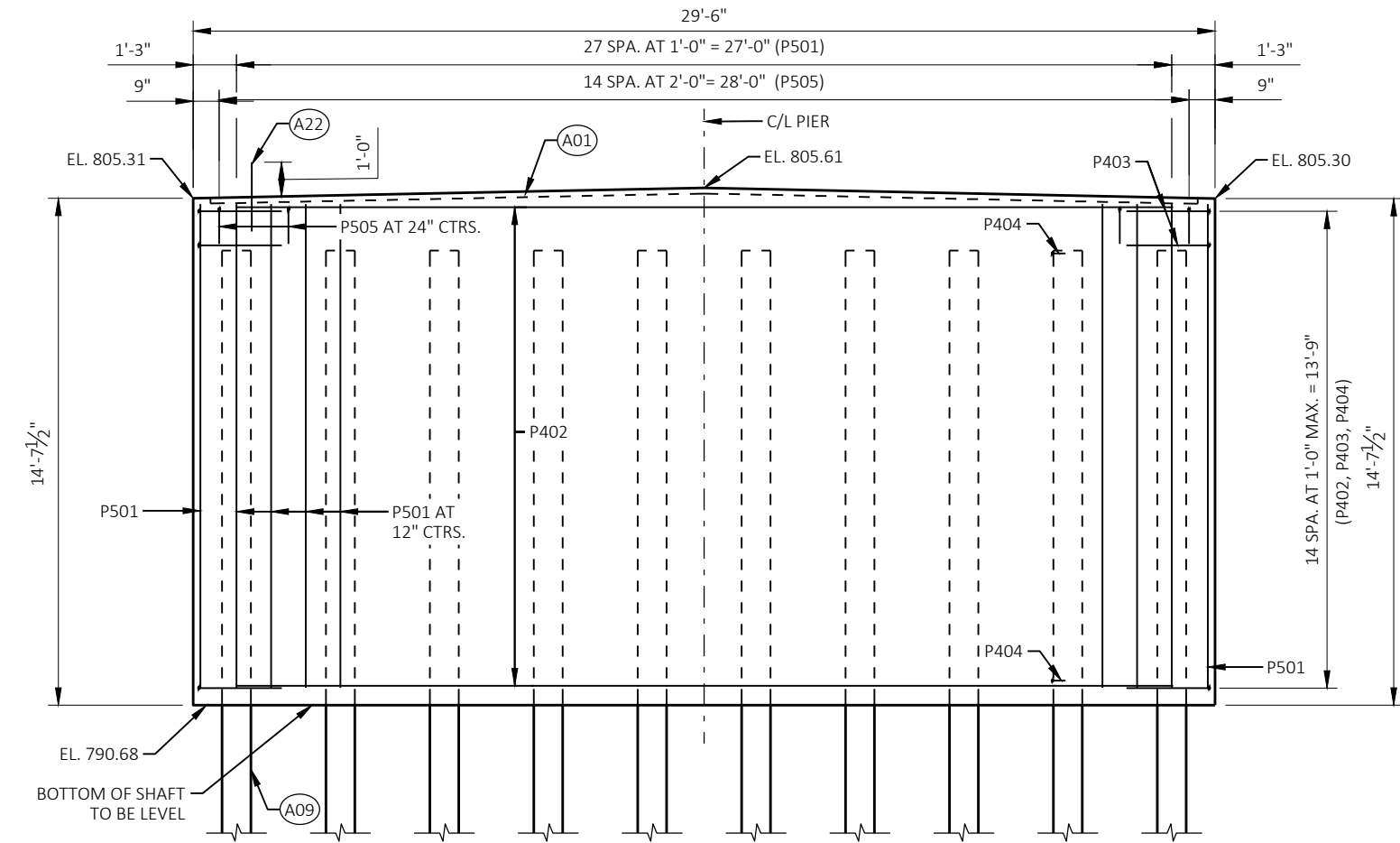
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		AMR	PLANS CK'D AJC
ABUTMENT DETAILS		SHEET 8 OF 12 81	

BILL OF BARS - PIER

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
P501		62	13'-10"		PIER VERTICAL
P402		30	27'-0"		PIER TRANSVERSE
P403		30	6'-2"	X	PIER NOSE ENDS
P404		135	2'-9"	X	PIER TIES
P505		15	5'-9"	X	PIER TOP
P506	X	27	2'-0"		PIER TOP VERTICAL

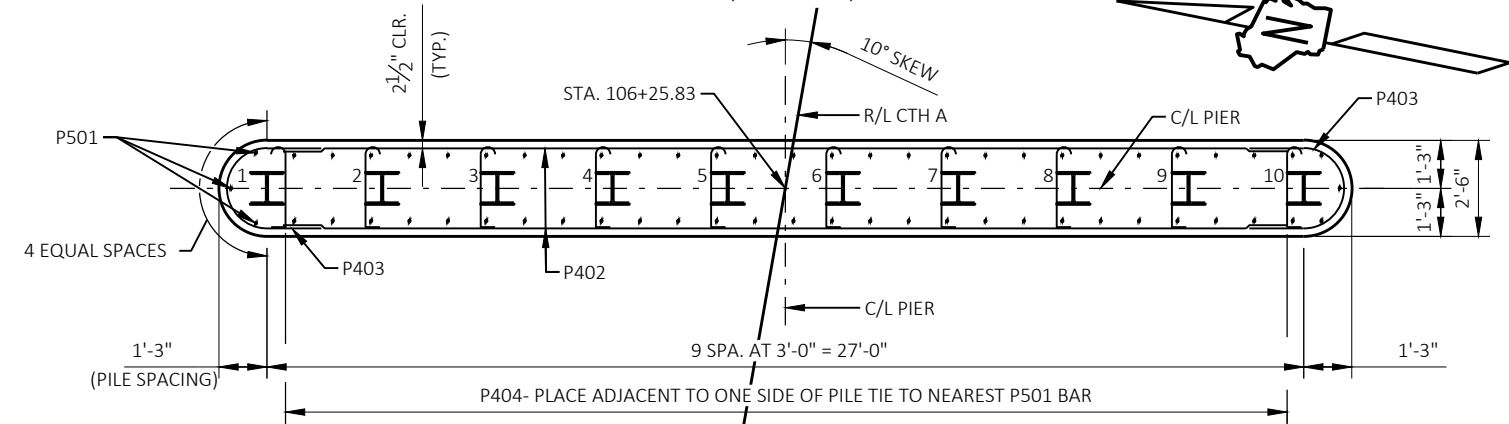


PLAN

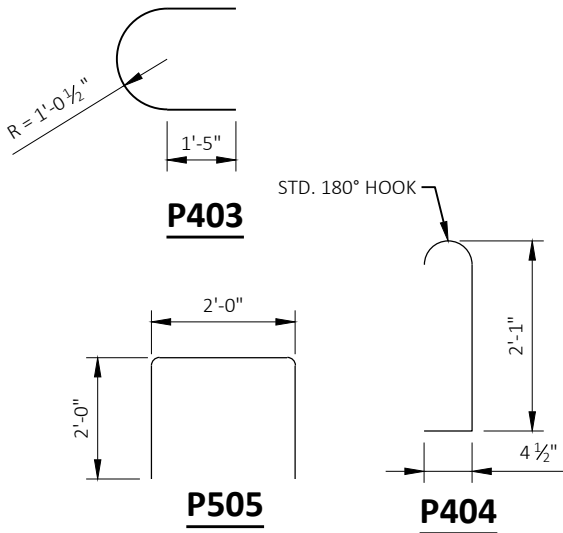


ELEVATION

(LOOKING EAST)

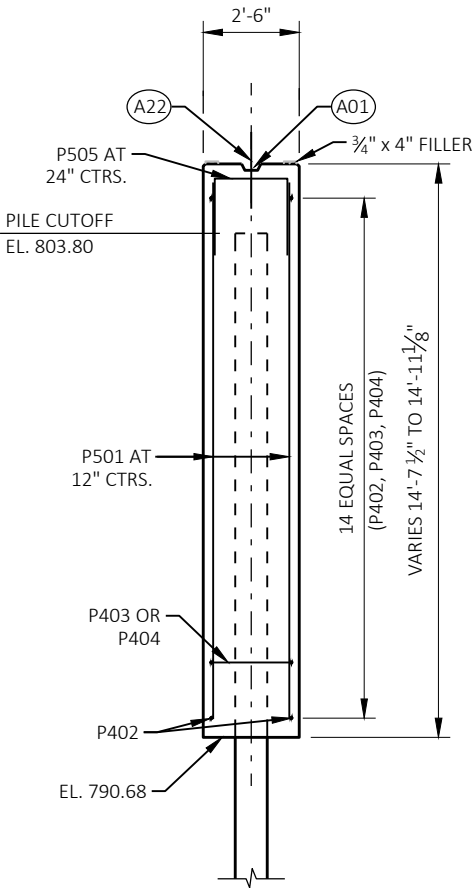


PILE PLAN



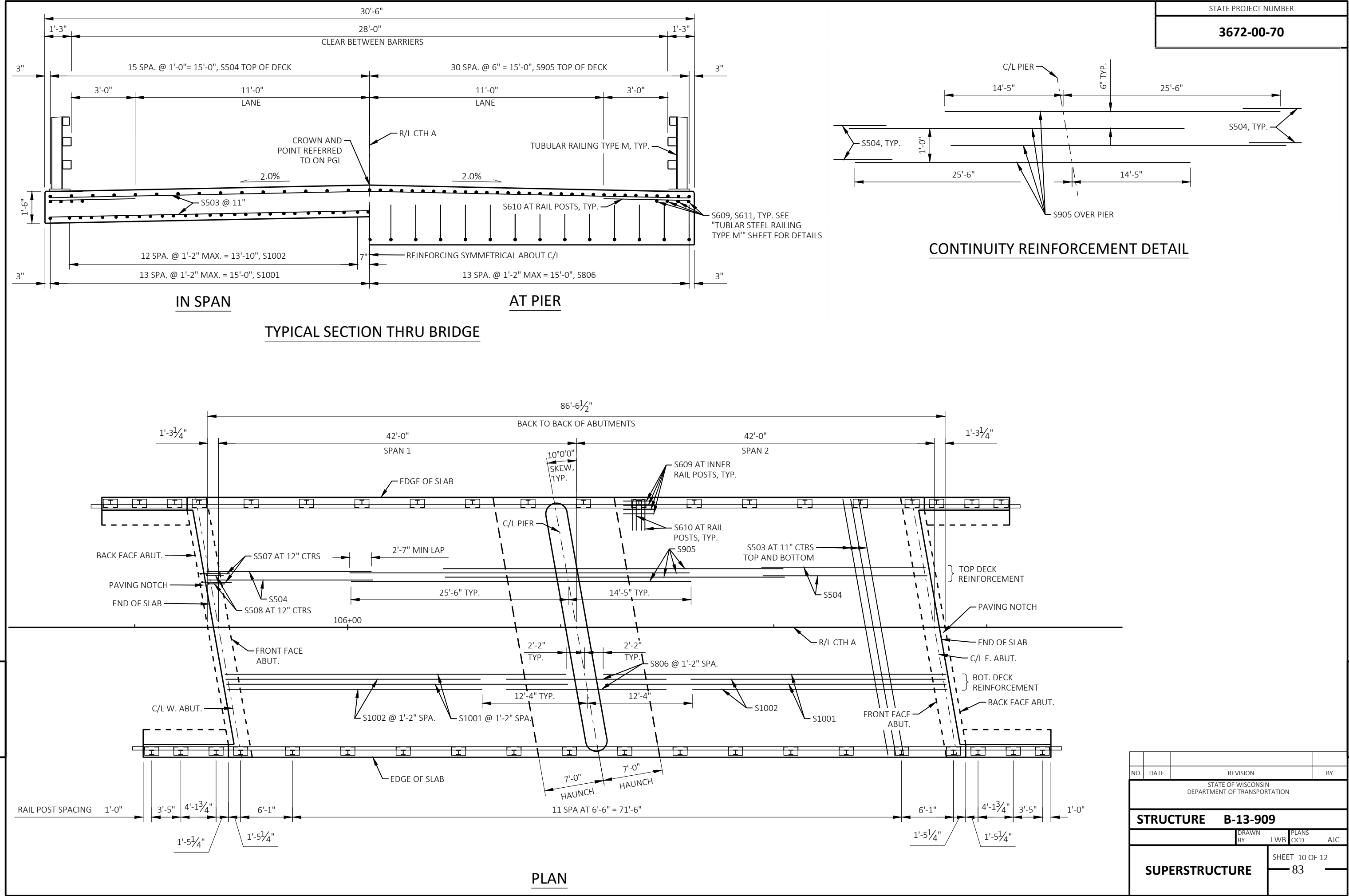
LEGEND

- (A01) 2"x 6" BEVELED KEYWAY
- (A09) SUPPORT PIER ON PILING STEEL HP 10-INCH x 42 LB, ESTIMATED 75 FEET LONG, DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS PER PILE. SEE ADDITIONAL FOUNDATION DATA ON SHEET 1 AND PILE SPLICE DETAILS ON SHEET 8.
- (A22) P506 BARS MAY BE PLACED AFTER PIER IS POURED BUT BEFORE CONC. HAS SET. EMBED BARS 1'-0".



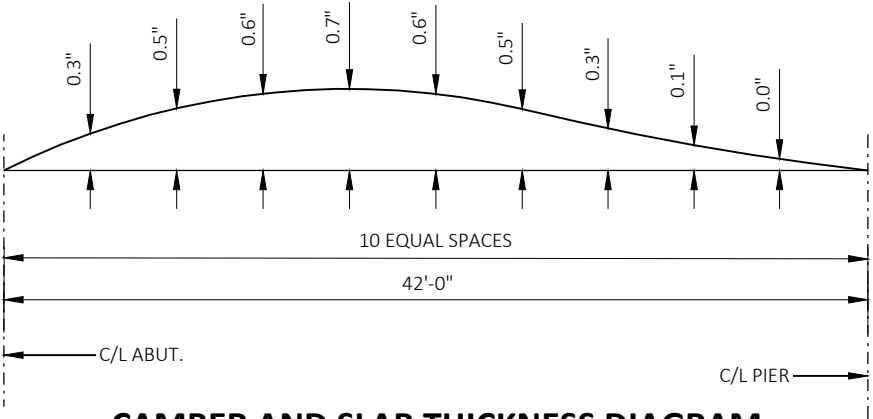
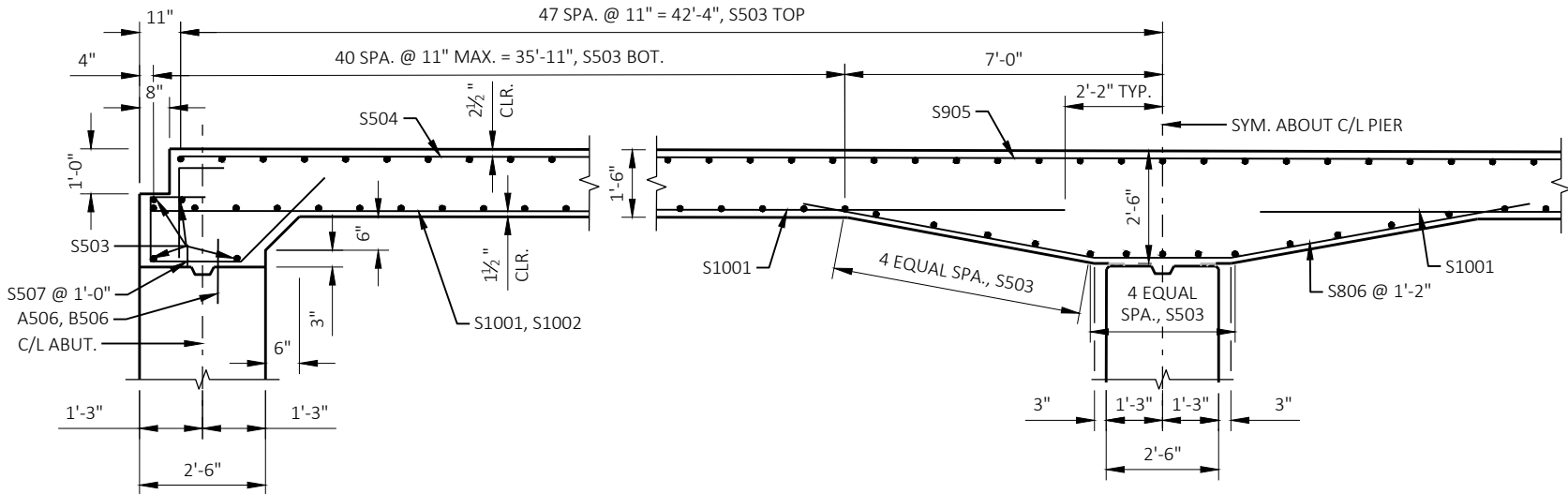
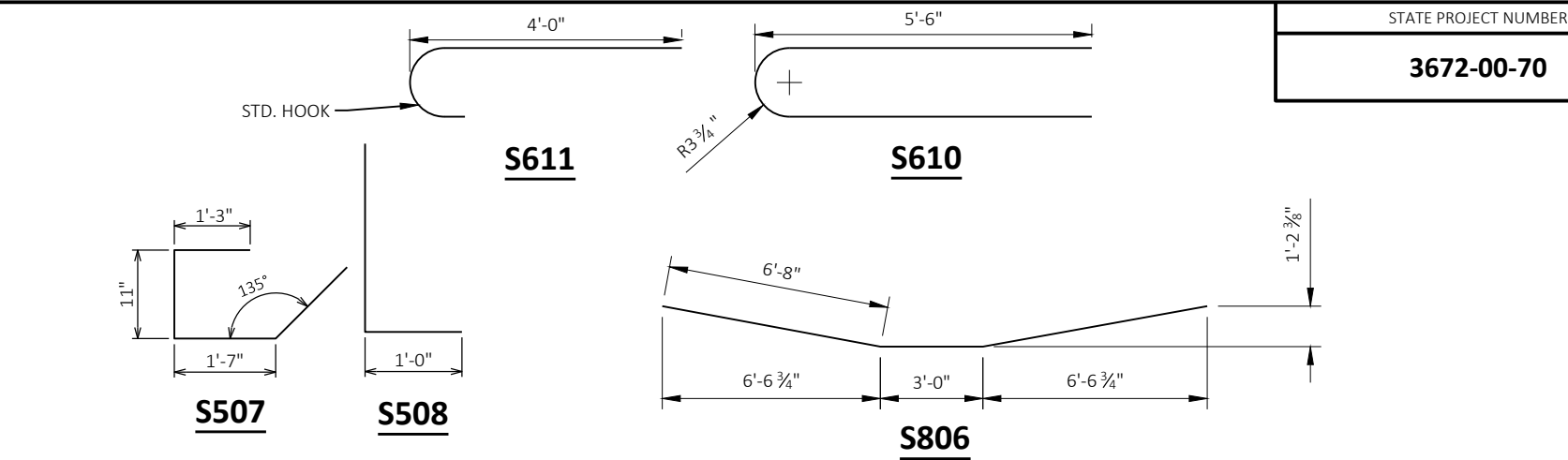
SECTION THRU PIER

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		KRW	PLANS CK'D A/C
PIER		SHEET 9 OF 12	
		82	



BILL OF BARS

BAR MARK	COAT	NO.	LENGTH	BENT	LOCATION
S1001	X	54	40'-11"		SLAB LONG. BOT.
S1002	X	52	30'-9"		SLAB TRANS. BOT.
S503	X	198	30'-7"		SLAB TRANS. TOP & BOT
S504	X	62	19'-8"		SLAB LONG. TOP
S905	X	61	39'-11"		SLAB LONG. TOP OVER PIER
S806	X	27	16'-4"	X	SLAB TRANS. BOT. 2
S507	X	62	6'-2"	X	END OF SLAB STIRRUP 1
S508	X	62	2'-11"	X	END OF SLAB STIRRUP 2
S609	X	96	6'-0"		RAIL POST LONG INT.
S610	X	56	12'-0"	X	RAIL POST TRANS
S611	X	16	4'-7"	X	RAIL POST LONG EXT.



CAMBER AND SLAB THICKNESS DIAGRAM

CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTION.

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN REMOVED.

SURVEY TOP OF SLAB ELEVATIONS

SPAN POINT	W. ABUT.	0.5	E. ABUT.
NORTH EDGE OF SLAB			
C/L STRUCTURE			
SOUTH 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 GUTTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

TOP OF SLAB ELEVATIONS

LOCATION	C/L WEST ABUT	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	CL Pier 1	0.1 PT	0.2 PT	0.3 PT	0.4 PT	0.5 PT	0.6 PT	0.7 PT	0.8 PT	0.9 PT	C/L EAST ABUT
NORTH EDGE OF DECK	807.93	807.92	807.92	807.91	807.91	807.90	807.89	807.89	807.88	807.88	807.87	807.87	807.86	807.86	807.85	807.85	807.84	807.83	807.83	807.82	807.82
PGL	808.23	808.22	808.22	808.21	808.21	808.20	808.20	808.19	808.19	808.18	808.17	808.17	808.16	808.16	808.15	808.15	808.14	808.14	808.13	808.13	808.12
SOUTH EDGE OF DECK	807.92	807.92	807.91	807.90	807.90	807.89	807.89	807.88	807.88	807.87	807.87	807.86	807.86	807.85	807.84	807.84	807.83	807.83	807.82	807.82	807.81

STATE PROJECT NUMBER
3672-00-70

LONGITUDINAL SECTION

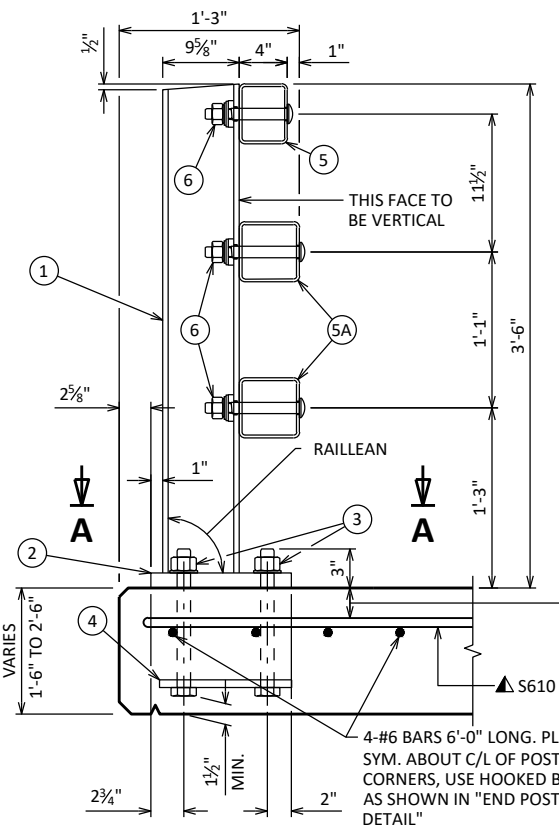
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		PLANS CK'D	AJC
LWB		SHEET 11 OF 12	
SUPERSTRUCTURE DETAILS		84	

LEGEND

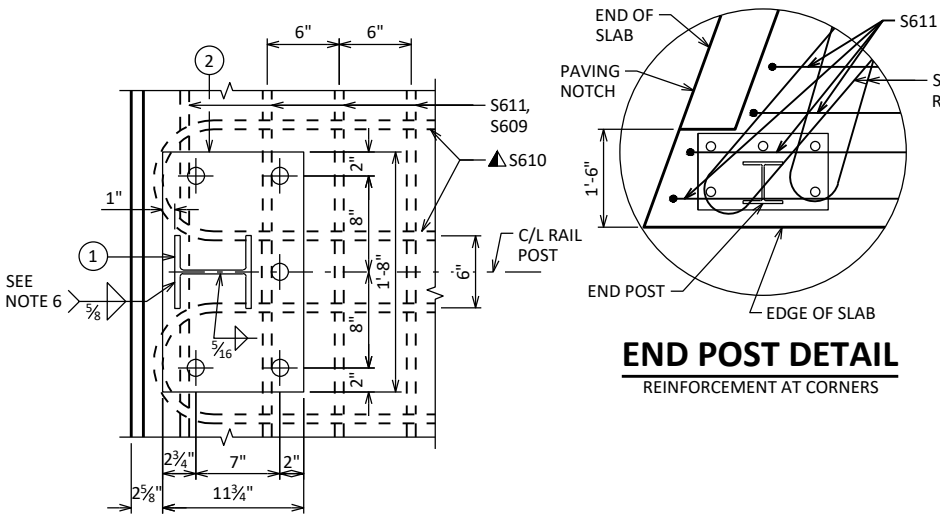
- 1 W6 X 25 WITH 1 1/8" X 1 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- 2 PLATE 1 1/4" X 11 3/4" X 1'-8" WITH 1 1/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
- 3 ASTM A449 - 1 1/8" 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 10 3/4" 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 5/8" 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 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- 7 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 1/2" 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 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- 9 SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 10 3/8" X 3 3/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 10A 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 3/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 11 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16" X 1 1/4" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 1 5/16" X 2 3/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 1 5/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
- 12 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- 13 3/8" 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 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 15 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

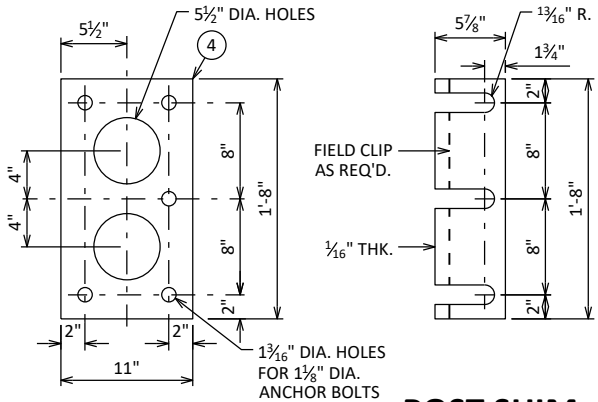
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, 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 1/8 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 THRU RAILING ON DECK



SECTION A-A

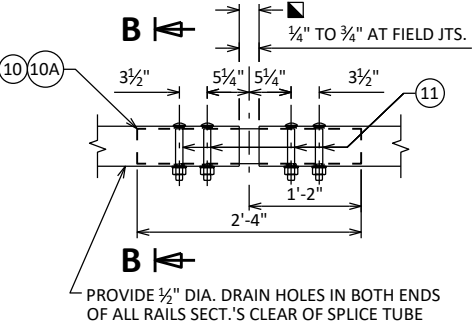


ANCHOR PLATE

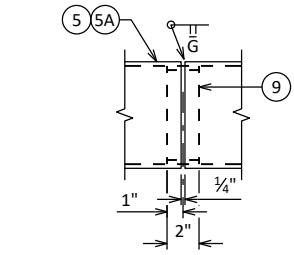
AT RAIL TO DECK CONNECTION

POST SHIM

DETAIL

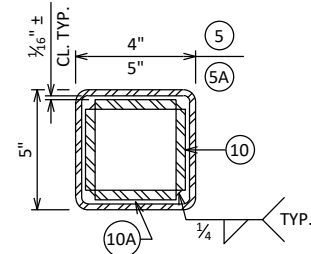


FIELD ERECTION JOINT DETAIL

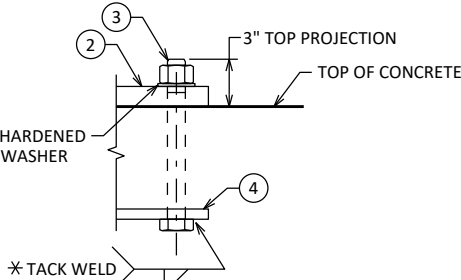


SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS

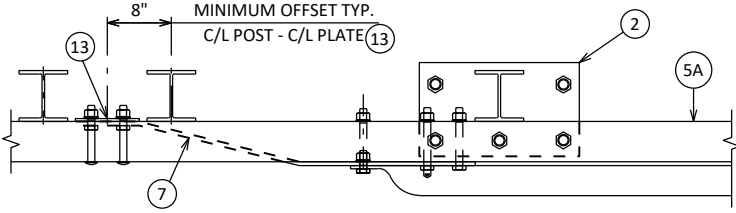


SECTION B-B



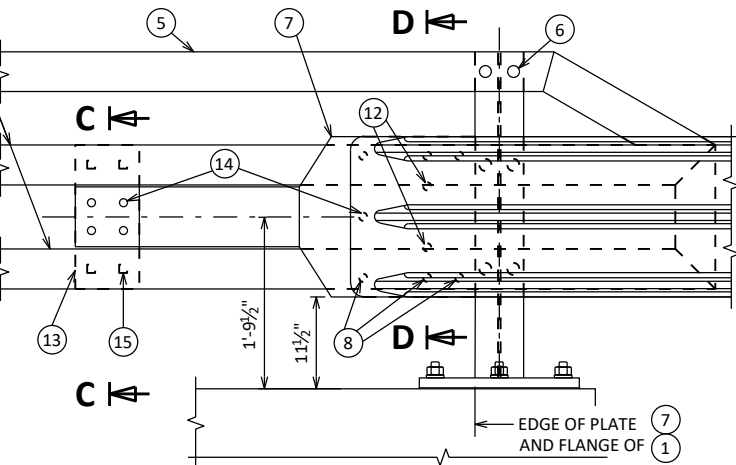
ANCHOR BOLTS

TYPICAL RAIL TO POST CONNECTIONS

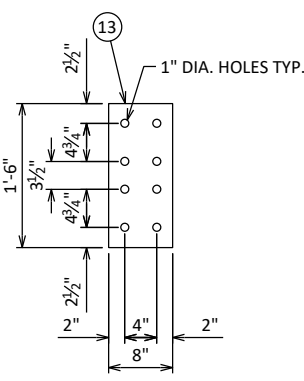


TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT



SECTION C-C SECTION D-D

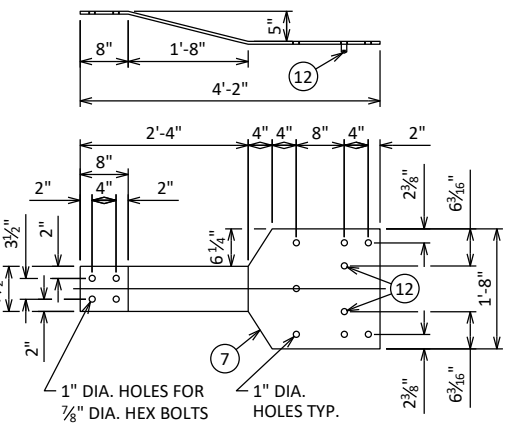


ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

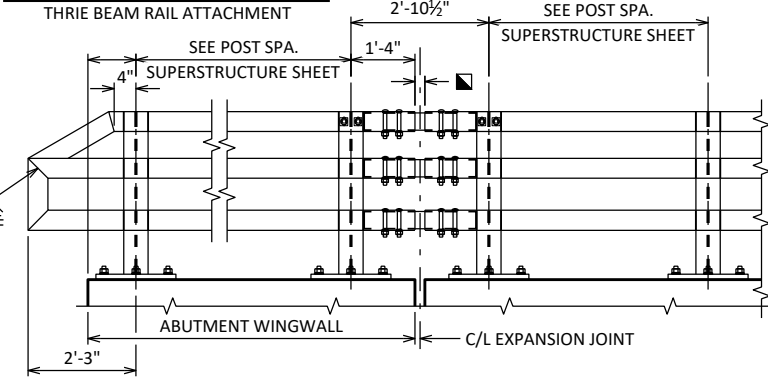
DETAIL AT END POST

THRIE BEAM RAIL ATTACHMENT



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 (1/4" TO 3/4")

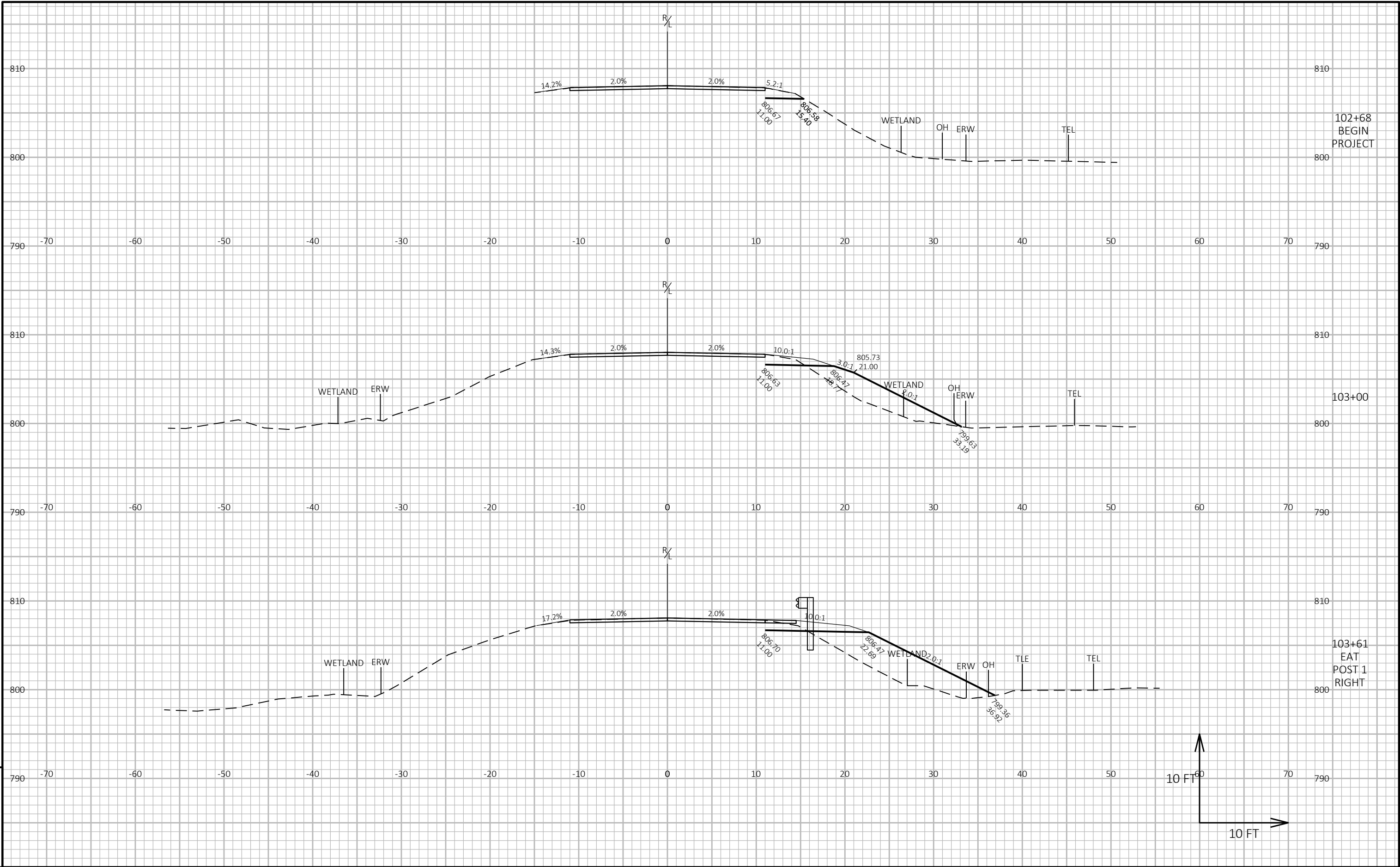
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-909			
DRAWN BY		LWB	PLANS CK'D
TUBULAR STEEL RAILING TYPE "M"		SHEET 12 OF 12 85	

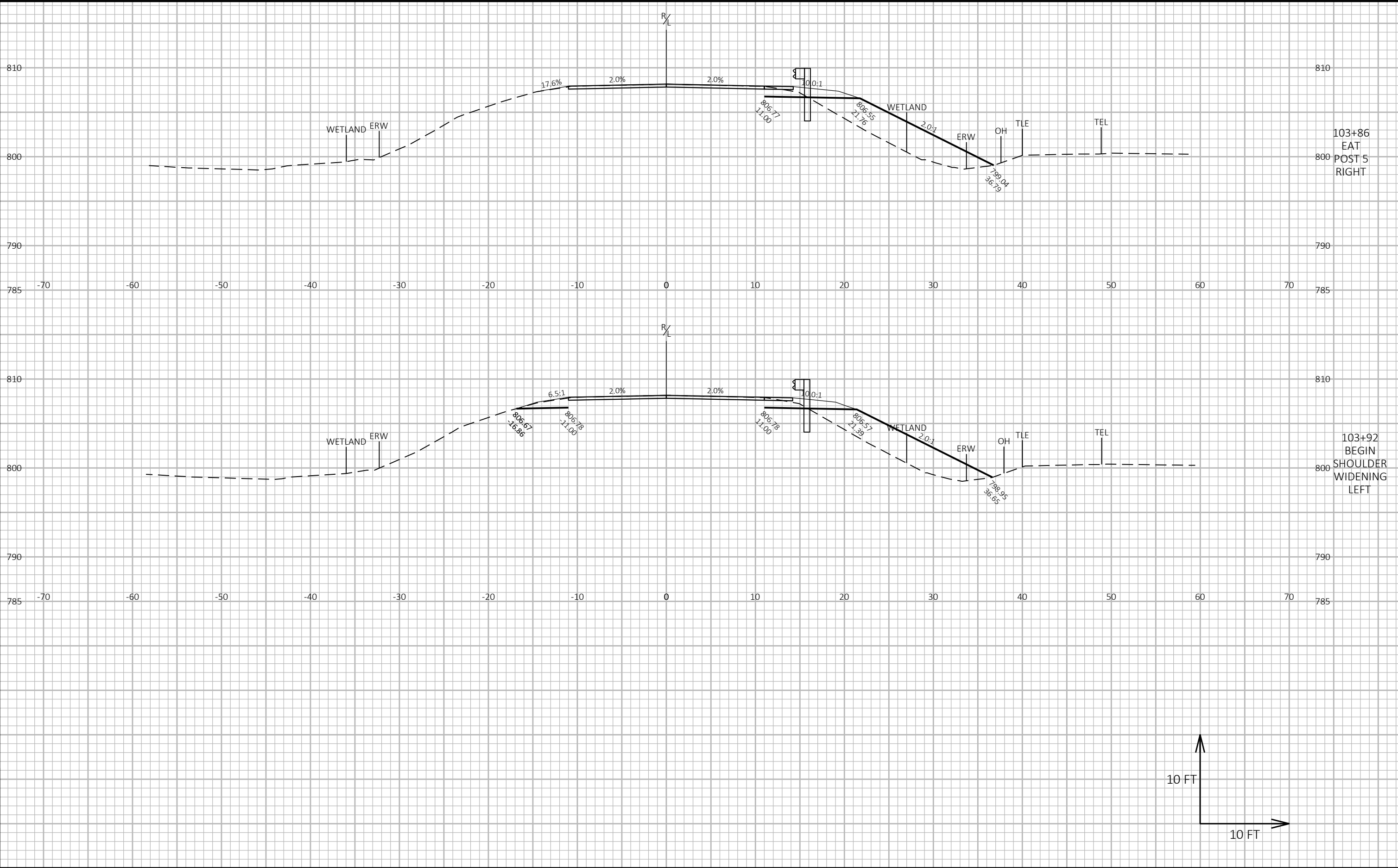
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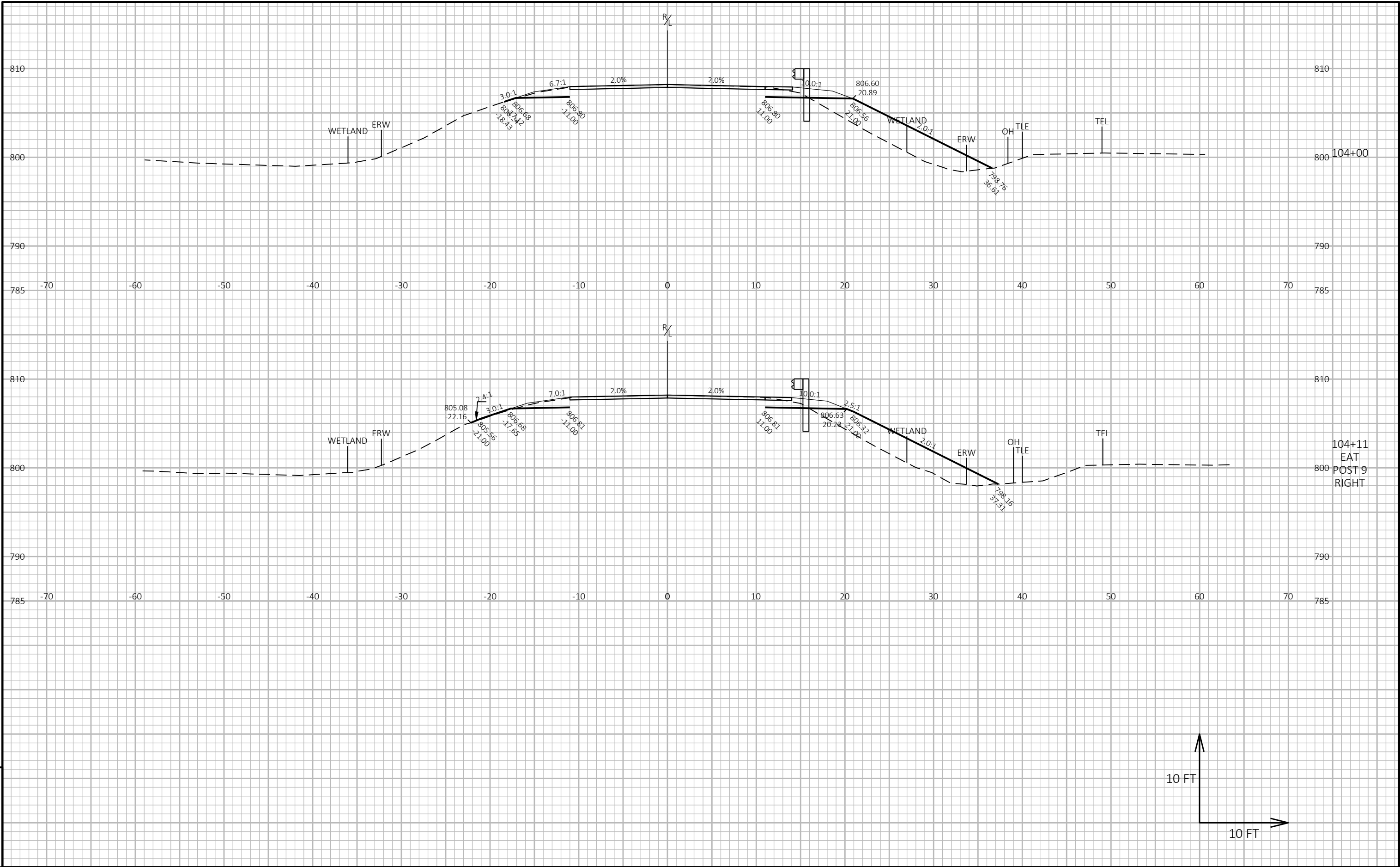
EARTHWORK SUMMARY - BEGIN PROJECT TO BEGIN STRUCTURE								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 3	NOTE 1	1.25	NOTE 8
102+68.488	0.00	3.22	0.00	0	0	0	0	0
103+00	31.51	3.46	30.35	4	18	4	23	-19
103+61.035	61.03	3.50	51.55	8	93	12	139	-127
103+86.015	24.98	3.56	49.78	3	47	15	198	-183
103+91.922	5.91	7.30	47.95	1	11	16	211	-195
104+00	8.08	7.31	45.46	2	14	18	229	-211
104+10.995	10.99	7.50	43.67	3	18	21	251	-230
104+29.745	18.75	7.70	28.09	5	25	26	283	-257
104+81.186	51.44	8.75	36.80	16	62	42	360	-318
105+00	18.81	9.55	19.39	6	20	48	385	-337
105+06.166	6.17	9.90	14.78	2	4	50	390	-340
105+26.62	20.45	11.21	9.55	8	9	58	401	-343
105+31.146	4.53	11.53	6.22	2	1	60	403	-343
105+34	2.85	37.69	3.46	3	1	63	404	-341
105+66.81	32.81	37.81	0.52	46	2	109	406	-297
105+71.14	4.33	51.02	0.00	7	0	116	406	-290
105+75.989	4.85	46.87	0.00	9	0	125	406	-281
105+81.817	5.83	39.69	0.00	9	0	134	406	-272
105+84.242	2.42	19.86	0.00	3	0	137	406	-269

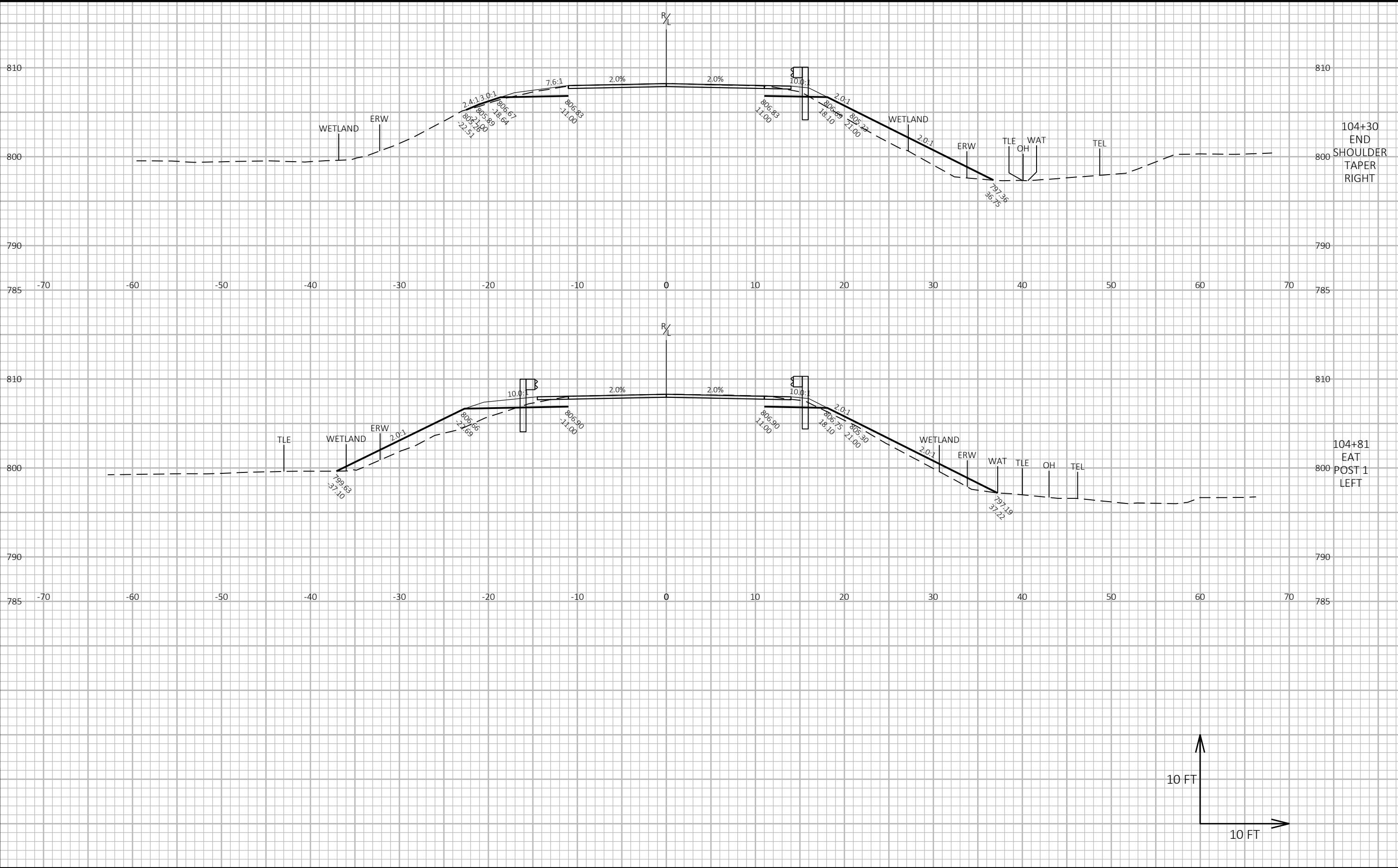
EARTHWORK SUMMARY- END STRUCTURE TO END PROJECT								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
				NOTE 1	NOTE 3	NOTE 1	1.25	NOTE 8
106+69.426	0.00	20.27	0.00	0	0	0	0	0
106+71.851	2.42	41.60	0.00	3	0	3	0	3
106+77.69	5.84	46.73	0.00	10	0	13	0	13
106+82.54	4.85	51.95	0.34	9	0	22	0	22
106+86.87	4.33	38.25	1.77	7	0	29	0	29
107+00	13.13	37.94	7.87	19	2	48	3	46
107+20	20.00	37.23	15.76	28	9	76	14	62
107+22.522	2.52	11.07	17.38	2	2	78	16	62
107+47.502	24.98	9.11	36.44	9	25	87	48	40
107+67.673	20.17	8.06	50.73	6	33	93	89	4
107+72.482	4.81	7.99	53.42	1	9	94	100	-6
107+92.673	20.19	7.71	59.29	6	42	100	153	-53
108+00	7.33	7.59	57.17	2	16	102	173	-71
108+17.633	17.63	7.37	52.05	5	36	107	218	-111
108+63.283	45.65	8.03	15.98	13	58	120	290	-170
109+00	36.72	4.36	5.27	8	14	128	308	-180
109+12.665	12.66	4.42	0.00	2	1	130	309	-179

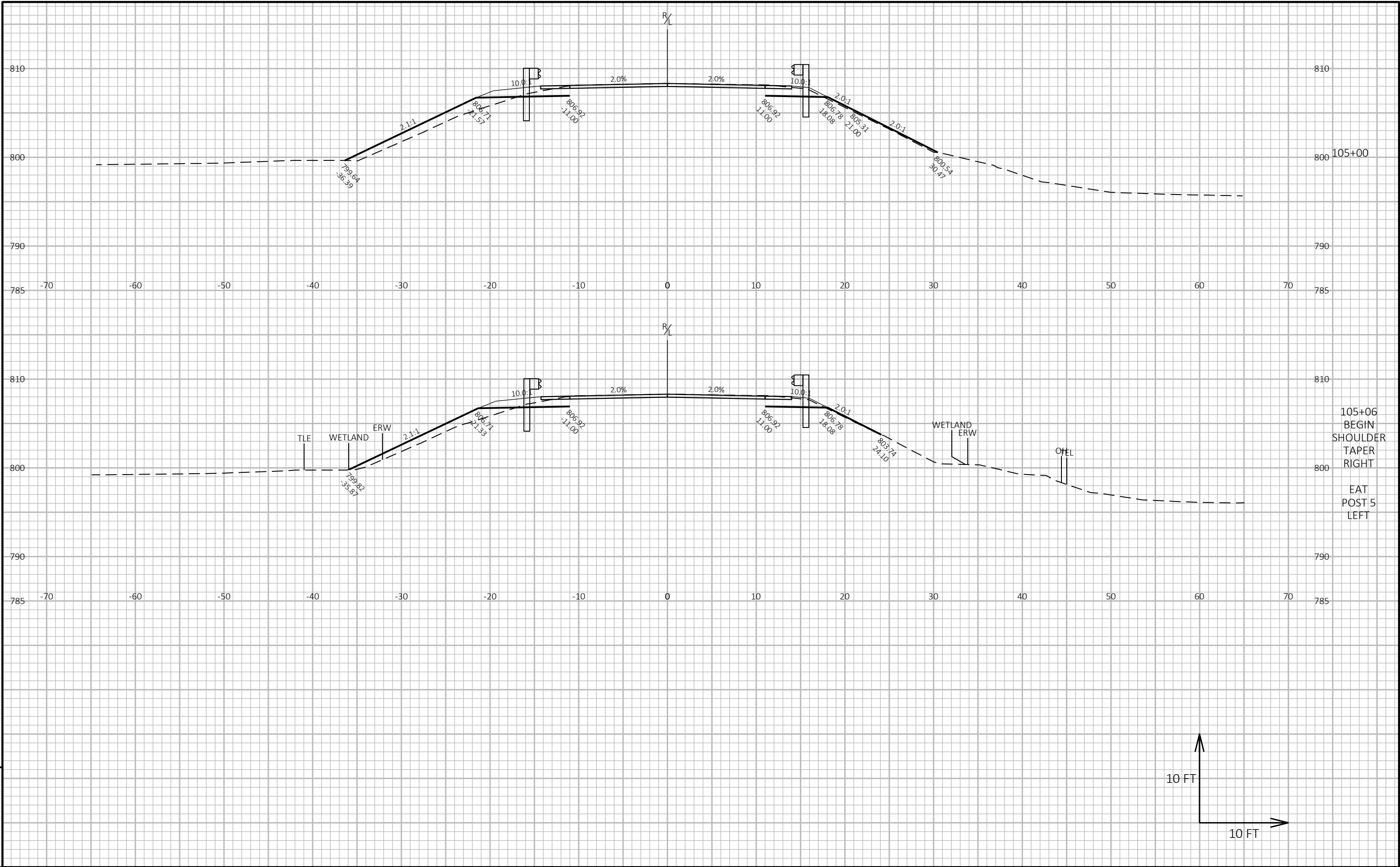
Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	[(CUT) - ((FILL) * FILL FACTOR)]

