

MAD

MARCH 2023

PROJECT ID:

5856-00-72

COUNTY:

DANE

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details (Includes Erosion Control)
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

A.A.D.T.	2023	=	304
A.A.D.T.	2043	=	371
D.H.V.		=	51
D.D.		=	62/38
T.		=	3.20%
DESIGN SPEED		=	25 MPH
ESALS		=	15,000

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

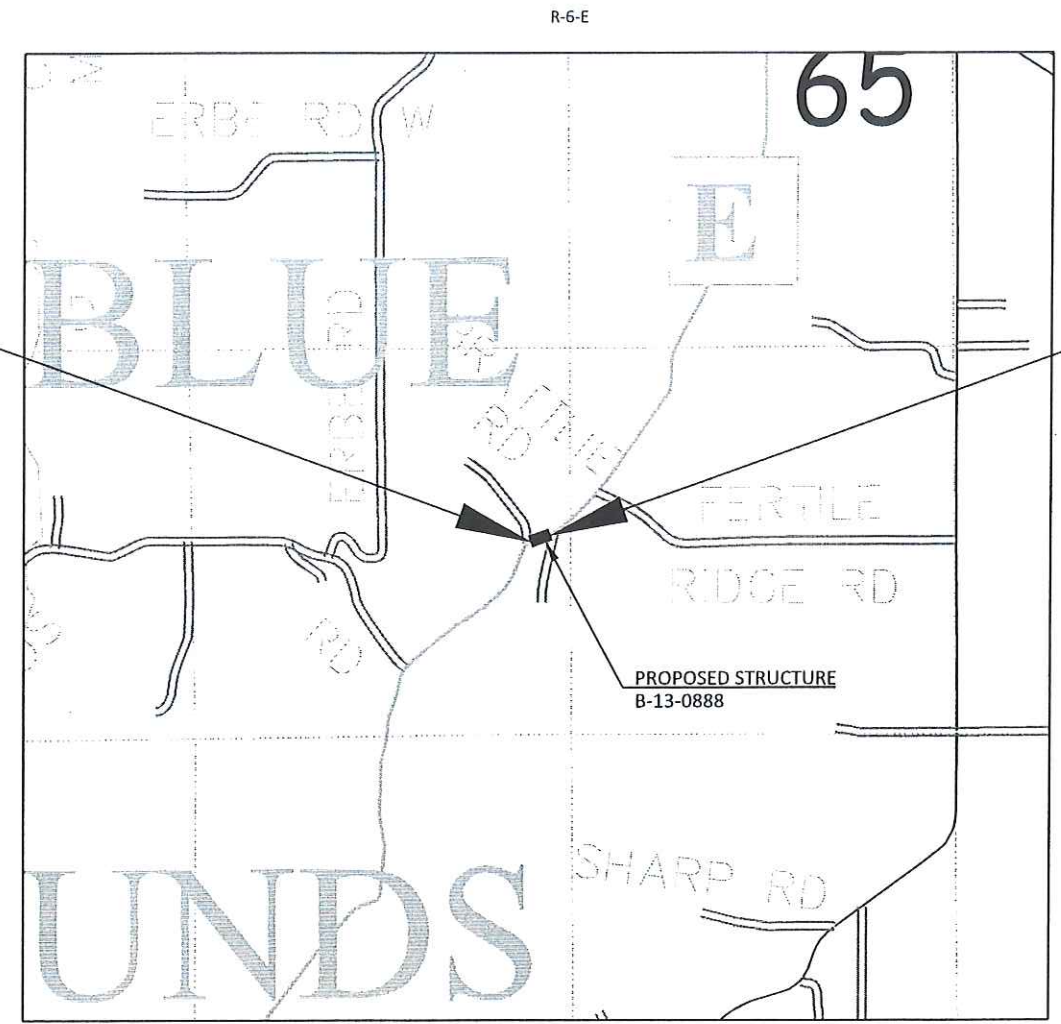
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH Z-STH 78 GERMAN VALLEY CREEK BRIDGE, B-13-0888

CTH E DANE COUNTY

STATE PROJECT NUMBER
5856-00-72



BEGIN PROJECT
STA 12+75.00
Y: 448891.02
X: 714773.84

END PROJECT
STA 14+00.00

LAYOUT
SCALE 0 0.5 MI
TOTAL NET LENGTH OF CENTERLINE = 0.024 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
5856-00-72	WISC 2023273	1

ACCEPTED FOR
DANE COUNTY
Date 10/13/22
Aust Wouda, P.E.
Highway Commissioner
(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY:
STRAND ASSOCIATES

WISCONSIN
ELISA C BECKER
E-44991
MADISON WI
PROFESSIONAL ENGINEER
Elisa Becker
10/4/2022

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor STRAND ASSOCIATES, INC.
Designer STRAND ASSOCIATES, INC.
Regional Examiner LORRAINE BETZEL
Regional Supervisor KYLE HEMP

APPROVED FOR THE DEPARTMENT
DATE: 10/13/22
Lorraine Betzel
(Signature)

E

GENERAL NOTES:

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

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.

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE CONTRACTOR'S EROSION CONTROL IMPLEMENTATION PLAN (ECIP) AND APPROVED BY THE ENGINEER IN CONSULTATION WITH THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

WETLANDS EXIST IN THE PROJECT AREA. DO NOT DISTURB AREAS OUTSIDE THE SLOPE INTERCEPTS.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND MULCHED.

SILT FENCE SHALL BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION.

GRADES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

EXISTING SIGNS SHALL REMAIN IN PLACE UNLESS MOVED AS PART OF THE PLAN OR THE ENGINEER APPROVES THE REMOVAL.

SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

UTILITIES

****** MOUNT HOREB TELEPHONE COMPANY - COMMUNICATION

KEVIN MAYNE
200 E MAIN ST. P.O. BOX 65
MOUNT HOREB, WI 53572
608-437-5551
kevin.mayne@mhtcinc.com

****** MOUNT HOREB UTILITIES - ELECTRIC

JORDAN SCHMITZ
301 E MAIN STREET
MOUNT HOREB, WI 53572
608-574-6317
jordan.schmitz@mounthorebwi.info

****** DENOTES DIGGERS HOTLINE MEMBER

ASPHALT BID/MIX SPECIFICATIONS

	THICKNESS	BID/MIX SPECIFICATIONS
UPPER LAYER	1.75-INCH	4 LT 58-28 S
LOWER LAYER	2.25-INCH	3 LT 58-28 S

OTHER CONTACTS

DANE COUNTY

PAMELA DUNPHY
DANE COUNTY
2302 FISH HATCHERY ROAD
MADISON, WI 53713
PH: (608) 266-4036
dunphy@countyofdane.com

DESIGN CONSULTANT

ELISA BECKER
STRAND ASSOCIATES, INC.
910 WEST WINGRA DR.
MADISON, WI 53715
(608) 251-4843
ELISA.BECKER@STRAND.COM

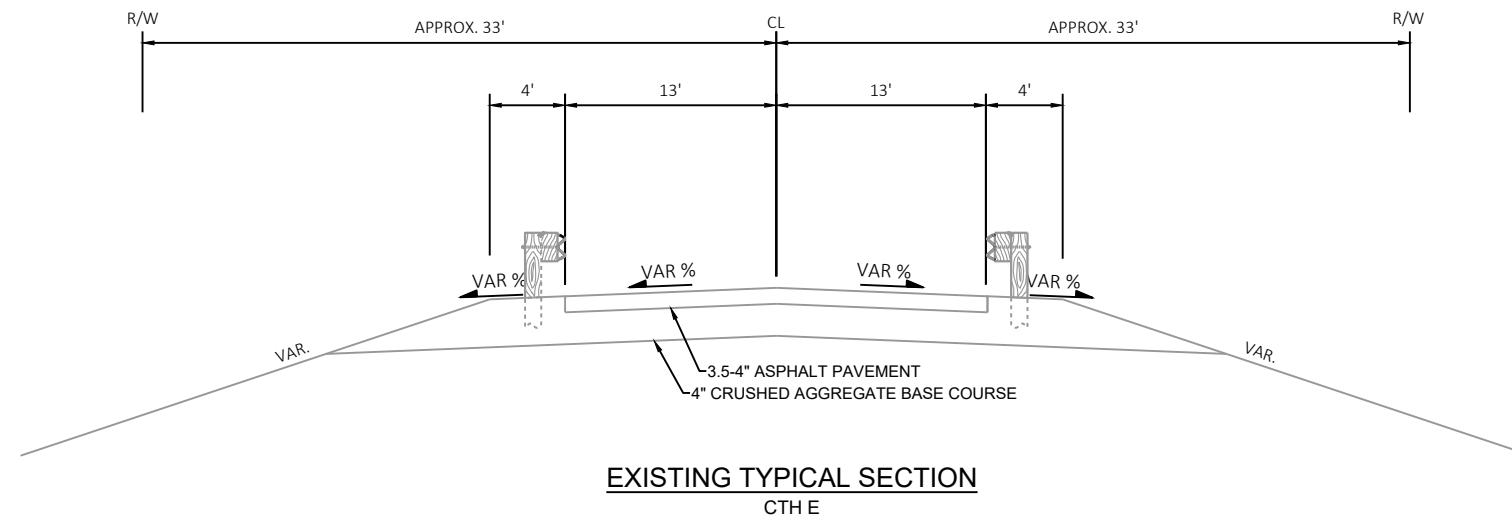
DNR LIAISON

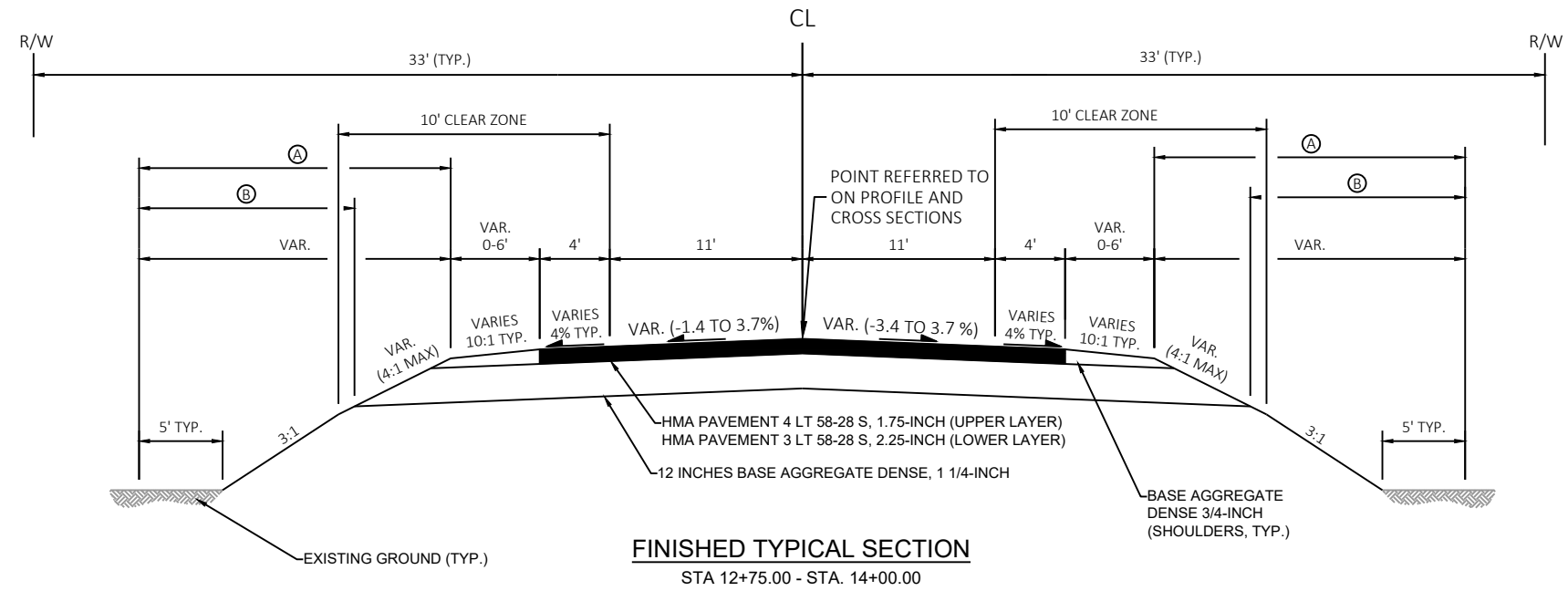
ERIC HEGGELUND
DNR SOUTH CENTRAL REGION
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
PH: (608) 275-3301
eric.heggelund@wisconsin.gov

WISDOT CONTACT

LORRAINE BETZEL
WISDOT SOUTHWEST REGION
2101 WRIGHT STREET
MADISON, WI 53704
(608) 246-3279
lorraine.betzel@dot.wi.gov



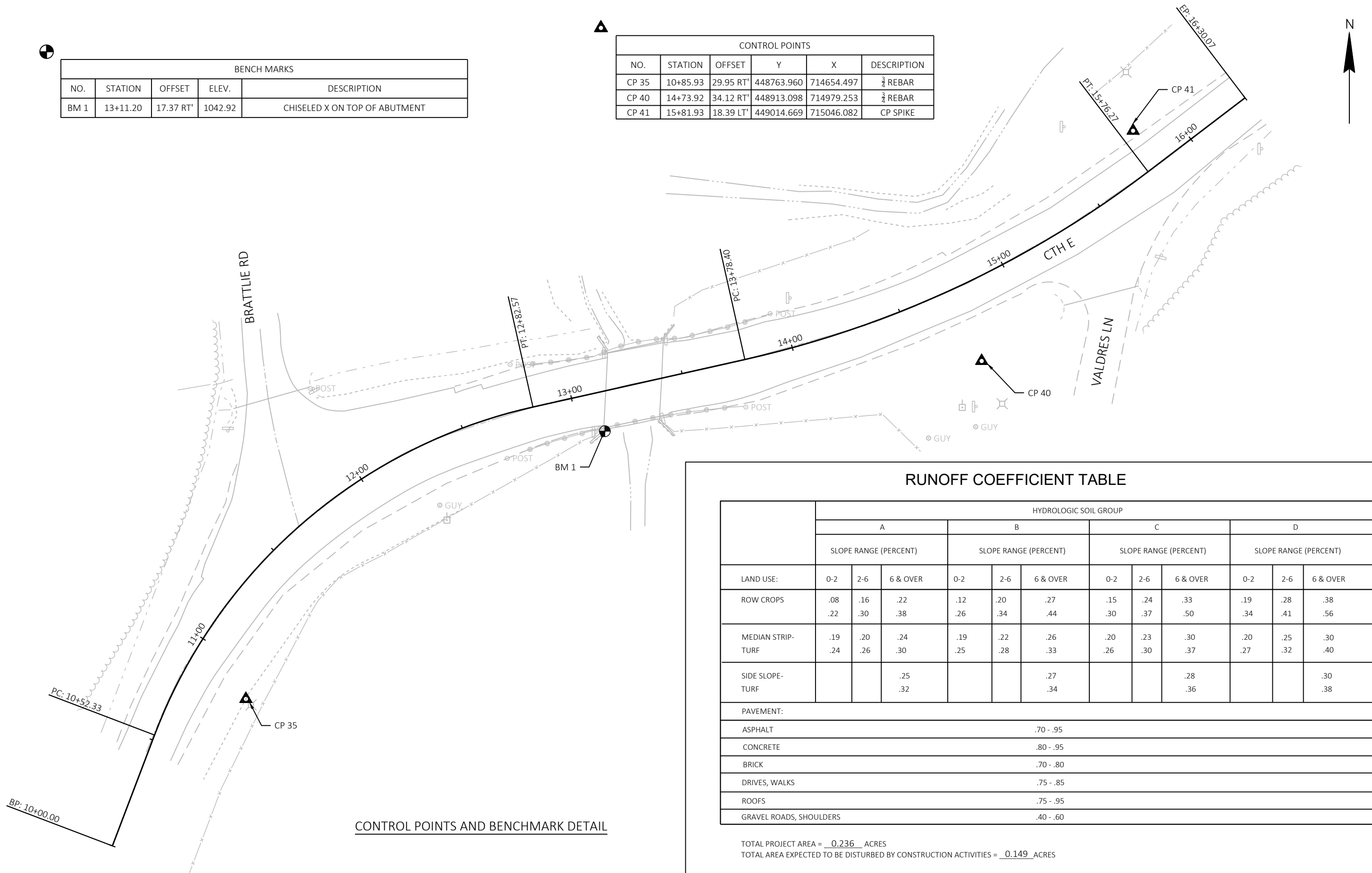




- Ⓐ SEEDING MIXTURE NO. 20 OR SEEDING MIXTURE NO. 60
- Ⓑ SALVAGED TOPSOIL AND MULCHING

BENCH MARKS				
NO.	STATION	OFFSET	ELEV.	DESCRIPTION
BM 1	13+11.20	17.37 RT'	1042.92	CHISELED X ON TOP OF ABUTMENT

CONTROL POINTS					
NO.	STATION	OFFSET	Y	X	DESCRIPTION
CP 35	10+85.93	29.95 RT'	448763.960	714654.497	3/4 REBAR
CP 40	14+73.92	34.12 RT'	448913.098	714979.253	3/4 REBAR
CP 41	15+81.93	18.39 LT'	449014.669	715046.082	CP SPIKE

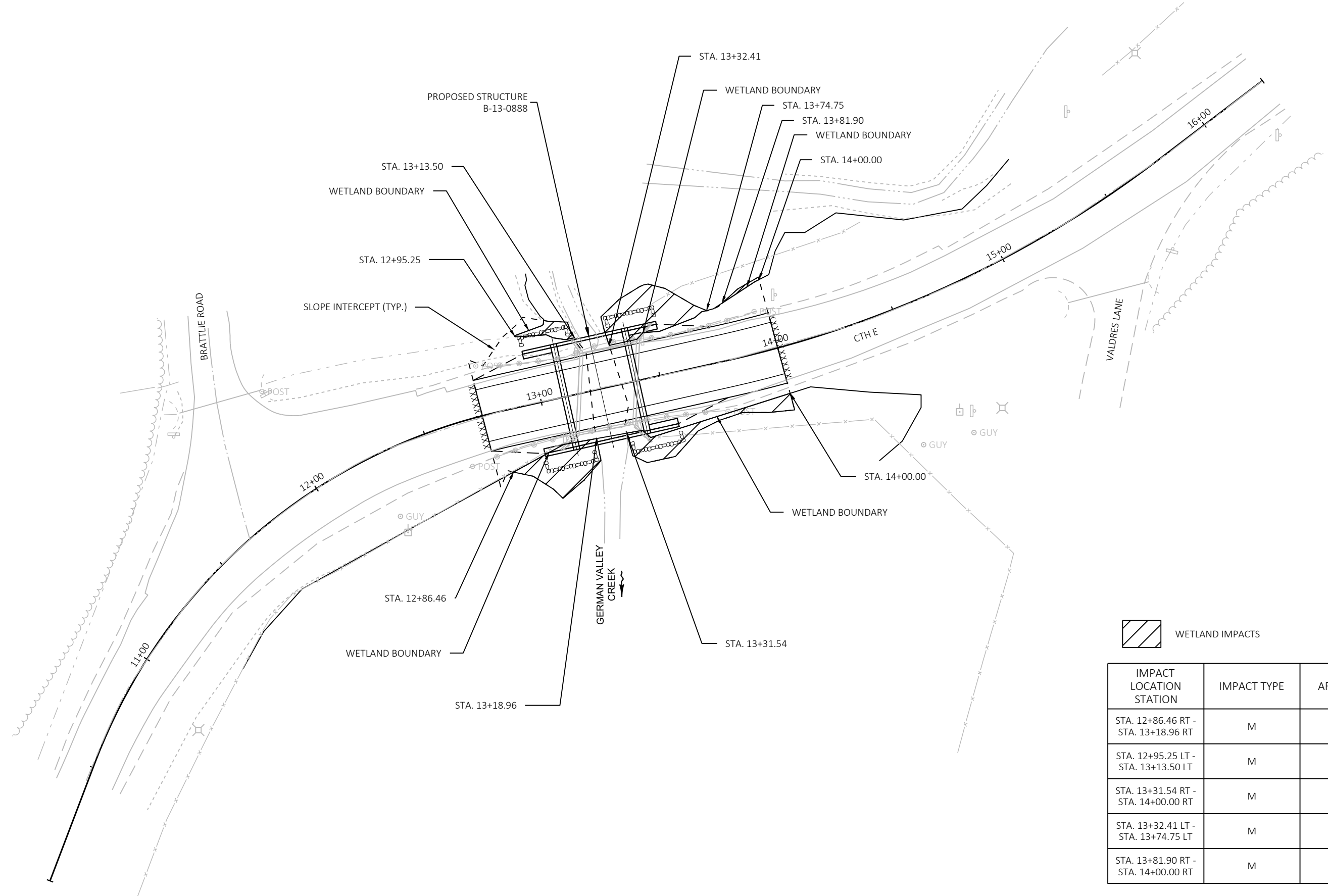


CONTROL POINTS AND BENCHMARK DETAIL

RUNOFF COEFFICIENT TABLE

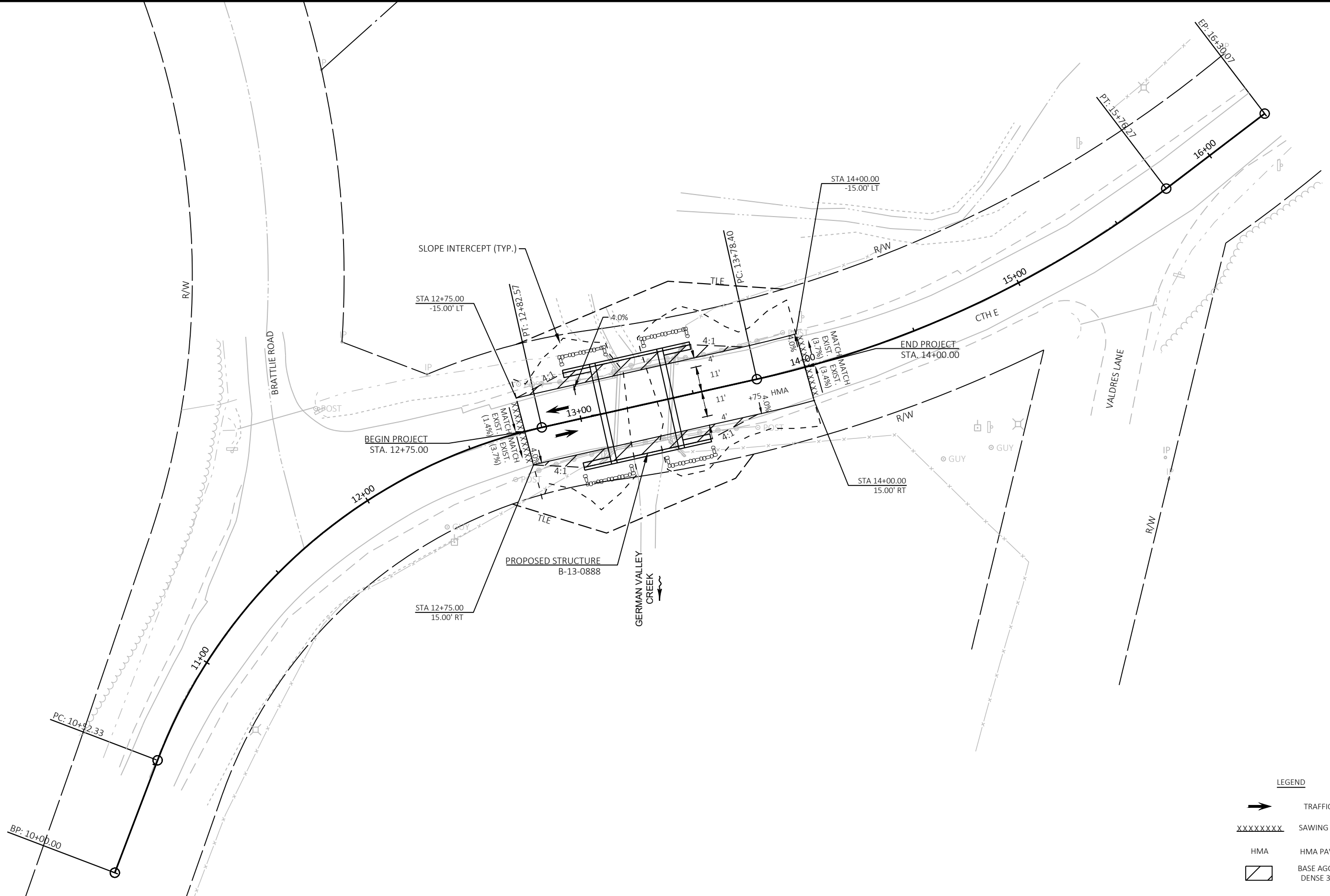
	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08	.16	.22	.12	.20	.27	.15	.24	.33	.19	.28	.38
	.22	.30	.38	.26	.34	.44	.30	.37	.50	.34	.41	.56
MEDIAN STRIP-TURF	.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 SLOPE-TURF			.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											

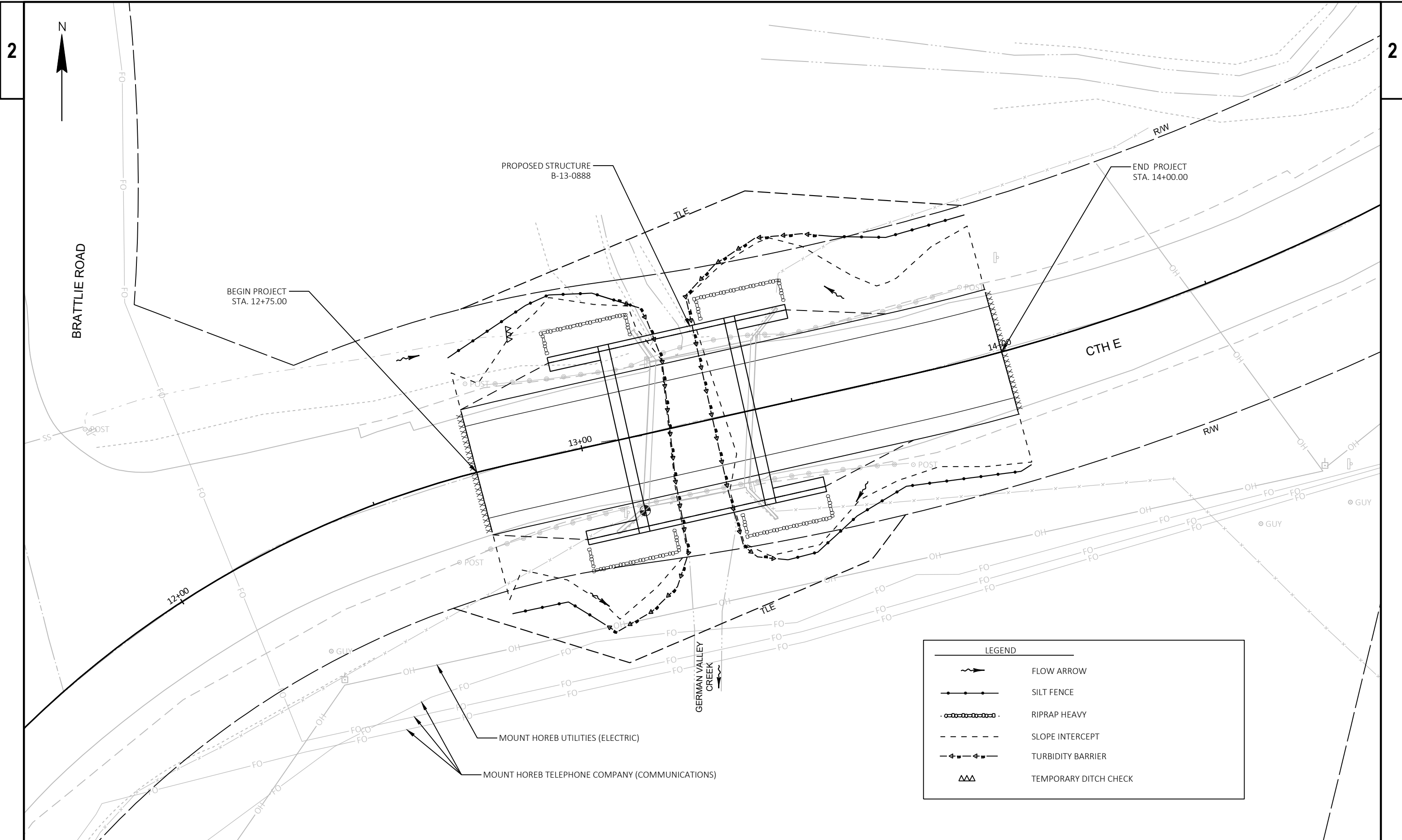
TOTAL PROJECT AREA = 0.236 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.149 ACRES

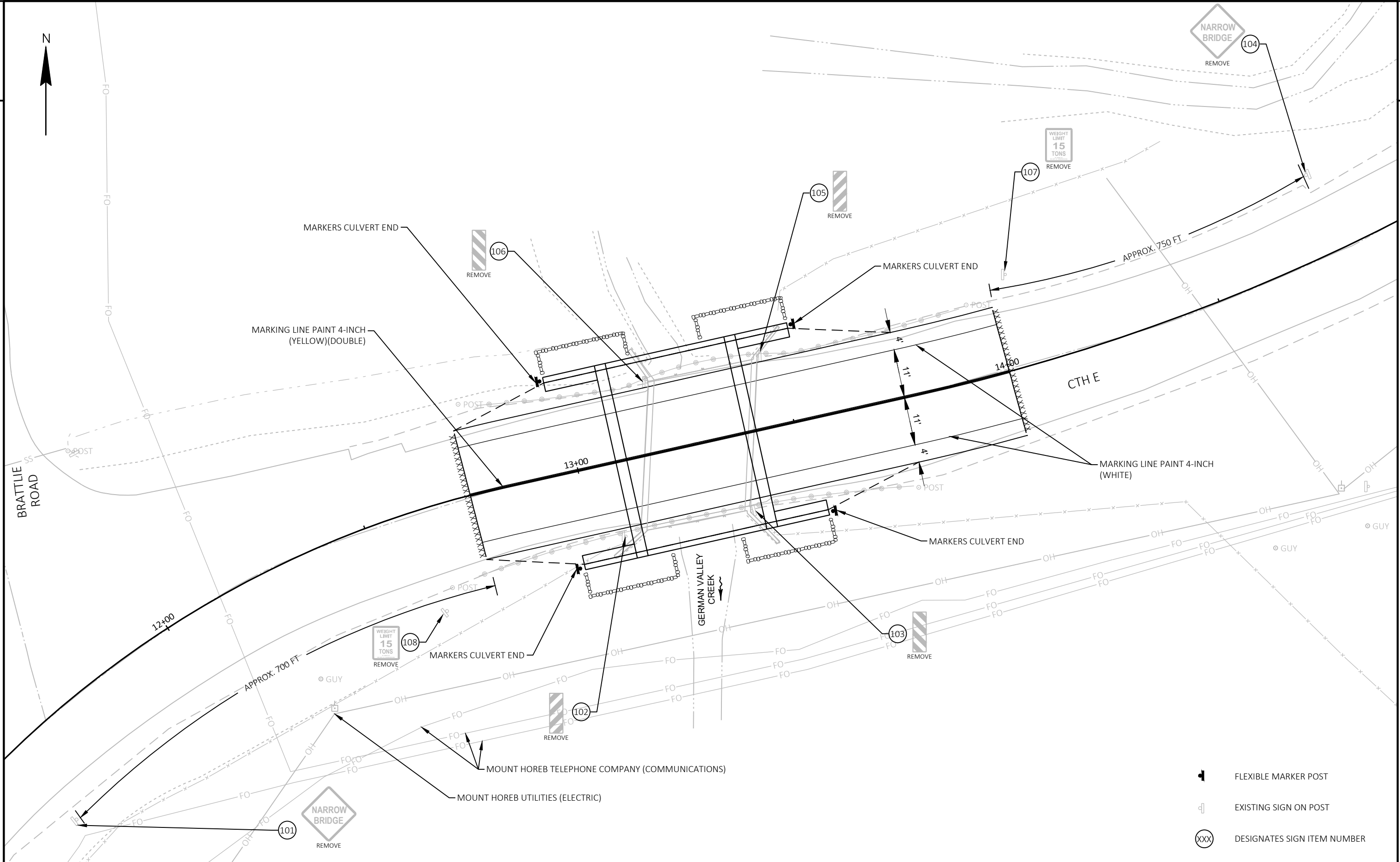





 WETLAND IMPACTS

IMPACT LOCATION STATION	IMPACT TYPE	AREA ACRES
STA. 12+86.46 RT - STA. 13+18.96 RT	M	0.010
STA. 12+95.25 LT - STA. 13+13.50 LT	M	0.002
STA. 13+31.54 RT - STA. 14+00.00 RT	M	0.009
STA. 13+32.41 LT - STA. 13+74.75 LT	M	0.014
STA. 13+81.90 RT - STA. 14+00.00 RT	M	0.001







-  FLEXIBLE MARKER POST
-  EXISTING SIGN ON POST
-  DESIGNATES SIGN ITEM NUMBER

PROJECT NO: 5856-00-72	HWY: CTH E	COUNTY: DANE	PAVEMENT MARKING AND SIGNING	SHEET	E
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GENERAL NOTES

DETOUR ROUTE MARKER SIGNING TO BE INSTALLED AND MAINTAINED BY CONTRACTOR.

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

REMOVE OR COVER ANY SIGN, TEMPORARY OR EXISTING, WHICH CONFLICTS WITH TRAFFIC CONTROL "IN USE", OR AS APPROVED BY THE ENGINEER.

"WO" AND "W" SIGNS SHALL BE 48"x48" UNLESS OTHERWISE NOTED.

TRAFFIC CONTROL SIGNS PORTABLE CHANGEABLE MESSAGE TO BE INSTALLED ONE WEEK PRIOR TO IMPLEMENTATION OF DETOUR ROUTE (INSTALLED BY COUNTY; SEE SPECIAL PROVISIONS.)

SEE S.D.D. "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".
ALL M3 SERIES SIGNS (NORTH, SOUTH, EAST, WEST) WHICH ARE PART OF ANY DETOUR ROUTE MARKER SIGNING ASSEMBLY OR ATTACHED TO ANY WARNING SIGN SHALL BE BLACK LETTERING ON A WHITE BACKGROUND.

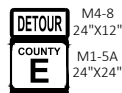
ALL M05 AND M06 ARROW SIGNS SHALL BE THE SAME AS "M" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

CTH E CLOSED AT PROJECT LOCATION (SEE DETAIL A)

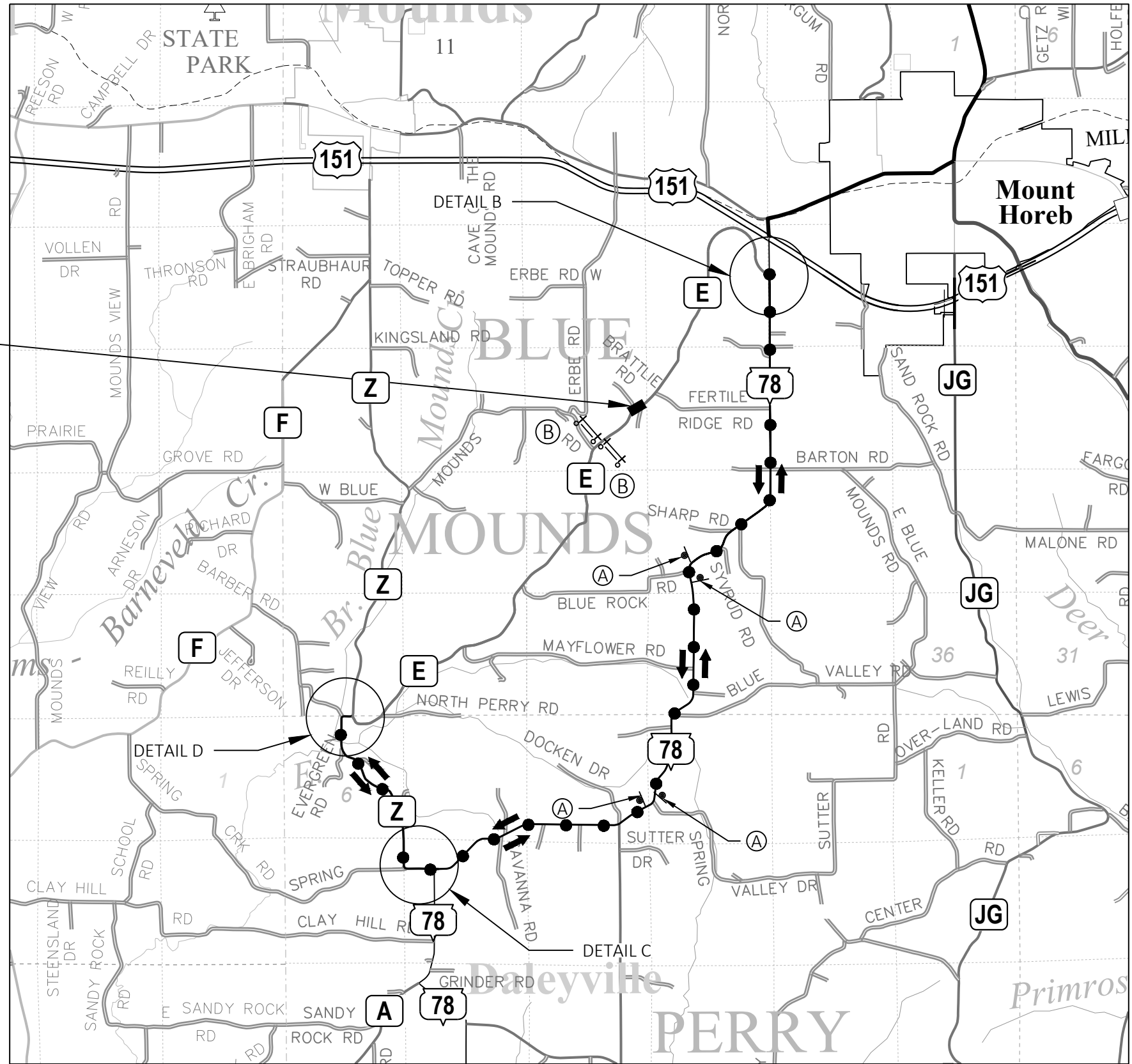
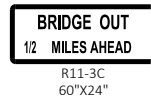
LEGEND

- ● ● DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- ⚡ TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)

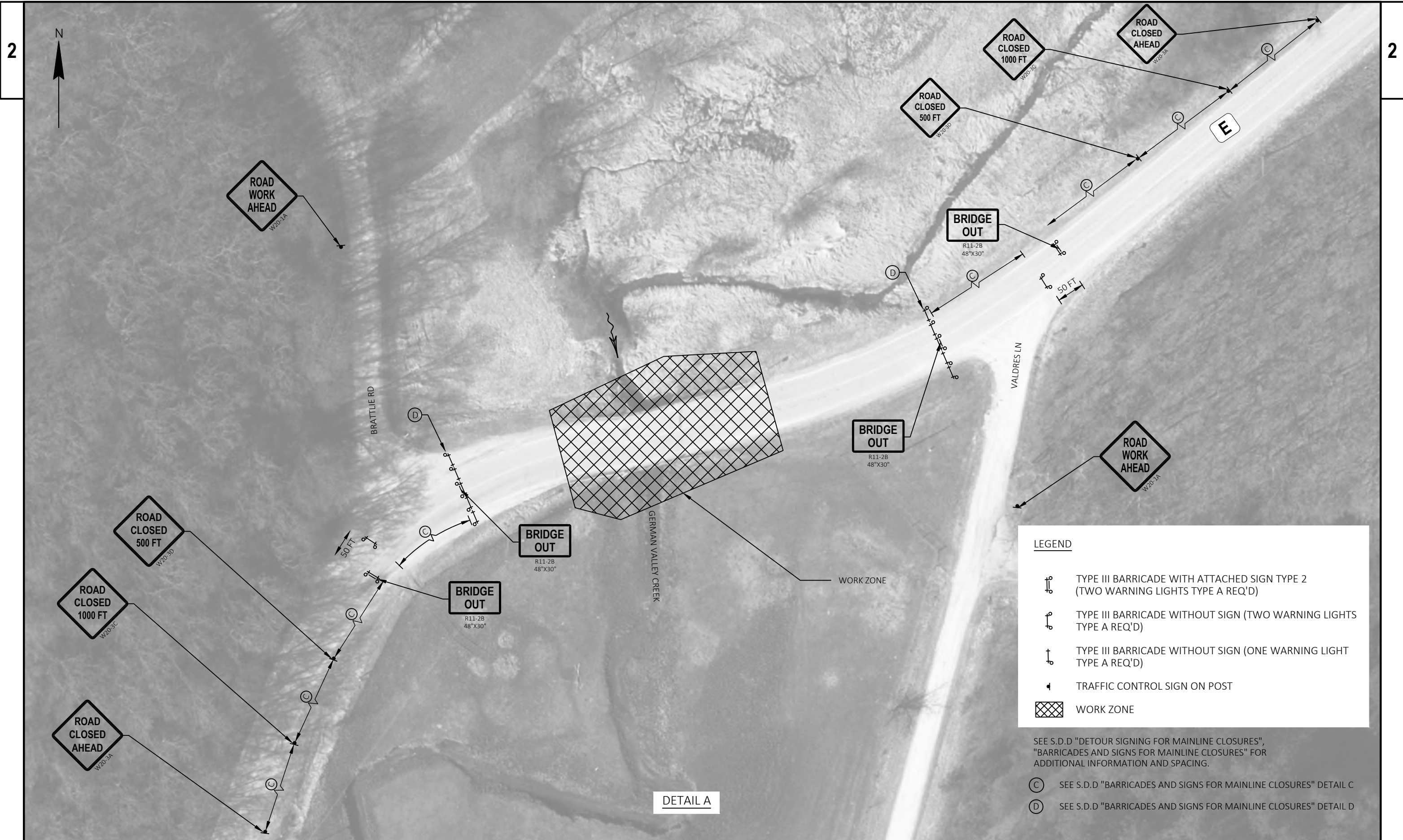
(A)



(B)



SIGNED DETOUR ROUTE



LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN TYPE 2 (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (TWO WARNING LIGHTS TYPE A REQ'D)
- TYPE III BARRICADE WITHOUT SIGN (ONE WARNING LIGHT TYPE A REQ'D)
- TRAFFIC CONTROL SIGN ON POST
- WORK ZONE

SEE S.D.D "DETOUR SIGNING FOR MAINLINE CLOSURES", "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" FOR ADDITIONAL INFORMATION AND SPACING.

