

SWL MAY 2014
PROJECT ID: 5691-00-78
WITH: N/A
COUNTY: GRANT

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details (Includes Erosion Control Plan)
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plot
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 66



DESIGN DESIGNATION		
A.A.D.T. 2014	=	100
A.A.D.T. 2034	=	150
D.H.V. 2034	=	14
D.D.	=	60/40
T.	=	10% ASSUMED
DESIGN SPEED	=	20 M.P.H.
ESALS	=	N/A

CONVENTIONAL SYMBOLS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

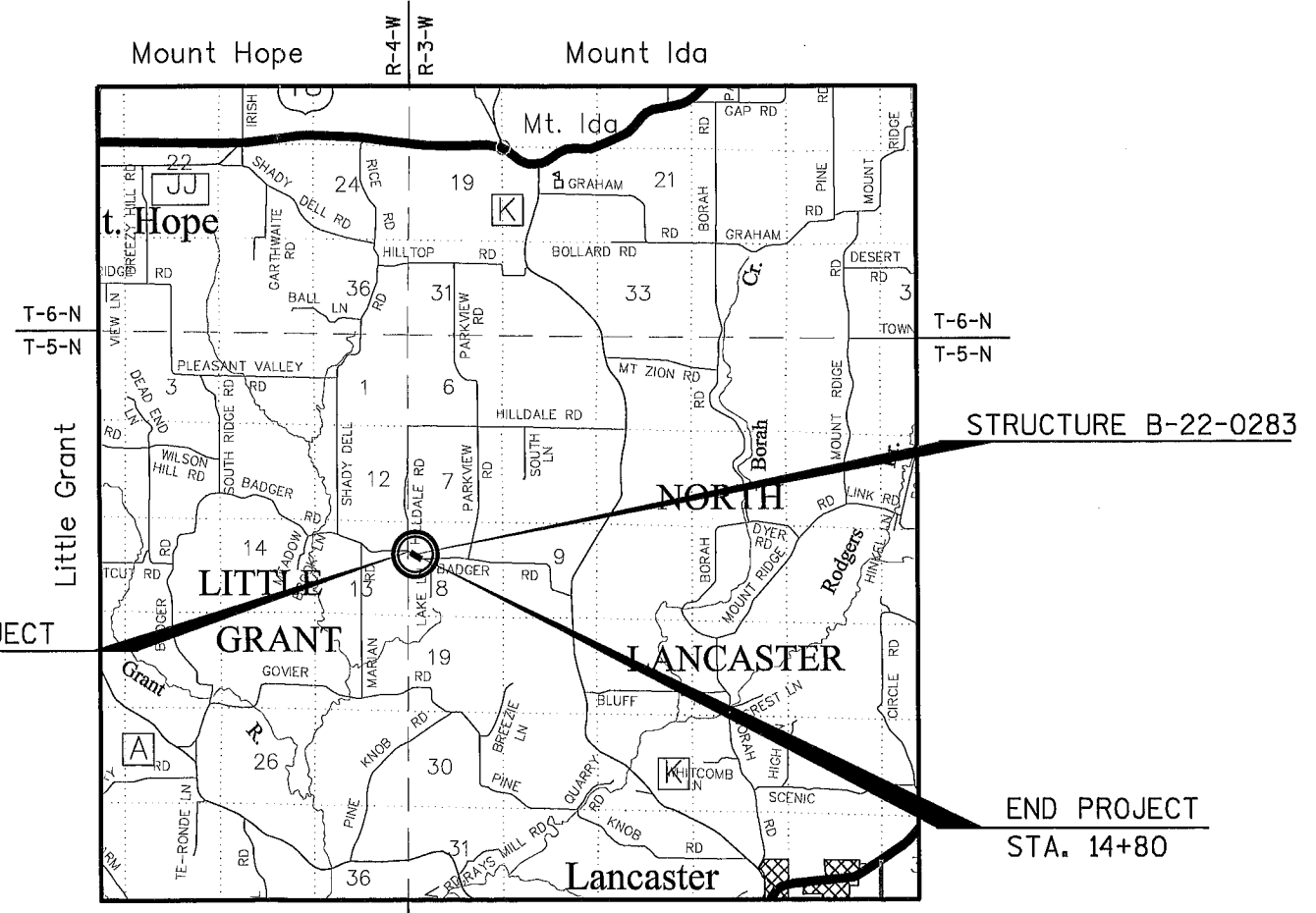
PLAN OF PROPOSED IMPROVEMENT

TOWN OF NORTH LANCASTER, BADGER ROAD

(BRANCH MARTIN BRANCH BRIDGE B-22-0283)

TOWN ROAD
GRANT COUNTY

STATE PROJECT NUMBER
5691-00-78



LAYOUT
SCALE 0 2 MI.
TOTAL NET LENGTH OF CENTERLINE = 0.063 MI.

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5691-00-78	WISC 2014188	1

ACCEPTED FOR
TOWN of NORTH LANCASTER
1-17-14 (Date) *Robert Rente* (Town Chairman)

ACCEPTED FOR
COUNTY of GRANT
1-16-14 (Date) *David Rente* (Highway Commissioner)

ORIGINAL PLANS PREPARED BY

JEWELL
associates engineers, inc.
Engineers and Surveyors

WISCONSIN PROFESSIONAL ENGINEER
ELLERY A. SCHAFER
E-41742-6
SPRING GREEN, WI

1/16/14 (Date) *EAS* (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor JEWELL ASSOCIATES ENGINEERS, INC.
Designer JEWELL ASSOCIATES ENGINEERS, INC.
Management Consultant KJOHNSON ENGINEERS, INC.

APPROVED FOR THE DEPARTMENT
DATE: 1/27/14
Kenny A. Johnson
MANAGEMENT CONSULTANT SIGNATURE

LIST OF STANDARD ABBREVIATIONS

ABUT	Abutment	LHF	Left-Hand Forward	SEC	Section
ADT	Average Daily Traffic	L	Length of Curve	SHLDR	Shoulder
AADT	Average Annual Daily Traffic	LF	Linear Foot	SW	Sidewalk
BAD	Base Aggregate Dense	MF	Manhole	S	South
BK	Back	MB	Mailbox	SF or SQ FT	Square Feet
BF	Back Face	ML or M/L	Match Line	SY or SQ YD	Square Yard
BM	Bench Mark	N	North	STD	Standard
C	Chord Length	Y	North Grid Coordinate	SDD	Standard Detail Drawings
C/L	Center Line	PLE	Permanent Limited Easement	STH	State Trunk Highways
CC	Center to Center	PT	Point	STA	Station
CTH	County Trunk Highway	PC	Point of Curvature	SS	Storm Sewer
CY	Cubic Yard	PI	Point of Intersection	SG	Subgrade
CP	Culvert Pipe	PRC	Point of Reverse Curvature	SE	Superelevation
C & G	Curb and Gutter	R	Range	TEL	Telephone
Δ	Delta	RR	Railroad	TEMP	Temporary
DA	Degree of Arc	R/L	Reference Line	TI	Temporary Interest
DD	Directional Distribution	RP	Reference Point	TLE	Temporary Limited Easement
DHV	Design Hourly Volume	RCCP	Reinforced Concrete Culvert Pipe	T	Tangent Length
DIA	Diameter	REQD	Required	T or TN	Town
E	East	RES	Residence or Residential	TRANS	Transition
X	East Grid Coordinate	RT	Right	TL or T/L	Transit Line
EL or ELEV	Elevation	RHF	Right-Hand Forward	T	Trucks (percent of)
ESALS	Equivalent Single Axle Loads	R/W	Right-of-Way	TYP	Typical
EBS	Excavation Below Subgrade	RD	Road	UG	Underground Cable
FF	Face to Face	SAN S	Sanitary Sewer	USH	United States Highway
FE	Field Entrance			VAR	Variable
FG	Finished Grade			V	Velocity or Design Speed
FT	Foot			VERT	Vertical
GN	Grid North			VC	Vertical Curve
CWT	Hundredweight			WM	Water Main
HYD	Hydrant			WV	Water Valve
INL	Inlet			W	West
ID	Inside Diameter			WB	Westbound
INV	Invert				
IP	Iron Pipe or Pin				
IRS	Iron Rod Set				
JCT	Junction				

GENERAL NOTES

COORDINATES AND BEARINGS ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), GRANT COUNTY.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).

NO TREES OR SHRUBS ARE TO BE REMOVED UNLESS SUCH TREES OR SHRUBS HAVE FIRST BEEN INDICATED FOR REMOVAL BY THE ENGINEER IN THE FIELD.

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE, AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. EXACT LOCATIONS OF EBS WILL BE DETERMINED BY THE ENGINEER.

UNLESS SHOWN OTHERWISE DISTURBED AREAS SHOWN WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS ARE TO BE FERTILIZED (TYPE B), SEEDED (USE SEED MIX #20) AND EMAT/MULCHED AS DIRECTED BY THE ENGINEER. ALL POST CONSTRUCTION WET AREAS SHALL BE SEEDED WITH SEEDING MIXTURE #60.

WHEN THE QUANTITY OF THE ITEM OF BASE AGGREGATE DENSE OR ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE COURSE SHOWN ON THE PLANS IS APPROXIMATE, AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

MULCH/EROSION MAT URBAN CLASS I TYPE A ALL MAINLINE SLOPES AS DIRECTED BY THE ENGINEER IN THE FIELD.

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

FILL EXPANSION IS VARIABLE AND IS ESTIMATED AT 25%.

3 1/2-INCHES OF ASPHALTIC SURFACE SHALL BE CONSTRUCTED WITH A 1 3/4-INCH UPPER LAYER AND 1 3/4-INCH LOWER LAYER. THE NOMINAL SIZE OF AGGREGATE USED FOR THE LOWER LAYER SHALL BE 12.5 MM.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. THE CONTRACTOR SHALL NOT OPERATE EQUIPMENT BEYOND THE SLOPE INTERCEPTS FROM STA. 10+45 - 12+83, LT.

REMOVAL OF ASPHALTIC SURFACE WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

CONTACTS

DESIGN CONSULTANT:

JEWELL ASSOCIATES ENGINEERS, INC.
560 SUNRISE DR.
SPRING GREEN, WI 53588
ATTN: FRED GRUBER, P.E., R.L.S.
PH: (608) 588-7484
FAX: (608) 588-9322
E-MAIL: fred.gruber@jewellassoc.com

DNR LIAISON:

STATE OF WISCONSIN
DNR SOUTH CENTRAL REGION HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
ATTN: CATHY BLESER
PH: (608) 275-3308
CELL: (608) 220-3838
E-MAIL: Catherine.Bleser@wisconsin.gov

TOWN OF NORTH LANCASTER

DELBERT REUTER, CHAIRMAN
10713 BORAH RD
LANCASTER, WI 53813
PH: (608) 723-4447

GRANT COUNTY HIGHWAY DEPARTMENT

DAVID LAMBERT, COMMISSIONER
1011 NORTH ADAMS STREET
P.O. BOX 150
LANCASTER, WI 53813
PH: (608) 723-2595
E-MAIL: djlambert@tds.net

UTILITIES

ELECTRIC

SCENIC RIVERS ENERGY COOPERATIVE
ATTN: JEFF FARREY
231 NORTH SHERIDAN STREET
LANCASTER, WI 53813
OFFICE: (608) 723-2121
EMAIL:jfarrey@srec.net

TELEPHONE

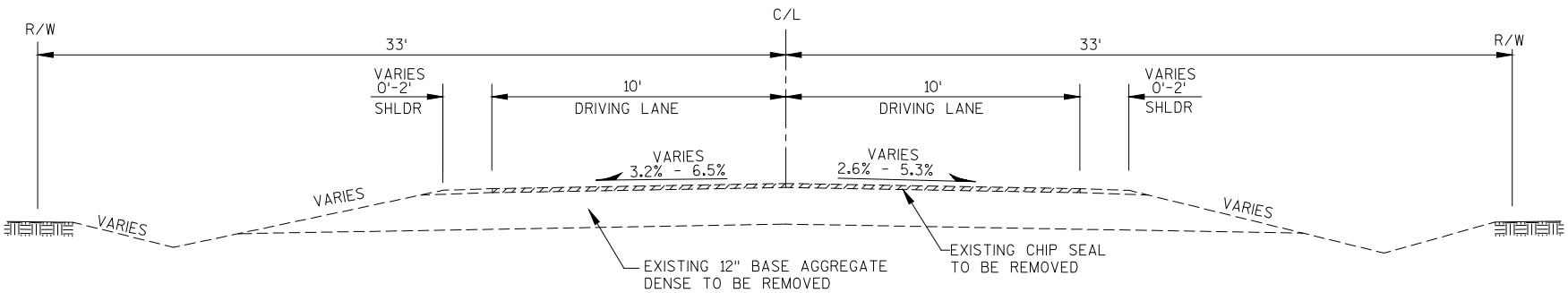
TDS TELECOM
ATTN: KENNETH KLAAS
140 NORTH MONROE STREET
LANCASTER, WI 53813
OFFICE: (608) 723-3633
FAX: (608) 723-2400
CELL: (608) 778-5134
EMAIL: kenneth.klaas@tdstelecom.com

DIGGERS HOTLINE

Dial 811 or (800) 242-8511

www.DiggersHotline.com

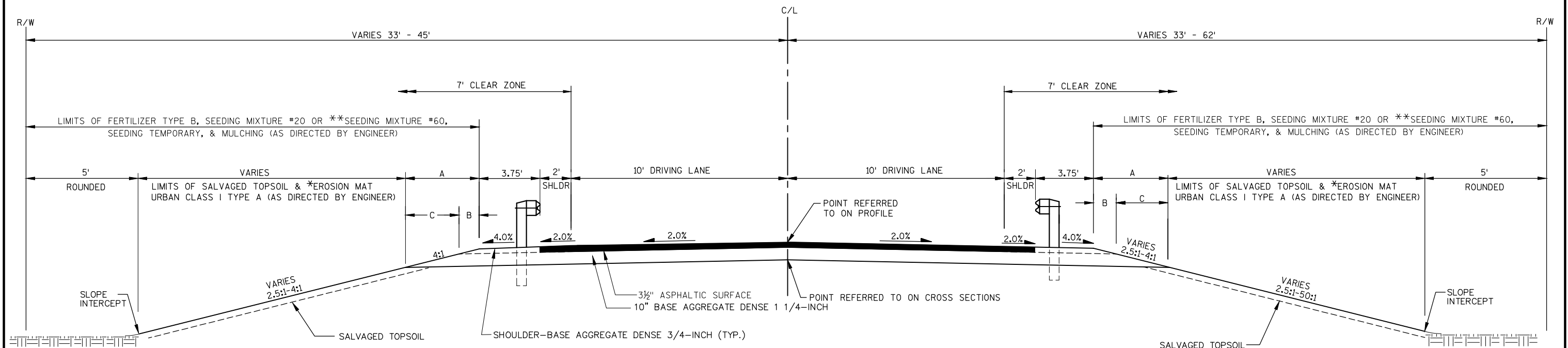
X DENOTES UTILITY IS NOT A MEMBER OF DIGGERS HOTLINE



TYPICAL EXISTING SECTION

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

TOTAL PROJECT AREA= 0.79 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.63 ACRES



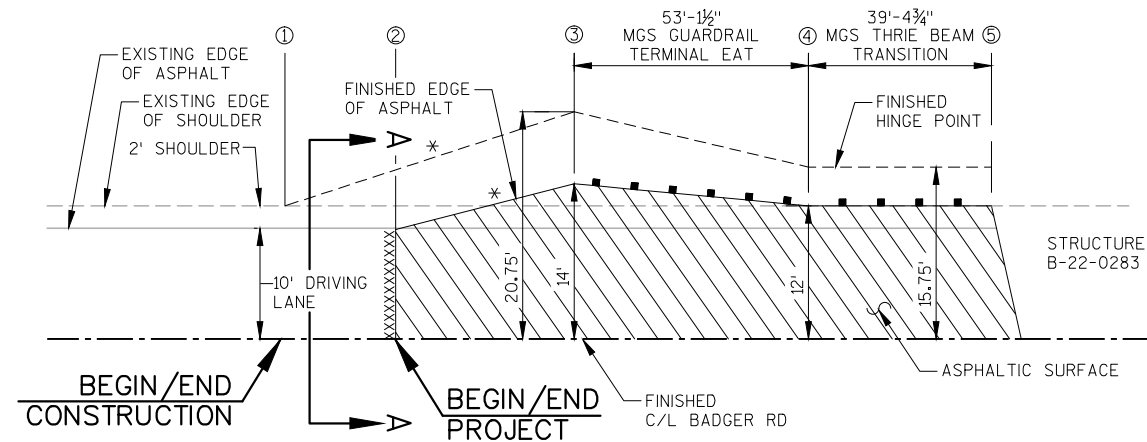
TYPICAL FINISHED SECTION

SHOULDER DIMENSION
DATA TABLE

SIDESLOPE	A (FT)	B (FT)	C (FT)
2.5:1	2.8	0.6	2.2
4:1	4.5	0.9	3.6

* LIMITS OF EROSION MAT URBAN CLASS I TYPE A IN AREAS OF 2.5:1 SIDESLOPES
(MULCHING NOT APPLIED IN AREAS OF EROSION MAT URBAN CLASS I TYPE A PLACEMENT)
SEE EROSION CONTROL PLAN AND MISCELLANEOUS QUANTITIES FOR FURTHER INFORMATION.

**STA. 11+23 - STA. 12+56, LT. ALL POST CONSTRUCTION WET AREAS SHALL
BE SEEDED WITH SEEDING MIXTURE #60.

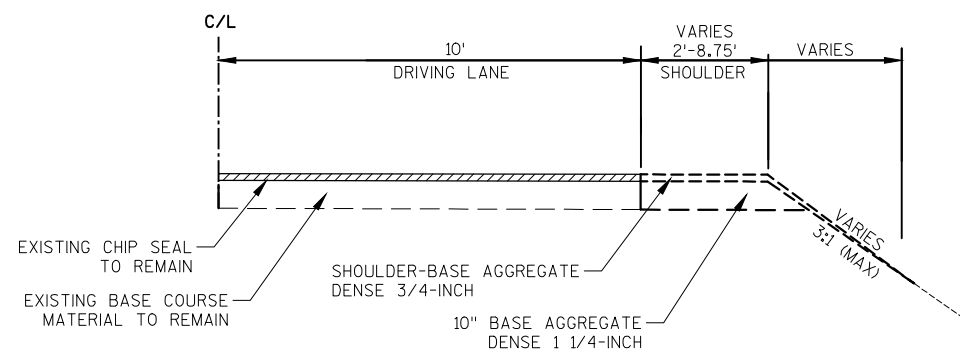


LEGEND
xxxxxxx SAWING ASPHALT

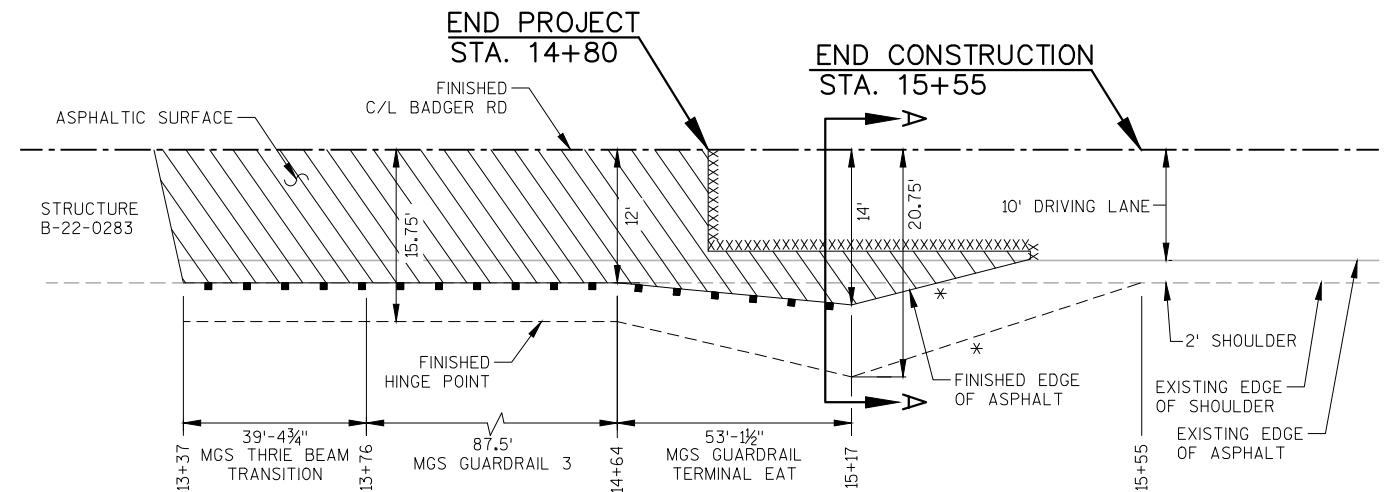
*SEE PLAN & PROFILE FOR TAPER RATES

		BEAMGUARD LAYOUT TABLE				
		STATION				
QUADRANT	LOCATION	①	②	③	④	⑤
SOUTHWEST	BADGER RD, RT.	11+36	11+50	11+73	12+26	12+65
NORTHWEST	BADGER RD, LT.	10+46	11+50	11+64	12+17	12+56
NORTHEAST	BADGER RD, LT.	15+55	14+80	14+20	13+67	13+28

BEAMGUARD LAYOUT DETAIL



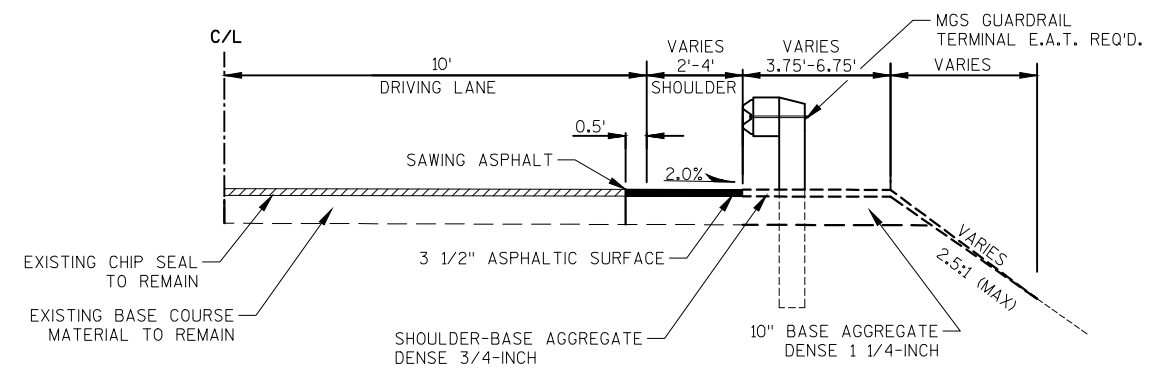
SECTION A-A



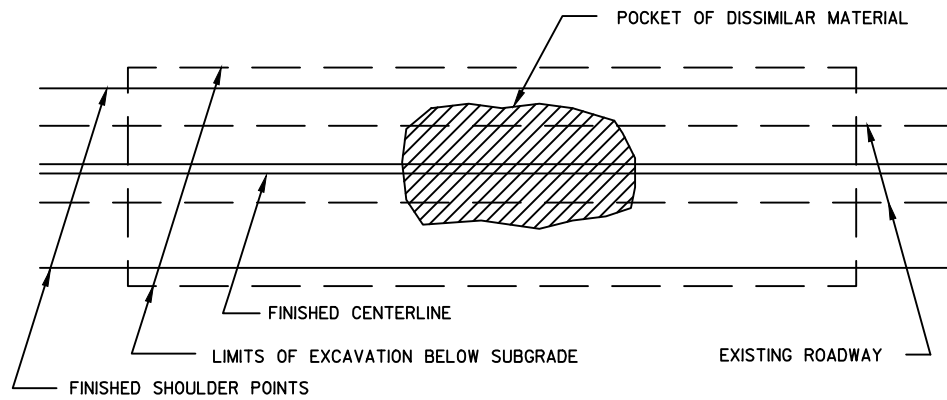
LEGEND
xxxxxxx SAWING ASPHALT

*SEE PLAN & PROFILE FOR TAPER RATES

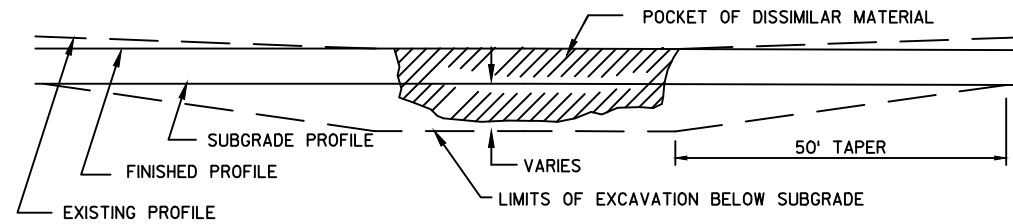
BEAMGUARD LAYOUT DETAIL
(SE QUADRANT)



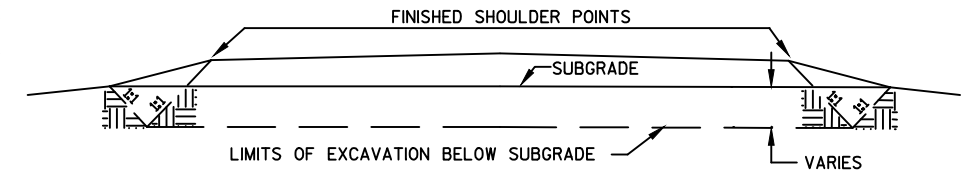
SECTION A-A



PLAN VIEW

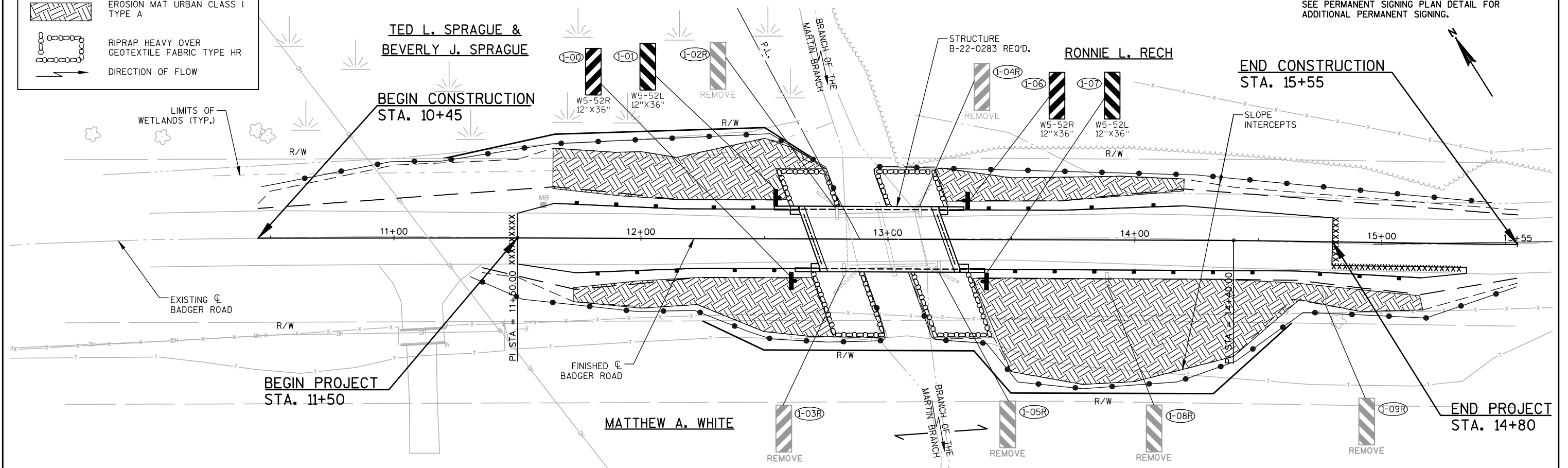
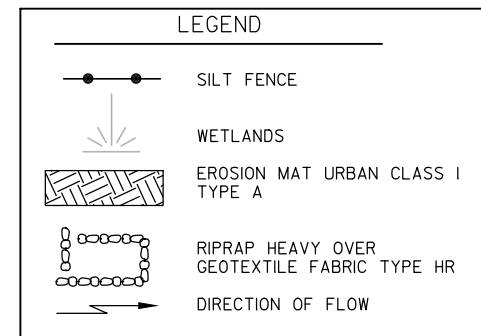


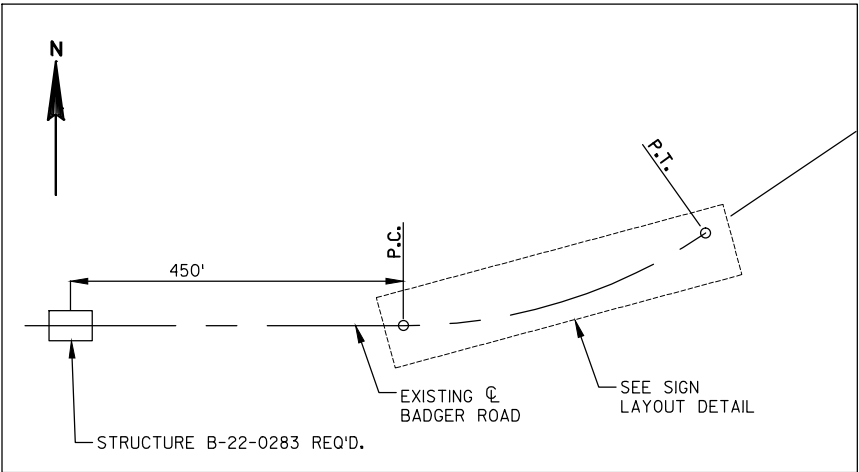
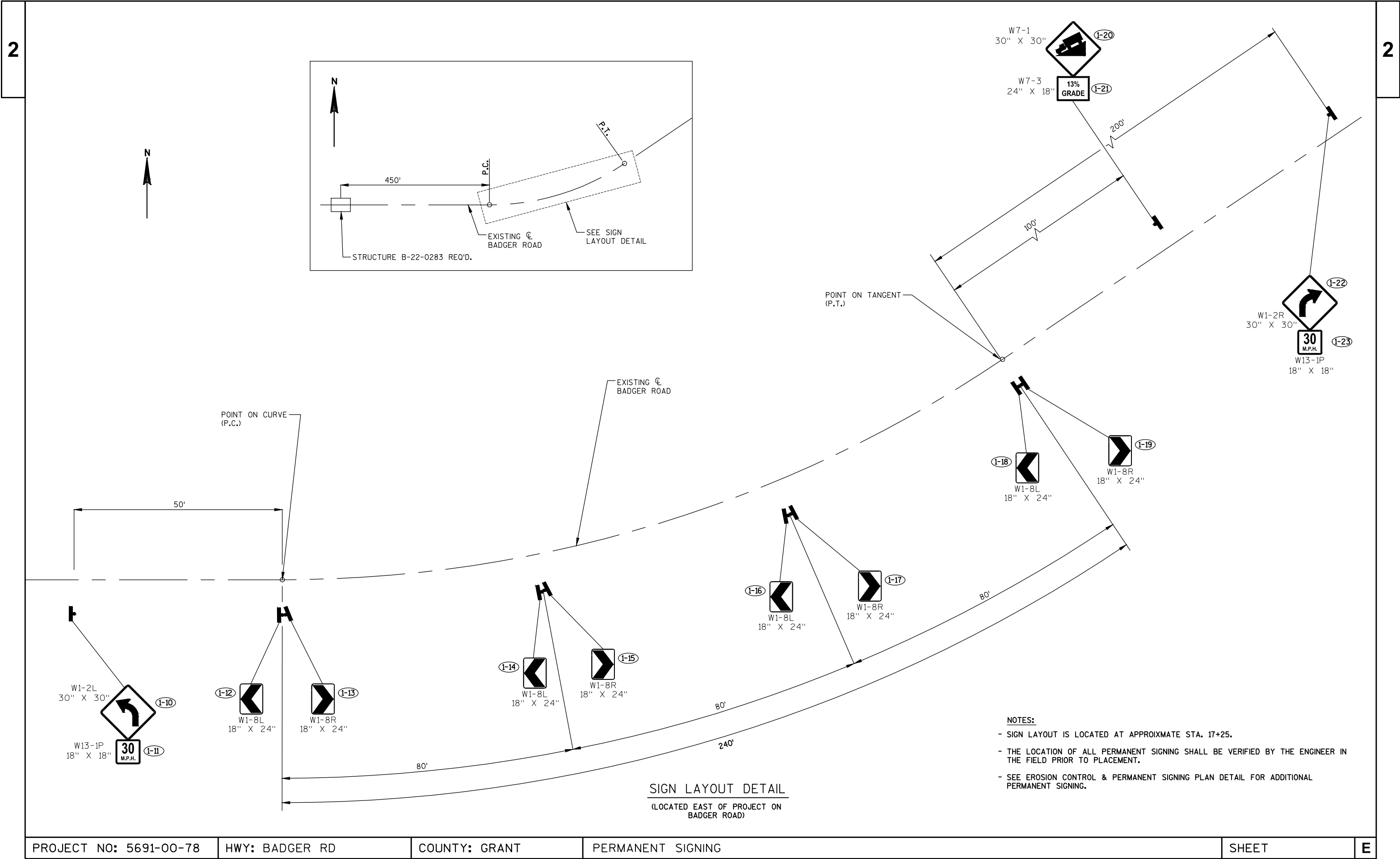
PROFILE VIEW



CROSS SECTION VIEW

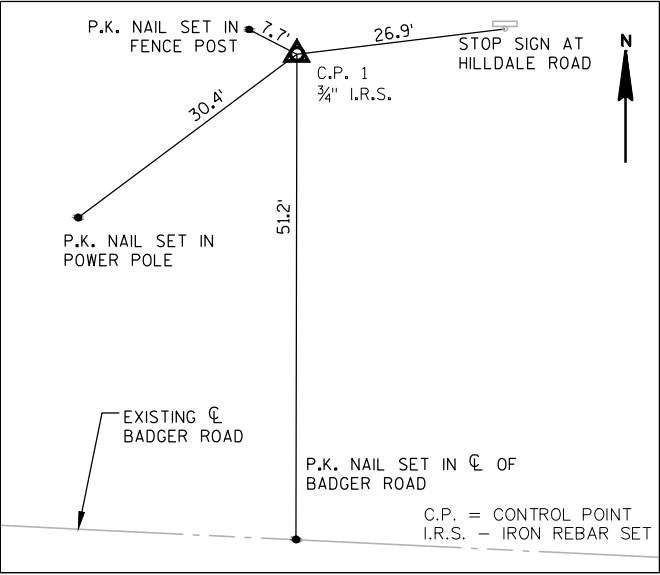
1. EXACT LOCATION OF E.B.S. (EXCAVATION BELOW SUBGRADE) SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
2. E.B.S. AREA TO BE BACKFILLED WITH MATERIAL ACCEPTABLE TO THE ENGINEER. BACKFILL MUST BE HOMOGENEOUS WITH ADJOINING FILL MATERIAL.
3. THE FILL SECTION WITHIN 100' OF THE MOUTH OF THE CUT MUST BE KEPT 2' BELOW SUBGRADE UNTIL E.B.S. IS COMPLETED. LATERAL LIMITS OF EXCAVATION SHALL BE THE SUBGRADE SHOULDER POINTS.

