NWL

FEB 2016

PROJECT ID: 8785-00-71

WITH: N/A

COUNTY: RUSK

ORDER OF SHEETS

TOTAL SHEETS = 64

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CTH F - CTH H

DEVILS CREEK BRIDGE B540116

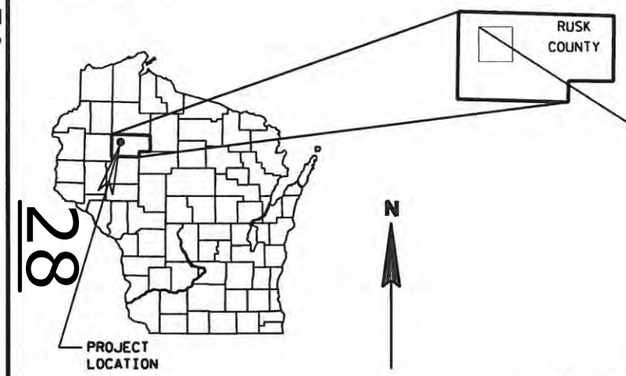
CTH O

RUSK COUNTY

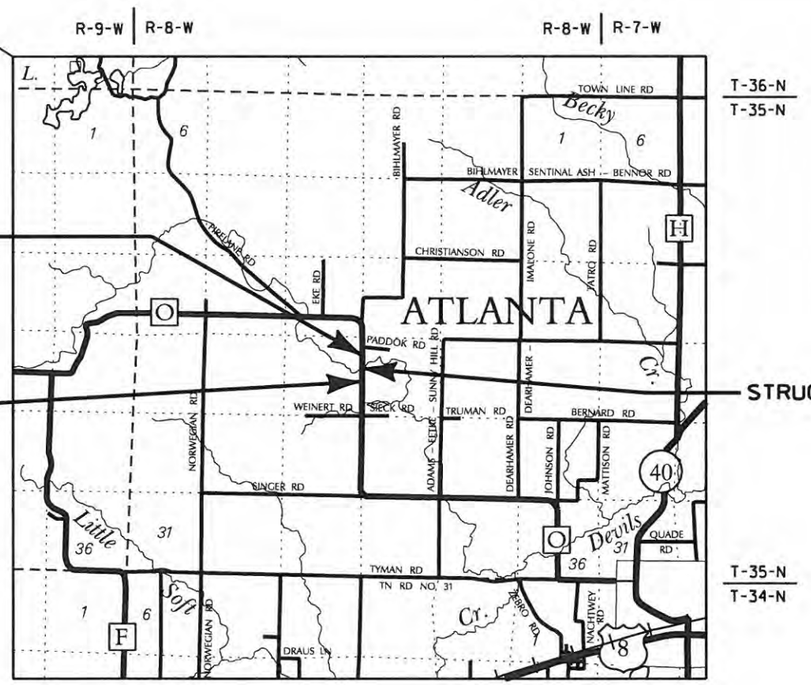
STATE PROJECT NUMBER

8785-00-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
8785-00-71	WISC 2016027	1



28



END PROJECT

STA. 11+75

Y = 577446.65

X = 747056.76

BEGIN PROJECT

STA. 8+25

Y = 577096.66

X = 747059.59

STRUCTURE B-54-0116

LAYOUT SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.066 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), RUSK COUNTY

DESIGN DESIGNATION

A.D.T. (2016)	=	300
A.D.T. (2036)	=	400
D.H.V.	=	30
D.	=	50/50
T.	=	5%
DESIGN SPEED	=	50 MPH
ESALS	=	N/A

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

UTILITIES

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

ACCEPTED FOR

County Rusk

9/8/15 Date

Highway Commissioner

ORIGINAL PLANS PREPARED BY

AYRES ASSOCIATES

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

WISCONSIN DANIEL N. SYDOW E-38363 WI PROFESSIONAL ENGINEER

DATE 9/3/2015

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor AYRES ASSOCIATES INC

Designer AYRES ASSOCIATES INC

Management Consultant KNIGHT E/A INC.

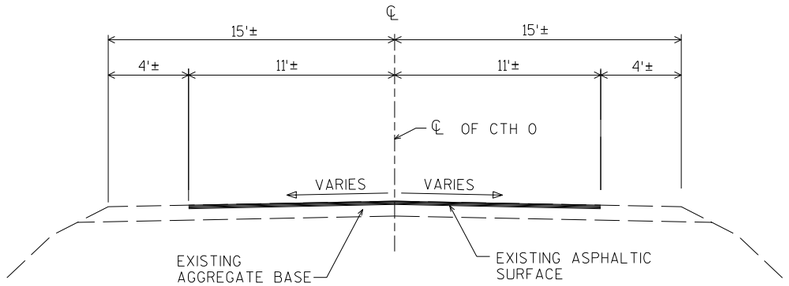
C.O. Examiner

APPROVED FOR THE DEPARTMENT

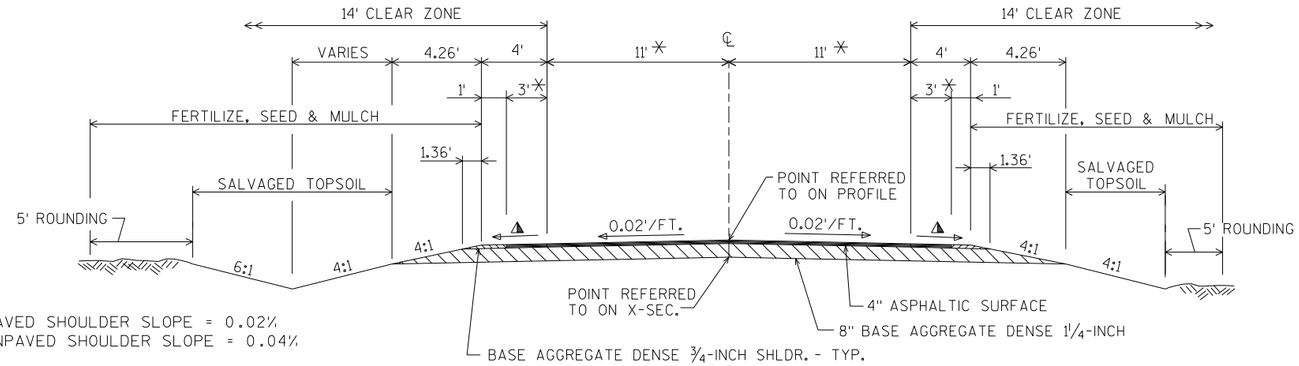
DATE: 9/21/15 Ryan B McKane

Management Consultant Signature

E



TYPICAL EXISTING SECTION

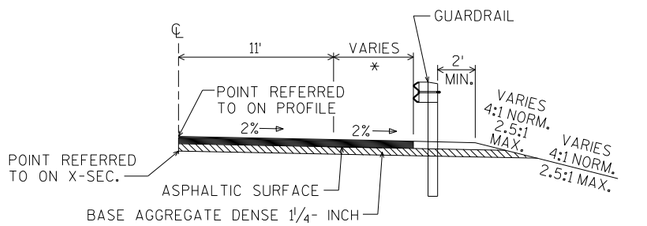


▲ PAVED SHOULDER SLOPE = 0.02%
UNPAVED SHOULDER SLOPE = 0.04%

✳ ASPHALTIC SURFACE SHALL BE PLACED 30' WIDE AT ENDS OF THE BRIDGE AND FOLLOW THE GUARDRAIL AND TAPER TO 28' WIDE WITHIN THE PROJECT LENGTH

TYPICAL FINISHED SECTION

STA. 8+25 TO STA. 9+53.74
STA. 10+46.26 TO STA. 11+75



TYPICAL FINISHED HALF SECTION WITH GUARDRAIL

* 4' NORMAL
4' MIN. (AT END OF BRIDGE)
6' MAX. (AT END TERMINAL)

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.

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, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 2" UPPER LAYER AND A 2" LOWER LAYER. ASPHALTIC SURFACE SHALL USE 12.5 mm NOMINAL AGGREGATE SIZE.

UTILITIES

BRUCE TELEPHONE COMPANY
620 N. ALVEY ST.
BRUCE, WI 54819
ATTN: CURT KEMMITZ
715-868-5111
ckb101@brucetel.net

JUMP RIVER ELECTRIC CO-OP
1202 W. 9th ST. N.
LADYSMITH, WI 54848
ATTN: HANK LEW
715-532-5524
hlew@jrec.net

✳ ✳ DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

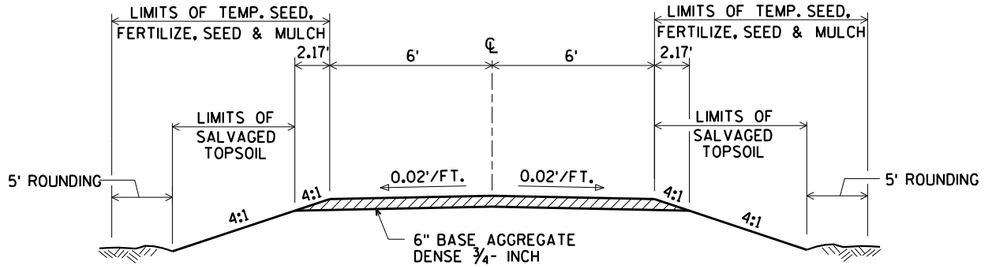
DIGGERS HOTLINE
Dial 811 or (800)242-8511
www.DiggersHotline.com

WISCONSIN DEPARTMENT OF NATURAL RESOURCES CONTACT:
AMY CRONK
810 WEST MAPLE ST.
SPOONER, WI. 54801
715-635-4229
amy.cronk@wisconsin.gov

DESIGNER
AYRES ASSOCIATES
3433 OAKWOOD HILLS PARKWAY
EAU CLAIRE, WI 54701
ATTN: DANIEL N. SYDOW
715-834-3161
sydowd@AyresAssociates.com

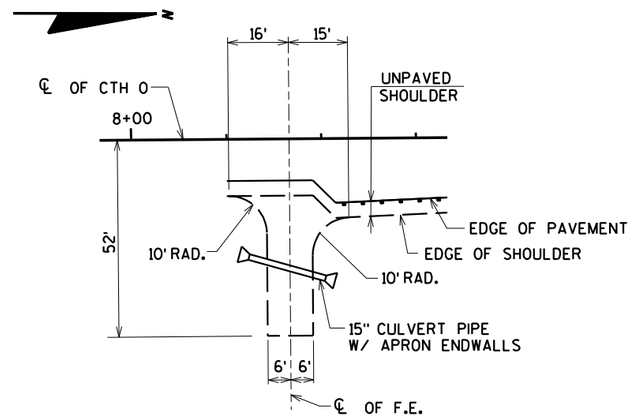
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	TYPICAL SECTIONS	SHEET 2	E

2



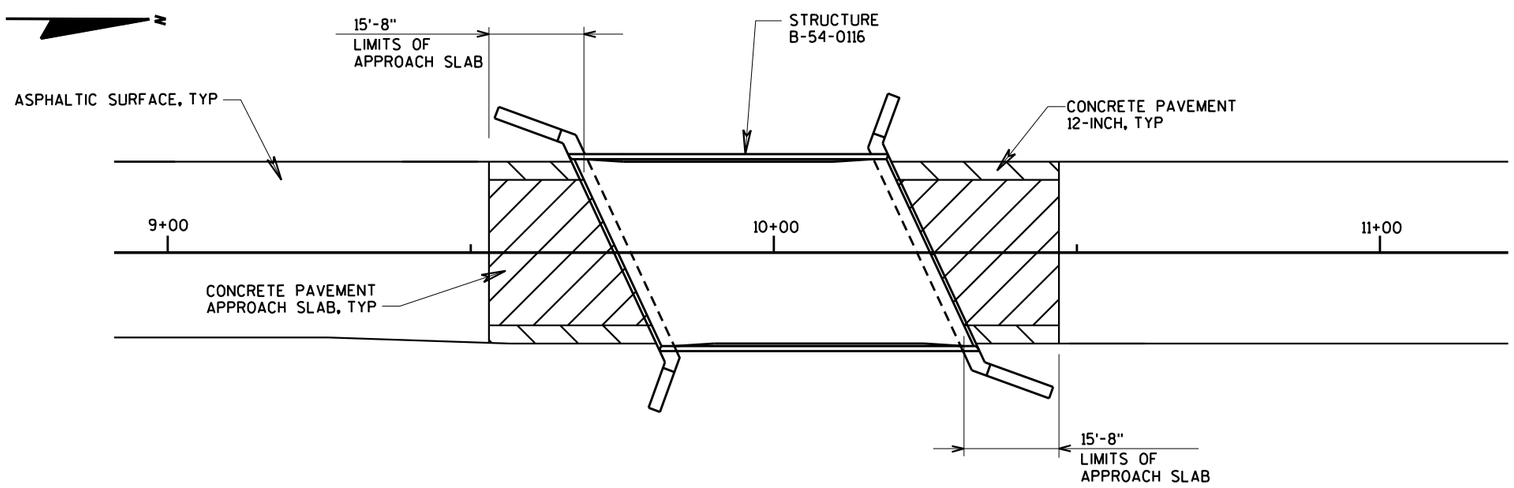
TYPICAL SECTION FOR FIELD ENTRANCE

(STA. 8+41.50 F.E. RT.)



FIELD ENTRANCE PLAN

(STA. 8+41.50 F.E. RT.)

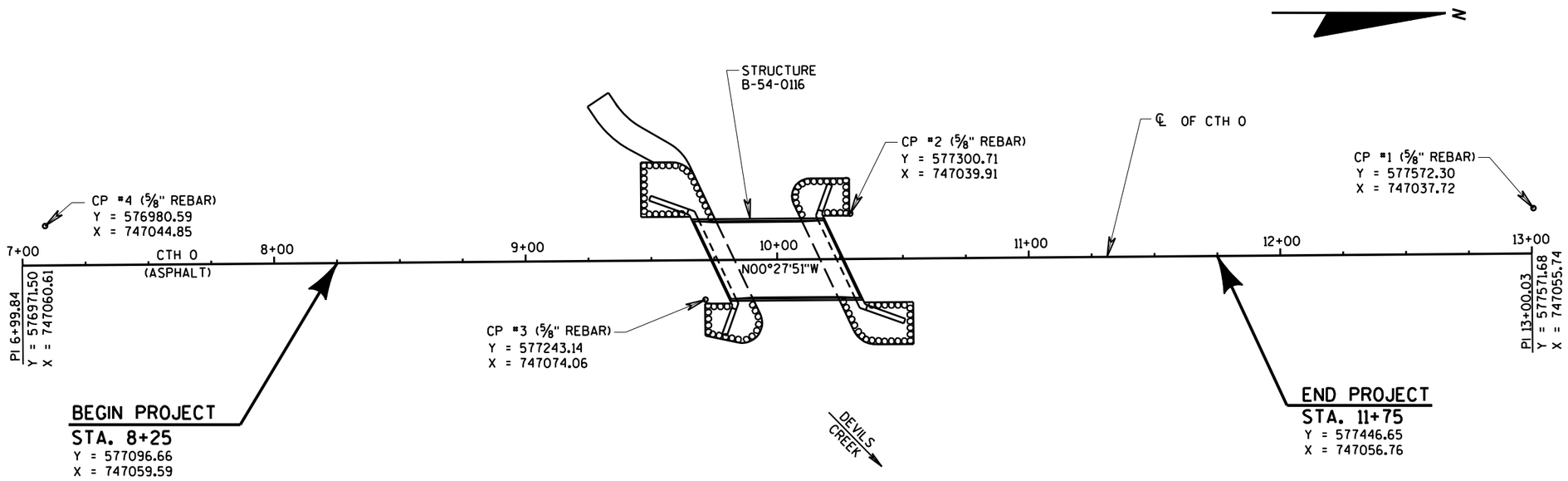


APPROACH SLAB DETAIL

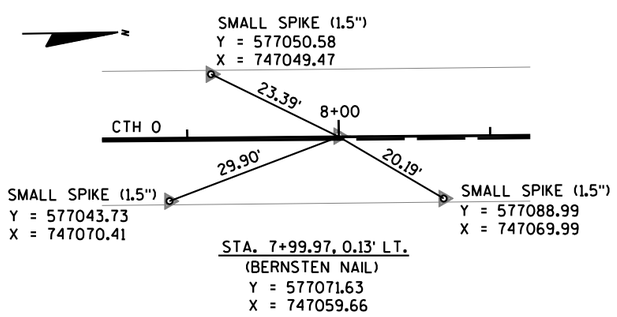
CTH O

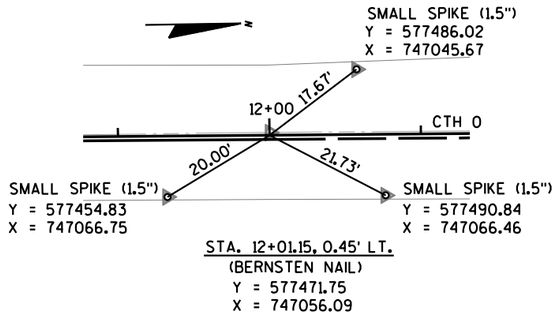
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	APPROACH SLAB AND DETAILS	SHEET 3	E

2



ALIGNMENT CONTROLS

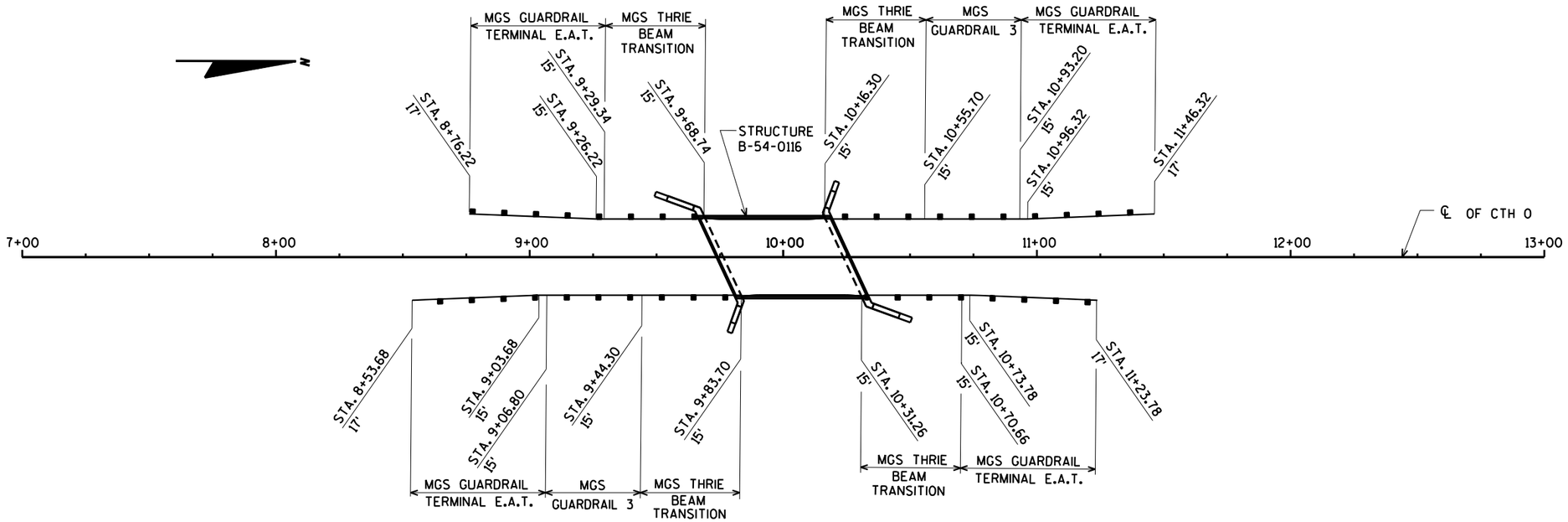




ALIGNMENT TIES

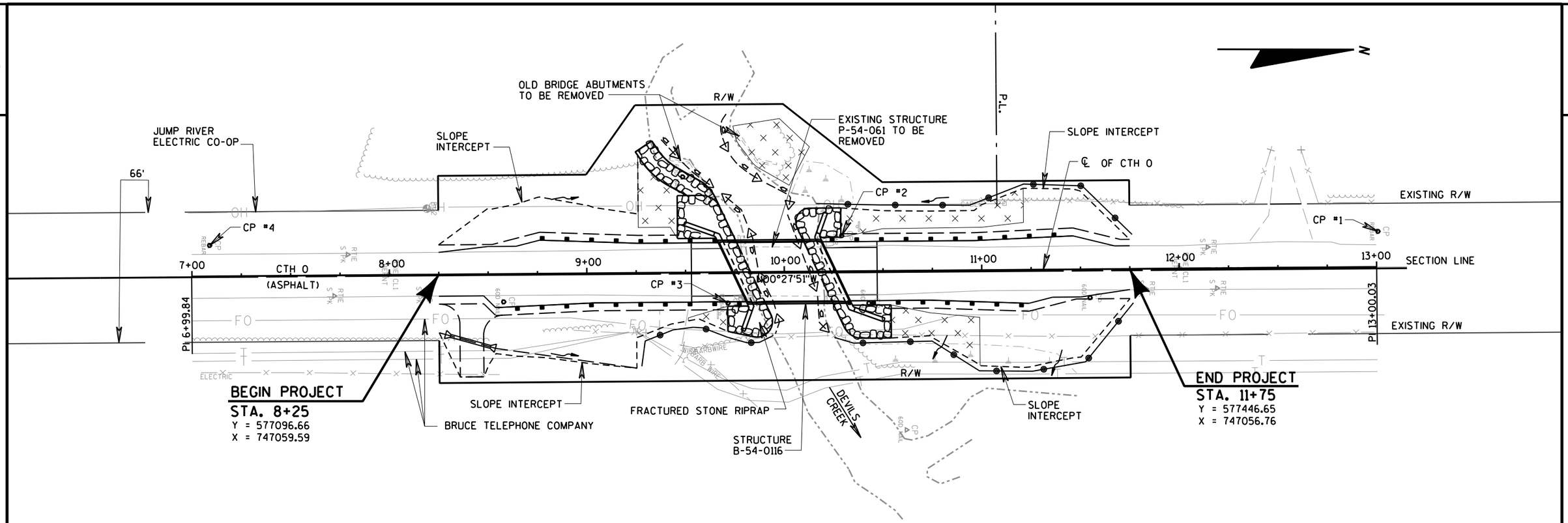
PROJECT NO: 8785-00-71	HWY: CTH 0	COUNTY: RUSK	ALIGNMENT CONTROLS	SHEET 4	E

2



GUARDRAIL LAYOUT

PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	GUARDRAIL LAYOUT	SHEET 5	E



	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											

HIGH WATER ₂ EL. 1196.1

LEGEND

- EROSION MAT CLASS II TYPE C
- TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
- SILT FENCE
- FRACTURED STONE RIPRAP
- TURBIDITY BARRIERS

TOTAL PROJECT AREA = 0.92 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.53 ACRES

PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	EROSION CONTROL	SCALE, FEET 0 25 50	SHEET 6	E

DATE 07DEC15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8785-00-71 QUANTITY
0010	201.0105	Clearing	STA	4.000	4.000
0020	201.0205	Grubbing	STA	4.000	4.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0040	205.0100	Excavation Common	CY	397.000	397.000
0050	206.1000	Excavation for Structures Bridges (structure) 01. B-54-116	LS	1.000	1.000
0060	208.0100	Borrow	CY	192.000	192.000
0070	210.0100	Backfill Structure	CY	760.000	760.000
0080	213.0100	Finishing Roadway (project) 01. 8785-00-71	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	84.000	84.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	528.000	528.000
0110	415.0120	Concrete Pavement 12-Inch	SY	30.000	30.000
0120	415.0410	Concrete Pavement Approach Slab	SY	144.000	144.000
0130	455.0605	Tack Coat	GAL	63.000	63.000
0140	465.0105	Asphaltic Surface	TON	204.000	204.000
0150	502.0100	Concrete Masonry Bridges	CY	277.000	277.000
0160	502.3200	Protective Surface Treatment	SY	180.000	180.000
0170	502.3210	Pigmented Surface Sealer	SY	45.000	45.000
0180	505.0400	Bar Steel Reinforcement HS Structures	LB	5,800.000	5,800.000
0190	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	31,930.000	31,930.000
0200	516.0500	Rubberized Membrane Waterproofing	SY	32.000	32.000
0210	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	2.000	2.000
0220	520.3315	Culvert Pipe Class III-A 15-Inch	LF	21.000	21.000
0230	550.0500	Pile Points	EACH	28.000	28.000
0240	550.2104	Piling CIP Concrete 10 3/4 X 0.25-Inch	LF	1,120.000	1,120.000
0250	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	170.000	170.000
0260	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	4.000	4.000
0270	614.2300	MGS Guardrail 3	LF	76.000	76.000
0280	614.2500	MGS Thrie Beam Transition	LF	160.000	160.000
0290	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0300	619.1000	Mobilization	EACH	1.000	1.000
0310	624.0100	Water	MGAL	6.000	6.000
0320	625.0500	Salvaged Topsoil	SY	1,135.000	1,135.000
0330	627.0200	Mulching	SY	1,495.000	1,495.000
0340	628.1504	Silt Fence	LF	424.000	424.000
0350	628.1520	Silt Fence Maintenance	LF	848.000	848.000
0360	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0370	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0380	628.2027	Erosion Mat Class II Type C	SY	363.000	363.000
0390	628.6005	Turbidity Barriers	SY	395.000	395.000
0400	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0410	629.0210	Fertilizer Type B	CWT	1.500	1.500
0420	630.0120	Seeding Mixture No. 20	LB	55.000	55.000
0430	630.0200	Seeding Temporary	LB	55.000	55.000
0440	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0450	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0460	638.2102	Moving Signs Type II	EACH	1.000	1.000
0470	642.5001	Field Office Type B	EACH	1.000	1.000
0480	643.0100	Traffic Control (project) 01. 8785-00-71	EACH	1.000	1.000
0490	645.0120	Geotextile Fabric Type HR	SY	365.000	365.000
0500	646.0106	Pavement Marking Epoxy 4-Inch	LF	788.000	788.000

3

DATE 07DEC15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	8785-00-71 QUANTITY
0510	650.4500	Construction Staking Subgrade	LF	298.000	298.000
0520	650.5000	Construction Staking Base	LF	298.000	298.000
0530	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0540	650.6500	Construction Staking Structure Layout (structure) 01. B-54-0116	LS	1.000	1.000
0550	650.9910	Construction Staking Supplemental Control (project) 01. 8785-00-71	LS	1.000	1.000
0560	650.9920	Construction Staking Slope Stakes	LF	298.000	298.000
0570	690.0150	Sawing Asphalt	LF	46.000	46.000
0580	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0590	715.0502	Incentive Strength Concrete Structures	DOL	1,662.000	1,662.000
0600	ASP.1T0A	On-the-Job Training Apprentice at $5. 00/HR	HRS	1,200.000	1,200.000
0610	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	300.000	300.000
0620	SPV.0035	Special 01. Fractured Stone Riprap	CY	200.000	200.000

EARTHWORK SUMMARY (CATEGORY 0010)

DIVISION	STATION TO STATION	LOCATION	205.0100 EXCAVATION COMMON CUT (1) CY	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (2) CY	AVAILABLE MATERIAL (4) CY	UNEXPANDED FILL (3) CY	EXPANDED FILL (5) CY	MASS ORDINATE ±(6) CY	WASTE CY	208.0100 BORROW CY	COMMENTS:
1	8+25 TO 9+74.36	CTH O	287	0	287	126	164	123	123	0	
	10+25.64 TO 11+75	CTH O	110	0	110	232	302	-192	0	192	
	GRANDTOTAL		397	0	397	358	465	-68	123	192	

TOTAL EXCAVATION COMMON 397 CY **TOTAL BORROW 192 CY**

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) EXPANDED FILL FACTOR = 1.30
EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR
6) THE MASS ORDINATE ± QTY CALCUTATED FOR THE DIVISION.
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

CLEARING AND GRUBBING (CATEGORY 0010)

STATION TO STATION	201.0105 CLEARING STA	201.0205 GRUBBING STA
Sta. 8+25 to Sta. 11+75	4	4

213.0100 FINISHING ROADWAY (CATEGORY 0010)

LOCATION	EACH
PROJECT 8785-00-71	1

BASE AGGREGATE DENSE (CATEGORY 0010)

STATION TO STATION	LOCATION	305.0110 3/4-INCH TON	305.0120 1 1/4-INCH TON
Sta. 8+25 to Sta. 9+74.36	MAINLINE	31	264
Sta. 10+25.64 to Sta. 11+75	MAINLINE	30	264
Field Entrance Sta 8+41.5	Field Entrance, RT	23	---
TOTALS		84	528

3

CONCRETE PAVEMENT (CATEGORY 0010)

STATION TO STATION	LOCATION	415.0120 CONCRETE PAVEMENT 12-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY
Sta. 9+53.74 to Sta. 9+83.70	RT & LT	15	72
Sta. 10+16.30 to Sta. 10+46.26	RT & LT	15	72
TOTALS		30	144

455.0605 TACK COAT (CATEGORY 0010)

STATION TO STATION	GAL
Sta. 8+25 to Sta. 9+53.74	32
Sta. 10+46.26 to Sta. 11+75	31
TOTAL	63

465.0105 ASPHALTIC SURFACE (CATEGORY 0010)

STATION TO STATION	TON
Sta. 8+25 to Sta. 9+53.74	103
Sta. 10+46.26 to Sta. 11+75	101
TOTAL	204

DRAINAGE (CATEGORY 0010)

STATION TO STATION	LOCATION	520.3315 CULVERT PIPE CLASS III-A 15-INCH LF	520.1015 APRON ENDWALLS FOR CULVERT PIPE 15-INCH EACH
Field Entrance Sta 8+41.5	Field Entrance, RT	21	2
TOTALS		21	2

* STEEL PIPE MINIMUM THICKNESS = 0.064 INCHES, ALUMINUM PIPE MINIMUM THICKNESS = 0.060 INCHES

BEAM GUARD (CATEGORY 0010)

STATION TO STATION	LOCATION	614.2300 MGS GUARDRAIL 3 LF	614.2500 MGS THRIE BEAM TRANSITION LF	614.2610 MGS GUARDRAIL TERMINAL EAT EACH
Sta. 8+53.68 to Sta. 9+06.80	RT			1
Sta. 8+76.22 to Sta. 9+29.34	LT			1
Sta. 9+06.80 to Sta. 9+44.30	RT	38		
Sta. 9+29.34 to Sta. 9+68.74	LT		40	
Sta. 9+44.30 to Sta. 9+83.70	RT		40	
Sta. 10+16.30 to Sta. 10+55.70	LT		40	
Sta. 10+31.26 to Sta. 10+70.66	RT		40	
Sta. 10+55.70 to Sta. 10+93.20	LT	38		
Sta. 10+70.66 to Sta. 11+23.78	RT			1
Sta. 10+93.20 to Sta. 11+46.32	LT			1
TOTALS		76	160	4

619.1000 MOBILIZATION

LOCATION	EACH
PROJECT 8785-00-71(CATEGORY 0010)	0.2
PROJECT 8785-00-71 (CATEGORY 0020)	0.8
TOTAL	1

624.0100 WATER (CATEGORY 0010)

STATION TO STATION	MGAL
Sta. 8+25 to Sta. 9+53.74	3
Sta. 10+46.26 to Sta. 11+75	3
TOTAL	6

3

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)

STATION TO STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	629.0210 FERTILIZER TYPE B CWT	630.0120 SEEDING NO. 20 LB	630.0200 SEEDING TEMPORARY LB
Sta. 8+25 to Sta. 11+75	Mainline	1,085	1,295	1.1	45	42
Field Entrance Sta 8+41.5	Field Entrance, RT	50	50			
Undistributed		---	150	0.4	10	13
TOTALS		1,135	1,495	1.5	55	55

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

STATION TO STATION	LOCATION	628.1504 LF	628.1520 MAINTENANCE LF
Sta. 9+27 to Sta. 9+94	RT	81	162
Sta. 10+16 to Sta. 11+77	LT & RT	343	686
TOTALS		424	848

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

LOCATION	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
PROJECT 8785-00-71	4	2

628.2027 EROSION MAT CLASS II TYPE C (CATEGORY 0010)

STATION TO STATION	LOCATION	SY
Sta. 9+52 to Sta. 9+71	RT	14
Sta. 9+26 to Sta. 9+51	LT	61
Sta. 9+75 to Sta. 10+13	LT	89
Sta. 10+29 to Sta. 11+21	LT	115
Sta. 10+54 to Sta. 10+99	RT	84
TOTAL		363

628.6005 TURBIDITY BARRIER

LOCATION	SY
Sta. 9+87	118
Sta. 10+12	198
UNDISTRIBUTED	79
TOTAL	395

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

LOCATION	LF
UNDISTRIBUTED	40
TOTAL	40

634.0612 WOOD POSTS 4X6 INCH X 12 FT (CATEGORY 0010)

STATION	LOCATION	EACH
Sta. 9+66.04	LT (Object Marker)	1
Sta. 9+81.20	RT (Object Marker)	1
Sta. 10+18.80	LT (Object Marker)	1
Sta. 10+33.96	RT (Object Marker)	1
TOTAL		4

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

STATION			SF
Sta. 9+66.04	LT (Object Marker)	W5-52L	3
Sta. 9+81.20	RT (Object Marker)	W5-52R	3
Sta. 10+18.80	LT (Object Marker)	W5-52R	3
Sta. 10+33.96	RT (Object Marker)	W5-52L	3
TOTAL			12

3

638.2102 MOVING SIGNS TYPE II

STATION		EACH
Sta. 10+37 LT	"ADOPT A HIGHWAY…"	1
TOTAL		1

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

LOCATION	EACH
PROJECT 8785-00-71	1

643.0100 TRAFFIC CONTROL (CATEGORY 0010)

LOCATION	EACH
PROJECT 8785-00-71	1

646.0106 PAVEMENT MARKING EPOXY 4-INCH (CATEGORY 0010)

STATION		LF
Sta. 8+25 to Sta 11+75	YELLOW SKIP CENTERLINE	88
Sta. 8+25 to Sta 11+75	WHITE EDGELINES	700
TOTAL		788

CONSTRUCTION STAKING

CATEGORY	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.6500 STRUCTURE LAYOUT LS	650.9910 SUPPLEMENTARY CONTROL LS	650.9920 SLOPE STAKES LF
0010	Sta. 8+25 to Sta. 11+75	298	298	---	---	1	298
0010	F.E. Sta. 8+41.50 RT.	---	---	1	---	---	---
0020	B-54-0116	---	---	---	1	---	---
TOTALS		298	298	1	1	1	298

690.0150 SAWING ASPHALT (CATEGORY 0010)

STATION	LOCATION	LF
Sta. 8+25	Mainline	23
Sta. 11+75	Mainline	23
TOTAL		46

SCHEDULE OF LANDS AND INTERESTS REQUIRED

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

PARCEL NO.	OWNERSHIP	INTEREST REQUIRED	TOTAL ACRES	R/W (ACRES)			TOTAL ACRES REMAINING
				NEW	EXISTING	TOTAL	
1	DANIEL CHRISTIANSON	FEE	20.00	0.195	0.214	0.409	19.591
2	ROBERT AND KATHERINE E. CHRISTIANSON, ETAL	FEE	20.00	0.019	0.051	0.070	19.930
3	LAWRENCE W. AND ARLENE J. PADDOCK	FEE	40.00	0.172	0.265	0.437	39.563
50	BRUCE TELEPHONE COMPANY	RELEASE					
51	JUMP RIVER ELECTRIC CO-OP	RELEASE					

NOTES

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, RUSK COUNTY, NAD83 (2011) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 (TYPICALLY 3/4" X 24" REBARS) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON A PRESUMED 66' WIDTH CENTERED ON THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION 21 PER STATE STATUTE 82.31(2).

POINT TABLE					
POINT #	Y	X	POINT #	Y	X
100	577096.397	747027.036	109	577446.922	747090.426
101	577096.256	747009.594	110	577447.095	747111.755
102	577171.253	747008.987	115	577097.107	747114.591
103	577195.969	746973.785	116	577096.932	747093.034
104	577270.967	746973.178	118	577096.659	747059.593
105	577321.289	747012.771	119	577096.662	747060.035
106	577446.285	747011.758	120	577446.650	747056.757
107	577446.388	747024.425	121	577446.655	747057.427

SCALE, FEET
0 25 50

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
8785-00-01	4.01	1
FEDERAL PROJECT NUMBER		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

CTH F – CTH H

(DEVILS CREEK BRIDGE – B540116)

CTH 0 RUSK COUNTY

CONSTRUCTION PROJECT NUMBER
8785-00-70

TOWN

1 DANIEL CHRISTIANSON

2 ROBERT & KATHERINE E. CHRISTIANSON, ETAL

BEGIN RELOCATION ORDER
STA 8+25
Y= 577096.659
X= 747059.593
LOCATED 375.43' NORTH AND 3.24' WEST OF THE EAST QUARTER CORNER OF SECTION 21, T 35 N, R 8 W.