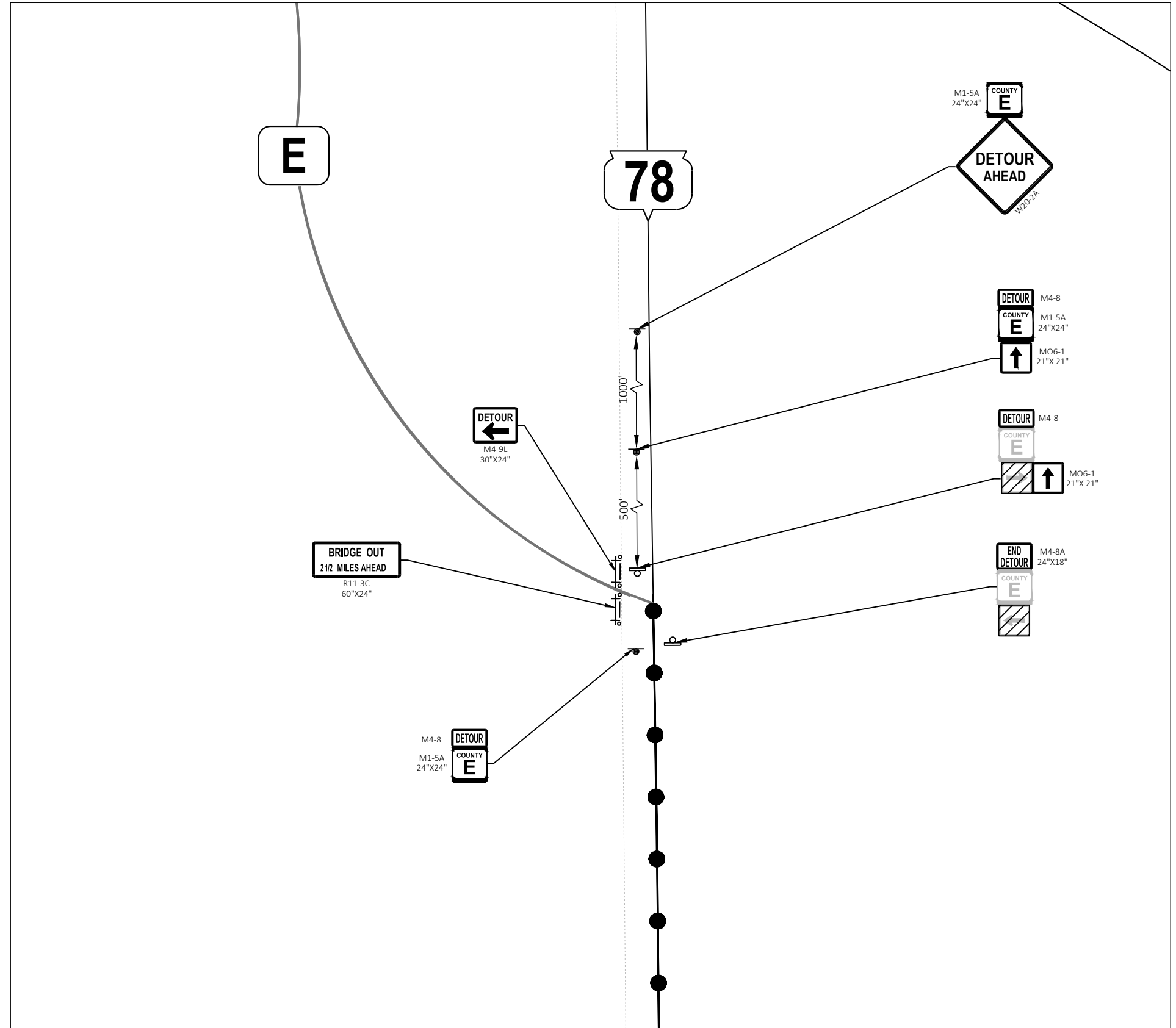
- SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL C
- SEE S.D.D "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" DETAIL D

DETAIL A



LEGEND

- ● ● DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- ▨ COVER EXISTING SIGN (COVERING SIGNS TYPE 2, REQ'D)
- ⊥ EXISTING SIGNS MOUNTED ON POST(S)

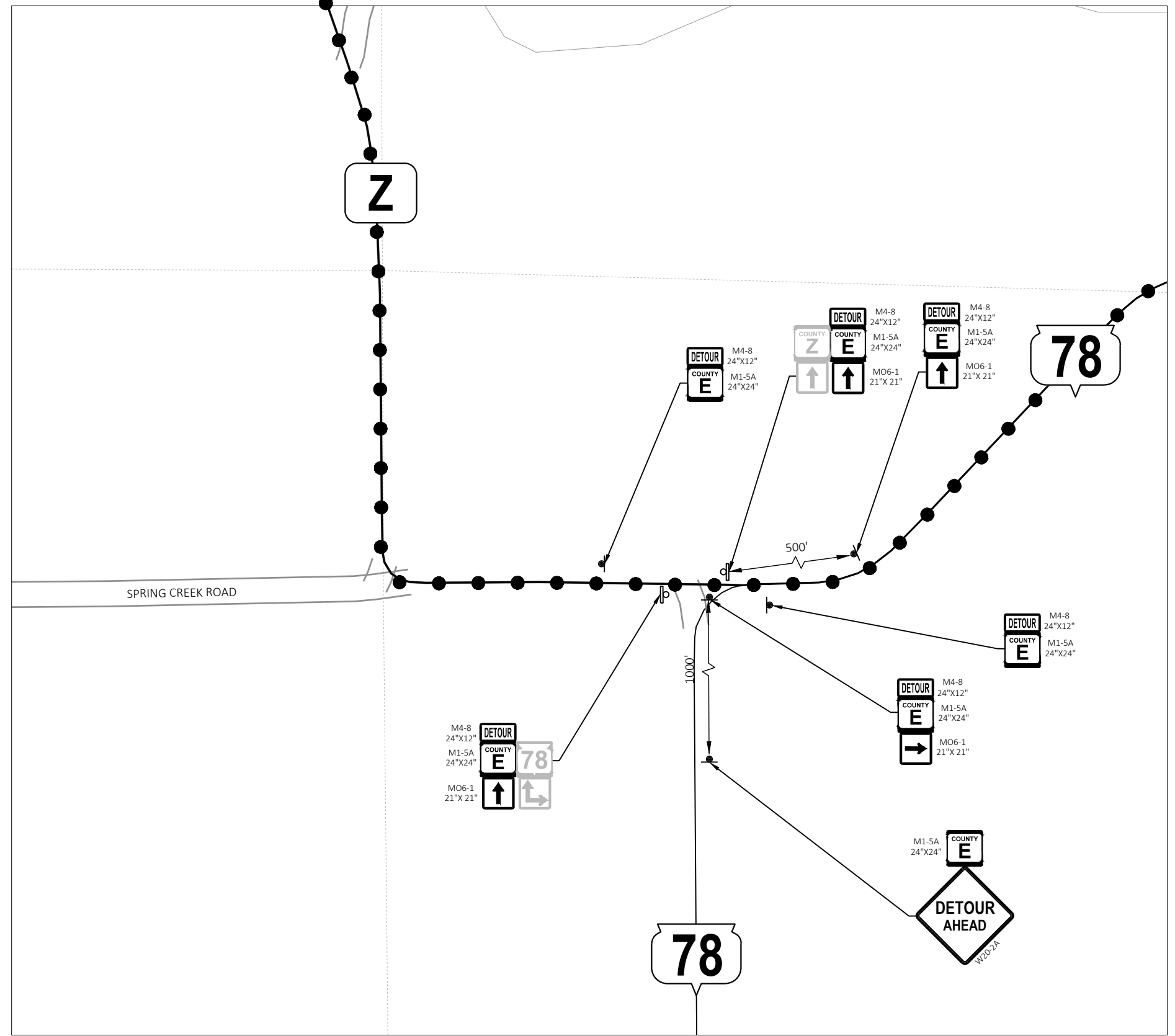


DETAIL B



LEGEND

- ● ● DETOUR ROUTE
- TRAFFIC CONTROL SIGNS
- TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- ▨ COVER EXISTING SIGN (COVERING SIGNS TYPE 2, REQ'D)
- ⌋ EXISTING SIGNS MOUNTED ON POST(S)

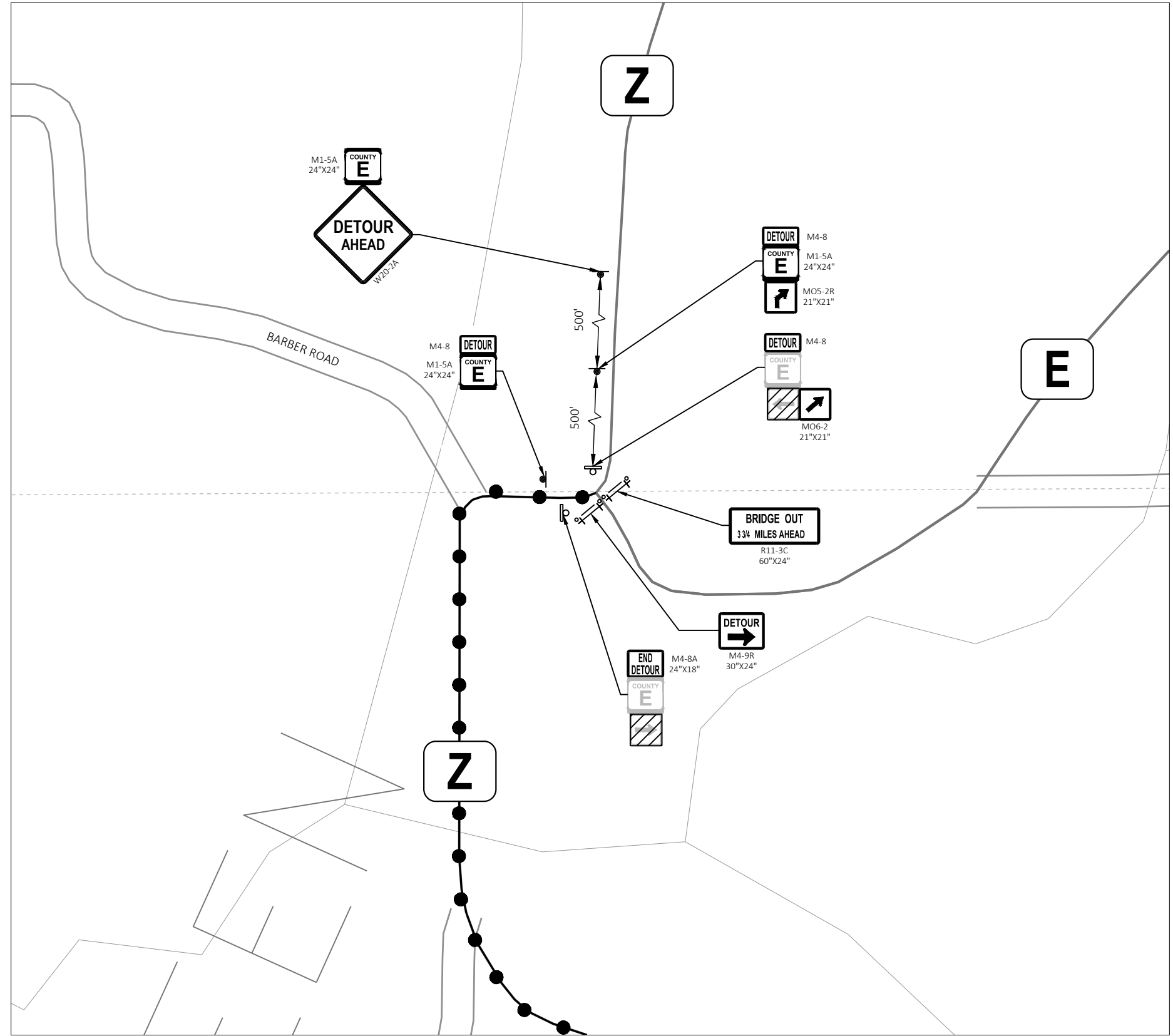


DETAIL C



LEGEND

- ● ● ● DETOUR ROUTE
- ⊥ TRAFFIC CONTROL SIGNS
- ⚡ TRAFFIC CONTROL BARRICADES TYPE III WITH ATTACHED SIGN (TWO TYPE "A" WARNING LIGHTS)
- ▨ COVER EXISTING SIGN (COVERING SIGNS TYPE 2, REQ'D)
- Ⓟ EXISTING SIGNS MOUNTED ON POST(S)



DETAIL D

Estimate Of Quantities

5856-00-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0260	Removing Structure Over Waterway Minimal Debris (structure) 01. P-13-901	EACH	1.000	1.000
0004	204.0165	Removing Guardrail	LF	210.000	210.000
0006	205.0100	Excavation Common	CY	200.000	200.000
0008	206.1001	Excavation for Structures Bridges (structure) 01. B-13-0888	EACH	1.000	1.000
0010	210.1500	Backfill Structure Type A	TON	420.000	420.000
0012	213.0100	Finishing Roadway (project) 01. 5856-00-72	EACH	1.000	1.000
0014	305.0110	Base Aggregate Dense 3/4-Inch	TON	30.000	30.000
0016	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	390.000	390.000
0018	312.0110	Select Crushed Material	TON	23.000	23.000
0020	455.0605	Tack Coat	GAL	21.000	21.000
0022	460.2000	Incentive Density HMA Pavement	DOL	70.000	70.000
0024	460.5223	HMA Pavement 3 LT 58-28 S	TON	53.000	53.000
0026	460.5224	HMA Pavement 4 LT 58-28 S	TON	41.000	41.000
0028	502.0100	Concrete Masonry Bridges	CY	175.000	175.000
0030	502.6500	Protective Coating Clear	GAL	4.000	4.000
0032	505.0400	Bar Steel Reinforcement HS Structures	LB	5,080.000	5,080.000
0034	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	18,730.000	18,730.000
0036	516.0500	Rubberized Membrane Waterproofing	SY	24.000	24.000
0038	516.0610.S	Sheet Membrane Waterproofing for Buried Structures	SY	165.000	165.000
0040	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	600.000	600.000
0042	606.0300	Riprap Heavy	CY	104.000	104.000
0044	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	178.000	178.000
0046	618.0100	Maintenance And Repair of Haul Roads (project) 01. 5856-00-72	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	624.0100	Water	MGAL	7.000	7.000
0052	625.0500	Salvaged Topsoil	SY	250.000	250.000
0054	627.0200	Mulching	SY	500.000	500.000
0056	628.1504	Silt Fence	LF	414.000	414.000
0058	628.1520	Silt Fence Maintenance	LF	635.000	635.000
0060	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0064	628.6005	Turbidity Barriers	SY	120.000	120.000
0066	628.7504	Temporary Ditch Checks	LF	25.000	25.000
0068	628.7560	Tracking Pads	EACH	2.000	2.000
0070	629.0205	Fertilizer Type A	CWT	0.100	0.100
0072	630.0120	Seeding Mixture No. 20	LB	4.000	4.000
0074	630.0160	Seeding Mixture No. 60	LB	3.000	3.000
0076	630.0300	Seeding Borrow Pit	LB	6.000	6.000
0078	630.0500	Seed Water	MGAL	11.000	11.000
0080	633.5200	Markers Culvert End	EACH	4.000	4.000
0082	638.2602	Removing Signs Type II	EACH	8.000	8.000
0084	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0086	642.5201	Field Office Type C	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	1,260.000	1,260.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	2,016.000	2,016.000
0092	643.0900	Traffic Control Signs	DAY	4,032.000	4,032.000
0094	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000
0096	643.5000	Traffic Control	EACH	1.000	1.000
0098	645.0111	Geotextile Type DF Schedule A	SY	72.000	72.000

Estimate Of Quantities

5856-00-72

Line	Item	Item Description	Unit	Total	Qty
0100	645.0120	Geotextile Type HR	SY	210.000	210.000
0102	646.1005	Marking Line Paint 4-Inch	LF	500.000	500.000
0104	650.4500	Construction Staking Subgrade	LF	125.000	125.000
0106	650.5000	Construction Staking Base	LF	125.000	125.000
0108	650.6501	Construction Staking Structure Layout (structure) 01. B-13-0888	EACH	1.000	1.000
0110	650.9911	Construction Staking Supplemental Control (project) 01. 5856-00-72	EACH	1.000	1.000
0112	650.9920	Construction Staking Slope Stakes	LF	69.000	69.000
0114	690.0150	Sawing Asphalt	LF	55.000	55.000
0116	715.0502	Incentive Strength Concrete Structures	DOL	1,050.000	1,050.000
0118	999.2005.S	Maintaining Bird Deterrent System (station) 01. 13+25	EACH	1.000	1.000

3

3

EARTHWORK

CATEGORY	LOCATION	STATION - STATION	205.0100										312.0110
			EXCAVATION COMMON (1)		AVAILABLE STRUCTURE EXCAVATION (3)	AVAILABLE MATERIAL (4)	EXPANDED EBS BACKFILL (5)	UNEXPANDED FILL	EXPANDED FILL (6)	MASS ORDINATE +/- (7)	WASTE (8)	312.0110	
			CUT	EBS EXCAVATION (2)								SELECT CRUSHED MATERIAL (9)	
		5% OF CUT											
			CY	CY	CY	CY	CY	CY	CY	CY	CY	TON	
0010	CTH E	12+75 - 14+00	190	10	326	516	12	60	52	464	464	23	
		TOTALS		200	326	516	12	60	52	464	464	23	

- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100.
- 2) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
- 3) AVAILABLE STRUCTURE EXCAVATION IS FOR INFORMATION ONLY AND IS INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES B-13-888"
- 4) AVAILABLE MATERIAL = CUT + AVAILABLE STRUCTURE EXCAVATION
- 5) EXPANDED EBS BACKFILL: THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL EXPANSION FACTOR = 1.25.
- 6) EXPANDED FILL = (UNEXPANDED FILL)* EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
- 7) MASS ORDINATE: MASS ORDINATE = CUT + AVAILABLE STRUCTURE EXCAVATION - EXPANDED FILL
PLUS MASS ORDINATE QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS MASS ORDINATE QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- 8) WASTE = POSITIVE MASS ORDINATE, BORROW = NEGATIVE MASS ORDINATE
- 9) SELECT CRUSHED MATERIAL IS USED FOR BACKFILL OF EBS.

FINISHING ROADWAY

CATEGORY	PROJECT	213.0100 EACH
0010	5856-00-72	1

REMOVING GUARDRAIL

CATEGORY	STATION - STATION	LOCATION	204.0165 LF
0010	12+72 - 13+73	RT	100
	12+81 - 13+92	LT	110
TOTAL			210

BASE AGGREGATE SUMMARY

CATEGORY	STATION - STATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
0010	12+75 - 14+00	30	390

ASPHALTIC ITEMS

CATEGORY	STATION - STATION	460.5223 HMA PAVEMENT 3 LT 58-28 S TON	460.5224 HMA PAVEMENT 4 LT 58-28 S TON	455.0605 TACK COAT GAL
0010	12+75 - 14+00	53	41	21

NOTE: HMA PAVEMENT WEIGHT CALCULATIONS BASED ON 112 LB/SY/IN.

MAINTENANCE AND REPAIR OF HAUL ROADS

CATEGORY	PROJECT	618.0100 EACH
0030	5856-00-72	1

MOBILIZATION

CATEGORY	PROJECT	619.1000 EACH
0010	5856-00-72	1

WATER

CATEGORY	STATION - STATION	624.0100 MGAL	REMARKS
0010	12+75 - 14+00	1 6	DUST CONTROL COMPACTION
TOTAL		7	

MOBILIZATIONS EROSION CONTROL

CATEGORY	PROJECT	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
0010	5856-00-72	3	3

3

EROSION CONTROL

CATEGORY	STATION - STATION	LOCATION	628.1504	628.1520	628.6005	628.7504
			SILT FENCE LF	SILT FENCE MAINTENANCE LF	TURBIDITY BARRIER SY	TEMPORARY DITCH CHECKS LF
0010	12+75 - 13+25	LT/RT	69	105	47	20
	13+25 - 14+00	LT/RT	95	145	49	---
		WASTE SITE	170	255	---	---
		UNDISTRIBUTED	80	130	24	5
TOTALS			414	635	120	25

FINISHING ITEMS

CATEGORY	STATION - STATION	LOCATION	625.0500	627.0200	629.0205	630.0120	630.0160	630.0300	630.0500
			SALVAGED TOPSOIL SY	MULCHING SY	FERTILIZER TYPE A CWT	SEEDING MIXTURE NO. 20 LB	SEEDING MIXTURE NO. 60 LB	BORROW PIT LB	SEED WATER MGAL
0010	12+75 - 13+25	LT/RT	70	70	---	1	1	---	2
	13+25 - 14+00	LT/RT	130	130	---	2	1	---	3
		WASTE SITE	---	200	0.1	---	---	5	4
		UNDISTRIBUTED	50	100	0.0	1	1	1	2
TOTALS			250	500	0.1	4	3	6	11

TRACKING PADS

CATEGORY	LOCATION	628.7560 EACH
0010	UNDISTRIBUTED	2

MARKERS CULVERT END

CATEGORY	STATION	LOCATION	633.5200 EACH
0010	12+95	LT/RT	2
	13+55	LT/RT	2
TOTAL			4

TRAFFIC CONTROL

CATEGORY	TRAFFIC CONTROL OPERATIONS	DURATION (DAYS)	SIGNS		BARRICADES TYPE III		WARNING LIGHTS TYPE A	
			EACH	DAY	EACH	DAY	EACH	DAY
0010	DETOUR AND CLOSURE	63	64	4,032	20	1,260	32	2,016
TOTALS				4,032		1,260		2,016

SIGNING SUMMARY

CATEGORY	SIGN NO.	APPROX. STA.	SIGN LOC.	SIGN CODE	SIGN MESSAGE	638.2602	638.3000	REMARKS
						REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	
0010	101	---	RT	W5-2	NARROW BRIDGE	1	1	REMOVE
	102	13+07	RT	W5-52R	CLEARANCE STRIPER DOWN LEFT	1	1	REMOVE
	103	13+36	RT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	1	1	REMOVE
	104	---	LT	W5-2	NARROW BRIDGE	1	1	REMOVE
	105	13+45	LT	W5-52R	CLEARANCE STRIPER DOWN LEFT	1	1	REMOVE
	106	13+19	LT	W5-52L	CLEARANCE STRIPER DOWN RIGHT	1	1	REMOVE
	107	12+21	LT	R12-1	WEIGHT LIMIT_TONS	1	1	REMOVE
	108	12+77	RT	R12-1	WEIGHT LIMIT_TONS	1	1	REMOVE
TOTALS						8	8	

FIELD OFFICE TYPE C

CATEGORY	PROJECT	642.5201 EACH
0010	5856-00-72	1

PROJECT NO: 5856-00-72

HWY: CTH E

COUNTY: DANE

MISCELLANEOUS QUANTITIES

SHEET:

E

FILE NAME: _____

PLOT DATE: _____

PLOT BY: _____

PLOT NAME: _____

PLOT SCALE: 1" = 1"

WISDOT/CADS SHEET 42

3

TRAFFIC CONTROL COVERING SIGNS TYPE II

CATEGORY	TRAFFIC CONTROL OPERATION	NO. OF CYCLES	NO. OF SIGNS	643.0920 EACH
0010	DETOUR AND CLOSURE	1	4	4
TOTAL				4

TRAFFIC CONTROL

CATEGORY	PROJECT	643.5000 EACH
0010	5856-00-72	1

MARKING LINE ITEMS

CATEGORY	STATION - STATION	646.1005 MARKING LINE PAINT 4-INCH	
		(WHITE) LF	(DOUBLE YELLOW) LF
0010	12+75 - 14+00	250	250
TOTAL		500	

CONSTRUCTION STAKING

CATEGORY	STATION - STATION	LOCATION	650.4500	650.5000	650.9920
			SUBGRADE LF	BASE LF	SLOPE STAKES LF
0010	12+75 - 14+00	LT/RT	125	125	69

SAWING

CATEGORY	LOCATION	690.0150
		ASPHALT LF
0010	12+75	28
	14+00	27
TOTAL		55

MAINTAINING BIRD DETERRENT SYSTEM

CATEGORY	STATION	999.2005.S EACH
0010	13+25	1

3

SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTEREST TO THE COUNTY

PARCEL NUMBER	OWNERS	INTEREST REQUIRED	R/W NEW	S.F. EXISTING	S.F. REQUIRED TOTAL	TLE S.F.
1	WIENKES JOINT REVOCABLE TRUST	TLE	---	---	---	916
2	TODD P. & ANN L. SCHULTZ	TLE	---	---	---	124
3	KONNIE R. JERBAEK, MERODEE J. BUECHNER, & LORI KAYE BURNS	TLE	---	---	---	1255

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

EXISTING HIGHWAY RIGHT-OF-WAY ON CTH E BASED ON CSM 7506, PLAT OF SURVEY BY: GEORGE WEIR DATED: 11/30/71 & PLAT OF SURVEY BY: GEORGE WEIR DATED: 9/19/72

**THE PURPOSE OF ALL TLE'S IS FOR BRIDGE CONSTRUCTION AND SLOPE GRADING.

UTILITY INTERESTS REQUIRED

UTILITY NUMBER	UTILITY OWNER(S)	INTEREST REQUIRED
100	MOUNT HOREB TELEPHONE COMPANY (COMMUNICATIONS)	RELEASE OF RIGHTS
101	MOUNT HOREB UTILITIES (ELECTRIC)	RELEASE OF RIGHTS

- MOUNT HOREB TELEPHONE COMPANY (COMMUNICATIONS) BLANKET EASEMENT LOT 3 OF CSM 7506 DOC. 2836432 PARCEL 1
- MOUNT HOREB TELEPHONE COMPANY (COMMUNICATIONS) BLANKET EASEMENT NE-SE DOC. 1899444 PARCEL 3
- MOUNT HOREB UTILITIES (ELECTRIC) (COMMONWEALTH ELECTRIC LIGHT CO.) BLANKET EASEMENT NE-SE DOC. 511495 PARCEL 3

BEGIN RELOCATION ORDER

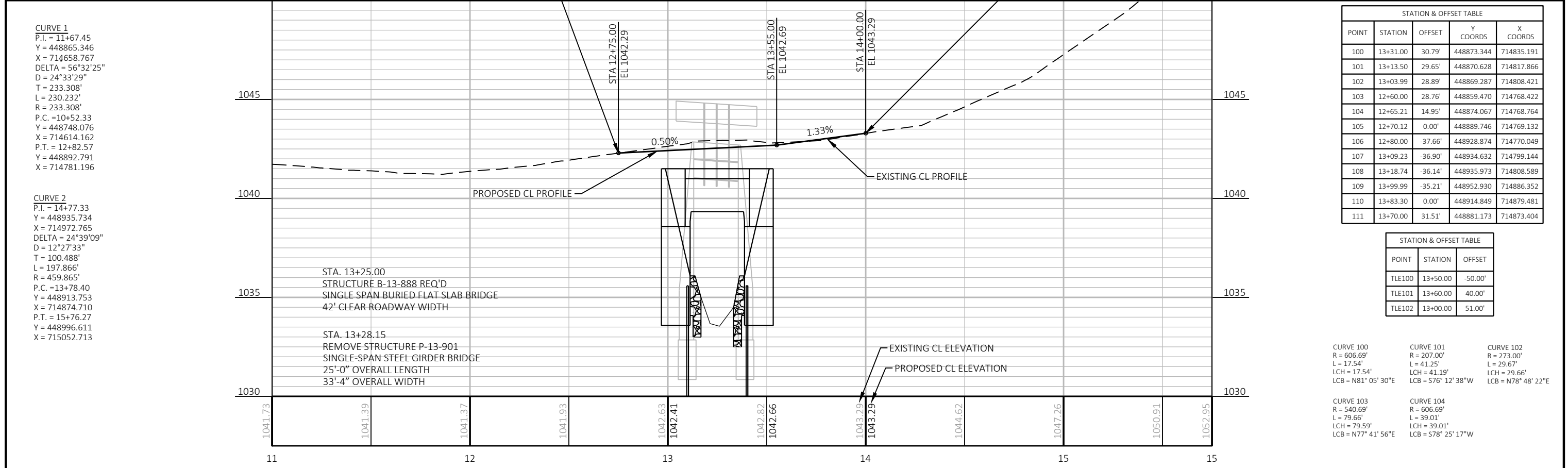
STA 12+50.00
15.08 FEET NORTH AND 539.67 FEET WEST OF THE EAST 1/4 COR. SEC. 21, T6N, R6E

END RELOCATION ORDER

STA 14+25.00
57.83 FEET NORTH AND 370.10 FEET WEST OF THE EAST 1/4 COR. SEC. 21, T6N, R6E



COURSE	BEARING	DISTANCE
SEC1 - 100	N89°22'36\"W	454.52'
100 - 101	SEE CURVE 100	
101 - 102	S81°55'03\"W	9.54'
102 - 103	SEE CURVE 101	
103 - 104	N01°20'35\"E	14.60'
104 - 105	N01°20'35\"E	15.68'
105 - 106	N01°20'35\"E	39.14'
106 - 107	SEE CURVE 102	
107 - 108	N81°55'03\"E	9.54'
108 - 109	SEE CURVE 103	
109 - 110	S10°13'42\"W	38.70'
110 - 111	S10°13'42\"W	34.22'
111 - 100	SEE CURVE 104	
SEC2 - 104	S89°22'36\"E	2116.68'
104 - 100	S89°22'36\"E	66.43'
111 - TLE101	S37°01'11\"W	13.12'
TLE101 - TLE102	S66°58'35\"W	61.00'
TLE102 - 103	N72°51'14\"W	42.85'
106 - TLE100	N67°24'58\"E	71.49'
TLE100 - 109	S86°07'55\"E	50.41'



POINT	STATION	OFFSET	Y COORDS	X COORDS
100	13+31.00	30.79'	448873.344	714835.191
101	13+13.50	29.65'	448870.628	714817.866
102	13+03.99	28.89'	448869.287	714808.421
103	12+60.00	28.76'	448859.470	714768.422
104	12+65.21	14.95'	448874.067	714768.764
105	12+70.12	0.00'	448889.746	714769.132
106	12+80.00	-37.66'	448928.874	714770.049
107	13+09.23	-36.90'	448934.632	714799.144
108	13+18.74	-36.14'	448935.973	714808.589
109	13+99.99	-35.21'	448952.930	714886.352
110	13+83.30	0.00'	448914.849	714879.481
111	13+70.00	31.51'	448881.173	714873.404

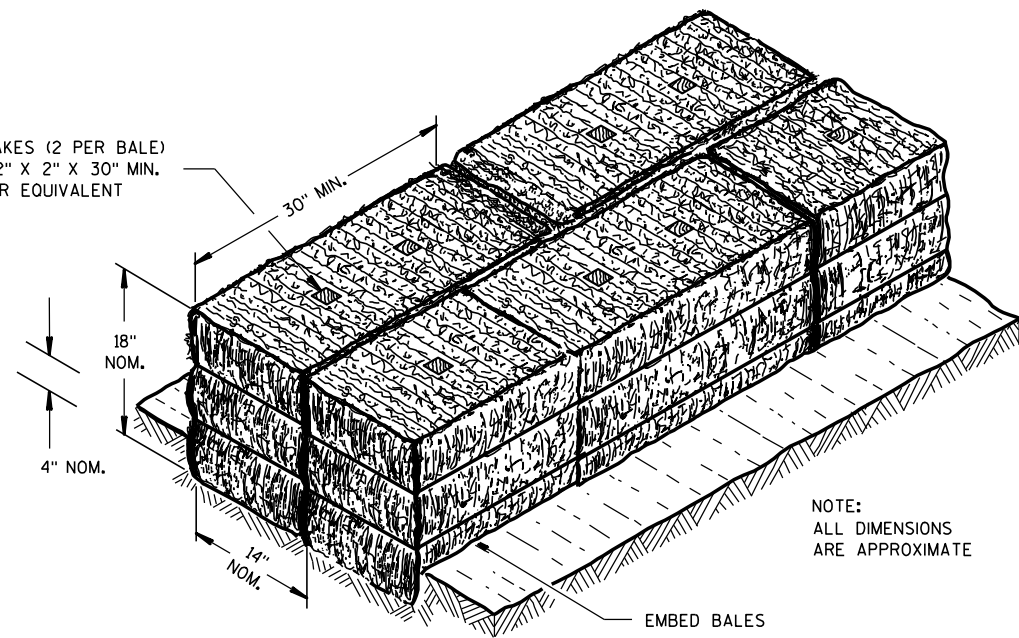
POINT	STATION	OFFSET
TLE100	13+50.00	-50.00'
TLE101	13+60.00	40.00'
TLE102	13+00.00	51.00'

CURVE	R	L	LCH	LCB
CURVE 100	606.69'	17.54'	17.54'	N81°05'30\"E
CURVE 101	207.00'	41.25'	41.19'	S76°12'38\"W
CURVE 102	273.00'	29.67'	29.66'	N78°48'22\"E
CURVE 103	540.69'	79.66'	79.59'	N77°41'56\"E
CURVE 104	606.69'	39.01'	39.01'	S78°25'17\"W

Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08E14-01	TRACKING PAD
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C06-10	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-22A	LONGITUDINAL MARKING (MAINLINE)
15C11-09B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

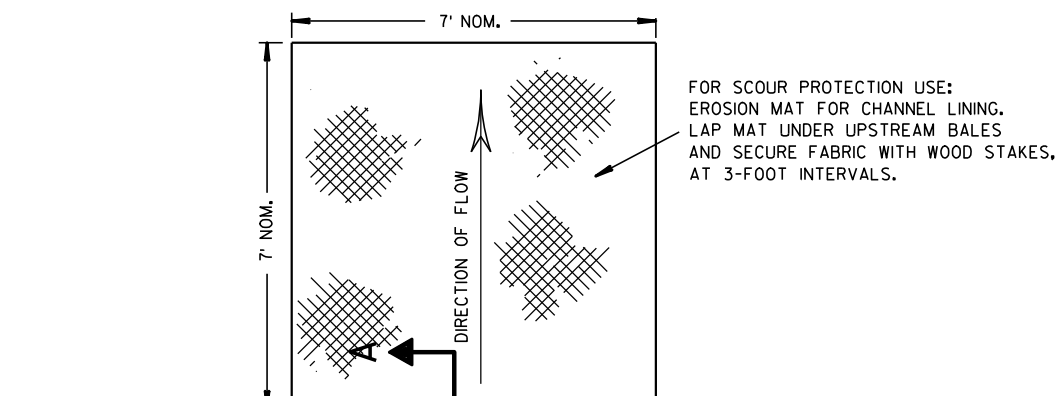
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



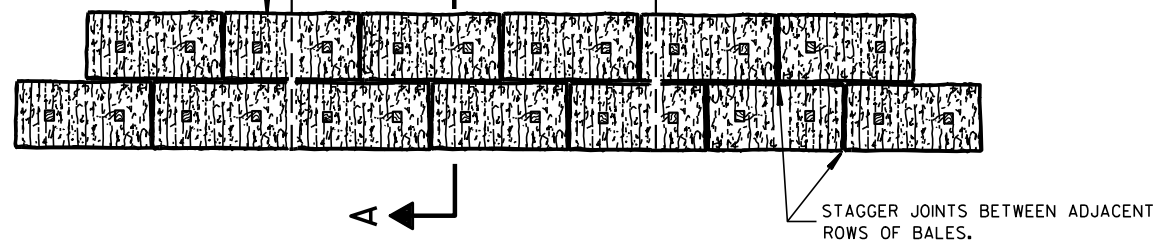
NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

EMBED BALES

SECTION A-A



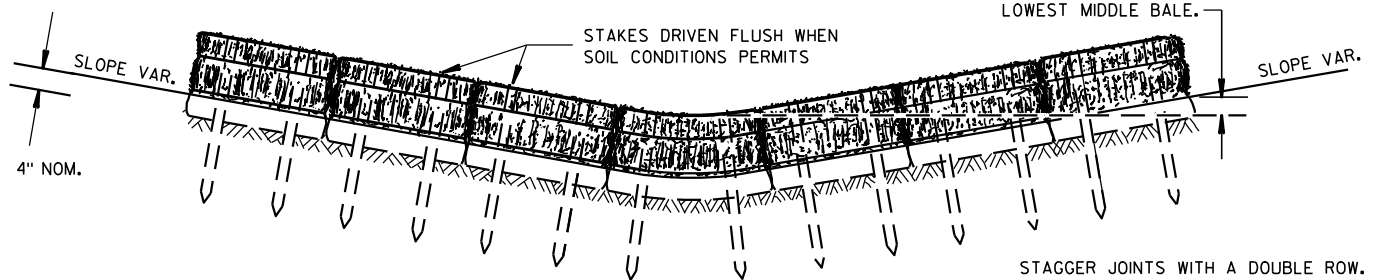
FOR SCOUR PROTECTION USE:
EROSION MAT FOR CHANNEL LINING.
LAP MAT UNDER UPSTREAM BALES
AND SECURE FABRIC WITH WOOD STAKES,
AT 3-FOOT INTERVALS.



STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

PLAN VIEW

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



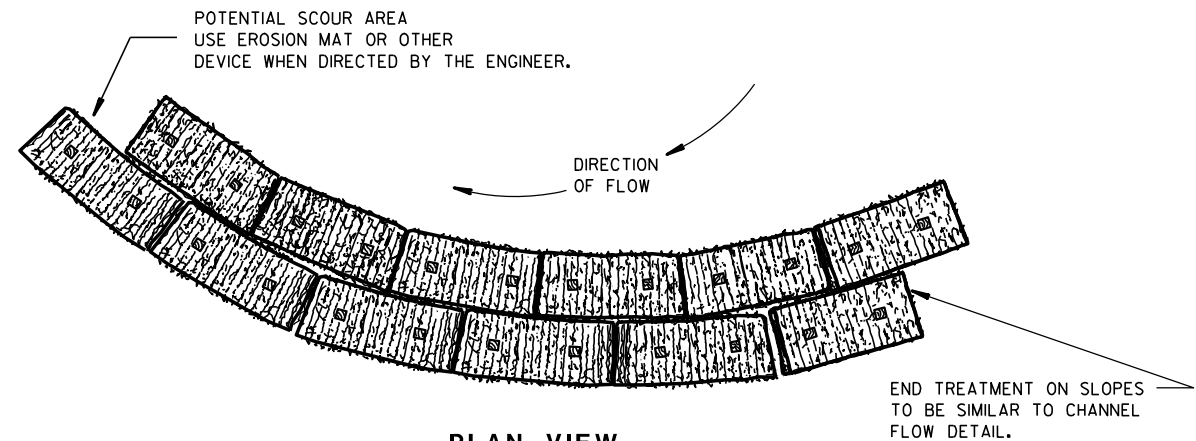
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

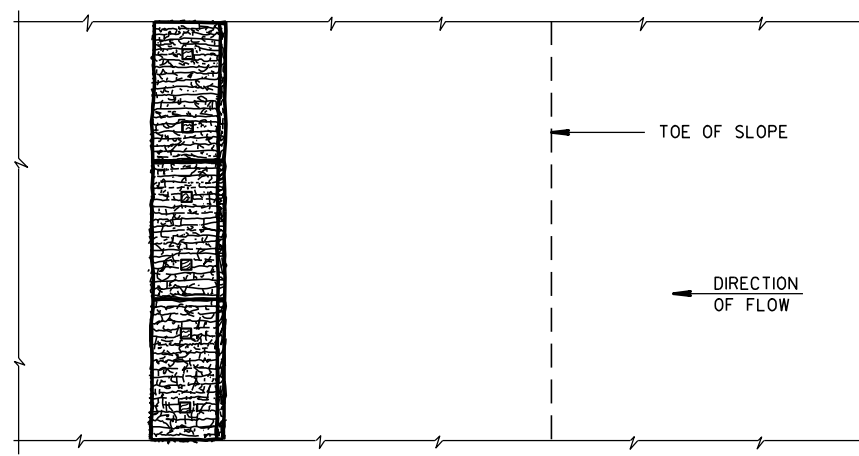
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

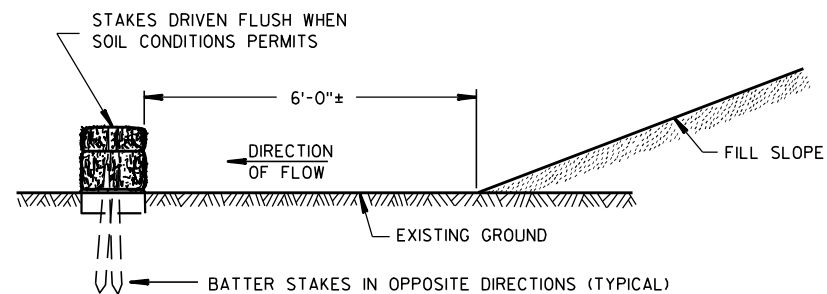


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

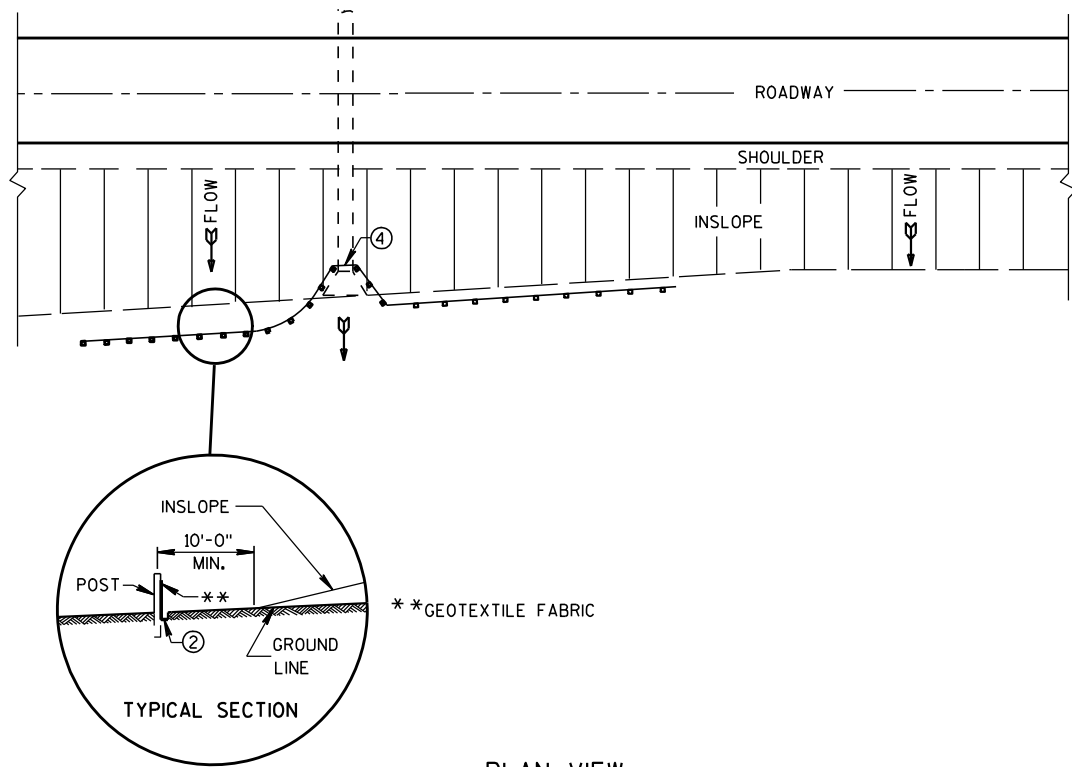
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

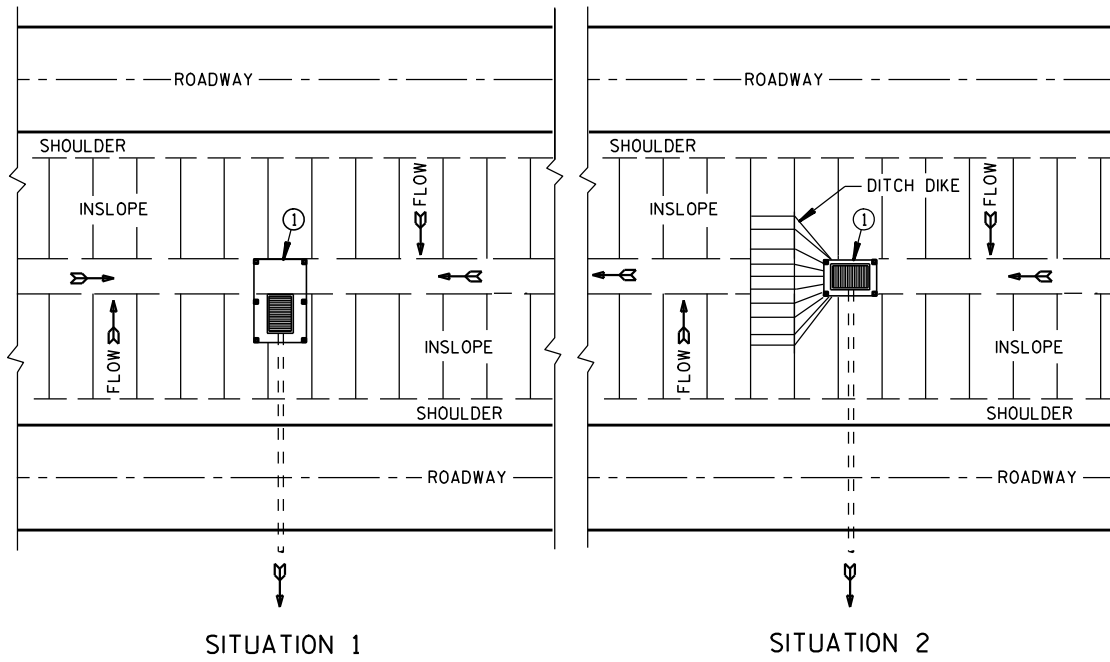
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

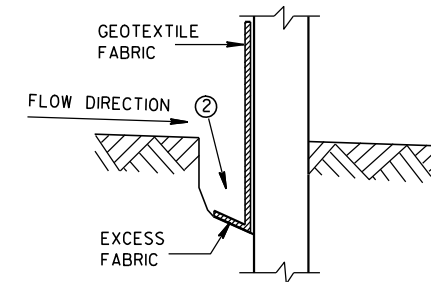


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

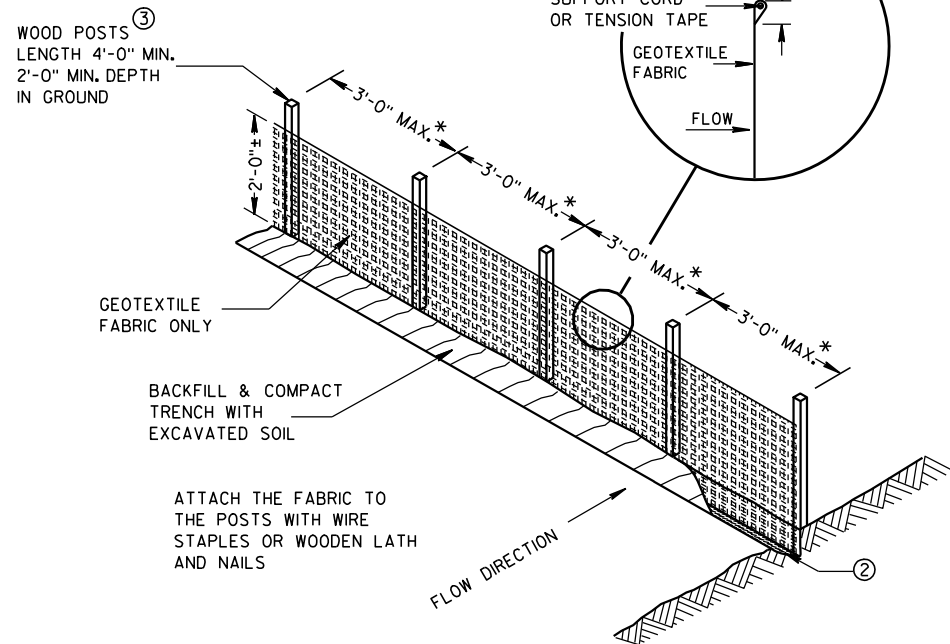
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1 1/8" X 1 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



