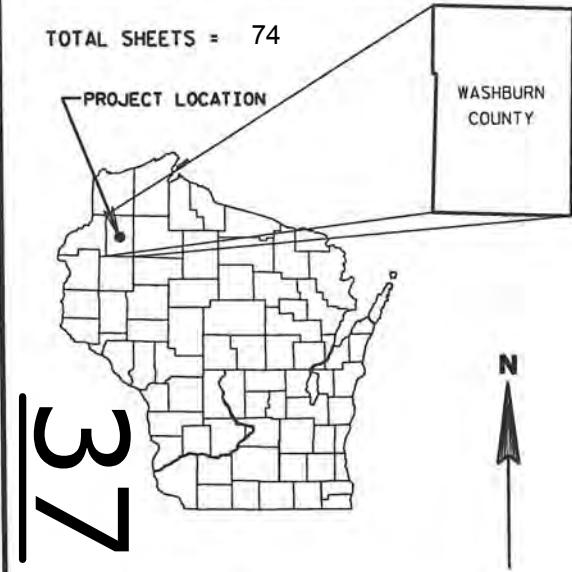


SUP JUNE 2017
PROJECT ID: 1560-00-71
WITH: N/A

COUNTY: WASHBURN

ORDER OF SHEETS

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



DESIGN DESIGNATION

A.D.T. (2017)	=	4,500
A.D.T. (2037)	=	6,200
D.H.V.	=	---
D.	=	61/39
T.	=	10.5%
DESIGN SPEED	=	55 MPH
ESALS	=	N/A

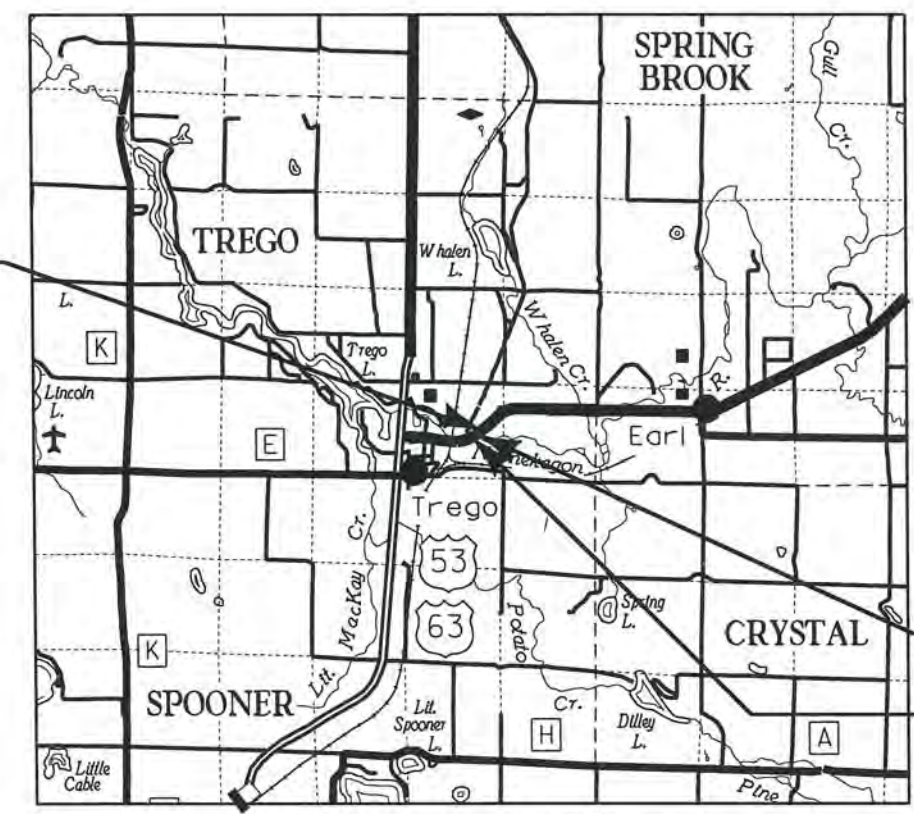
CONVENTIONAL SYMBOLS

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

PROFILE

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

END PROJECT
STA. 61+75
Y = 597866.41
X = 760796.37



LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.047 MI.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
SPOONER - HAYWARD
NAMEKAGON RIVER BRIDGE B-65-0013
USH 63
WASHBURN COUNTY

STATE PROJECT NUMBER
1560-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1560-00-71		

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

WISCONSIN PROFESSIONAL ENGINEER
CHRISTOPHER B. McMAHON
E-26464
EAU CLAIRE, WI

DATE 1/20/17

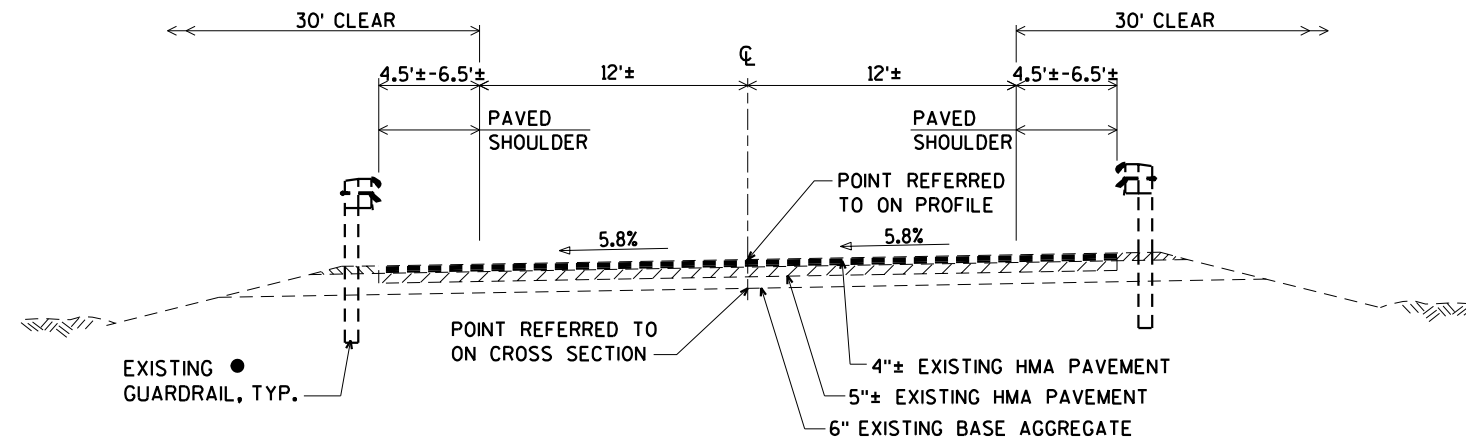
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	AYRES ASSOCIATES INC
Designer	AYRES ASSOCIATES INC
Project Manager	BETH CUNNINGHAM, PE
Regional Engineer	TOU YANG, PE
Regional Supervisor	ANDREW STENSLAND, PE

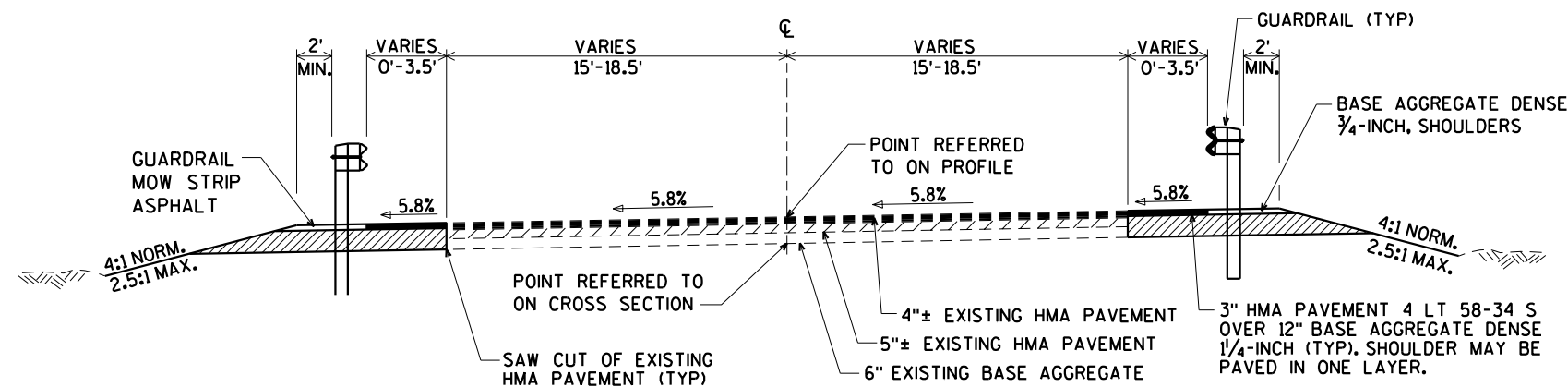
APPROVED FOR THE DEPARTMENT
DATE: 1/24/17 Andrew Stensland (Signature)

E

**TYPICAL EXISTING SECTION**

(USH 63)

● EXISTING GUARDRAIL TO BE REPLACED.

**TYPICAL FINISHED SECTION - SHOULDER WIDENING****GENERAL NOTES**

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.

EXCAVATION FOR STRUCTURES SHALL INCLUDE FURNISHING, PLACEMENT AND COMPACTION OF ANY FILL MATERIAL REQUIRED TO PROVIDE A SUITABLE FOUNDATION FOR SUBSTRUCTURE UNITS.

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.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED AND SEEDING AS DIRECTED BY THE ENGINEER.

THE DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR WITH A MONUMENT TO BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

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

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPT.

THE LOCATION AND WIDTH OF THE EXISTING RIGHT OF WAY WAS DETERMINED BY THE MUNICIPALITY FOR THIS PROJECT. AYRES ASSOCIATES DOES NOT WARRANT IT'S ACCURACY.

UTILITIES

CENTURYLINK
P.O. BOX 181.
SOLON SPRINGS, WI 54873
ATTN: ALAN NICKELL
715-378-2131
715-566-3879 (CELL)
alan.nickell@centurylink.com

WE ENERGIES
104 W. SOUTH STREET
RICE LAKE, WI 54868
ATTN: LEWIS KNAPP
715-234-9605
715-419-2196 (CELL)
lewis.knapp@we-energies.com

DIGGERSHOTLINE

Dial 811 or (800)242-8511

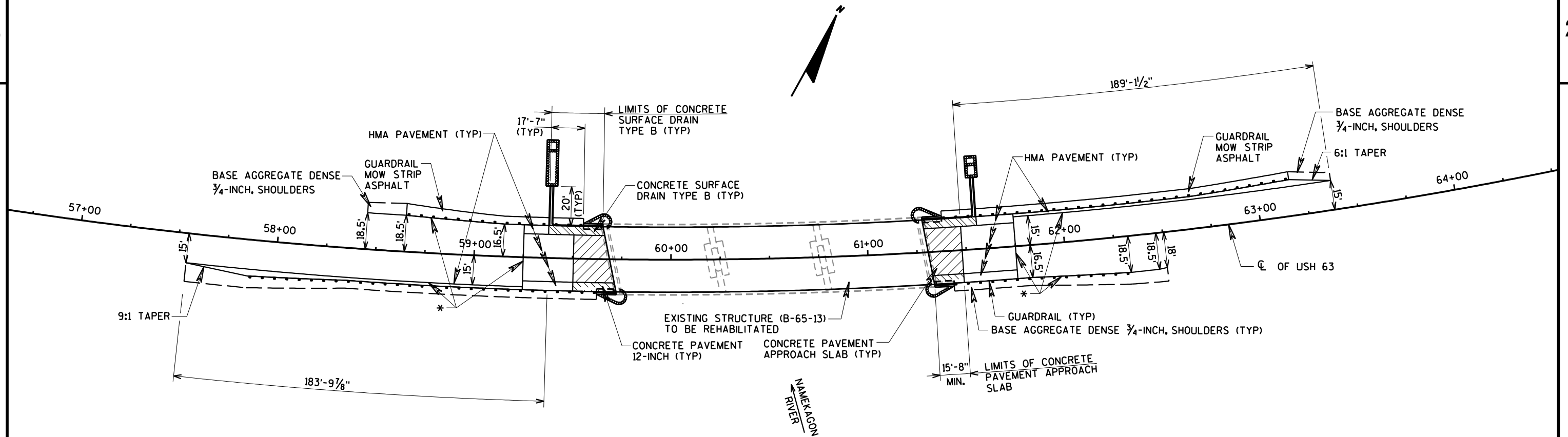
www.DiggersHotline.com

**WISCONSIN DEPARTMENT OF
NATURAL RESOURCES CONTACT:**

SHAWN HASELEU
810 W. MAPLE STREET
SPOONER, WI 54801
715-635-4228
shawn.haseleu@wisconsin.gov

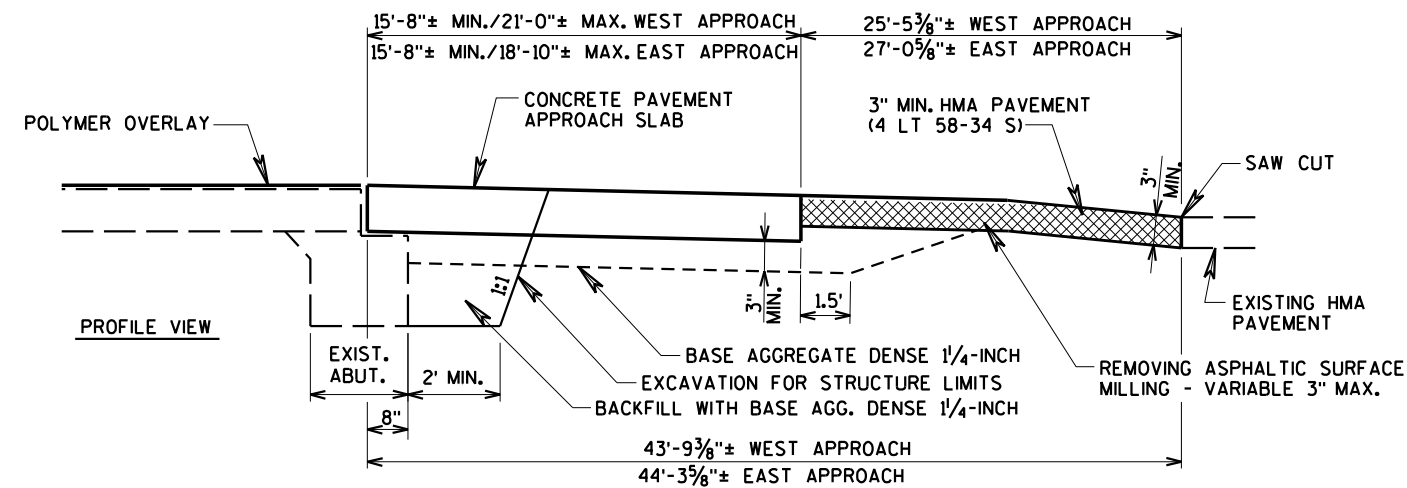
DESIGNER

AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: CHRISTOPHER B. McMAHON
715-834-3161
cmahonc@AyresAssociates.com

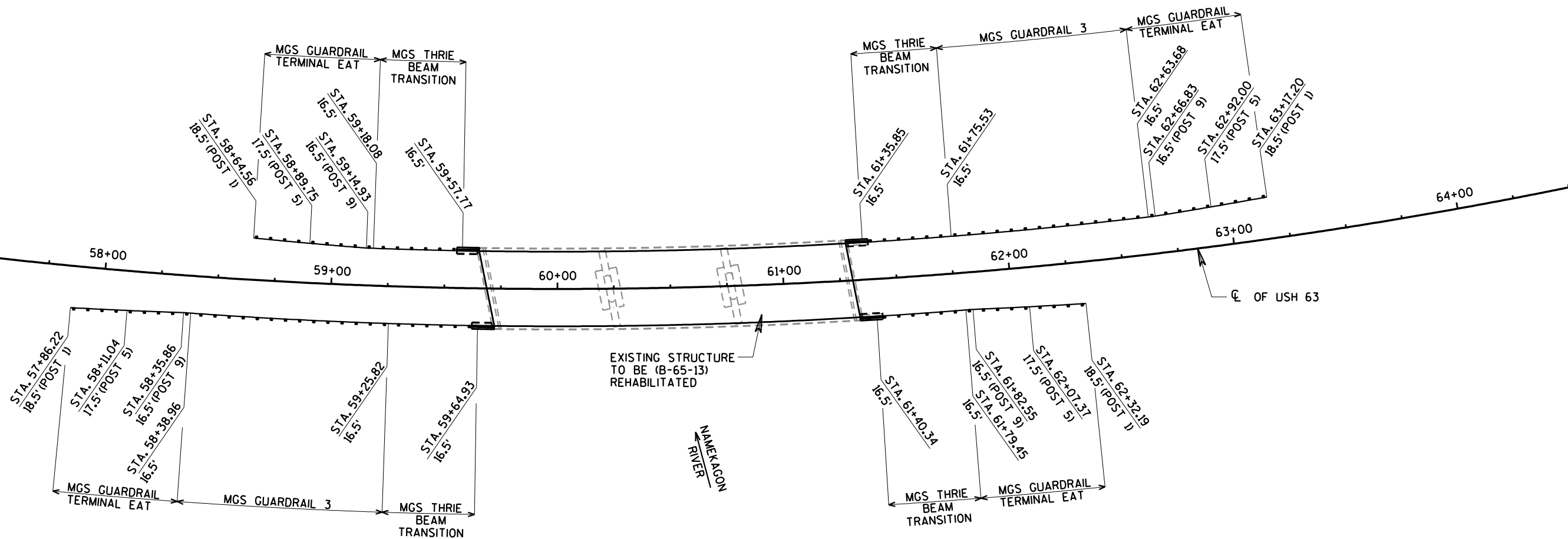


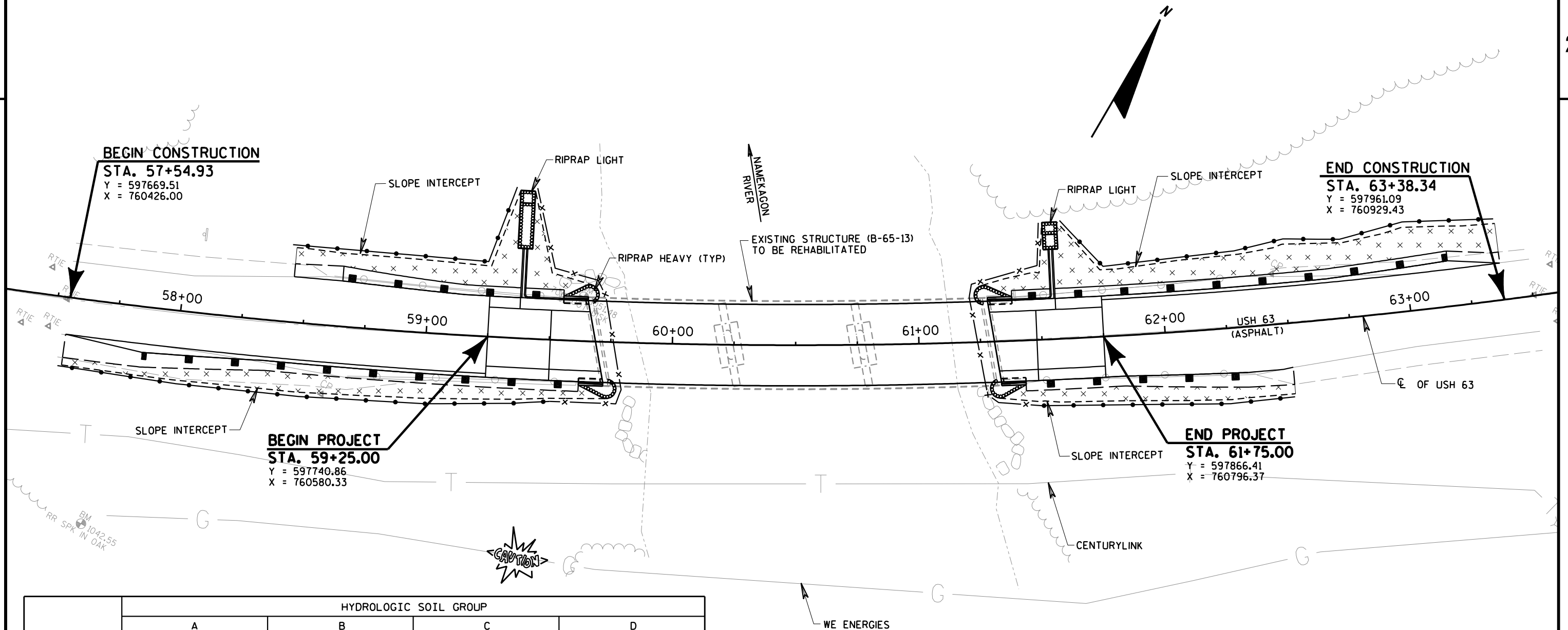
APPROACH SLAB DETAIL

* SAW CUT REQ'D.



APPROACH REPLACEMENT DETAIL

GUARDRAIL LAYOUT



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












TOTAL PROJECT AREA = 5.899 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.457 ACRES

NOTE: NO DISTURBANCE OR TOPSOIL STOCKPILING IS ALLOWED OUTSIDE OF THE SLOPE INTERCEPTS. WETLANDS EXIST IN THE PROJECT AREA.

LEGEND

- × × × EROSION MAT CLASS II TYPE C
- — ● SILT FENCE
- x—x— HEAVY DUTY SILT FENCE

GENERAL NOTES
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

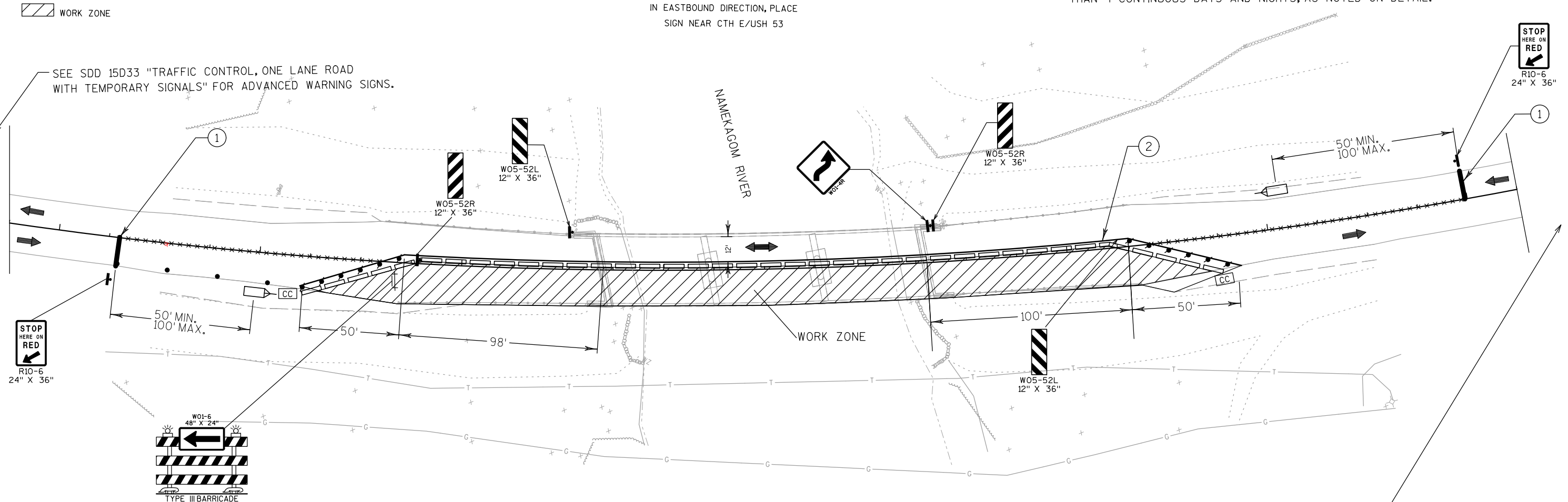
- | | |
|---|--|
|  | SIGN ON PERMANENT SUPPORT |
|  | REMOVING PAVEMENT MARKING |
|  | TYPE III BARRICADE WITH ATTACHED SIGN |
|  | TRAFFIC CONTROL DRUM |
|  | TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT |
|  | DIRECTION OF TRAFFIC |
|  | 4" X 6" WOOD POST |
|  | TEMPORARY CRASH CUSHION |
|  | TRAILER MOUNTED TRAFFIC SIGNAL |
|  | ASPHALTIC SURFACE WIDENING |
|  | WORK ZONE |

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

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

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

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



SEE SDD 15D33 "TRAFFIC CONTROL, ONE LANE ROAD-
WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGNS.

PAVEMENT MARKING NOTES

- ① TEMPORARY PAVEMENT MARKING STOP LINE, 24-INCH, REMOVABLE TAPE WHITE
- ② TEMPORARY PAVEMENT MARKING 4-INCH, REMOVABLE TAPE WHITE EDGELINE



0.5 MILES
AHEAD
W05T-52
36" X 24"

IN EASTBOUND DIRECTION, PLACE
SIGN NEAR CTH E/USH 53

NANEKAGCON RIVER

WORK ZONE



50' MIN.
100' MAX.



2

1



50' MIN.
100' MAX.



110'



162'

145'

50'

SEE SDD 15D33 "TRAFFIC CONTROL, ONE LANE ROAD
WITH TEMPORARY SIGNALS" FOR ADVANCED WARNING SIGNS.



1 MILES
AHEAD
W05T-52
36" X 24"

IN WESTBOUND DIRECTION, PLACE
SIGN 1-MILE AHEAD OF WORK ZONE

Estimate Of Quantities

1560-00-71					
Line	Item	Item Description	Unit	Total	Qty
0010	203.0210.S	Abatement of Asbestos Containing Material (structure) 01. B-65-13	LS	1.000	1.000
0020	203.0700.S	Removing Old Structure Over Waterway With Debris Capture System (station) 01. 60+50	LS	1.000	1.000
0030	204.0120	Removing Asphaltic Surface Milling	SY	320.000	320.000
0040	204.0165	Removing Guardrail	LF	379.000	379.000
0050	205.0100	Excavation Common	CY	372.000	372.000
0060	206.1000	Excavation for Structures Bridges (structure) 01. B-65-13	LS	1.000	1.000
0070	210.1500	Backfill Structure Type A	TON	115.000	115.000
0080	213.0100	Finishing Roadway (project) 01. 1560-00-71	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	33.000	33.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	470.000	470.000
0110	415.0120	Concrete Pavement 12-Inch	SY	19.000	19.000
0120	415.0410	Concrete Pavement Approach Slab	SY	95.000	95.000
0130	416.1010	Concrete Surface Drains	CY	8.000	8.000
0140	455.0605	Tack Coat	GAL	20.000	20.000
0150	460.2000	Incentive Density HMA Pavement	DOL	30.000	30.000
0160	460.5244	HMA Pavement 4 LT 58-34 S	TON	43.000	43.000
0170	502.0100	Concrete Masonry Bridges	CY	37.000	37.000
0180	502.3210	Pigmented Surface Sealer	SY	23.000	23.000
0190	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	3,520.000	3,520.000
0200	509.0301	Preparation Decks Type 1	SY	75.000	75.000
0210	509.0302	Preparation Decks Type 2	SY	30.000	30.000
0220	509.1500	Concrete Surface Repair	SF	165.000	165.000
0230	509.2000	Full-Depth Deck Repair	SY	5.000	5.000
0240	509.5100.S	Polymer Overlay	SY	595.000	595.000
0250	509.9020.S	Epoxy Crack Sealing	LF	162.000	162.000
0260	511.1200	Temporary Shoring (structure) 01. B-65-13	SF	570.000	570.000
0270	516.0500	Rubberized Membrane Waterproofing	SY	13.000	13.000
0280	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	220.000	220.000
0290	603.8000	Concrete Barrier Temporary Precast Delivered	LF	460.000	460.000
0300	603.8125	Concrete Barrier Temporary Precast Installed	LF	920.000	920.000
0310	606.0100	Riprap Light	CY	9.000	9.000
0320	606.0300	Riprap Heavy	CY	25.000	25.000
0330	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0340	614.0396	Guardrail Mow Strip Asphalt	SY	126.000	126.000
0350	614.0905	Crash Cushions Temporary	EACH	2.000	2.000
0360	614.2300	MGS Guardrail 3	LF	175.000	175.000
0370	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000

Estimate Of Quantities

1560-00-71					
Line	Item	Item Description	Unit	Total	Qty
0380	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0390	619.1000	Mobilization	EACH	1.000	1.000
0400	628.1504	Silt Fence	LF	755.000	755.000
0410	628.1520	Silt Fence Maintenance	LF	755.000	755.000
0420	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0430	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0440	628.2027	Erosion Mat Class II Type C	SY	705.000	705.000
0450	628.7504	Temporary Ditch Checks	LF	20.000	20.000
0460	629.0210	Fertilizer Type B	CWT	0.500	0.500
0470	630.0120	Seeding Mixture No. 20	LB	19.000	19.000
0480	630.0200	Seeding Temporary	LB	19.000	19.000
0490	642.5001	Field Office Type B	EACH	1.000	1.000
0500	643.0100	Traffic Control (project) 01. 1560-00-71	EACH	1.000	1.000
0510	643.0300	Traffic Control Drums	DAY	1,440.000	1,440.000
0520	643.0420	Traffic Control Barricades Type III	DAY	90.000	90.000
0530	643.0705	Traffic Control Warning Lights Type A	DAY	180.000	180.000
0540	643.0715	Traffic Control Warning Lights Type C	DAY	1,080.000	1,080.000
0550	643.0900	Traffic Control Signs	DAY	1,530.000	1,530.000
0560	645.0120	Geotextile Type HR	SY	55.000	55.000
0570	645.0130	Geotextile Type R	SY	35.000	35.000
0580	646.0106	Pavement Marking Epoxy 4-Inch	LF	2,600.000	2,600.000
0590	646.0600	Removing Pavement Markings	LF	290.000	290.000
0600	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	940.000	940.000
0610	649.1400	Temporary Pavement Marking Stop Line Removable Tape 24-Inch	LF	30.000	30.000
0620	650.6500	Construction Staking Structure Layout (structure) 01. B-65-13	LS	1.000	1.000
0630	650.8000	Construction Staking Resurfacing Reference	LF	422.000	422.000
0640	650.9910	Construction Staking Supplemental Control (project) 01. 1560-00-71	LS	1.000	1.000
0650	661.0100	Temporary Traffic Signals for Bridges (structure) 01. B-65-13	LS	1.000	1.000
0660	690.0150	Sawing Asphalt	LF	555.000	555.000
0670	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0680	715.0502	Incentive Strength Concrete Structures	DOL	222.000	222.000
0690	SPV.0035	Special 01. Concrete Masonry Deck Patching	CY	7.000	7.000
0700	SPV.0090	Special 01. Sawing Pavement Deck Preparation Areas	LF	750.000	750.000
0710	SPV.0090	Special 02. Heavy Duty Silt Fence	LF	245.000	245.000
0720	SPV.0180	Special 01. Reseal Parapets	SY	130.000	130.000

204.0120 REMOVING ASPHALTIC SURFACE MILLING (CATEGORY 0010)

PROJECT ID	LOCATION	SY
1560-00-71	Sta. 59+25 to Sta. 59+68	160
	Sta. 61+32 to Sta. 61+75	160
TOTAL		320

204.0165 REMOVING GUARDRAIL (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
1560-00-71	Sta. 58+60 to Sta. 59+54	LT	92
	Sta. 58+69 to Sta. 59+66	RT	97
	Sta. 61+39 to Sta. 62+32	LT	93
	Sta. 61+39 to Sta. 62+36	RT	97
TOTAL			379

205.0100 EXCAVATION COMMON (CATEGORY 0010)

PROJECT ID	STATION TO STATION	CY
1560-00-71	Sta. 57+54 to Sta. 63+38	372

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT ID 1560-00-71	1

305.0110 BASE AGGREGATE DENSE 3/4-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	TON
1560-00-71	Sta. 57+55 to Sta. 59+62	RT	19
	Sta. 58+44 to Sta. 58+65	LT	2
	Sta. 63+17 to Sta. 63+38	LT	2
	Sta. 61+42 to Sta. 62+50	RT	10
TOTAL			33

305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	TON
1560-00-71	Sta. 58+45 to Sta. 59+55	LT	70
	Sta. 57+55 to Sta. 59+63	RT	140
	Sta. 59+37 to Sta. 59+71	LT & RT	25
	Sta. 61+29 to Sta. 61+56	LT & RT	25
	Sta. 61+38 to Sta. 63+38	LT	150
	Sta. 61+43 to Sta. 62+51	RT	60
TOTAL			470

415.0120 CONCRETE PAVEMENT 12-INCH (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
1560-00-71	Sta. 59+50 to Sta. 59+72	RT	11
	Sta. 61+32 to Sta. 61+48	RT	8
TOTAL			19

415.0410 CONCRETE PAVEMENT APPROACH SLAB (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
1560-00-71	Sta. 59+50 to Sta. 59+72	-	49
	Sta. 61+28 to Sta. 61+48	-	46
TOTAL			95

416.1010 CONCRETE SURFACE DRAINS (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	CY
1560-00-71	Sta. 59+37 to Sta. 59+66	LT	4
	Sta. 61+28 to Sta. 61+56	LT	4
TOTAL			8

455.0605 TACK COAT (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	GAL
1560-00-71	Sta. 59+25 to Sta. 59+51	-	10
	Sta. 61+48 to Sta. 61+75	-	10
TOTAL			20

HMA PAVEMENT(CATEGORY 0010)

460.5244			
4 LT 58-34 S			
PROJECT ID	STATION TO STATION	LOCATION	TON
1560-00-71	Sta. 57+55 to Sta. 59+25	RT	6
	Sta. 59+25 to Sta. 59+51	-	15
	Sta. 61+48 to Sta. 61+75	-	16
	Sta. 61+75 to Sta. 63+38	LT	6
TOTALS			43

606.0100 RIPRAP LIGHT (CATEGORY 0010)

PROJECT ID	STATION	LOCATION	CY
1560-00-71	Sta. 59+39	LT	6
	Sta. 61+55	LT	3
TOTAL			9

614.0396 GUARDRAIL MOW STRIP ASPHALT (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	SY
1560-00-71	Sta. 58+64 to Sta. 59+55	RT	46
	Sta. 61+38 to Sta. 63+17	LT	80
TOTALS			126

614.2300 MGS GUARDRAIL 3 (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
1560-00-71	Sta. 58+38.96 to Sta. 59+25.82	RT	87
	Sta. 61+75.53 to Sta. 62+63.68	LT	88
TOTAL			175

614.2500 MGS THRIE BEAM TRANSITION (CATEGORY 0010)

PROJECT ID	STATION TO STATION	LOCATION	LF
1560-00-71	Sta. 59+18.08 to Sta. 59+57.77	LT	40
	Sta. 59+25.82 to Sta. 59+64.93	RT	40
	Sta. 61+35.85 to Sta. 61+75.53	LT	40
	Sta. 61+40.34 to Sta. 61+79.45	RT	40
TOTAL			160

614.2610 MGS GUARDRAIL TERMINAL EAT (CATEGORY 0010)					MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)					645.0130 GEOTEXTILE TYPE R (CATEGORY 0010)				
PROJECT ID	STATION TO STATION	LOCATION	EACH		628.1905 MOBILIZATIONS EROSION CONTROL	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL		PROJECT ID	STATION	LOCATION	SY			
1560-00-71	Sta. 57+86.22 to Sta. 58+38.96	RT	1	LOCATION	EACH	EACH		1560-00-71	Sta. 59+39	LT	23			
	Sta. 58+64.56 to Sta. 59+18.08	LT	1						Sta. 61+55	LT	12			
	Sta. 61+79.45 to Sta. 62+32.19	RT	1											
	Sta. 62+63.68 to Sta. 63+17.20	LT	1											
				PROJECT ID 1560-00-71	2	2		TOTAL				35		
TOTAL				4										

619.1000 MOBILIZATION				628.2027 EROSION MAT CLASS II TYPE C (CATEGORY 0010)				CONSTRUCTION STAKING							
PROJECT ID	CATEGORY	EACH		PROJECT ID	STATION TO STATION	LOCATION	SY	PROJECT ID	CATEGORY	LOCATION	650.8000 RESURFACING REFERENCE	650.6500 STRUCTURE LAYOUT	650.9910 SUPPLEMENTARY CONTROL		
1560-00-71	0010	0.4		1560-00-71	Sta. 57+54 to Sta. 59+74	RT	130	1560-00-71	0010	USH 63	422	---	1		
	0020	0.6			Sta. 58+45 to Sta. 59+67	LT	130		0020	B-65-13	---	1	---		
			Sta. 61+26 to Sta. 63+38		LT	235									
			Sta. 61+31 to Sta. 62+51		RT	70									
			Undistributed		-	140									
TOTAL			1	TOTAL			705	TOTALS			422	1	1		

FERTILIZER & SEED (CATEGORY 0010)						628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)				690.0150 SAWING ASPHALT (CATEGORY 0010)				
PROJECT ID	STATION TO STATION	LOCATION	629.0210 FERTILIZER TYPE B	630.0120 SEEDING NO. 20	630.0200 SEEDING TEMPORARY	PROJECT ID	STATION	LOCATION	LF	PROJECT ID	STATION	LOCATION	LF	
1560-00-71	Sta. 57+54 to Sta. 63+38	-	0.4	15	15	1560-00-71	Undistributed	-	20	1560-00-71	Sta. 57+54 to Sta. 59+25	RT	171	
	Undistributed	-	0.1	4	4						Sta. 58+45 to Sta. 59+25	LT	80	
											Sta. 59+25	-	33	
											Sta. 61+75	-	33	
											Sta. 61+75 to Sta. 62+51	RT	76	
											Sta. 61+75 to Sta. 63+39	LT	162	
TOTALS			0.5	19	19					TOTAL				555

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)					642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)				SPV.0090.02 HEAVY DUTY SILT FENCE (CATEGORY 0010)			
PROJECT ID	STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF	LOCATION	EACH	PROJECT ID	STATION TO STATION	LOCATION	LF		
1560-00-71	Sta. 57+54 to Sta. 59+51	RT	200	200	PROJECT ID 1560-00-71	1		Sta. 59+42 to Sta. 59+80	-	130		
	Sta. 58+42 to Sta. 59+34	LT	115	115				Sta. 61+20 to Sta. 61+50	-	115		
	Sta. 61+48 to Sta. 62+51	RT	105	105								
	Sta. 61+59 to Sta. 63+38	LT	185	185								
	Undistributed	-	150	150								
TOTALS			755	755	TOTAL			1	TOTAL			245

TEMPORARY CONCRETE BARRIER						
603.8000 603.8125 614.0905						
CONCRETE BARRIER CONCRETE BARRIER CRASH						
TEMPORARY PRECAST TEMPORAR PRECAST CUSHION						
DELIVERED INSTALLED TEMPORARY						
PROJECT ID	STAGE	LOCATION	LF	LF	EACH	COMMENT
1560-00-71	1	N. SIDE OF BRIDGE CLOSED	460	460	1	ANCHOR CONCRETE BARRIER PER DETAIL
	2	S. SIDE OF BRIDGE CLOSED	--	460	1	ANCHOR CONCRETE BARRIER PER DETAIL
TOTAL			460	920	2	

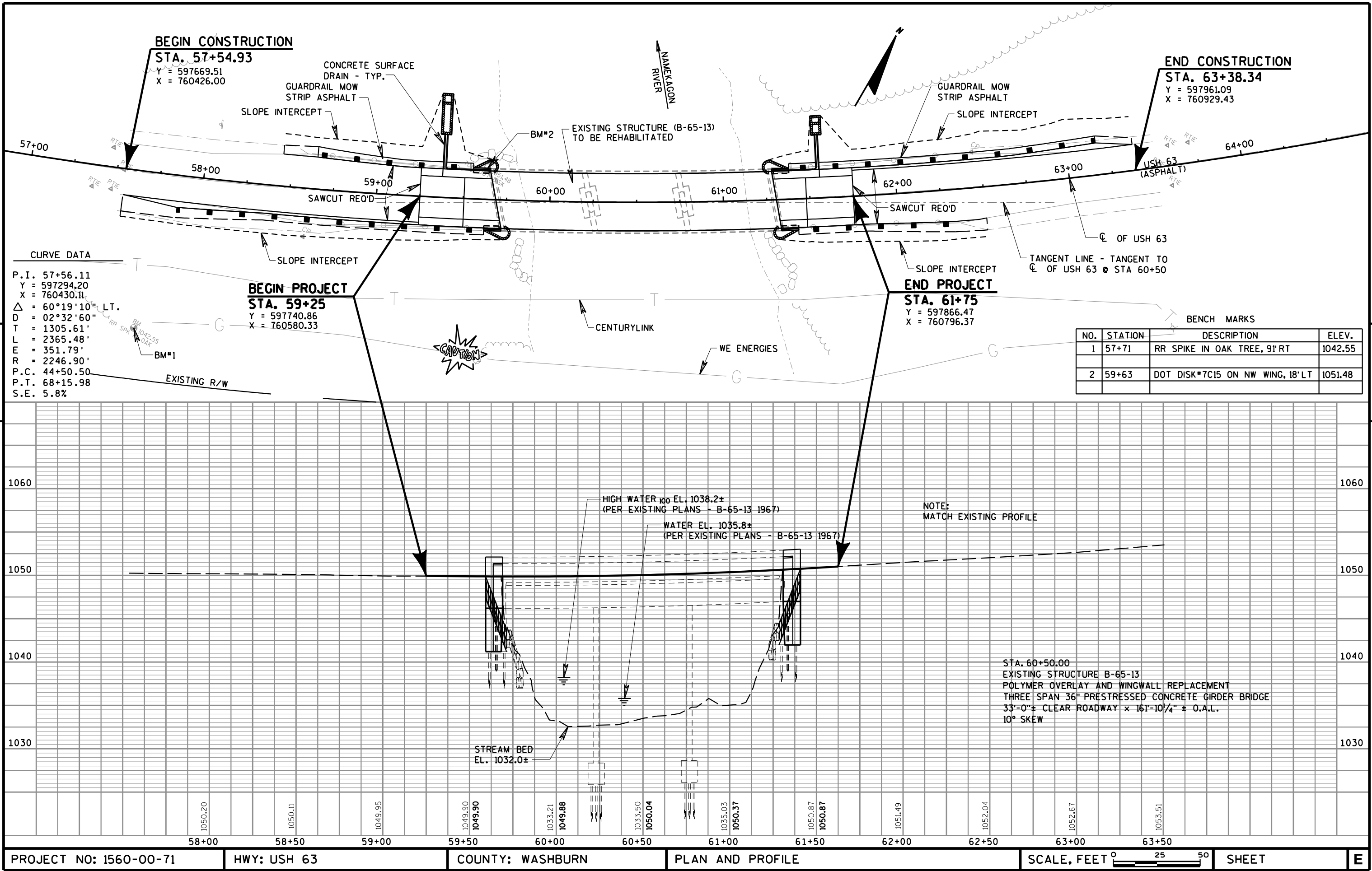
TRAFFIC CONTROL	
643.0100	
TRAFFIC CONTROL	
(PROJECT)	
PROJECT NO.	EA
PROJECT 1560-00-71	1

TRAFFIC CONTROL ITEMS										
643.0300 643.0420 643.0705 643.0715										
DRUMS BARRICADES WARNING LIGHTS WARNING LIGHTS										
TYPE III TYPE A TYPE C										
PROJECT ID	STAGE	DURATION (DAYS)	NO.	DAYS	NO.	DAYS	NO.	DAYS	NO.	DAYS
1560-00-71	1	45	16	720	1	45	2	90	12	540
	2	45	16	720	1	45	2	90	12	540
TOTAL				1440		90		180		1080

TRAFFIC CONTROL SIGNS				
643.0900				
PROJECT ID	STAGE	DURATION (DAYS)	NO.	DAYS
1560-00-71	ADVANCED WARNING	45	18	810
	1	45	8	360
	2	45	8	360
TOTAL				1530

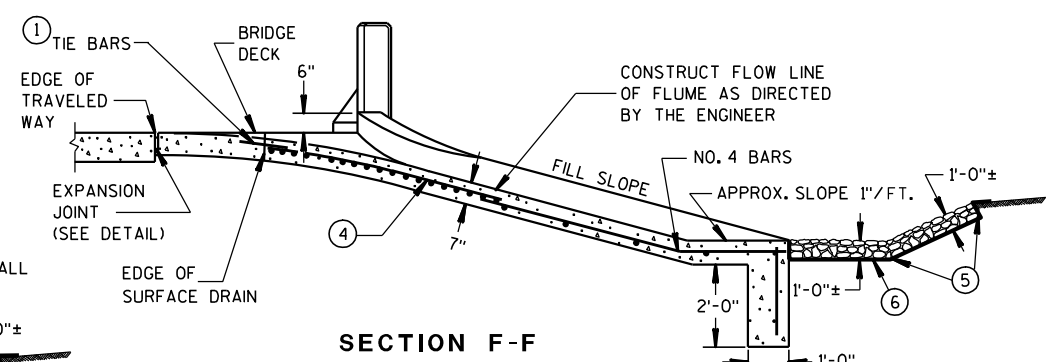
PAVEMENT MARKING							
		646.0600	649.0400	649.1400	646.0106		
		TEMPORARY PAVEMENT MARKING REMOVABLE TAPE		TEMPORARY PAVEMENT MARKING STOP LINE	PAVEMENT MARKING EPOXY 4-INCH		
		REMOVING PAVEMENT MARKINGS	4-INCH WHITE	REMOVABLE TAPE 24-INCH WHITE	DOUBLE YELLOW (SOLID)	WHITE (SOLID)	
PROJECT ID	STAGE	LF	LF	LF	LF	LF	NOTES
1560-00-71	1	290	470	30	--	--	
	2	--	470	--	--	--	
	FINAL	--	--	--	1300	1300	UNDISTRIBUTED
TOTAL		290	940	30	1300	1300	

TEMPORARY TRAFFIC SIGNALS FOR BRIDGES		
		661.0100 (STRUCTURE)
STRUCTURE NO.	PROJECT NO.	LS
B-65-0013	1560-00-71	1

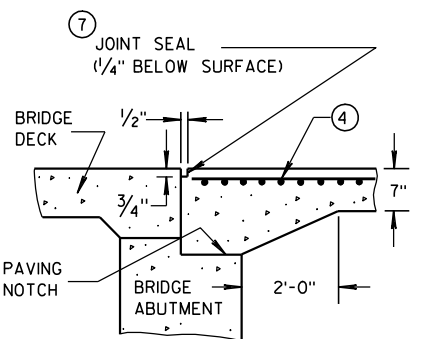


Standard Detail Drawing List

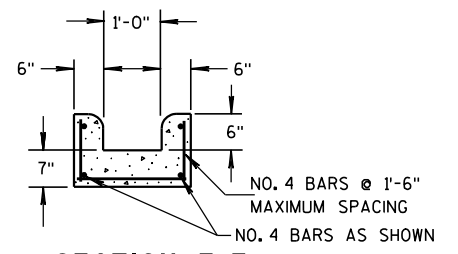
08D02-06	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
09G02-04C	BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
13B02-08B	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-14A	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14B	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14C	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14D	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14E	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14F	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14G	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B07-14H	CONCRETE BARRIER TEMPORARY PRECAST, 12' -6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02B	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02C	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B28-03	GUARDRAIL MOW STRIP
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15D33-04	TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS



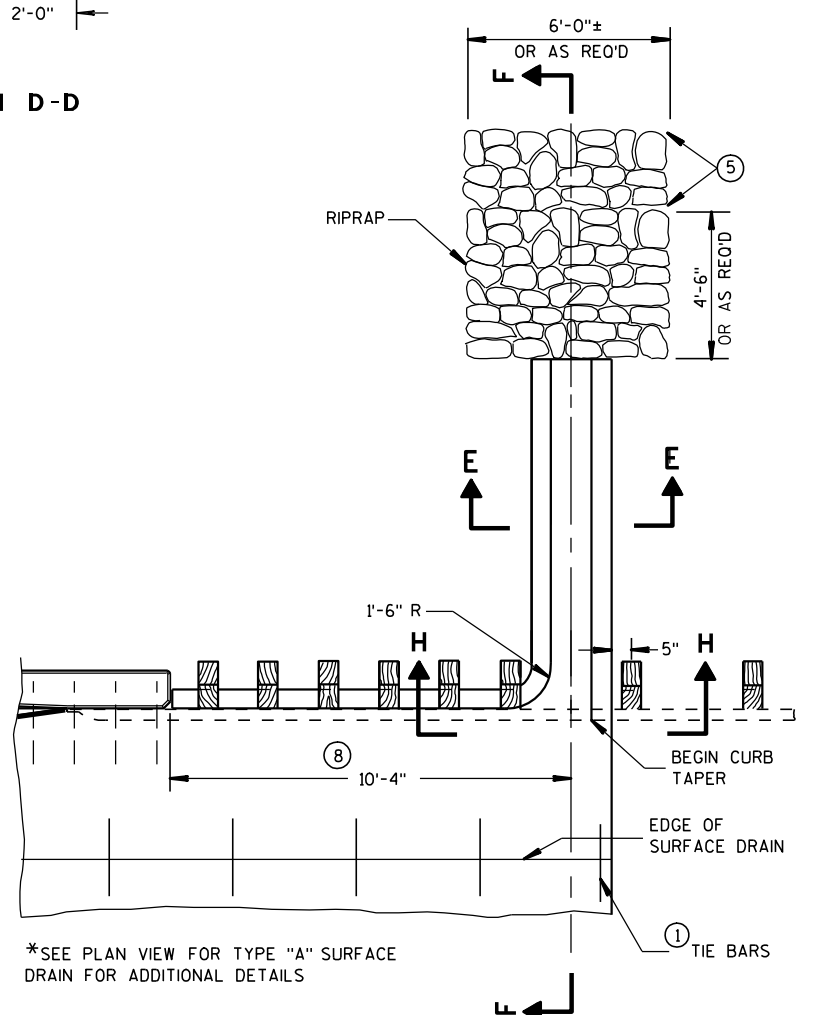
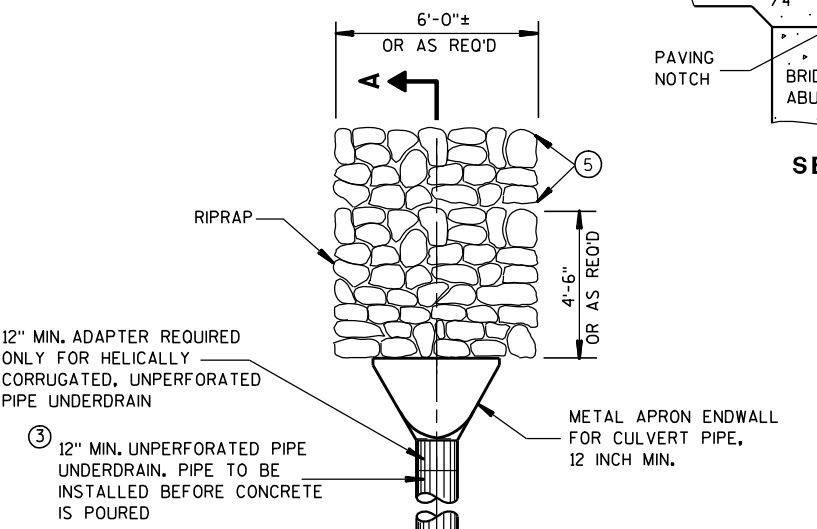
SECTION F-F