END RELOCATION ORDER
STA 11+75
Y= 577446.650
X= 747056.757
LOCATED 725.42' NORTH AND 6.08' WEST OF THE EAST QUARTER CORNER OF SECTION 21, T 35 N, R 8 W

FOUND GIN SPIKE
Y=579354.594
X=747043.209

EP: 13+00.03

BP: 6+99.84

JUMP RIVER ELECTRIC CO-OP OVERHEAD ELECTRIC

JUMP RIVER ELECTRIC CO-OP NO RECORDED EASMEMENT (51)

SLOPE INTERCEPT

EXISTING RIGHT OF WAY

CTH 0

℄ = N00°27'51"W

SECTION LINE N00°25'37"W 2633.44'
MON-MON

N00°25'37"W 375.44'
MON-119

FOUND GIN SPIKE
Y=576721.233
X=747062.832

SLOPE INTERCEPT

BRUCE TELEPHONE COMPANY UNDERGROUND FIBER OPTIC

BRUCE TELEPHONE COMPANY UNDERGROUND TELEPHONE

BRUCE TELEPHONE COMPANY
20' TELEPHONE EASEMENT
SPLIT ON EXISTING UTILITY LINE
V.211 P.807
DOC.#199142

(50)

3 LAWRENCE W. AND ARLENE J. PADDOCK

WISCONSIN DNR
66' WIDE PUBLIC FISHING EASEMENT
V.129 P.628
DOC.#163881

DEVILS CREEK

SE-NE

SW-NW

ATLANTA

R-8-W

PROJECT LOCATION

T-35-N

VICINITY MAP
0 1 2 MILES

TOWN OF ATLANTA

FIRELANE RD, EXE RD, CHRISTIANSON RD, DEVILS CREEK, PADDOK RD, SUNNY HILL RD, WEINERT RD, SIECK RD, TRUMAN RD, DEARHAMER RD, MALONE RD, NORWEGIAN RD, ADAMS RD, JOHNSON RD, SINGER RD

TOTAL NET LENGTH OF CENTERLINE=0.066 MILES

SECTION 21 COURSE TABLE		
COURSE	BEARING	DISTANCE
119-118	S89°32'09"W	0.44'
118-100	S89°32'09"W	32.56'
100-101	S89°32'09"W	17.44'
101-102	N0°27'51"W	75.00'
102-103	N54°55'36"W	43.01'
103-104	N0°27'51"W	75.00'
104-105	N38°11'44"E	64.03'
105-106	N0°27'51"W	125.00'
106-107	N89°32'09"E	12.67'
107-120	N89°32'09"E	32.33'
120-121	N89°32'09"E	0.67'
121-119	S0°25'37"E	350.00'

SECTION 22 COURSE TABLE		
COURSE	BEARING	DISTANCE
119-121	N0°25'37"W	350.00'
121-109	N89°32'09"E	33.00'
109-110	N89°32'09"E	21.33'
110-115	S0°27'51"E	350.00'
115-116	S89°32'09"W	21.56'
116-119	S89°32'09"W	33.00'

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN — IP (1" UNLESS NOTED)
R/W MONUMENT — (SET)
R/W STANDARD — (SET)
SIGN — SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT — RWB20
PARCEL NUMBER — 102
UTILITY PARCEL NUMBER — 32
SIGN NUMBER (OFF PREMISE) — 21
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
ACCESS RESTRICTED (BY PREVIOUS ACQUISTION/CONTROL)
ACCESS RESTRICTED (BY ACQUISTION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

CONVENTIONAL ABBREVIATIONS

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

CURVE DATA

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

CONVENTIONAL UTILITY SYMBOLS

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

ACCEPTED FOR RUSK COUNTY
7/20/15 DATE
HIGHWAY COMMISIONER

PLAT PREPARED BY AYRES ASSOCIATES

THIS SURVEY IS PREPARED AT THE REQUEST OF RUSK COUNTY HIGHWAY DEPARTMENT THE FIELD SURVEY WAS PREFORMED JULY 2014. THIS SURVEY IS ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

WISCONSIN JAMES R. CAPPEART S-3044 COTTAGE GROVE LAND SURVEYOR

7/14/2015
JAMES R CAPPEART, P.L.S. DATE
S-3044

REVISION DATE

BENCH MARKS			
NO.	STA.	DESCRIPTION	ELEV.
1	9+79	CHIS. SO. AT TOP OF SE WINGWALL, 13' RT.	1203.18
2	8+19	NAIL IN POWER POLE, 33' LT.	1202.14

DANIEL CHRISTIANSON

ROBERT & KATHRYN E. CHRISTIANSON

LAWRENCE W. & ARLENE J. PADDOCK

BRUCE TELEPHONE COMPANY

JUMP RIVER ELECTRIC CO-OP

OLD BRIDGE ABUTMENTS TO BE REMOVED

EXISTING STRUCTURE P-54-061 TO BE REMOVED

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

SLOPE INTERCEPT

R/W

P.L.

℄ OF CTH O

66'

CP #4

BM #2

CP #2

CP #1

CP #3

BM #1 R/W

STRUCTURE B-54-0116

FRACTURED STONE RIPRAP - TYP.

DEVILS CREEK

N00°27'51"W

7+00

8+00

9+00

10+00

11+00

12+00

13+00

CTH O (ASPHALT)

P.I. 6+99.84

P.I. 13+00.03

SECTION LINE

EXISTING R/W

TIE INTO PE LT. @ STA. 12+50

EXISTING R/W

NOTES:
FOR ALIGNMENT CONTROLS, SEE ALIGNMENT CONTROLS SHEET

FOR GUARDRAIL LAYOUT, SEE GUARDRAIL LAYOUT AND DETAILS SHEET

BEGIN PROJECT
STA. 8+25
(SAWCUT REQ'D.)
Y = 577096.66
X = 747059.59

CONSTRUCT FE RT.
STA. 8+41.50
1 - 15" ϕ CP CLASS III REQ'D., L=21'
2 - APRON ENDWALLS REQ'D.
INLET EL. 1198.99
OUTLET EL. 1198.77

END PROJECT
STA. 11+75
(SAWCUT REQ'D.)
Y = 577446.65
X = 747056.76

EARTHWORK SUMMARY
STA. 8+25 TO STA. 9+74.36
EXC. COMMON 287 C.Y.
FILL 126 C.Y.
SHR. = 30%
WASTE 123 C.Y.

EARTHWORK SUMMARY
STA. 10+25.64 TO STA. 11+75
EXC. COMMON 110 C.Y.
FILL 232 C.Y.
SHR. = 30%
BORROW 192 C.Y.

HIGH WATER $_{100}$ EL. 1200.6

150' VC
K = 139.41

FINISHED ℄ PROFILE

EXISTING ℄ PROFILE

PT STA 9+75.00
PC EL 1203.48

PC STA 10+25.00
PC EL 1203.73

PI STA 11+00.00
PI EL 1204.11

-0.58%

+0.50%

-0.17%

PC STA 8+25.00
PC EL 1203.54

PI STA 9+00.00
PI EL 1203.11

PT STA 11+75.00
PT EL 1203.98

150' VC
K = 221.73

WATER EL. 1195.0
(07-14-14)

STREAM BED EL. 1187.8

REMOVING OLD STRUCTURE OVER WATERWAY
WITH MINIMAL DEBRIS STATION 10+00, STRUCTURE P-54-0061
SINGLE SPAN STEEL DECK GIRDER BRIDGE
25.3' CLEAR RDWY. x 43.0' O.A.L.
0° SKEW

STA. 10+00
STRUCTURE B-54-0116 REQ'D.
SINGLE SPAN CONCRETE FLAT SLAB BRIDGE
30'-0" CLEAR ROADWAY x 52'-9" O.A.L.
25° SKEW RHF

1210
1200
1190
1180

1203.81 1203.69 1203.63 1203.45 1203.42 1203.33 1203.31 1203.54 1203.38 1189.85 1203.61 1203.45 1203.85 1203.56 1203.98 1203.85 1204.01 1204.11 1204.23 1204.39

7+00 7+50 8+00 8+50 9+00 9+50 10+00 10+50 11+00 11+50 12+00 12+50 13+00

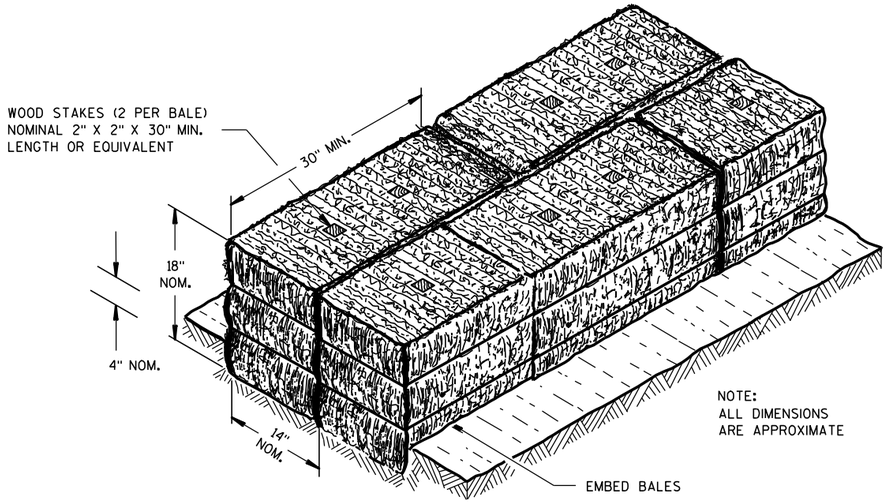
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	PLAN AND PROFILE	SCALE, FEET 0 25 50	SHEET 14	E

U:\42-0948.00 - Rusk County, CTH O over Devils Creek\RDWY\420948 pp.dgn 8/4/2015 PENTABLE:BReau_shd_util.tbl marcumc 1:50

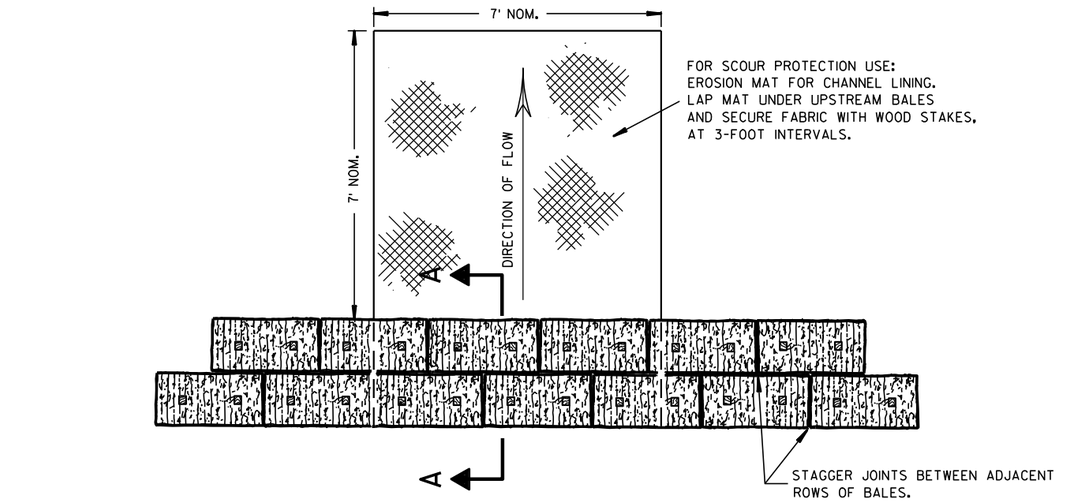
WISDOT/CADDS SHEET 40

Standard Detail Drawing List

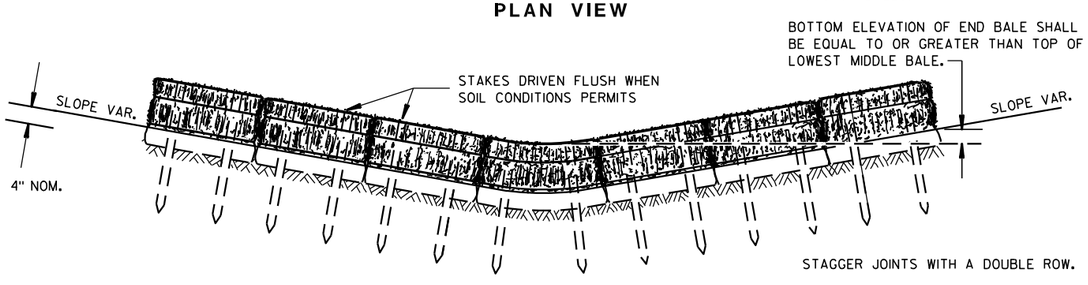
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
12A03-10	NAME PLATE (STRUCTURES)
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	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)
14B45-04I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)



SECTION A-A



PLAN VIEW



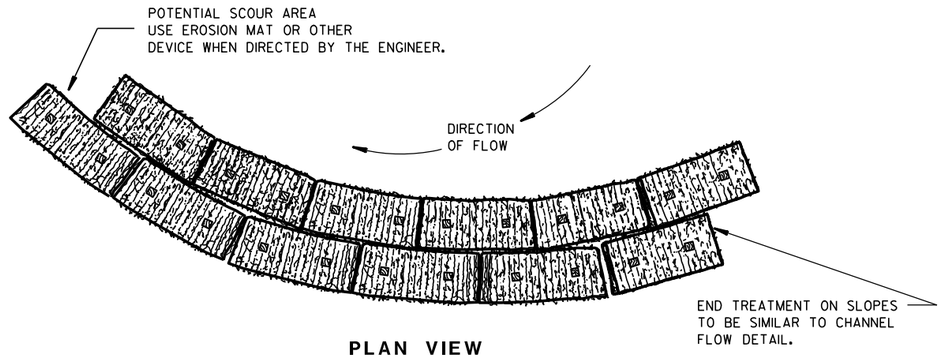
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

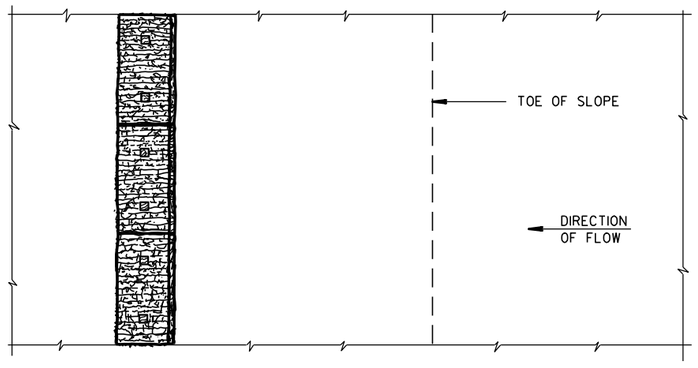
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

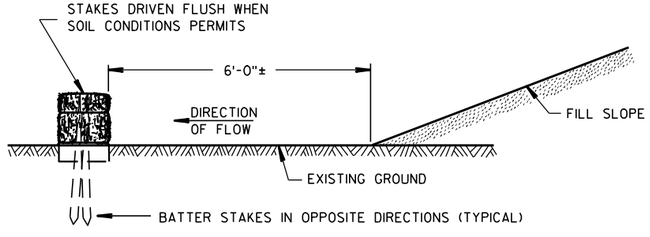


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

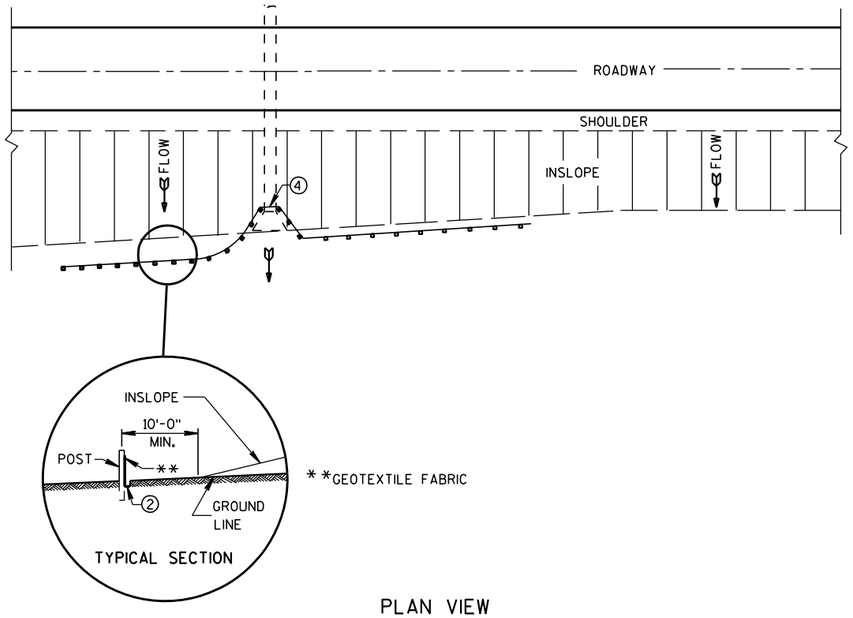
FHWA

6

S.D.D. 8 E 8-3

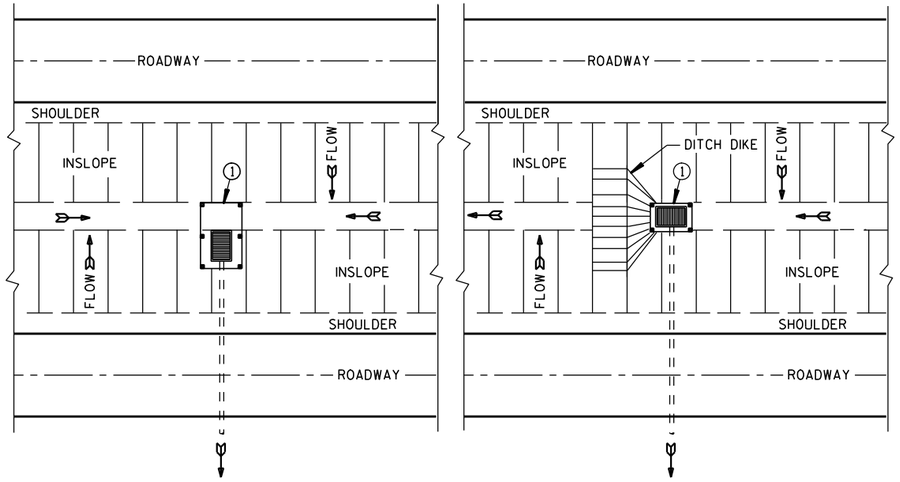
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

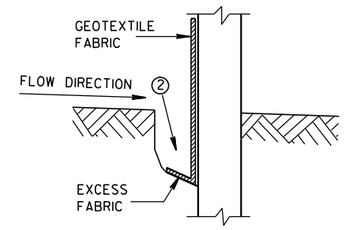
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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

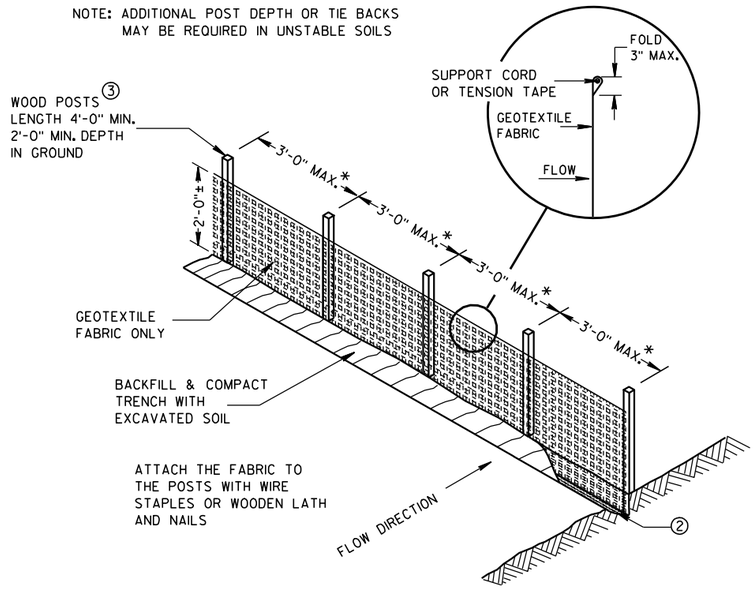
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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

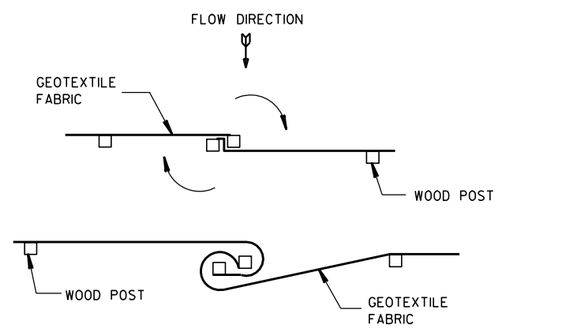
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



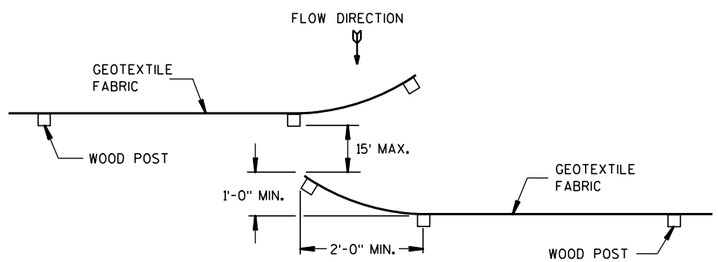
TRENCH DETAIL



SILT FENCE

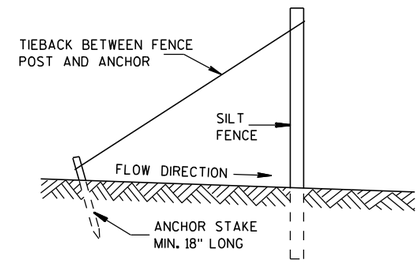


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

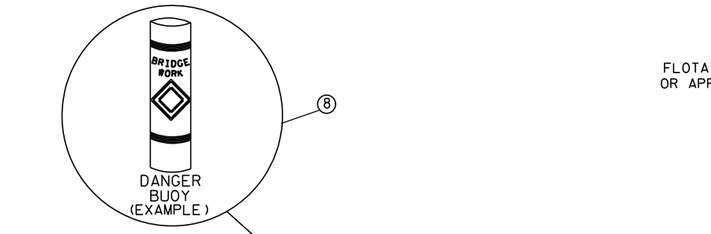
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

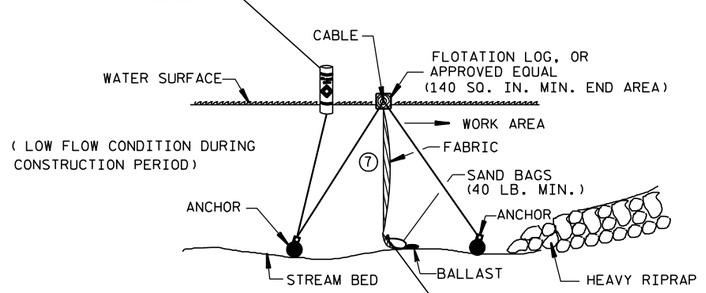
6

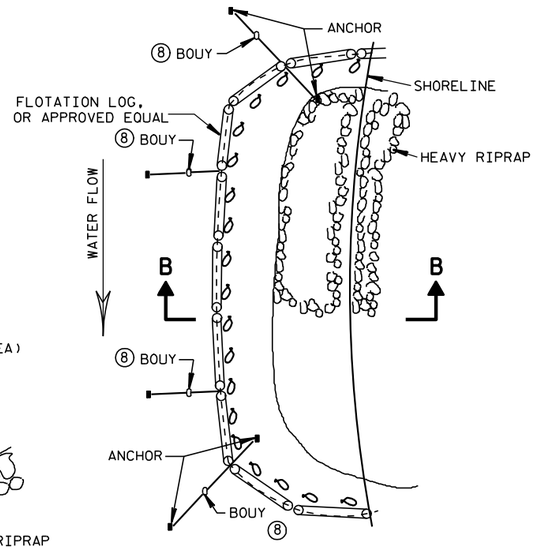
S.D.D. 8 E 9-6

6

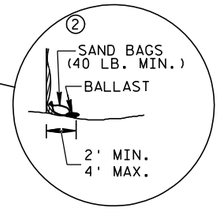
S.D.D. 8 E 9-6



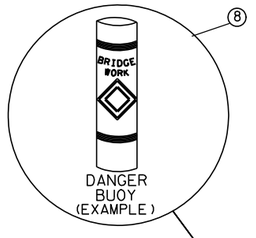


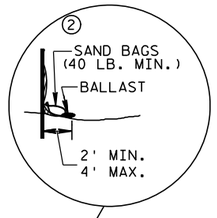


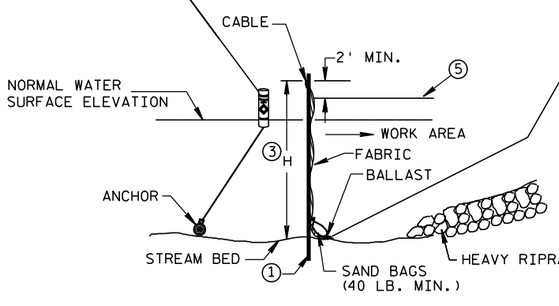
SECTION B-B



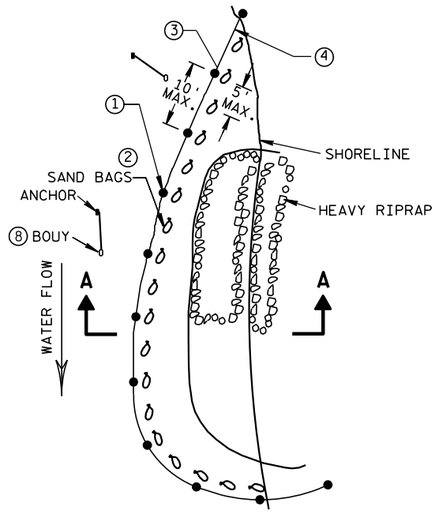
TURBIDITY BARRIER FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6







SECTION A-A



PLAN VIEW

TURBIDITY BARRIER STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

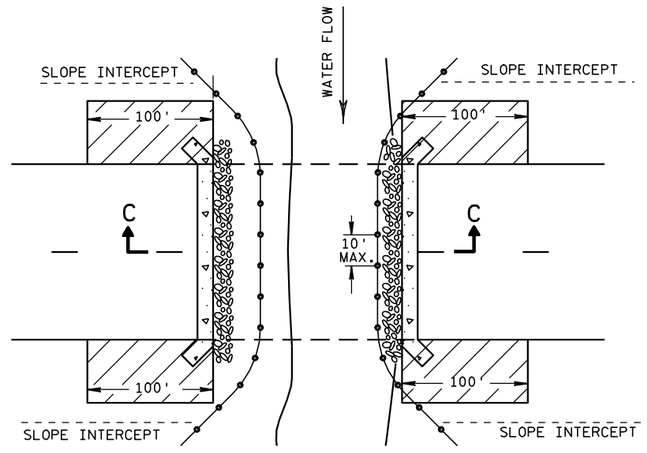
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

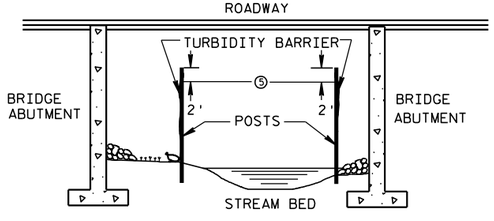
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

METAL APRON ENDWALLS

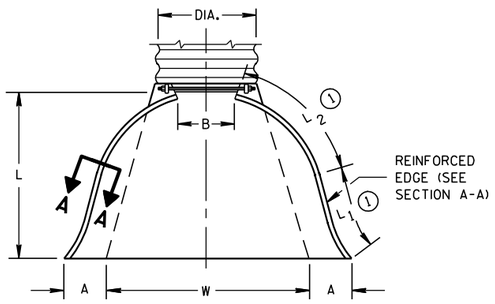
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

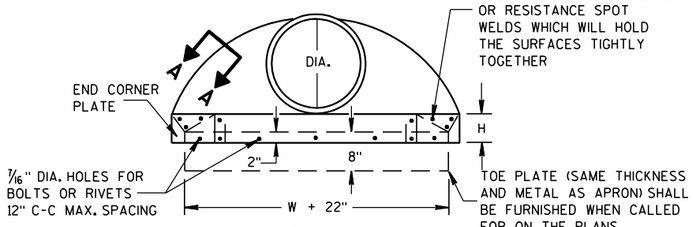
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
12	2	4	24	48 7/8	72 1/8	24	2	3 to 1
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1
24	3	9 1/2	43 1/2	30	73 1/2	48	3	3 to 1
27	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	3 to 1
30	3 1/2	12	54	19 3/4	73 1/2	60	3 1/2	3 to 1
36	4	15	63	34 3/4	97 3/4	72	4	3 to 1
42	4 1/2	21	63	35	98	78	4 1/2	3 to 1
48	5	24	72	26	98	84	5	3 to 1
54	5 1/2	27	65	* 33 1/4 - ** 35	* 98 1/4 - ** 100	90	5 1/2	2 2/5 to 1
60	6	* 30 - ** 35	60	39	99	96	5	2 to 1
66	6 1/2	* 24 - ** 30	* 72 - ** 78	* 21 - ** 27	99	102	5 1/2	2 to 1
72	7	* 24 - ** 36	78	21	99	108	6	2 to 1
78	7 1/2	* 24 - ** 36	78	21	99	114	6 1/2	2 to 1
84	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2 to 1
90	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	1 1/2 to 1

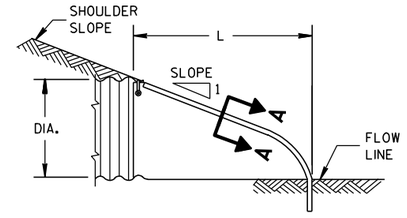
*MINIMUM
**MAXIMUM



PLAN VIEW

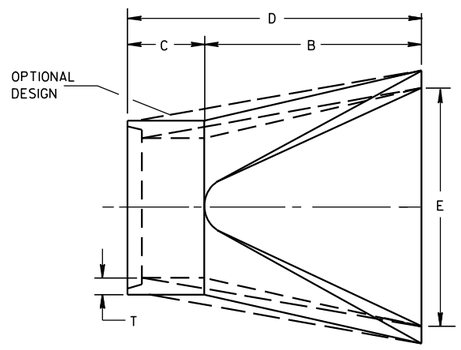


END VIEW

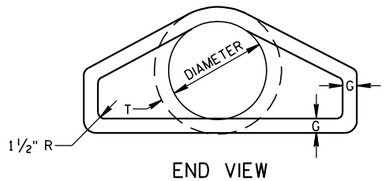


SIDE ELEVATION

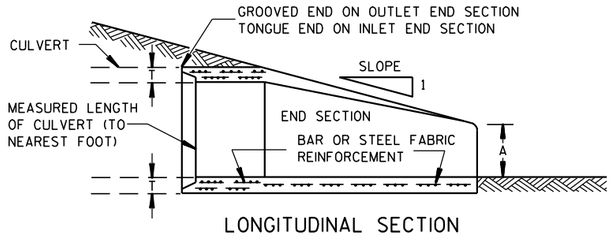
METAL ENDWALLS



PLAN

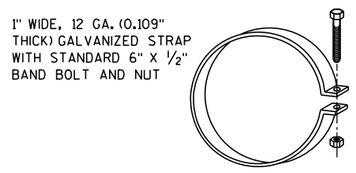


END VIEW



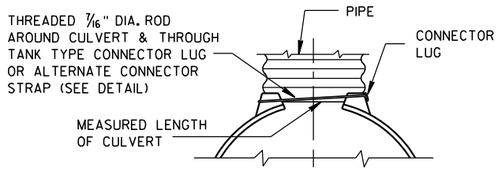
LONGITUDINAL SECTION

CONCRETE ENDWALLS

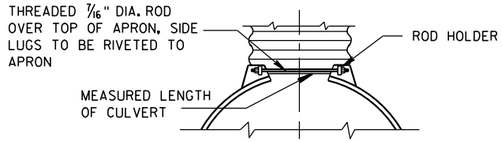


ALTERNATE FOR TYPE 1 CONNECTION

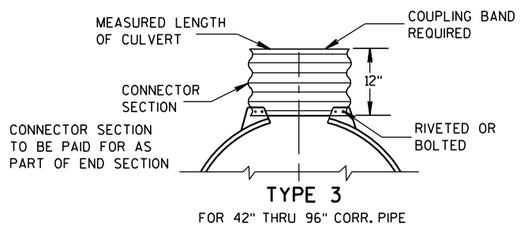
END SECTION CONNECTOR STRAP



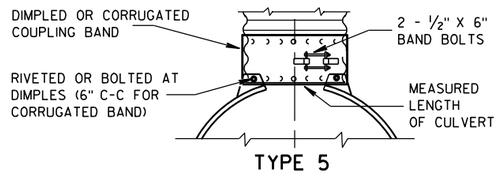
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

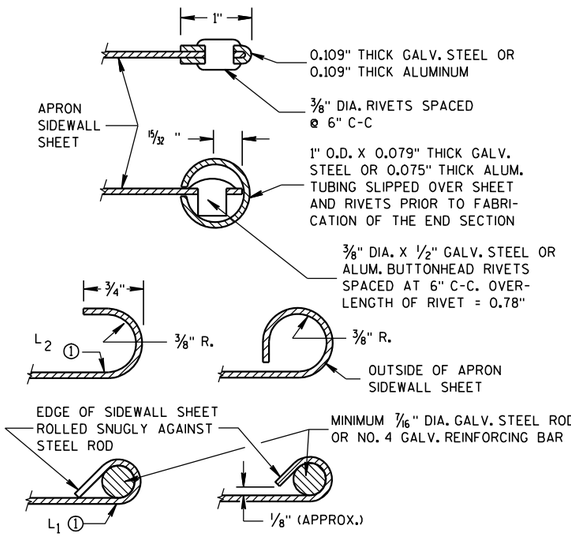
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

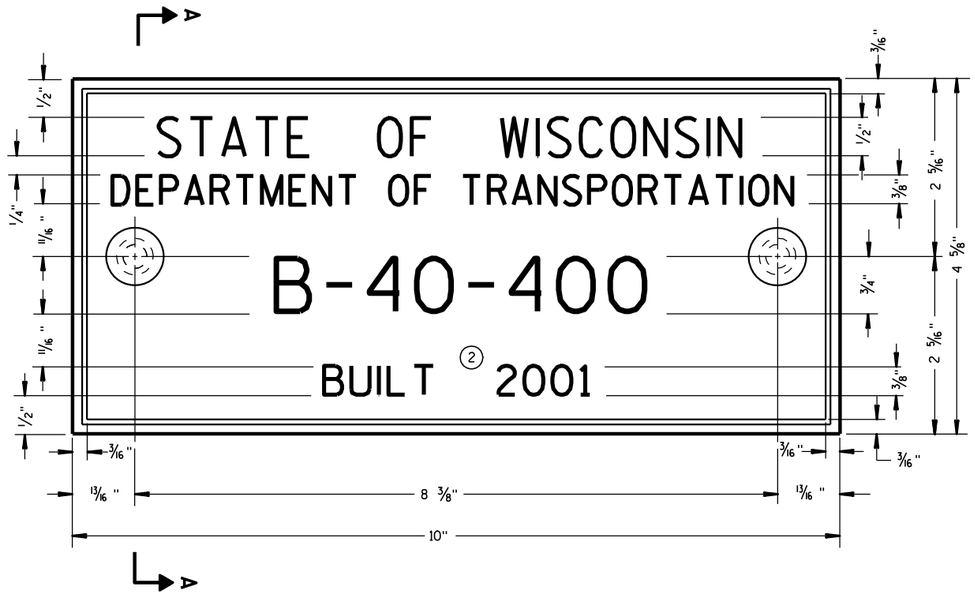
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 F 1-11



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

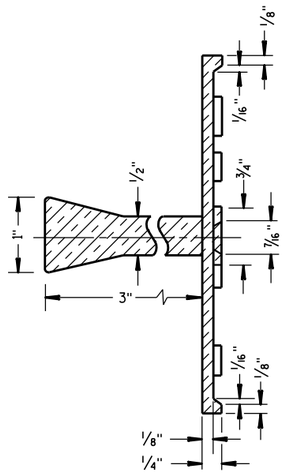
GENERAL NOTES

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

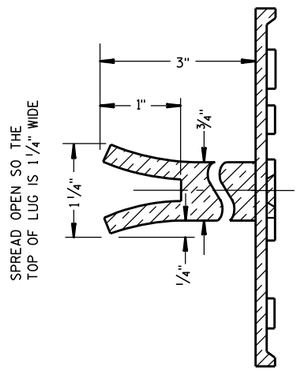
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