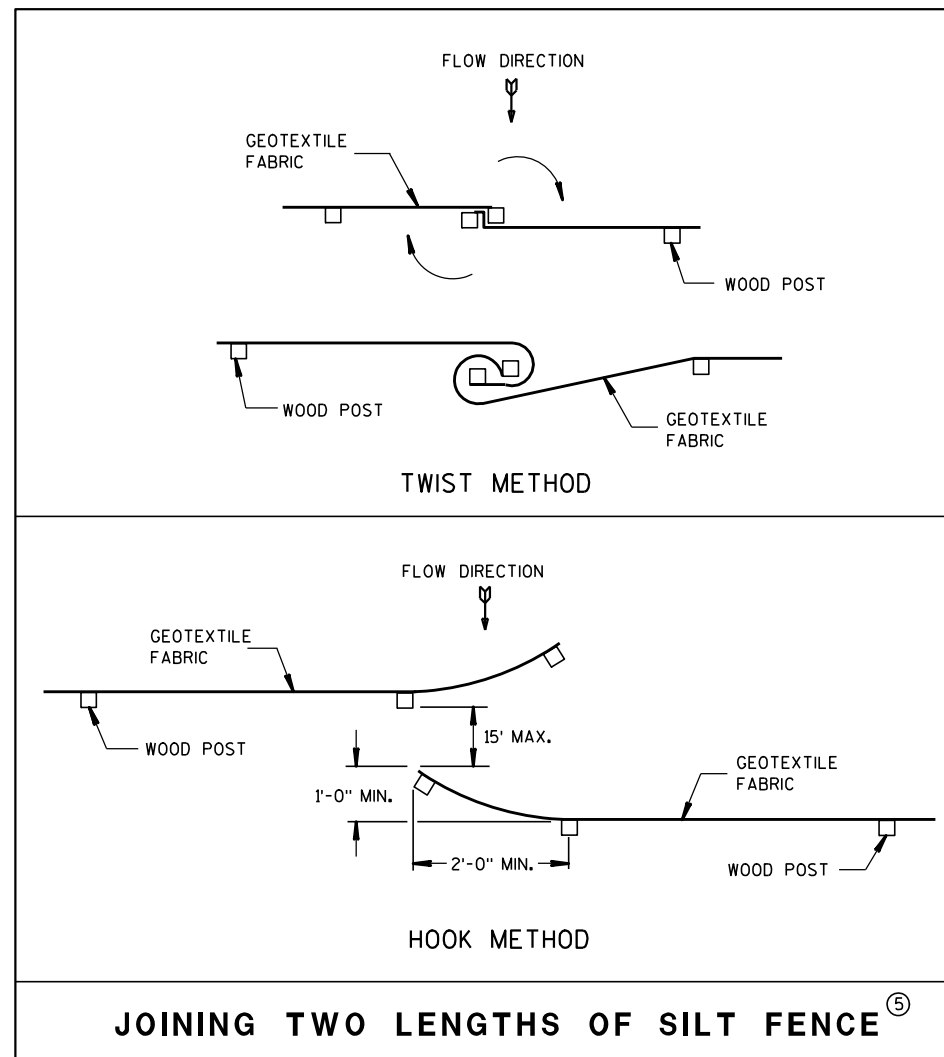
TRENCH DETAIL

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS

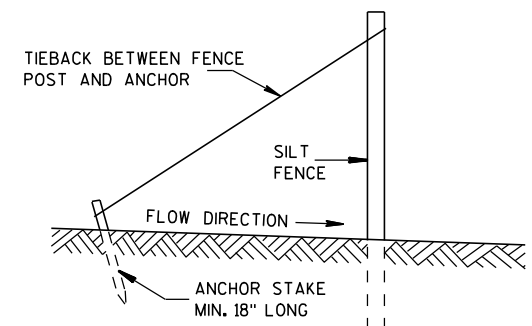


SILT FENCE

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



JOINING TWO LENGTHS OF SILT FENCE ⑤

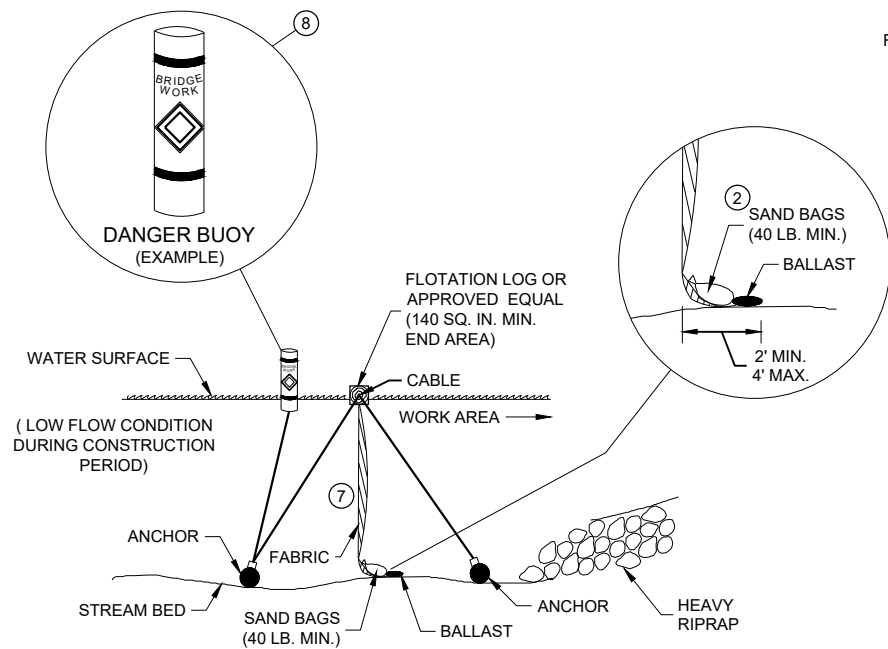


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

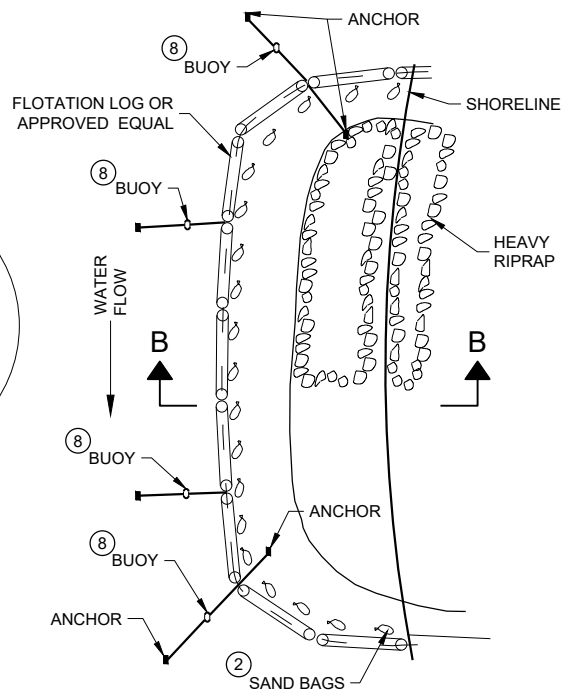
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

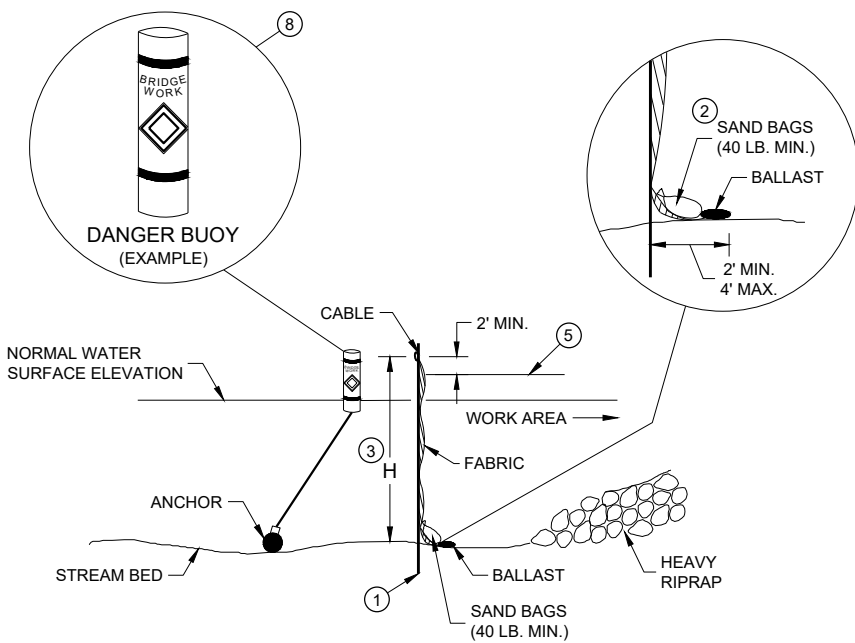


SECTION B - B

**TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6**

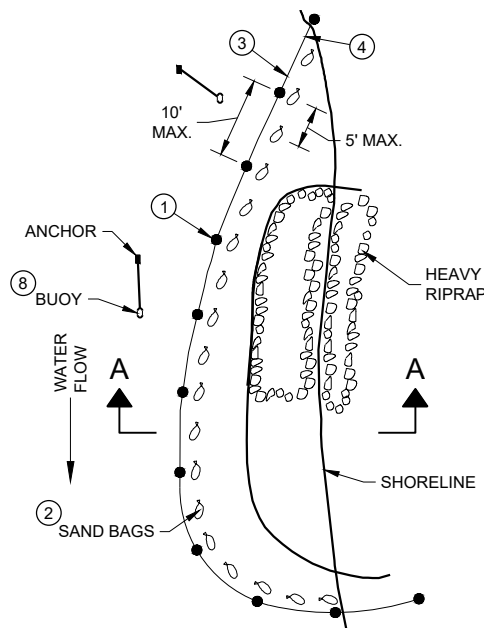


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

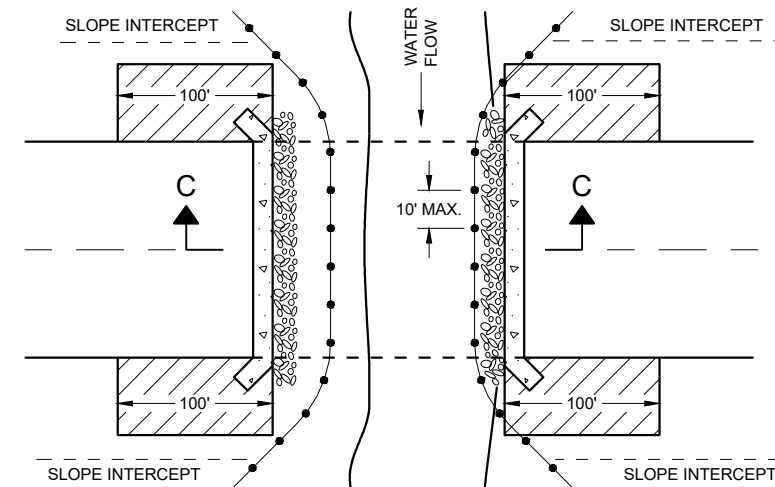
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

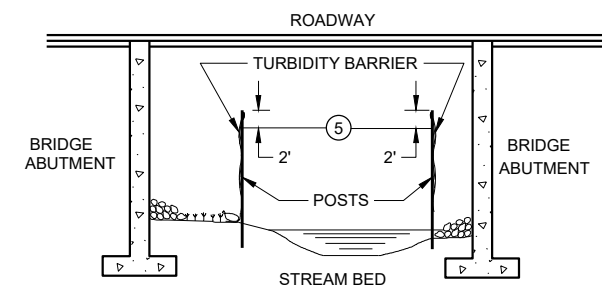
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

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



PLAN VIEW



SECTION C - C

**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

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

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

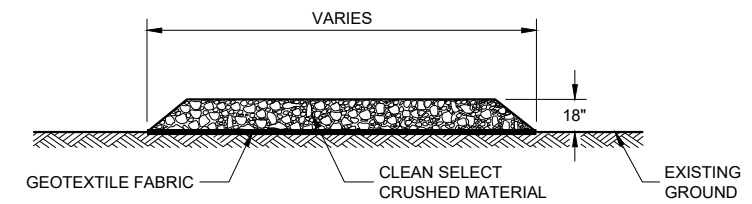
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

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

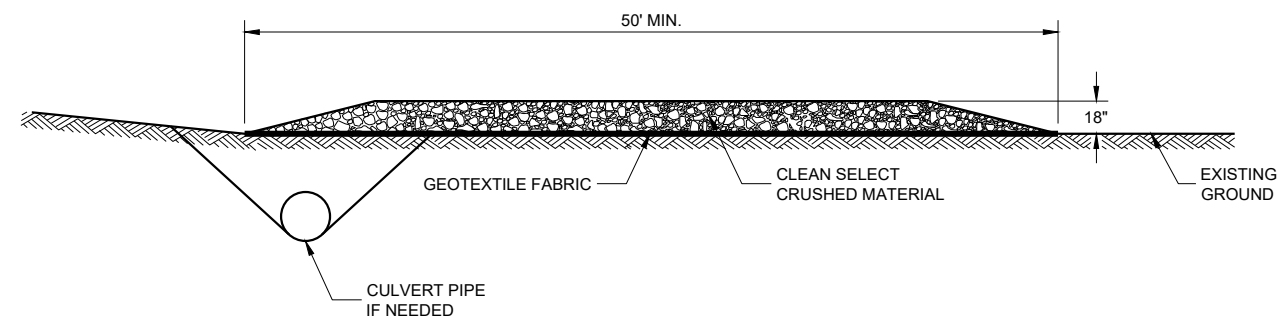
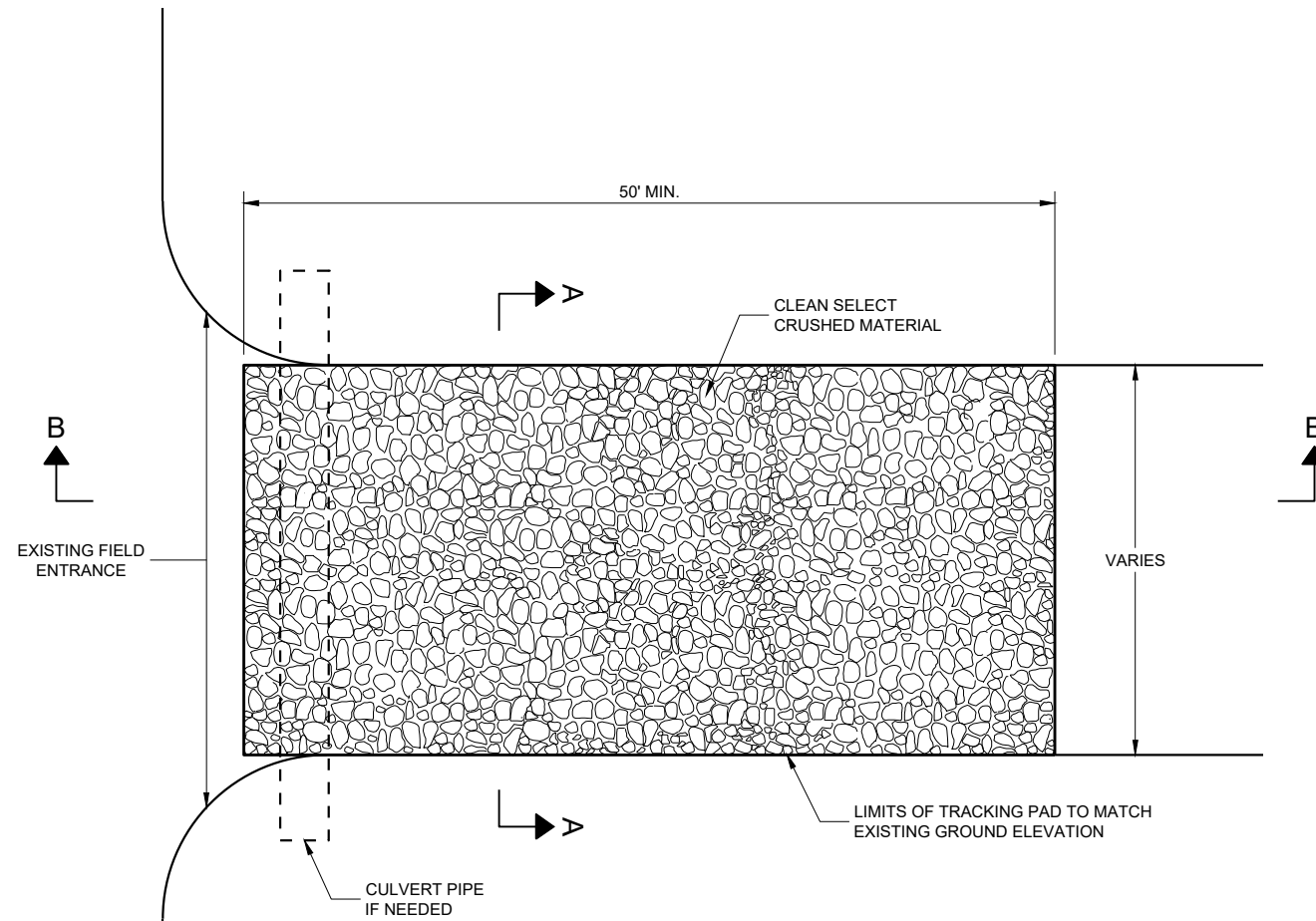
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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

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



SECTION A - A



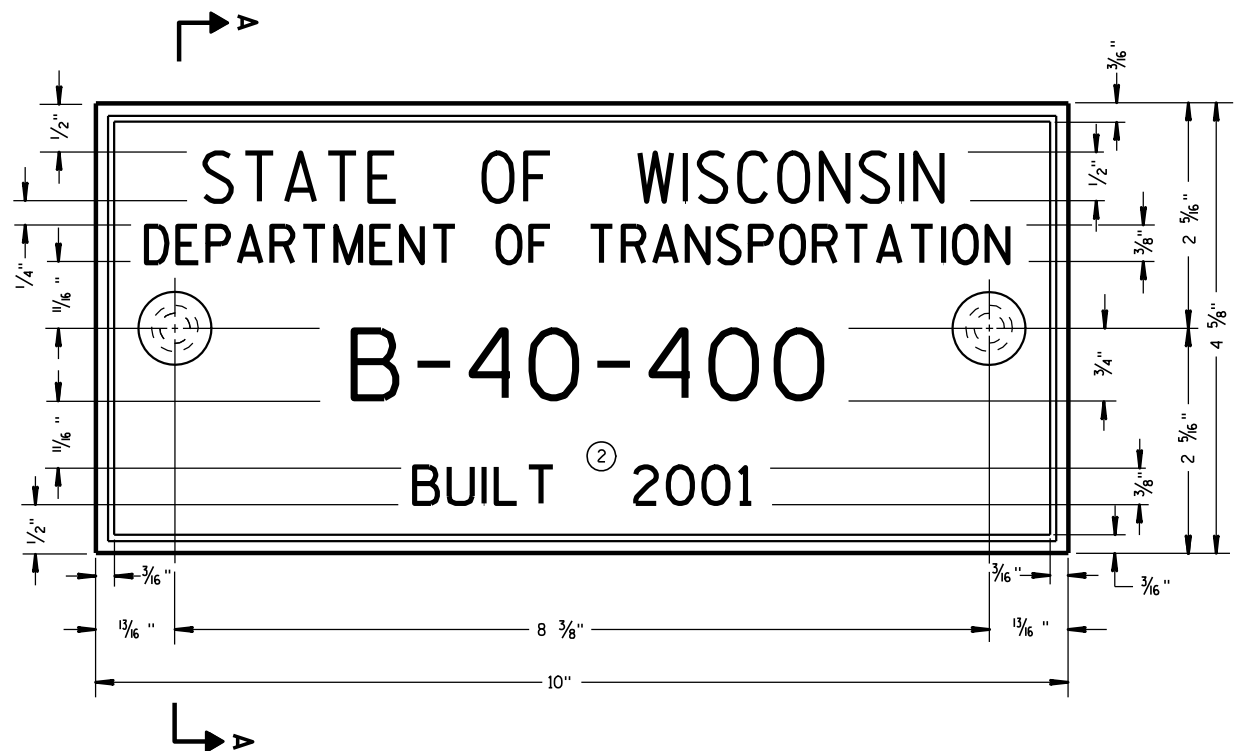
SECTION B - B

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/24/2011 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA



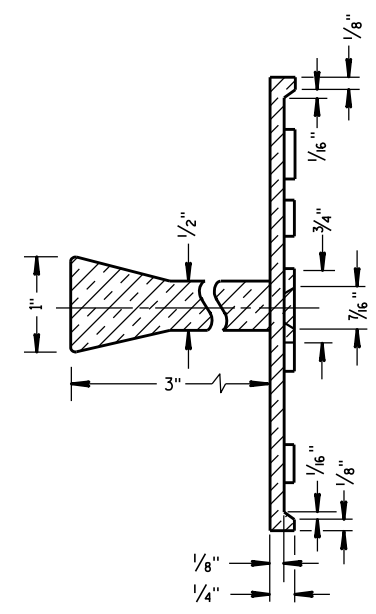
TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

GENERAL NOTES

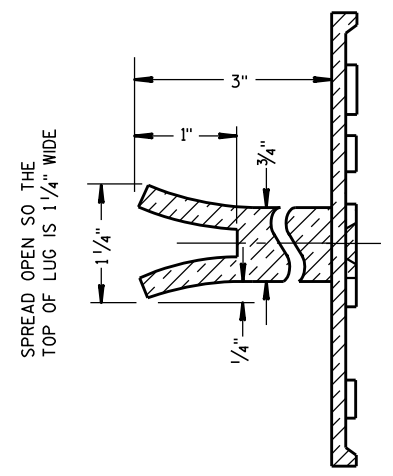
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



SPREAD OPEN SO THE TOP OF LUG IS 1 1/4" WIDE

ALTERNATE LUG

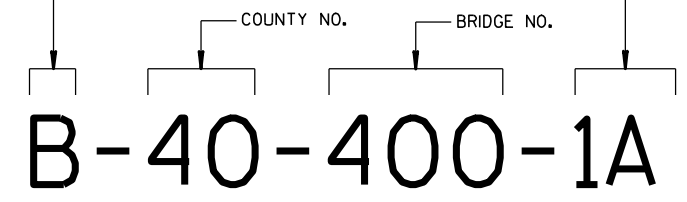
6

6

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

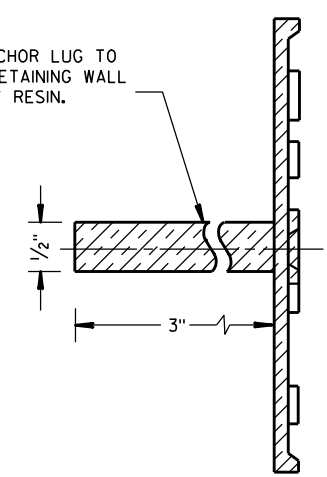
B = BRIDGE
C = CULVERT
R = RETAINING WALL

UNIT NO. FOR MULTIPLE
UNIT BRIDGE



**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

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

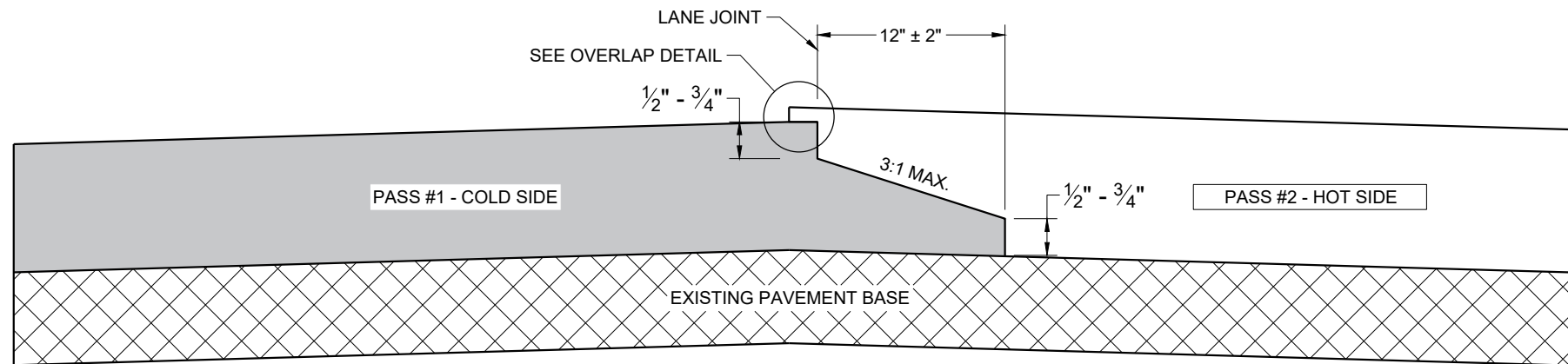


ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

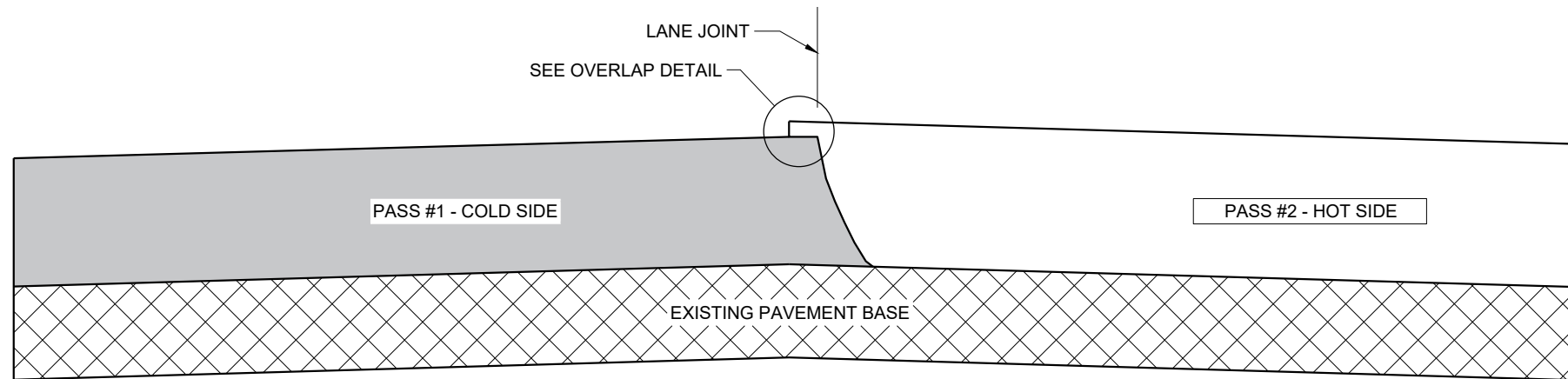
S.D.D. 12 A 3-10

S.D.D. 12 A 3-10

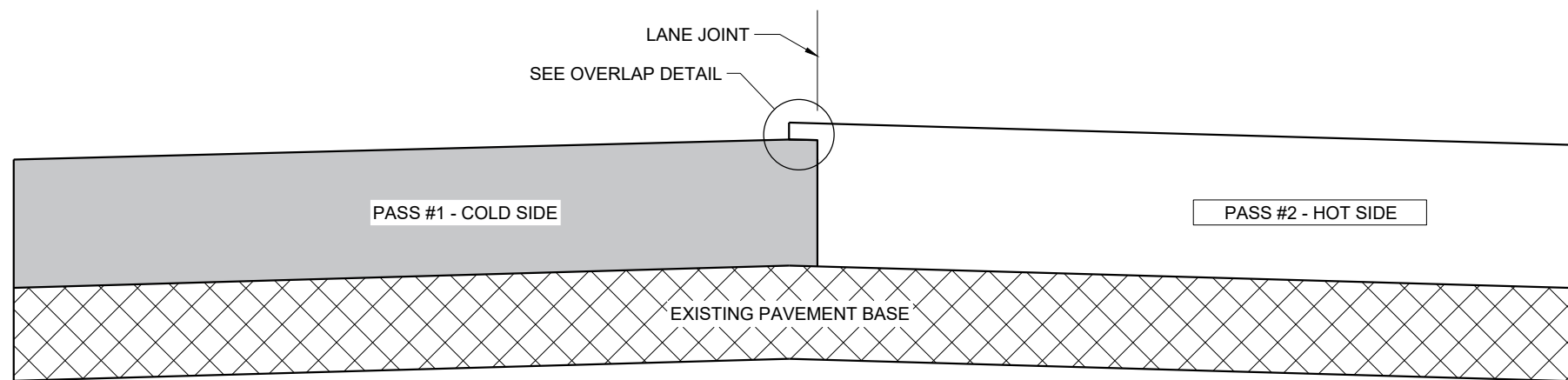
NAME PLATE (STRUCTURES)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED DATE 3/26/10	/S/ Scot Becker CHIEF STRUCTURAL DEVELOPMENT ENGINEER
FHWA	



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

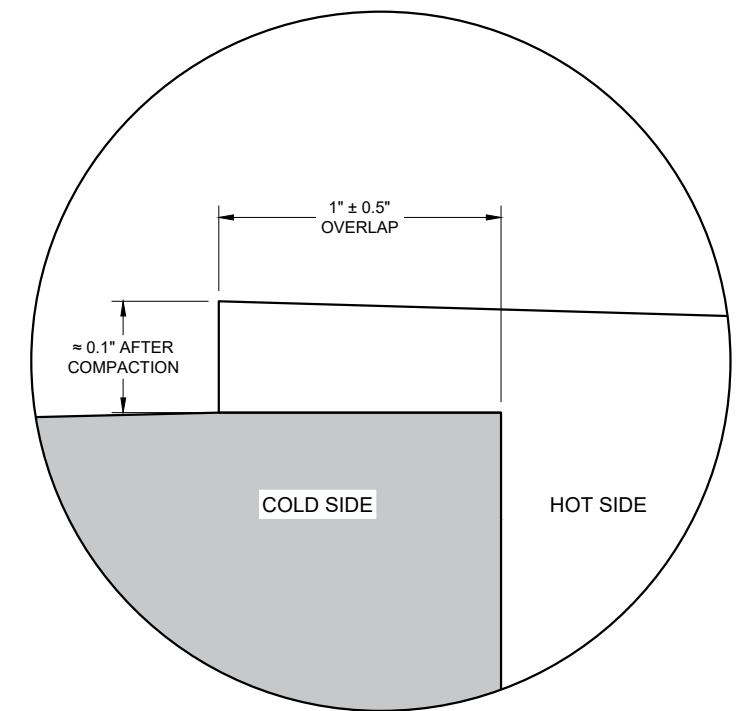
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

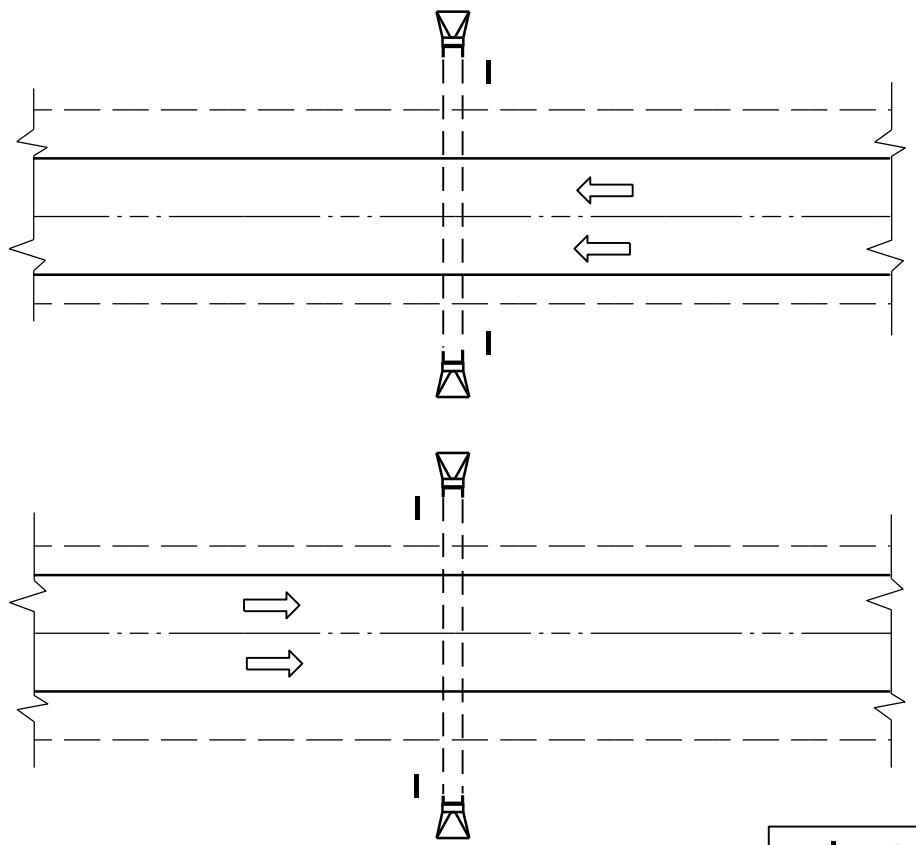
6

6

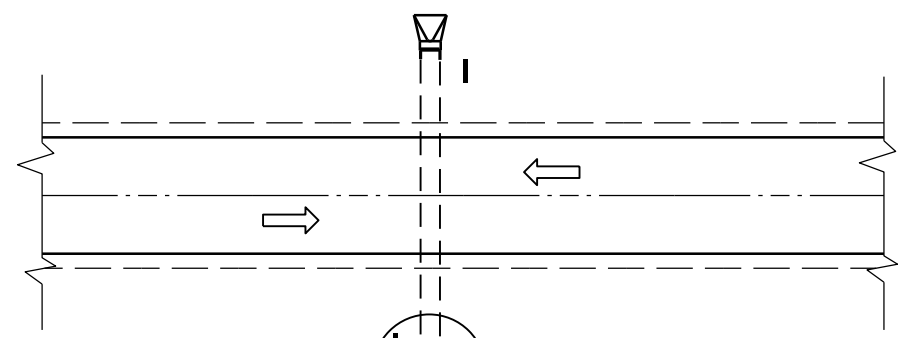
SDD 13C19 - 03

SDD 13C19 - 03

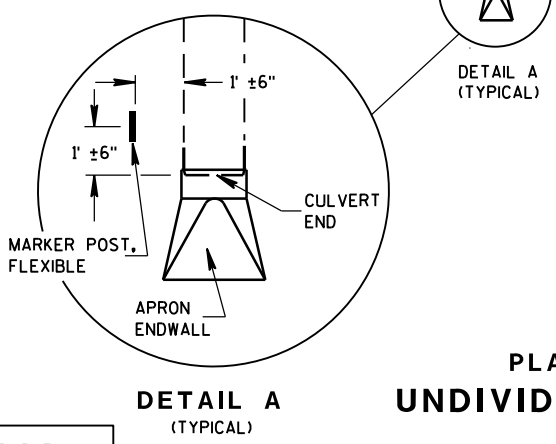
HMA LONGITUDINAL JOINTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2020 DATE	/S/ Steven Hefel HMA PAVEMENT ENGINEER
FHWA	



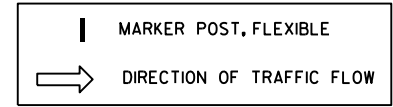
PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

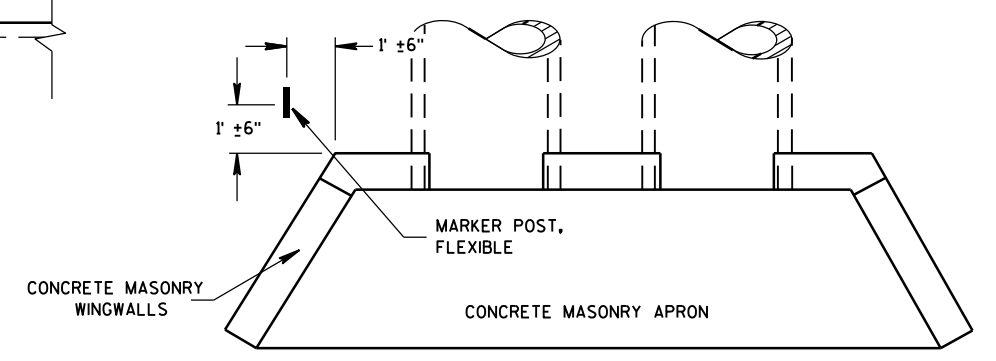


DETAIL A
(TYPICAL)



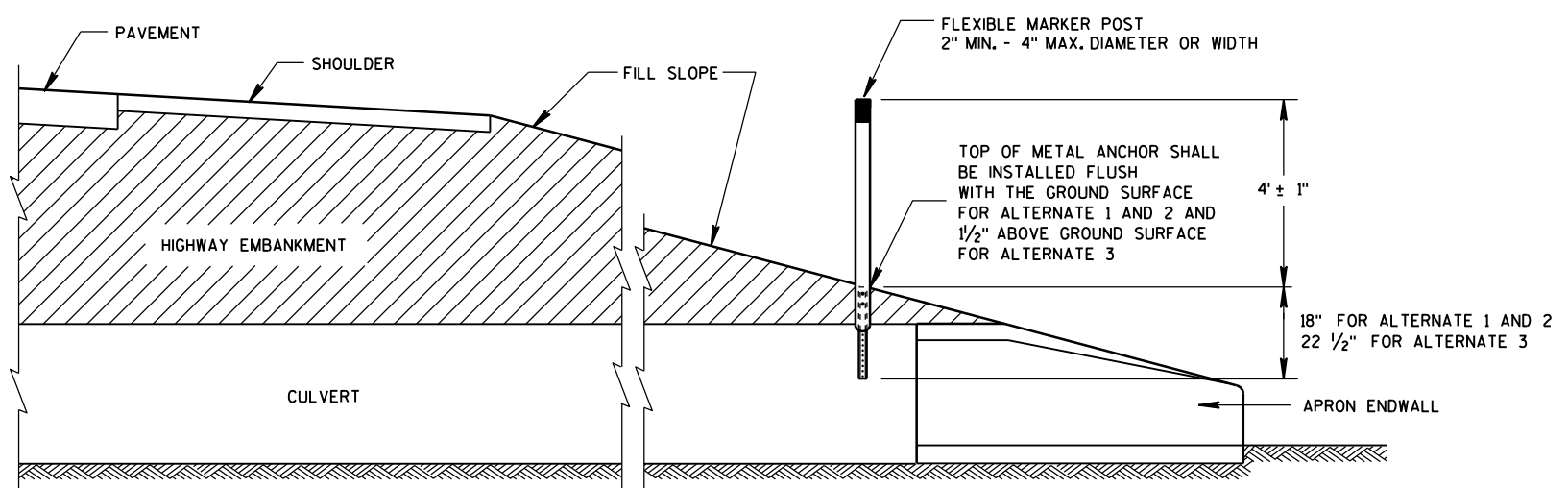
GENERAL NOTES

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



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION
FLEXIBLE MARKER POST

**FLEXIBLE MARKER POST
FOR CULVERT END**

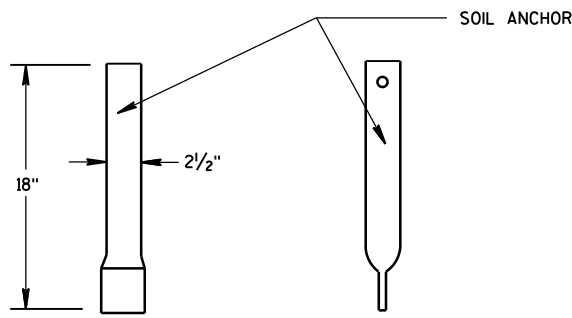
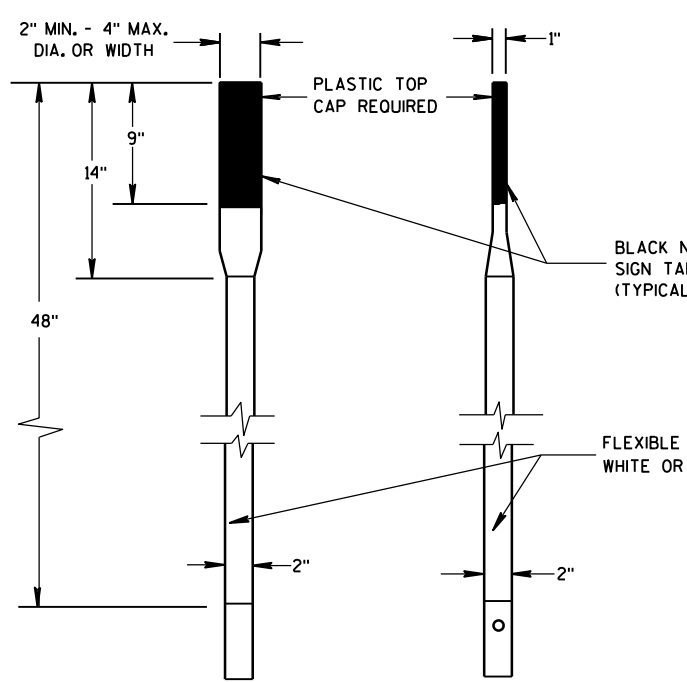
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

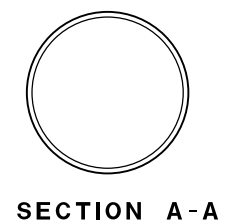
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S.D.D. 15 A 3-2a

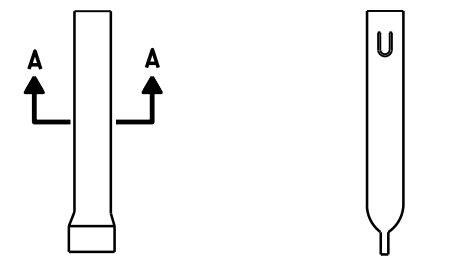
S.D.D. 15 A 3-2a



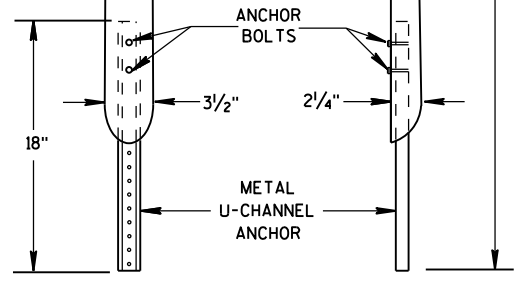
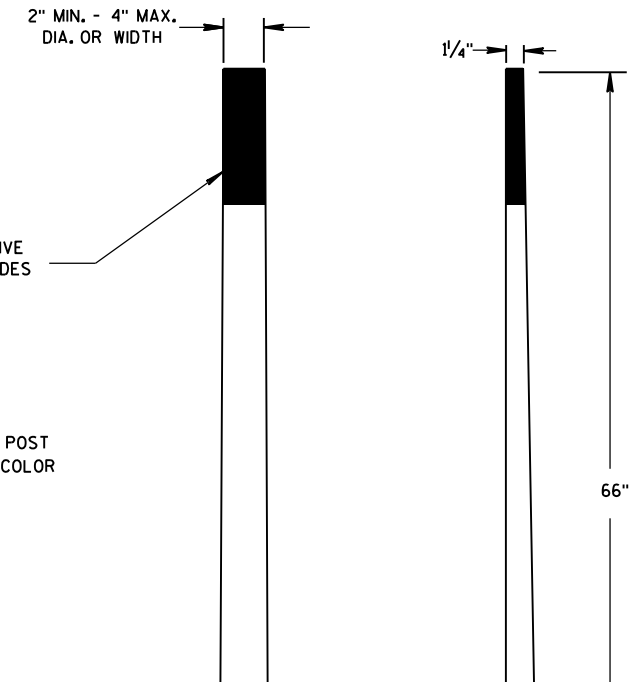
FRONT VIEW SIDE VIEW
ALTERNATE 1



SECTION A-A

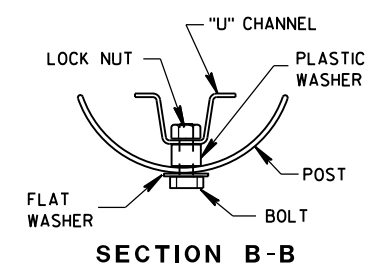


FRONT VIEW SIDE VIEW
ALTERNATE 1

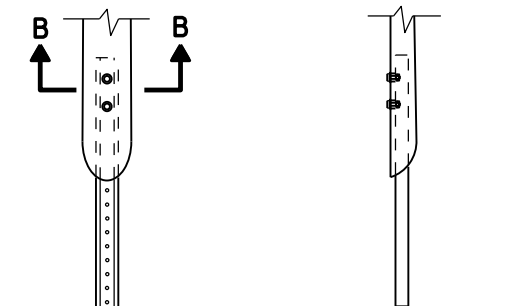


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS

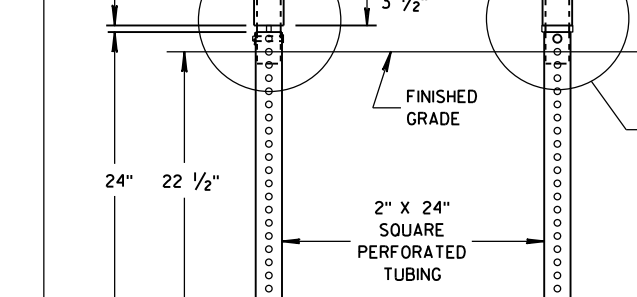
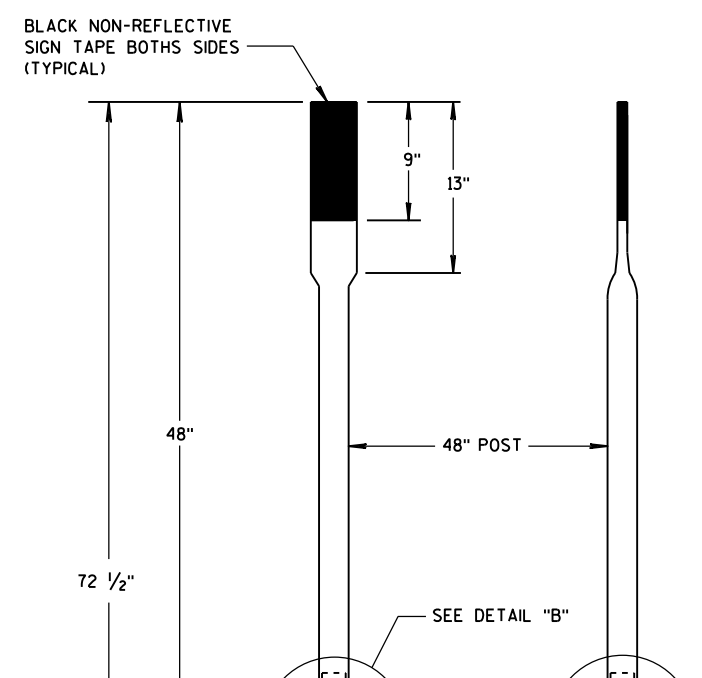