EXCAVATION BELOW SUBGRADE (E.B.S.)

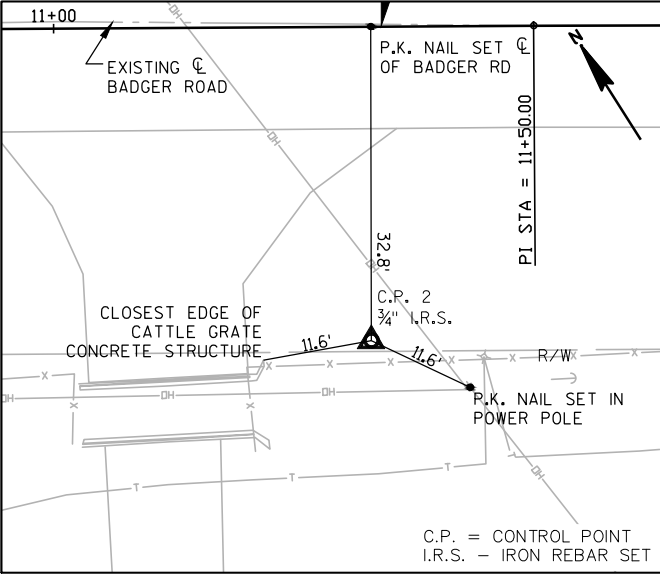


SIGN LAYOUT DETAIL
(LOCATED EAST OF PROJECT ON
BADGER ROAD)

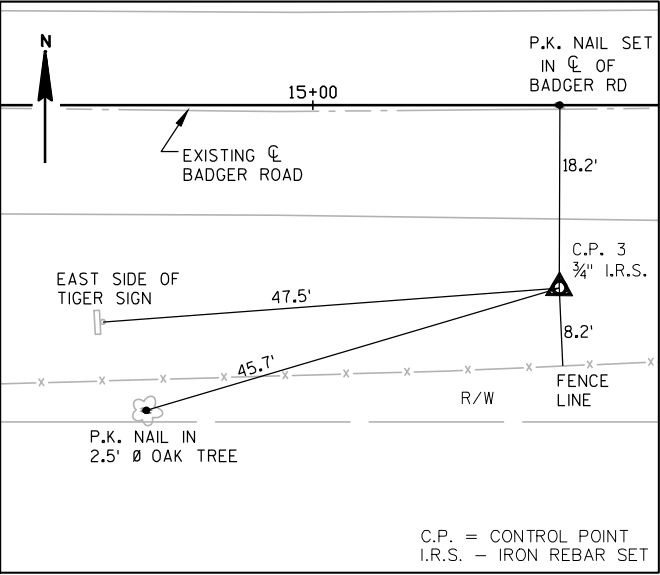
- NOTES:
- SIGN LAYOUT IS LOCATED AT APPROXIMATE STA. 17+25.
 - THE LOCATION OF ALL PERMANENT SIGNING SHALL BE VERIFIED BY THE ENGINEER IN THE FIELD PRIOR TO PLACEMENT.
 - SEE EROSION CONTROL & PERMANENT SIGNING PLAN DETAIL FOR ADDITIONAL PERMANENT SIGNING.



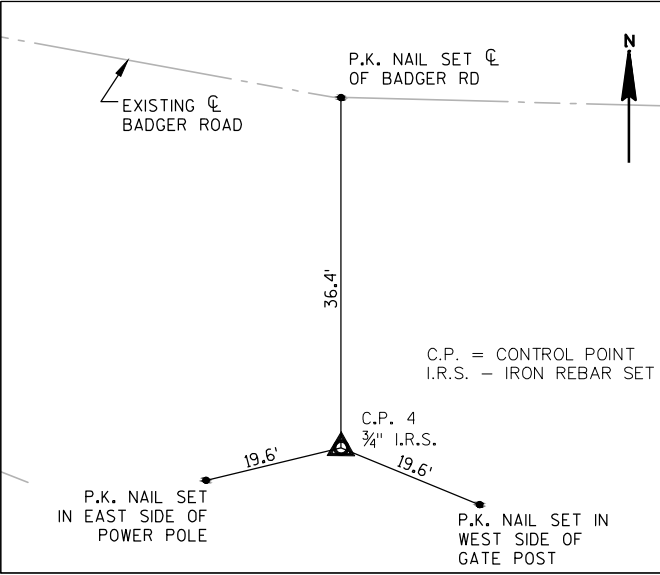
TIES TO C.P.#1
STA. 7+25; 51.2' LT.
Y = 546,854.20
X = 799,164.51



TIES TO C.P.#2
STA. 11+32.88; 32.72' RT.
Y = 546,620.09
X = 799,505.25



TIES TO C.P.#3
STA. 15+25.66; 19.02' RT.
Y = 546,421.03
X = 799,843.68



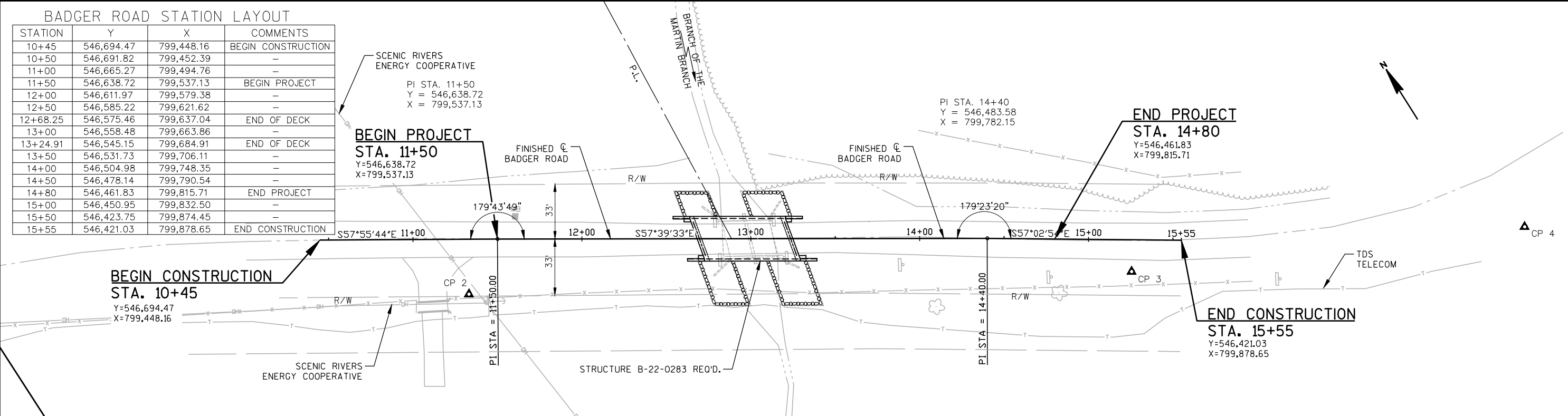
TIES TO C.P.#4
STA. 17+45.13; 36.48' RT.
Y = 546,318.70
X = 800,054.38

CONTROL POINTS

No.	STATION	DESCRIPTION	Y	X
1	7+25	3/4" IRON REBAR SET, 51.2' LT.	546,854.20	799,164.51
2	11+32.88	3/4" IRON REBAR SET, 32.72' RT.	546,620.09	799,505.25
3	15+25.66	3/4" IRON REBAR SET, 19.02' RT.	546,421.03	799,843.68
4	17+45.13	3/4" IRON REBAR SET, 36.48' RT.	546,318.70	800,054.38

BADGER ROAD STATION LAYOUT

STATION	Y	X	COMMENTS
10+45	546,694.47	799,448.16	BEGIN CONSTRUCTION
10+50	546,691.82	799,452.39	-
11+00	546,665.27	799,494.76	-
11+50	546,638.72	799,537.13	BEGIN PROJECT
12+00	546,611.97	799,579.38	-
12+50	546,585.22	799,621.62	-
12+68.25	546,575.46	799,637.04	END OF DECK
13+00	546,558.48	799,663.86	-
13+24.91	546,545.15	799,684.91	END OF DECK
13+50	546,531.73	799,706.11	-
14+00	546,504.98	799,748.35	-
14+50	546,478.14	799,790.54	-
14+80	546,461.83	799,815.71	END PROJECT
15+00	546,450.95	799,832.50	-
15+50	546,423.75	799,874.45	-
15+55	546,421.03	799,878.65	END CONSTRUCTION



DATE 04MAR14		E S T I M A T E O F Q U A N T I T I E S			
LINE					5691-00-78
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0120	CLEARING	ID	40.000	40.000
0020	201.0220	GRUBBING	ID	40.000	40.000
0030	203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS (STATION) 01. STA. 12+99	LS	1.000	1.000
0040	205.0100	EXCAVATION COMMON **P**	CY	200.000	200.000
0050	206.1000	EXCAVATION FOR STRUCTURES BRIDGES (STRUCTURE) 01. B-22-0283	LS	1.000	1.000
0060	208.0100	BORROW	CY	1,120.000	1,120.000
0070	210.0100	BACKFILL STRUCTURE	CY	190.000	190.000
0080	213.0100	FINISHING ROADWAY (PROJECT) 01. 5691-00-78	EACH	1.000	1.000
0090	305.0110	BASE AGGREGATE DENSE 3/4-INCH	TON	80.000	80.000
0100	305.0120	BASE AGGREGATE DENSE 1 1/4-INCH	TON	850.000	850.000
0110	455.0605	TACK COAT	GAL	20.000	20.000
0120	465.0105	ASPHALTIC SURFACE	TON	165.000	165.000
0130	502.0100	CONCRETE MASONRY BRIDGES	CY	107.000	107.000
0140	502.3200	PROTECTIVE SURFACE TREATMENT	SY	190.000	190.000
0150	503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	220.000	220.000
0160	505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	3,030.000	3,030.000
0170	505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	14,450.000	14,450.000
0180	506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	8.000	8.000
0190	506.4000	STEEL DIAPHRAGMS (STRUCTURE) 01. B-22-0283	EACH	3.000	3.000
0200	513.4060	RAILING TUBULAR TYPE M (STRUCTURE) 01. B-22-0283	LS	1.000	1.000
0210	516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11.000	11.000
0220	550.0500	PILE POINTS	EACH	12.000	12.000
0230	550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	260.000	260.000
0240	606.0300	RIPRAP HEAVY	CY	270.000	270.000
0250	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	120.000	120.000
0260	614.2300	MGS GUARDRAIL 3	LF	88.000	88.000
0270	614.2500	MGS THRIE BEAM TRANSITION	LF	160.000	160.000
0280	614.2610	MGS GUARDRAIL TERMINAL EAT	EACH	4.000	4.000
0290	619.1000	MOBILIZATION	EACH	1.000	1.000
0300	625.0500	SALVAGED TOPSOIL **P**	SY	1,100.000	1,100.000
0310	627.0200	MULCHING **P**	SY	1,750.000	1,750.000
0320	628.1504	SILT FENCE	LF	1,260.000	1,260.000
0330	628.1520	SILT FENCE MAINTENANCE	LF	2,520.000	2,520.000
0340	628.1905	MOBILIZATIONS EROSION CONTROL	EACH	4.000	4.000
0350	628.1910	MOBILIZATIONS EMERGENCY EROSION CONTROL	EACH	2.000	2.000
0360	628.2006	EROSION MAT URBAN CLASS I TYPE A	SY	1,100.000	1,100.000
0370	629.0210	FERTILIZER TYPE B **P**	CWT	2.000	2.000
0380	630.0120	SEEDING MIXTURE NO. 20 **P**	LB	55.000	55.000
0390	630.0160	SEEDING MIXTURE NO. 60 **P**	LB	1.000	1.000
0400	630.0200	SEEDING TEMPORARY **P**	LB	30.000	30.000
0410	630.0300	SEEDING BORROW PIT **P**	LB	10.000	10.000
0420	633.5100	MARKERS ROW	EACH	12.000	12.000
0430	634.0612	POSTS WOOD 4X6-INCH X 12-FT	EACH	4.000	4.000
0440	634.0614	POSTS WOOD 4X6-INCH X 14-FT	EACH	11.000	11.000
0450	637.2230	SIGNS TYPE II REFLECTIVE F	SF	62.250	62.250
0460	638.2602	REMOVING SIGNS TYPE II	EACH	6.000	6.000
0470	638.3000	REMOVING SMALL SIGN SUPPORTS	EACH	6.000	6.000
0480	642.5001	FIELD OFFICE TYPE B	EACH	1.000	1.000

DATE 04MAR14			E S T I M A T E O F Q U A N T I T I E S		
LINE					5691-00-78
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0490	643.0100	TRAFFIC CONTROL (PROJECT) 01. 5691-00-78	EACH	1.000	1.000
0500	645.0120	GEOTEXTILE FABRIC TYPE HR	SY	500.000	500.000
0510	650.4500	CONSTRUCTION STAKING SUBGRADE	LF	275.000	275.000
0520	650.5000	CONSTRUCTION STAKING BASE	LF	275.000	275.000
0530	650.6500	CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 01. B-22-0283	LS	1.000	1.000
0540	650.9910	CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5691-00-78	LS	1.000	1.000
0550	650.9920	CONSTRUCTION STAKING SLOPE STAKES	LF	455.000	455.000
0560	690.0150	SAWING ASPHALT	LF	100.000	100.000
0570	715.0502	INCENTIVE STRENGTH CONCRETE STRUCTURES	DOL	642.000	642.000

3

3

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

EARTHWORK SUMMARY

CATEGORY	FROM/TO STA	LOCATION	**P** (1) 205.0100 COMMON EXCAVATION		SALVAGED/ UNUSABLE PAVEMENT AVAILABLE MATERIAL		205.0400 MARSH EXCAVATION	205.0200 ROCK EXCAVATION	REDUCED MARSH IN FILL (CY)	REDUCED EBS IN FILL (CY)	EXPANDED MARSH BACKFILL (CY)	EXPANDED EBS BACKFILL (CY)	EXPANDED ROCK (CY)	UNEXPANDED FILL (CY)	EXPANDED FILL (CY)	MASS ORDINATE +/- (CY)	208.0100 WASTE (CY)	BORROW (CY)	COMMENT:
			CUT (2) (CY)	EBS (3) (CY)	(CY) (4)	(CY) (5)	(CY) (6)	(CY) (7)	0.6 (8)	0.8 (9)	1.5 (10)	1.5 (11)	1.1 (12)		1.25 (13)	(CY) (14)			
010	10+45 - 15+55	MAINLINE	200	-	-	200	-	-	-	-	-	-	-	1056	1320	-1120	-	1120	
TOTALS =			200			200								1056	1320	-1120		1120	

NOTES:
1.) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2.) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3.) EBS EXCAVATION TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL.
4.) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5.) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE PAVEMENT MATERIAL
6.) MARSH EXCAVATION - TO BE BACKFILLED WITH SELECT CRUSHED MATERIAL. ITEM 205.0400
7.) ROCK EXCAVATION. ITEM NUMBER 205.0200
8.) REDUCED MARSH IN FILL - EXCAVATED MARSH MATERIAL IS USABLE IN FILLS OUTSIDE THE 1:1 SLOPE. MARSH IN FILL REDUCTION FACTOR = 0.6
9.) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USEABLE IN FILLS OUTSIDE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8
10.) EXPANDED MARSH BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. MARSH BACKFILL FACTOR = 1.5. ITEM NUMBER 312.0115
11.)EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT CRUSHED MATERIAL. EBS BACKFILL FACTOR = 1.3. ITEM NUMBER 312.0115
12.) EXPANDED ROCK FACTOR = 1.1
13.) EXPANDED FILL FACTOR 1.25: EXPANDED FILL = (UNEXPANDED FILL - REDUCED MARSH IN FILL)*1.25
14.) THE MASS ORDINATE+ OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE CATEGORY. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE CATEGORY.

P PAY PLAN QUANTITY

CLEARING & GRUBBING

		201.0120 CLEARING	201.0220 GRUBBING
<u>STATION - STATION</u>	<u>LOCATION</u>	<u>(ID)</u>	<u>(ID)</u>
14+10	MAINLINE, RT.	40	40
	TOTALS =	40	40

BASE AGGREGATE DENSE

		305.0110	305.0120
		BASE AGGREGATE	BASE AGGREGATE
		DENSE 3/4-INCH	DENSE 1 1/4-INCH
STATION - STATION	LOCATION	(TON)	(TON)
10+45 - 15+55	MAINLINE	72	800
-	UNDISTRIBUTED	8	50
TOTALS =		80	850

ASPHALTIC SURFACE

		455.0605	465.0105
STATION - STATION	LOCATION	TACK COAT	ASPHALTIC SURFACE
11+50 - 15+35	MAINLINE	(GAL)	(TON)
-	UNDISTRIBUTED	19	154
		1	11
	TOTAL S =	20	165

MGS GUARDRAIL

STATION - STATION	LOCATION	614.2300 MGS GUARDRAIL 3 (LF)	614.2500 MGS THRIE BEAM TRANSITION (LF)	614.2610 MGS GUARDRAIL TERMINAL EAT (EACH)
		11+64 - 12+17 MAINLINE, LT	-	1
11+73 - 12+26	MAINLINE, RT	-	-	1
12+17 - 12+56	MAINLINE, LT	-	40	-
12+26 - 12+65	MAINLINE, RT	-	40	-
13+28 - 13+67	MAINLINE, LT	-	40	-
13+37 - 13+76	MAINLINE, RT	-	40	-
13+67 - 14+20	MAINLINE, LT	-	-	1
13+76 - 14+64	MAINLINE, RT	88	-	-
14+64 - 15+17	MAINLINE, RT	-	-	1
TOTAL S =		88	160	4

3

FINISHING ITEMS

STATION - STATION	LOCATION	**P** 625.0500 SALVAGED TOPSOIL (SY)	**P** 627.0200 MULCHING (SY)	628.2008 EROSION MAT URBAN CLASS I TYPE A (SY)	**P** 629.0210 FERTILIZER TYPE B (CWT)	**P** 630.0120 SEEDING MIXTURE NO. 20 (LB)	**P** #630.0160 SEEDING MIXTURE NO. 60 (LB)	**P** 630.0200 SEEDING TEMPORARY (LB)	**P** 630.0300 SEEDING BORROW PIT (LB)
		(SY)	(SY)	(SY)	(CWT)	(LB)	(LB)	(LB)	(LB)
10+45 - 15+55	MAINLINE	884	688	980	1.1	44	1.0	24	-
-	BORROW PIT	-	702	-	0.5	-	-	-	9
-	UNDISTRIBUTED	216	360	120	0.4	11	-	6	1
TOTALS =		1100	1750	1100	2.0	55	1.0	30	10

STATION 11+23 - STATION 12+56, LT.
P PAY PLAN QUANTITY

ALL BID ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

SILT FENCE

STATION - STATION	LOCATION	628.1504 SILT FENCE (LF)	628.1520 SILT FENCE MAINTENANCE (LF)
		(LF)	(LF)
10+45 - 12+80	MAINLINE, LT.	260	520
11+35 - 12+90	MAINLINE, RT.	200	400
12+94 - 15+43	MAINLINE, LT.	265	530
13+08 - 15+55	MAINLINE, RT.	285	570
-	UNDISTRIBUTED	250	500
TOTALS =		1260	2520

3

MOBILIZATION EROSION CONTROL

PROJECT	628.1905 MOBILIZATION EROSION CONTROL (EACH)	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL (EACH)
	(EACH)	(EACH)
5691-00-78	4	2
TOTALS =	4	2

MARKERS ROW

POINT NO.	STATION	LOCATION	633.5100 (EACH)
1	11+20.00	MAINLINE, 33.87' RT.	1
2	11+20.00	MAINLINE, 32.13' LT.	1
3	11+65.00	MAINLINE, 42.00' LT.	1
4	12+50.00	MAINLINE, 45.00' LT.	1
5	12+68.00	MAINLINE, 33.00' LT.	1
6	14+64.00	MAINLINE, 33.00' LT.	1
7	14+64.00	MAINLINE, 33.00' RT.	1
8	14+32.00	MAINLINE, 62.00' RT.	1
9	13+50.00	MAINLINE, 62.00' RT.	1
10	13+35.00	MAINLINE, 45.00' RT.	1
11	12+50.00	MAINLINE, 45.00' RT.	1
12	12+25.00	MAINLINE, 33.30' RT.	1
TOTALS =			12

CONSTRUCTION STAKING

STATION - STATION	LOCATION	CONSTRUCTION STAKING				
		650.4500 SUBGRADE (LF)	650.5000 BASE (LF)	*650.6500 STRUCTURE LAYOUT (B-22-0283) (LS)	650.9910 SUPPLEMENTAL CONTROL (01.5691-00-78) (LS)	650.9920 SLOPES STAKES (LF)
10+45 - 15+55	MAINLINE	-	-	-	-	455
11+50 - 14+80	MAINLINE	275	275	-	-	-
-	PROJECT	-	-	*1	1	-
TOTALS =		275	275	*1	1	455

*CATEGORY 020

PERMANENT SIGNING

APPROX			SIGN SITE ID	SIGN CODE	SIGN DESCRIPTION	ORDER LINES	SIGN SIZE IN X IN	637.2230 SIGNS TYPE II	634.0612 POSTS WOOD 4X6 INCH	634.0614 POSTS WOOD 4X6 INCH	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS	SIGN MOUNTED ON SAME POST AS	REMARKS
SIGN NUMBER	STATION	POSITION						REFLECTIVE F SF	12 FT EACH	14 FT EACH	EACH	EACH		
1-00	12+54	Left	Mainline	W5-52L	Bridge Hash Marks	Left	12X36	3.00	1	---	---	---		
1-01	12+62	Right	Mainline	W5-52R	Bridge Hash Marks	Right	12X36	3.00	1	---	---	---		
1-02R	12+80	Left	Mainline	W5-52L	Bridge Hash Marks		12X36	---	---	---	1	1		
1-03R	12+83	Right	Mainline	W5-52R	Bridge Hash Marks		12X36	---	---	---	1	1		
1-04R	13+12	Left	Mainline	W5-52R	Bridge Hash Marks		12X36	---	---	---	1	1		
1-05R	13+20	Right	Mainline	W5-52L	Bridge Hash Marks		12X36	---	---	---	1	1		
1-06	13+31	Left	Mainline	W5-52R	Bridge Hash Marks		12X36	3.00	1	---	---	---		
1-07	13+40	Right	Mainline	W5-52L	Bridge Hash Marks		12X36	3.00	1	---	---	---		
1-08R	13+90	Right	Mainline	W5-52L	Bridge Hash Marks		12X36	---	---	---	1	1		
1-09R	14+78	Right	Mainline	W5-52L	Bridge Hash Marks		12X36	---	---	---	1	1		
1-10	15+75	Right	Mainline	W1-2L	Road Curves Left		30X30	6.25	---	1	---	---		
1-11	15+75	Right	Mainline	W13-1P	Advisory Speed	30	18X18	2.25	---	---	---	---	1-10	
1-12	16+25	Right	Mainline	W1-8L	Chevron		18X24	3.00	---	1	---	---		
1-13	16+25	Right	Mainline	W1-8R	Chevron		18X24	3.00	---	1	---	---		
1-14	17+05	Right	Mainline	W1-8L	Chevron		18x24	3.00	---	1	---	---		
1-15	17+05	Right	Mainline	W1-8R	Chevron		18x24	3.00	---	1	---	---		
1-16	17+85	Right	Mainline	W1-8L	Chevron		18X24	3.00	---	1	---	---		
1-17	17+85	Right	Mainline	W1-8R	Chevron		18X24	3.00	---	1	---	---		
1-18	18+65	Right	Mainline	W1-8L	Chevron		18X24	3.00	---	1	---	---		
1-19	18+65	Right	Mainline	W1-8R	Chevron		18X24	3.00	---	1	---	---		
1-20	19+65	Left	Mainline	W7-1	Hill Symbol		30X30	6.25	---	1	---	---		
1-21	19+65	Left	Mainline	W7-3	% Grade	13	24x18	3.00	---	---	---	---	1-18	
1-22	20+65	Left	Mainline	W1-2R	Road Curves Right		30X30	6.25	---	1	---	---		
1-23	20+65	Left	Mainline	W13-1P	Advisory Speed	30	18X18	2.25	---	---	---	---	1-20	
TOTALS =								62.25	4	11	6	6		

SAWING ASPHALT

STATION	LOCATION	690.0150 SAWING ASPHALT (LF)
11+50	BEGIN PROJECT	21
14+40	END PROJECT	21
14+80 - 15+35	MAINLINE, RT.	58
TOTALS =		100

PROJECT NO: 5691-00-78

HWY: BADGER ROAD

COUNTY: GRANT

MISCELLANEOUS QUANTITIES

SHEET

E

ACCESS POINT/ DRIVEWAY CONNECTION	AP	PROPERTY LINE	PL
ACCESS RIGHTS	AR	RECORDED AS	(100')
ACRES	AC.	REFERENCE LINE	R/L
AND OTHERS	ET.AL.	RELEASE OF RIGHTS	ROR
BARN	B.	REMAINING	REM.
CENTERLINE	C/L	RIGHT-OF-WAY	R/W
CERTIFIED SURVEY MAP	CSM	SECTION	SEC.
CORNER	COR.	SHED	S.
CONVEYANCE OF RIGHTS	CR	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
GARAGE	G.	<u>CURVE DATA</u>	
HIGHWAY EASEMENT	H.E.	LONG CHORD	LCH
HOUSE	H.	LONG CHORD BEARING	LCB
HOUSE TRAILER	H.T.	RADIUS	R
LAND CONTRACT	LC	DEGREE OF CURVE	D
MONUMENT	MON.	CENTRAL ANGLE OR DELTA	DELTA
PAGE	P.	LENGTH OF CURVE	L
PERMANENT LIMITED EASEMENT	PLE	TANGENT	TAN

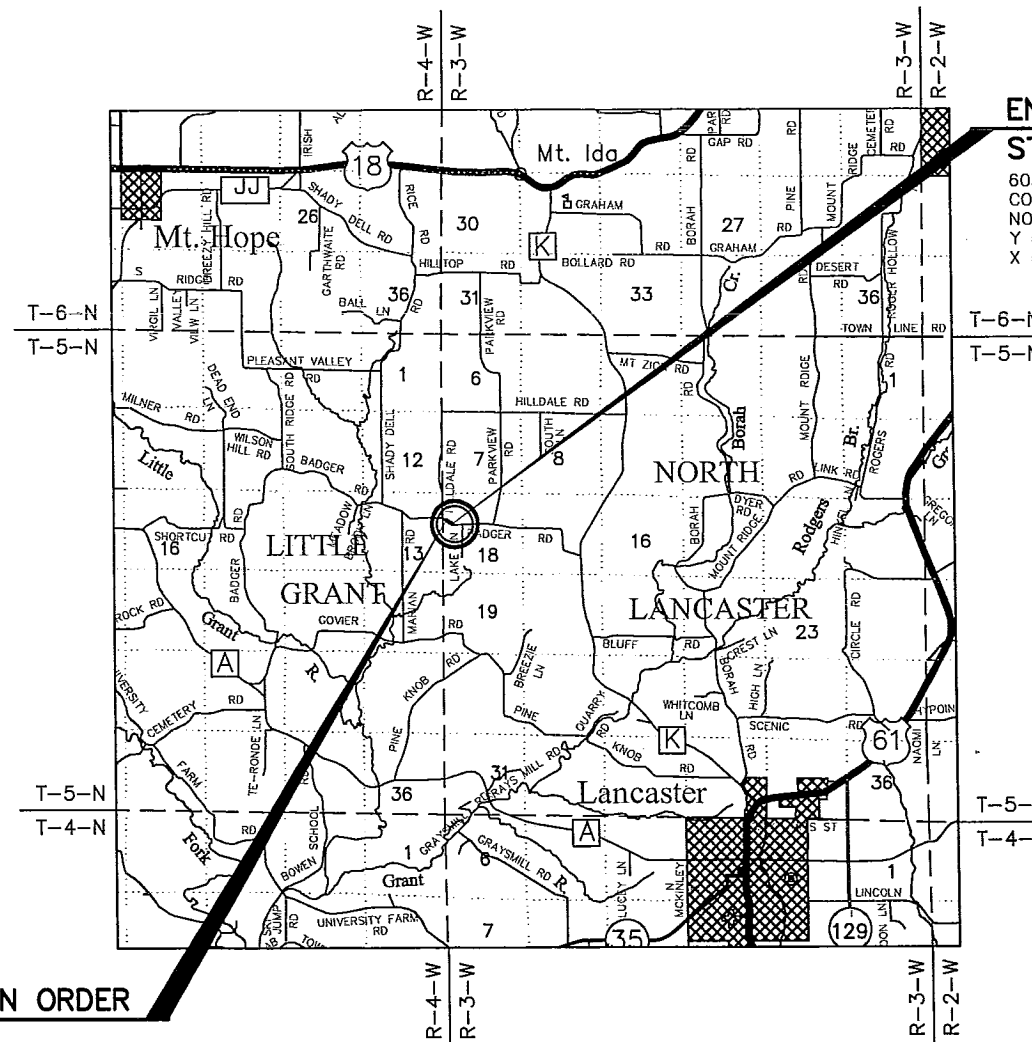
FOUND SURVEY MONUMENT (WITH POINT NUMBER)	1040	PROPOSED R/W LINE	
R/W MONUMENT	• (SET)	EXISTING H.E. LINE	
R/W STANDARD	△ ▲ (SET)	PROPERTY LINE	
SIGN	ISIGN	LOT & TIE LINES	
SECTION CORNER MONUMENT	⊕	SLOPE INTERCEPTS	
SECTION CORNER SYMBOL		CORPORATE LIMITS	
FEE (HATCH VARIES)		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY ACQUISITION)	
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
R/W BOUNDARY POINT	ⓂB20	SECTION LINE	
PARCEL NUMBER	8	QUARTER LINE	
UTILITY PARCEL NUMBER	92	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)		EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	
		ENCROACHMENT	

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

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, GRANT COUNTY, NAD 83 (2011) IN US 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 MONUMENTS (TYPICALLY 3/4" X 24" REBAR) 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."



STA. 14+64

603.17' NORTH AND 541.72' EAST OF THE W $\frac{1}{4}$
CORNER OF SECTION 18, T.5N., R.3W., TOWN OF
NORTH LANCASTER, GRANT COUNTY, WI
Y = 546,470.53
X = 799,802.29

STA. 11+20

787.29' NORTH AND 251.15' EAST OF THE W¼
CORNER OF SECTION 18, T.5N., R.3W., TOWN OF
NORTH LANCASTER, GRANT COUNTY, WI
Y = 546,654.65
X = 799,511.71



SCALE 0 1 MI. 2 MI.

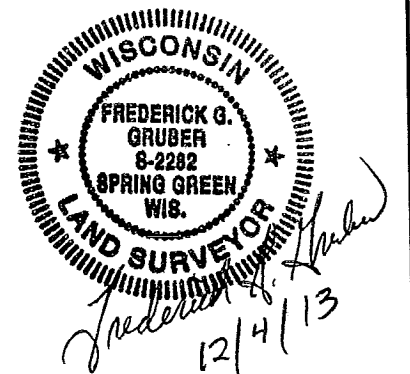
TOTAL NET LENGTH OF CENTERLINE = 0.065 MI.

JEWELL
associates engineers, inc.

Engineers - Surveyors - Architects

560 SUNRISE DRIVE
SPRING GREEN, WI 53588
PHONE : 608.588.7484
FAX : 608.588.9322

I HEREBY CERTIFY THAT THIS PLAT WAS
MADE FOR THE TOWN OF NORTH LANCASTER,
GRANT COUNTY, WISCONSIN AND IS CORRECT
TO THE BEST OF MY KNOWLEDGE AND BELIEF.