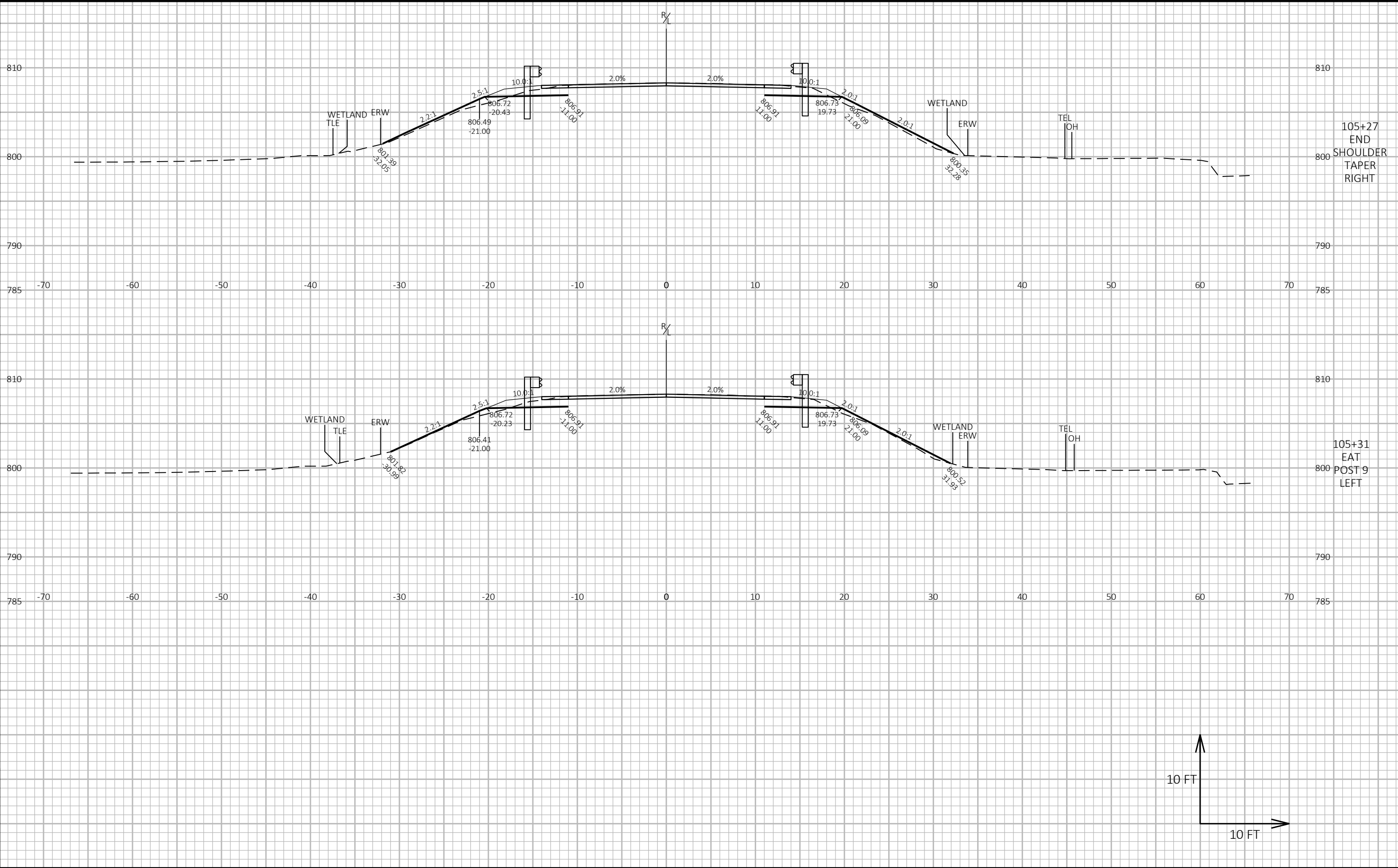


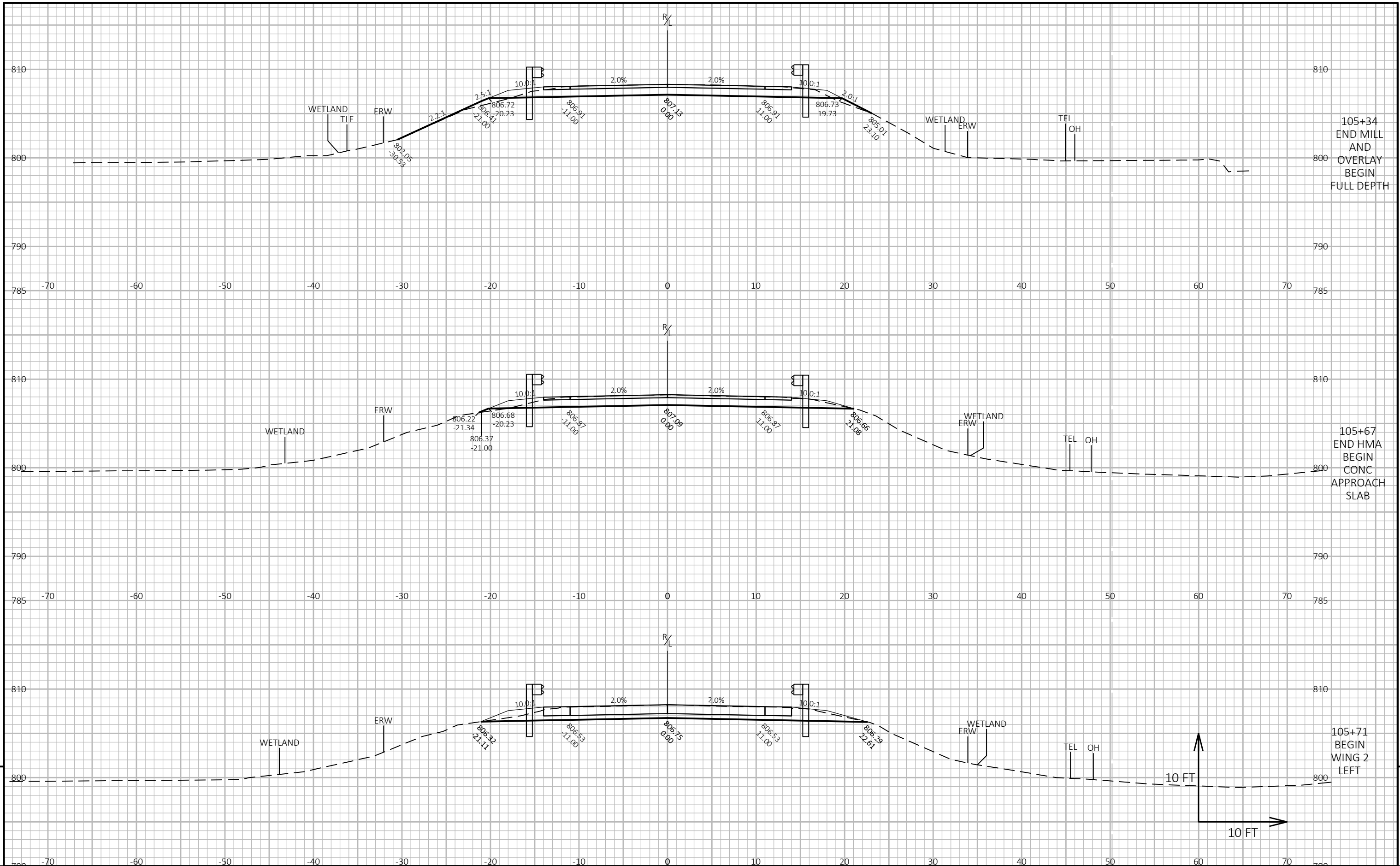








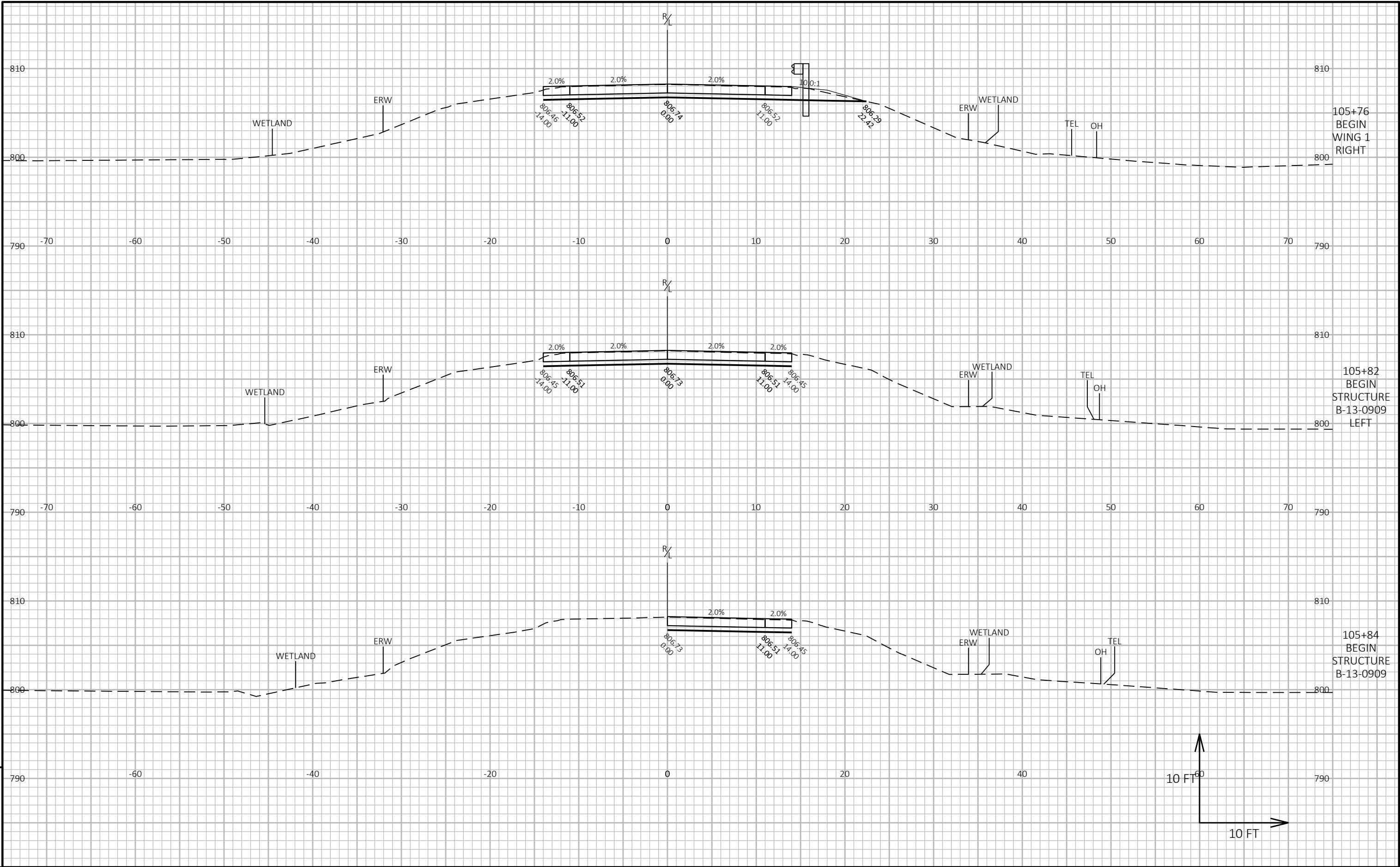


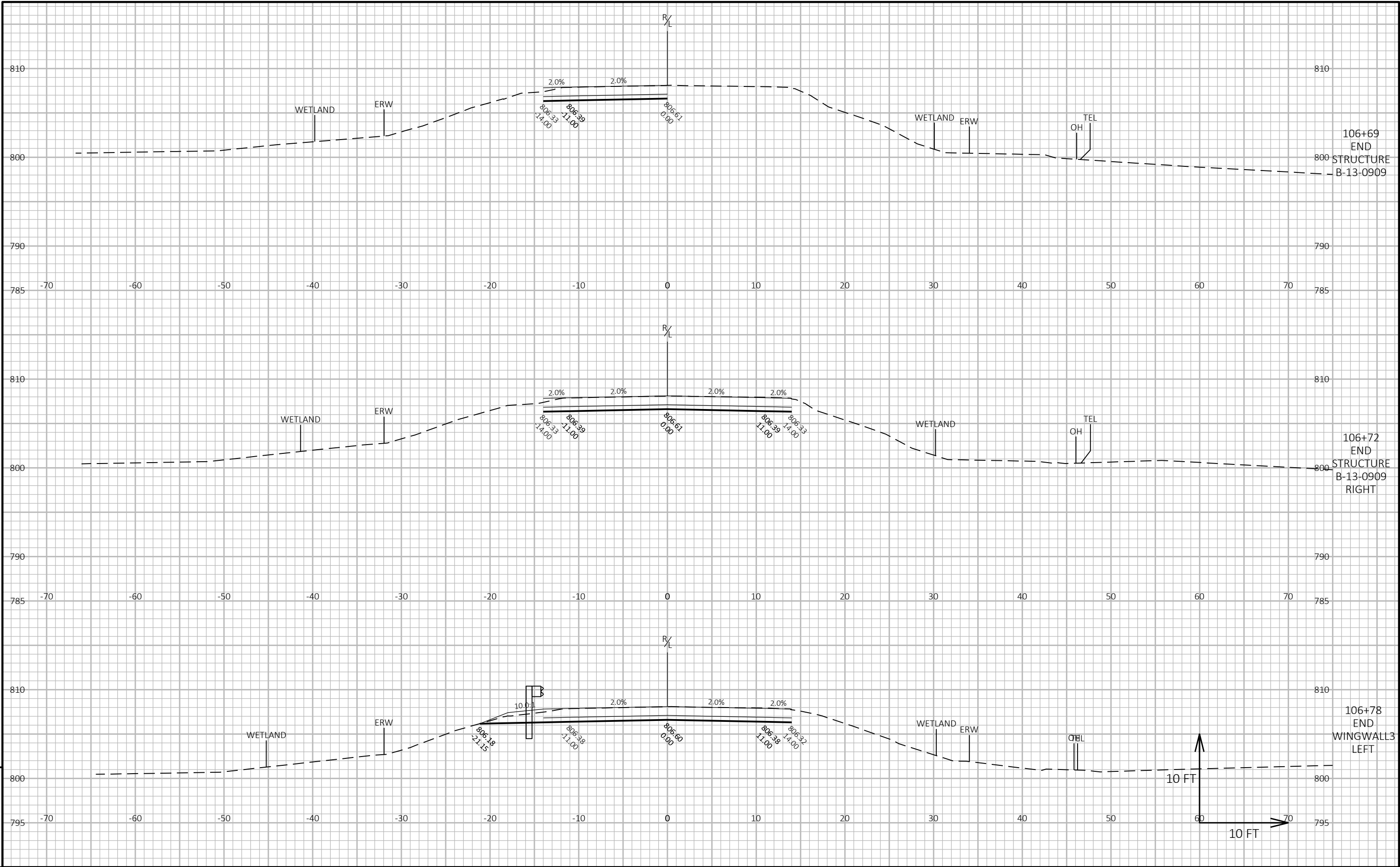


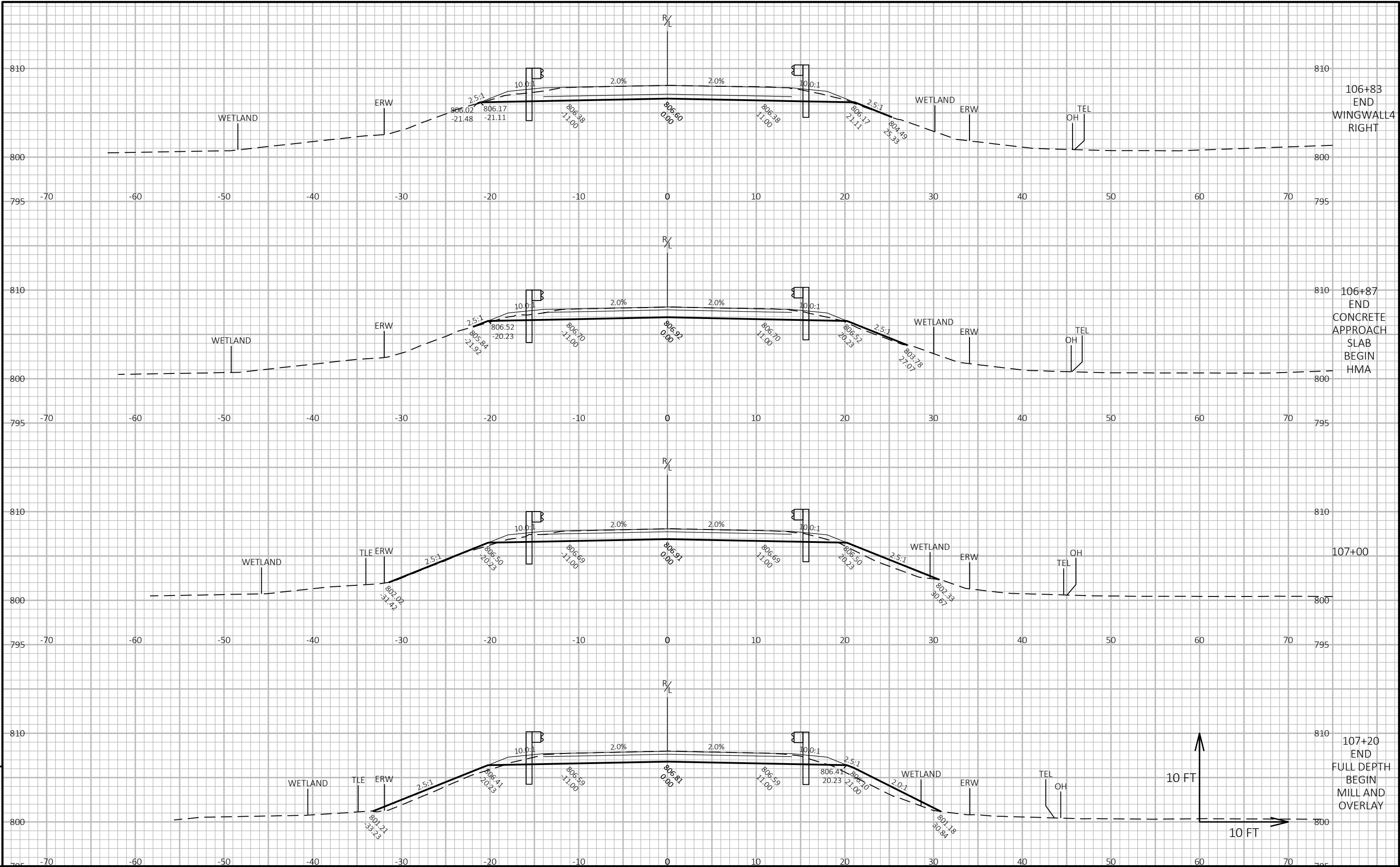
105+34
END MILL
AND
OVERLAY
BEGIN
FULL DEPTH

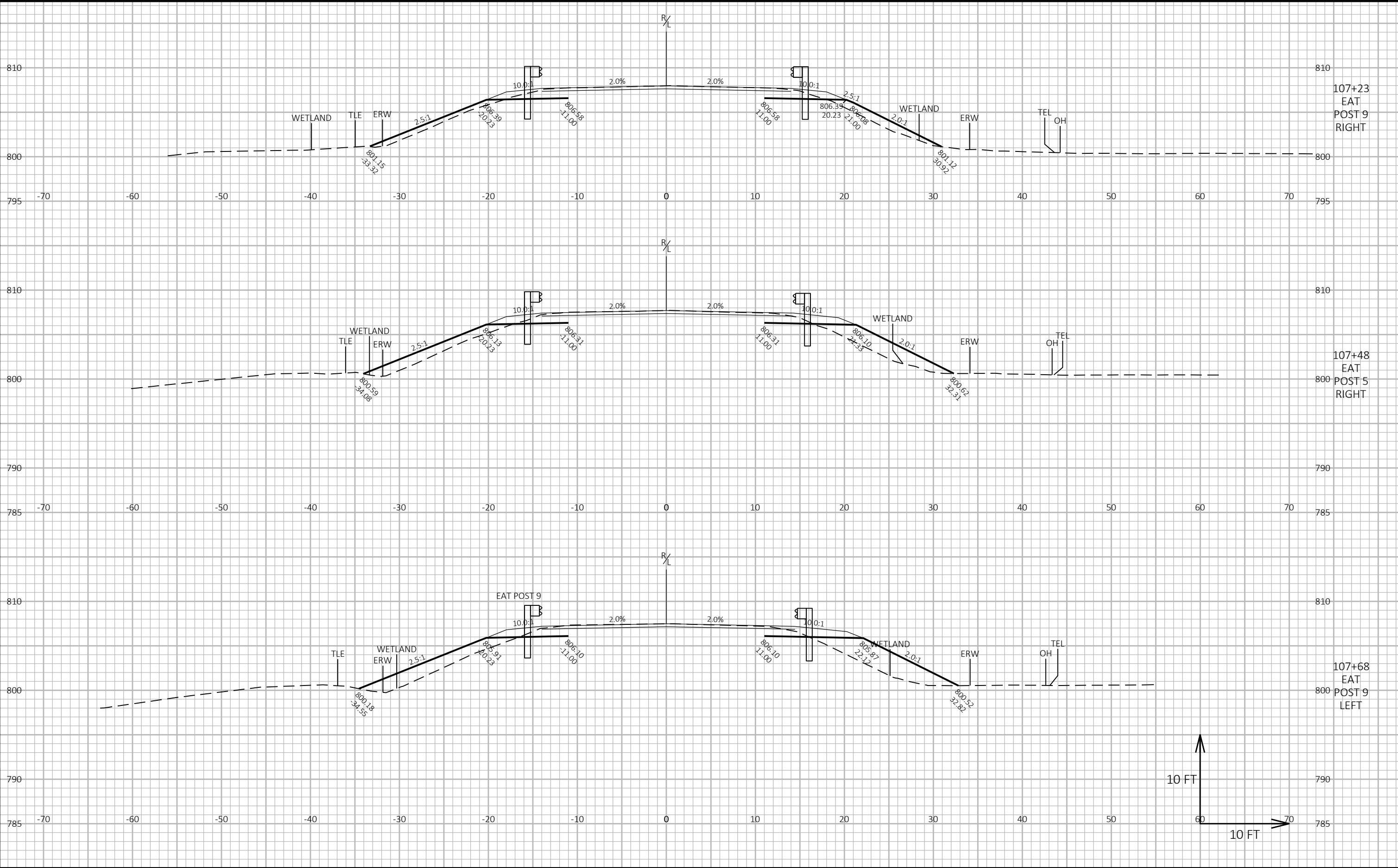
105+67
END HMA
BEGIN
CONC
APPROACH
SLAB

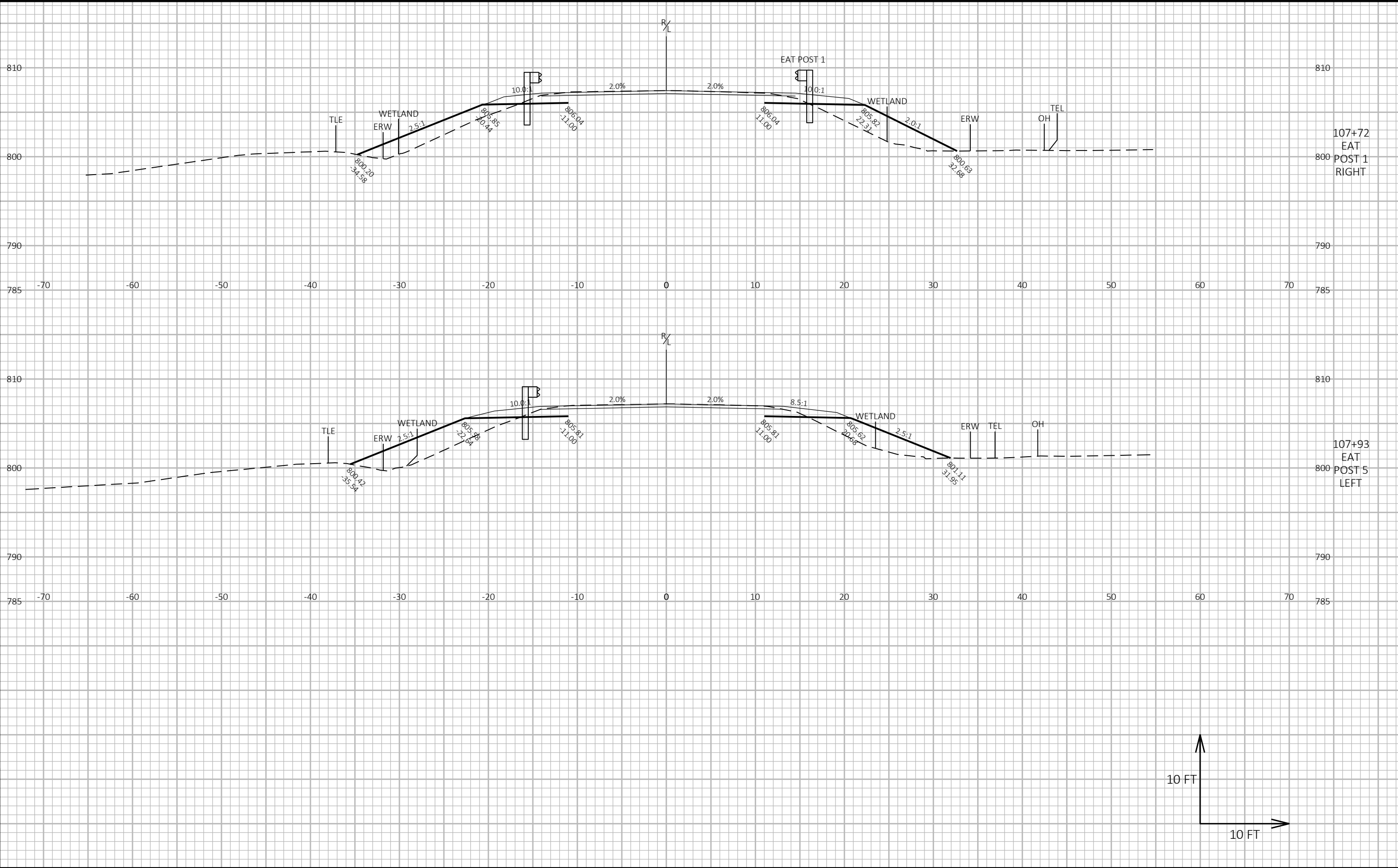
105+71
BEGIN
WING 2
LEFT

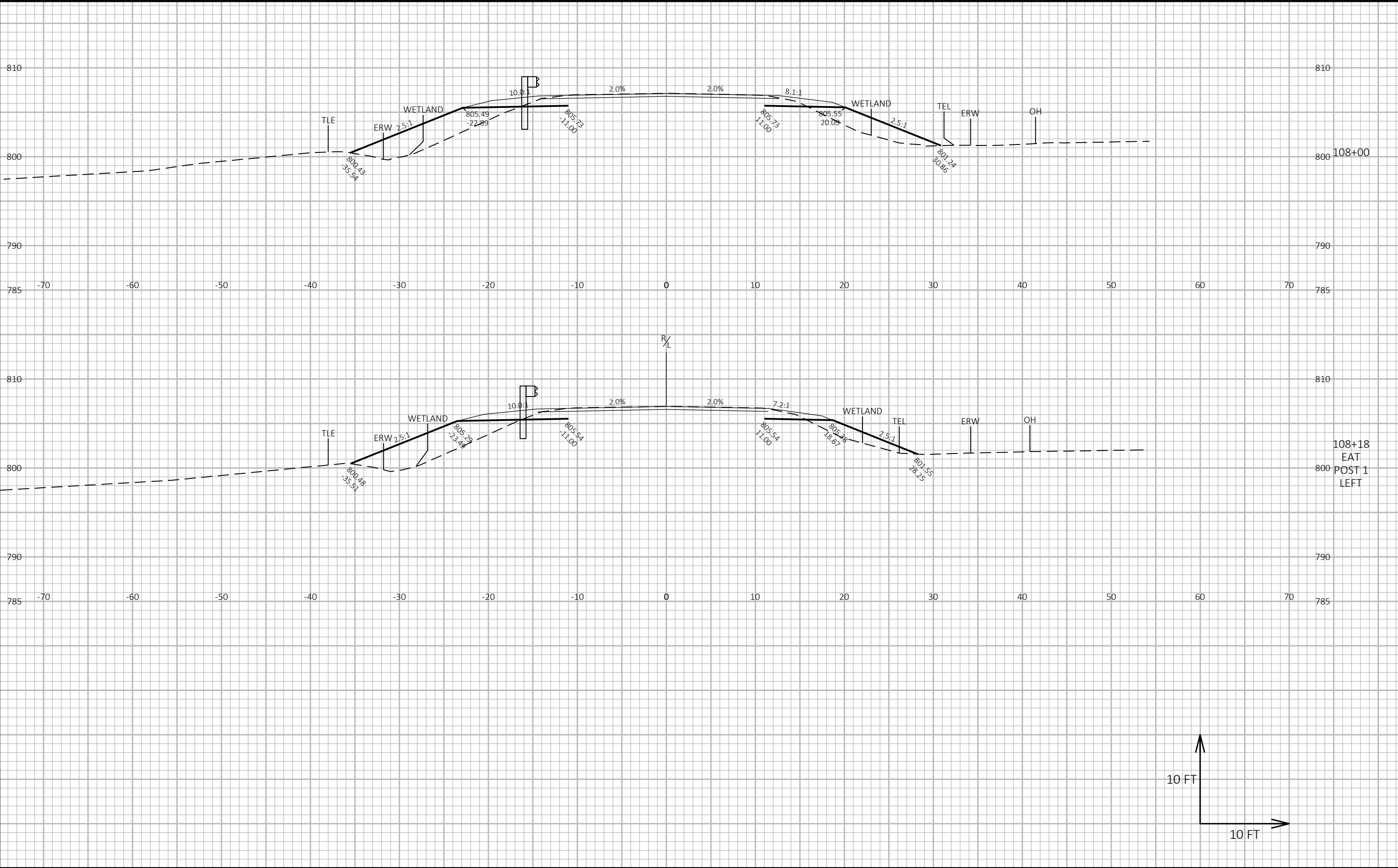


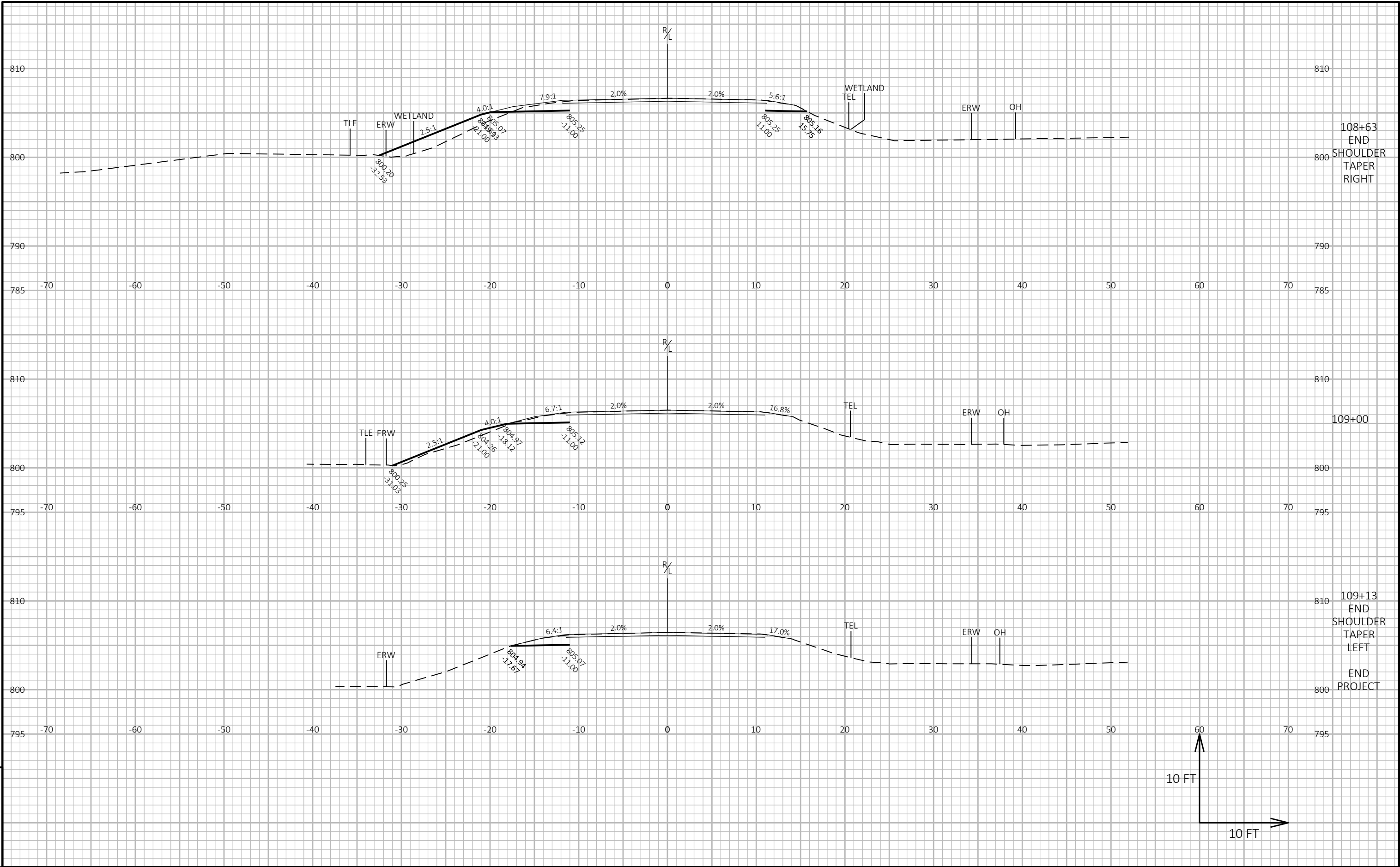




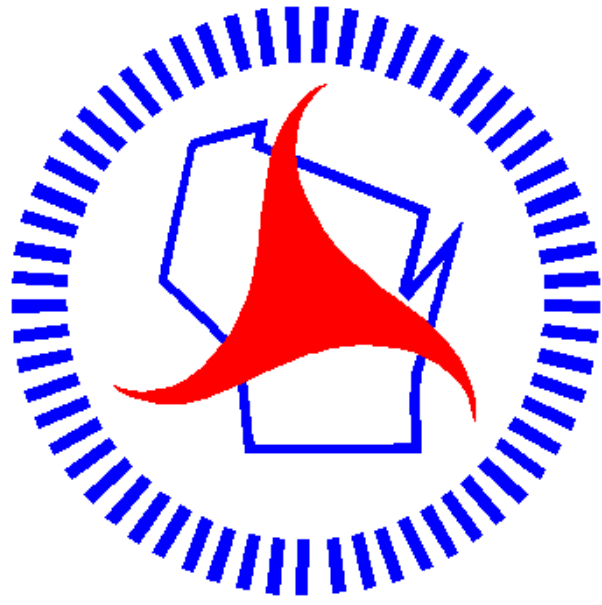








Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

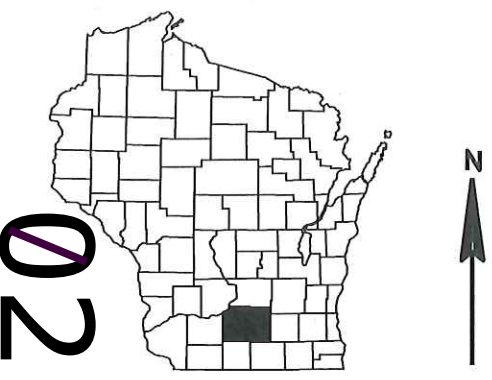
<http://www.dot.wisconsin.gov>

MAD PROJECT ID: 3672-00-72 WITH: 3672-00-70 COUNTY: DANE

APRIL 2025
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 = 68



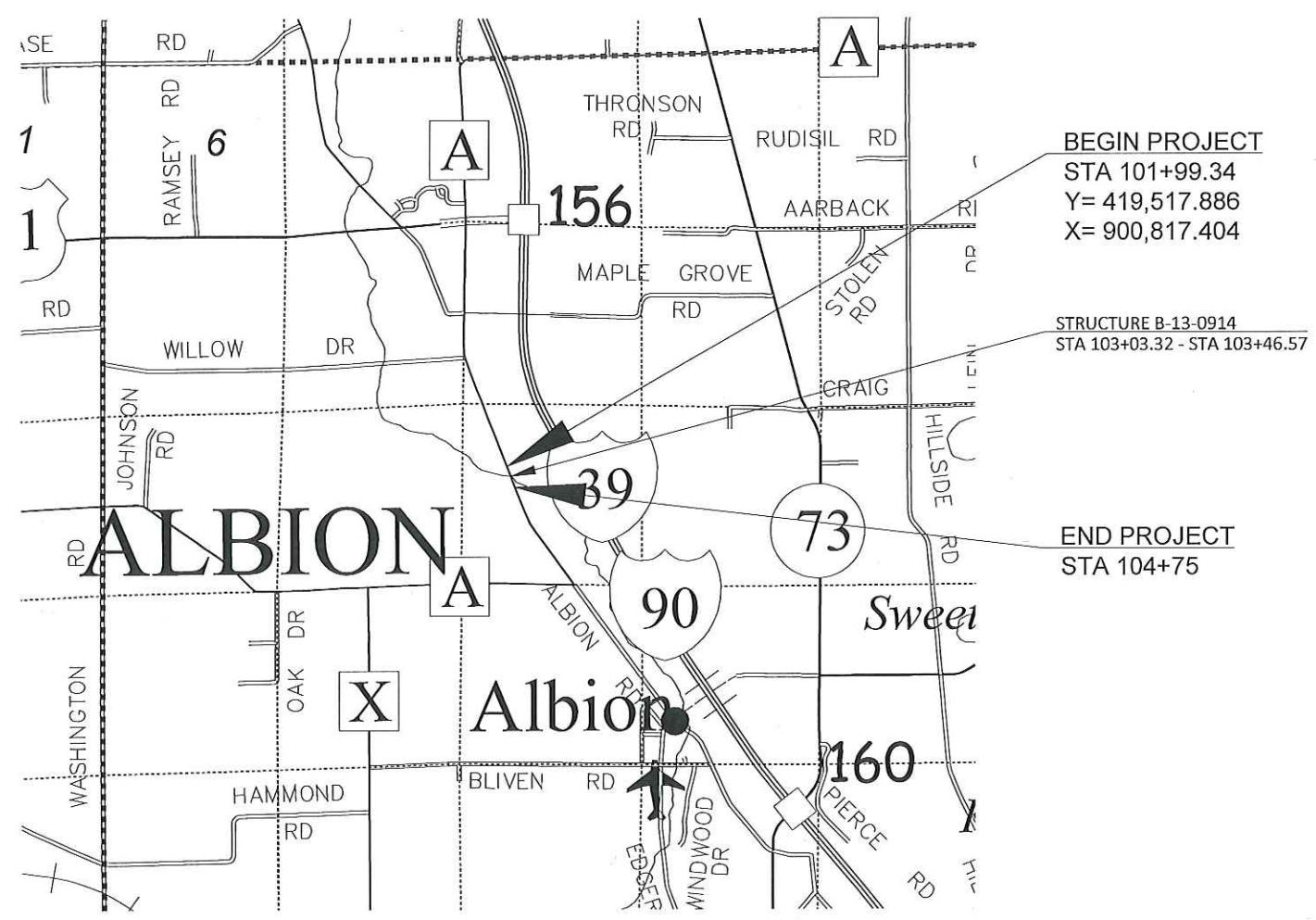
DESIGN DESIGNATION	3672-00-02
A.A.D.T.	2025 = 1300
A.A.D.T.	2045 = 1400
D.H.V.	= 179
D.D.	= 60/40
T.	= 6.6%
DESIGN SPEED	= 55 MPH
ESALS	= 150,000

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
CTH X - USH 51 (CTH A)
SAUNDERS CREEK BRIDGE, B-13-0914
CTH A
DANE COUNTY

STATE PROJECT NUMBER
3672-00-72



LAYOUT
SCALE 0 1 MI
TOTAL NET LENGTH OF CENTERLINE = 0.052 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 12A.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
3672-00-72	WISC 2025409	1

ACCEPTED FOR
DANE COUNTY
DATE: 10/24/24
(Signature and Title of Official)

emcs
1600 Aspen Commons, Suite 230
Middleton, WI 53562
608.827.8810 Fax 608.833.3198



10/16/2024
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	EMCS, INC
Designer	EMCS, INC
Project Manager	ZACH PEARSON
Regional Examiner	SW REGION
Regional Supervisor	KYLE HEMP

APPROVED FOR THE DEPARTMENT
DATE: 10/28/2024
(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.
- CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.
- THE QUANTITY OF THE ITEMS FOR EROSION PROTECTION INCLUDES AN UNDISTRIBUTED AMOUNT FOR PROTECTION, CONTROL AND ABATEMENT OF WATER POLLUTION RESULTING FROM SOIL EROSION. THE DISTRIBUTION AND LOCATION OF THESE MATERIALS ARE TO BE DETERMINED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND EROSION MATTED AS DIRECTED BY THE ENGINEER.
- (SALVAGED) TOPSOIL AND EROSION MAT HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- FERTILIZER SHALL NOT BE USED WITHIN 20' OF NAVIGABLE WATERWAYS OR WETLANDS.
- APPLY TACK COAT AT A RATE OF 0.07 GAL/SY TO MILLED PAVEMENT SURFACES AND 0.05 GAL/SY BETWEEN LAYERS OF HMA PAVEMENT.
- A CONVERSION FACTOR OF 2.10 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 3/4-INCH.
- A CONVERSION FACTOR OF 2.00 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE 1 1/4-INCH.
- A CONVERSION FACTOR OF 112 LB/SY/IN. IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.
- ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

TOTAL LAYER PAVEMENT THICKNESS	LAYERS	GRADATION
5" ASPHALTIC SURFACE	2" (UPPER LAYER) 3" (LOWER LAYER)	12.5 mm (UPPER LAYER) 19.0 mm (LOWER LAYER)

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 0.48 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.33 ACRES

ORDER OF SECTION 2 SHEETS

GENERAL NOTES
TYPICAL SECTIONS
EROSION CONTROL
TRAFFIC CONTROL
DETOUR PLAN

ALLIANT ENERGY - GAS

ZACH STOCKS
3730 KENNEDY RD
JANESVILLE, WI 53545
P: 608-757-7516
EMAIL: ZACHARYSTOCKS@ALLIANTENERGY.COM

FRONTIER - COMMUNICATIONS

CHRIS POLLACK
421 4TH ST
WAUSAU, WI 54403
P: 715-847-1240
C: 715-297-4773
EMAIL: CHRISTOPHER.POLLACK@FTR.COM

SPECTRUM MID-AMERICA, LLC. - COMMUNICATIONS

NICHOLAS THUNBERG
1348 PLAINFIELD AVE
JANESVILLE, WI 53545
P: 920-296-6652
EMAIL: NICHOLAS.THUNBURG@CHARTER.COM

UTILITIES

EVERSTREAM - COMMUNICATIONS

JOE HINES
324 E WISCONSIN AVE
SUITE 730
MILWAUKEE, WI 53202
P: 847-525-3511
EMAIL: JHINES@EVERSTREAM.NET

ROCK ENERGY COOPERATIVE - ELECTRIC

AARON RECHLIN
2815 KENNEDY RD
JANESVILLE, WI 53547
P: 920-650-1487
EMAIL: AARONR@ROCK.COOP

OTHER AGENCIES

WDNR LIAISON

ERIC HEGGELUND
3911 FISH HATCHERY RD
FITCHBURG, WI 53711
PHONE: (608) 228-7927
EMAIL: ERIC.HEGGELUND@WISCONSIN.GOV

DANE COUNTY HIGHWAY DEPARTMENT

DANE COUNTY
MARK MISUN
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PHONE: (608) 266-9081
EMAIL: MISUN.MARK@DANECOUNTY.GOV

CONSULTANT DESIGN

EMCS, INC.
CORY INMAN
1600 ASPEN COMMONS, SUITE 230
MIDDLETON, WI 53562
PHONE: (608) 665-9819
EMAIL: CINMAN@EMCSINC.COM

STANDARD ABBREVIATIONS

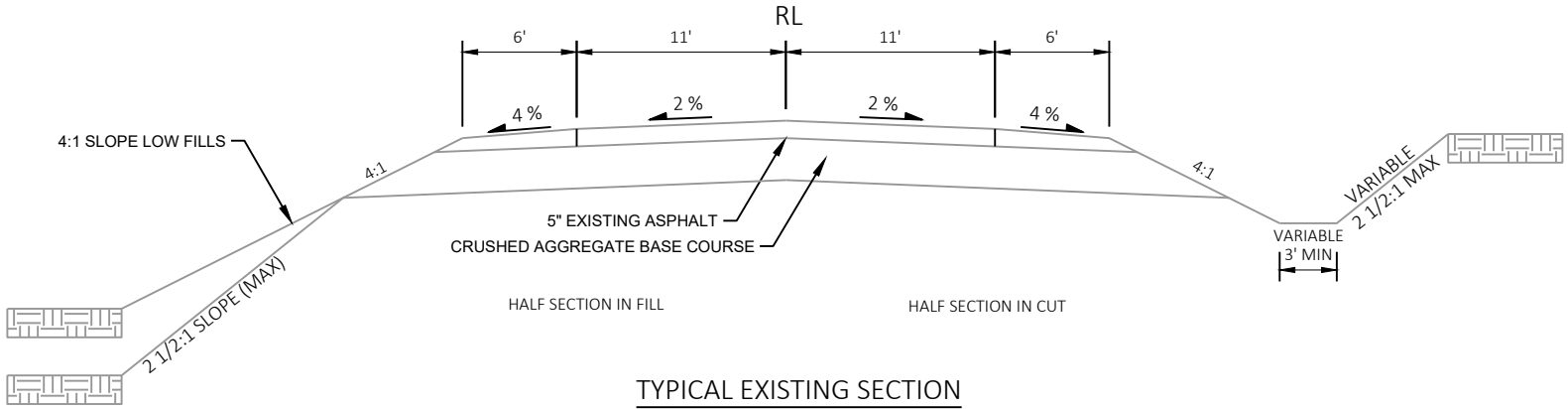
AGG	AGGREGATE	MGAL	1000 GALLONS
<	ANGLE	N	NORTH
AE,AEW	APRON ENDWALL	NB	NORTHBOUND
ASPH.	ASPHALTIC	NOR.	NORMAL
A.D.T.	AVERAGE DAILY TRAFFIC	PAV'T	PAVEMENT
A.A.D.T.	ANNUAL AVERAGE DAILY TRAFFIC	P.L.E.	PERMANENT LIMITED EASEMENT
C/L	CENTER LINE	P.C.	POINT OF CURVATURE
Δ	CENTRAL ANGLE OR DELTA	P.I.	POINT OF INTERSECTION
CMCP	CORRUGATED METAL CULVERT PIPE	P.T.	POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	P.E.	PRIVATE ENTRANCE
CO.	COUNTY	R	RADIUS OR RANGE
CTH	COUNTY TRUNK HIGHWAY	R/L	REFERENCE LINE
CR.	CREEK	R.C.C.P.	REINFORCED CONCRETE CULVERT PIPE
CY	CUBIC YARD	REQ'D	REQUIRED
C&G	CURB AND GUTTER	RT	RIGHT
D	DEGREE OF CURVE	R/W	RIGHT OF WAY
D.H.V.	DESIGN HOURLY VOLUME	RD.	ROAD
D.D.	DIRECTIONAL DISTRIBUTION	SHLD.	SHOULDER(S)
EA	EACH	S	SOUTH
E	EAST	SB	SOUTHBOUND
EB	EASTBOUND	S.F.	SQUARE FOOT (FEET)
ELEC.	ELECTRIC(AL), ELEC. CABLE	SDD	STANDARD DETAIL DRAWING(S)
EL., ELEV.	ELEVATION	STH	STATE TRUNK HIGHWAY
ESALS	EQUIVALENT SINGLE AXLE LOADS	STA.	STATION
EXC.	EXCAVATION	S.E.	SUPERELEVATION
EXIST	EXISTING	S.I.	SLOPE INTERCEPT
F.E.	FIELD ENTRANCE	T.	PERCENT TRUCKS
CWT	HUNDRED WEIGHT	TEL.	TELEPHONE
IH	INTERSTATE HIGHWAY	T.L.E.	TEMPORARY LIMITED EASEMENT
LT	LEFT	TYP	TYPICAL
L.	LENGTH OF CURVE	VAR	VARIABLE
L.F.	LINEAR FOOT(FEET)	W	WEST
LC.	LONG CHORD	WB	WESTBOUND
LS	LUMP SUM		



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

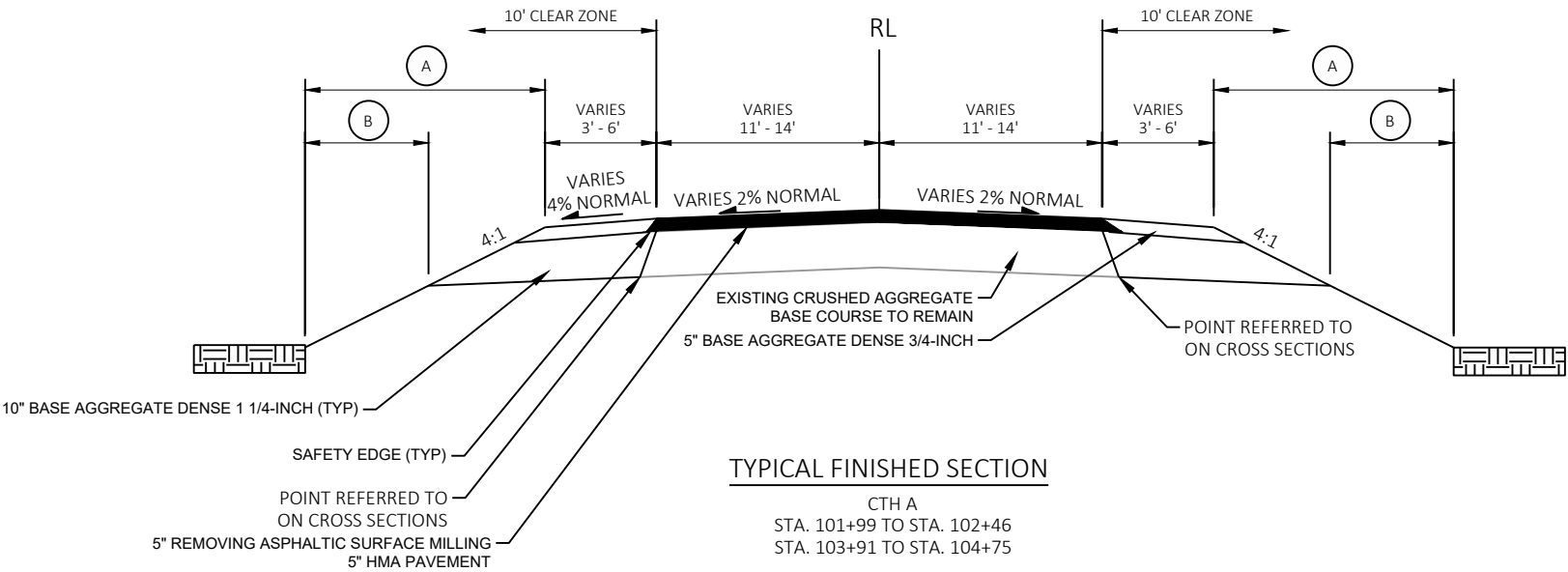
2

2



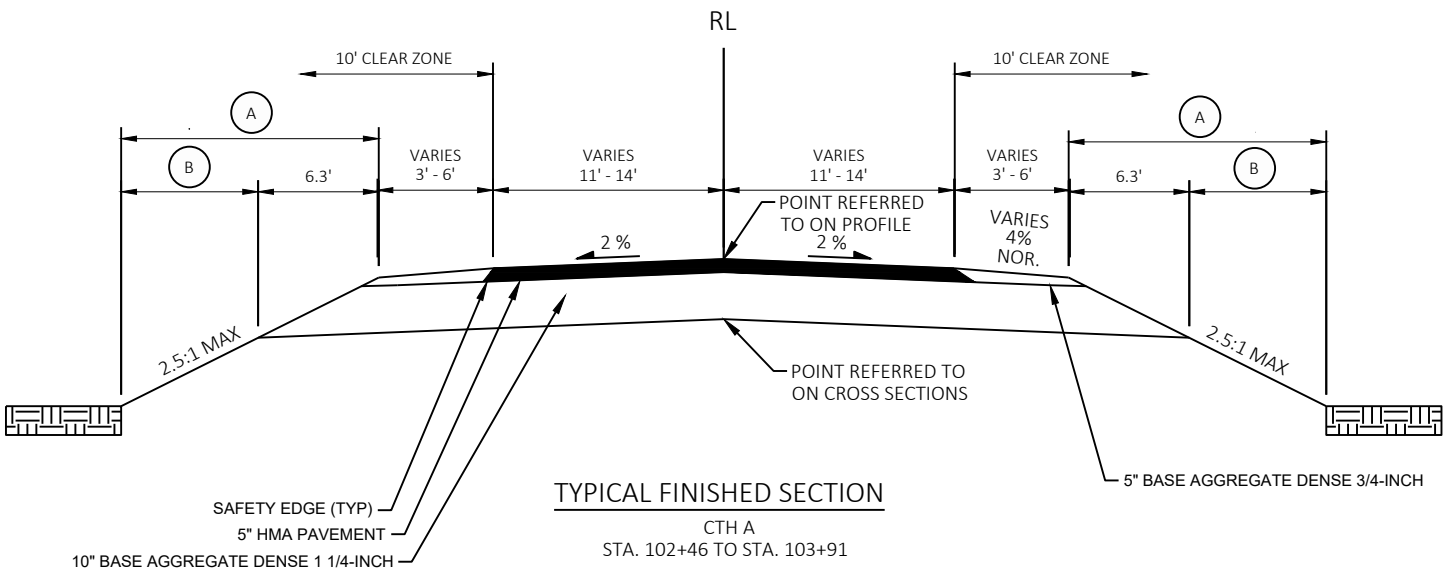
TYPICAL EXISTING SECTION

CTH A
STA. 101+99 TO STA. 102+73
STA. 103+76 TO STA. 104+75



TYPICAL FINISHED SECTION

CTH A
STA. 101+99 TO STA. 102+46
STA. 103+91 TO STA. 104+75



TYPICAL FINISHED SECTION

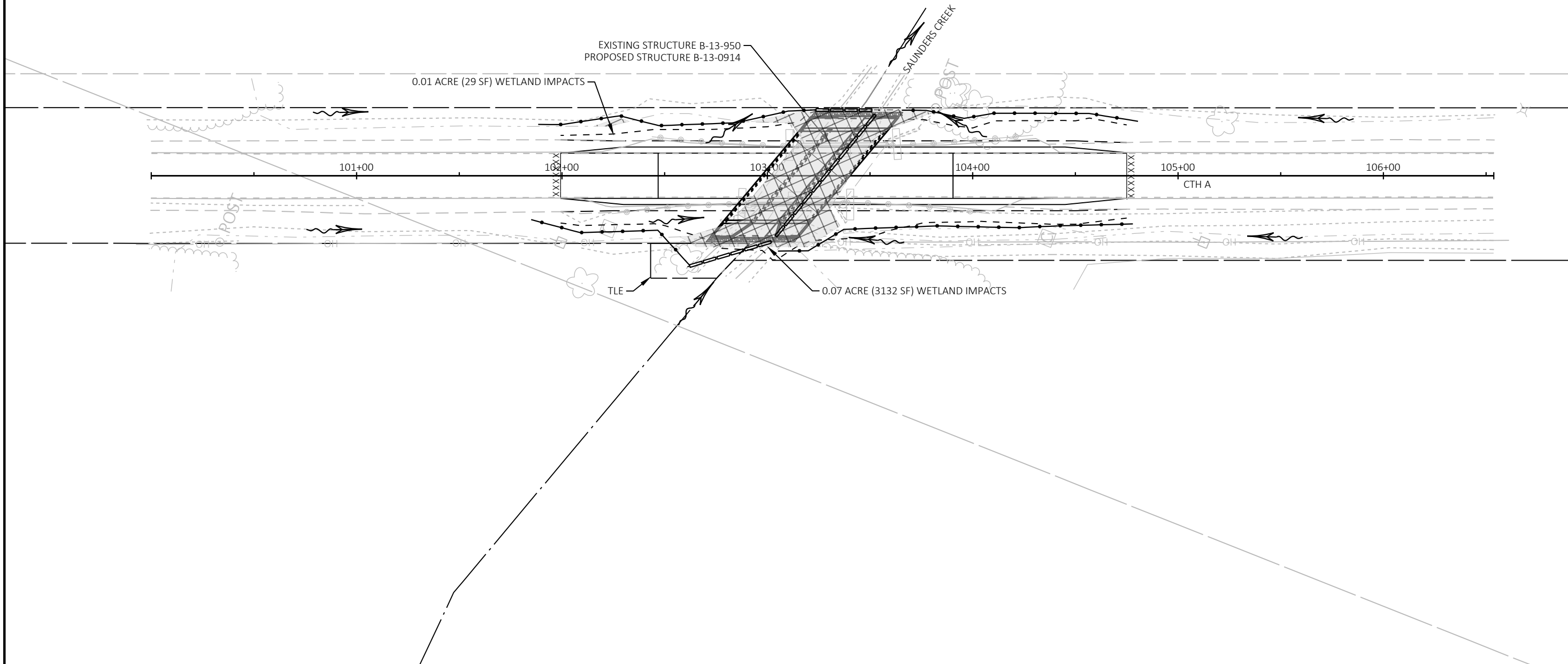
CTH A
STA. 102+46 TO STA. 103+91

- (A) SEEDING MIXTURE NO. 20
- (B) SALVAGED TOPSOIL, AND EROSION MAT URBAN CLASS I TYPE B, OR MULCHING

LEGEND

-  WETLAND IMPACTS
-  SLOPE INTERCEPT
-  WETLAND BOUNDARY
-  SILT FENCE
-  COFFER DAM (SEE STRUCTURE PLANS)
-  SURFACE WATER FLOW
-  EXISTING RIGHT-OF-WAY