SECTION B-B

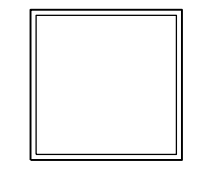


FRONT VIEW SIDE VIEW
ALTERNATE 2

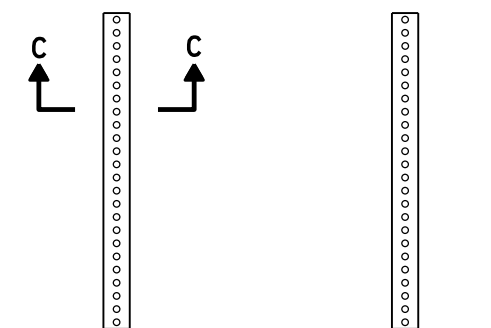
FLEXIBLE MARKER POST ANCHORS



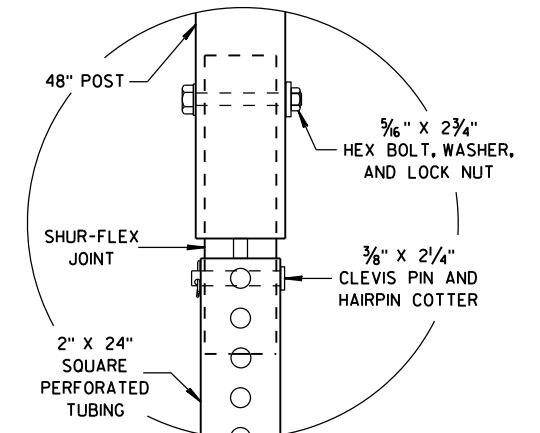
FRONT VIEW SIDE VIEW
ALTERNATE 3



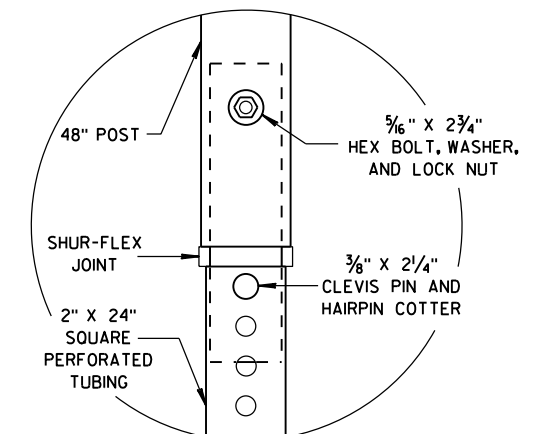
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 3



DETAIL B

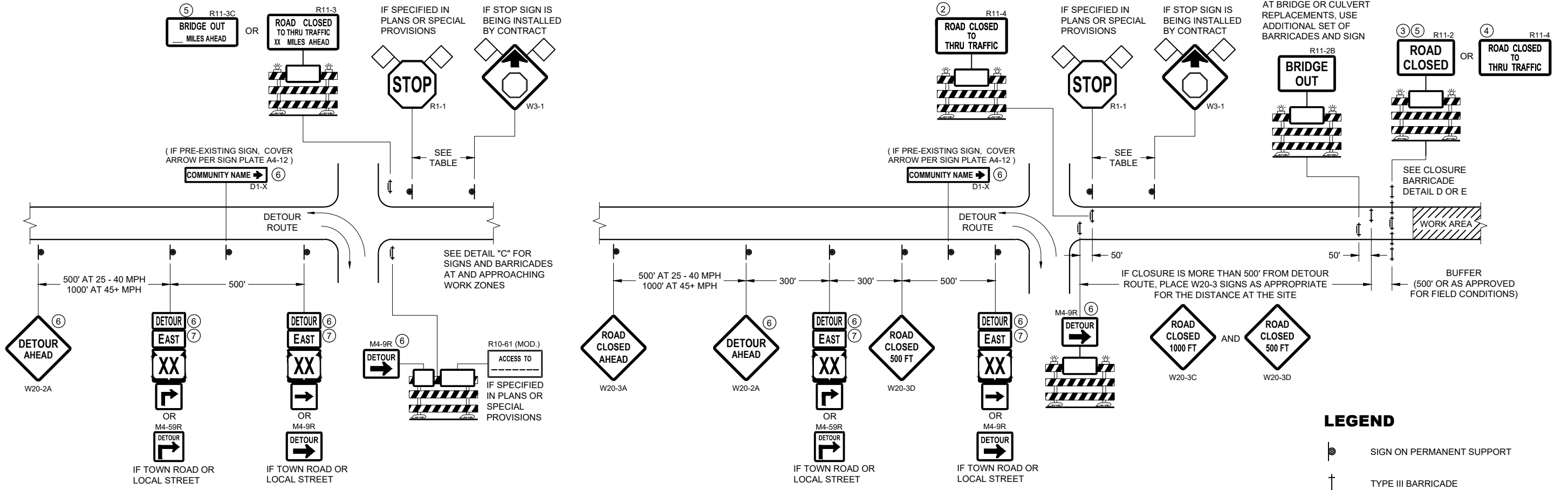


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

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

**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

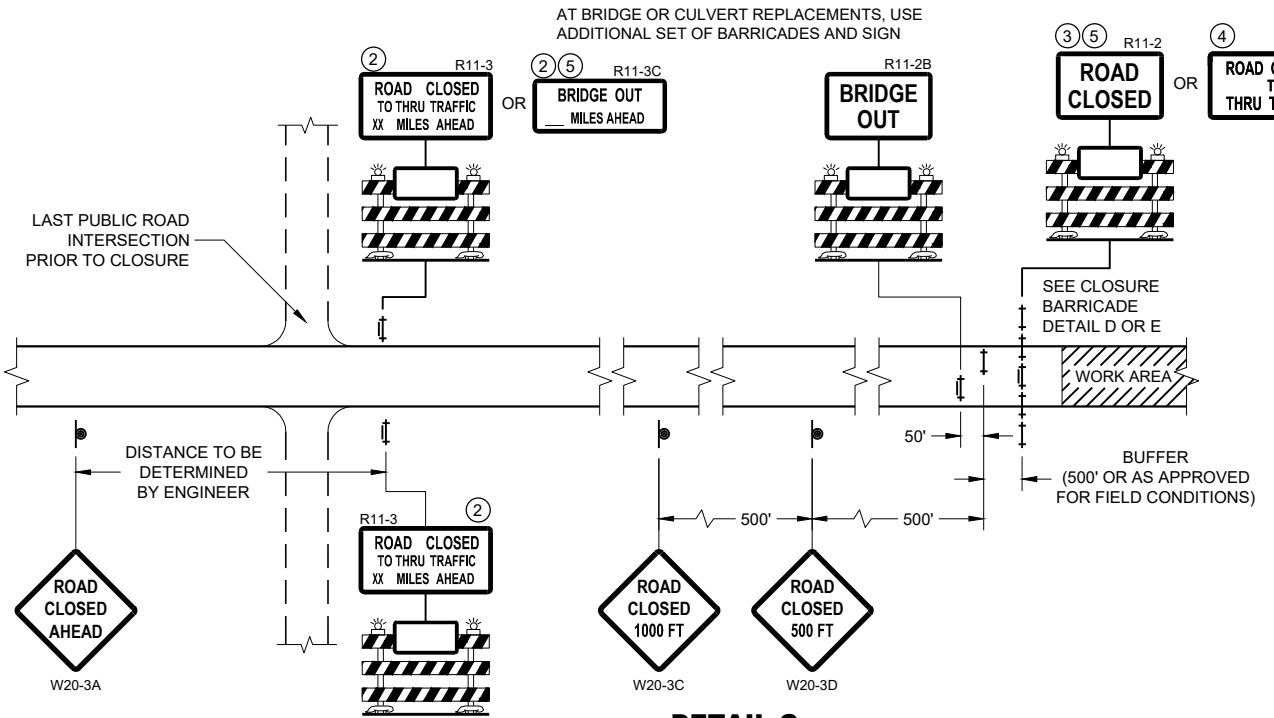
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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)

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

- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1



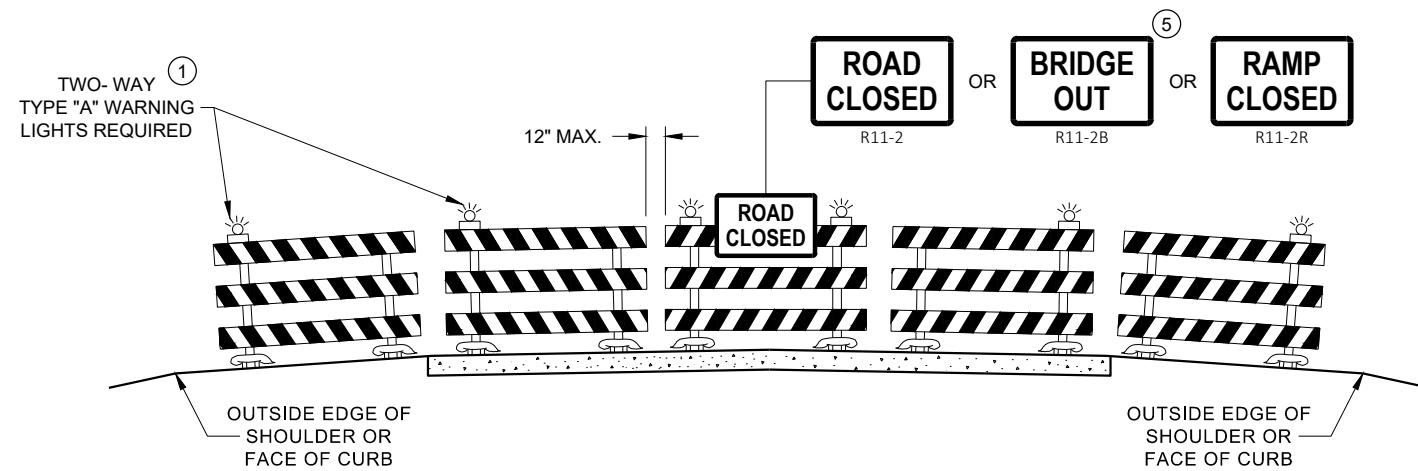
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

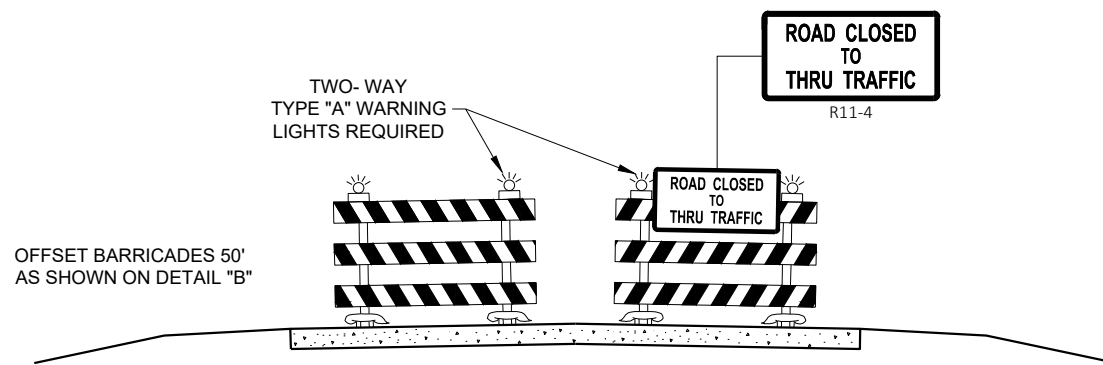
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
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"

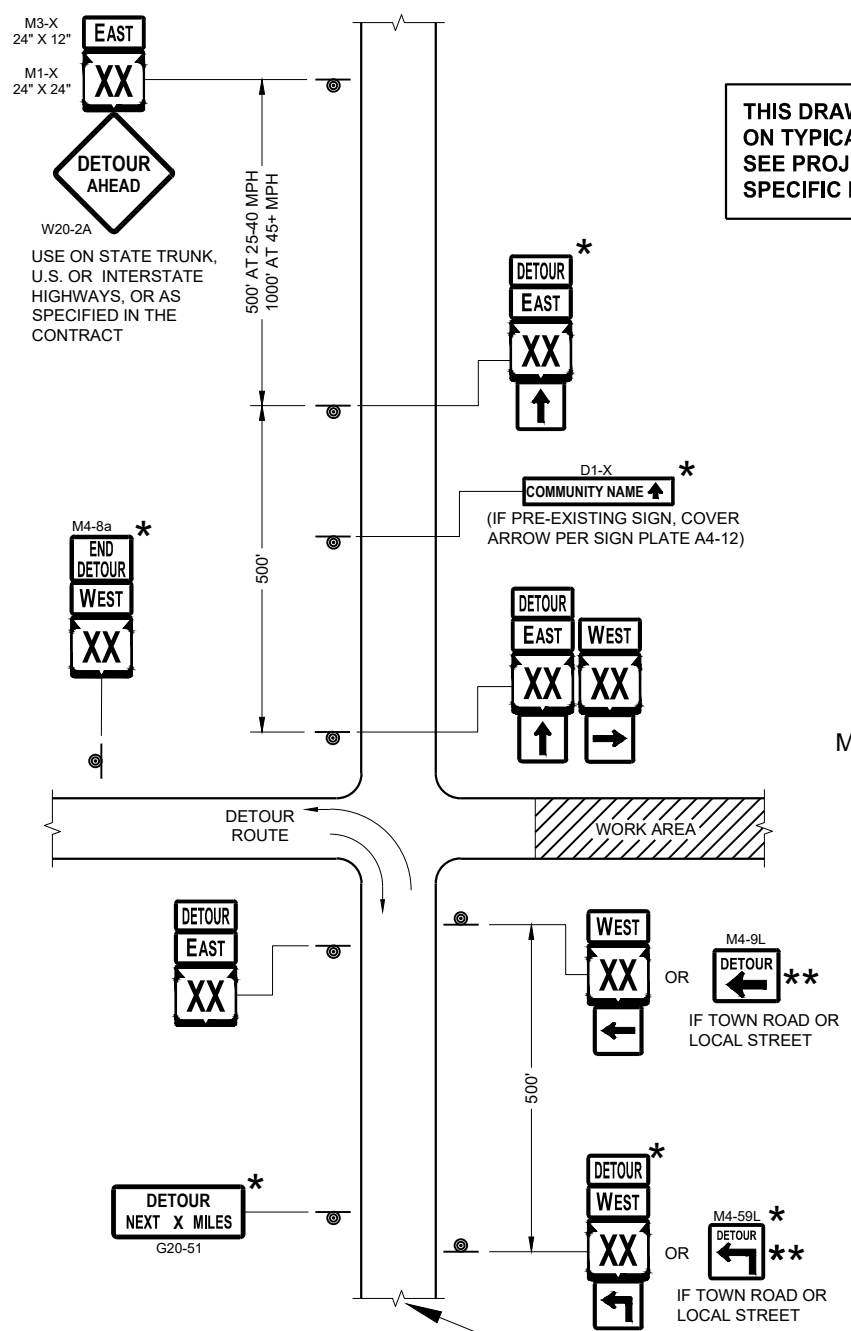
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



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

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

GENERAL NOTES

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

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

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

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

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

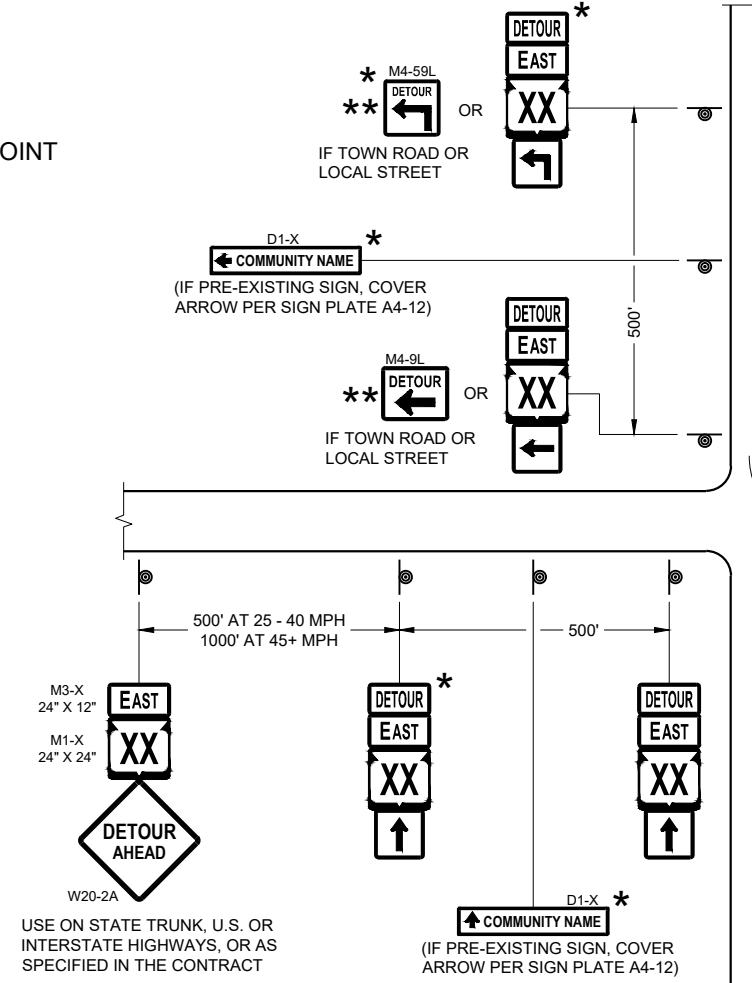
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

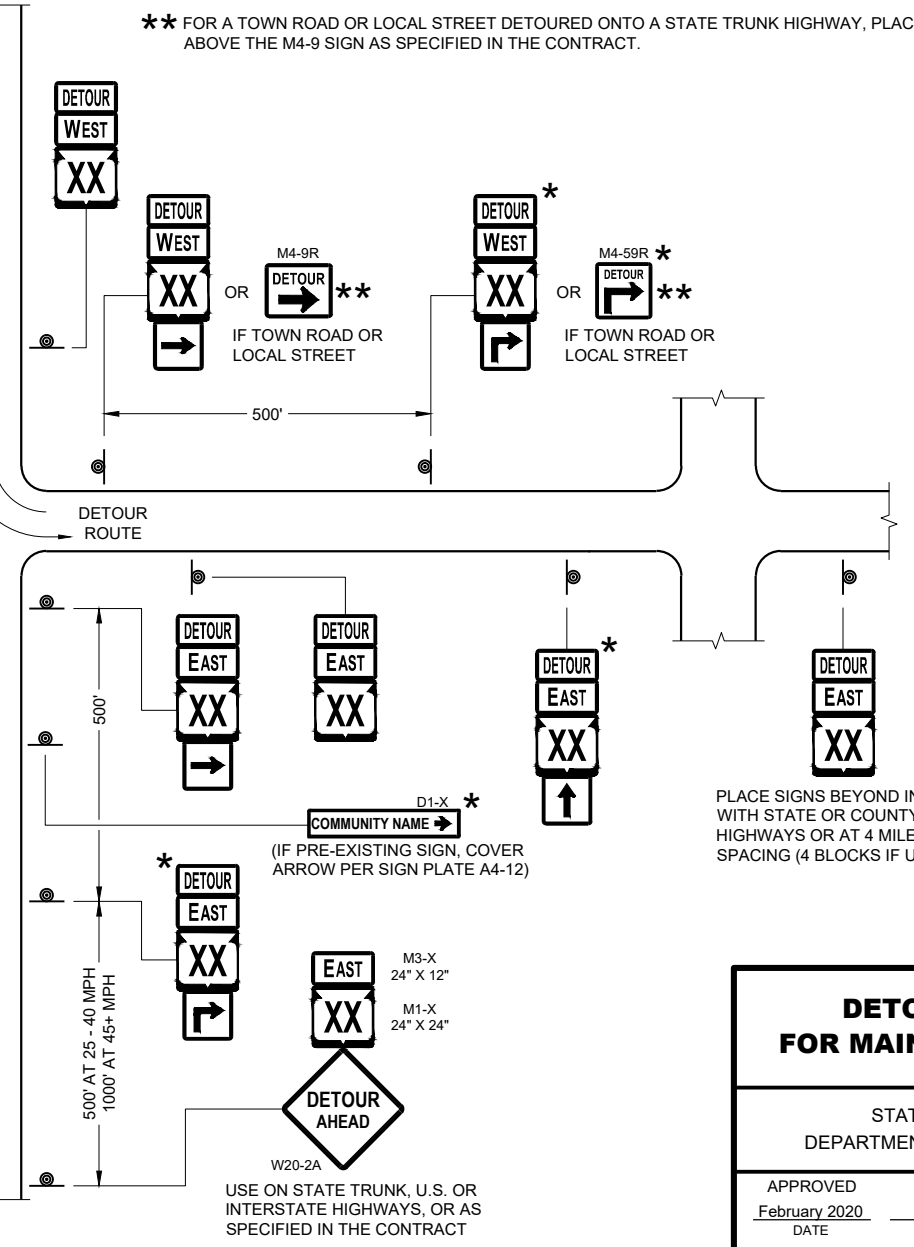
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



**DETAIL F
DETOUR SIGNING**



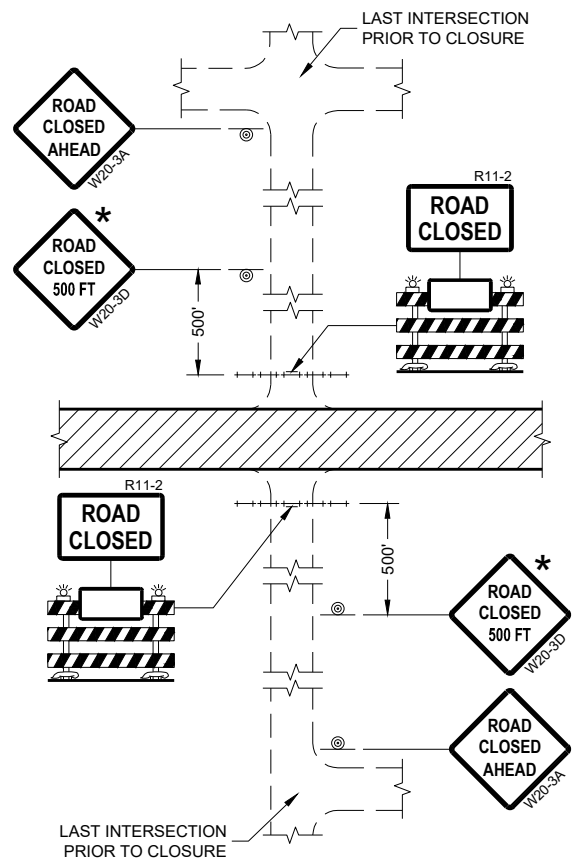
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

**DETOUR SIGNING
FOR MAINLINE CLOSURES**

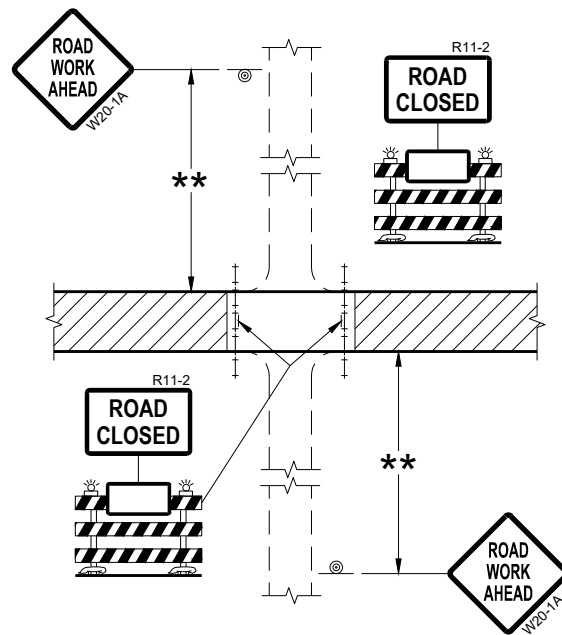
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

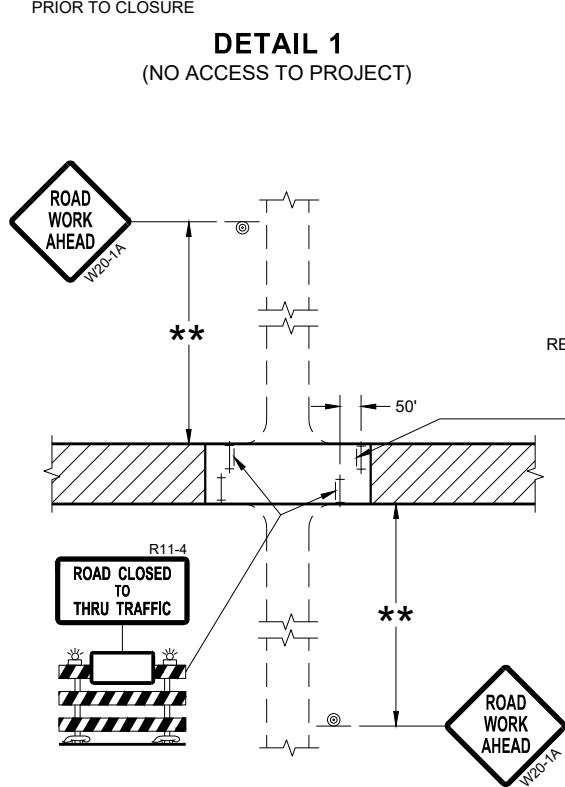
FHWA



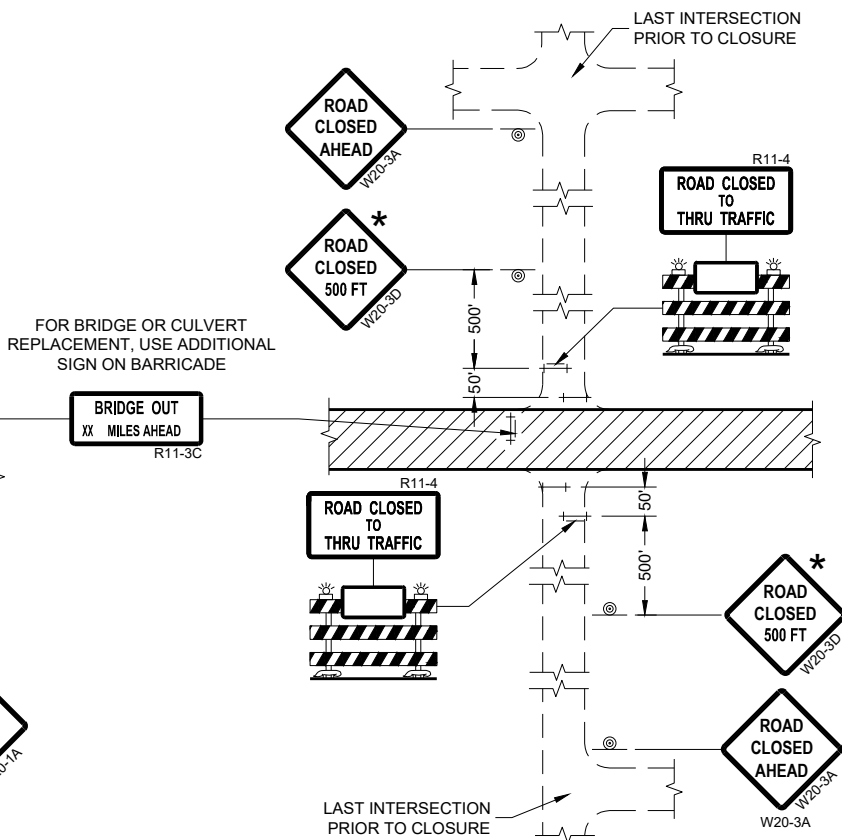
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

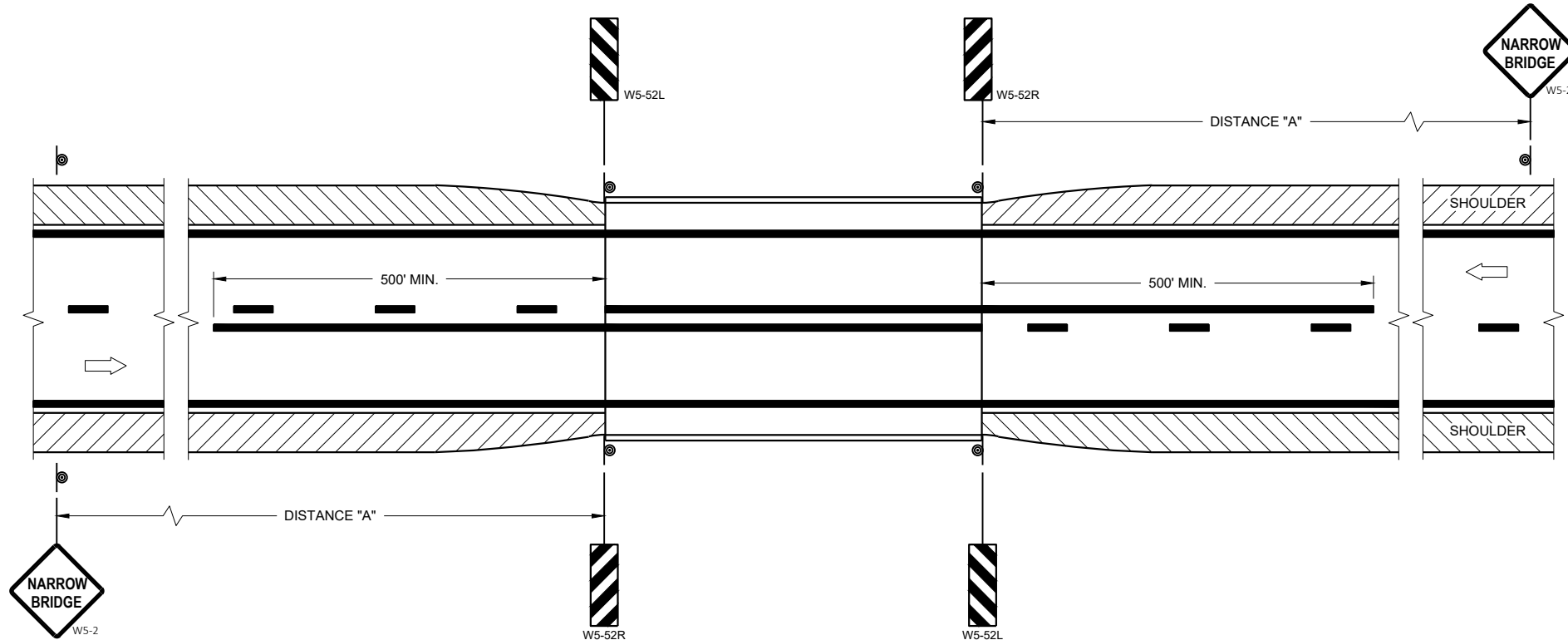
LEGEND

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

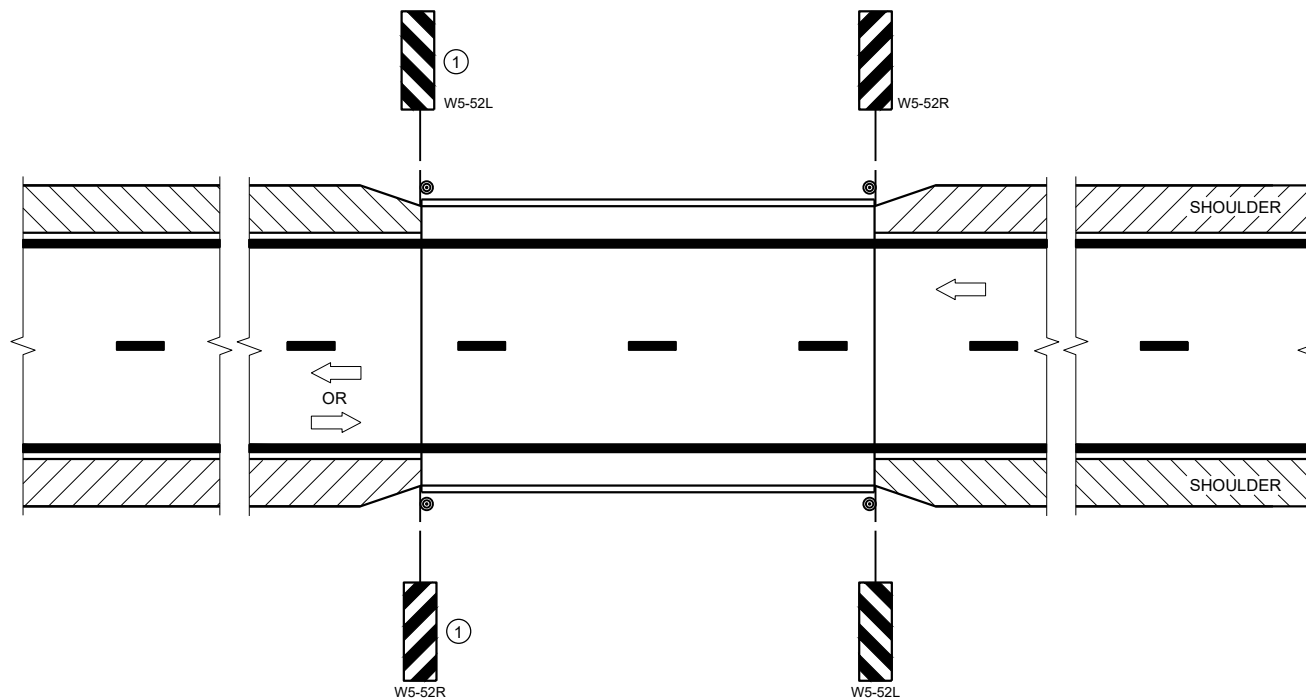
**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



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 2022 /S/ Jeannie Silver
 DATE STATE SIGNING AND MARKING ENGINEER

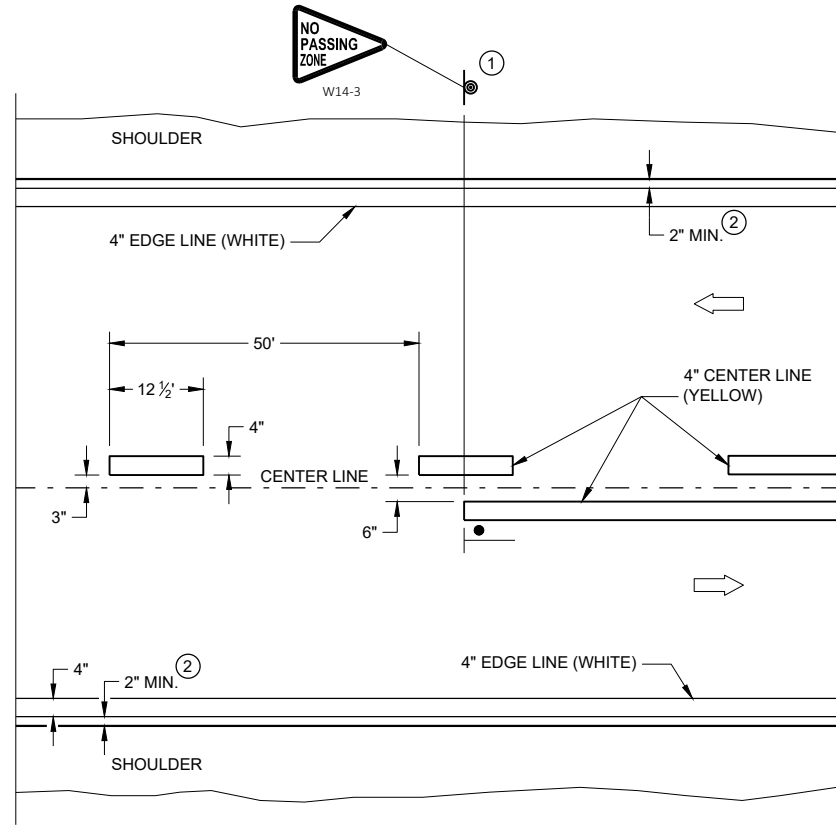
GENERAL NOTES

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

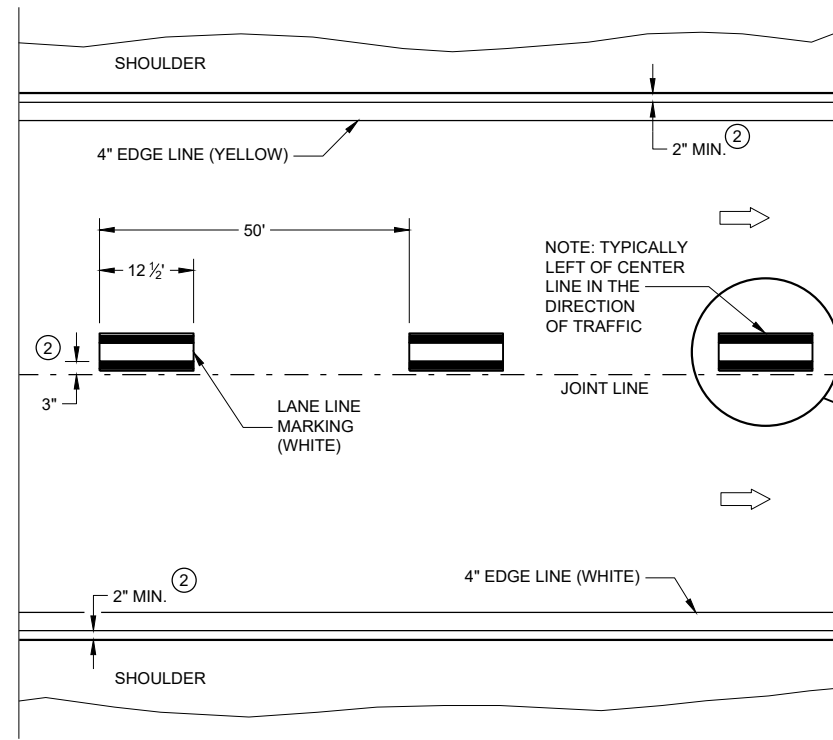
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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

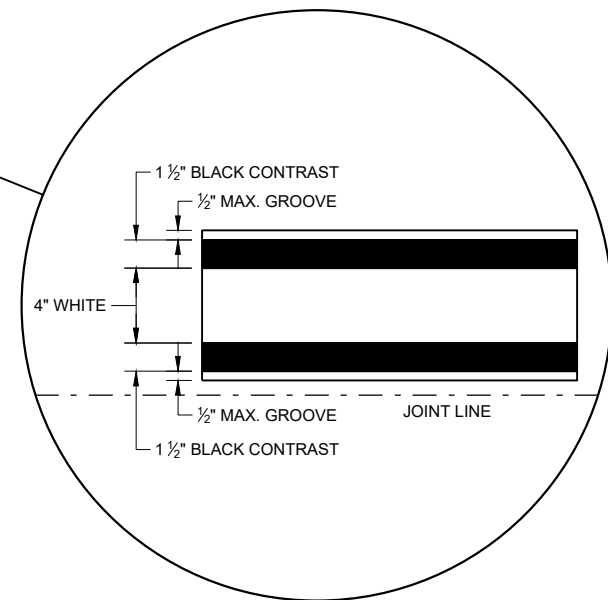


TWO WAY TRAFFIC



ONE WAY TRAFFIC

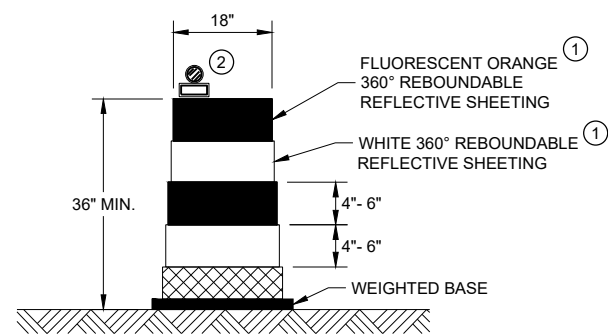
PERMANENT PAVEMENT MARKING



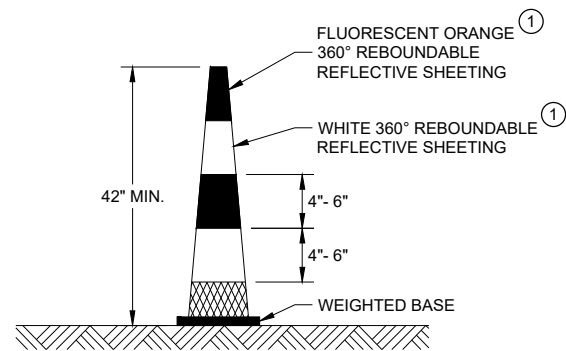
PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

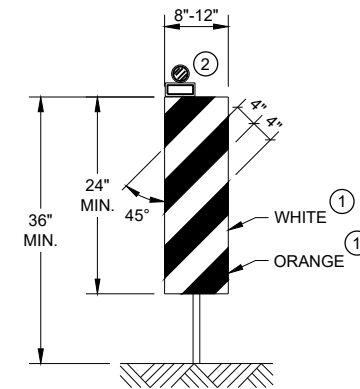


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

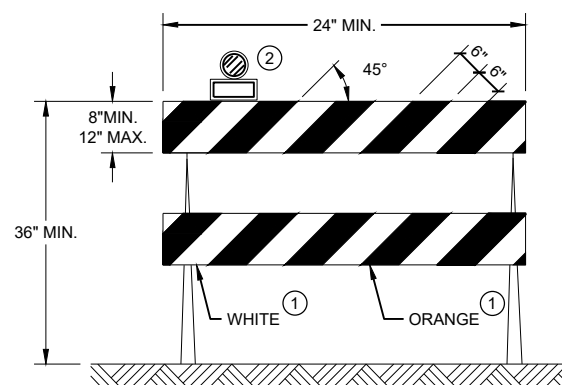


VERTICAL PANEL

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

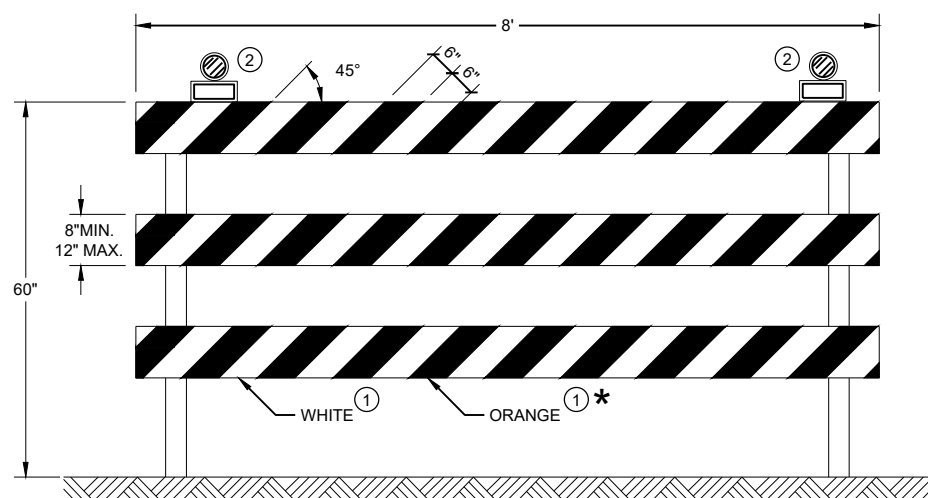
GENERAL NOTES

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



TYPE II BARRICADE

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



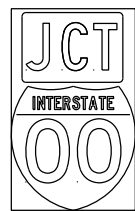
TYPE III BARRICADE

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

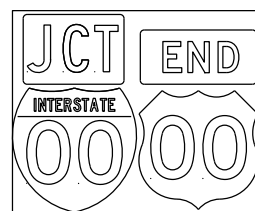
* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2021 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	

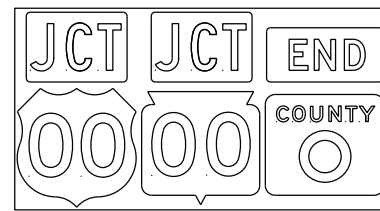
TYPICAL ASSEMBLIES



J1-1



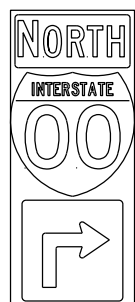
J1-2



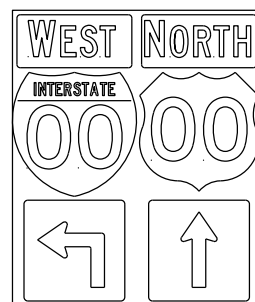
J1-3



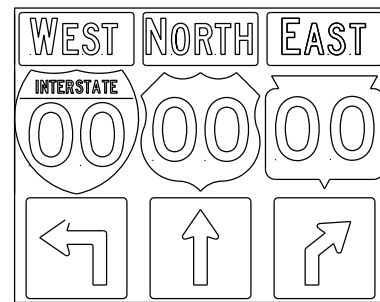
JR1-1



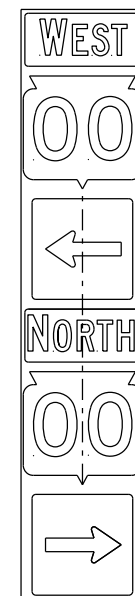
J2-1



J2-2

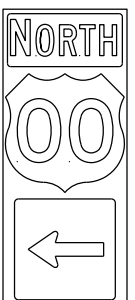


J2-3

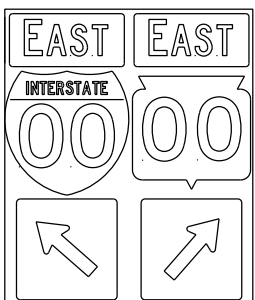


JV

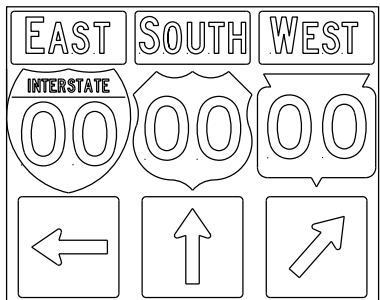
(Typical Vertical J-Assembly
See Note 10 and 11)