APPROVED FOR THE TOWN OF NORTH LANCASTER
DATE: 12-11-13 Delbert Rountree
(NAME/TITLE)

F

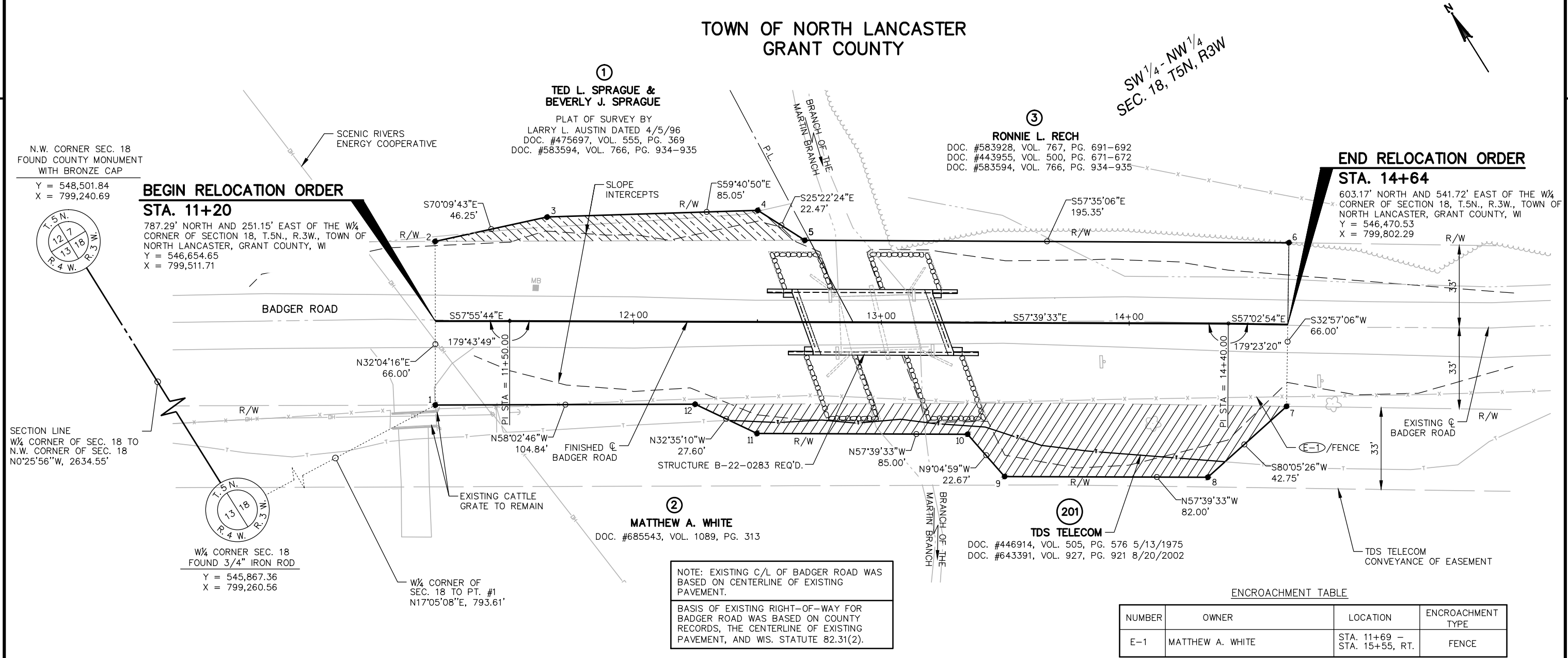
COORDINATE TABLE - NEW R/W POINTS				
PT.#	STATION	OFFSET	Y	X
1	11+20.00	33.87 RT	546625.95	799493.73
2	11+20.00	32.13 LT	546681.88	799528.77
3	11+65.00	42.00 LT	546666.18	799572.28
4	12+50.00	45.00 LT	546623.24	799645.69
5	12+69.00	33.00 LT	546602.94	799655.32
6	14+64.00	33.00 LT	546498.23	799820.23
7	14+64.00	33.00 RT	546442.84	799784.33
8	14+32.00	62.00 RT	546435.49	799742.22
9	13+50.00	62.00 RT	546479.35	799672.94
10	13+35.00	45.00 RT	546501.74	799669.36
11	12+50.00	45.00 RT	546547.21	799597.55
12	12+25.00	33.30 RT	546570.46	799582.68

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	TOTAL ACRES	R/W ACRES REQUIRED			TOTAL ACRES REM.
				NEW	EXISTING	TOTAL	
1	TED L. SPRAGUE & BEVERLY J. SPRAGUE	FEE	4.11	0.03	0.12	0.15	3.96
2	MATTHEW A. WHITE	FEE	20.50	0.10	0.26	0.36	20.14
3	RONNIE L. RECH	FEE	15.52	0.00	0.14	0.14	15.38
201	TDS TELECOM	CONVEYANCE OF RIGHTS IN LAND					

NOTE: AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM THE TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED. OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN OF NORTH LANCASTER.

TOWN OF NORTH LANCASTER GRANT COUNTY



ENCROACHMENT TABLE

NUMBER	OWNER	LOCATION	ENCROACHMENT TYPE
E-1	MATTHEW A. WHITE	STA. 11+69 - STA. 15+55, RT.	FENCE

NOTE: EXISTING C/L OF BADGER ROAD WAS BASED ON CENTERLINE OF EXISTING PAVEMENT.
BASIS OF EXISTING RIGHT-OF-WAY FOR BADGER ROAD WAS BASED ON COUNTY RECORDS, THE CENTERLINE OF EXISTING PAVEMENT, AND WIS. STATUTE 82.31(2).

REVISION DATE

DATE

SCALE, FEET

HWY: BADGER ROAD

STATE R/W PROJECT NUMBER: 5691-00-08

PLAT SHEET 4.02

GRID FACTOR N/A

COUNTY: GRANT

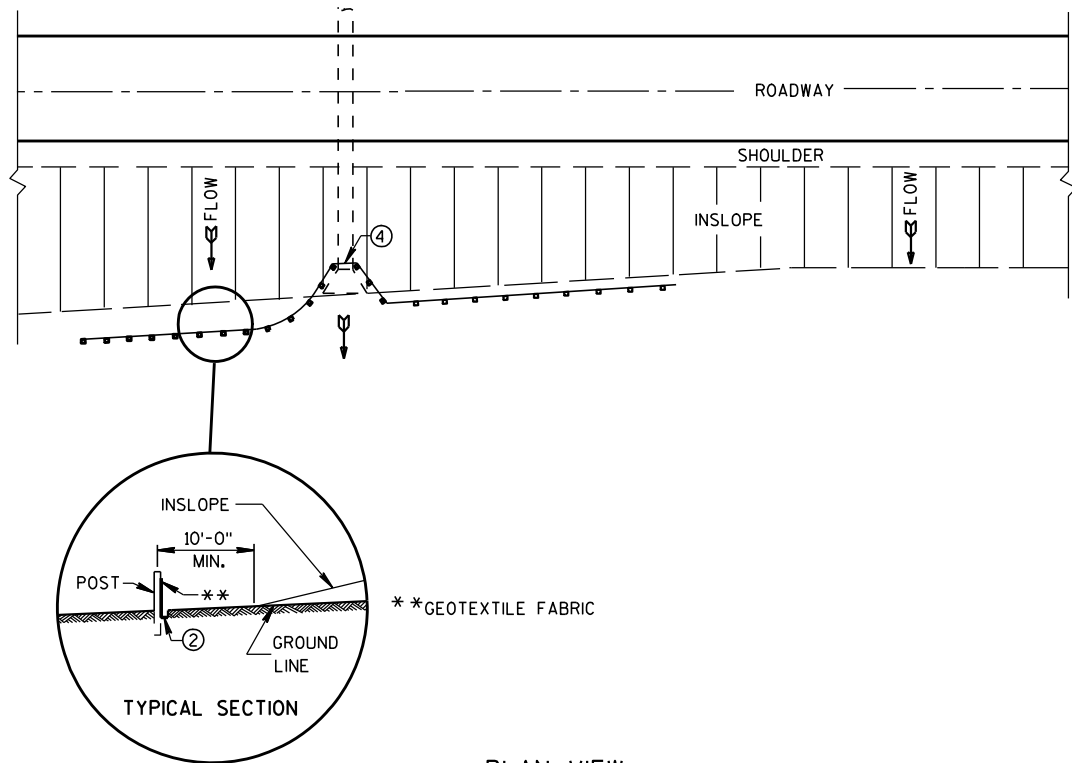
CONSTRUCTION PROJECT NUMBER: 5691-00-78

PS&E SHEET

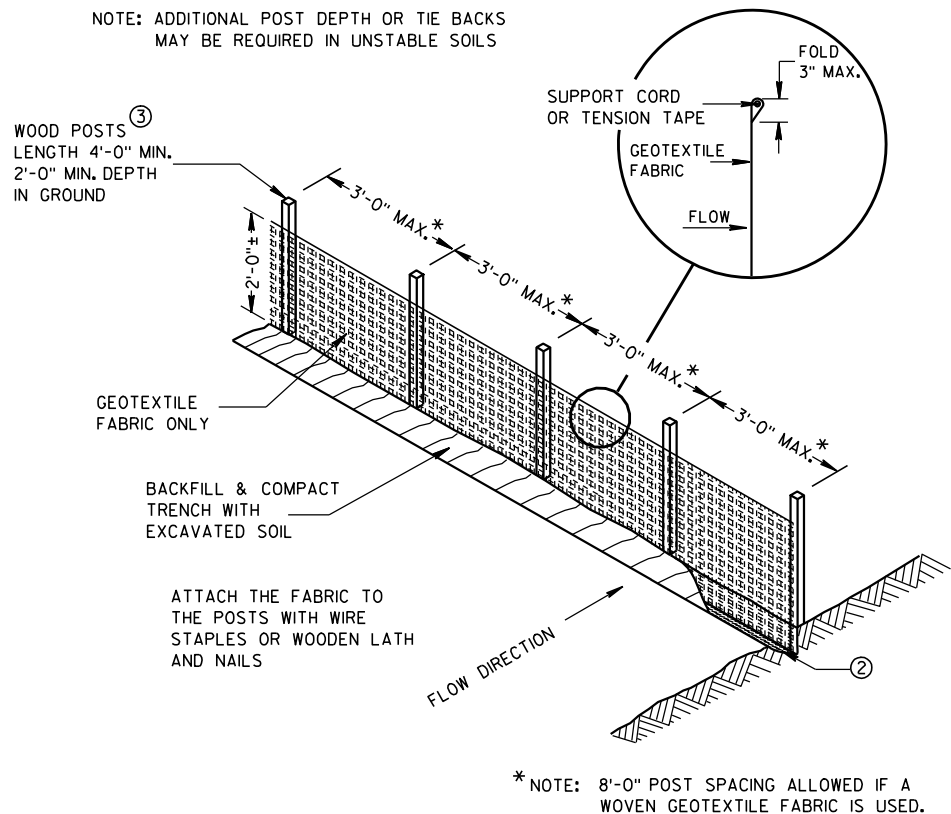
E

Standard Detail Drawing ListStandard Detail Drawing List

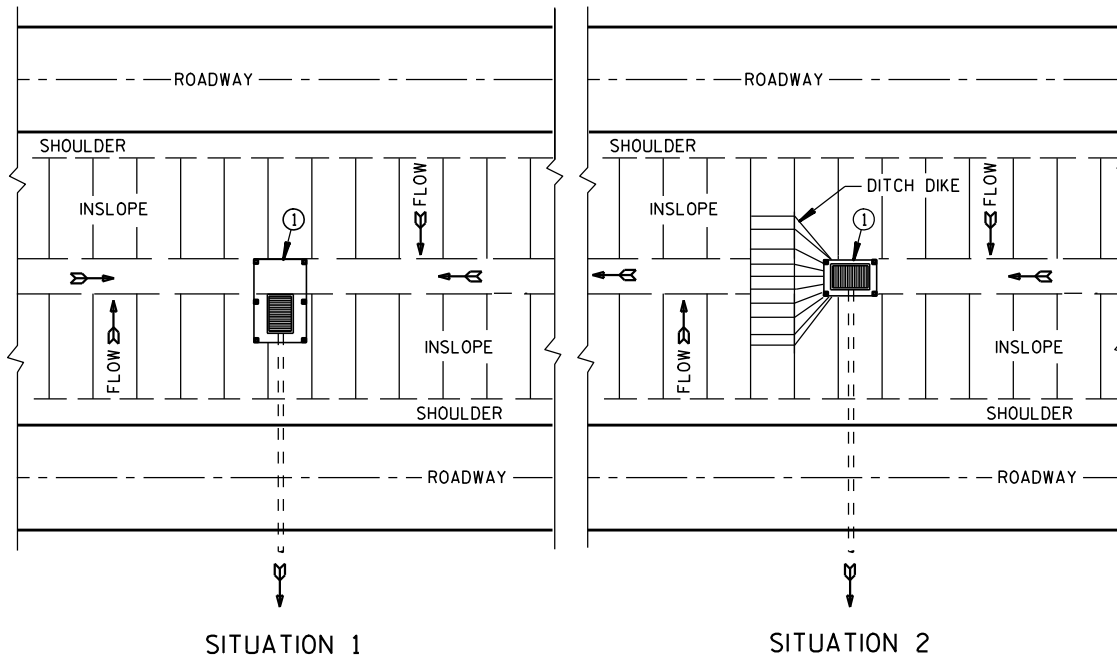
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
14B42-02A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-02C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-01A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-01C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15A01-11	MARKER POST FOR RIGHT-OF-WAY
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-06	SIGNING & MARKING FOR TWO LANE BRIDGES



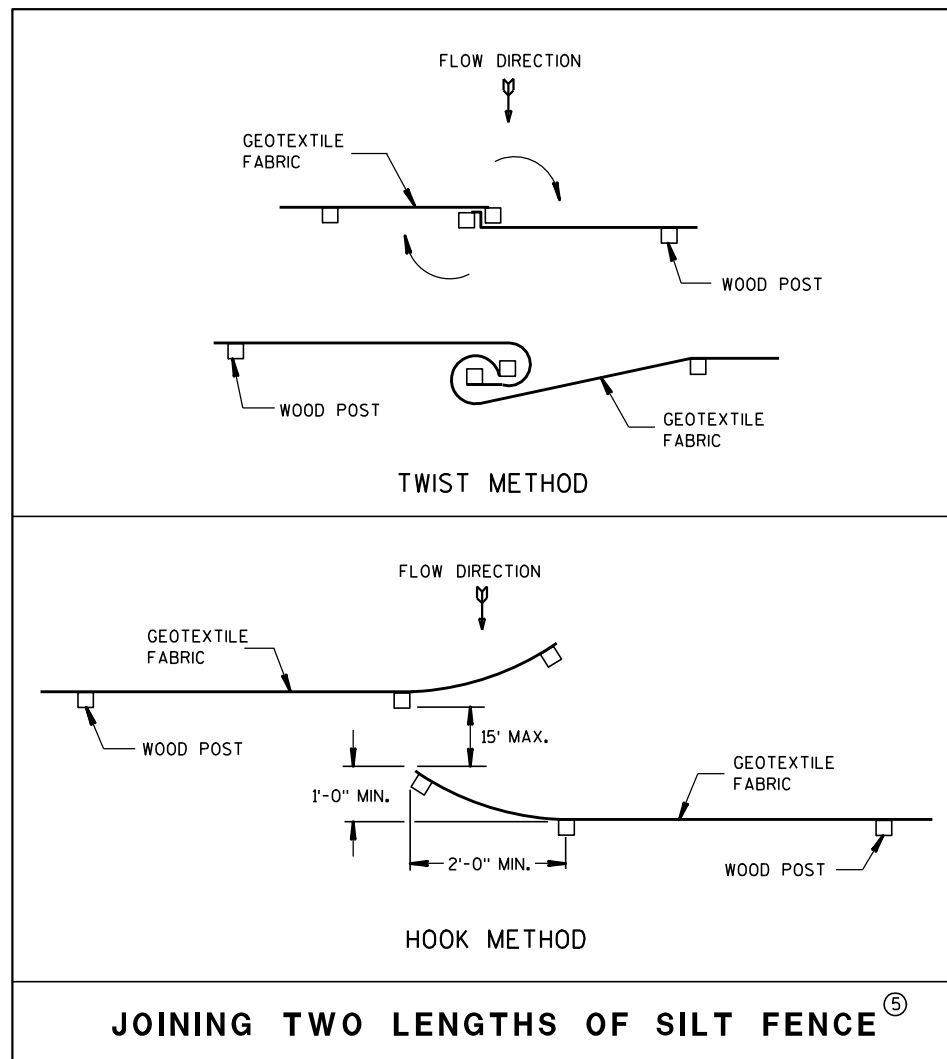
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

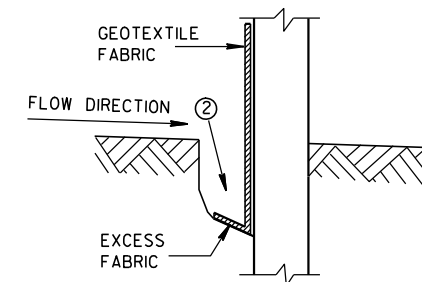


JOINING TWO LENGTHS OF SILT FENCE^⑤

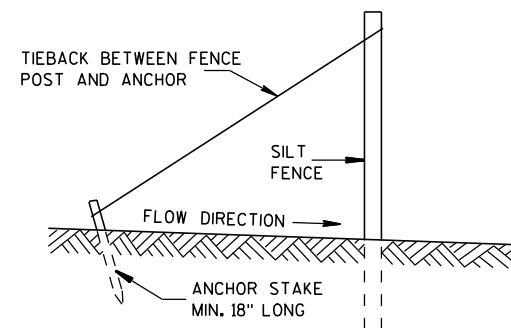
GENERAL NOTES

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

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

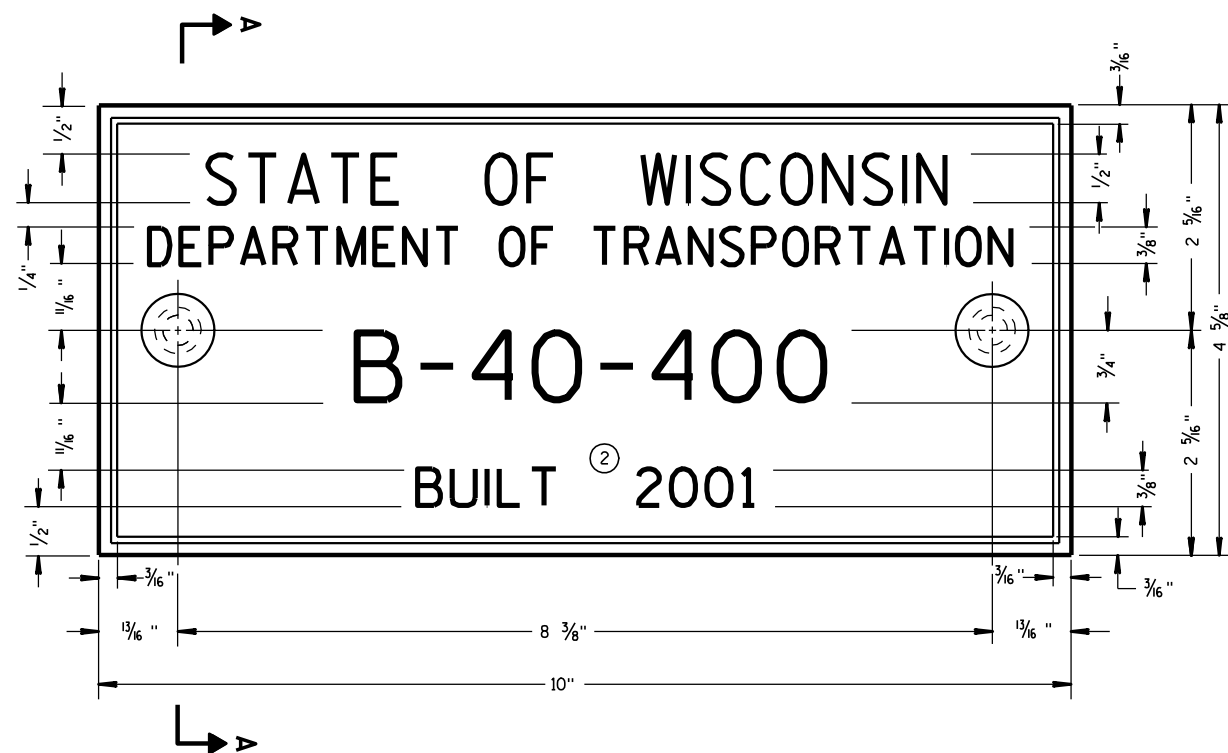


TRENCH DETAIL



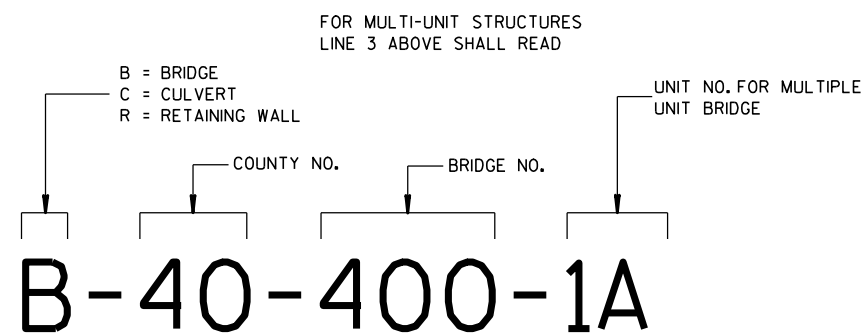
SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



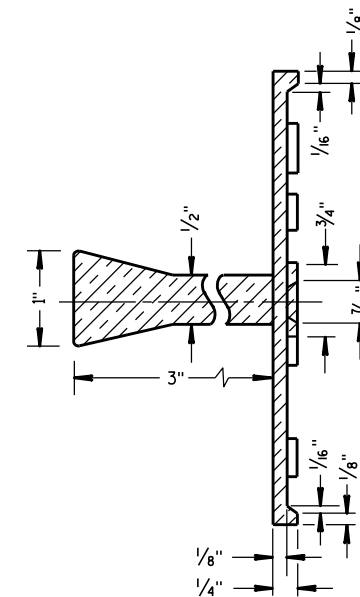
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

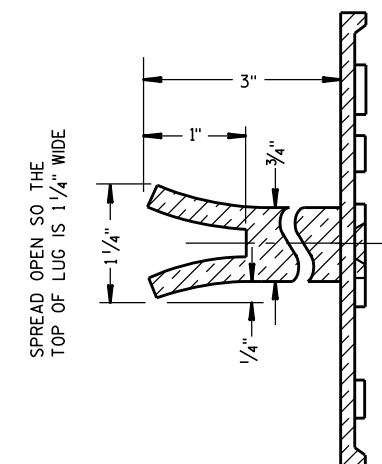
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

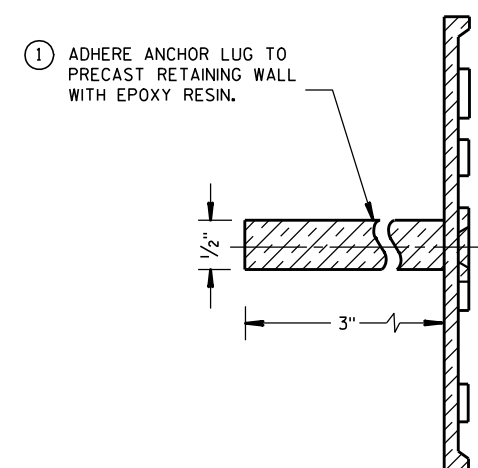
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE
(STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

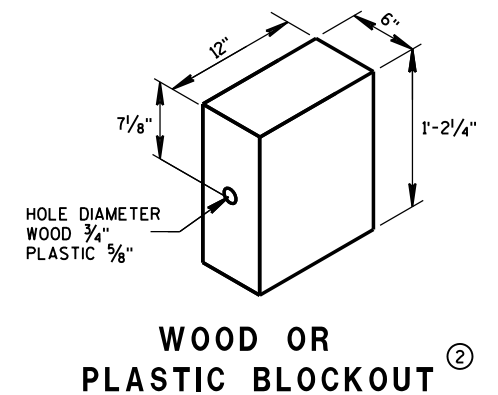
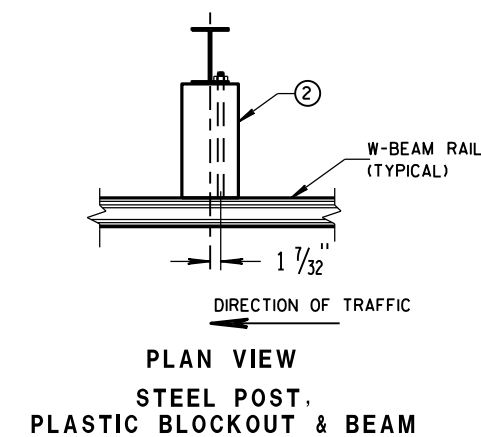
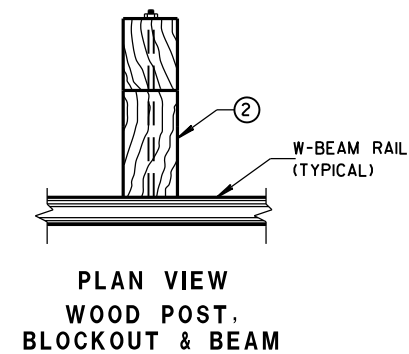
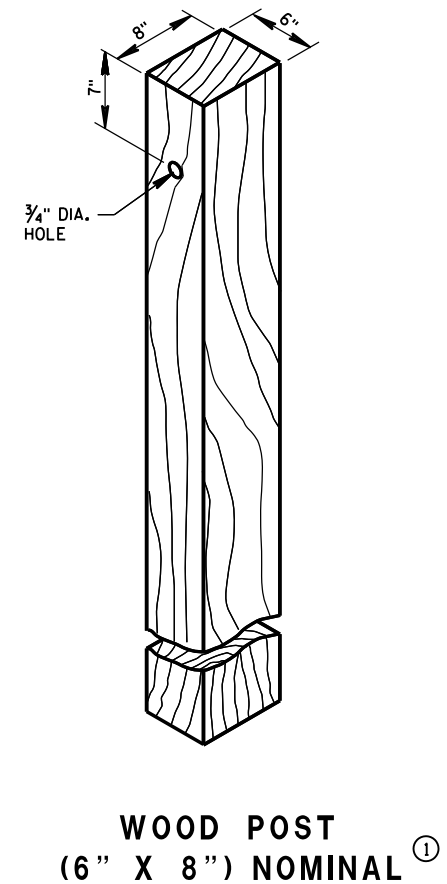
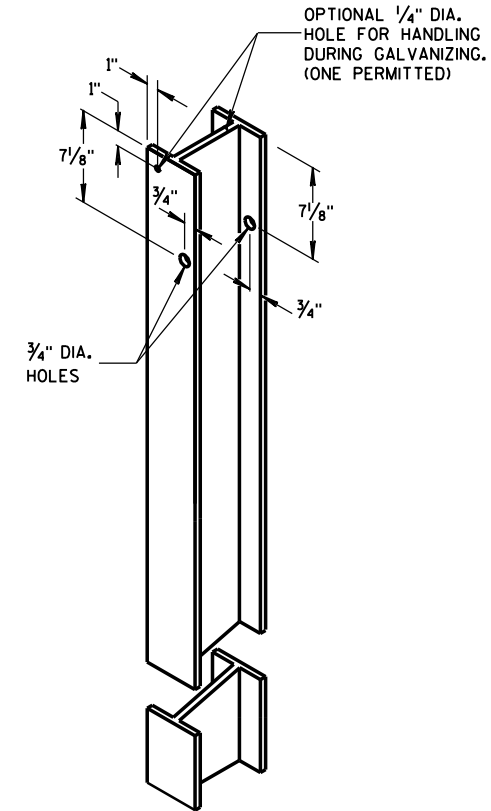
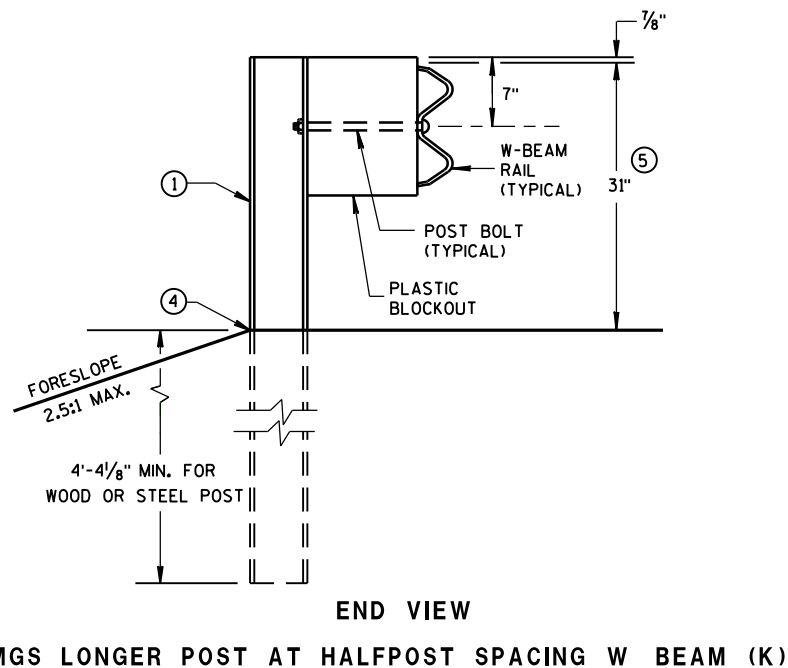
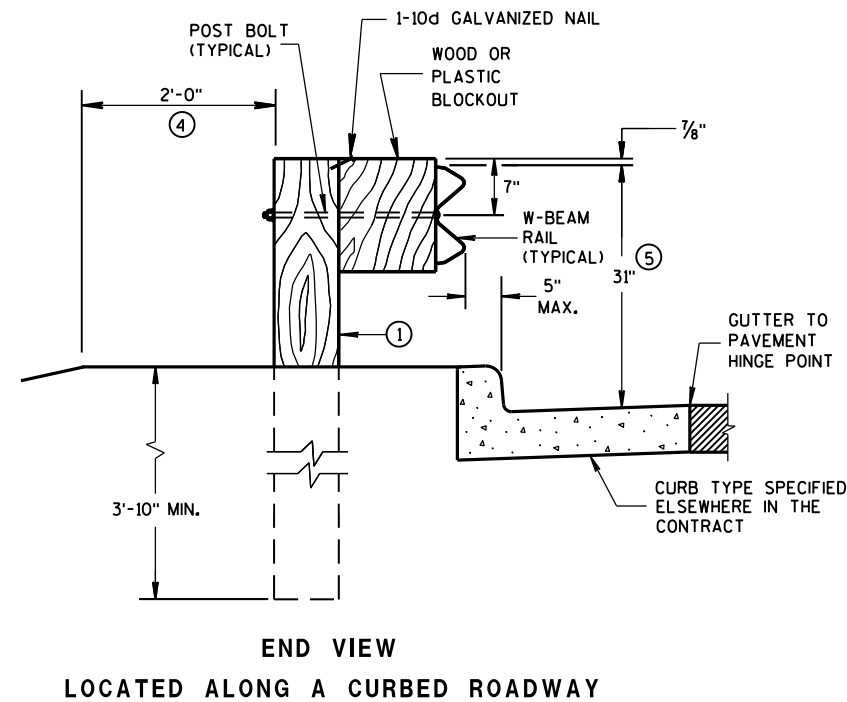
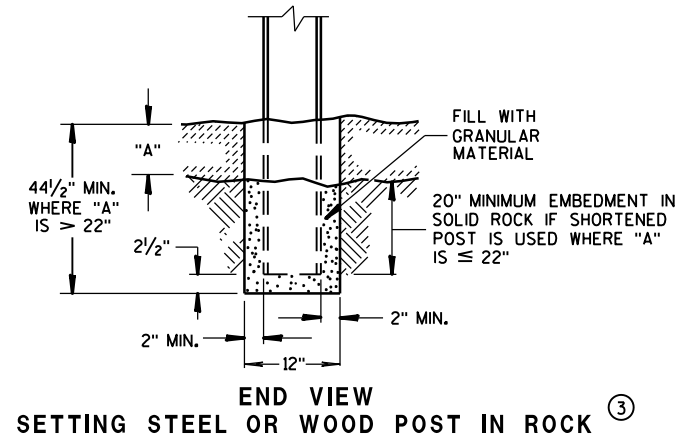
3/26/10
DATE

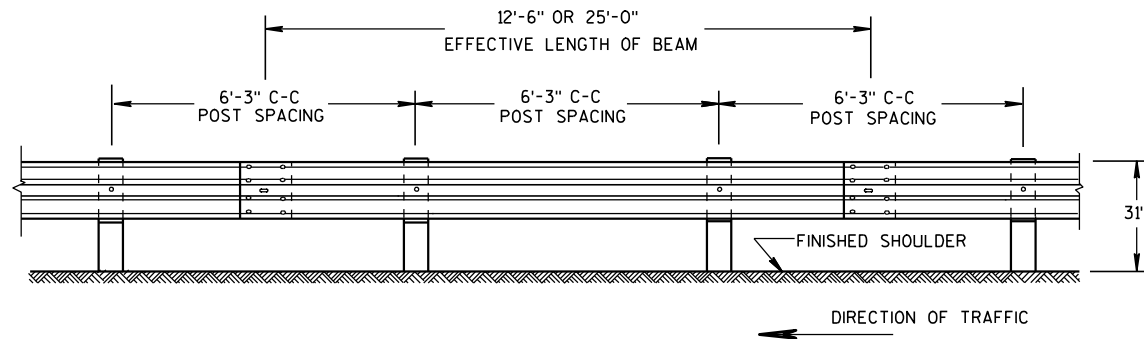
FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

6

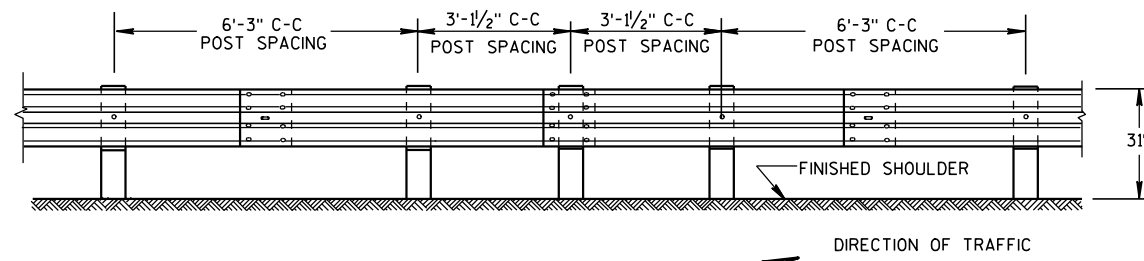
- S.D.D. 14 B 42-2a**





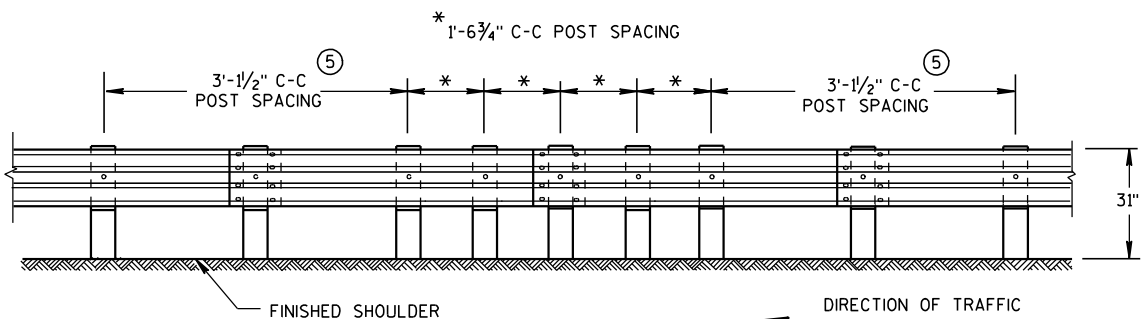
FRONT VIEW

POST SPACING STANDARD INSTALLATION



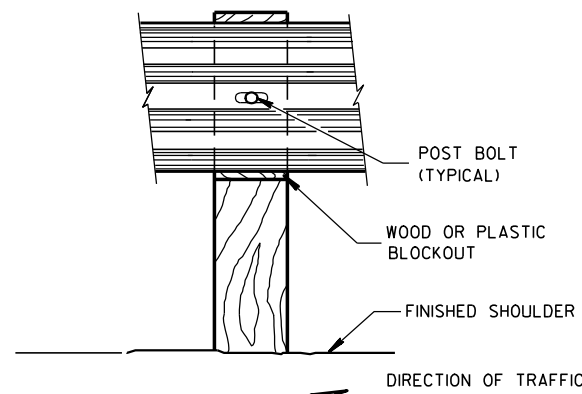
FRONT VIEW

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

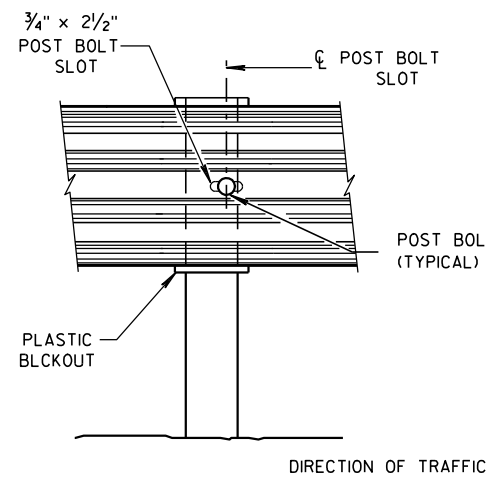


FRONT VIEW

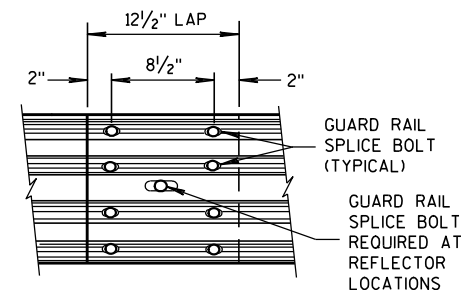
QUARTER POST SPACING (QS)