SECTION D-D

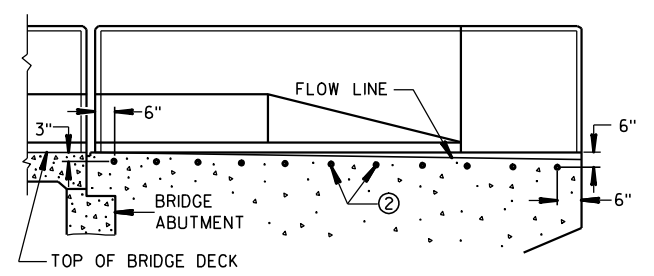


SECTION E-E



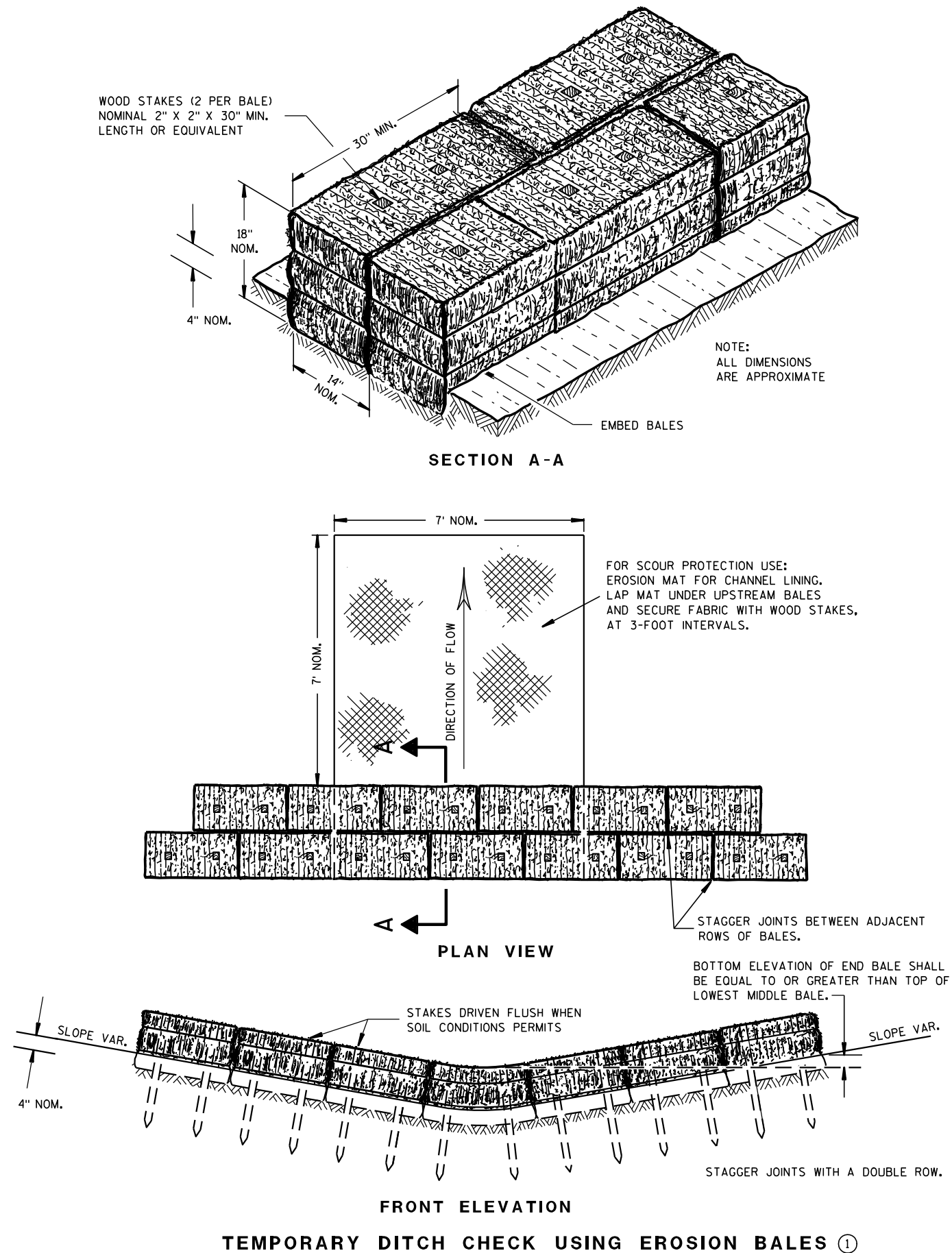
* PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

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



LOCATION OF TIE BARS IN WINGWALL

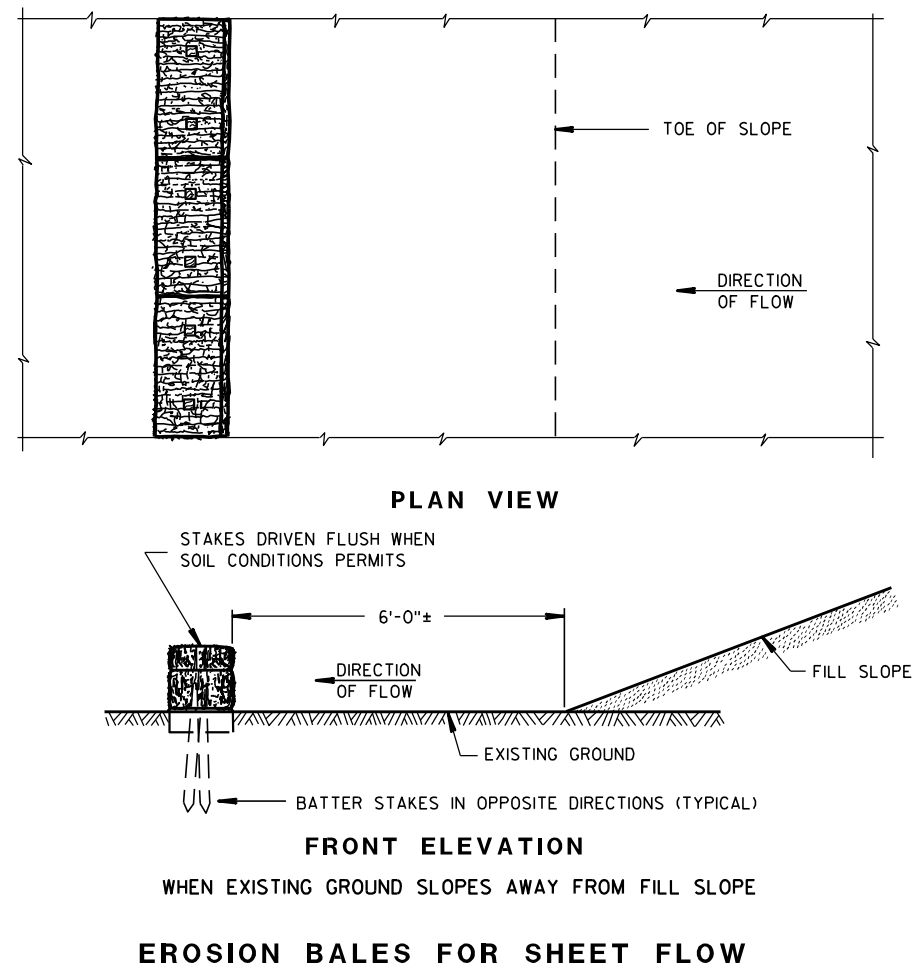
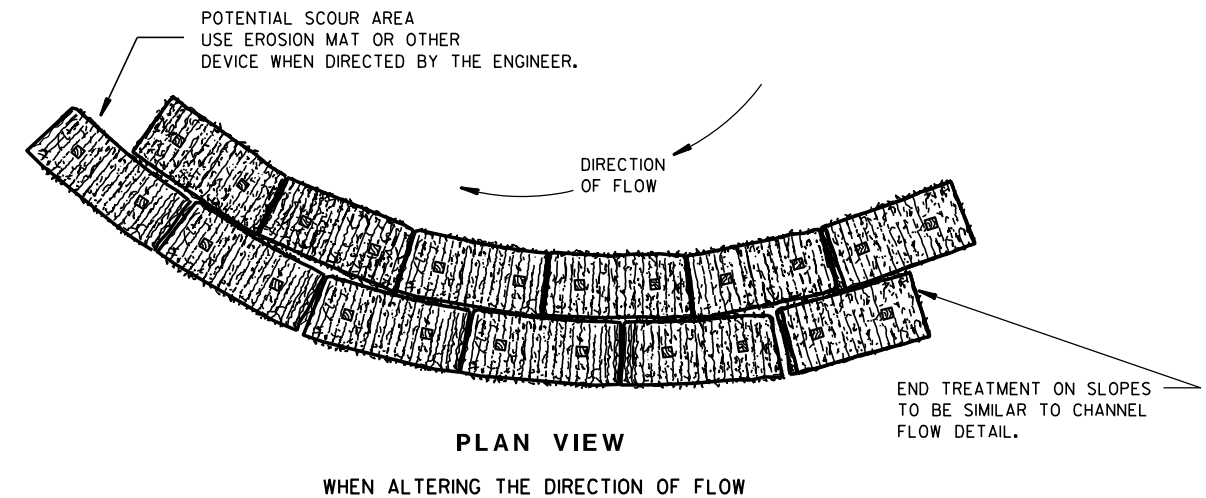
APPROVED	
<u>9/4/08</u>	<u>/S/ Jerry H. Zogg</u>
DATE	ROADWAY STANDARDS DEVELOPMENT
FHWA	ENGINEER



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.

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

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

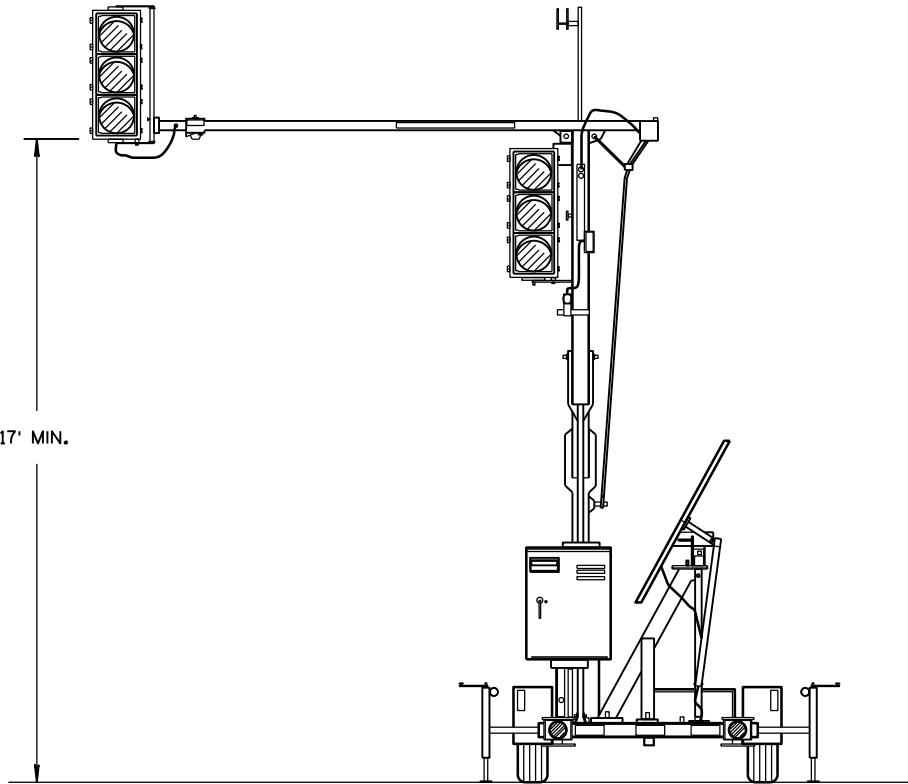
FHWA



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



<p style="text-align: center;">SILT FENCE</p>	
<p style="text-align: center;">STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED</p> <p><u>4-29-05</u></p> <p><u>DATE</u></p>	<p><u>/S/ Beth Canestra</u></p> <p>CHIEF ROADWAY DEVELOPMENT ENGINEER</p>

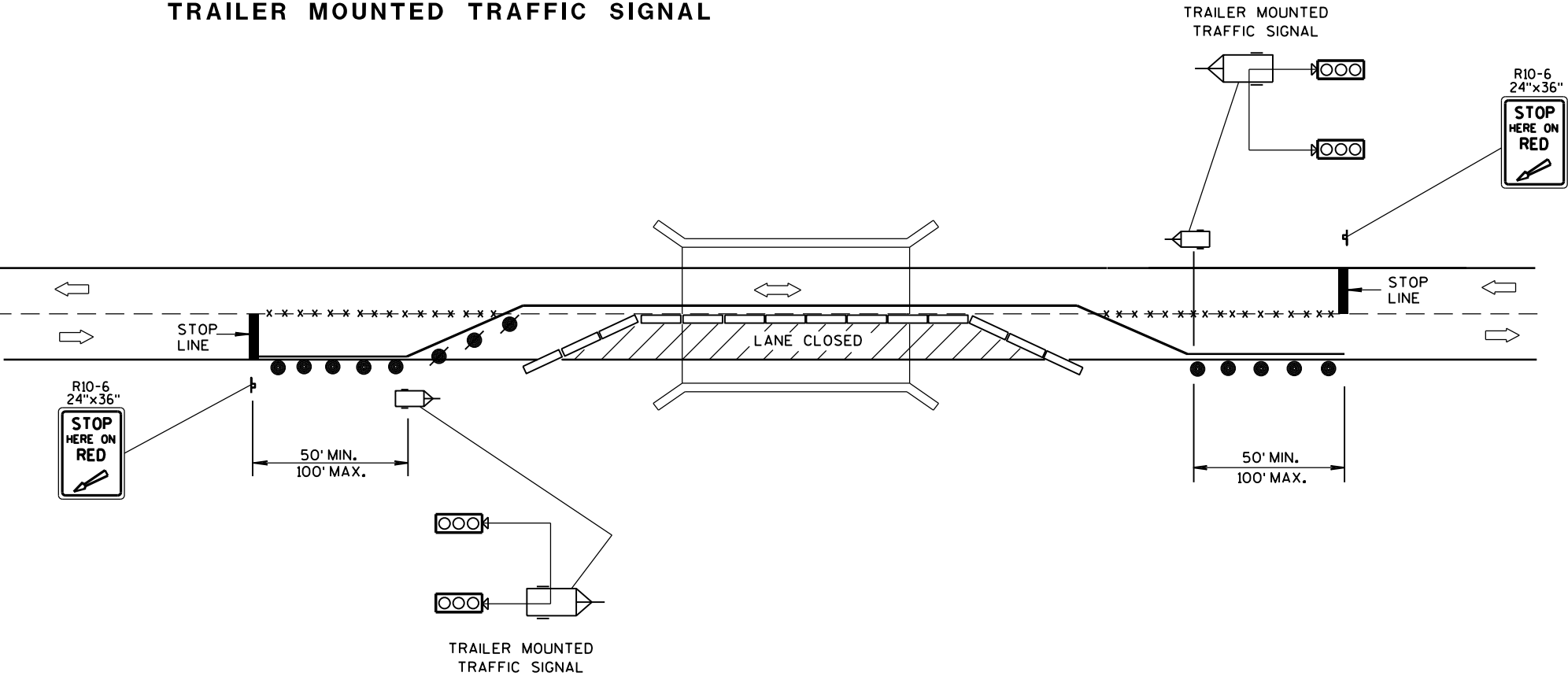


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

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

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



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

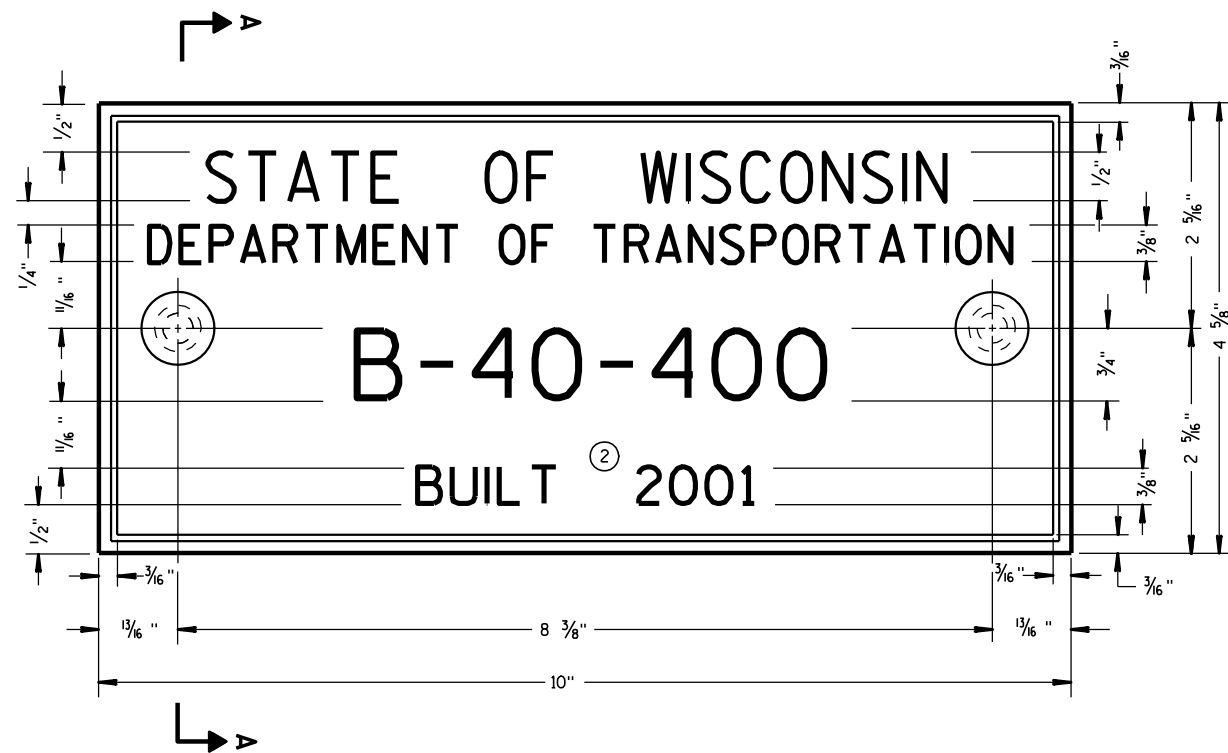
LEGEND

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

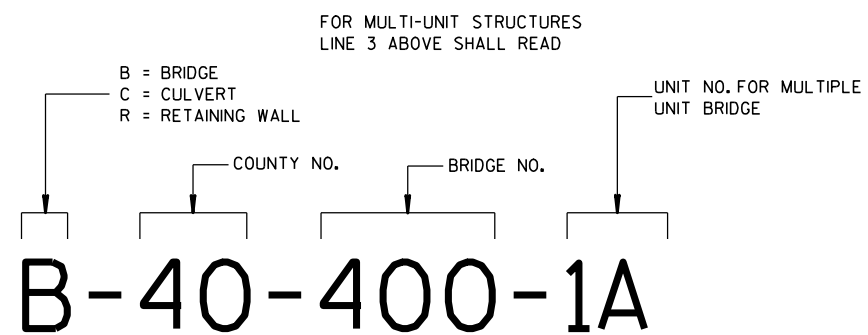
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



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



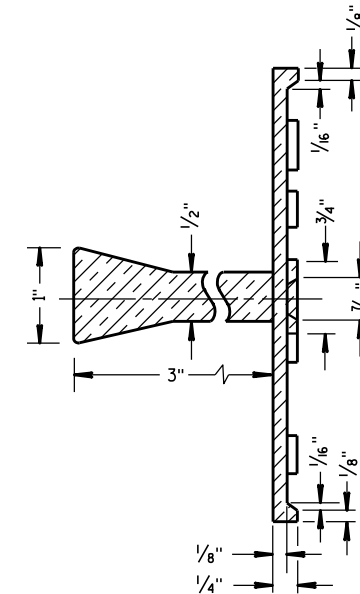
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

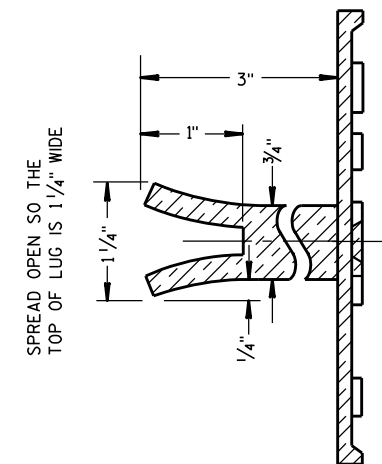
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

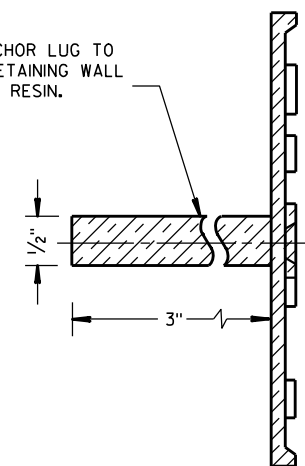


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

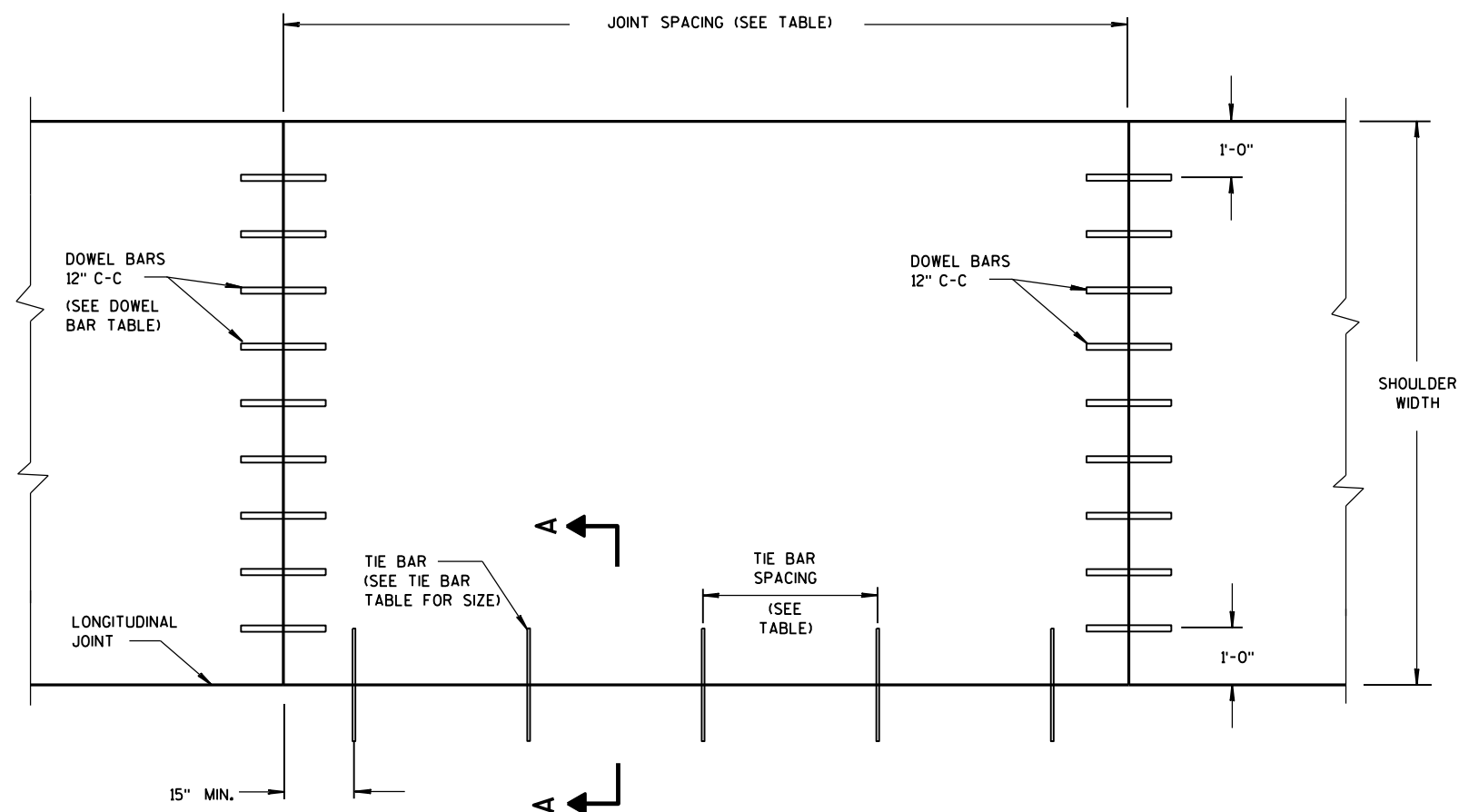
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

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

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

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

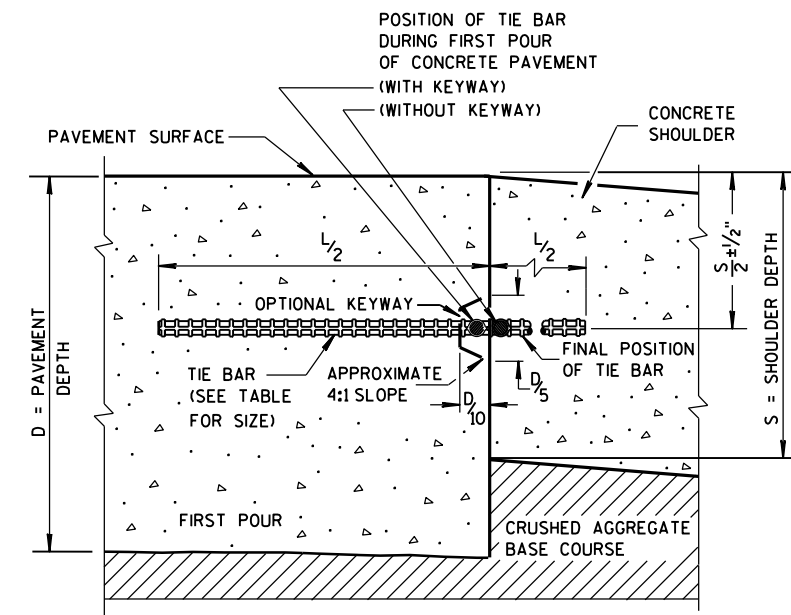
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER***	CONTRACTION JOINT SPACING
5 1/2", 6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8", 8 1/2"	1 1/4"	15'
9", 9 1/2"	1 1/4"	15'
10" & ABOVE	1 1/2"	15'

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

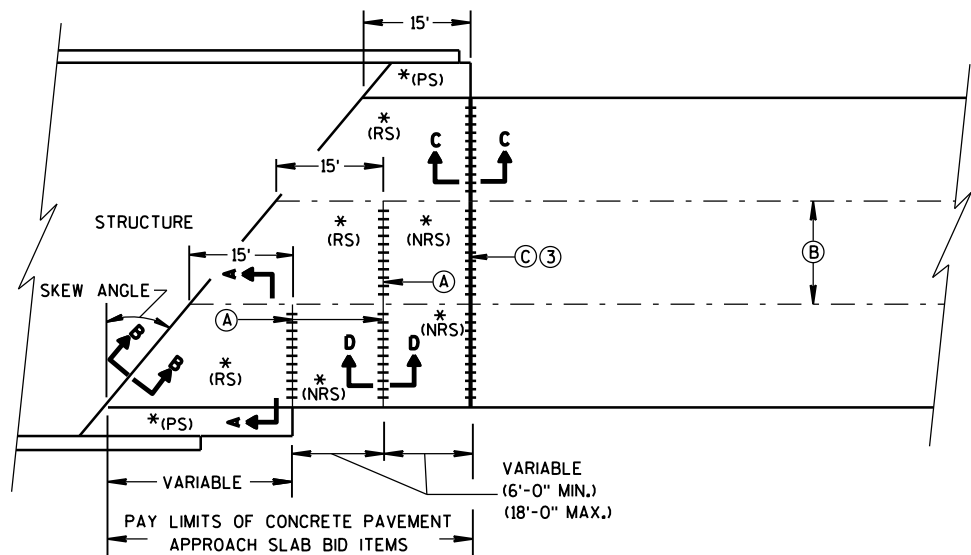
June, 2015

DATE

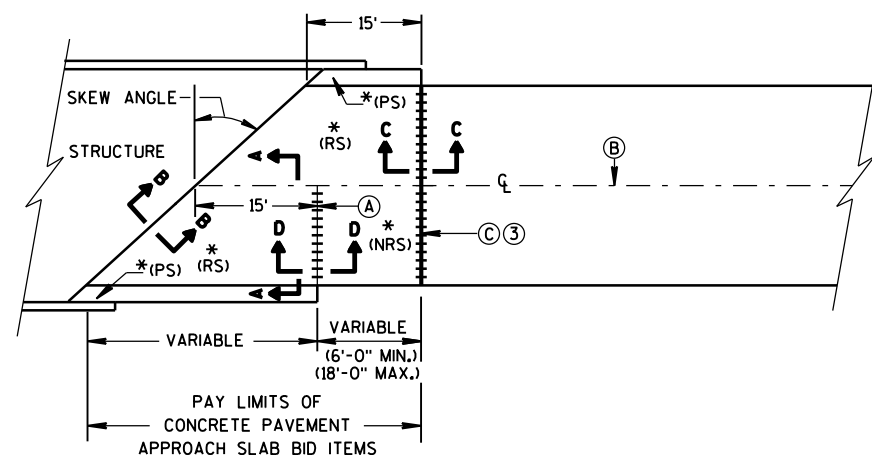
FHWA

/S/ Peter Kemp, P.E.

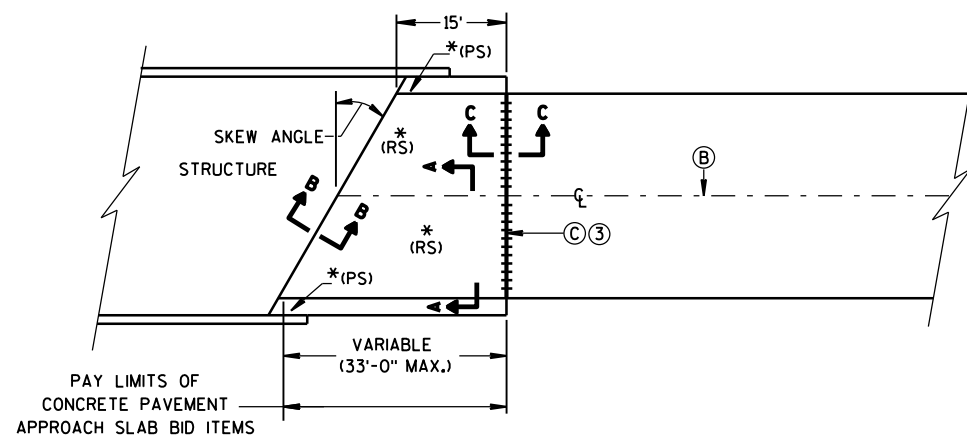
PAVEMENT SUPERVISOR



**SKewed APPROACH
(PAVEMENT MORE THAN 2 LANES)**



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

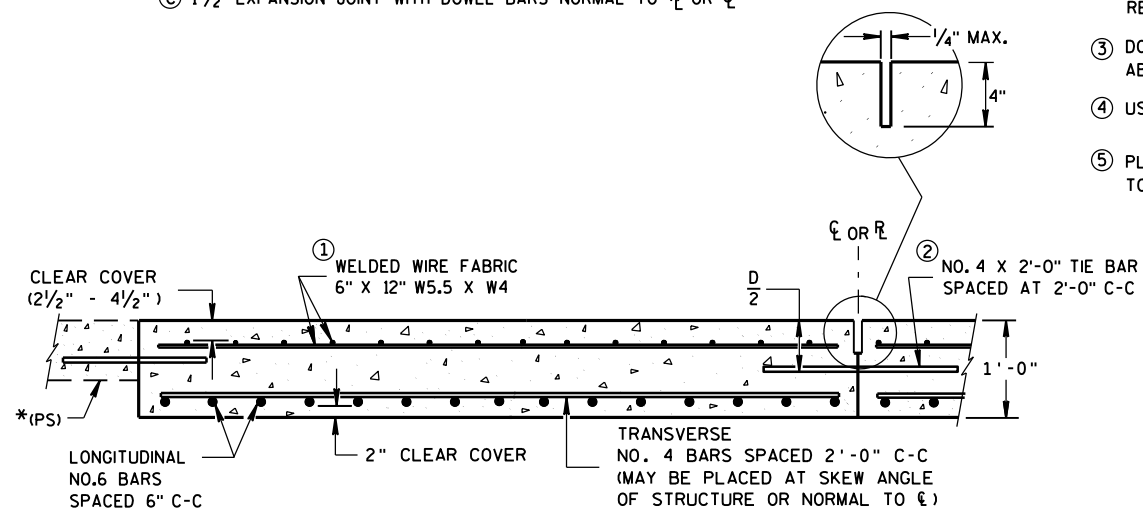


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

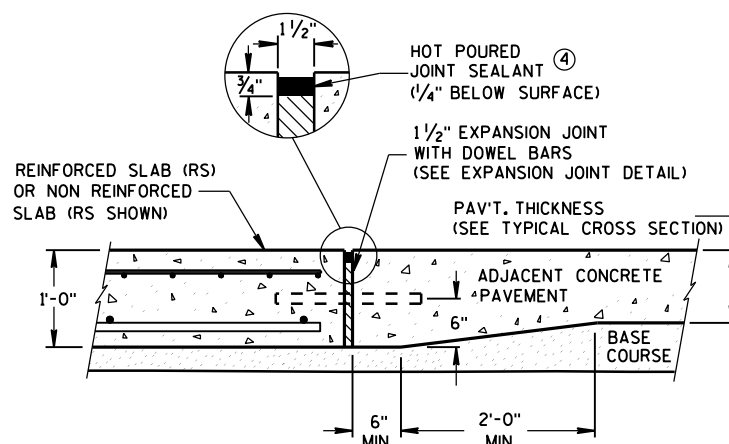
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

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

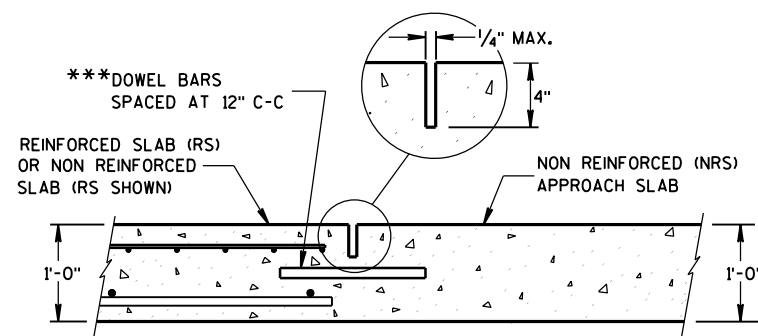
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



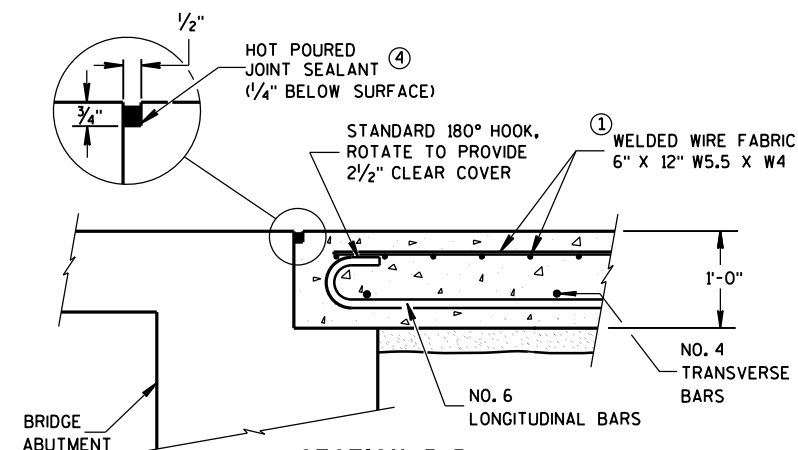
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

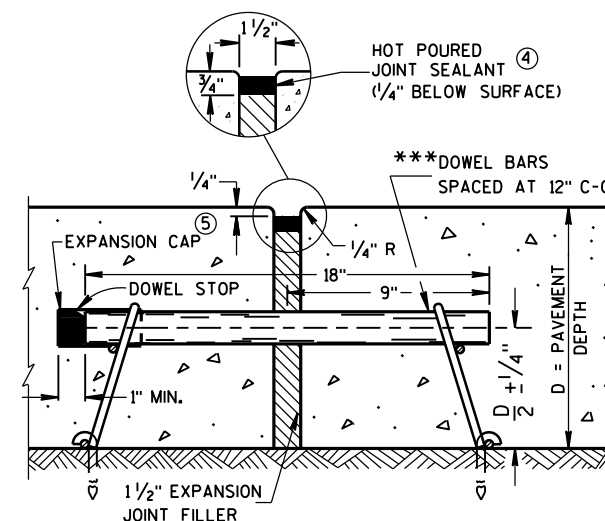
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.



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

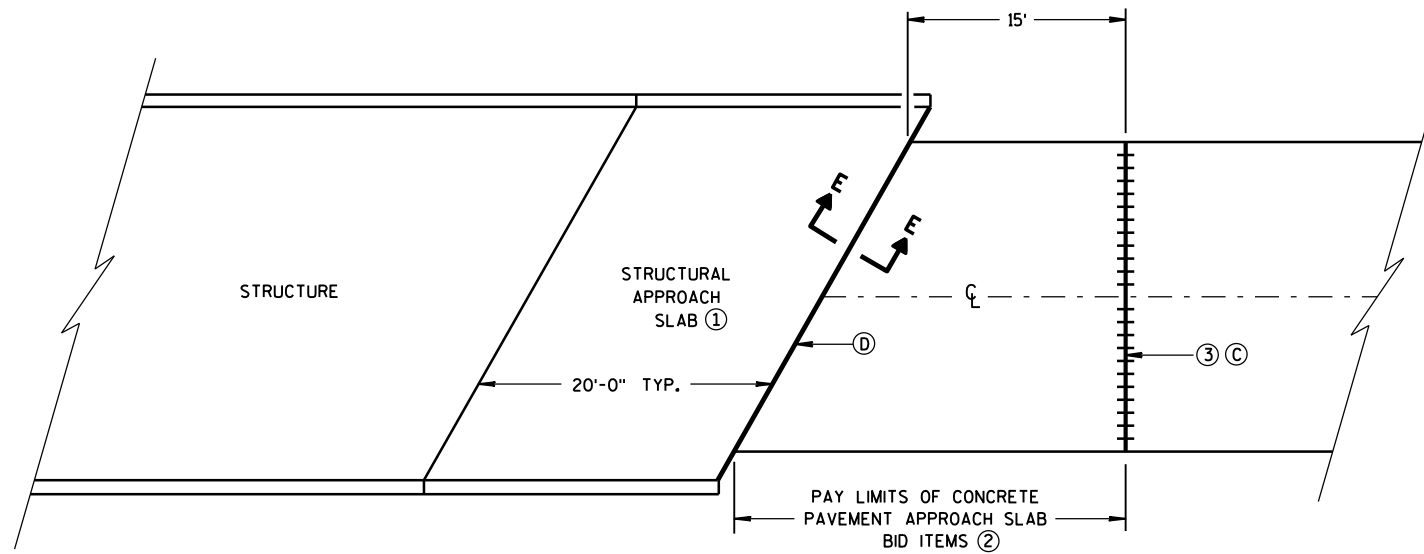


EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

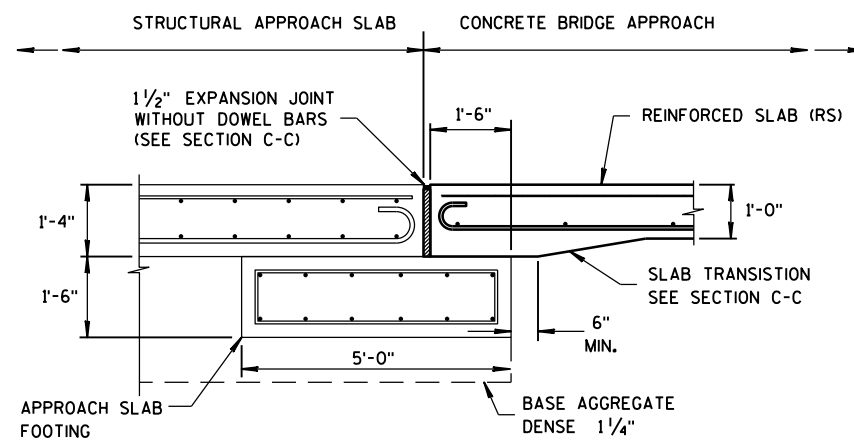
**BRIDGE APPROACHES****GENERAL NOTES**

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- ① SEE BRIDGE PLAN.
- ② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

③ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO R_L OR C_L

④ 1½" EXPANSION JOINT (NO DOWELS)

**SECTION E-E****FOOTING DETAIL**

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

**STRUCTURAL APPROACH SLAB
AND CONCRETE PAVEMENT
APPROACH SLAB**

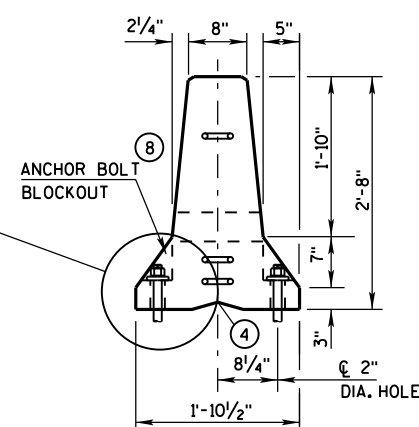
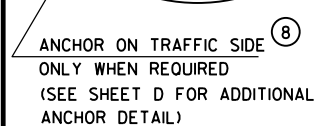
**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

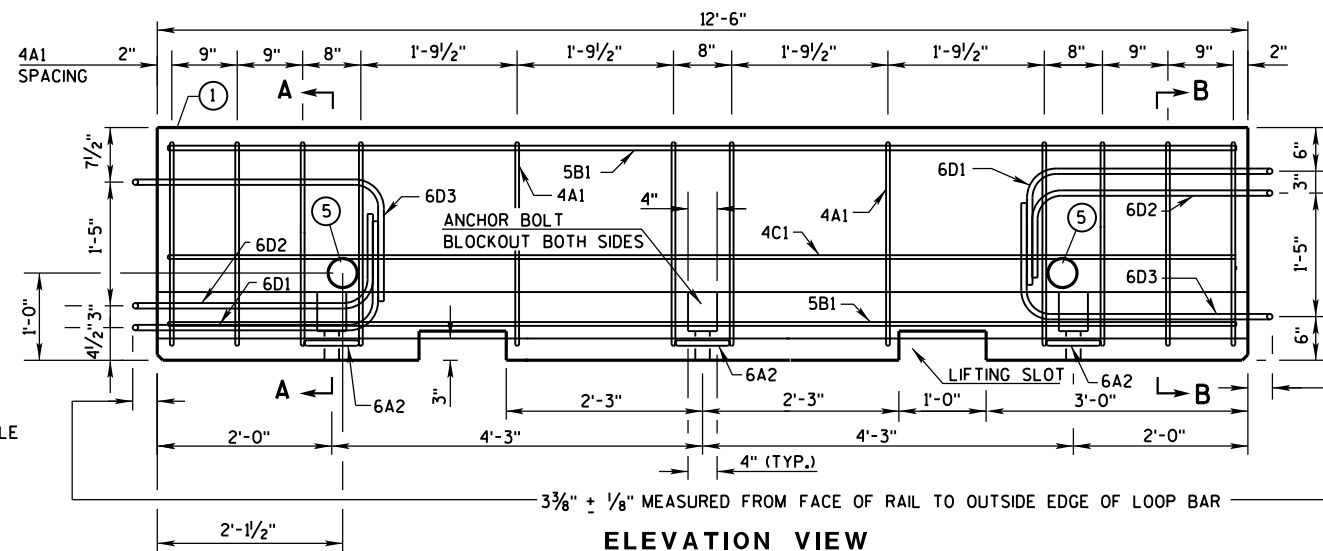
June, 2015
DATE

FHWA

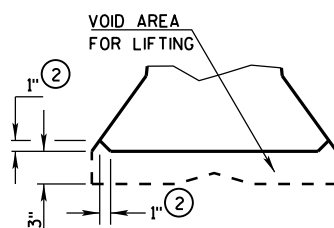
/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR



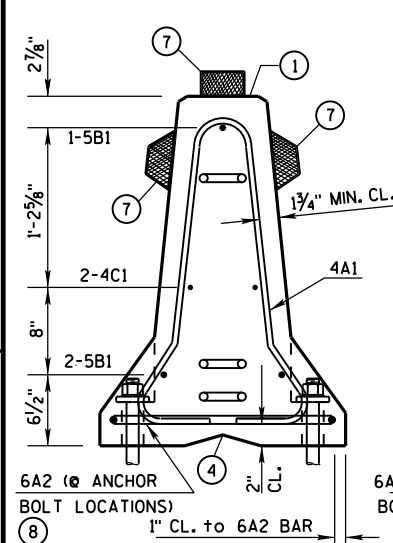
END VIEW



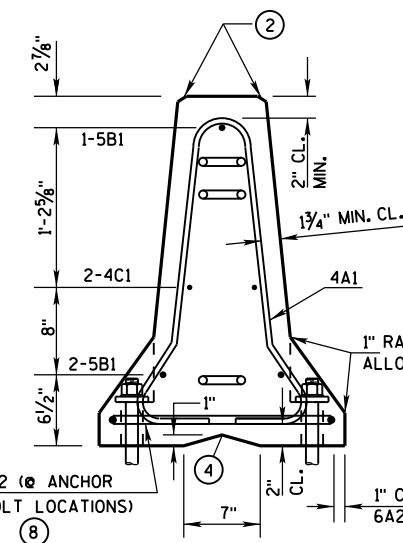
ELEVATION VIEW



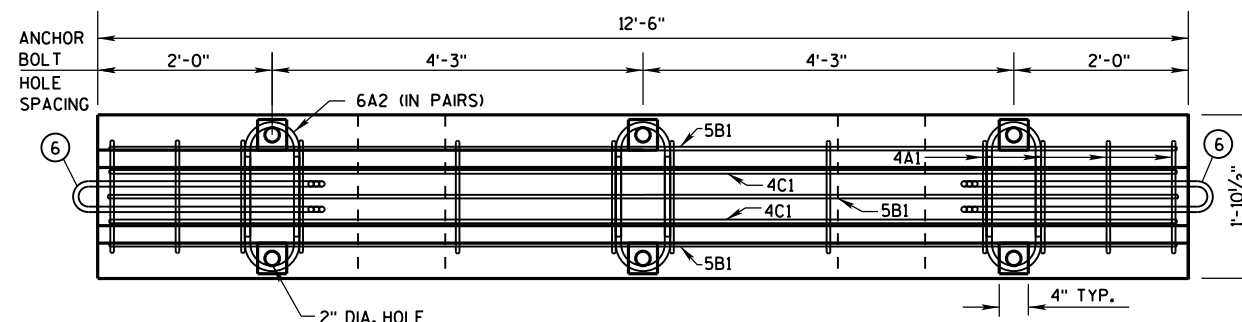
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

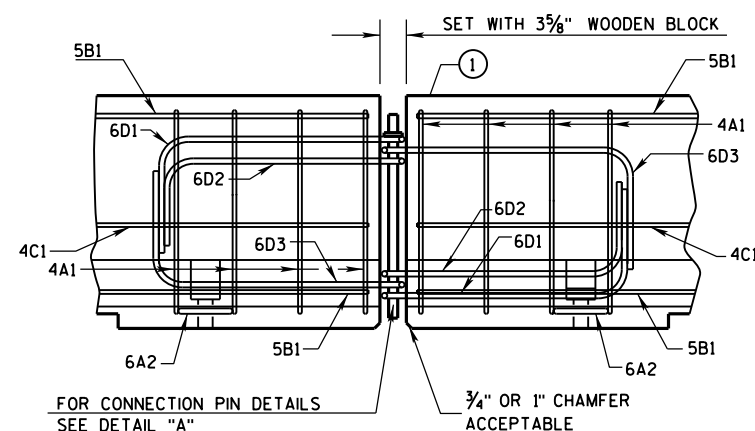


SECTION B-B
(STIRRUP PLACEMENT)