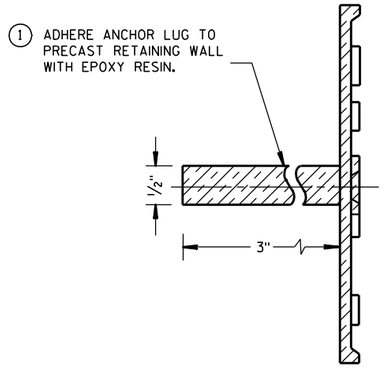
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

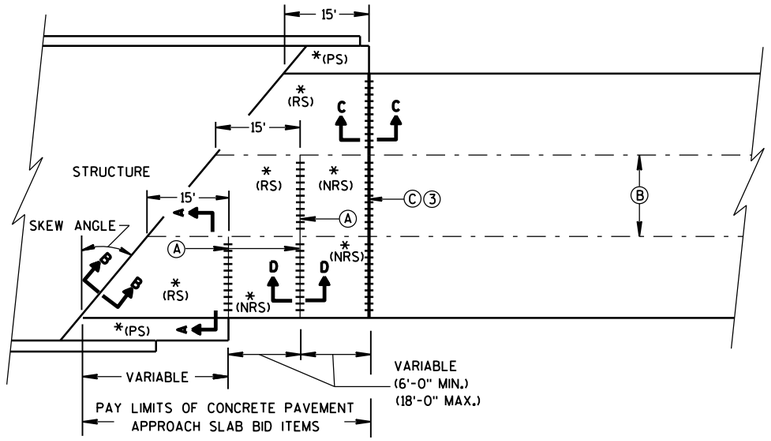
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

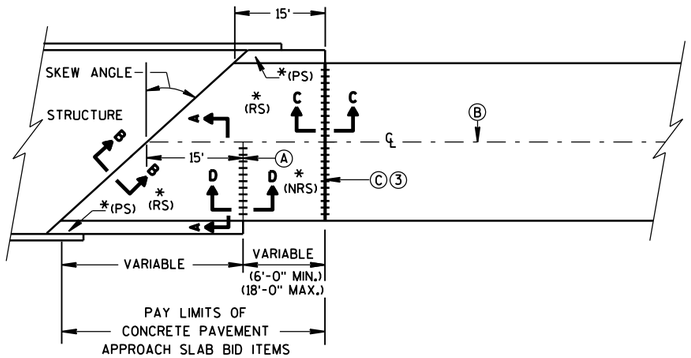
FHWA

6

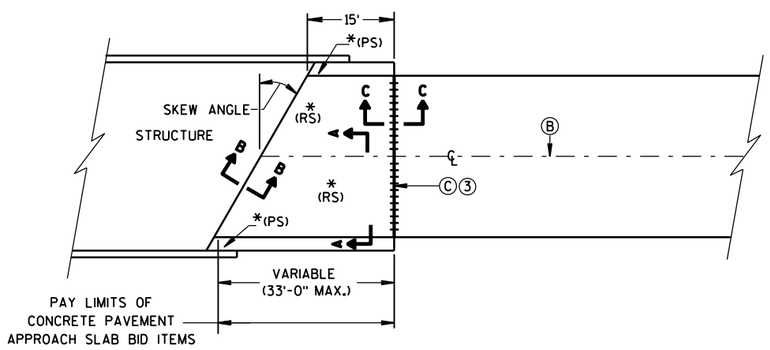
S.D.D. 12 A 3-10



SKEWED APPROACH
(PAVEMENT MORE THAN 2 LANES)



SKEWS >20°
(PAVEMENT WIDTH ≤30')



SKEWS ≤20°
(PAVEMENT WIDTH ≤30')

APPROACH SLAB AND ADJACENT PAVEMENT

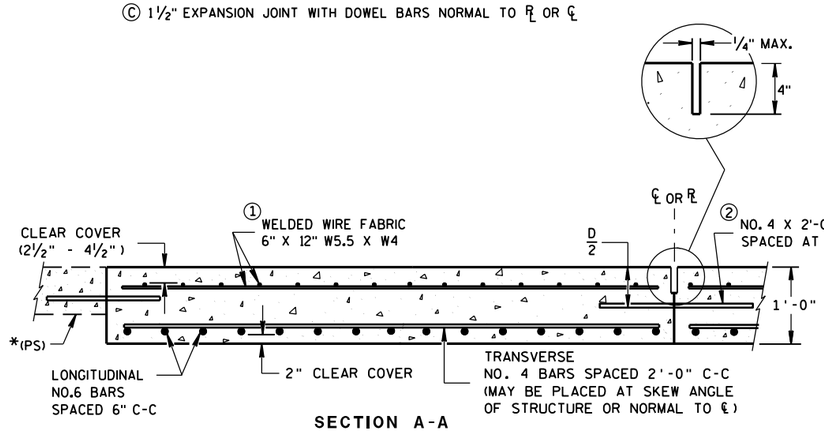
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

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

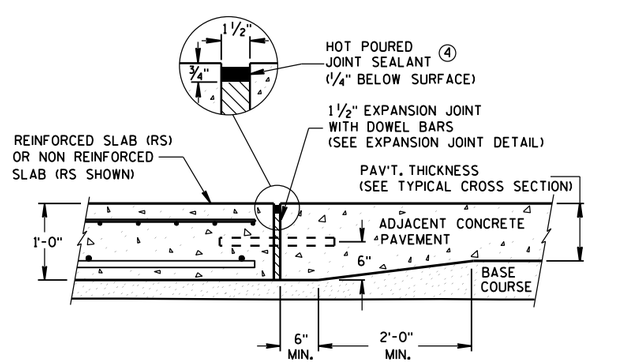
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄

Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.

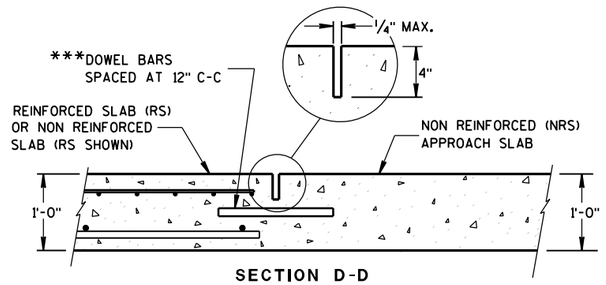
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄



SECTION A-A
REINFORCEMENT POSITIONING DETAIL



SECTION C-C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT



SECTION D-D
CONTRACTION JOINT

GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

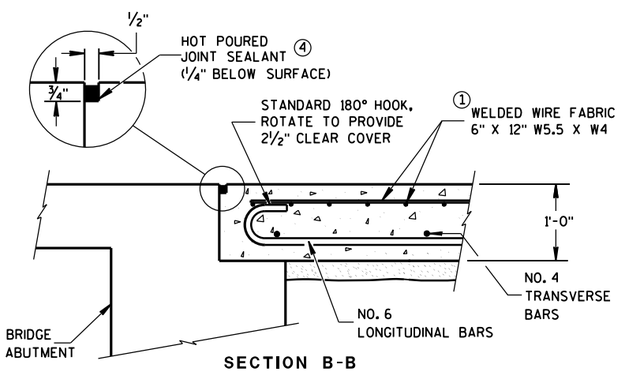
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

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

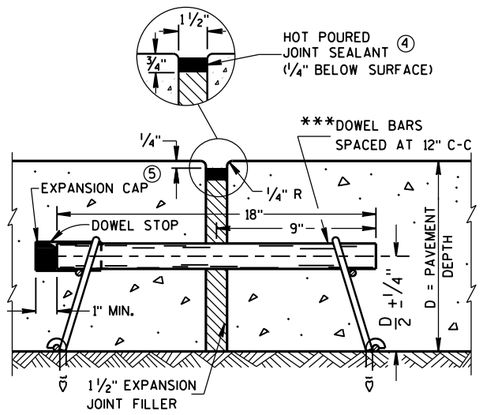
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

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

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



SECTION B-B
BEND DETAIL
BOTTOM REINFORCEMENT



EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 13 B 2-8a

GENERAL NOTES

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

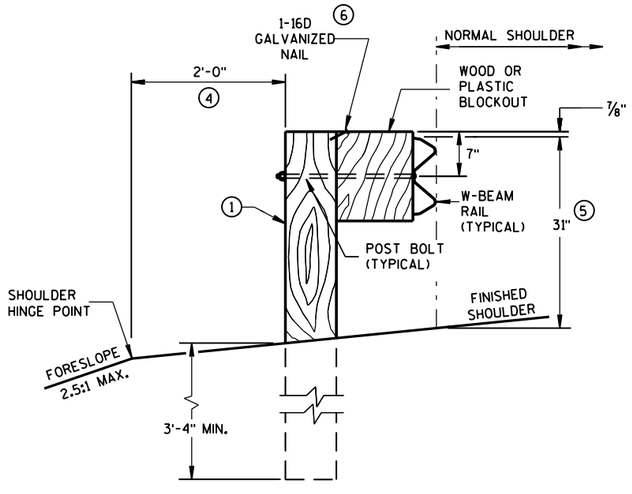
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

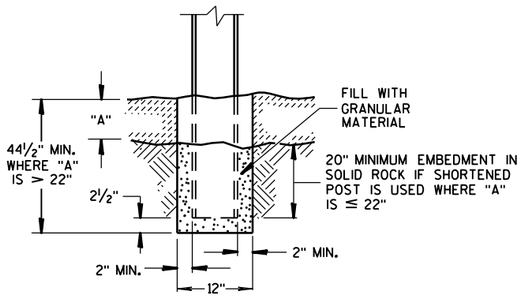
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



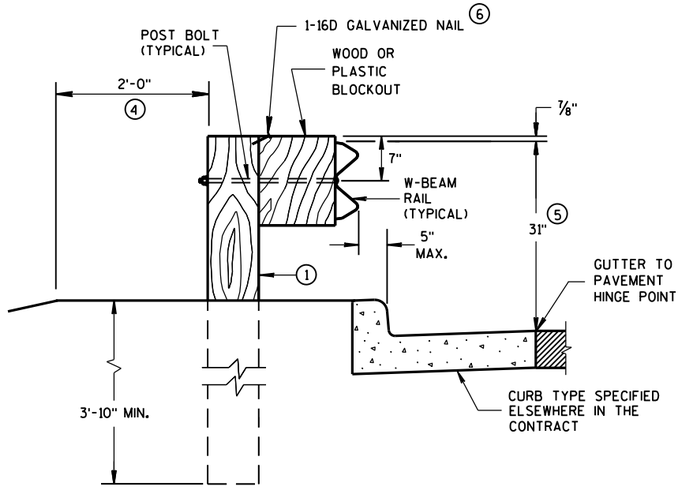
END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



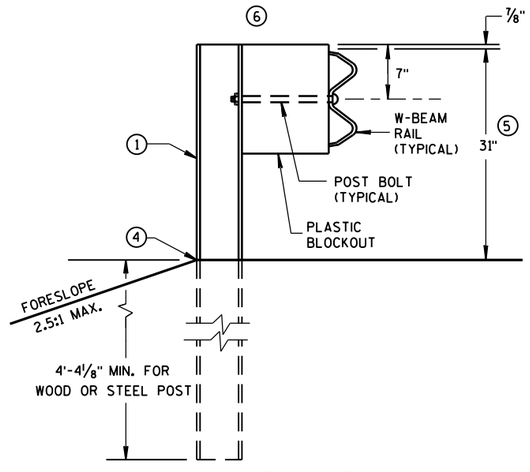
END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



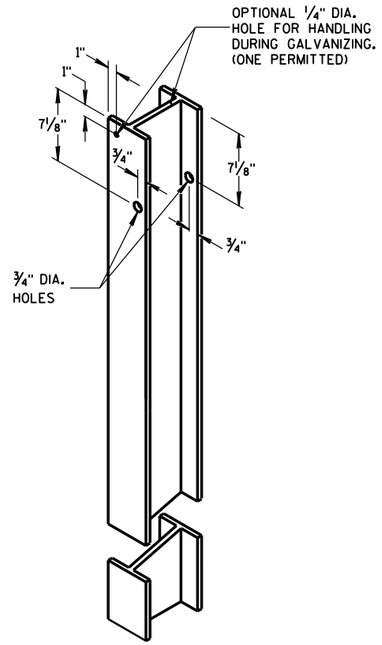
END VIEW

LOCATED ALONG A CURBED ROADWAY

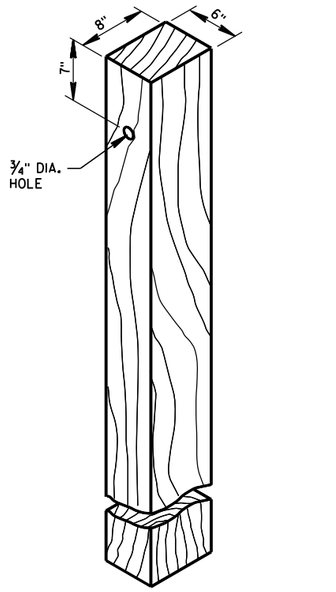


END VIEW

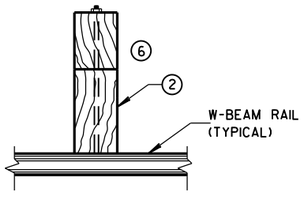
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



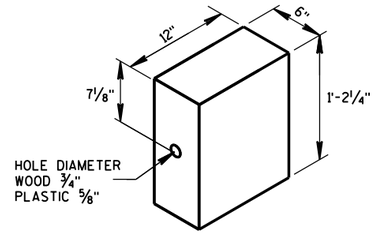
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



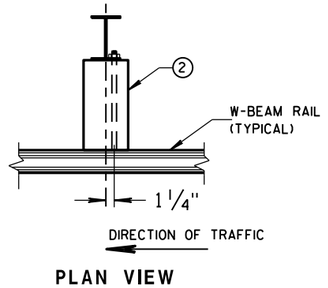
WOOD POST
(6" X 8") NOMINAL (1)



PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



WOOD OR
PLASTIC BLOCKOUT (2)



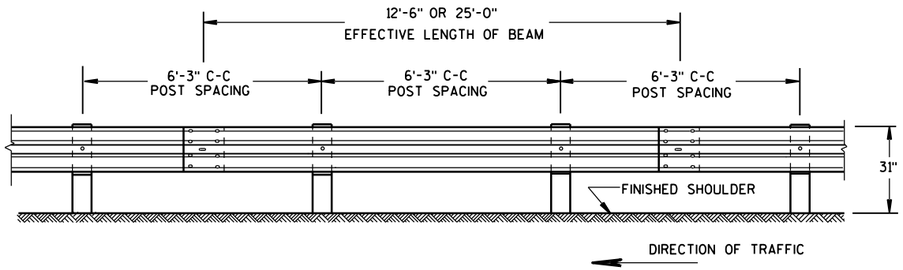
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

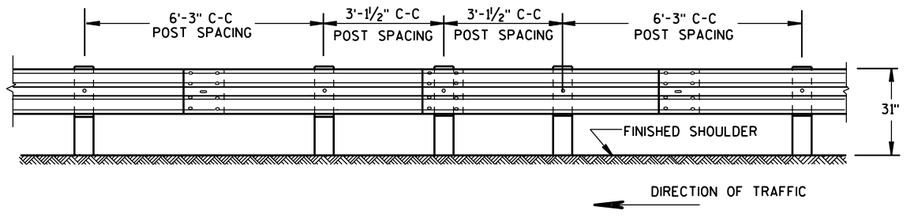
6

S.D.D. 14 B 42-3a



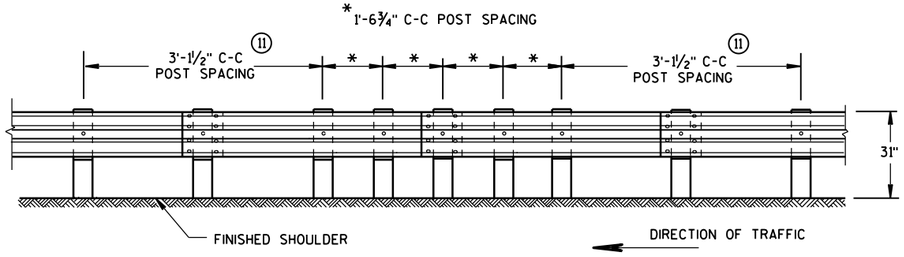
FRONT VIEW

POST SPACING STANDARD INSTALLATION



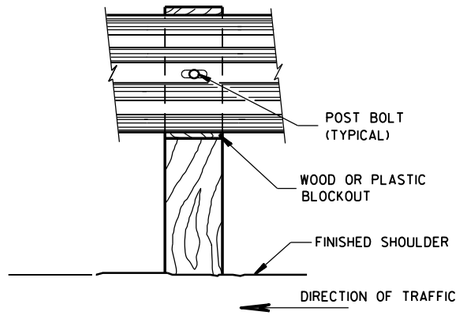
FRONT VIEW

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

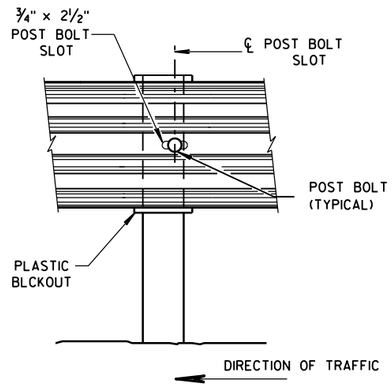


FRONT VIEW

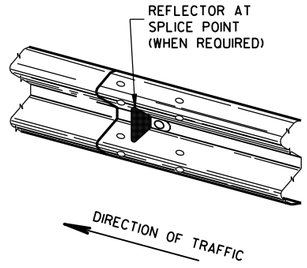
QUARTER POST SPACING (QS)

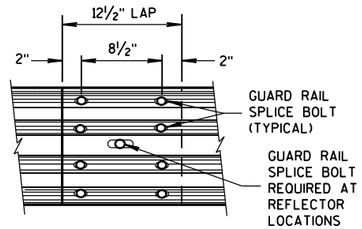


FRONT VIEW AT WOOD POST



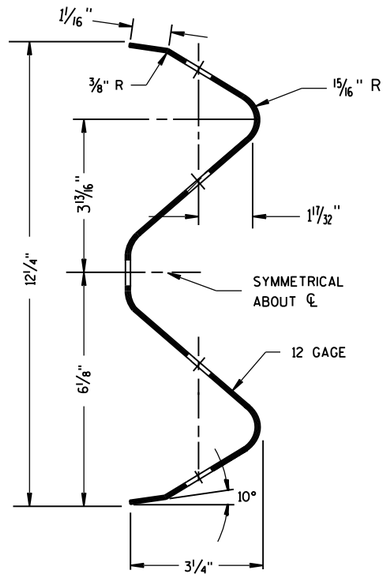
FRONT VIEW AT STEEL POST



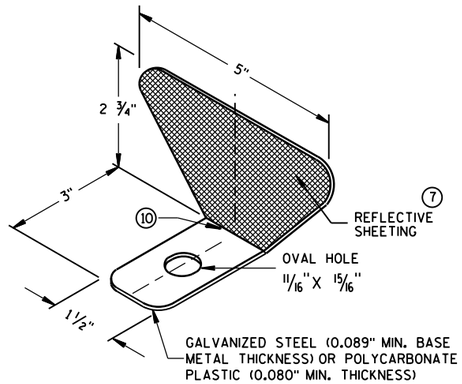


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

GENERAL NOTES

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

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

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

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

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

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

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

REFLECTOR SPACING ⑧

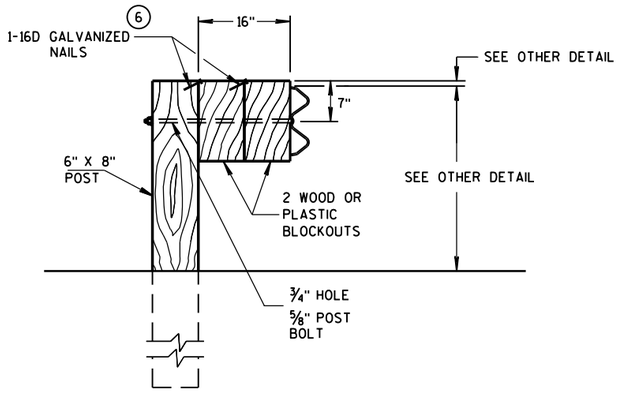
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2	3
	> 200'	100' C-C	2 ⑩	

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

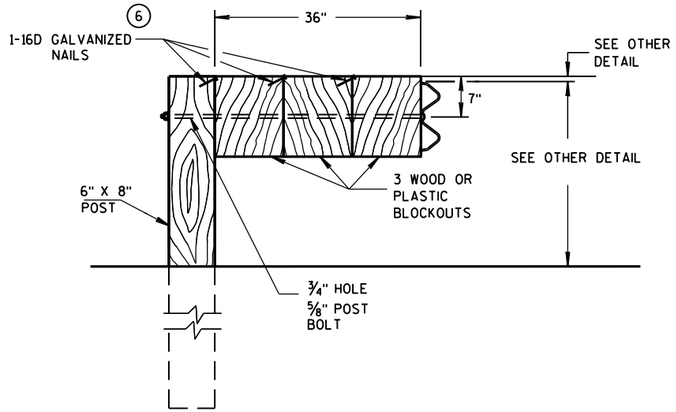
6

S.D.D. 14 B 42-3b



DETAIL FOR 16" BLOCKOUT DEPTH

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

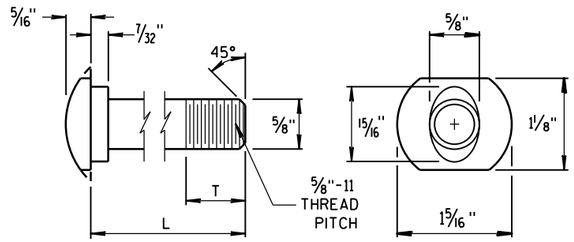


DETAIL FOR 36" BLOCKOUT DEPTH

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

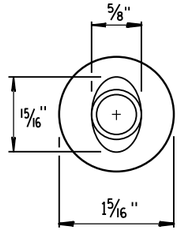
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

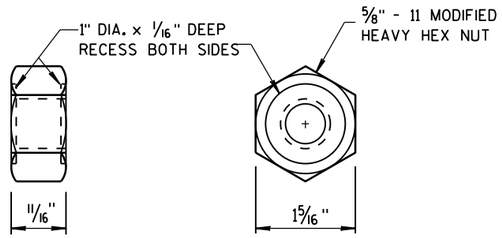


POST BOLT TABLE

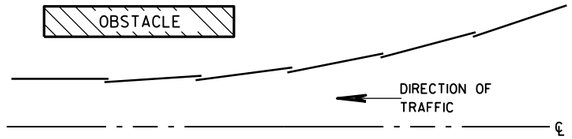
L	T (MIN.)
1¼"	1⅛"
2"	1¾"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



ALTERNATE BOLT HEAD

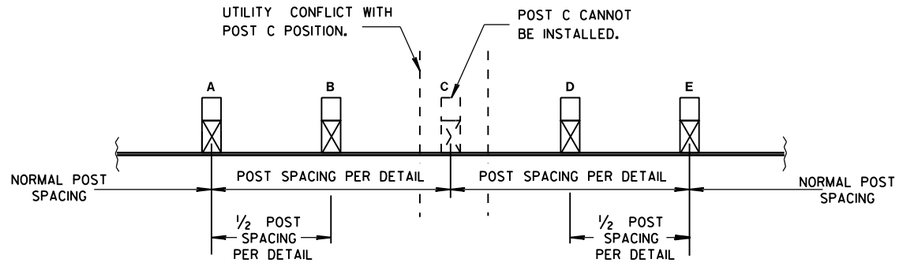


POST BOLT AND RECESS NUT

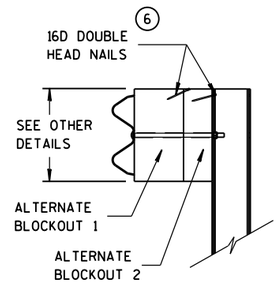


PLAN VIEW

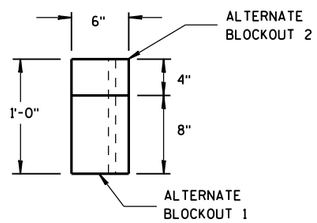
BEAM LAPPING DETAIL



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

6
S.D.D. 14 B 42-3c

GENERAL NOTES

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

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

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

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

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

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

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

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

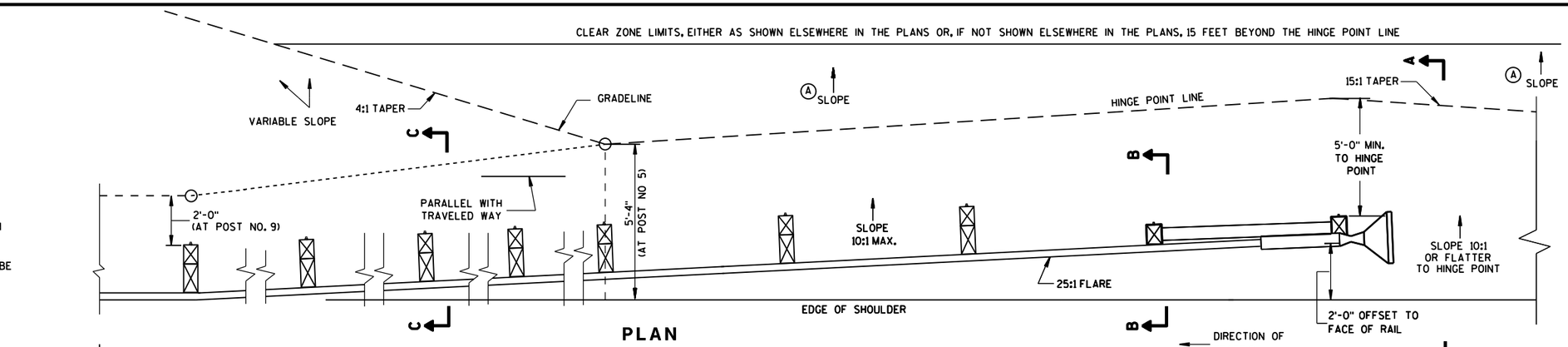
SEE SDD 14B42 FOR MORE INFORMATION.

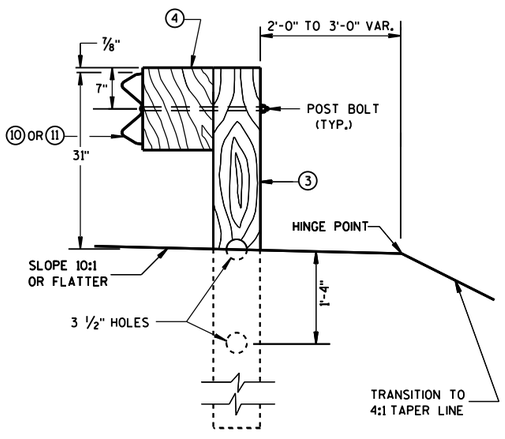
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

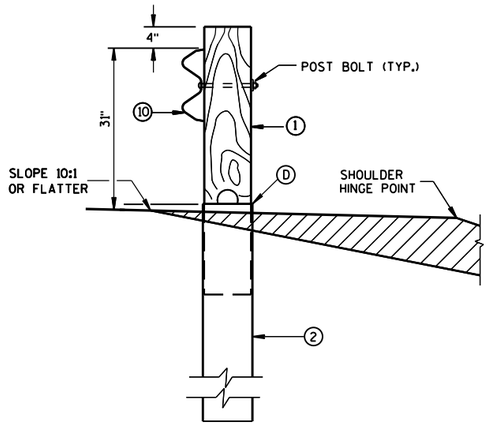
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

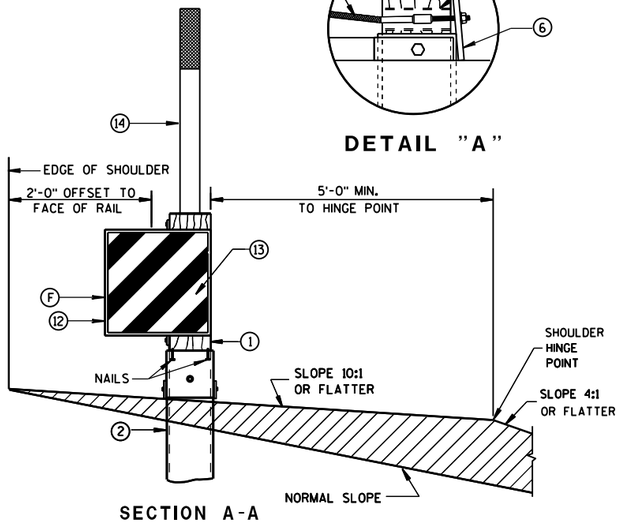




SECTION C-C
TYPICAL AT POST NOS. 3-9

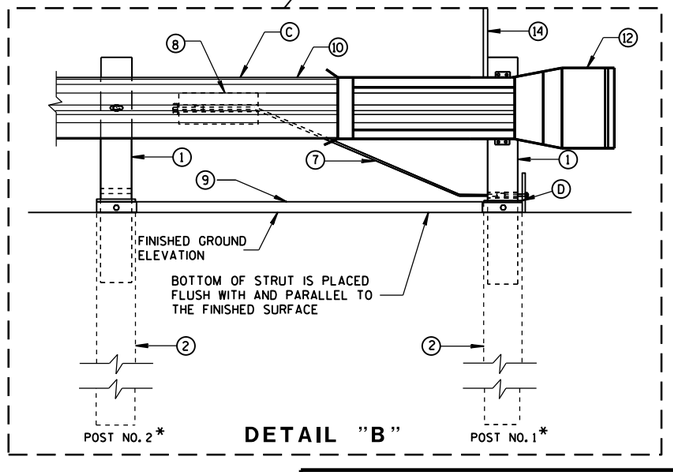


SECTION B-B
TYPICAL AT POST NO. 2*



SECTION A-A
TYPICAL AT POST NO. 1*

DETAIL "A"



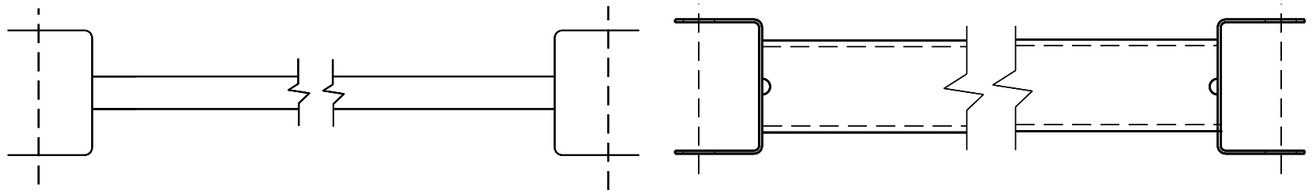
DETAIL "B"

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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

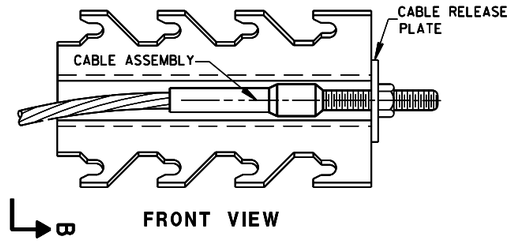
S.D.D. 14 B 44-2a



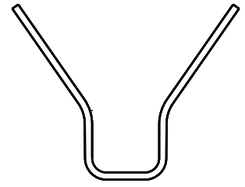
GENERIC GROUND STRUT (9) (H)

BILL OF MATERIALS

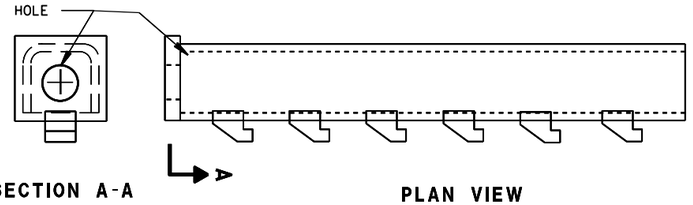
PART NO.	DESCRIPTION MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.
(1)	WOOD BREAKAWAY POST
(2)	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
(3)	WOOD CRT
(4)	WOOD BLOCKOUT
(5)	PIPE SLEEVE
(6)	BEARING PLATE
(7)	BCT CABLE ASSEMBLY
(8)	ANCHOR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



FRONT VIEW



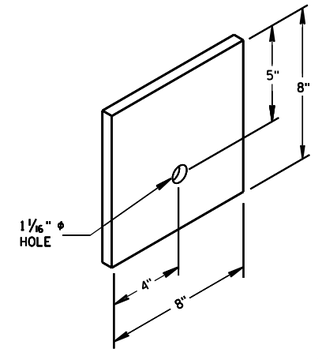
SECTION B-B



SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)



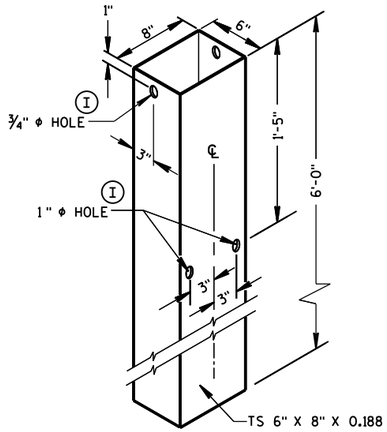
BEARING PLATE (6)

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

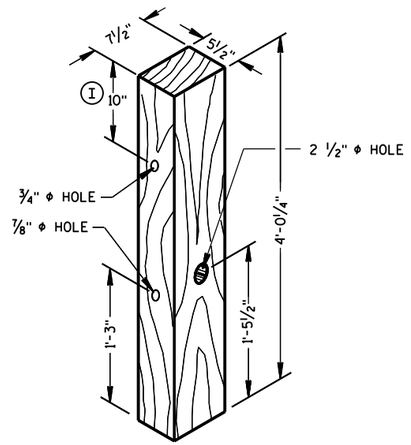
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

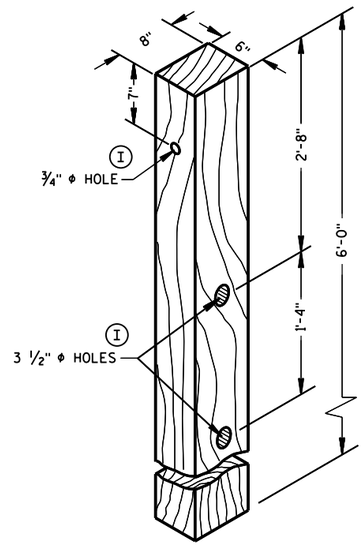


FOUNDATION TUBE (2)



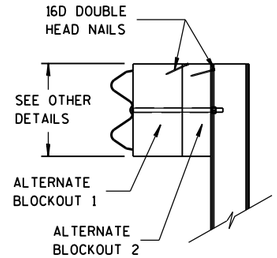
POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

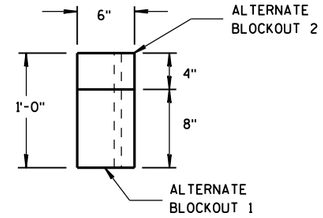


POSTS NUMBER 3-9

WOOD CRT POST (3)

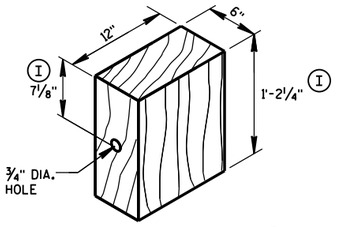


SIDE VIEW



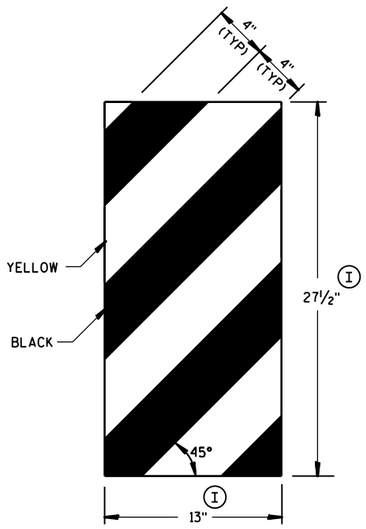
TOP VIEW

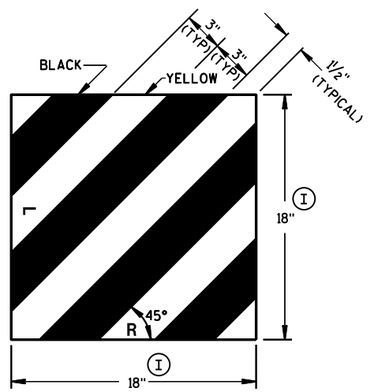
ALTERNATE WOOD BLOCKOUT DETAIL



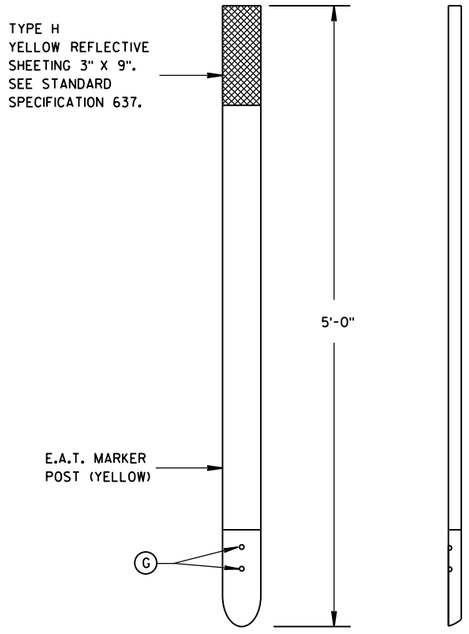
WOOD BLOCKOUT (4)