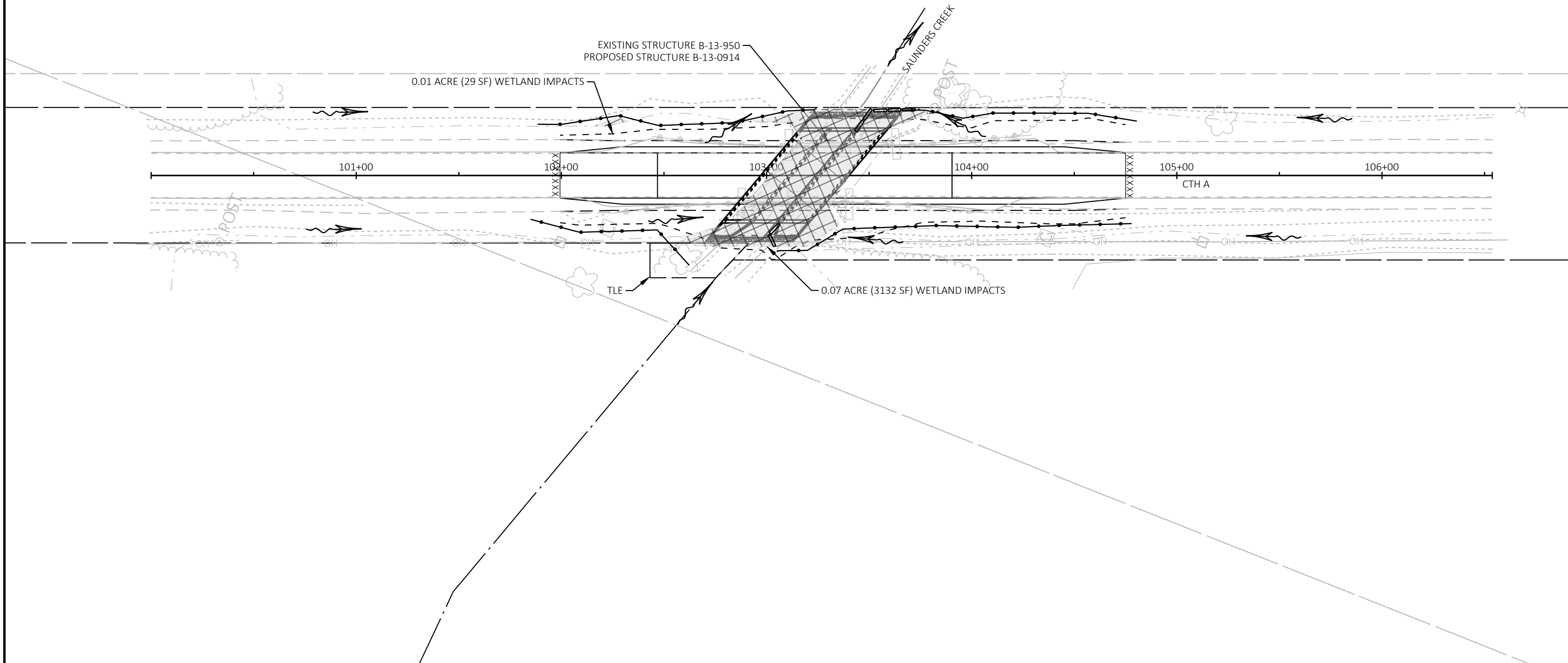
NOTE: ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL HAVE EROSION MAT URBAN CLASS I TYPE B AND SEEDING MIXTURE NO. 20

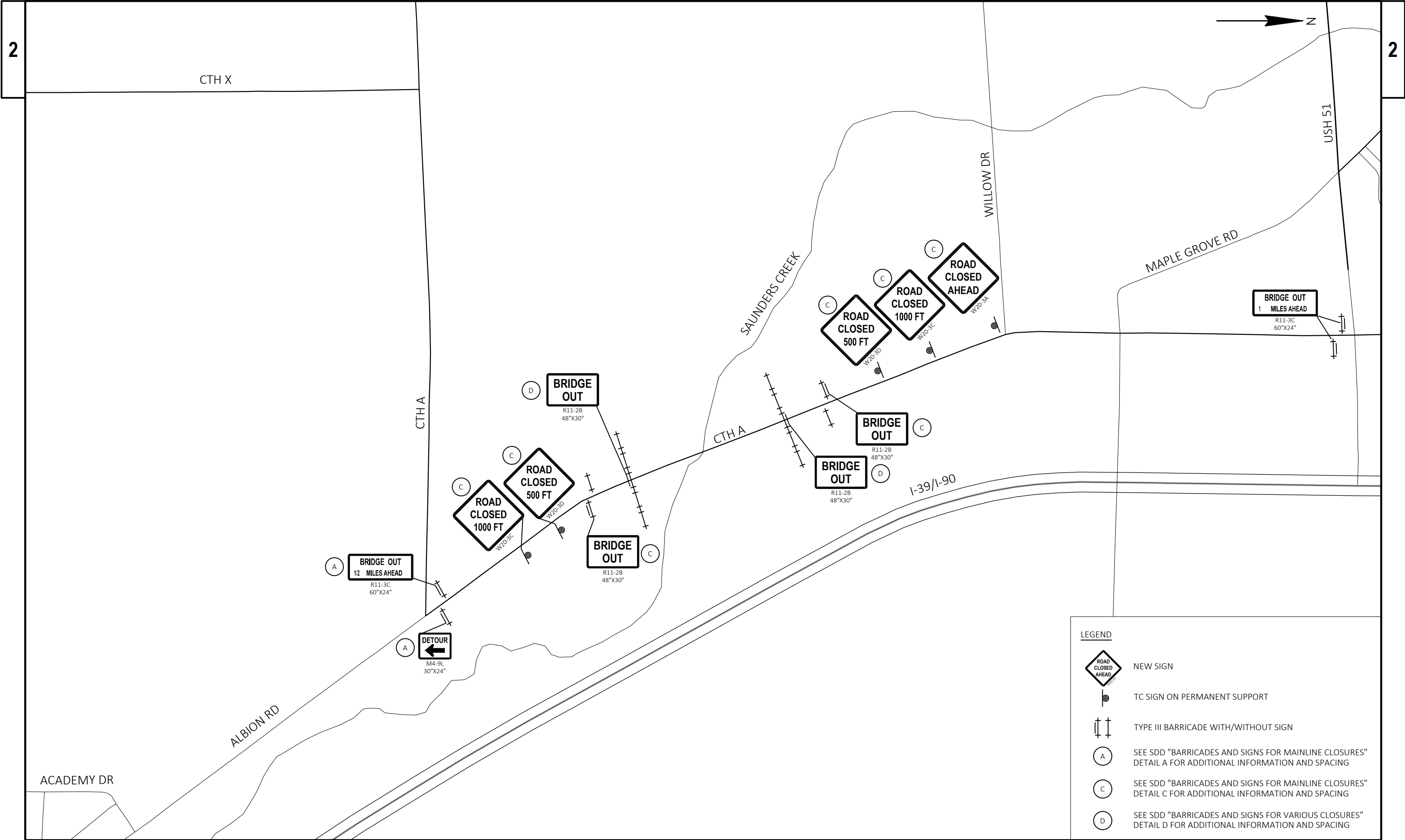


LEGEND

-  WETLAND IMPACTS
-  SLOPE INTERCEPT
-  WETLAND BOUNDARY
-  SILT FENCE
-  COFFER DAM (SEE STRUCTURE PLANS)
-  SURFACE WATER FLOW
-  EXISTING RIGHT-OF-WAY

NOTE: ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL HAVE EROSION MAT URBAN CLASS I TYPE B AND SEEDING MIXTURE NO. 20





DETOUR NOTES

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

ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE TRAFFIC CONTROL PLAN, INCLUDING PRE-EXISTING SIGNING IN THE VICINITY, SHALL BE COVERED OR REMOVED AS SPECIFIED IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ALL EXISTING SIGNS THAT NEED TO BE COVERED SHALL BE COVERED WITH A BLANK ORANGE PANEL. PAID FOR AS TRAFFIC CONTROL COVERING SIGNS TYPE II UNLESS OTHERWISE NOTED.

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

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

ALL "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.

REFER TO SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND SDD "DETOUR SIGNING FOR MAINLINE CLOSURES" FOR SIGN SPACING NOT SHOWN IN DETAILS.

SEVEN CALENDAR DAYS IN ADVANCE OF CLOSING CTH A, PLACE PCMS AT THE EAST AND WEST END OF THE DETOUR ROUTE ON CTH A AS DETERMINED BY THE ENGINEER. MESSAGE TO READ AS LISTED BELOW OR AS APPROVED BY THE ENGINEER.

DO NOT PLACE ANY ITEMS WITHIN 50 FEET OF RAILROAD RIGHT-OF-WAY

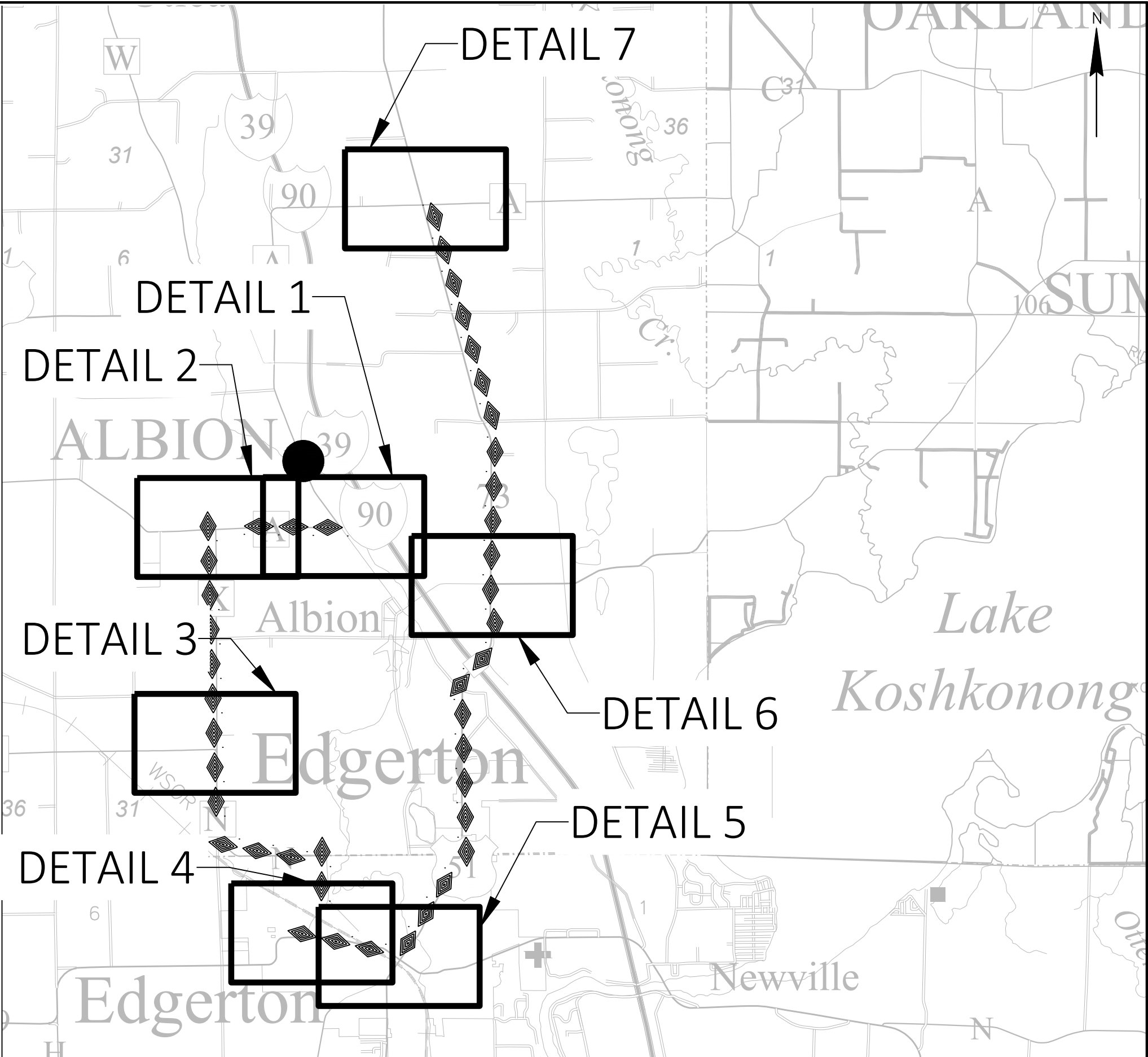
FOR STAGE 2 DETOUR FOR PROJECT 3672-00-72 SEE PROJECT 3672-00-70.

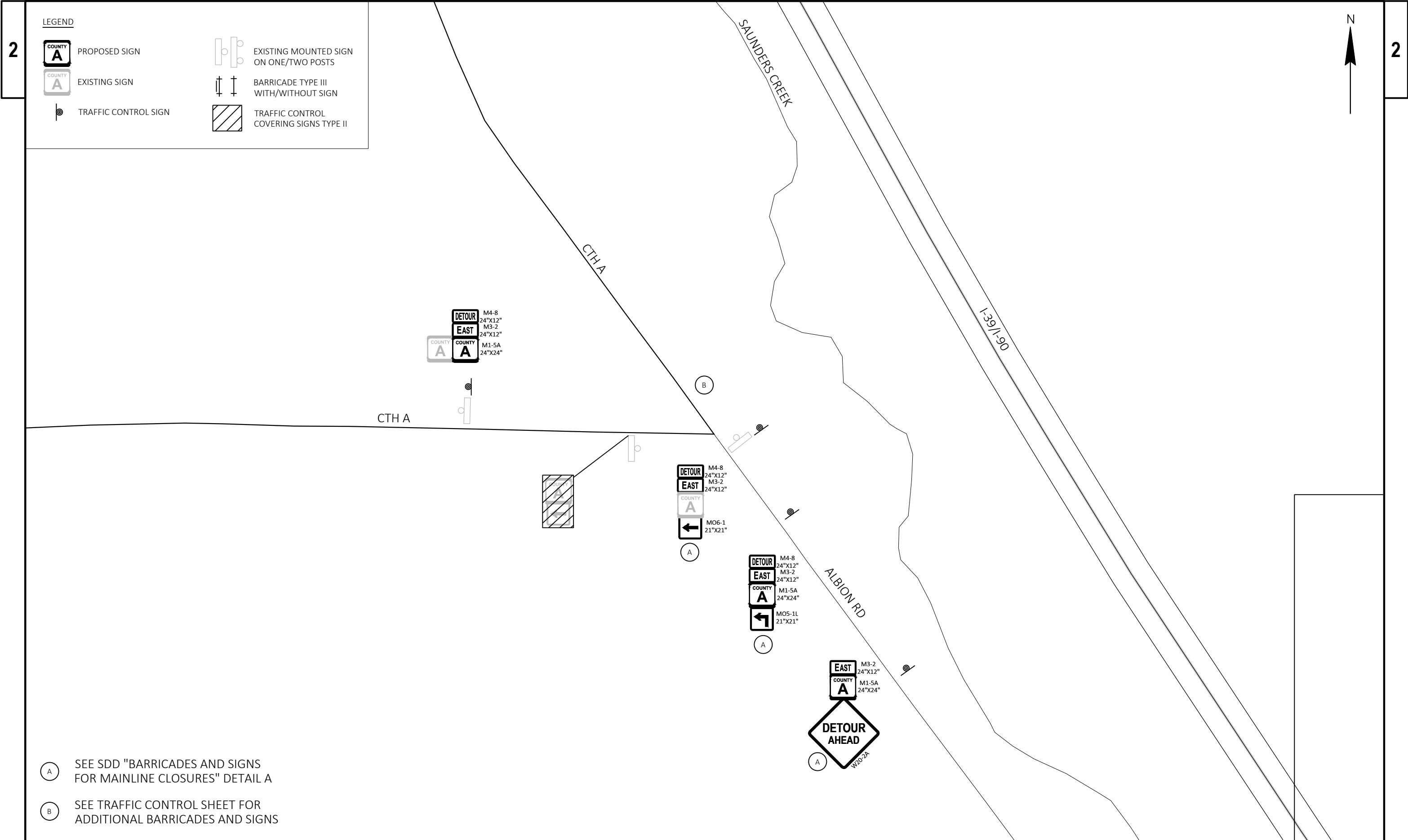
TRAFFIC CONTROL SIGNS PCMS MESSAGES	
PCMS SIGN LOCATION	PHASE 1
CTH A AT US 51	ROAD TO CLOSE (DATE)
CTH A AT CTH X	ROAD TO CLOSE (DATE)

LEGEND

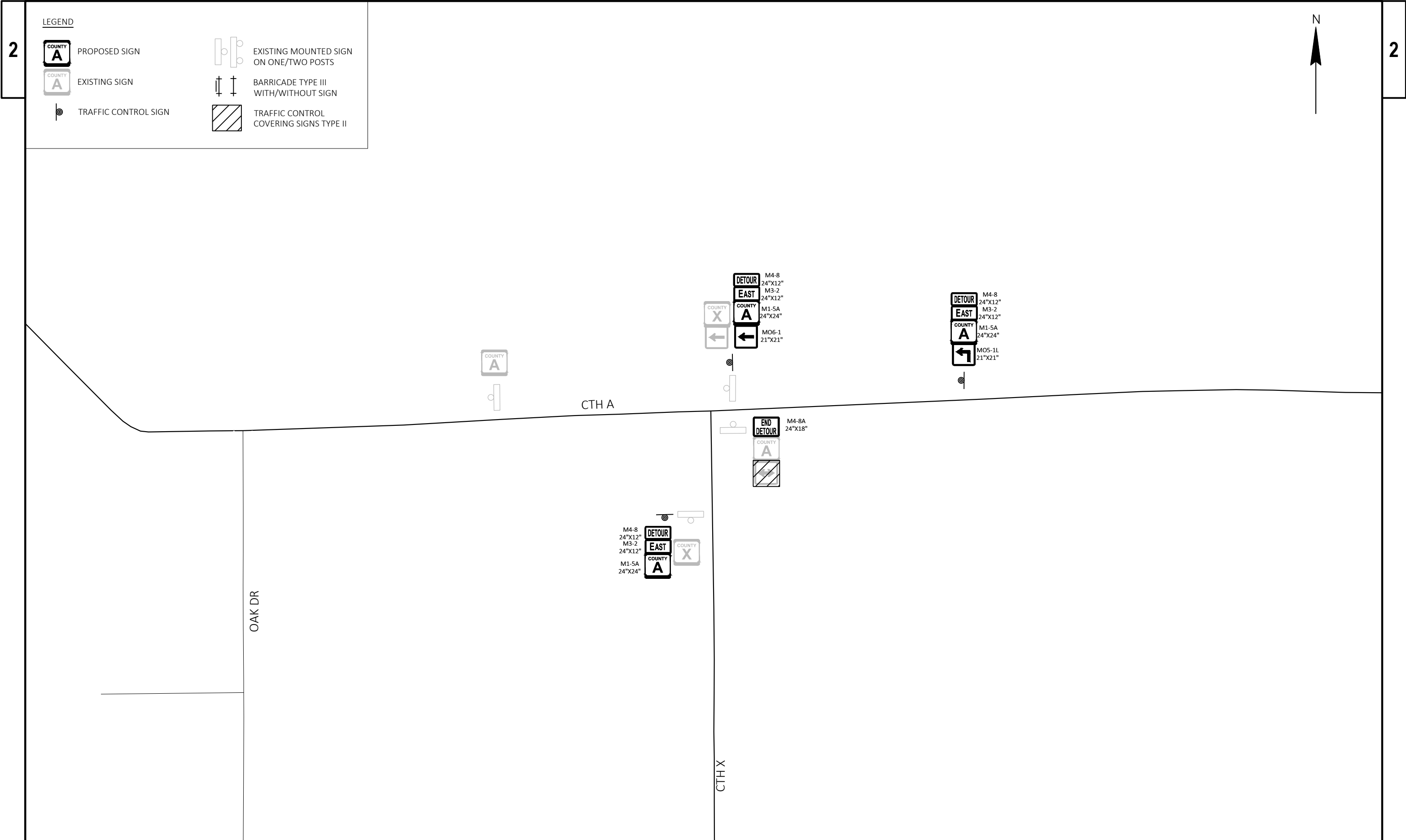
 PROJECT 3672-00-72 DETOUR

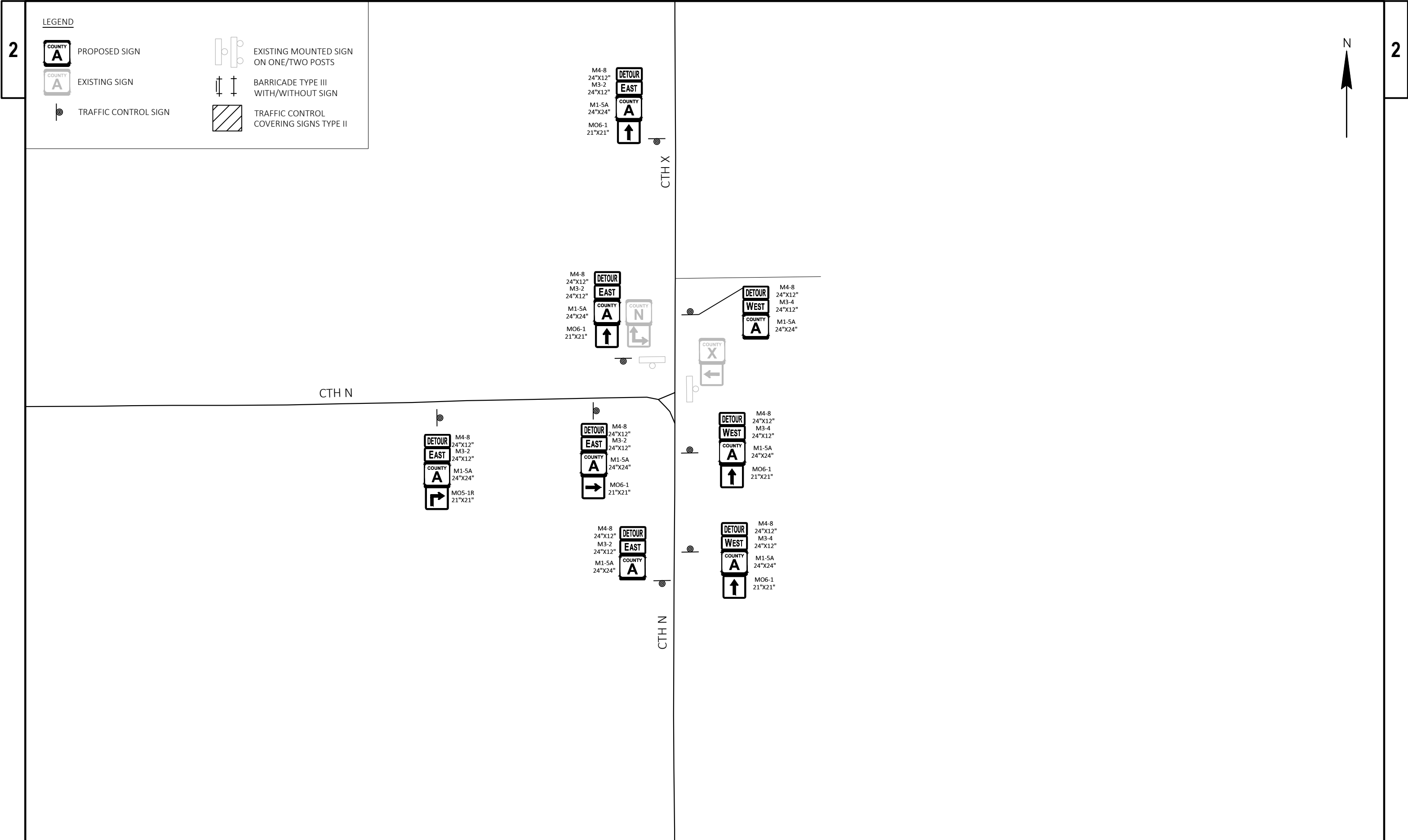
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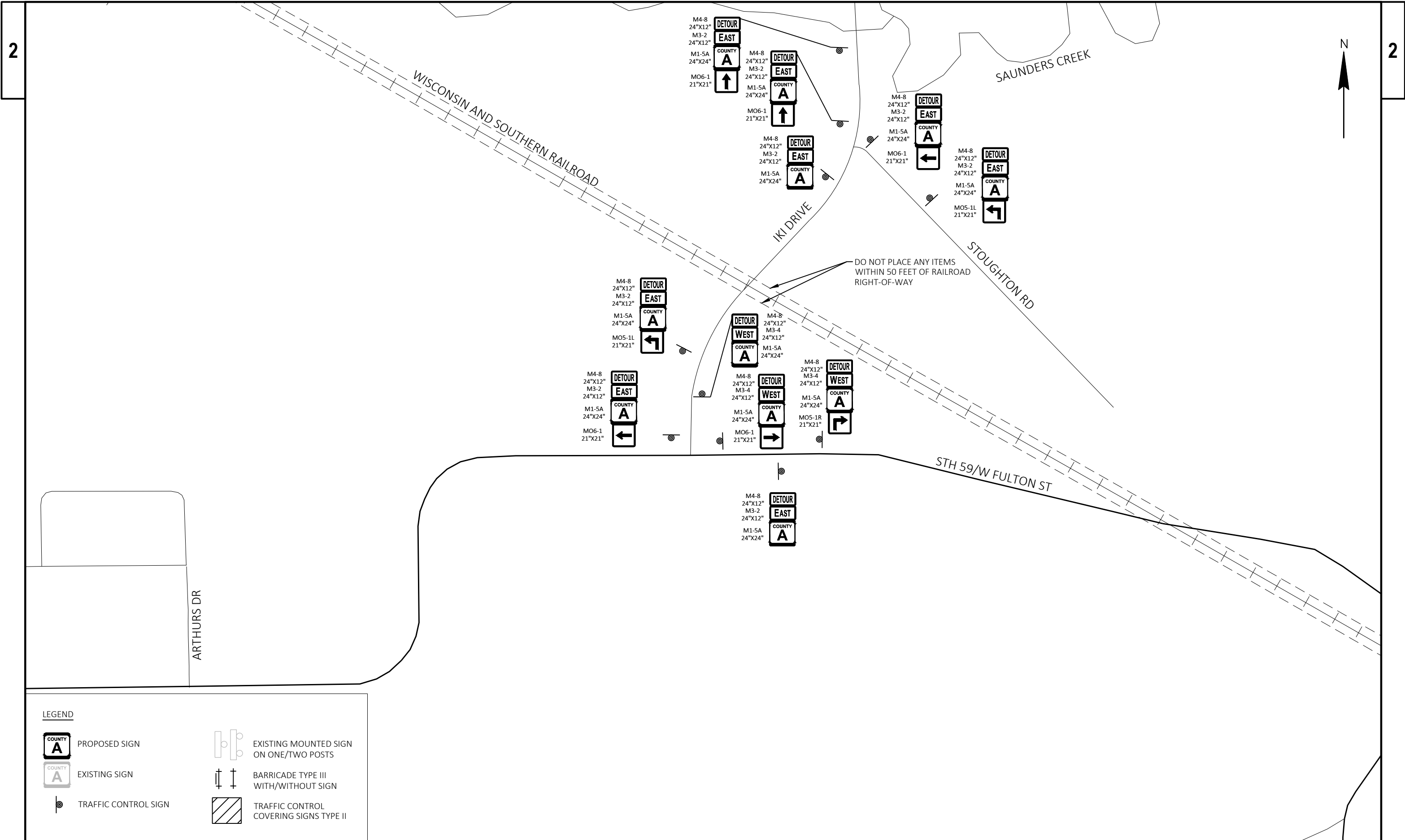




- (A) SEE SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL A
- (B) SEE TRAFFIC CONTROL SHEET FOR ADDITIONAL BARRICADES AND SIGNS







LEGEND

PROPOSED SIGN

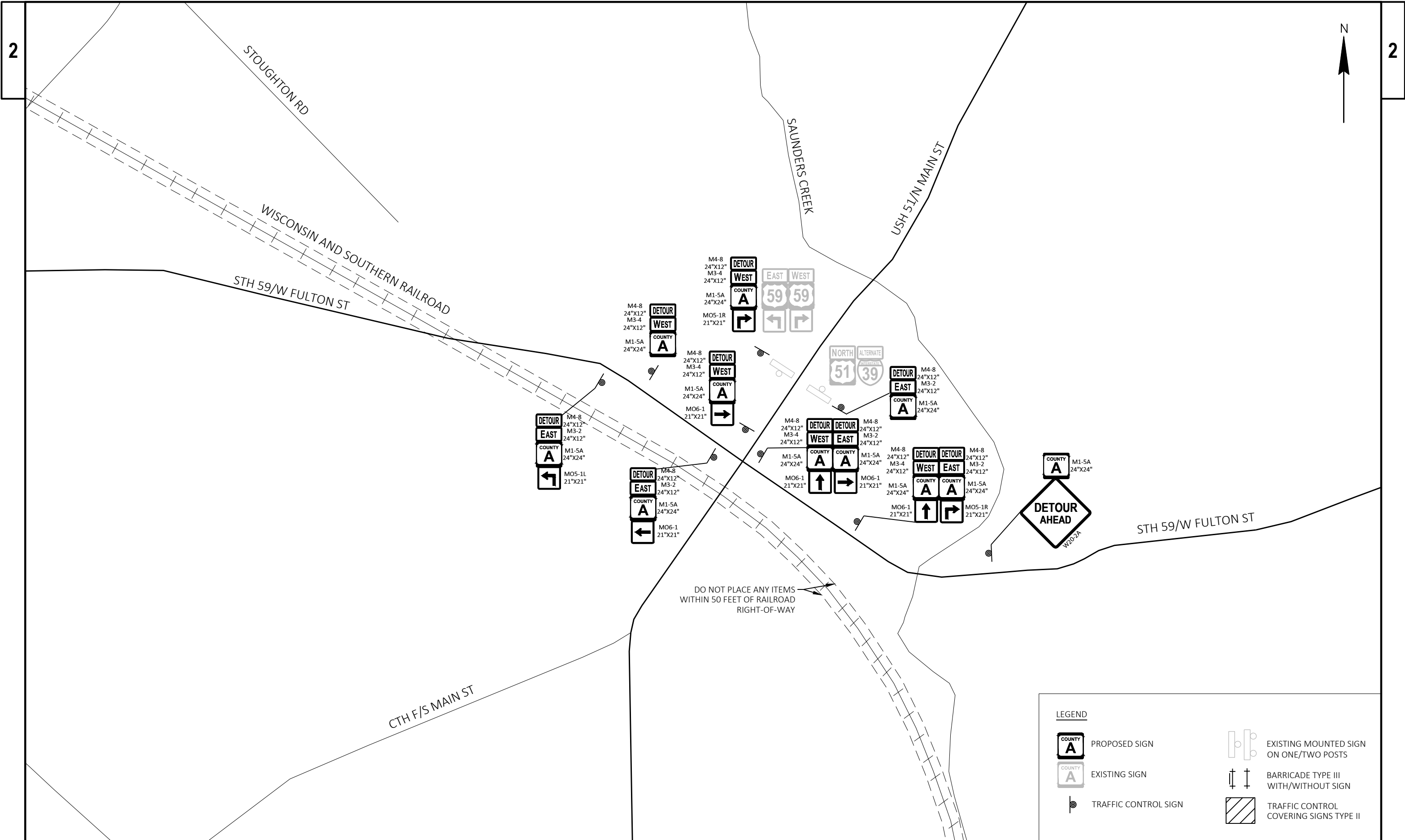
EXISTING SIGN

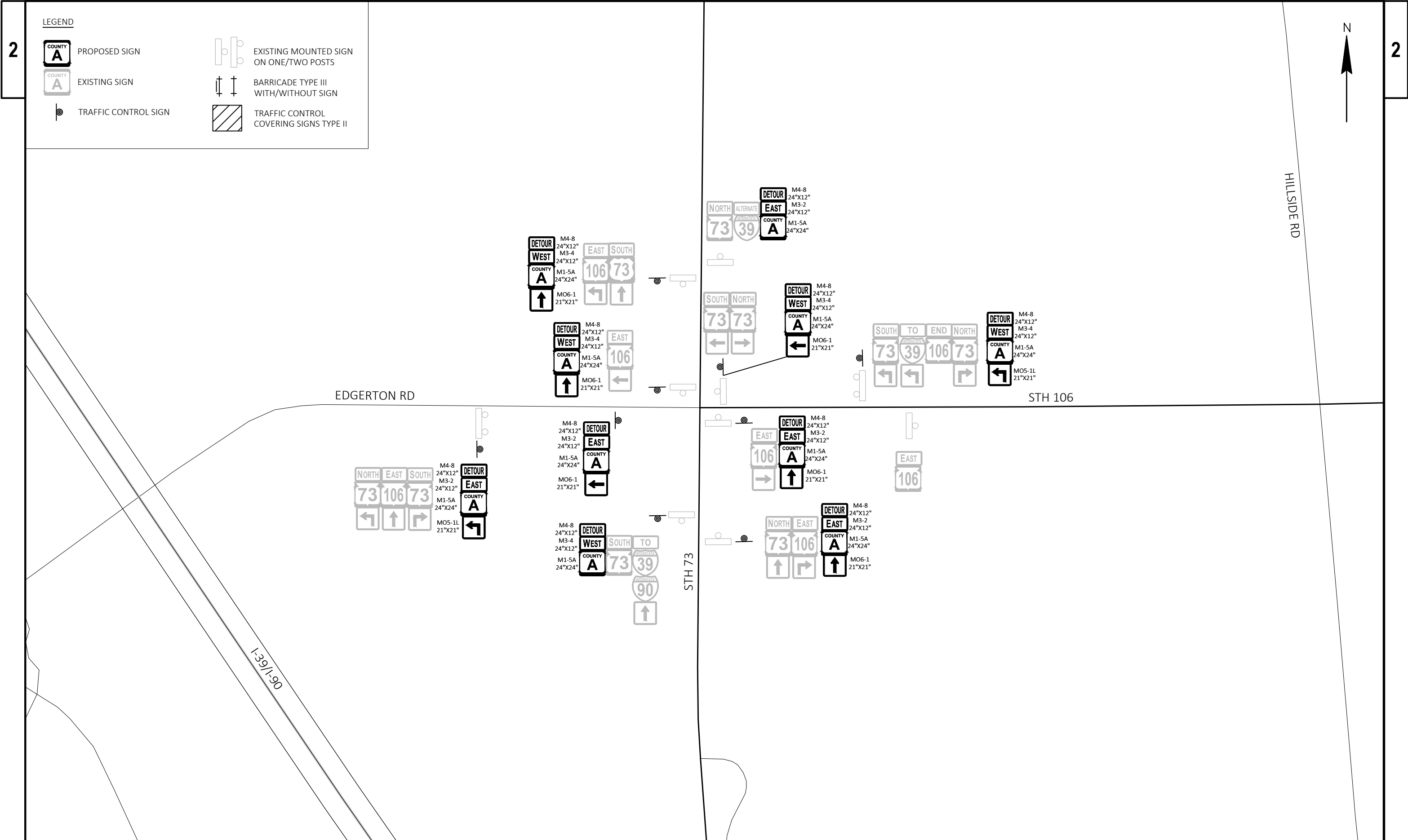
TRAFFIC CONTROL SIGN

EXISTING MOUNTED SIGN ON ONE/TWO POSTS

BARRICADE TYPE III WITH/WITHOUT SIGN

TRAFFIC CONTROL COVERING SIGNS TYPE II





LEGEND

COUNTY
A

PROPOSED SIGN

COUNTY
A

EXISTING SIGN

TRAFFIC CONTROL SIGN

EXISTING MOUNTED SIGN
ON ONE/TWO POSTS

BARRICADE TYPE III
WITH/WITHOUT SIGN

TRAFFIC CONTROL
COVERING SIGNS TYPE II

PROJECT NO: 3672-00-72

HWY: CTH A

COUNTY: DANE

DETOUR - DETAIL 6

SHEET 13

E

FILE NAME : Y:\56XX\5653_DP23.CTHA.SAUNDERS CREEK BRIDGE.DANE\CADD\36720002\2\02\01-DT.DWG

LAYOUT NAME - DETOUR CTH A - DETAIL 6

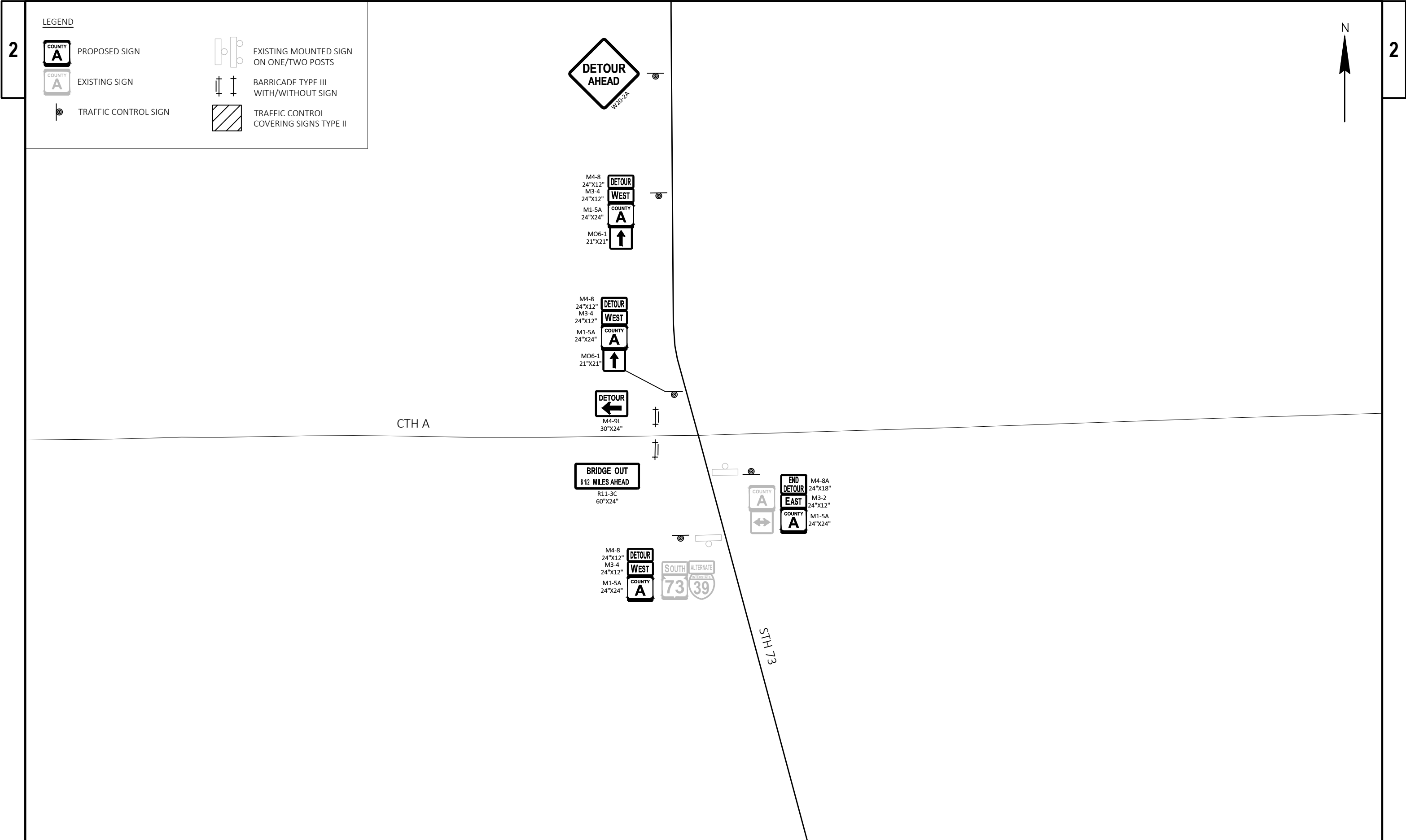
PLOT DATE : 10/25/2024 2:58 PM

PLOT BY : CORY INMAN

PLOT NAME :

1 IN:500 FT

WISDOT/CADD SHEET 42



2

2

LEGEND

-  PROPOSED SIGN
-  EXISTING SIGN
-  TRAFFIC CONTROL SIGN
-  EXISTING MOUNTED SIGN ON ONE/TWO POSTS
-  BARRICADE TYPE III WITH/WITHOUT SIGN
-  TRAFFIC CONTROL COVERING SIGNS TYPE II

Estimate Of Quantities By Plan Sets

3672-00-72					
Line	Item	Item Description	Unit	Total	Qty
0006	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 02. B-13-950	EACH	1.000	1.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	328.000	328.000
0010	204.0165	Removing Guardrail	LF	290.000	290.000
0012	205.0100	Excavation Common	CY	292.000	292.000
0016	206.2001	Excavation for Structures Culverts (structure) 01. B-13-914	EACH	1.000	1.000
0020	206.5001	Cofferdams (structure) 02. B-13-914	EACH	1.000	1.000
0026	210.2500	Backfill Structure Type B	TON	748.000	748.000
0030	213.0100	Finishing Roadway (project) 02. 3672-00-72	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	60.000	60.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	396.000	396.000
0036	311.0110	Breaker Run	TON	320.000	320.000
0042	455.0605	Tack Coat	GAL	16.000	16.000
0044	465.0105	Asphaltic Surface	TON	197.000	197.000
0052	504.0100	Concrete Masonry Culverts	CY	251.000	251.000
0054	505.0400	Bar Steel Reinforcement HS Structures	LB	20,910.000	20,910.000
0056	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	19,070.000	19,070.000
0060	516.0500	Rubberized Membrane Waterproofing	SY	35.000	35.000
0066	606.0100	Riprap Light	CY	138.000	138.000
0082	618.0100	Maintenance and Repair of Haul Roads (project) 02. 3672-00-72	EACH	1.000	1.000
0084	619.1000	Mobilization	EACH	0.300	0.300
0086	624.0100	Water	MGAL	10.000	10.000
0088	625.0500	Salvaged Topsoil	SY	112.000	112.000
0090	627.0200	Mulching	SY	83.000	83.000
0092	628.1504	Silt Fence	LF	527.000	527.000
0094	628.1520	Silt Fence Maintenance	LF	527.000	527.000
0096	628.1905	Mobilizations Erosion Control	EACH	6.000	6.000
0098	628.1910	Mobilizations Emergency Erosion Control	EACH	6.000	6.000
0100	628.2008	Erosion Mat Urban Class I Type B	SY	80.000	80.000
0104	629.0210	Fertilizer Type B	CWT	0.600	0.600
0106	630.0120	Seeding Mixture No. 20	LB	14.000	14.000
0108	630.0200	Seeding Temporary	LB	7.000	7.000
0110	630.0500	Seed Water	MGAL	13.000	13.000
0116	638.2602	Removing Signs Type II	EACH	6.000	6.000
0118	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0120	642.5001	Field Office Type B	EACH	0.300	0.300
0122	643.0420	Traffic Control Barricades Type III	DAY	1,402.000	1,402.000
0124	643.0705	Traffic Control Warning Lights Type A	DAY	2,804.000	2,804.000
0126	643.0900	Traffic Control Signs	DAY	14,045.000	14,045.000
0128	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0130	643.1050	Traffic Control Signs PCMS	DAY	14.000	14.000
0132	643.5000	Traffic Control	EACH	0.300	0.300
0134	645.0105	Geotextile Type C	SY	355.000	355.000
0140	646.1020	Marking Line Epoxy 4-Inch	LF	621.000	621.000
0142	650.4500	Construction Staking Subgrade	LF	276.000	276.000
0144	650.5000	Construction Staking Base	LF	276.000	276.000
0148	650.6501	Construction Staking Structure Layout (structure) 02. B-13-914	EACH	1.000	1.000
0154	650.9911	Construction Staking Supplemental Control (project) 02. 3672-00-72	EACH	1.000	1.000
0156	650.9920	Construction Staking Slope Stakes	LF	276.000	276.000
0158	690.0150	Sawing Asphalt	LF	46.000	46.000

Estimate Of Quantities By Plan Sets

3672-00-72					
Line	Item	Item Description	Unit	Total	Qty
0160	715.0502	Incentive Strength Concrete Structures	DOL	1,506.000	1,506.000
0166	999.2005.S	Maintaining Bird Deterrent System (station) 02. 103+19	EACH	1.000	1.000

REMOVAL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	204.0120	204.0165
					REMOVING ASPHALTIC SURFACE MILLING SY	REMOVING GUARDRAIL LF
0010	101+99	-	102+46	LT/RT	118	-
0010	103+91	-	104+75	LT/RT	210	-
0010	102+24	-	104+08	RT	-	144
0010	102+43	-	104+30	LT	-	146
TOTAL 0010					328	290

DIVISION	FROM/TO STATION	LOCATION	205.0100 COMMON EXCAVATION (1)	AVAILABLE MATERIAL (5)	UNEXPANDED FILL	EXPANDED FILL (13)	MASS ORDNATE +/- (14)	WASTE
			CUT (2)			FACTOR 1.25		
DIVISION 1	101+99.343/104+75	PROJECT 3672-00-72						
			292	292	53	66	226	226
DIVISION 1 SUBTOTAL			292	292	53	66	226	226
GRAND TOTAL			292	292	53	66	226	226
TOTAL COMMON EXC			292					

NOTES:
ALL QUANTITIES SHOWN IN CY
(1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
(2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
5) AVAILABLE MATERIAL = CUT
(13) EXPANDED FILL FACTOR = 1.25X EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
(14) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

BASE AGGREGATE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110	305.0120	624.0100
					BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	WATER MGAL
0010	101+99	-	104+75	CTH A	60	396	10
		-					
TOTAL 0010					60	396	10

ASPHALTIC ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	213.0100.02	455.0605	465.0105
					FINISHING ROADWAY (PROJECT) (02. 3672-00-72) EACH	TACK COAT GAL	ASPHALTIC SURFACE TON
0010	102+00	-	103+90	CTH A	1	16	197
TOTAL 0010					1	16	197

3

3

RESTORATION ITEMS

					625.0500	627.0200	629.0210	630.0120	630.0200	630.0500
					SALVAGED	MULCHING	FERTILIZER	SEEDING	SEEDING	SEED WATER
					TOPSOIL	SY	TYPE B	MIXTURE NO.	TEMPORARY	MGAL
CATEGORY	STATION	TO	STATION	LOCATION	SY	SY	CWT	20	LB	
0010	100+20		103+20	NORTH	32	45	0.25	4	2	4
0010	103+20		106+23	SOUTH	69	30	0.25	8	4	7
				UNDISTRIBUTED	11	8	0.1	2	1	2
TOTAL 0010					112	83	0.6	14	7	13

EROSION CONTROL ITEMS

					628.1504	628.1520	628.2008
					SILT FENCE	SILT FENCE	EROSION MAT
					LF	MAINTENANCE	URBAN CLASS I
CATEGORY	STATION	TO	STATION	LOCATION	LF	LF	TYPE B
0010	100+20		103+20	NORTH	233	233	19
0010	103+20		106+23	SOUTH	294	294	53
				UNDISTRIBUTED	-	-	8
TOTAL 0010					527	527	80

EROSION CONTROL MOBILIZATIONS

		628.1905	628.1910
		MOBILIZATIONS	MOBILIZATIONS
		EROSION	EROSION
		CONTROL	CONTROL
		EACH	EACH
CATEGORY	LOCATION		
0010	PROJECT 3672-00-72	6	6
TOTAL 0010		6	6

REMOVING SIGNS

					638.2602	638.3000	
					REMOVING	REMOVING	
					SIGNS TYPE II	SMALL SIGN	
					EACH	SUPPORTS	
CATEGORY	STATION	TO	STATION	LOCATION		EACH	REMARKS
0010	101+99	-	104+75	CTH A	2	2	NARROW BRIDGE
0010	101+99	-	104+75	CTH A	4	4	BRIDGE MARKERS
TOTAL 0010					6	6	

PROJECT NO: 3672-00-72

HWY: CTH A

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

18

E

3

3

TRAFFIC CONTROL ITEMS

				643.0420		643.0705		643.0900		643.0920			643.1050		643.5000		
CATEGORY	STAGE	LOCATION	DURATION	TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL COVERING SIGNS TYPE II			TRAFFIC CONTROL SIGNS PCMS		TRAFFIC CONTROL	COMMENTS	
			DAY	NO.	DAY	NO.	DAY	NO.	DAY	NO.	CYCLES	EACH	NO.	DAY	EACH		
0010	1	CTH A AND ALBION RD	36	--	--	--	--	13	468	1	1	1	--	--	--	STAGE 1 - DETAIL 1	
		CTH A AND CTH X	36	--	--	--	--	12	432	1	1	1	--	--	--	STAGE 1 - DETAIL 2	
		CTH N AND CTH X	36	--	--	--	--	30	1,080	--	1	--	--	--	--	STAGE 1 - DETAIL 3	
		STH 59 AND IKI DRIVE	36	--	--	--	--	41	1,476	--	1	--	--	--	--	STAGE 1 - DETAIL 4	
		STH 59 AND USH 51	36	--	--	--	--	40	1,440	--	1	--	--	--	--	STAGE 1 - DETAIL 5	
		STH 73 AND STH 106	36	--	--	--	--	38	1,368	--	1	--	--	--	--	STAGE 1 - DETAIL 6	
		CTH A AND STH 73	36	2	72	4	144	17	612	--	1	--	--	--	--	STAGE 1 - DETAIL 7	
		CTH A	36	18	648	36	1,296	14	504	--	1	--	--	--	--	ROAD CLOSURE	
		CTH A	7	--	--	--	--	--	--	--	1	--	2	14	--	ADVANCE WARNING PCMS	
		PROJECT 3672-00-72	--	--	--	--	--	--	--	--	1	--	--	--	0.15		
		STAGE 1 SUBTOTAL		20	720	40	1,440	205	7,380			2	2	14	0.15		
0010	2	CTH A AND ALBION RD	31	--	--	--	--	13	403	1	1	1	--	--	--	STAGE 2 - DETAIL 1	
		CTH A AND CTH X	31	--	--	--	--	12	372	1	1	1	--	--	--	STAGE 2 - DETAIL 2	
		CTH N AND CTH X	31	--	--	--	--	30	930	--	1	--	--	--	--	STAGE 2 - DETAIL 3	
		STH 59 AND IKI DRIVE	31	--	--	--	--	41	1,271	--	1	--	--	--	--	STAGE 2 - DETAIL 4	
		STH 59 AND USH 51	31	--	--	--	--	40	1,240	--	1	--	--	--	--	STAGE 2 - DETAIL 5	
		STH 73 AND STH 106	31	--	--	--	--	38	1,178	--	1	--	--	--	--	STAGE 2 - DETAIL 6	
		CTH A AND STH 73	31	4	124	8	248	27	837	--	1	--	--	--	--	STAGE 2 - DETAIL 7	
		CTH A	31	18	558	36	1,116	14	434	--	1	--	--	--	--	ROAD CLOSURE	
		PROJECT 3672-00-72	--	--	--	--	--	--	--	--	1	--	--	--	0.15		
		STAGE 2 SUBTOTAL		22	682	44	1,364	215	6,665			2	--	--	0.15		
		TOTAL 0010		42	1,402	84	2,804	420	14,045			4	2	14	0.30		