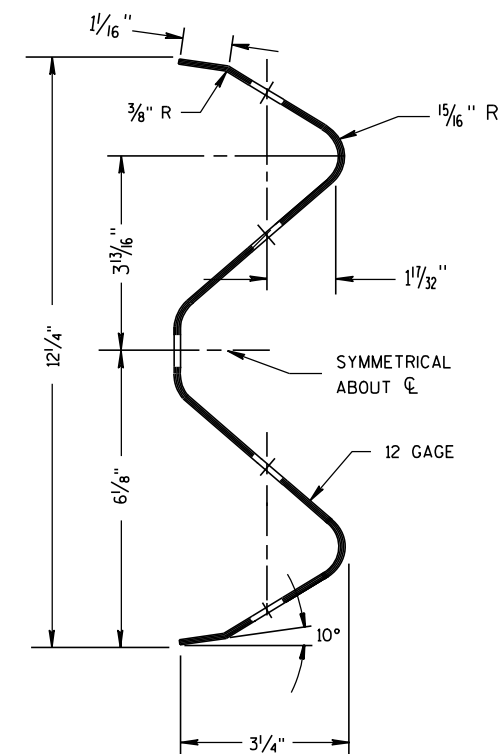
FRONT VIEW AT WOOD POST



FRONT VIEW AT STEEL POST



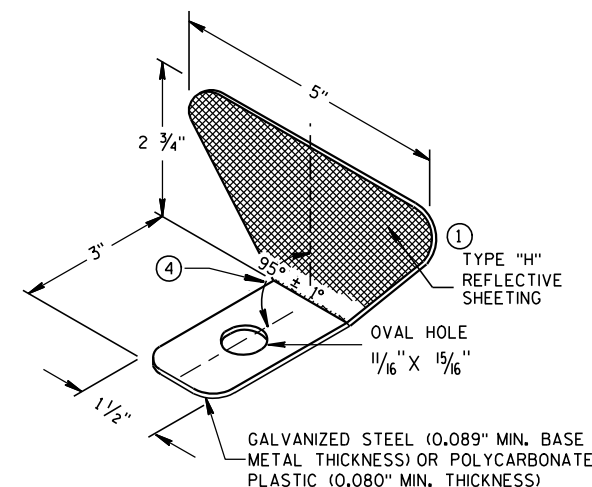
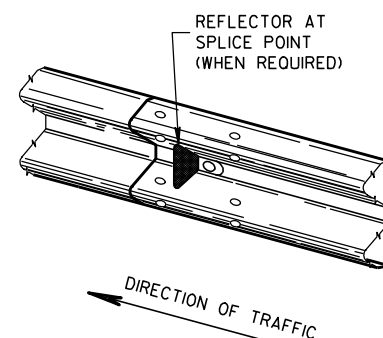
FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL

REFLECTOR SPACING^②

	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 ^③	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ^④	3
	> 200'	100' C-C	2	



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION^①

GENERAL NOTES

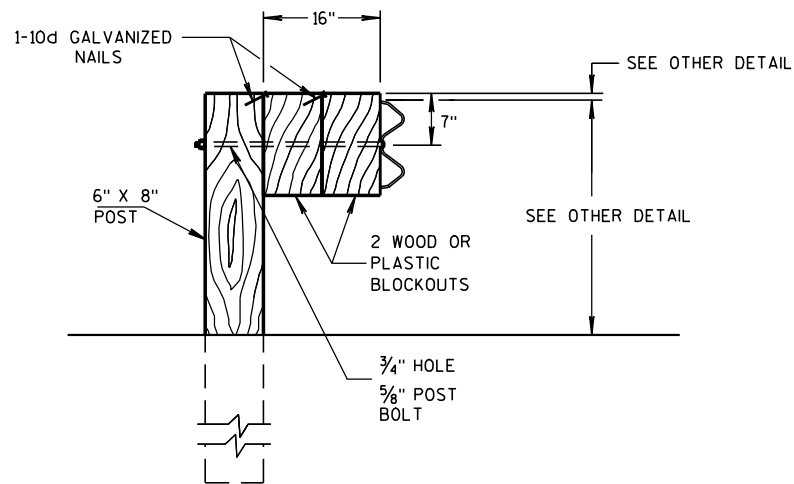
- ① PROVIDE TYPE "H" SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH TYPE "H" YELLOW REFLECTIVE SHEETING.
- ② DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
- ③ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
- ④ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
- ⑤ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

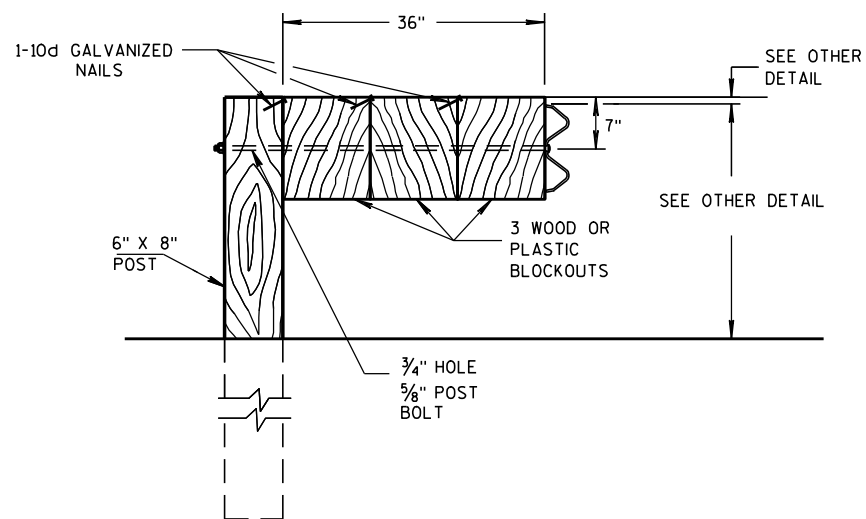
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

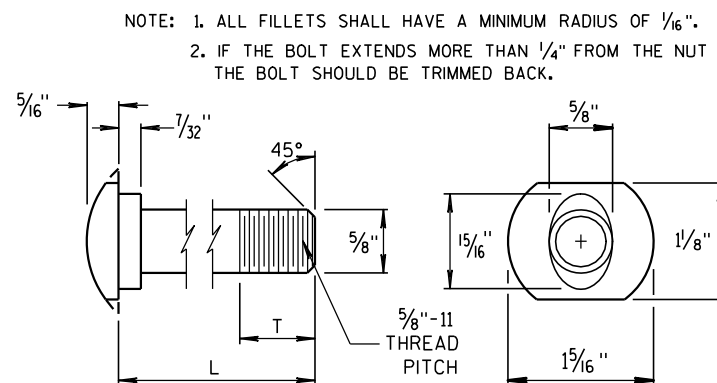
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



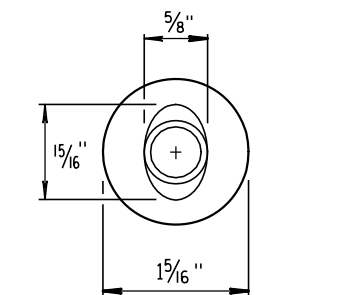
DETAIL FOR 36" BLOCKOUT DEPTH

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

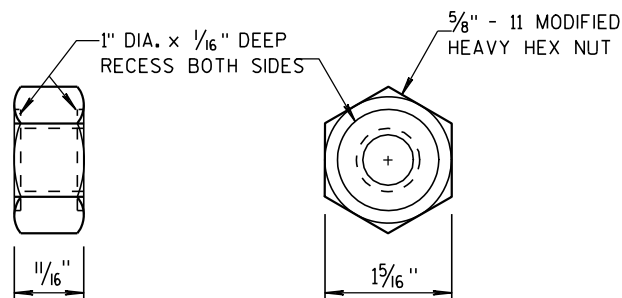
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



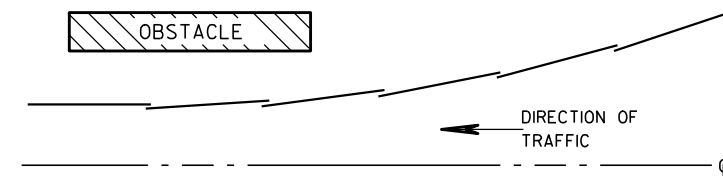
POST BOLT TABLE



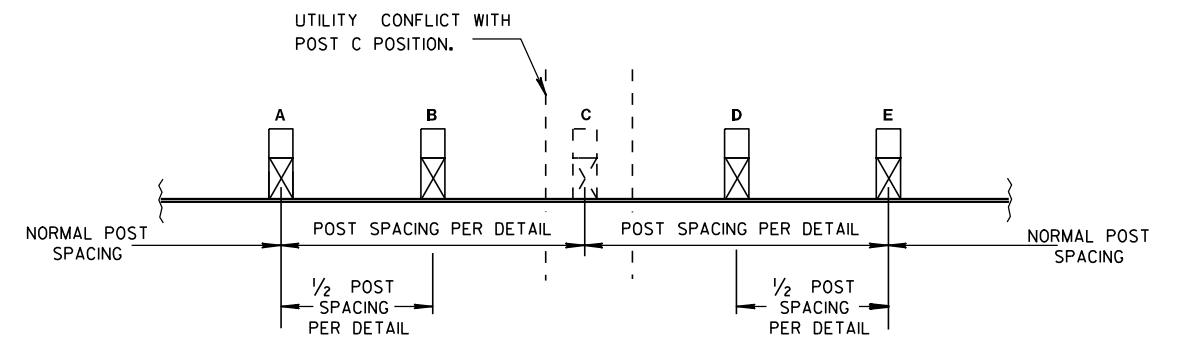
ALTERNATE BOLT HEAD



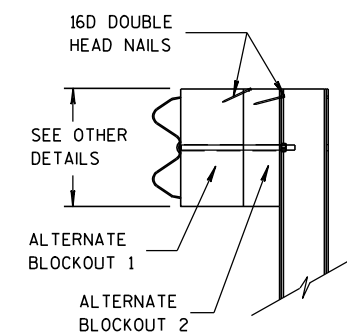
POST BOLT AND RECESS NUT



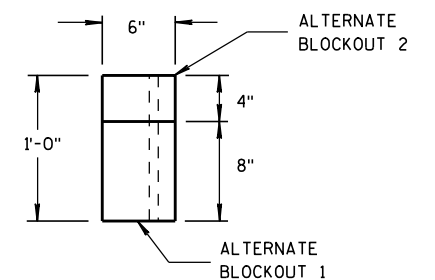
PLAN VIEW
BEAM LAPPING DETAIL



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

11/15/2011
DATE

FHWA

/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE EXTENDED VEHICLE RUNOUT PATH (EVRP), THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) SHEETING IS ATTACHED TO 0.040 ALUMINUM SHEET AND ATTACHED TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER OF E.A.T.
- (F) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (G) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (H) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

SEE SDD 14B42 FOR MORE INFORMATION.

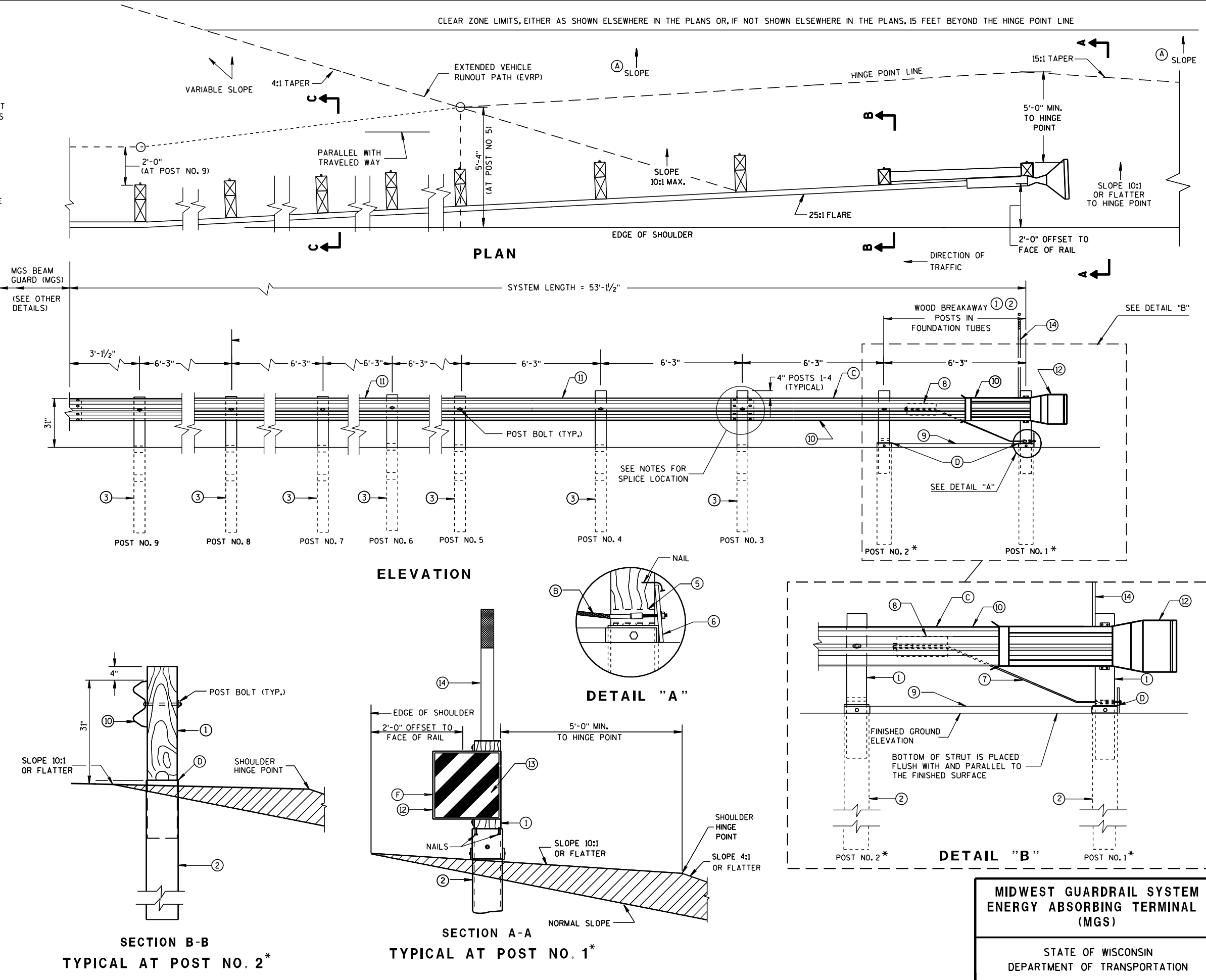
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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.

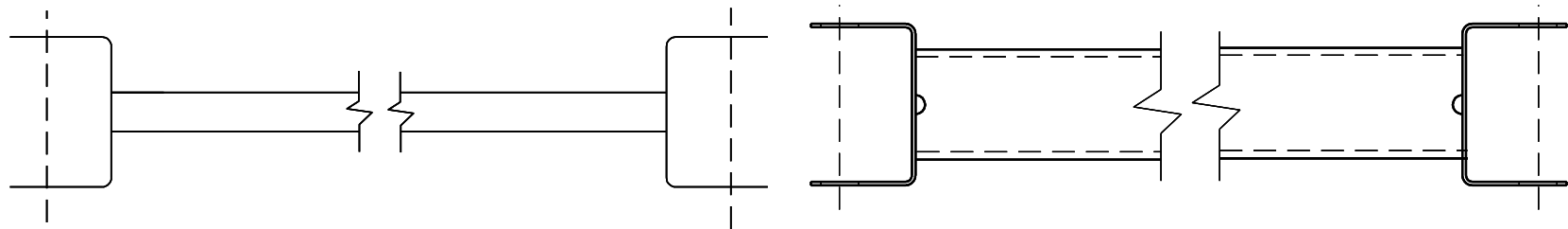
PATTERN AND COLORS ON REFLECTIVE SHEETING TYPE H ARE TO CONFORM TO OM3-L OR OM3-R OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE ($\pm \frac{3}{4}$ ")

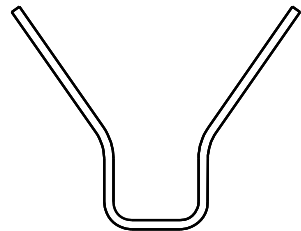
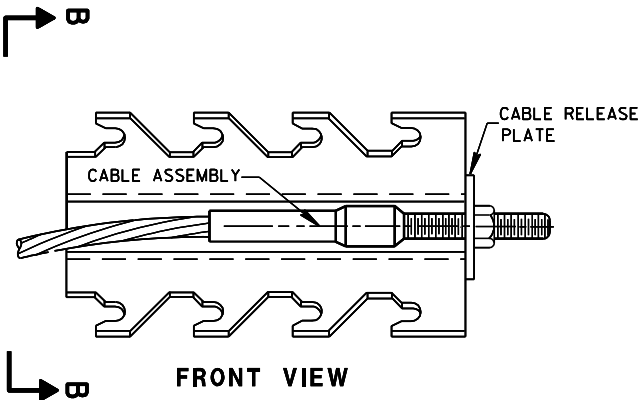


MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

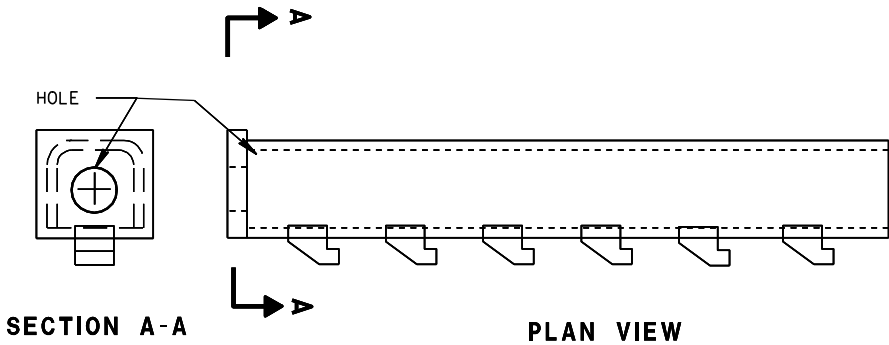
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



9 H
GENERIC GROUND STRUT



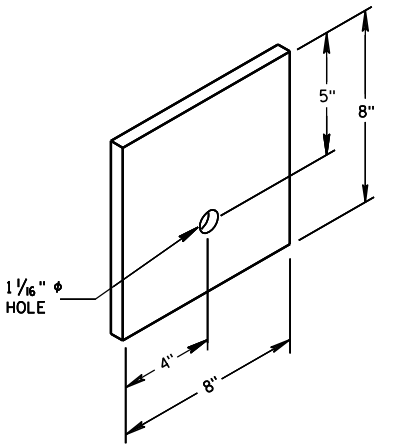
SECTION B-B



8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

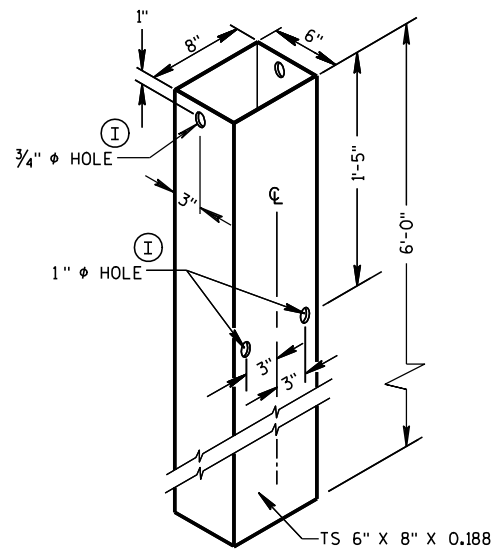
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND 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 H (ONLY THE SHEETING IS SUPPLIED BY THE MANUFACTURER)
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



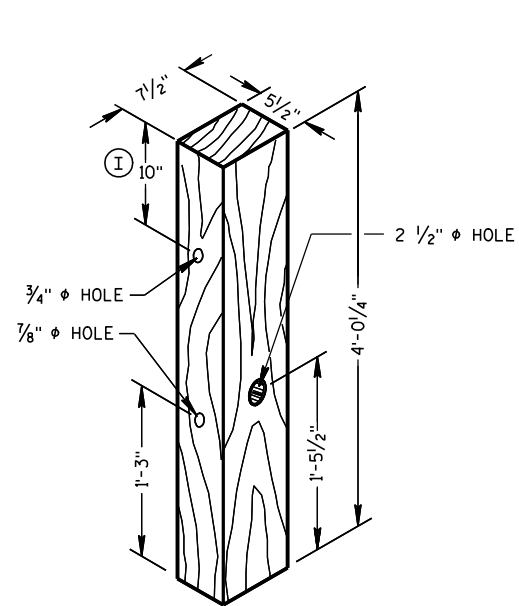
6
BEARING PLATE

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

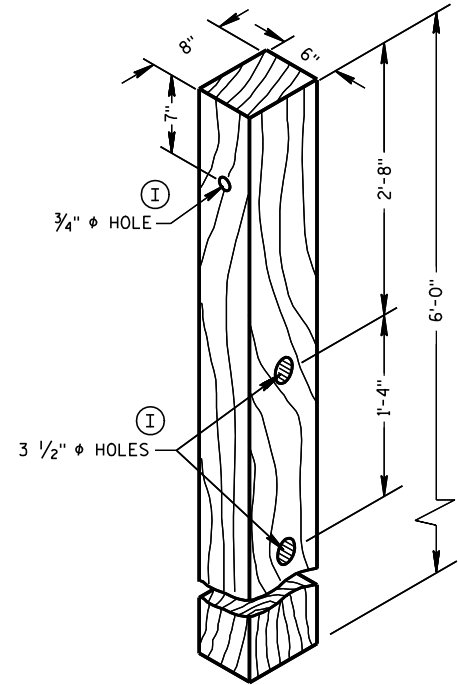
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



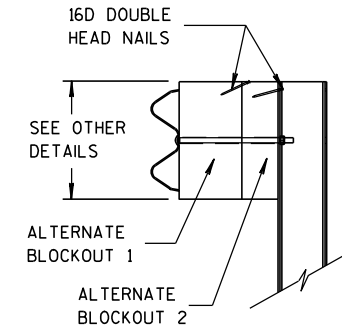
FOUNDATION TUBE ②



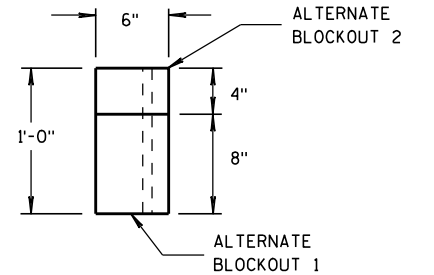
WOOD BREAKAWAY POST ①



WOOD CRT POST ③

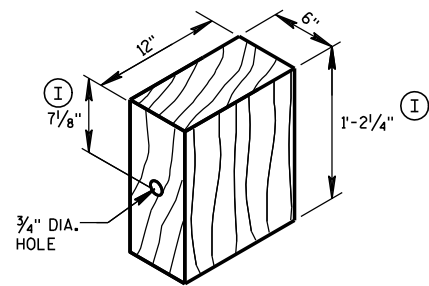


SIDE VIEW



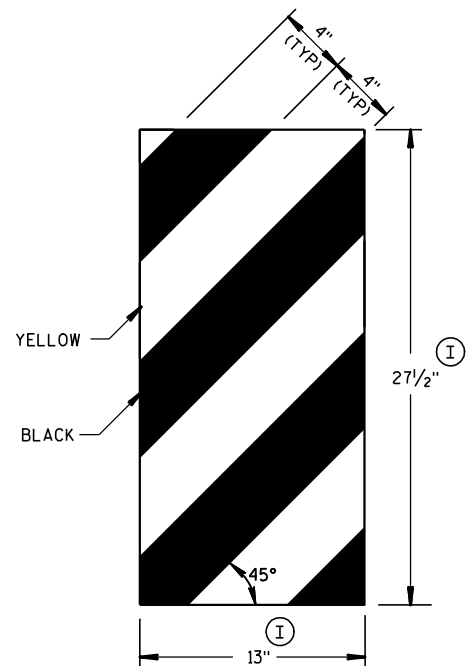
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

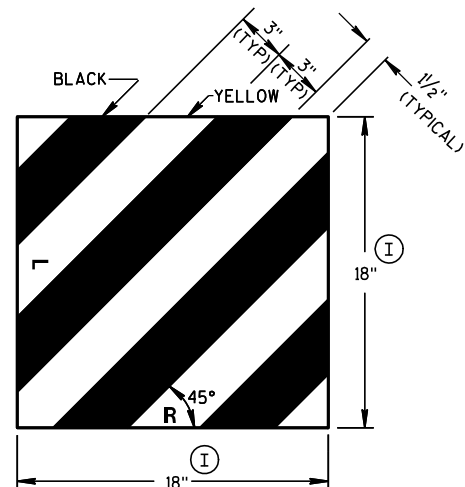


WOOD BLOCKOUT ④

YELLOW REFLECTIVE TAPE
3" X 9" TYPE H
REFLECTIVE SHEETING



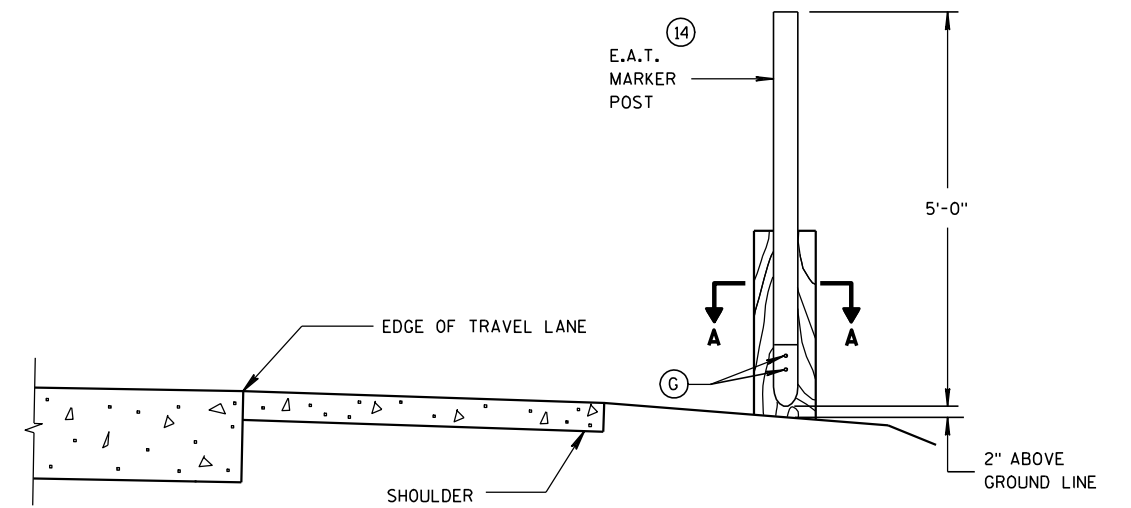
GENERIC REFLECTIVE SHEETING ⑬ ④



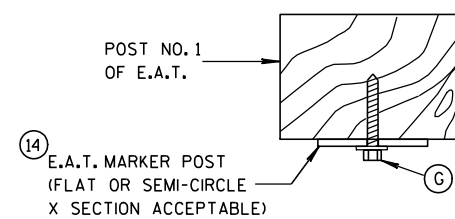
FRONT VIEW

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)

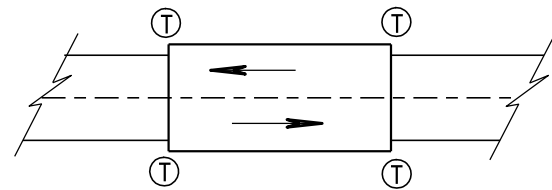


SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

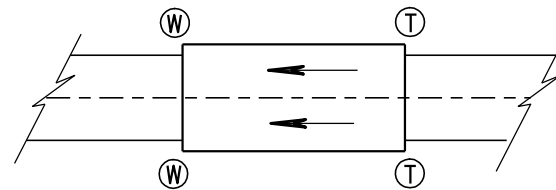
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
5/23/2011
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



TWO WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION



ONE WAY TRAFFIC

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

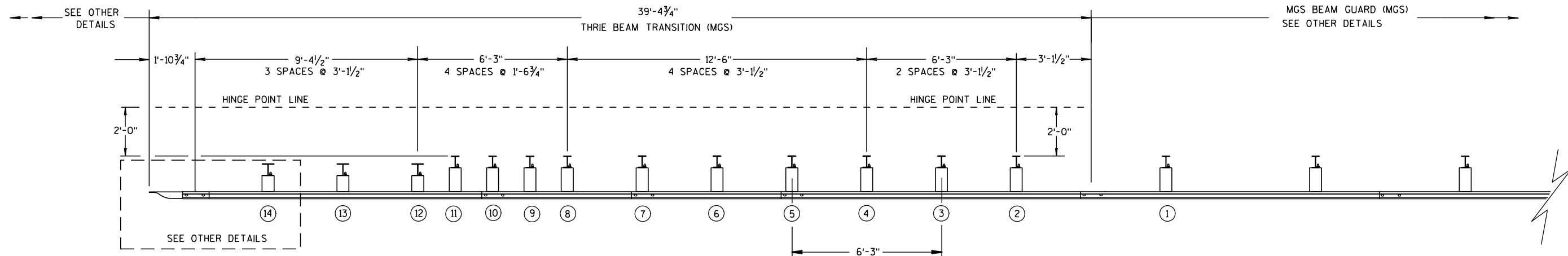
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

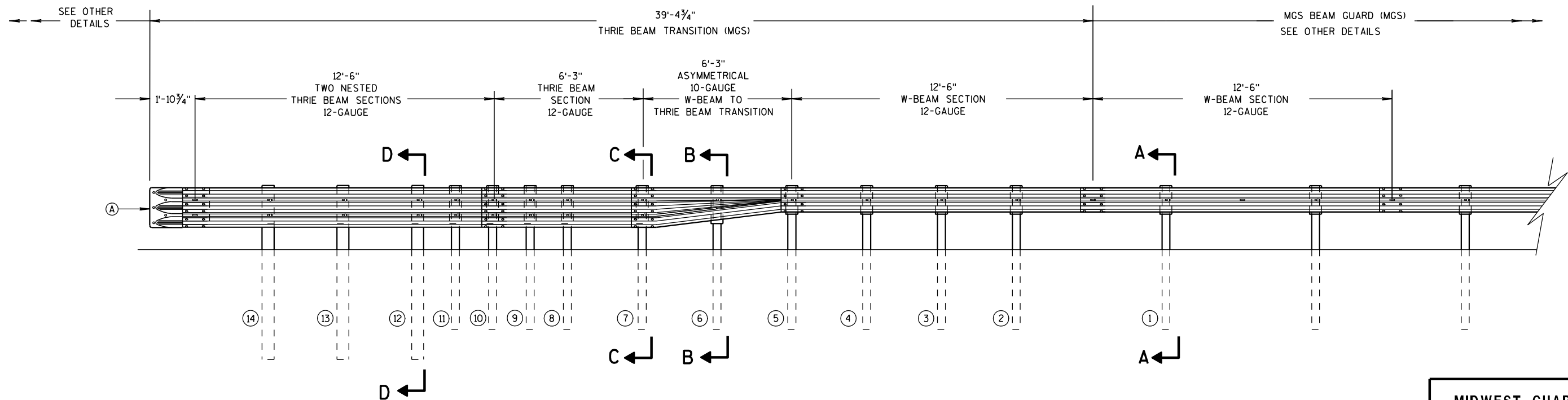
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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



PLAN VIEW



ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

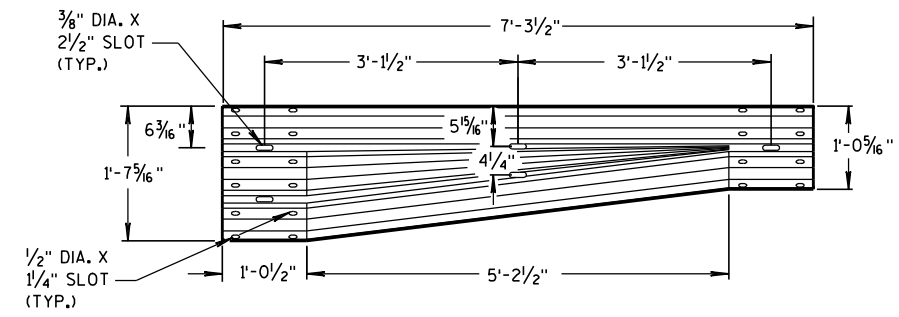
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