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





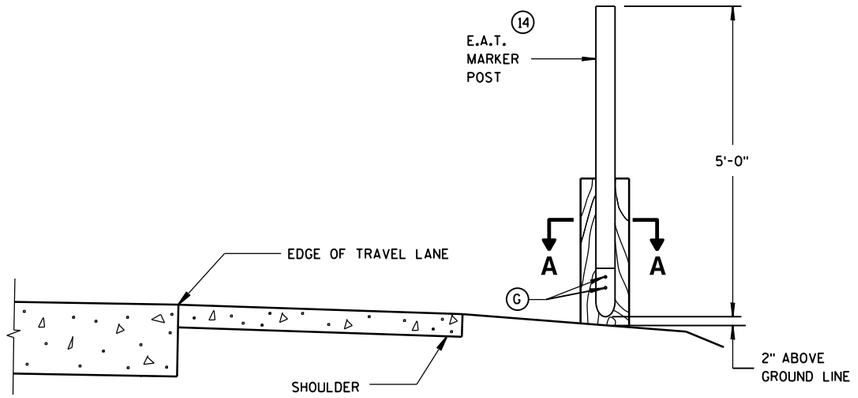
GENERIC REFLECTIVE SHEETING (13) (H)



FRONT VIEW

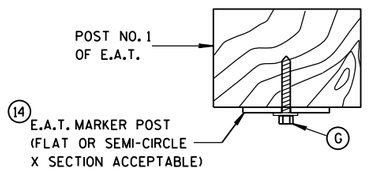
SIDE VIEW

E.A.T. MARKER POST (14)



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

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



SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

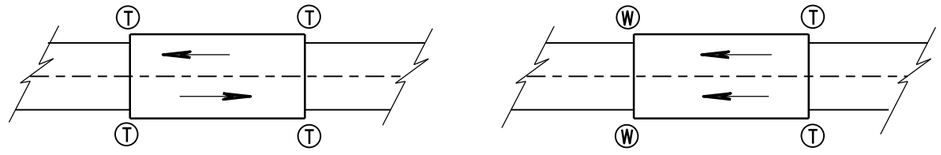
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

6

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



TWO WAY TRAFFIC **ONE WAY TRAFFIC**

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

GENERAL NOTES

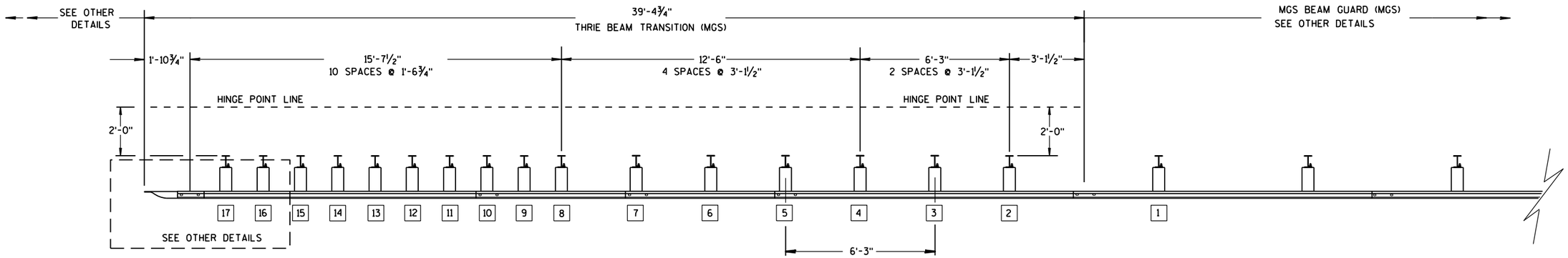
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

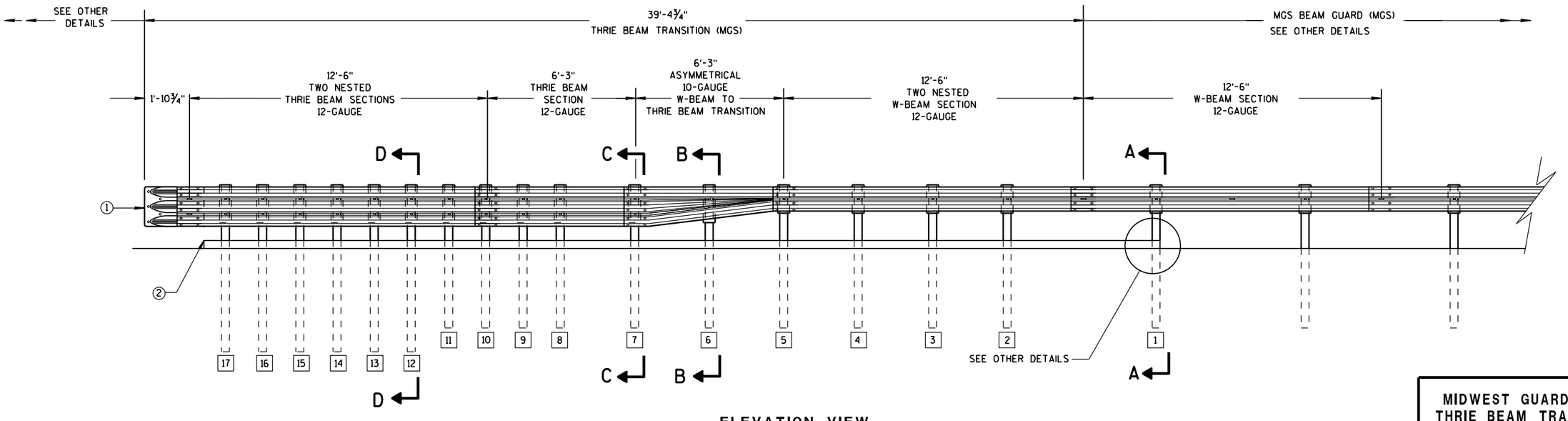
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

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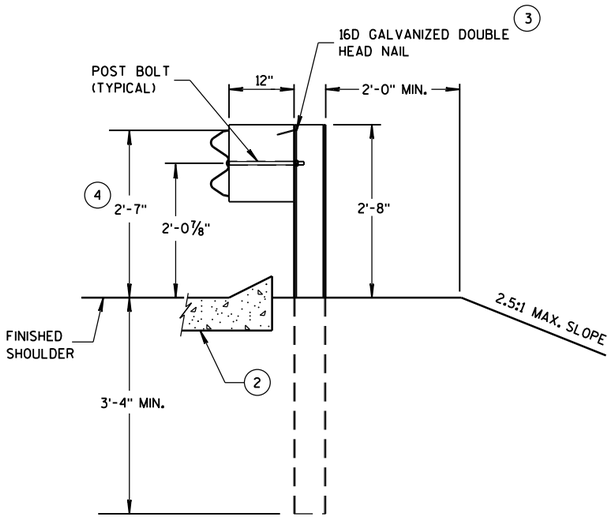
S.D.D. 14 B 45-4a

GENERAL NOTES

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

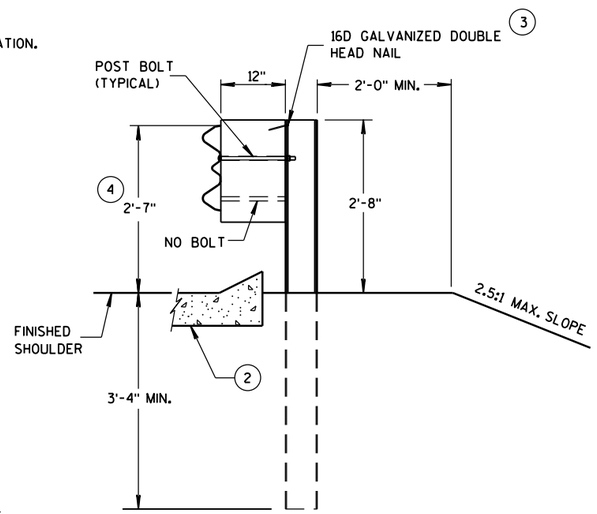
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



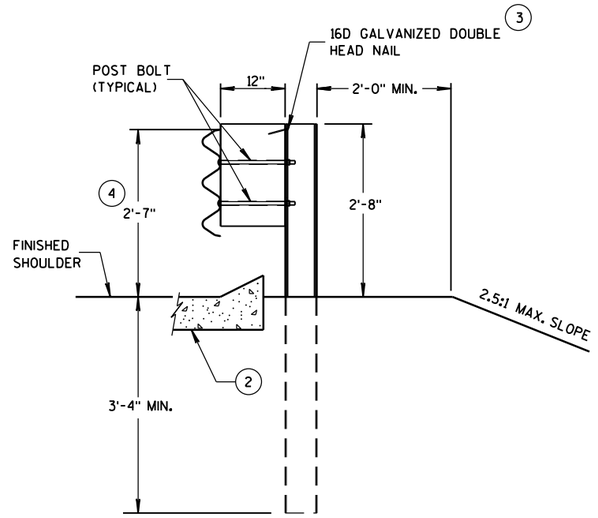
SECTION A-A

POSTS 1-5



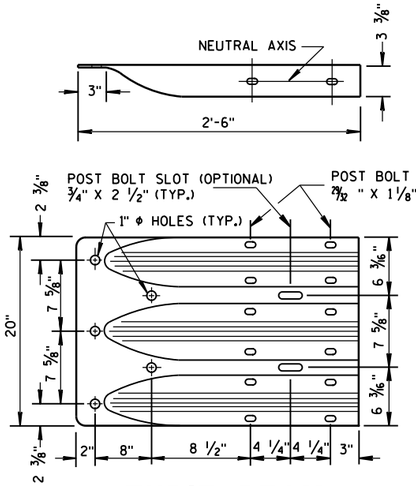
SECTION B-B

POST 6



SECTION C-C

POSTS 7-11



THRIE BEAM TERMINAL CONNECTOR

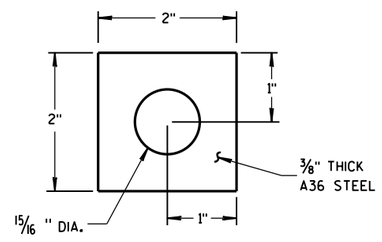
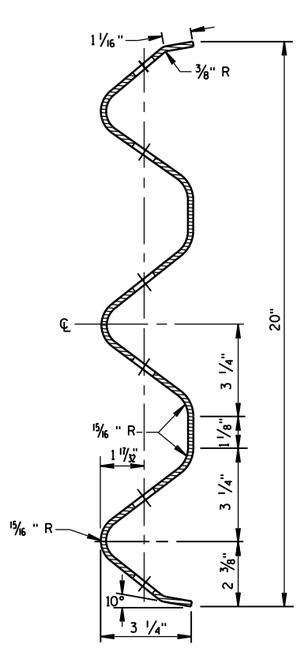
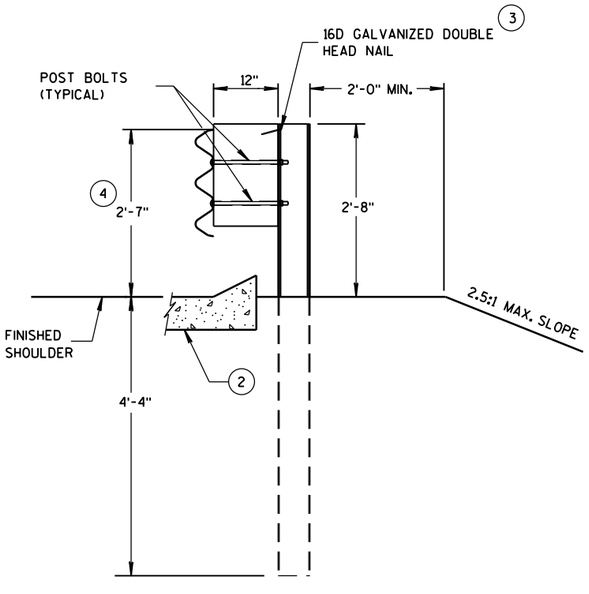


PLATE WASHER DETAIL

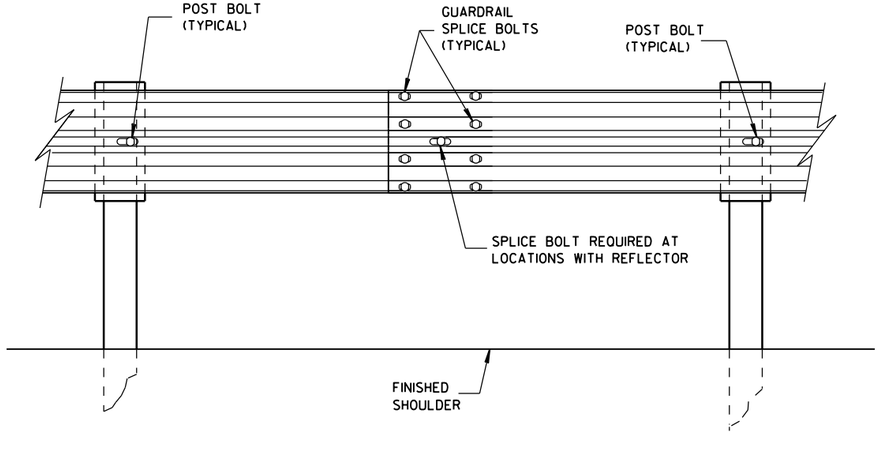


SECTION THRU THRIE BEAM RAIL ELEMENT



SECTION D-D

POSTS 12-17



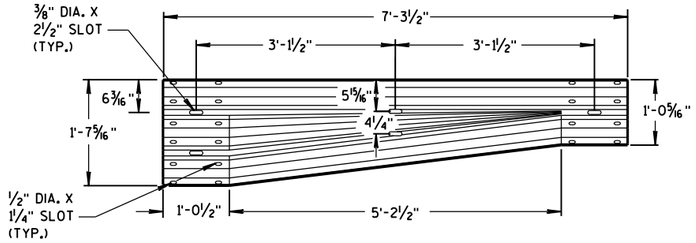
SPLICE DETAIL

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

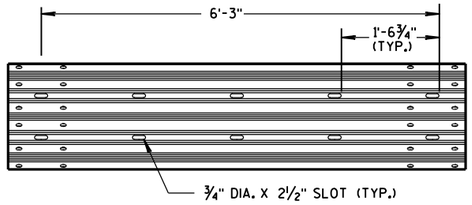
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

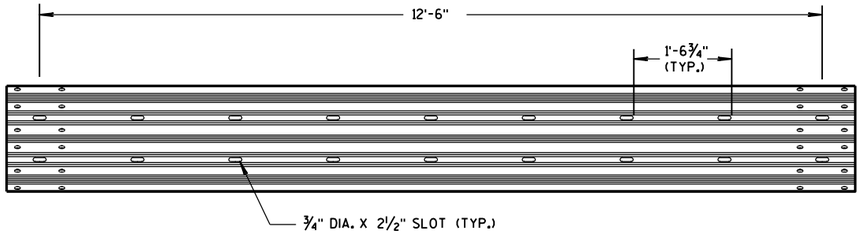
S.D.D. 14 B 45-4b



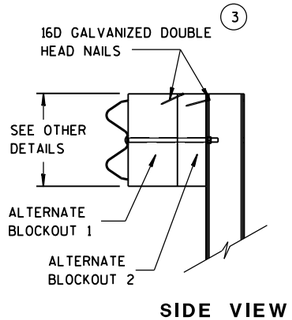
W-BEAM TO THRIE BEAM TRANSITION SECTION



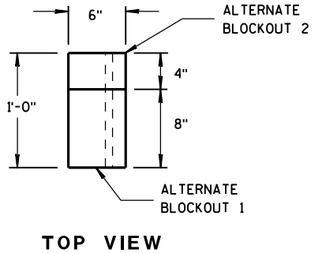
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

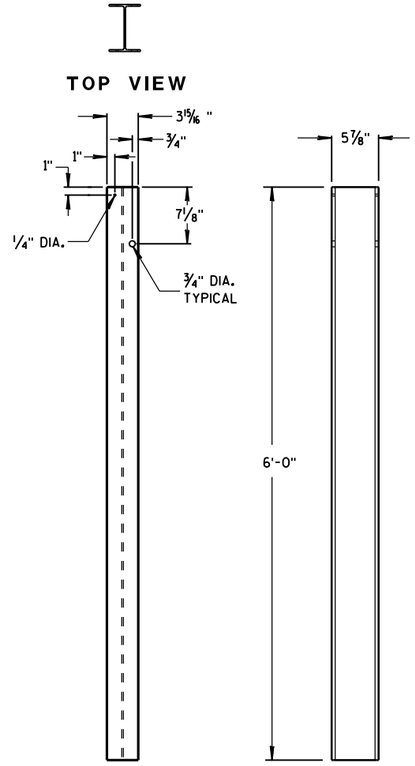


SIDE VIEW

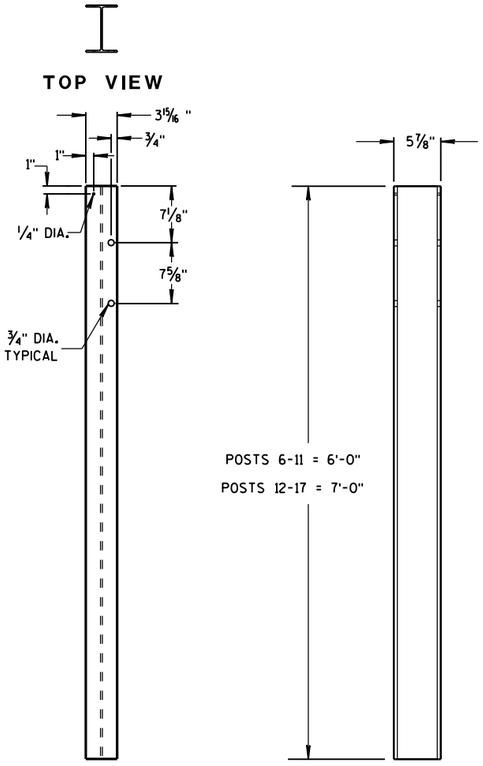


TOP VIEW

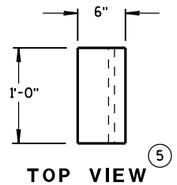
ALTERNATE WOOD BLOCKOUT DETAIL



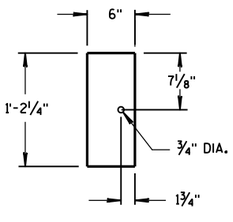
STEEL POSTS 1-5



STEEL POSTS 6-17

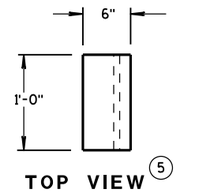


TOP VIEW

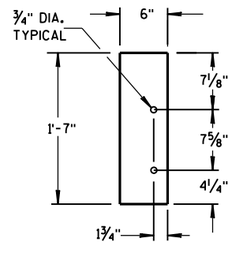


FRONT VIEW

BLOCKOUT POSTS 1-5



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

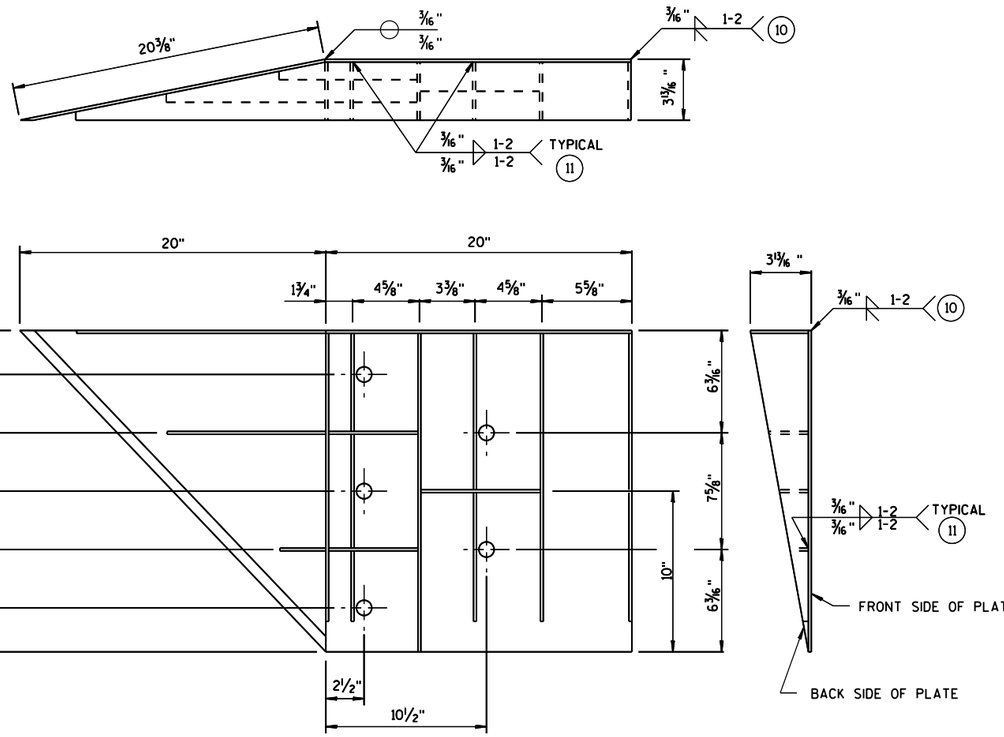
(5) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

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



WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

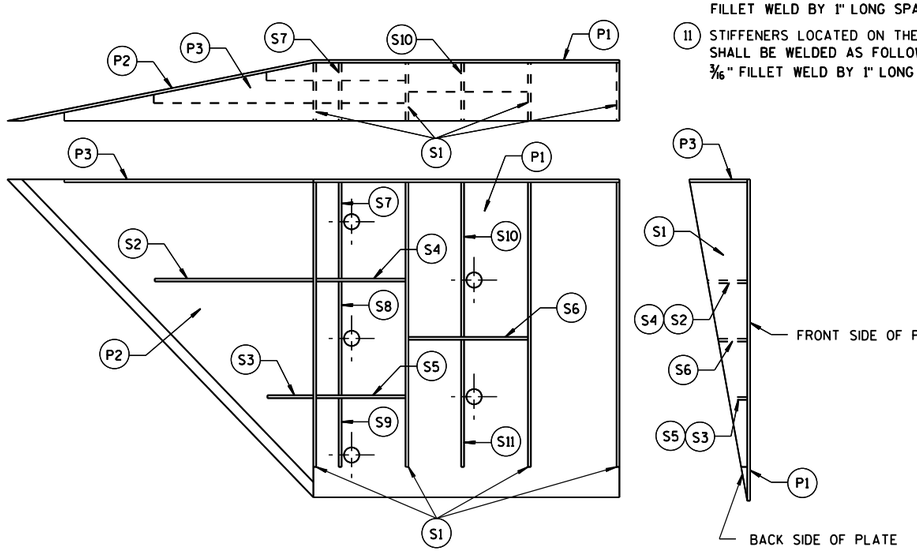


PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

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

SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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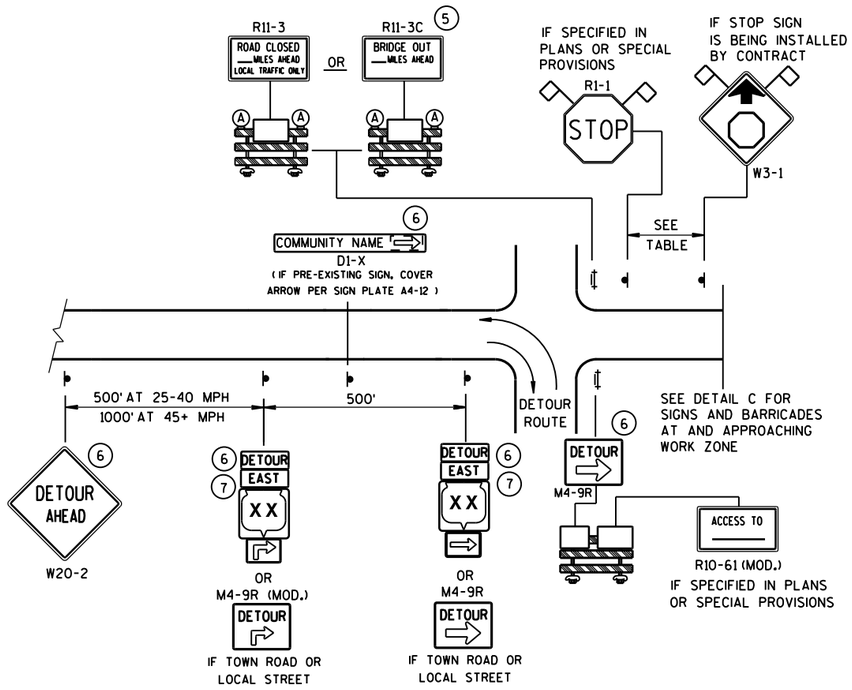
S.D.D. 14 B 45-4i

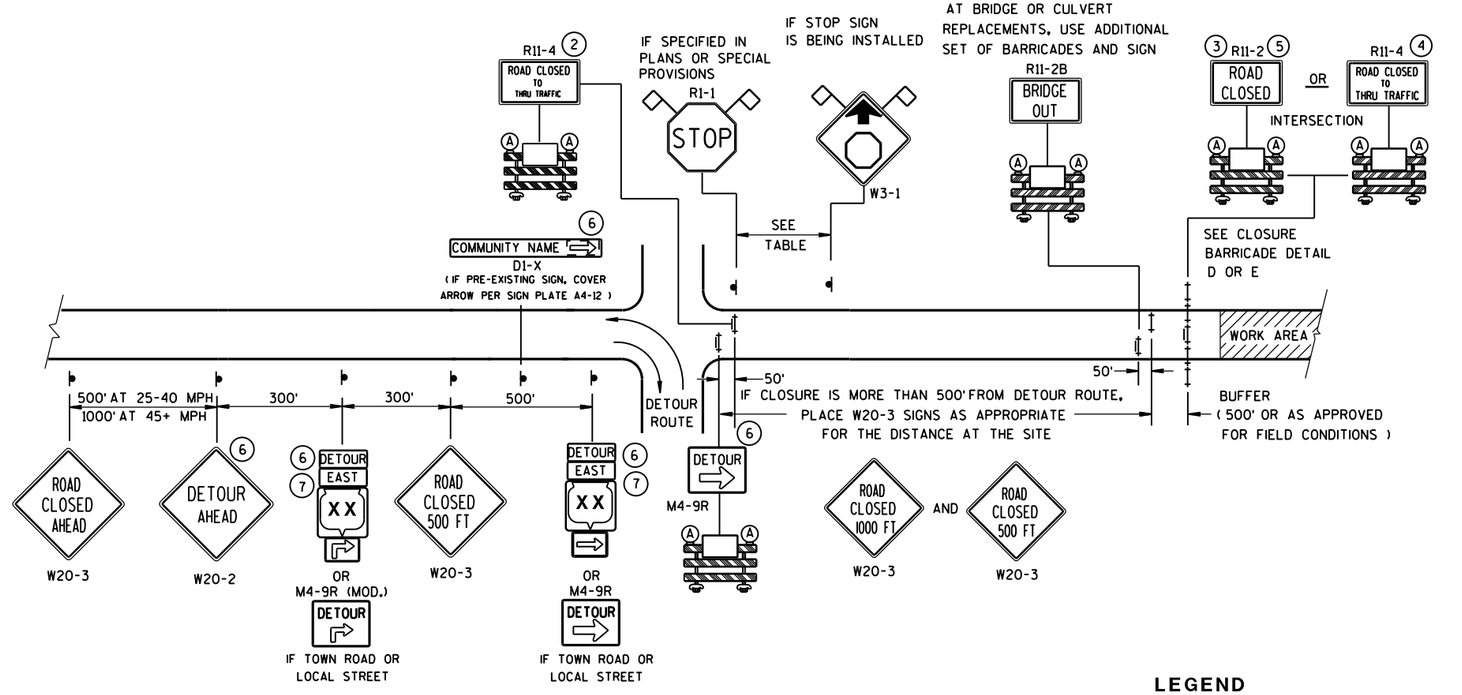
6

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



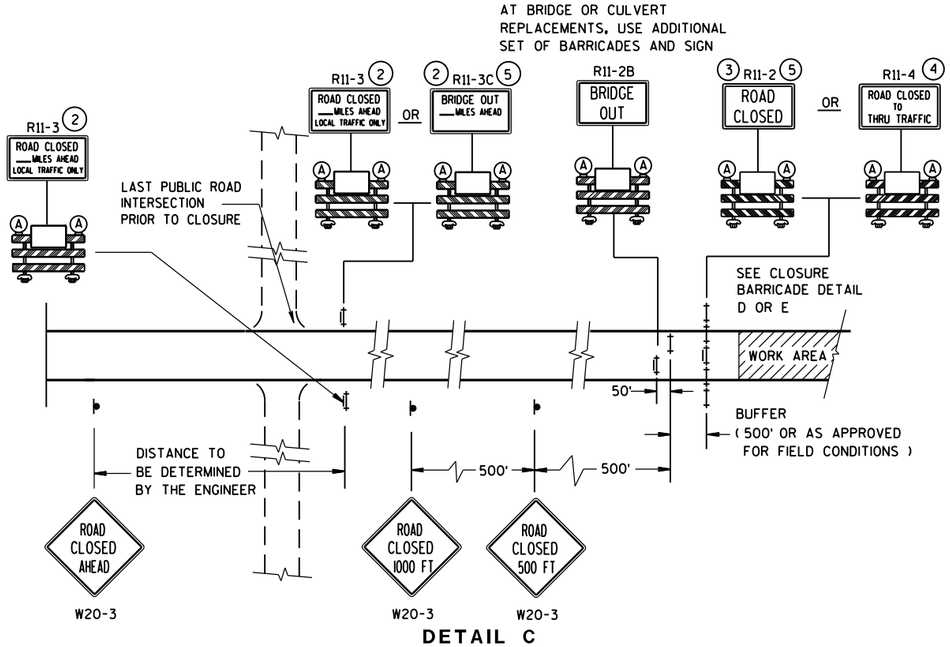
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

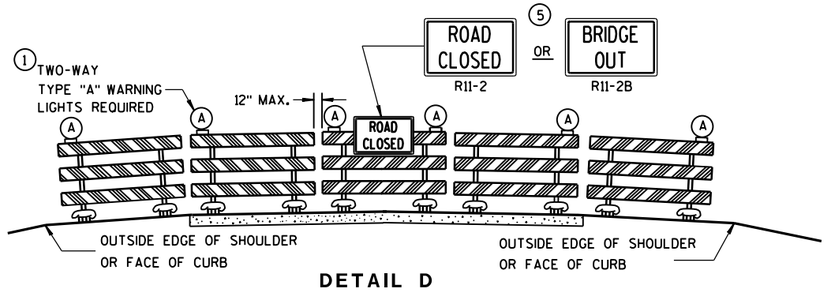
8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA

6

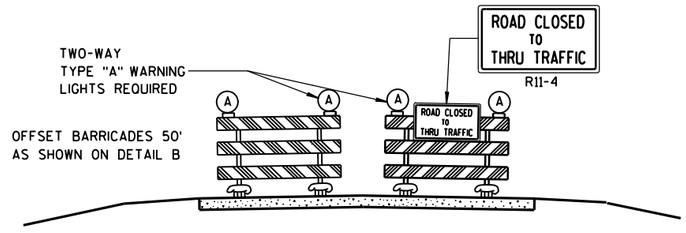
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

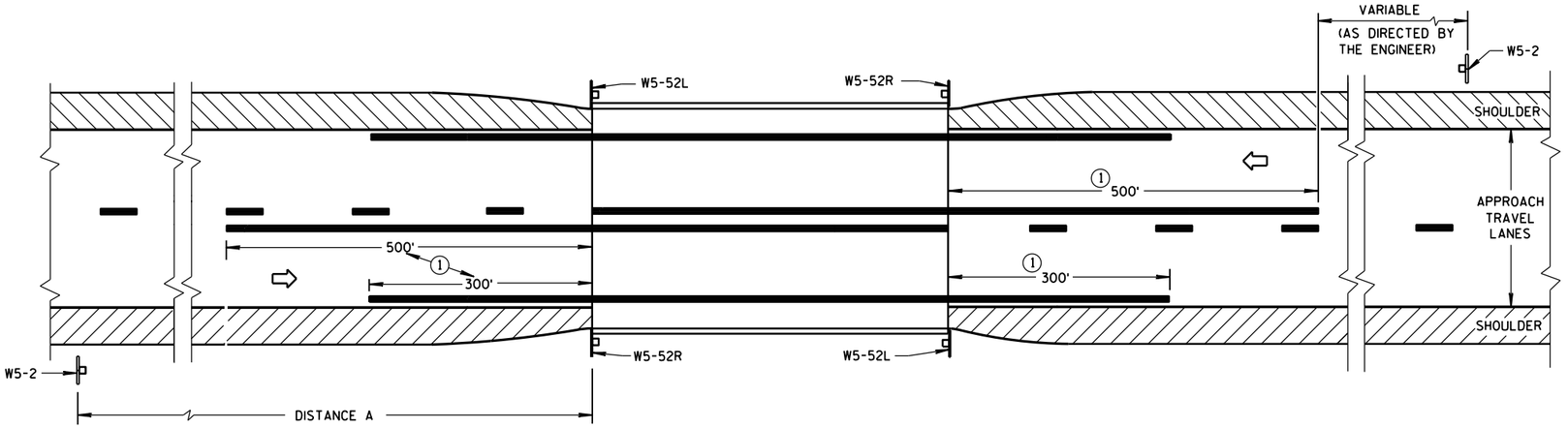
8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

6

S.D.D. 15 C 2-5b



GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

(1) MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.

(2) FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.

(3) LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.