PAVEMENT MARKINGS

					646.1020	REMARKS
					MARKING LINE	
					EPOXY 4-INCH	
CATEGORY	STATION	TO	STATION	LOCATION	LF	
0010	101+99	-	104+75	CTH A	69	YELLOW CENTERLINE 12.5' LINE 37.5' SKIP WHITE EDGELINES
0010	101+99	-	104+75	CTH A	552	
TOTAL 0010					621	

SAWING

		690.0150
CATEGORY	LOCATION	SAWING ASPHALT LF
0010	NORTH LIMITS	23
0010	SOUTH LIMITS	23
TOTAL 0010		46

CONSTRUCTION STAKING

		650.4500	650.5000	650.6501.02	650.9911.02	650.9920
CATEGORY	LOCATION	CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING BASE LF	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) (02. B-13-914) EACH	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (02. 3672-00-72) EACH	CONSTRUCTION STAKING SLOPE STAKES LF
0010	CTH A	276	276	-	1	276
TOTAL 0010		276	276	0	1	276
0020	CTH A	-	-	1	-	-
TOTAL 0020		0	0	1	0	0
PROJECT TOTAL		276	276	1	1	276

PROJECT NO: 3672-00-72

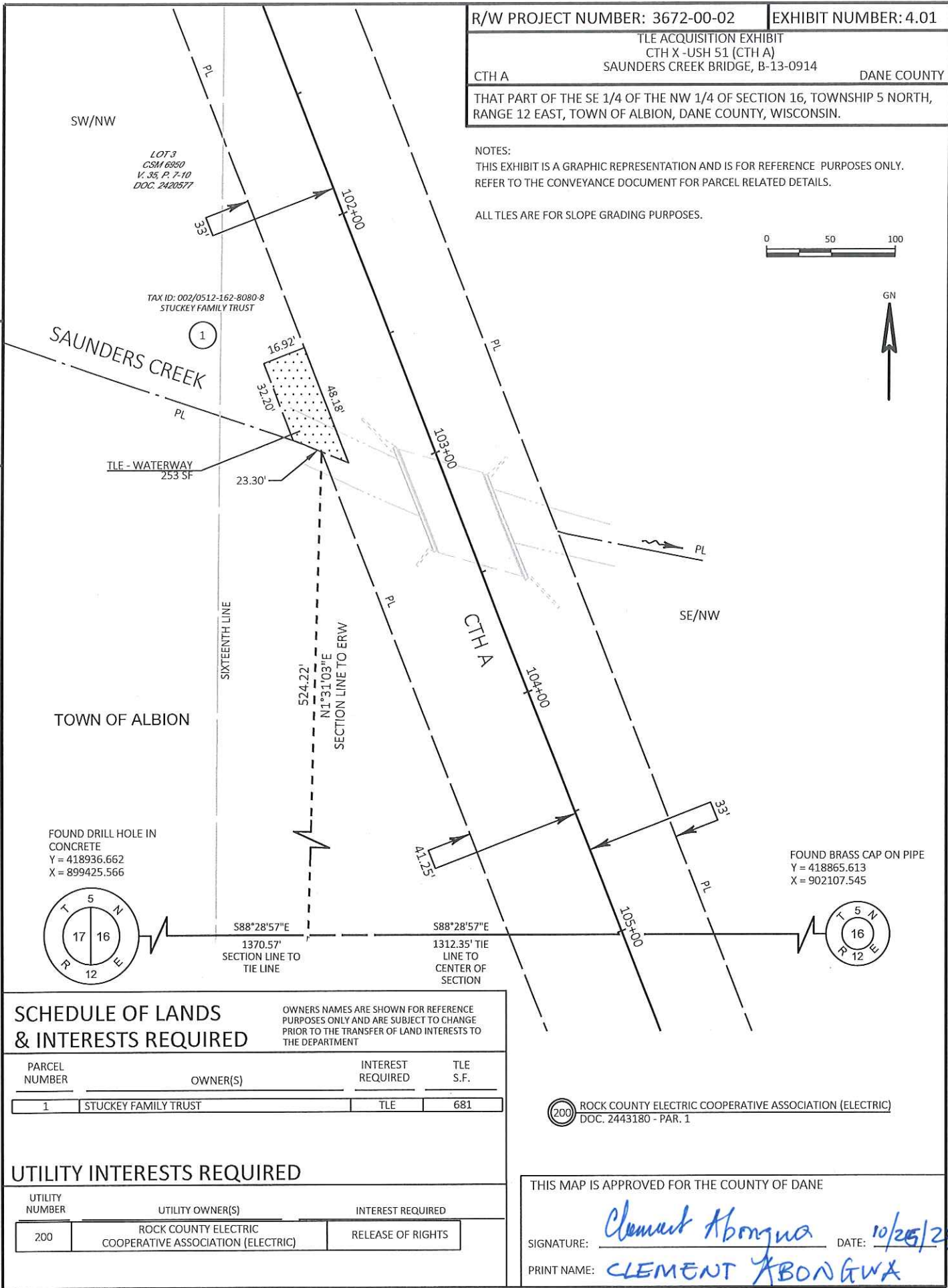
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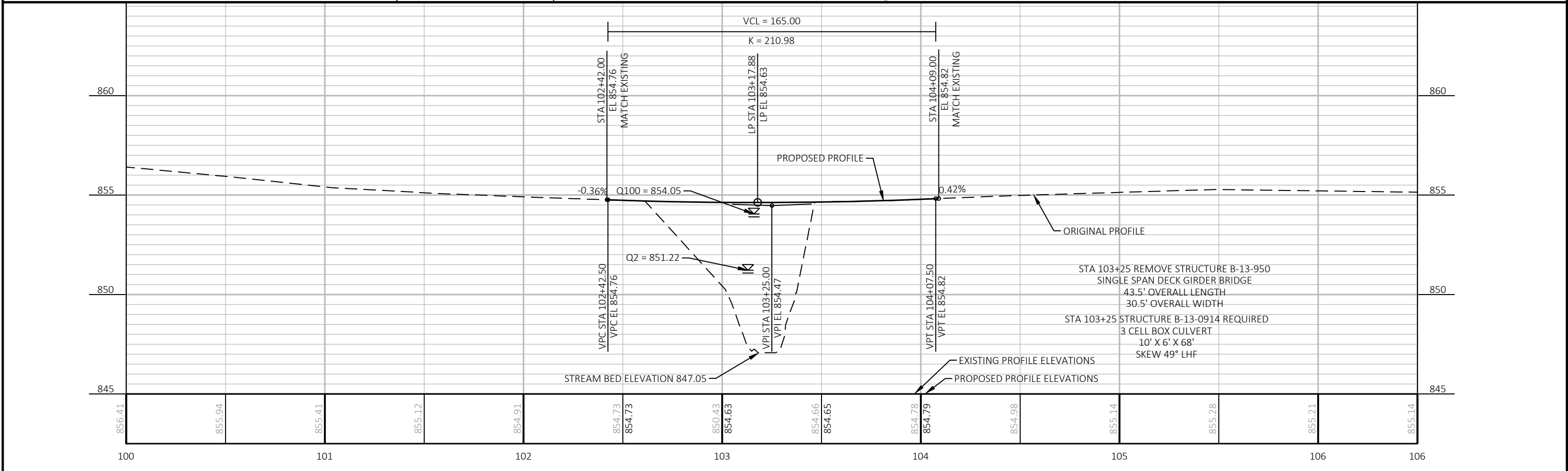
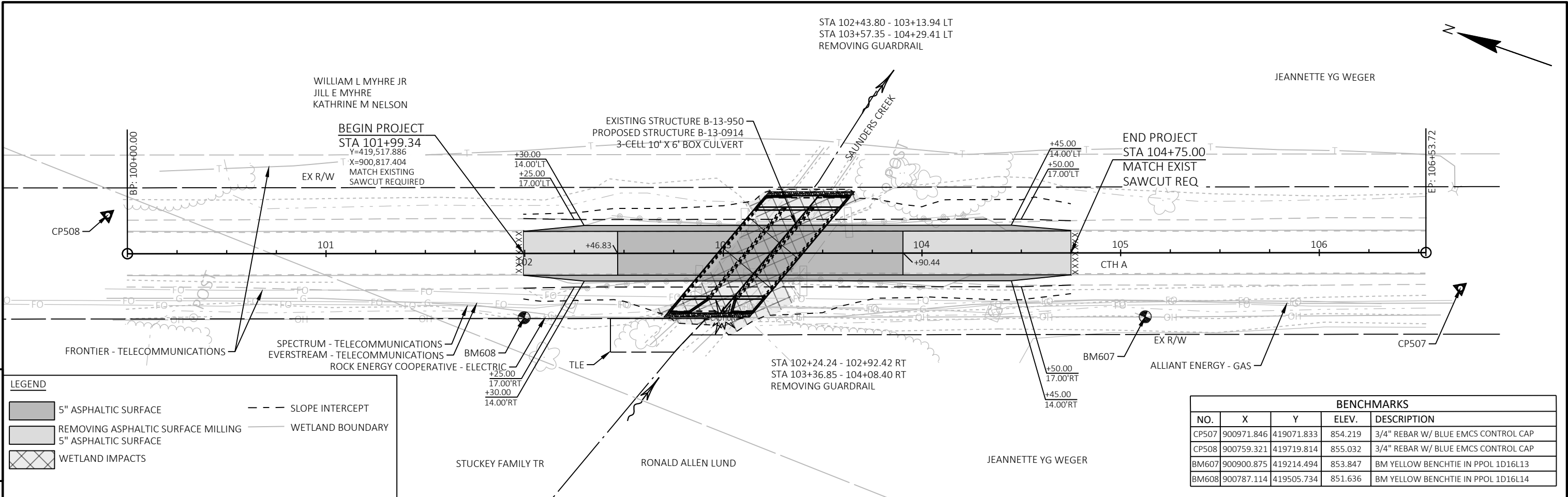
COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET

E



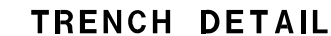


Standard Detail Drawing List

08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
14B29-01	SAFETY EDGE
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS



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

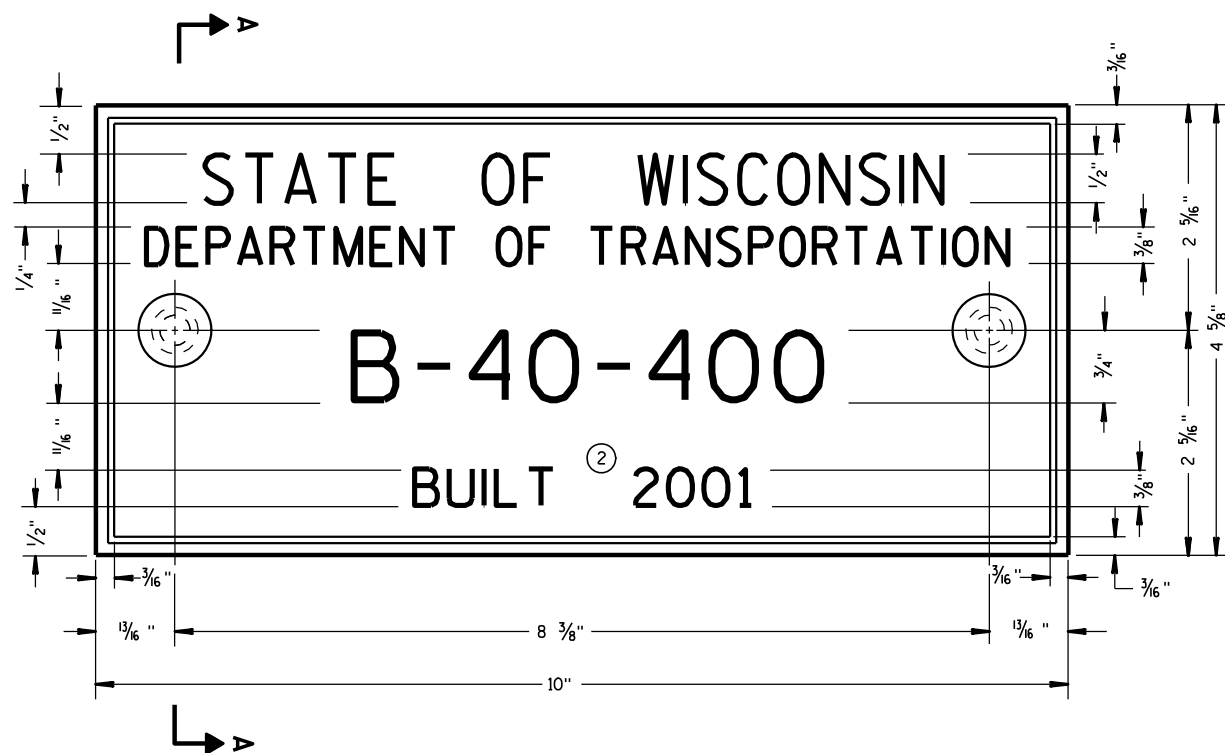


SILT FENCE

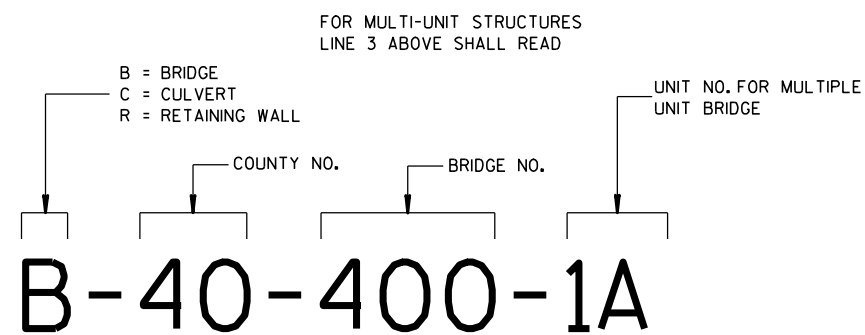
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05
DATE _____ /S/ Beth Cannata _____
CHIEF ROADWAY DEVELOPMENT 23 INCHES

FHWA



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



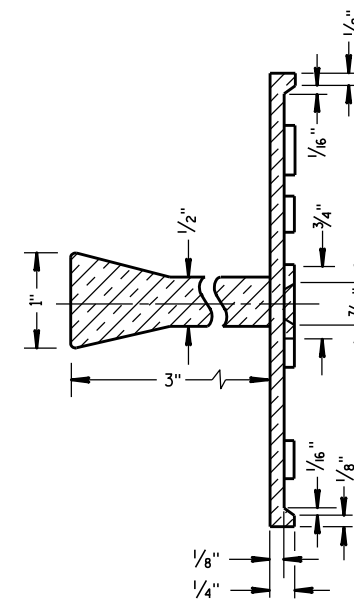
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

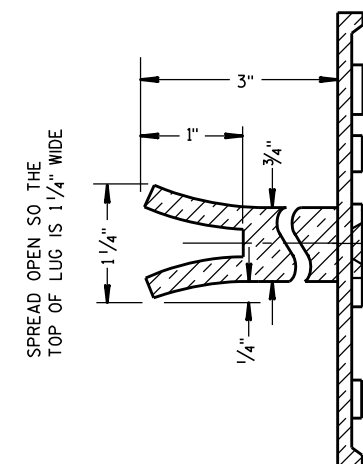
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.

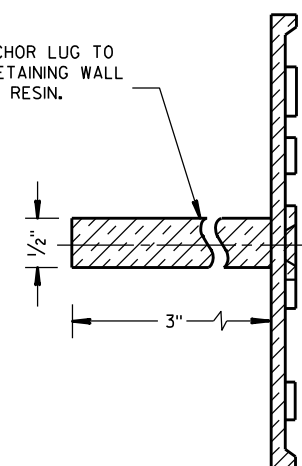


SECTION A-A



ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

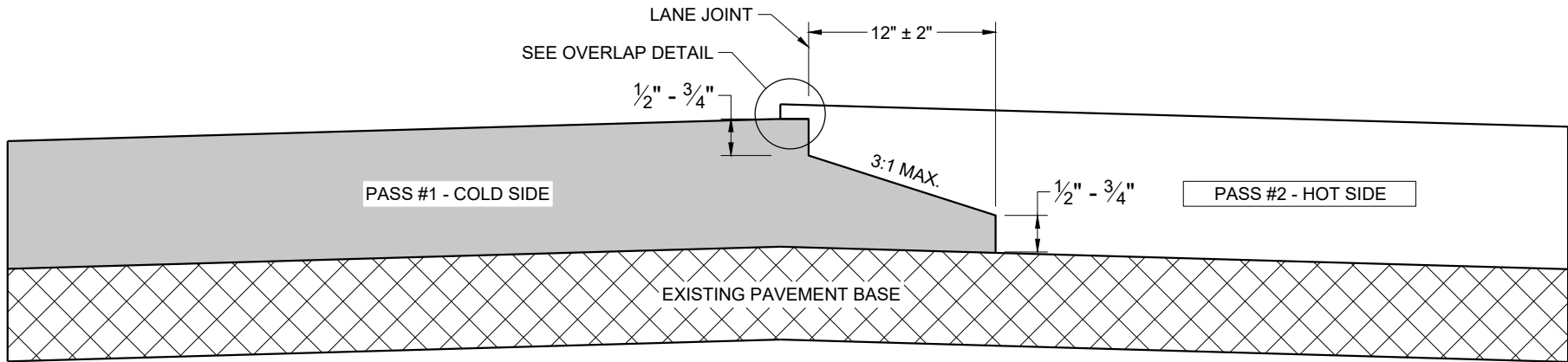
**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

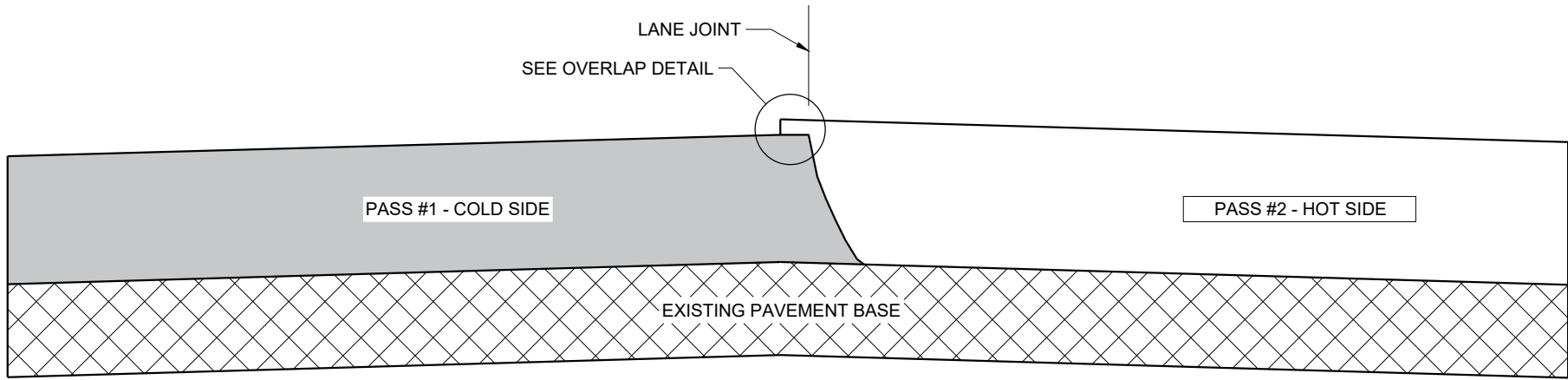
APPROVED

3/26/10 DATE /S/ Scot Beck CHIEF STRUCTURAL DEVELOPER 24

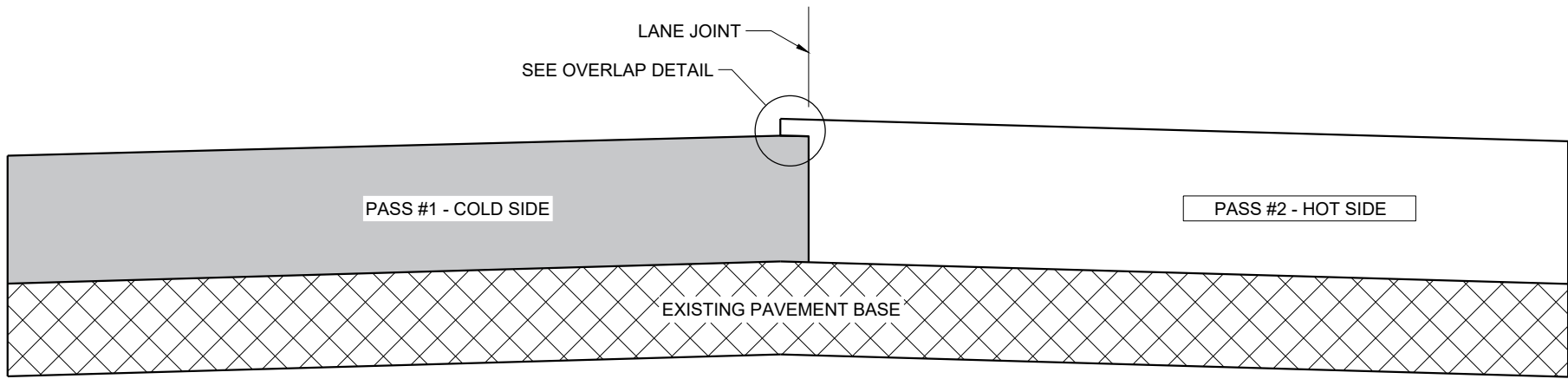
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

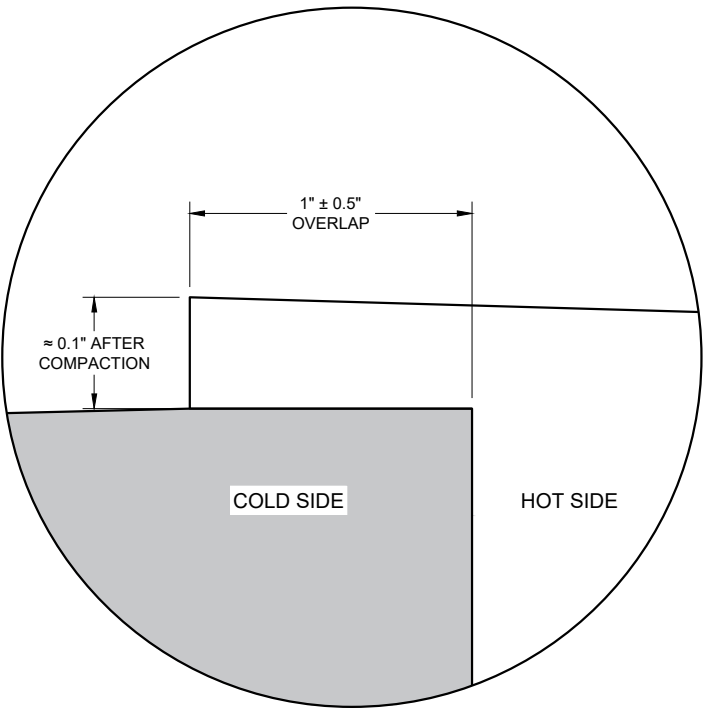
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ 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.

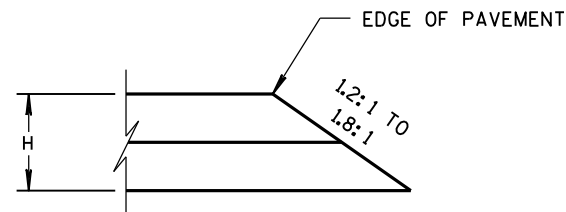


OVERLAP DETAIL (TYPICAL)

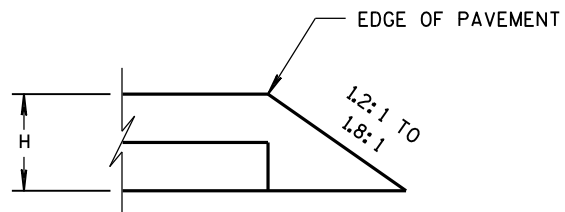
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

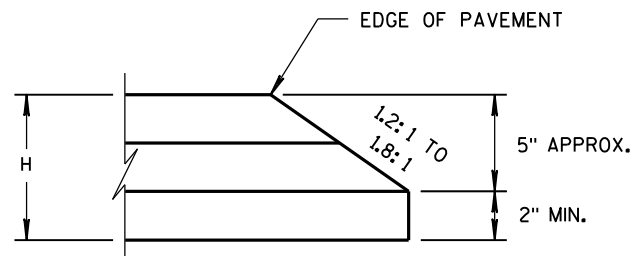
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGIN 25
FHWA



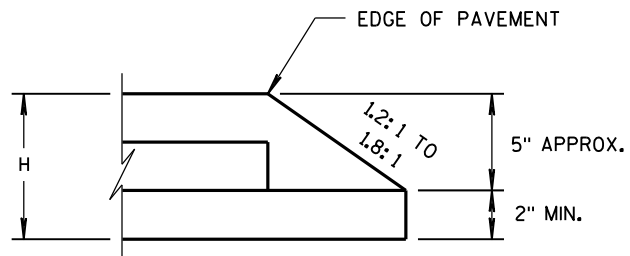
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

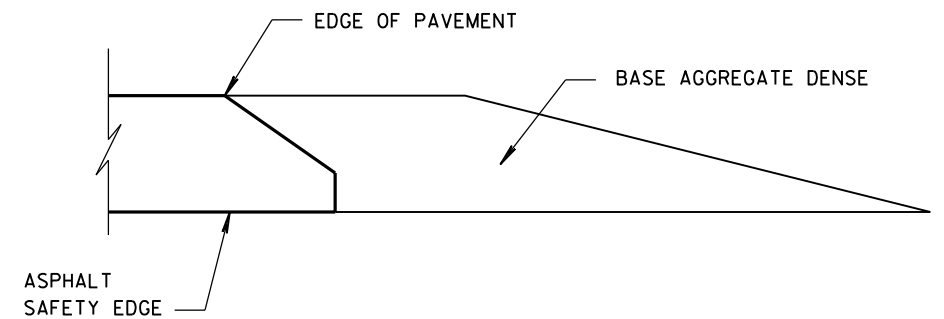


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE_{SM}

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

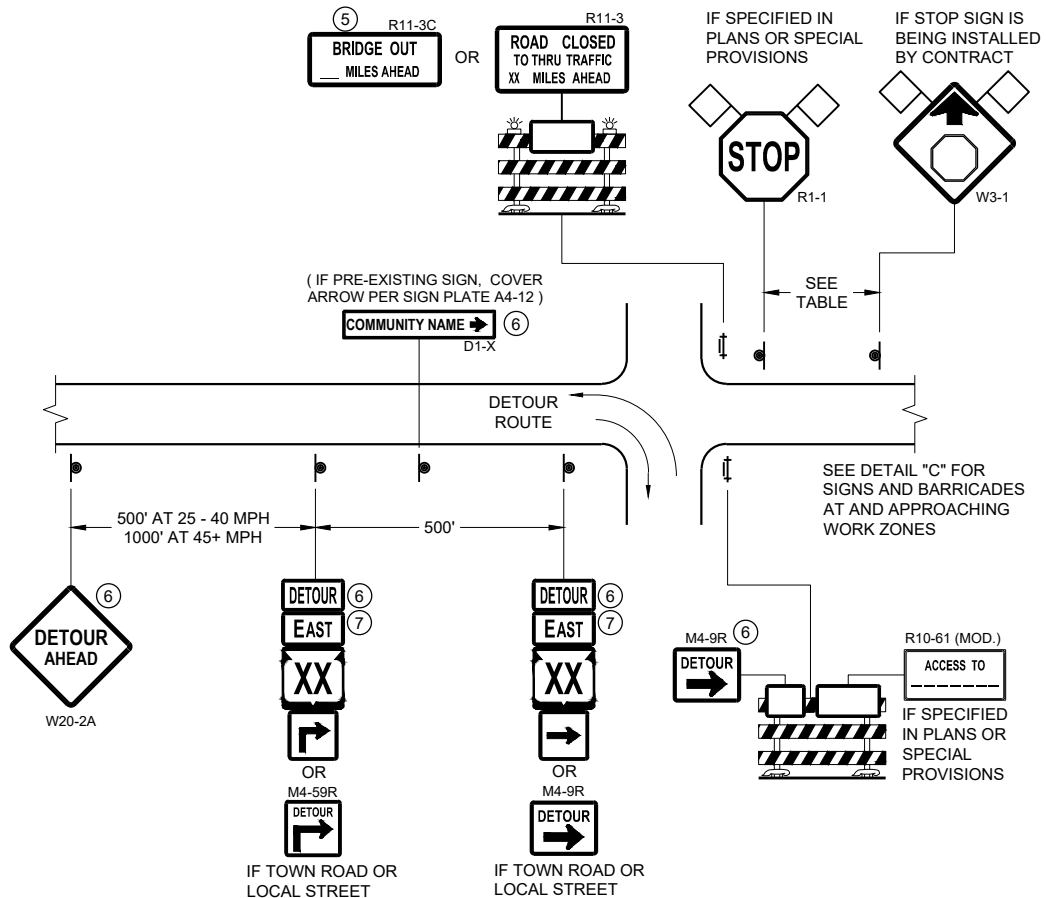
APPROVED

11/30/2012
DATE

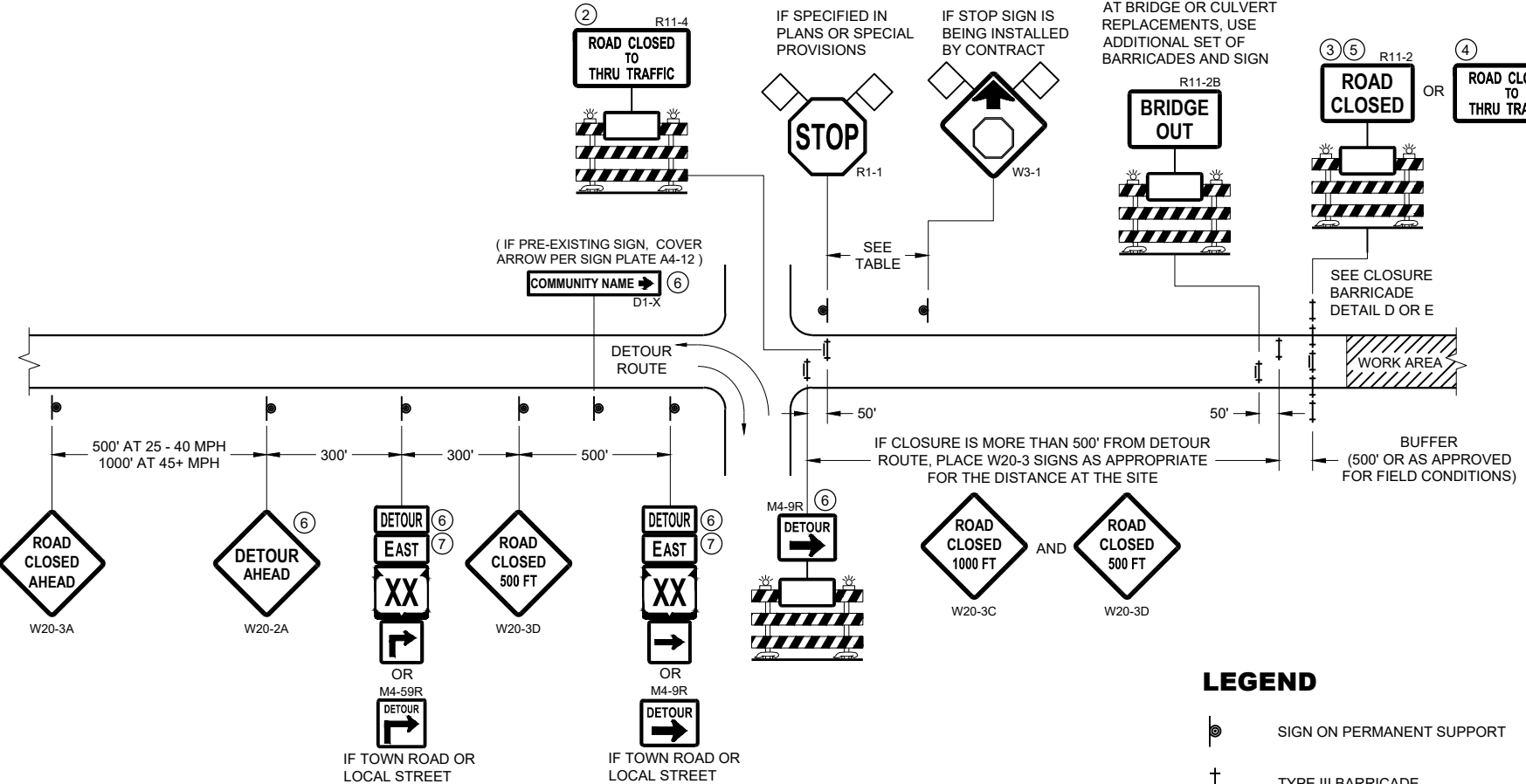
FHWA

/s/ Jerry H. Zoog
ROADWAY STANDARDS
ENGINEER

ENT



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)



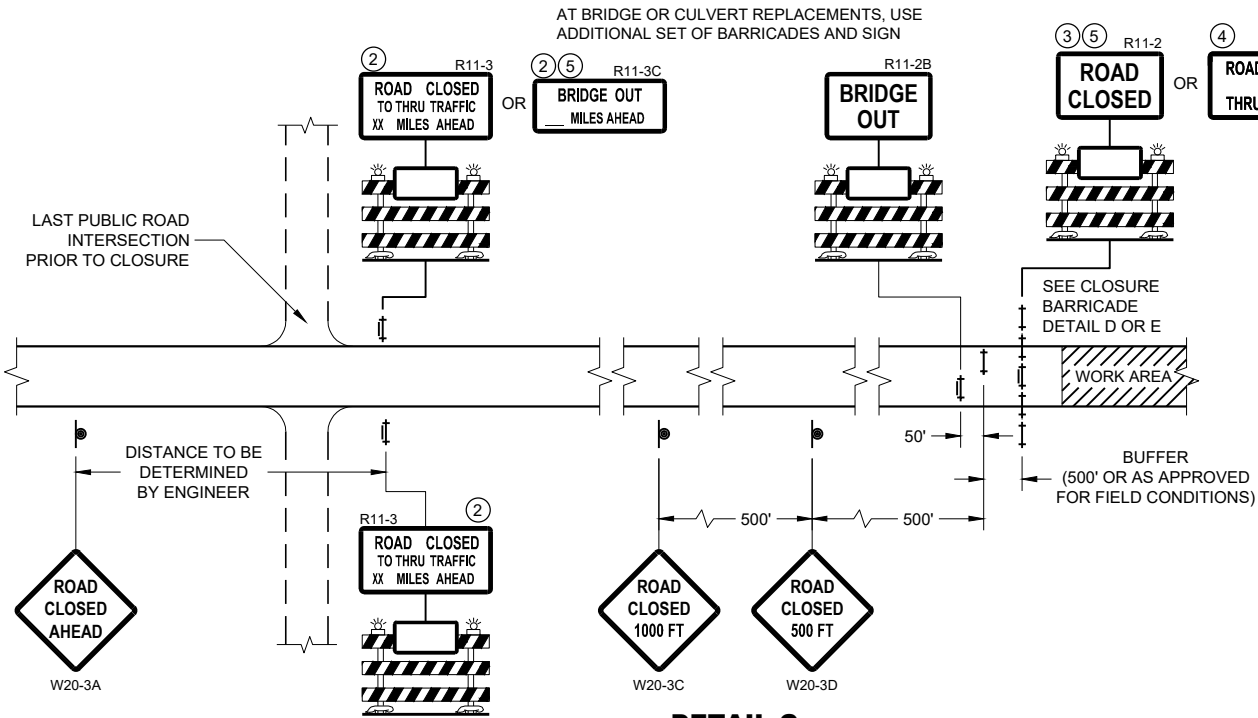
DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN ½ MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

- 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 M1 - 5A
- OR M05 - 1 OR M06 - 1

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

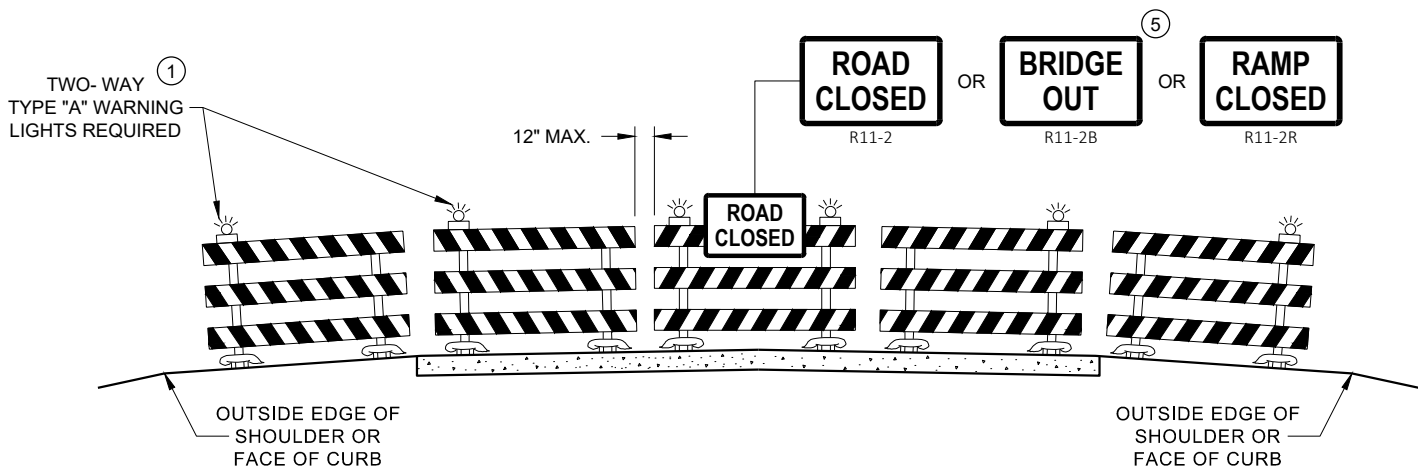


DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

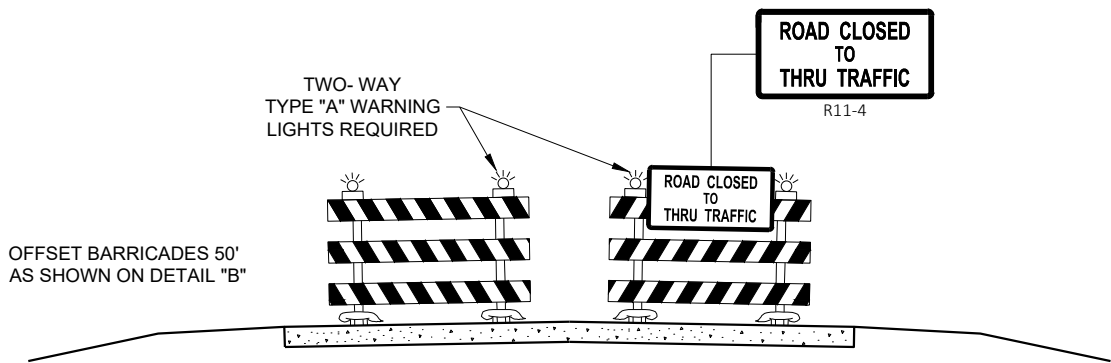
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 27
FHWA



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"

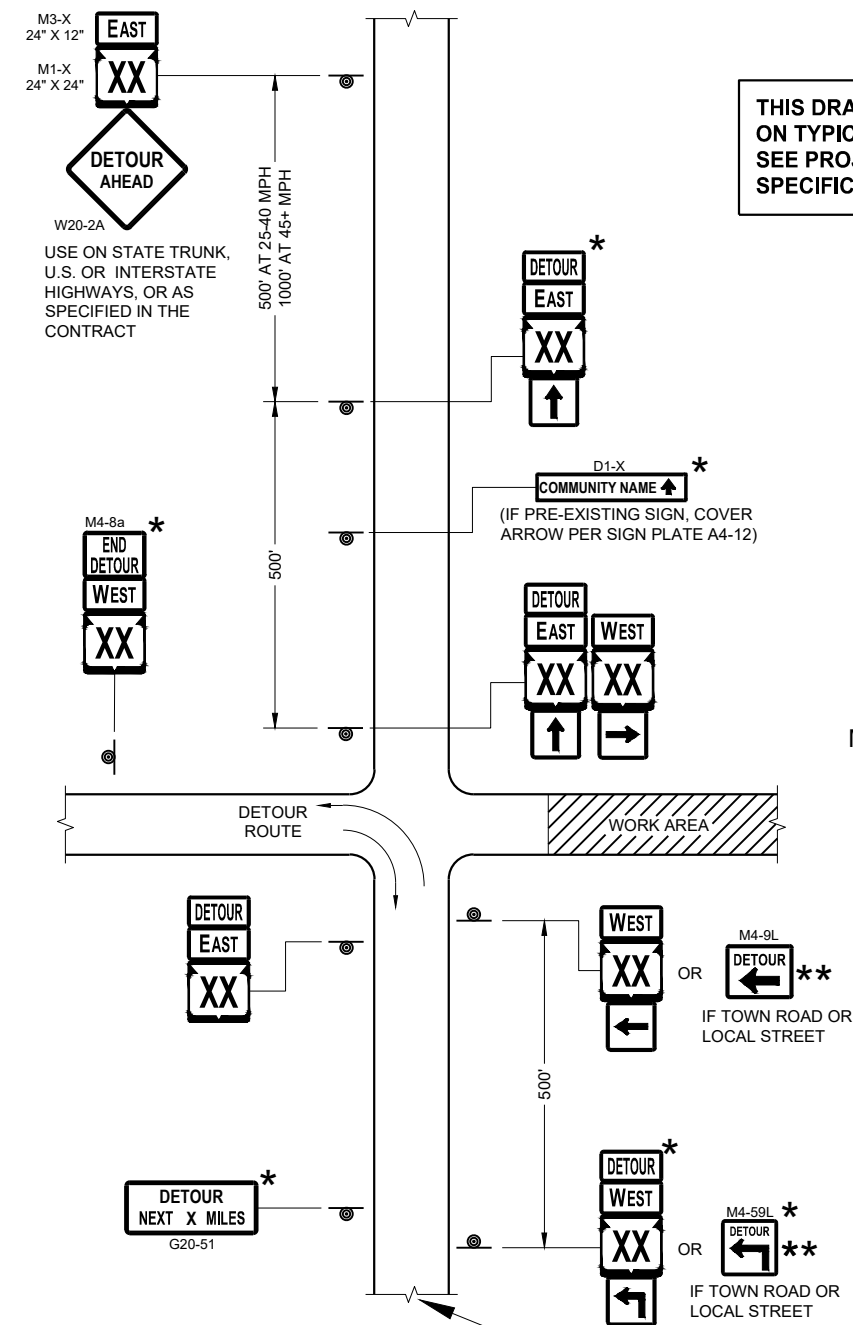
- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- 2 THESE SIGNS 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 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 28

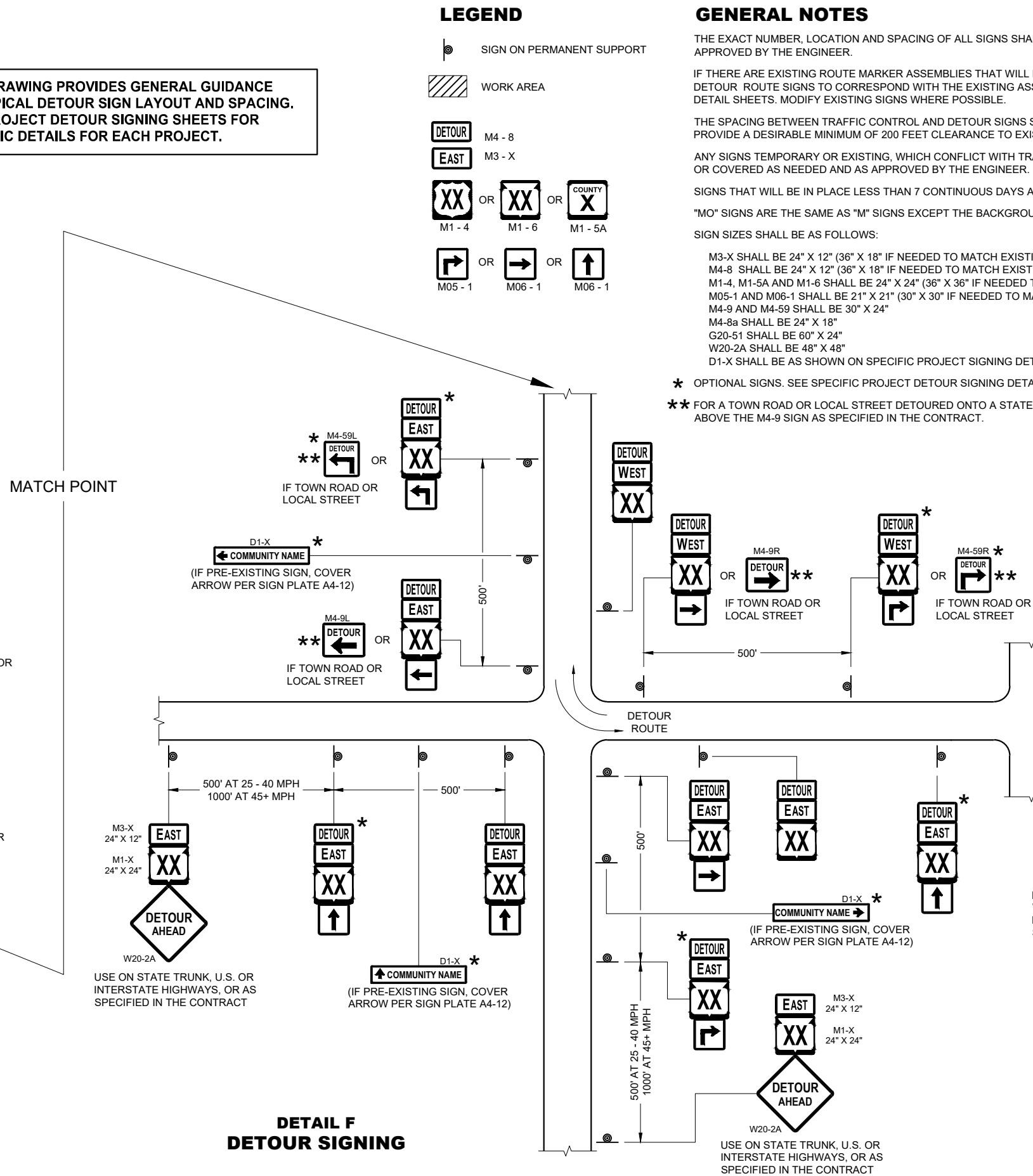
FHWA



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

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

SDD 15C02 - 09c



DETAIL F DETOUR SIGNING

GENERAL NOTES

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

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

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

M3-X 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.**

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

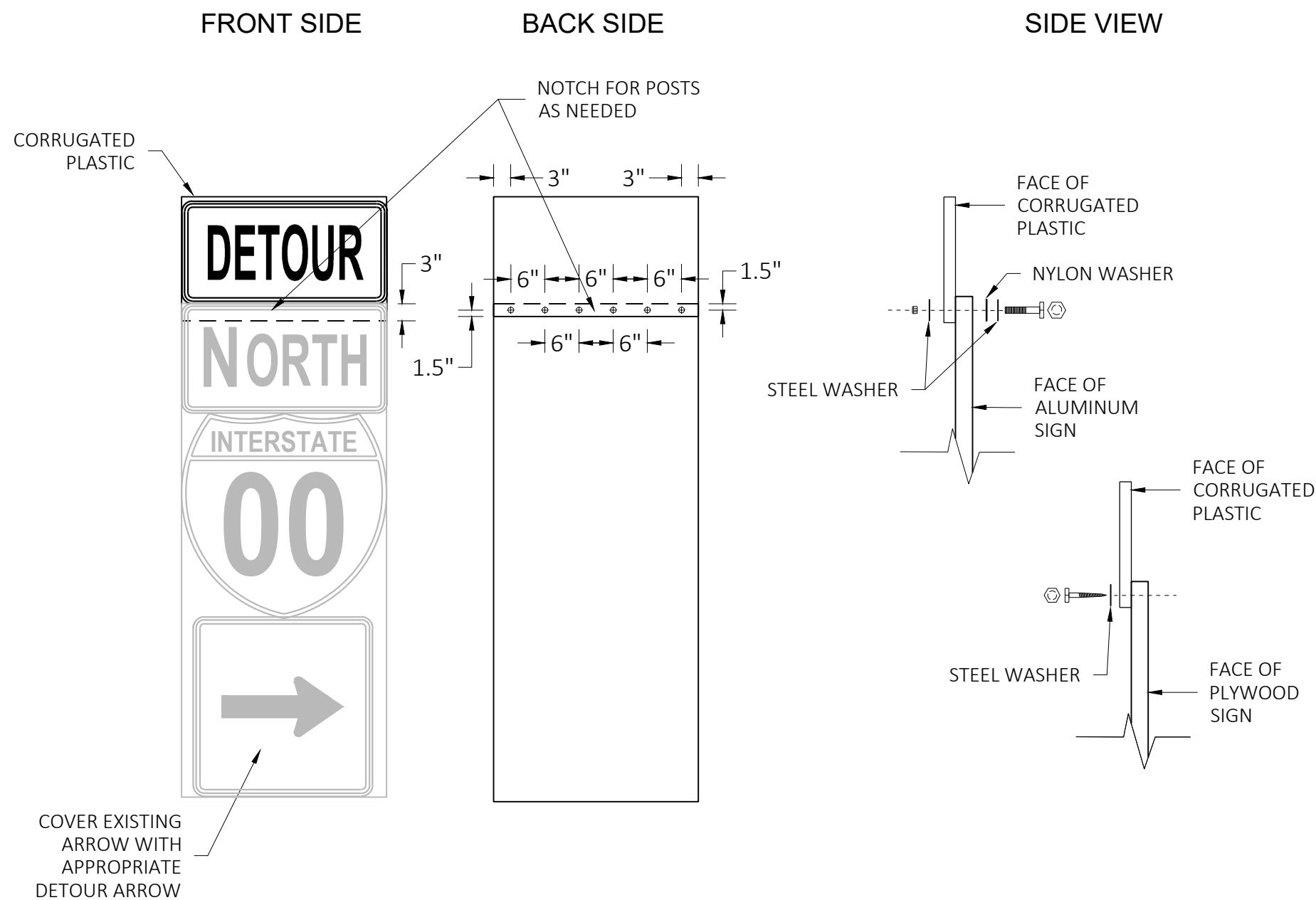
APPROVED
May 2023
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEER

29

FHWA

SDD15C02 - 09c



GENERAL NOTES

CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.

PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.

FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.

FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.

METAL WASHERS, NUTS, BOLTS AND LAGS 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, SC3

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.