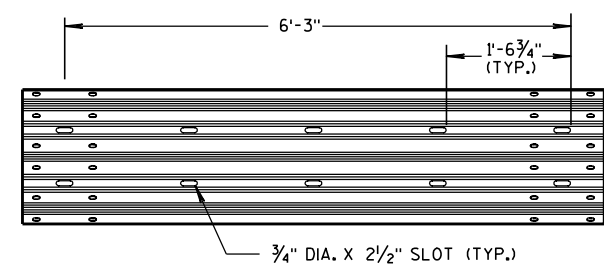
S.D.D. 14 B 45-3b



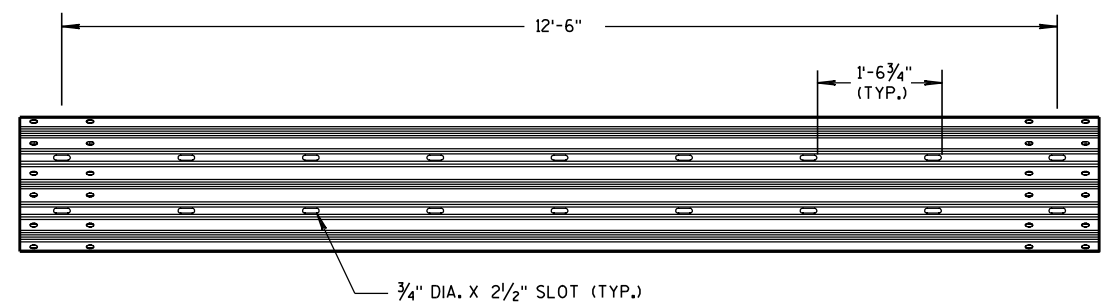
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



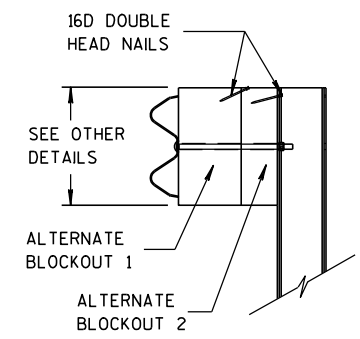
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

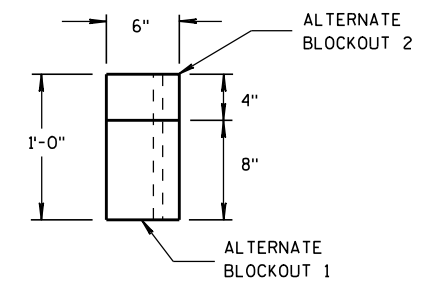


12'-6" THRIE BEAM SECTION

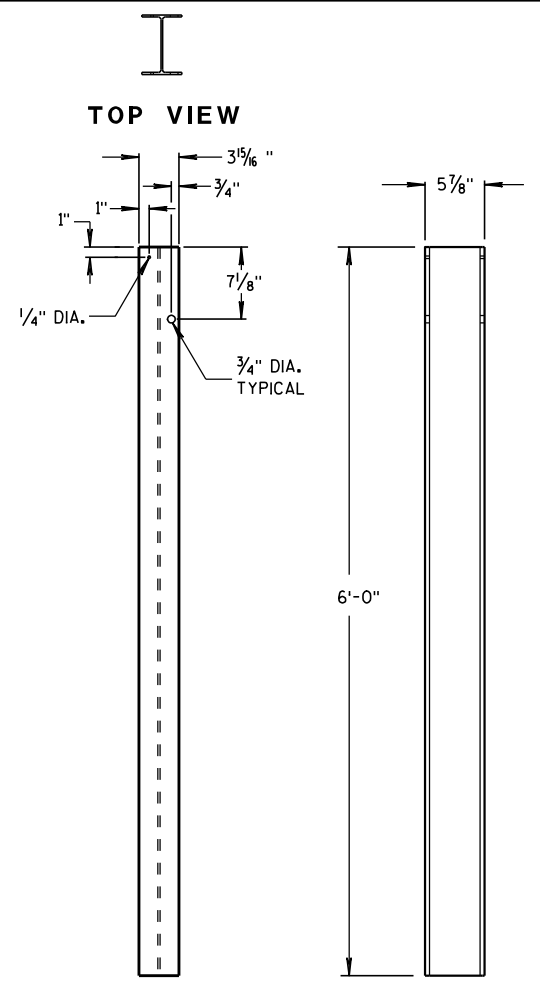


SIDE VIEW

ALTERNATE WOOD BLOCKOUT DETAIL



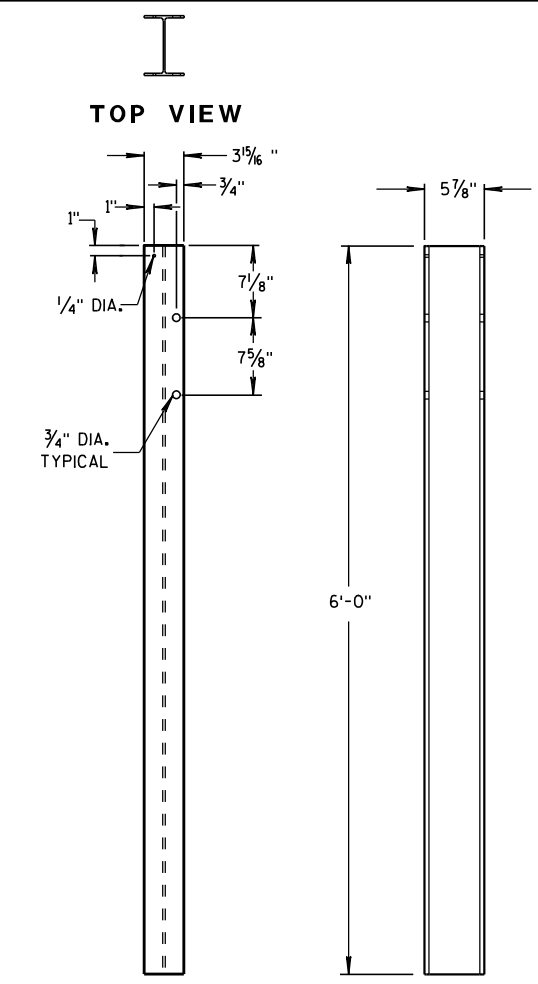
TOP VIEW



FRONT VIEW

SIDE VIEW

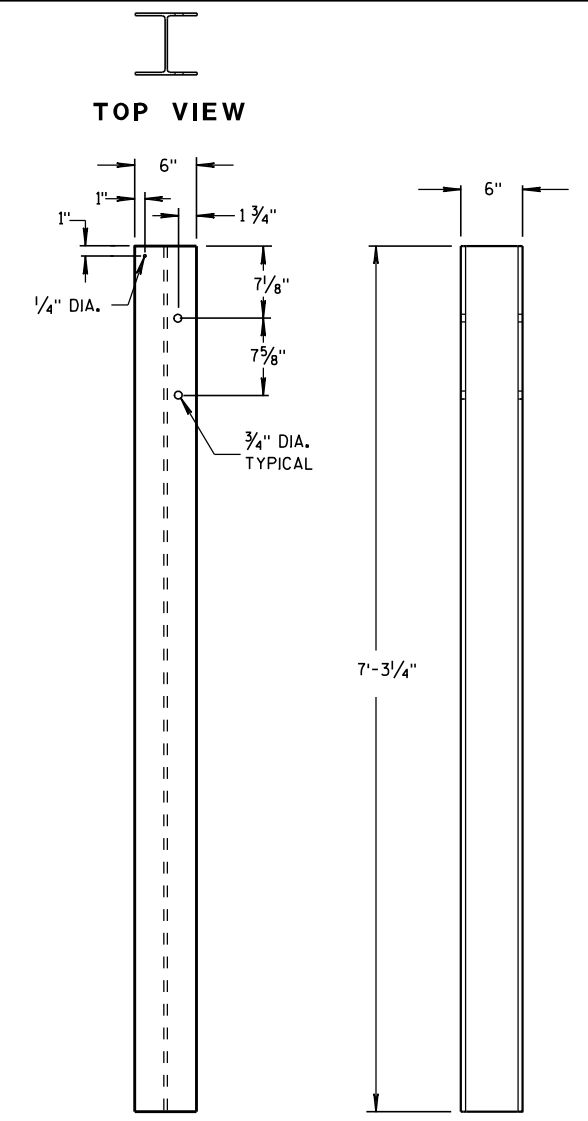
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11

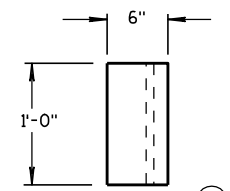


FRONT VIEW

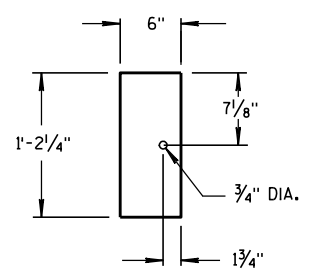
SIDE VIEW

STEEL POSTS 12-14

① WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

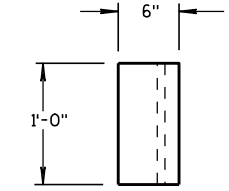


TOP VIEW

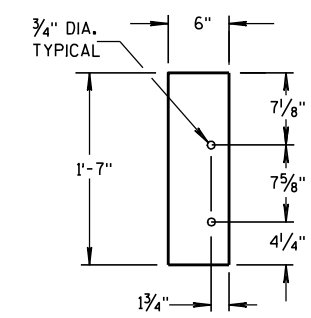


FRONT VIEW

BLOCKOUT POSTS 1-5

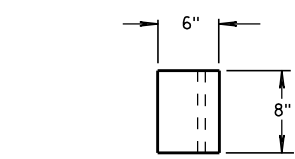


TOP VIEW

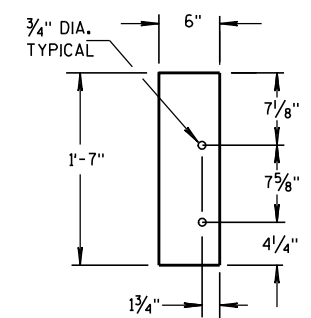


FRONT VIEW

BLOCKOUT POSTS 6-11



TOP VIEW



FRONT VIEW

BLOCKOUT POSTS 12-14

STEEL POST SIZES

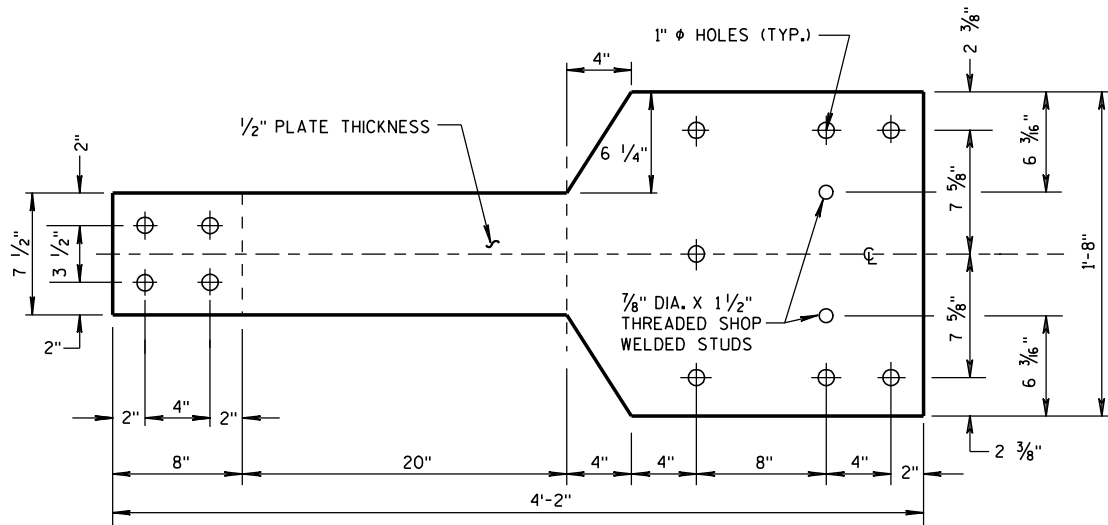
POST NUMBER	SECTION TYPE	LENGTH
①	W6x9	72"
②	W6x9	72"
③	W6x9	72"
④	W6x9	72"
⑤	W6x9	72"
⑥	W6x9	72"
⑦	W6x9	72"
⑧	W6x9	72"
⑨	W6x9	72"
⑩	W6x9	72"
⑪	W6x9	72"
⑫	W6x15	87 7/8"
⑬	W6x15	87 7/8"
⑭	W6x15	87 7/8"

MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)

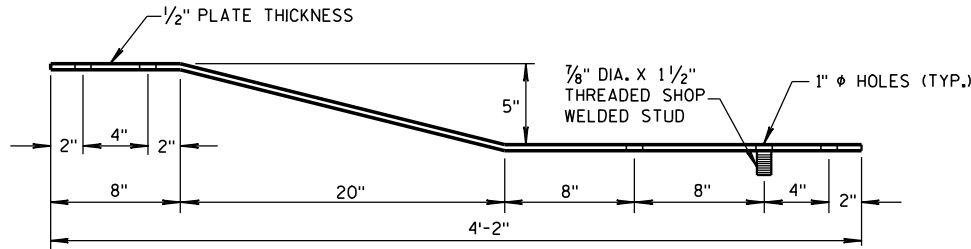
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

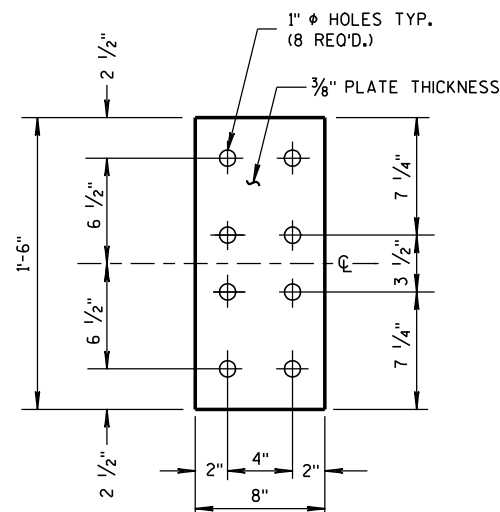
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

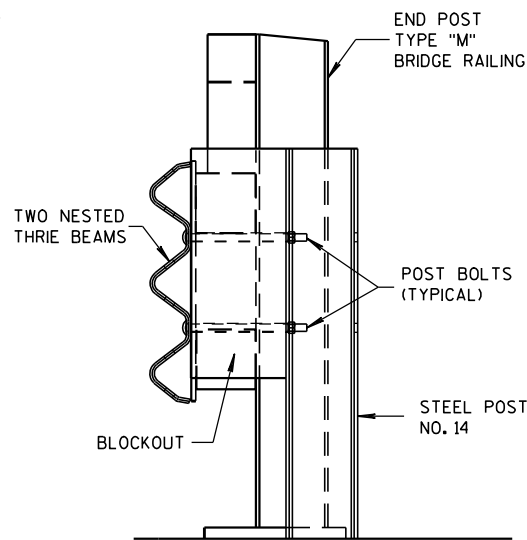


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

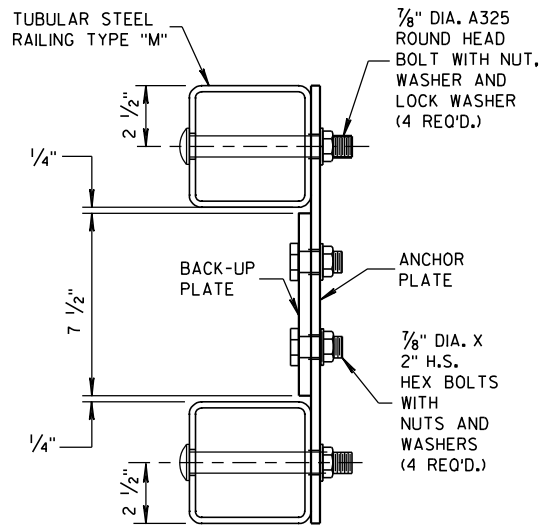


FRONT VIEW

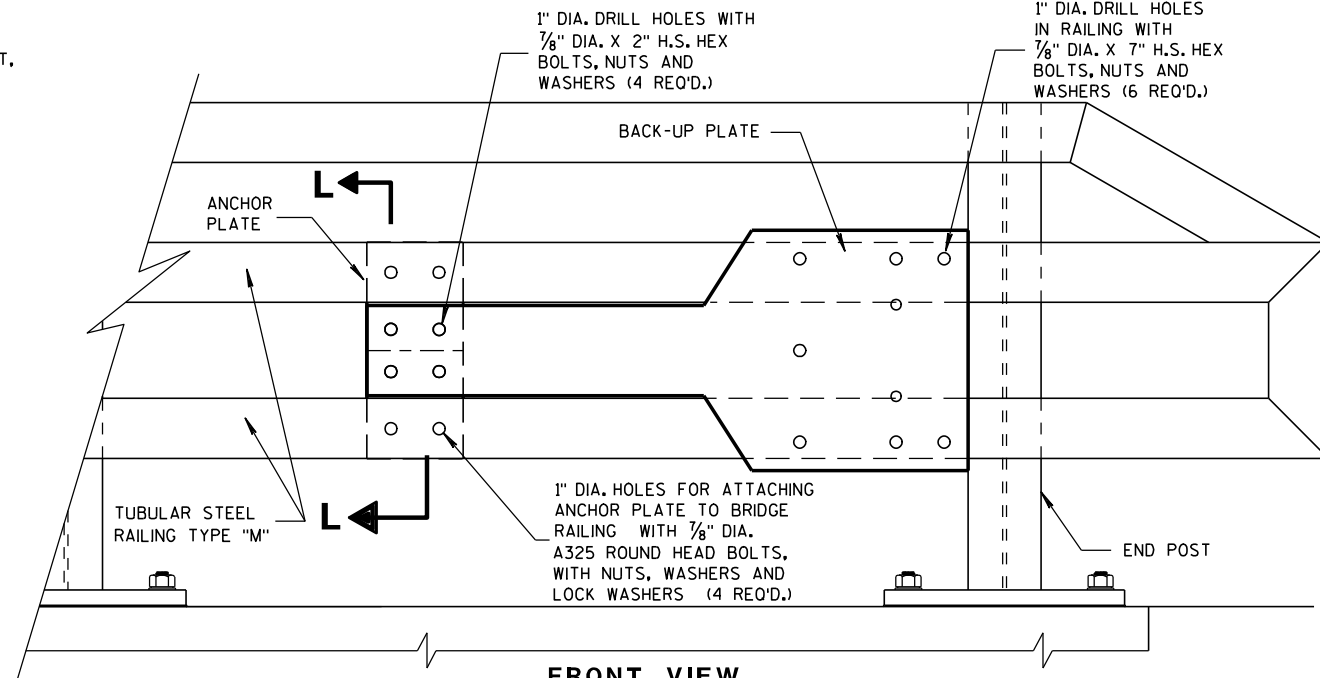
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

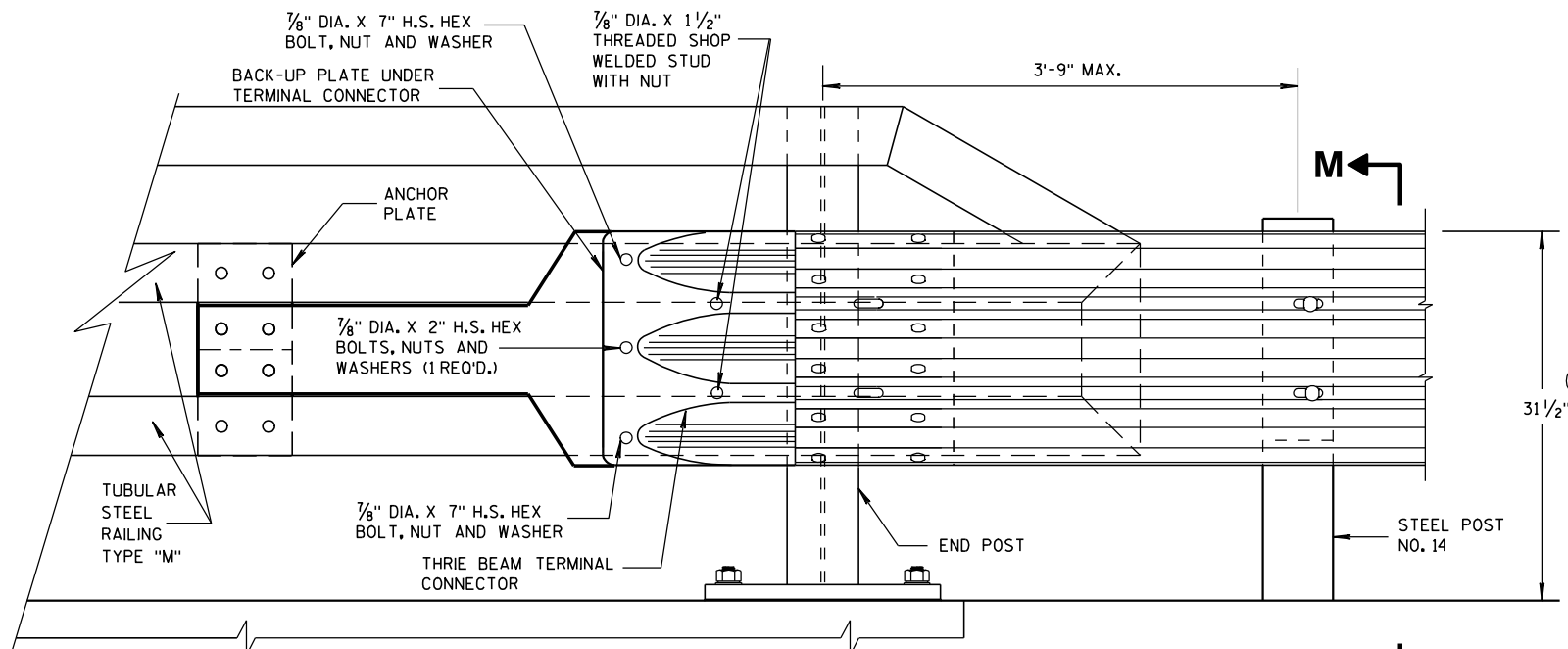


SECTION L-L

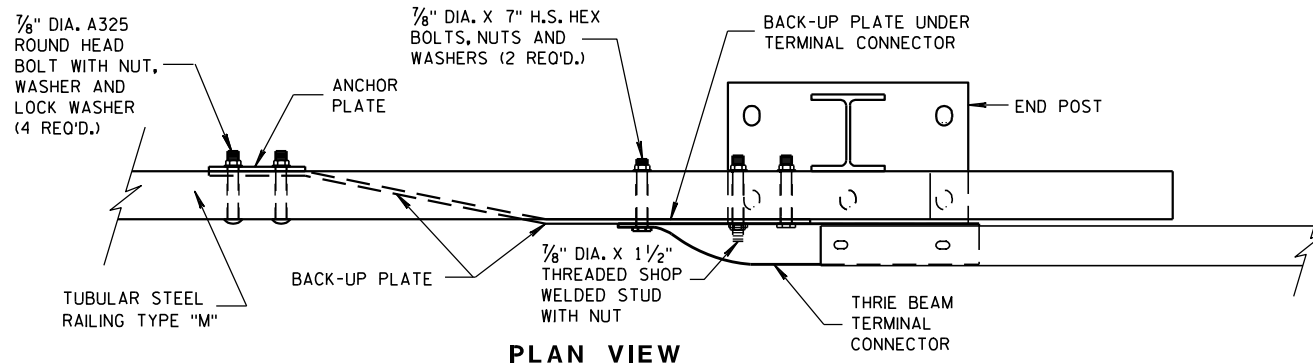


FRONT VIEW

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



FRONT VIEW



PLAN VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8-31-2012

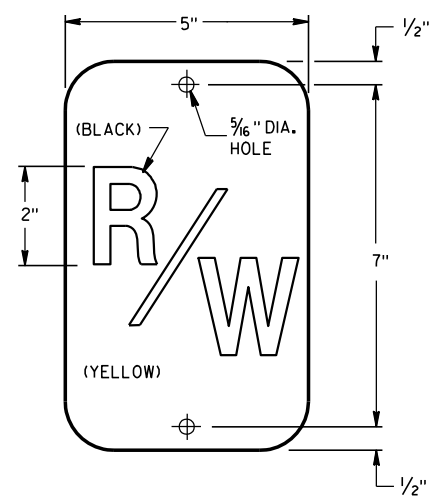
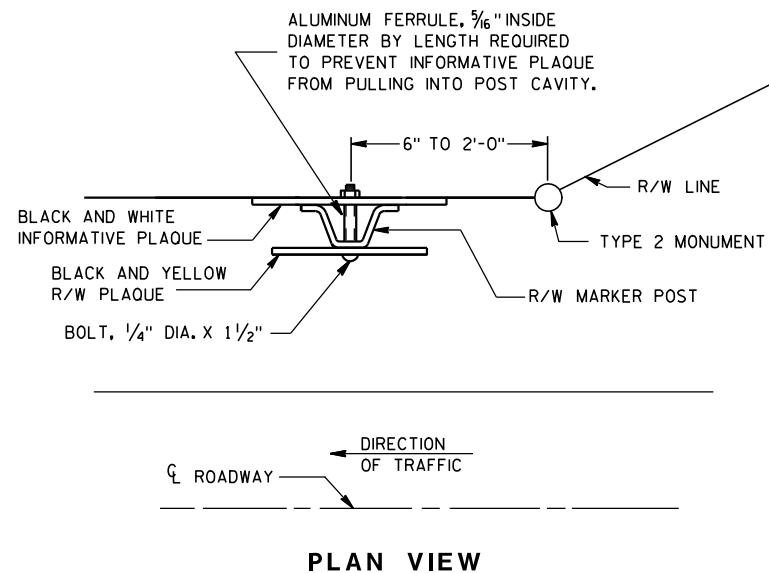
DATE

FHWA

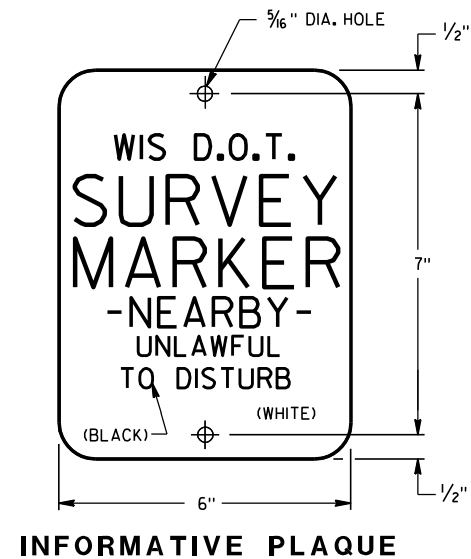
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.



GENERAL NOTES

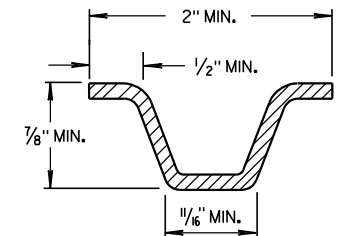
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

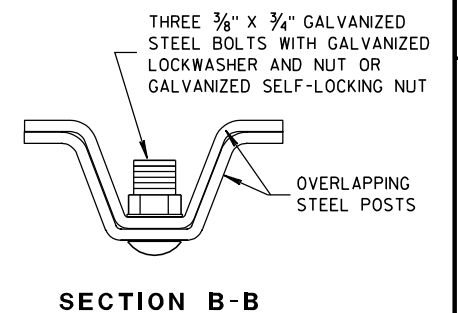
THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

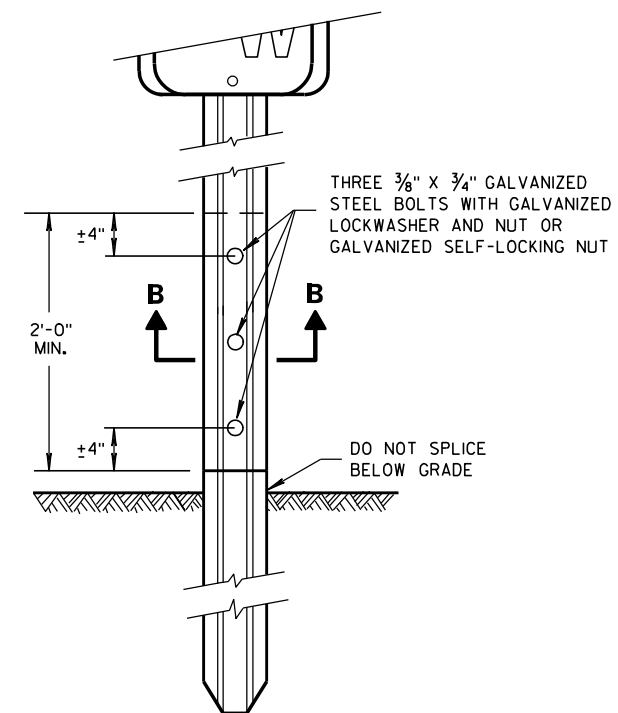
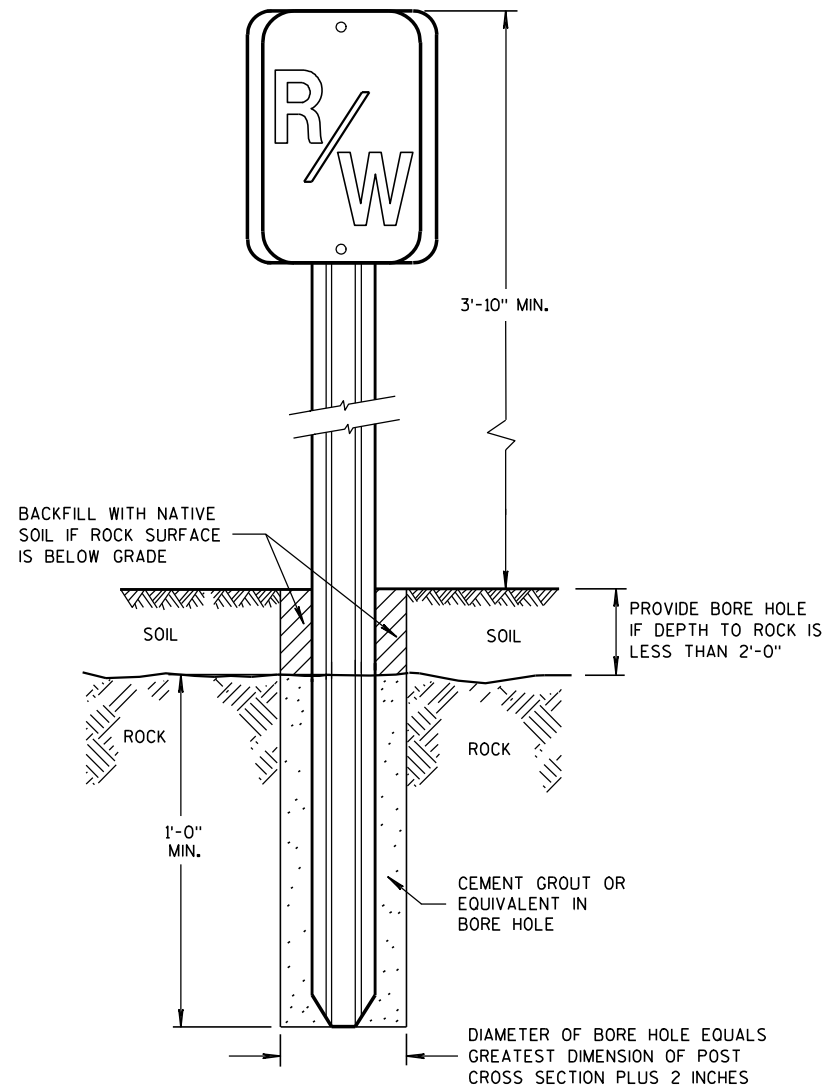
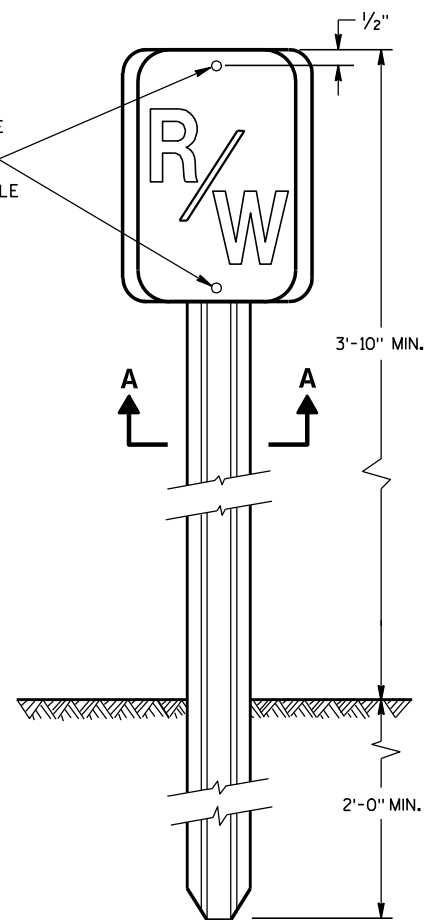
- ① IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'-10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR. FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT, DEPENDING ON THE STABILITY OF THE ROCK.