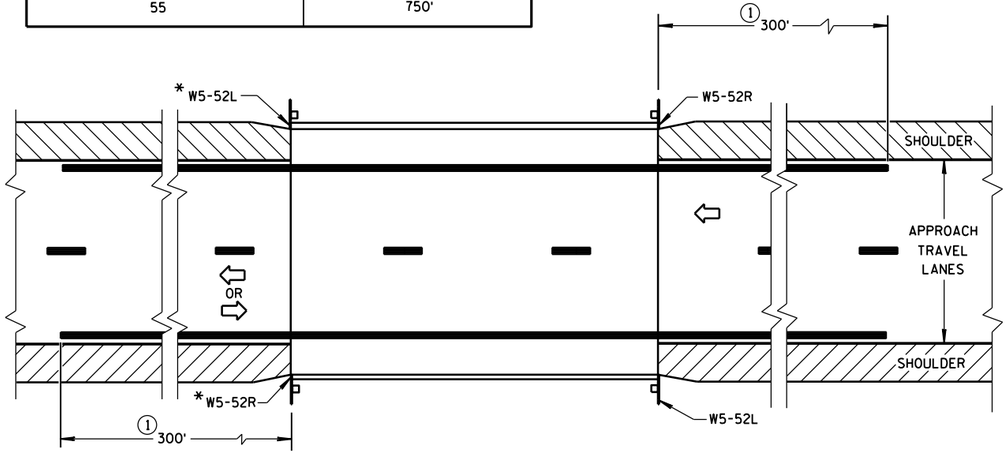
DISTANCE TABLE

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

SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET

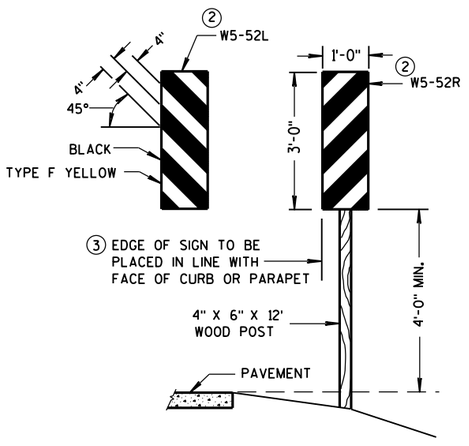


*OMIT ON ONE-WAY TRAVELLED WAYS

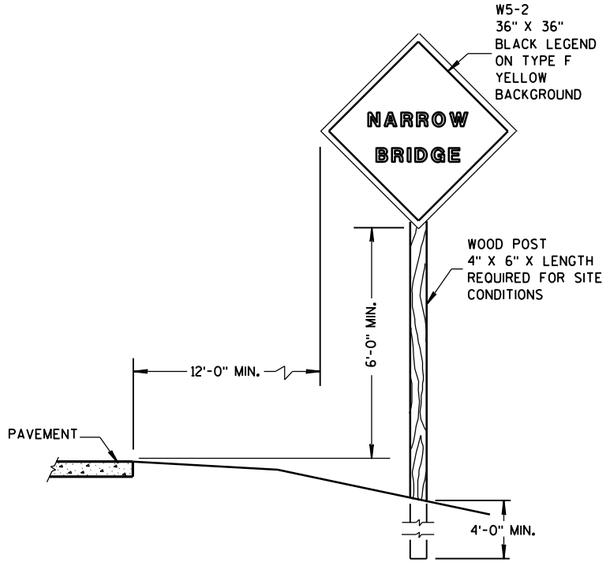
SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



OBJECT MARKER PLACEMENT



SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

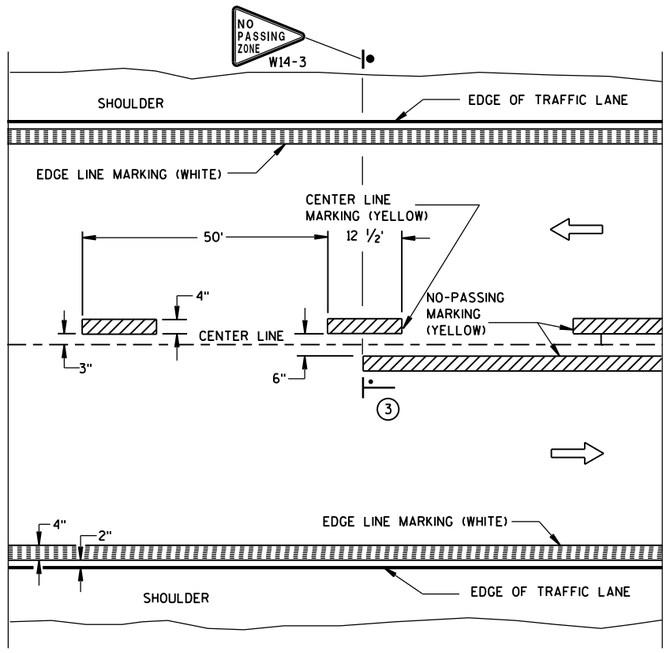
3-2014 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

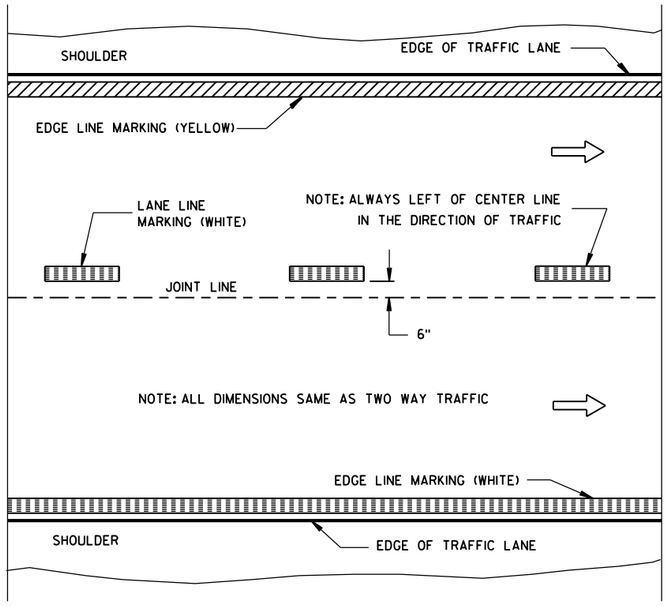
FHWA

6

S.D.D. 15 C 6-7

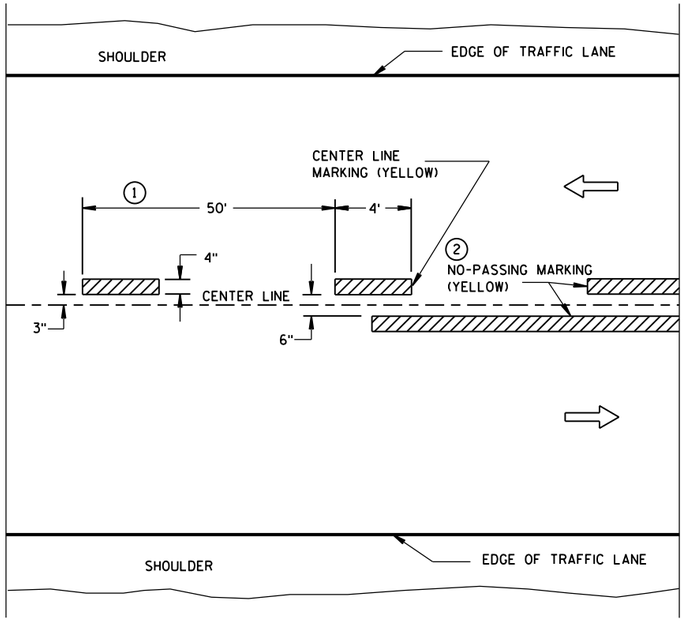


TWO WAY TRAFFIC

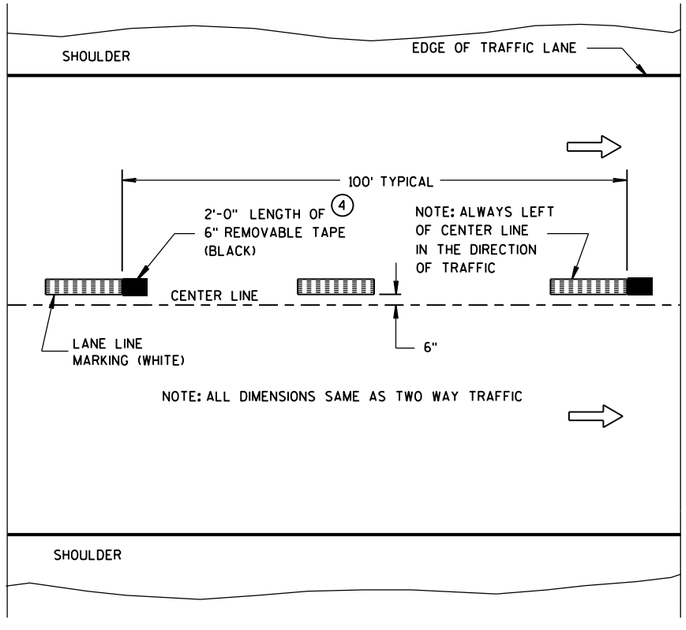


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

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

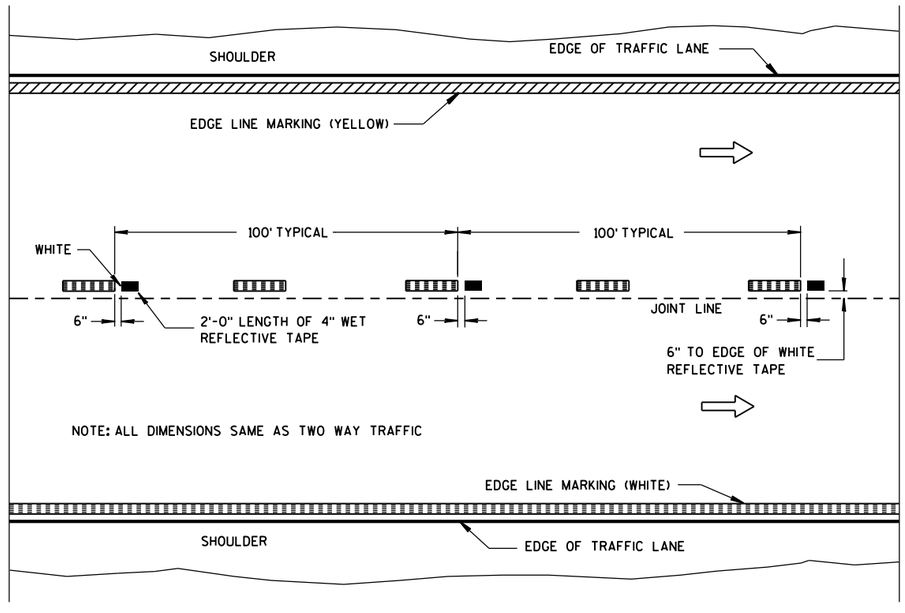
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

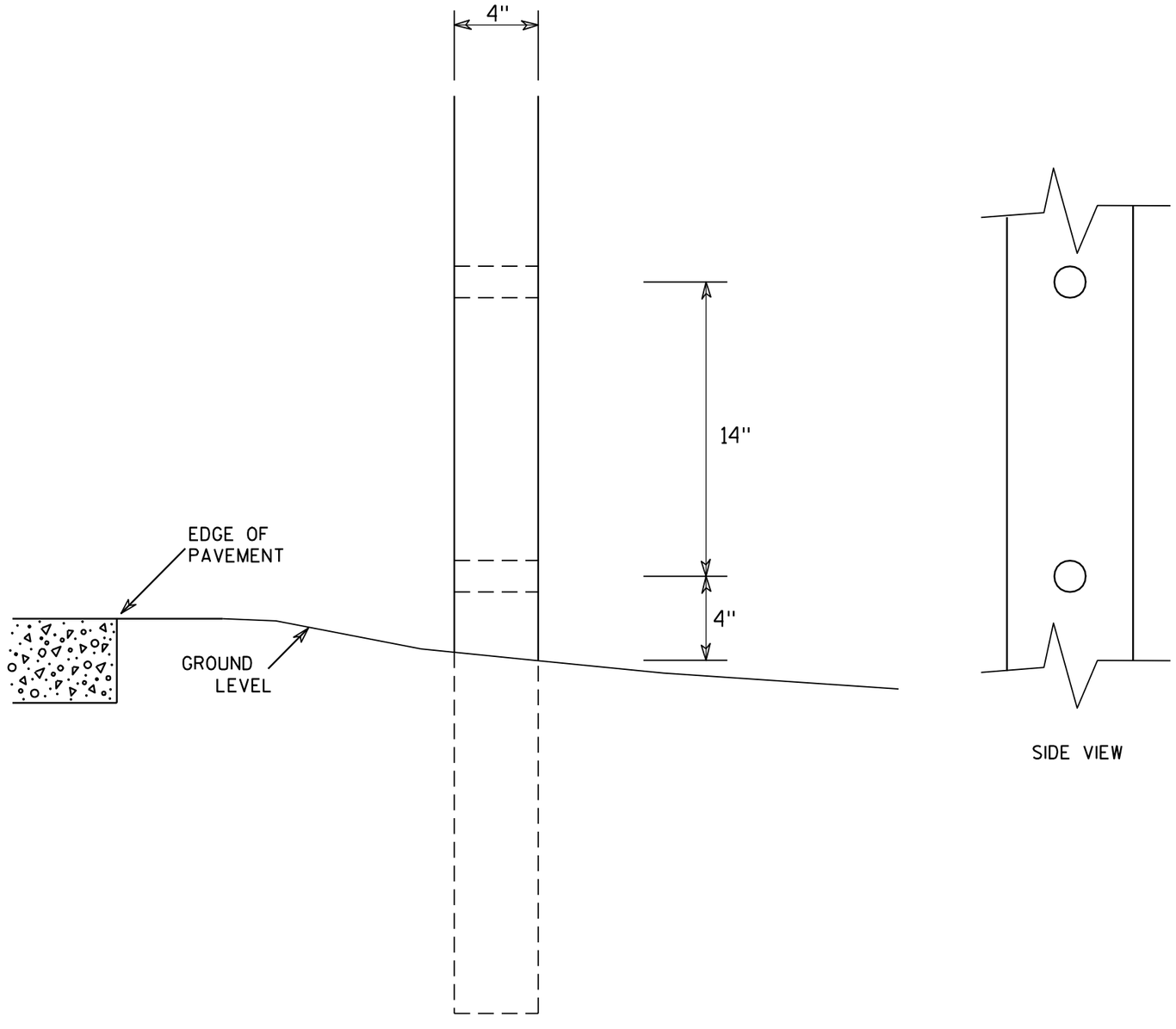
PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5-13-2013 DATE
/S/ Travis Feltes STATE TRAFFIC E
FHWA

6

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



SIDE VIEW

GENERAL NOTES

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

7

7

4 X 6 WOOD POST MODIFICATIONS

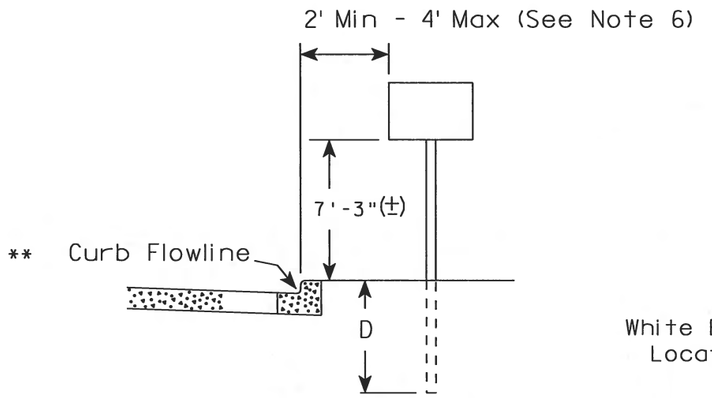
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

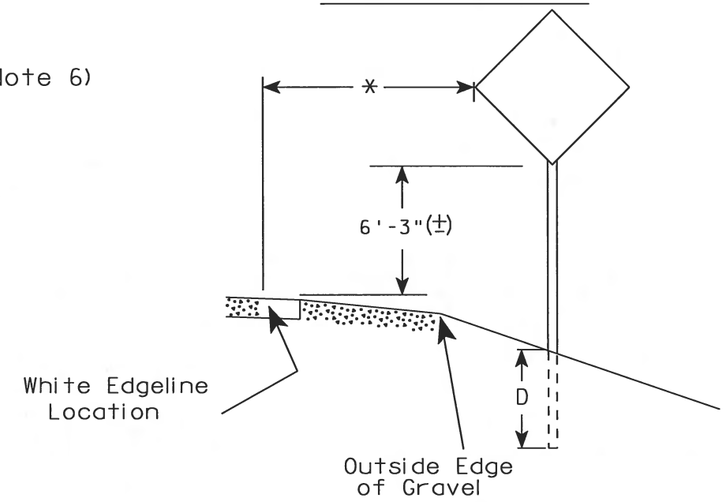
DATE 3/27/97 PLATE NO. A4-11.2

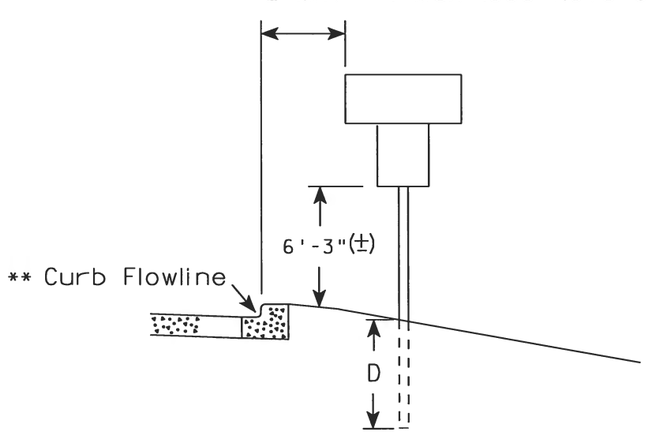
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK		SHEET NO: 36	E

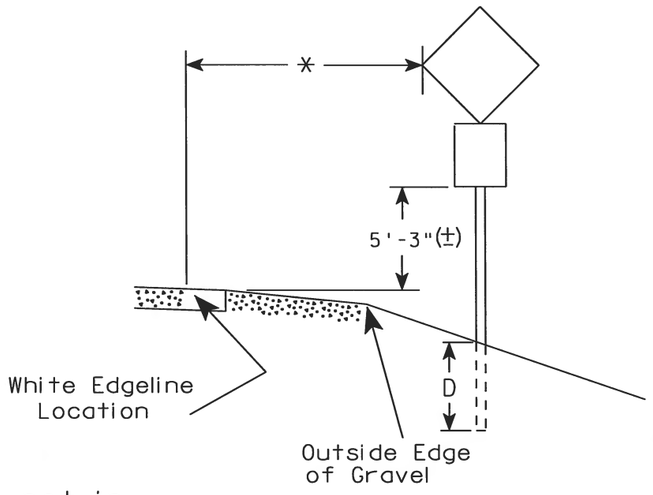
URBAN AREA



RURAL AREA (See Note 2)







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

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

GENERAL NOTES

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

POST EMBEDMENT DEPTH

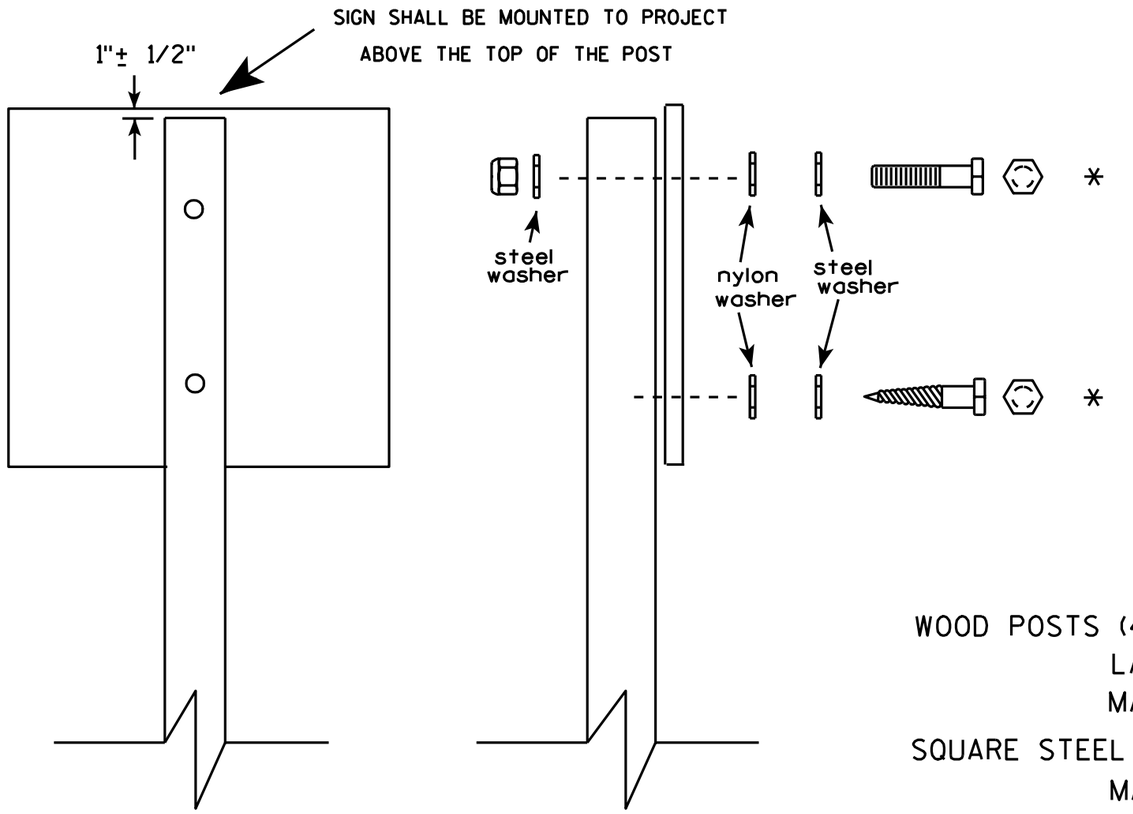
Area of Sign Installation (Sq.Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19



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

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

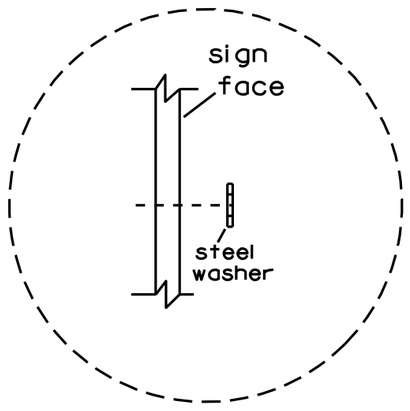
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

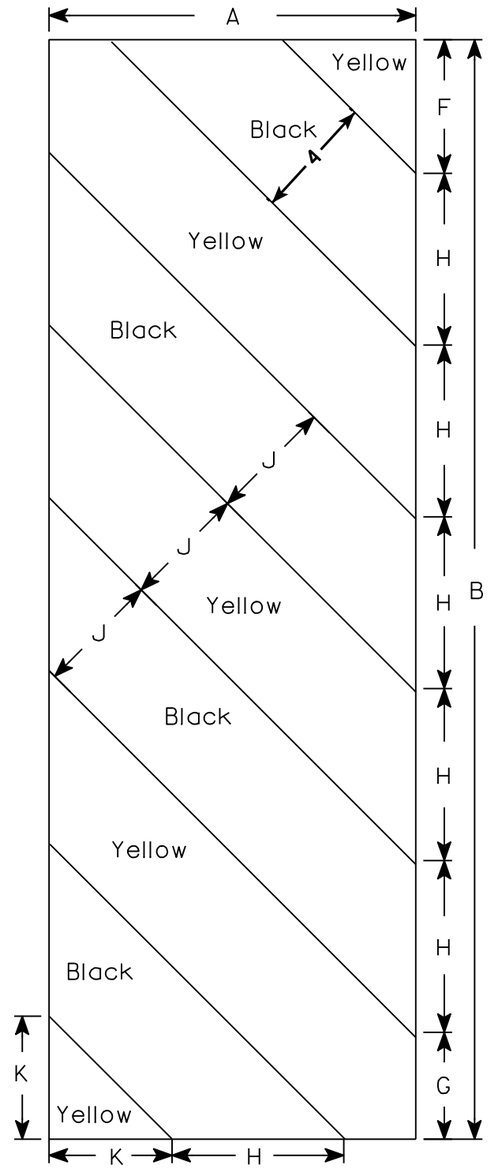
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

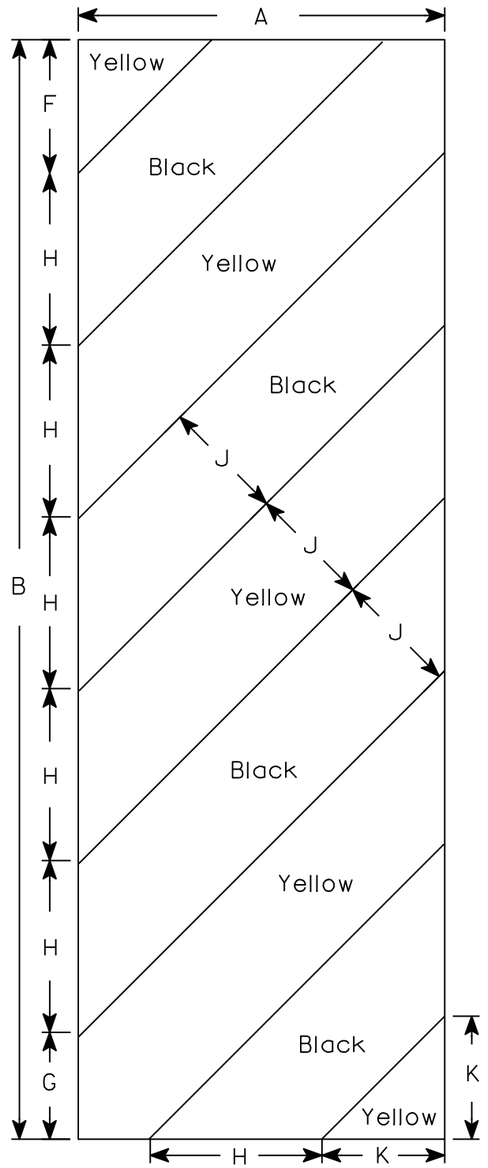
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK		SHEET NO: 38	E



W5-52L



W5-52R

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
2M	12	36				4 3/8	3 1/2	5 5/8	45°	4	4																3.0
3	18	54				6	5 1/2	8 1/2	45°	6	6 9/16																6.75
4																											
5																											

STANDARD SIGN

W5-52L & W5-52R

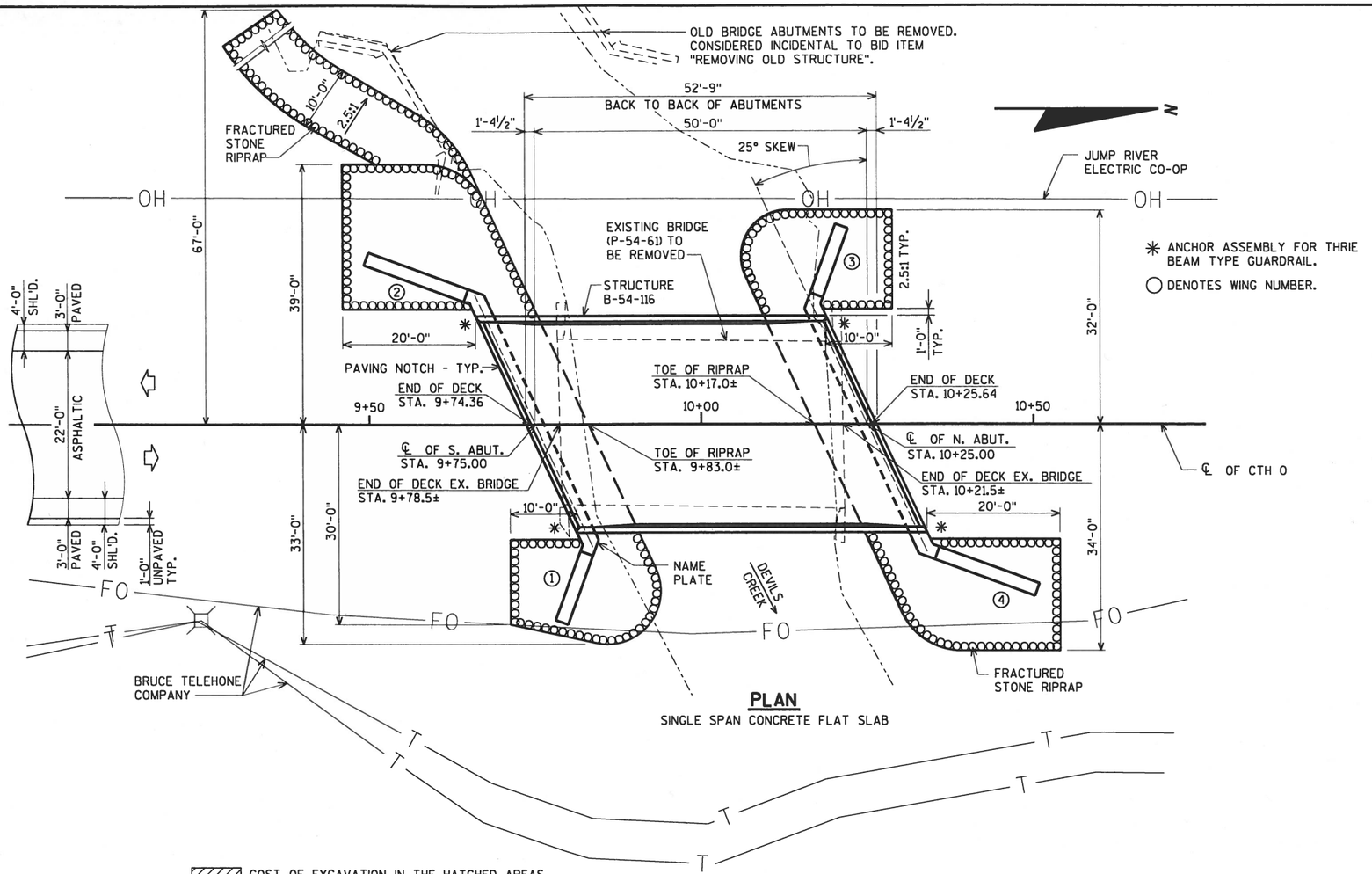
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

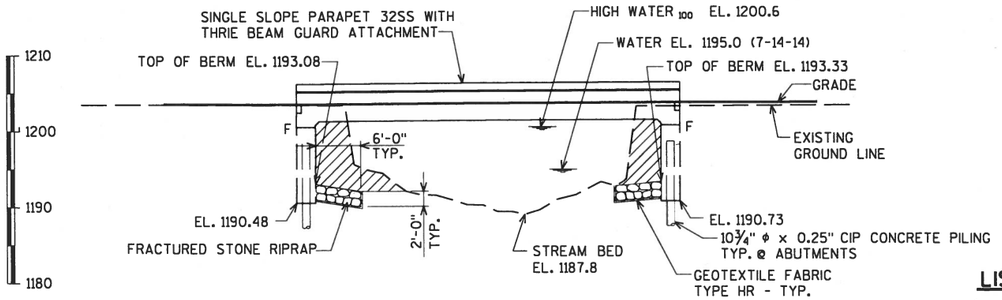
PROJECT NO: 8785-00-71 | HWY: CTH O | COUNTY: RUSK | SHEET NO: 39 | E

STATE PROJECT NUMBER
8785-00-71

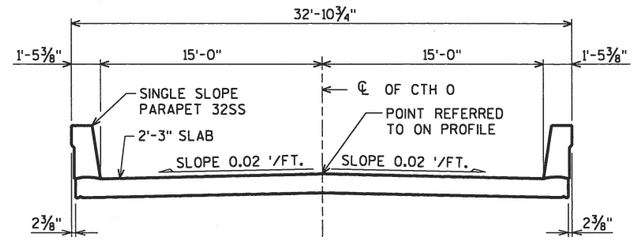


PLAN
SINGLE SPAN CONCRETE FLAT SLAB

COST OF EXCAVATION IN THE HATCHED AREAS SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICE FOR "EXCAVATION FOR STRUCTURES BRIDGES B-54-116".



ELEVATION
(NORMAL TO ℄ OF RIVER)



TYPICAL SECTION THRU BRIDGE

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: 1.10
OPERATING RATING FACTOR: 1.42
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 #/S.F.

MATERIAL PROPERTIES:

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

HYDRAULIC DATA:

100 YEAR FLOOD
DRAINAGE AREA = 21.1 sq. mi.
WATERWAY AREA = 420 sq. ft.
V = 5.7 f.p.s.
Q_{100} = 2,400 c.f.s.
HIGH $WATER_{100}$ EL. 1200.6
HIGH $WATER_2$ EL. 1196.1
RDWY. OVERFLOW = N/A
SCOUR CRITICAL CODE = 8
NAVD 88 DATUM

FOUNDATION DATA:

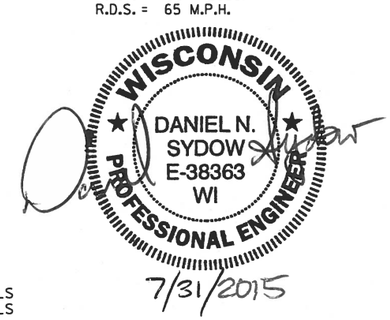
ABUTMENTS TO BE SUPPORTED ON 10¾" ϕ x 0.25" CIP CONCRETE PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS ‡ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 40'-0".

‡ 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. = 300 (2016)
A.D.T. = 400 (2036)
R.D.S. = 65 M.P.H.

LIST OF DRAWINGS



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

CONSULTANT CONTACT:
DAN SYDOW
(715)-834-3161

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. Dreher SDR 08/26/15
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-54-116

CTH O OVER DEVILS CREEK

COUNTY	TOWN/~~CITY/VILLAGE~~
RUSK	ATLANTA

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
JWZ	CJO	CJM/CLS	DNS

GENERAL PLAN

SHEET 1 OF 13
40

DATE: 12-11-2014 — CHECKED BY: KLW
DATE: 12-15-2014 — BACK CHECKED BY: KLW — CORRECTED BY: CJM

$PRFNAME$
U:\42-0948.00 - Rusk County, CTH O over Devils Creek\BRIDGE\420948 GP.dgn

8

8

7/31/2015

PENTABLE:BReau_shd_util.tbl

I.D.

DATE:

STATE PROJECT NUMBER

8785-00-71

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-----	-----	-----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-54-116	LS	-----	-----	-----	1
210.0100	BACKFILL STRUCTURE	CY	375	385	-----	760
502.0100	CONCRETE MASONRY BRIDGES	CY	59	59	159	277
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-----	-----	180	180
502.3210	PIGMENTED SURFACE SEALER	SY	-----	-----	45	45
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2,890	2,910	-----	5,800
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2,310	2,310	27,310	31,930
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	16	16	-----	32
550.0500	PILE POINTS	EACH	14	14	-----	28
550.2104	PILING CIP CONCRETE 10¾ x 0.25-INCH	LF	560	560	-----	1,120
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	85	85	-----	170
614.0150	ANCHOR ASSEMBLIES FOR STEEL BEAM GUARD	EACH	-----	-----	4	4
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	215	150	-----	365
SPV.0035	FRACTURED STONE RIPRAP	CY	120	80	-----	200
	NON-BID ITEMS					
	FILLER	SIZE	-----	-----	-----	½" & ¾"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.

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.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH FRACTURED STONE RIPRAP AND GEOTEXTILE FABRIC TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.

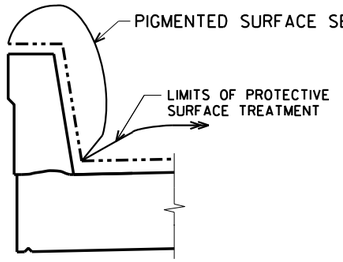
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.

THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.

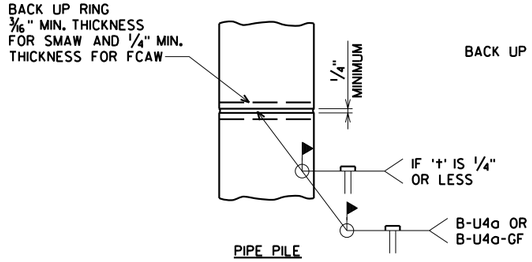
THE EXISTING STRUCTURE, P-54-61, TO BE REMOVED, IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE 43.0 FEET OVERALL LENGTH WITH A 25.3' CLEAR ROADWAY WIDTH.

AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.