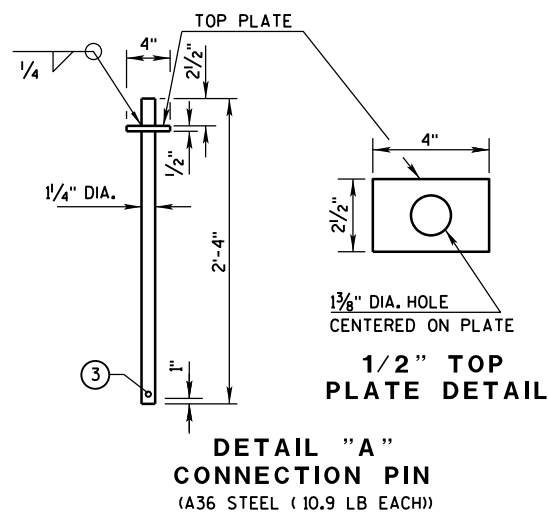


PLAN VIEW

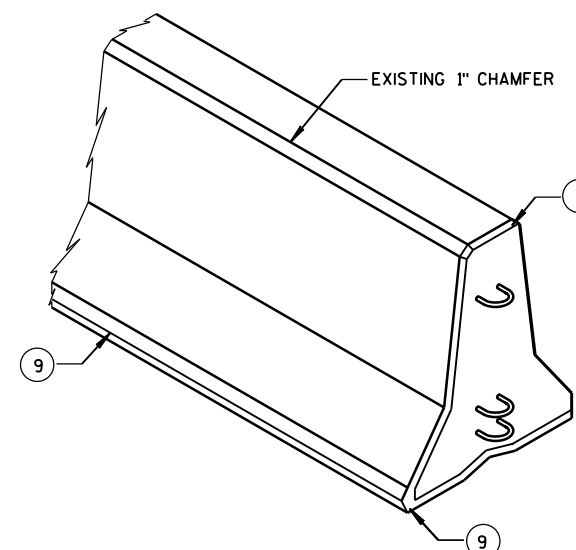
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



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



GENERAL NOTES

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

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

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

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE $\frac{3}{4}$ " SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A 3- $\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

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

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

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

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

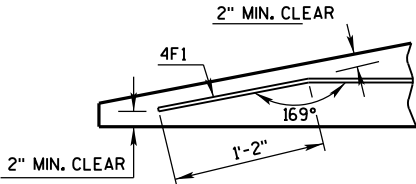
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

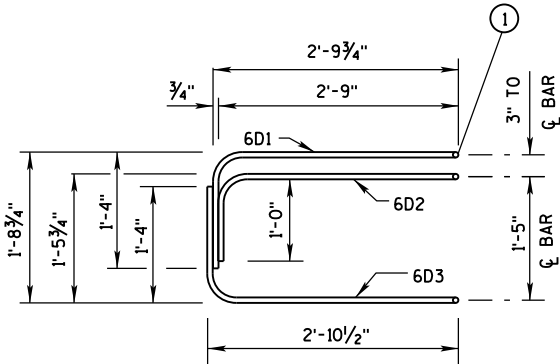
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

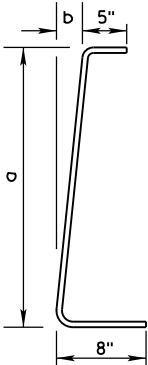
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.
4V1	4	2	1'-11"
4V2	4	2	2'-2"
4V3	4	2	2'-6"
4V4	4	2	2'-9"
4V5	4	2	3'-2"
4V6	4	2	3'-4"
4F1	4	2	12'-0"
4F2	4	2	7'-6"
5F3	5	1	11'-9"
LOOP ASSEMBLY			
6D1	6	1	8'-5"
6D2	6	1	7'-7"
6D3	6	1	8'-6"



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



BAR	a	b
V1	10"	1"
V2	1'-1"	1 1/4"
V3	1'-5"	1 5/8"
V4	1'-8"	1 7/8"
V5	2'-0 1/2"	2 3/8"
V6	2'-3"	2 3/4"

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

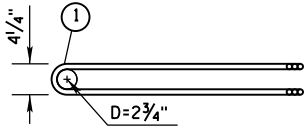
GENERAL NOTES

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

BARRIER SECTION
BILL OF MATERIALS

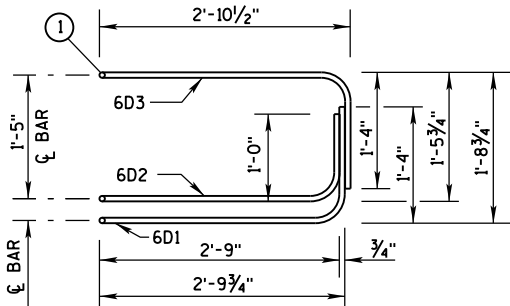
(PER 12'-6" BARRIER SECTION)

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

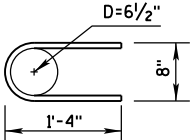


PLAN VIEW
LOOP BAR ASSEMBLY

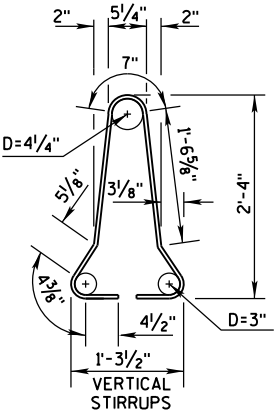
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

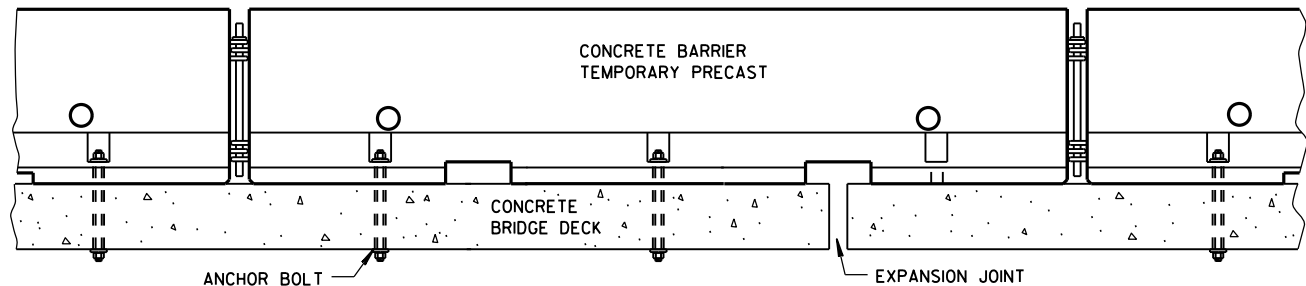
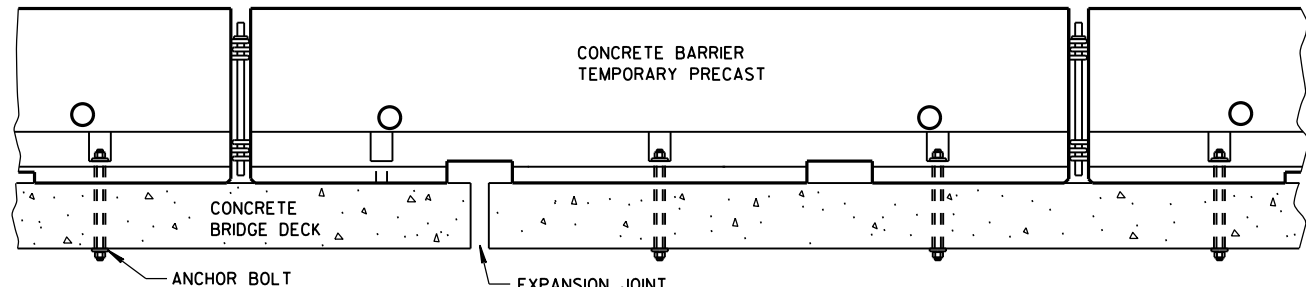


4A1

BARRIER SECTION

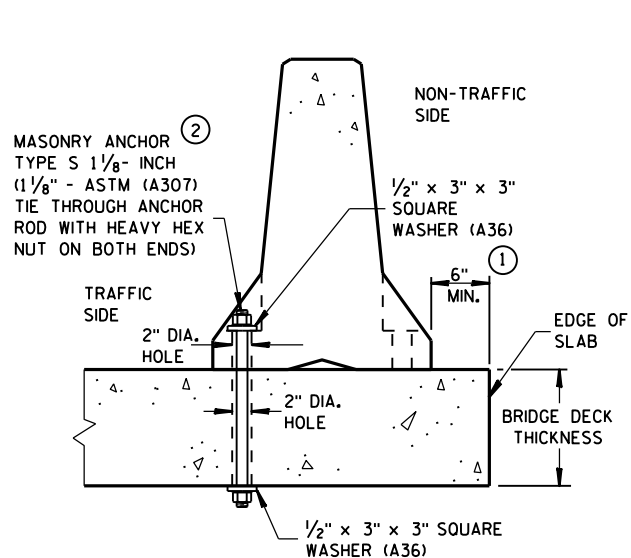
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



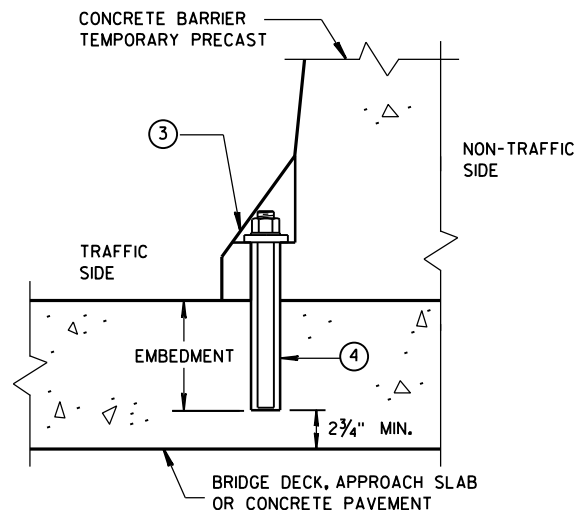
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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



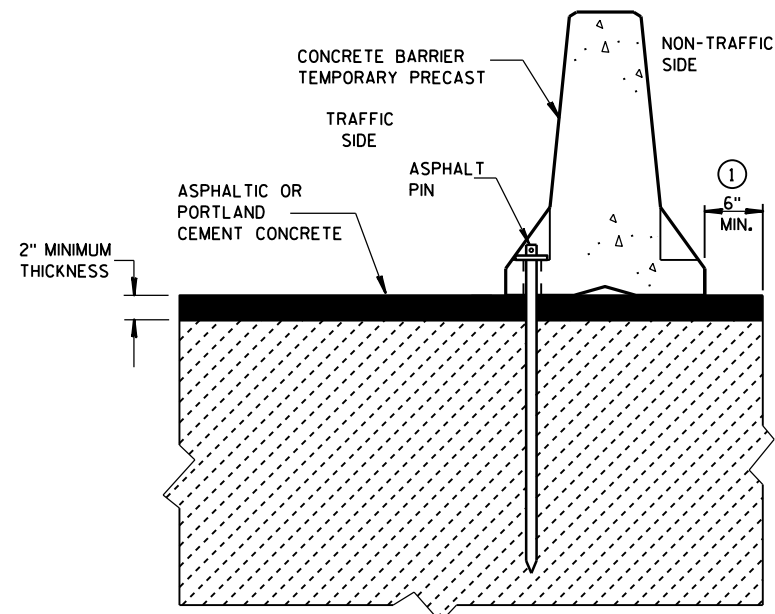
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



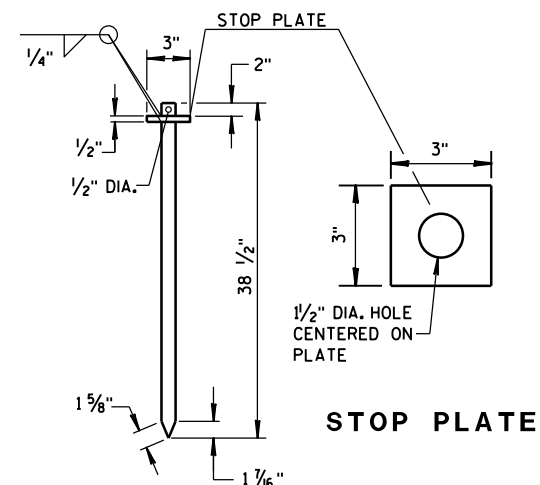
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

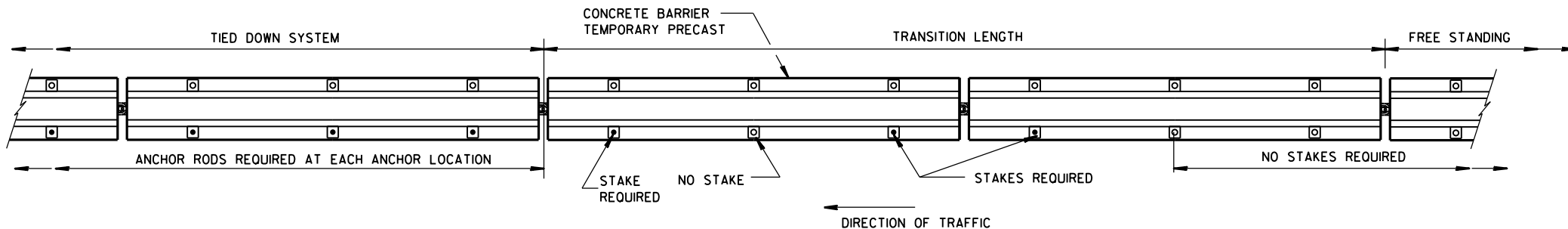


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW

FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

GENERAL NOTES

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

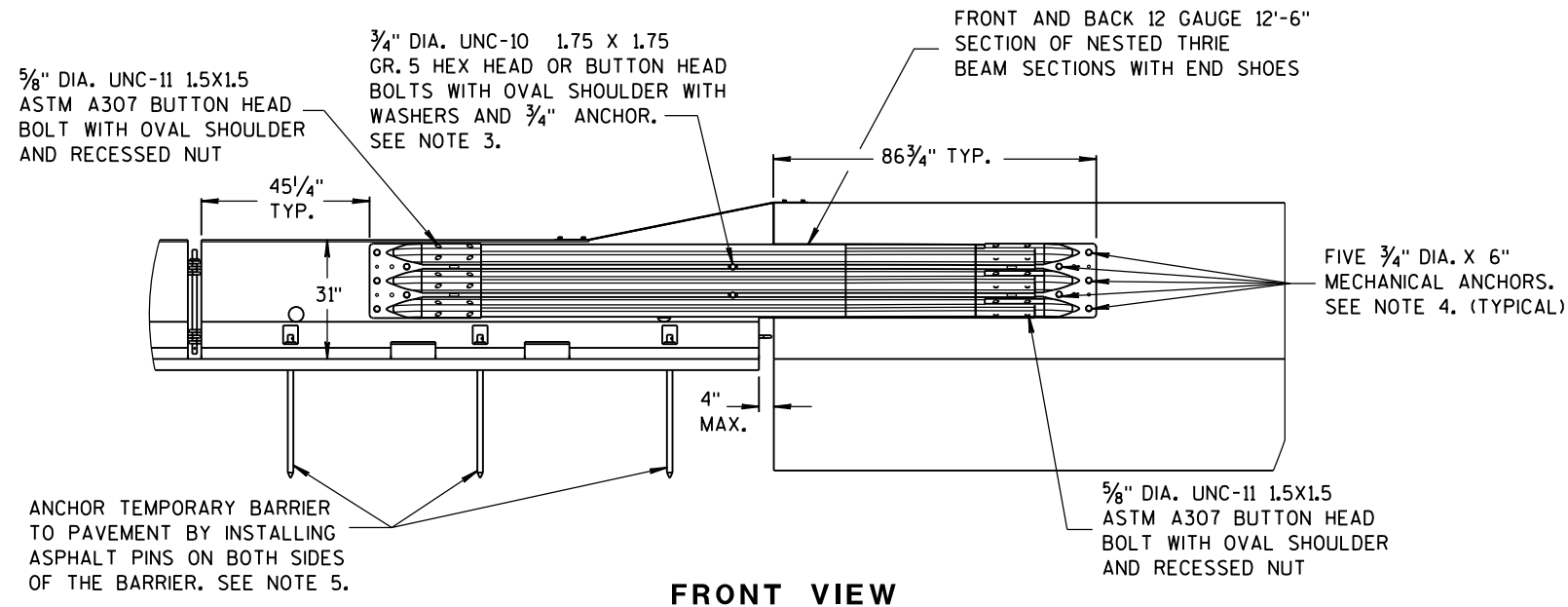
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V, FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT, IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF AND THE POSTED SPEED IS 40 MPH OR LESS.
- ANCHORING IS INCIDENTAL TO CONCRETE BARRIER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

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE S 1 1/8-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- 1/8" DIAMETER A307 THREADED ROD, 1/2" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

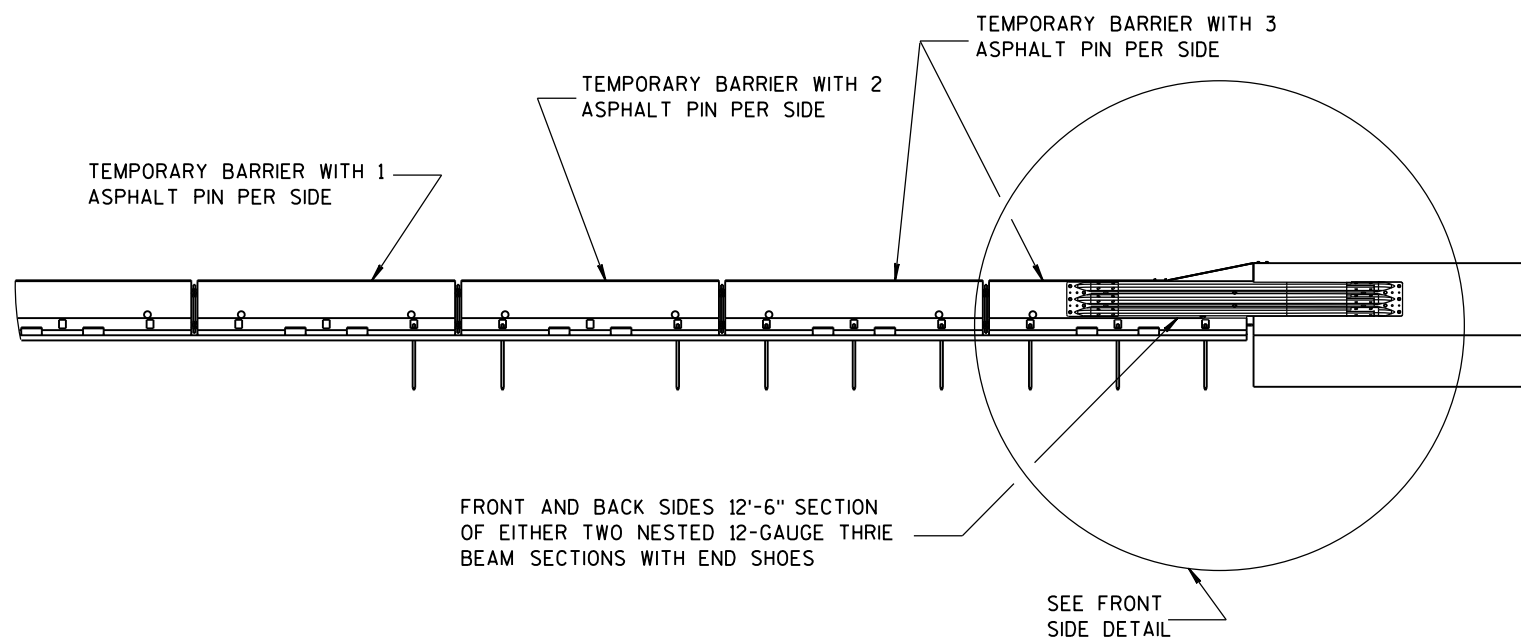
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

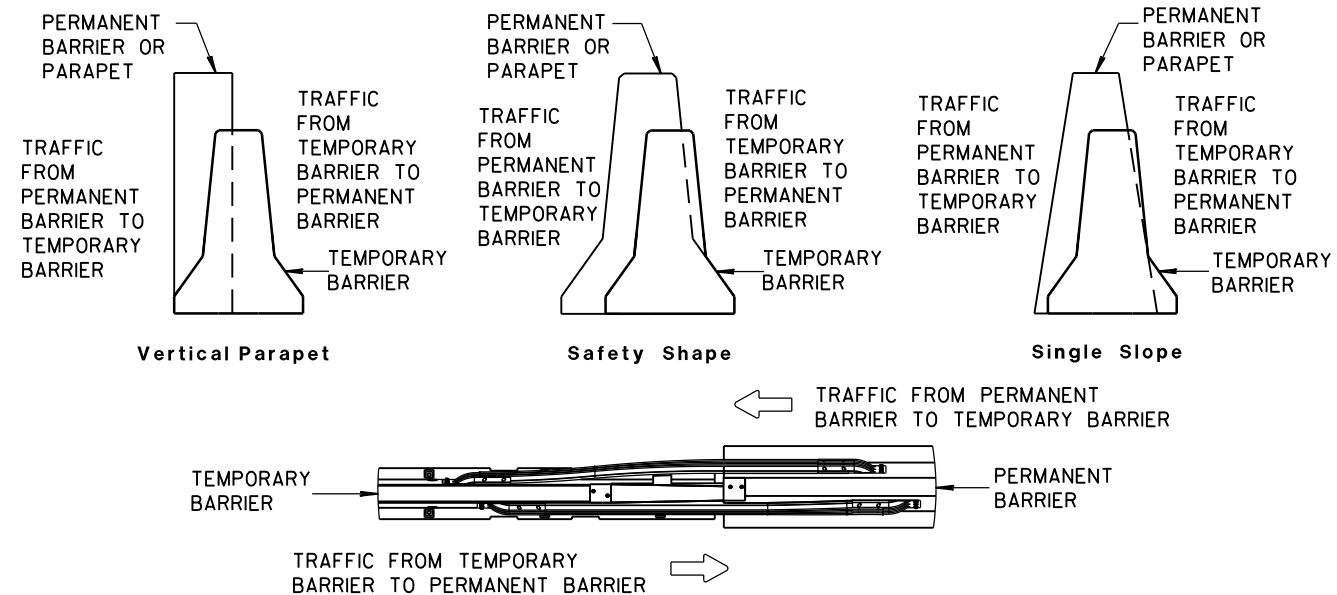
NOTES

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

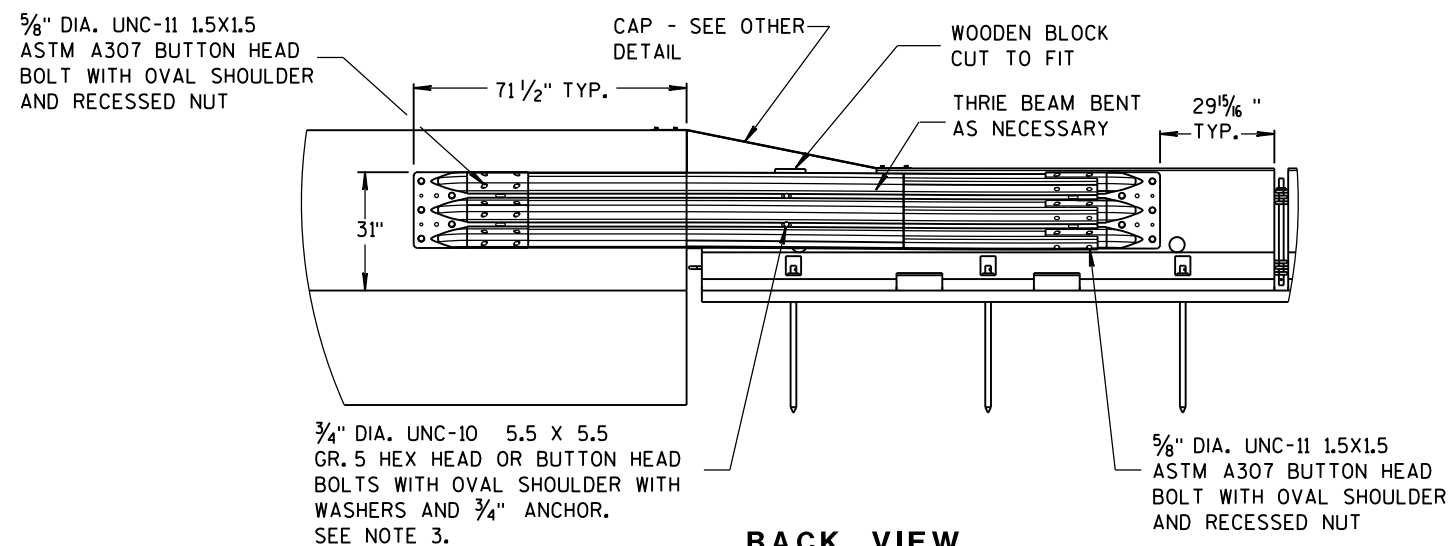


FRONT VIEW

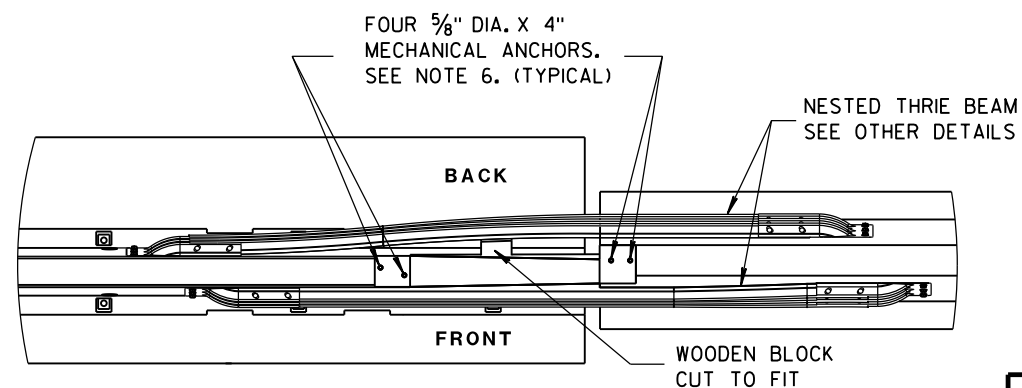
BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



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



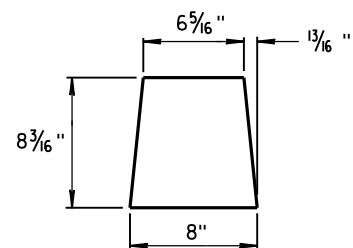
BACK VIEW



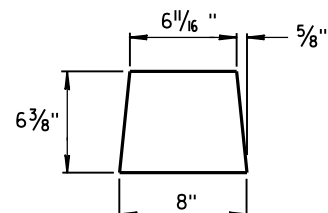
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

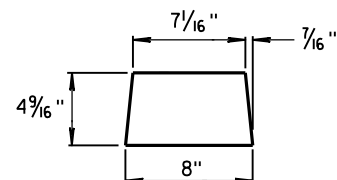
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



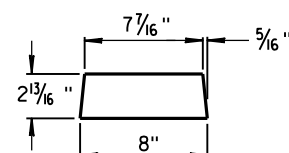
GUSSET 1



GUSSET 2

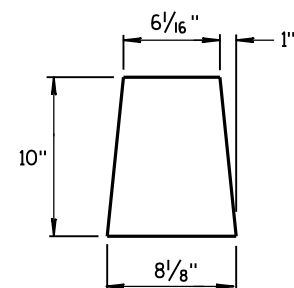


GUSSET 3

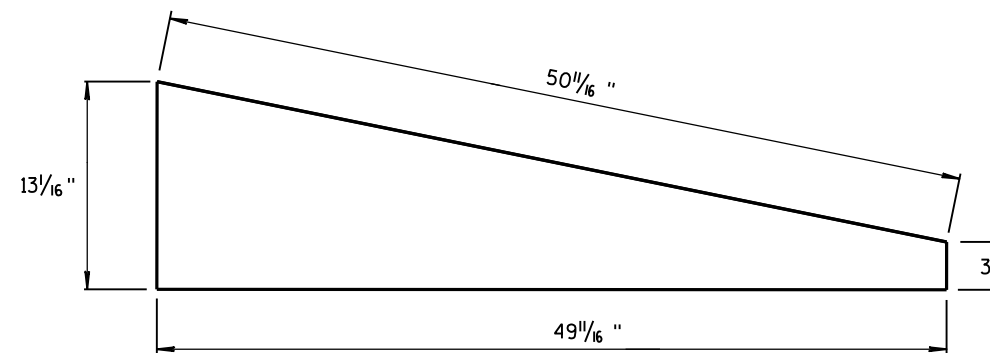


GUSSET 4

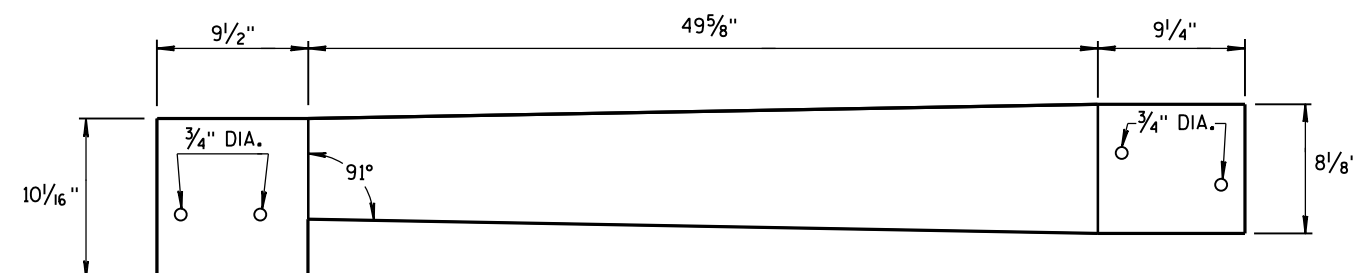
GUSSETS



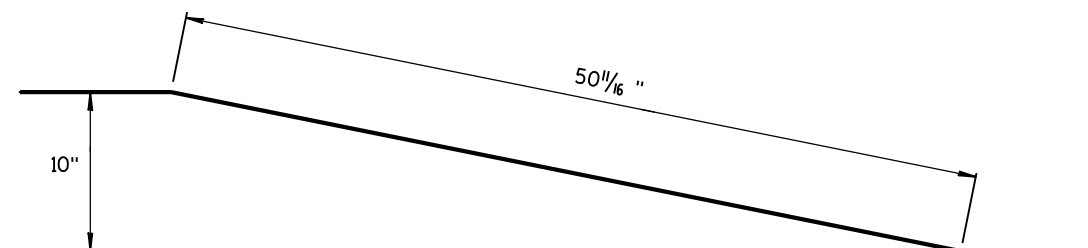
END PLATE



SIDE PLATE

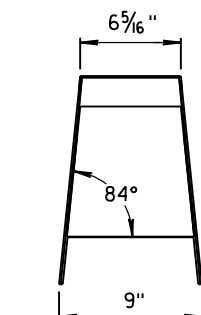
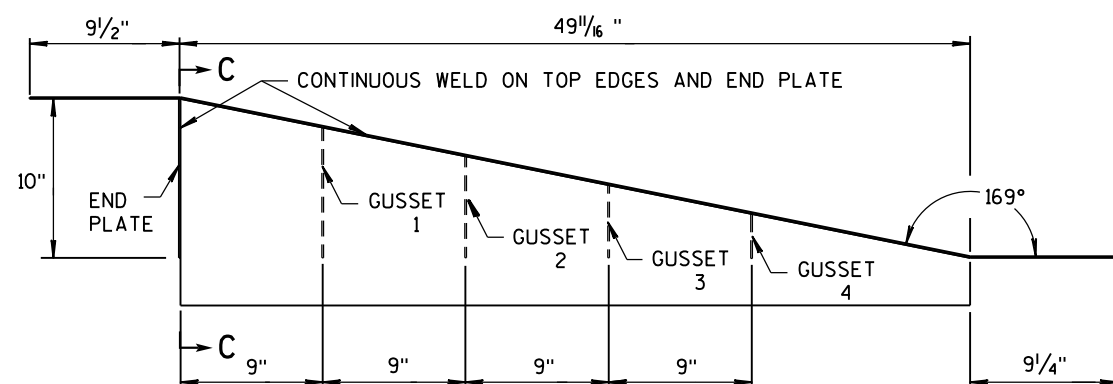
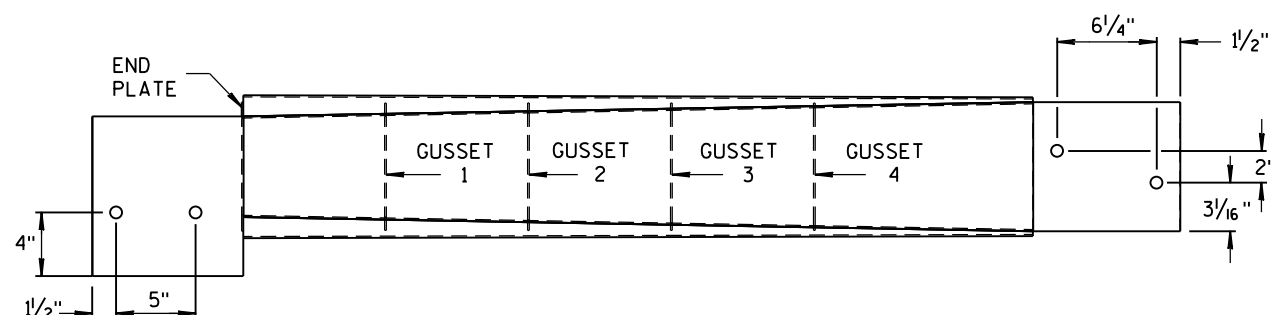


TOP PLATE



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

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



SECTION C-C

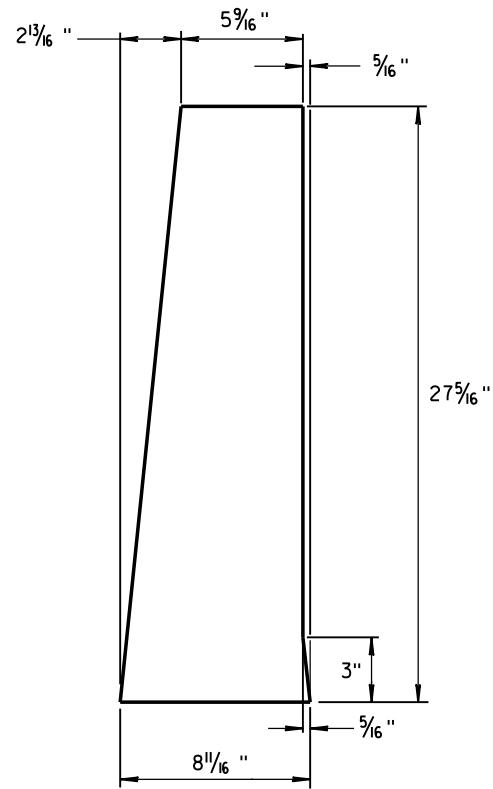
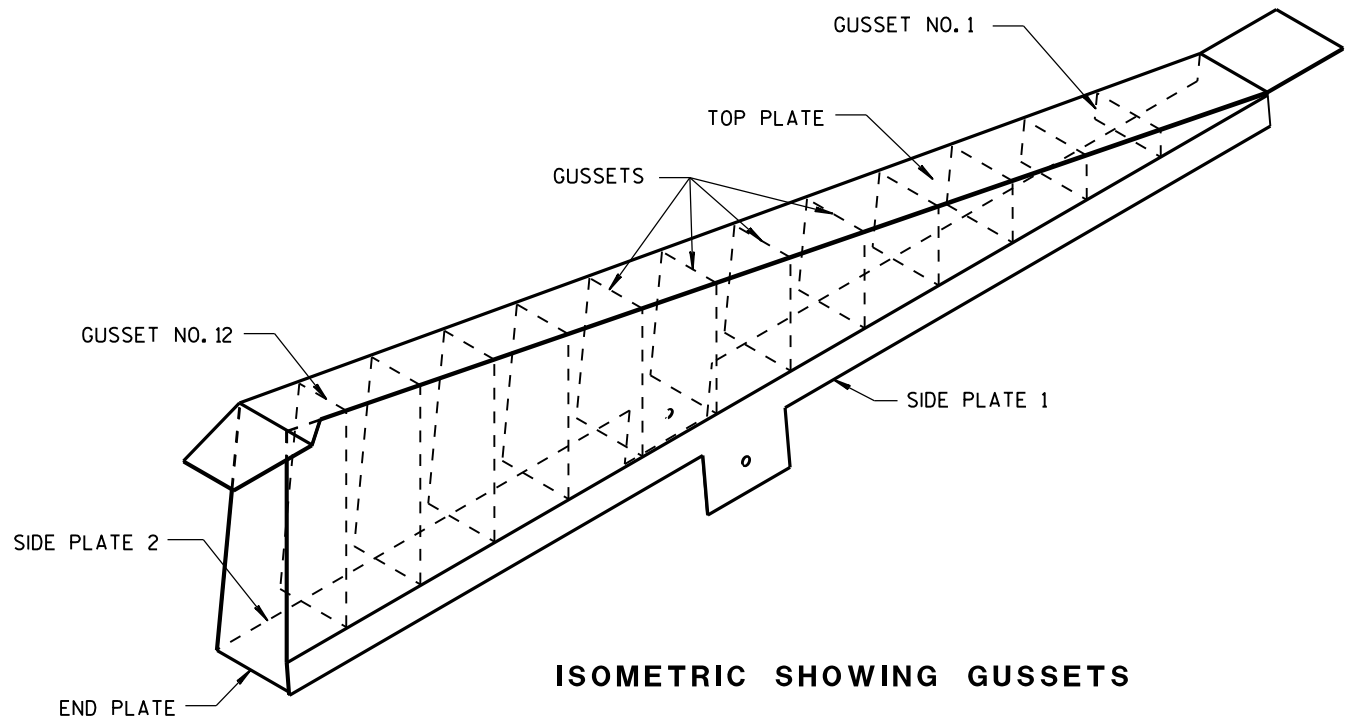
NOTES

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

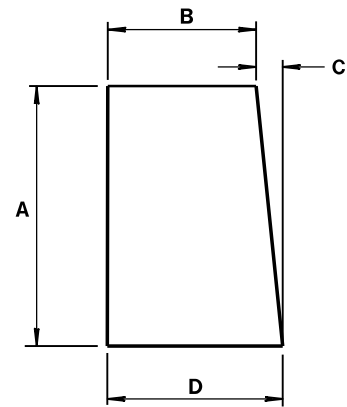
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



1/8" STEEL PLATE

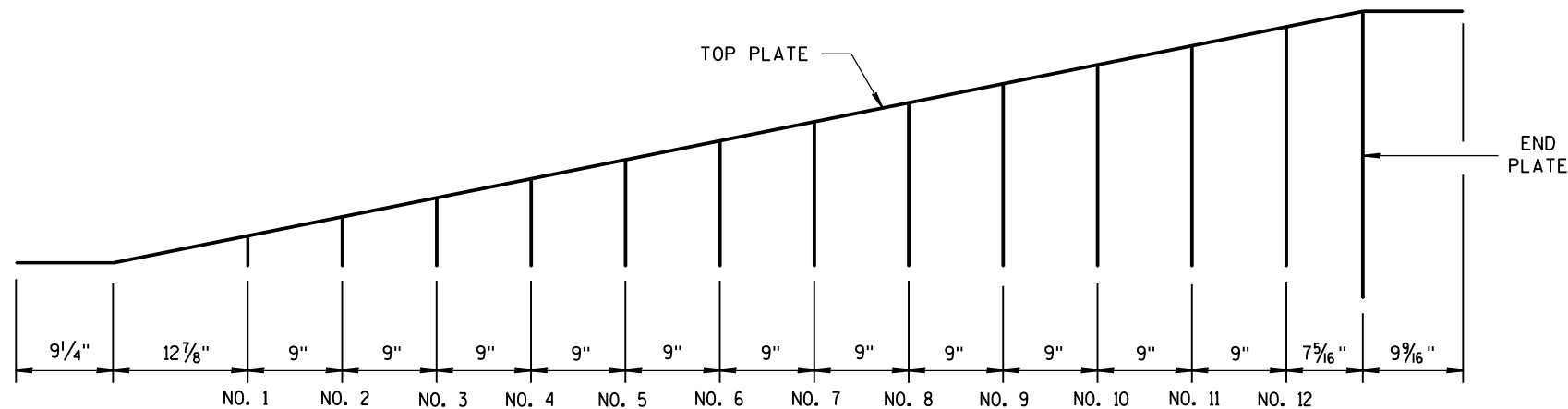


ALL GUSSETS 1/8" STEEL PLATE

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

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

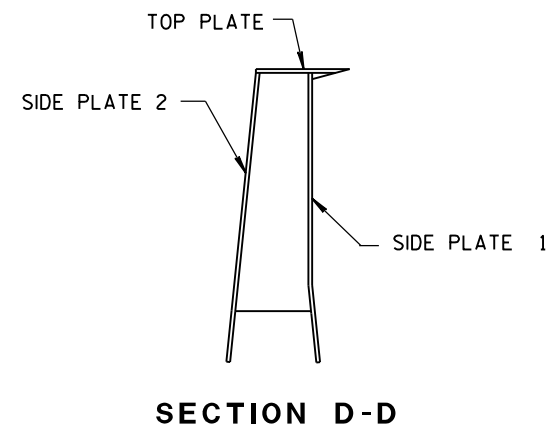
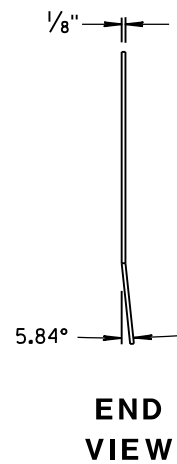
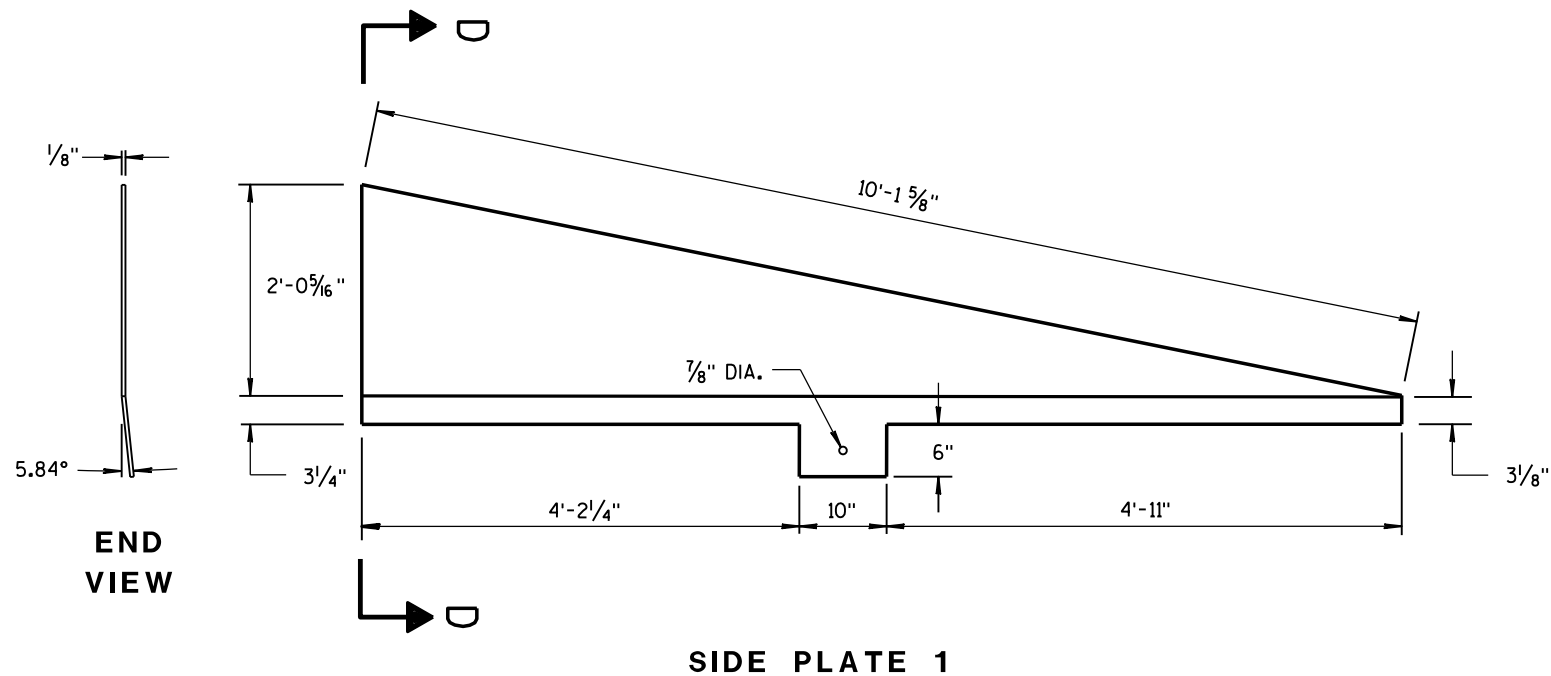
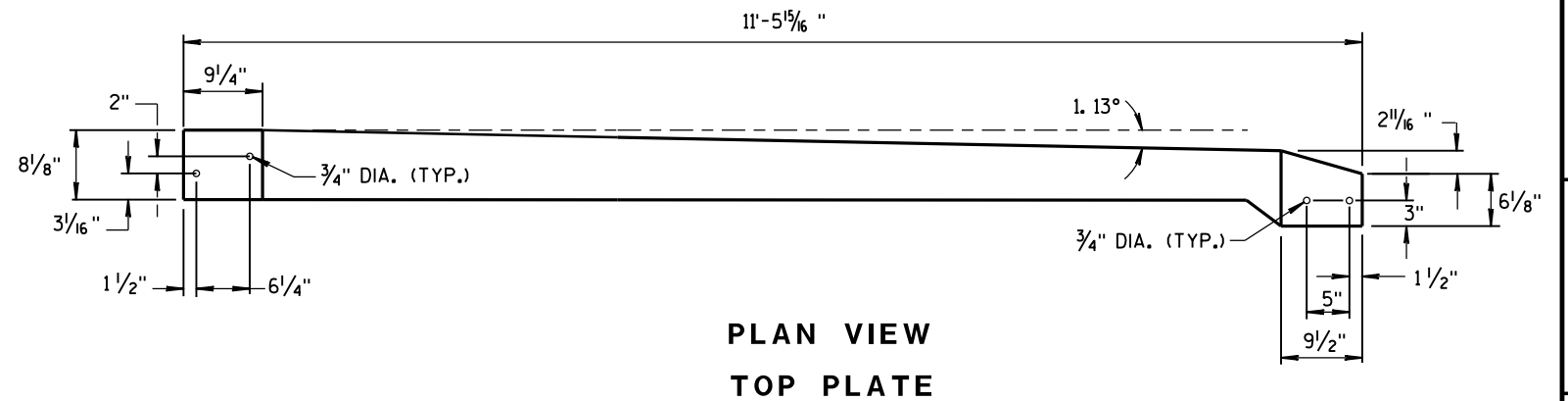
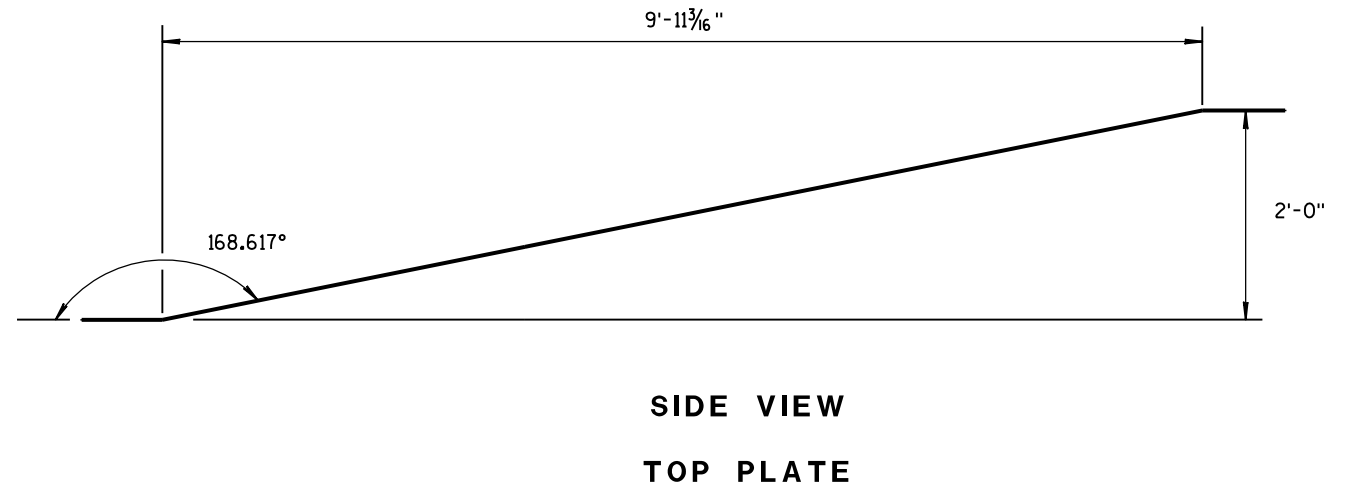
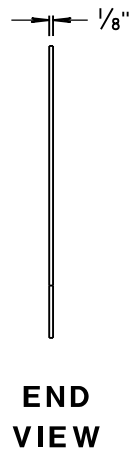
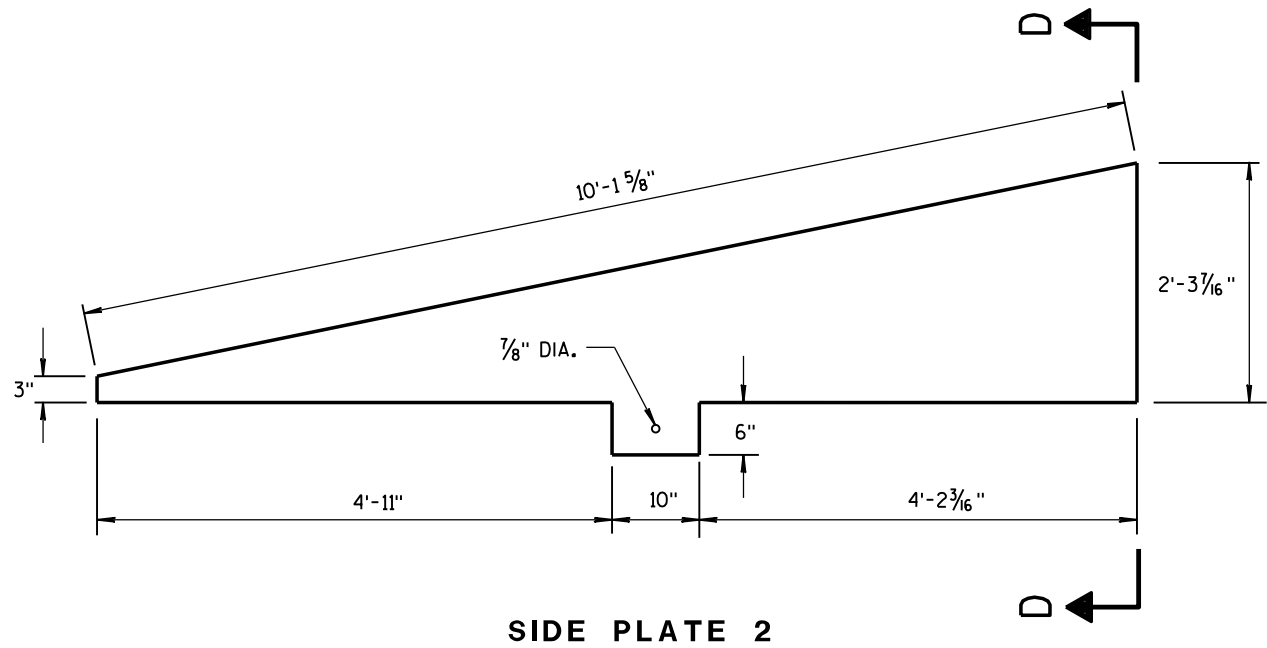
GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.