MIN. WEIGHT 1.12 LB./FT.
SECTION A-A



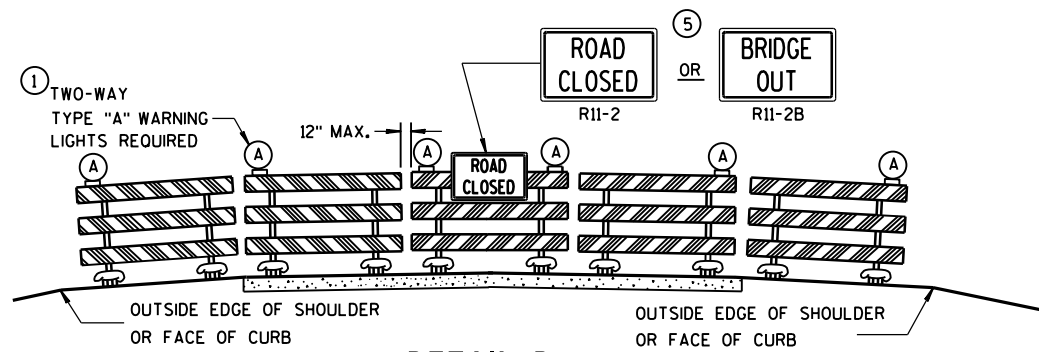
STEEL POSTS SHALL HAVE 2 - $\frac{3}{8}$ " HOLES 7" APART. POST WITH ADDITIONAL HOLES WILL BE ACCEPTABLE



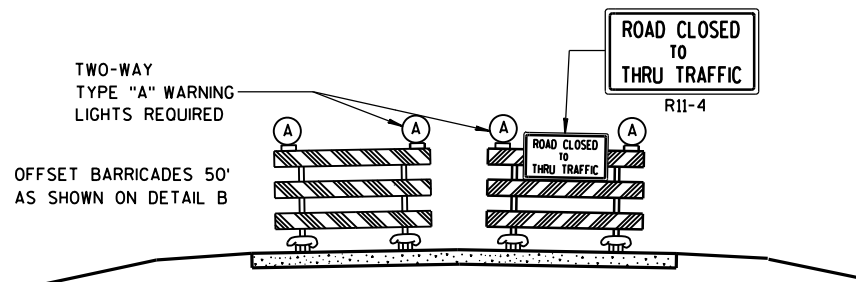
**MARKER POST
FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/27/09 /S/ Ray Kumapayi
DATE CHIEF SURVEYING AND MAPPING ENGINEER
FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

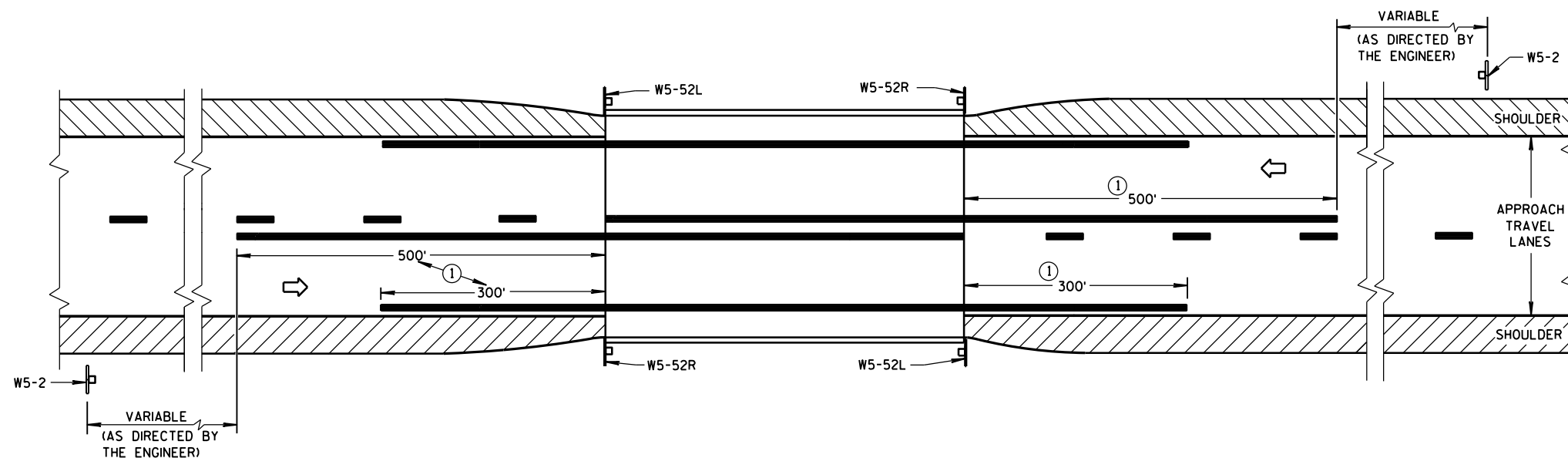
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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.

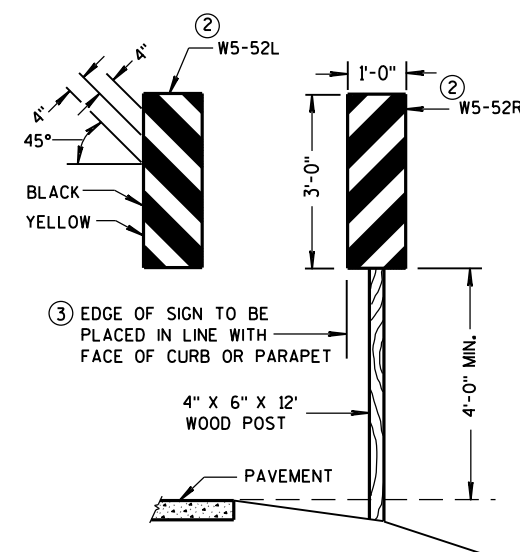
BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
8/2013 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



SITUATION 1

WARRANTING CRITERIA:

BRIDGE WIDTH IS AT LEAST 18 FEET BUT LESS THAN 24 FEET



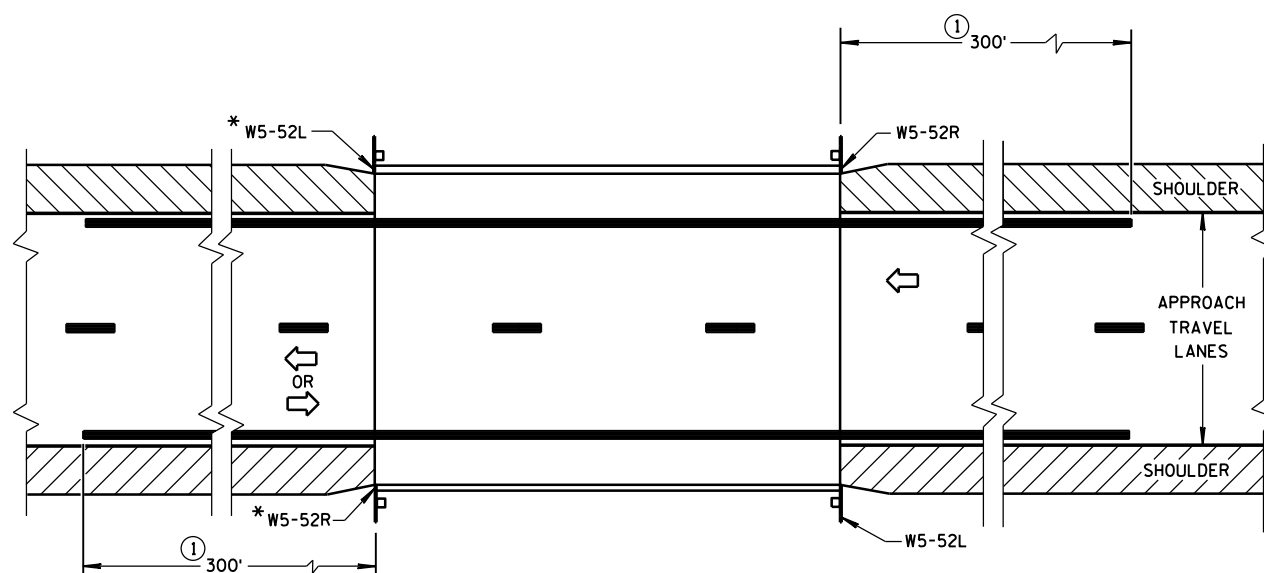
OBJECT MARKER PLACEMENT

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.

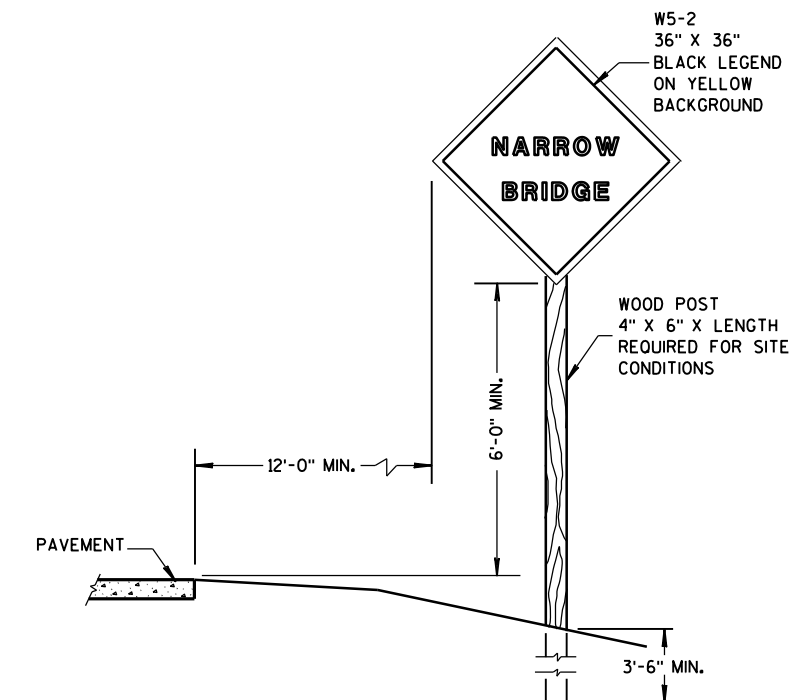


*OMIT ON ONE-WAY TRAVELLED WAYS

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.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/4/2013

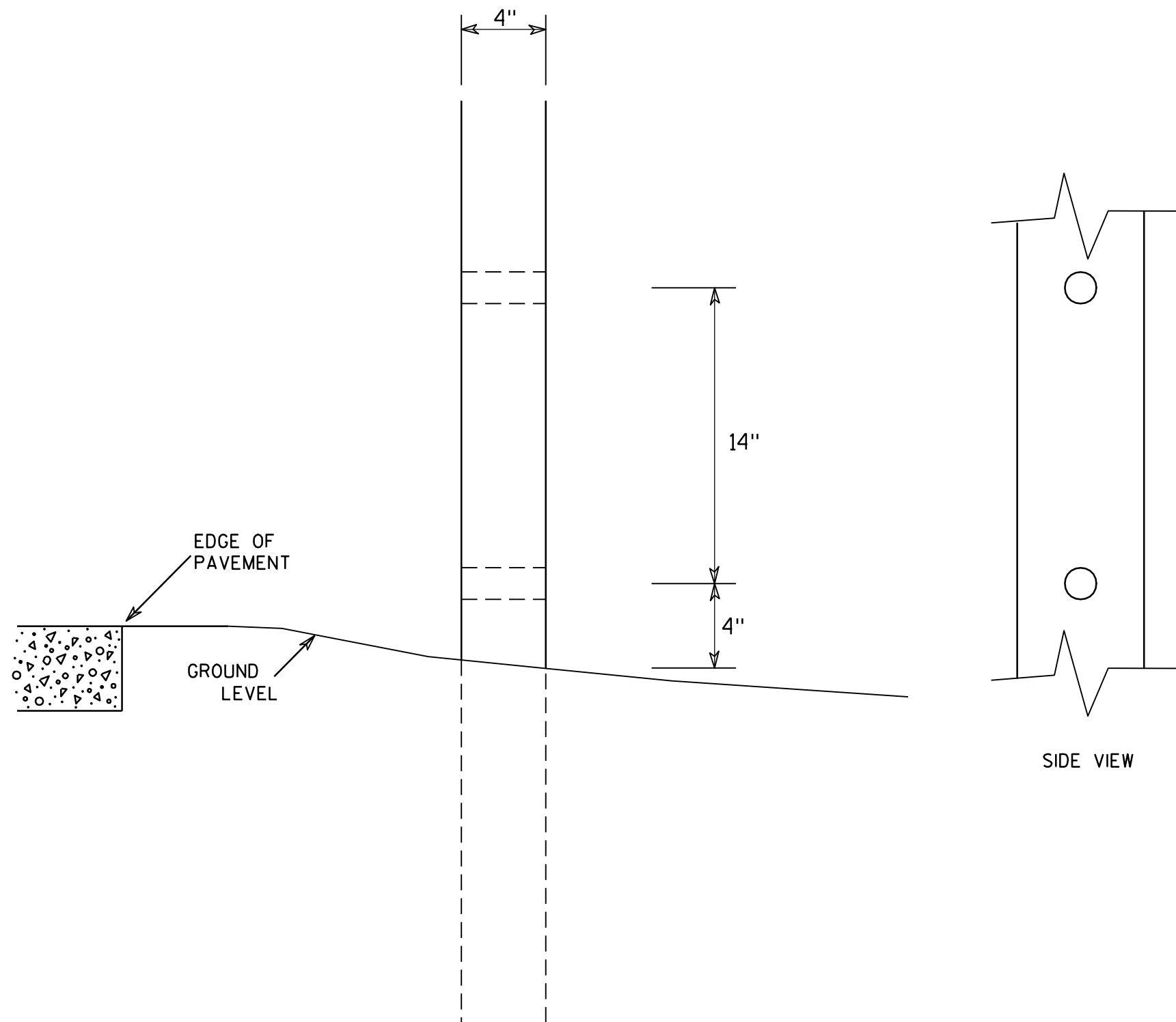
DATE

FHWA

/S/ Travis Feltes

STATE TRAFFIC ENGINEER OF DESIGN

7



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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

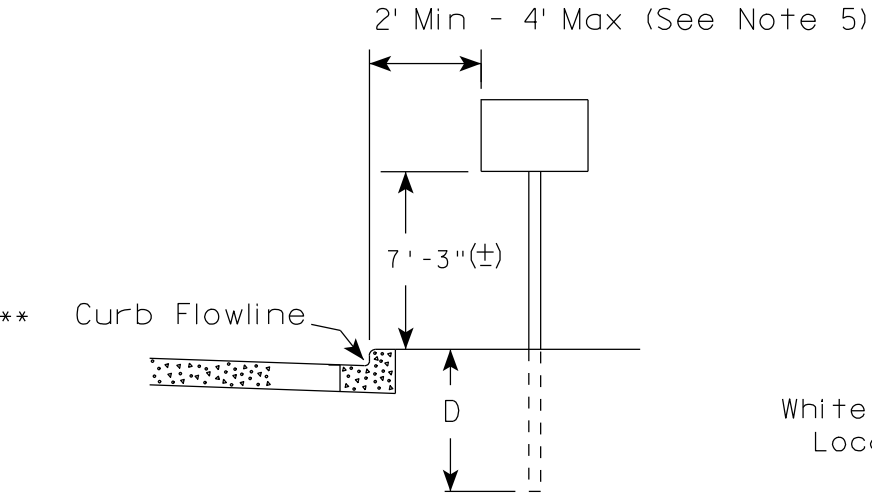
HWY:

COUNTY:

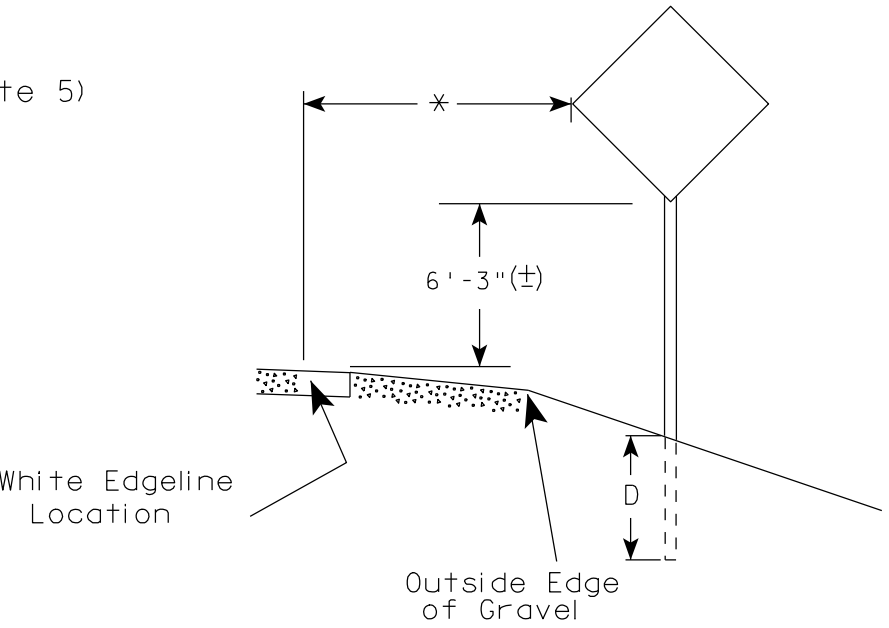
SHEET NO:

E

URBAN AREA

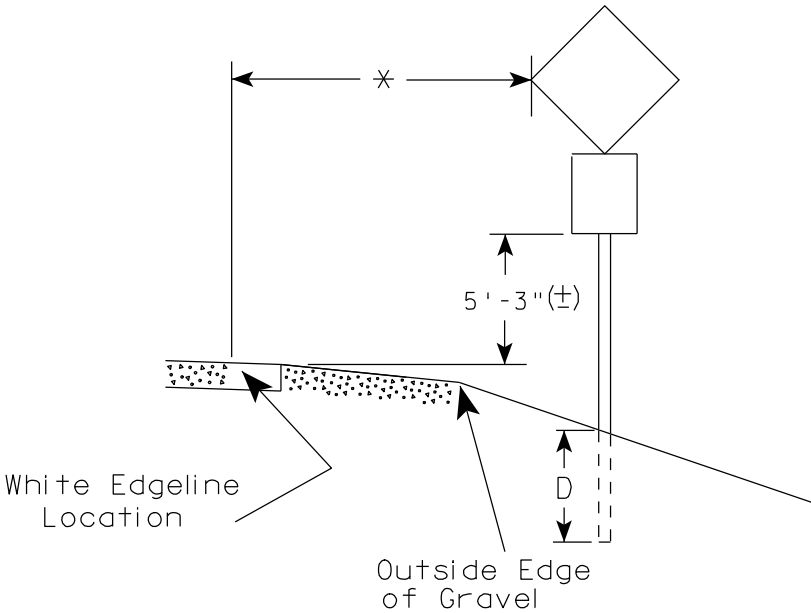
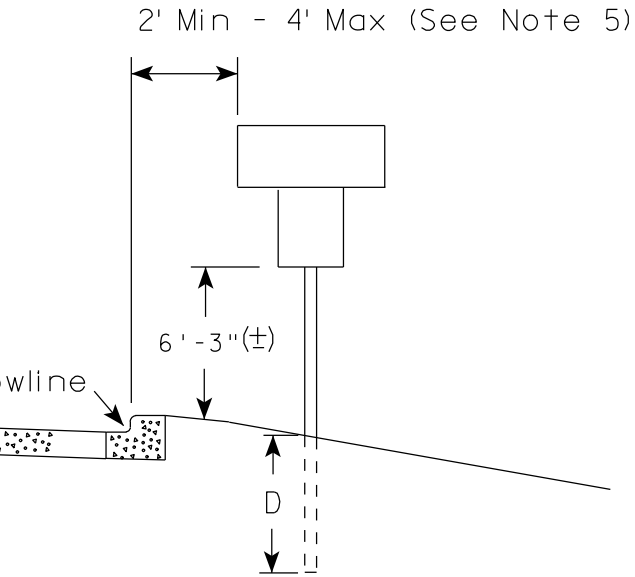


RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or larger than 20 sq. ft. 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 (A4-5) 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 stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed 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), Clearance Markers (W5-52), Mile Markers (D10 series) & End of Road Markers (W5-56 & W5-56A) 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'

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

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

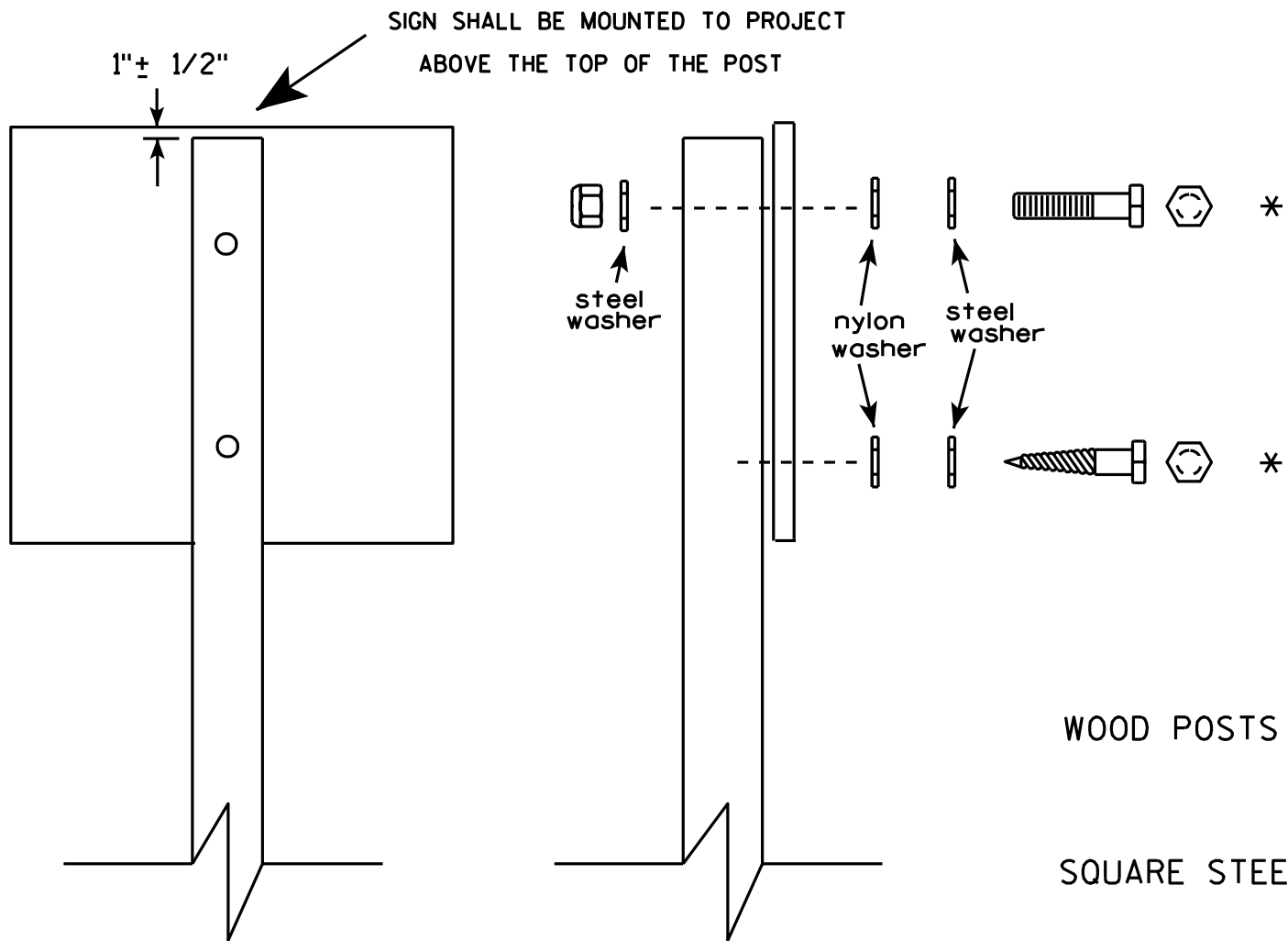
TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 9/21/2011 PLATE NO. A4-3.16

7



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

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

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

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - $\frac{3}{8}$ " X 3"

MACHINE BOLTS - $\frac{5}{16}$ " X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")

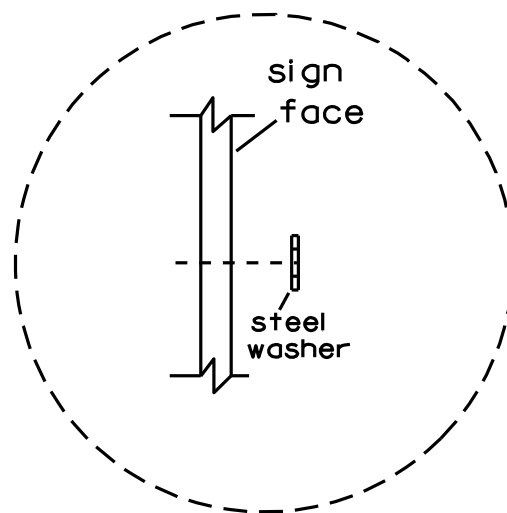
MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts

RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL

1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON 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

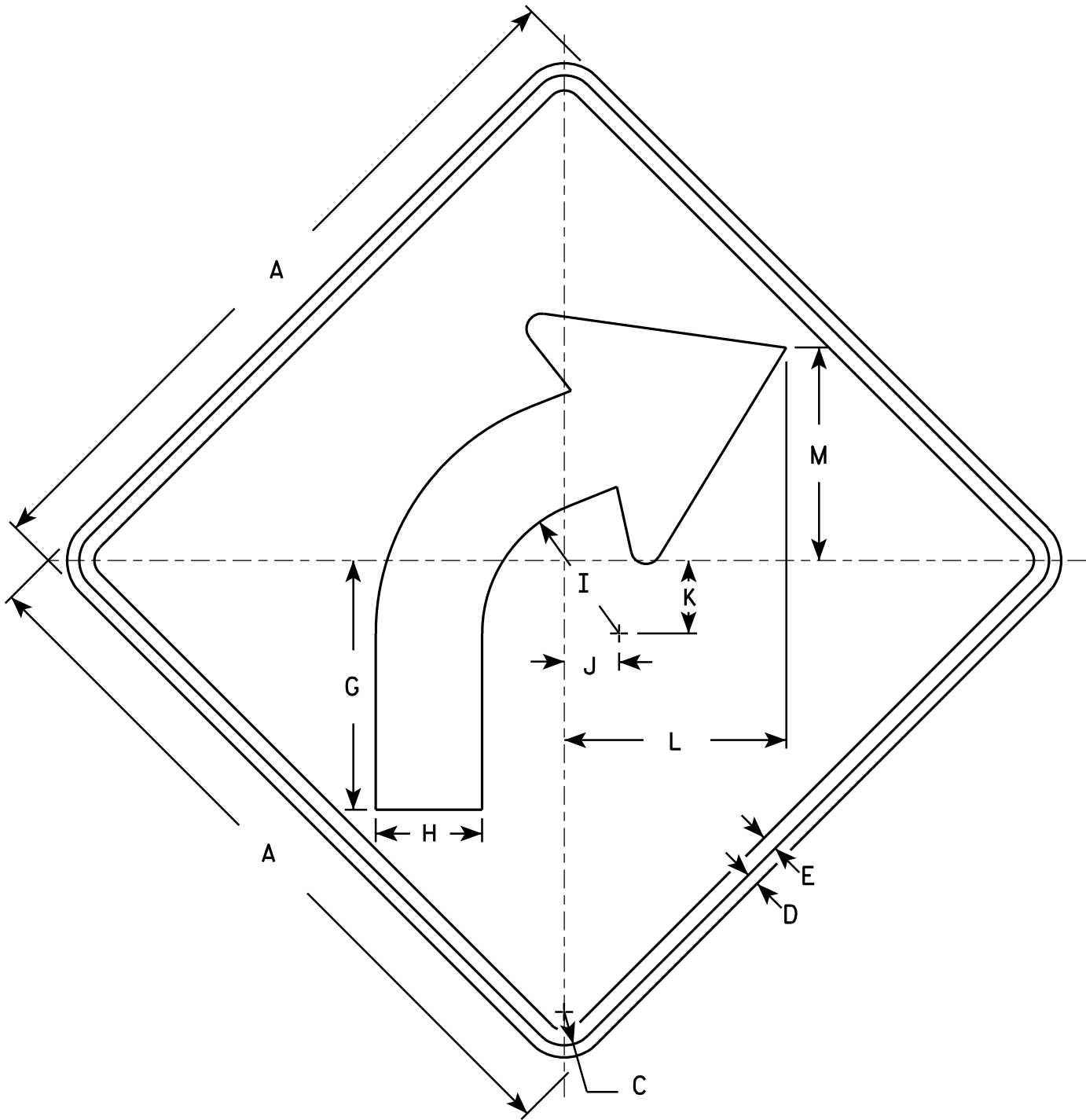
PROJECT NO:

SHEET NO:

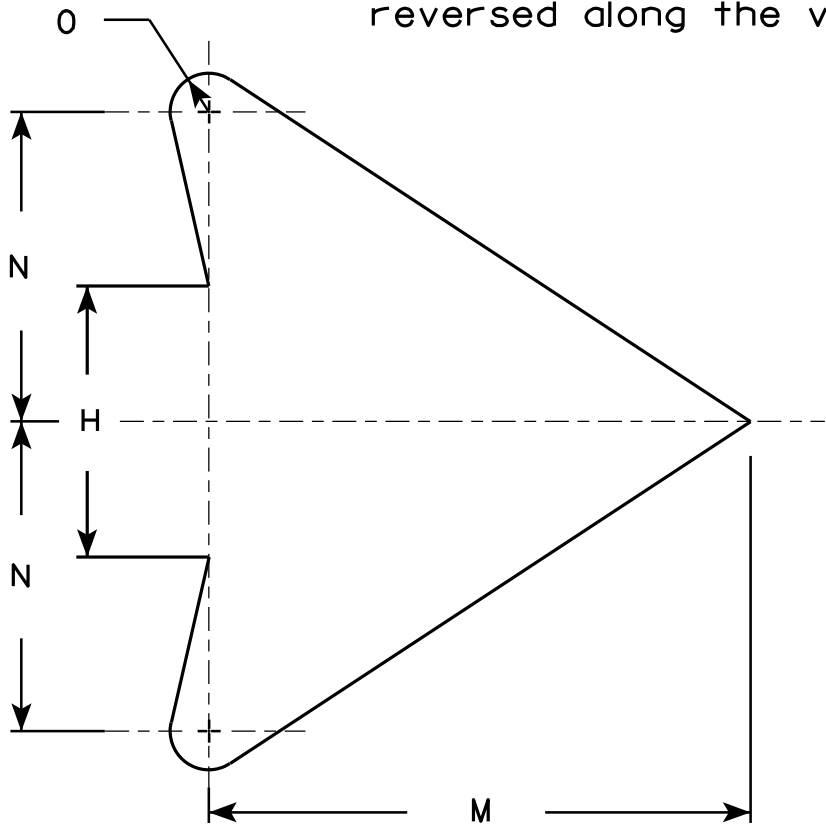
E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - 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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



W1-2R



ARROW DETAIL

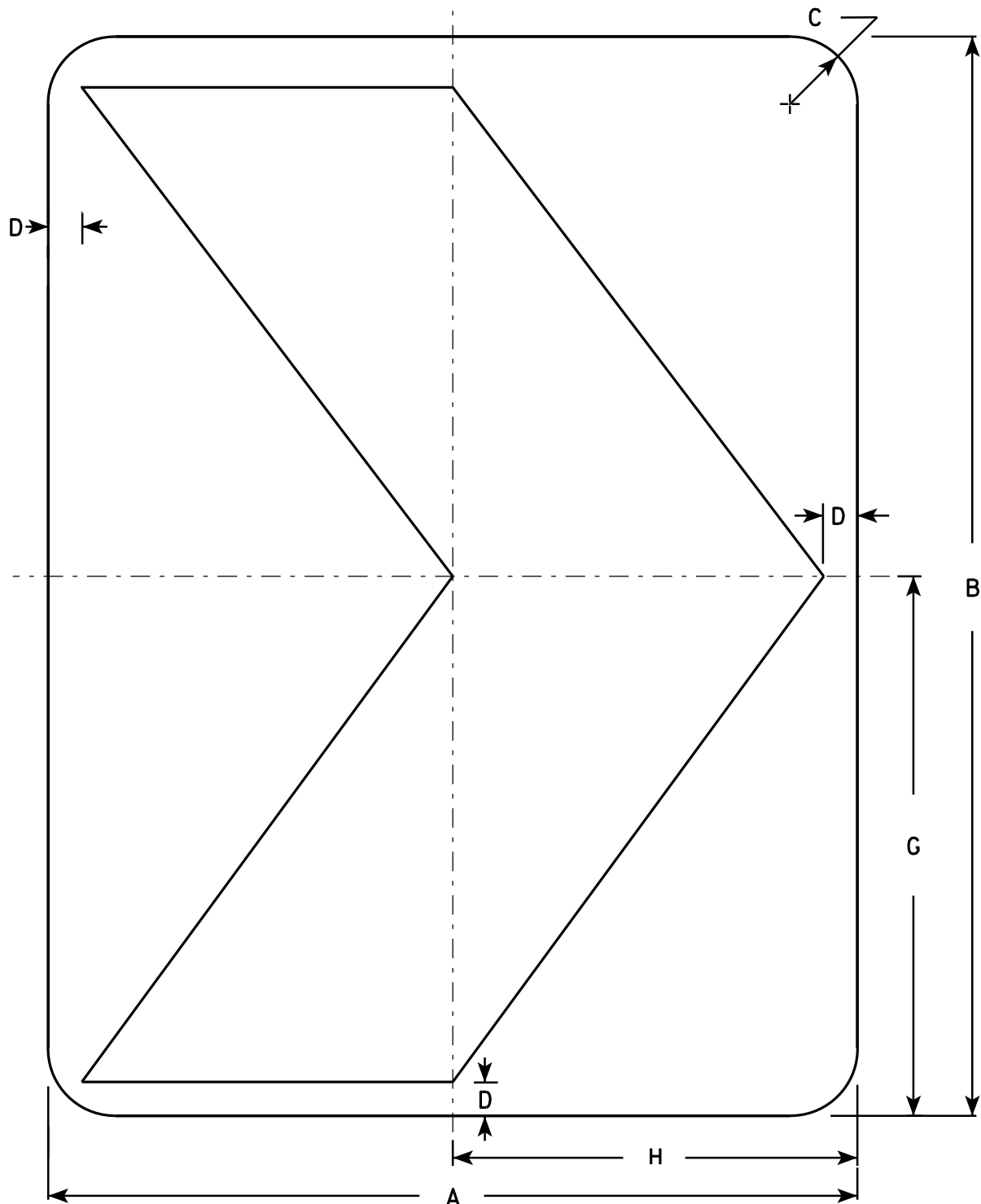
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10



W1-8

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.