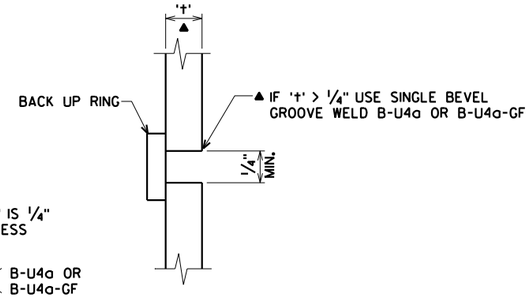


SURFACE TREATMENT DETAIL

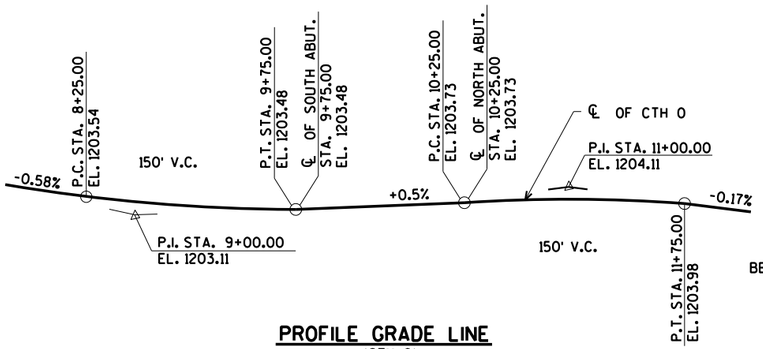


PILE SPLICE DETAIL

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



CIP PILE WELD DETAIL



PROFILE GRADE LINE
(CTH O)

BENCH MARK:
CHISLED SQUARE AT TOP OF SE WINGWALL
STA. 9+79, 13' RT.
EL. 1203.18

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

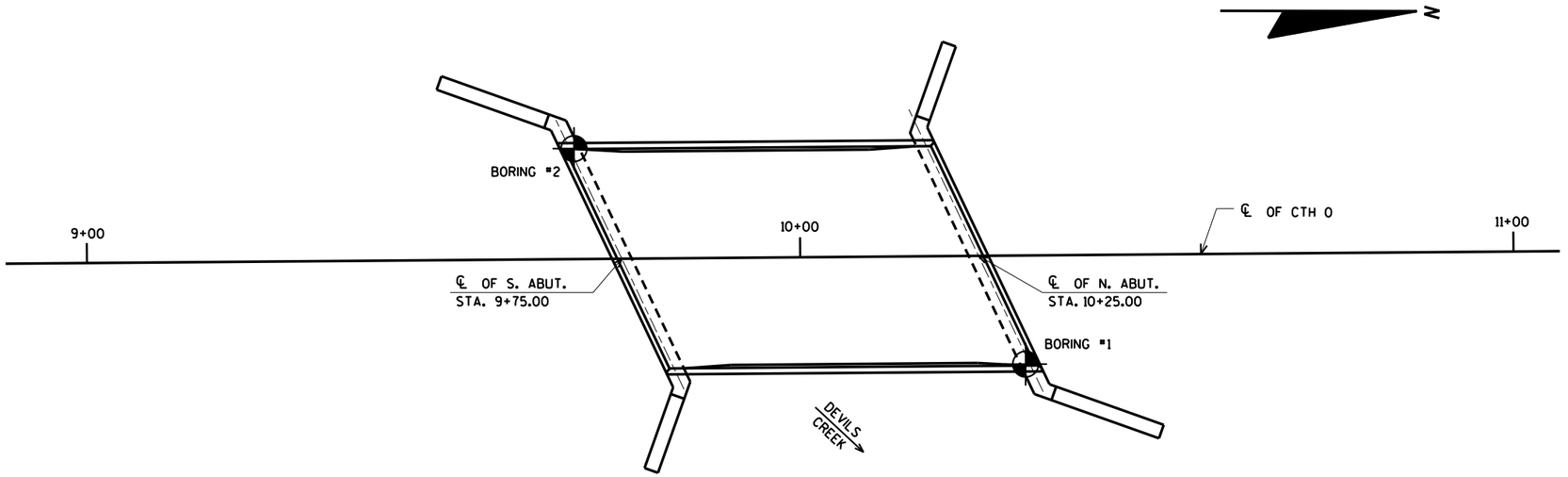
STRUCTURE B-54-116

DRAWN BY CJM | PLANS CK'D. CJM

QUANTITIES AND NOTES

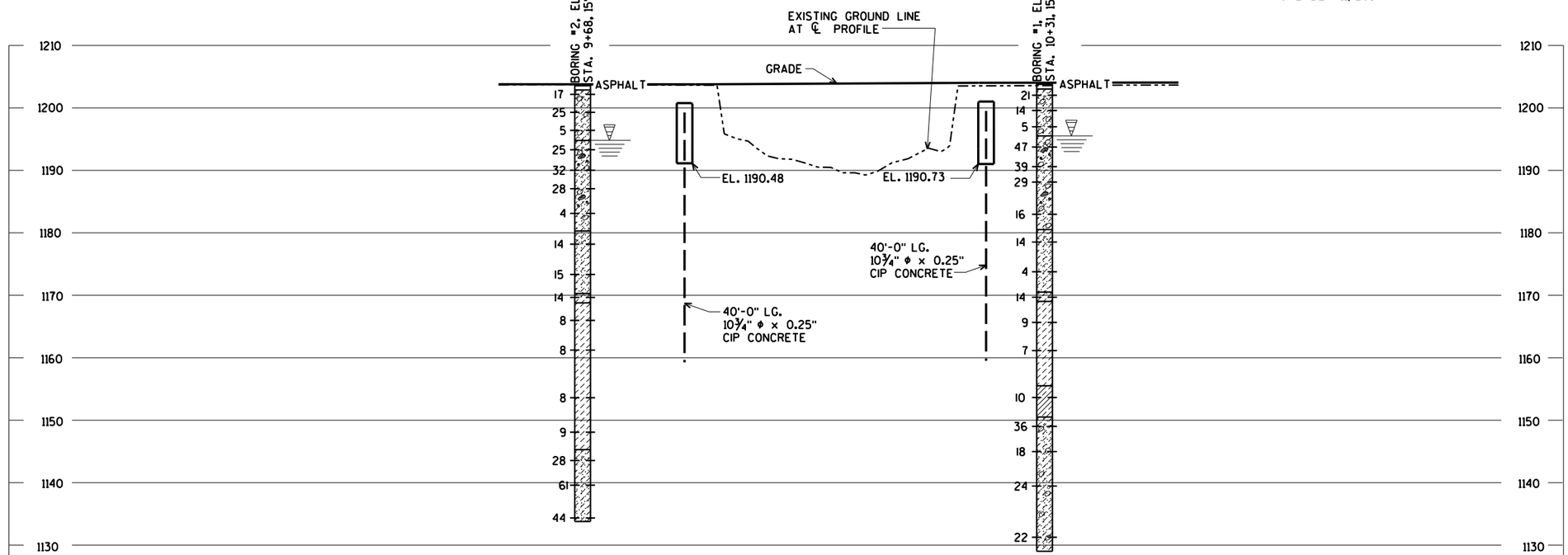
SHEET 2 OF 13
41

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



BORINGS TAKEN BY:
GEOTECHNICAL DRILLING CONTRACTORS, LLC
WAUSAU, WI
OCTOBER 6 & 7, 2014

GEOTECHNICAL REPORT BY:
RIVER VALLEY TESTING
NEENAH, WI
NOVEMBER 11, 2014



STATE PROJECT NUMBER

8785-00-71

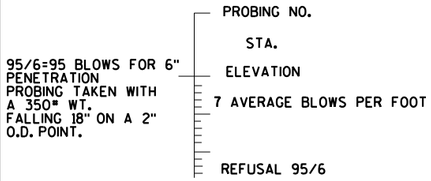
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

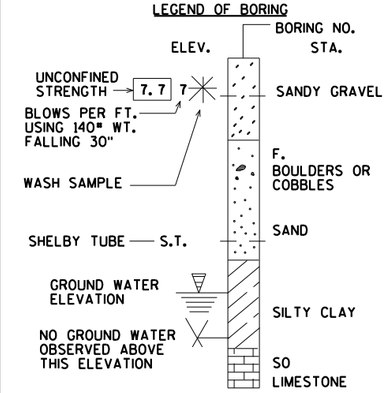
MATERIAL SYMBOLS

TOPSOIL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING



LEGEND OF BORING



UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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SUBSURFACE EXPLORATION

SHEET 3 OF 13
42

8

8

$PRFNAME$
U:\42-0948.00 - Rusk County, CTH O over Devils Creek\BRIDGE\420948 soils.dgn

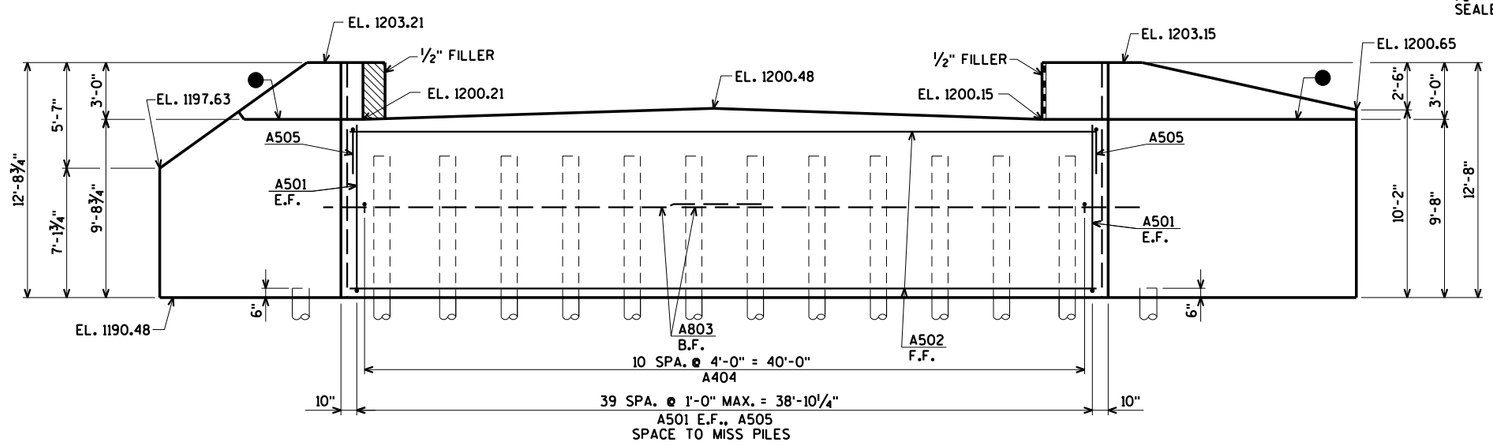
7/31/2015

PENTABLE:BReau_shd_util.tbl

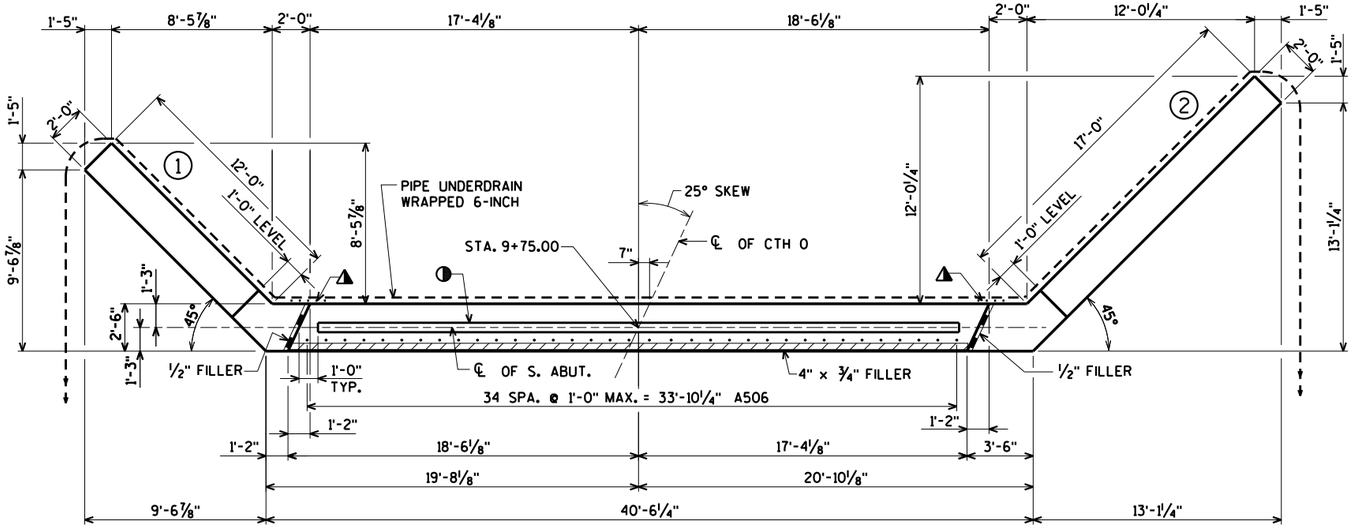
STATE PROJECT NUMBER

8785-00-71

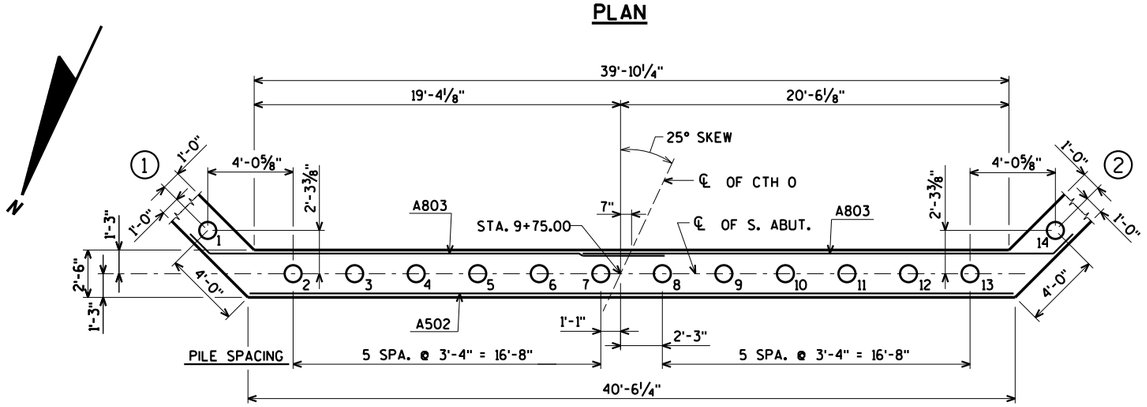
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



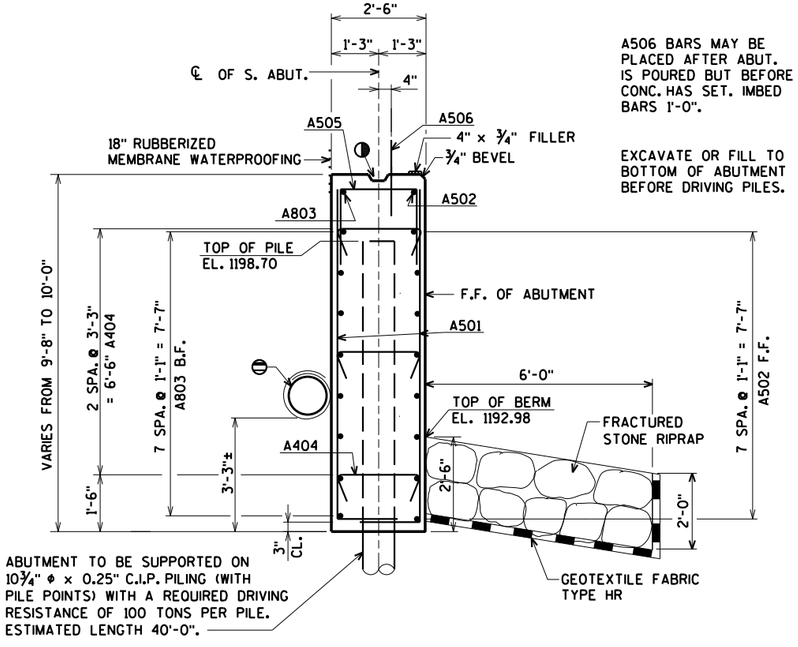
ELEVATION
(LOOKING SOUTH)



PLAN



PILE LAYOUT



A506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. SEE DETAIL ON SHEET 5.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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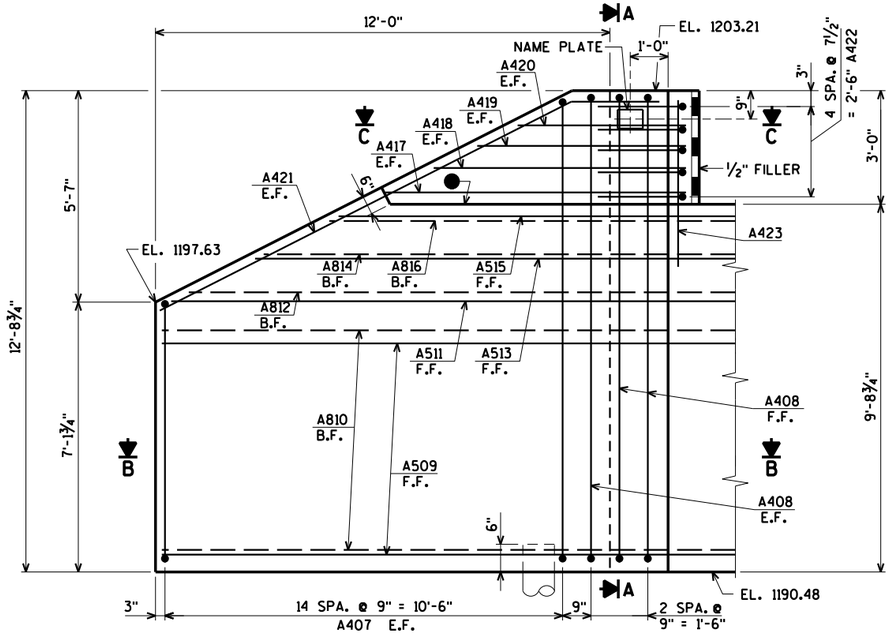
SOUTH ABUTMENT

SHEET 4 OF 13
43

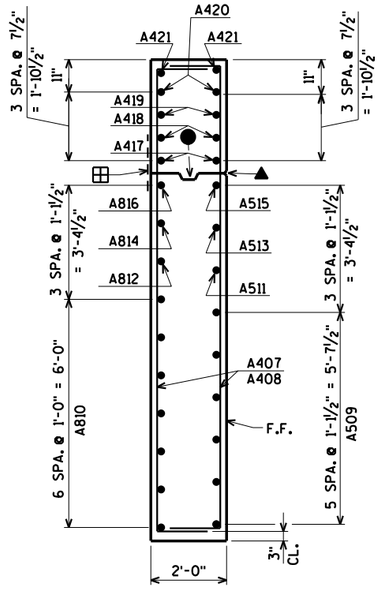
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE PROJECT NUMBER

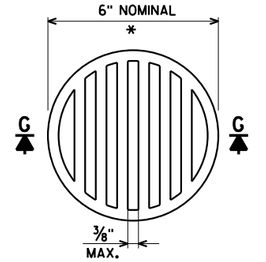
8785-00-71

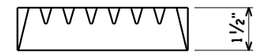


ELEVATION - WING 1



SECTION A





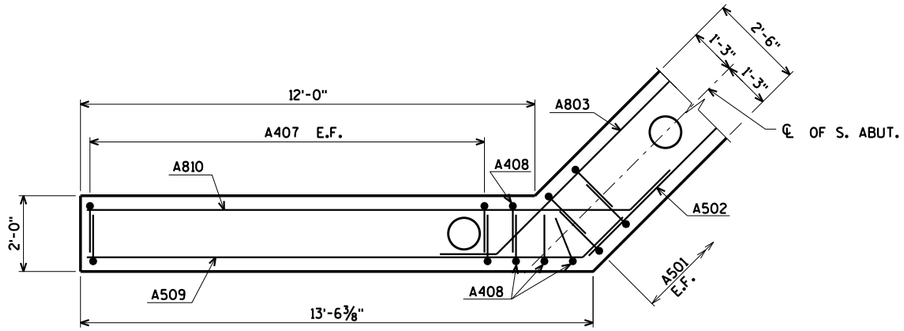
SECTION G-G

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

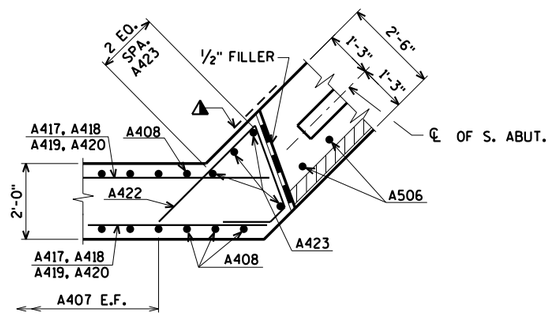
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



SECTION B



SECTION C

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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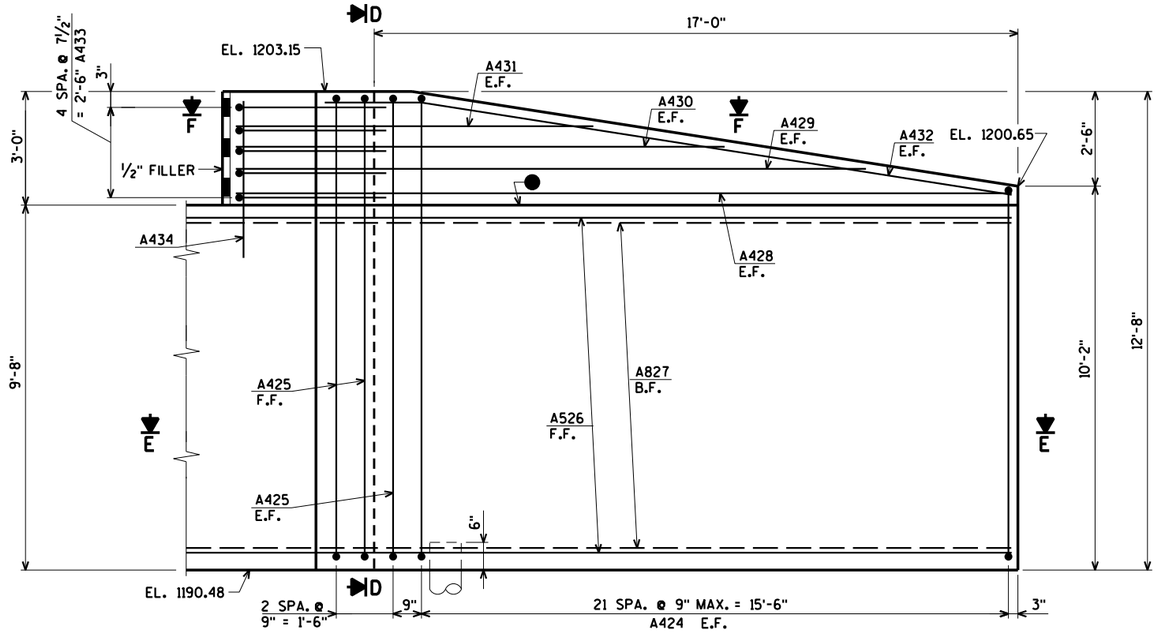
SOUTH ABUTMENT WING 1 DETAILS

SHEET 5 OF 13
44

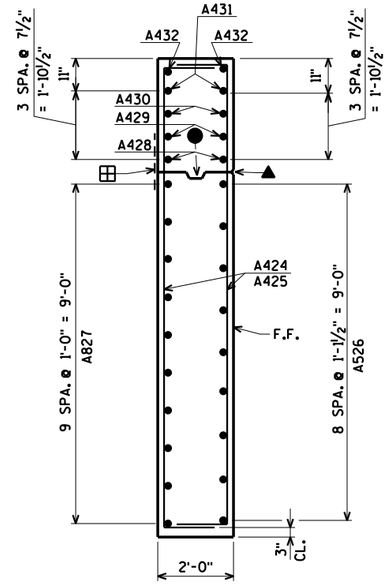
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com

STATE PROJECT NUMBER

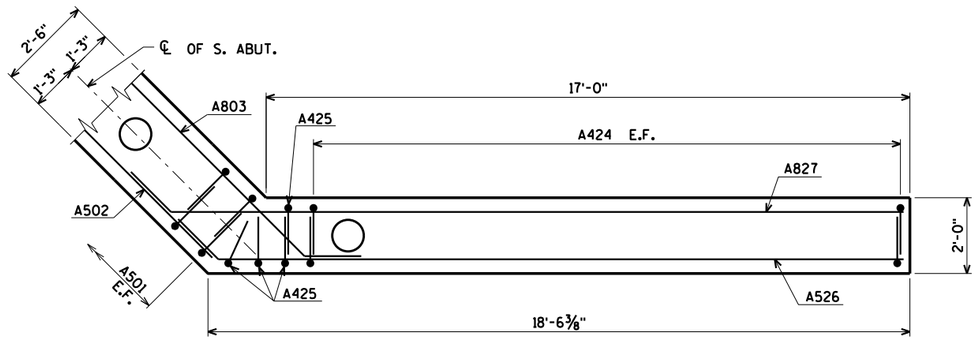
8785-00-71



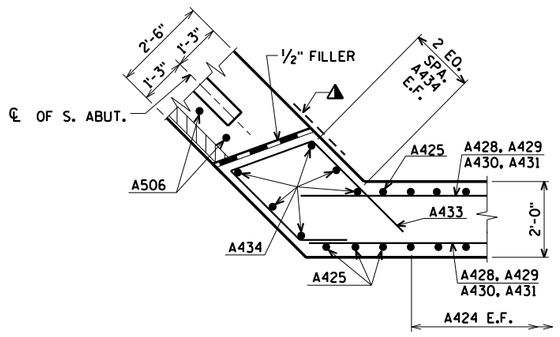
ELEVATION - WING 2



SECTION D



SECTION E



SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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SOUTH ABUTMENT WING 2 DETAILS

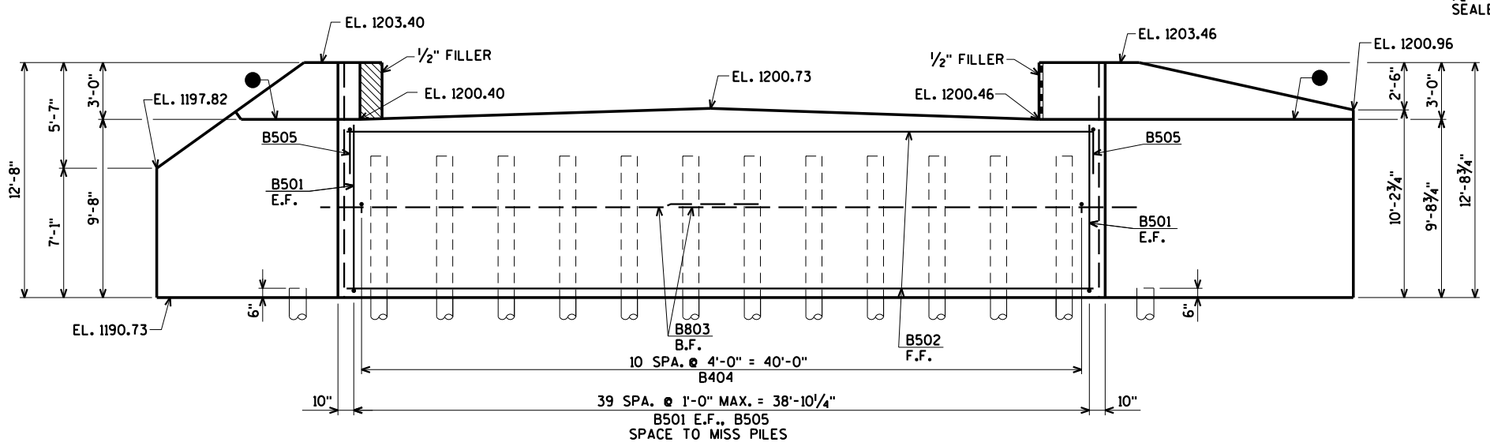
SHEET 6 OF 13
45

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

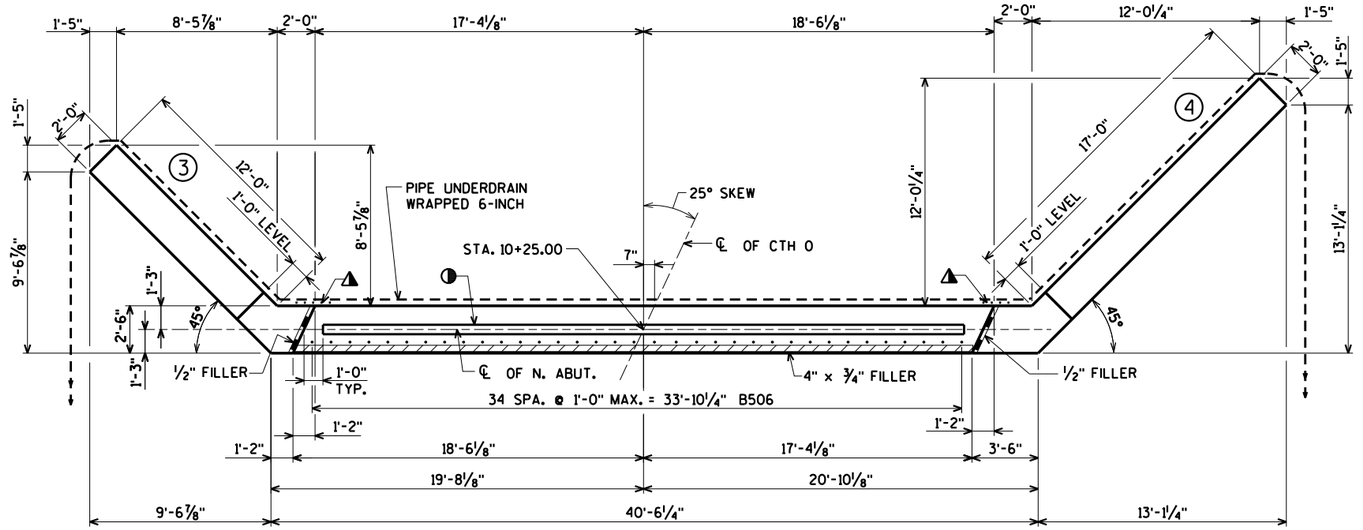
STATE PROJECT NUMBER

8785-00-71

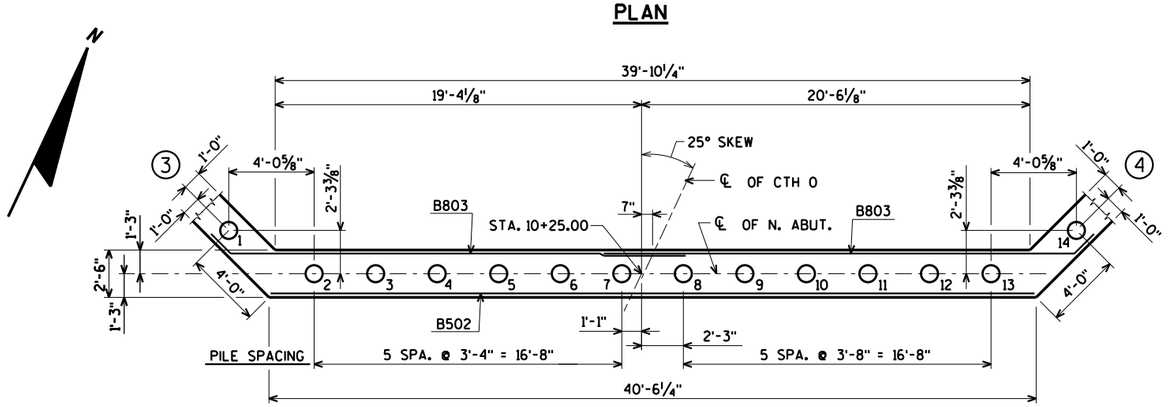
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)



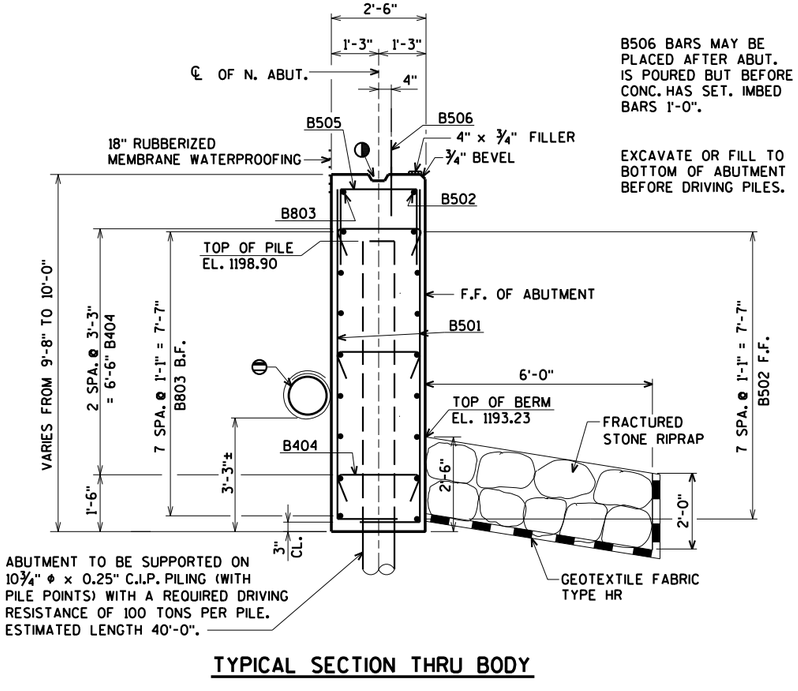
ELEVATION
(LOOKING NORTH)



PLAN



PILE LAYOUT



B506 BARS MAY BE PLACED AFTER ABUT. IS POURED BUT BEFORE CONC. HAS SET. IMBED BARS 1'-0".

EXCAVATE OR FILL TO BOTTOM OF ABUTMENT BEFORE DRIVING PILES.

ABUTMENT TO BE SUPPORTED ON 10¾" Φ x 0.25" C.I.P. PILING (WITH PILE POINTS) WITH A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE. ESTIMATED LENGTH 40'-0".