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

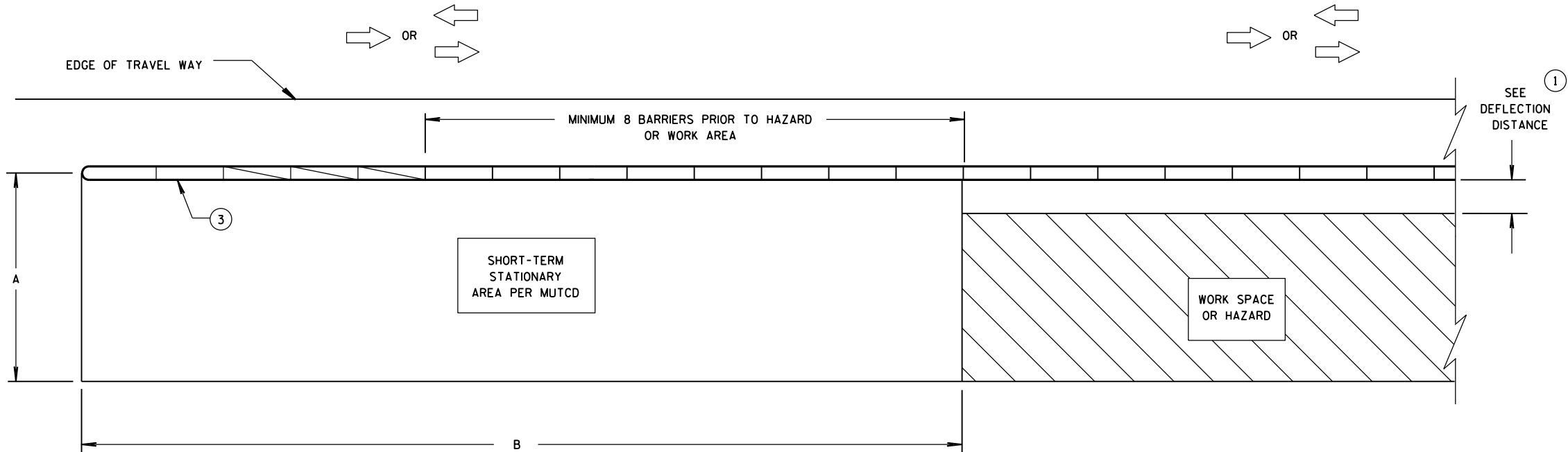
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

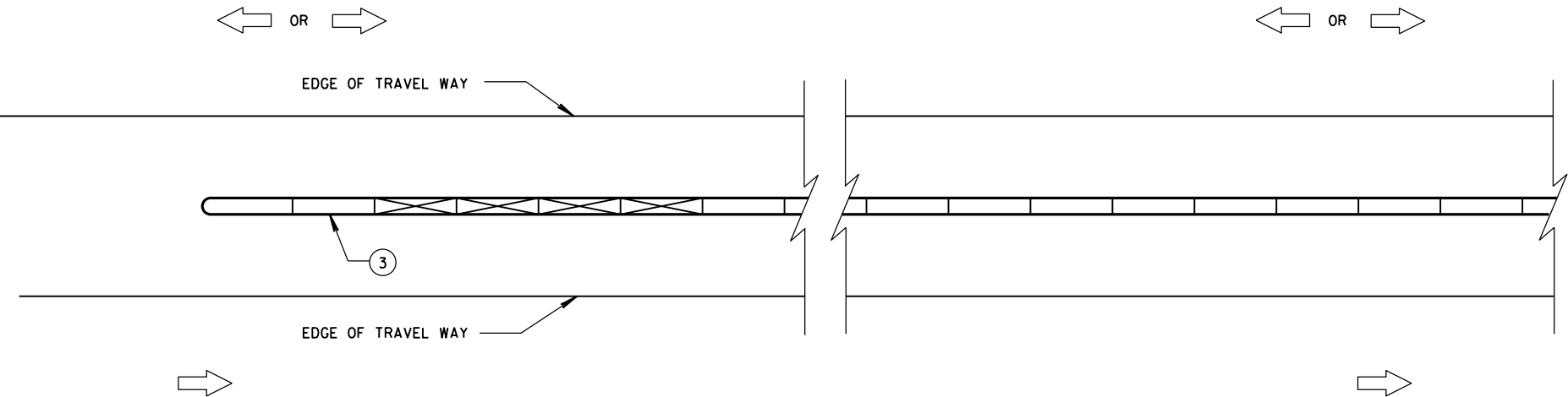


**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER**

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014 DATE	/S/ Jerry H. Zogg ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA	



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



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

GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

- ① FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- ② VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- ③ ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

DIMENSION A TABLE ②

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

DIMENSION B TABLE ②

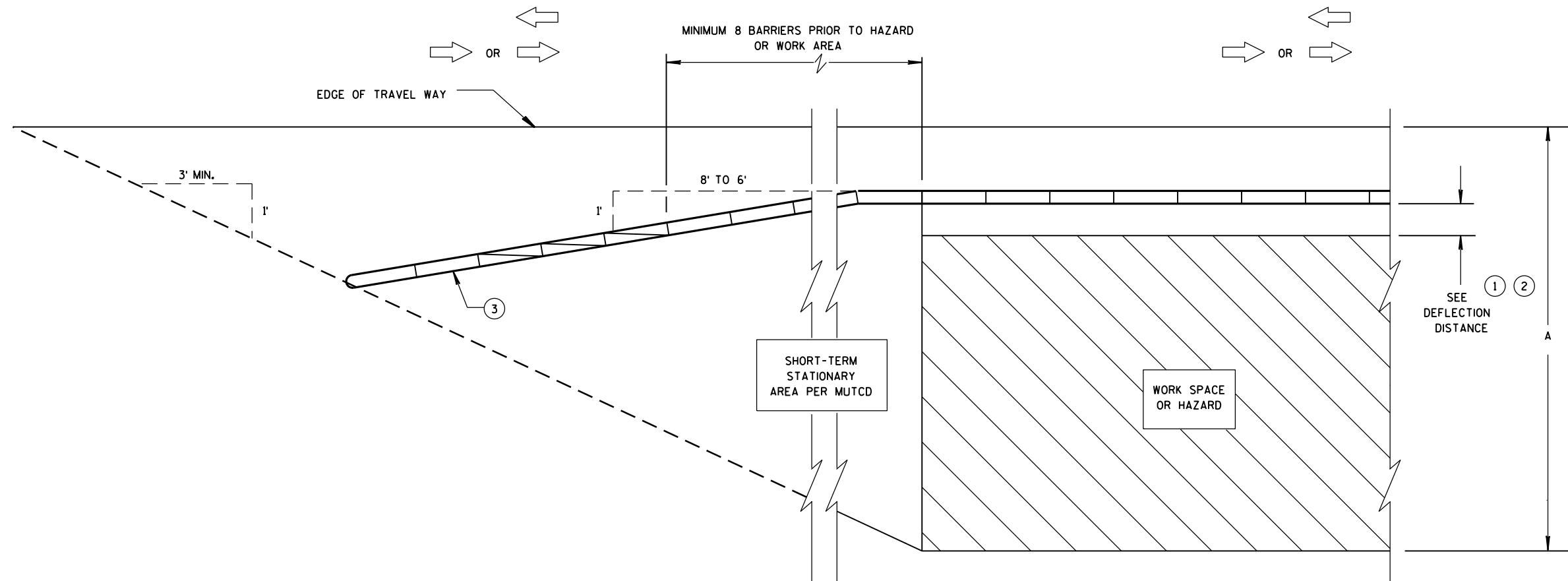
POSTED SPEEDS MPH	DIMENSION B FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

LEGEND

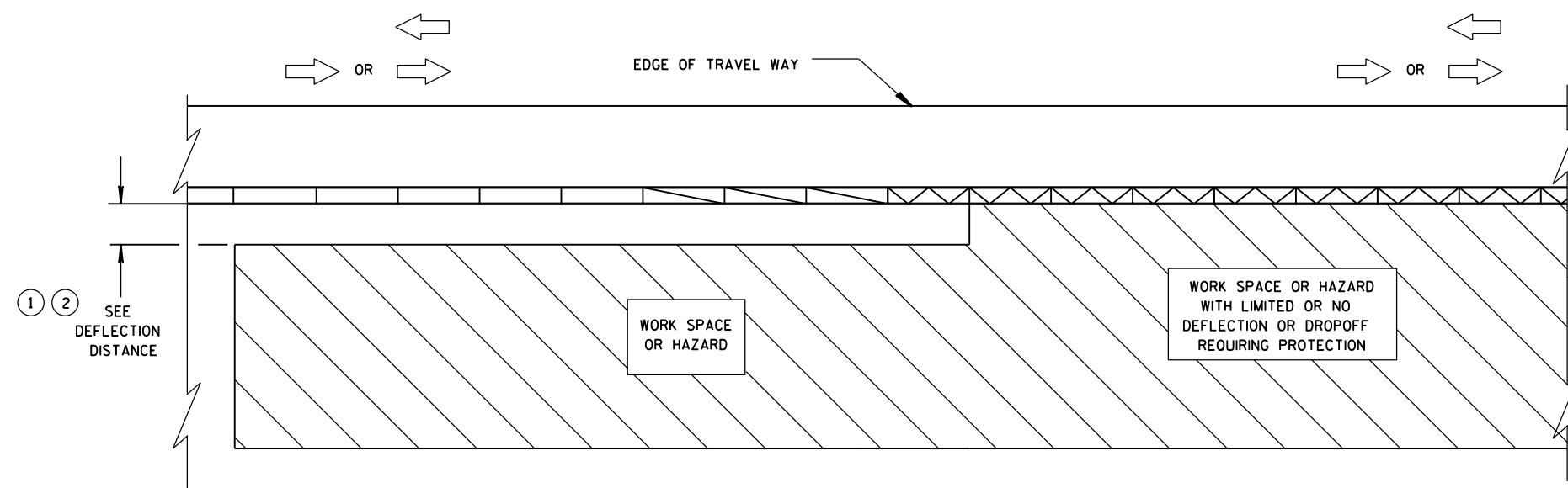
- DIRECTION OF TRAVEL →
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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



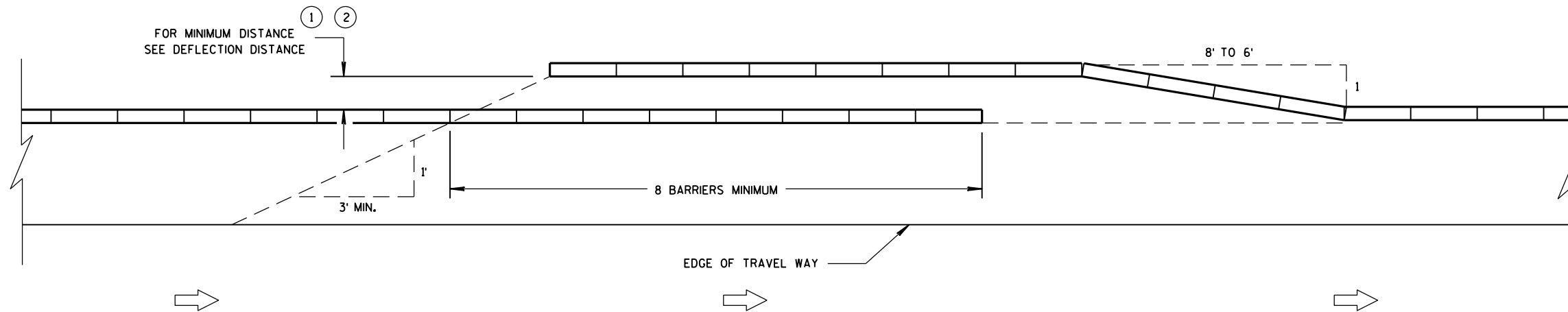
**TRANSITION FROM FREE STANDING TEMPORARY BARRIER
TO ANCHORED BARRIER**

LEGEND

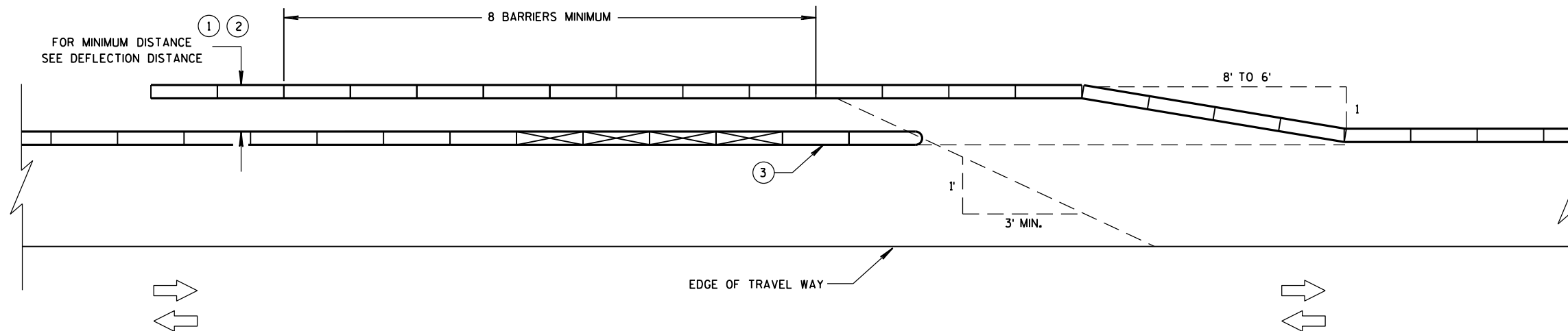
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

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

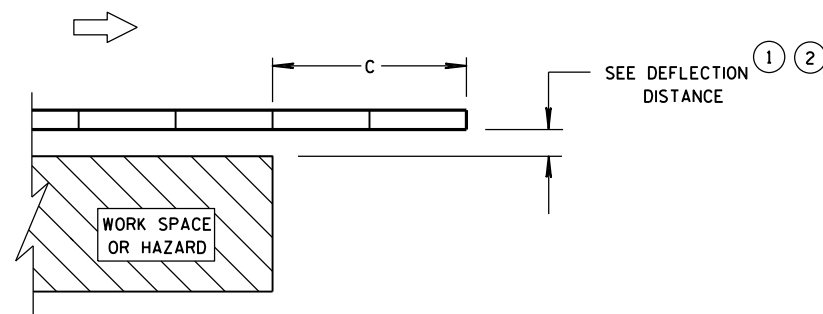
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



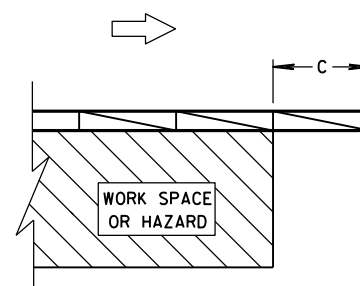
TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC



TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC



**ENDING TEMPORARY BARRIER
DOWNSTREAM - UNANCHORED**



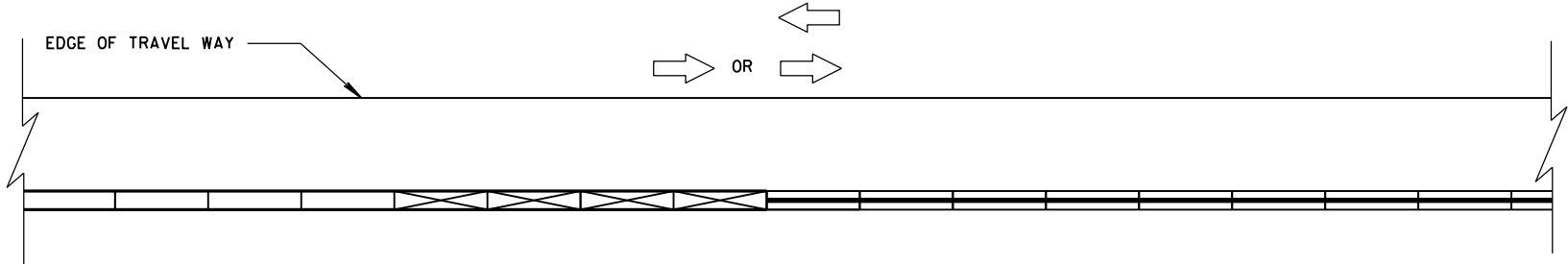
**ENDING TEMPORARY BARRIER
DOWNSTREAM - ANCHORED**

LEGEND

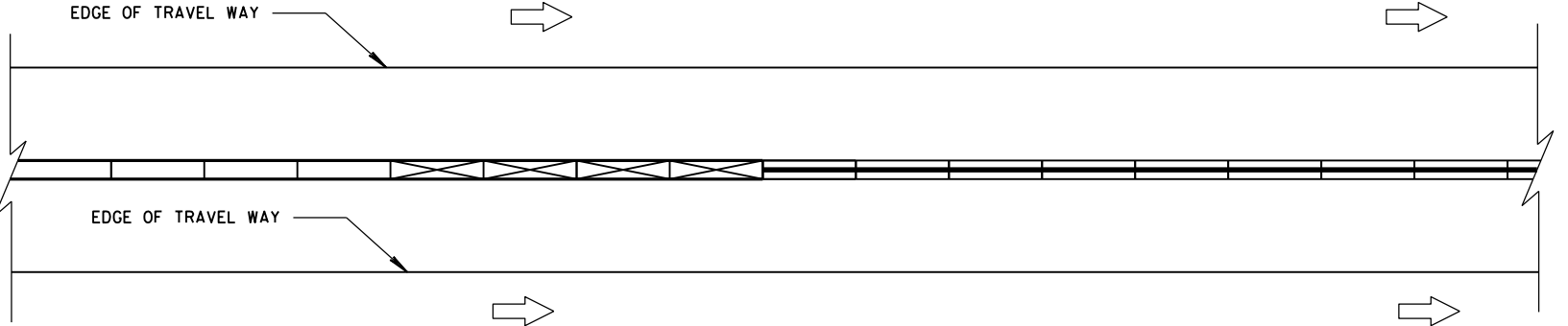
DIRECTION OF TRAVEL	
CRASH CUSHION OR SAND BARREL ARRAY	
SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS	
SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS	
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER	
PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET	
FREE STANDING TEMPORARY BARRIER	

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

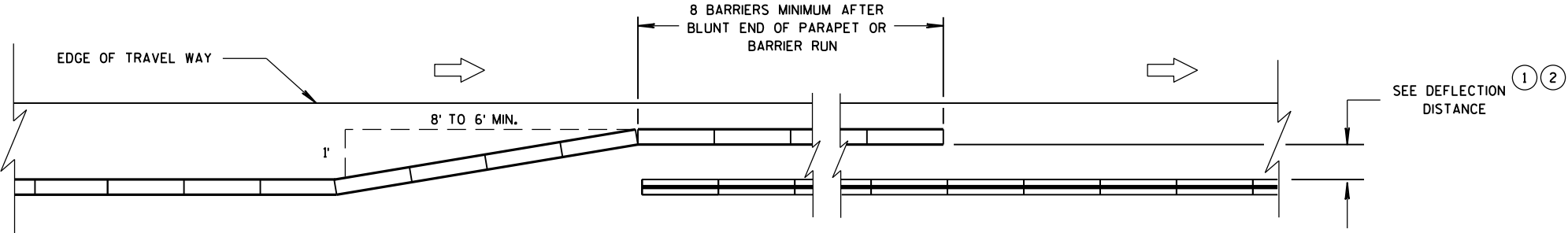


CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE

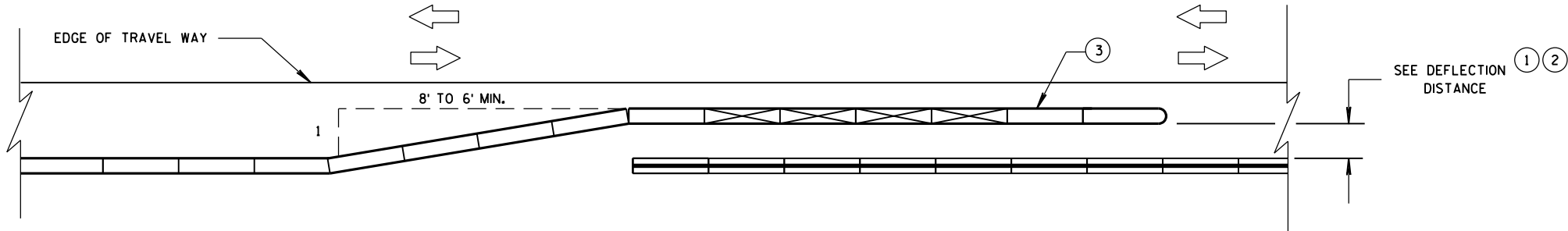


CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

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



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC



OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

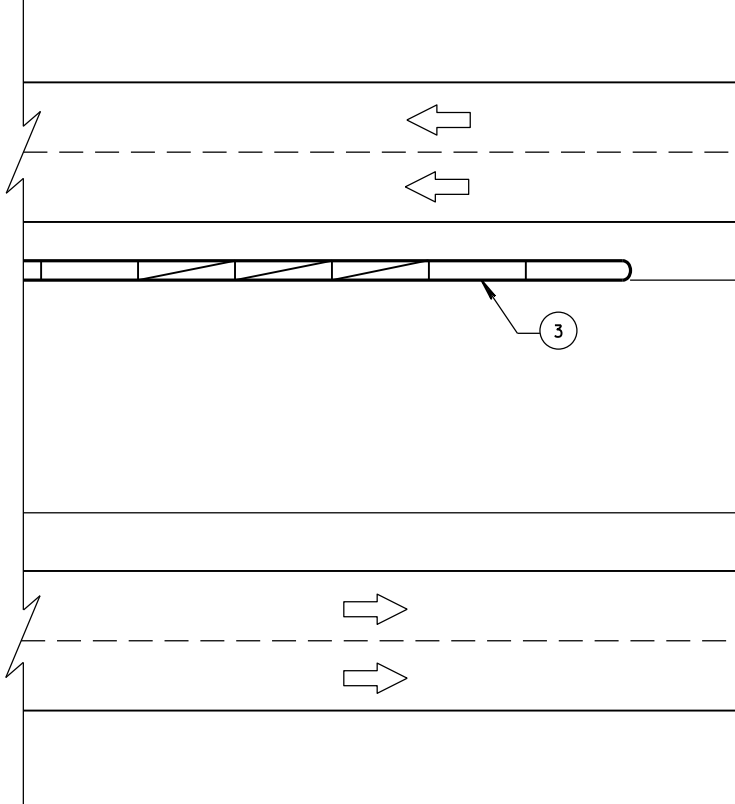
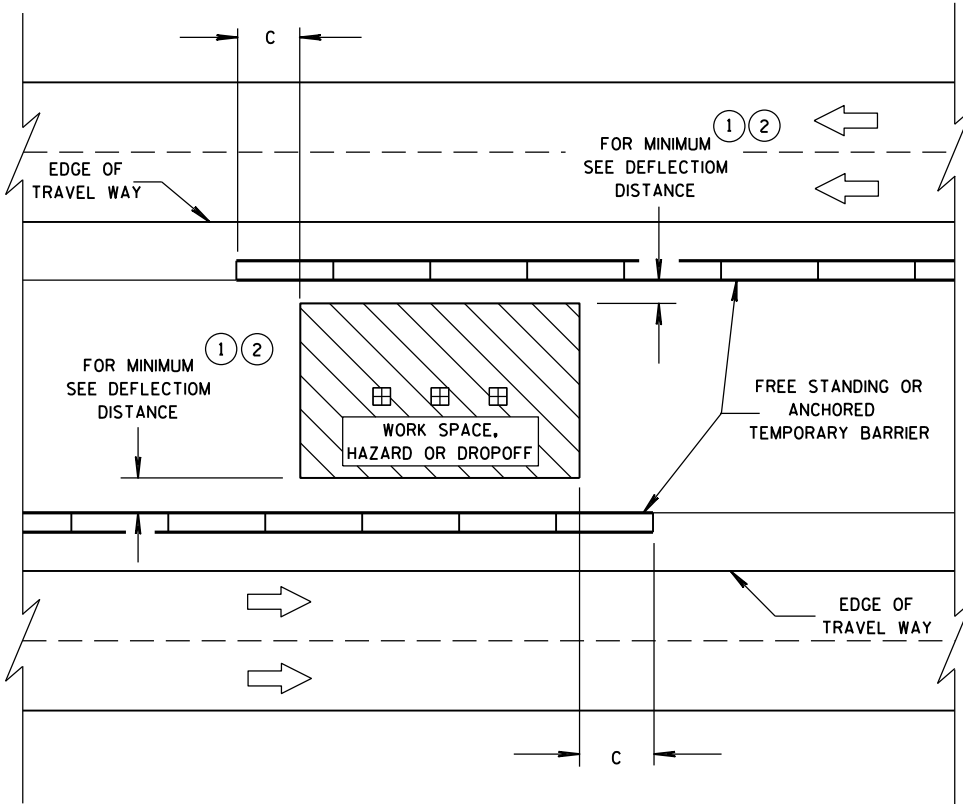
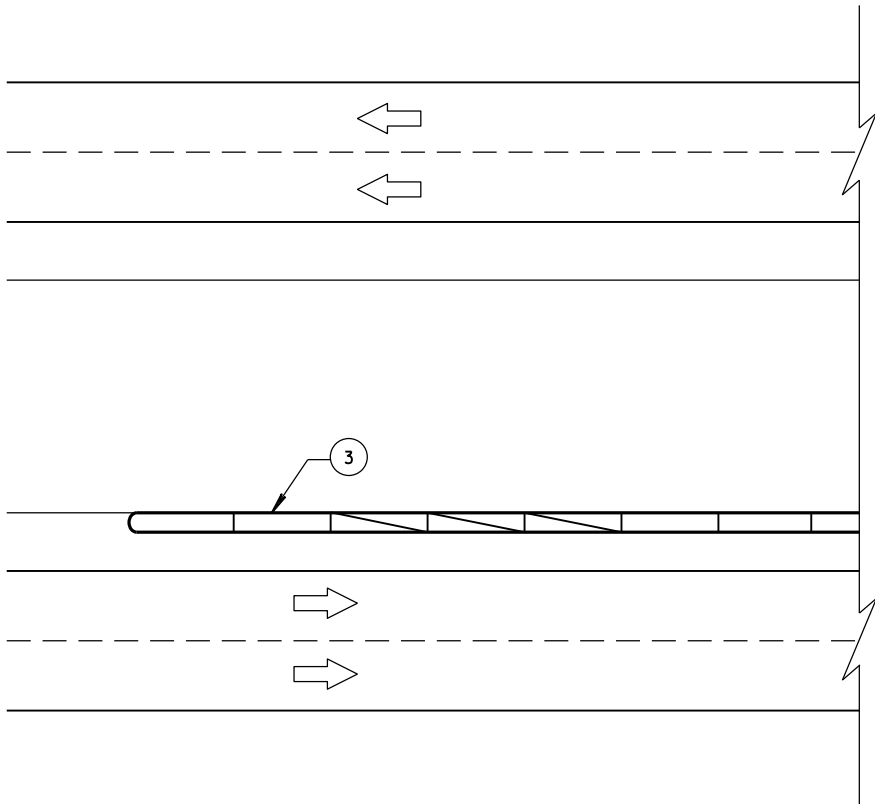
LEGEND

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

DIMENSION C TABLE

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

6



6

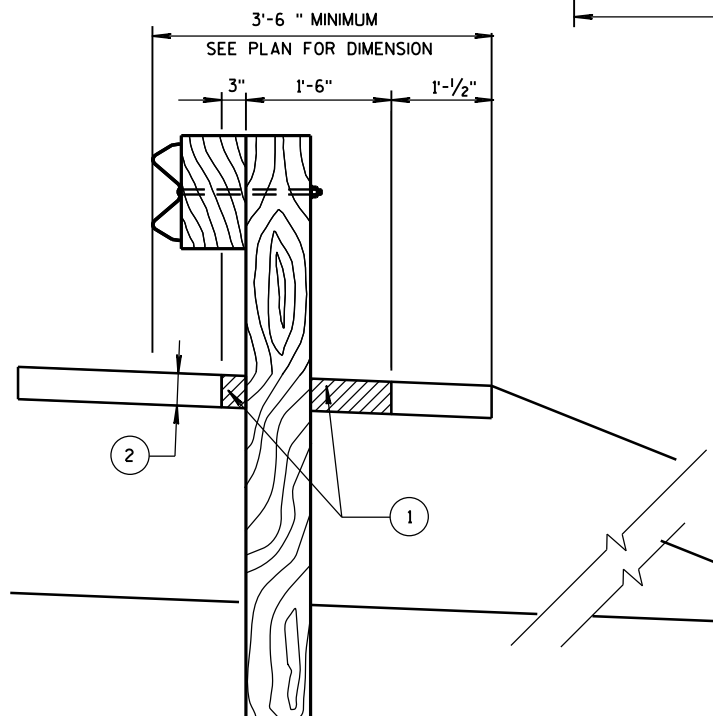
CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

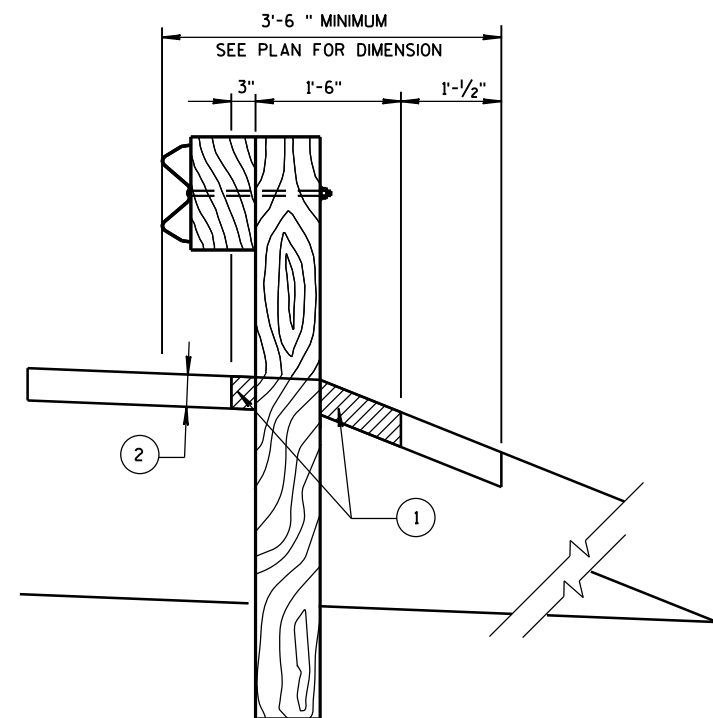
APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

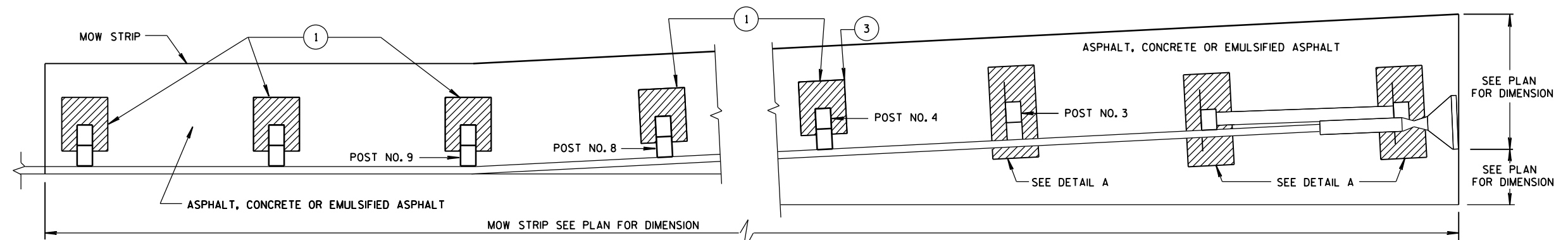
FHWA



SECTION A-A

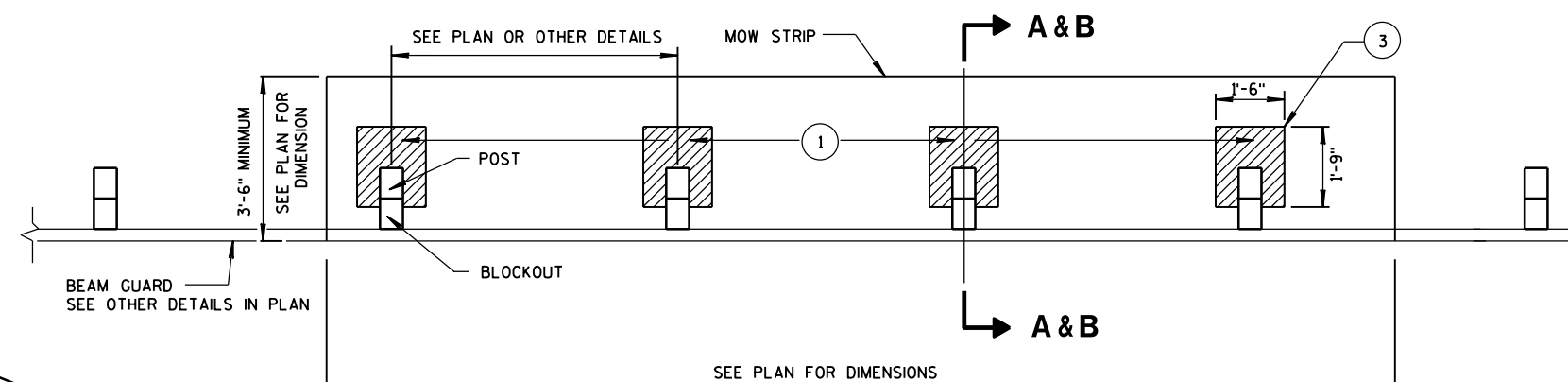


SECTION B-B



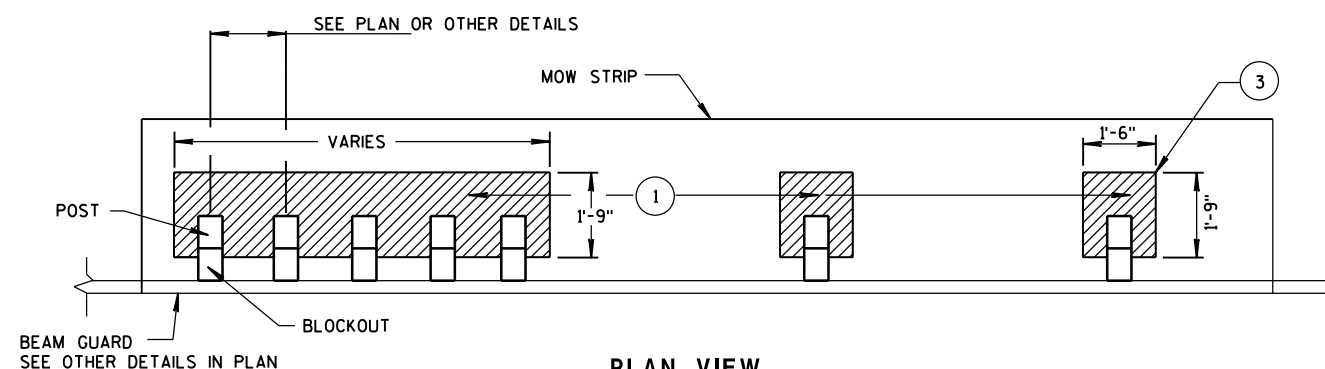
PLAN VIEW

MOW STRIP LAYOUT FOR ENERGY ABORING TERMINAL



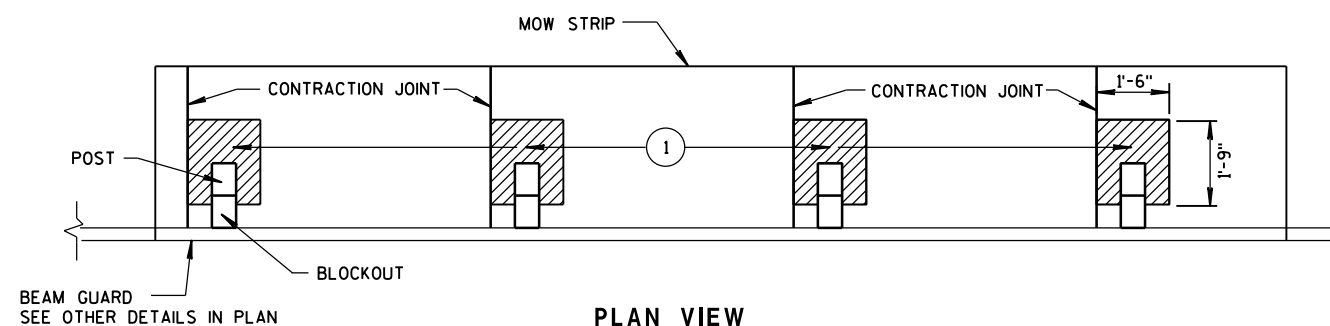
PLAN VIEW

MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT



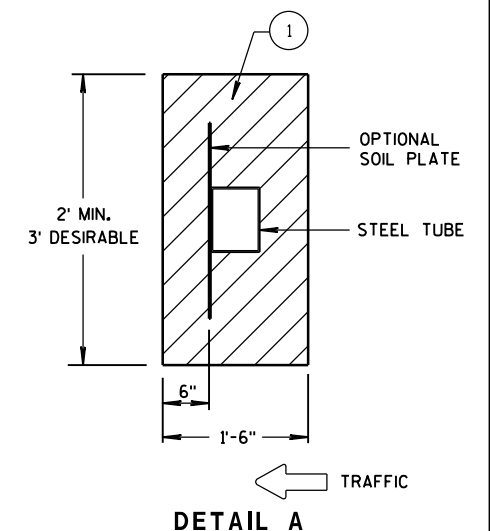
PLAN VIEW

MOW STRIP FOR TIGHT SPACING LAYOUT

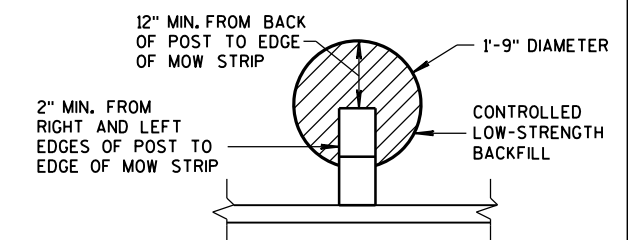


PLAN VIEW

JOINT PLACEMENT FOR CONCRETE MOW STRIP



DETAIL A

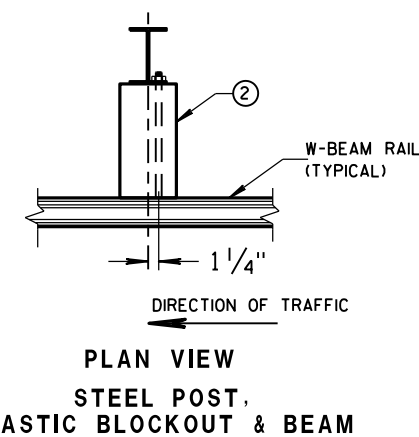
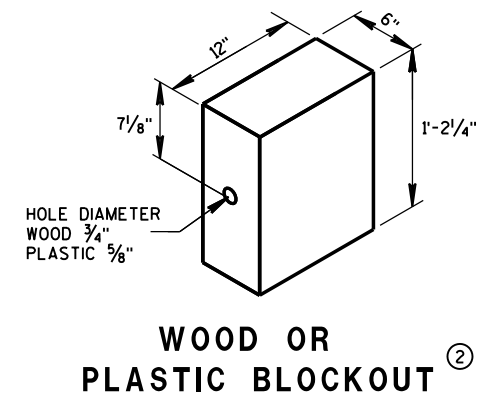
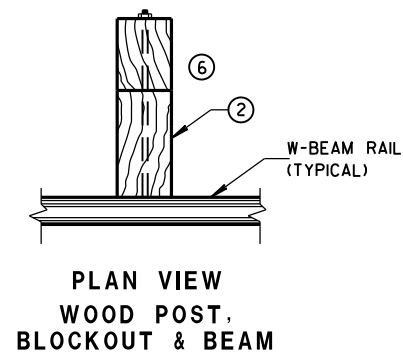
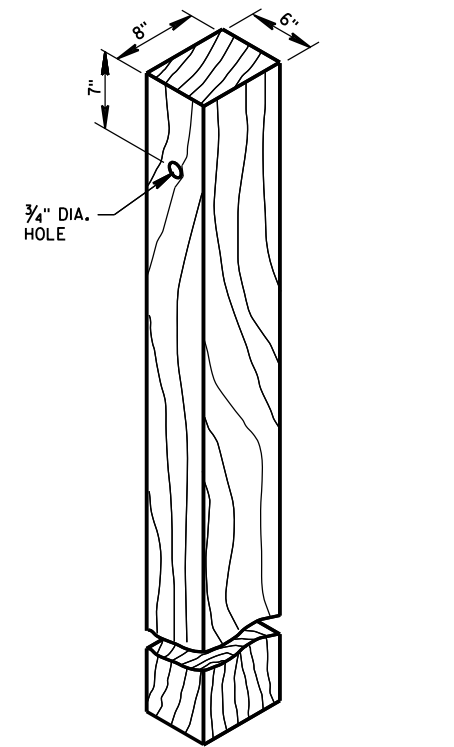
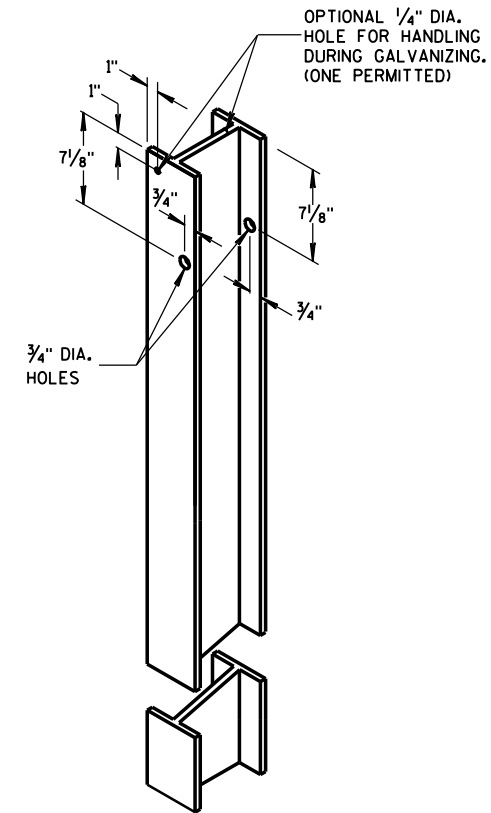
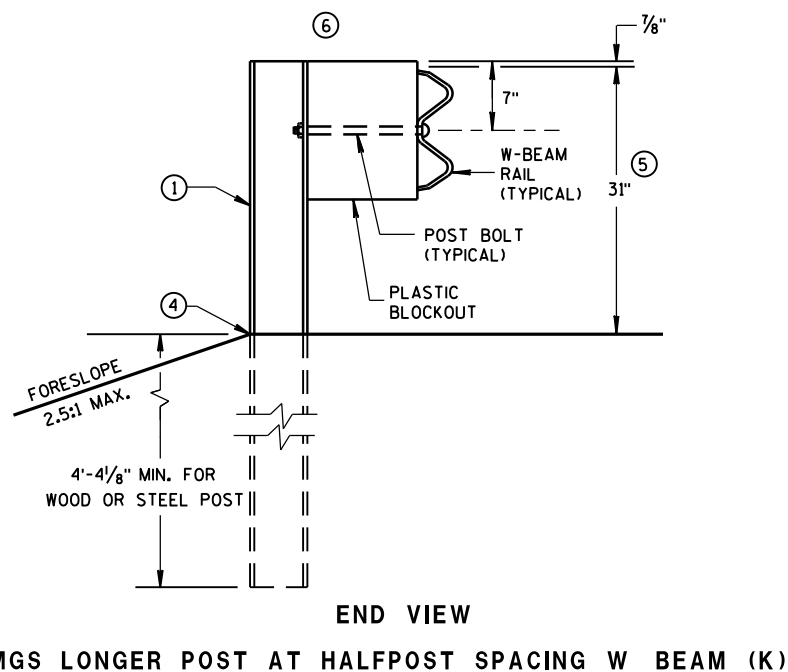
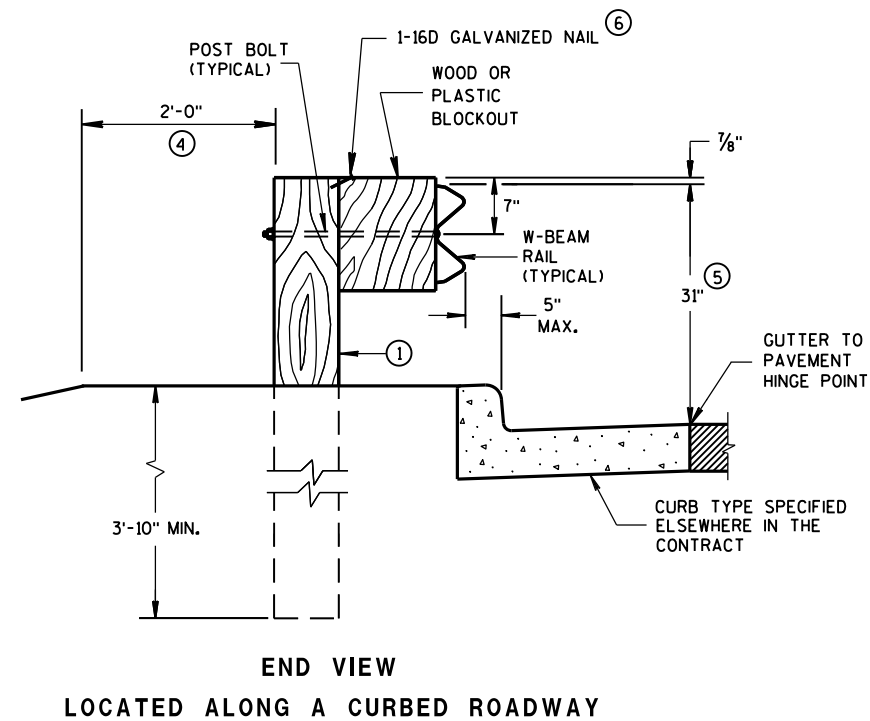
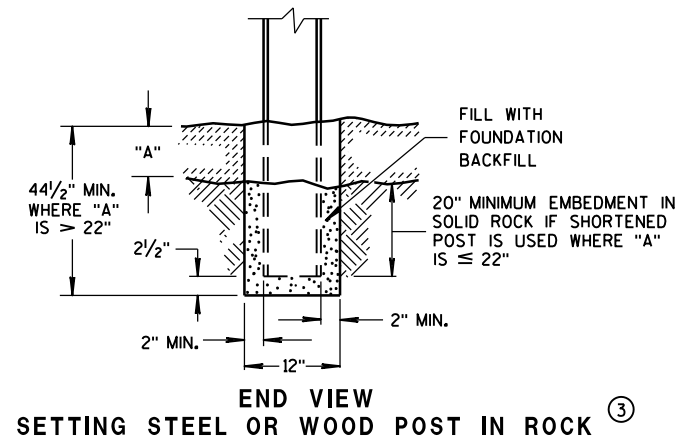
ALTERNATIVE HMA
MOW STRIP DESIGN

- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

GUARDRAIL MOW STRIP

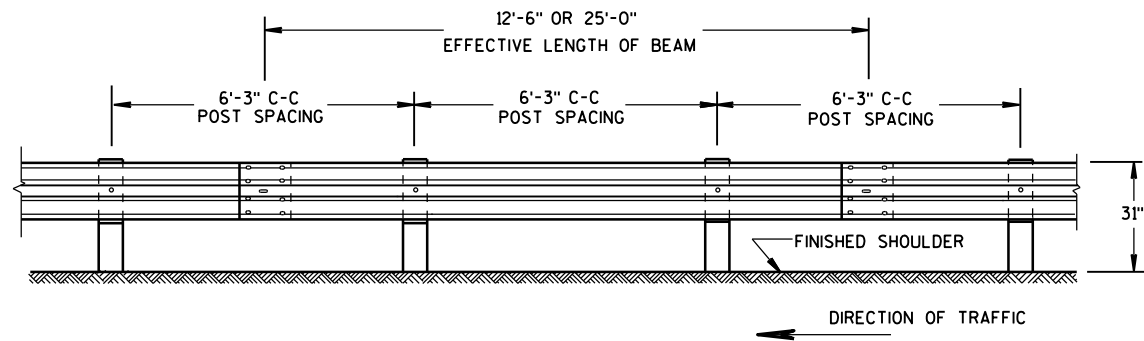
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
June 2014
DATE
FHWA/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

- ① WOOD OR STEEL POSTS (W6X9 OR W6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



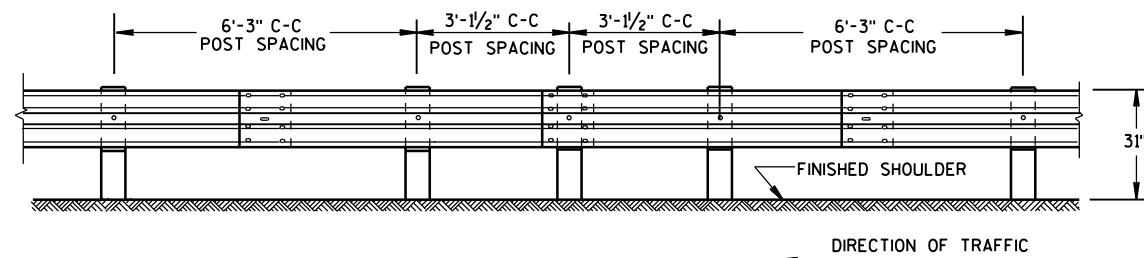
**MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



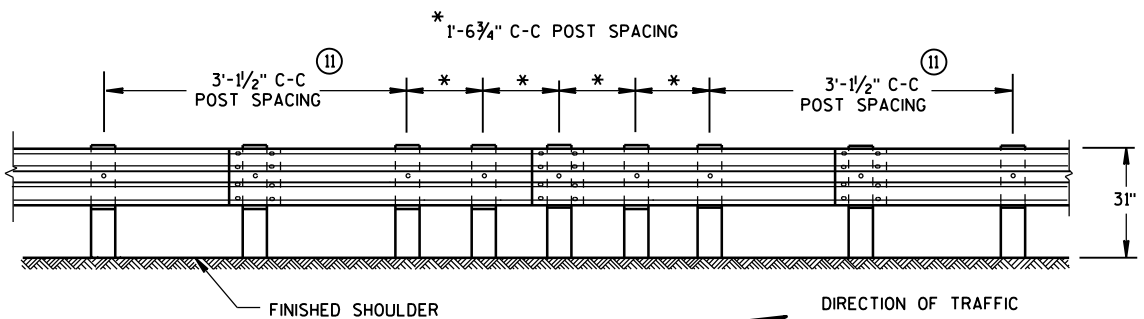
FRONT VIEW

POST SPACING STANDARD INSTALLATION



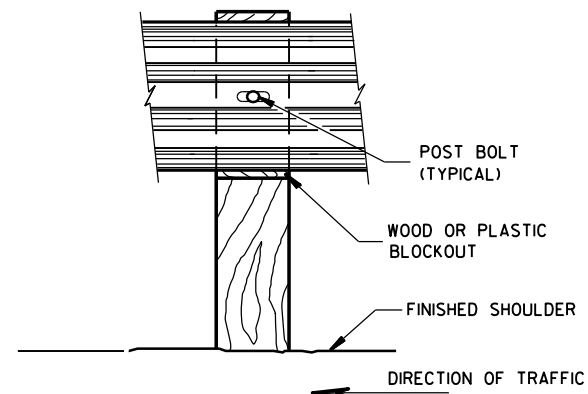
FRONT VIEW

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

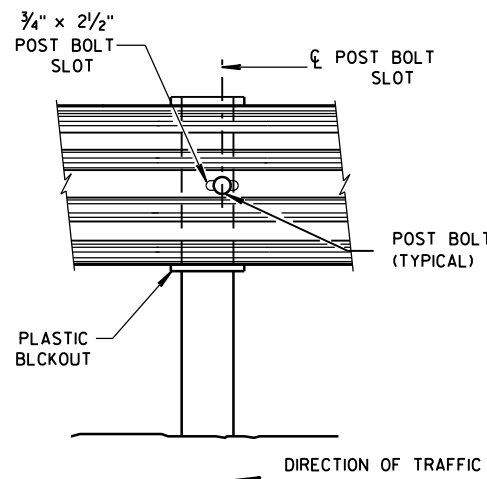


FRONT VIEW

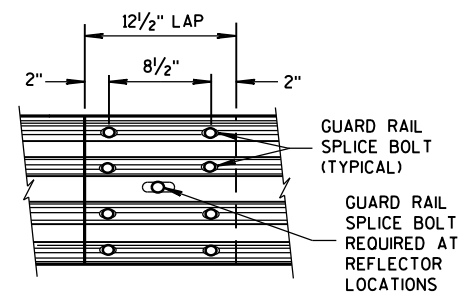
QUARTER POST SPACING (QS)



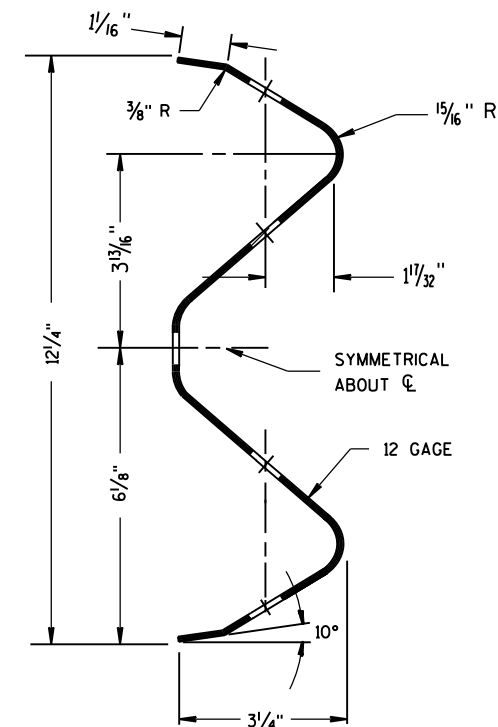
FRONT VIEW AT WOOD POST



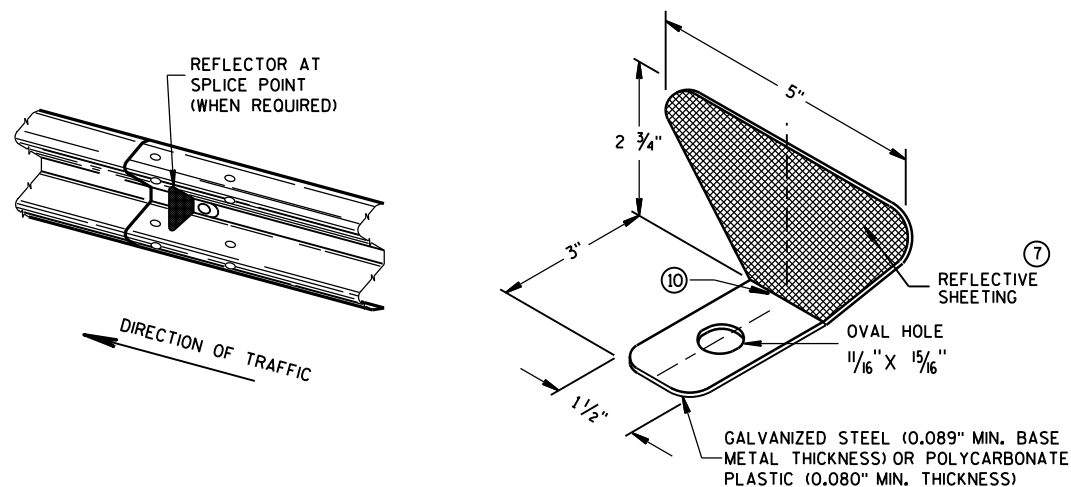
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

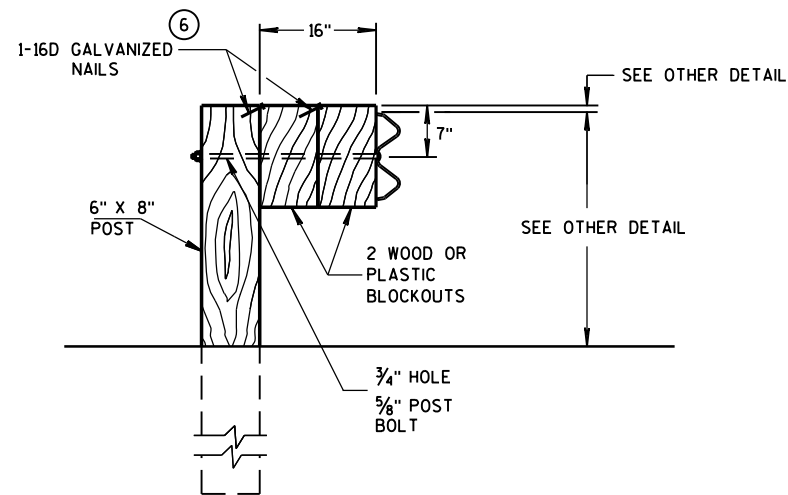
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

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

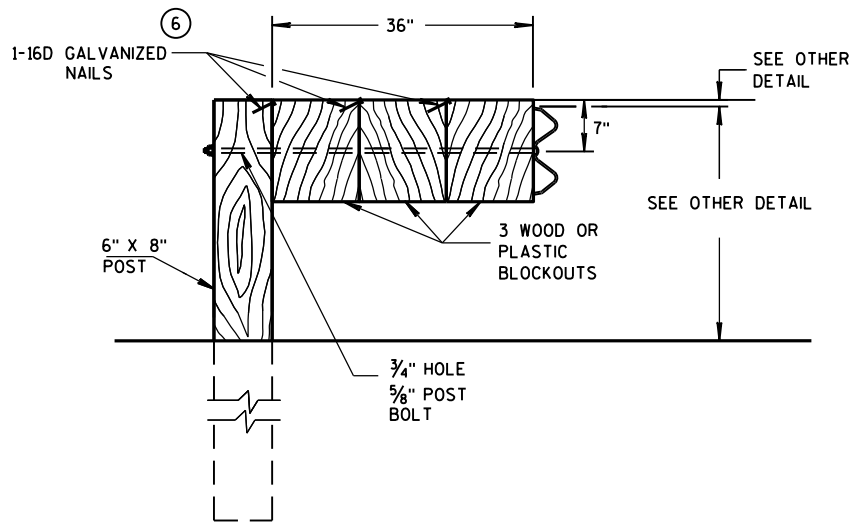
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

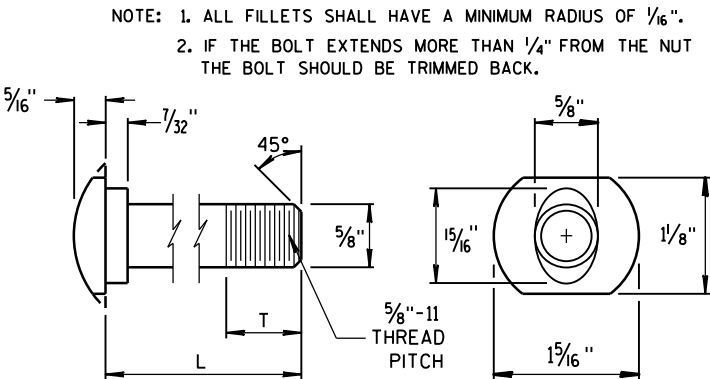
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



DETAIL FOR 36" BLOCKOUT DEPTH

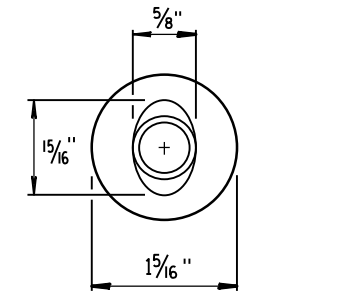
NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

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

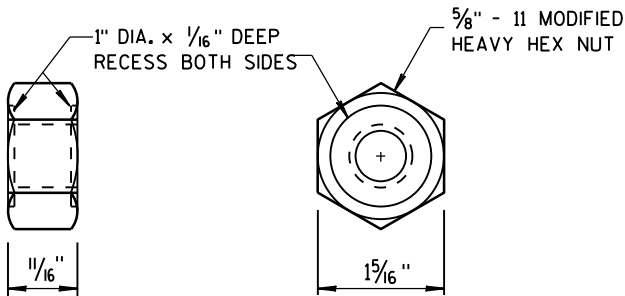


POST BOLT TABLE

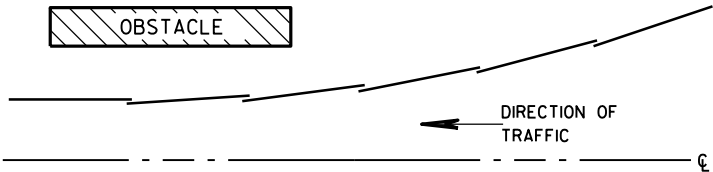
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



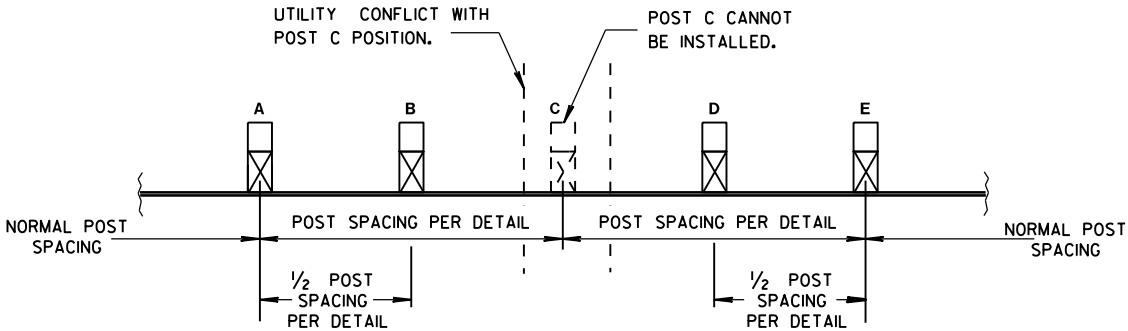
ALTERNATE BOLT HEAD



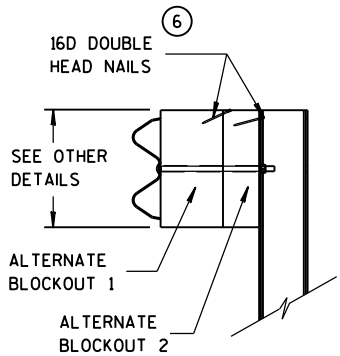
POST BOLT, SPLICE BOLT AND RECESS NUT



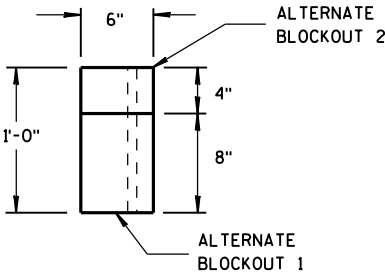
PLAN VIEW BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

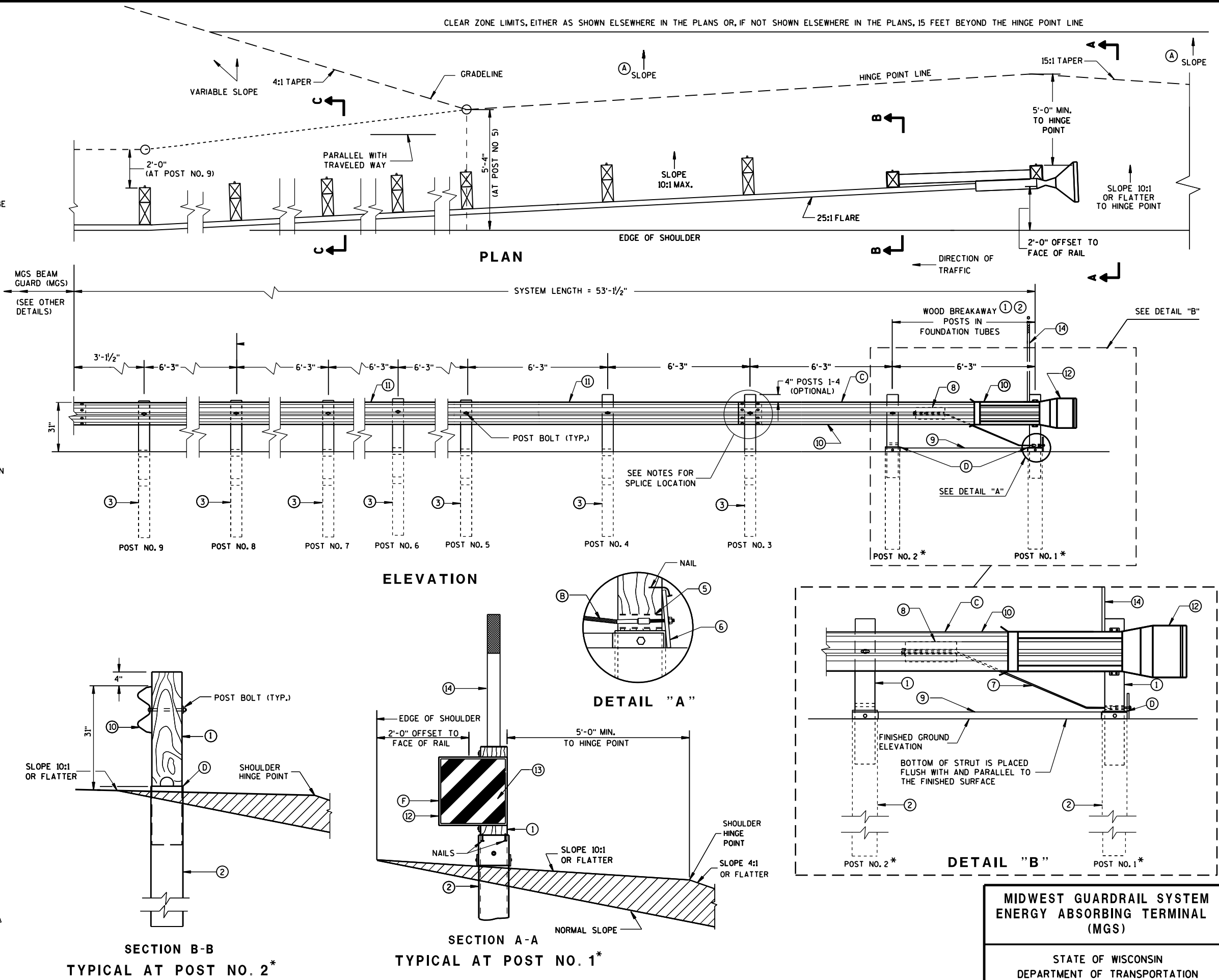
SEE SDD 14B42 FOR MORE INFORMATION.

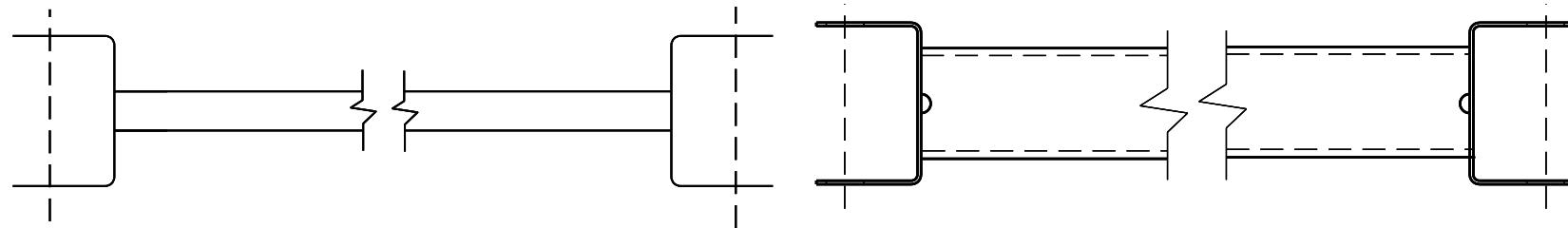
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

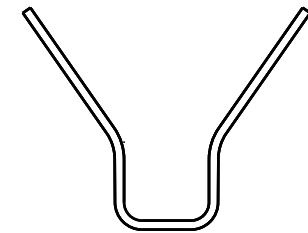
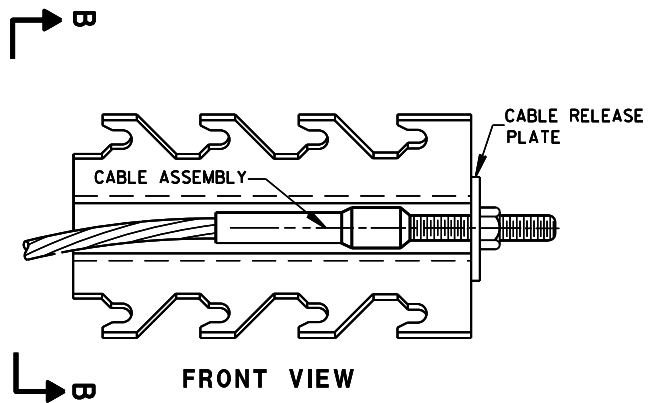
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

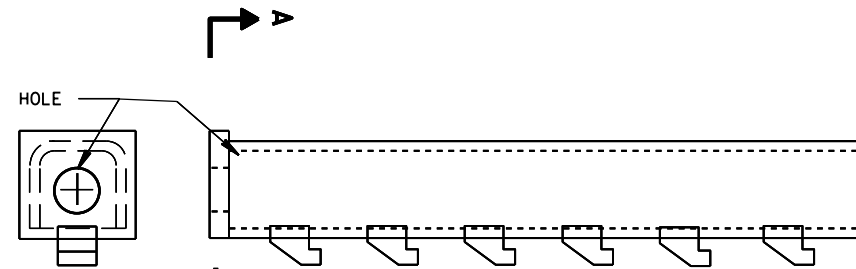




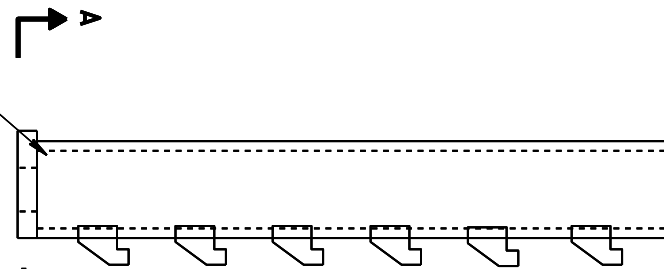
GENERIC GROUND STRUT (9) (H)



SECTION B-B



SECTION A-A

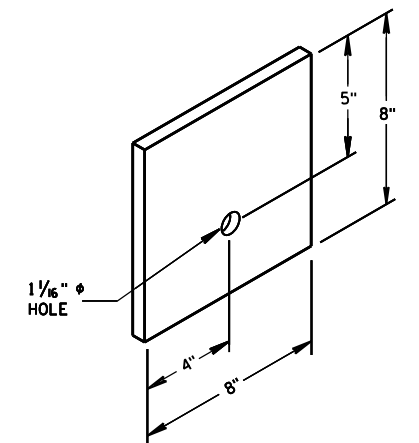


PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)

BILL OF MATERIALS

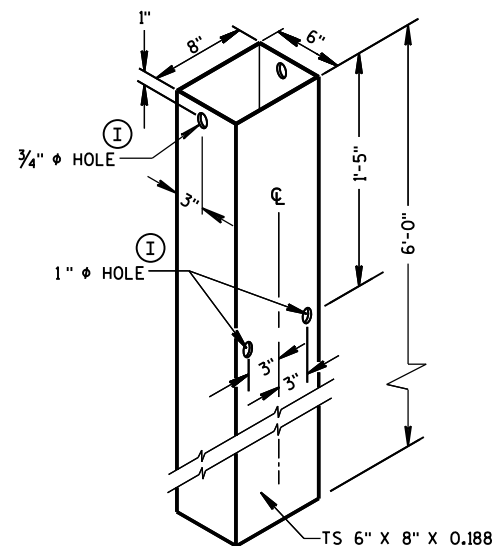
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR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



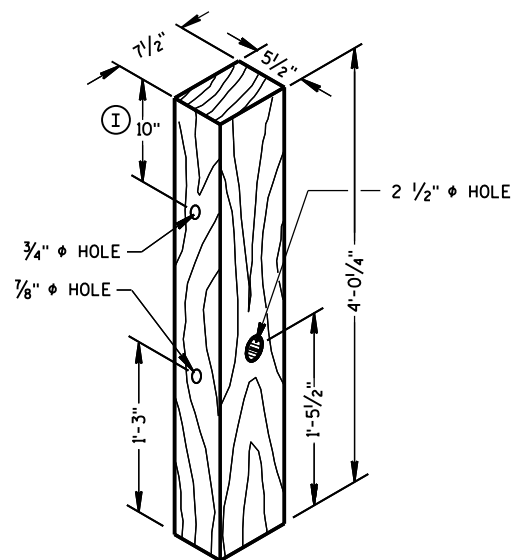
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

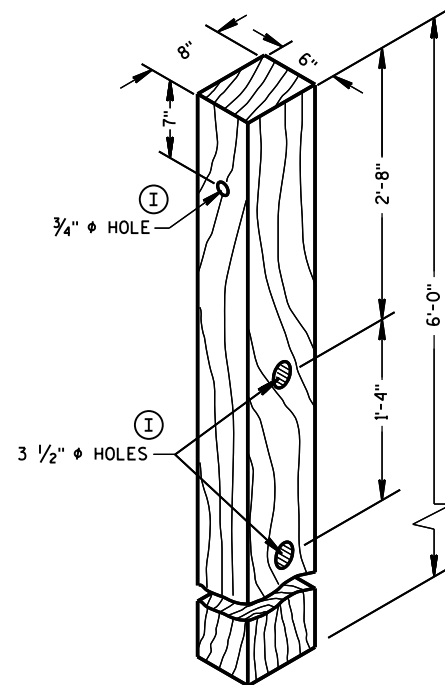
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



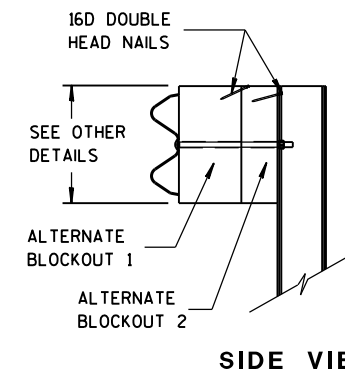
FOUNDATION TUBE ②



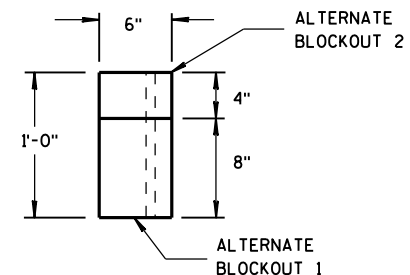
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

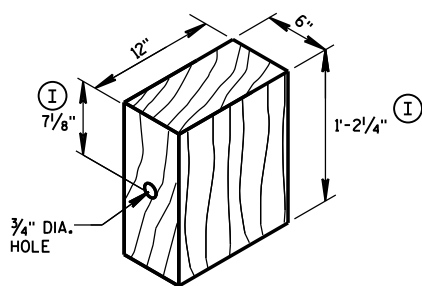


SIDE VIEW



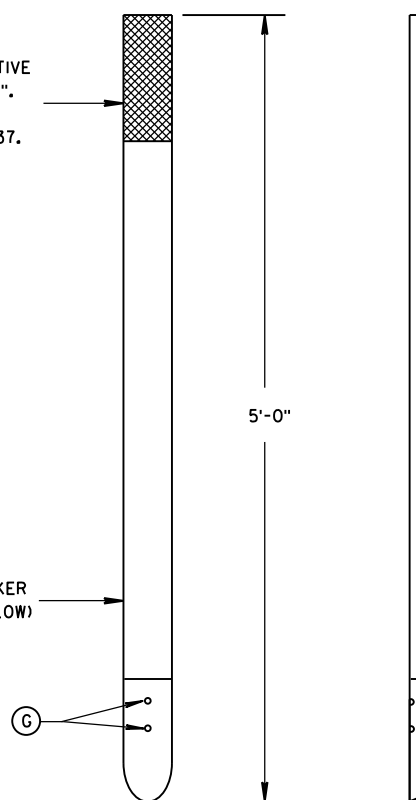
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL



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

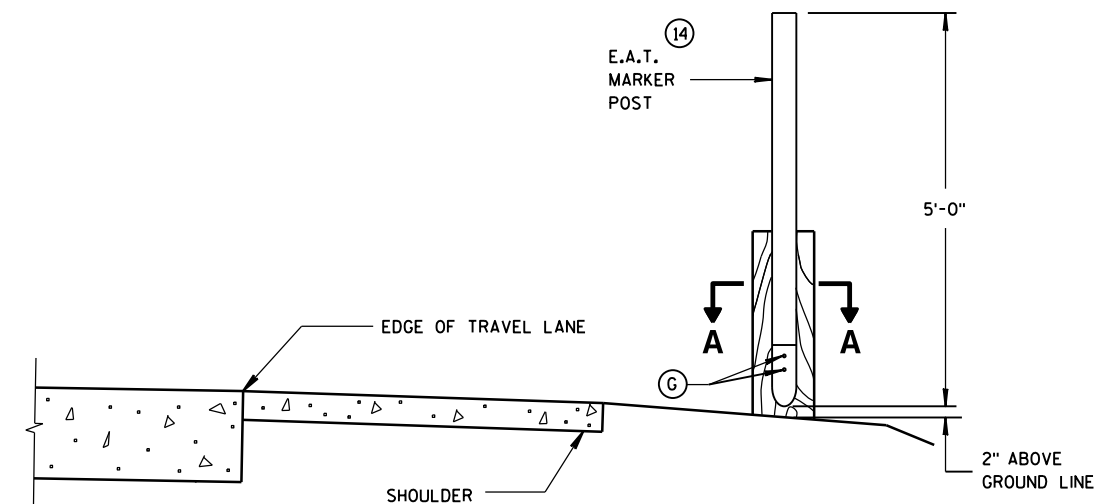
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



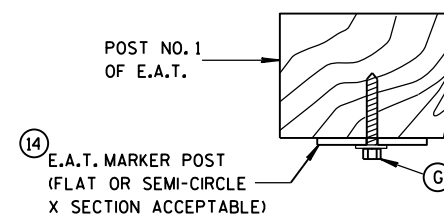
FRONT VIEW

SIDE VIEW

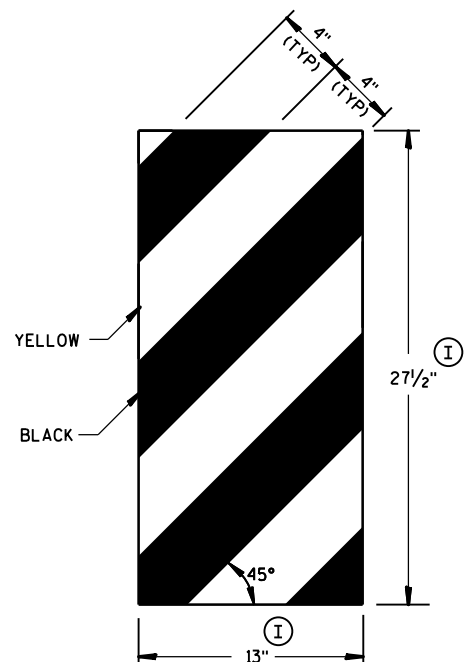
E.A.T. MARKER POST ⑭



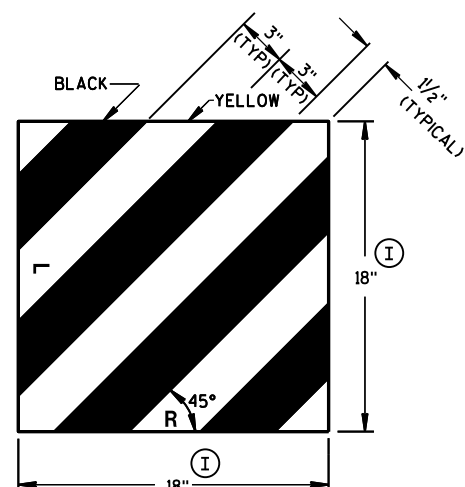
TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)



SECTION A-A



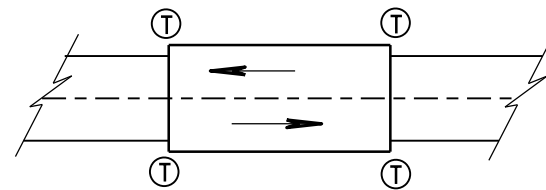
GENERIC REFLECTIVE SHEETING ⑬ ①



MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

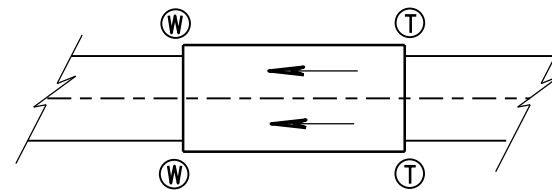
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

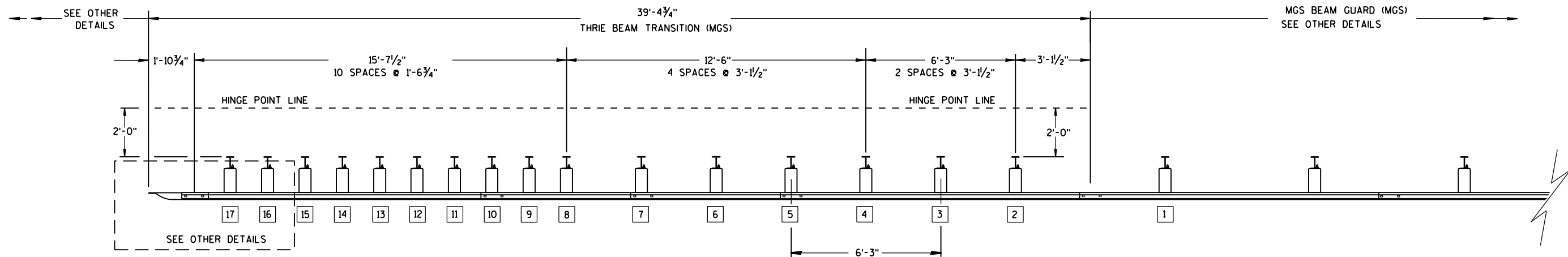
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

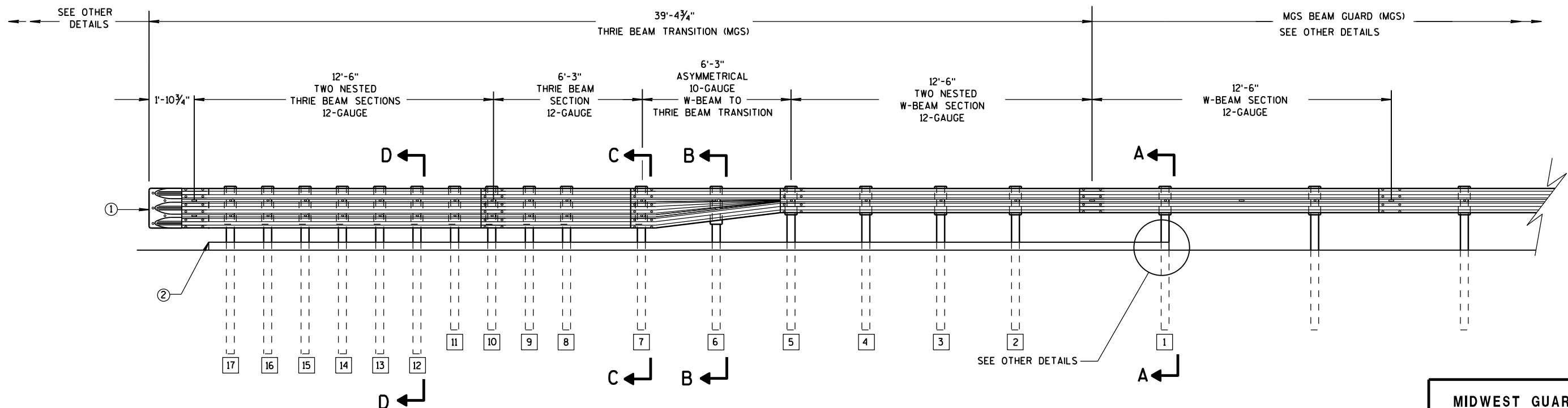
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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



PLAN VIEW



ELEVATION VIEW

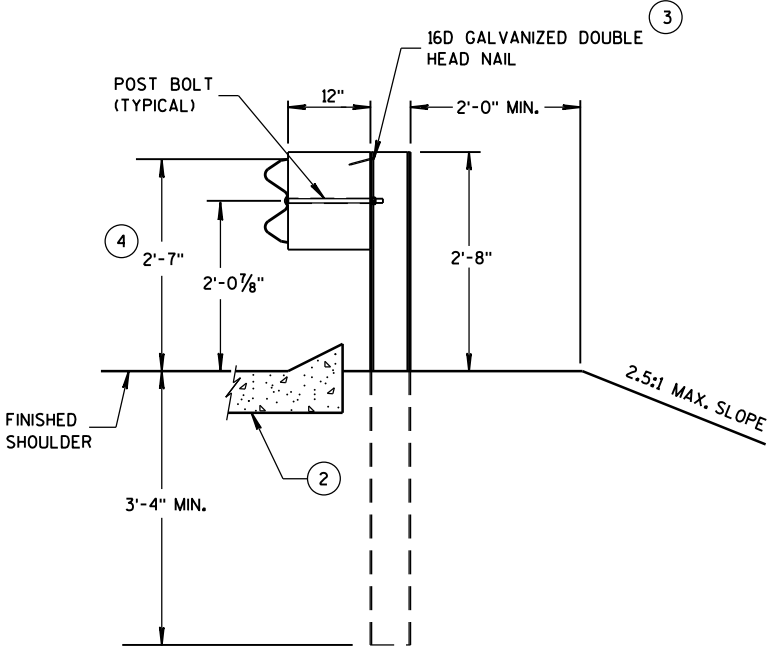
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

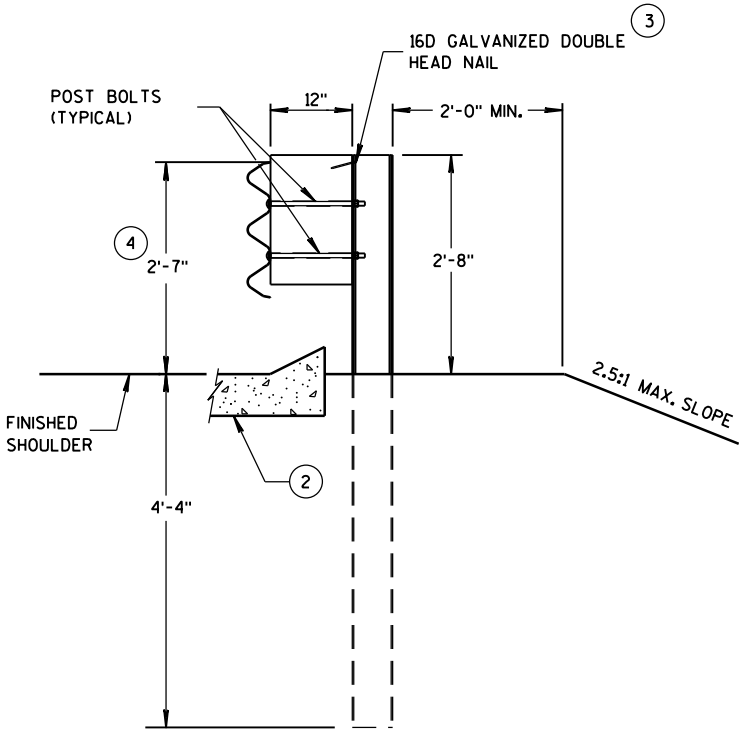
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

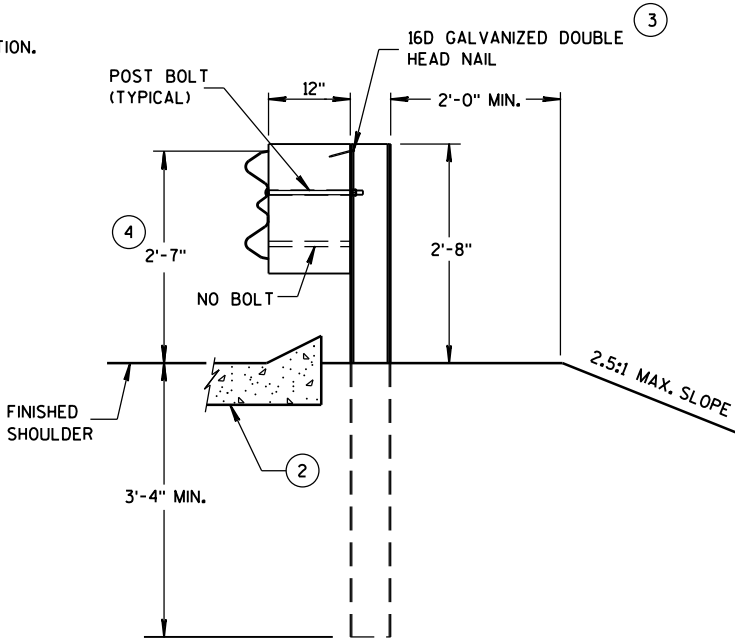
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm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



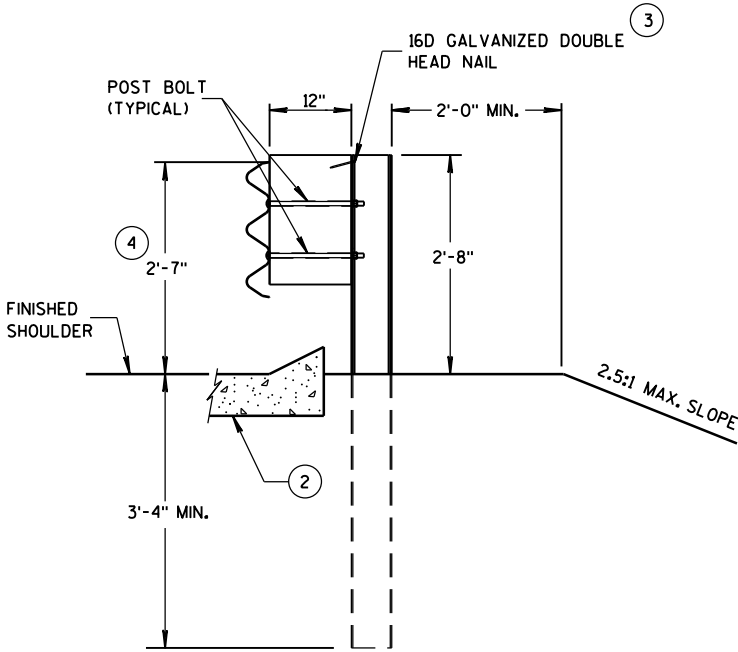
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

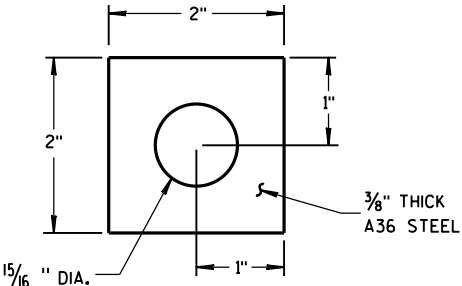
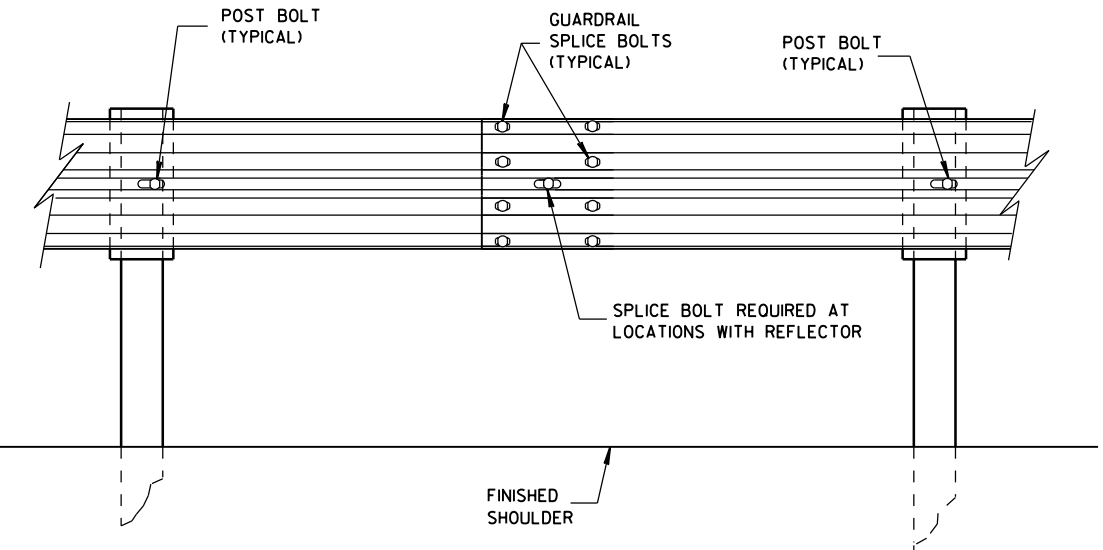
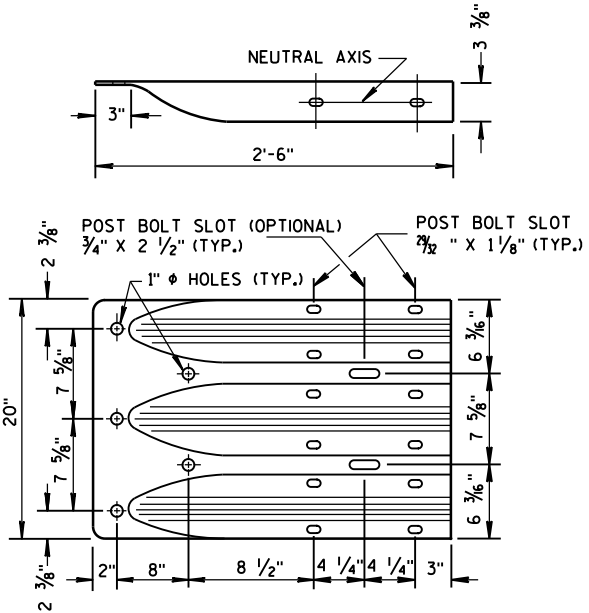


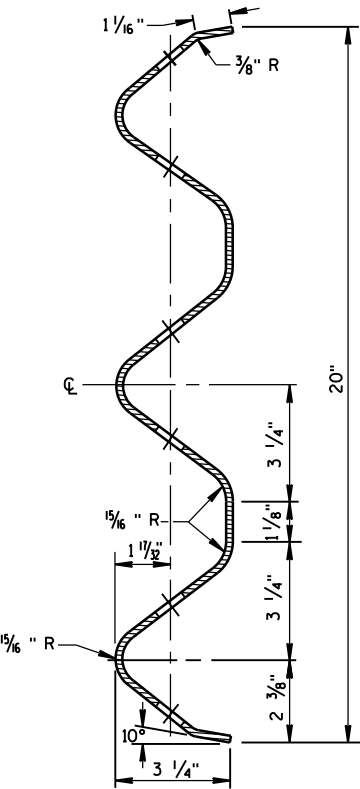
PLATE WASHER DETAIL



SPlice DETAIL



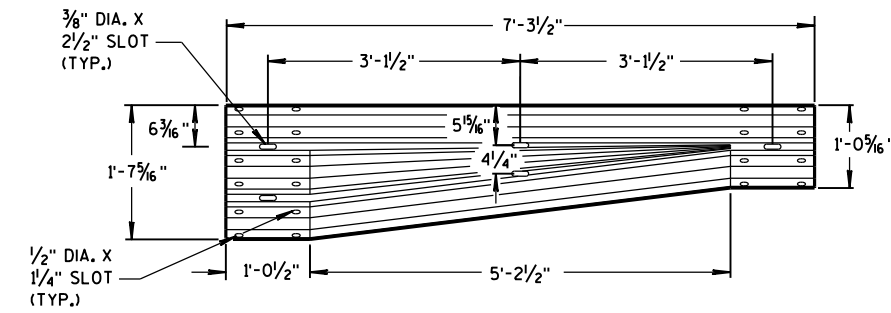
THRIE BEAM
TERMINAL CONNECTOR



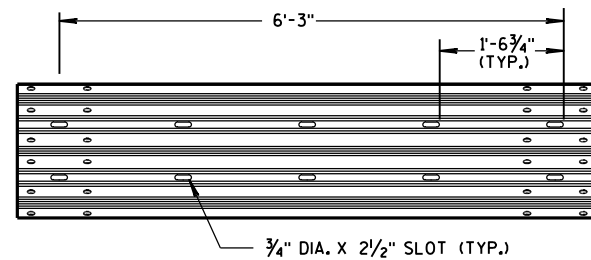
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