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	12	18	1 1/2	1/2			9	6																			1.5
2S	18	24	1 1/2	3/4			12	9																			3.0
2M	18	24	1 1/2	3/4			12	9																			3.0
3	24	30	1 1/2	1			15	12																			5.0
4	30	36	1 7/8	1 1/4			18	15																			7.5
5	36	48	2 1/4	1 1/2			24	18																			12.0

STANDARD SIGN

W1-8

WISCONSIN DEPT OF TRANSPORTATION

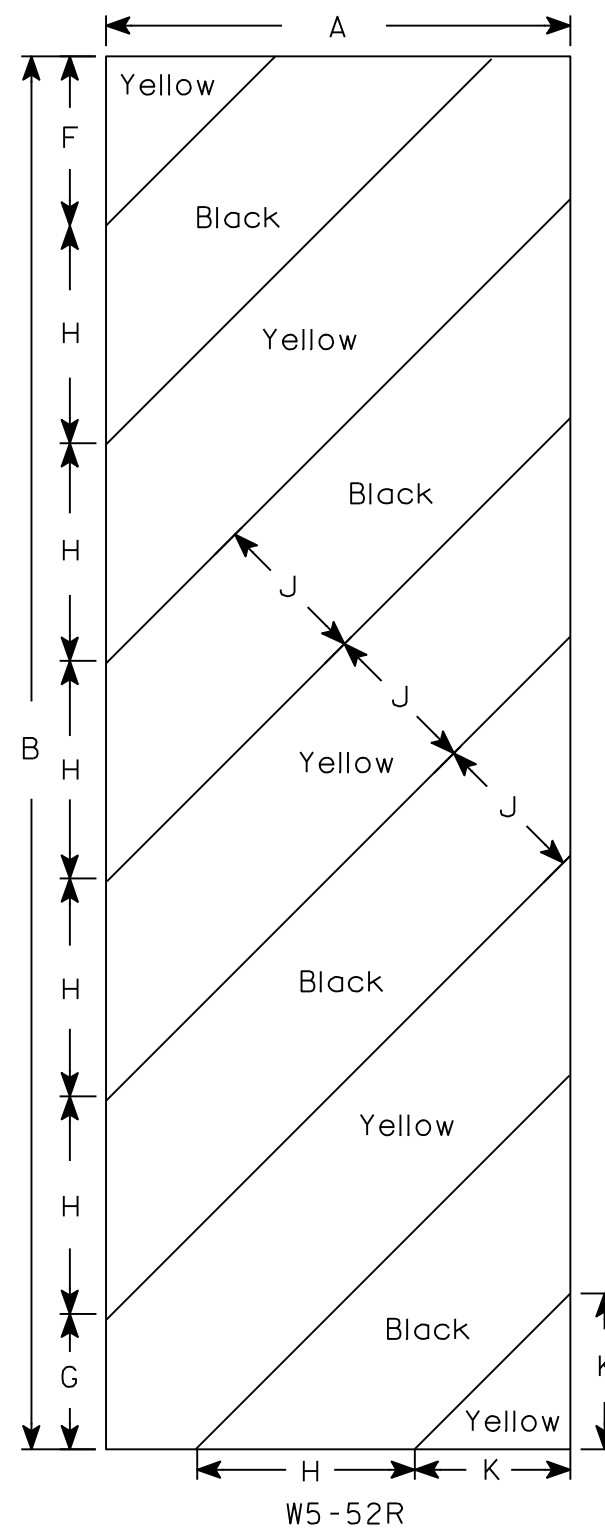
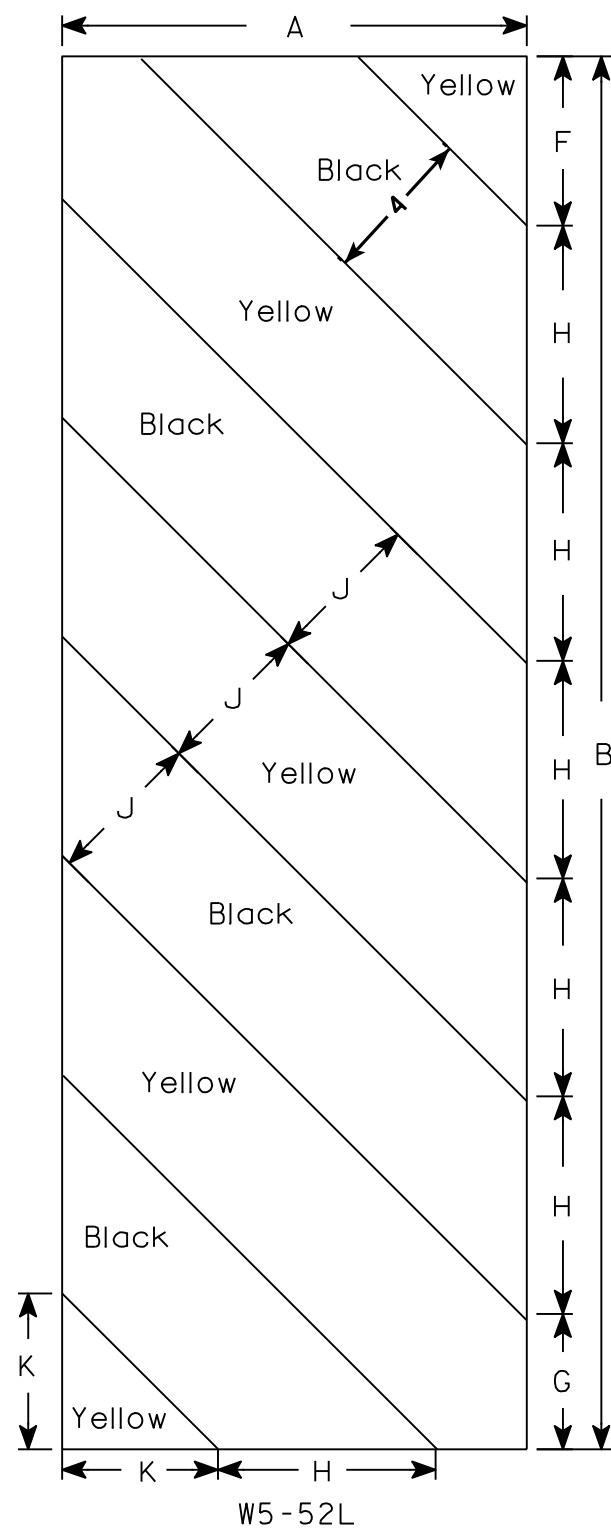
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-8.6

PROJECT NO:

SHEET NO:

E



NOTES

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

[illegible]

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

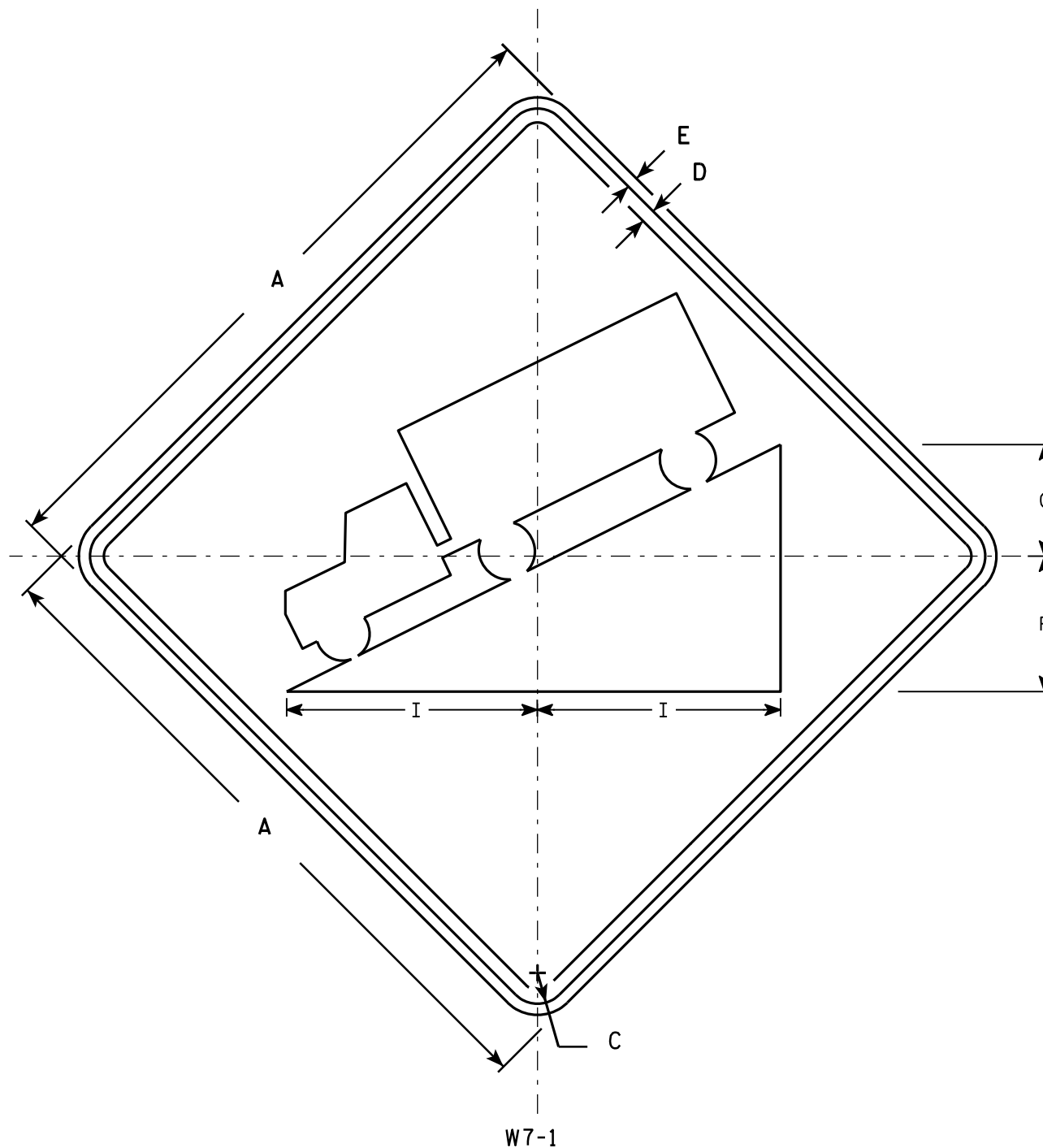
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

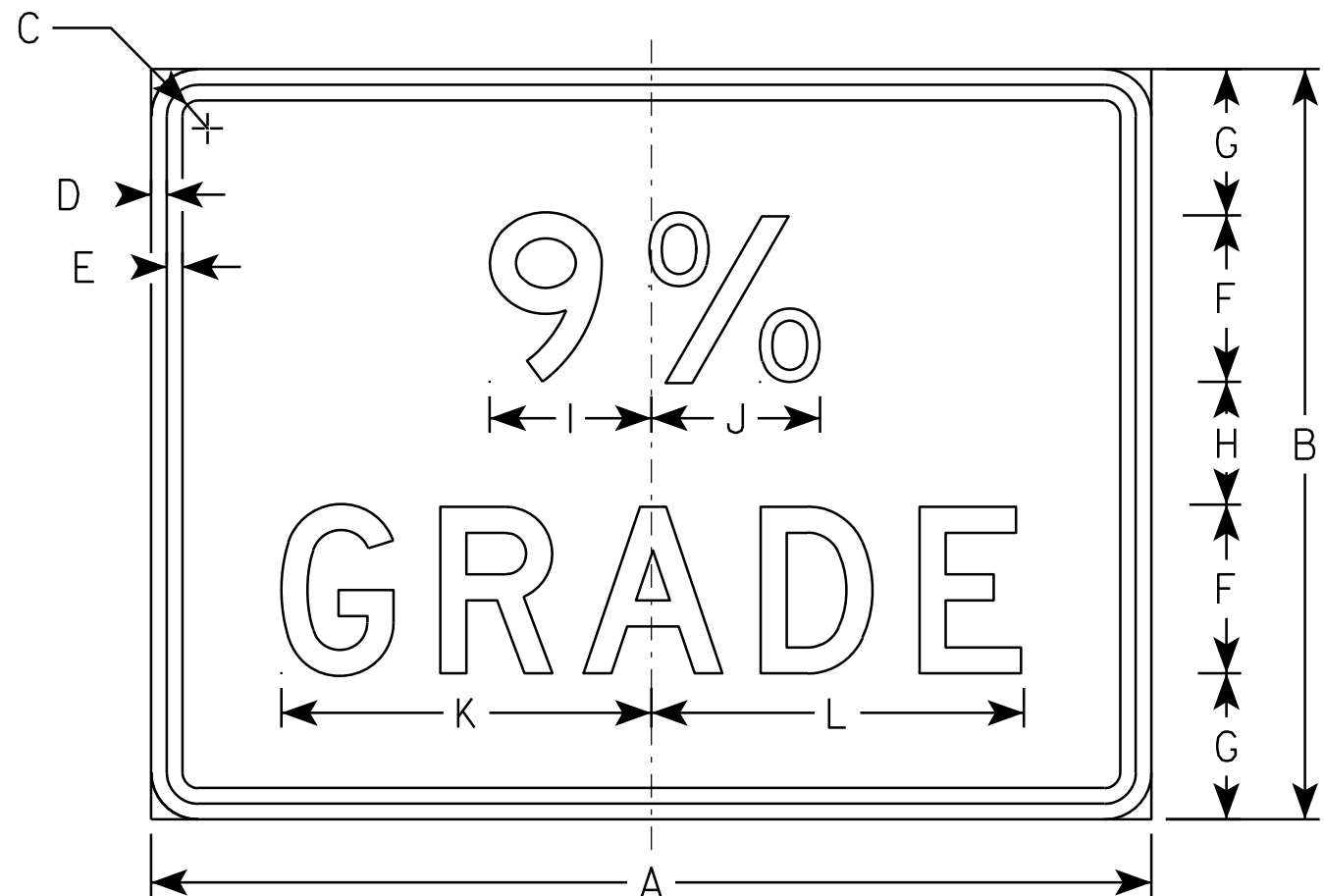
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	3/8	5	4		8 3/4																		4.0
2S	30		1 3/8	1/2	5/8	6	5		11																		6.25
2M	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
3	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
4	36		1 5/8	5/8	3/4	7 1/4	6		13 1/4																		9.0
5	48		2 1/4	3/4	1	9 3/4	8		17 1/2																		16.0

STANDARD SIGN W7-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 03/12/13 PLATE NO. W7-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E



W7-3

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. Substitute appropriate numeral and optically adjust spacing to achieve proper balance.

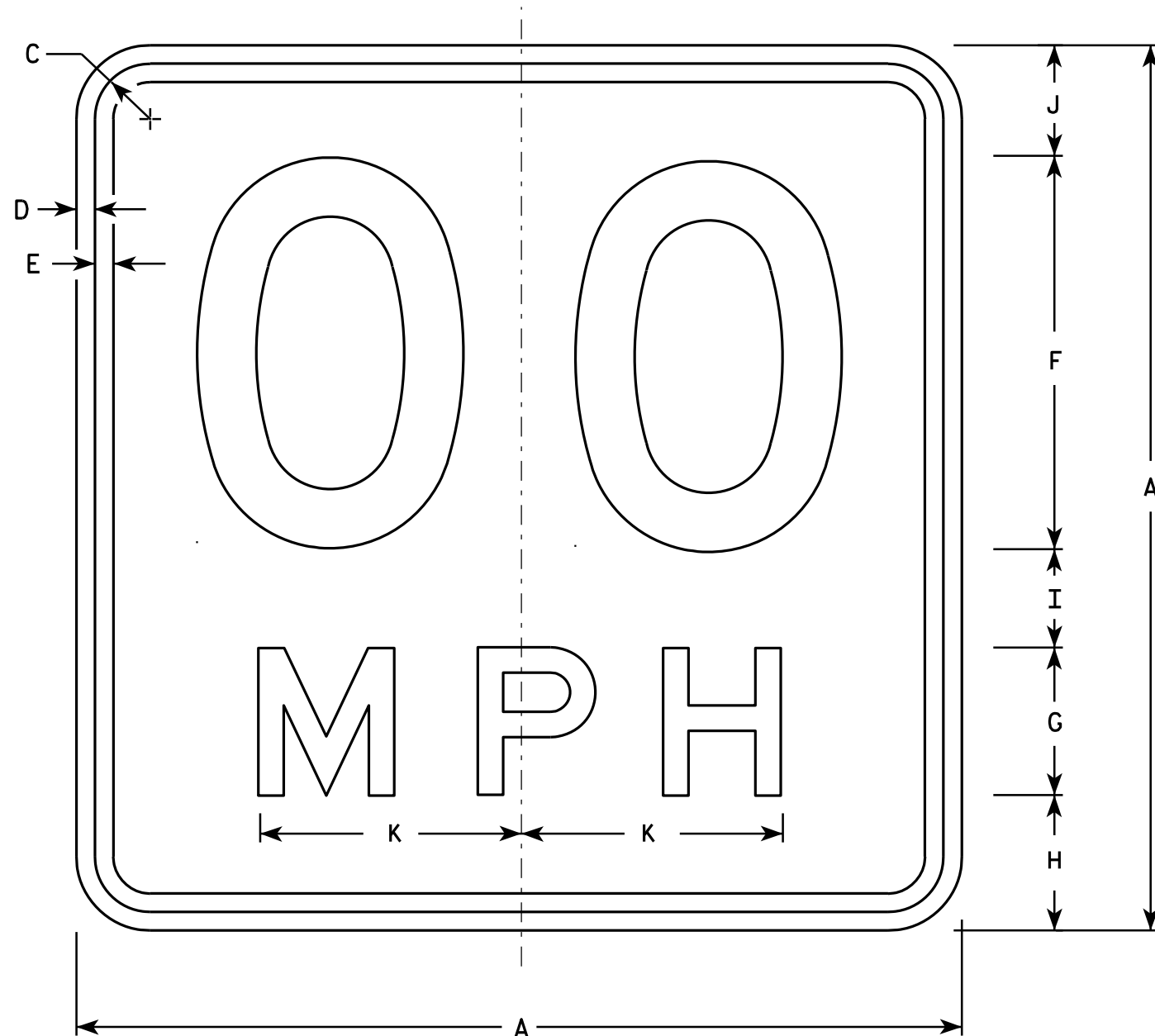
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	18	1 1/8	3/8	3/8	4	3 1/2	3	3 7/8	4	8 7/8	9															3.0
2M	24	18	1 1/8	3/8	3/8	4	3 1/2	3	3 7/8	4	8 7/8	9															3.0
3																											
4																											
5																											

STANDARD SIGN
W7-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 03/12/13 PLATE NO. W7-3.4



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. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
Line 2 is Series E

W13-1

- * For 30" x 30" Warning Signs, use 18" x 18" W13-1 signs.
For 36" x 36" Warning Signs, use 24" x 24" W13-1 signs.

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	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2S	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
* 2M	18		1 1/8	3/8	3/8	8	3	2 3/4	2	2 1/4	5 3/8																2.25
3	24		1 1/8	3/8	1/2	10	4	4	2 3/4	3 1/4	6 5/8																4.00
4	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00
5	36		1 5/8	5/8	3/4	16	6	5 1/2	4	4 1/2	10 5/8																9.00

STANDARD SIGN

W13-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-1.16

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
2	11+33	¾" IRON REBAR SET, 32.7' RT.	885.86
3	15+25	¾" IRON REBAR SET, 20.8' RT.	907.77
5	12+50	STAR SPIKE IN PP SET, 173.8' RT	876.37

INDICATES WING NUMBER

* THREE BEAM RAIL ATTACHMENT

RIPRAP HEAVY LAYOUT

POINT	STATION	OFFSET
A	12+54	28' LT.
B	12+75	28' LT.
C	12+94	28' LT.
D	13+19	28' LT.
E	13+43	40' RT.
F	13+19	40' RT.
G	13+00	40' RT.
H	12+78	40' RT.

STATE PROJECT NUMBER

5691-00-78

DESIGN DATA

LIVE LOAD:

DESIGN LOADING _____ HL-93
INVENTORY RATING FACTOR _____ RF=1.39
OPERATING RATING FACTOR _____ RF=1.80
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) _____ 250 KIPS

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, SLAB _____ 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.
36-INCH PRESTRESSED GIRDER _____
CONCRETE MASONRY _____ f'_c = 8,000 P.S.I.
STRANDS 0.6 INCH DIA. WITH _____
ULTIMATE TENSILE STRENGTH _____ f_y = 270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATE 23 FT PILE LENGTHS AT WEST ABUTMENT AND 21 FT. PILE LENGTHS AT EAST ABUTMENT. PILE POINTS REQ'D.

**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.

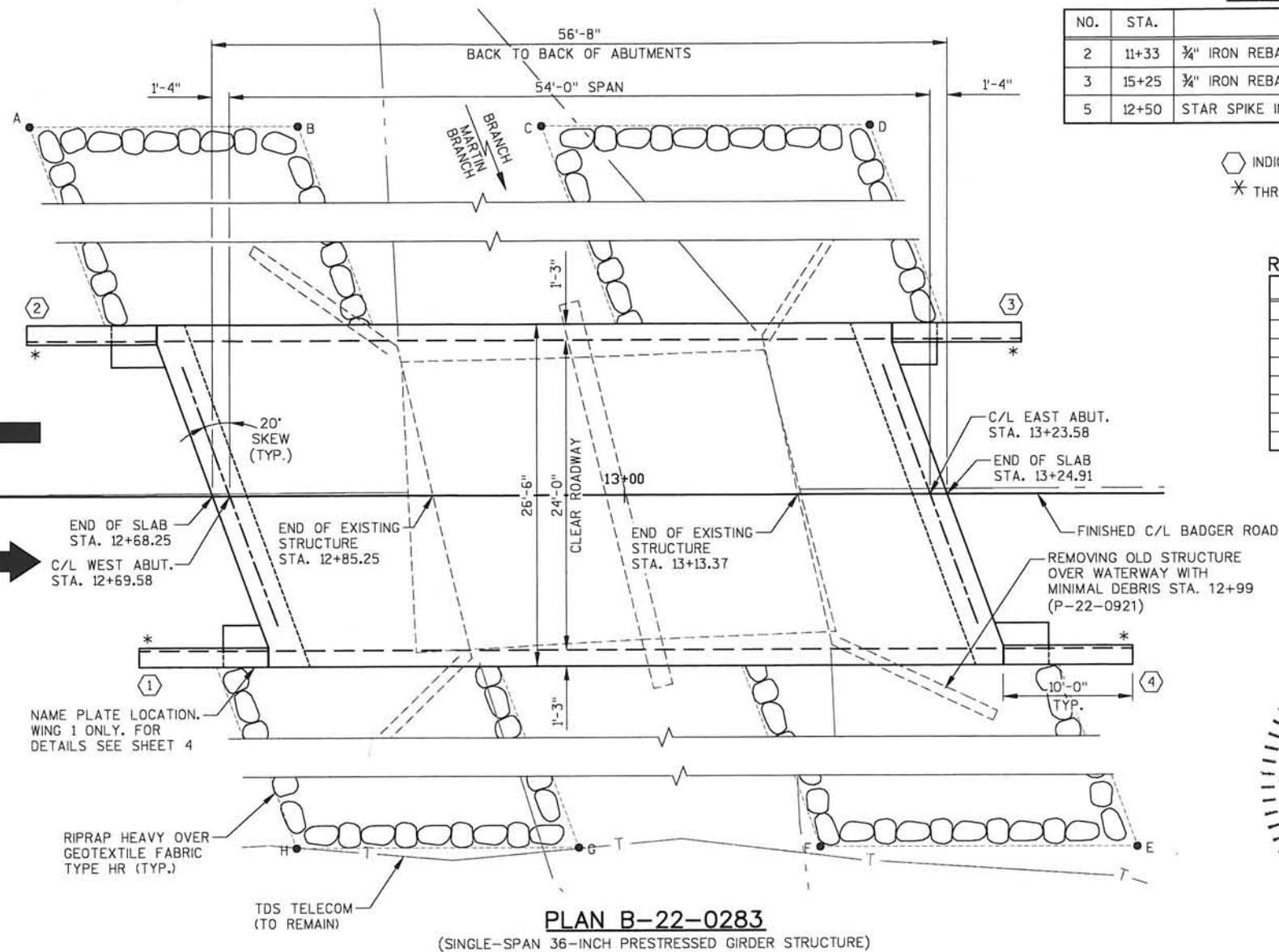
TRAFFIC DATA

A.D.T. (2014) _____ 100
A.D.T. (2034) _____ 150
DESIGN SPEED _____ 20 M.P.H.

HYDRAULIC DATA

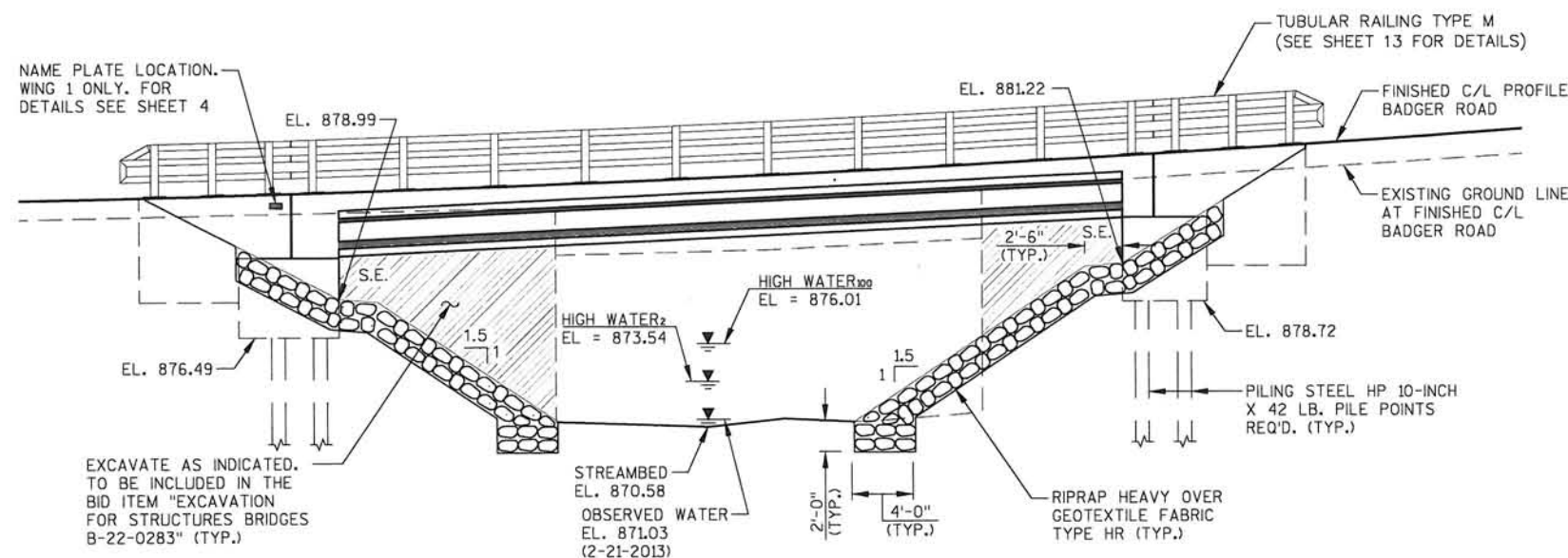
100 YEAR FREQUENCY _____
DRAINAGE AREA _____ 3.6 SQ. MI.
Q₁₀₀ TOTAL _____ 1000 C.F.S.
THROUGH STRUCTURE _____ 1000 C.F.S.
OVERTOPPING ROADWAY _____ N/A
VELOCITY - THROUGH STRUCTURE _____ 10.24 F.P.S.
WATERWAY AREA - THROUGH STRUCTURE _____ 98 SQ. FT.
HIGH WATER₁₀₀ ELEVATION _____ 876.01
SCOUR CRITICAL CODE _____ 5

EROSION CONTROL
Q₂ _____ 215 C.F.S.
HIGH WATER₂ ELEVATION _____ 873.54



PLAN B-22-0283

(SINGLE-SPAN 36-INCH PRESTRESSED GIRDER STRUCTURE)



ELEVATION

(NORMAL TO BRANCH MARTIN BRANCH)

LIST OF DRAWINGS

- GENERAL PLAN
- CROSS SECTION AND QUANTITIES
- SUBSURFACE EXPLORATION
- WEST ABUTMENT
- WEST ABUTMENT DETAILS
- EAST ABUTMENT
- EAST ABUTMENT DETAILS
- GIRDER LAYOUT
- 36-INCH PRESTRESSED GIRDER DETAILS
- STEEL DIAPHRAGM
- SUPERSTRUCTURE
- SUPERSTRUCTURE DETAILS
- TUBULAR RAILING TYPE M

DESIGN CONSULTANT

PATRICK BOLAND, PE
(608) 588-7484

BRIDGE OFFICE CONTACT

WILLIAM DREHER, PE
(608) 266-8489

NO.	DATE	REVISION	BY
JEWELL associates engineers, inc. Engineers - Planners - Surveyors			
560 SUNRISE DRIVE SPRING GREEN, WI 53588 PHONE: (608) 588-7484 FAX: (608) 588-9322			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i> 02/18/14 CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-22-0283			
BADGER ROAD OVER BRANCH MARTIN BRANCH			
COUNTY	GRANT	TOWN/VILLAGE	NORTH LANCASTER
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	PTB	DESIGN CK'D	RBH
DRAWN BY	PTB	PLANS CK'D	RBH
SHEET 1 OF 13			

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD 88).

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

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

JOINT FILLER SHALL CONFORM TO A.A.S.H.T.O. DESIGNATION M153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M213.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE FABRIC HR TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS, OR AS DIRECTED BY THE ENGINEER IN THE FIELD.

AT THE BACK FACE OF ABUTMENTS, ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE. SEE THIS SHEET FOR DETAIL.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

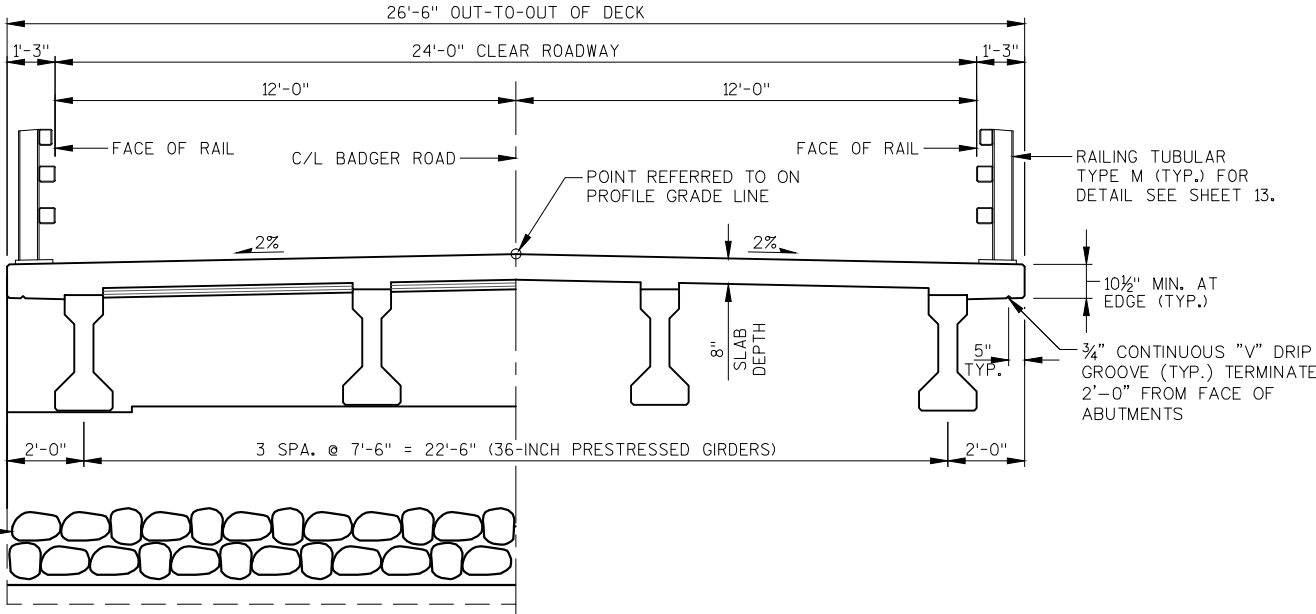
APPLY PROTECTIVE SURFACE TREATMENT TO THE TOP OF THE DECK, THE SIDES OF THE DECK AND THE EXTERIOR 12" OF THE UNDERSIDE OF THE DECK (CONCRETE MATERIAL ONLY).

THE EXISTING STRUCTURE (P-22-0921) IS A TWO SPAN STEEL GIRDER, CONCRETE DECK STRUCTURE SUPPORTED ON FULL RETAINING CONCRETE ABUTMENTS AND A CONCRETE PIER. THE STRUCTURE IS 22.3' WIDE BY 32.0' LONG AND SHALL BE REMOVED.

ALL STATIONS AND ELEVATIONS SHOWN ARE IN FEET.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

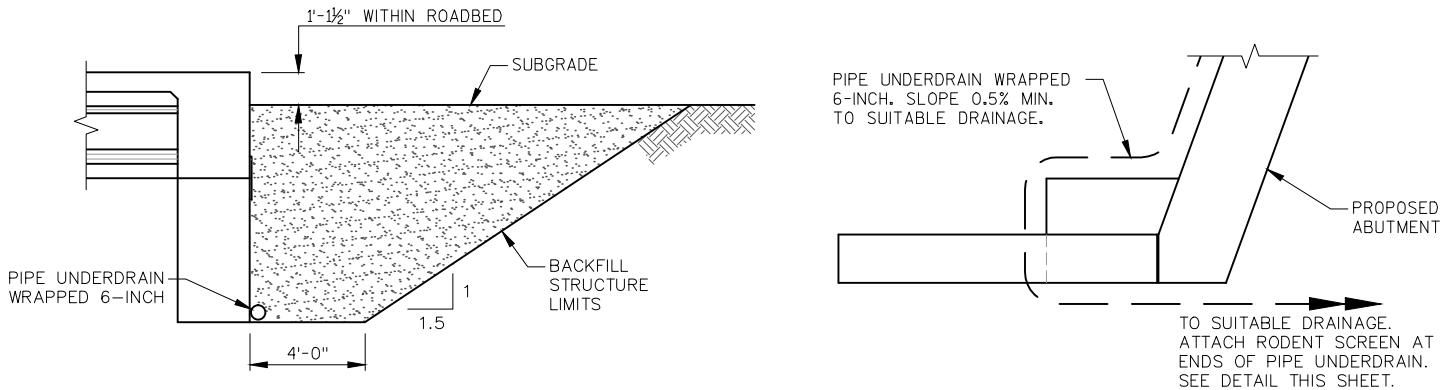
HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET, WHICH IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH THE CONTRACTOR WILL BE PAID.