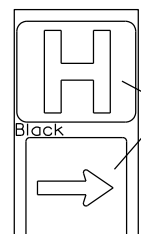
J3-1



J3-2

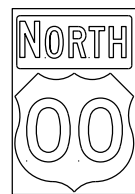


J3-3

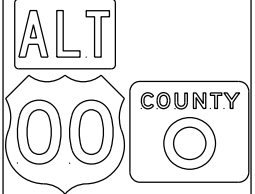


JH-1

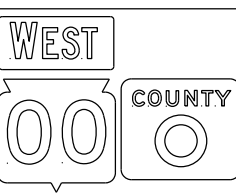
Blue Background



J4-1

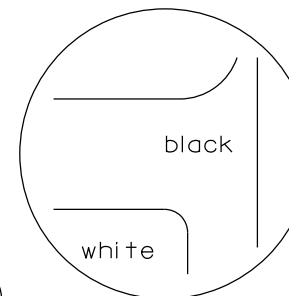
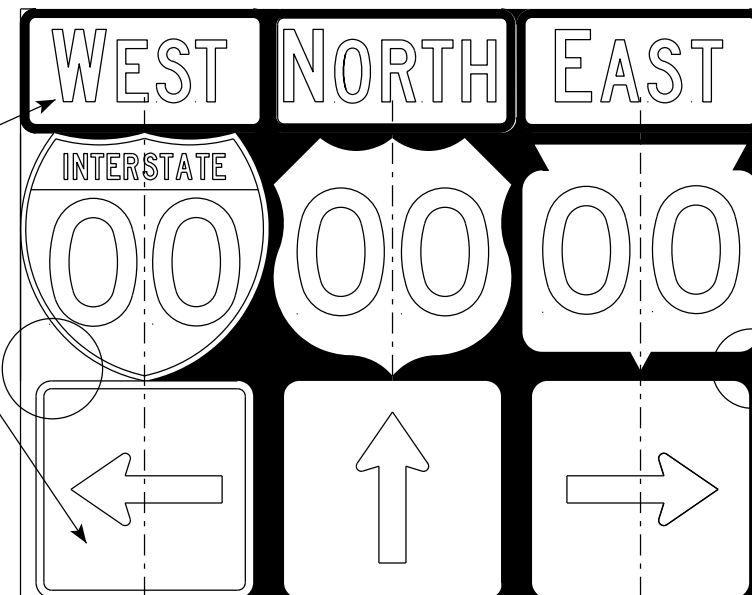
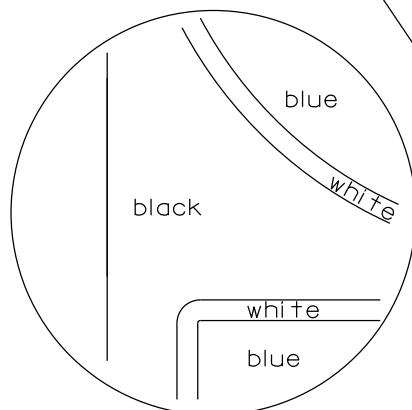


J4-2



J4-2

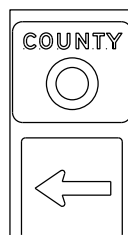
blue background with interstate



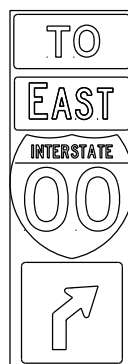
black background



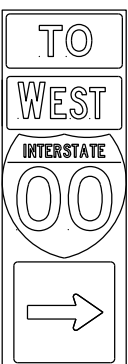
J12-1



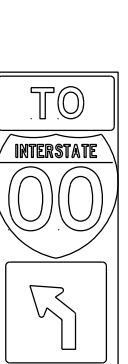
J13-1



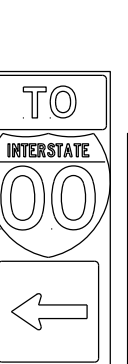
J32-1



J33-1



J22-1



J23-1



JR13-1



JR23-1



JR99-1

NOTES

- Signs are Type II - Type H Reflective
- Color:
Background - Black Non-reflective
Message - see Note 5
- Message Series - See Note 5
- Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
- The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an MI-1 Interstate marker shall be blue.
- Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
- Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- Route assemblies that have 36 inch shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
- All Vertical J Assemblies are given a Sign Code of JV
- For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 3/18/21

PLATE NO. A2-1S.9

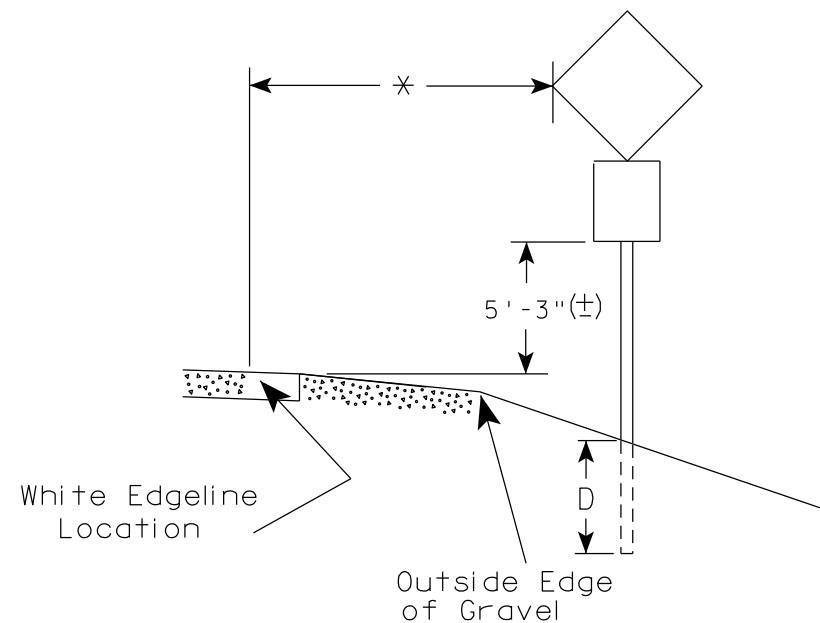
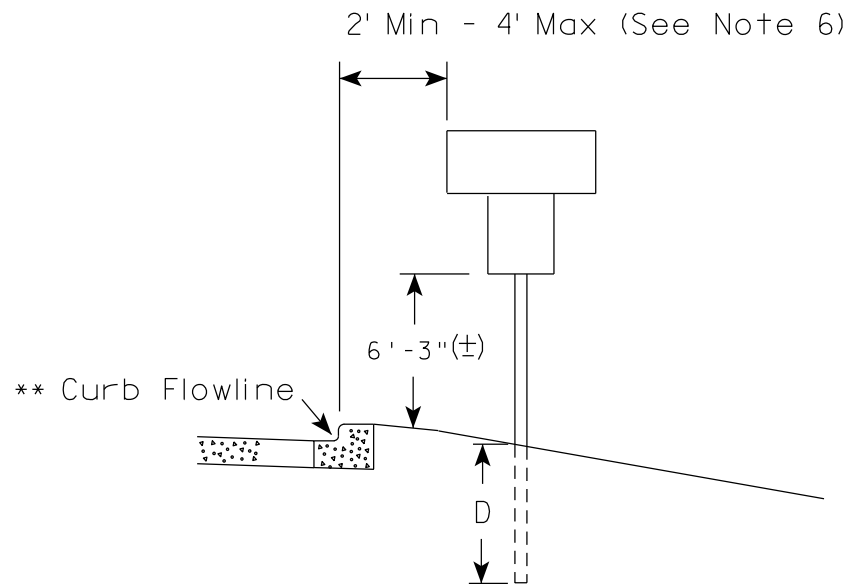
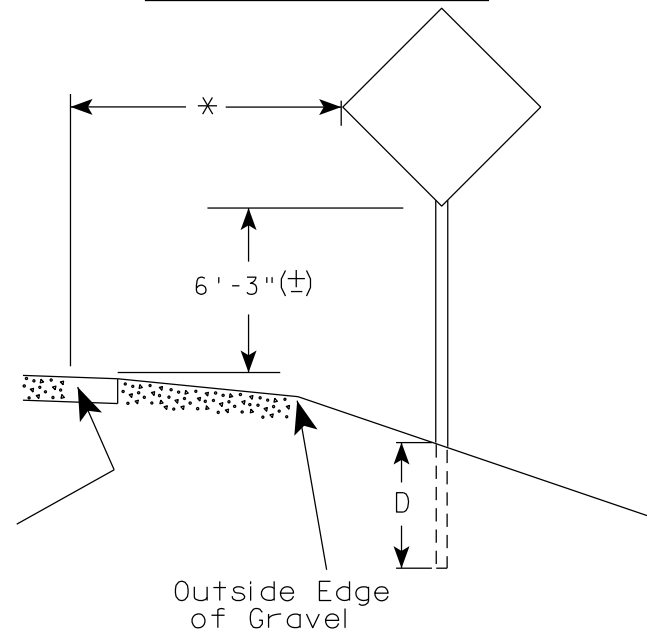
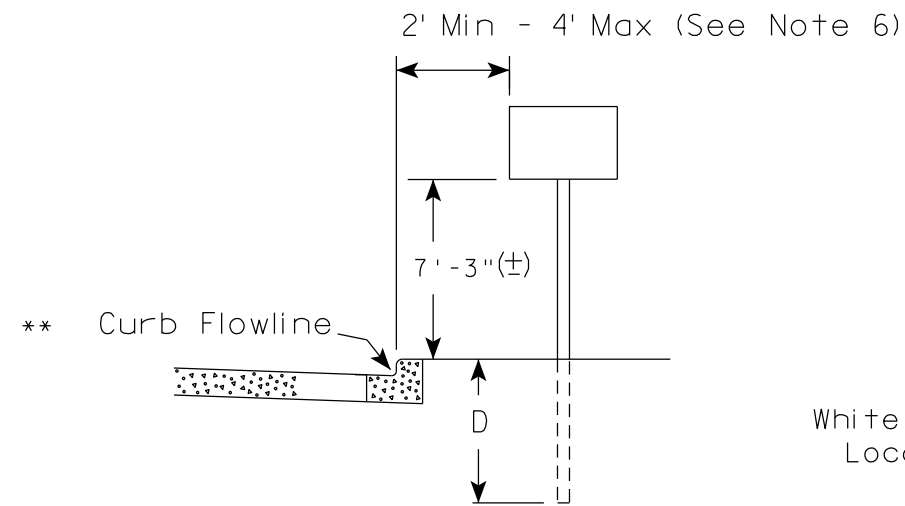
PROJECT NO:

SHEET NO:

E

URBAN AREA

RURAL AREA (See Note 2)



POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

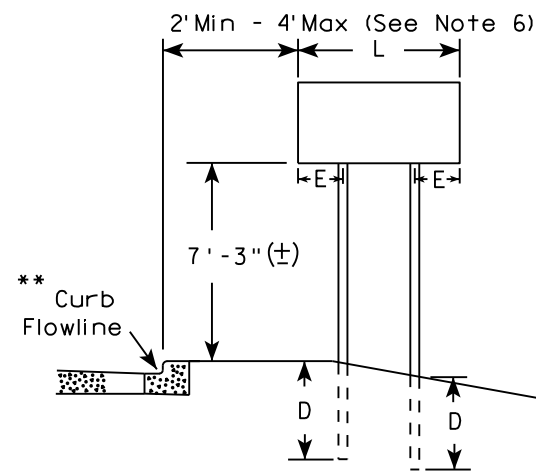
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

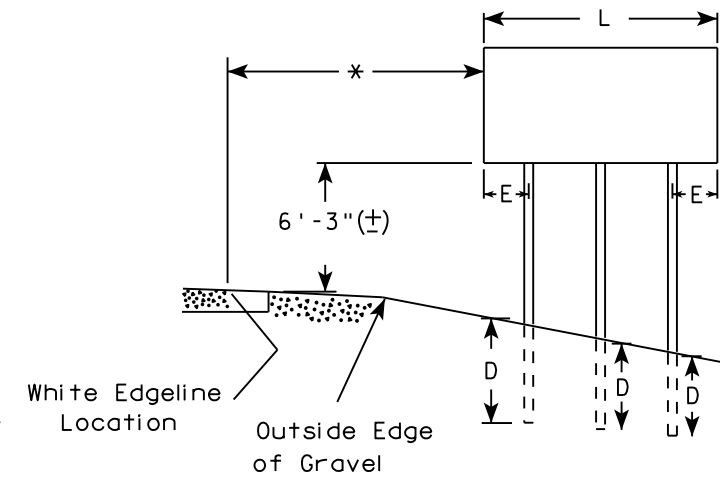
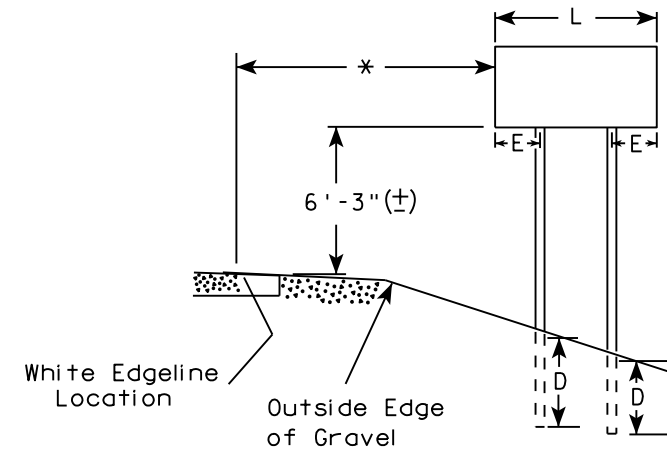
GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. 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" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

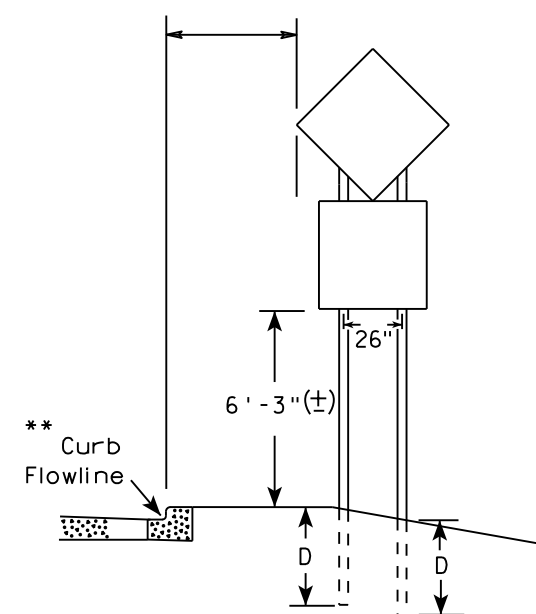
URBAN AREA



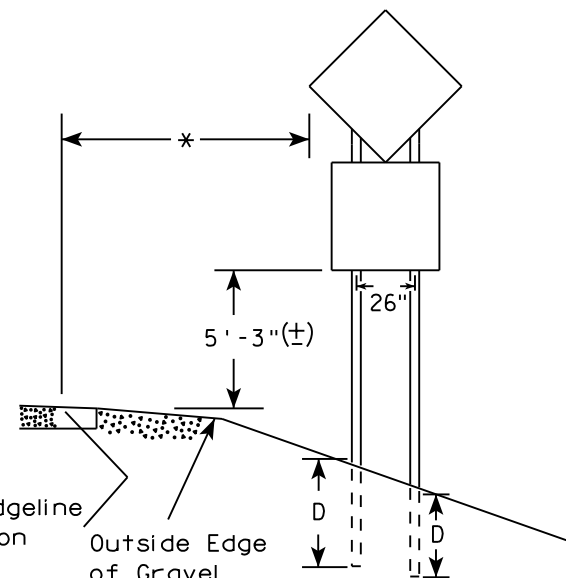
RURAL AREA (See Note 3)



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



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

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

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

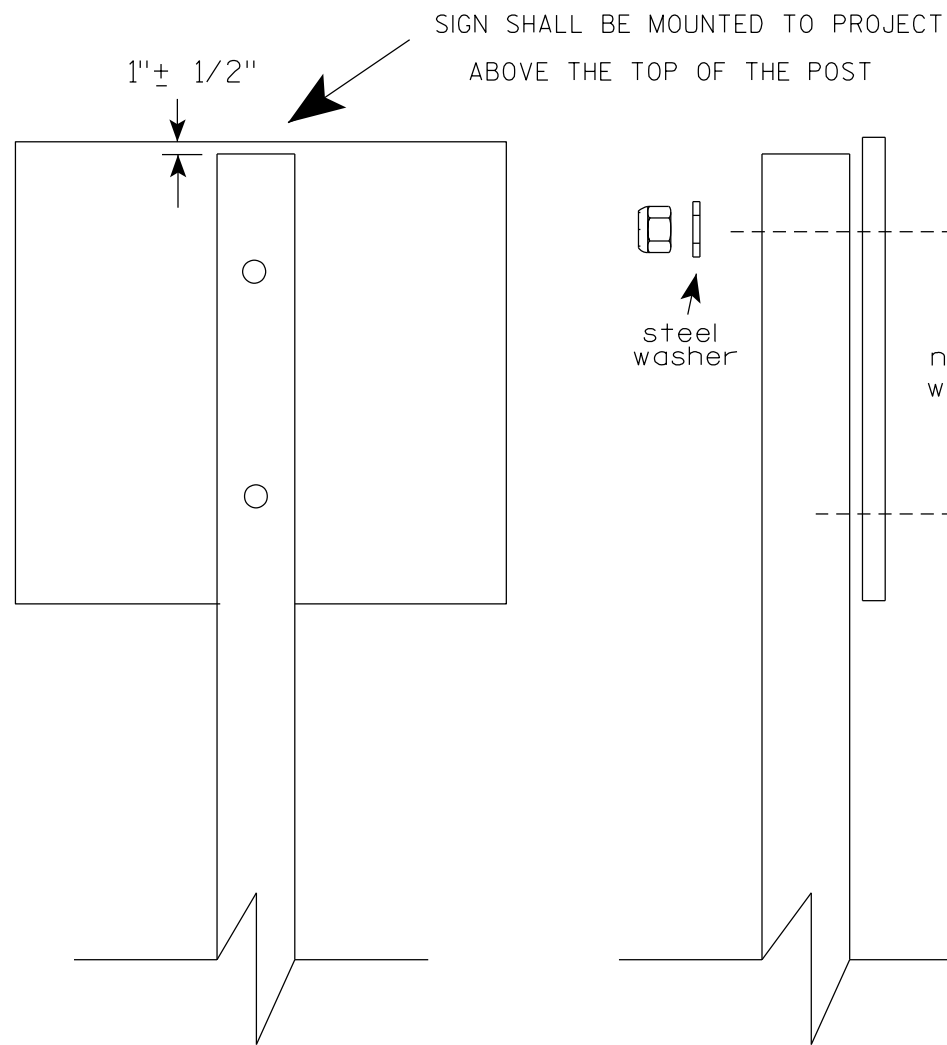
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

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 8/21/17 PLATE NO. A4-4.15



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

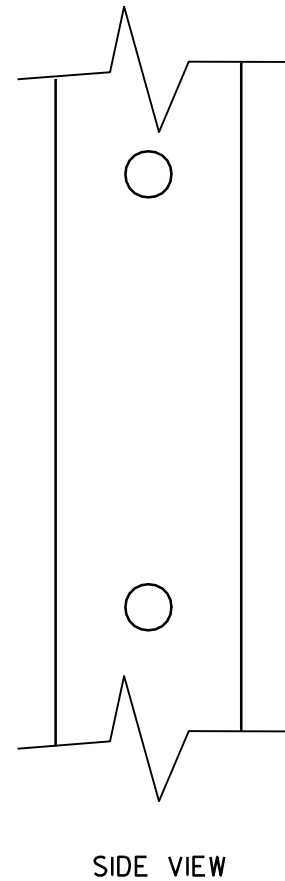
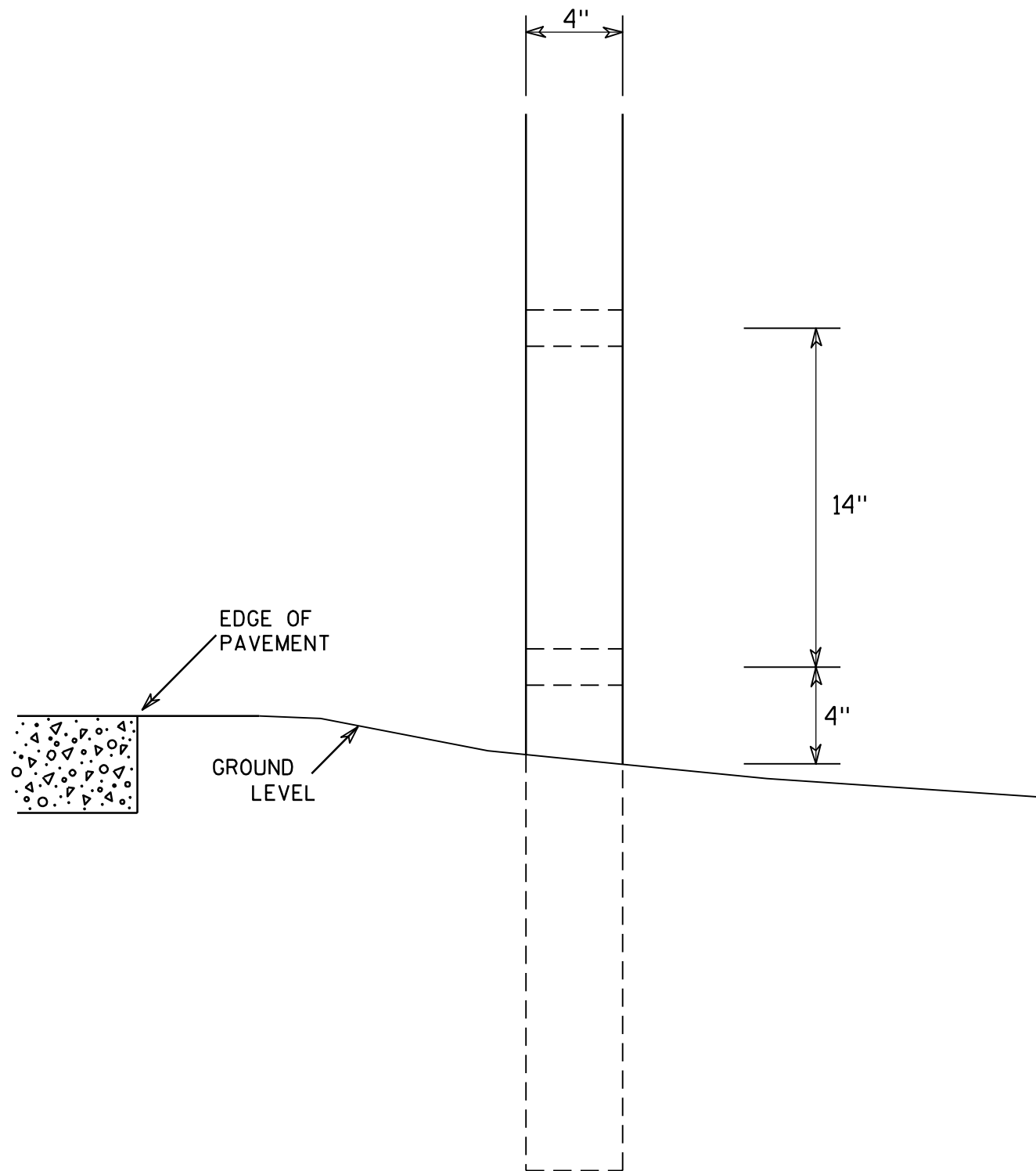
- Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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 <u>4/1/2020</u>	PLATE NO. <u>A4-8.9</u>



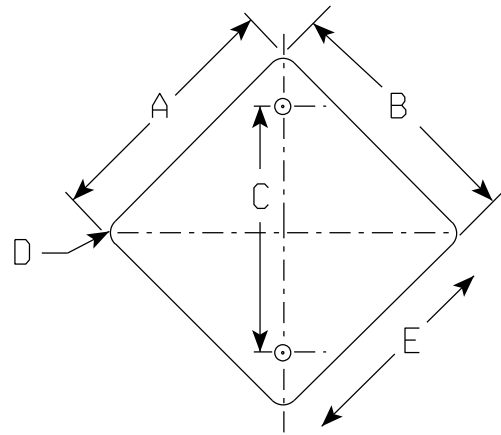
GENERAL NOTES

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

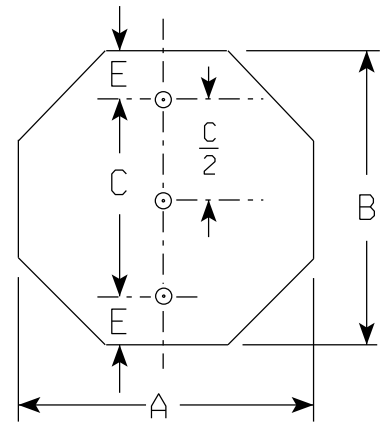
7

7

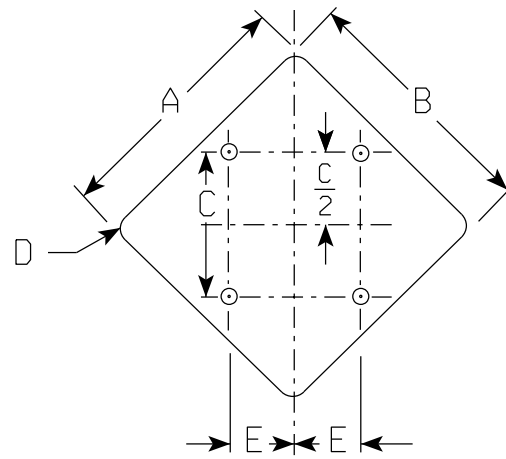
4 X 6 WOOD POST MODIFICATIONS	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>



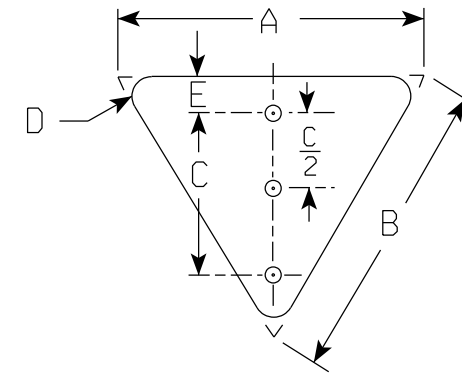
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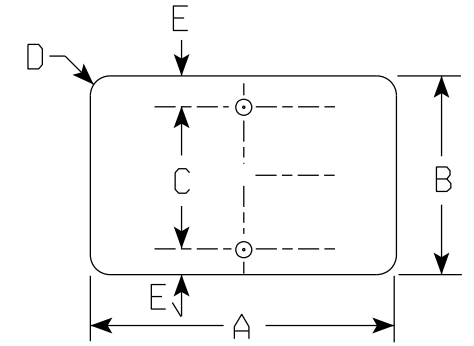
2



3



4



5

NOTES

1. All sign blanks shall have $\frac{7}{16}$ " Diameter mounting hole.

ALUMINUM THICKNESS

SIGN WIDTH	NOMINAL THICKNESS
30 inches and under	0.080 inch
Greater than 30-36 inches	0.100 inch
Over 36 inches	0.125 inch

STOP SIGN THICKNESS

SIGN WIDTH	NOMINAL THICKNESS
30 inches	0.100 inch
36-48 inches	0.125 inch

TYPE 1						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
18	18	18	1½	14	2.25	2
24	24	24	1½	20	4.0	2
30	30	30	1¾	22	6.25	2
36	36	36	2¼	26	9.0	2

TYPE 4						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
18	18	14	1	2	1.95	2
36	36	24	2	2	3.9	2
48	48	32	3	3	7.0	2

TYPE 5 CONT'D.						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
30	30	22	1⅞	4	6.25	2
36	12	8	1½	2	3.0	2
36	18	14	1½	2	4.5	2
36	24	20	1½	2	6.0	2
36	36	26	2¼	5	9.0	2
40	18	14	1½	2	5.00	2
42	21	17	1⅞	2	6.125	2
42	30	22	1⅞	4	8.75	2
48	24	20	1⅞	2	8.0	2

TYPE 2					
A	B	C	E	Area Sq. Ft.	Mounting Holes
24	24	20	2	3.31	2
30	30	24	3	5.18	2
36	36	28	4	7.46	2
48	48	36	6	13.25	3

TYPE 5						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
8	8	6	1½	1	0.44	2
12	12	9	1½	1½	1.00	2
18	18	14	1½	2	2.25	2
21	15	11	1½	2	2.19	2
21	21	17	1½	2	3.06	2
24	12	8	1½	2	2.0	2
24	18	14	1½	2	3.0	2
24	24	20	1½	2	4.0	2
30	12	8	1½	2	2.5	2
30	15	11	1½	2	3.13	2
30	18	14	1½	2	3.75	2
30	21	17	1½	2	4.37	2
30	24	20	1½	2	5.0	2

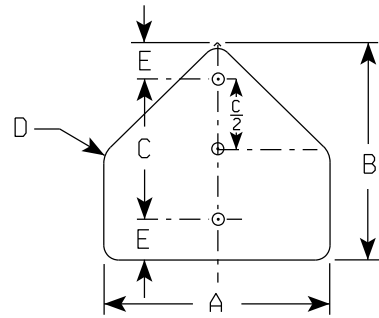
TYPE 3						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	48	26	3	13	16.0	4

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS
SHEET 1 OF 3

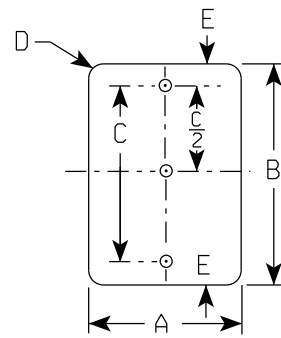
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

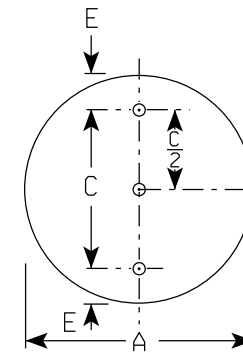
DATE 8/23/18 PLATE NO. A5-3.24



6



7



8

NOTES

- All sign blanks shall have $\frac{7}{16}$ " Diameter mounting holes.

TYPE 6						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
30	30	24	$1\frac{3}{8}$	3	4.68	2
36	36	26	$1\frac{5}{8}$	5	6.75	2
48	48	32	$1\frac{7}{8}$	8	12.0	3

TYPE 7 *							
A	B	C	D	E	Area Sq. Ft.	Mounting Holes	
12	18	15	$1\frac{1}{2}$	$1\frac{1}{2}$	1.5	2	
12	24	20	$1\frac{1}{2}$	2	2.0	2	
12	36	24	$1\frac{1}{2}$	6	3.0	2	
12	48	32	$1\frac{1}{2}$	8	4.0	3	
15	21	18	$1\frac{1}{2}$	$1\frac{1}{2}$	2.19	2	
18	24	20	$1\frac{1}{2}$	2	3.0	2	
18	36	24	$1\frac{1}{2}$	6	4.5	2	
18	54	36	$2\frac{1}{2}$	9	6.75	3	
21	60	40	$1\frac{1}{2}$	10	8.75	3	
21	72	52	$1\frac{1}{2}$	10	10.5	3	
24	30	22	$1\frac{1}{2}$	4	5.0	2	
24	36	24	$1\frac{1}{2}$	6	6.0	2	
24	39	27	$1\frac{1}{2}$	6	6.5	3	
24	45	33	$1\frac{7}{8}$	6	7.5	3	
24	48	32	$1\frac{7}{8}$	8	8.0	3	
24	57	37	$1\frac{7}{8}$	10	9.5	3	
36	48	32	$1\frac{7}{8}$	8	12.0	3	
30	36	24	$1\frac{7}{8}$	6	7.5	2	
36	54	36	$2\frac{1}{4}$	9	12.75	3	
36	57	37	$1\frac{7}{8}$	10	14.25	3	
48	39	27	$1\frac{7}{8}$	10	13.0	3	
48	45	32	$1\frac{7}{8}$	10	14.0	3	
48	57	37	3	10	19.0	3	

TYPE 8						
A	B	C	E	Area Sq. Ft.	Mounting Holes	
30	—	24	3	4.91	2	
36	—	26	5	7.07	2	
48	—	32	8	12.5	3	

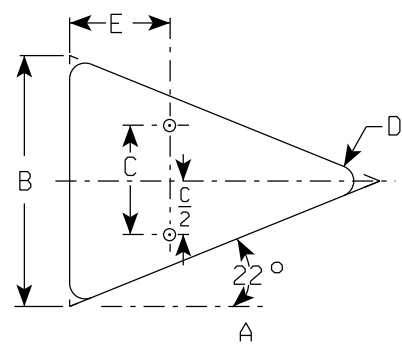
* FOR SIGNS OVER 57" IN HEIGHT, PROVIDE 3 MOUNTING HOLES AT 10" FROM THE TOP AND BOTTOM OF SIGN AND IN THE CENTER OF SIGN.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS
SHEET 2 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

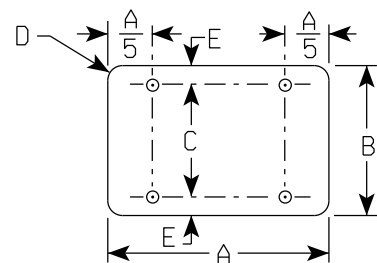
DATE 8/23/18 PLATE NO. A5-3.24



10

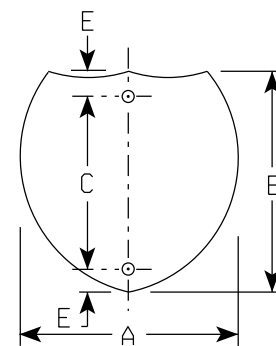
TYPE 10 (NOTE 1)						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	36	14	2 1/4	16	6.0	2

TYPE 11						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
66	12	8	3	2	5.5	4
66	18	14	3	2	8.25	4
66	24	20	3	2	11.0	4
66	30	22	3	4	13.75	4
66	36	28	3	4	16.5	4
66	42	34	3	4	19.25	4
66	48	40	3	4	22.0	4
72	12	8	3	2	6.0	4
72	18	14	3	2	9.0	4
72	24	20	3	2	12.0	4
72	30	22	3	4	15.0	4
72	36	28	3	4	18.0	4
72	42	34	3	4	21.0	4
72	48	40	3	4	24.0	4



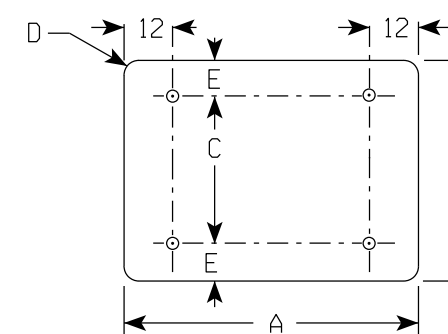
11

TYPE 12 (NOTE 2)					
A	B	C	E	Area Sq. Ft.	Mounting Holes
24	24	18	3	3.13	2
30	24	18	3	3.91	2
36	36	28	4	7.03	2
45	36	28	4	8.79	2



12

TYPE 13						
A	B	C	D	E	Area Sq. Ft.	Mounting Holes
48	60	40	3	10	20.0	4
54	12	8	1 1/2	2	4.5	4
54	15	11	1 1/2	2	5.63	4
54	18	14	1 1/2	2	6.75	4
54	21	17	1 1/2	2	7.88	4
54	24	20	1 7/8	2	9.0	4
54	36	28	1 7/8	4	13.5	4
54	48	40	1 7/8	4	18.0	4
60	12	8	1 1/2	2	5.0	4
60	18	14	1 1/2	2	7.5	4
60	24	20	1 7/8	2	10.0	4
60	30	22	1 7/8	4	12.5	4
60	36	28	1 7/8	4	15.0	4
60	42	34	1 7/8	4	17.5	4
60	48	40	3	4	20.0	4



13

NOTES

1. Dimension A on type #10 is measured to the theoretical intersections of the edges.
2. Shape of type #12 shall conform to FHWA standard for Interstate route markers.
3. All signs over 60" in width shall have 3" radius on the outside corners of the aluminum blank.
4. For signs over 60" in width see sign plate A4-18 for hole placement.

STANDARD LAYOUT OF ALUMINUM SIGN BLANKS SHEET 3 OF 3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

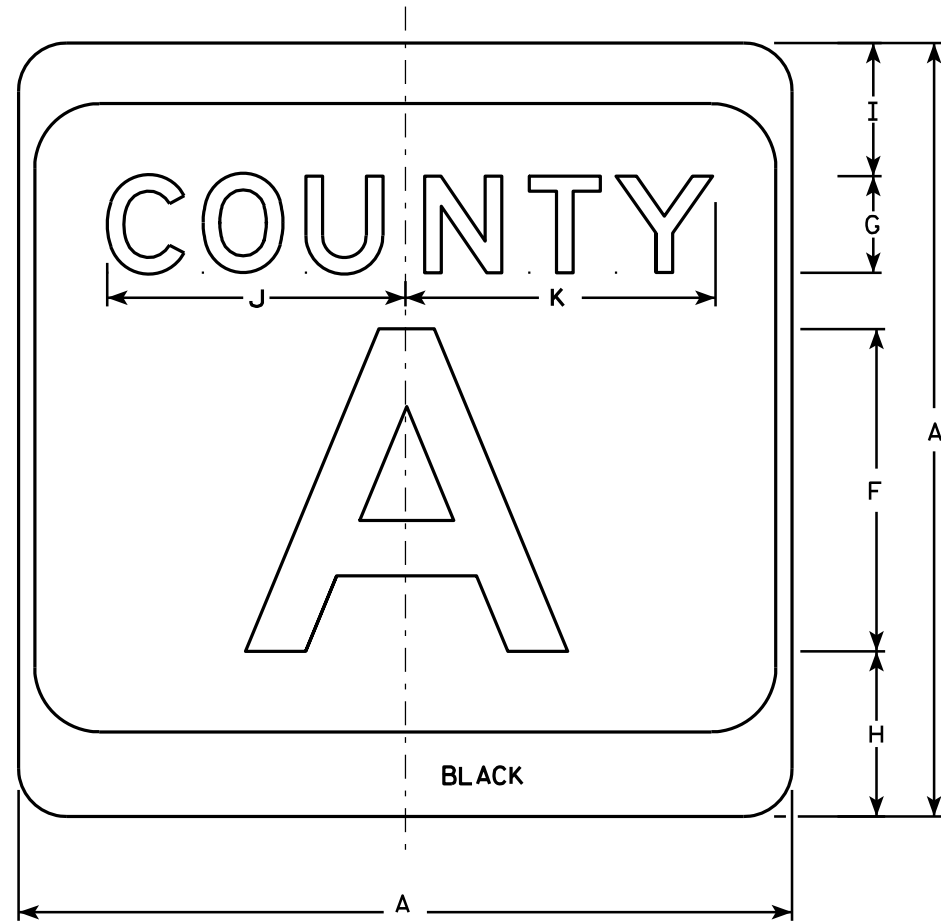
DATE 8/23/18 PLATE NO. A5.3.24

7

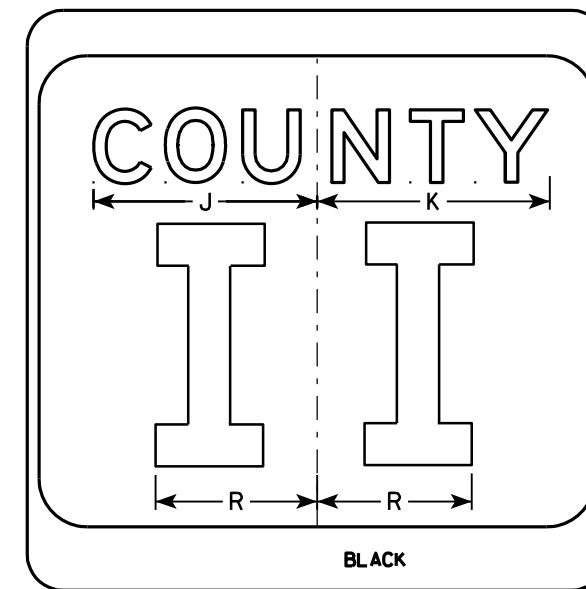
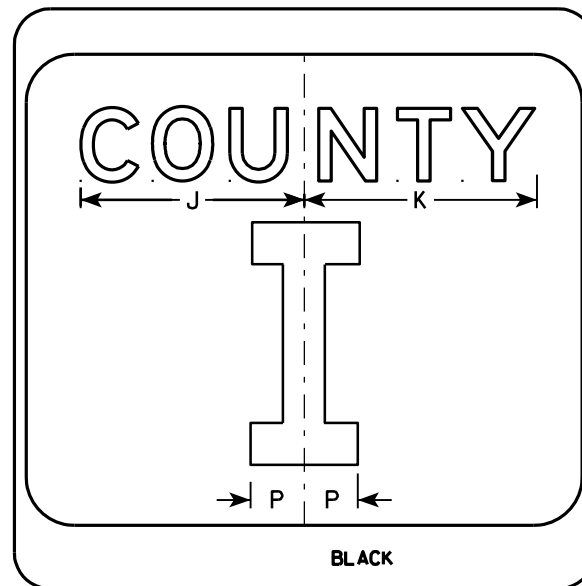
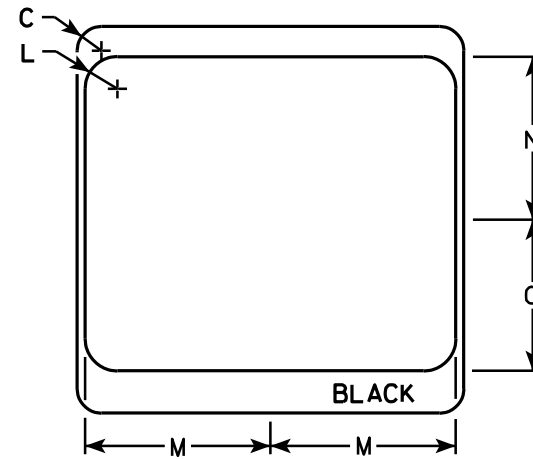
7

NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 7
Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
Message Series D for 2 letters unless message is too big then Series C.
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



M1-5A



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																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

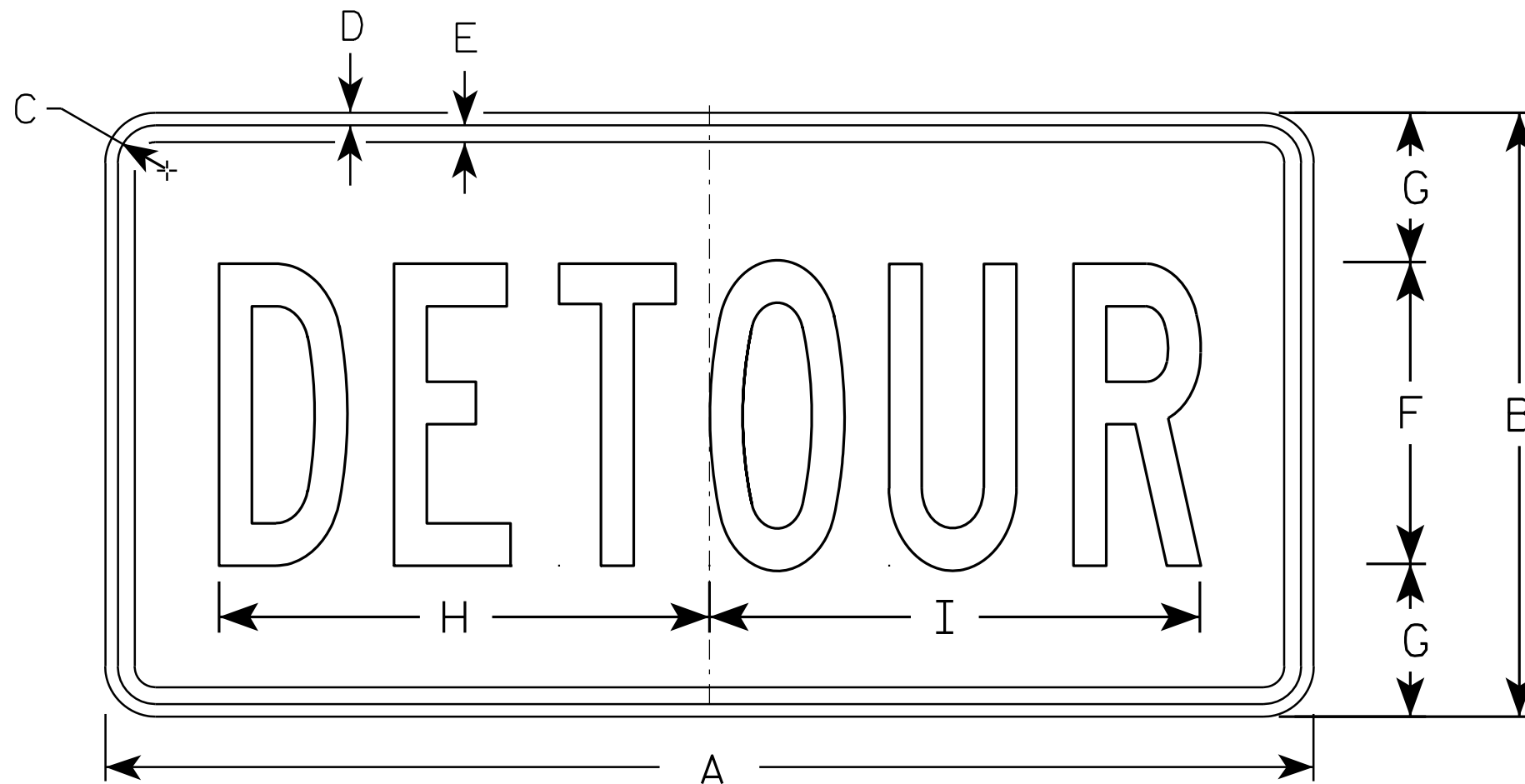
APPROVED *Matthew R. Raub*
For State Traffic Engineer