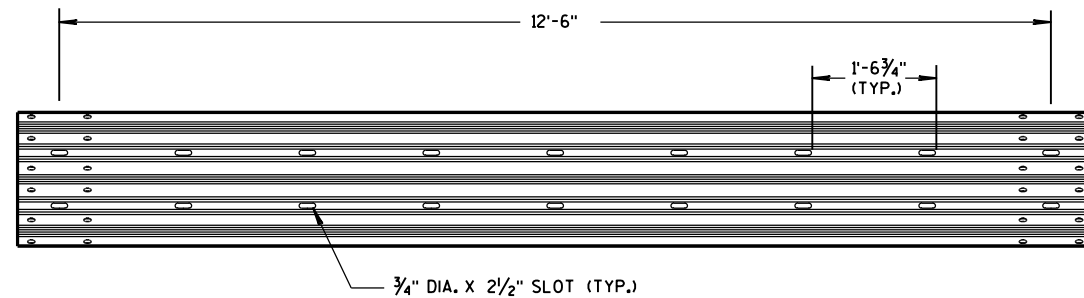
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



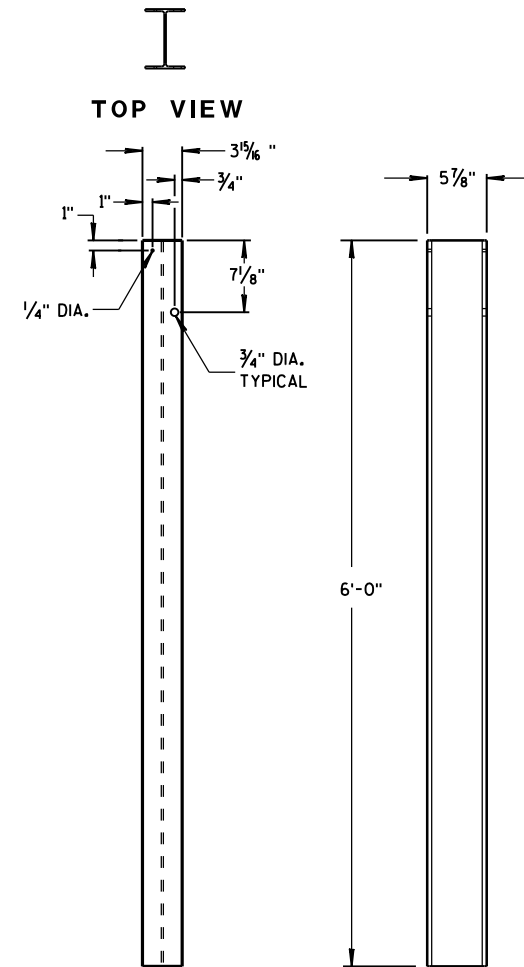
W-BEAM TO THRIE BEAM TRANSITION SECTION



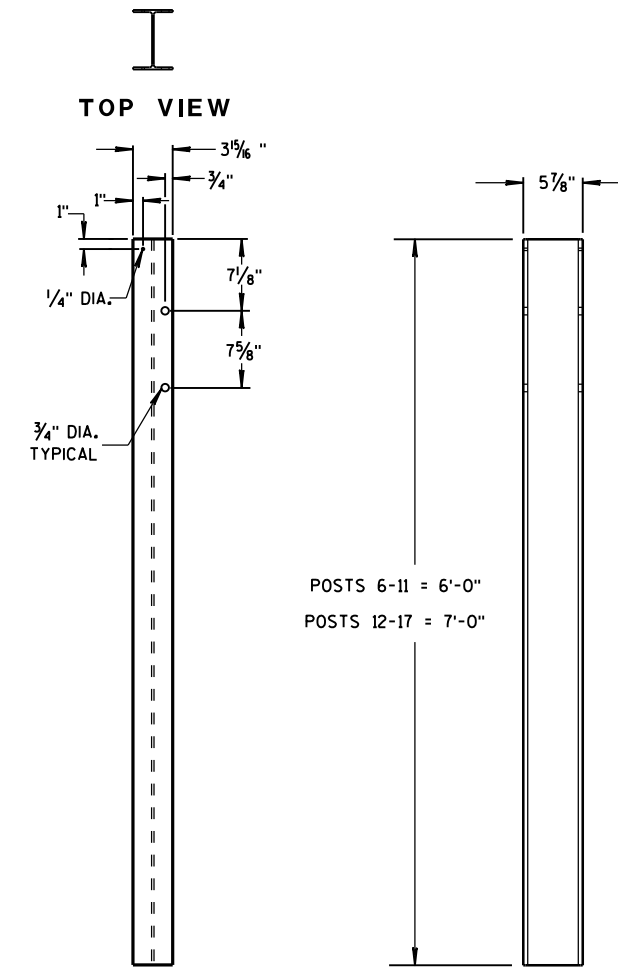
6'-3" THRIE BEAM SECTION



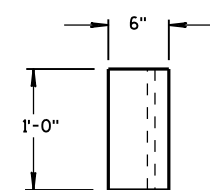
12'-6" THRIE BEAM SECTION



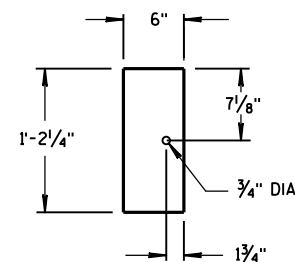
FRONT VIEW SIDE VIEW
STEEL POSTS 1-5



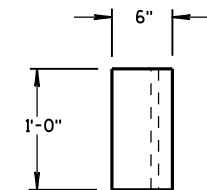
FRONT VIEW SIDE VIEW
STEEL POSTS 6-17



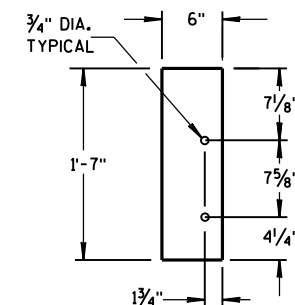
TOP VIEW



FRONT VIEW
BLOCKOUT
POSTS 1-5



TOP VIEW



FRONT VIEW
BLOCKOUT
POSTS 6-17

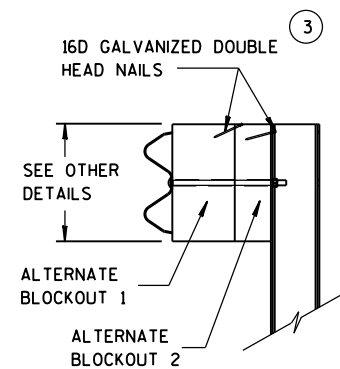
GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

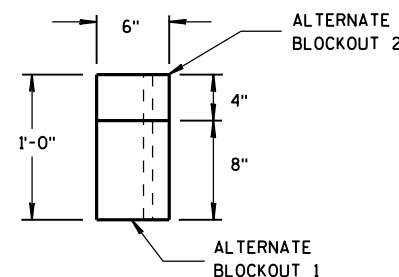
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

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



SIDE VIEW

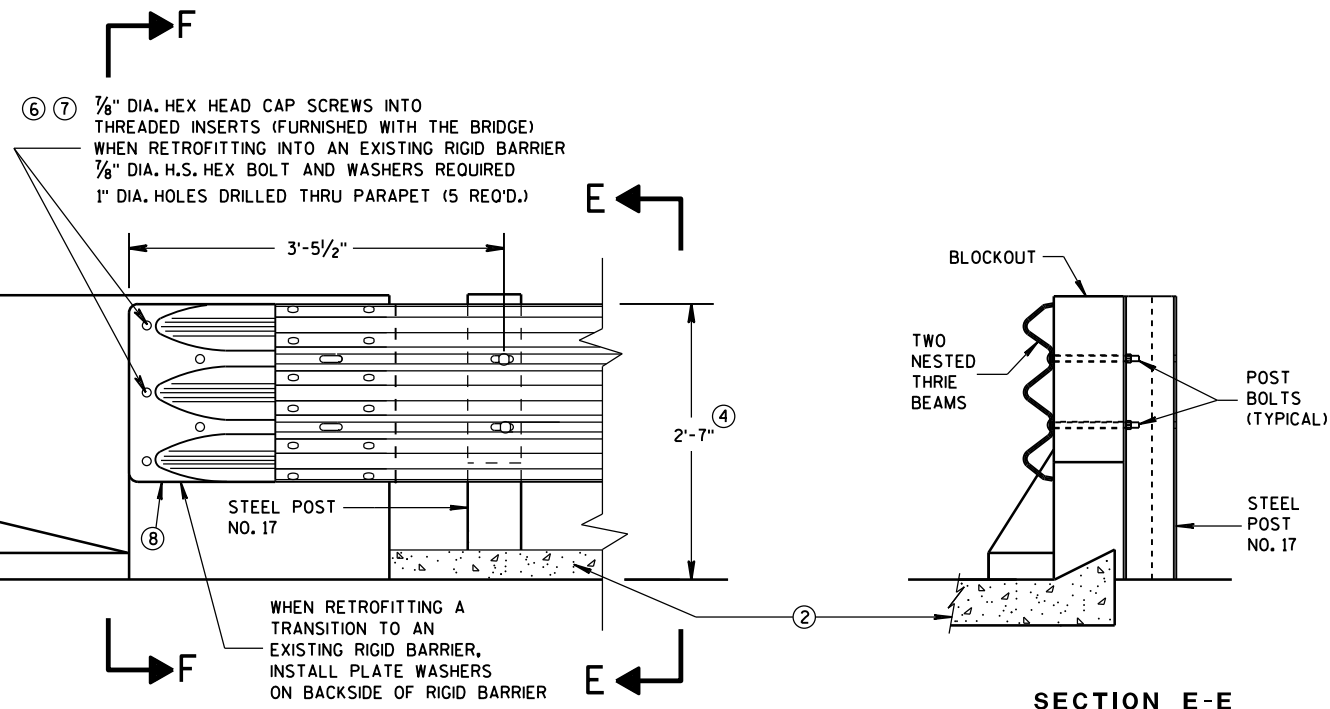


TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

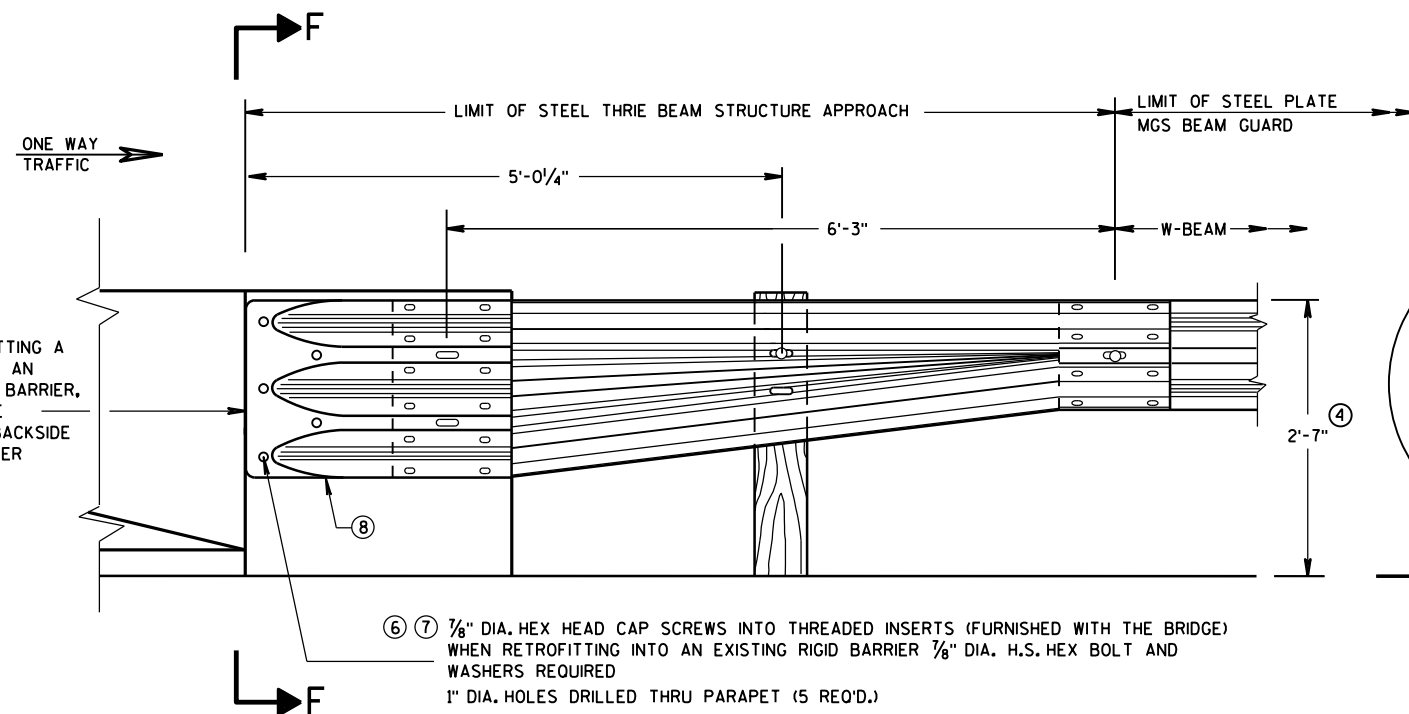
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



FRONT VIEW

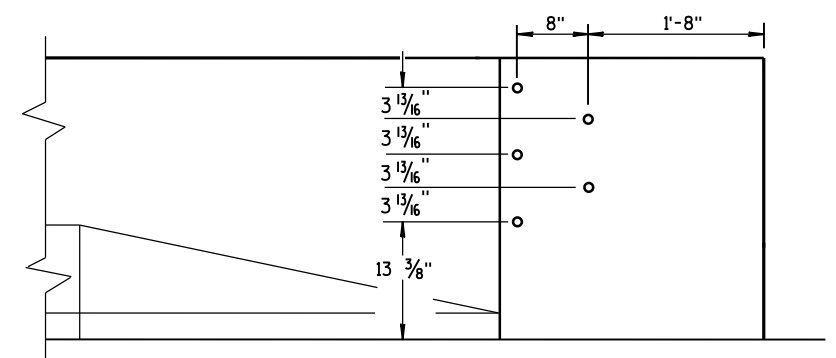
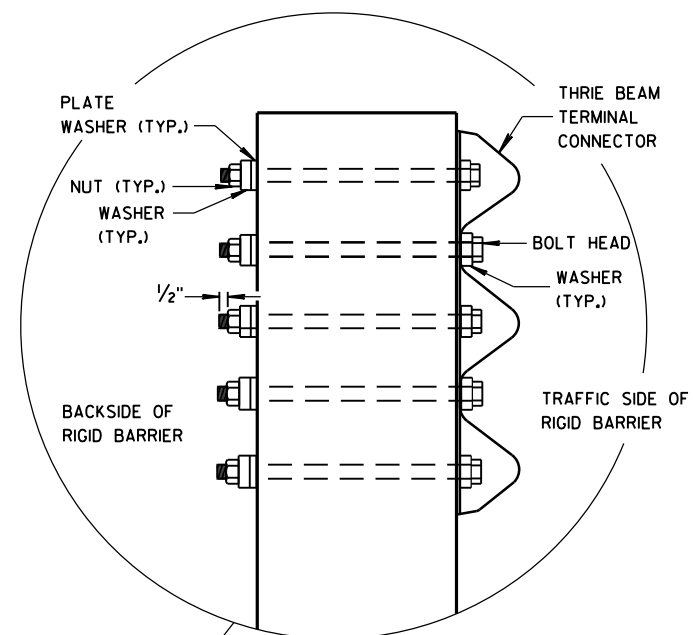
W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

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

GENERAL NOTES

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

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2015

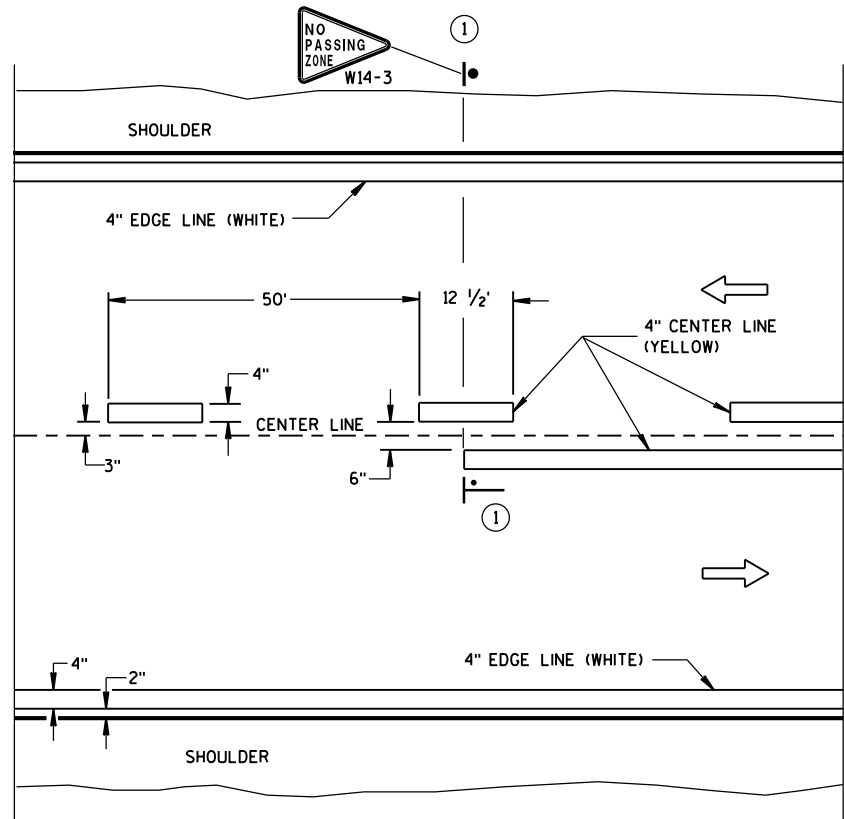
DATE

FHWA

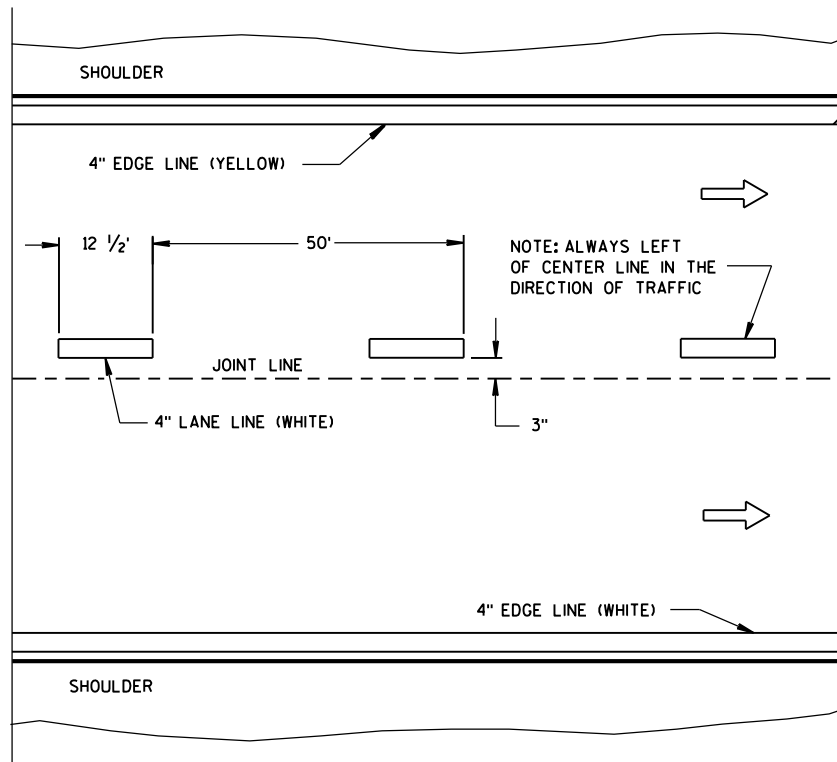
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

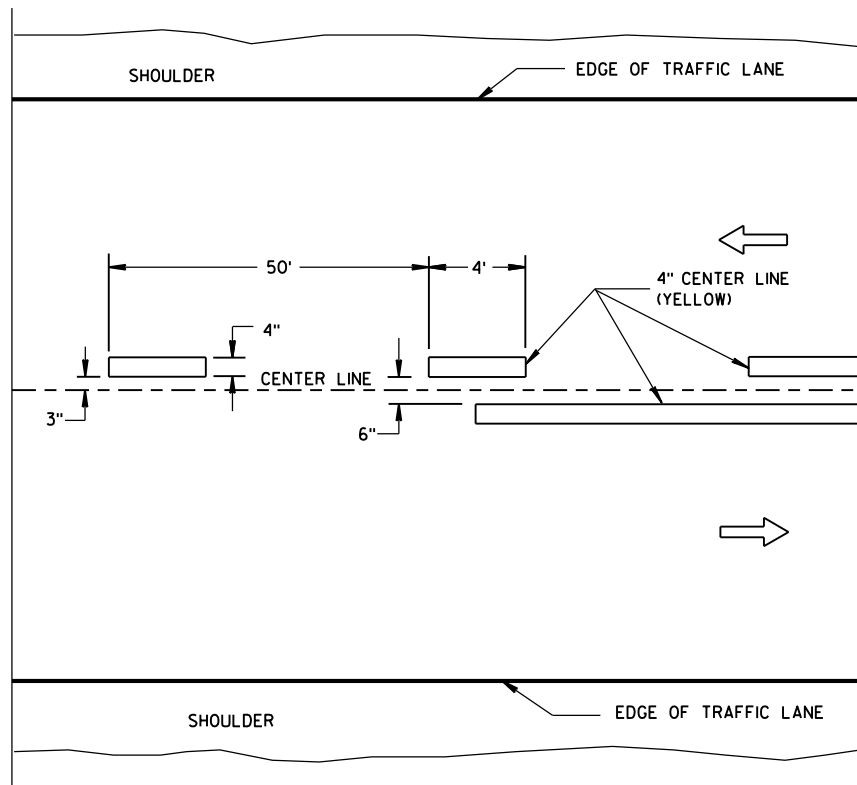


TWO WAY TRAFFIC

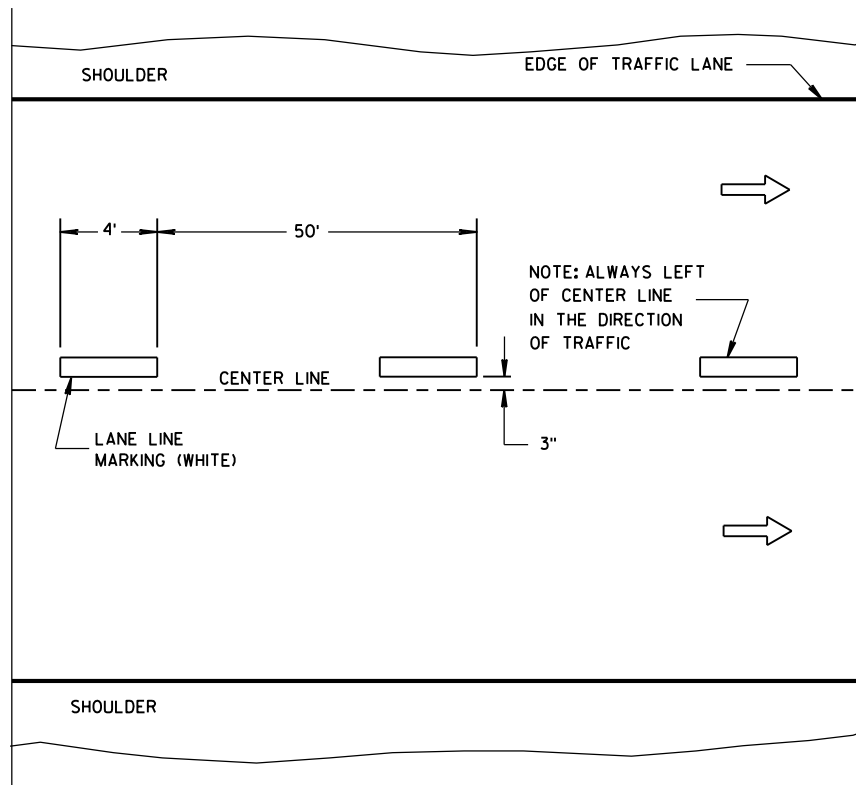


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

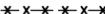
├── "T" MARKING



● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

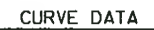
APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

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



 W057-52
 36" x 24"

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





P.I. 57+56.11
Y = 597294.20
X = 760430.11
 $\Delta = 60^{\circ}19'10''$ LT.
D = $01^{\circ}32'60''$
T = 1305.61'
L = 2365.48'
E = 351.79'
R = 2246.90'
P.C. 44+50.50
P.T. 68+15.98
S.E. 5.8%

*ANCHOR ASSEMBLY FOR THRIE
BEAM TYPE GUARDRAIL.

○ DENOTES WING NUMBER.

PLAN

THREE-SPAN 36" PRESTRESSED CONCRETE GIRDER BRIDGE
(POLYMER OVERLAY & WINGWALL REPLACEMENT)

LIST OF DRAWINGS

1. GENERAL PLAN
2. TYPICAL SECTIONS
3. QUANTITIES AND NOTES
4. WING 1 REPLACEMENT DETAILS
5. WING 2 REPLACEMENT DETAILS
6. WING 3 REPLACEMENT DETAILS
7. WING 4 REPLACEMENT DETAILS AND BILL OF BARS
8. SLOPED FACE PARAPET 'B'



ELEVATION

(NORMAL TO \mathbb{C} OF RIVER)

BENCH MARK:
DOT DISK *7615 ON NW WINGWALL
STA. 59+63, 18' LT.
EL. 1051.48

■ EXISTING PROFILE BASED ON THE ORIGINAL PLANS

NO.	DATE	REVISION	BY
-----	------	----------	----

ORIGINAL PLANS PREPARED BY
AYRES
ASSOCIATES 3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Decher SDR 02/27/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-65-13

USH 63 OVER NAMEKAGON RIVER

COUNTY	WASHBURN	TOWN/CITY/VILLAGE	TREGO
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DESIGN SPEC.	REHABILITATION	N/A
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DESIGNED BY	AEB	DESIGN CK'D. CKJ/JWZ	DRAWN BY	CLS	PLANS CK'D.	CAM
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GENERAL PLAN

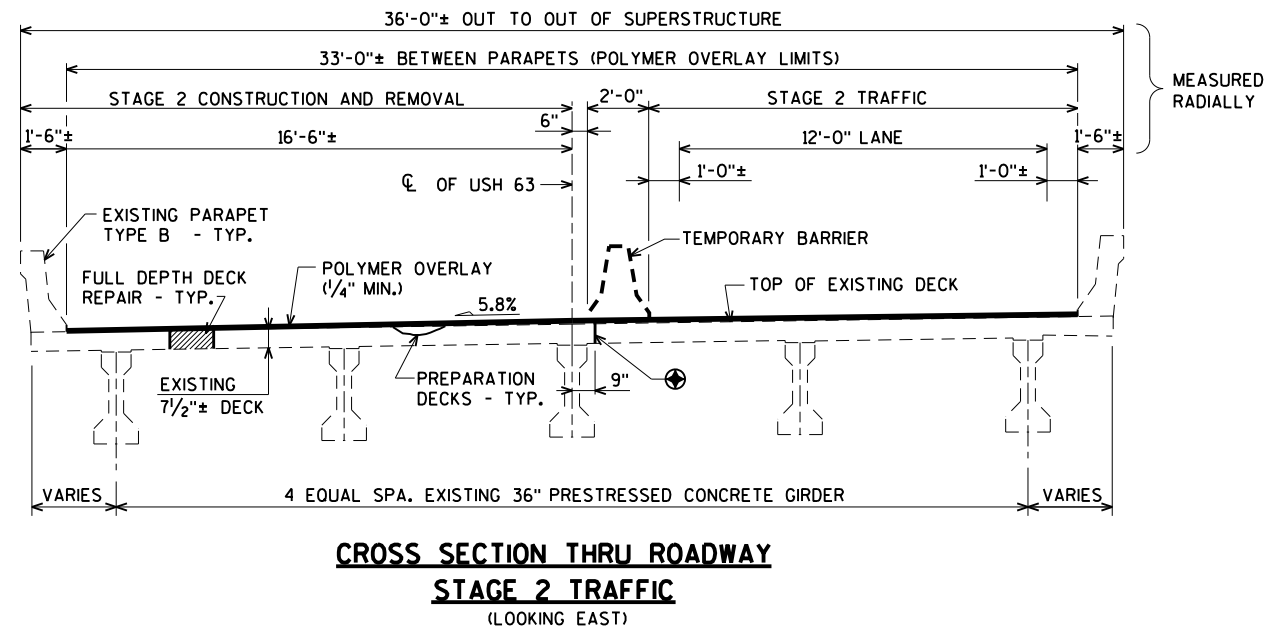
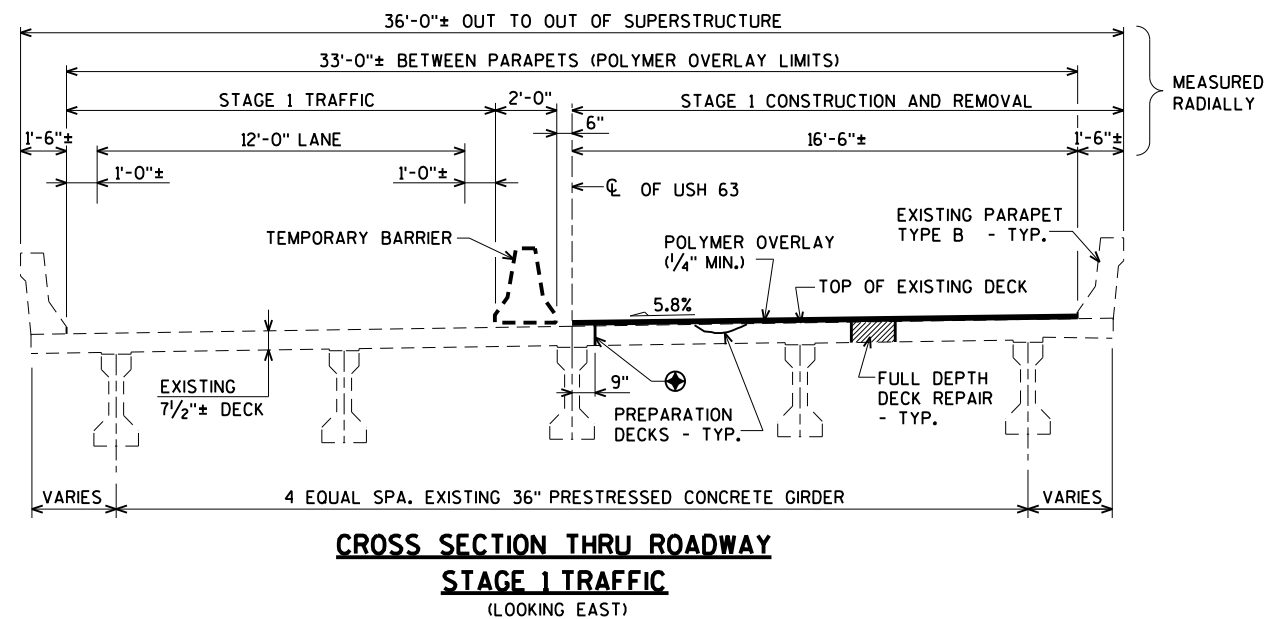
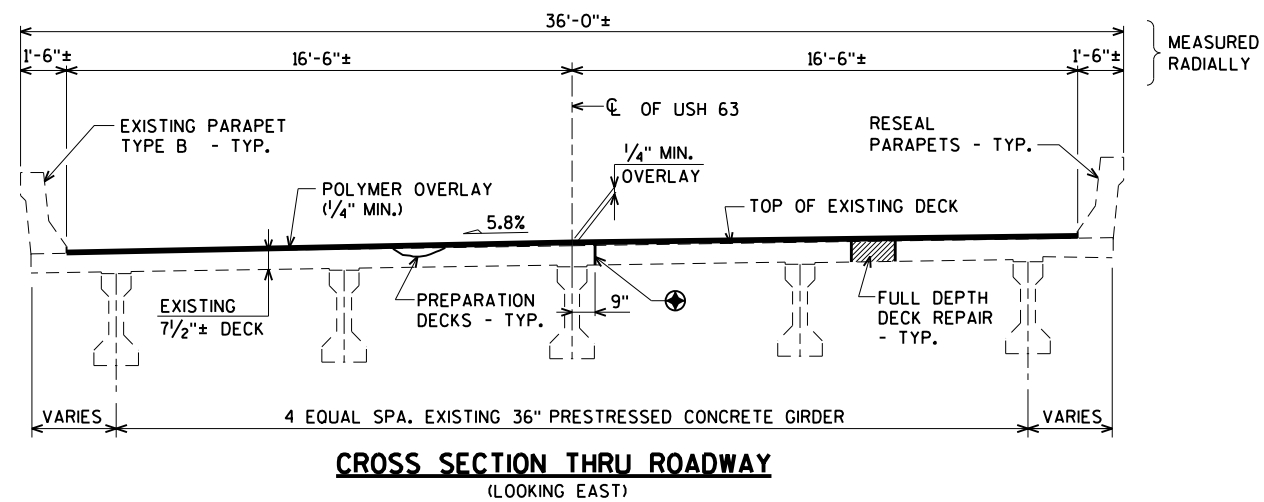
SHEET 1 OF 8

BRIDGE OFFICE CONTACT:
WILLIAM DREHER
(608)-266-8489

CONSULTANT CONTACT:
CHRIS MCMAHON
(715)-834-3161

\$PRNAME\$
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8



⊕ EXISTING LONG. CONST. JOINT
SEAL WITH CRACK SEALER
PER SECTION 502.3.13 OF STD. SPEC.

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY	CLS	PLANS CK'D.	AEB
TYPICAL SECTIONS			SHEET 2 OF 8

8

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STATE PROJECT NUMBER

1560-00-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-65-13	LS	1
203.0700.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH DEBRIS CAPTURE SYSTEM 60+50	LS	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-65-13	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	115
502.0100	CONCRETE MASONRY BRIDGES	CY	37
502.3210	PIGMENTED SURFACE SEALER	SY	23
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,520
509.0301	PREPARATION DECKS TYPE 1	SY	75
509.0302	PREPARATION DECKS TYPE 2	SY	30
509.1500	CONCRETE SURFACE REPAIR	SF	165
509.2000	FULL-DEPTH DECK REPAIR	SY	5
509.5100.S	POLYMER OVERLAY	SY	595
509.9020.S	EPOXY CRACK SEALING	LF	162
511.1200	TEMPORARY SHORING B-65-13	SF	570
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	13
550.2104	PILING CIP CONCRETE 10¾x 0.25 INCH	LF	220
606.0300	RIPRAP HEAVY	CY	25
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	4
645.0120	GEOTEXTILE TYPE HR	SY	55
SPV.0035.01	CONCRETE MASONRY DECK PATCHING	CY	7
SPV.0090.01	SAWING PAVEMENT DECK PREPARATION AREAS	LF	750
SPV.0180.01	RESEAL PARAPETS	SY	130
	NON-BID ITEMS		
	FILLER	SIZE	½"

⊙ UNDISTRIBUTED FOR ABUTMENTS, PIERS, DIAPHRAGMS, AND PARAPETS AS DIRECTED BY THE ENGINEER IN THE FIELD.

△ BID ITEM ALSO INCLUDES CONCRETE FOR "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL DEPTH DECK REPAIR".

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING: HS-24
OPERATING RATING: HS-34
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY { DECK PATCHING AND SUPERSTRUCTURE — f'c = 4,000 p.s.i.
ALL OTHER — f'c = 3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) — fy = 60,000 p.s.i.

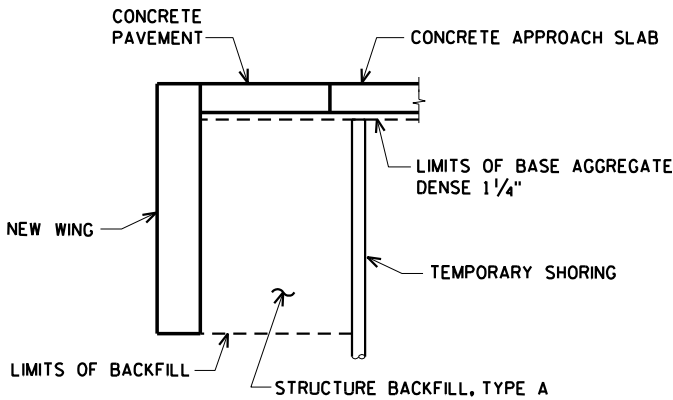
FOUNDATION DATA:

NEW WINGWALLS TO BE SUPPORTED ON 10¾" x 0.25" CIP CONCRETE PILING WITH A REQUIRED DRIVING RESISTANCE OF 75 TONS *PER PILE. ESTIMATED LENGTH 55' AT WINGS.

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

TRAFFIC DATA:

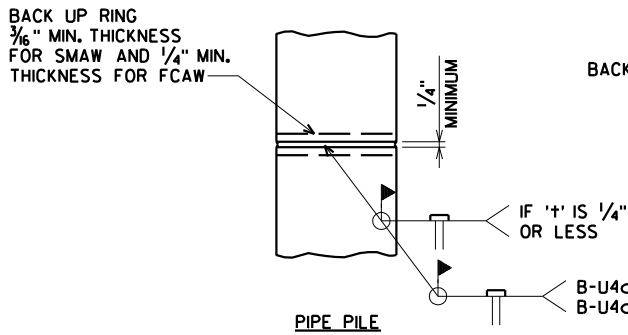
A.D.T. = 4,500 (2017)
A.D.T. = 6,200 (2037)
R.D.S. = 55 M.P.H.



TYPICAL SECTION THRU WING

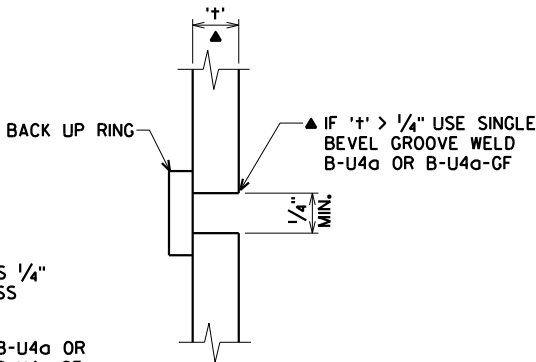
GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
AREAS OF "PREPARATION DECKS TYPE 1" AND CONCRETE REMOVAL AT THE WING SHALL BE DEFINED BY A 1" DEEP SAW CUT.
PREPARATION DECKS AND CONCRETE SURFACE REPAIR AND FULL DEPTH DECK REPAIR SHALL BE AS DETERMINED BY THE ENGINEER IN THE FIELD.
ALL PREVIOUS PATCHES SHALL BE REMOVED UNDER THE BID ITEM "PREPARATION DECKS".
UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.
PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE INSIDE FACES AND TOP SURFACES OF THE NEW PARAPETS ON THE WINGWALLS PER MANUFACTURERS RECOMMENDATIONS.
THE INSIDE FACES AND TOP SURFACES OF THE EXISTING PARAPETS ON THE SUPERSTRUCTURE SHALL BE RESEALED. SEE SPECIAL PROVISIONS.
THE CONTRACTOR SHALL SUPPLY A NEW NAME PLATE IN ACCORDANCE WITH SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS. NAME PLATE TO SHOW ORIGINAL CONSTRUCTION YEAR OF 1967.
THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES AT THE WING REPAIR.
AT WING REPAIRS, ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW WING SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.
DECK SURFACE PREPARATION IS INCLUDED IN THE BID ITEM "POLYMER OVERLAY".
CLEAN AND FILL EXISTING LONGITUDINAL AND TRANSVERSE CRACKS WITH PENETRATING EPOXY AS DIRECTED BY THE FIELD ENGINEER.
DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY DECK PATCHING".
PROFILE GRADE LINE SHALL BE DETERMINED IN FIELD, BASED ON A MINIMUM OVERLAY THICKNESS OF ¼" PLACED ABOVE THE FINAL DECK SURFACE AFTER ALL PREPARATION.



PILE SPlice DETAIL

CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.



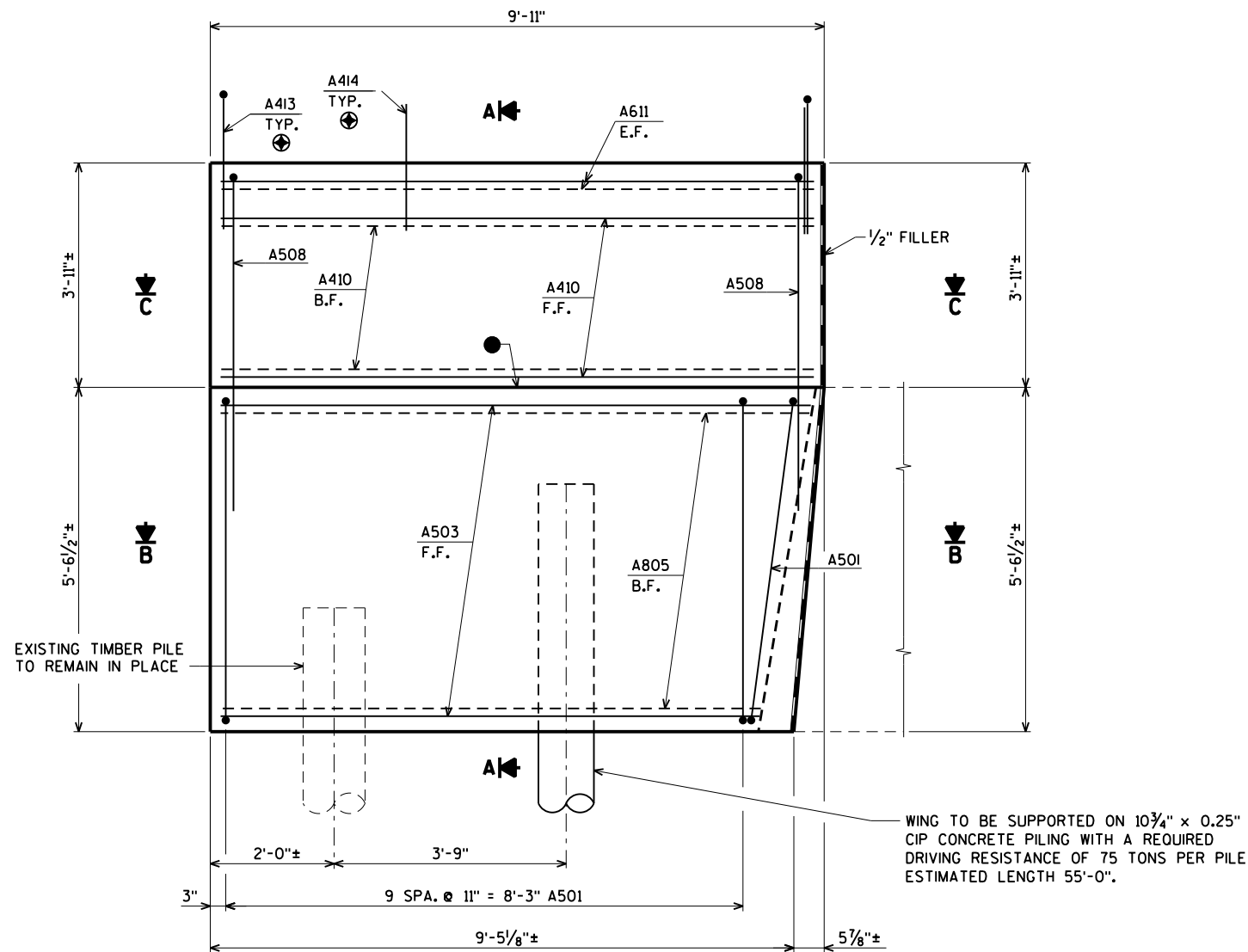
CIP PILE WELD DETAIL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY		CLS	PLANS CK'D. AEB
QUANTITIES AND NOTES			SHEET 3 OF 8

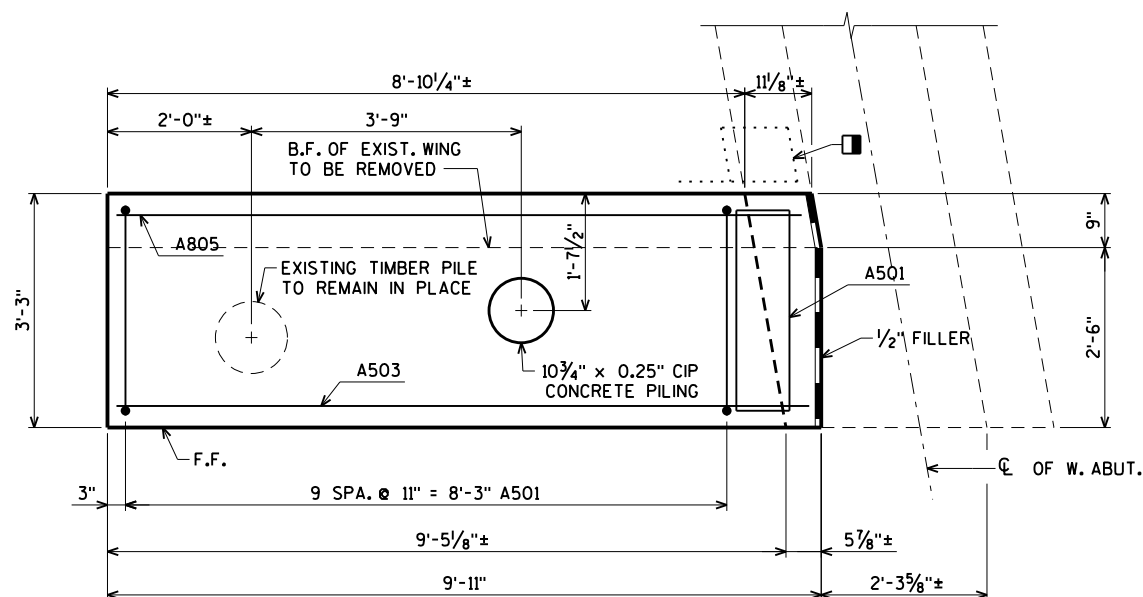
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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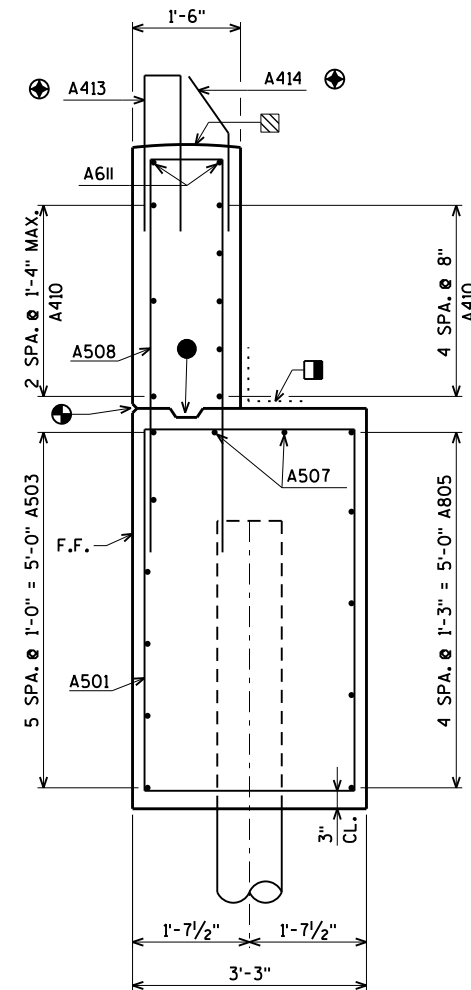
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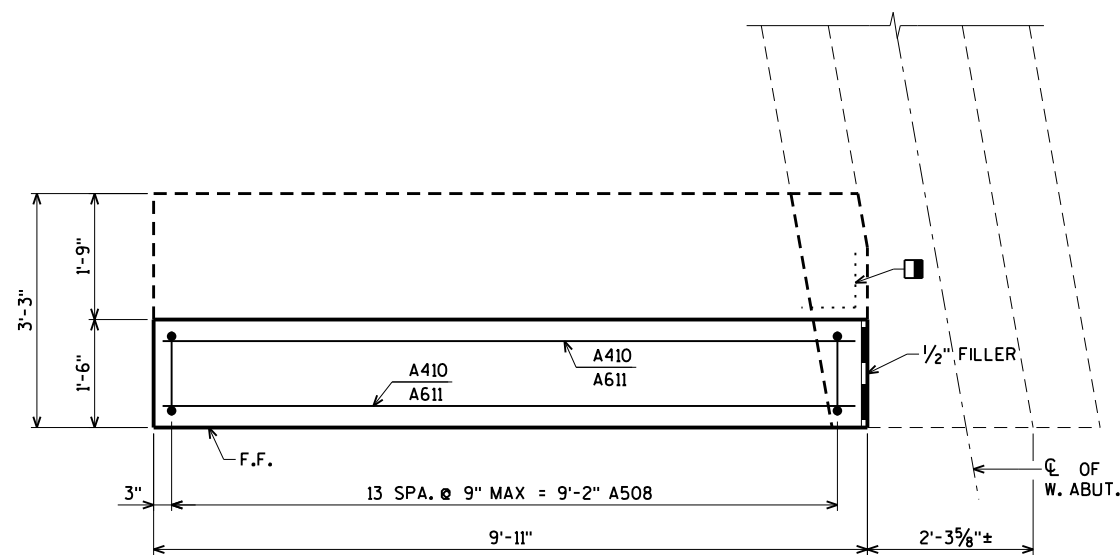
ELEVATION - WING 1



SECTION B



SECTION A



SECTION C

STATE PROJECT NUMBER

1560-00-71

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH 18" RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

▨ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.