PLYWOOD SIGNS:

LAG SCREWS - 5/16" x 1"

ALUMINUM SIGNS:

MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS

WASHERS:

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

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

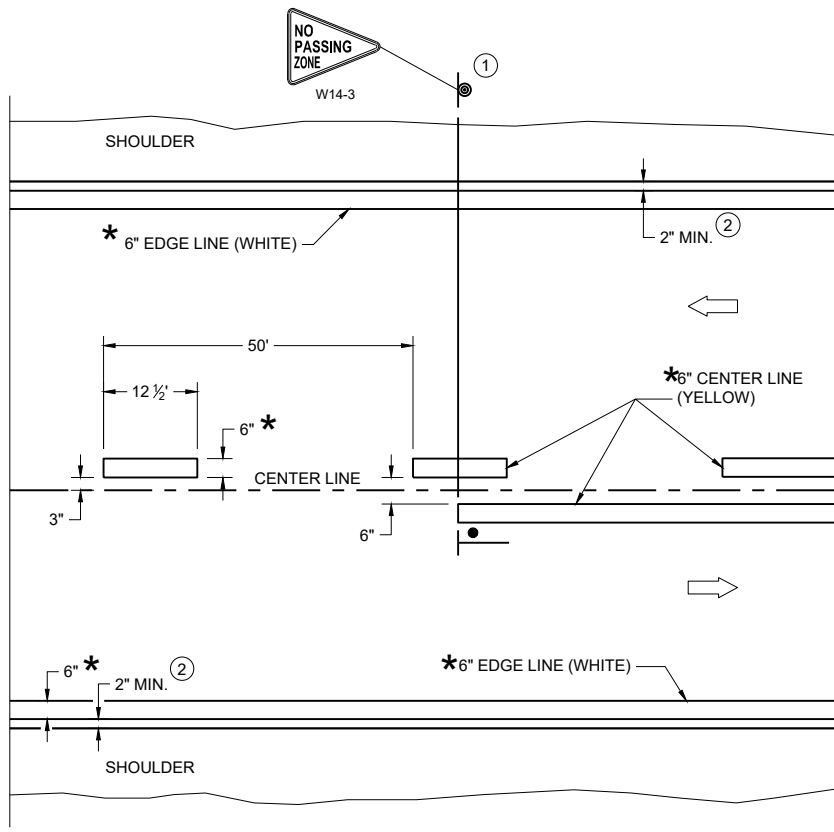
May 2023

DATE

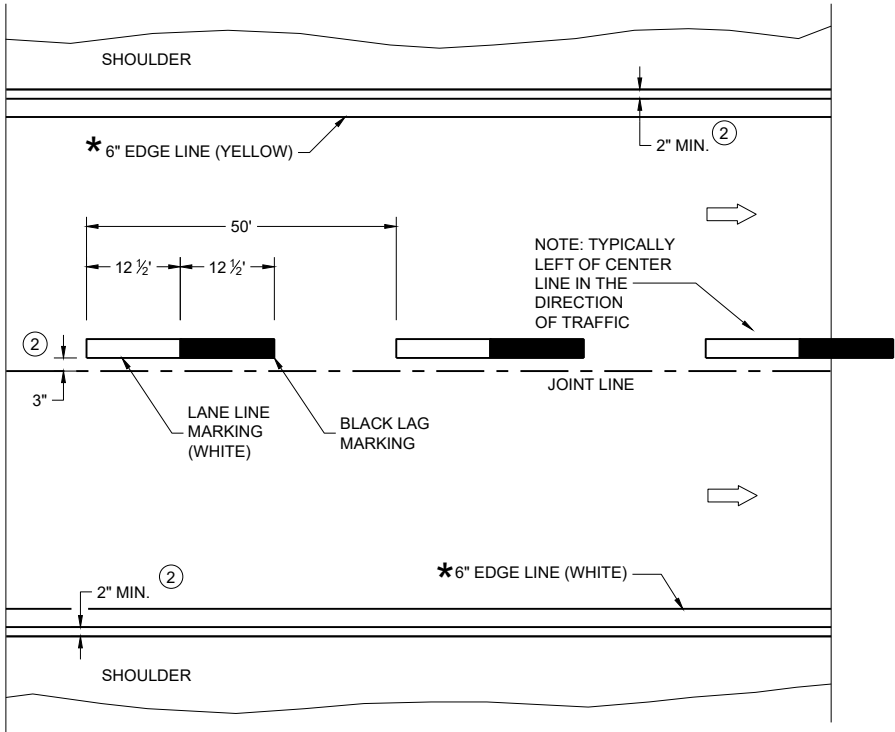
/S/ Andrew Heidtke
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

30

FHWA



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

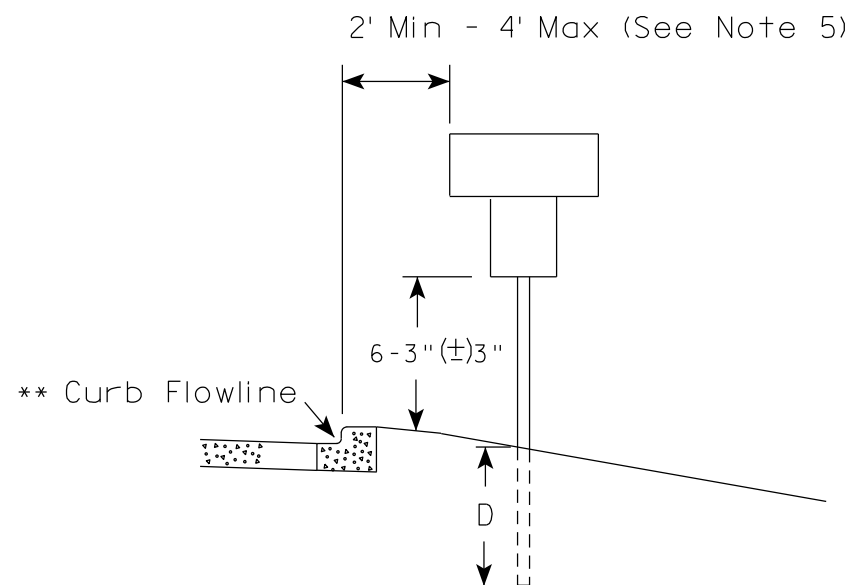
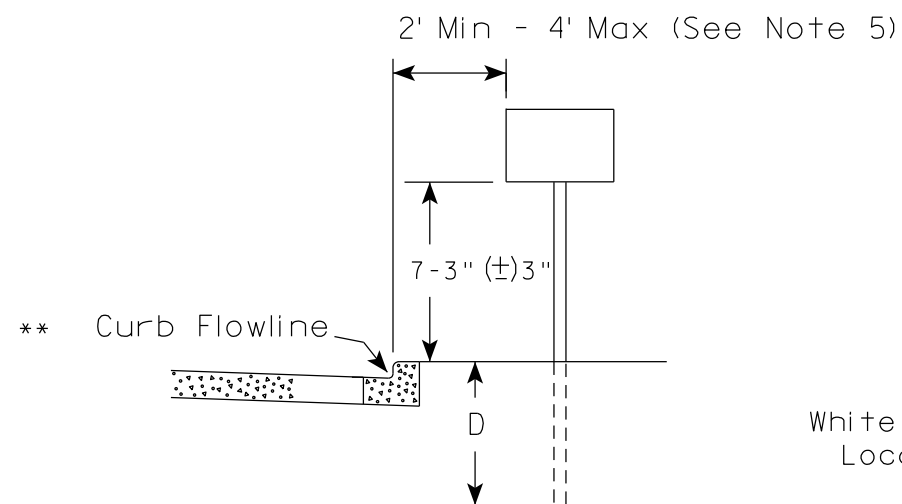
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

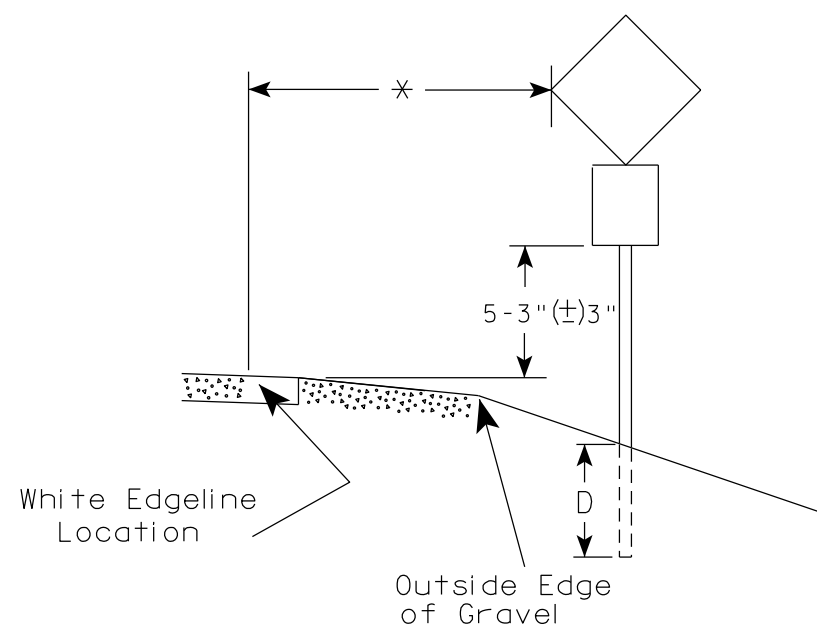
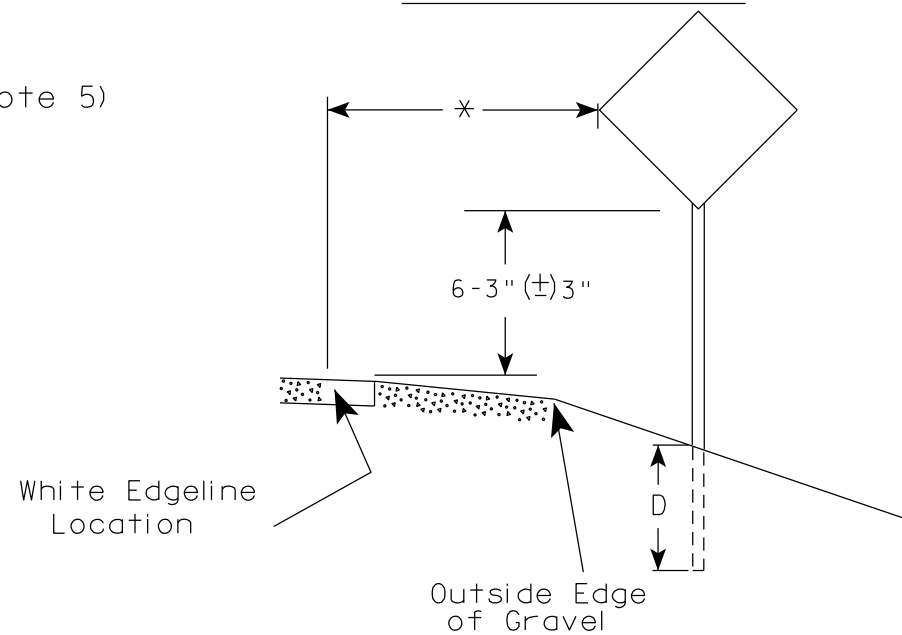
PERMANENT LONGITUDINAL PAVEMENT MARKINGS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Jeannie Silver Statewide Pavement Marking Engineer

URBAN AREA



* * 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.

RURAL AREA (See Note 2)



* 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

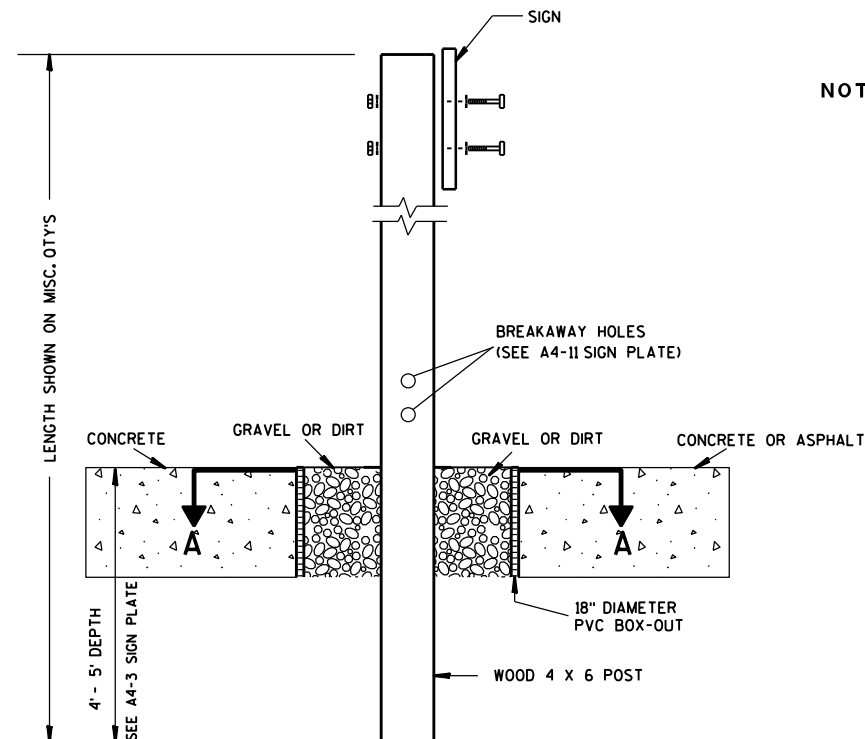
- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 3". The Chevron sign (W1-8), Roundabout Chevron panel (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".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed 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

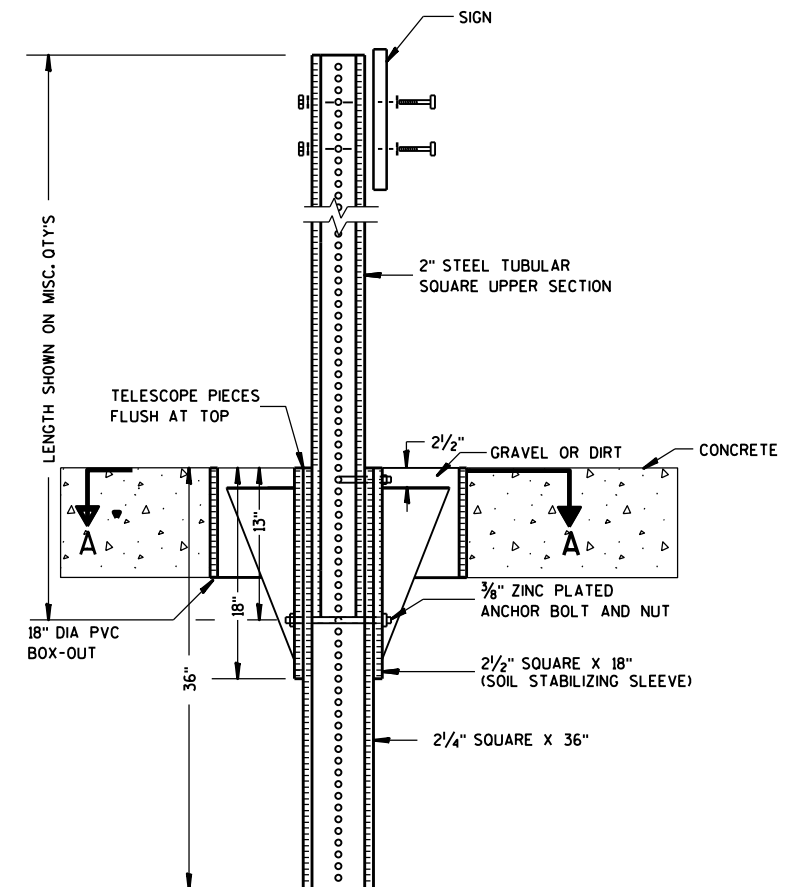
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

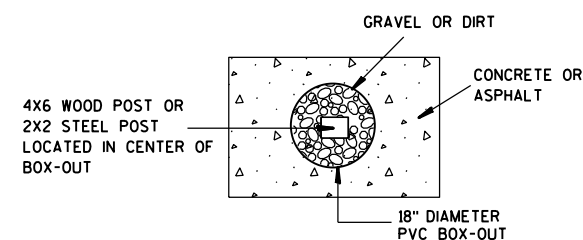
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 33 A4-3B.1

PROJECT NO:

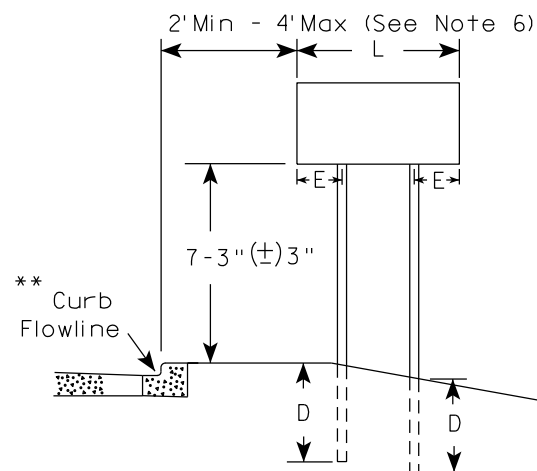
HWY:

COUNTY:

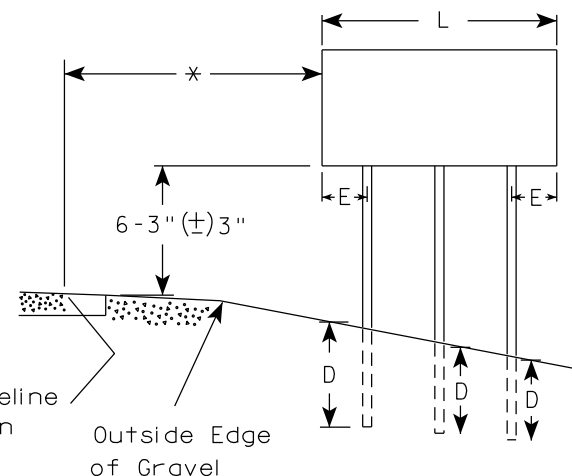
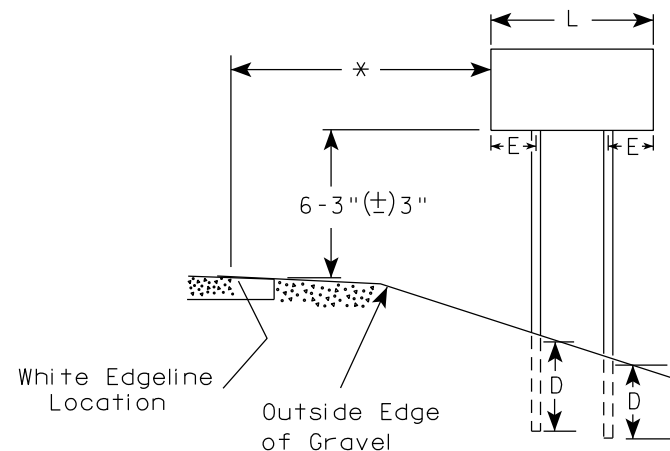
SHEET NO:

E

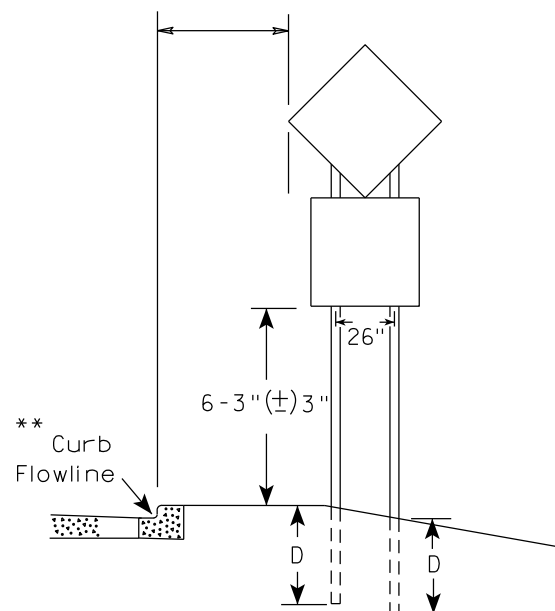
URBAN AREA



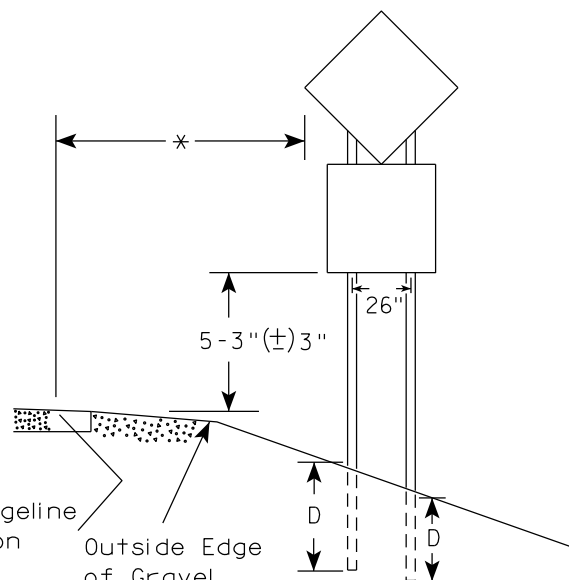
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



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"

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

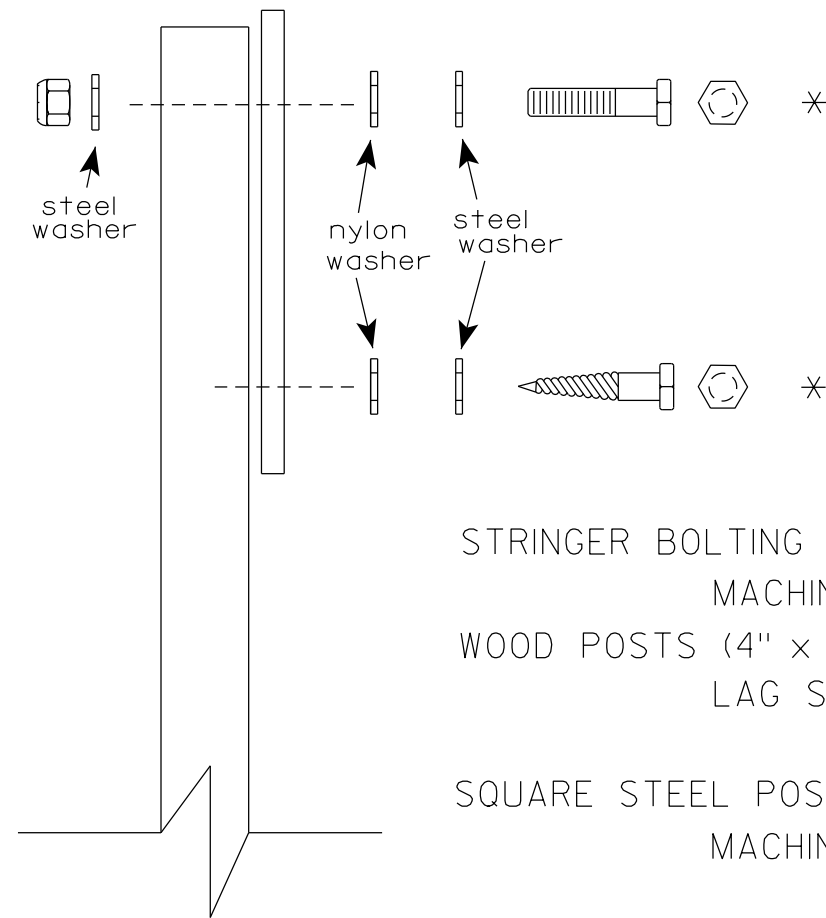
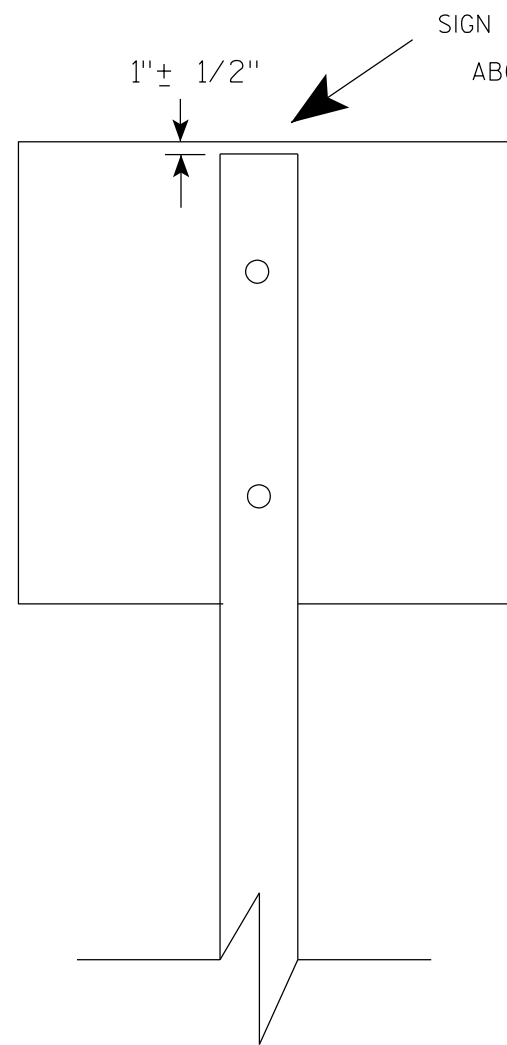
GENERAL NOTES

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.



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.

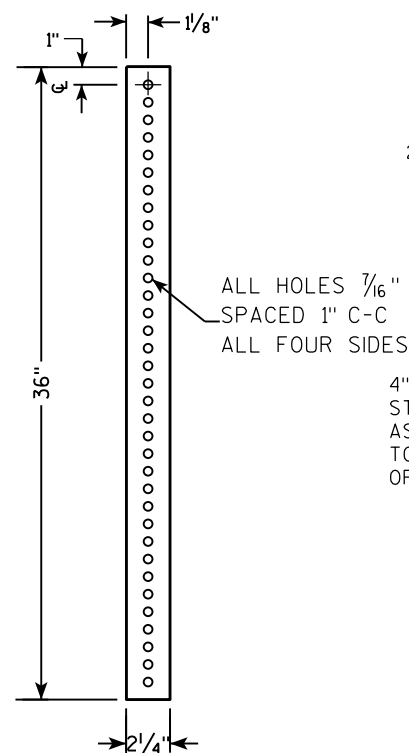
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

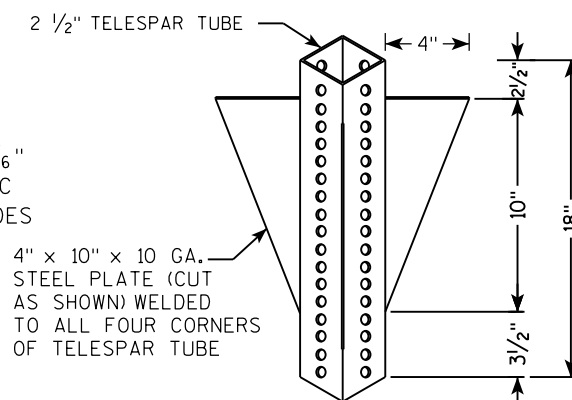
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 4/1/2020	PLATE NO. A4-8.9

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



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



TELESCOPE PIECES
FLUSH AT TOP

18" DIA SCHEDULE
40 PVC
BOX-OUT

36"

13"

18"

2 1/2" GRAVEL OR DIRT

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

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

2 1/4" SQUARE X 36"

2" STEEL TUBULAR
SQUARE UPPER SECTION

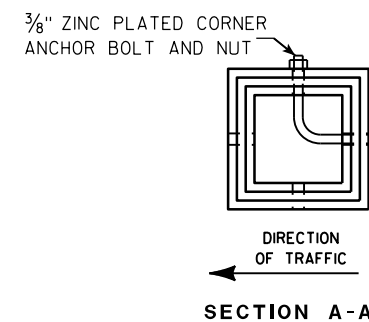
ALL HOLES 7/16"
SPACED 1" C-C
ALL FOUR SIDES

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

SIGN

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- TELESCOPE PIECES FLUSH AT TOP**: Indicated by a dimension line on the left.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The main vertical support.
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**: Specification for the upper section's holes.
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Located at the top of the upper section.
- 1"**: Dimension for the offset of the anchor bolt.
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT**: Located at the base of the upper section.
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)**: The sleeve supporting the upper section.
- 2 1/4" SQUARE X 36"**: The main base post.
- 36"**: Total height of the main base post.
- 18"** and **12"**: Vertical dimensions for the sleeve section.
- SIGN**: The sign plate at the top.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to the sign plate specifications.
- LENGTH SHOWN ON MISC. QTYS**: Dimension line on the far left.



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 PLATI 36 14-9.9

SHEET NO: E

PROJECT NO:

HWY:

COUNTY:

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN

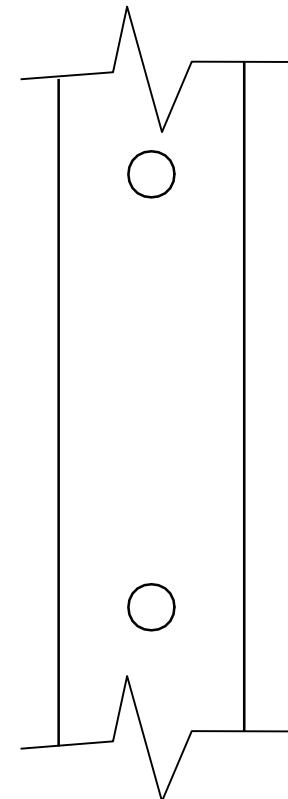
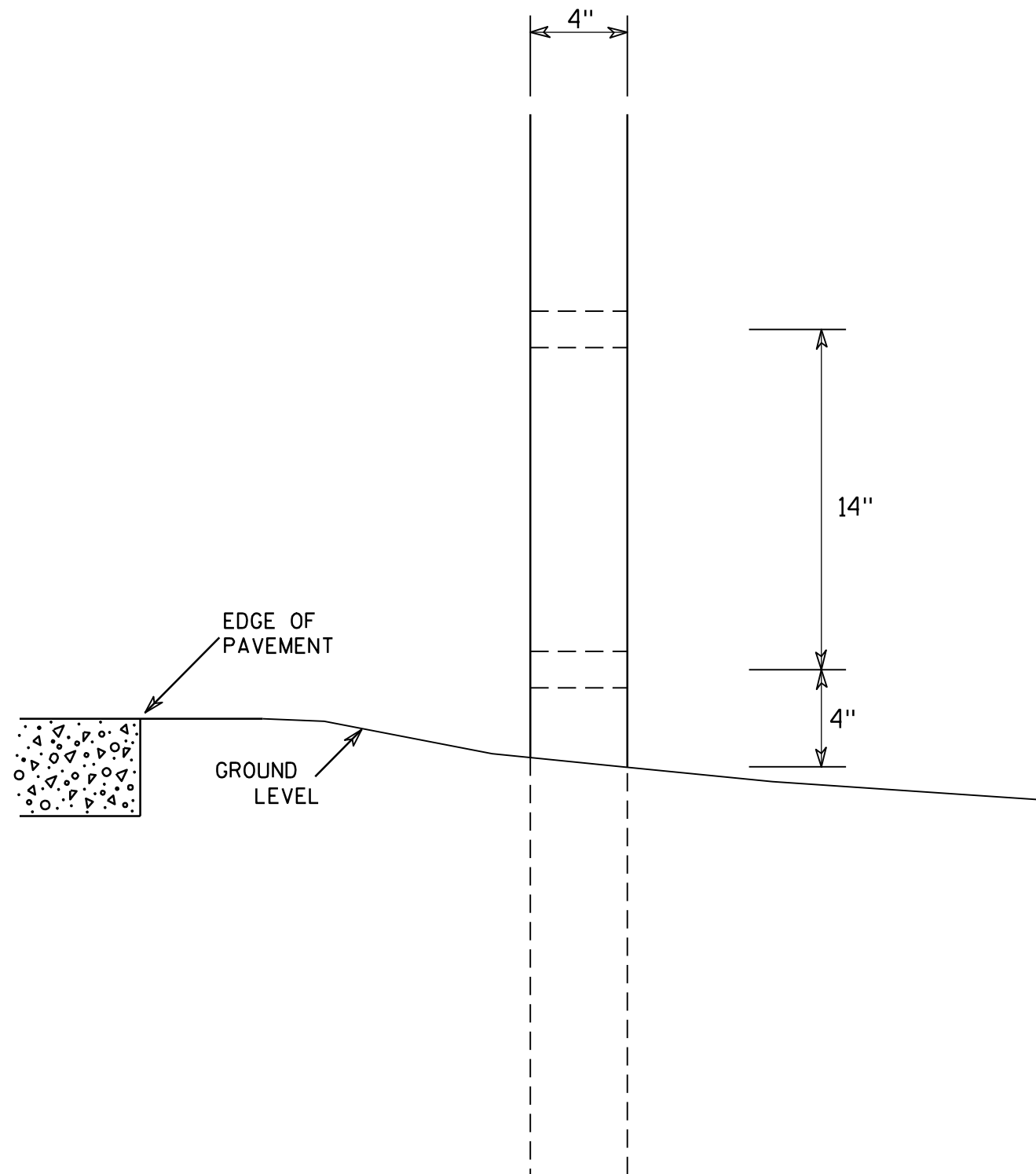
PLOT DATE : 05-FEB-2015 17:09

PLOT BY : mscs_ja

PLOT NAME :

PLOT SCALE : 13.659812:1.000000

WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

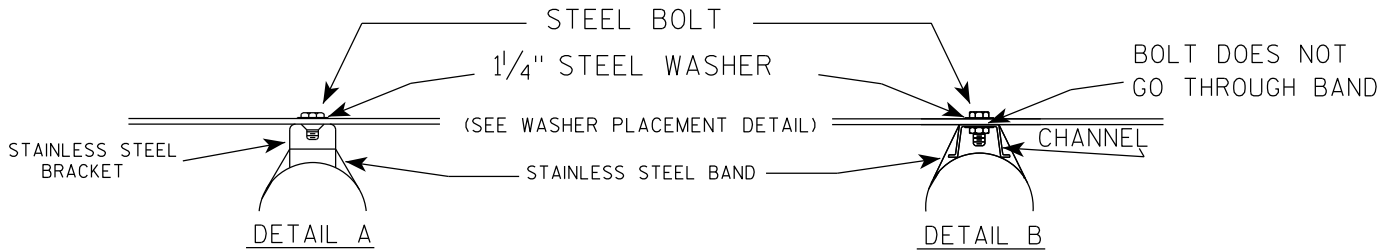
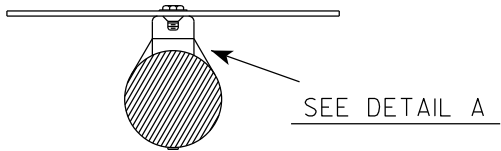
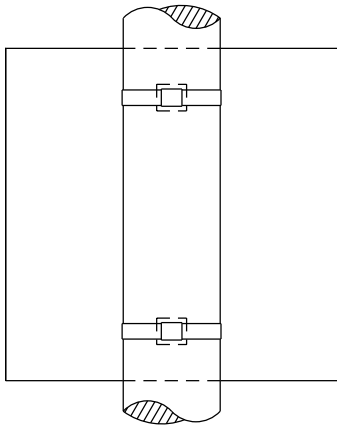
COUNTY:

SHEET NO: 37

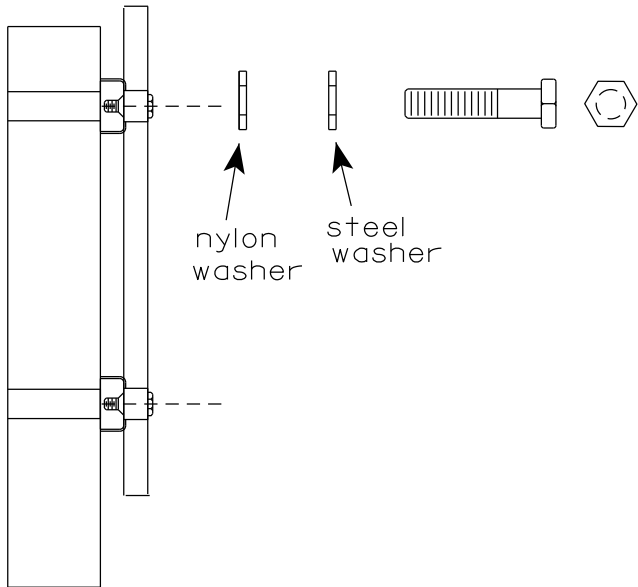
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

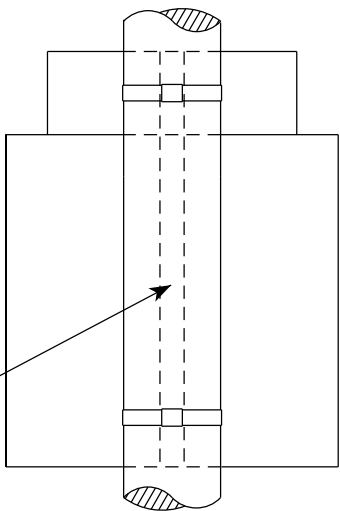


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

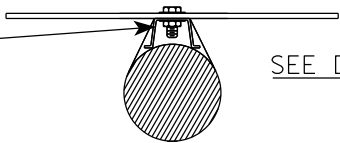
GENERAL NOTES

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 3/4" 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



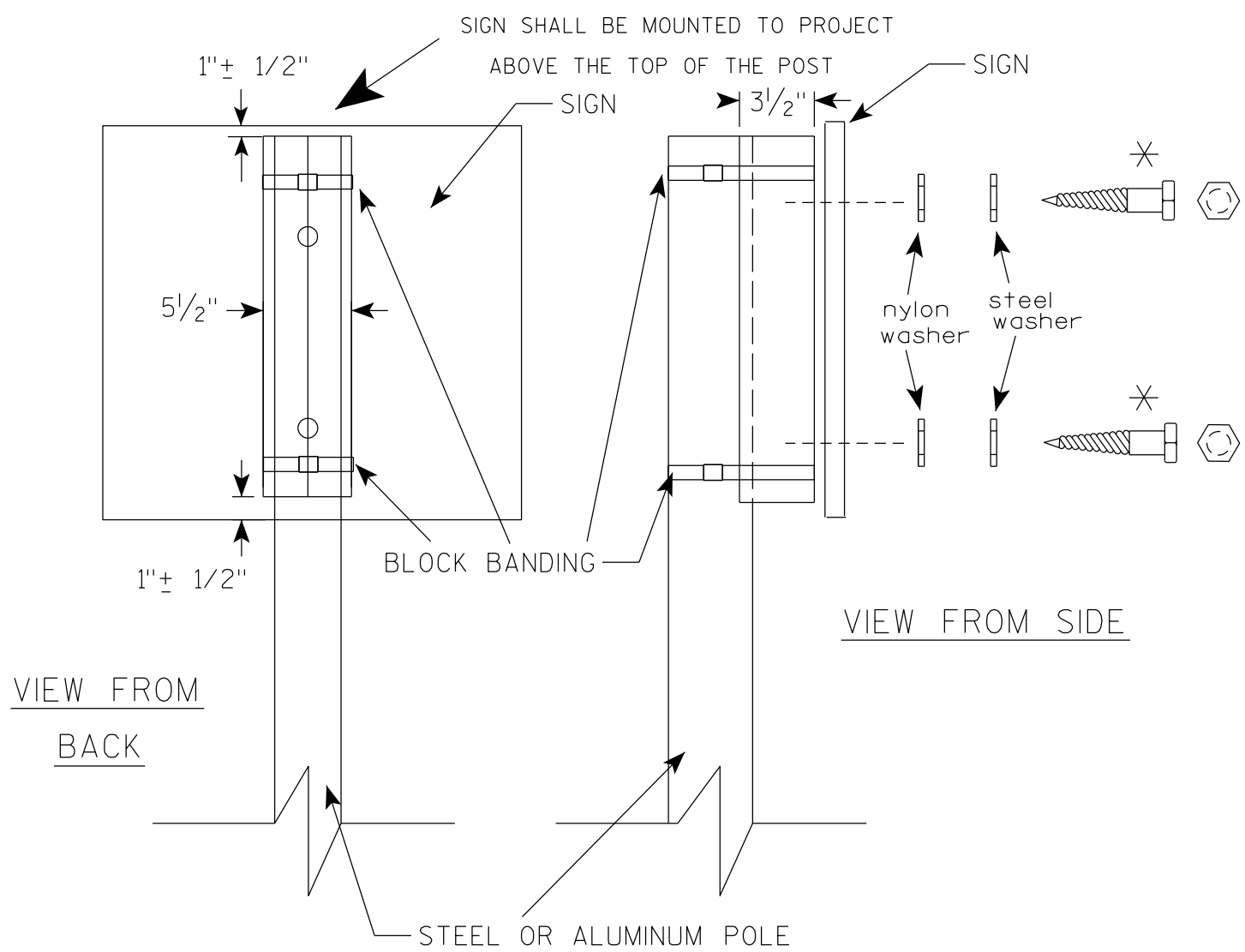
CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



STANDARD SIGN
SIGN BANDING DETAILS

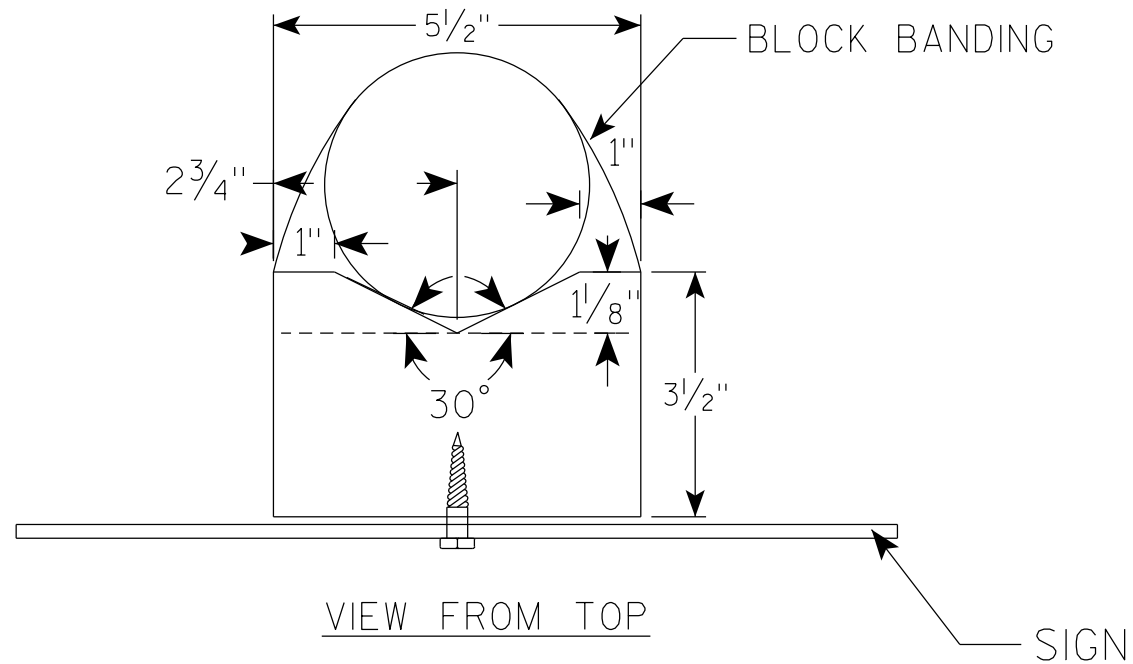
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



VIEW FROM
BACK

VIEW FROM SIDE



VIEW FROM TOP

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

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

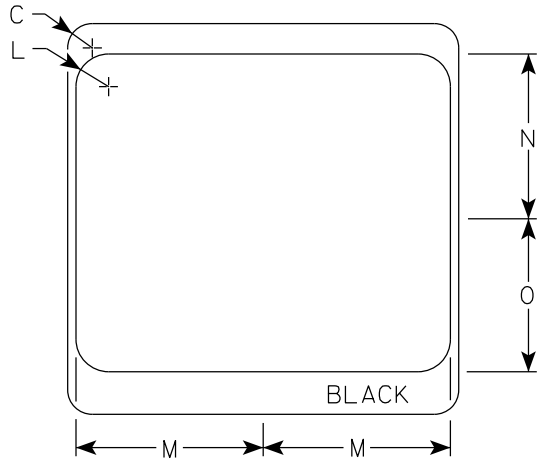
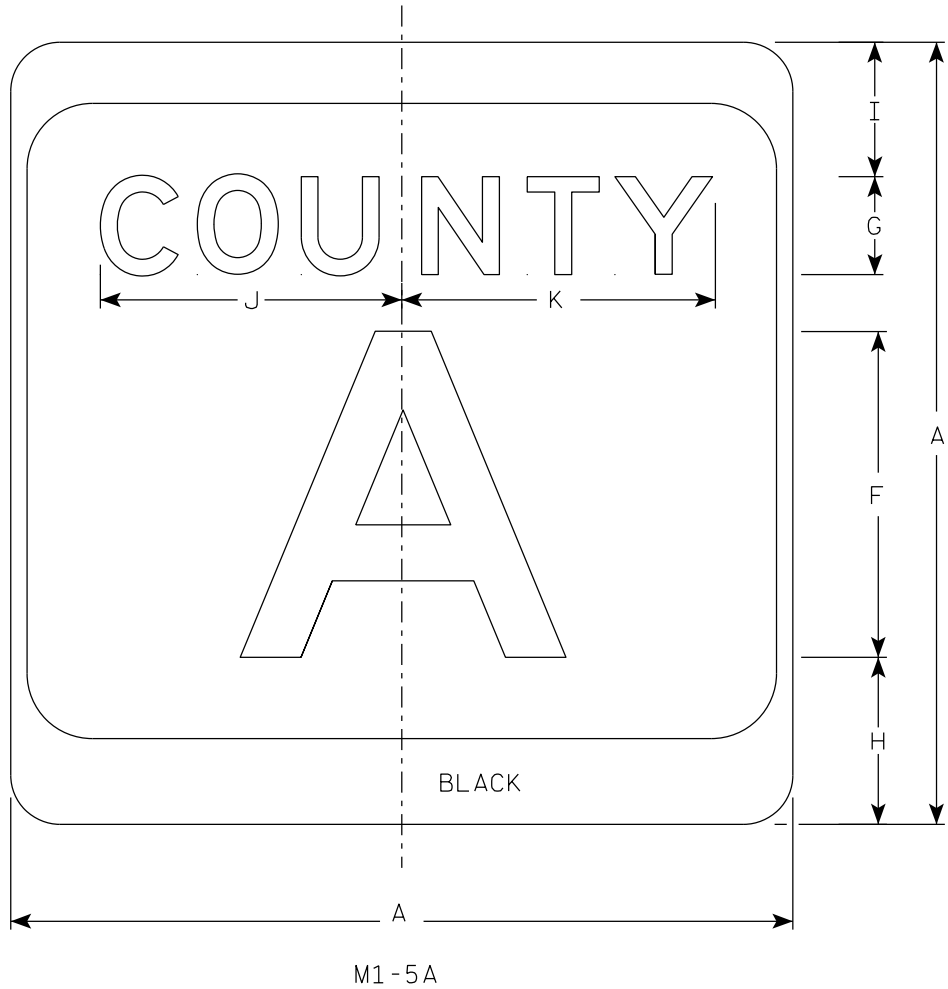
DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

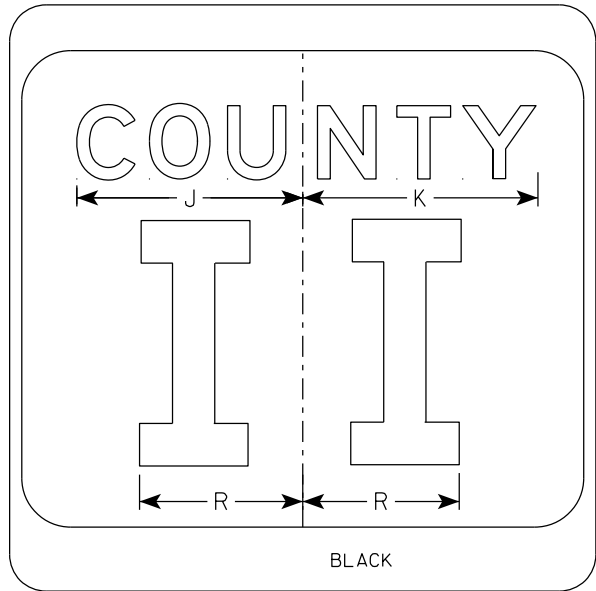
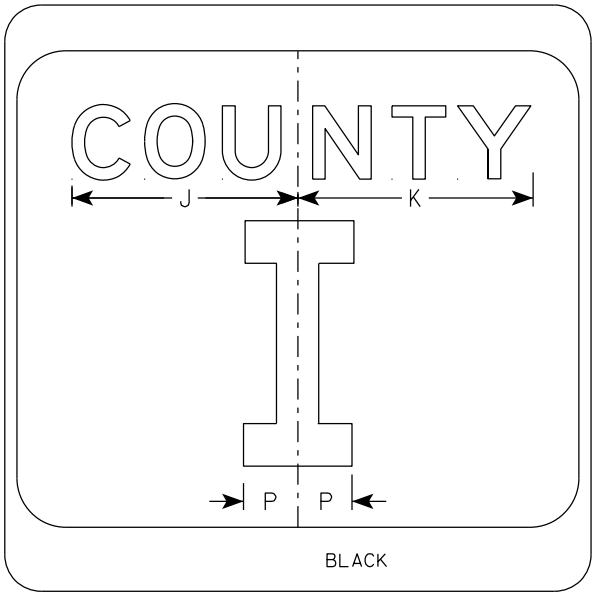
SHEET NO: 39

E

7



- NOTES
- Sign is Type II - Type H Reflective
 - Color:
Background - White & Black
Message - Black
 - Message Series - see Note 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.
 - 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

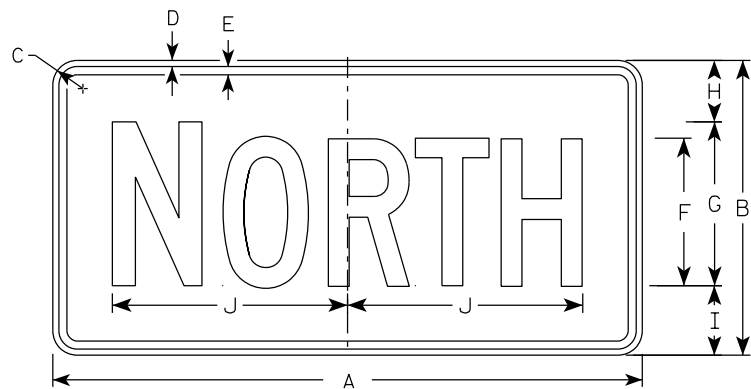
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

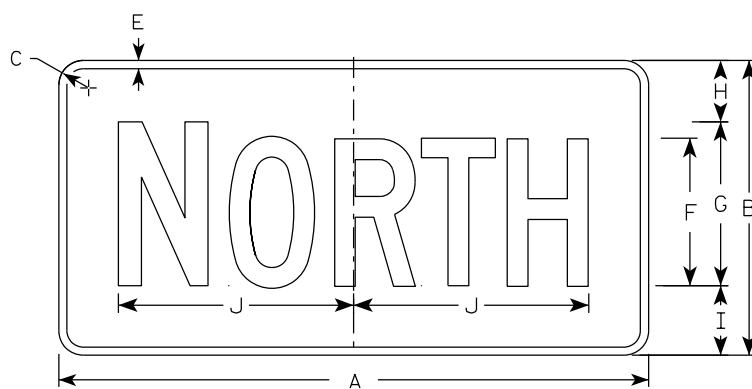
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

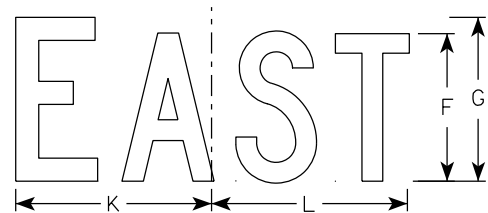
7



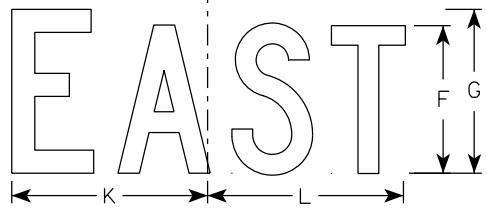
M3-1
MM3-1
MP3-1



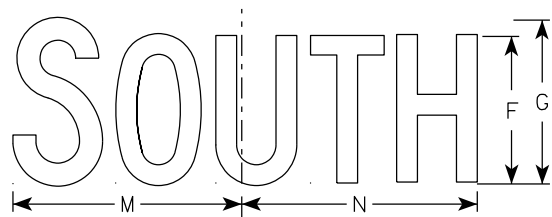
MB3-1
MK3-1
MN3-1



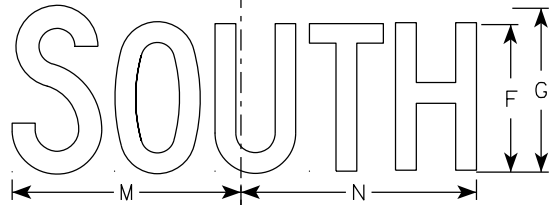
M3-2
MM3-2
MP3-2



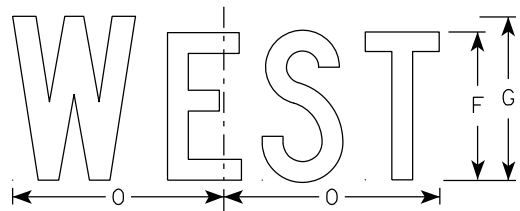
MB3-2
MK3-2
MN3-2



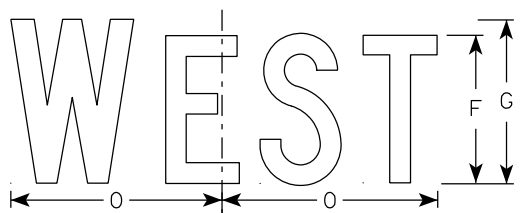
M3-3
MM3-3
MP3-3



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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	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

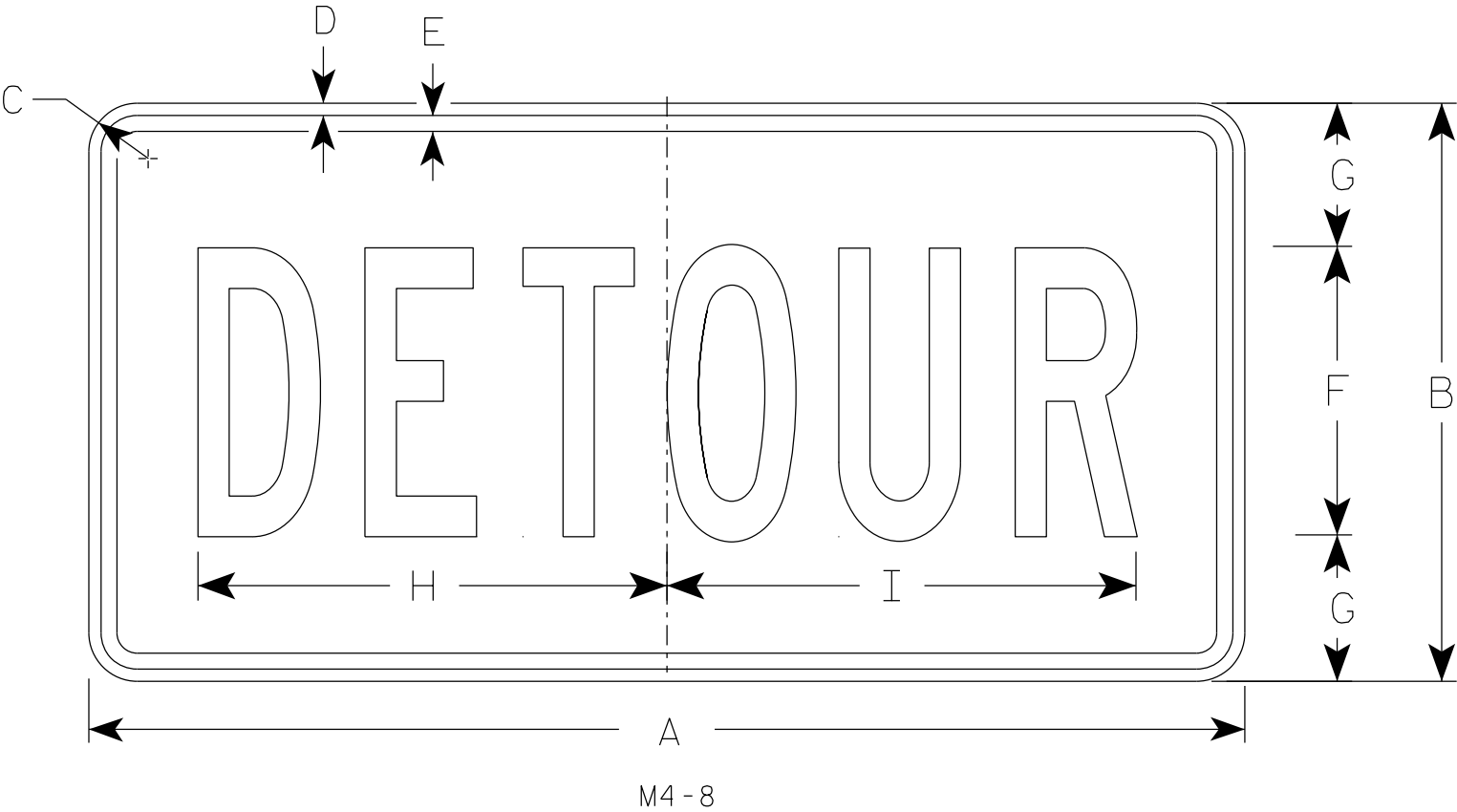
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 41	E
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7

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.