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

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

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



M4-8

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

STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

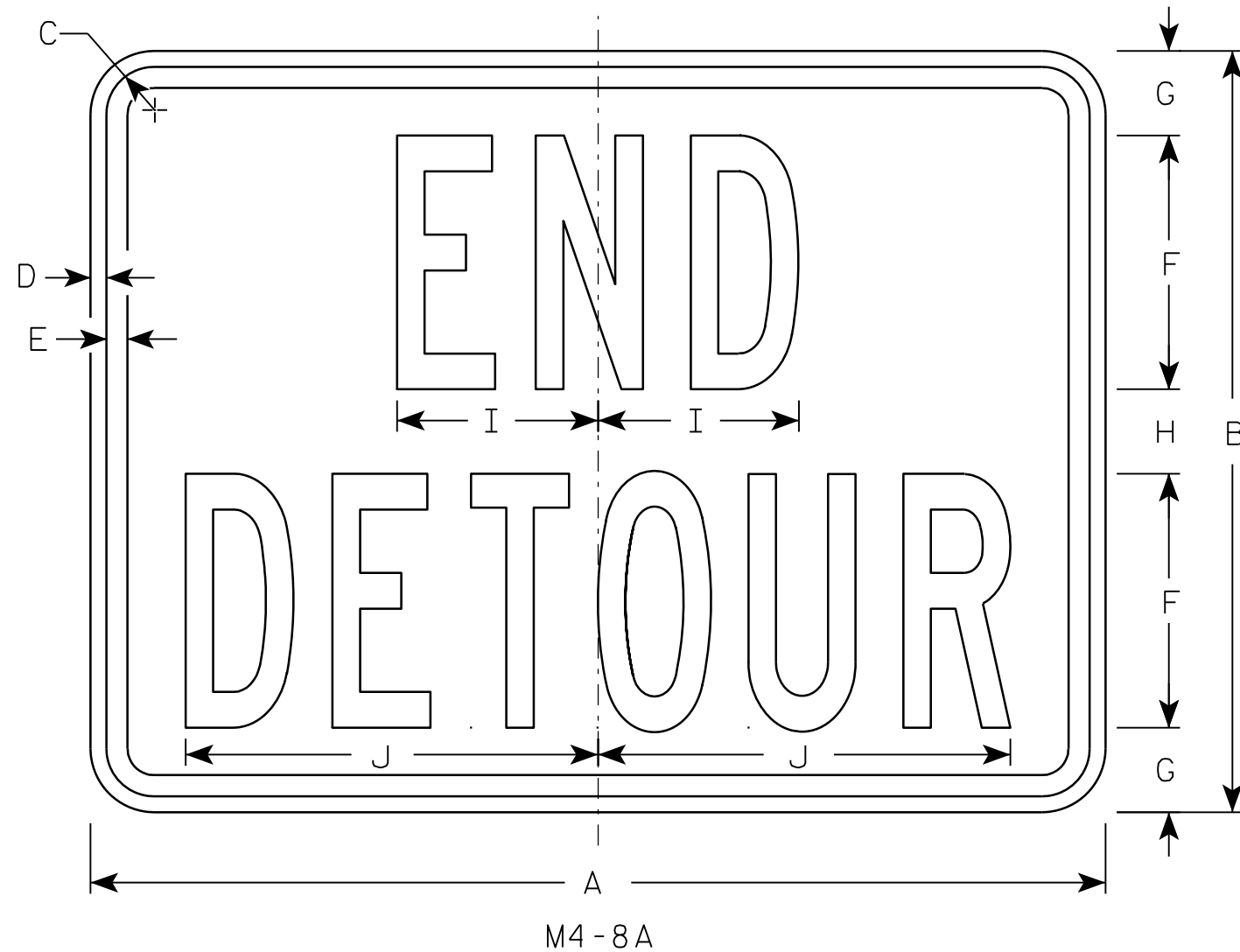
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

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

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 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

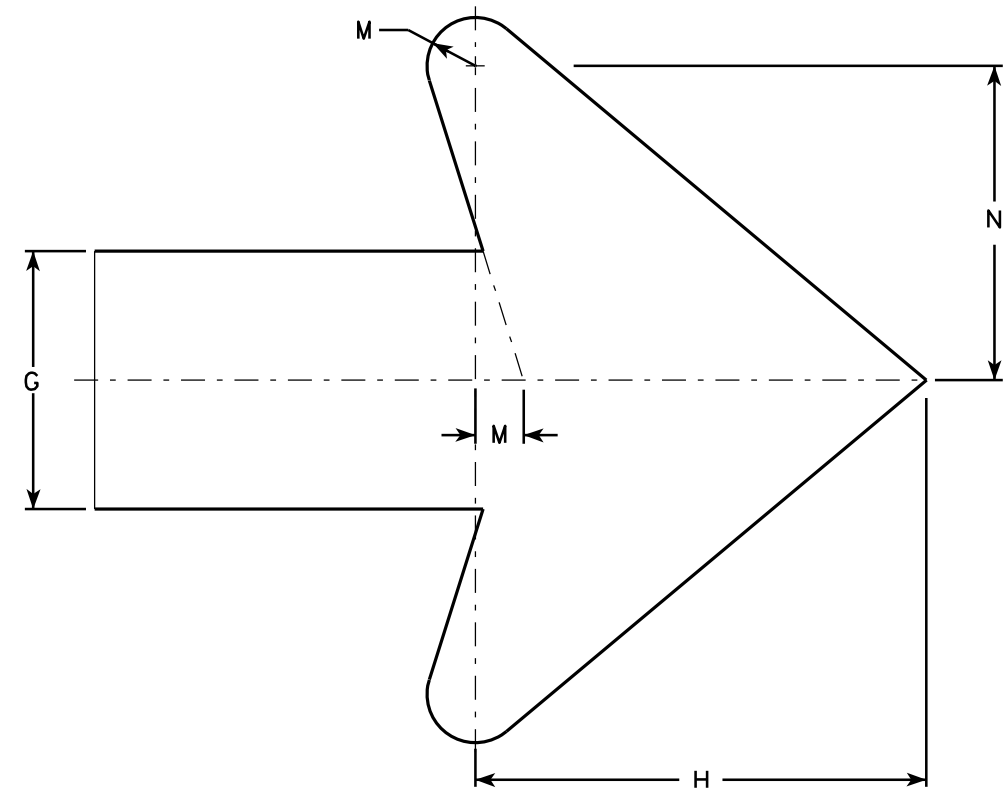
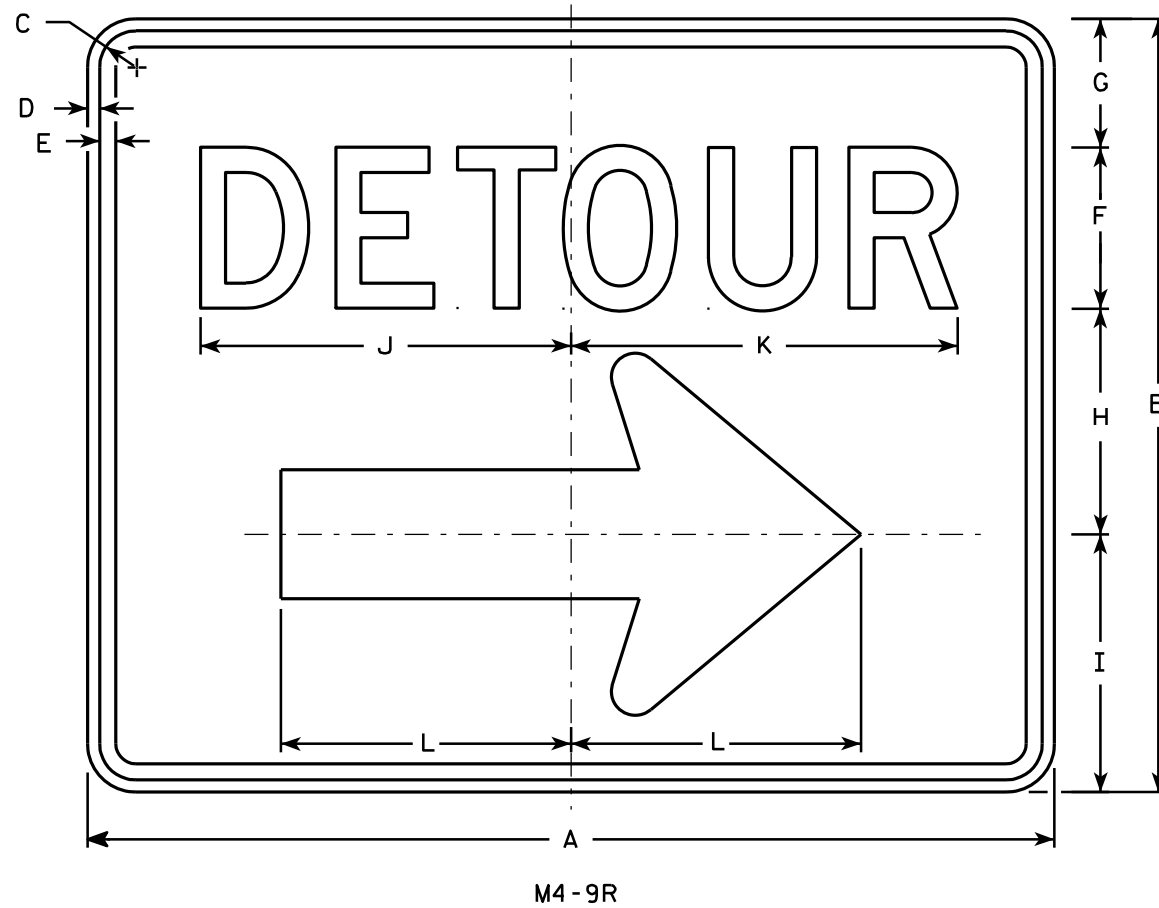
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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.
5. M4-9L is the same as M4-9R except the arrow is reversed.



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 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	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 3/8	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

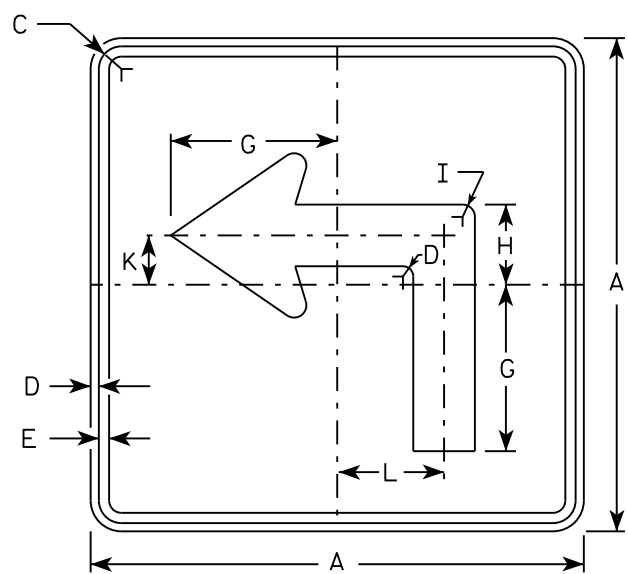
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

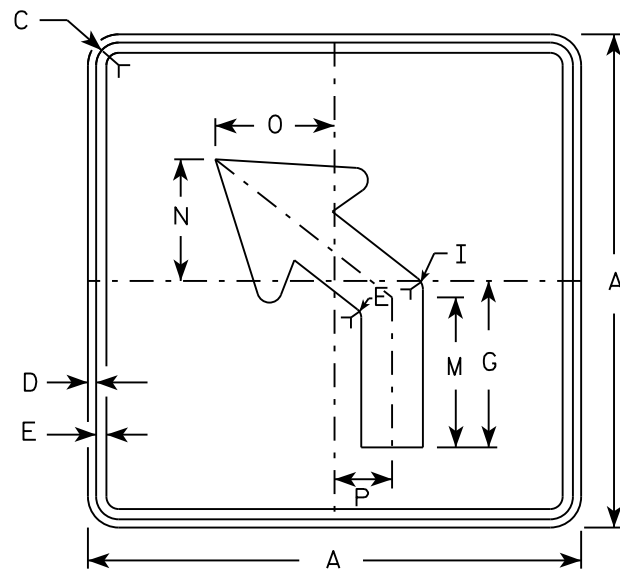
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

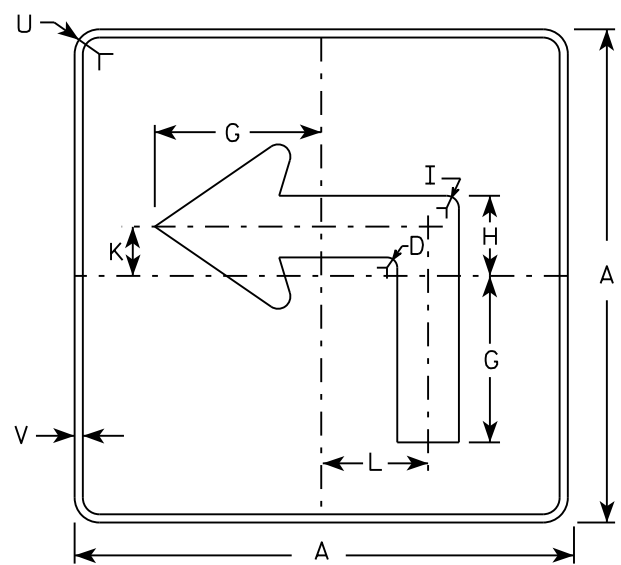
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



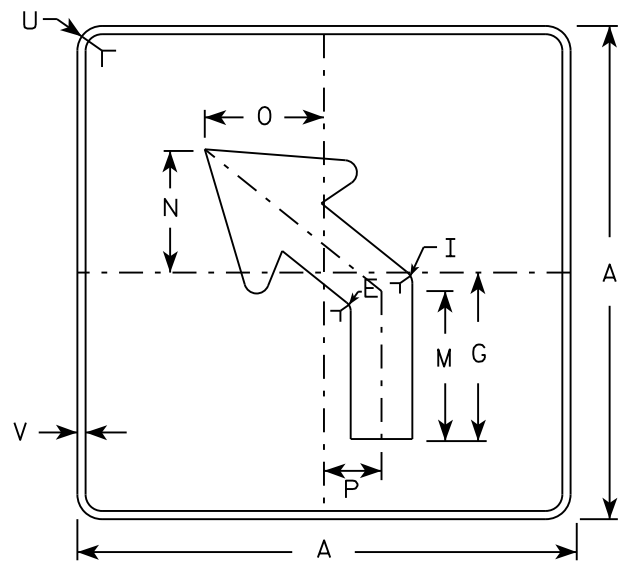
M5-1L
MM5-1L
M05-1L
MP5-1L



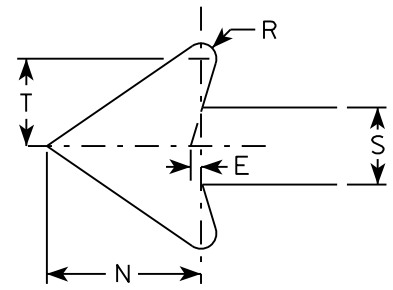
M5-2L
MM5-2L
M05-2L
MP5-2L



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



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



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 - Type H Reflective |
| | 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.

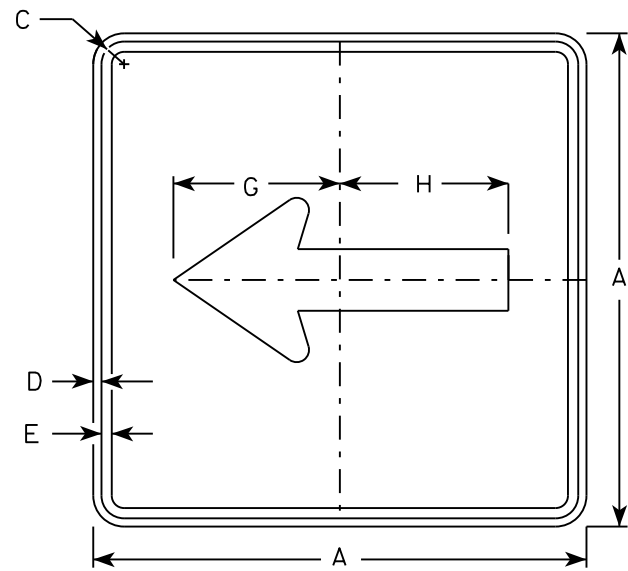
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN
M5-1 & M5-2

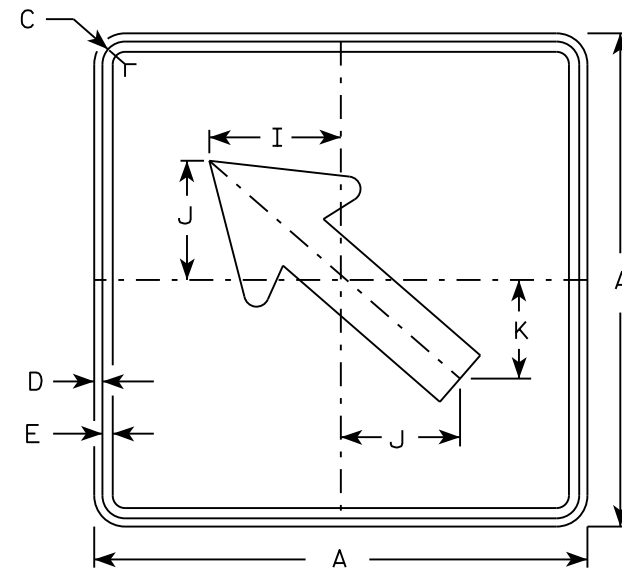
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

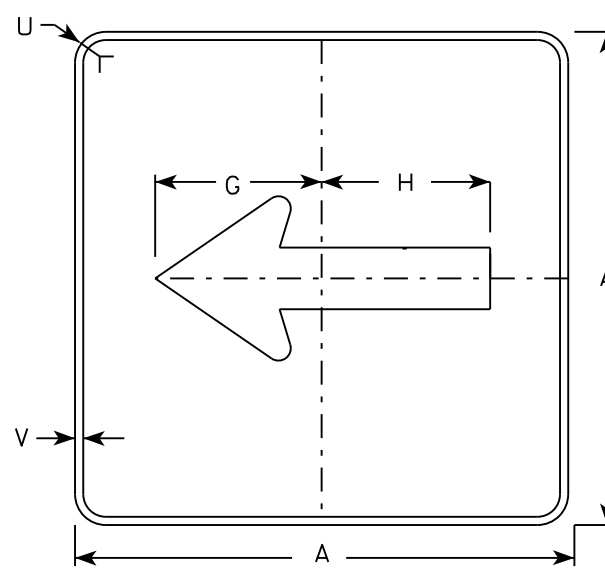
DATE 10/15/15 PLATE NO. M5-1.13



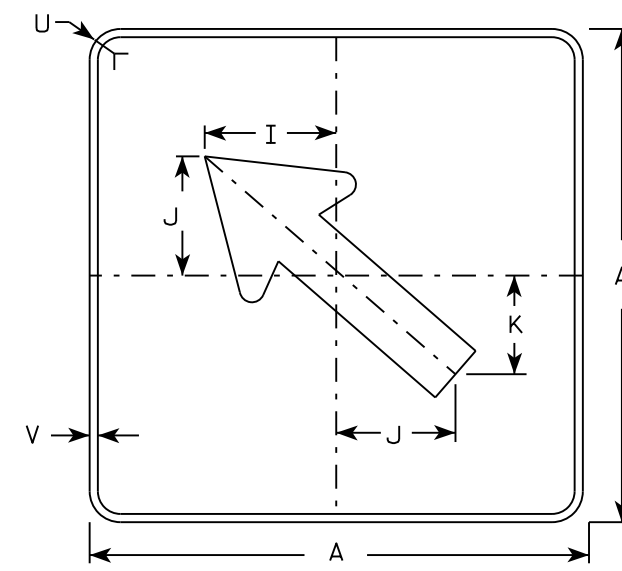
M6-1
MM6-1
M06-1
MP6-1



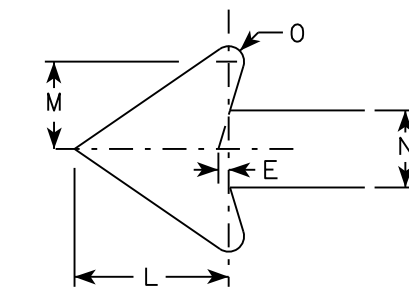
M6-2
MM6-2
M06-2
MP6-2



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



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



NOTES

- Signs are Type II - Type H 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

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	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 7/8	1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

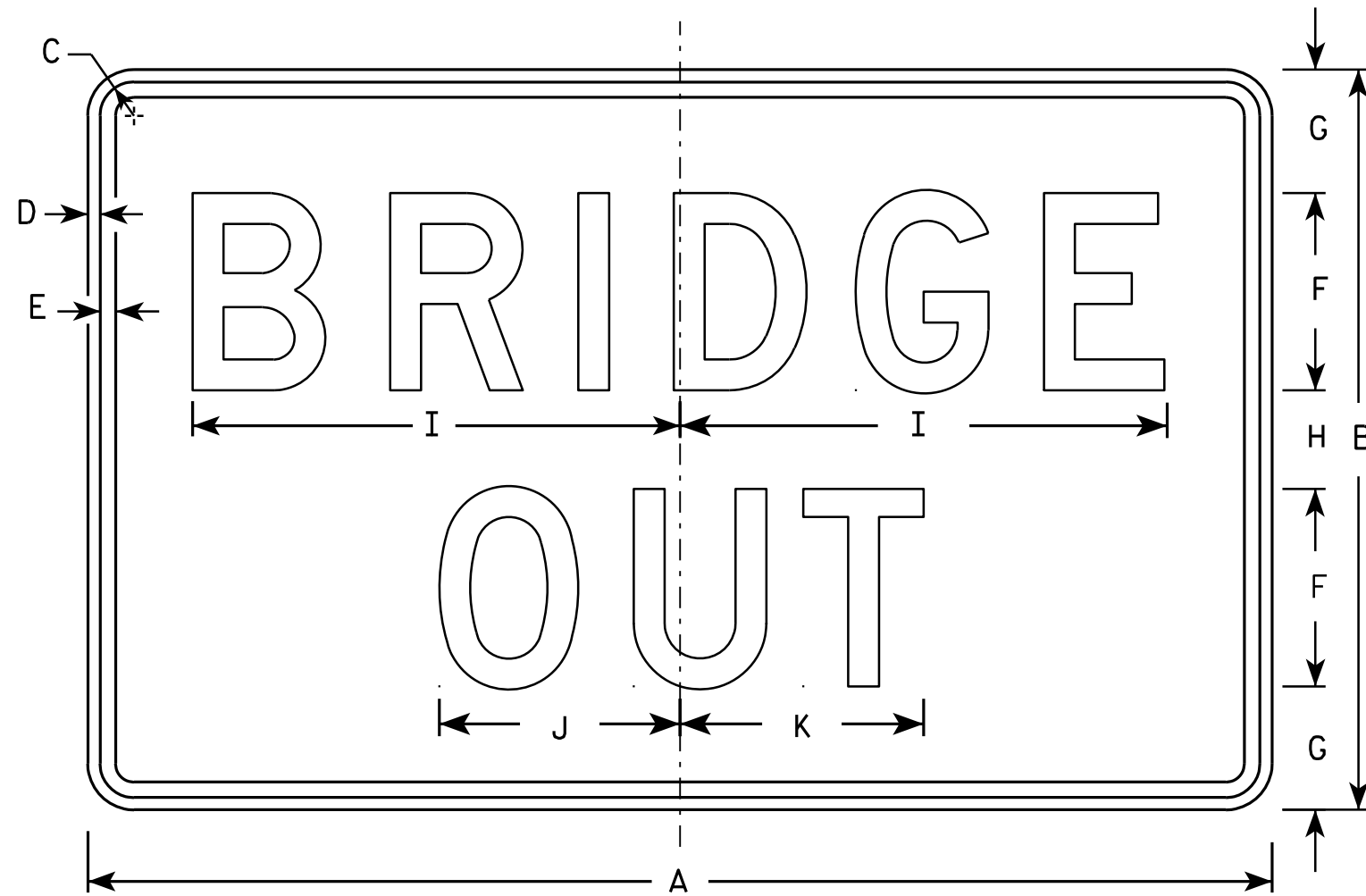
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

NOTES

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



R11-2B

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	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
2M	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
3	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
4	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0
5	48	30	1 3/8	1/2	5/8	8	5	4	19 3/4	9 3/4	9 7/8																10.0

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

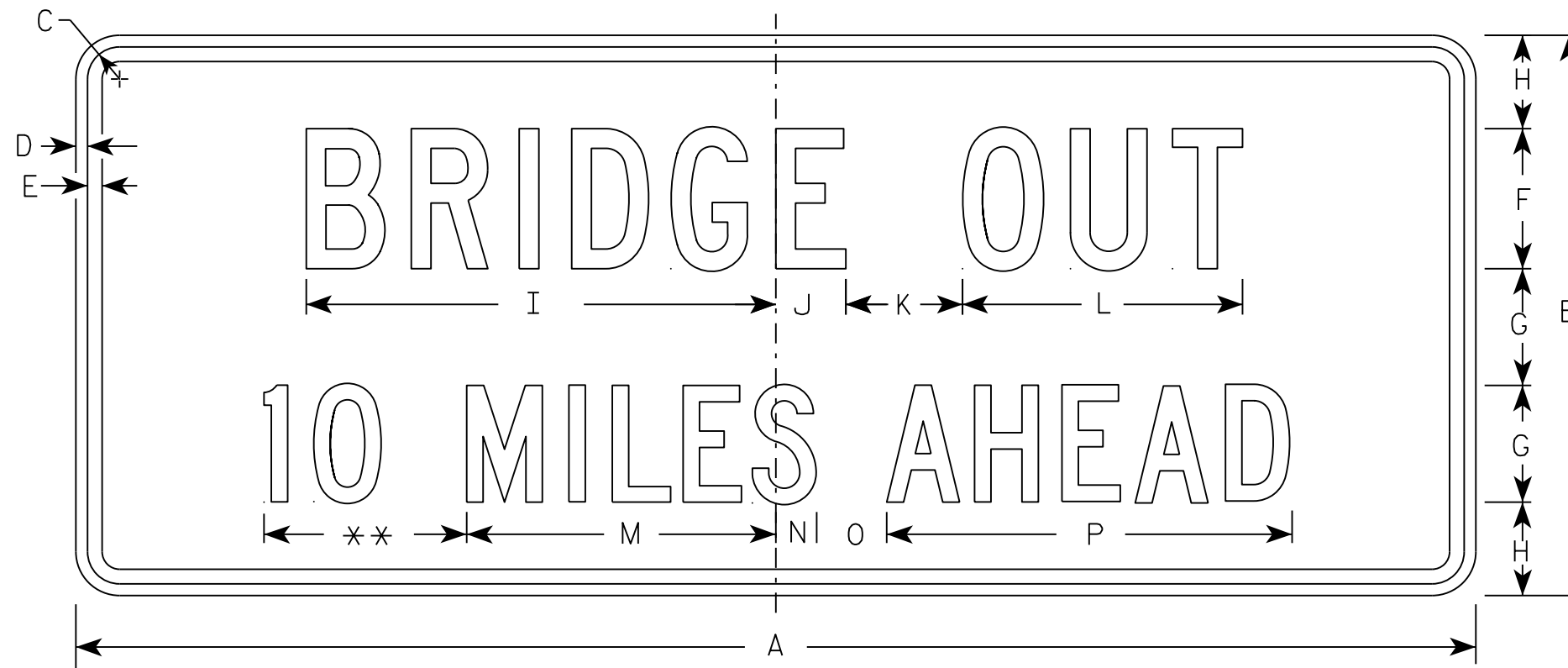
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2B.2

PROJECT NO: _____ SHEET NO: _____ E

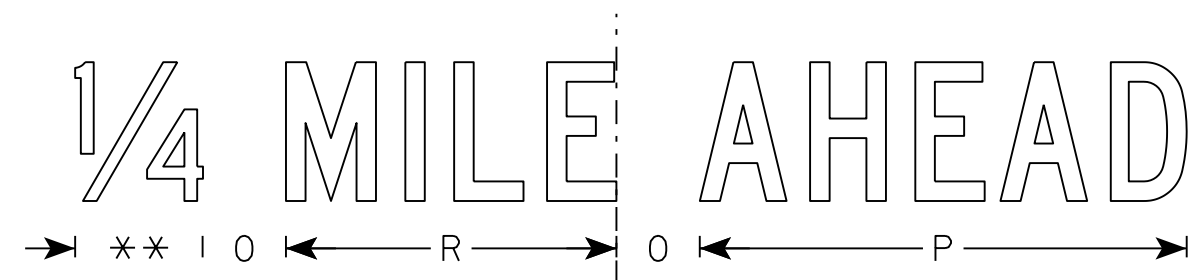
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3C

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	15	1 3/8	1/2	5/8	4	3	2 1/2	13 1/4	2 1/4	3	8	8	1 1/2	2	10 3/4		7 1/8									3.75
2S	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
2M	60	24	1 3/8	1/2	5/8	6	5	4	20 1/8	3	5	12	13 1/4	1 3/4	3	17 3/8		11 7/8									10.0
3																											
4																											
5																											

STANDARD SIGN
R11-3C

WISCONSIN DEPT OF TRANSPORTATION

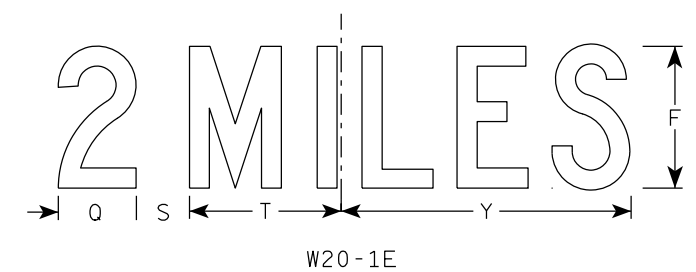
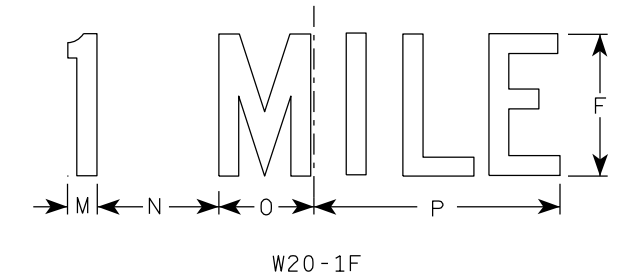
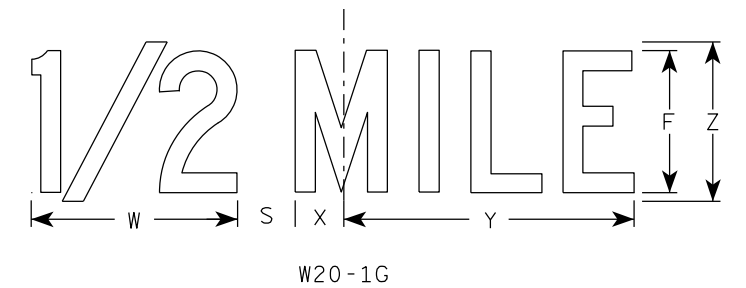
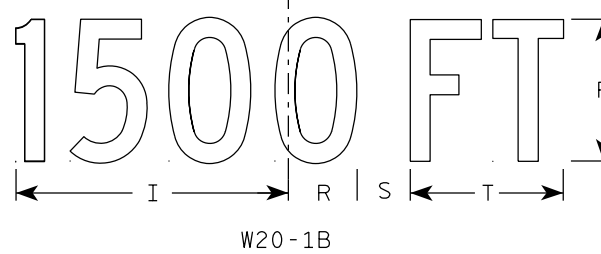
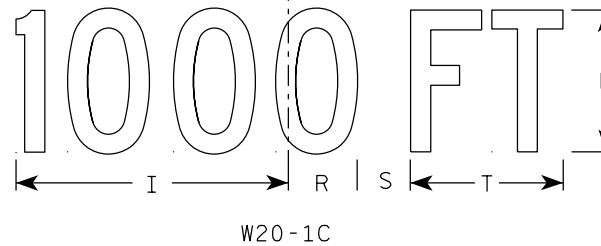
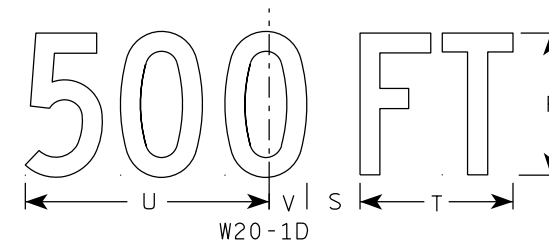
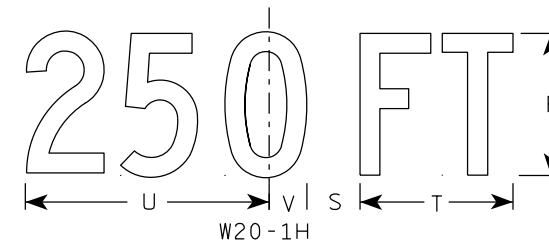
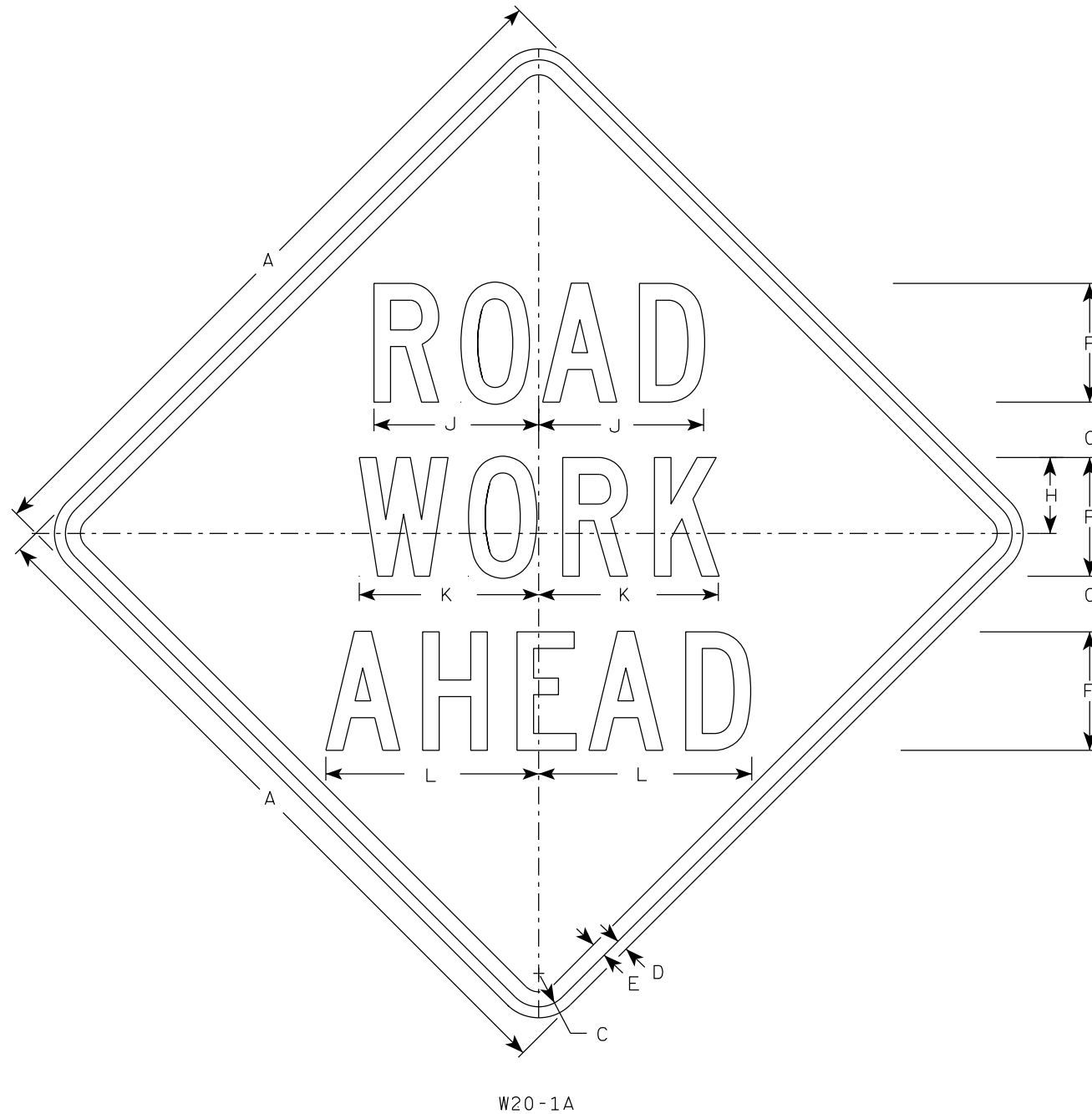
APPROVED
Matthew R. Rauch
For State Traffic Engineer

DATE 7/28/16 PLATE NO. R11-3C.3

PROJECT NO: _____ SHEET NO: **E**

NOTES

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



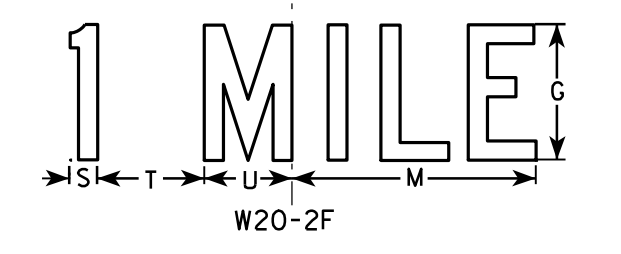
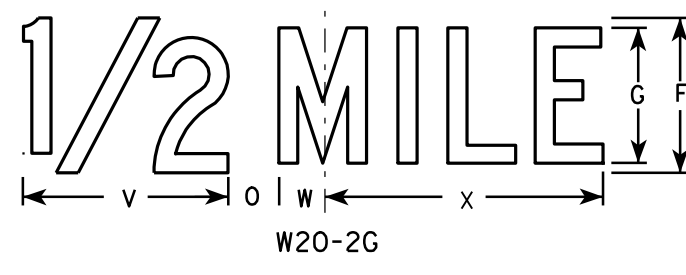
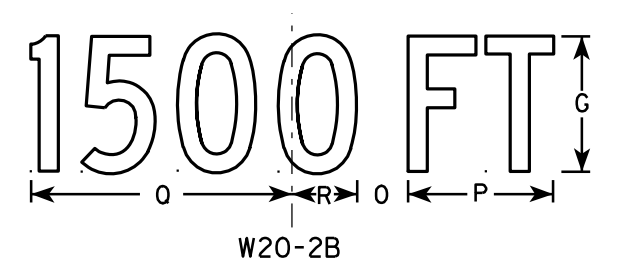
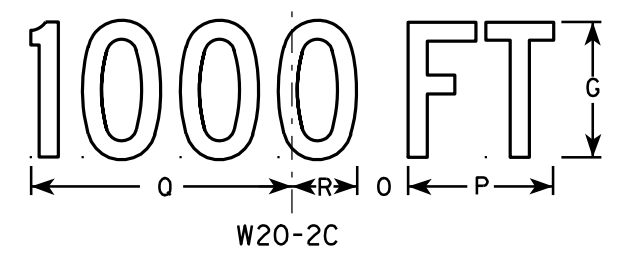
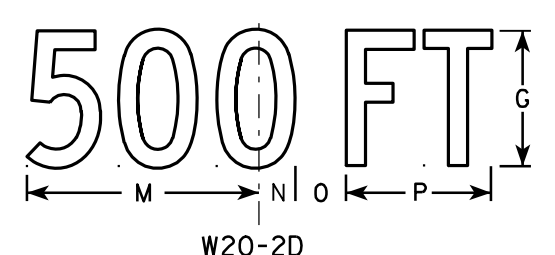
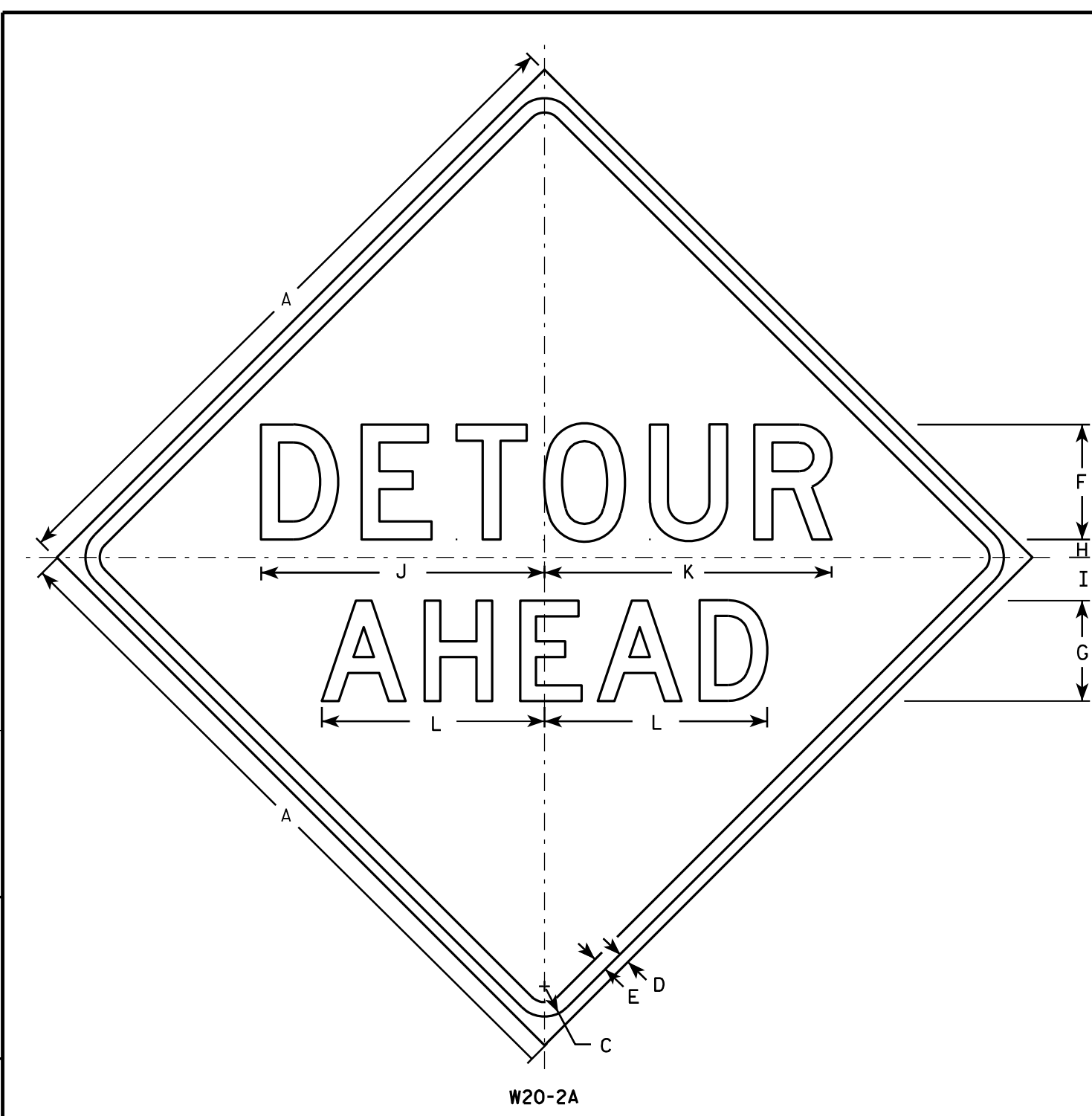
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		2 1/4	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

7

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SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

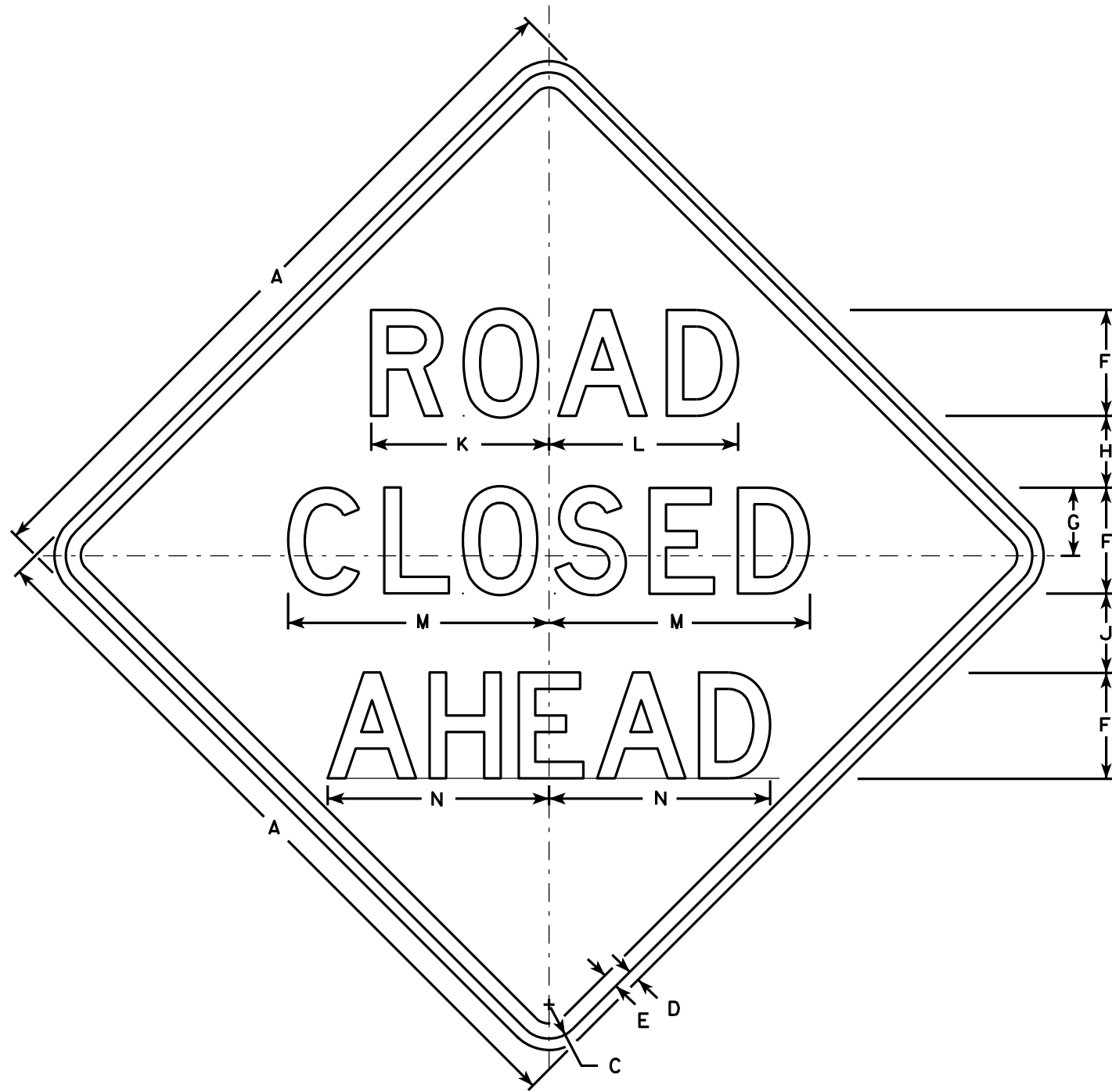
STANDARD SIGN
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