TYPICAL SECTION THRU BODY

NOTES: DO NOT PLACE FILL ABOVE THREE FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

⊖ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR DETAIL SEE SHEET 8.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◑ KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

⚠ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

FOR PILE SPLICE DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

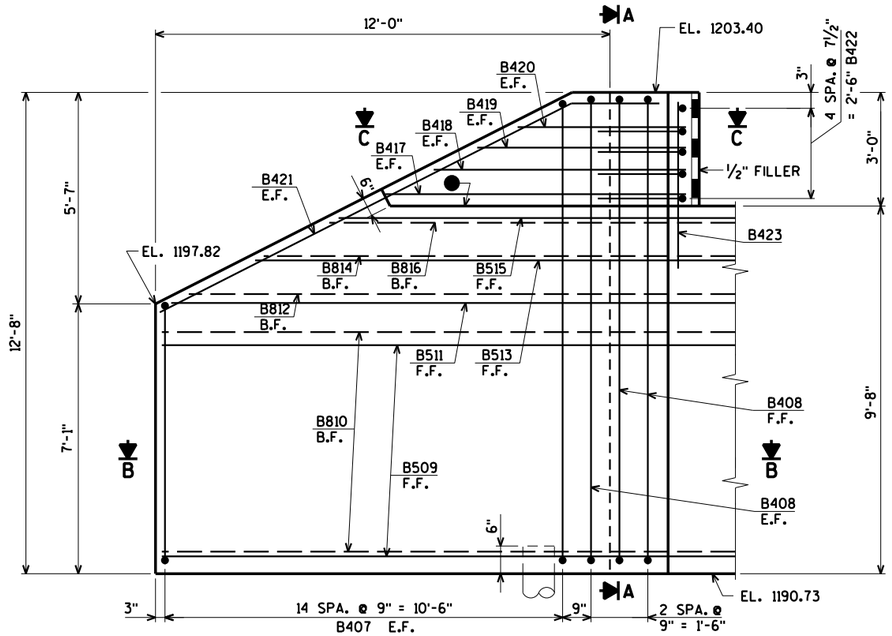
STRUCTURE B-54-116

DRAWN BY CLS | PLANS CK'D. CJM

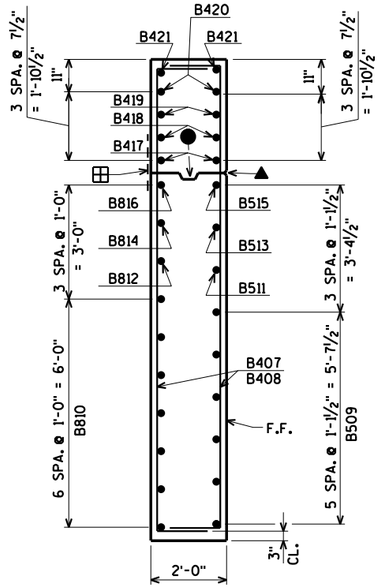
NORTH ABUTMENT

SHEET 7 OF 13
46

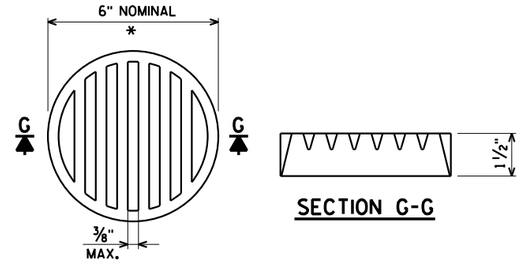
ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
www.AyresAssociates.com



ELEVATION - WING 3



SECTION A



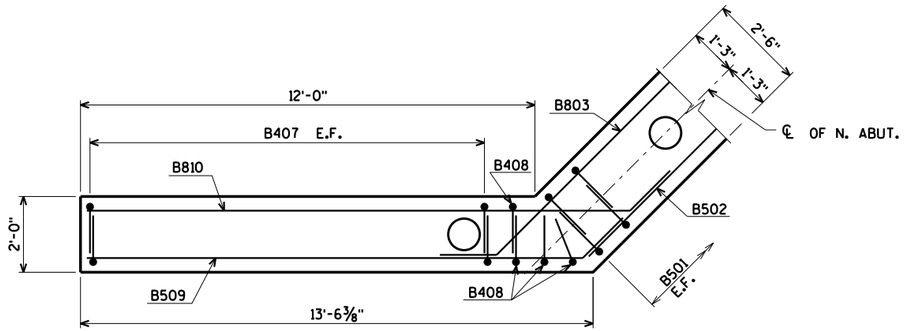
SECTION G-G

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

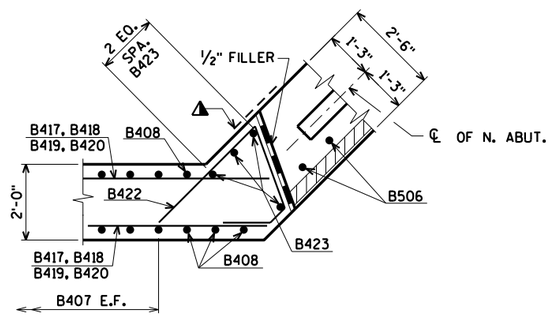
THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

RODENT SHIELD DETAIL



SECTION B



SECTION C

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

◭ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

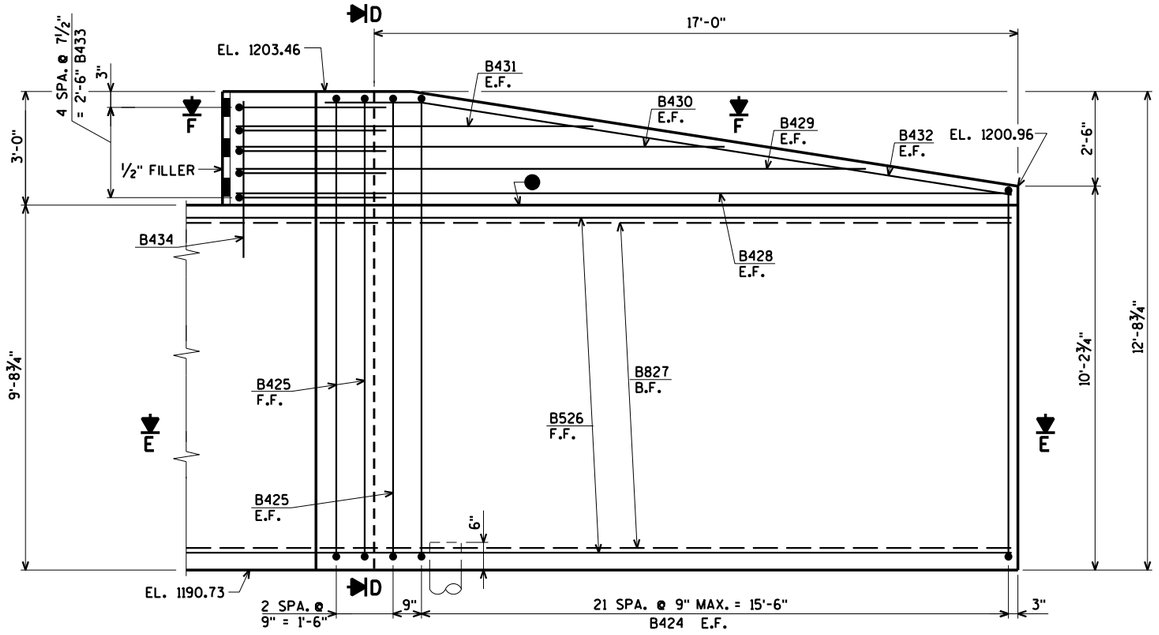
STRUCTURE B-54-116

DRAWN BY CLS | PLANS CK'D. CJM

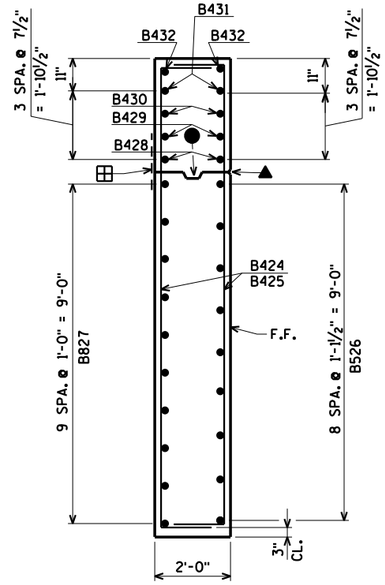
NORTH ABUTMENT WING 3 DETAILS

SHEET 8 OF 13
47

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



ELEVATION - WING 4



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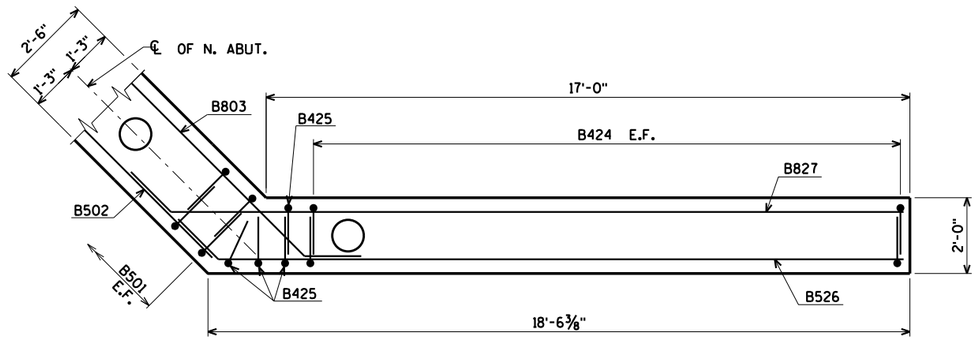

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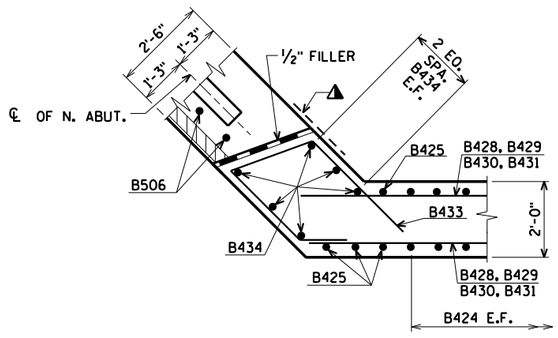

SECTION F

▲ ¾" 'V' GROOVE ON F.F. OF WING WALL - NOT REQUIRED IF CONST. JT. IS NOT USED.

● OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

▲ 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BEAM SEAT TO TOP OF WINGWALL.

⊞ 18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

B.F. DENOTES BACK FACE.
F.F. DENOTES FRONT FACE.
E.F. DENOTES EACH FACE.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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NORTH ABUTMENT WING 4 DETAILS

SHEET 9 OF 13
48

8

8

$PRFNAME$
U:\42-0948.00 - Rusk County, CTH 0 over Devils Creek\BRIDGE\420948 na.dgn

7/31/2015

PENTABLE:BReau_shd_util.tbl

STATE PROJECT NUMBER

8785-00-71

BILL OF BARS - SOUTH ABUTMENT

BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,890# UNCOATED 2,310# COATED LOCATION
A501		80	10-6	X			BODY VERT. E.F.
A502		9	40-2				BODY HORIZ. F.F.
A803		18	26-4	X			BODY HORIZ. B.F.
A404		33	2-9	X			BODY TIES
A505		40	7-5	X			BODY VERT. TOP
A506	X	35	2-0				BODY DOWELS
A407	X	30	11-11	X		⊗	WING 1 VERT. E.F.
A408	X	4	14-9	X			WING 1 VERT. E.F.
A509	X	6	14-9	X			WING 1 HORIZ. F.F.
A810	X	7	16-3	X			WING 1 HORIZ. B.F.
A511	X	1	14-9	X			WING 1 HORIZ. F.F.
A812	X	1	16-1	X			WING 1 HORIZ. B.F.
A513	X	1	12-5	X			WING 1 HORIZ. F.F.
A814	X	1	13-8	X			WING 1 HORIZ. B.F.
A515	X	1	10-3	X			WING 1 HORIZ. F.F.
A816	X	1	11-3	X			WING 1 HORIZ. B.F.
A417	X	2	7-6				WING 1 HORIZ. E.F.
A418	X	2	6-3				WING 1 HORIZ. E.F.
A419	X	2	5-0				WING 1 HORIZ. E.F.
A420	X	2	3-9				WING 1 HORIZ. E.F.
A421	X	2	14-4	X			WING 1 DIAG. E.F.
A422	X	5	7-0	X			WING 1 HORIZ.
A423	X	4	4-6				WING 1 VERT.
A424	X	44	13-5	X		⊗	WING 2 VERT. E.F.
A425	X	4	14-8	X			WING 2 VERT. E.F.
A526	X	9	19-9	X			WING 2 HORIZ. F.F.
A827	X	10	21-3	X			WING 2 HORIZ. B.F.
A428	X	2	18-3				WING 2 HORIZ. E.F.
A429	X	2	15-1				WING 2 HORIZ. E.F.
A430	X	2	11-1				WING 2 HORIZ. E.F.
A431	X	2	7-2				WING 2 HORIZ. E.F.
A432	X	2	18-4	X			WING 2 DIAG. E.F.
A433	X	5	9-8	X			WING 2 HORIZ.
A434	X	6	4-6				WING 2 VERT.

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.

B.F. DENOTES BACK FACE.

F.F. DENOTES FRONT FACE.

E.F. DENOTES EACH FACE.

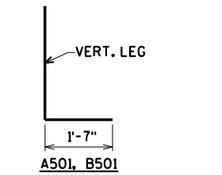
BILL OF BARS - NORTH ABUTMENT

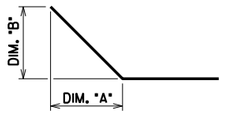
BAR NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR	SERIES	2,910# UNCOATED 2,310# COATED LOCATION
B501		80	10-8	X			BODY VERT. E.F.
B502		9	40-2				BODY HORIZ. F.F.
B803		18	26-4	X			BODY HORIZ. B.F.
B404		33	2-9	X			BODY TIES
B505		40	7-5	X			BODY VERT. TOP
B506	X	35	2-0				BODY DOWELS
B407	X	30	11-10	X		⊗	WING 3 VERT. E.F.
B408	X	4	14-8	X			WING 3 VERT. E.F.
B509	X	6	14-9	X			WING 3 HORIZ. F.F.
B810	X	7	16-3	X			WING 3 HORIZ. B.F.
B511	X	1	14-9	X			WING 3 HORIZ. F.F.
B812	X	1	15-10	X			WING 3 HORIZ. B.F.
B513	X	1	12-5	X			WING 3 HORIZ. F.F.
B814	X	1	13-10	X			WING 3 HORIZ. B.F.
B515	X	1	10-3	X			WING 3 HORIZ. F.F.
B816	X	1	11-11	X			WING 3 HORIZ. B.F.
B417	X	2	7-6				WING 3 HORIZ. E.F.
B418	X	2	5-11				WING 3 HORIZ. E.F.
B419	X	2	5-2				WING 3 HORIZ. E.F.
B420	X	2	3-9				WING 3 HORIZ. E.F.
B421	X	2	14-4	X			WING 3 DIAG. E.F.
B422	X	5	7-0	X			WING 3 HORIZ.
B423	X	4	4-6				WING 3 VERT.
B424	X	44	13-5	X		⊗	WING 4 VERT. E.F.
B425	X	4	14-9	X			WING 4 VERT. E.F.
B526	X	9	19-9	X			WING 4 HORIZ. F.F.
B827	X	10	21-3	X			WING 4 HORIZ. B.F.
B428	X	2	18-3				WING 4 HORIZ. E.F.
B429	X	2	15-1				WING 4 HORIZ. E.F.
B430	X	2	11-1				WING 4 HORIZ. E.F.
B431	X	2	7-2				WING 4 HORIZ. E.F.
B432	X	2	18-4	X			WING 4 DIAG. E.F.
B433	X	5	9-8	X			WING 4 HORIZ.
B434	X	6	4-6				WING 4 VERT.

BAR SERIES TABLE

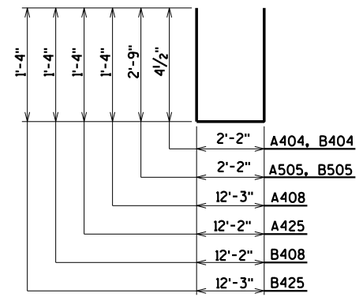
BAR MARK	NO REQ'D.	LENGTH
A407	2 SERIES OF 15	9'-2" TO 14'-8"
A424	2 SERIES OF 22	12'-3" TO 14'-7"
B407	2 SERIES OF 15	9'-2" TO 14'-6"
B424	2 SERIES OF 22	12'-2" TO 14'-8"

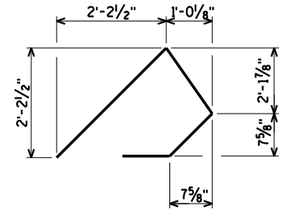
BUNDLE AND TAG EACH SERIES SEPARATELY.

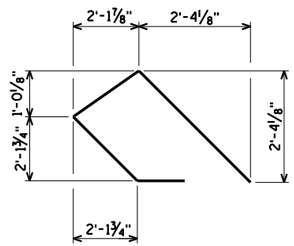


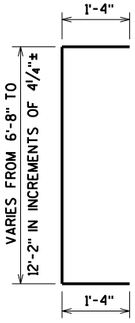


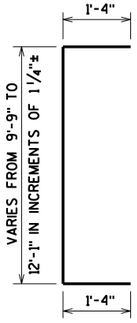
BAR NO.	DIM. "A"	DIM. "B"
A803	1'-0¾"	1'-0¾"
A509	1'-0¾"	1'-0¾"
A810	1'-0¾"	1'-0¾"
A511	1'-0¾"	1'-0¾"
A812	1'-0¾"	1'-0¾"
A513	1'-0¾"	1'-0¾"
A814	1'-0¾"	1'-0¾"
A515	1'-0¾"	1'-0¾"
A816	1'-0¾"	1'-0¾"
A421	10'-10"	5'-6"
A526	1'-0¾"	1'-0¾"
A827	1'-0¾"	1'-0¾"
A432	15'-10"	2'-5"
B803	1'-0¾"	1'-0¾"
B509	1'-0¾"	1'-0¾"
B810	1'-0¾"	1'-0¾"
B511	1'-0¾"	1'-0¾"
B812	1'-0¾"	1'-0¾"
B513	1'-0¾"	1'-0¾"
B814	1'-0¾"	1'-0¾"
B515	1'-0¾"	1'-0¾"
B816	1'-0¾"	1'-0¾"
B421	10'-10"	5'-6"
B526	1'-0¾"	1'-0¾"
B827	1'-0¾"	1'-0¾"
B432	15'-10"	2'-5"

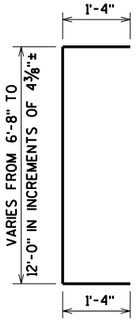


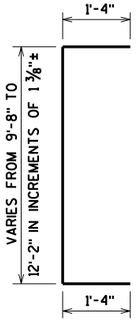












NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

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ABUTMENT DETAILS AND BILL OF BARS

SHEET 10 OF 13
49

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AYRES ASSOCIATES
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Eau Claire, WI 54701
www.AyresAssociates.com

$PRFNAME$
U:±42-0948.00 - Rusk County, CTH O over Devils Creek±BRIDGE±420948 sa.dgn

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7/31/2015

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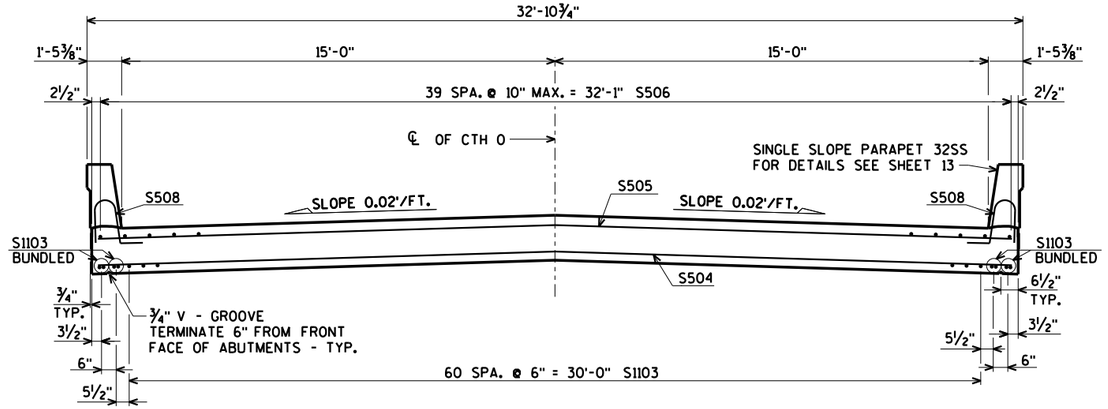
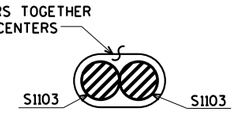


CROSS SECTION THRU ROADWAY

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

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

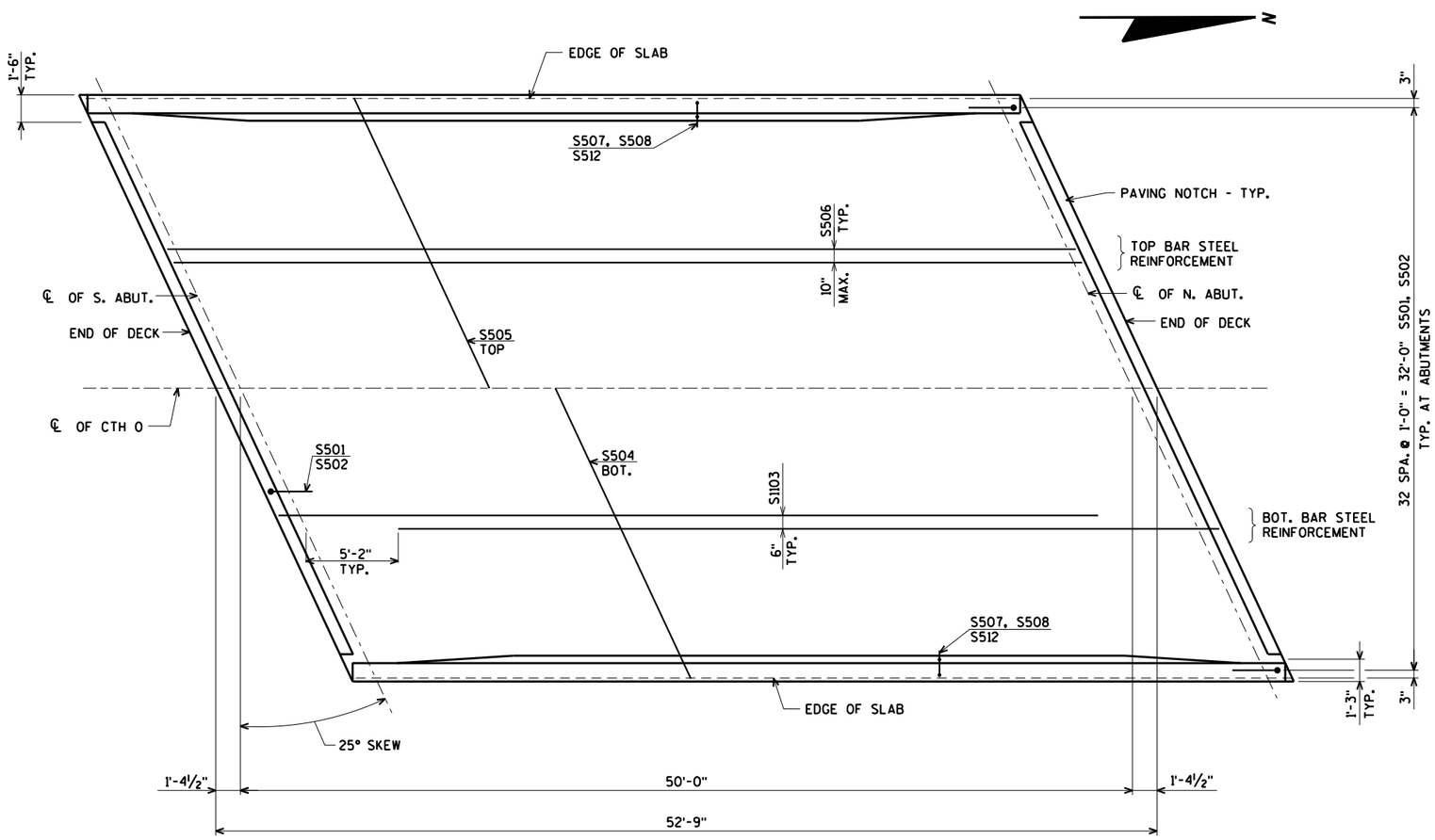


BUNDLING DETAIL

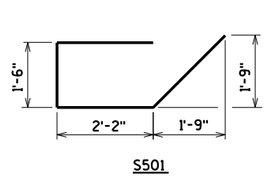
BILL OF BARS

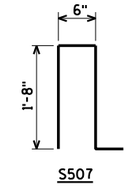
BAR. NO.	COATED BAR	NO. REQ'D.	LENGTH	BENT BAR	BUNDLED BAR SERIES	27,310# COATED LOCATION
S501		66	7-5	X		SLAB @ ABUT.
S502		66	4-0	X		SLAB @ ABUT.
S1103		69	46-0			SLAB LONG. BOT.
S504		82	35-6			SLAB TRANS. BOT.
S505		54	35-6			SLAB TRANS. TOP
S506		40	50-11			SLAB LONG. TOP
S507	X	68	4-4	X		SLAB @ PARAPET VERT.
S508	X	108	4-5	X		SLAB @ PARAPET VERT.
S509	X	108	5-0	X		PARAPET VERT.
S510	X	10	51-7			PARAPET HORIZ.
S511	X	4	27-3	X		PARAPET HORIZ.
S512	X	48	2-9	X		PARAPET VERT.
S513	X	44	4-9	X		PARAPET VERT.
S514	X	24	4-10	X		PARAPET VERT.

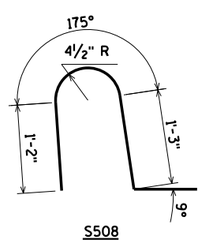
BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

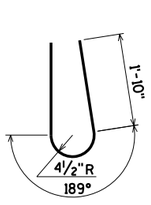


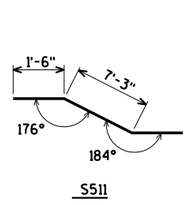
PLAN

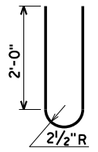


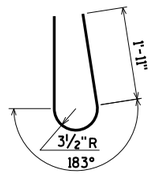












NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

DRAWN BY CLS | PLANS CK'D. CJM

SUPERSTRUCTURE

SHEET 11 OF 13
50

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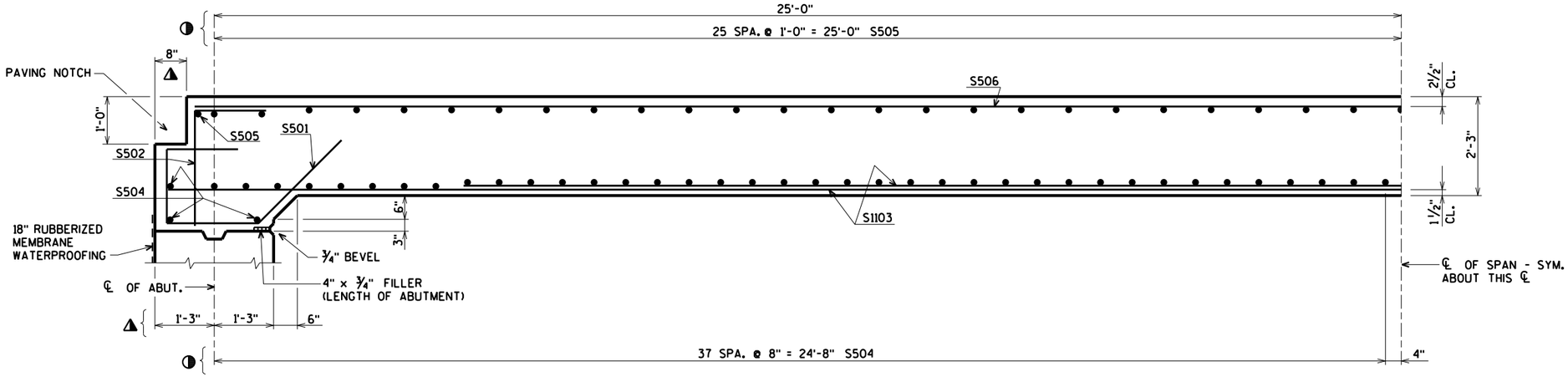
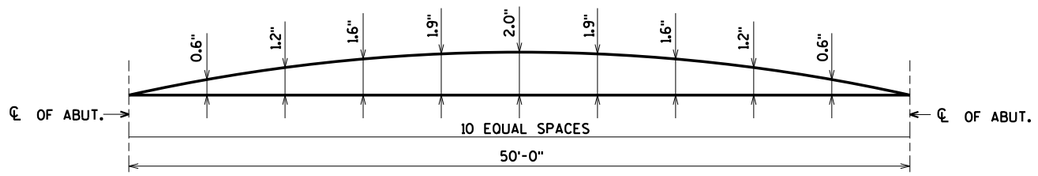


PART LONGITUDINAL SECTION WITH PAVING NOTCH

◑ DIMENSIONS MEASURED ALONG ℄ OF CTH O.

◭ DIMENSIONS MEASURED NORMAL TO ℄ OF SUBSTRUCTURE.



CAMBER DIAGRAM

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

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄.

TOP OF DECK ELEVATIONS

LOCATION	℄ OF S. ABUT.	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	℄ OF N. ABUT.
W. EDGE OF SLAB	1203.15	1203.17	1203.20	1203.22	1203.25	1203.27	1203.30	1203.32	1203.35	1203.37	1203.40
℄ OF STRUCTURE	1203.48	1203.51	1203.53	1203.56	1203.58	1203.61	1203.63	1203.66	1203.68	1203.71	1203.73
E. EDGE OF SLAB	1203.21	1203.24	1203.26	1203.29	1203.31	1203.34	1203.36	1203.39	1203.41	1203.44	1203.46

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

DRAWN BY CLS | PLANS CK'D. CJM

SUPERSTRUCTURE DETAILS

SHEET 12 OF 13
51

ORIGINAL PLANS PREPARED BY
AYRES ASSOCIATES
3433 Oakwood Hills Parkway
Eau Claire, WI 54701
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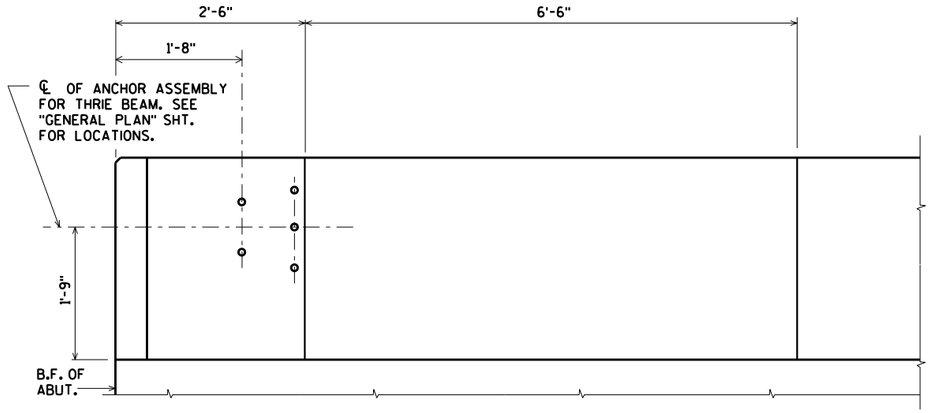
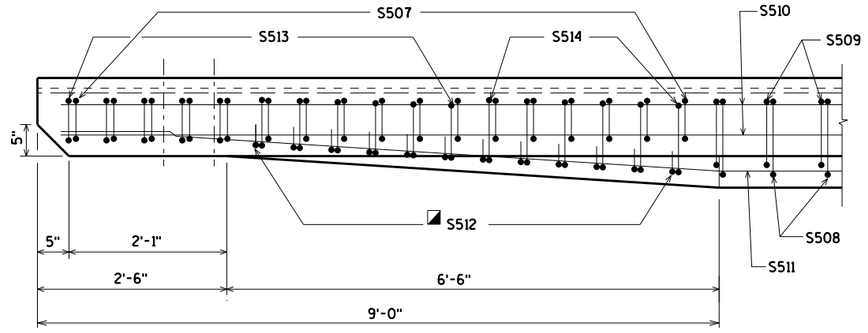
STATE PROJECT NUMBER

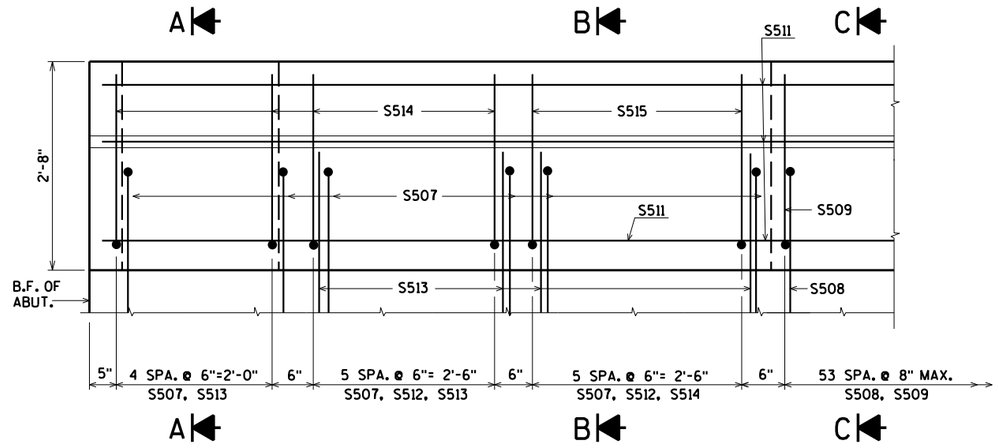
8785-00-71



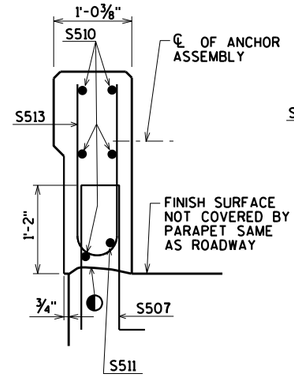
INSIDE ELEVATION



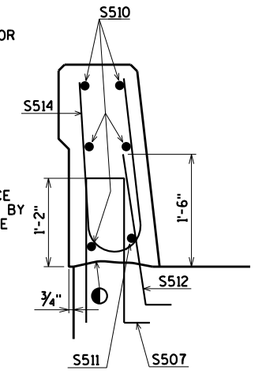
PLAN



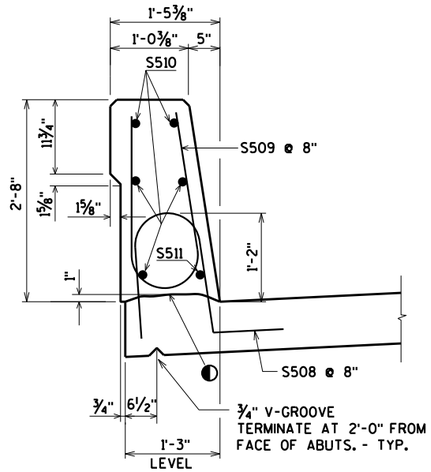
OUTSIDE ELEVATION



SECTION A



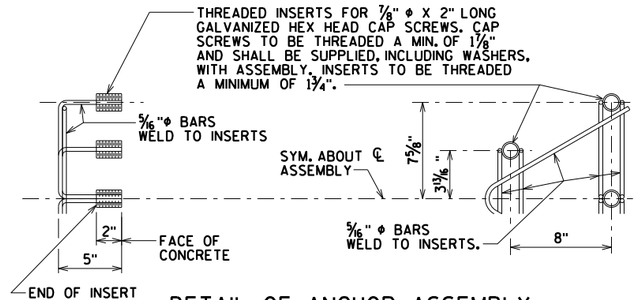
SECTION B



SECTION THRU PARAPET ON BRIDGE
SECTION C

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ S512 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE S513 BARS CORRECTLY ALONG TRANSITION OF PARAPET.



DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-116

DRAWN BY CLS | PLANS CK'D. CJM

SINGLE SLOPE PARAPET 32SS

SHEET 13 OF 13
52

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

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$PRFNAME$
U:±42-0948.00 - Rusk County, CTH O over Devils Creek±BRIDGE±420948 32SS.dgn

7/31/2015

PENTABLE:BReau_shd_util.tbl

EARTHWORK SUMMARY (CATEGORY 0010)

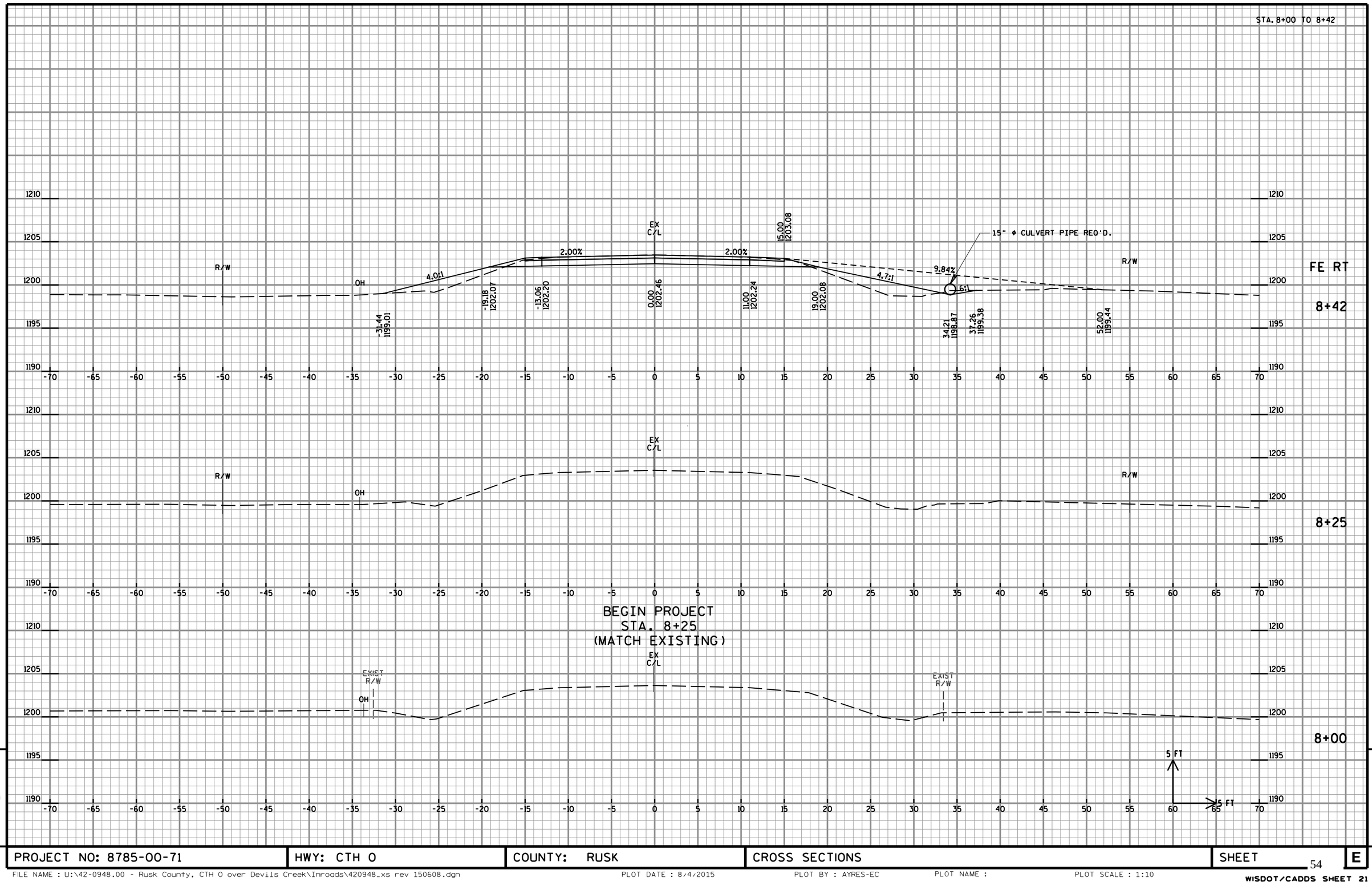
		AREA			INCREMENTAL VOLUME			CUMULATIVE VOLUME		
DIVISION	STATION	CUT SF	SALVAGED/ UNUSABLE PAVEMENT MATERIAL SF	FILL SF	CUT (1) CY	SALVAGED/ UNUSABLE PAVEMENT MATERIAL (2) CY	FILL (3) CY	CUT (1) 1.00 CY	EXPANDED FILL (4) 1.30 CY	MASS ORDINATE ±(5) CY
1	8+25	34	0	0	21	0	8	21	10	11
CTH O	8+42	31	0	25	9	0	9	30	22	8
	8+50	31	0	36	5	0	6	35	30	5
	8+54	32	0	42	25	0	35	60	75	-15
	8+75	33	0	48	1	0	2	61	78	-17
	8+76	33	0	49	4	0	5	65	85	-20
	8+79	33	0	48	26	0	34	91	129	-38
	9+00	34	0	40	1	0	1	92	130	-38
	9+01	34	0	39	4	0	4	96	135	-39
	9+04	34	0	38	28	0	19	124	160	-36
	9+25	38	0	12	1	0	0	125	160	-35
	9+26	38	0	10	43	0	3	168	164	4
	9+42	106	0	1	37	0	0	205	164	41
	9+50	141	0	0	82	0	0	287	164	123
	9+75	36								
	STRUCTURE (B-54-0116)									
	10+25	16	0	2	14	0	10	14	13	1
	10+50	16	0	20	14	0	17	28	35	-7
	10+74	16	0	19	1	0	1	29	36	-7
	10+75	16	0	20	12	0	28	41	73	-32
	10+96	16	0	53	2	0	6	43	81	-38
	10+99	19	0	61	1	0	2	44	83	-39
	11+00	16	0	62	14	0	60	58	161	-103
	11+21	19	0	94	2	0	10	60	174	-114
	11+24	20	0	93	1	0	3	61	178	-117
	11+25	20	0	92	17	0	60	78	256	-178
	11+46	24	0	62	4	0	9	82	268	-186
	11+50	25	0	56	28	0	26	110	302	-192
	11+75	34	0	0	0	0	0	0	0	0
TOTALS					397	0	358			

205.0100 EXCAVATION COMMON = 397 **208.0100 BORROW = 192**

NOTES:
1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100
2) SALVAGED/UNUSABLE 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.