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

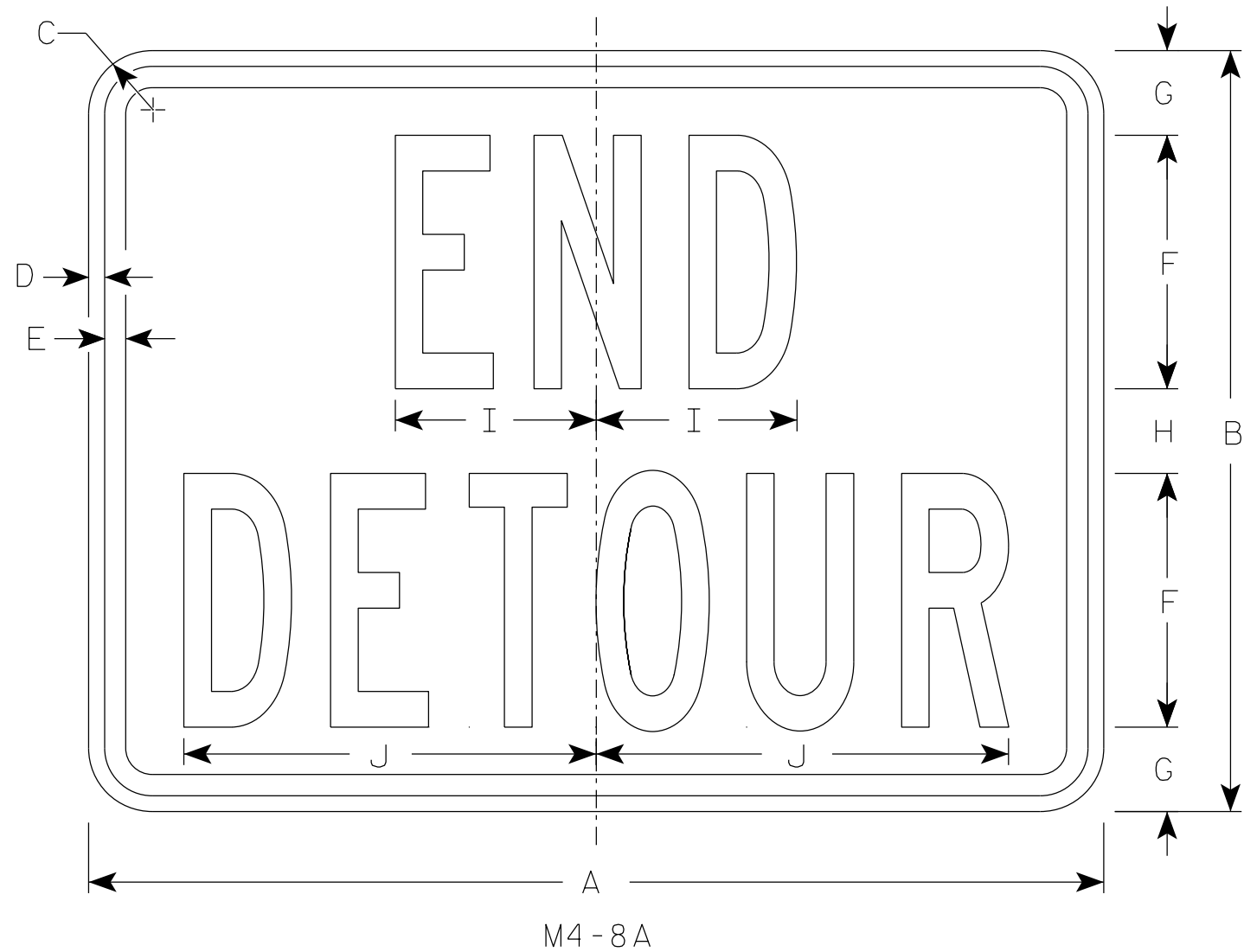
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7



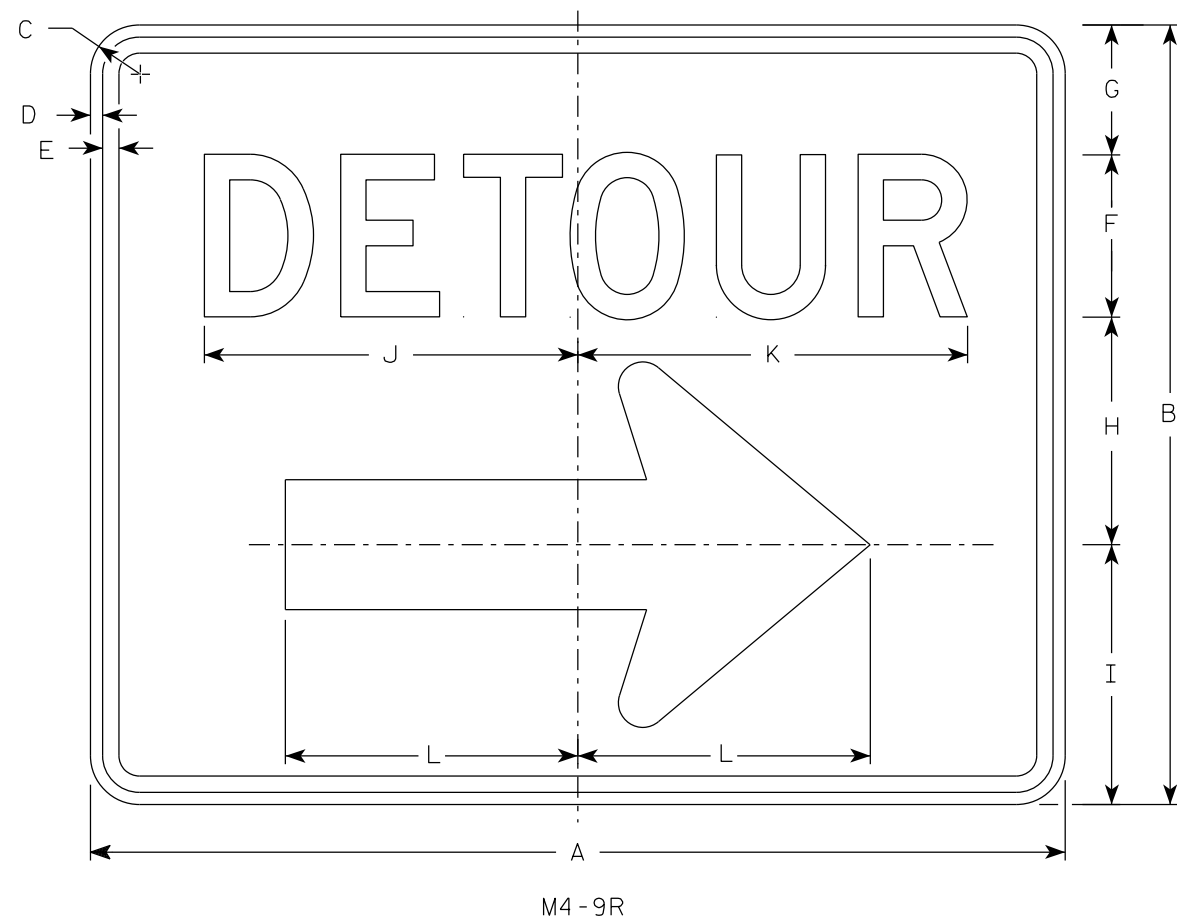
NOTES

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.

7

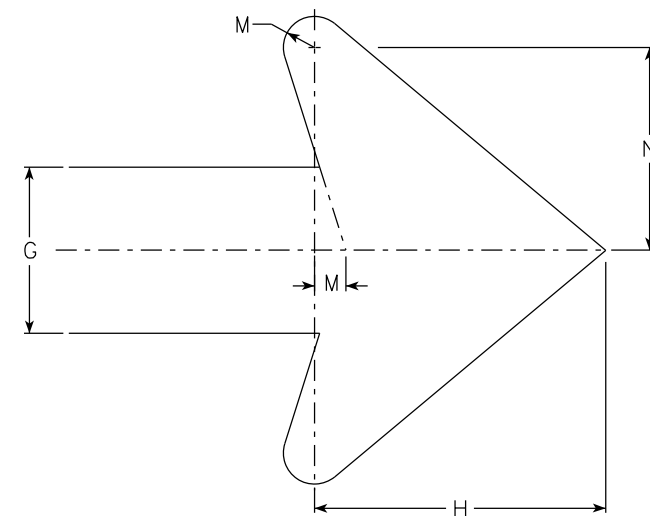
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
2M	24	18	1 1/2	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
5	30	24	1 1/2	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0

STANDARD SIGN	
M4-8A	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 2/9/2023	PLATE NO. M4-8A.4



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

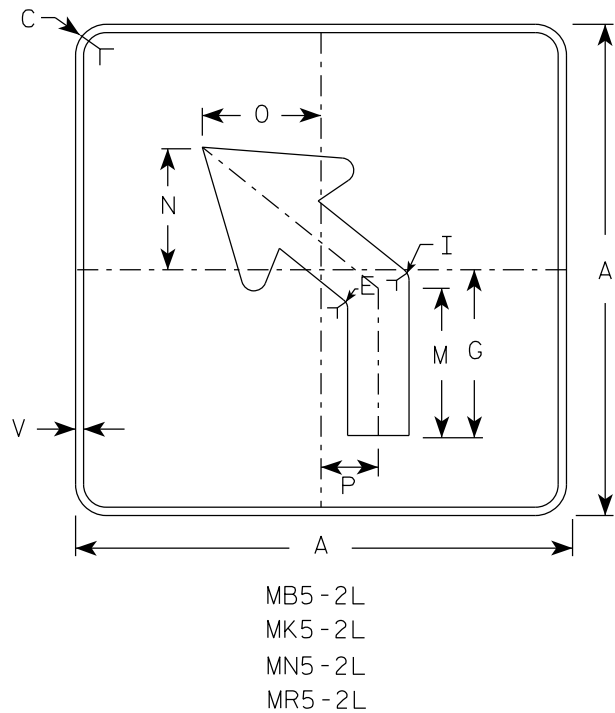
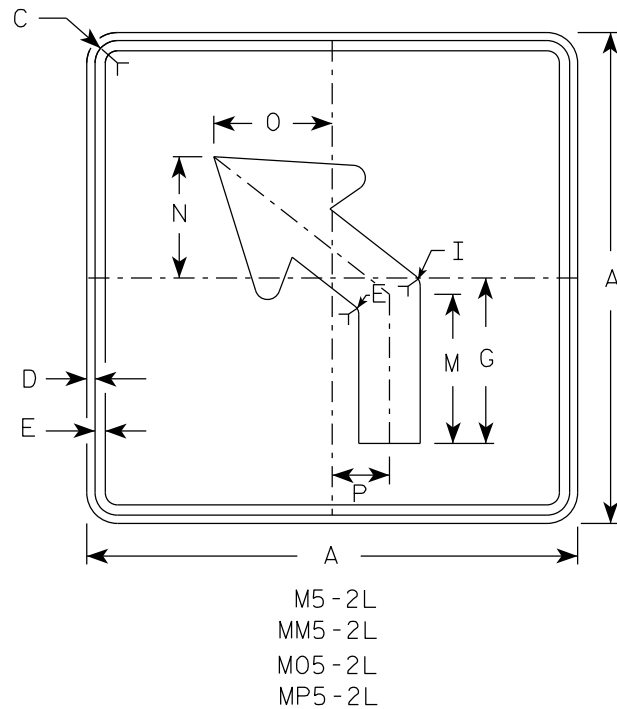
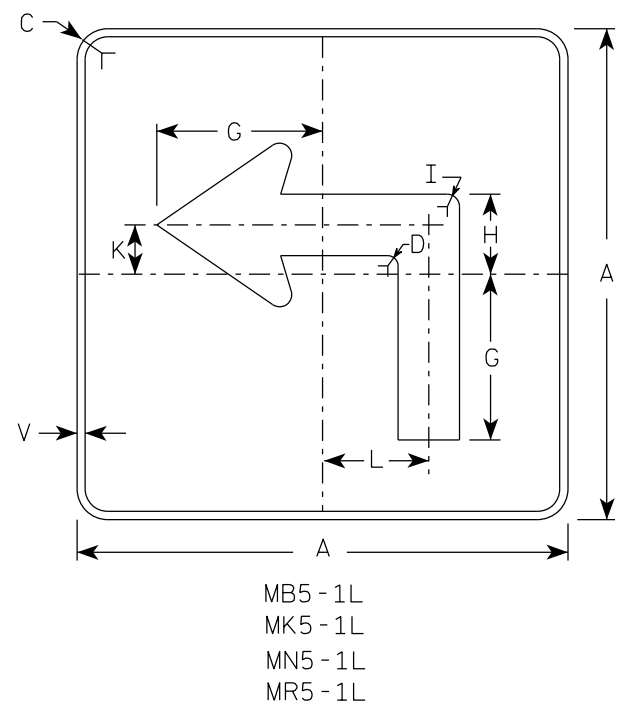
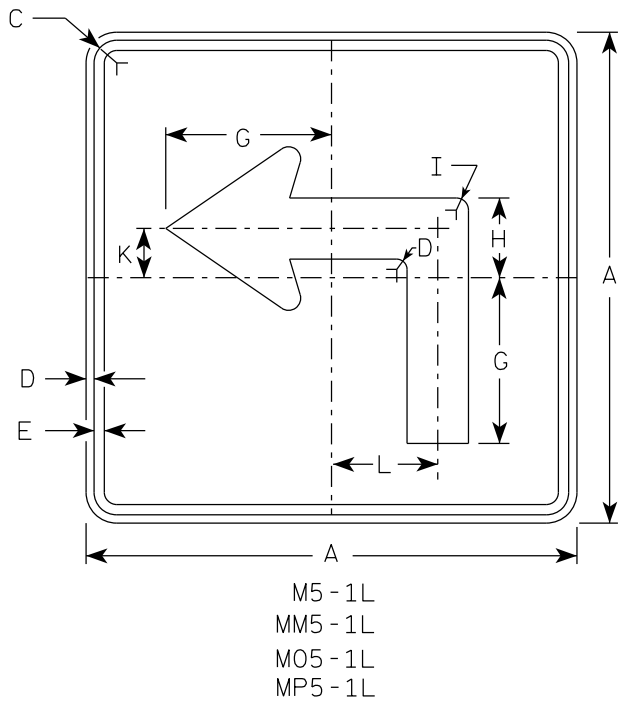
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

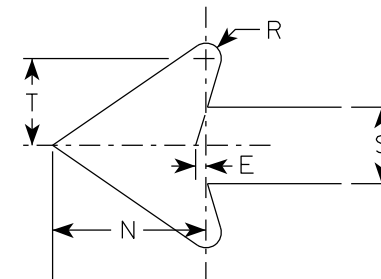
E



NOTES

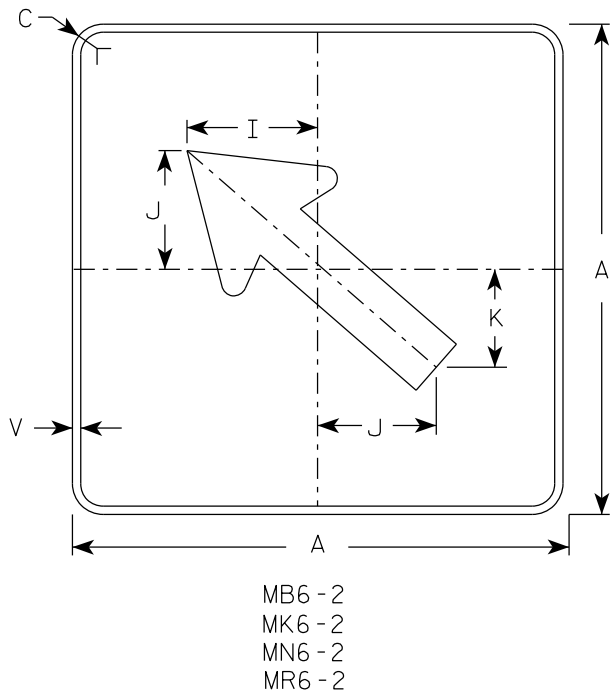
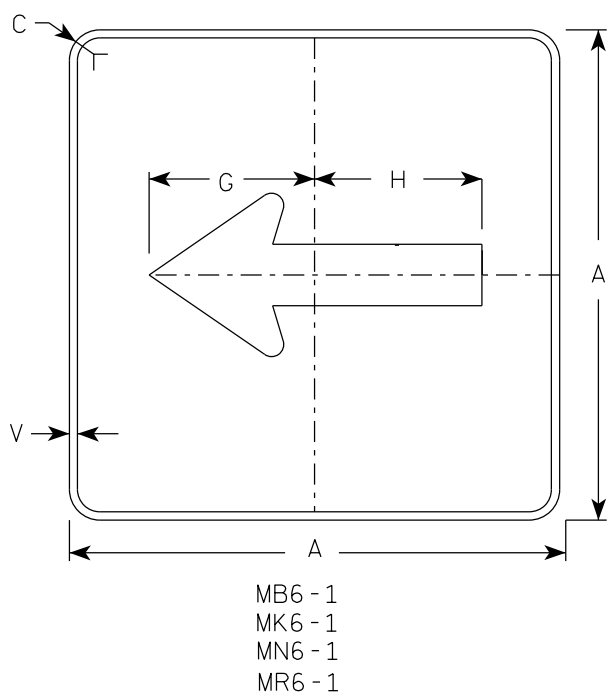
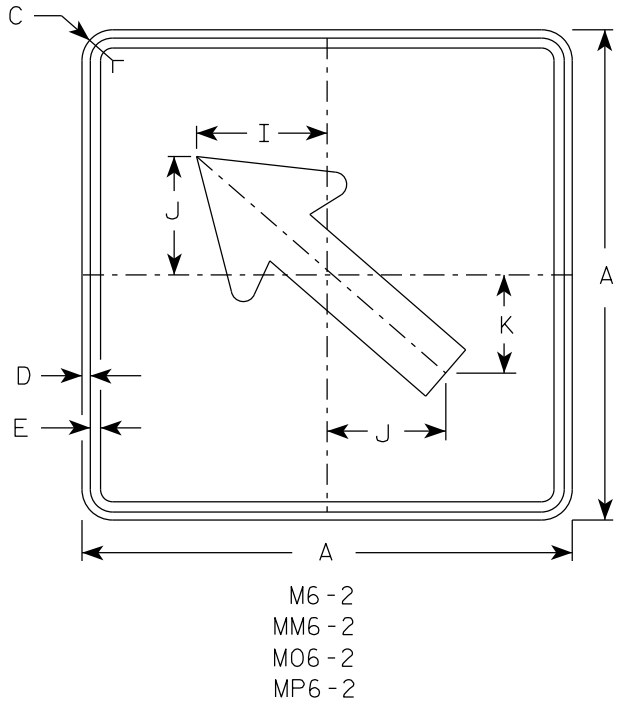
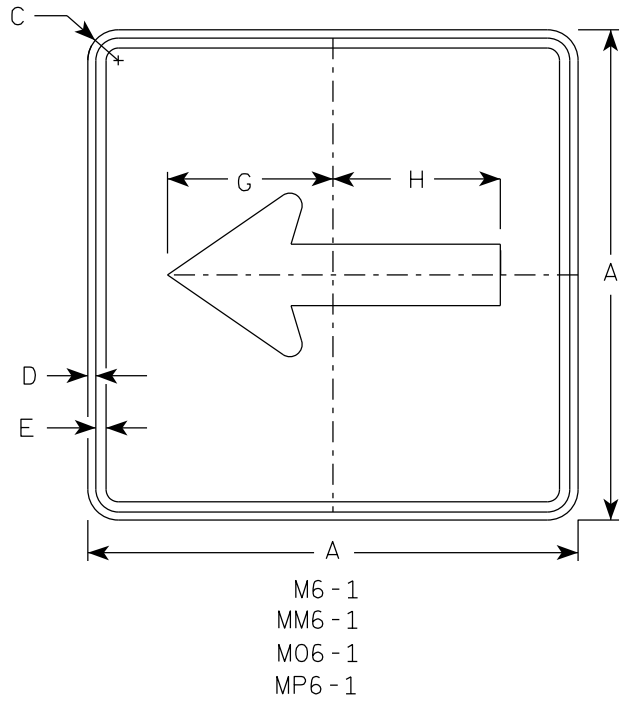
- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | | |
|-----------|-------|---|
| 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 |
| M05-1 and | M05-2 | 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 |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

ARROW DETAIL

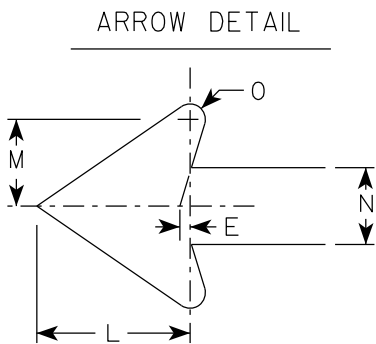


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	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

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 45	E
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- NOTES
- Signs are Type II - Type H Reflective except as Shown
 - Color:
Background - See note 4
Message - See note 4
 - Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 - M6-1 and M6-2 Background - White
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
M06-1 and M06-2 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



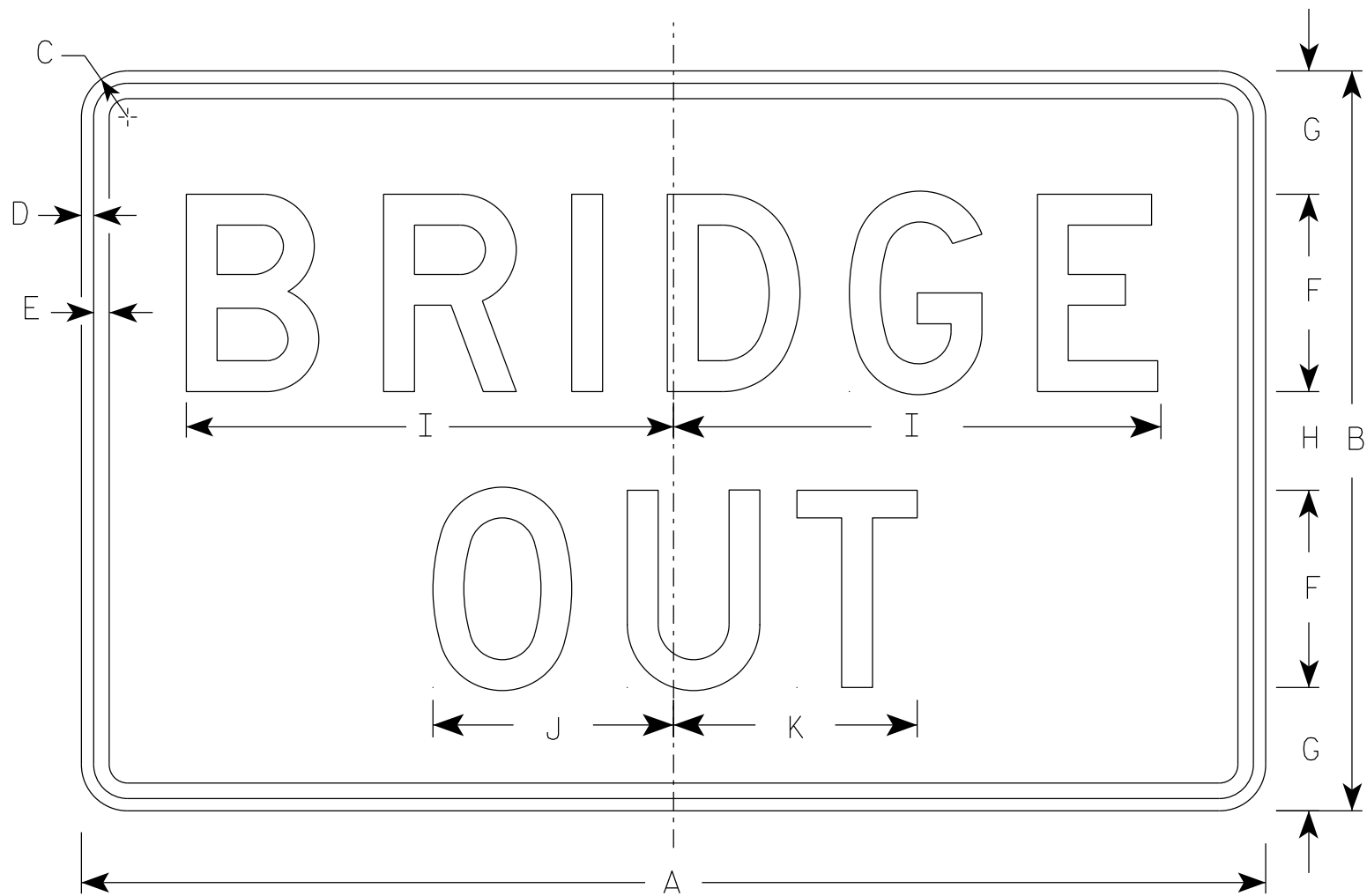
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	
1																												
2S	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2						3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2						3.06
3	30		1 7/8	1/2	5/8		10 3/4	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



R11-2B

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - D
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

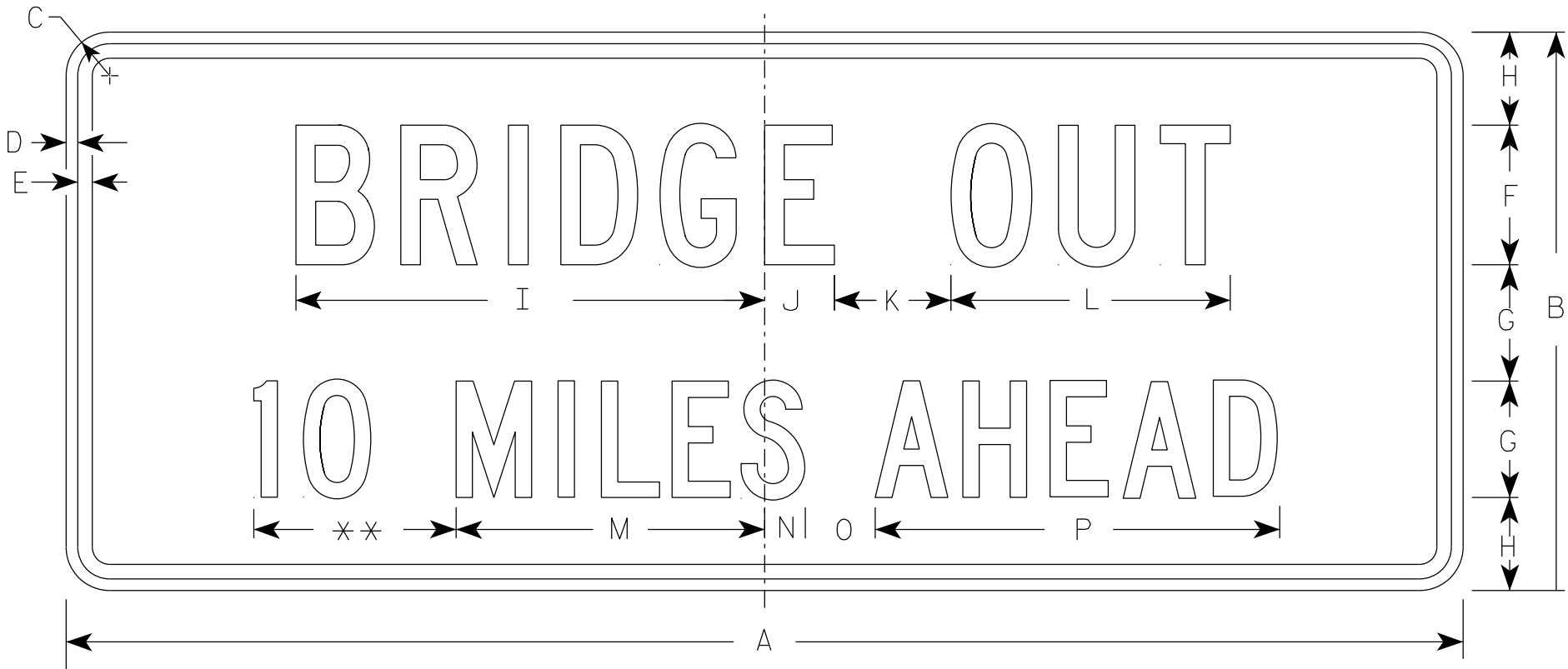
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

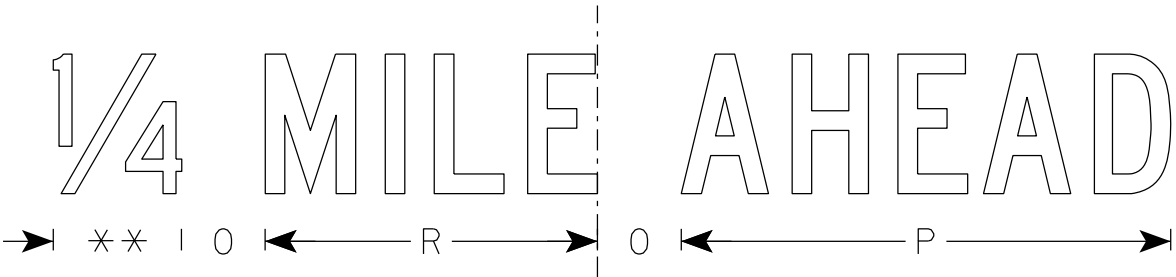
Background - White

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

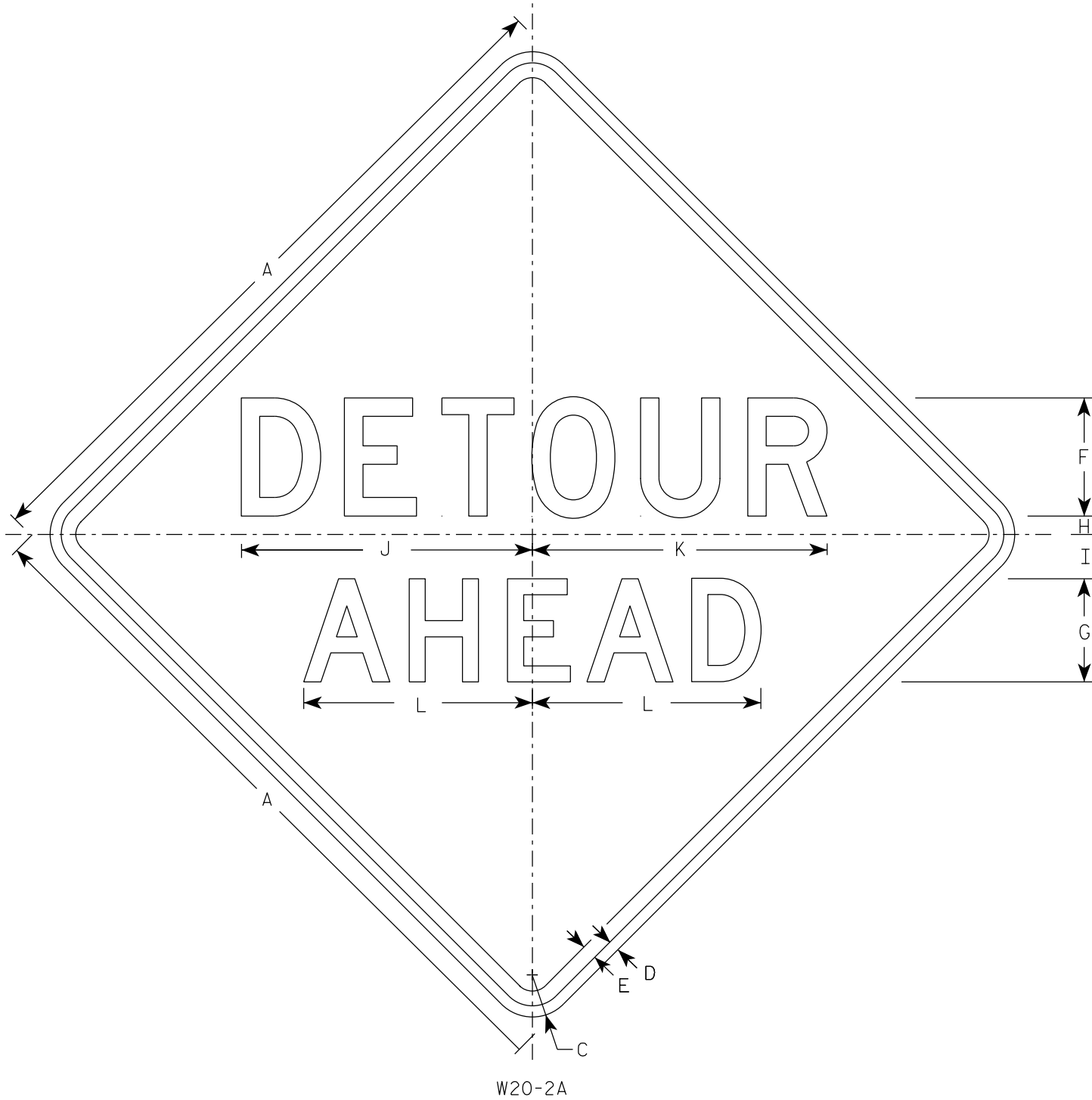
APPROVED
Matthew R. Rauch
for State Traffic Engineer

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

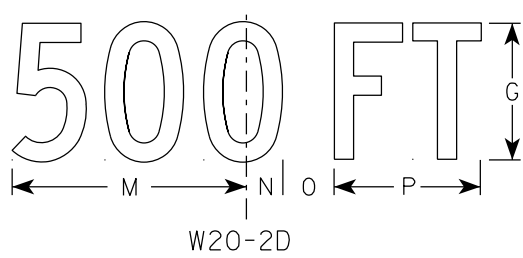
PROJECT NO:

SHEET NO: 48

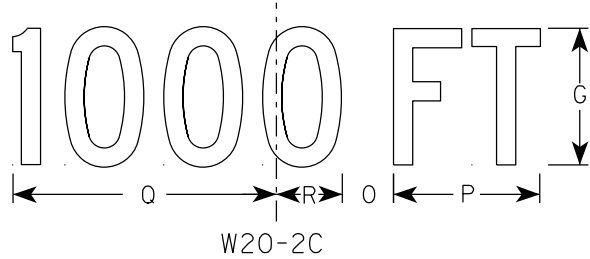
E



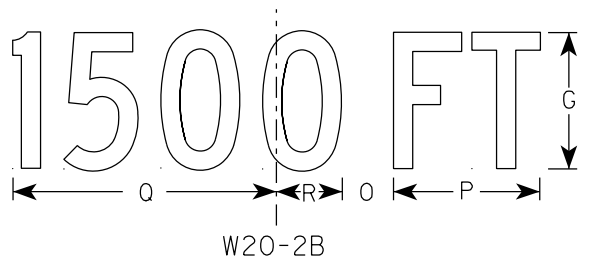
W20-2A



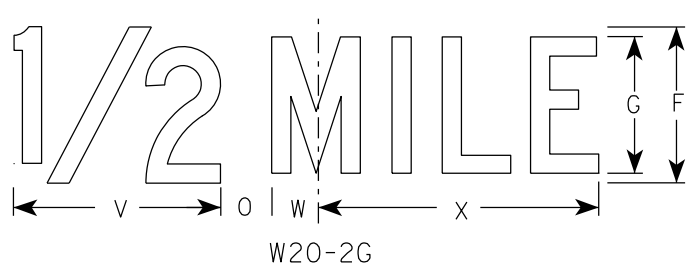
W20-2D



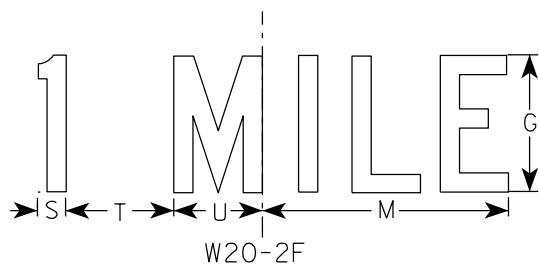
W20-2C



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.

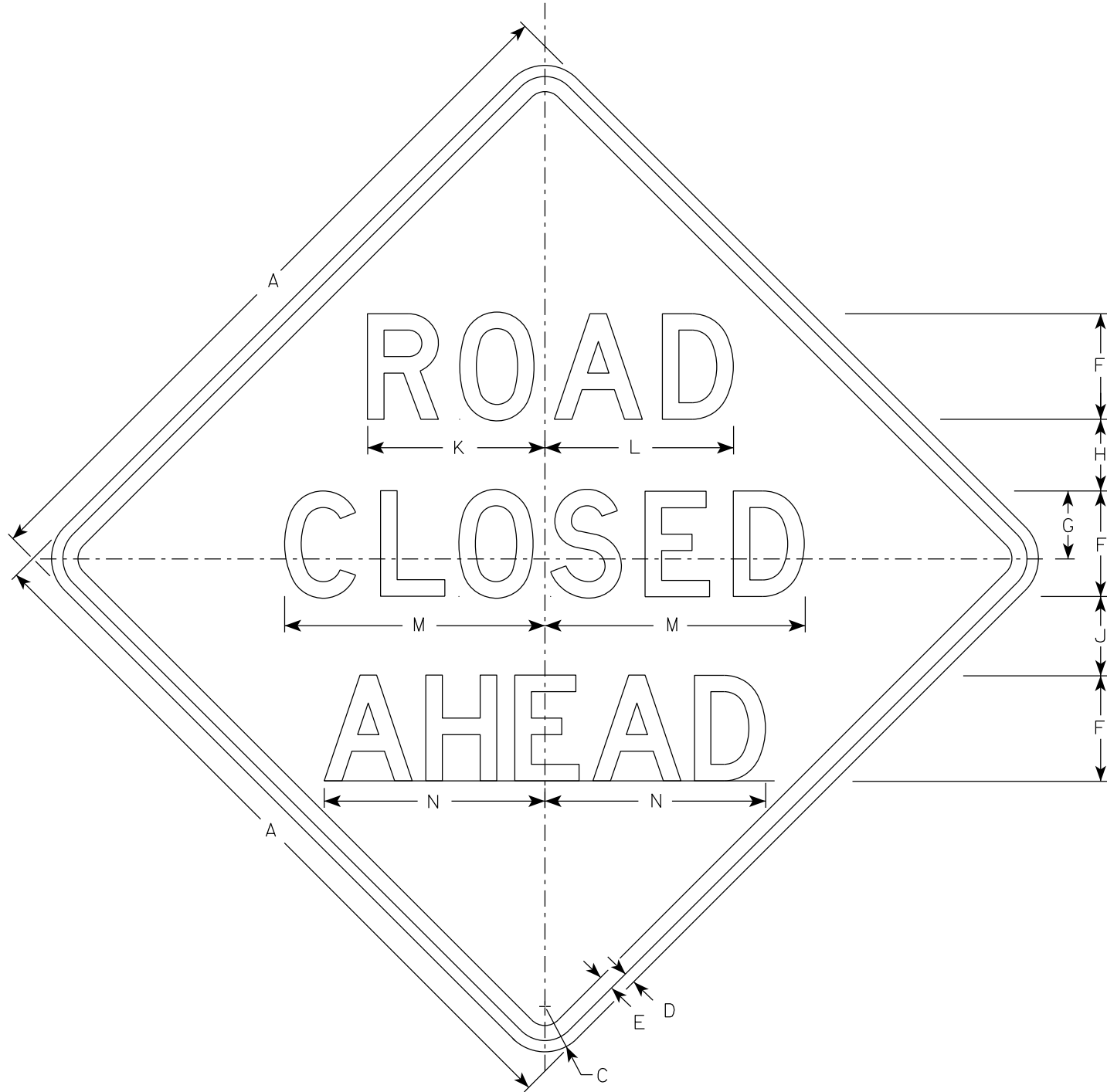
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			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

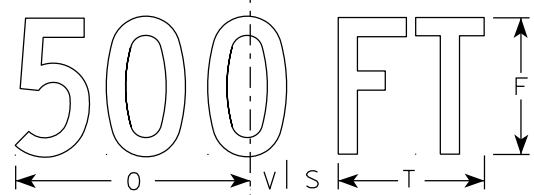
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

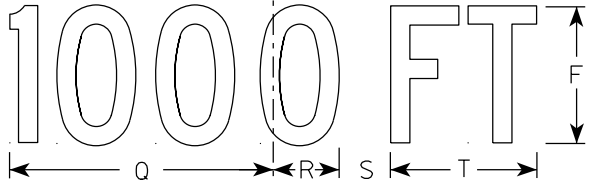
DATE 1/10/2024 PLATE NO. W20-2.7



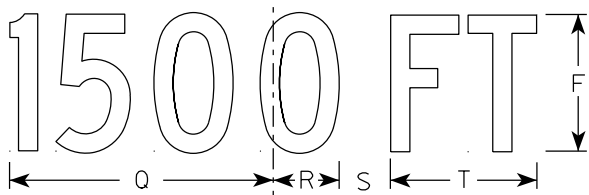
W20-3A



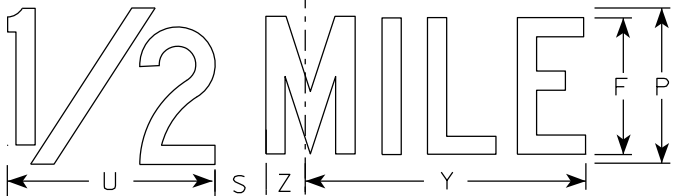
W20-3D



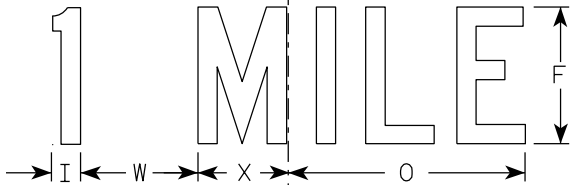
W20-3C



W20-3B



W20-3G



W20-3F

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. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

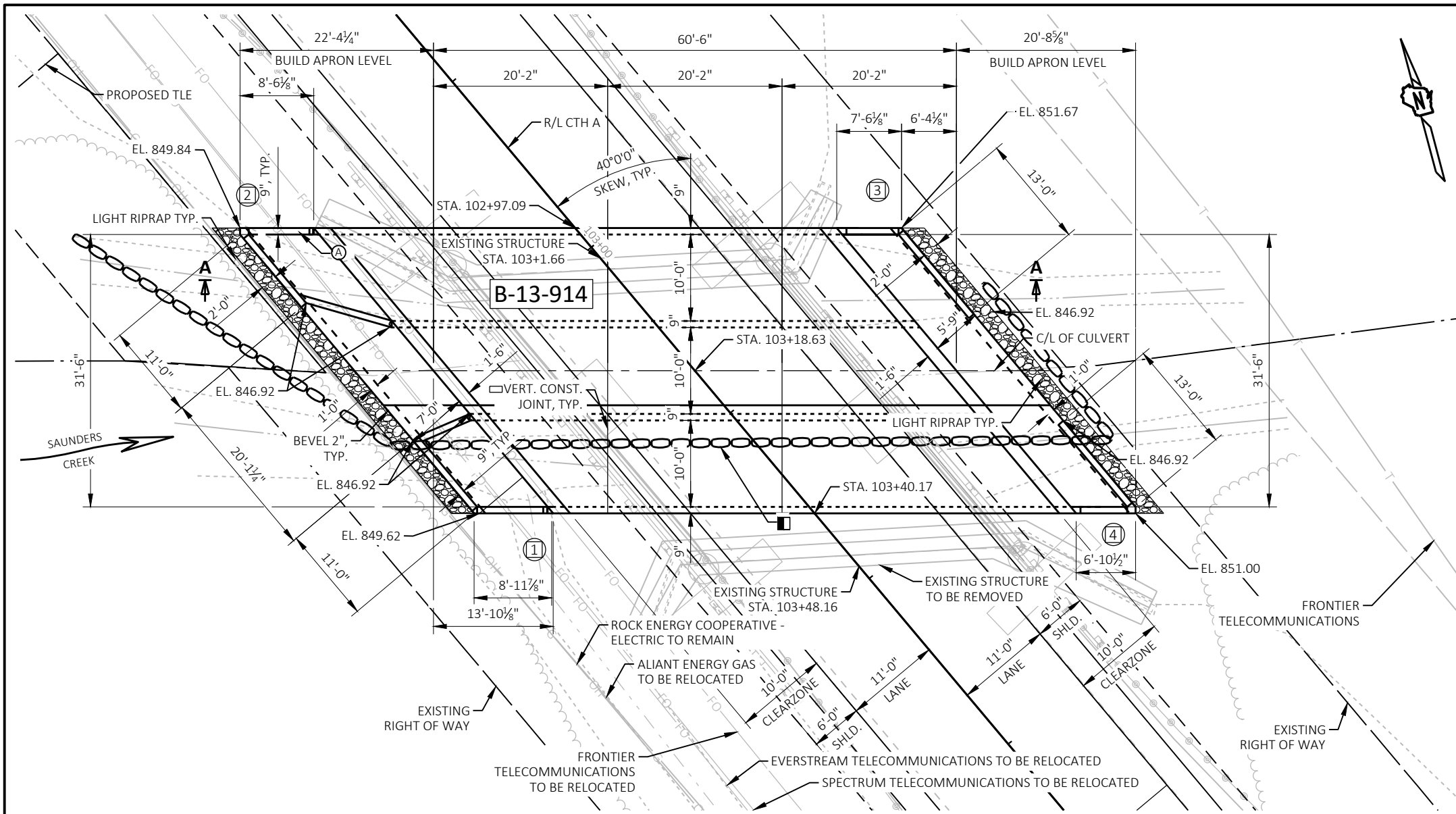
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	v	W	X	Y	Z	Area sq. ft.
1	36		2 1/4	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
2M	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
3	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
4	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0
5	48		3	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2	10 5/8	1 7/8	6	4 5/8	14 3/8	2 3/8	16.0

STANDARD SIGN
W20-3A, B, C, D, F & G

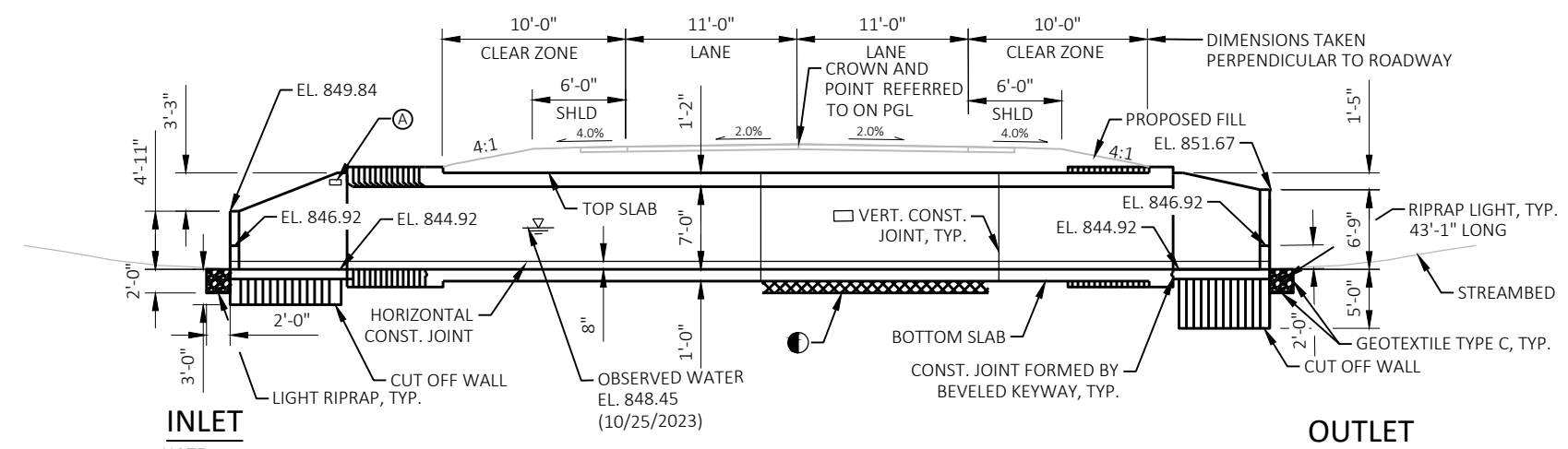
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-3.8



PLAN
3 CELL CONCRETE BOX CULVERT



INLET
NOTE:
THE INVERTS ARE SET 1'-0" BELOW THE EXISTING
STREAMBED ELEVATION.

OUTLET

SECTION A

BENCH MARK

NO.	STATION	DESCRIPTION	ELEV.
608	101+99.66	BM YELLOW BENCHTIE IN PPOL 1D16L14	851.64

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.56
OPERATING RATING: RF = 2.02
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 (KIPS)

EARTH LOAD:

STRUCTURE IS DESIGNED FOR FILL HEIGHT RANGE OF 1'-0" TO 2'-0"

MATERIAL PROPERTIES:

CONCRETE MASONRY:
CULVERT $f'_c = 3,500$ PSI
BAR STEEL REINFORCEMENT
GRADE 60 $f_y = 60,000$ PSI

HYDRAULIC DATA

Q(100) = 1159 CFS
Q(2) = 265 CFS
VELOCITY(100) = 6.4 FPS
VELOCITY(2) = 2.02 FPS
HIGH WATER ELEVATION = 854.05
2 YEAR ELEVATION = 851.22
WATERWAY AREA = 160 SF
DRAINAGE AREA = 14.7 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL = 8

TRAFFIC DATA

CTH A:

ADT (2025) = 1,300
ADT (2045) = 1,400
R. D. S. = 55 MPH

LEGEND

- (X) INDICATES WING NUMBER
- (A) INDICATES NAMEPLATE LOCATION
- UNDER CUT 1'-0" (TO BE PAID FOR AS "EXCAVATION FOR STRUCTURES CULVERTS B-13-914"). PLACE GEOTEXTILE FABRIC TYPE 'C' AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.
- 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING UP WALLS AND ACROSS TOP SLAB.
- SANDBAGS OR OTHER TECHNIQUE TO DIVERT WATER FROM CULVERT CONSTRUCTION, PAID FOR UNDER BID ITEM "COFFERDAMS B-13-914", SEE "APRON DETAILS" SHEET FOR STAGING.

LIST OF DRAWINGS:

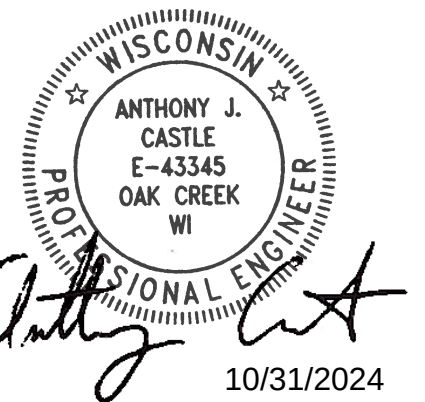
- GENERAL PLAN & ELEVATION
- TYPICAL SECTION & QUANTITIES
- SUBSURFACE EXPLORATION
- BARREL SECTION
- TOP SLAB REINFORCEMENT
- BOTTOM SLAB REINFORCEMENT
- BARREL DETAILS
- WEST APRON DETAILS
- WEST APRON WING DETAILS
- EAST APRON DETAILS
- EAST APRON WING DETAILS
- APRON DETAILS

STRUCTURE DESIGN CONTACTS:

CONSULTANT: TONY CASTLE 414-935-5740
WISDOT BOS: AARON BONK 608-261-0261

STATE PROJECT NUMBER

3672-00-72



NO.	DATE	REVISION	BY
 Transforming Challenges into Solutions			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		SDR 11/26/24	DATE
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-13-914			
CTH A OVER SAUNDERS CREEK			
COUNTY	DANE	TOWN	ALBION
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION			
DESIGNED BY	AMR	DESIGN CK'D	AJC
DRAWN BY	AMR	PLANS CK'D	AJC
GENERAL PLAN & ELEVATION			SHEET 1 OF 12 51

I.D.