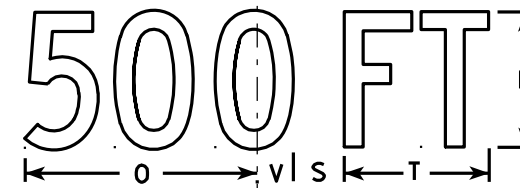
APPROVED *Matthew R. Raub*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

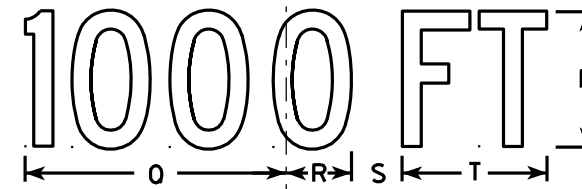
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: _____ E



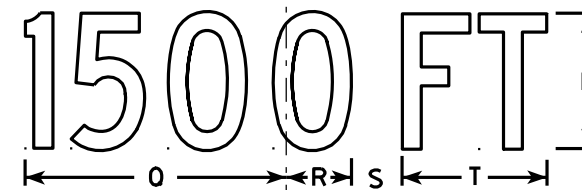
W20-3A



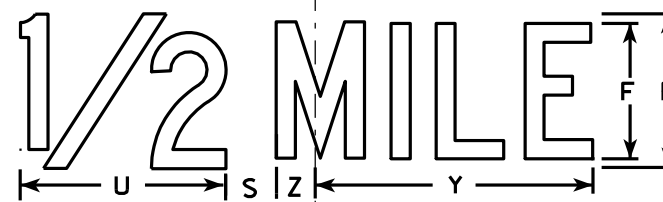
W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

NOTES

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

7

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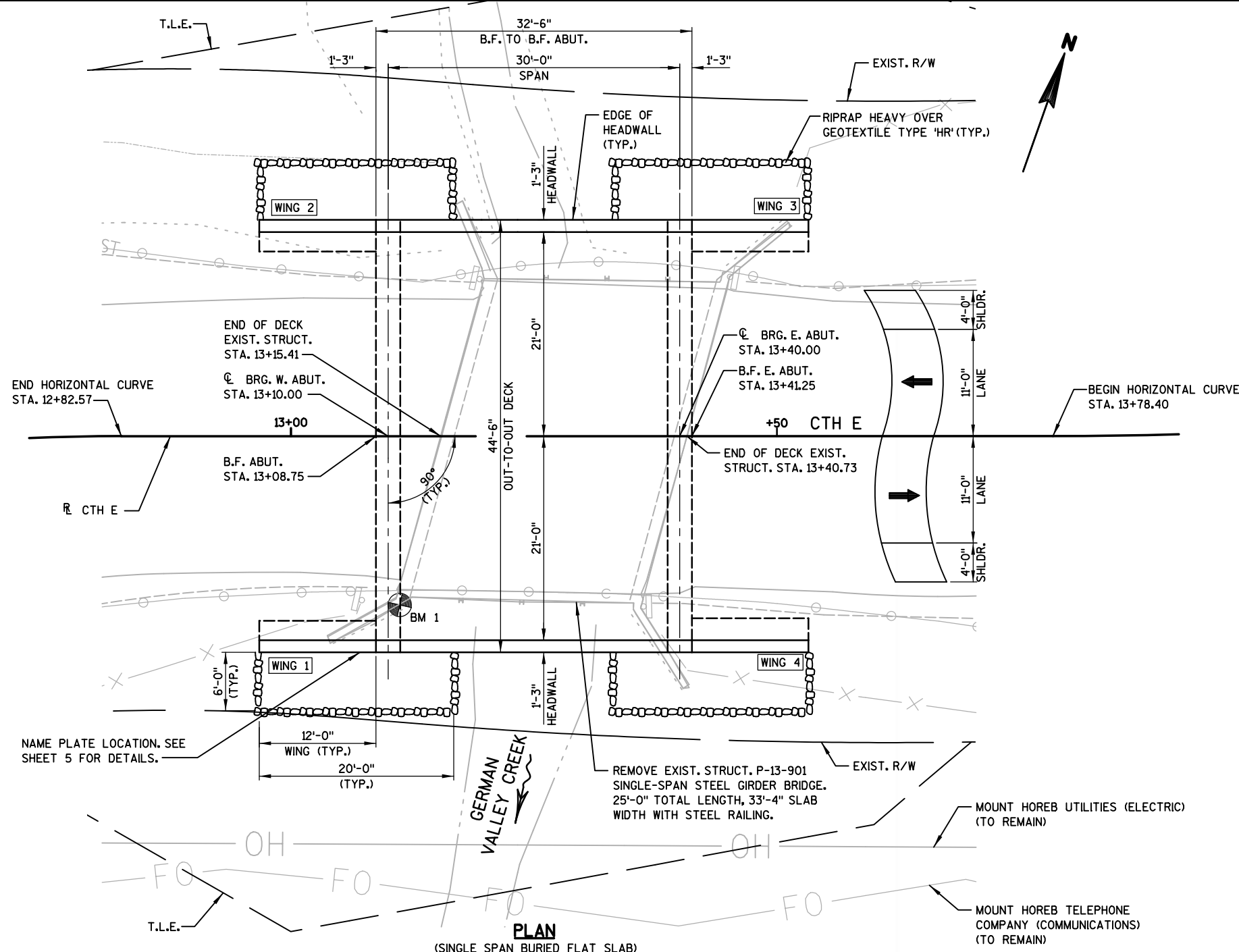
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 1/2	1 1/8	4	8 3/8	8 7/8	12 1/2	11	9	6	10 1/8	2 1/2	1 7/8	5 5/8	8	1 3/8	4 1/2	3 1/2	10 3/4	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	11 3/4	12 1/2	17 1/4	14 5/8	12	8	13 1/2	3 3/8	2 5/8	7 1/2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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7



HYDRAULIC DATA

100 YEAR FREQUENCY

Q ₁₀₀	364 C.F.S.
VEL.	5.82 F.P.S.
HW ₁₀₀	EL. 1037.75
WATERWAY AREA	62.5 SQ. FT.
DRAINAGE AREA	2.1 SQ. MI.
SCOUR CRITICAL CODE	8

2 YEAR FREQUENCY

Q ₂	68 C.F.S.
VEL.	3.20 F.P.S.
HW ₂	EL. 1035.45

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES, NOTES & DETAILS
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE PLAN AND SECTION
9. SUPERSTRUCTURE CROSS SECTION AND DETAILS

DESIGN DATA

LIVE LOAD:

DESIGN LOADING	HL-93
INVENTORY RATING FACTOR	RF = 1.15
OPERATING RATING FACTOR	RF = 1.49
WISCONSIN STANDARD PERMIT	
VEHICLE (WIS-SPV)	250 KIPS

EARTH LOAD:

DESIGN FILL HEIGHT: 1.0 TO 2.0 FEET

MATERIAL PROPERTIES:

CONCRETE SUPERSTRUCTURE	f' _c = 4,000 PSI
CONCRETE SUBSTRUCTURE	f' _c = 3,500 PSI
HIGH STRENGTH BAR	
STEEL REINFORCEMENT	f _y = 60,000 PSI

TRAFFIC DATA

A.D.T. (2023): 304
 A.D.T. (2043): 371
 DESIGN SPEED: 25 MPH

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 155 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

* THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

ESTIMATED PILE LENGTHS:

WEST ABUTMENT	50 FEET EACH
EAST ABUTMENT	50 FEET EACH

STRUCTURE DESIGN CONTACTS

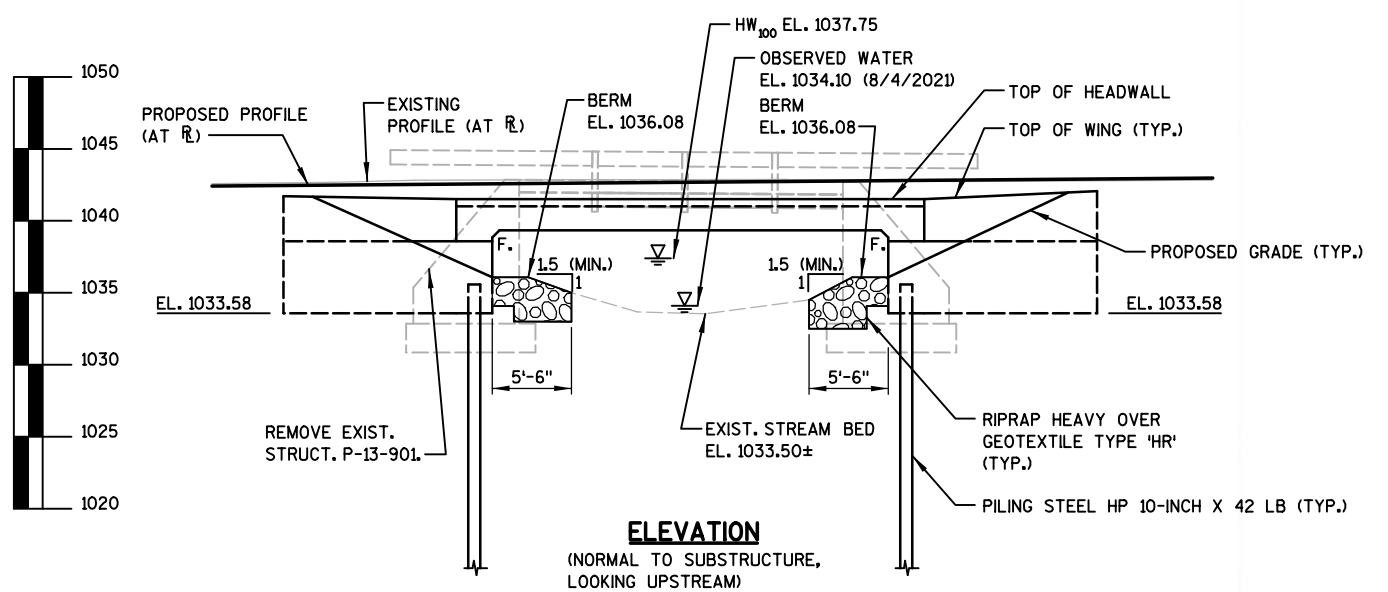
DESIGN CONSULTANT CONTACT:
 EVAN CONSTANT (608) 251-4843

BUREAU OF STRUCTURES CONTACT:
 AARON BONK (608) 261-0261



8

8



BENCHMARKS

NO.	STATION AND OFFSET	DESCRIPTION	ELEV.
BM 1	STA. 13+11.20 R CTH E 17.37' RT	CHISELED X AT TOP OF CURB AT SE CORNER OF BRIDGE	1042.83

NOTE: SEE ROADWAY PLANS FOR ADDITIONAL INFORMATION.

NO.	DATE	REVISION	BY

	910 WEST WINGRA DRIVE MADISON, WISCONSIN 53715 (608)-251-4843 (608) 251-8655 FAX WWW.STRAND.COM
	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION ACCEPTED SDR 11/07/22 CHIEF STRUCTURES DESIGN ENGINEER DATE
STRUCTURE B-13-888	
CTH E OVER GERMAN VALLEY CREEK	
COUNTY	DANE TOWN/CITY/VILLAGE
BLUE MOUNDS	
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS	
DESIGNED BY	EJC
DESIGN CK'D.	KRB
DRAWN BY	DTH
PLANS CK'D.	KRB
GENERAL PLAN	
SHEET 1 OF 9	

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL STATIONS AND ELEVATIONS ARE IN FEET.

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.

BAR DIMENSIONS FOR BENDING ARE OUT-TO-OUT OF BARS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-13-888" SHALL BE THE EXISTING GROUND LINE.

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

AT THE BACKFACE OF ABUTMENTS ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A".

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

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

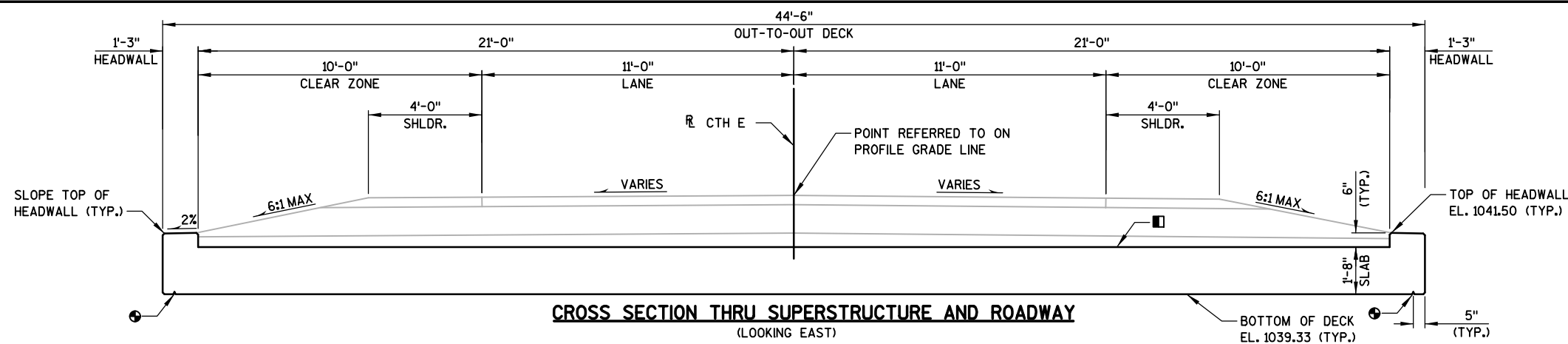
THE EXISTING STRUCTURE P-13-901, A SINGLE SPAN STEEL GIRDER BRIDGE, IS TO BE REMOVED.

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

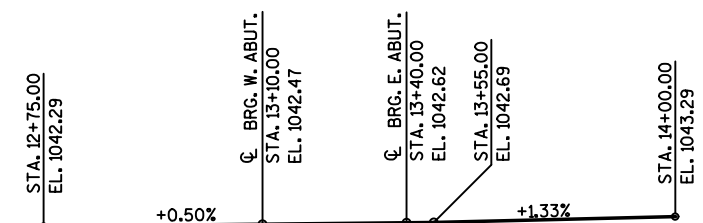
AT ABUTMENTS, CONCRETE POURED UNDERWATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

LEGEND

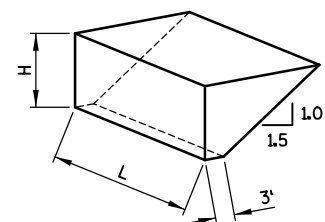
- 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.
- PIPE UNDERDRAIN WRAPPED 4-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 4.
- ▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY CONTRACTOR.
- PROTECTIVE CLEAR COATING SHALL BE APPLIED TO THE TOP OF HEADWALL, EDGE OF HEADWALL, THE FIRST 1'-0" OF THE BOTTOM OF DECK ADJACENT TO THE EDGE OF DECK, TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF EXPOSED ABUTMENT.
- APPLY SHEET MEMBRANE WATERPROOFING TO TOP OF DECK. SEE DETAILS THIS SHEET.



CROSS SECTION THRU SUPERSTRUCTURE AND ROADWAY
(LOOKING EAST)

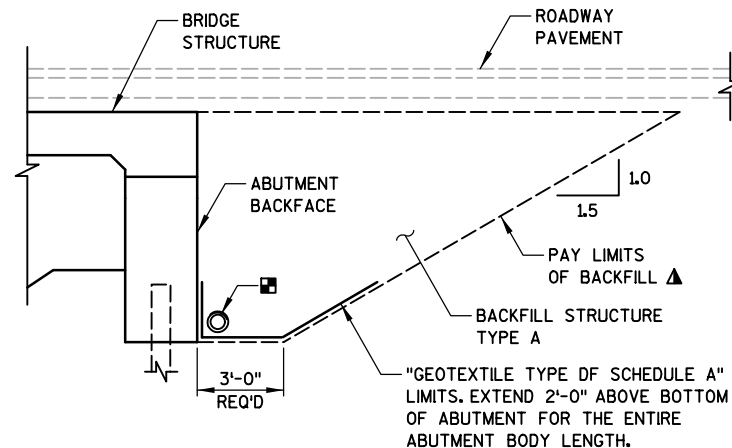


PROFILE GRADE LINE - CTH E

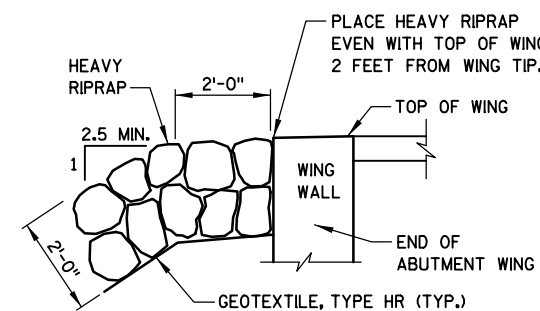


ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

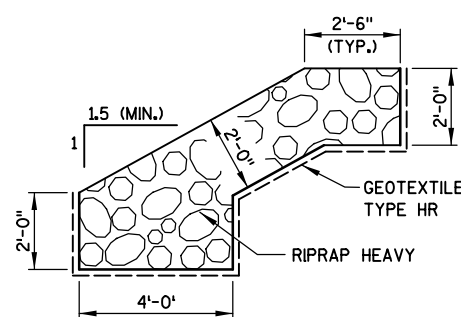
- L = OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
- H = AVERAGE ABUTMENT FILL HEIGHT (FT)
- EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
- $V_{cr} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H)$
- $V_{cr} = V_{cr} (EF)/27$
- $V_{TON} = V_{cr} (2.0)$



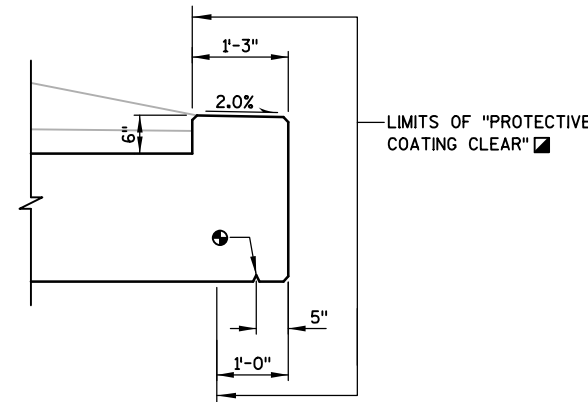
TYPICAL SECTION THRU ABUTMENT



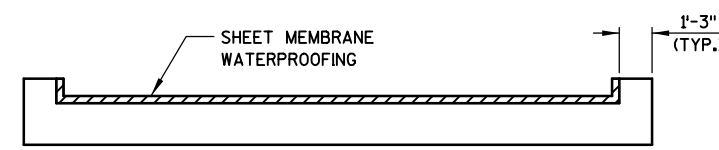
TYPICAL FILL SECTION AT WING TIPS



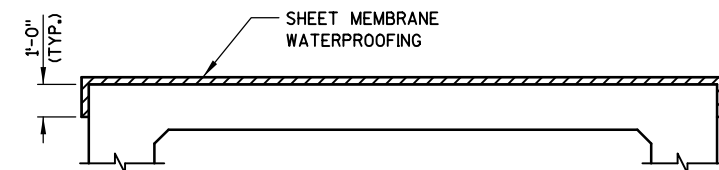
RIPRAP HEAVY DETAIL



EDGE OF DECK DETAIL



TRANSVERSE CROSS SECTION THRU STRUCTURE
(SHOWING SHEET MEMBRANE WATERPROOFING LIMITS)



LONGITUDINAL CROSS SECTION THRU STRUCTURE
(SHOWING SHEET MEMBRANE WATERPROOFING LIMITS)

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	WEST ABUT.	EAST ABUT.	SUPERS.	TOTAL
203.0260	REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-13-901	EACH	---	---	---	1
206.1001	EXCAVATION FOR STRUCTURES BRIDGES B-13-888	EACH	---	---	---	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	210	210	---	420
502.0100	CONCRETE MASONRY BRIDGES	CY	38.4	38.6	97.4	175
502.6500	PROTECTIVE COATING CLEAR	GAL	1	1	2	4
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,540	2,540	---	5,080
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,600	1,630	15,500	18,730
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	12	12	---	24
516.0610.S	SHEET MEMBRANE WATERPROOFING FOR BURIED STRUCTURES	SY	---	---	165	165
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	300	300	---	600
606.0300	RIPRAP HEAVY	CY	52	52	---	104
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	89	89	---	178
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	36	36	---	72
645.0120	GEOTEXTILE TYPE HR	SY	105	105	---	210
NON-BID ITEMS						
	NAME PLATE	EACH				1
	FILLER	SIZE				1/2" & 3/4"

8

8

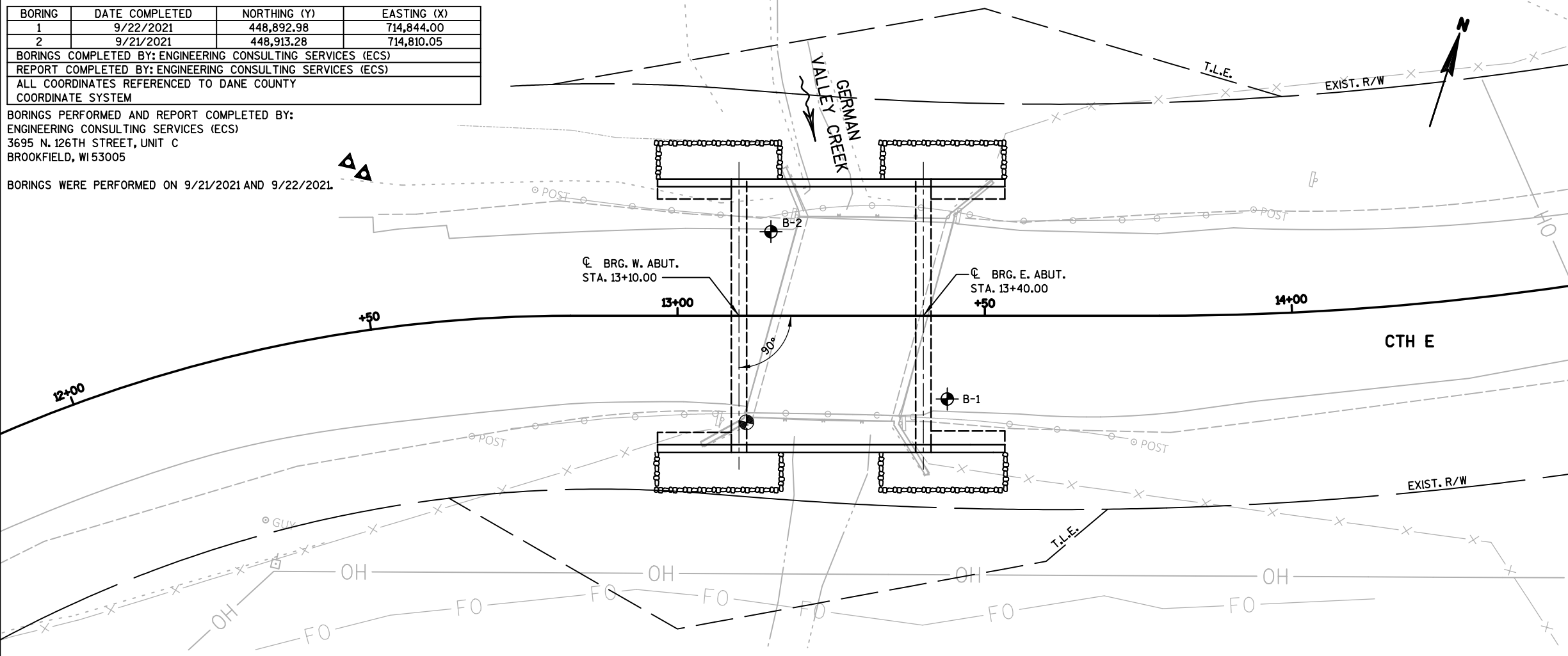
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		PLANS CK'D.	
DTH		KRB	
CROSS SECTION, QUANTITIES, NOTES & DETAILS			SHEET 2

BORING	DATE COMPLETED	NORTHING (Y)	EASTING (X)
1	9/22/2021	448,892.98	714,844.00
2	9/21/2021	448,913.28	714,810.05

BORINGS COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)
 REPORT COMPLETED BY: ENGINEERING CONSULTING SERVICES (ECS)
 ALL COORDINATES REFERENCED TO DANE COUNTY COORDINATE SYSTEM

BORINGS PERFORMED AND REPORT COMPLETED BY:
 ENGINEERING CONSULTING SERVICES (ECS)
 3695 N. 126TH STREET, UNIT C
 BROOKFIELD, WI 53005

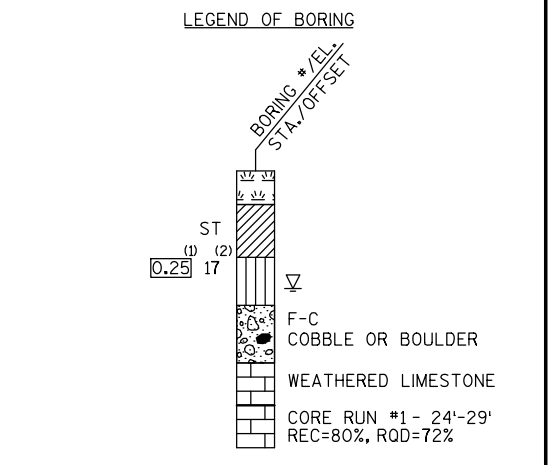
BORINGS WERE PERFORMED ON 9/21/2021 AND 9/22/2021.



STATE PROJECT NUMBER
5856-00-72

MATERIAL SYMBOLS

	ASPHALT		TOPSOIL		PEAT
	CONCRETE		FILL		GRAVEL
	SAND		CLAY		SILT
	BOULDERS OR COBBLES		LIMESTONE		BEDROCK (UNKNOWN)
	SHALE		SANDSTONE		IGNEOUS/META



(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

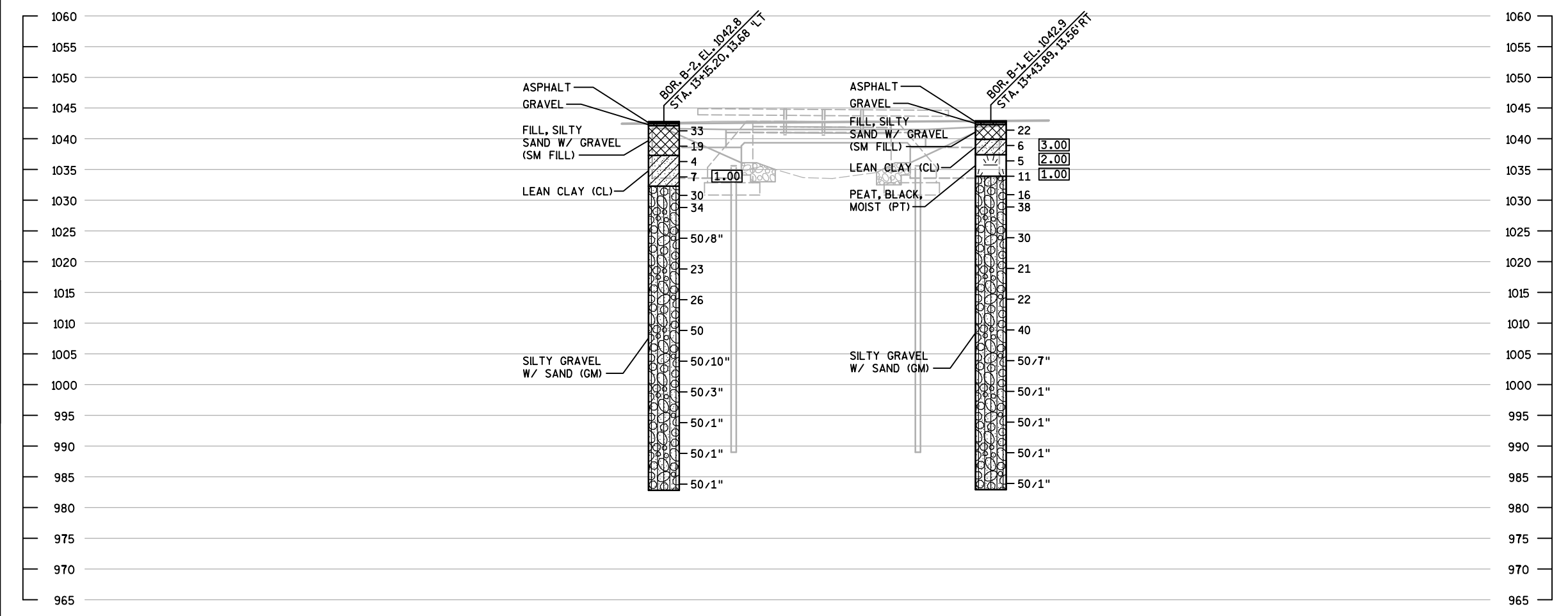
▽ AT TIME OF DRILLING
 ▼ END OF DRILLING
 ▽ AFTER DRILLING

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.



8

8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CK'D. KRB
SUBSURFACE EXPLORATION			SHEET 3

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST A501 BARS INTERFERING WITH PILES.

SEE SHEET 6 FOR PILE SPLICE DETAILS.

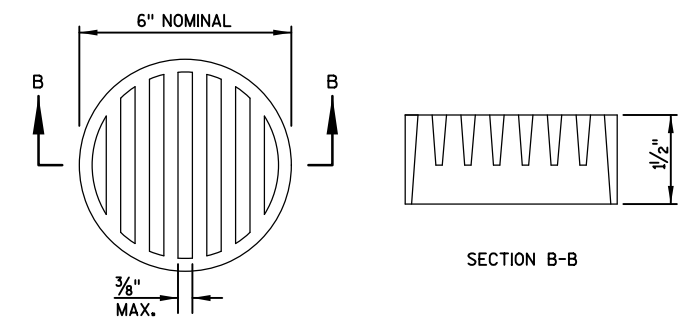
SEE SHEET 5 FOR REINFORCING DETAILS.

WEST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 155 TONS PER PILE. ESTIMATED 50 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

LEGEND

- 1/2" FILLER, EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE WING. FILLER INCLUDED IN WING LENGTH.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1035.00 AT R. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL THIS SHEET.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".



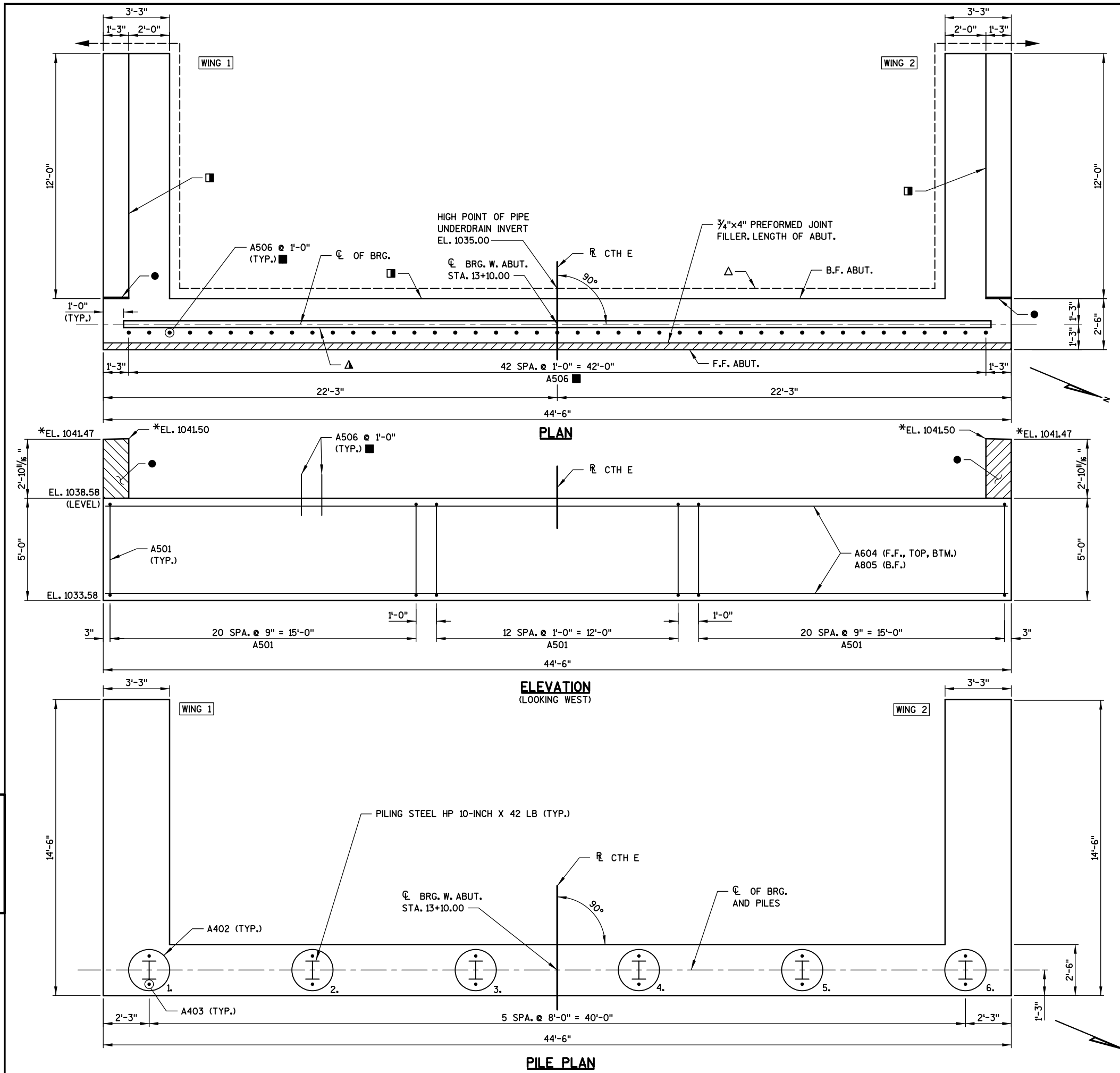
NOTES:

DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND ATTACHMENT SCREWS SHALL BE INCLUDED WITH 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.

RODENT SHIELD DETAIL



8

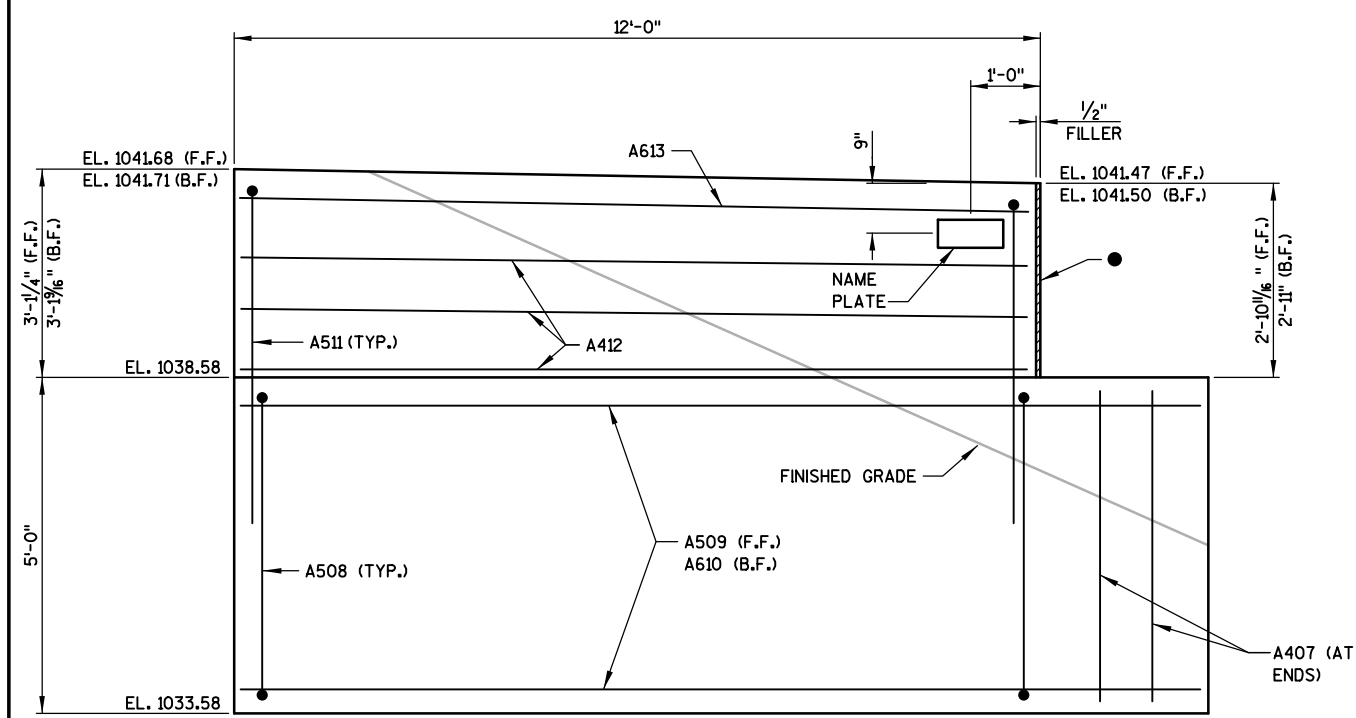
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CKD. KRB
WEST ABUTMENT			SHEET 4

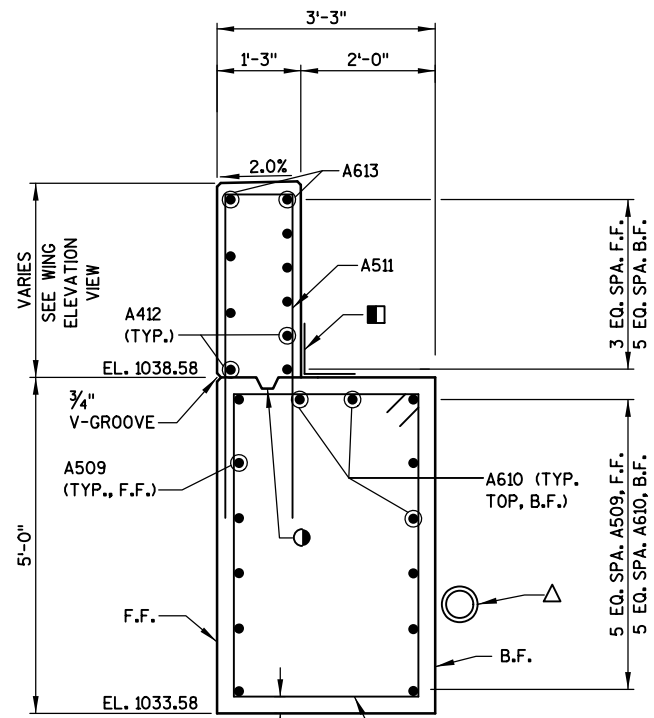
UNCOATED: 2,540 LBS
COATED: 1,600 LBS

WEST ABUTMENT
BILL OF BARS

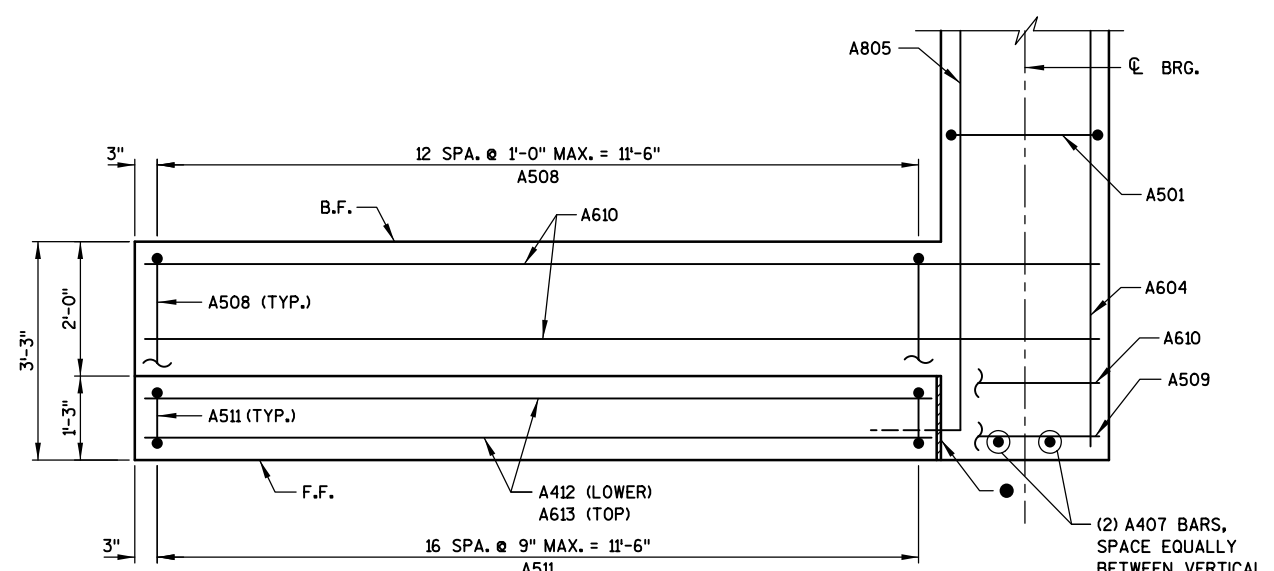
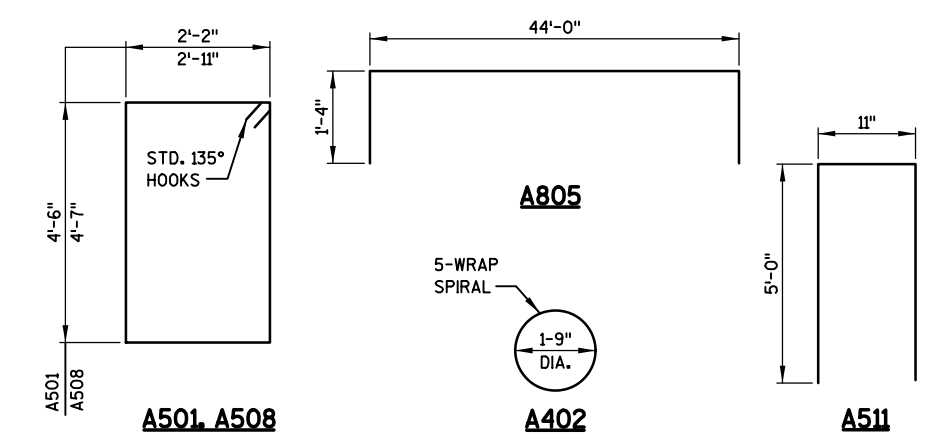
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
A501	55	14'-0"	X		LOWER BODY - VERT.
A402	6	28'-0"	X		LOWER BODY - PILES - SPIRAL
A403	12	2'-3"			LOWER BODY - PILES - VERT.
A604	11	44'-2"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
A805	7	46'-3"	X		LOWER BODY - B.F. - HORIZ.
A506	43	2'-0"		X	LOWER BODY - TOP - VERT.
A407	4	4'-7"			LOWER BODY - VERT. - ENDS
A508	26	15'-8"	X	X	LOWER WING - VERT. - WINGS
A509	12	14'-2"		X	LOWER WING - F.F. - HORIZ. - WINGS
A610	16	14'-2"		X	LOWER WING - B.F., TOP - HORIZ. - WINGS
A511	34	10'-8"	X	X	UPPER WING - VERT. - WINGS
A412	16	11'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS
A613	4	11'-7"		X	UPPER WING - TOP - HORIZ. - WINGS



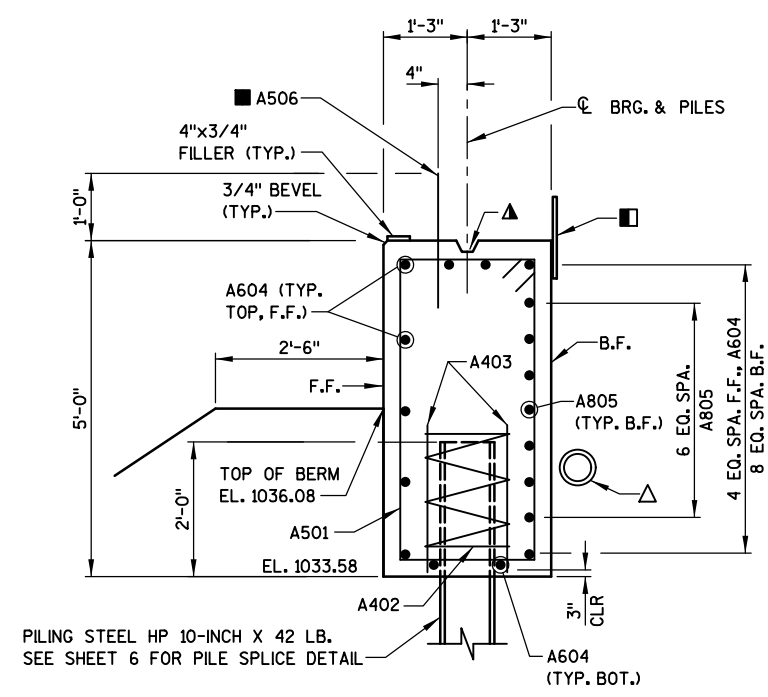
WING 1 ELEVATION
(FRONT FACE)
(WING 2 SIMILAR)



TYPICAL SECTION THRU WING



WING 1 PLAN
(WING 2 SIMILAR)



TYPICAL ABUTMENT SECTION

LEGEND

- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 1/2" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- △ PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1035.00 AT R. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CK'D. KRB
WEST ABUTMENT DETAILS			SHEET 5

NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER 1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW FINISHED ROADWAY SURFACE AT INSIDE FACE.