⊙ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

⊕ SEE SHEET 8 FOR PARAPET DETAILS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

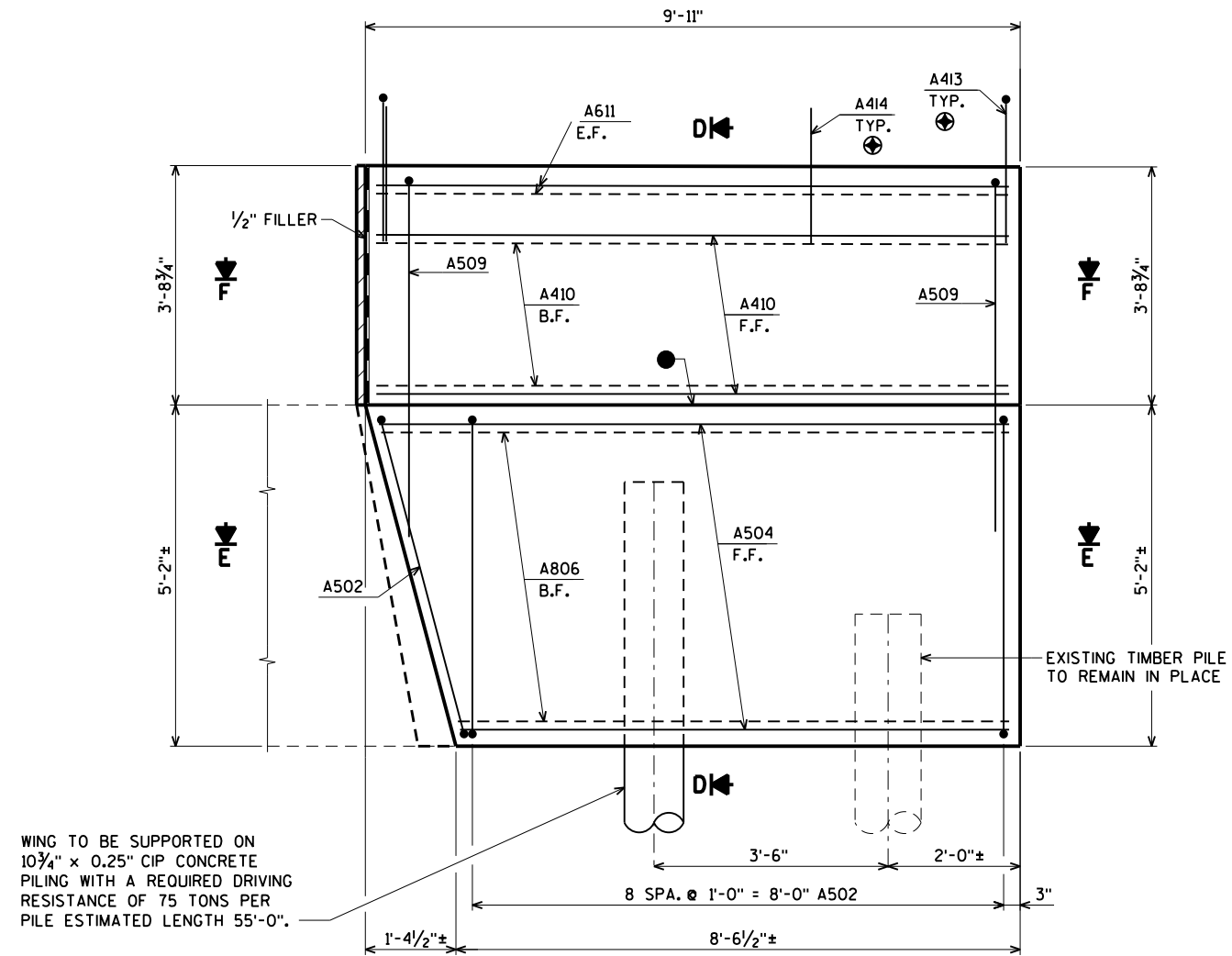
SEE SHEET 3 FOR PILE SPLICE DETAIL.

8

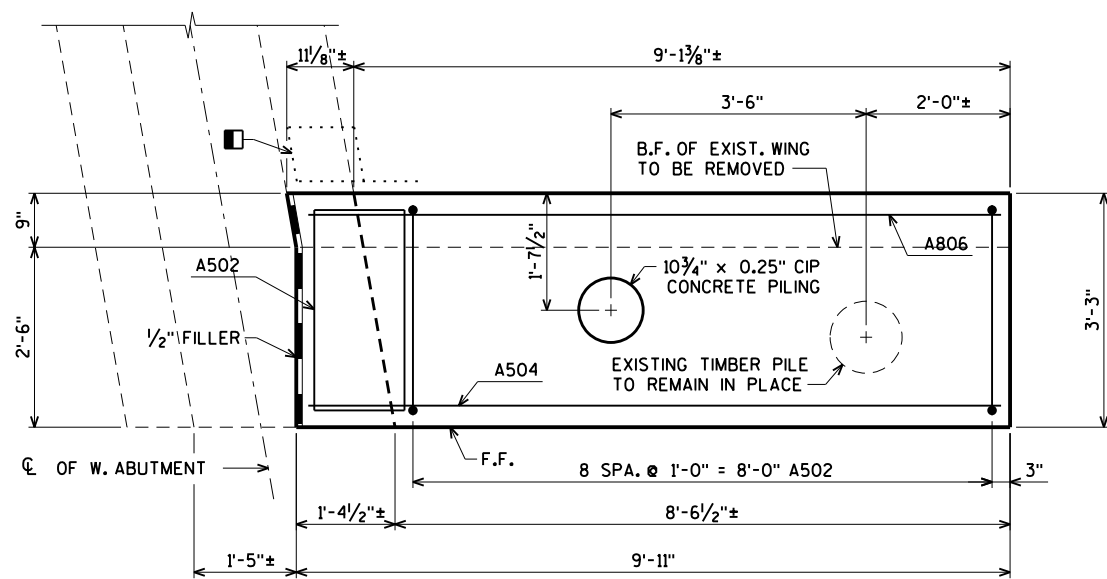
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY		JWZ	PLANS CK'D. AEB
WING 1 REPLACEMENT DETAILS			SHEET 4 OF 8

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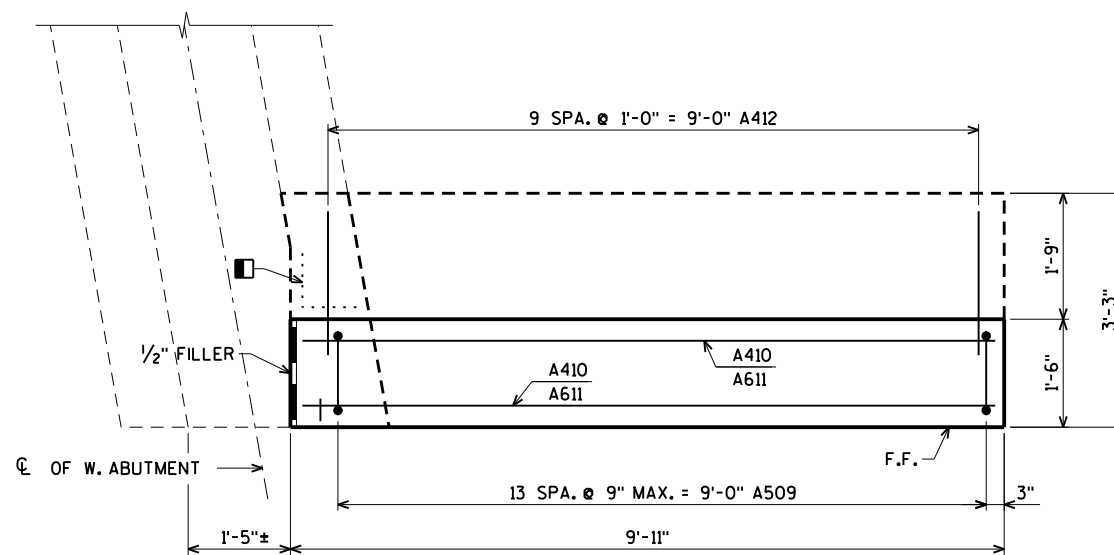
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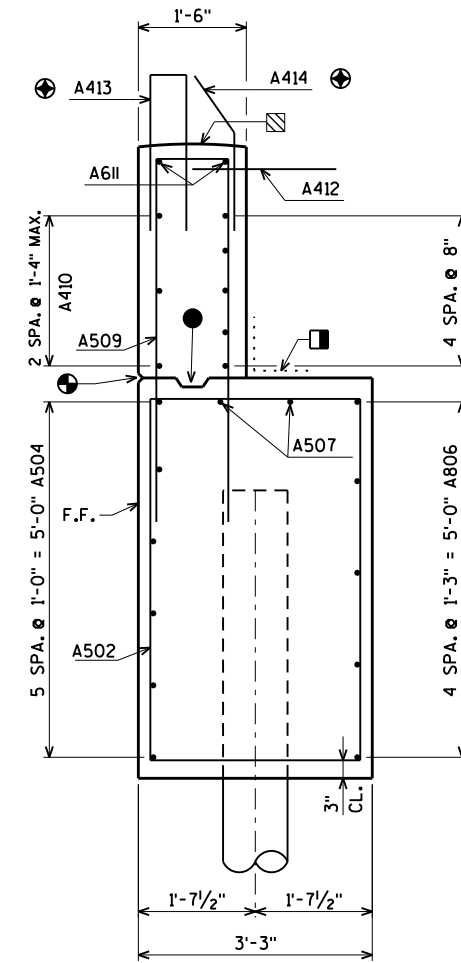
ELEVATION - WING 2



SECTION E



SECTION F



SECTION D

STATE PROJECT NUMBER

1560-00-71

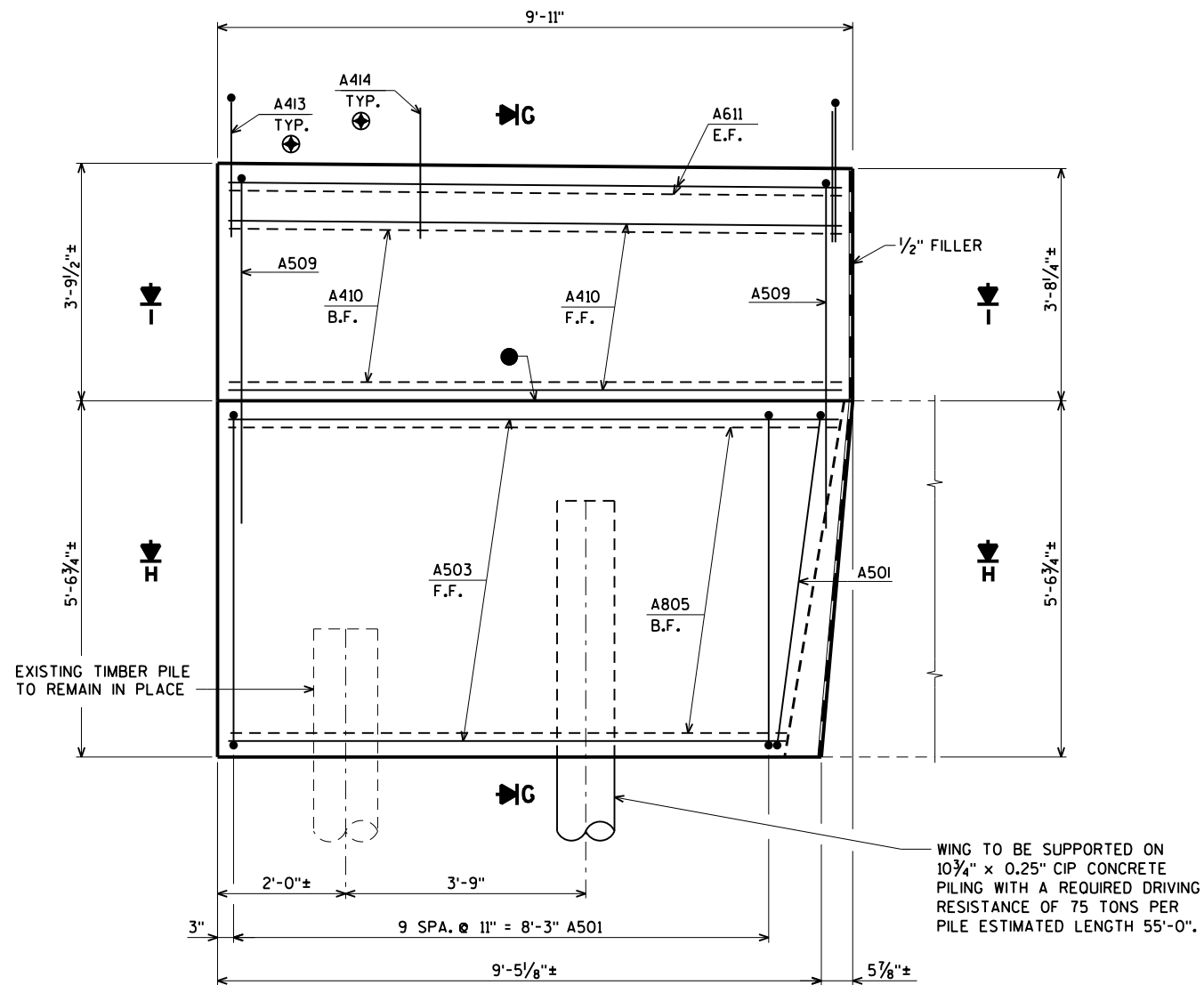
- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH 18" RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
 - 18" RUBBERIZED MEMBRANE WATERPROOFING
 - ▨ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.
 - ⊕ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.
 - ⊕ SEE SHEET 8 FOR PARAPET DETAILS.
- B.F. DENOTES BACK FACE
E.F. DENOTES EACH FACE
F.F. DENOTES FRONT FACE
SEE SHEET 3 FOR PILE SPLICE DETAIL.

8

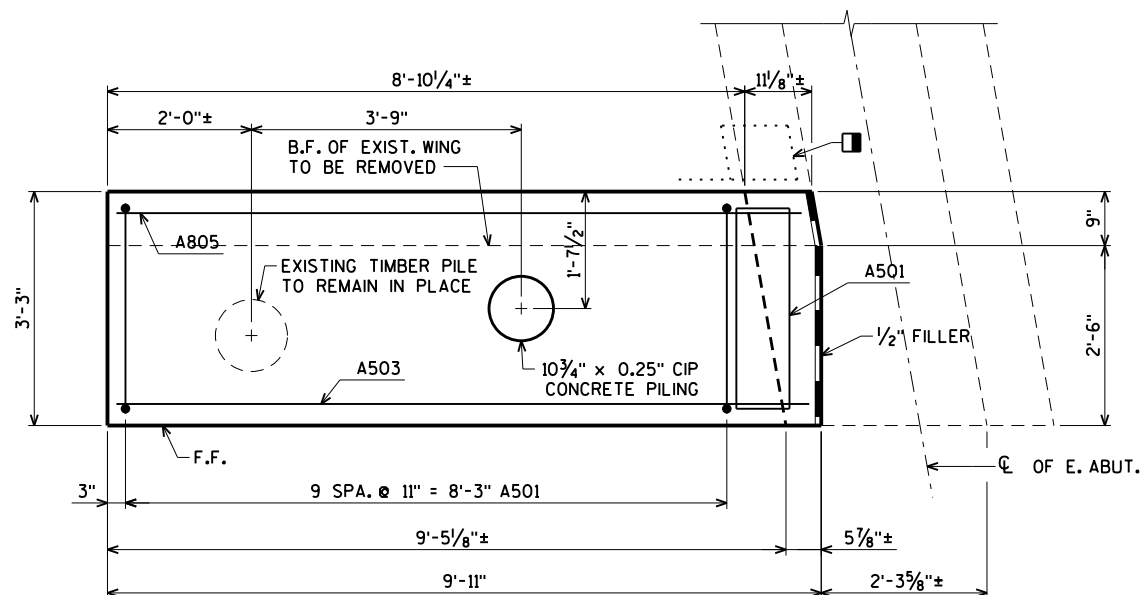
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY		JWZ	PLANS CK'D. AEB
WING 2 REPLACEMENT DETAILS		SHEET 5 OF 8	

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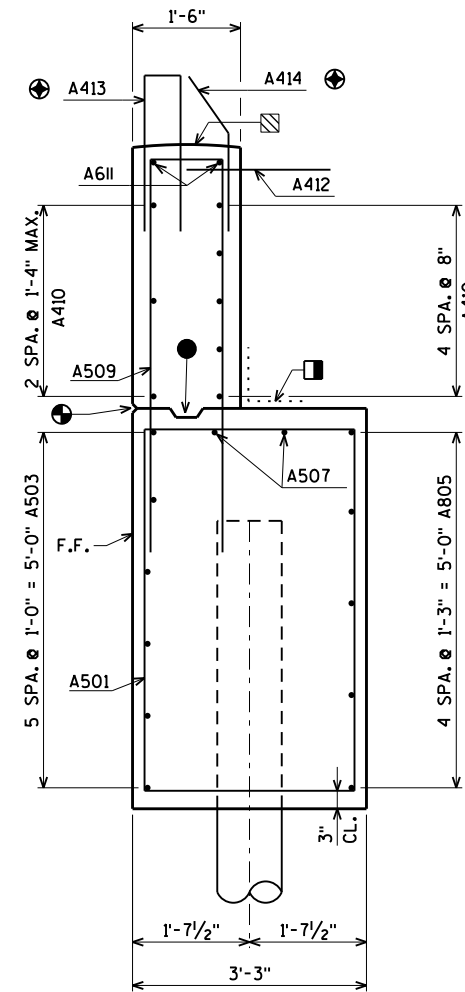
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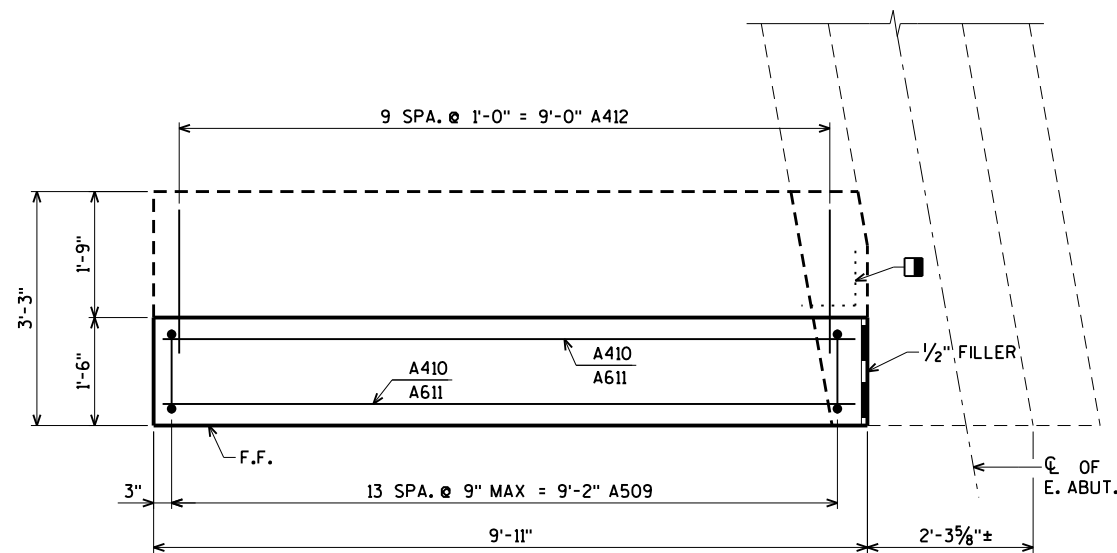
ELEVATION - WING 3



SECTION H



SECTION G



SECTION I

STATE PROJECT NUMBER

1560-00-71

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH 18" RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

▨ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.

⊕ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

⊕ SEE SHEET 8 FOR PARAPET DETAILS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

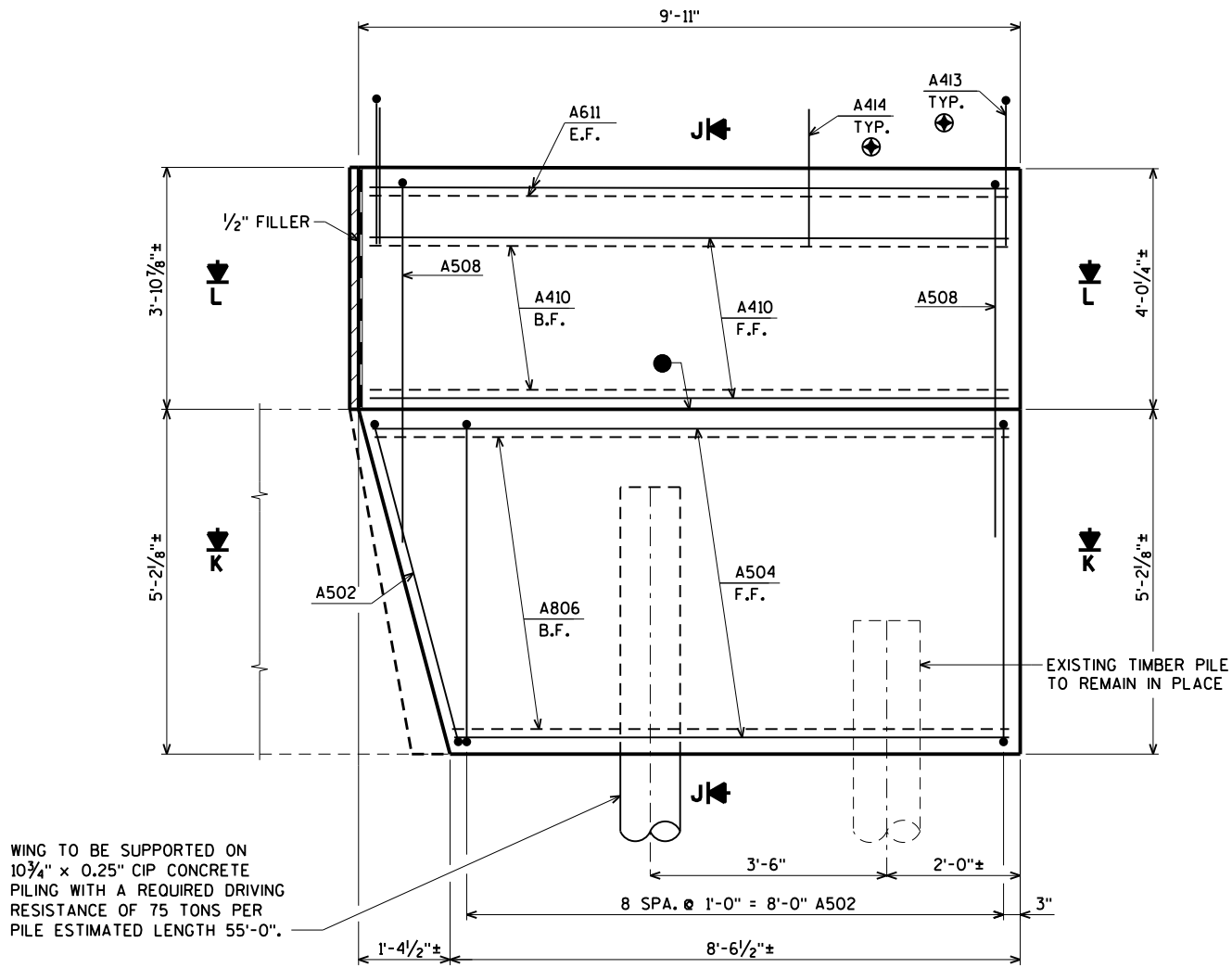
SEE SHEET 3 FOR PILE SPLICE DETAIL.

8

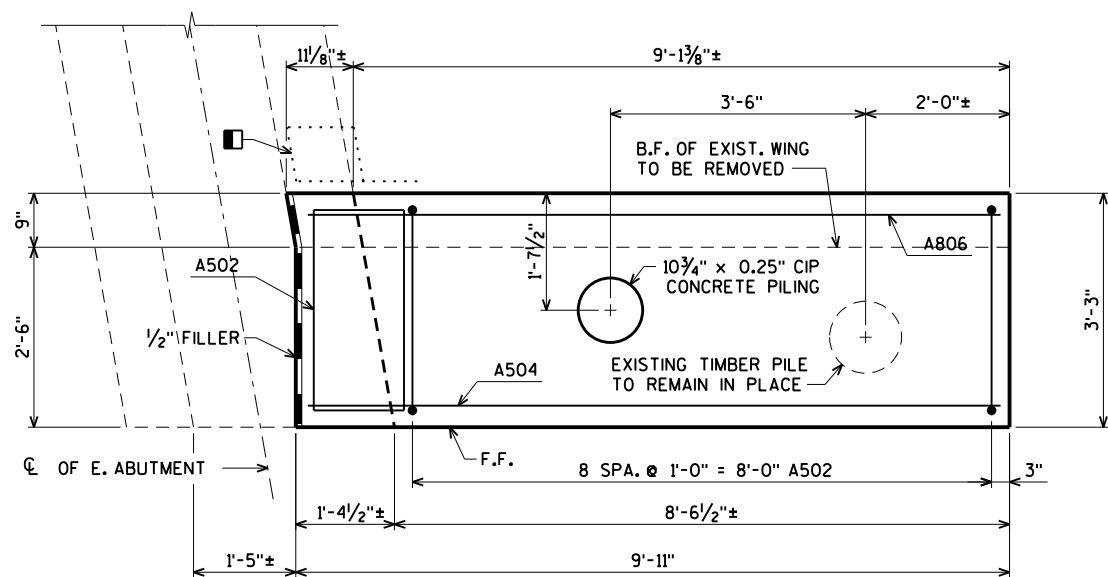
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY JWZ		PLANS CK'D. AEB	
WING 3 REPLACEMENT DETAILS			SHEET 6 OF 8

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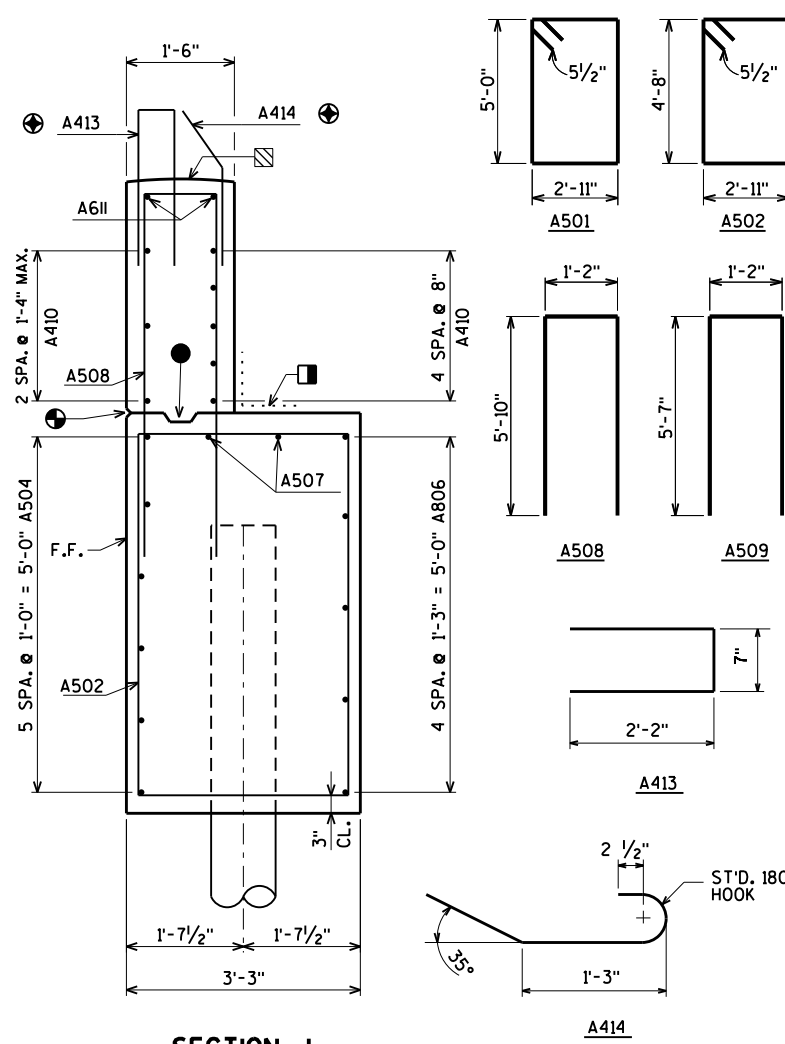
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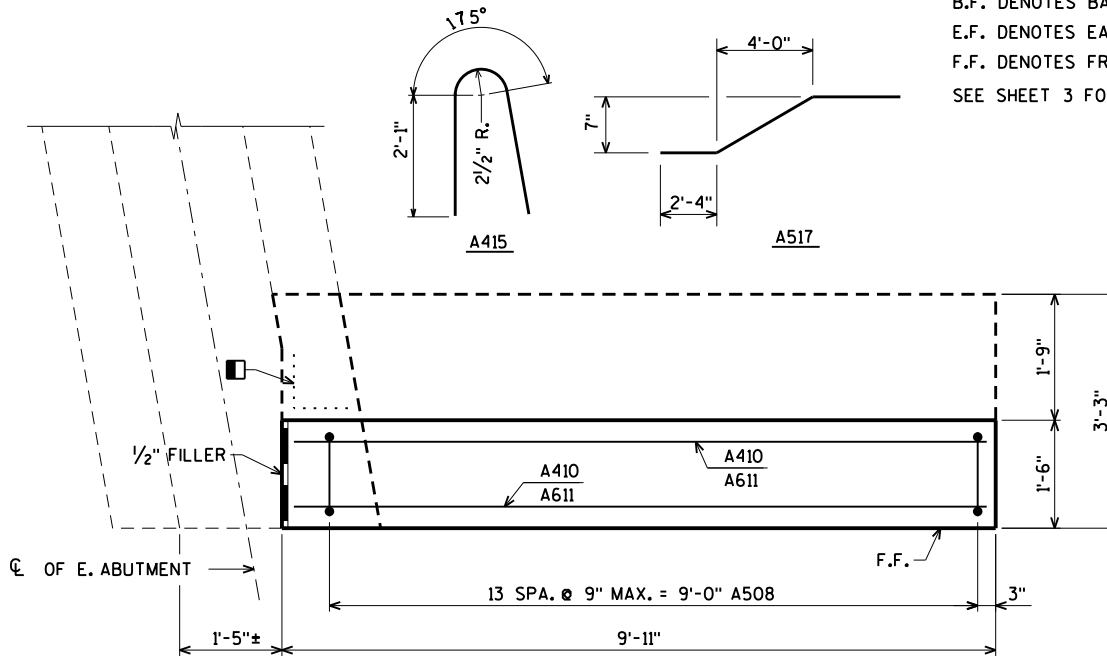
ELEVATION - WING 4



SECTION K



SECTION J



SECTION L

STATE PROJECT NUMBER

1560-00-71

BILL OF BARS (FOR ALL 4 WINGS)

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLE	BAR SERIES	3,520* COATED
							LOCATION
A501	X	22	16-3	X			WINGS 1 & 3 BODY VERT.
A502	X	20	15-7	X			WINGS 2 & 4 BODY VERT.
A503	X	12	9-3			⊗	WINGS 1 & 3 BODY HORIZ. F.F.
A504	X	12	8-10			⊗	WINGS 2 & 4 BODY HORIZ. F.F.
A805	X	10	8-11			⊗	WINGS 1 & 3 BODY HORIZ. B.F.
A806	X	10	9-2			⊗	WINGS 2 & 4 BODY HORIZ. B.F.
A507	X	8	9-7				WING BODY HORIZ. TOP
A508	X	28	12-7	X			WINGS 1 & 4 VERT.
A509	X	28	12-1	X			WINGS 2 & 3 VERT.
A410	X	32	9-7				WING HORIZ. E.F.
A611	X	8	9-7				WING HORIZ. E.F. TOP
A412	X	20	2-0				CONCRETE SURFACE DRAIN ANCHORS
A513	X	80	4-9	X			PARAPET DOWELS
A414	X	36	3-1	X			PARAPET DOWELS
A415	X	80	4-9	X			PARAPET STIRRUPS
A516	X	20	9-7				PARAPET HORIZ.
A517	X	4	9-6	X			PARAPET HORIZ.

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2' x 6' WITH 18" RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

■ 18" RUBBERIZED MEMBRANE WATERPROOFING

▨ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN AND FINISH WITH A WOODEN TROWEL.

⦿ 3/4" 'V' GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

⊕ SEE SHEET 8 FOR PARAPET DETAILS.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

SEE SHEET 3 FOR PILE SPLICE DETAIL.

BAR SERIES TABLE

BAR MARK	NO REQ'D.	LENGTH
A503	2 SERIES OF 6	9-0 TO 9-6
A504	2 SERIES OF 6	8-2 TO 9-6
A805	2 SERIES OF 5	8-6 TO 9-4
A806	2 SERIES OF 5	8-8 TO 9-8

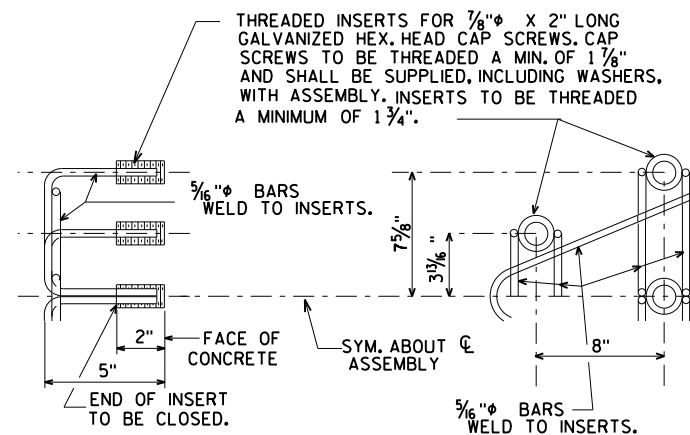
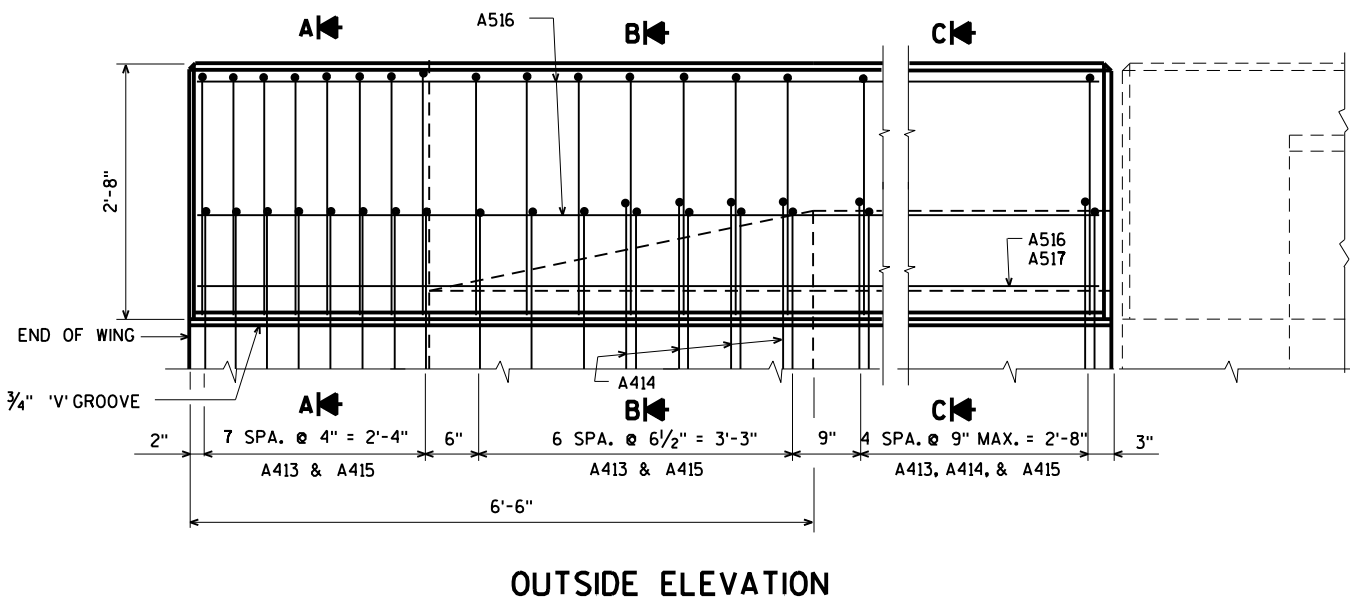
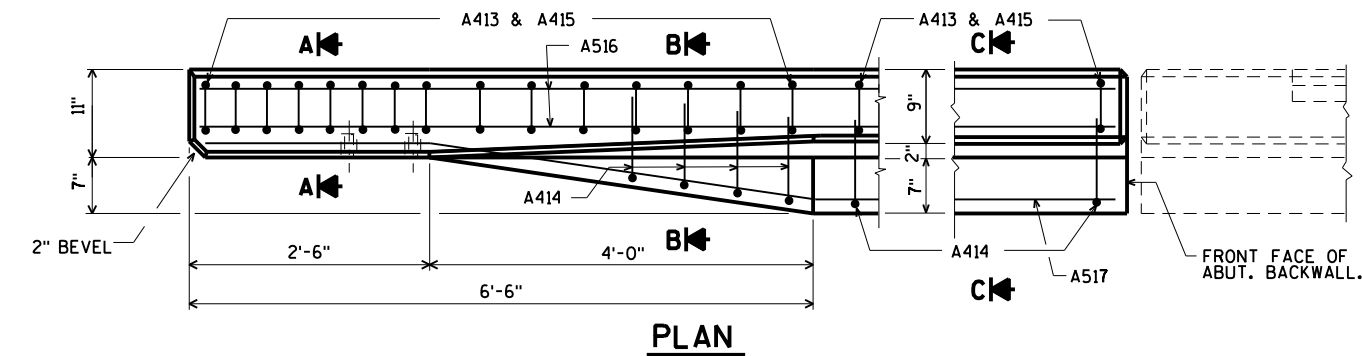
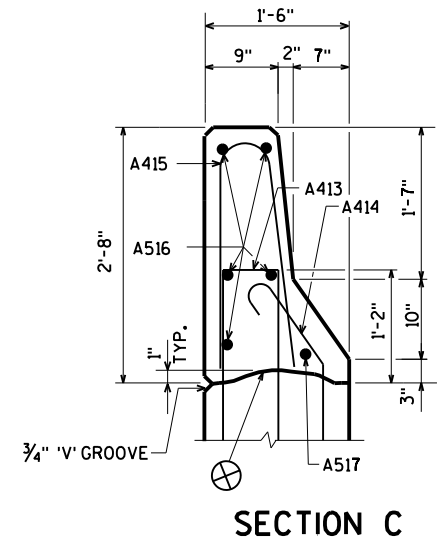
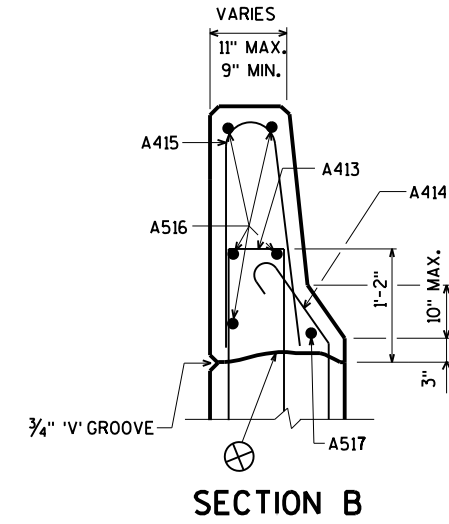
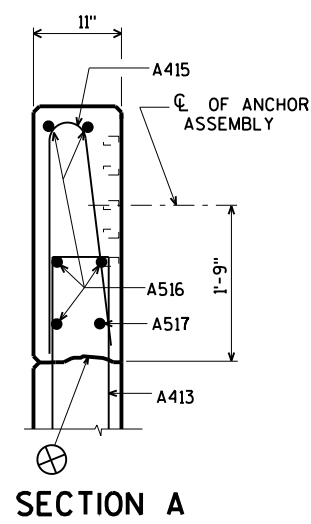
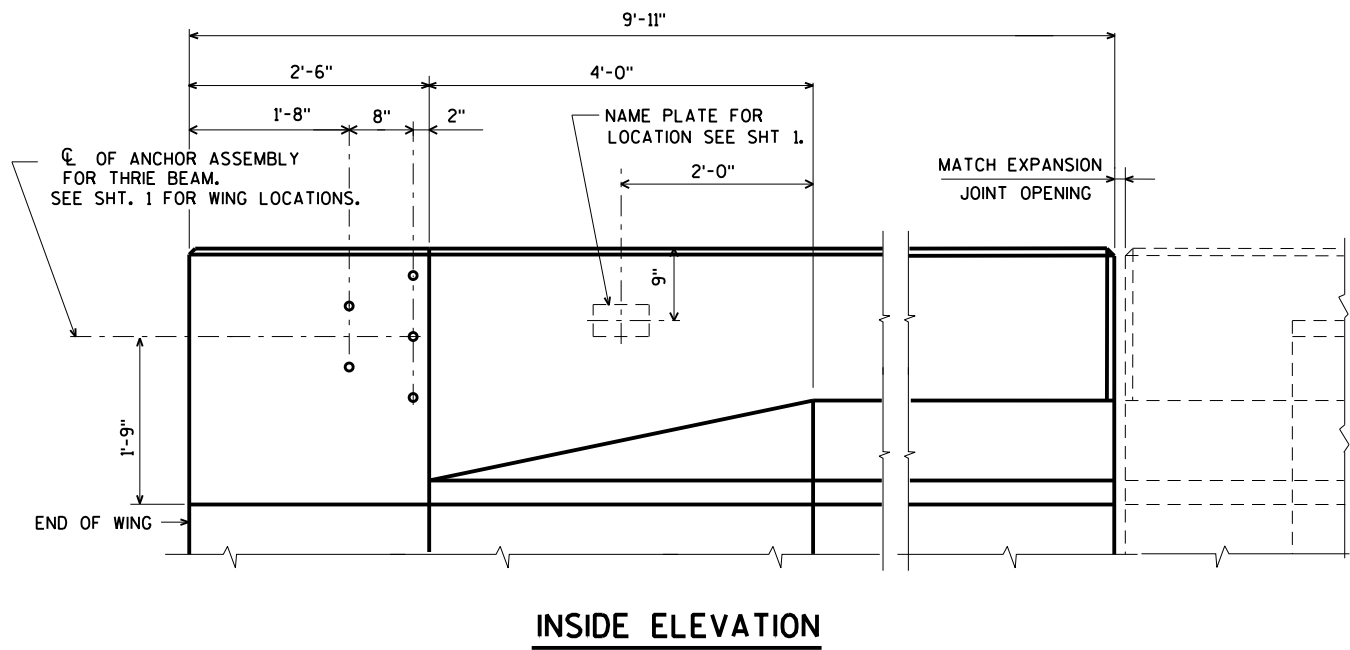
BUNDLE AND TAG EACH SERIES SEPARATELY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY		JWZ	PLANS CK'D. AEB
WING 4 REPLACEMENT DETAILS AND BILL OF BARS			SHEET 7 OF 8

8

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8



DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

STATE PROJECT NUMBER

1560-00-71

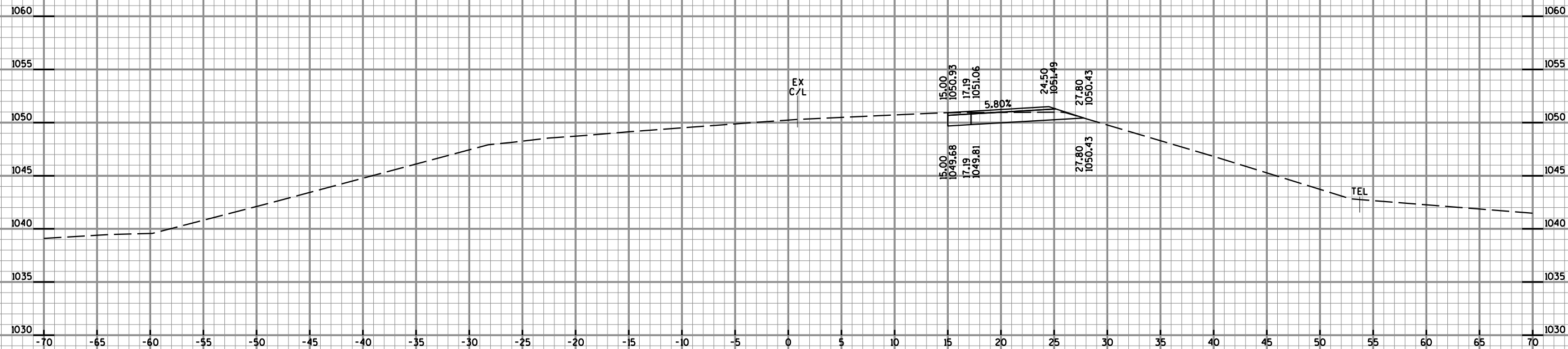
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-65-13			
DRAWN BY JWZ		PLANS CK'D. AEB	
SLOPED FACE PARAPET 'B'			SHEET 8 OF 8

EARTHWORK SUMMARY (CATEGORY 0010)										
DIVISION	STATION	AREA		INCREMENTAL VOLUME			CUMULATIVE VOLUME			
		CUT	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSEABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1 USH 63	57+55	12	0	0	9	0	0	9	0	9
	57+75	11	0	0	10	0	0	19	0	19
	58+00	10	0	0	10	0	0	29	0	29
	58+25	11	0	0	16	0	0	45	0	45
	58+50	24	0	0	21	0	0	66	0	66
	58+75	23	0	0	21	0	0	87	0	87
	59+00	22	0	0	20	0	0	107	0	107
	59+25	21	0	0	34	0	0	141	0	141
	59+50	52	0	0	36	0	0	177	0	177
	59+69	52	0	0						
STRUCTURE B-65-13										
	61+31	54	0	0	39	0	0	216	0	216
	61+50	54	0	0	38	0	0	254	0	254
	61+75	29	0	0	23	0	0	277	0	277
	62+00	21	0	0	21	0	0	298	0	298
	62+25	24	0	0	23	0	0	321	0	321
	62+50	25	0	0	18	0	0	339	0	339
	62+75	14	0	0	13	0	0	352	0	352
	63+00	15	0	0	13	0	0	365	0	365
	63+25	14	0	0	7	0	0	372	0	372
	63+38	13	0	0						
TOTALS					372	0	0			
205.0100 EXCAVATION COMMON =					372					

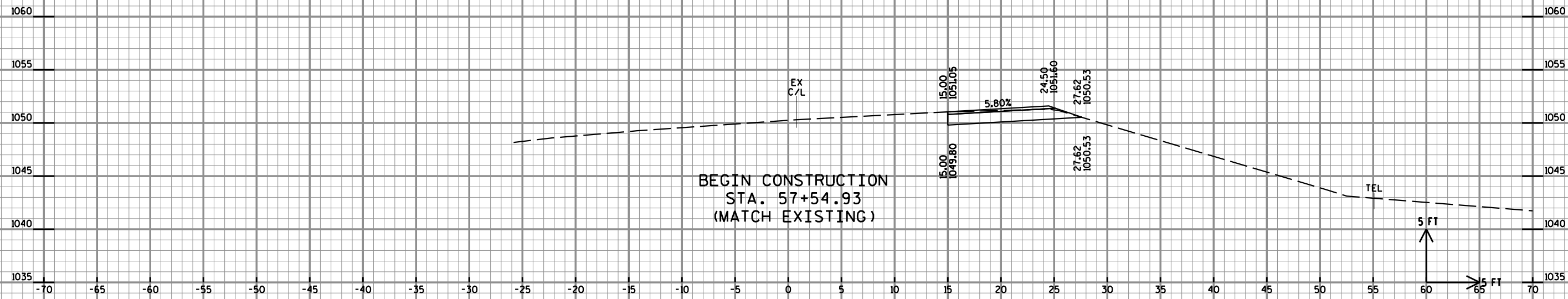
NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.

PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

STA. 57+54.93 TO 57+75



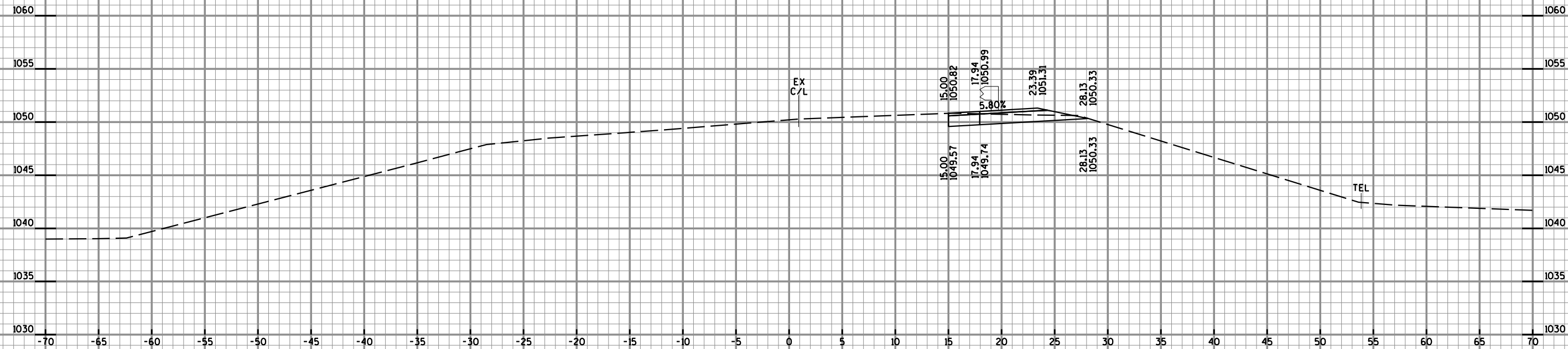
57+75



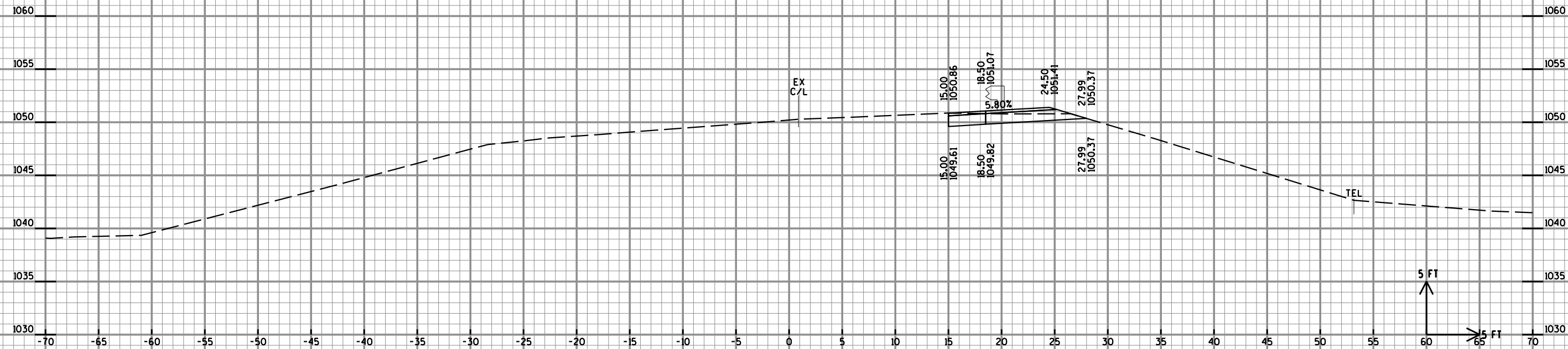
57+54.93

BEGIN CONSTRUCTION
STA. 57+54.93
(MATCH EXISTING)

STA. 57+86.22 TO 58+00

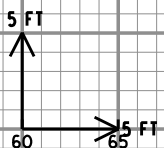


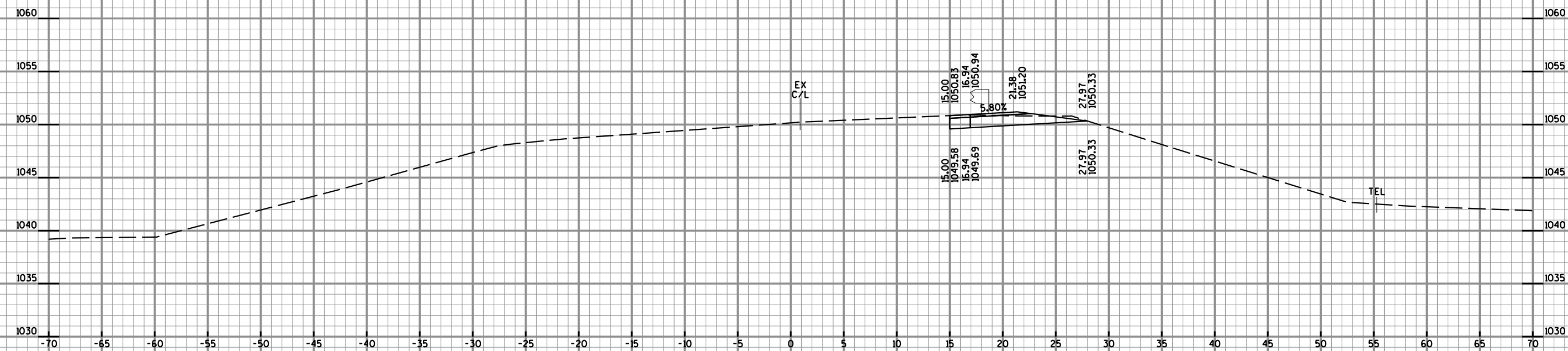
58+00



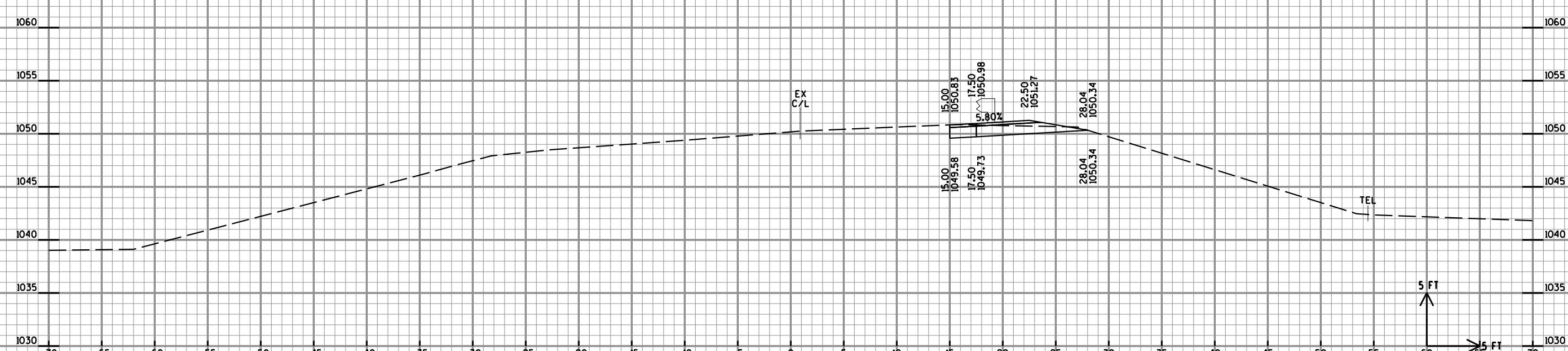
POST 1 RT

57+86.22





58+25



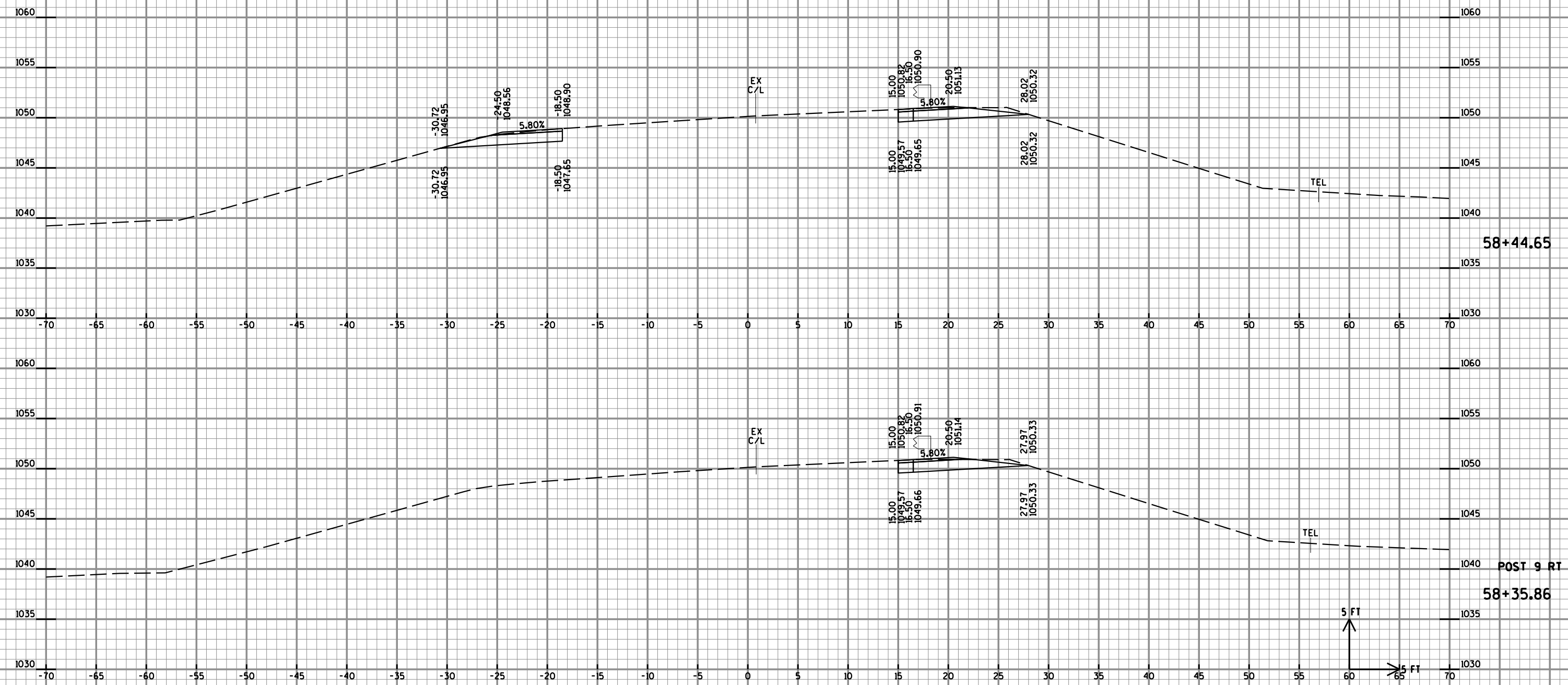
POST 5 RT

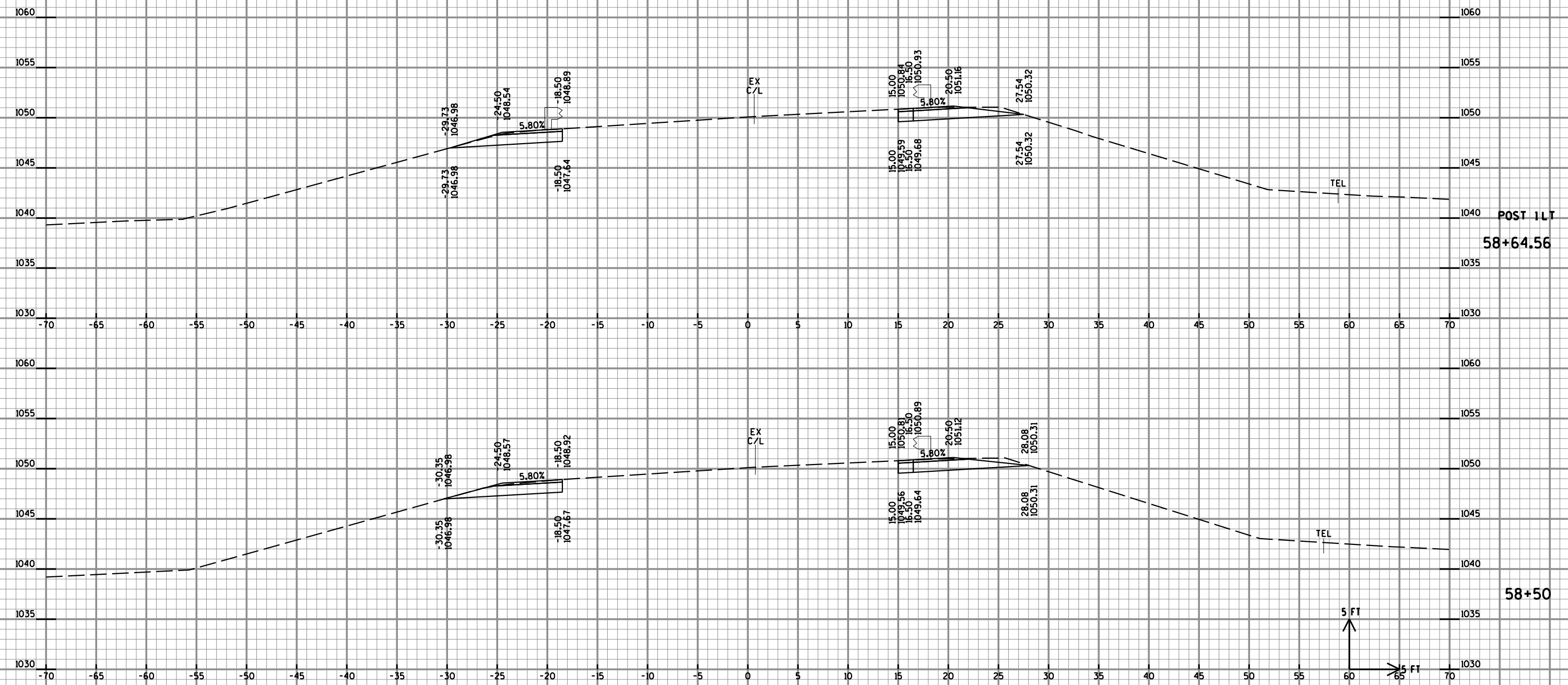
58+11.04

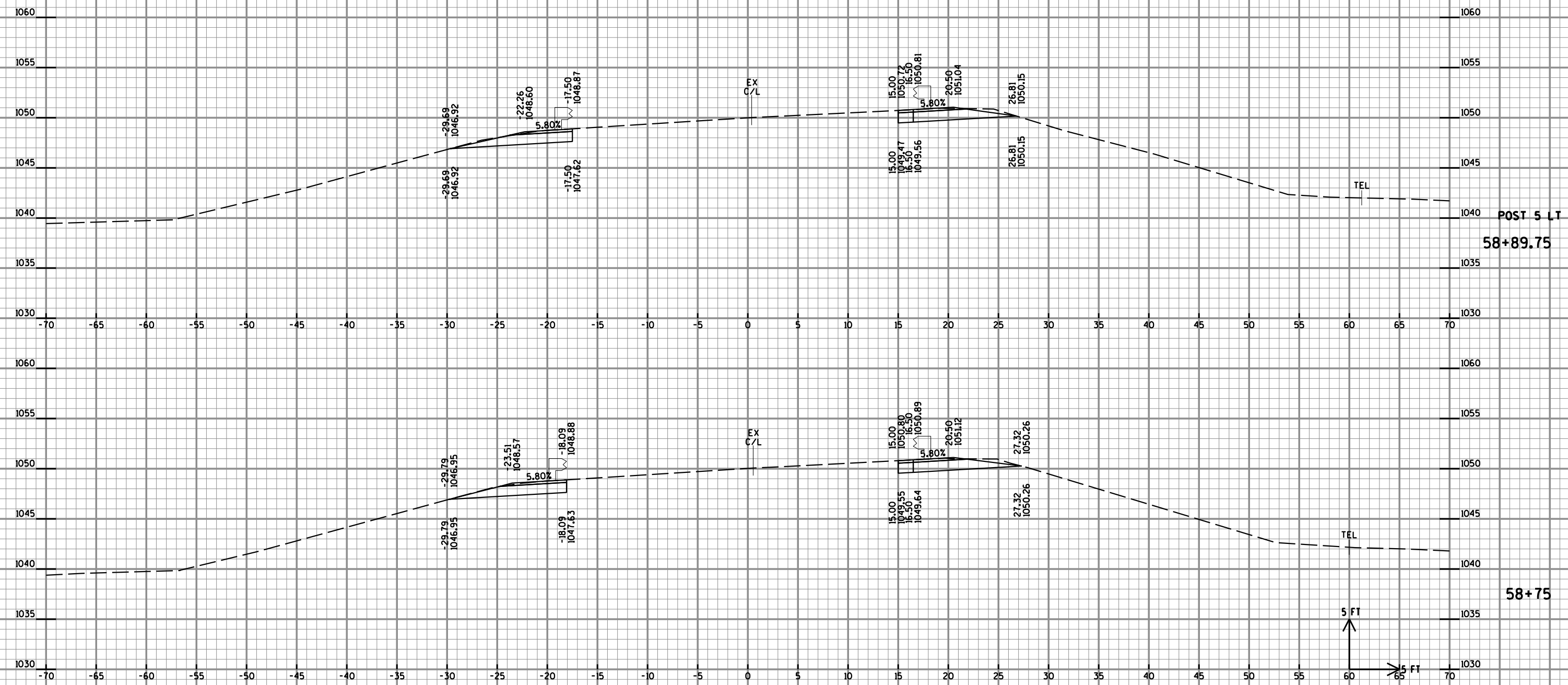
5 FT

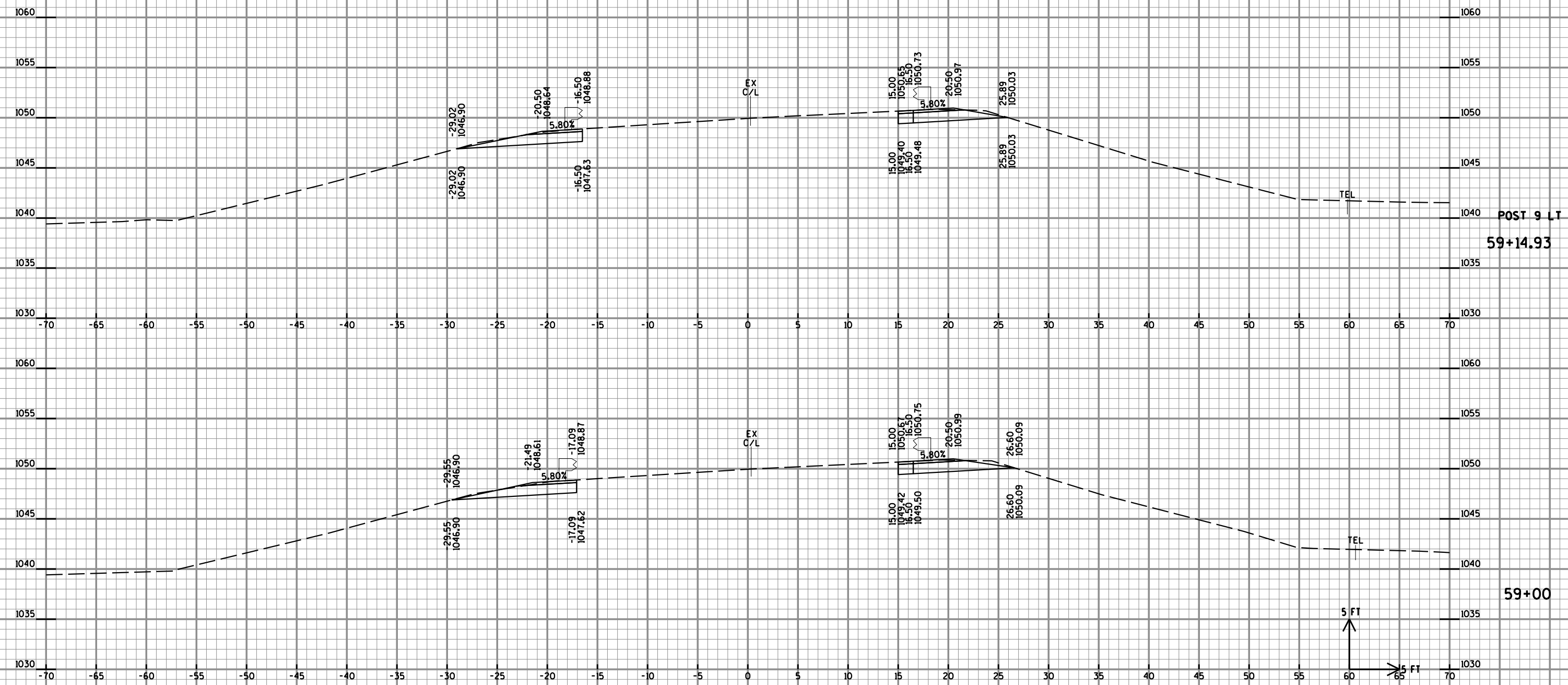
5 FT

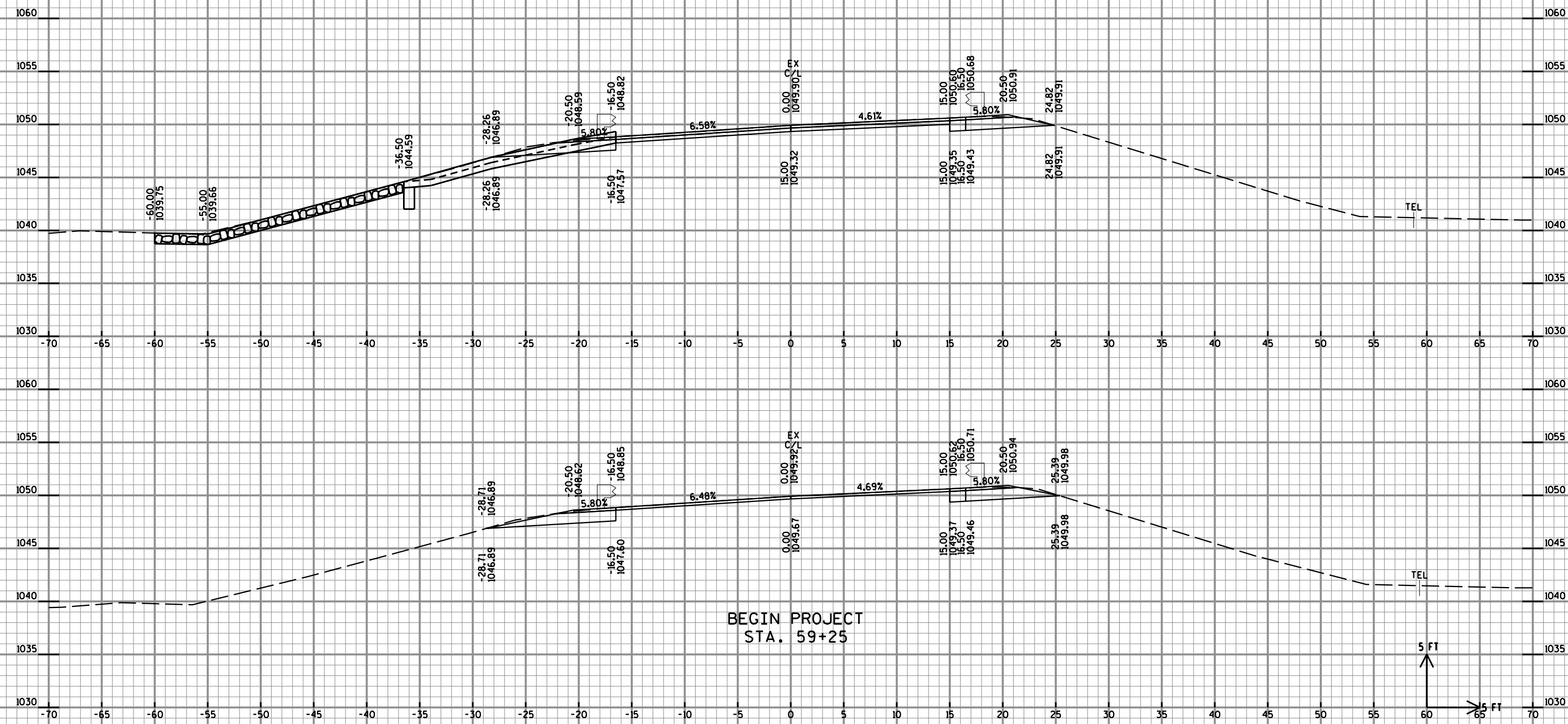
STA. 58+35.86 TO 58+44.65



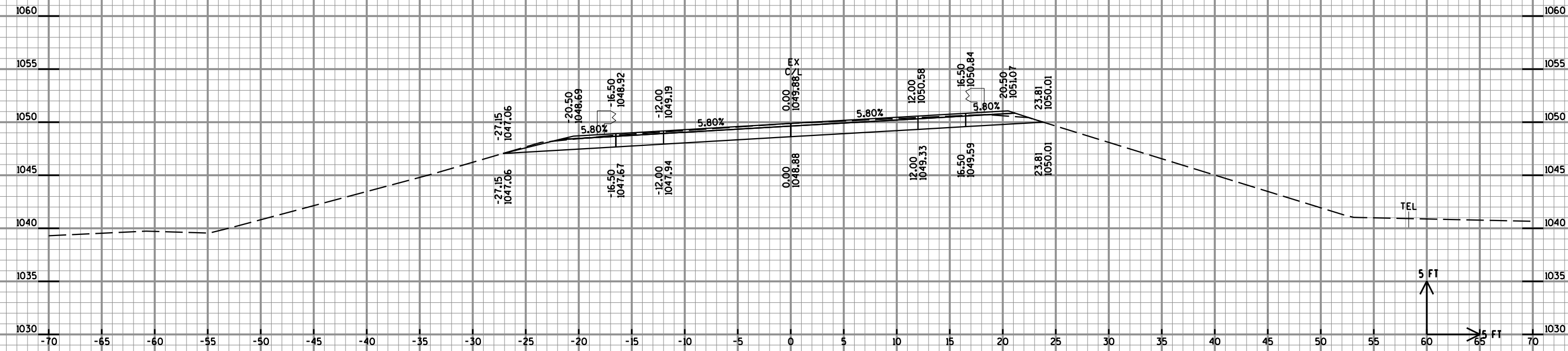








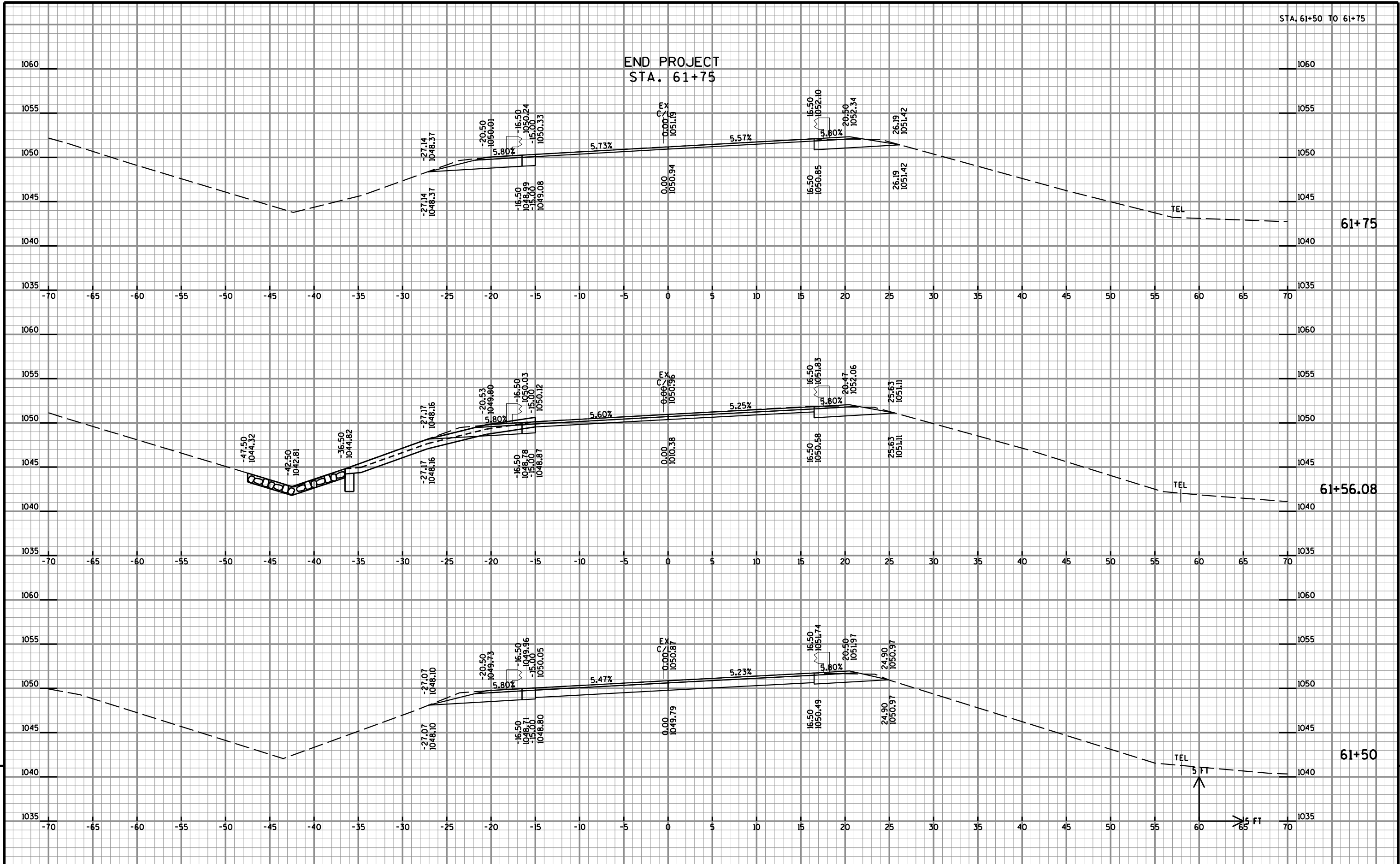
STRUCTURE REHABILITATION B-65-13

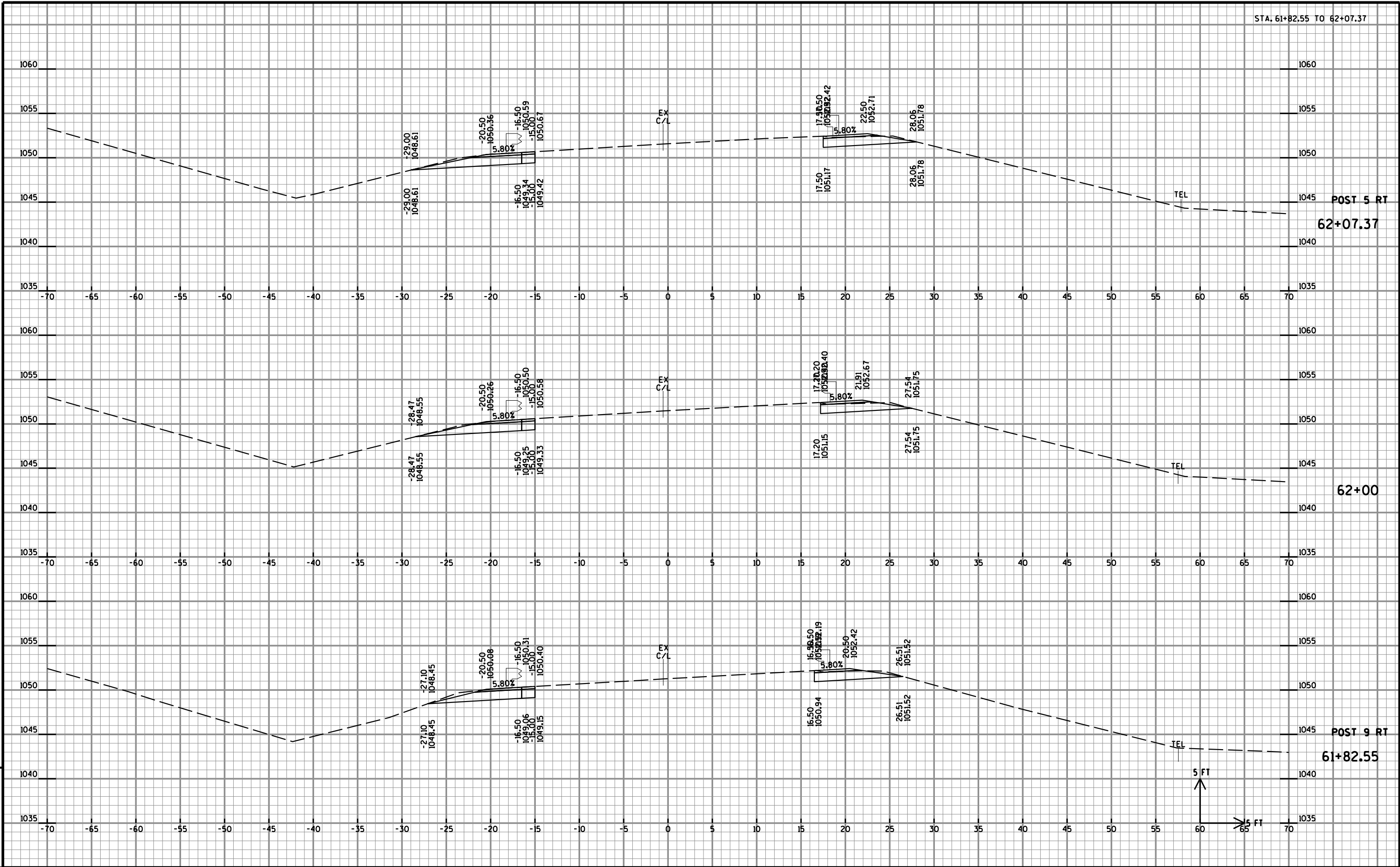


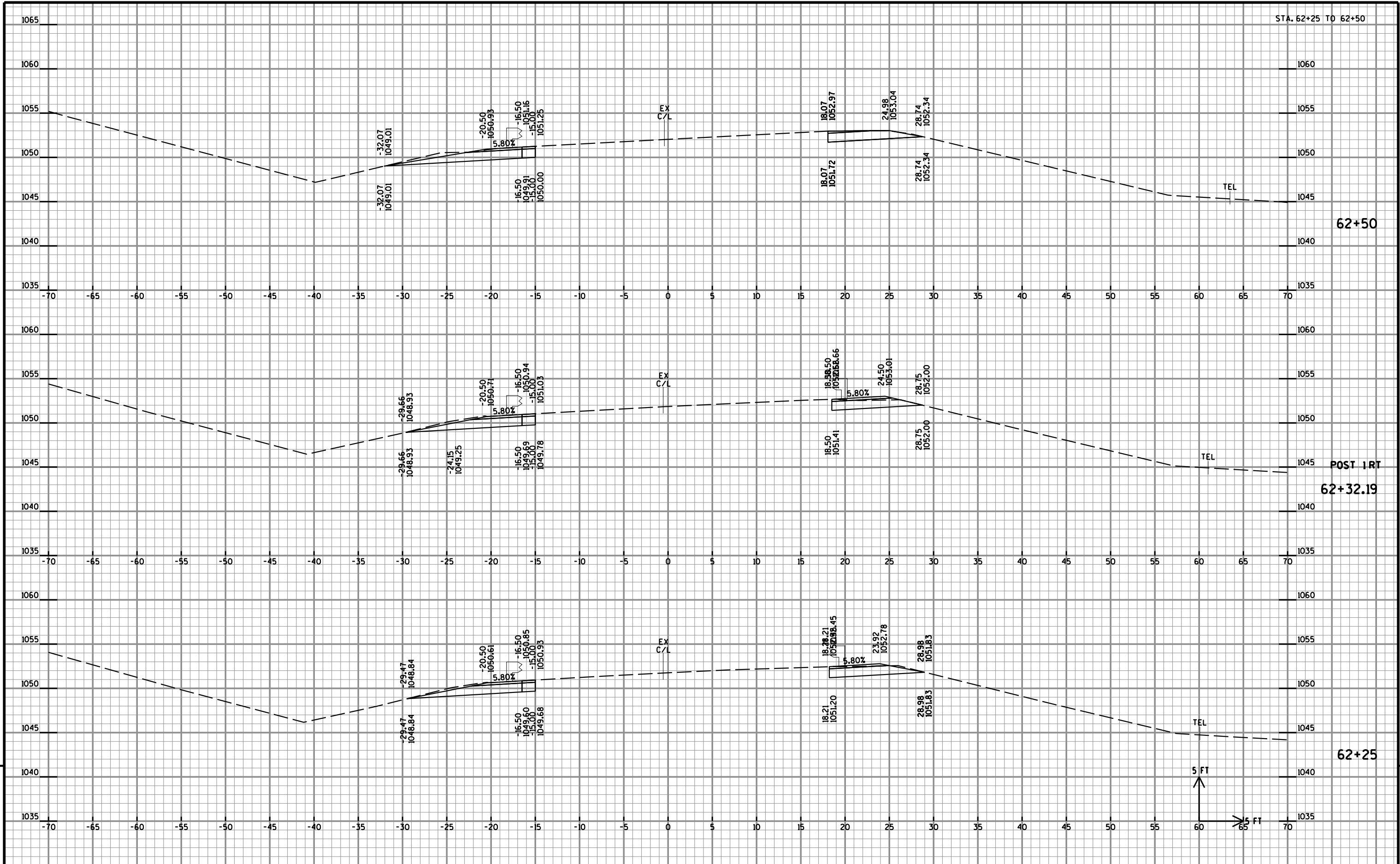
59+50

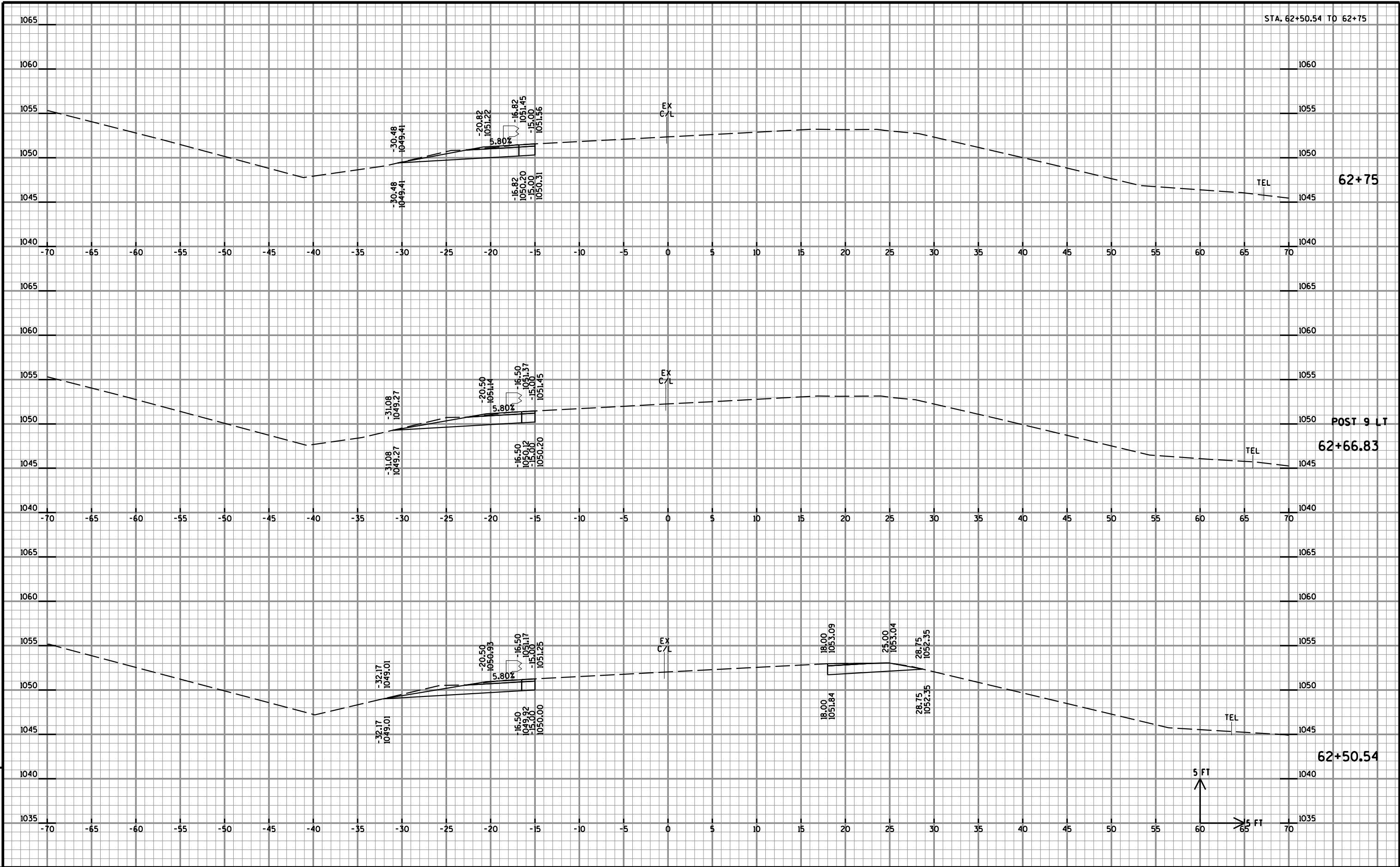
9

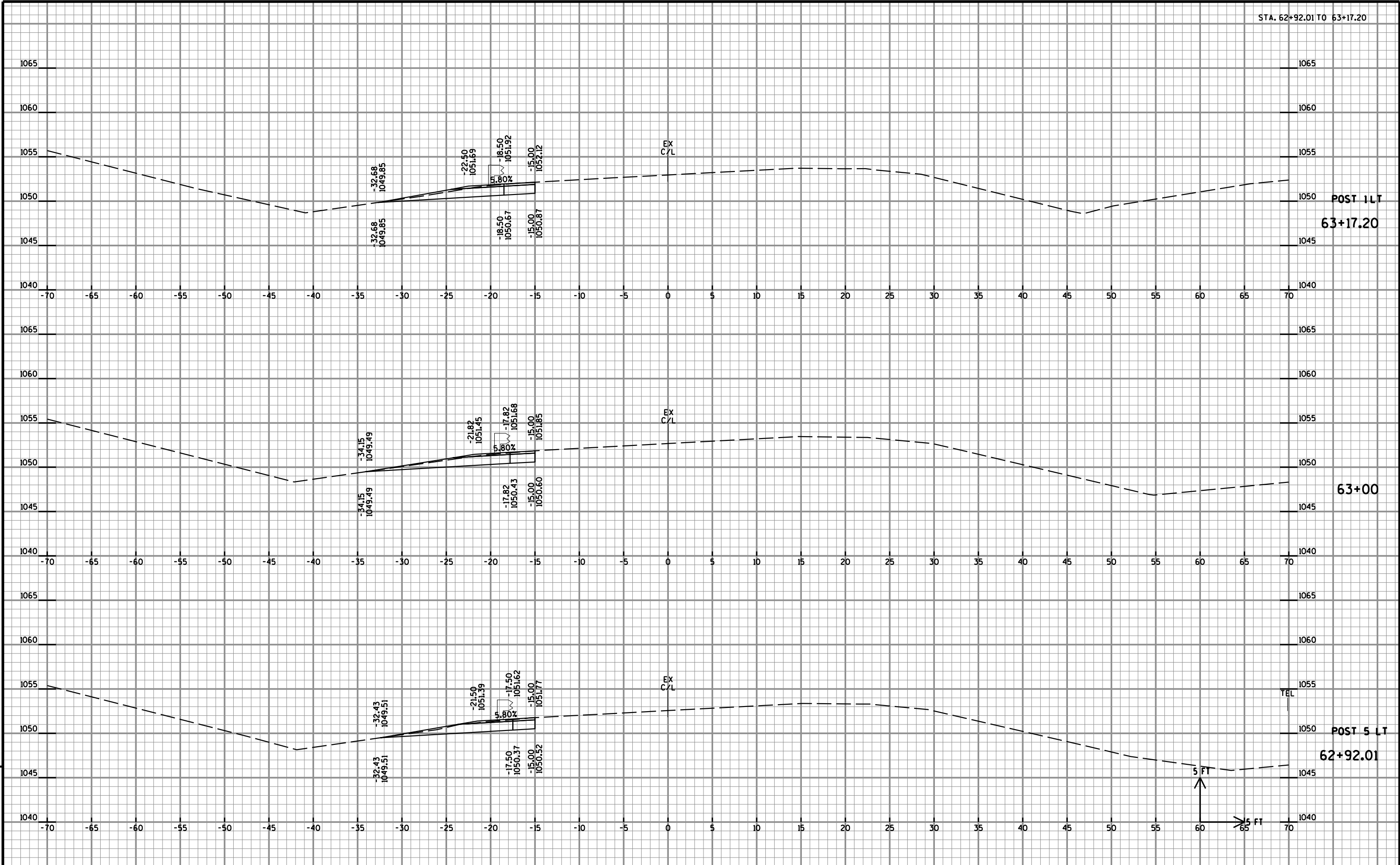
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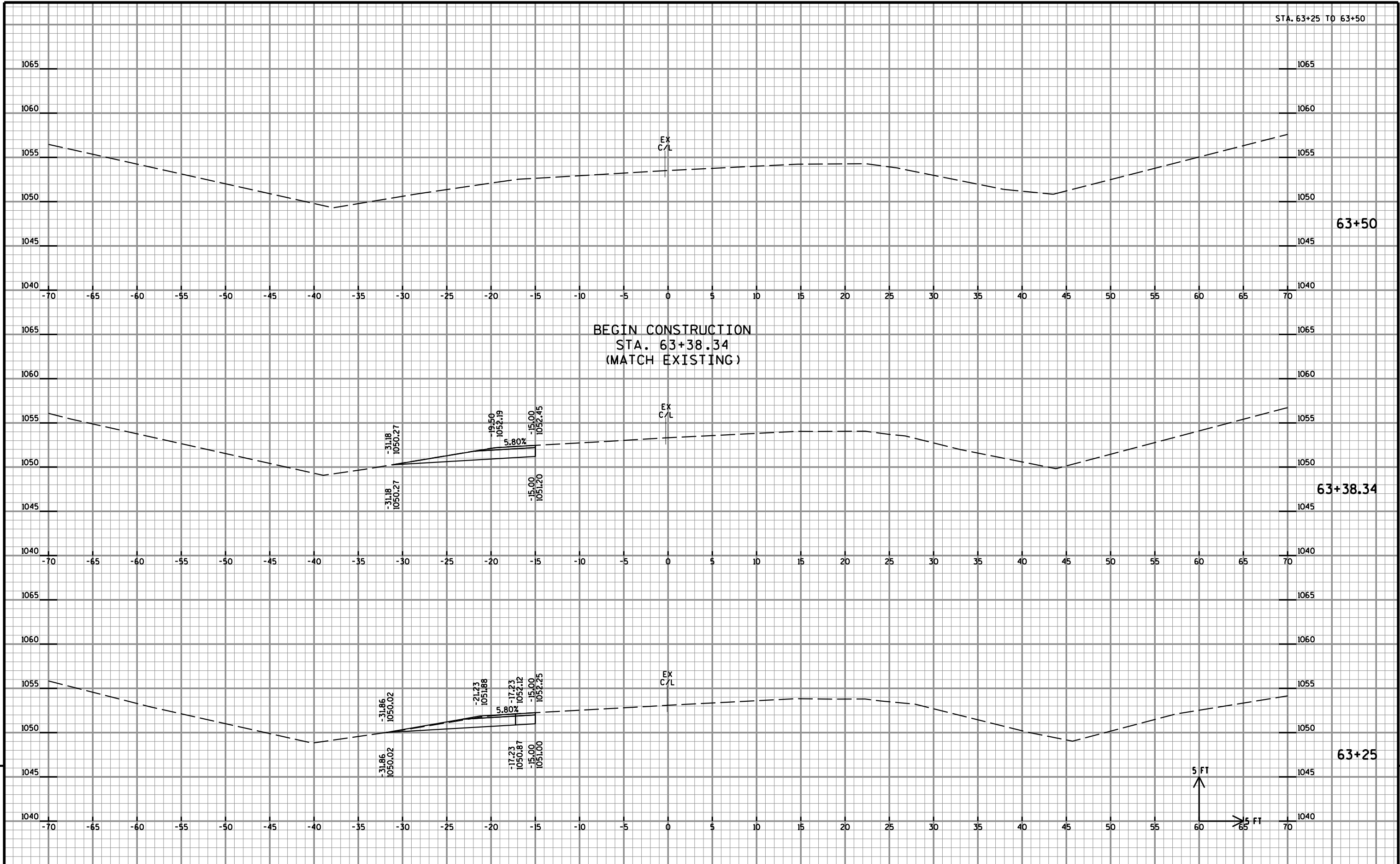


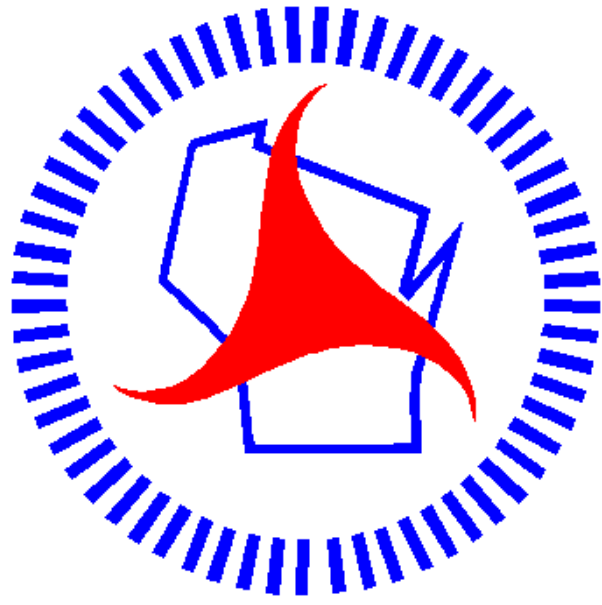












Wisconsin Department of Transportation

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