DATE:

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-13-914" SHALL BE THE EXISTING GROUND LINE.

▲ THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE B" REQUIRED ON THE BOX CULVERT SIDES AND BEHIND APRON WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

☆ UNDER CUT 1'-0". EXCAVATION FOR UNDER CUT TO BE INCLUDED IN EXCAVATION FOR STRUCTURES. PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

☆ ADDITIONAL UNDER CUT OF UP TO 1'-0" MAY BE NECESSARY TO REMOVE ORGANIC SOIL BELOW THE CULVERT. EXCAVATION FOR UNDER CUT TO BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES CULVERTS B-13-914". FIELD ENGINEER TO DETERMINE EXACT EXTENTS OF ADDITIONAL UNDER CUT REQUIRED. FOR QUANTITY PURPOSES ADDITIONAL UNDER CUT ASSUMED TO BE REQUIRED ON HALF OF CULVERT FOOTPRINT. BACK FILL ADDITIONAL UNDER CUT WITH BREAKER RUN INCLUDED IN BID ITEM "BREAKER RUN".

☆ IN LIEU OF USING BREAKER RUN FOR THE BOX CONSTRUCTION PLATFORM, THE CONTRACTOR MAY ELECT TO SUBSTITUTE COARSE AGGREGATE AASHTO NO. 67 OR AASHTO NO. 4 IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 310 AND 604 RESPECTIVELY, SELECT CRUSHED MATERIAL OR OTHER GRANULAR MATERIAL AS APPROVED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR BASE STABILITY WITH ANY SUBSTITUTED MATERIAL. THE REGION GEOTECHNICAL ENGINEER MAY BE CONTACTED TO DETERMINE IF "OTHER GRANULAR MATERIAL" IS ACCEPTABLE.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

JOINT FILLER SHALL CONFORM TO AASHTO DESIGNATION M153, TYPE I, II, OR III OR AASHTO DESIGNATION M213.

THE EXISTING STRUCTURE B-13-950 IS A SINGLE SPAN CAST-IN-PLACE CONCRETE GIRDER STRUCTURE WITH AN OVERALL LENGTH OF 43.6 FEET AND A DECK WIDTH OF 30.5 FEET AND IS TO BE REMOVED PER BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-13-950".

THE "ALTERNATE CUT OFF WALL" DETAIL SHOWN ON THE "WEST APRON DETAILS" SHEET MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONCRETE CUT OFF WALLS. PAYMENT SHALL BE BASED ON CONCRETE CUT OFF WALLS.

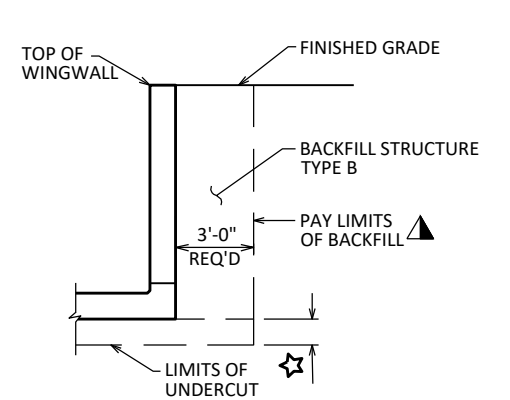
LOCATE NAME PLATE ON NEAREST RIGHT WING TRAVELING UP STATION, FACE NAME PLATE UP STATION.

TOTAL ESTIMATED QUANTITIES

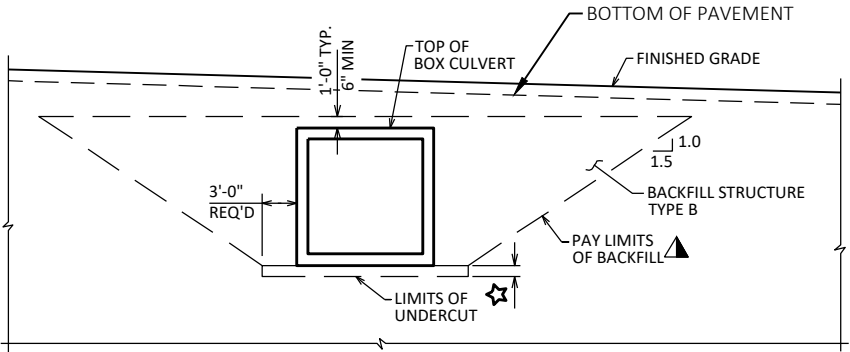
BID ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS (B-13-950)	EACH	1
206.2001	EXCAVATION FOR STRUCTURES CULVERTS B-13-914	EACH	1
206.5001	COFFERDAMS B-13-914	EACH	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	748
311.0110	BREAKER RUN	TON	320
504.0100	CONCRETE MASONRY CULVERTS	CY	251
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	20,910
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	19,070
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	35
606.0100	RIPRAP LIGHT	CY	138
645.0105	GEOTEXTILE TYPE C	SY	355
NON-BID ITEMS			
	FILLER	SIZE	3/4"
	NAME PLATE	EACH	1

STATE PROJECT NUMBER

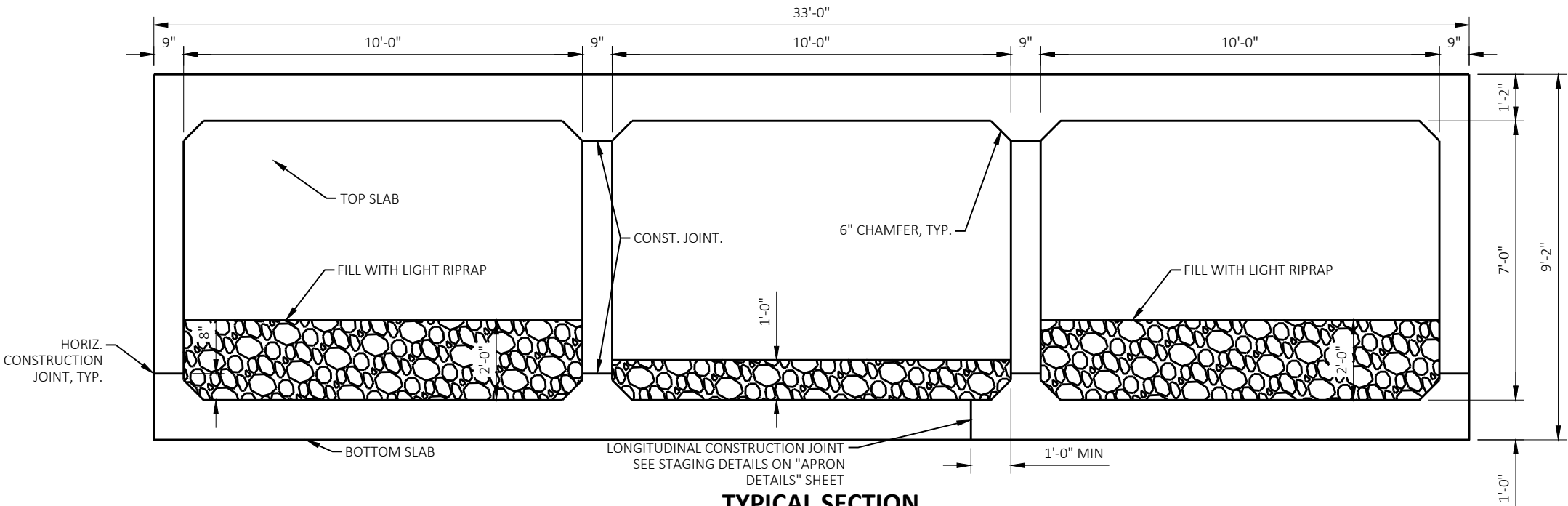
3672-00-72



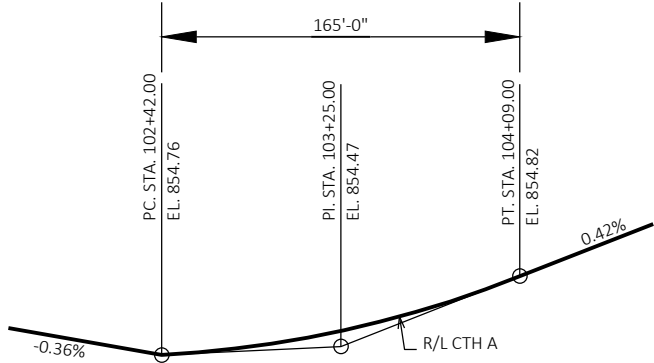
TYPICAL SECTION THRU BOX CULVERT WINGWALL



TYPICAL SECTION THRU BOX CULVERT



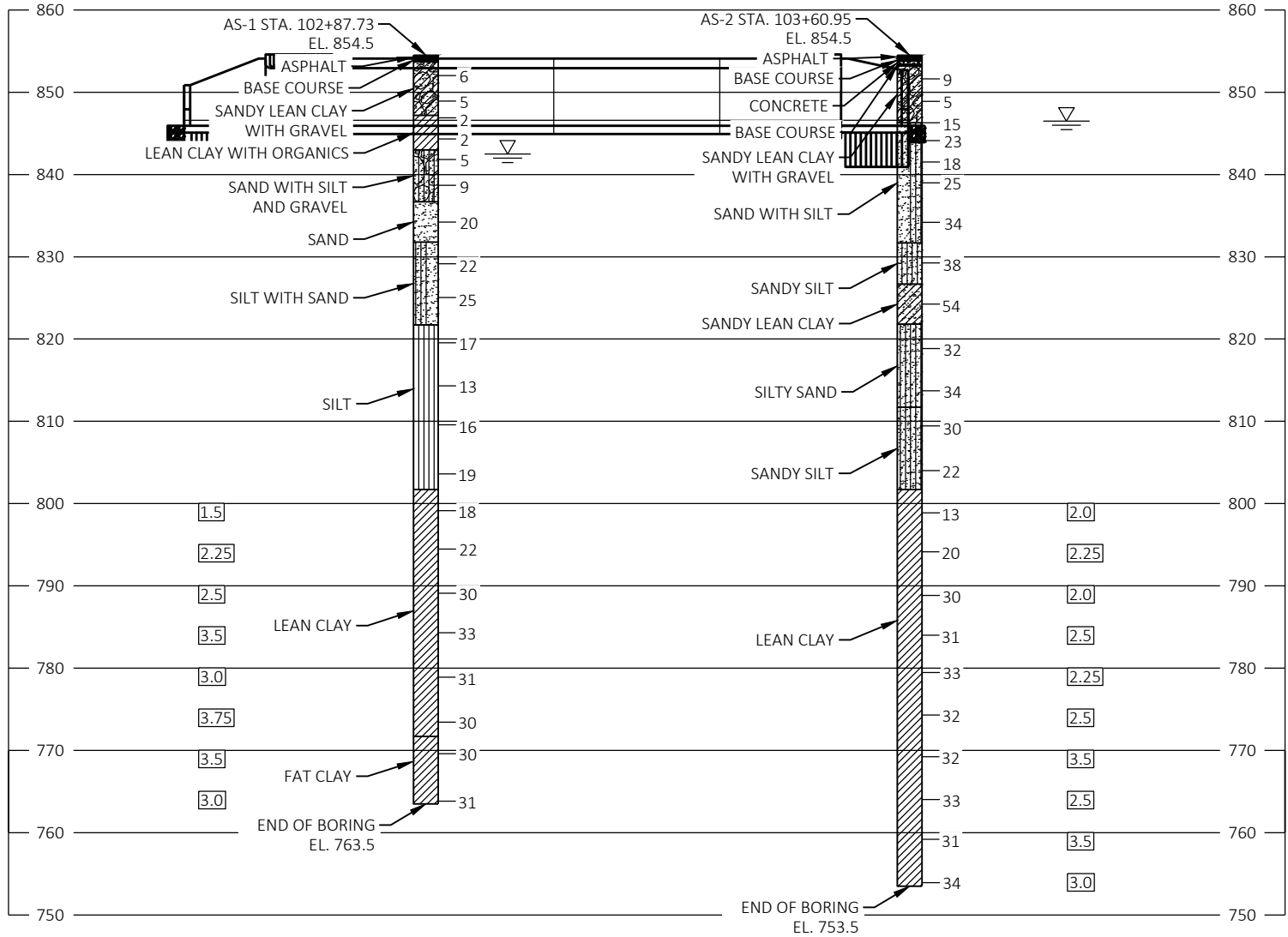
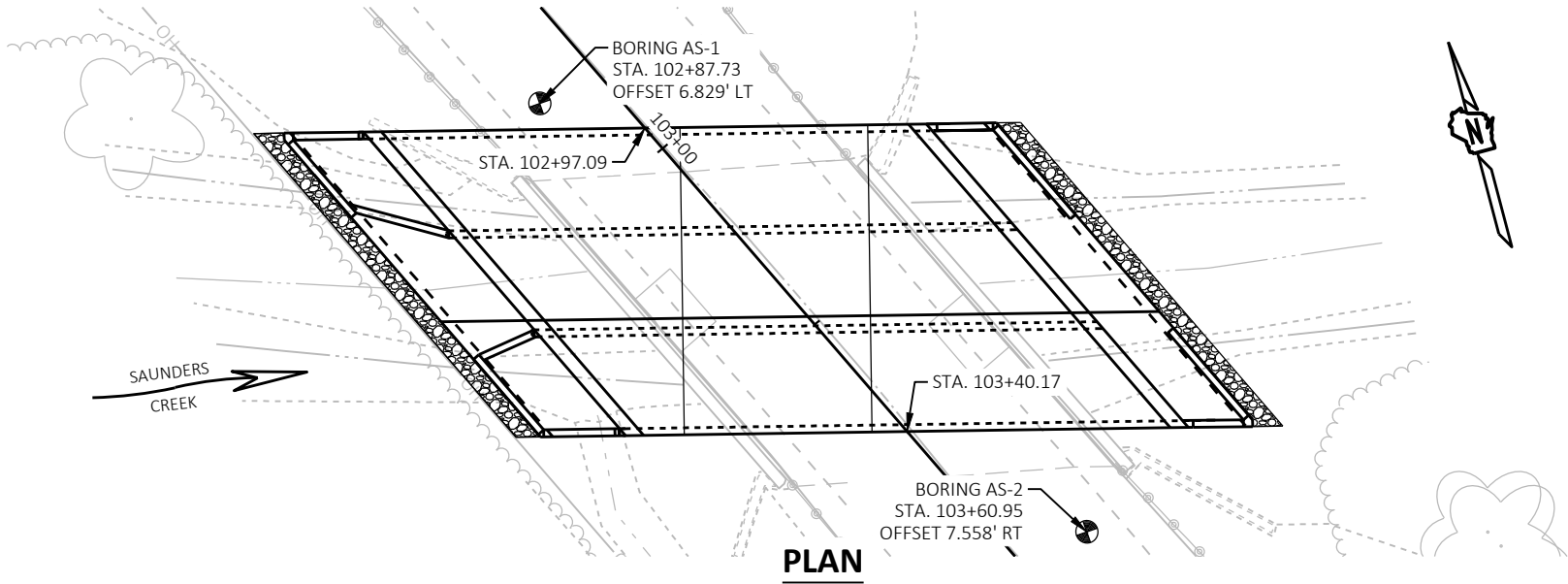
TYPICAL SECTION 3 CELL CONCRETE BOX CULVERT



PROFILE GRADE LINE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		AMR	PLANS CK'D AJC
TYPICAL SECTION & QUANTITIES		SHEET 2 OF 12 52	

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
AS-1	12/4/2023	419433	900843
AS-2	12/5/2023	419370	900883
BORINGS COMPLETED BY: GESTRA ENGINEERING INC.			
REPORT COMPLETED BY: GESTRA ENGINEERING INC.			
ALL COORDINATES REFERENCED TO WCCS NAD 83(11)		DANE COUNTY	



ELEVATION

3 CELL CONCRETE BOX CULVERT

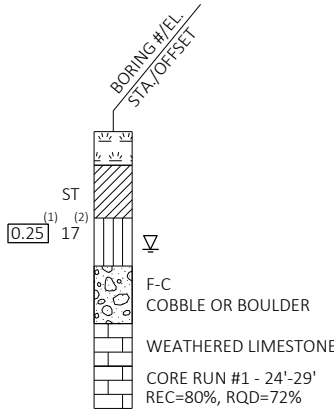
STATE PROJECT NUMBER

3672-00-72

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

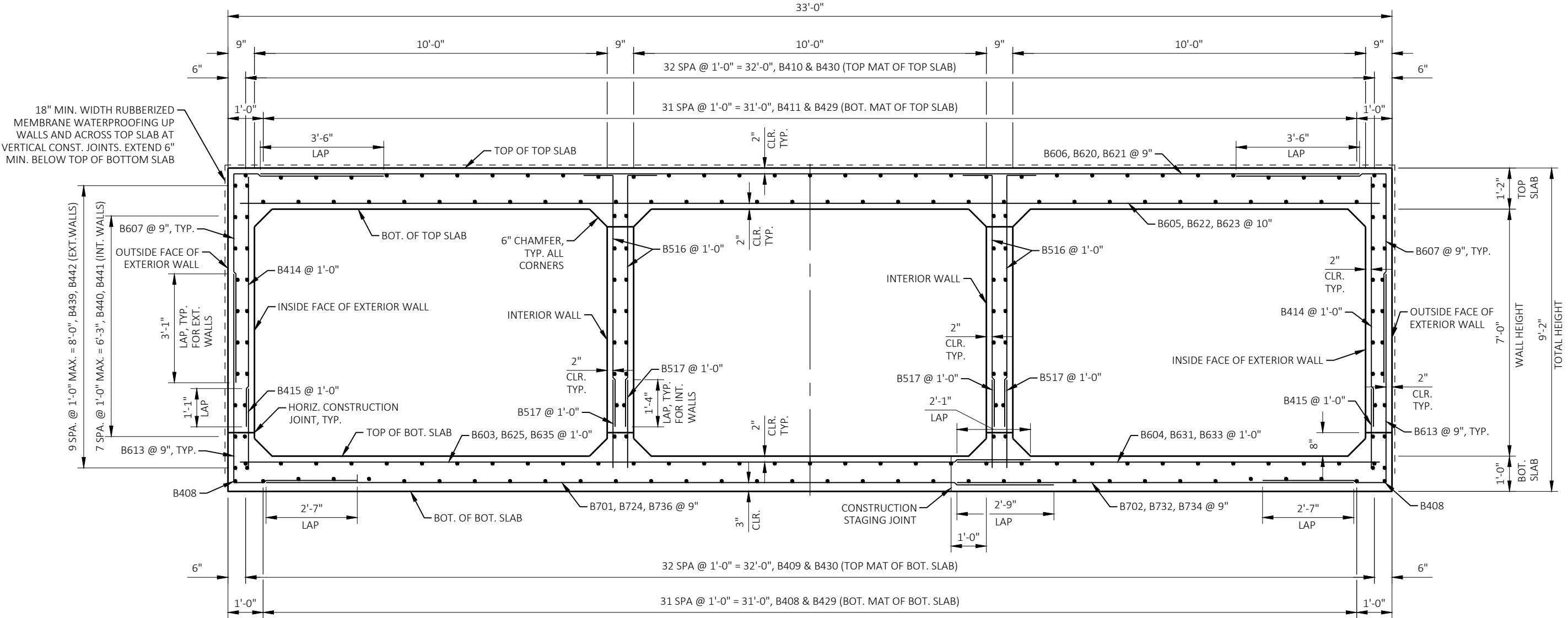
ABBREVIATIONS

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-13-914			
DRAWN BY		AMR	PLANS CK'D AJC
SUBSURFACE EXPLORATION		SHEET 3 OF 12 53	

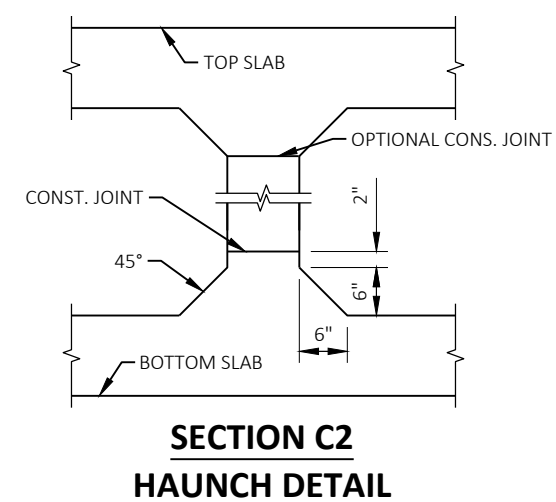
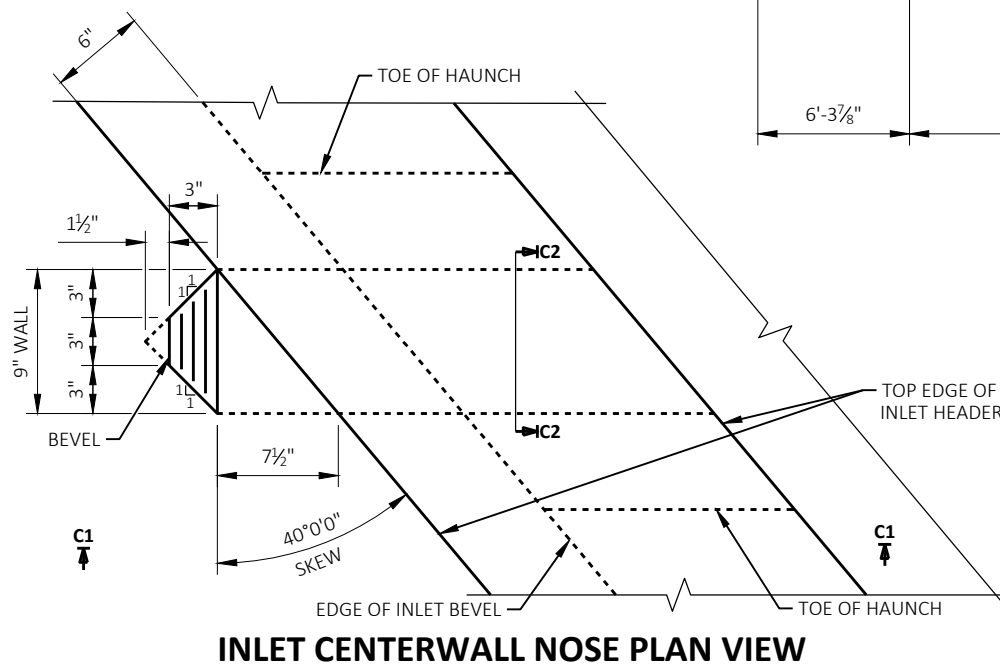
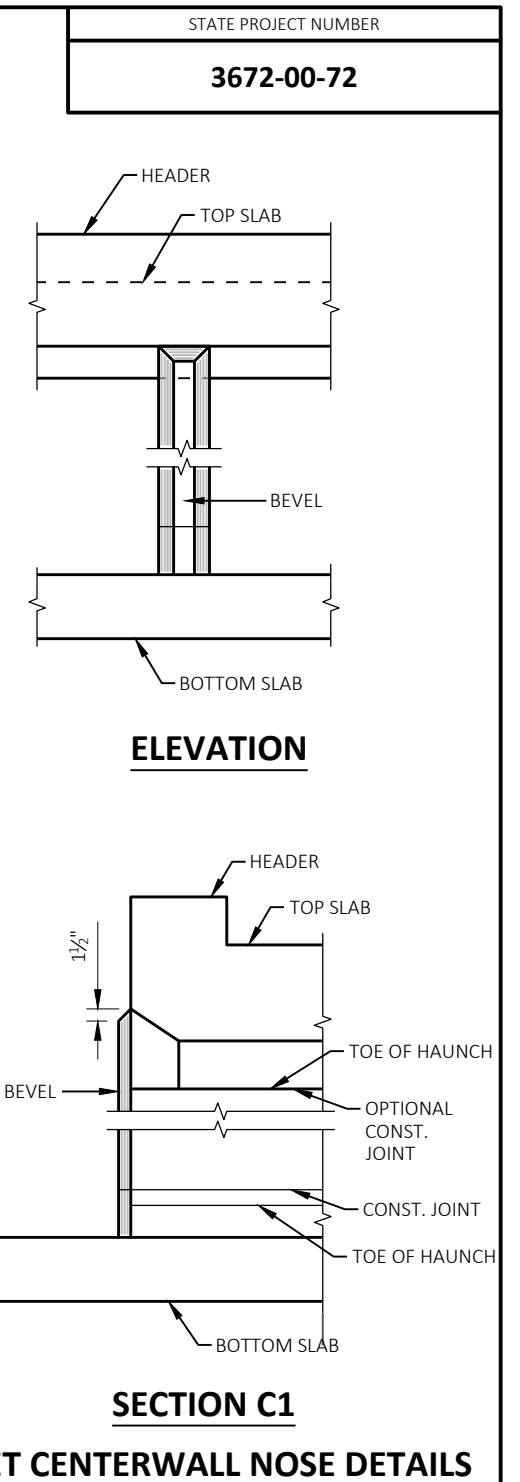
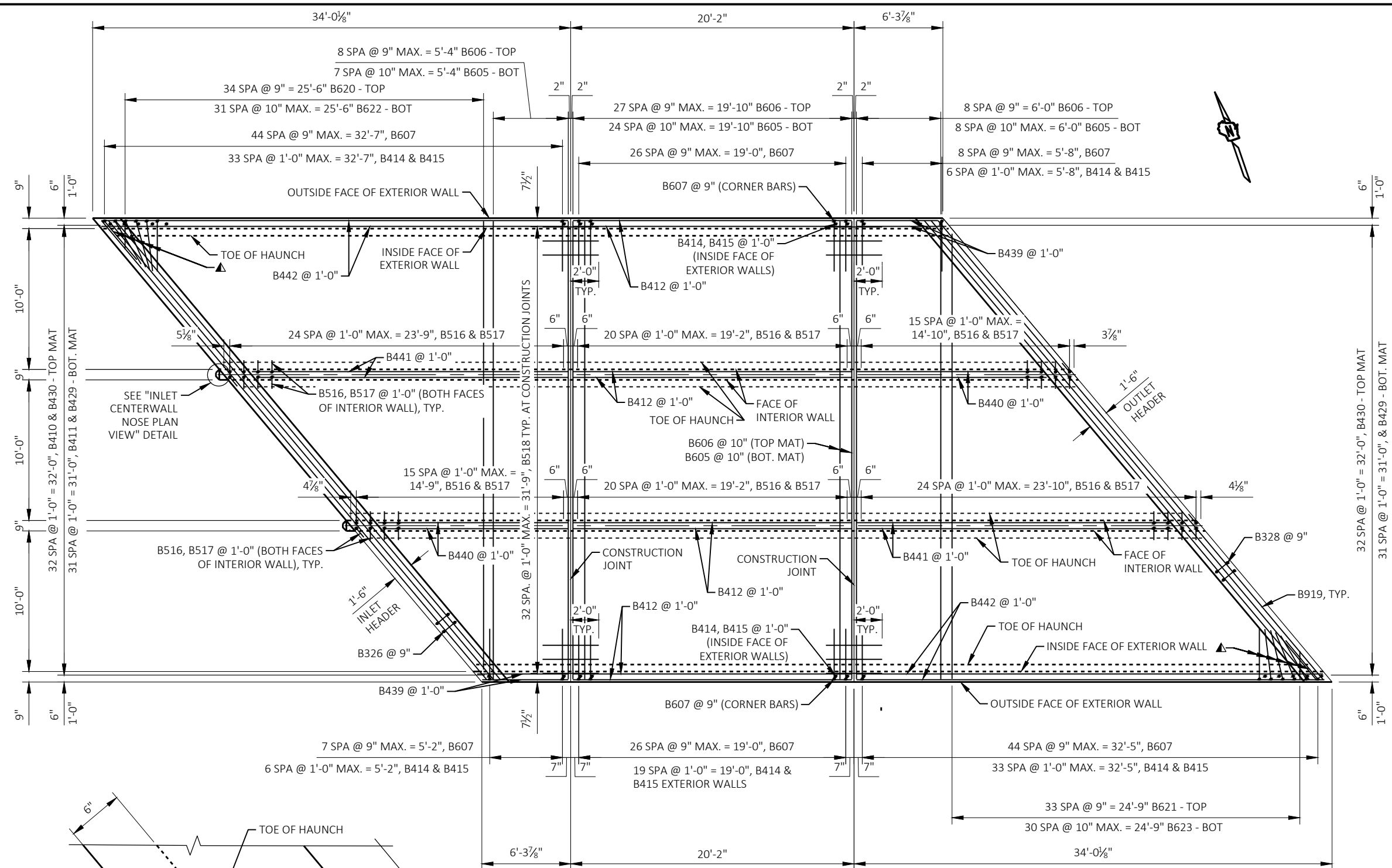


TYPICAL SECTION

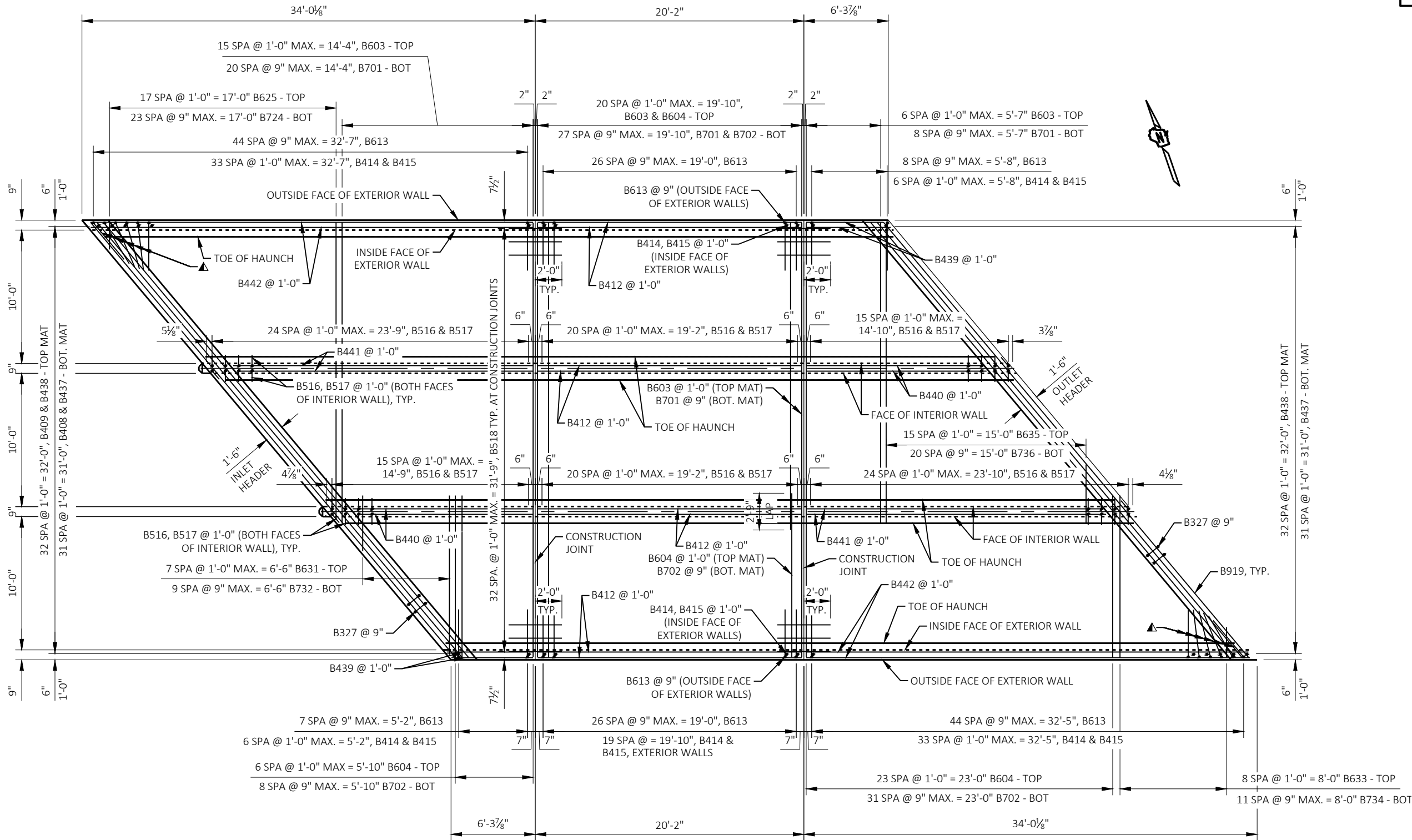
3 CELL CONCRETE BOX CULVERT

NOTE: LIGHT RIPRAP FILL NOT SHOWN FOR CLARITY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		AMR	PLANS CK'D AJC
BARREL SECTION		SHEET 4 OF 12 54	



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
		DRAWN BY	PLANS CK'D
		AMR	AJC
TOP SLAB REINFORCEMENT		SHEET 5 OF 12	
		55	



BOX CULVERT PLAN VIEW

BOTTOM REINFORCEMENT SHOWN (WINGS & APRONS NOT SHOWN FOR CLARITY)

▲ FAN BARS TO FIT CORNERS

NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE B-13-914				
DRAWN BY		AMR	PLANS CK'D	AJC
BOTTOM SLAB REINFORCEMENT			SHEET 6 OF 12 56	

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B701		58	23'-3"			BOTTOM SLAB TRANS. E.F.
B702		69	12'-2"			BOTTOM SLAB TRANS. E.F.
B603		43	22'-7"			BOTTOM SLAB TRANS. I.F.
B604		53	12'-2"			BOTTOM SLAB TRANS. I.F.
B605	X	42	32'-8"			TOP SLAB TRANS. I.F.
B606	X	45	32'-8"			TOP SLAB TRANS. E.F.
B607	X	161	10'-1"	X		CORNER BARS
B408		34	19'-10"			BOT. SLAB LONG. E.F. MIDDLE PANEL
B409		33	19'-10"			BOT. SLAB LONG. I.F. MIDDLE PANEL
B410	X	33	19'-10"			TOP SLAB LONG. E.F. MIDDLE PANEL
B411	X	32	19'-10"			TOP SLAB LONG. I.F. MIDDLE PANEL
B412		64	19'-10"			EXTERIOR AND INTERIOR WALL LONG. MIDDLE PANEL
B613		161	9'-4"	X		CORNER BARS
B414		122	6'-4"			EXTERIOR WALL VERT. I.F.
B415		122	2'-6"			EXTERIOR WALL VERT. I.F.
B516		124	7'-3"	X		INTERIOR WALL VERT.
B517		124	2'-9"			INTERIOR WALL VERT.
B518		188	4'-0"			CONST. JT. DOWEL
B919	X	24	42'-9"			HEADERS HORIZ.
B620	X	34	16'-11"		●	SERIES 1: W. TOP SLAB TRANS -TOP MAT
B621	X	34	16'-11"		●	SERIES 2: E. TOP SLAB TRANS - TOP MAT
B622	X	32	16'-10"		●	SERIES 3: W. TOP SLAB TRANS - BOT MAT
B623	X	31	16'-10"		●	SERIES 4: E. TOP SLAB TRANS - BOT MAT
B724		24	12'-2"		●	SERIES 5: W. BOT. MAT OF BOT. SLAB TRANS.
B625		18	12'-2"		●	SERIES 6: W. TOP. MAT OF BOT. SLAB TRANS.
B326	X	57	5'-2"	X		TOP INLET HEADER VERT. TIES
B327		114	4'-5"	X		BOTTOM OUTLET HEADERS VERT. TIES
B328	X	57	5'-5"	X		TOP OUTLET HEADER VERT. TIES
B429	X	64	19'-10"		●	SERIES 7: E. LONGITUDINAL TOP SLAB TOP & BOT. MAT
B430	X	68	19'-10"		●	SERIES 8: W. LONGITUDINAL TOP SLAB TOP & BOT. MAT
B631		8	8'-1"		●	SERIES 9: W. BOT SLAB TRANS - TOP MAT
B732		10	8'-1"		●	SERIES 10: W. BOT SLAB TRANS - BOT MAT
B633		9	7'-3"		●	SERIES 11: E. BOT SLAB TRANS - TOP MAT
B734		12	7'-3"		●	SERIES 12: E. BOT SLAB TRANS - BOT MAT
B635		16	13'-4"		●	SERIES 13: E. BOT SLAB TRANS - TOP MAT
B736		21	13'-4"		●	SERIES 14: E. BOT SLAB TRANS - BOT MAT
B437		68	19'-10"		●	SERIES 15: E. LONGITUDINAL BOT. SLAB TOP & BOT. MAT
B438		68	19'-10"		●	SERIES 16: W. LONGITUDINAL BOT. SLAB TOP & BOT. MAT
B439		36	5'-11"			NE & SW EXTERIOR WALL LONG.
B440		28	15'-4"			NE & SW INTERIOR WALL LONG.
B441		28	24'-4"			NW & SE INTERIOR WALL LONG.
B442		36	33'-8"			NW & SE EXTERIOR WALL LONG.

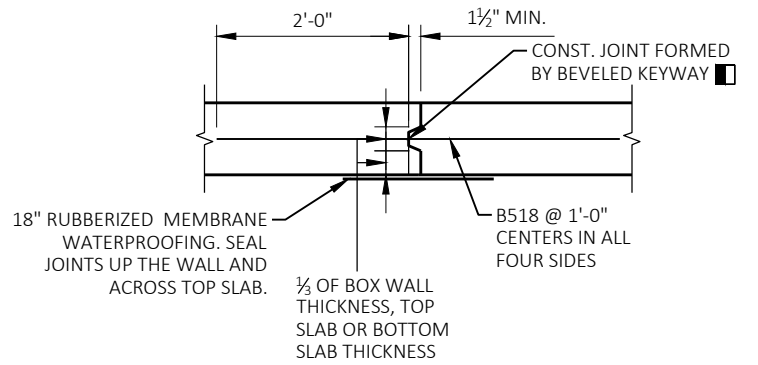
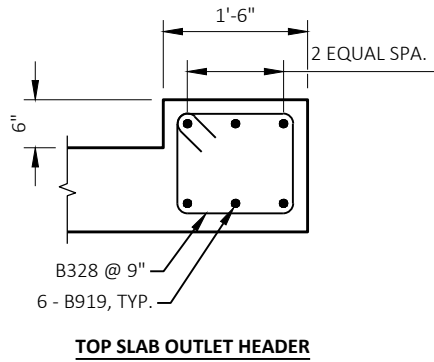
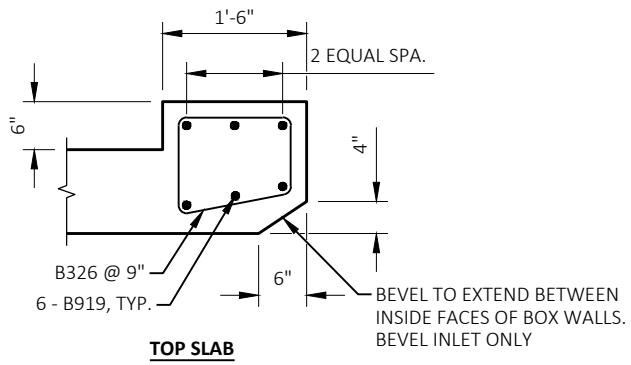
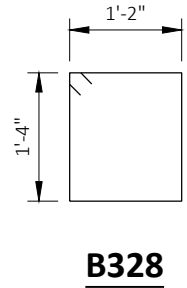
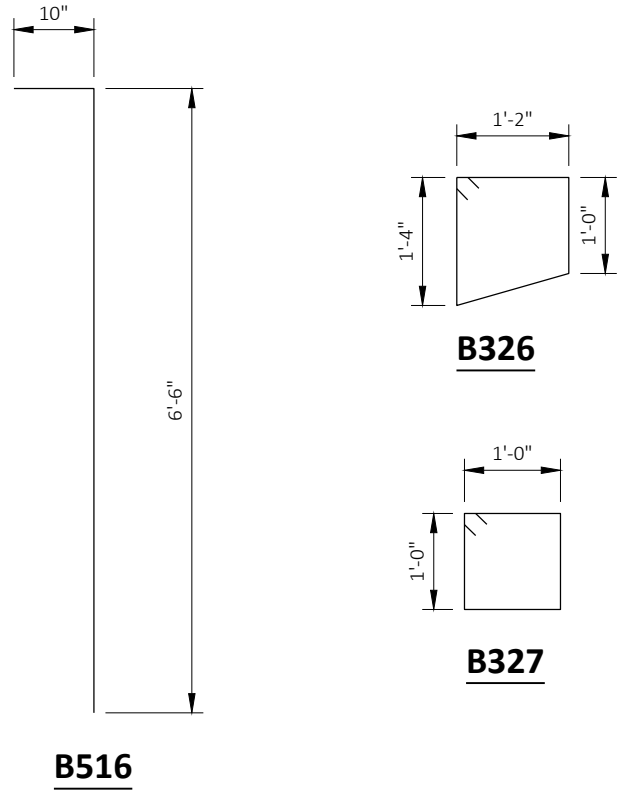
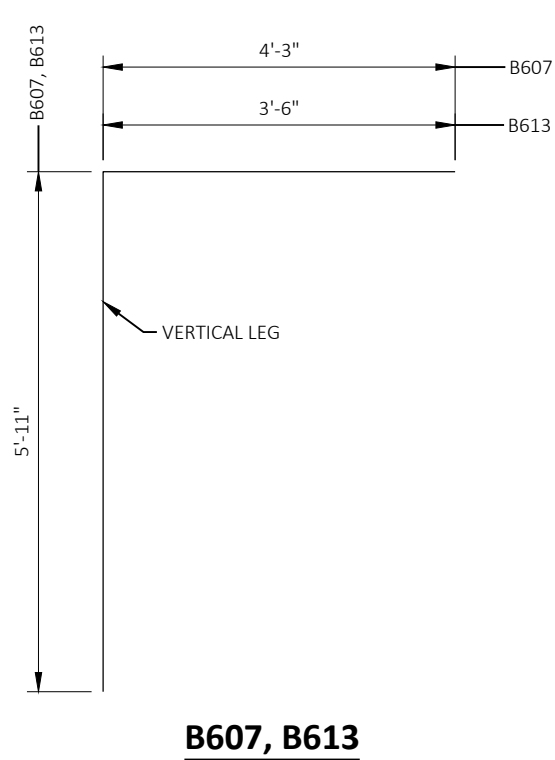
ALL REINFORCEMENT BARS IN BARREL WILL BE UNCOATED.

● LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE "BAR SERIES" TABLE FOR ACTUAL LENGTHS.

BAR SERIES ●

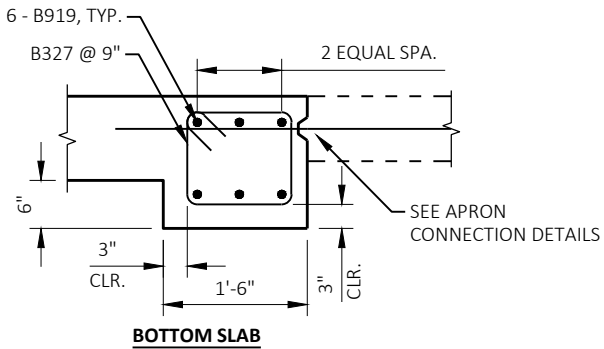
BAR MARK	NO. REQ'D.	LENGTHS FOR EACH SERIES
B620	1 SERIES OF 34	2'-0" TO 31'-10"
B621	1 SERIES OF 34	2'-0" TO 31'-8"
B622	1 SERIES OF 32	2'-0" TO 31'-10"
B623	1 SERIES OF 31	2'-0" TO 31'-8"
B724	1 SERIES OF 24	2'-0" TO 22'-3"
B625	1 SERIES OF 18	2'-0" TO 22'-3"
B429	2 SERIES OF 32	6'-0" TO 33'-8"
B430	2 SERIES OF 33	6'-0" TO 33'-8"
B631	1 SERIES OF 8	4'-2" TO 11'-11"
B732	1 SERIES OF 10	4'-2" TO 11'-11"
B633	1 SERIES OF 9	2'-3" TO 12'-2"
B734	1 SERIES OF 12	2'-3" TO 12'-2"
B635	1 SERIES OF 16	4'-5" TO 22'-3"
B736	1 SERIES OF 21	4'-5" TO 22'-3"
B437	2 SERIES OF 34	6'-0" TO 33'-8"
B438	2 SERIES OF 34	6'-0" TO 33'-8"

BAR BEND DETAILS



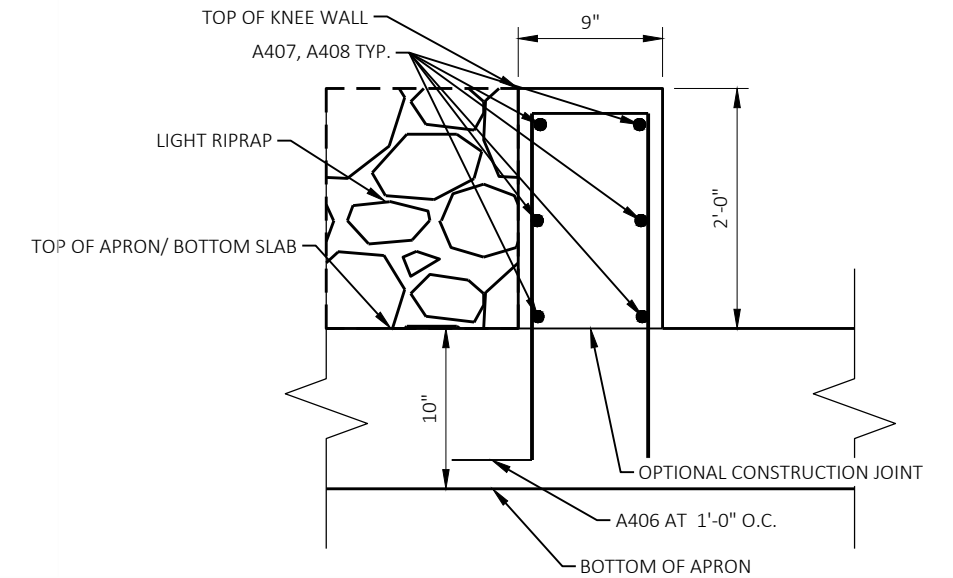
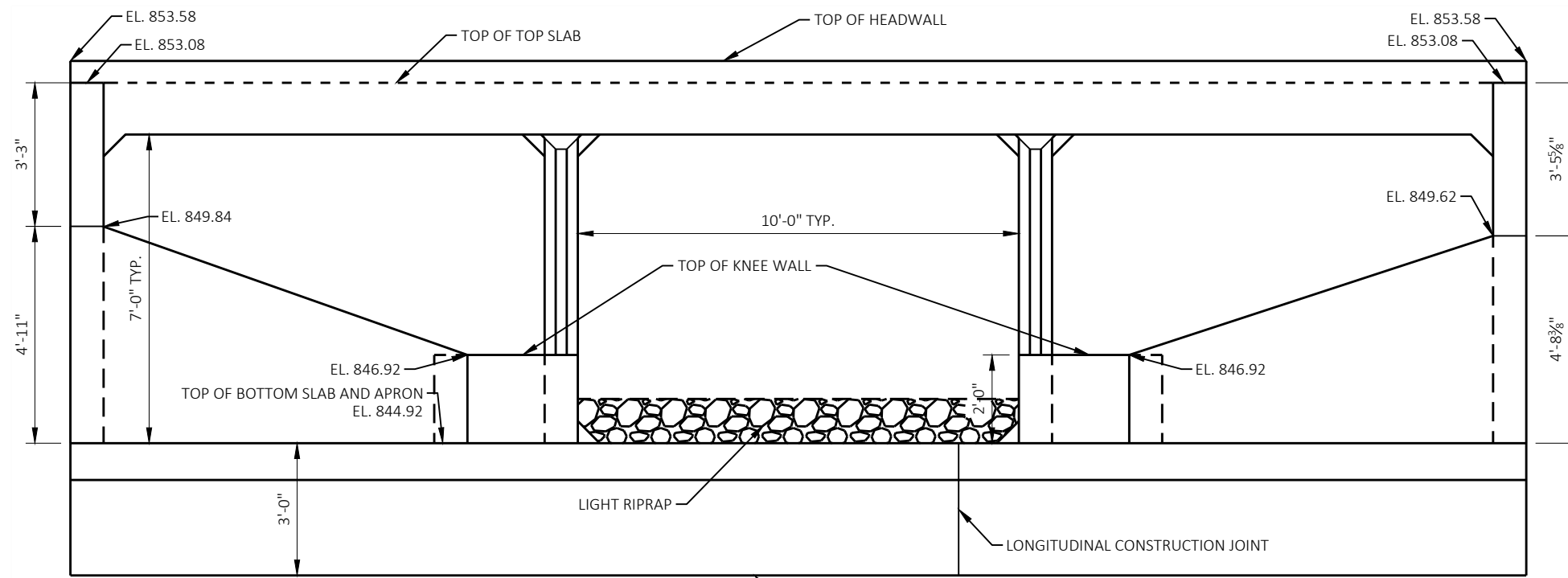
VERTICAL CONSTRUCTION JOINT

IN LIEU OF KEYED CONST. JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING. #5 BARS 4'-0" AT 1'-0" CENTERS REQUIRED FOR KEYED CONST. JOINTS AND SAW CUT JOINTS.

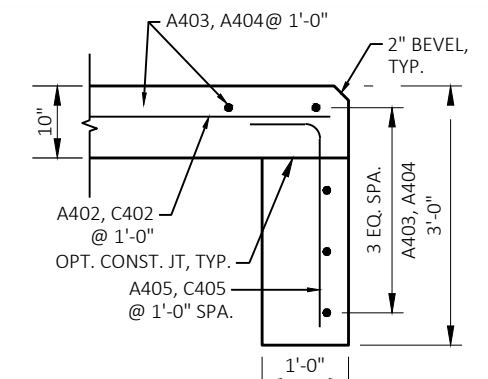


SECTION THRU HEADERS

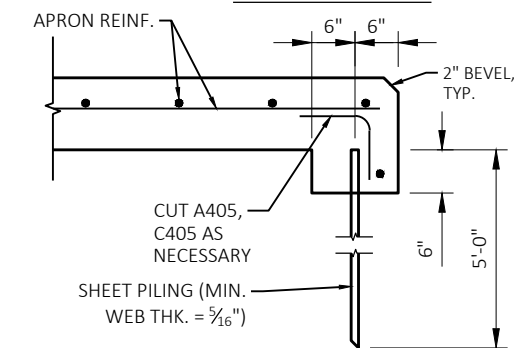
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		AMR	PLANS CK'D AJC
BARREL DETAILS		SHEET 7 OF 12	
		57	



SECTION A-A

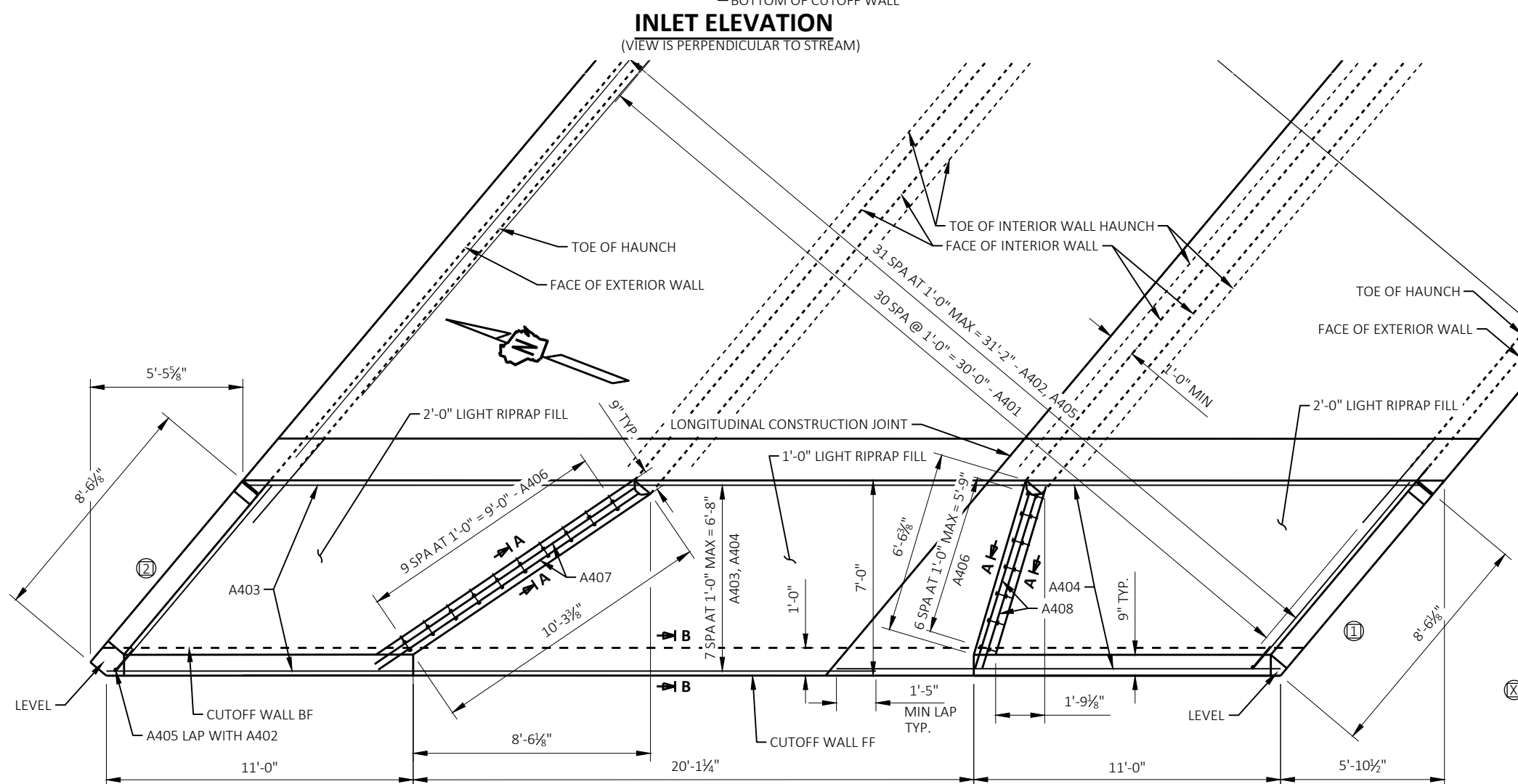


SECTION B-B



ALTERNATE CUT-OFF WALL

THE ABOVE ALTERNATIVE MAY BE USED IN LIEU OF CAST-IN-PLACE CONCRETE CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONCRETE CUT-OFF WALLS.