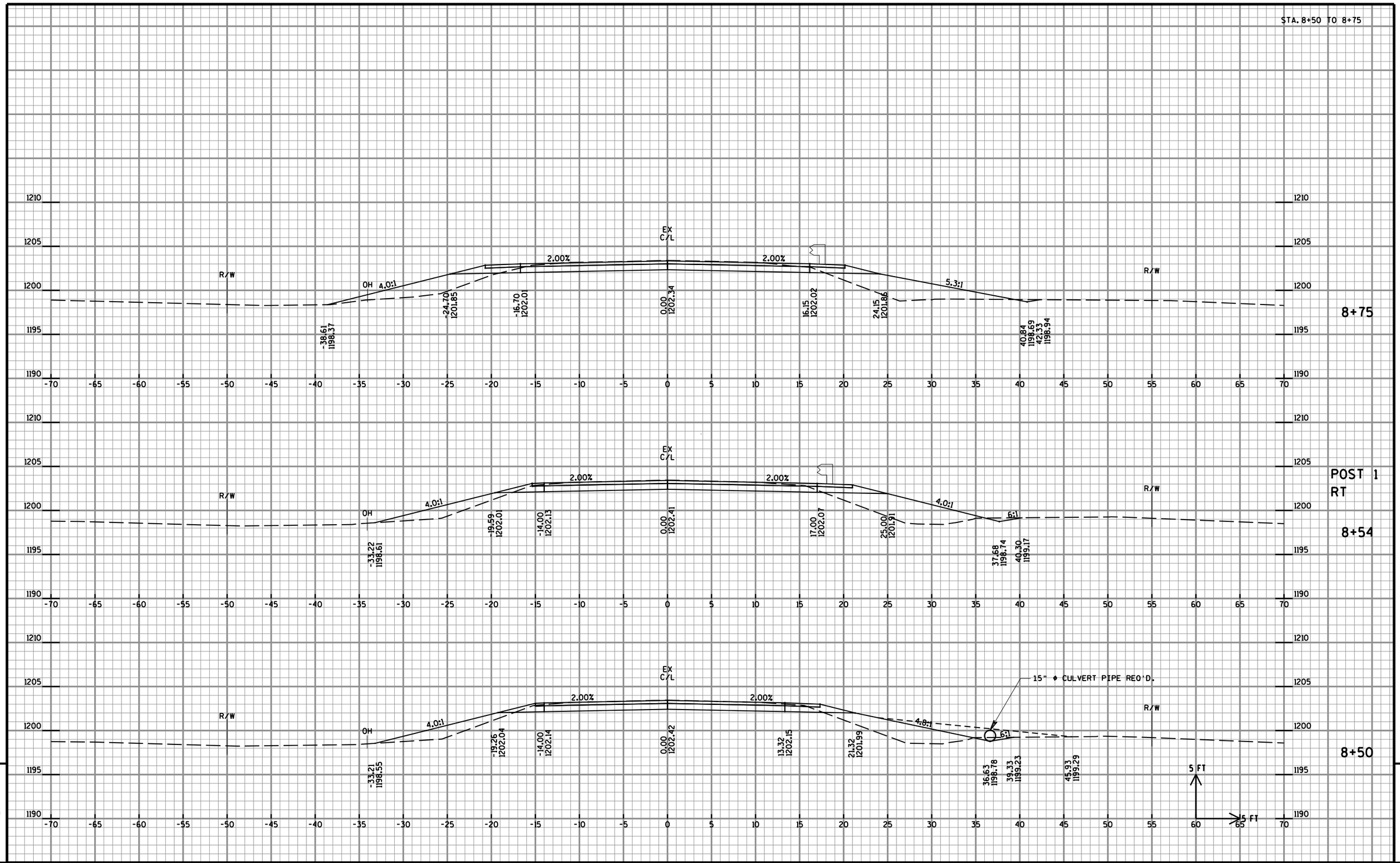
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

STA. 8+00 TO 8+42



PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

STA. 8+50 TO 8+75



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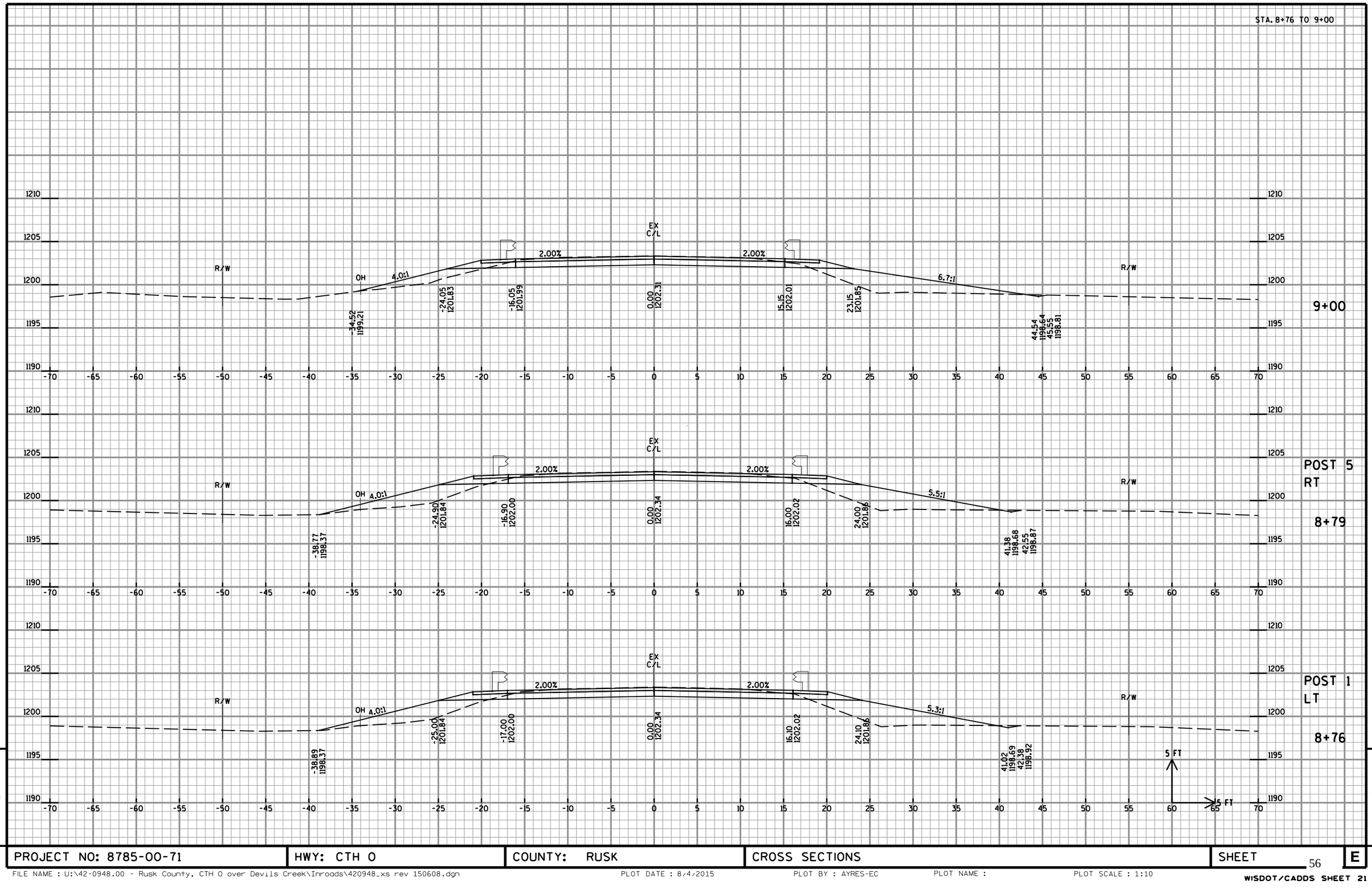
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 8+76 TO 9+00



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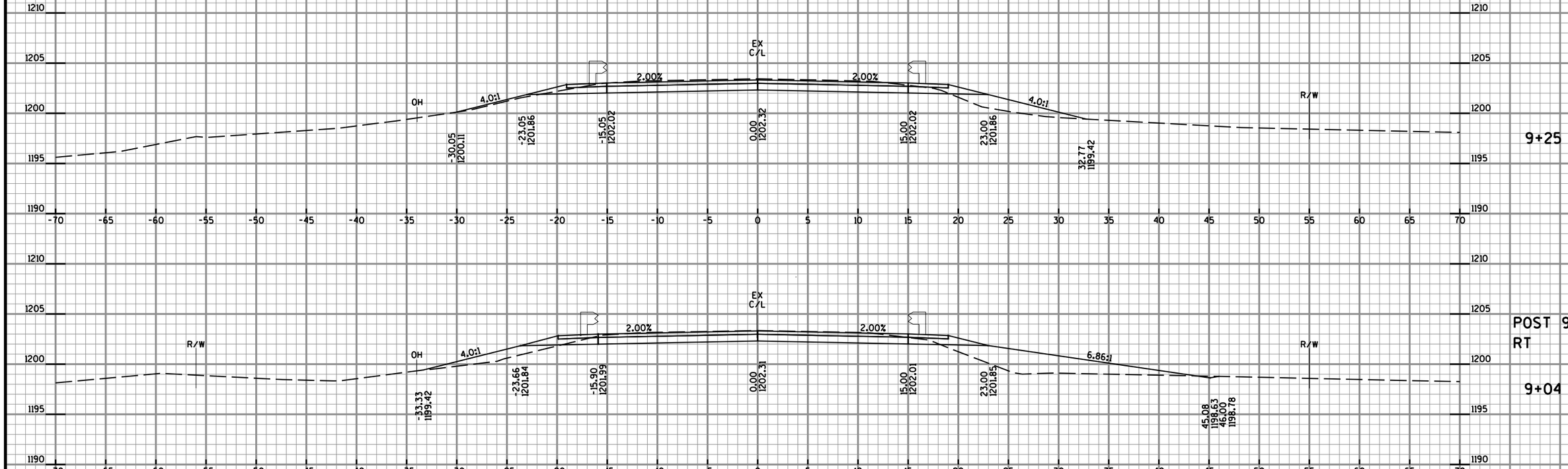
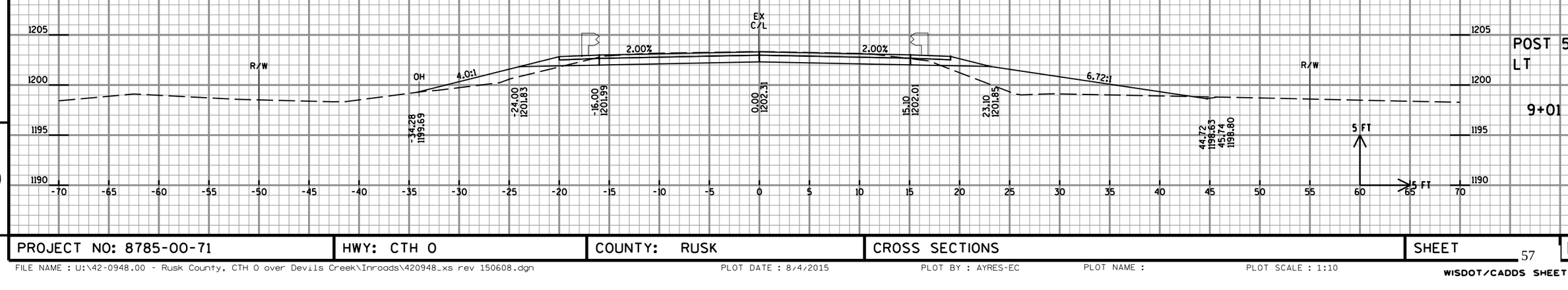
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 9+01 TO 9+25





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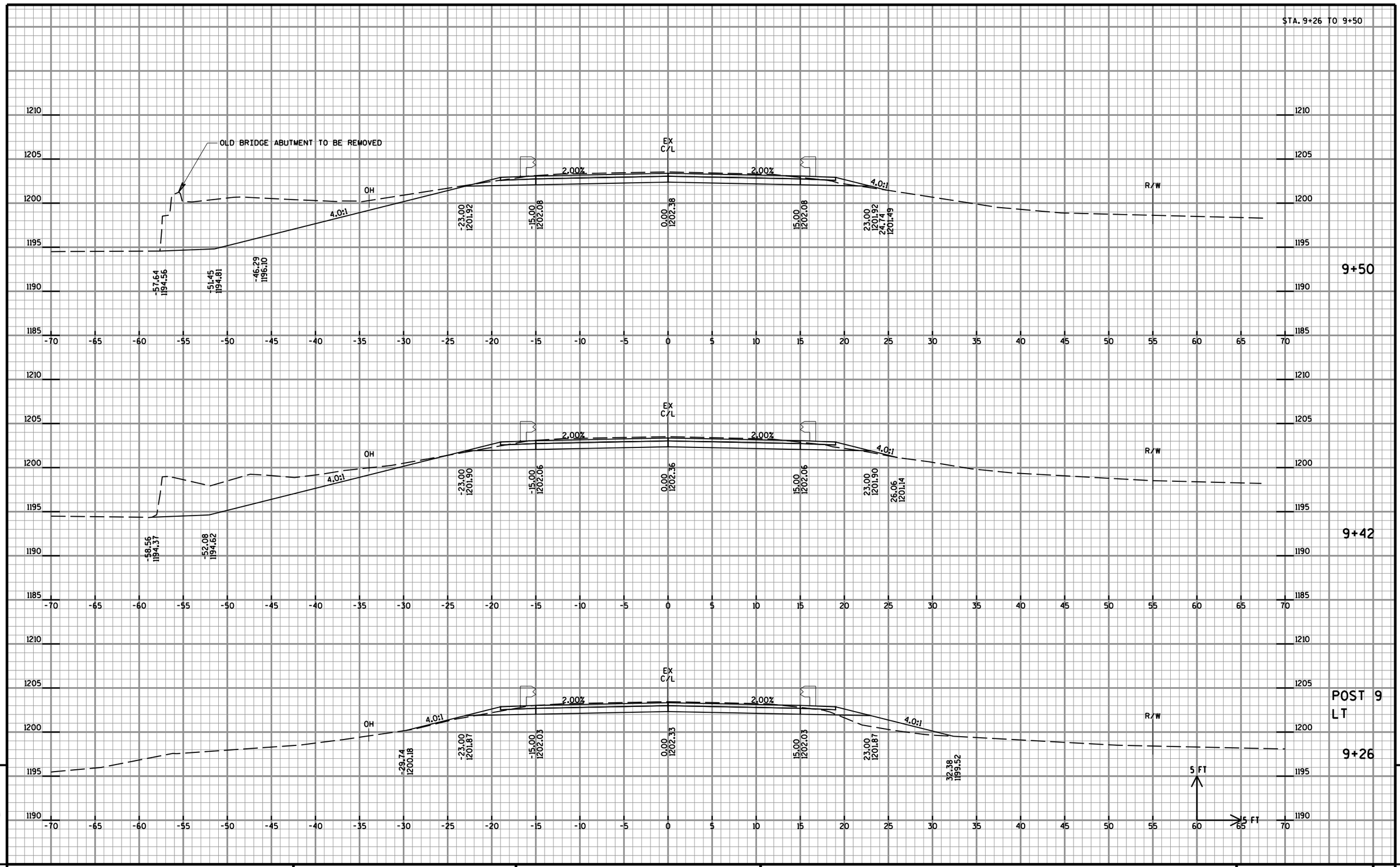
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 9+26 TO 9+50



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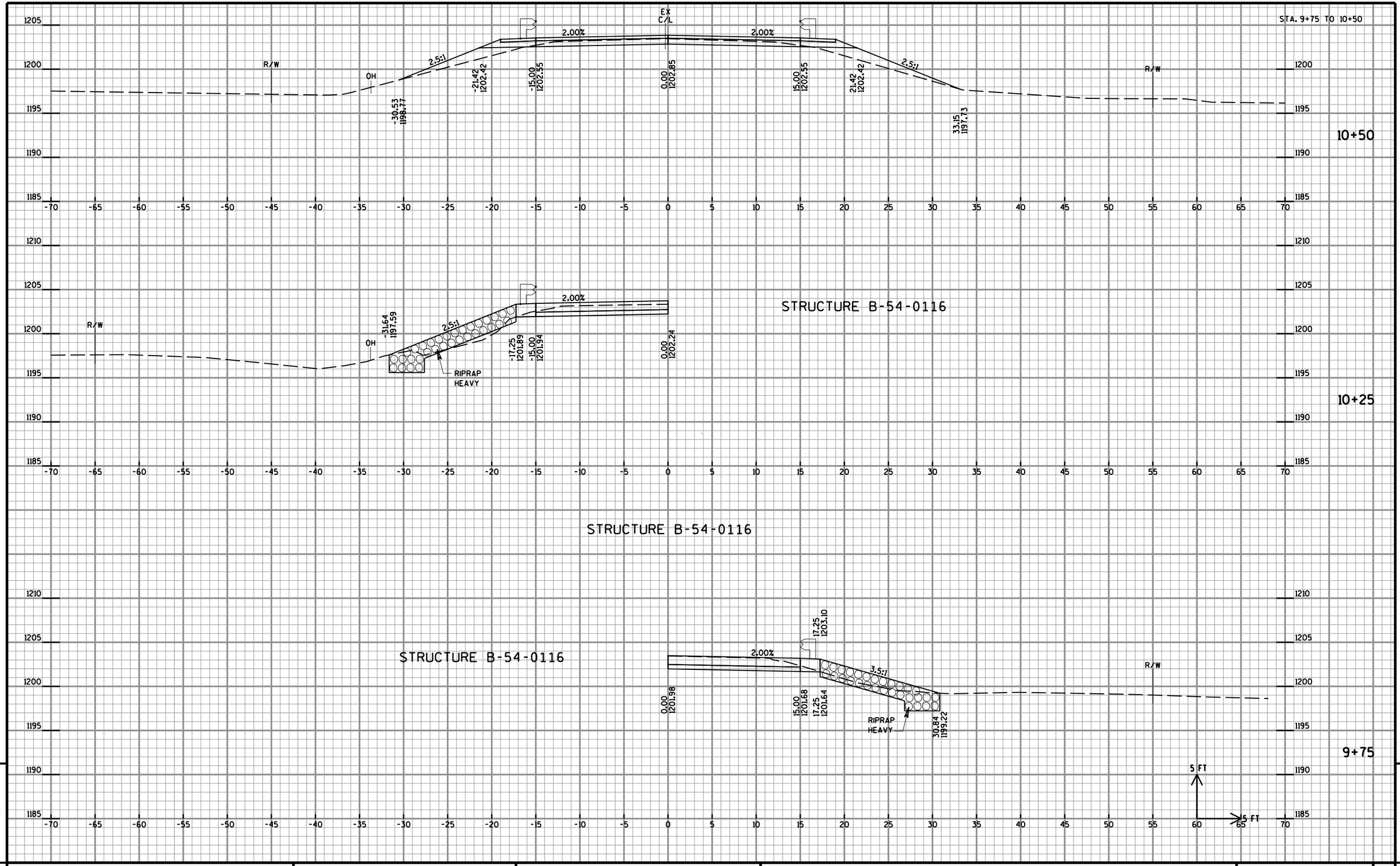
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET 58	E

STA. 9+75 TO 10+50



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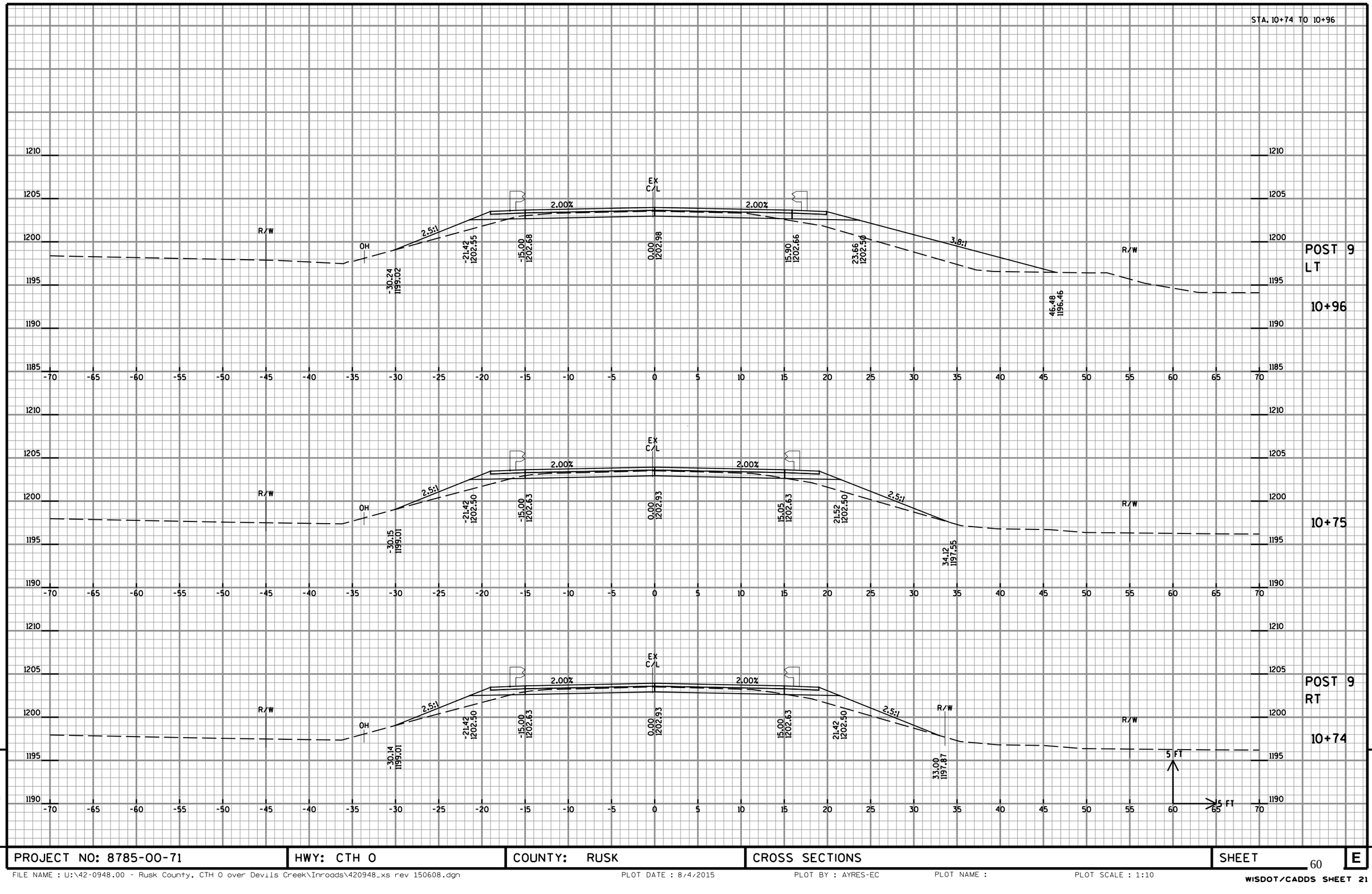
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+74 TO 10+96



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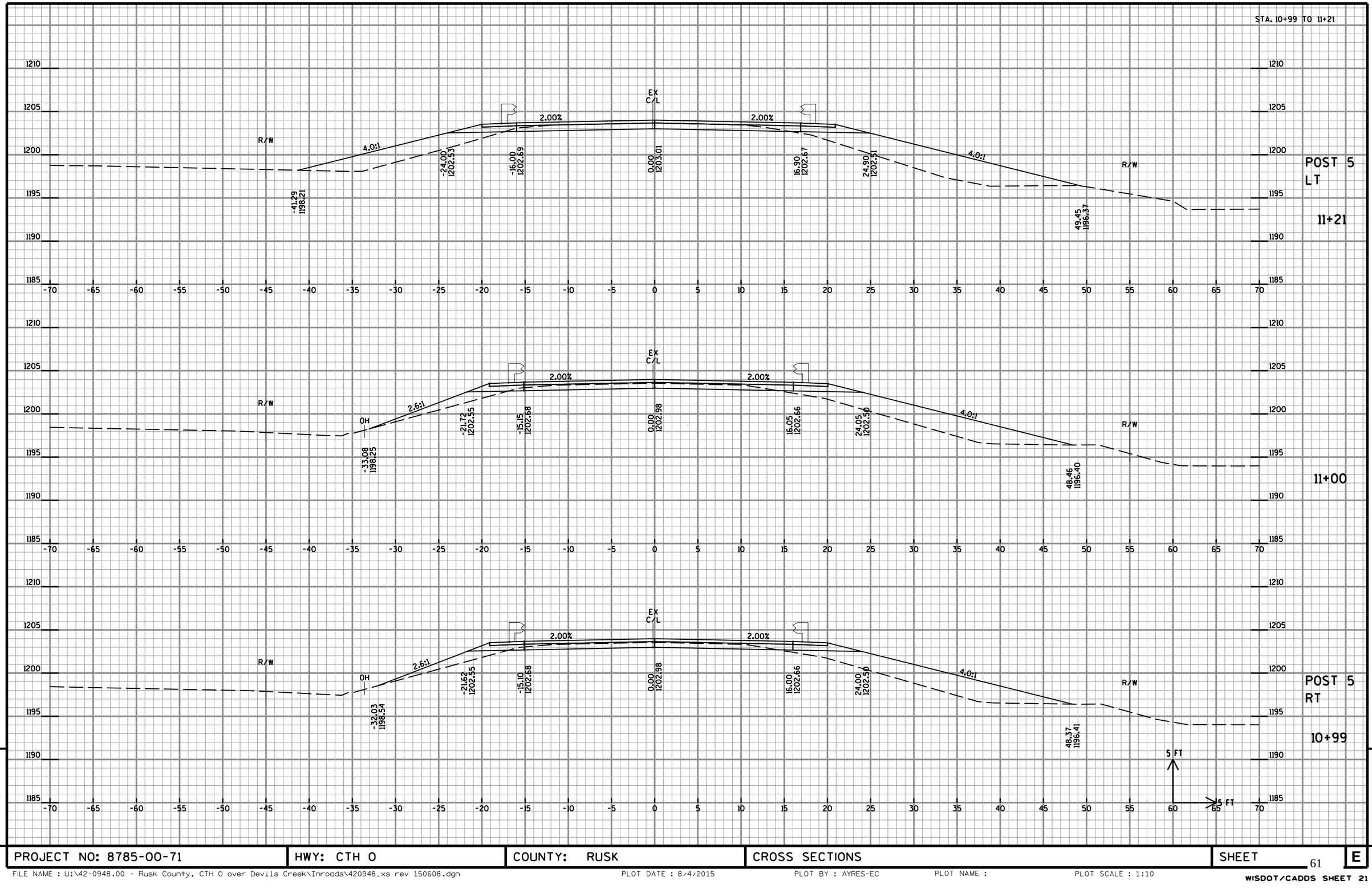
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 10+99 TO 11+21



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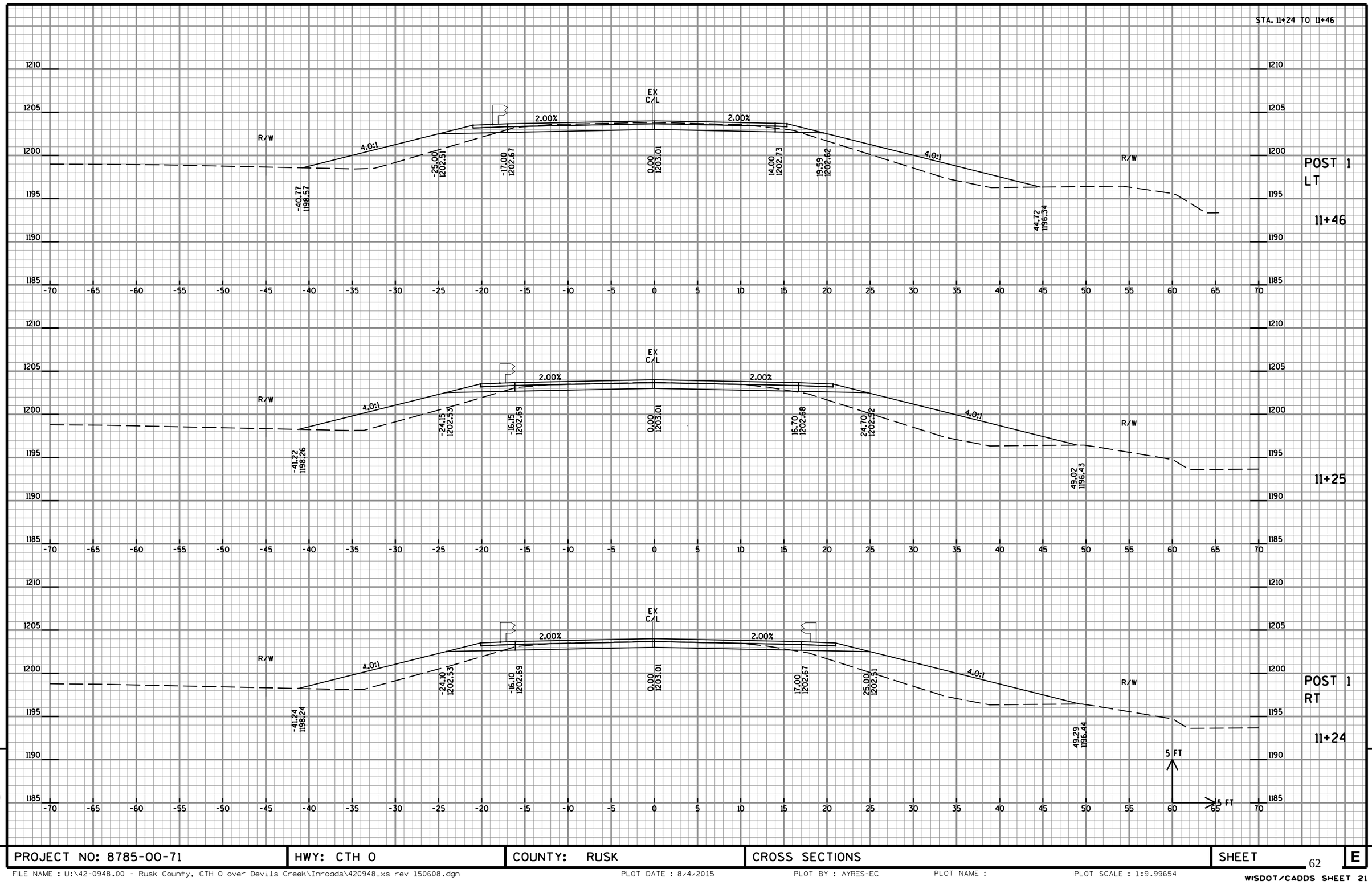
PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

STA. 11+24 TO 11+46

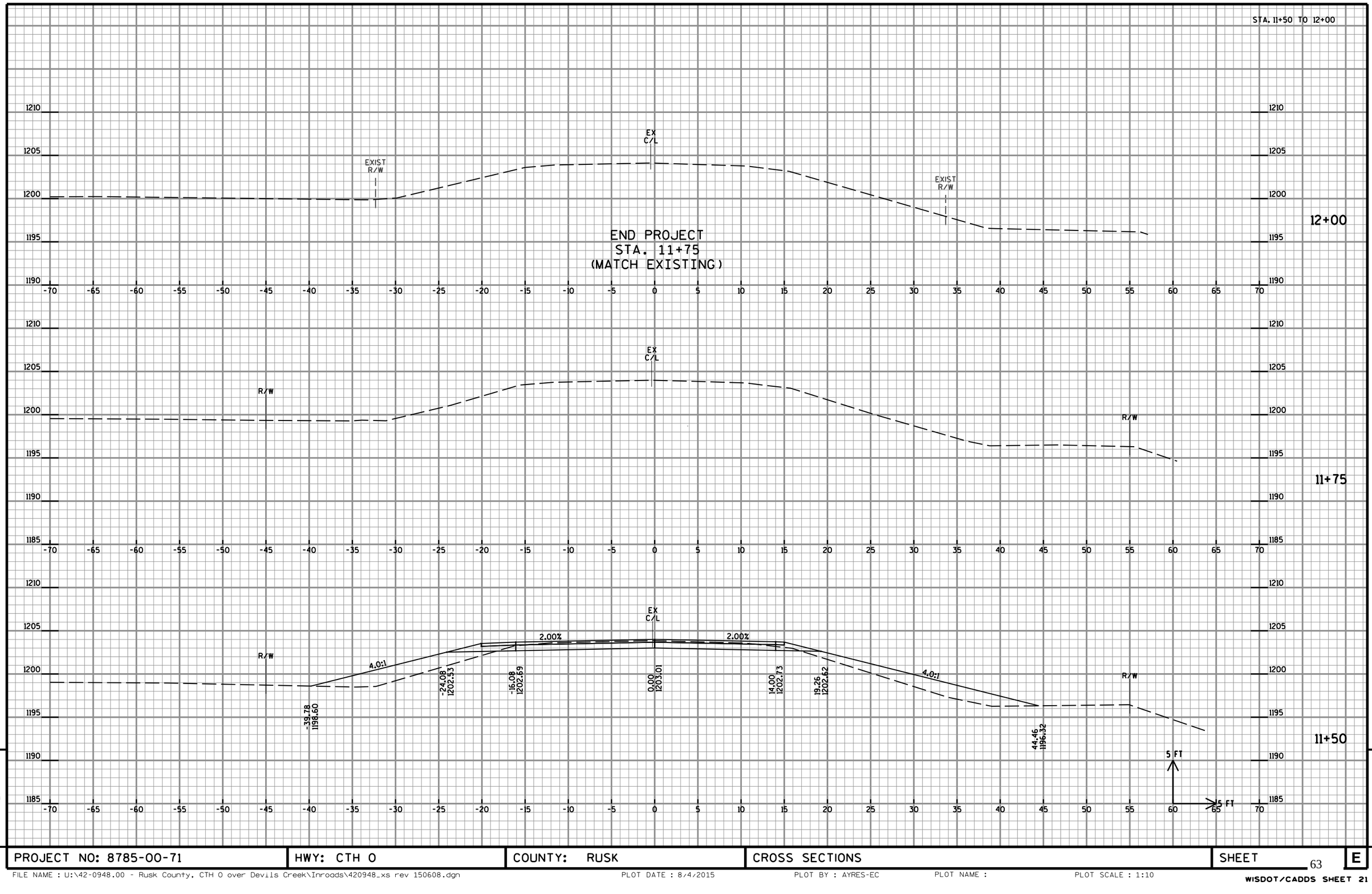


PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET 62	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:9.99654

WISDOT/CADDS SHEET 21

STA. 11+50 TO 12+00



PROJECT NO: 8785-00-71	HWY: CTH O	COUNTY: RUSK	CROSS SECTIONS	SHEET	E

FILE NAME : U:\42-0948.00 - Rusk County, CTH O over Devils Creek\Inroads\420948_xs rev 150608.dgn PLOT DATE : 8/4/2015 PLOT BY : AYRES-EC PLOT NAME : PLOT SCALE : 1:10

WISDOT/CADDS SHEET 21

Wisconsin Department of Transportation

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