ADJUST B501 BARS INTERFERING WITH PILES.

SEE THIS SHEET FOR PILE SPLICE DETAILS.

SEE SHEET 7 FOR REINFORCING DETAILS.

EAST ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB WITH A REQUIRED DRIVING RESISTANCE OF 155 TONS PER PILE. ESTIMATED 50 FEET LONG EACH.

SEE SHEET 2 FOR TYPICAL FILL SECTION AT WING TIPS.

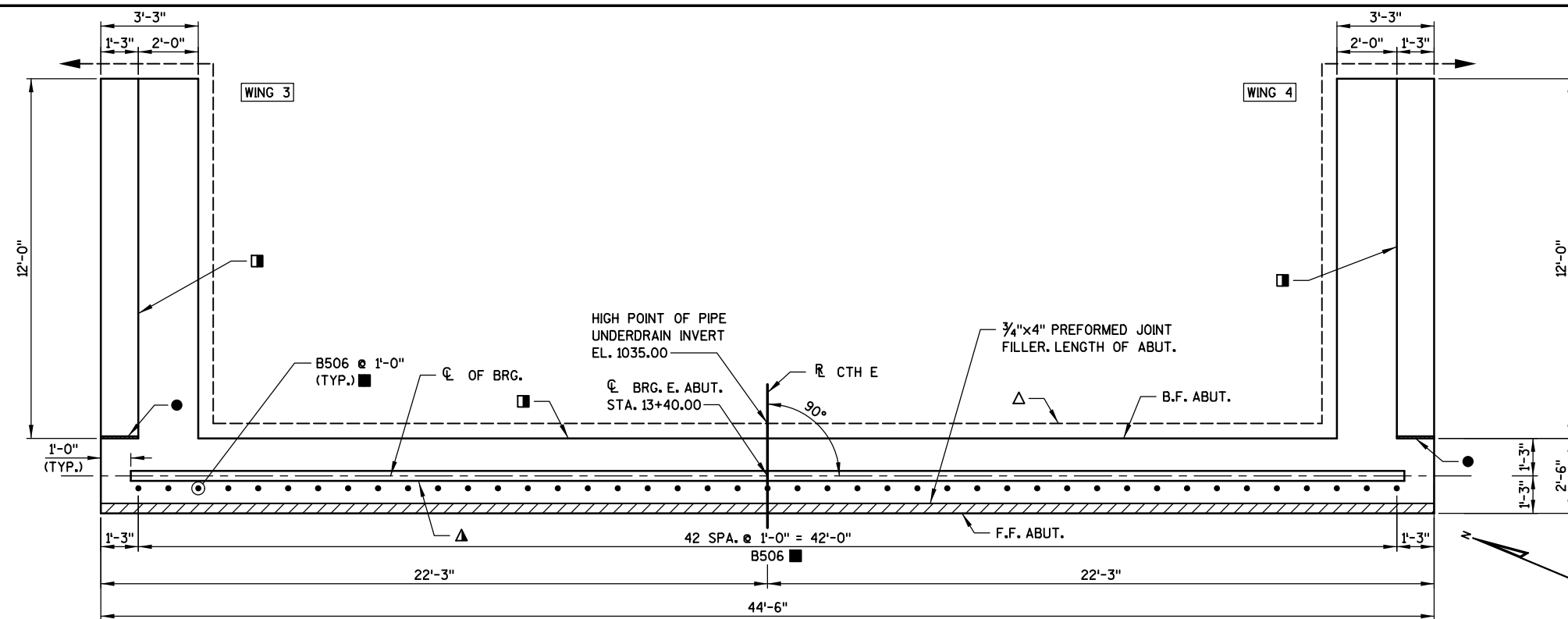
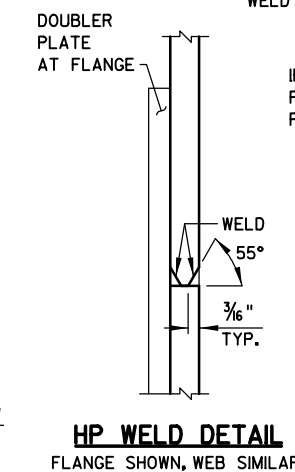
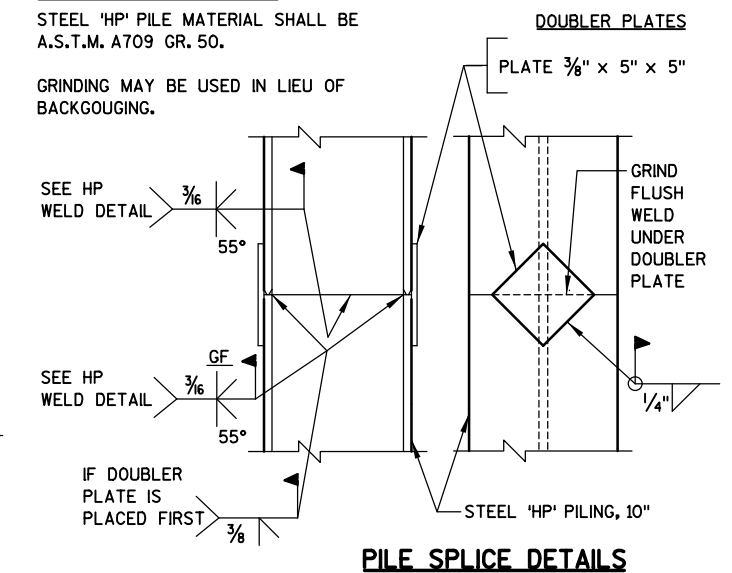
LEGEND

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- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- * ELEVATION GIVEN AT B.F. ABUTMENT.
- △ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1035.00 AT R. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE DETAIL ON SHEET 4.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

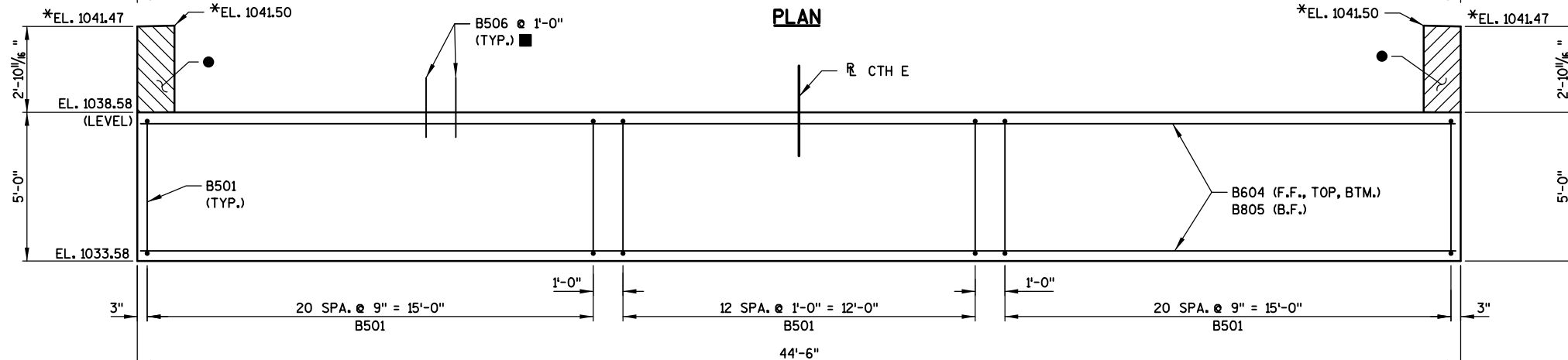
PILE SPLICE NOTES

STEEL 'HP' PILE MATERIAL SHALL BE A.S.T.M. A709 GR. 50.

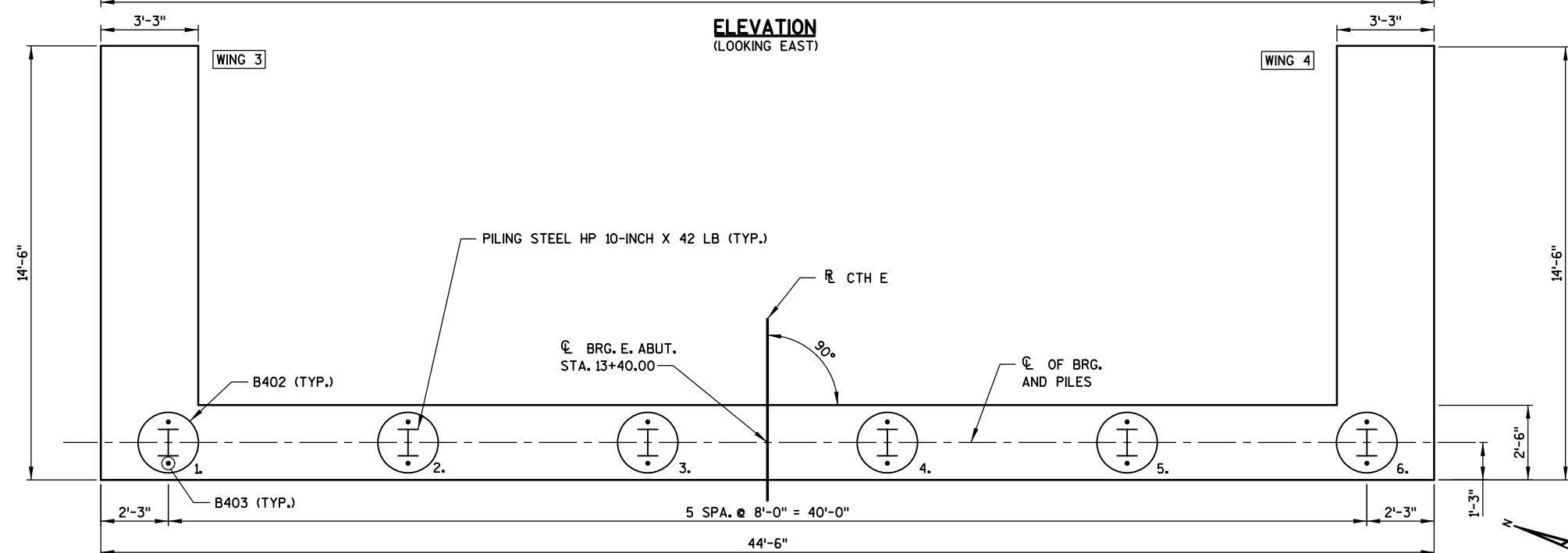
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



PLAN



**ELEVATION
(LOOKING EAST)**



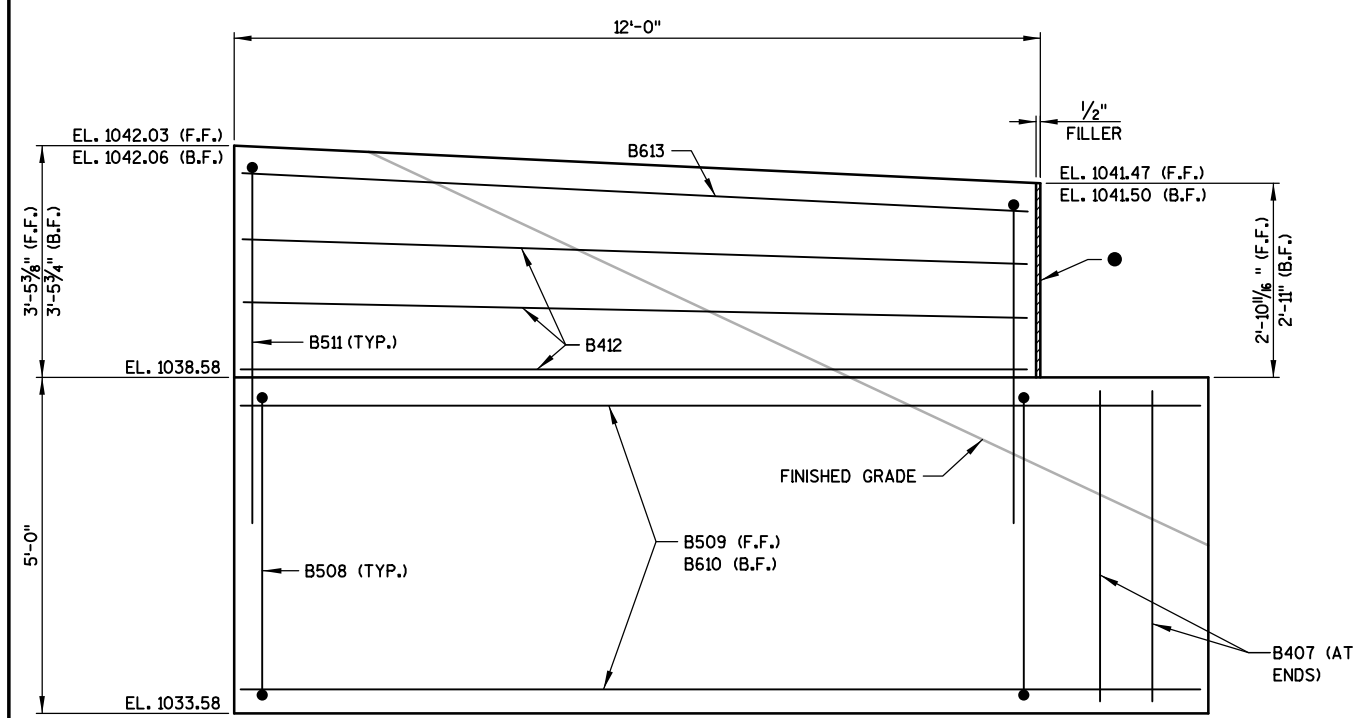
PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CK'D. KRB
EAST ABUTMENT			SHEET 6

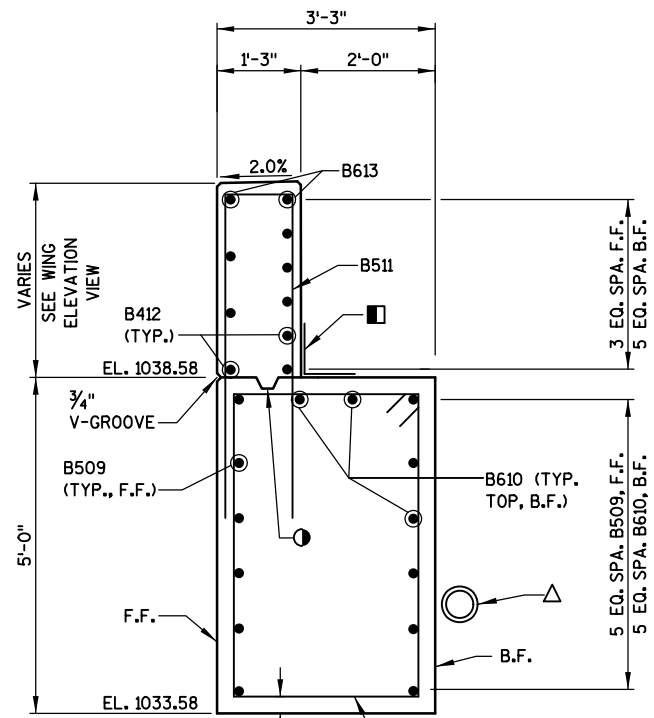
UNCOATED: 2,540 LBS
COATED: 1,630 LBS

EAST ABUTMENT
BILL OF BARS

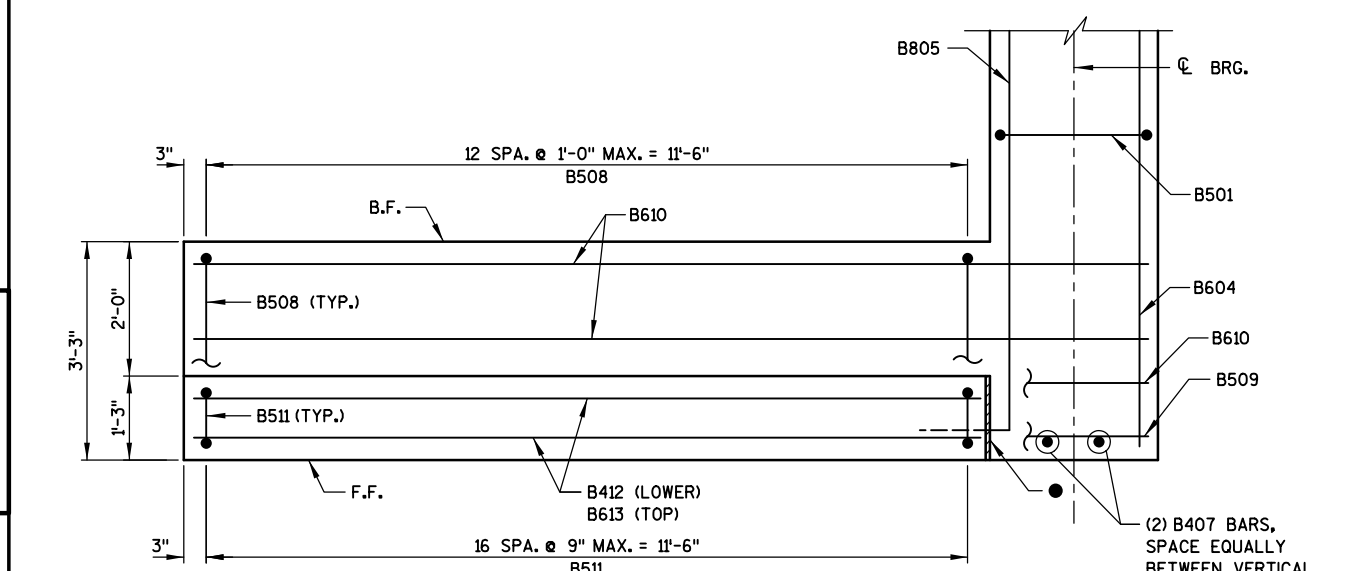
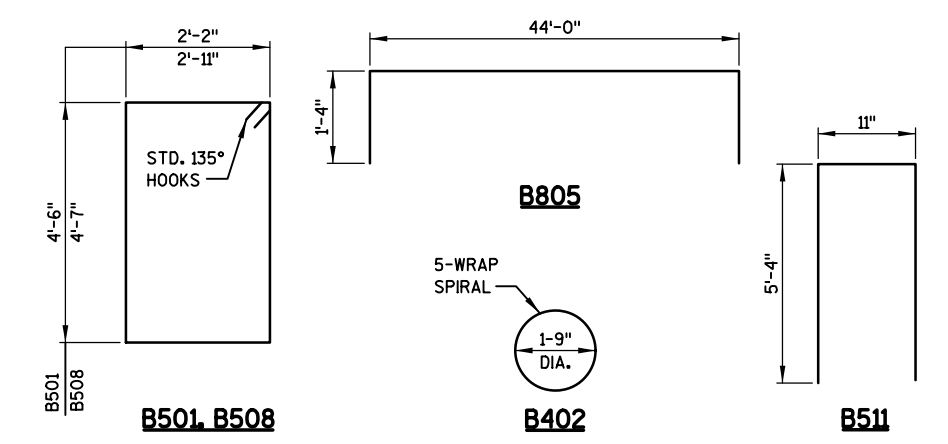
BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
B501	55	14'-0"	X		LOWER BODY - VERT.
B402	6	28'-0"	X		LOWER BODY - PILES - SPIRAL
B403	12	2'-3"			LOWER BODY - PILES - VERT.
B604	11	44'-2"			LOWER BODY - TOP, BOT., & F.F. - HORIZ.
B805	7	46'-3"	X		LOWER BODY - B.F. - HORIZ.
B506	43	2'-0"		X	LOWER BODY - TOP - VERT.
B407	4	4'-7"			LOWER BODY - VERT. - ENDS
B508	26	15'-8"	X	X	LOWER WING - VERT. - WINGS
B509	12	14'-2"		X	LOWER WING - F.F. - HORIZ. - WINGS
B610	16	14'-2"		X	LOWER WING - B.F., TOP - HORIZ. - WINGS
B511	34	11'-4"	X	X	UPPER WING - VERT. - WINGS
B412	16	11'-7"		X	UPPER WING - F.F., B.F. - HORIZ. - WINGS
B613	4	11'-7"		X	UPPER WING - TOP - HORIZ. - WINGS



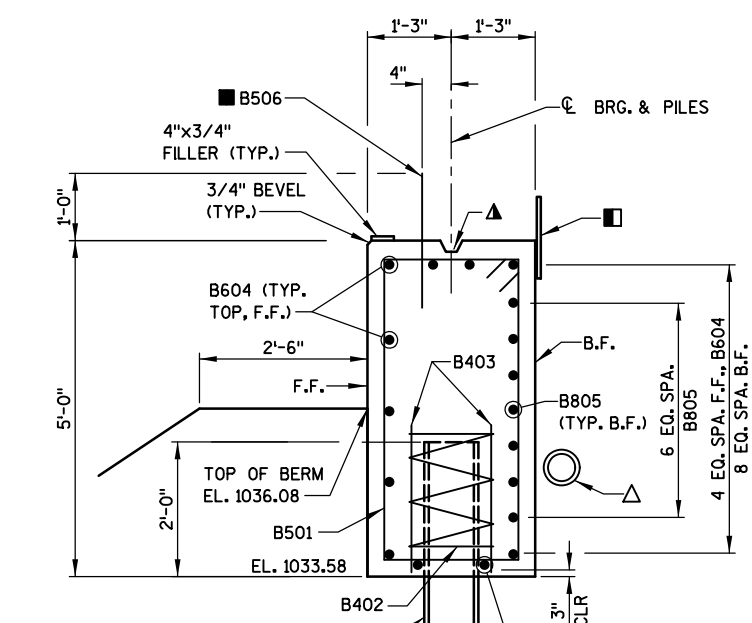
WING 3 ELEVATION
(FRONT FACE)
(WING 4 SIMILAR)



TYPICAL SECTION THRU WING



WING 3 PLAN
(WING 4 SIMILAR)

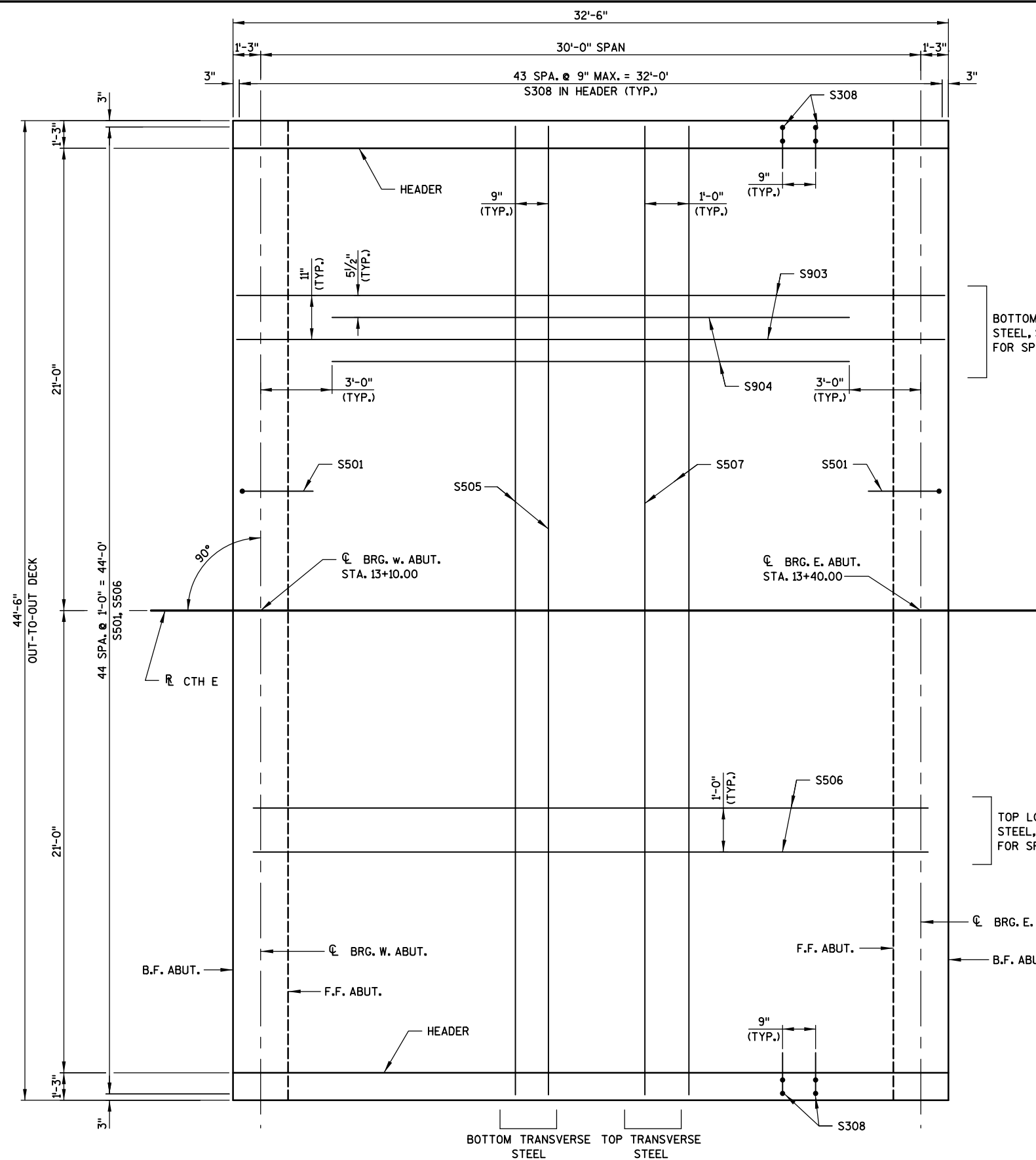


TYPICAL ABUTMENT SECTION

LEGEND

- OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2"x6" KEYWAY WITH MEMBRANE ON BACKFACE.
- 1/2" FILLER TO EXTEND FROM ABUT. SEAT TO TOP OF CONCRETE PARAPET. FILLER INCLUDED IN WING LENGTH. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW TOP OF WING AT INSIDE FACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".
- PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. HIGH POINT EL. 1035.00 AT R. ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN PER DETAIL ON SHEET 4.
- THESE BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CK'D. KRB
EAST ABUTMENT DETAILS			SHEET 7

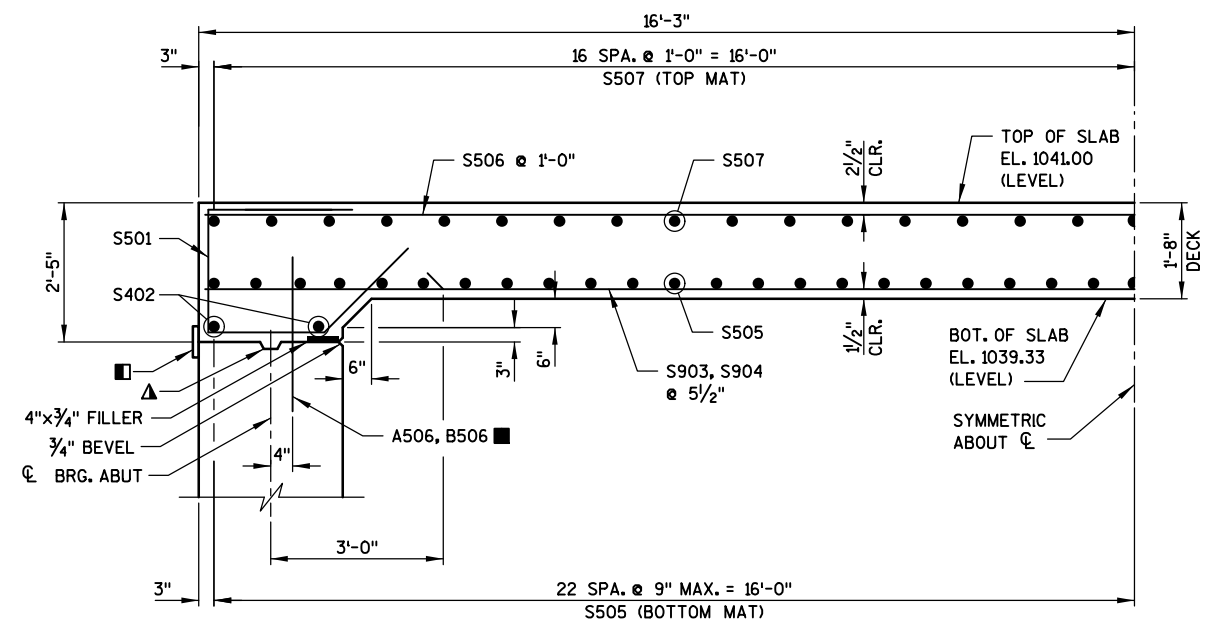


BOTTOM LONGITUDINAL STEEL, SEE SHEET 9 FOR SPACING

TOP LONGITUDINAL STEEL, SEE SHEET 9 FOR SPACING

BOTTOM TRANSVERSE TOP TRANSVERSE STEEL

PLAN



HALF LONGITUDINAL SECTION

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING.
- BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.
- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		DTH	PLANS CK'D. KRB
SUPERSTRUCTURE PLAN AND SECTION			SHEET 8

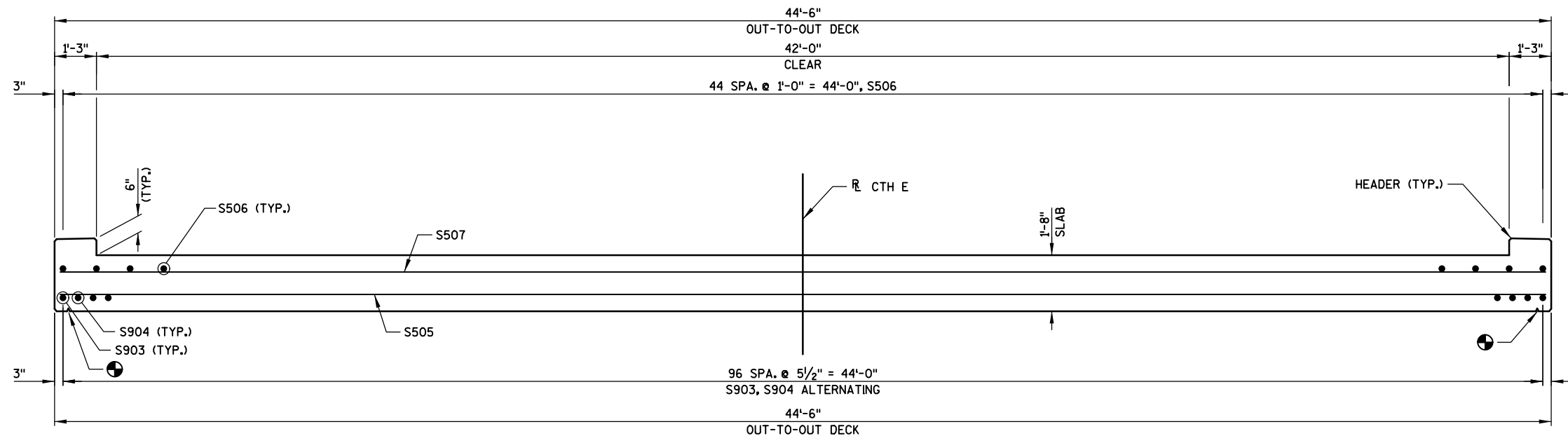
NOTES

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

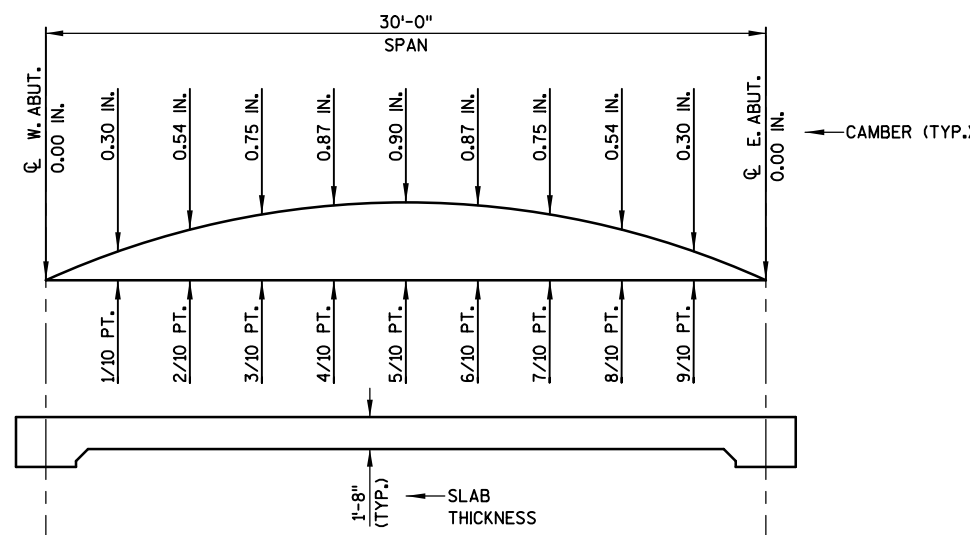
ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

LEGEND

⊕ 3/4" V-GROOVE REQ'D. EXTEND TO 6" FROM F.F. OF ABUT. DIAPHRAGMS.



CROSS SECTION THRU SUPERSTRUCTURE
(LOOKING EAST)



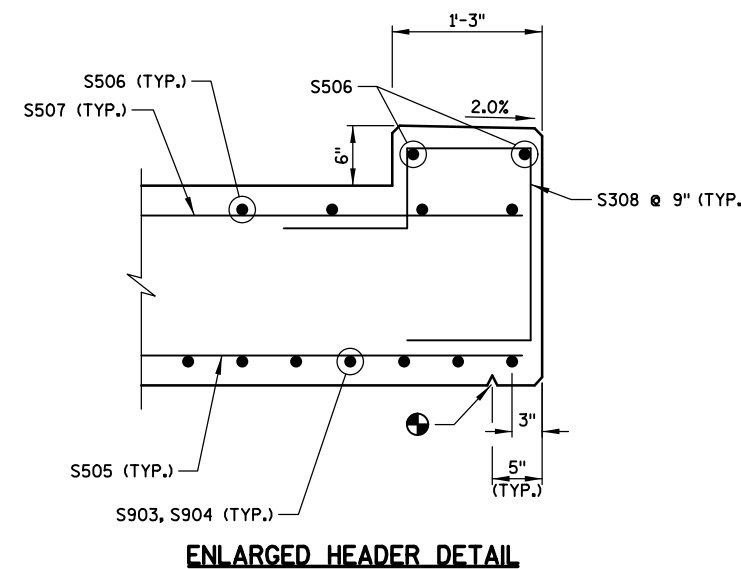
CAMBER AND SLAB THICKNESS DIAGRAM

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.

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

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

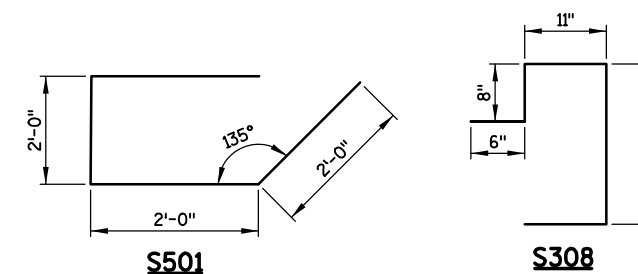


ENLARGED HEADER DETAIL

SUPERSTRUCTURE BILL OF BARS

COATED: 15,500 LBS

BAR MARK	NO. REQ'D	LENGTH	BENT	COAT	LOCATION
S501	90	7'-9"	X	X	ABUT. DIAPHRAGM - VERT.
S402	4	44'-2"		X	ABUT. DIAPHRAGM - HORIZ.
S903	49	32'-2"		X	SLAB - LONGIT. - BOT.
S904	48	24'-0"		X	SLAB - LONGIT. - BOT.
S505	45	44'-2"		X	SLAB - TRANS. - BOT.
S506	49	32'-2"		X	SLAB/HEADER - LONGIT. - TOP
S507	33	44'-2"		X	SLAB - TRANS. - TOP
S308	88	4'-4"	X	X	HEADER - VERT.

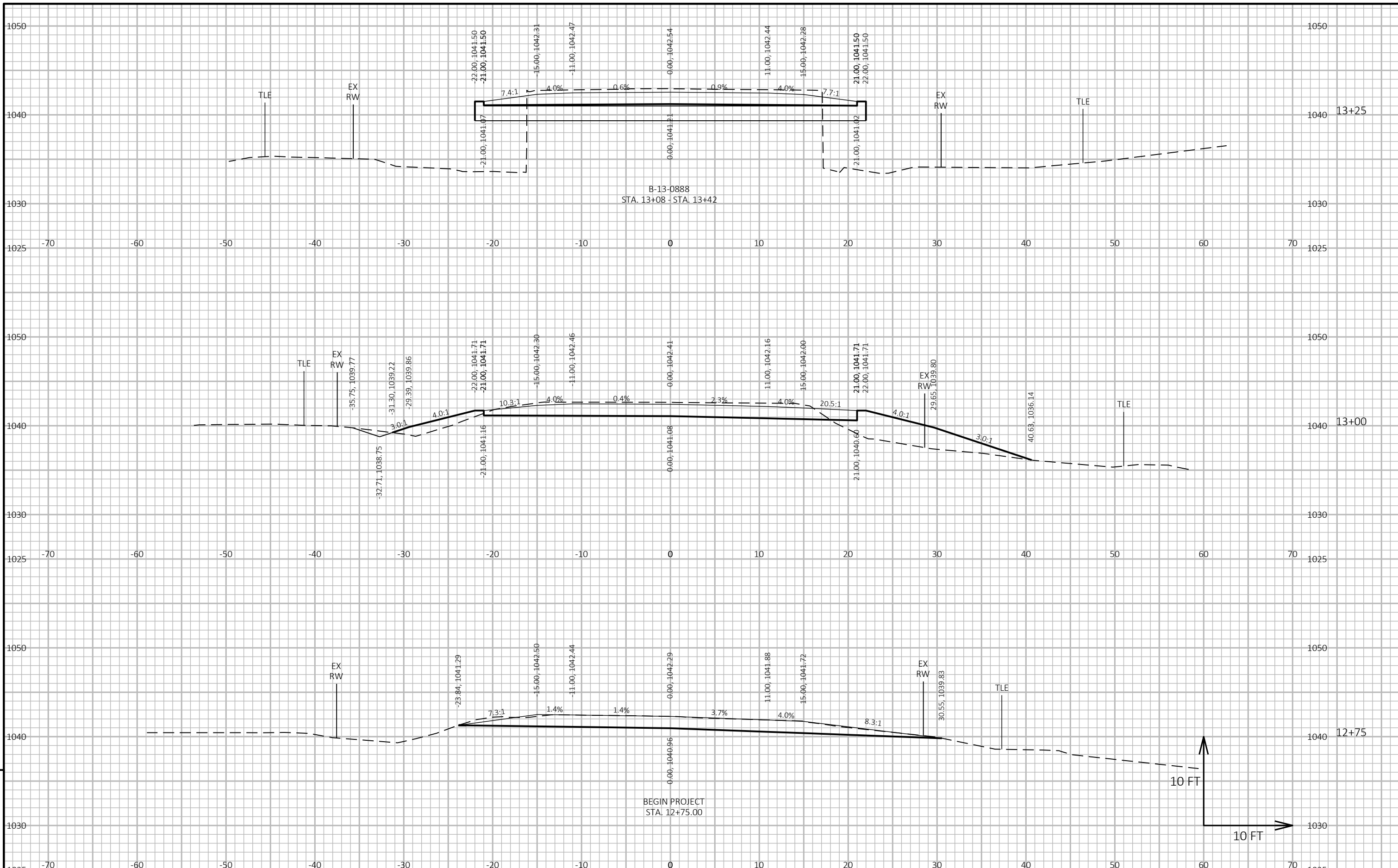


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-13-888			
DRAWN BY		PLANS CK'D.	
DTH		KRB	
SUPERSTRUCTURE CROSS SECTION AND DETAILS			SHEET 9

CTH E		AREA (SF)			INCREMENTAL VOL (CY) (UNADJUSTED)			CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 3
STATION	DISTANCE	CUT NOTE 1	FILL NOTE 2	EBS	CUT NOTE 1	FILL NOTE 2	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25	
				(5% OF CUT)						
12+75	---	56.7	0.0	2.8	0	0	0	0	0	0
13+00	25	57.7	42.0	2.9	53	19	3	53	24	29
13+09	9	62.1	3.2	3.1	19	7	1	72	33	39
13+25	16	56.5	4.8	2.8	0	2	0	72	36	72
13+41	16	57.3	9.4	2.9	0	4	0	72	42	100
13+50	9	53.8	39.7	2.7	18	8	1	90	52	109
13+75	25	51.1	0.0	2.6	49	18	2	139	75	134
14+00	25	59.6	0.0	3.0	51	0	3	190	75	185
COLUMN TOTALS					190	60	10			

NOTES:

- 1) CUT: CUT INCLUDES SALVAGED PAVEMENT MATERIAL.
- 2) FILL: FILL DOES NOT INCLUDE SALVAGED/UNUSABLE PAVEMENT MATERIAL
- 3) MASS ORDINATE: MASS ORDINATE = (CUT) - (FILL * FILL FACTOR)



PROJECT NO: 5856-00-72

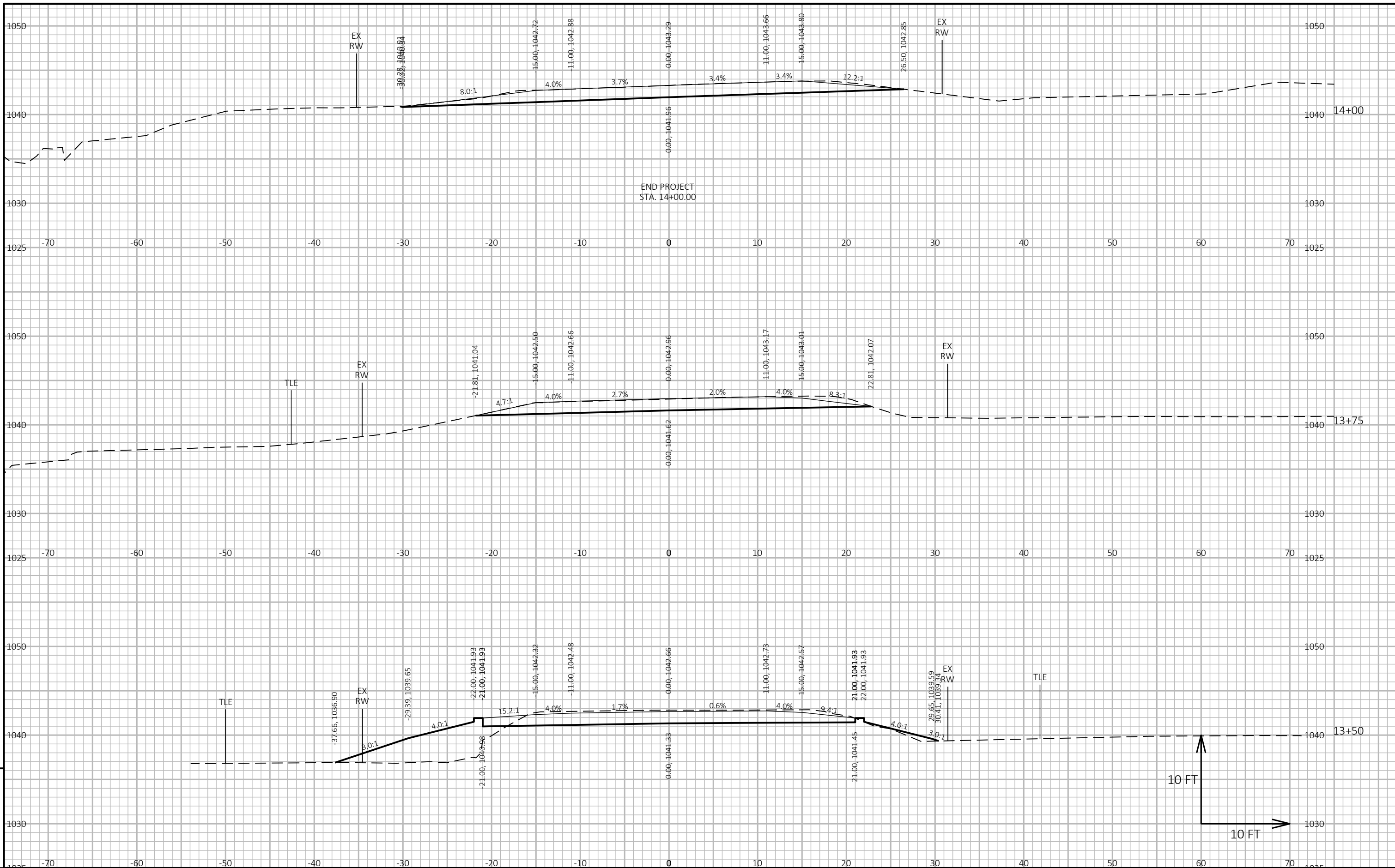
HWY: CTH E

COUNTY: DANE

CROSS SECTIONS: CTH E

SHEET

E



END PROJECT
STA. 14+00.00

PROJECT NO: 5856-00-72	HWY: CTH E	COUNTY: DANE	CROSS SECTIONS: CTH E	SHEET	E
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FILE NAME : S:\MAD\1100-1199\1124\021\DRAWINGS\CAD\CIVIL 3D\SHEETS\PLAN\090201-XS.DWG
 LAYOUT NAME - 090202-xs
 PLOT DATE : 10/5/2022 8:08 AM
 PLOT BY : STANIOCH, DREW
 PLOT NAME :
 PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.
 WISDOT/CADD SHEET 49



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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