INLET PLAN

NOTE: WINGWALL REINFORCEMENT NOT SHOWN FOR CLARITY

NOTES:

(X) INDICATES WING NUMBER

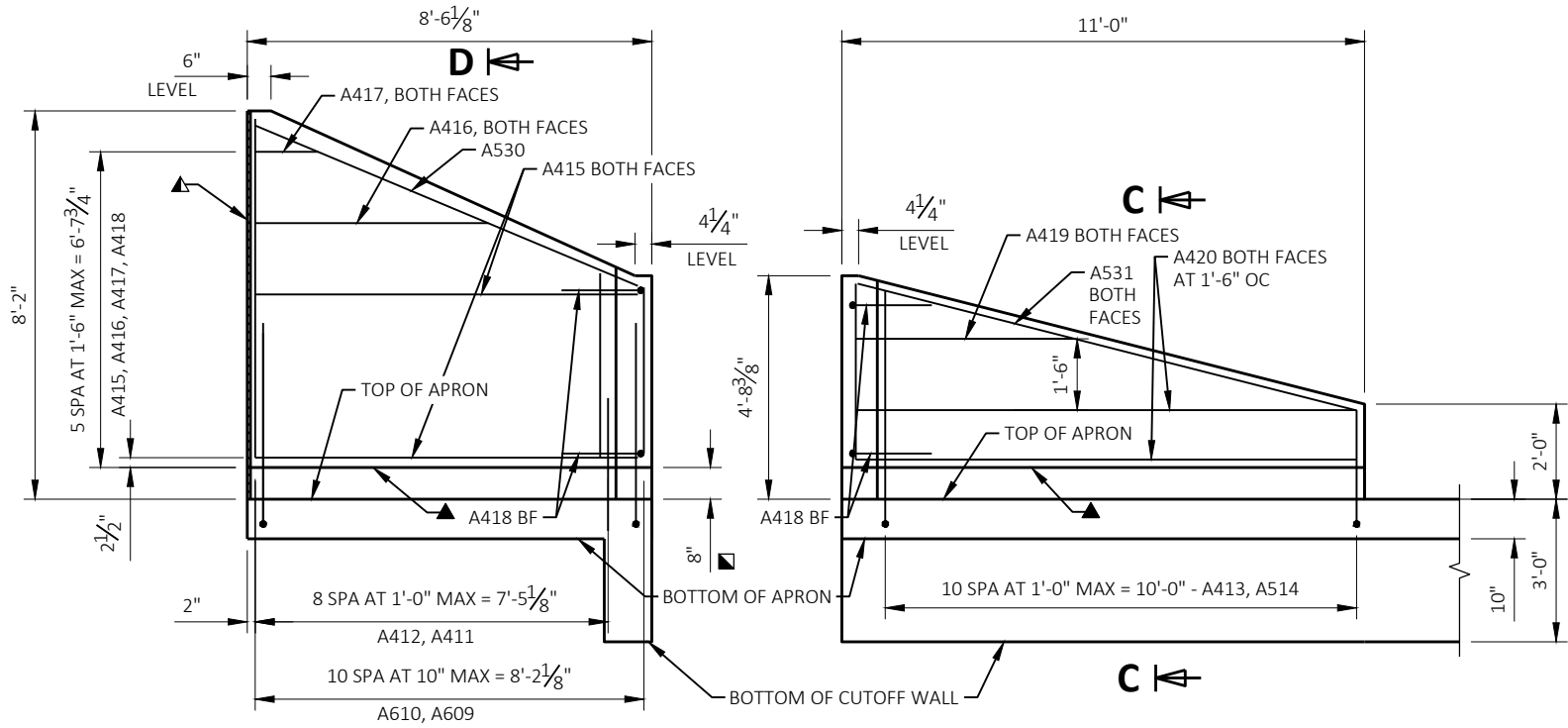
SEE "WEST APRON WING DETAILS" SHEET FOR
WINGWALL DETAILS AND REINFORCEMENT.

SEE "APRON DETAILS" SHEET FOR BILL OF BARS
AND BAR BEND DETAILS.

SEE "EAST APRON DETAILS" FOR TOP OF
WINGWALL CORNER DETAILS.

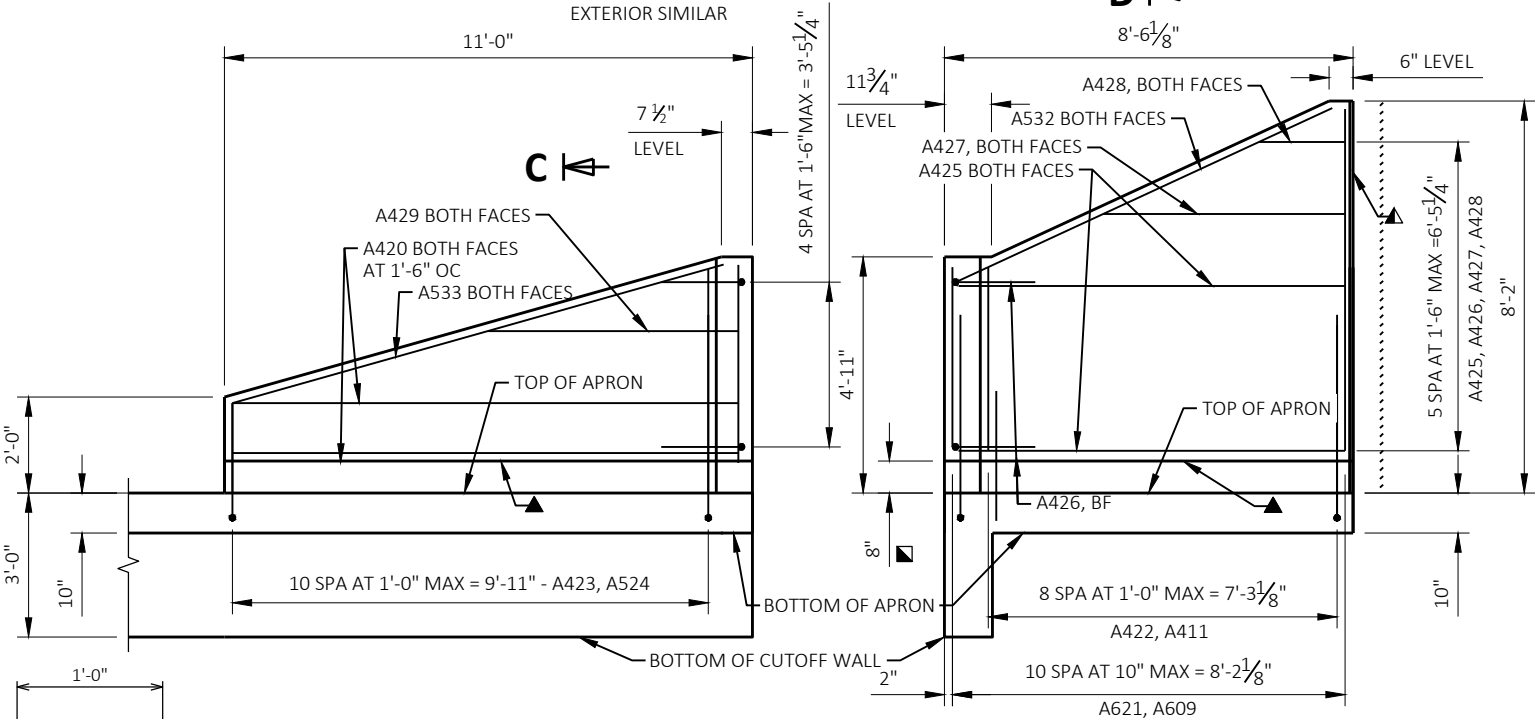
SEE "APRON DETAILS" SHEET FOR STAGING
DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		LWB	PLANS CK'D AJC
WEST APRON DETAILS		SHEET 8 OF 12	
		58	



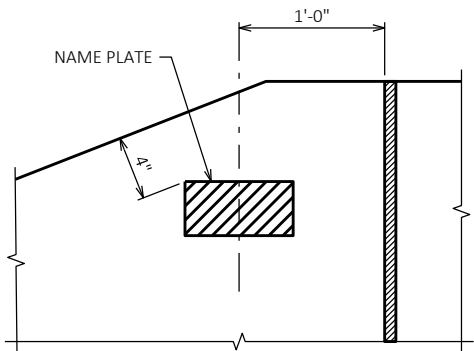
WINGWALL 1

INTERIOR FACE SHOWN,
EXTERIOR SIMILAR



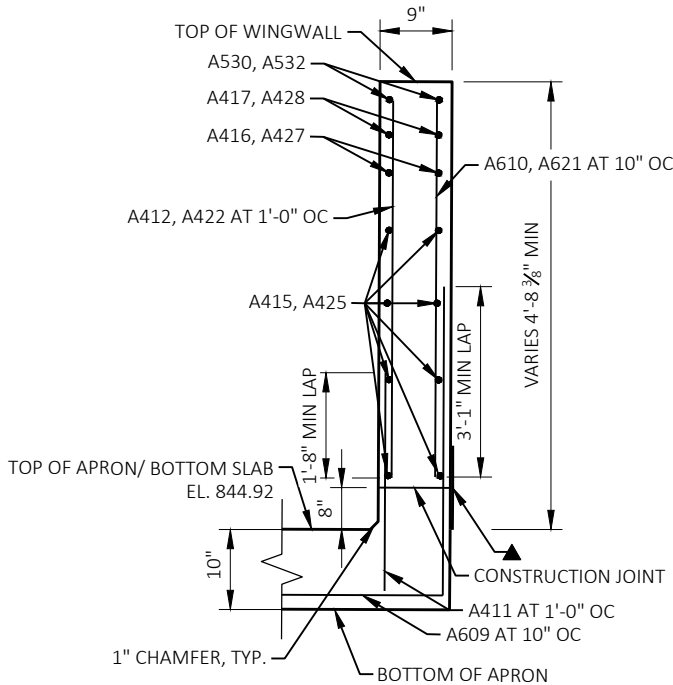
WINGWALL 2

INTERIOR FACE SHOWN,
EXTERIOR SIMILAR



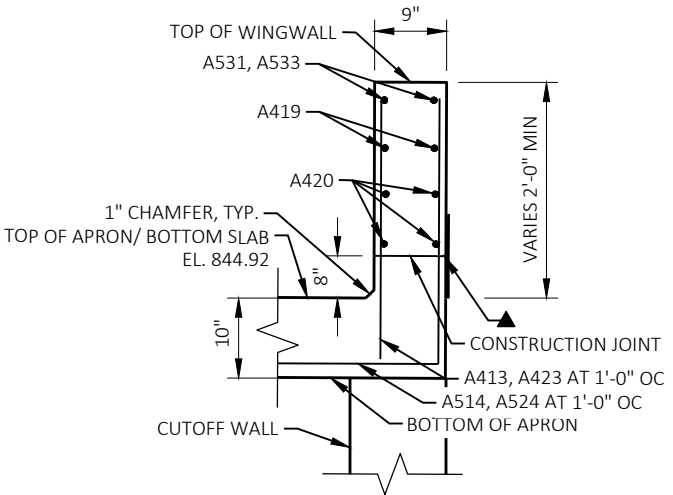
NAME PLATE DETAIL

WING 2



SECTION D-D

LIGHT RIPRAP OMITTED FOR CLARITY



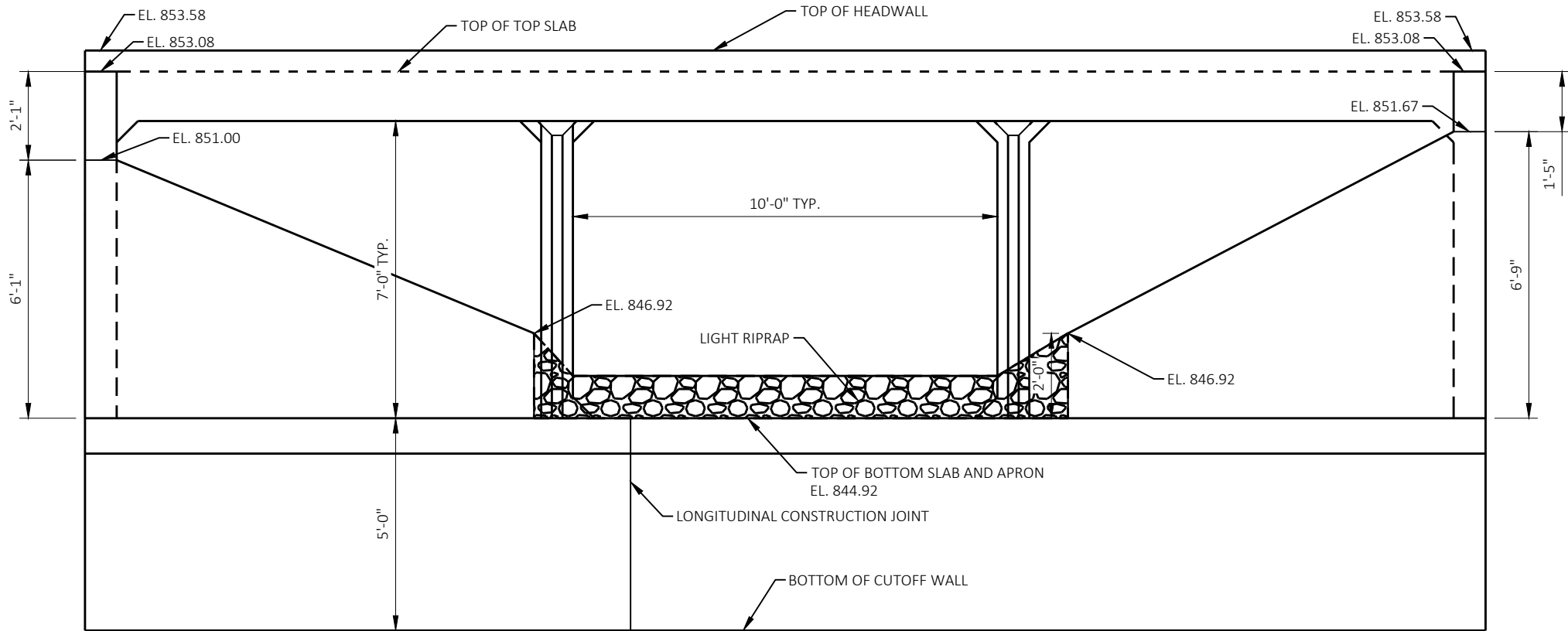
SECTION C-C

LIGHT RIPRAP OMITTED FOR CLARITY

LEGEND

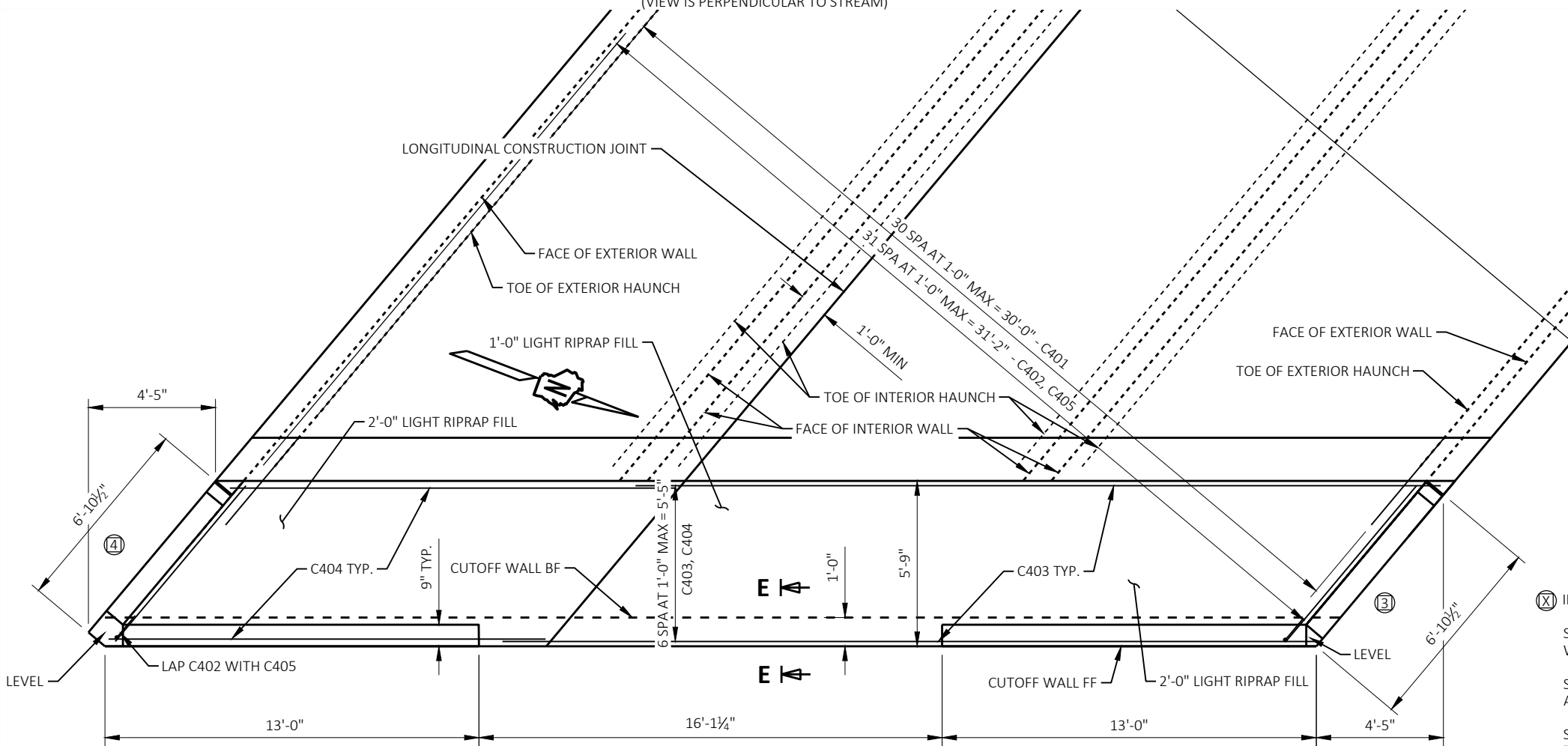
- ▲ 18" MIN WIDTH RUBBERIZED MEMBRANE WATER-PROOFING BACK FACE ONLY. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH (TYP).
- HORIZONTAL CONSTRUCTION JOINT LOCATED 8" ABOVE FLOOR OF APRON.
- ▲ 3/4" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING BACK FACE ONLY EXTEND FILLER FROM HORIZ. CONST. JOINT TO TOP OF WING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		JRM	PLANS CK'D AJC
WEST APRON WING DETAILS		SHEET 9 OF 12 59	

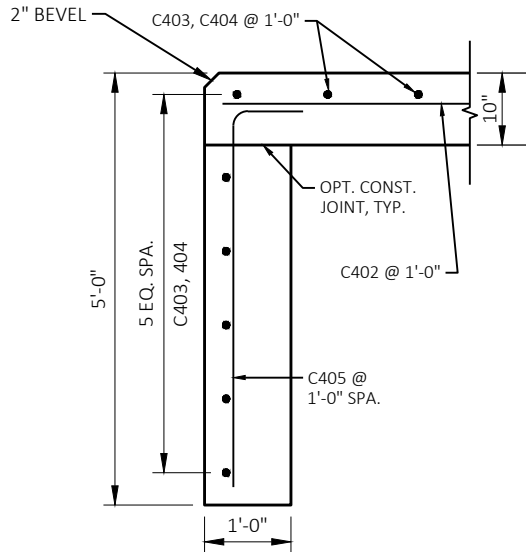


OUTLET ELEVATION

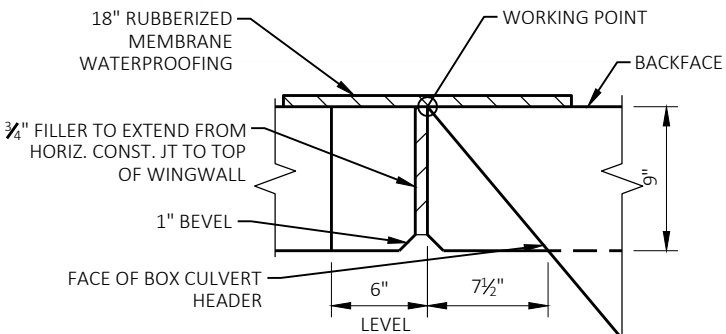
(VIEW IS PERPENDICULAR TO STREAM)



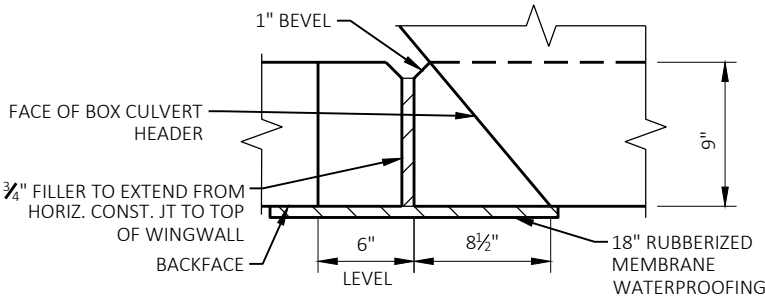
OUTLET PLAN



SECTION E-E



CORNER DETAILS - WINGS 2 & 4



CORNER DETAILS - WINGS 1 & 3

(X) INDICATES WING NUMBER

SEE "EAST APRON WING DETAILS" SHEET FOR WINGWALL DETAILS AND REINFORCEMENT.

SEE "APRON DETAILS" SHEET FOR BILL OF BARS AND BAR BEND DETAILS.

SEE "APRON DETAILS" SHEET FOR STAGING DETAILS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		LWB	PLANS CK'D AJC
EAST APRON DETAILS		SHEET 10 OF 12 60	



LIGHT RIPRAP OMITTED FOR CLARITY



LIGHT RIPRAP OMITTED FOR CLARITY

- ▲ 18" MIN WIDTH RUBBERIZED MEMBRANE WATER-PROOFING BACK FACE ONLY. PLACE ALONG HORIZONTAL CONSTRUCTION JOINT FOR ENTIRE WING LENGTH (TYP).
- HORIZONTAL CONSTRUCTION JOINT LOCATED 8" ABOVE FLOOR OF APRON.
- ▲ ¾" FILLER & 18" RUBBERIZED MEMBRANE WATER-PROOFING BACK FACE ONLY. EXTEND FILLER FROM HORIZ. CONST. JOINT TO TOP OF WING.

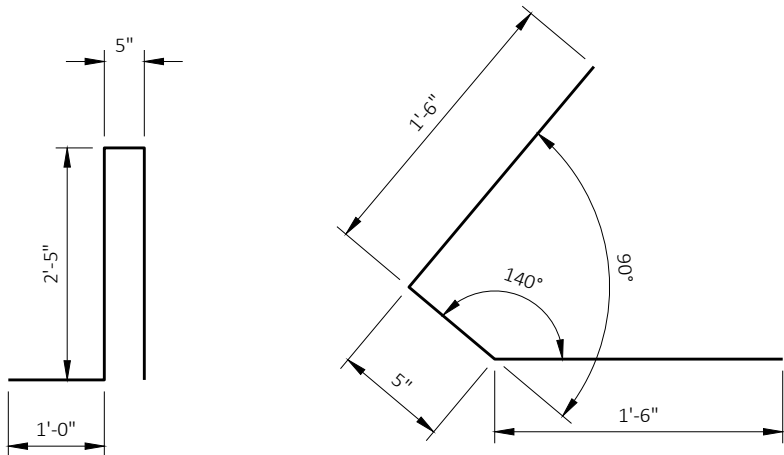
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		JRM	PLANS CK'D AJC
EAST APRON WING DETAILS		SHEET 11 OF 12 61	

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	X	31	4'-0"			INLET CULVERT DOWEL
A402		32	8'-0"			INLET APRON TRANSVERSE
A403		11	27'-7"			INLET APRON LONG. STAGE 1
A404		11	15'-11"			INLET APRON LONG. STAGE 2
A405		32	3'-6"	X		INLET CUTOFF VERTICAL
A406	X	17	6'-0"	X		KNEE WALL VERT.
A407	X	6	11'-3"			KNEEWALL LONG. WING 2
A408	X	6	6'-6"			KNEEWALL LONG. WING 1
A609	X	22	11'-1"	X		INLET WINGWALL DOWEL WING 1&2
A610	X	11	5'-5"		X	INLET WINGWALL VERT. B.F. WING 1
A411	X	18	3'-1"			INLET WINGWALL DOWEL WING 1 & 2
A412	X	9	5'-5"		X	INLET WINGWALL VERT. F.F. WING 1
A413	X	11	3'-9"		X	INLET WINGWALL I.F. DOWEL WING 1
A514	X	11	8'-10"	X	X	INLET WINGWALL B.F. DOWEL WING 1
A415	X	8	8'-0"			INLET WINGWALL HORIZ. WING 1
A416	X	2	4'-11"			INLET WINGWALL HORIZ. WING 1
A417	X	2	1'-4"			INLET WINGWALL HORIZ. WING 1
A418	X	4	2'-11"	X		INLET WINGWALL CONER BAR WING 1
A419	X	2	4'-7"			INLET WINGWALL HORIZ. WING 1
A420	X	8	10'-8"			INLET WINGWALL HORIZ. WING 1 & 2
A621	X	11	5'-7"		X	INLET WINGWALL VERT. B.F. WING 2
A422	X	9	5'-7"		X	INLET WINGWALL I.F. VERTICAL WING 2
A423	X	11	3'-11"		X	INLET WINGWALL VERT. I.F. WING 2
A524	X	11	9'-0"	X	X	INLET WINGWALL VERT. B.F. WING 2
A425	X	8	8'-0"			INLET WINGWALL HORIZ. WING 2
A426	X	4	3'-4"	X		INLET WINGWALL CONER BAR WING 2
A427	X	2	5'-0"			INLET WINGWALL HORIZ. WING 2
A428	X	2	1'-9"			INLET WINGWALL HORIZ. WING 2
A429	X	2	5'-2"			INLET WINGWALL HORIZ. WING 2
A530	X	2	8'-9"			INLET WINGWALL HORIZ. WING 1 TOP
A531	X	2	10'-10"			INLET WINGWALL HORIZ. WING 1 TOP
A532	X	2	8'-7"			INLET WINGWALL HORIZ. WING 2 TOP
A533	X	2	10'-8"			INLET WINGWALL HORIZ. WING 2 TOP

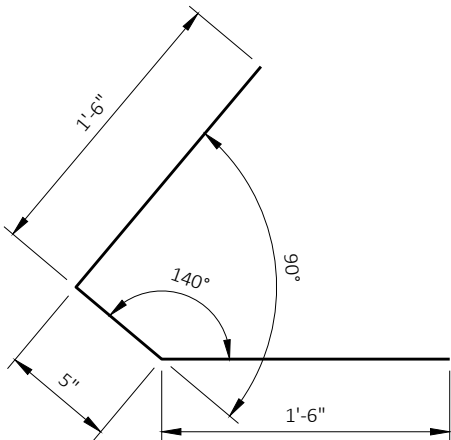
BAR MARK	NO. REQ'D.	LENGTHS FOR EACH SERIES
A610	1 SERIES OF 11	3'-8" TO 7'-2"
A412	1 SERIES OF 9	3'-8" TO 7'-2"
A413	1 SERIES OF 11	2'-5" TO 5'-0"
A514	1 SERIES OF 11	7'-6" TO 10'-1"
A621	1 SERIES OF 11	3'-11" TO 7'-2"
A422	1 SERIES OF 9	3'-11" TO 7'-2"
A423	1 SERIES OF 11	2'-5" TO 5'-4"
A524	1 SERIES OF 11	7'-6" TO 10'-5"

BAR MARK	NO. REQ'D.	LENGTHS FOR EACH SERIES
C607	1 SERIES OF 9	5'-1" TO 7'-2"
C409	1 SERIES OF 7	5'-1" TO 7'-2"
C510	1 SERIES OF 13	7'-7" TO 11'-5"
C411	1 SERIES OF 13	2'-5" TO 6'-4"
C619	1 SERIES OF 8	5'-9" TO 7'-2"
C420	1 SERIES OF 7	5'-9" TO 7'-2"
C421	1 SERIES OF 13	2'-5" TO 6'-10"
C522	1 SERIES OF 13	7'-6" TO 12'-3"

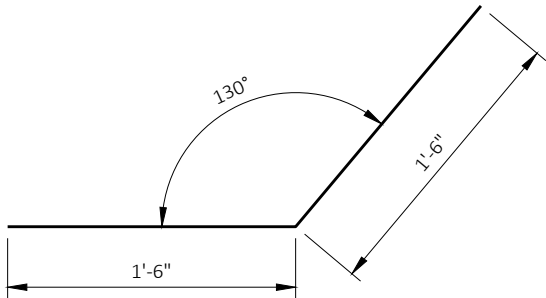
BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
C401	X	31	4'-0"			OUTLET CULVERT DOWEL
C402		32	6'-6"			OUTLET APRON TRANSVERSE
C403		12	27'-7"			OUTLET APRON LONG. STAGE 1
C404		12	15'-11"			OUTLET APRON LONG. STAGE 2
C405		32	5'-6"	X		OUTLET CUTOFF VERTICAL
C606	X	18	11'-1"	X		OUTLET WINGWALL DOWEL WING 3&4
C607	X	9	6'-2"			OUTLET WINGWALL VERT. B.F. WING 4
C408	X	14	3'-1"			OUTLET WINGWALL DOWEL WING 3 & 4
C409	X	7	6'-2"		X	OUTLET WINGWALL VERT. I.F.
C510	X	13	9'-6"	X	X	OUTLET WINGWALL E.F. DOWEL WING 4
C411	X	13	4'-5"		X	OUTLET WINGWALL F.F. DOWEL WING 4
C412	X	2	3'-9"			OUTLET WINGWALL HORIZ. WING 4
C413	X	8	6'-6"			OUTLET WINGWALL HORIZ. WING 4
C414	X	2	12'-8"			OUTLET WINGWALL HORIZ. WING 4
C415	X	2	11'-9"			OUTLET WINGWALL HORIZ. WING 4
C416	X	2	7'-3"			OUTLET WINGWALL HORIZ. WING 4
C417	X	2	2'-9"			OUTLET WINGWALL HORIZ. WING 4
C418	X	4	2'-11"	X		OUTLET WINGWALL CONER BAR WING 4
C619	X	8	6'-6"		X	OUTLET WINGWALL VERT. B.F. WING 3
C420	X	7	6'-6"		X	OUTLET WINGWALL I.F. VERTICAL WING 3
C421	X	13	4'-8"		X	OUTLET WINGWALL VERT. I.F. WING 3
C522	X	13	9'-11"	X	X	OUTLET WINGWALL VERT. B.F. WING 3
C423	X	10	6'-6"			OUTLET WINGWALL HORIZ. WING 3
C524	X	2	6'-9"			OUTLET WINGWALL HORIZ. WING 3 TOP
C425	X	2	12'-7"			OUTLET WINGWALL HORIZ. WING 3
C426	X	2	11'-11"			OUTLET WINGWALL HORIZ. WING 3
C427	X	2	7'-11"			OUTLET WINGWALL HORIZ. WING 3
C428	X	2	3'-10"			OUTLET WINGWALL HORIZ. WING 3
C429	X	2	13'-6"			OUTLET WINGWALL HORIZ. WING 3 TOP
C530	X	2	13'-0"			OUTLET WINGWALL HORIZ. WING 4 TOP
C531	X	2	6'-9"			OUTLET WINGWALL HORIZ. WING 4 TOP
C432	X	4	3'-3"	X		OUTLET WINGWALL CONER BAR WING 3



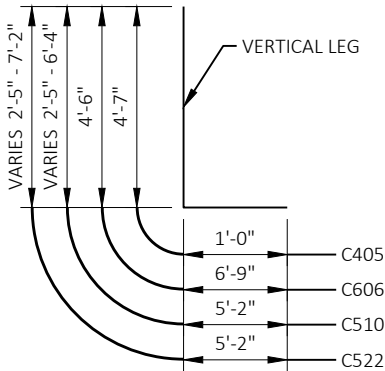
A406



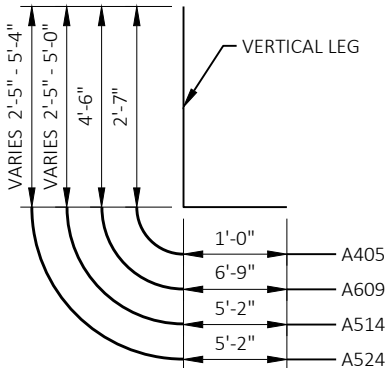
A426, C432



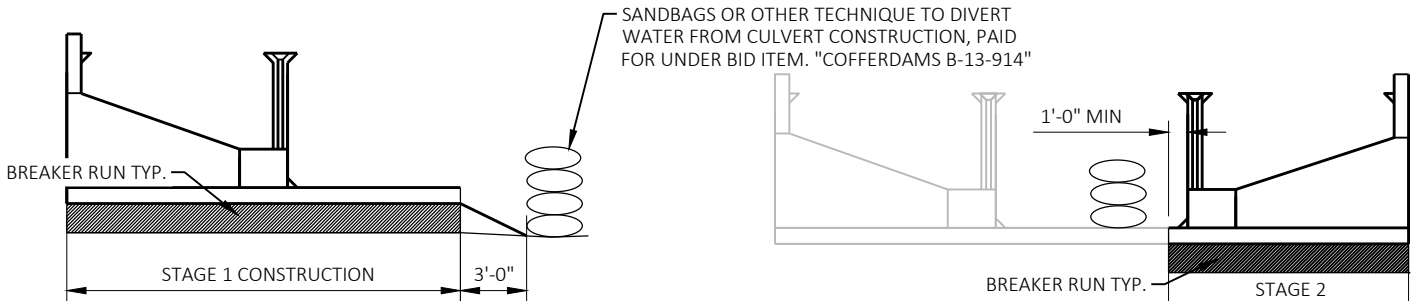
A418, C418



C405, C606, C510, C522



A405, A609, A514, A524

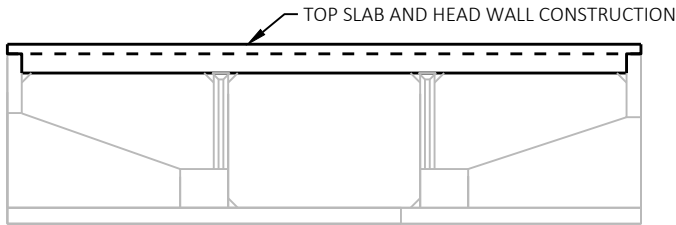


STAGE 1 CONSTRUCTION

CONSTRUCT BOTTOM SLAB AS DIMENSIONED ABOVE AND THE TWO WALLS ADJACENT TO CELL 1. SAND BAGS USED TO DIVERT WATER AROUND WORK AREA TO THE SOUTH.

STAGE 2 CONSTRUCTION

CONSTRUCT THE REMAINING BOTTOM SLAB AS DIMENSIONED ABOVE AND THE TWO WALLS ADJACENT TO CELL 3. WATER TO FLOW THROUGH CELLS 1 AND 2, UTILIZE SANDBAGS TO PROTECT THE WORK AREA.



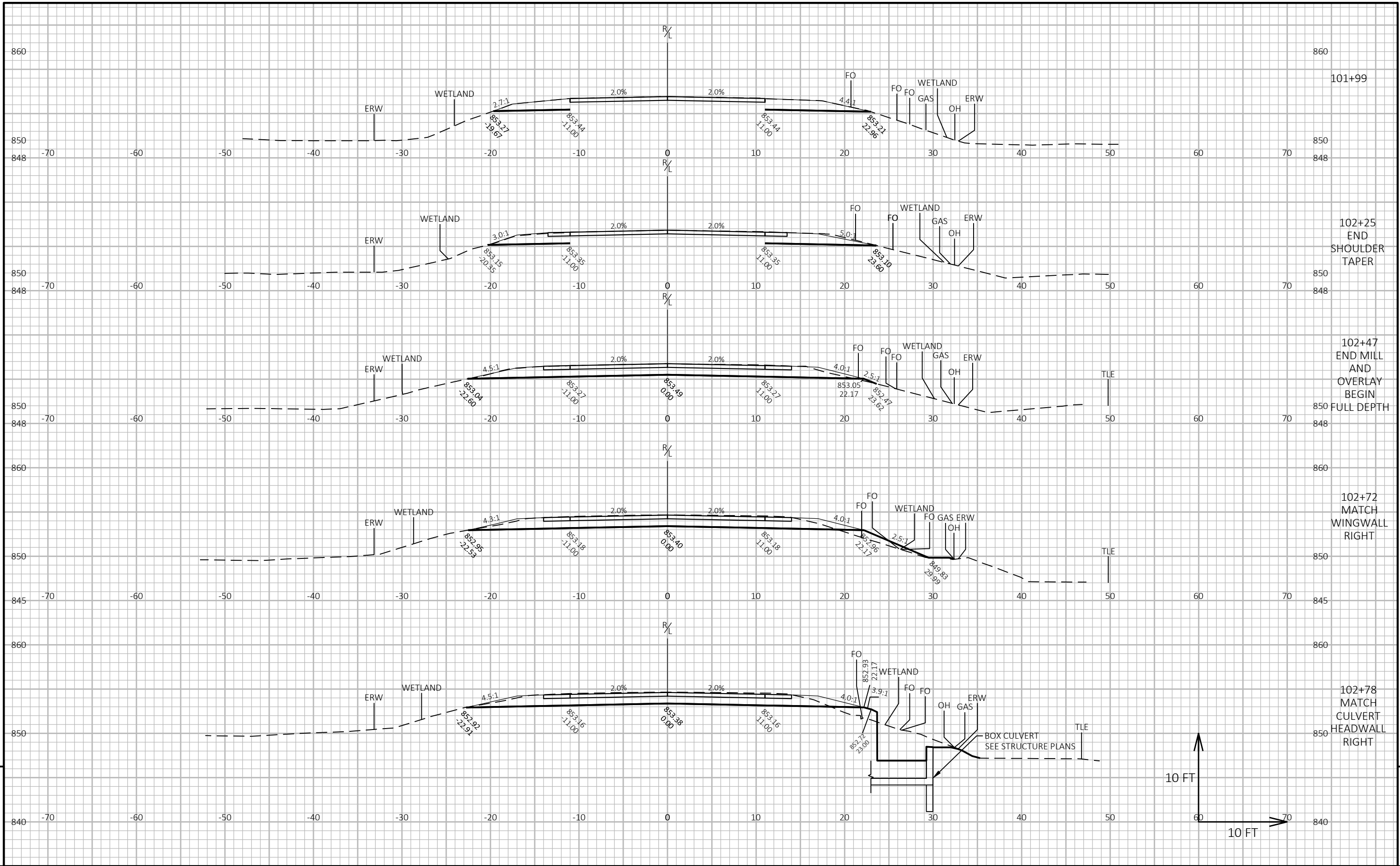
STAGE 3 CONSTRUCTION

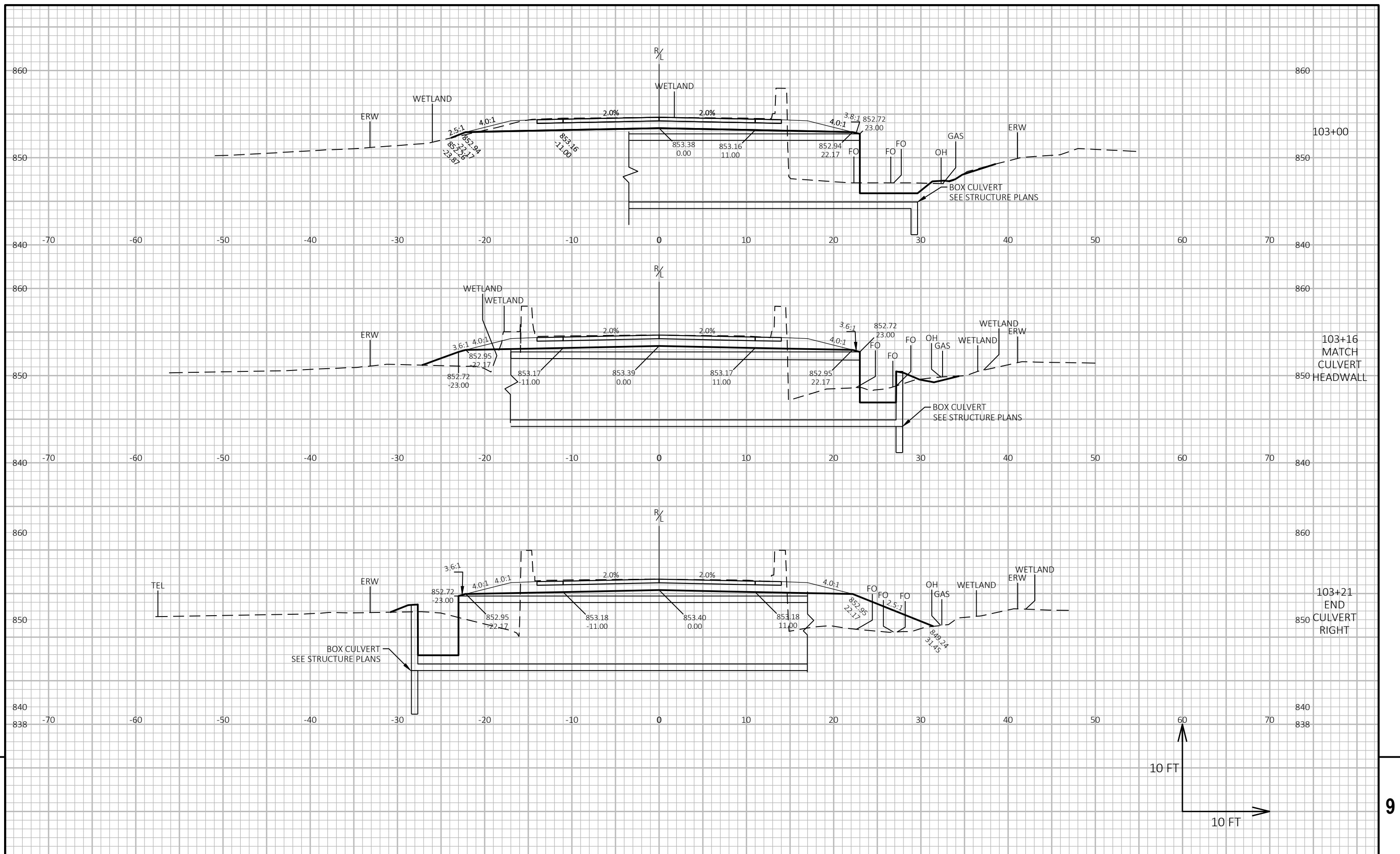
CONSTRUCT TOP SLAB SLAB IN ONE CONTINUOUS POUR. WATER FLOW THROUGH ALL CELLS

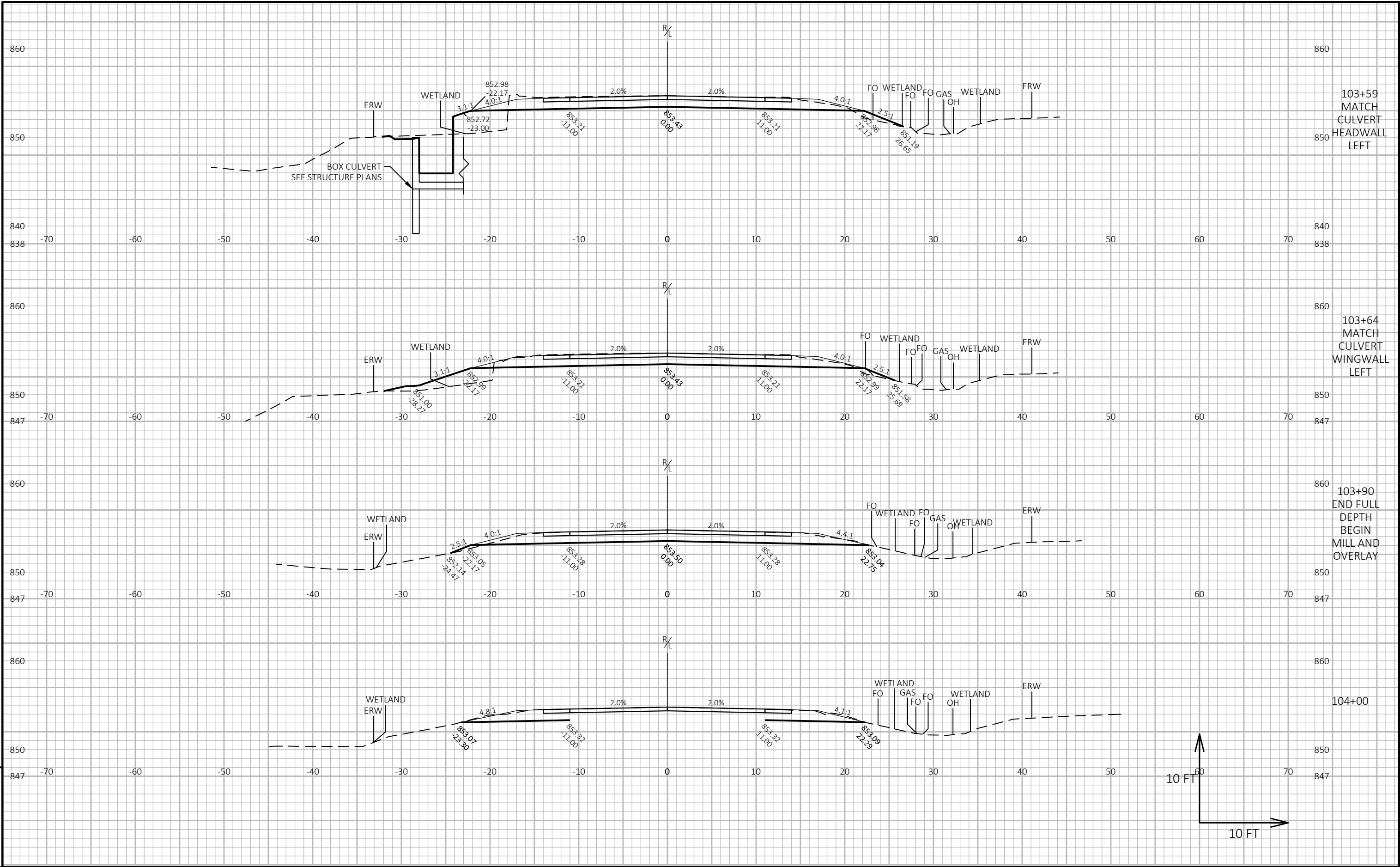
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-914			
DRAWN BY		JRM	PLANS CK'D AJC
APRON DETAILS		SHEET 12 OF 12 62	

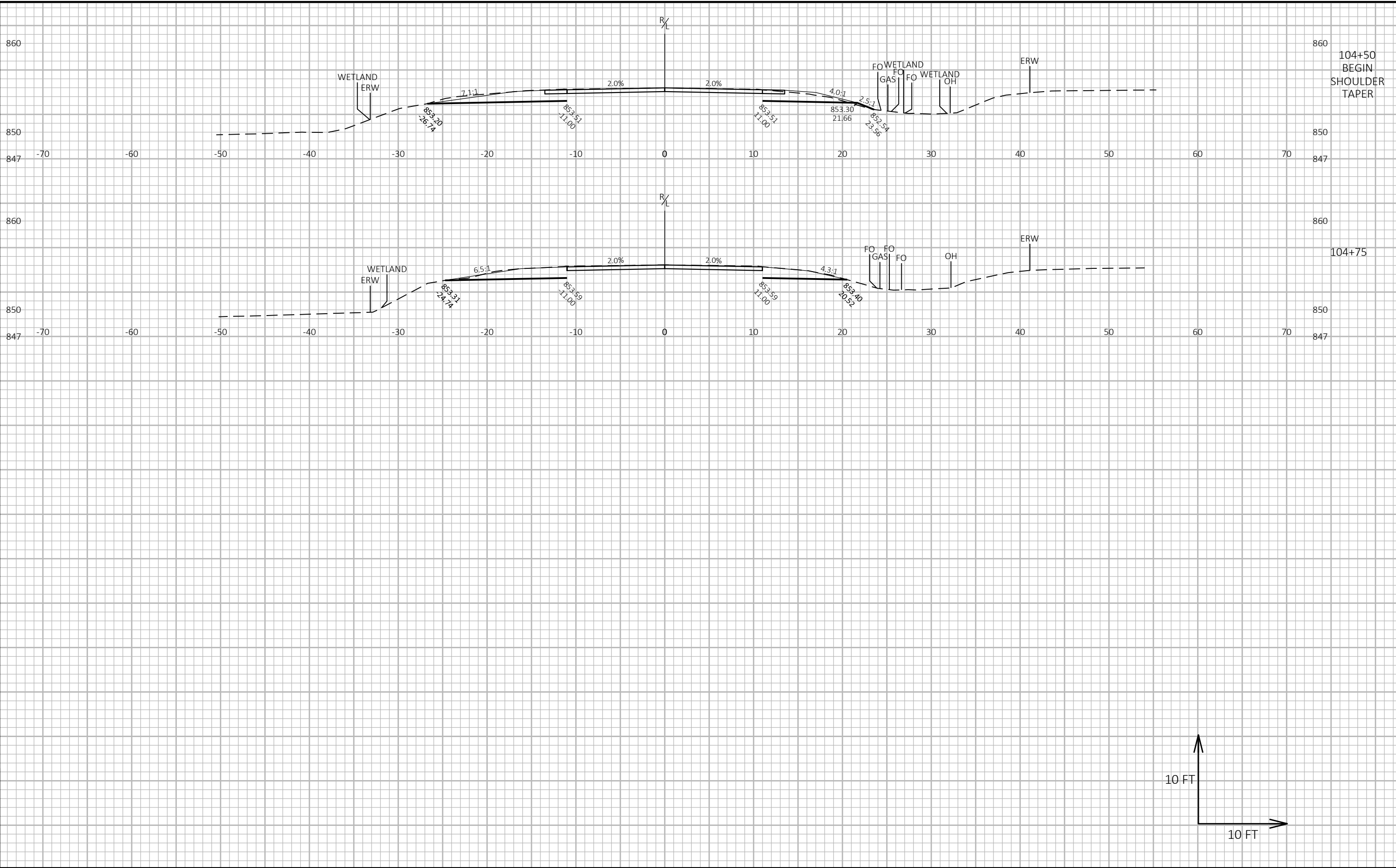
EARTHWORK SUMMARY - PROJECT 3672-0072								
STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
		CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
						1.00	1.25	
						NOTE 1		NOTE 8
101+99.343	0.00	18.18	0.00	0	0	0	0	0
102+25	25.66	20.57	0.00	18	0	18	0	18
102+45	21.83	47.41	0.30	27	0	45	0	45
102+72.31	25.48	46.44	4.98	44	2	89	3	87
102+78.211	5.90	68.37	4.29	13	1	102	4	98
103+00	21.79	18.85	0.45	35	2	137	6	131
103+16.39	16.39	0.00	12.04	6	4	143	11	132
103+21.289	4.90	0.00	40.85	0	5	143	18	126
103+59.469	38.18	33.07	2.34	23	31	166	56	110
103+63.889	4.42	47.21	13.41	7	1	173	58	116
103+90.437	26.55	46.44	0.76	46	7	219	66	153
104+00	9.56	21.82	0.00	12	0	231	66	165
104+50	50.00	22.98	0.38	41	0	272	66	206
104+75	25.00	19.17	0.00	20	0	292	66	226

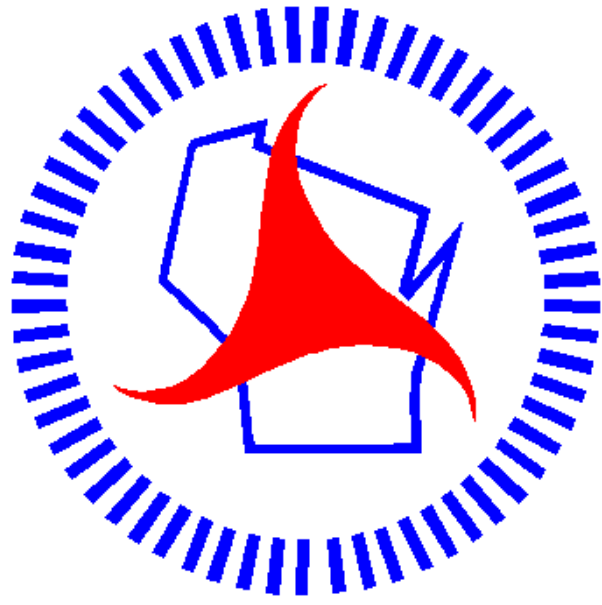
Notes:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	CUT - [(FILL) * (FILL FACTOR)]











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