AT ABUTMENT

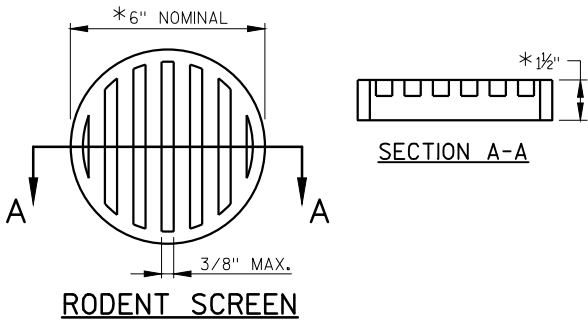
IN SPAN

PROPOSED CROSS-SECTION THROUGH ROADWAY



BACKFILL STRUCTURE DETAIL
(TYPICAL AT BOTH ABUTMENTS)

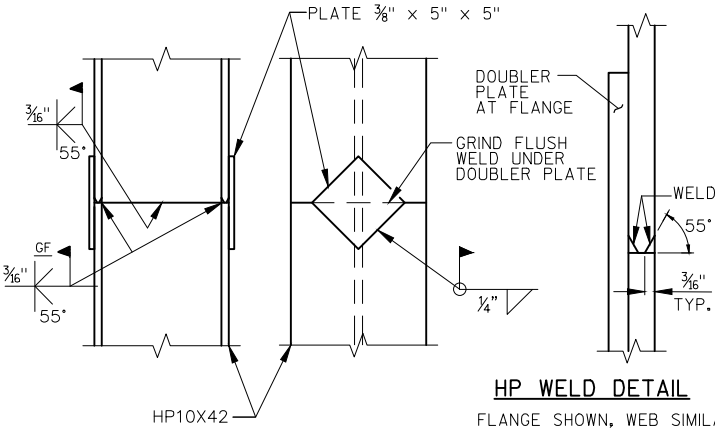
PIPE UNDERDRAIN DETAIL



RODENT SCREEN

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

THE RODENT SCREEN, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED ENDS OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

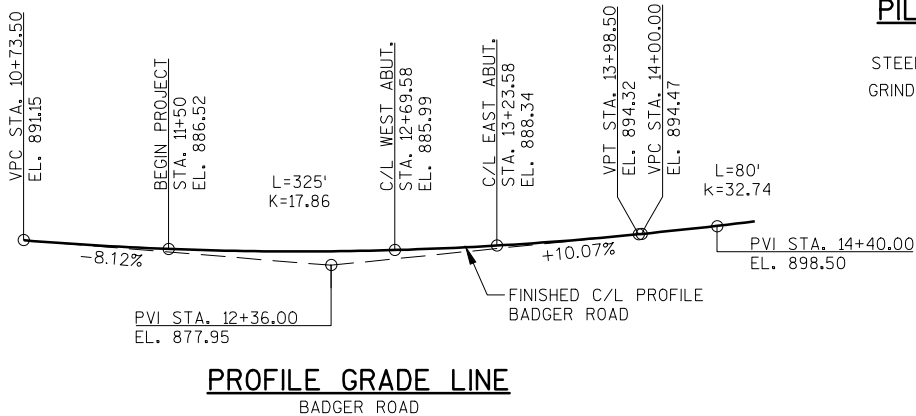


HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

STEEL "HP" PILE MATERIAL SHALL BE ASTM A709 GRADE 50. GRINDING MAY BE USED IN LIEU OF BACKGOUGING.



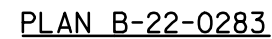
PROFILE GRADE LINE
BADGER ROAD

ITEM NO.	ITEM DESCRIPTION	UNIT	W. ABUT.	SUPER	E. ABUT.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 12+99	LS	--	--	--	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-22-0283	LS	--	--	--	1
210.0100	BACKFILL STRUCTURE	CY	95	--	95	190
502.0100	CONCRETE MASONRY BRIDGES	CY	24.4	57.1	25.5	107
502.3200	PROTECTIVE SURFACE TREATMENT	SY	--	190	--	190
503.0136	PRESTRESSED GIRDER TYPE I 36-INCH	LF	--	220	--	220
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	1,500	--	1,530	3,030
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	1,160	11,990	1,300	14,450
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	--	8	--	8
506.4000	STEEL DIAPHRAGMS B-22-0283	EACH	--	3	--	3
513.4060	RAILING TUBULAR TYPE M B-22-0283	LS	--	--	--	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5.5	--	5.5	11
550.0500	PILE POINTS	EACH	6	--	6	12
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	135	--	125	260
606.0300	RIPRAP HEAVY	CY	125	--	145	270
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	60	--	60	120
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	210	--	290	500
NON-BID ITEMS						
	FILLER	SIZE	--	--	--	1/2" & 3/4"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
CROSS SECTION AND QUANTITIES			SHEET 2 OF 13

BY: CGC, INC.
2921 PERRY ST.
MADISON, WI 53713
608-288-4100

ON: 04-11-2013



The diagram illustrates a geotechnical cross-section of Badger Road, showing three borings (1, 2, and 3) and the finished centerline profile. The vertical axis represents elevation in feet, ranging from 845 to 900. The horizontal axis represents stationing, with Boring 1 at STA. 13+31.75, Boring 2 at STA. 12+63.96, and Boring 3 at STA. 12+68.11.

Finished C/L Profile Badger Rd. is shown as a solid line. The **Existing Ground Line at Finished C/L** is shown as a dashed line.

Boring 1 (STA. 13+31.75):

- 1" ASPH/12" BASE COURSE
- FILL: MEDIUM DENSE SAND, SOME SILT
- FILL: MEDIUM STIFF SILTY CLAY, SOME SAND
- 13.5' DURING DRILLING
- MEDIUM STIFF SILTY CLAY, LITTLE SAND
- LOOSE TO MEDIUM DENSE FINE TO MEDIUM SAND, SOME SILT, SCATTERED COBBLES
- DENSE SAND, SOME SILT AND GRAVEL. ABRUPT REFUSAL AT 27'
- END OF BORING/AUGER REFUSAL @ 27 FEET

Boring 2 (STA. 12+63.96):

- 1" ASPH/12" BASE COURSE
- FILL: STIFF SILTY CLAY, SOME SAND
- MEDIUM STIFF SILTY CLAY, TRACE ORGANICS
- 13.5' DURING DRILLING
- LOOSE FINE SAND, SOME GRAVEL
- VERY DENSE SILTY FINE SAND, SOME GRAVEL. PROBABLE WEATHERED DOLOMITE BEDROCK
- END OF BORING/AUGER REFUSAL @ 27 FEET

Boring 3 (STA. 12+68.11):

- 1" ASPH/12" BASE COURSE
- BLIND-DRILLED TO AUGER REFUSAL ON APPARENT BEDROCK AT 25 FT.
- END OF BORING/AUGER REFUSAL @ 25 FEET

Structural Details:

- STREAMBED:** EL = 870.58
- OBSERVED WATER:** EL = 871.03 (02-21-2013)
- PILING:** STEEL HP 10-INCH X 42 LB. PILE POINTS REQ'D. (TYP.)

Soil Profile Data (Boring 1):

Depth (ft)	Soil Description
0 - 12	1" ASPH/12" BASE COURSE
12 - 13.5	FILL: MEDIUM DENSE SAND, SOME SILT
13.5 - 14	FILL: MEDIUM STIFF SILTY CLAY, SOME SAND
14 - 15	MEDIUM STIFF SILTY CLAY, LITTLE SAND
15 - 16	LOOSE TO MEDIUM DENSE FINE TO MEDIUM SAND, SOME SILT, SCATTERED COBBLES
16 - 17	DENSE SAND, SOME SILT AND GRAVEL. ABRUPT REFUSAL AT 27'

Soil Profile Data (Boring 2):

Depth (ft)	Soil Description
0 - 12	1" ASPH/12" BASE COURSE
12 - 13.5	FILL: STIFF SILTY CLAY, SOME SAND
13.5 - 14	MEDIUM STIFF SILTY CLAY, TRACE ORGANICS
14 - 15	LOOSE FINE SAND, SOME GRAVEL
15 - 16	VERY DENSE SILTY FINE SAND, SOME GRAVEL. PROBABLE WEATHERED DOLOMITE BEDROCK

Soil Profile Data (Boring 3):

Depth (ft)	Soil Description
0 - 12	1" ASPH/12" BASE COURSE
12 - 13.5	BLIND-DRILLED TO AUGER REFUSAL ON APPARENT BEDROCK AT 25 FT.

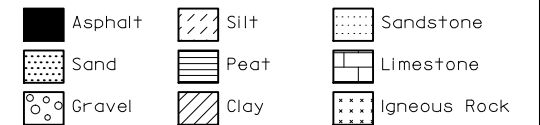
STATE PROJECT NUMBER

5691-00-78

ABBREVIATIONS

F—Fine M—Medium C—Course
Ws—Weathered So—Sound

MATERIAL SYMBOLS



LEGEND OF PROBING

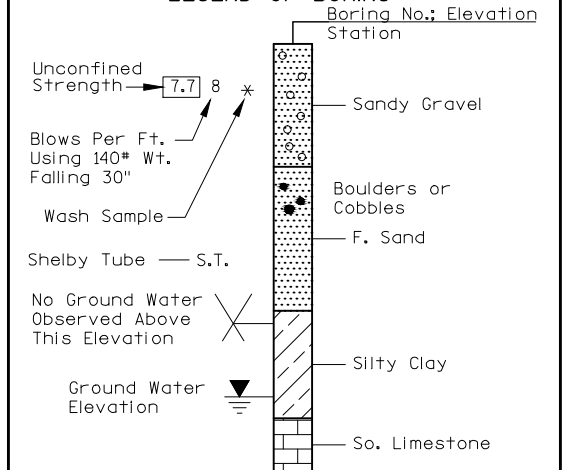
PROBING No.; Elevation
Station

95/6 = 96 Blows for
6" Penetration.
Probing Taken with
a 350# Weight
Falling 18" on a 2"
O.D. Point.

7 Average Blows Per Foot

Refusal 95/6

LEGEND OF BORING

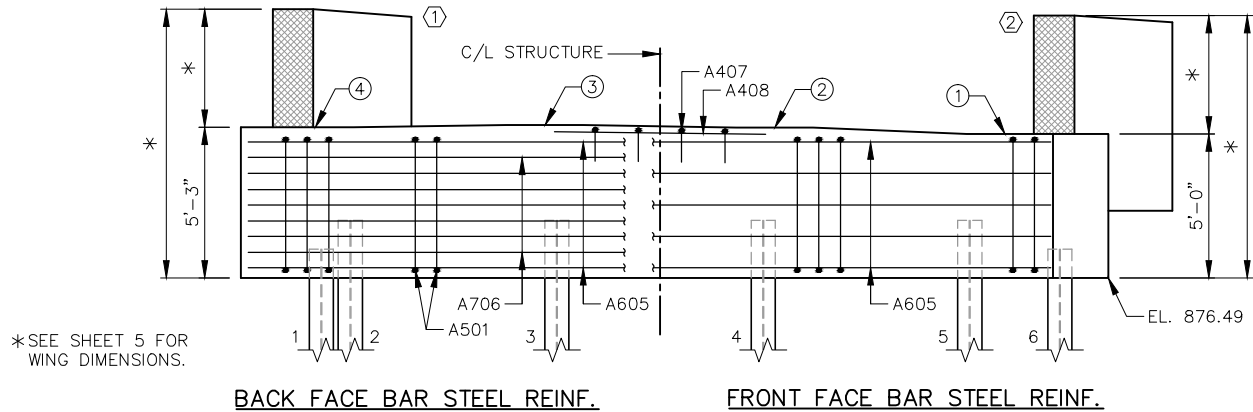


UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE 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-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
SUBSURFACE EXPLORATION		SHEET 3 OF 13	



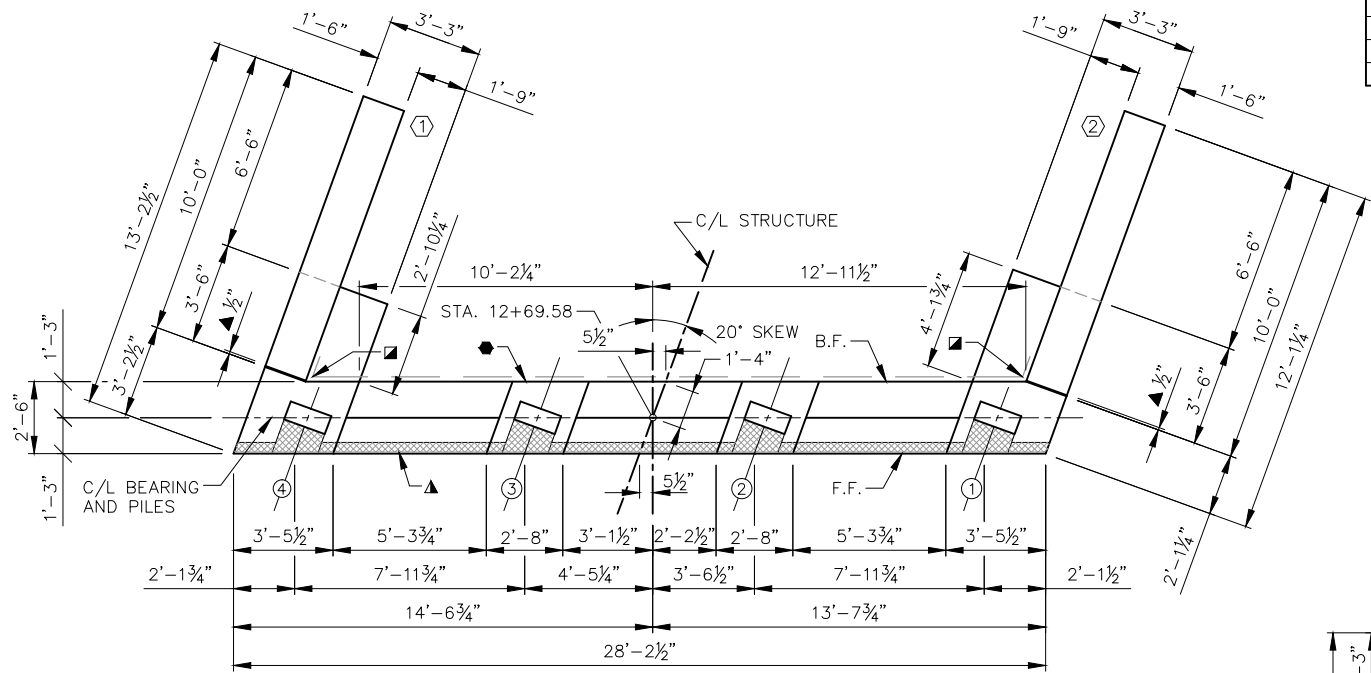
*SEE SHEET 5 FOR WING DIMENSIONS.

BACK FACE BAR STEEL REINF.

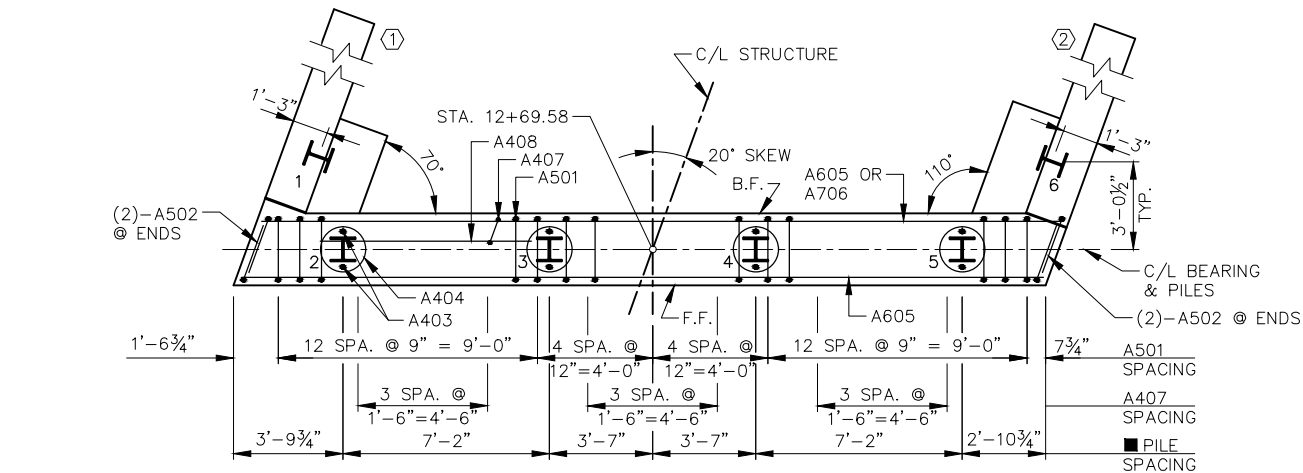
FRONT FACE BAR STEEL REINF.

ELEVATION

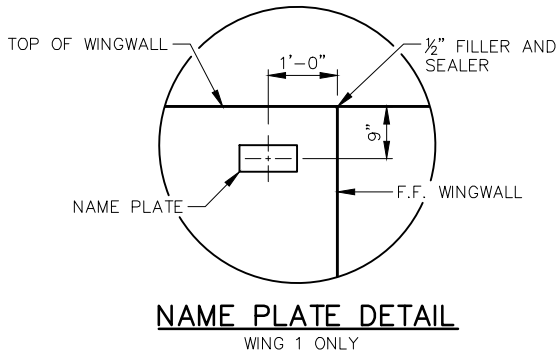
(WEST ABUTMENT LOOKING WEST)



PLAN



LAYOUT

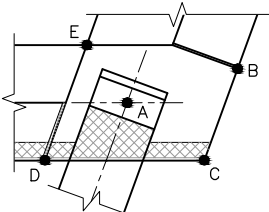


NAME PLATE DETAIL

WING 1 ONLY

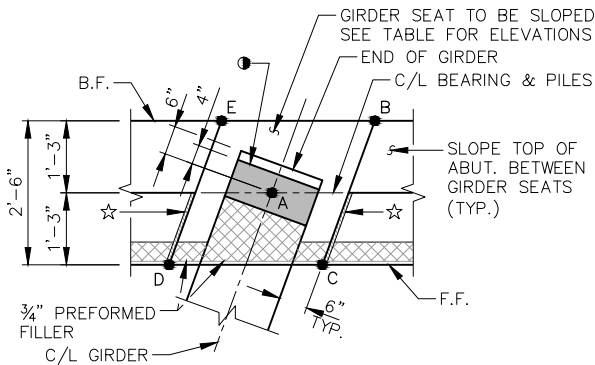
GIRDER SEAT ELEVATIONS

GIRDER NUMBER	POINT ON GIRDER SEAT				
	A	B	C	D	E
①	881.49	881.43	881.51	881.56	881.45
②	881.71	881.63	881.75	881.79	881.67
③	881.80	881.73	881.85	881.89	881.77
④	881.73	881.65	881.77	881.82	881.68

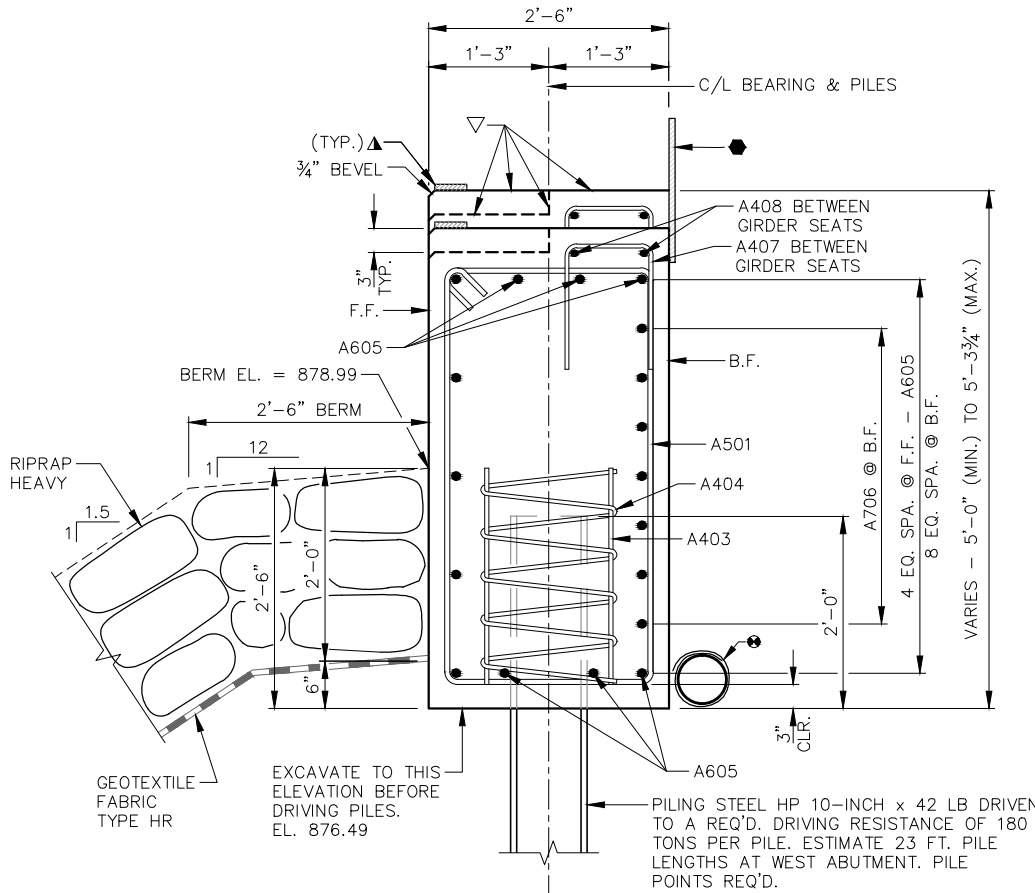


EXTERIOR GIRDER SEAT

GIRDER 1 SHOWN
GIRDER 4 SIMILAR



GIRDER SEAT DETAIL



TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ▲ 4"x3/4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK.
- ☆ 3/4" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- 1/2"x8"x1'-6" ELASTOMERIC BEARING PAD.
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE SHEET 2 FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 2. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ▽ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- INDICATES WING NUMBER.

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 5 FOR BILL OF BARS.

DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SPACE REINFORCEMENT TO MISS PILING.

F.F. - FRONT FACE

B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
WEST ABUTMENT			SHEET 4 OF 13

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

LEGEND

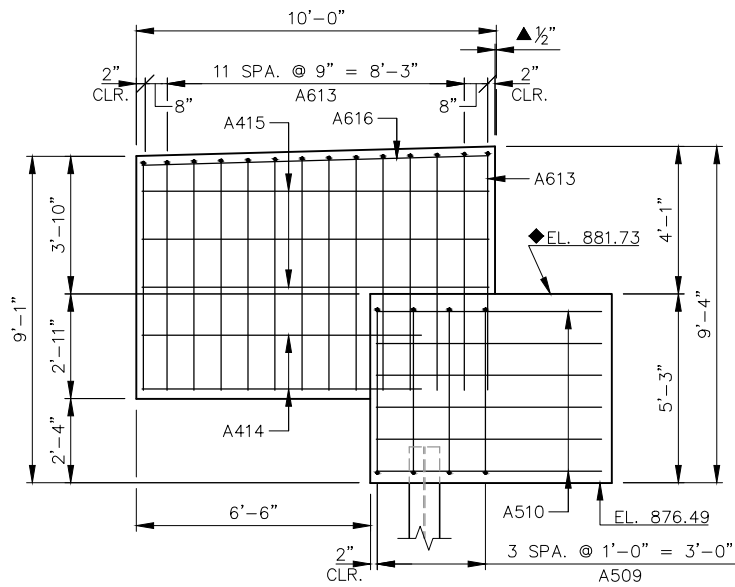
- OPTIONAL CONSTRUCTION JOINT. FORM KEYWAY WITH A BEVELED 2X6. PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE AND ¾" "V" GROOVE AT FRONT FACE IF USED.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ◇ FINISH TOP SURFACE. SLOPE SAME AS SUPERSTRUCTURE.
- ◆ SLOPED GIRDER SEAT. SEE SHEET 4 FOR ELEVATIONS.

BILL OF BARS
WEST ABUTMENT1.160 LB (COATED)
1.500 LB (UNCOATED)

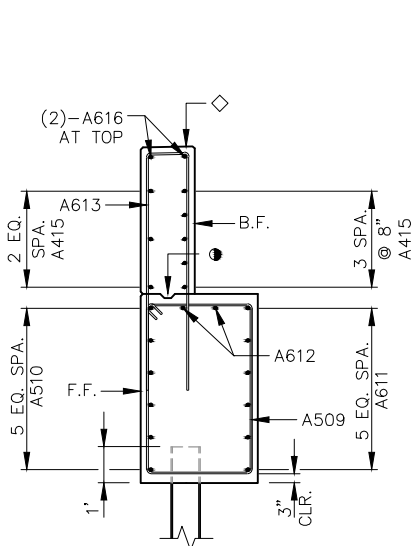
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
A501	34	14-0	X		BODY - VERT. - STIRRUP
A502	4	8-0	X		BODY - VERT. - STIRRUP AT ENDS
A403	8	2-3			BODY - VERT. - 2 PER PILE
A404	4	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
A605	11	27-10			BODY - HORIZ.
A706	7	27-10			BODY - HORIZ. - B.F.
A407	12	3-5	X		BODY - VERT. - TOP BETWEEN SEATS
A408	6	7-4			BODY - HORIZ. - TOP BETWEEN SEATS
A509	4	16-2	X	X	WING 1 - VERT. - STIRRUP
A510	6	6-3		X	WING 1 - HORIZ. - F.F.
A611	6	4-8		X	WING 1 - HORIZ. - B.F.
A612	2	5-4		X	WING 1 - HORIZ. - CENTER
A613	14	13-6	X	X	WING 1 - VERT. - TOP
A414	12	7-10		X	WING 1 & 2 - HORIZ. - BOTTOM
A415	16	9-7		X	WING 1 & 2 - HORIZ. - F.F. & B.F.
A616	4	9-7		X	WING 1 & 2 - HORIZ. - TOP
A517	4	15-8		X	WING 2 - VERT. - STIRRUP
A518	6	5-4		X	WING 2 - HORIZ. - F.F.
A619	6	5-8		X	WING 2 - HORIZ. - B.F.
A620	2	5-4		X	WING 2 - HORIZ. - CENTER
A621	14	13-10	X	X	WING 2 - VERT. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

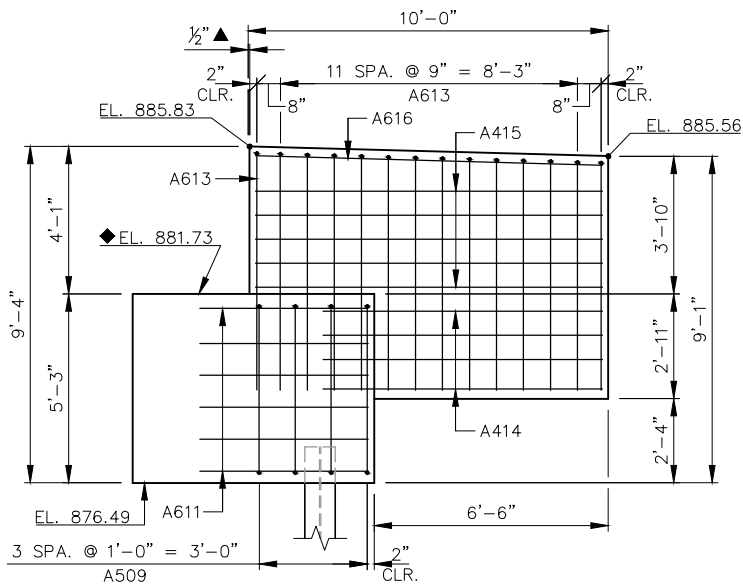
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



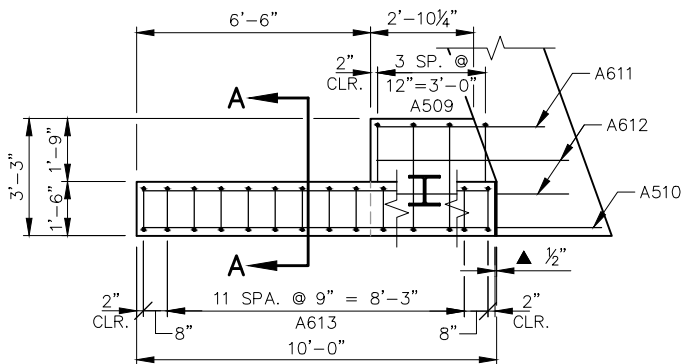
F.F. ELEVATION - WING 1



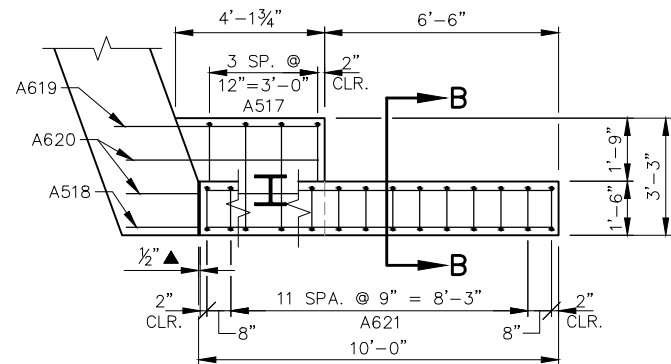
SECTION A-A



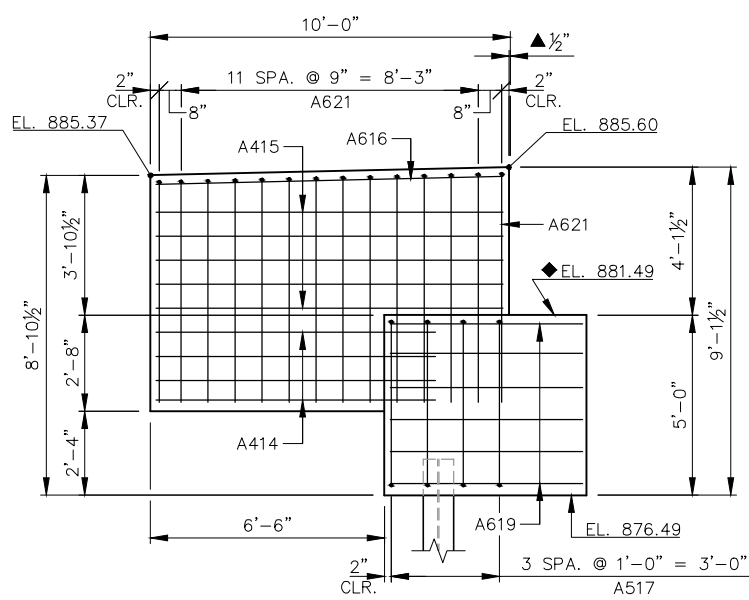
B.F. ELEVATION - WING 1



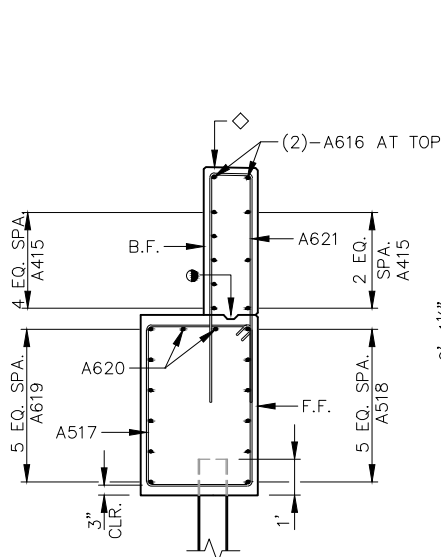
PLAN VIEW - WING 1



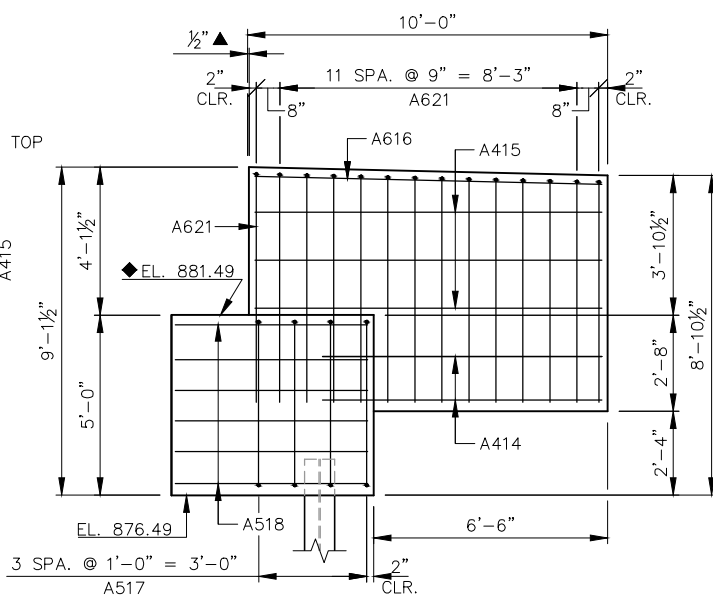
PLAN VIEW - WING 2



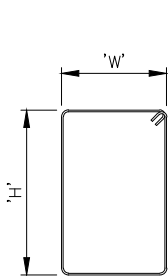
B.F. ELEVATION - WING 2



SECTION B-B

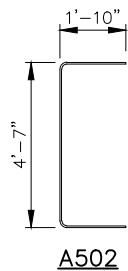


F.F. ELEVATION - WING 2

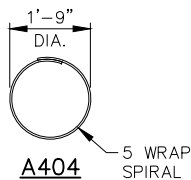


MARK	'W'	'H'
A501	2-2	4-7
A509	2-11	4-10
A517	2-11	4-7

A501, A509, A517

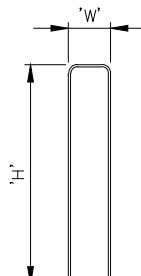


A502



A404

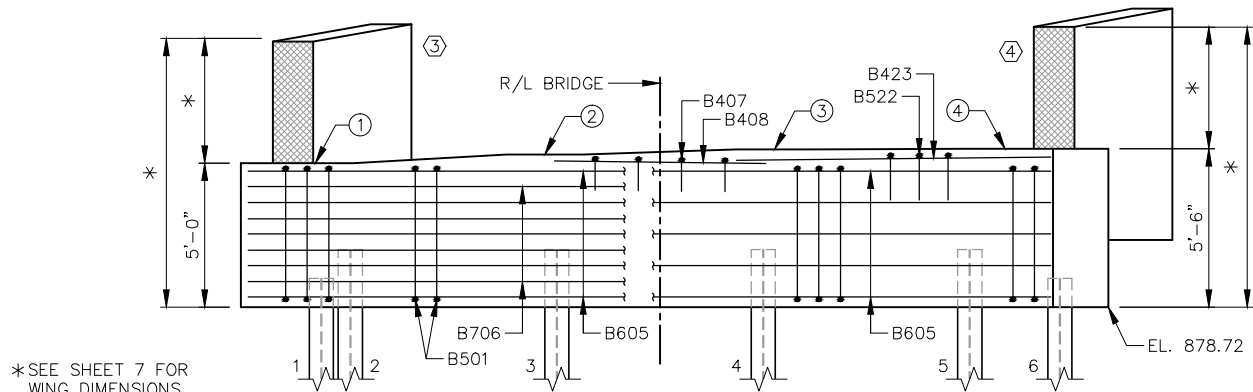
5 WRAP SPIRAL



MARK	'W'	'H'
A407	0-11	1-4
A613	1-2	6-4
A621	1-2	6-1

A407, A613, A621

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
WEST ABUTMENT DETAILS		SHEET 5 OF 13	

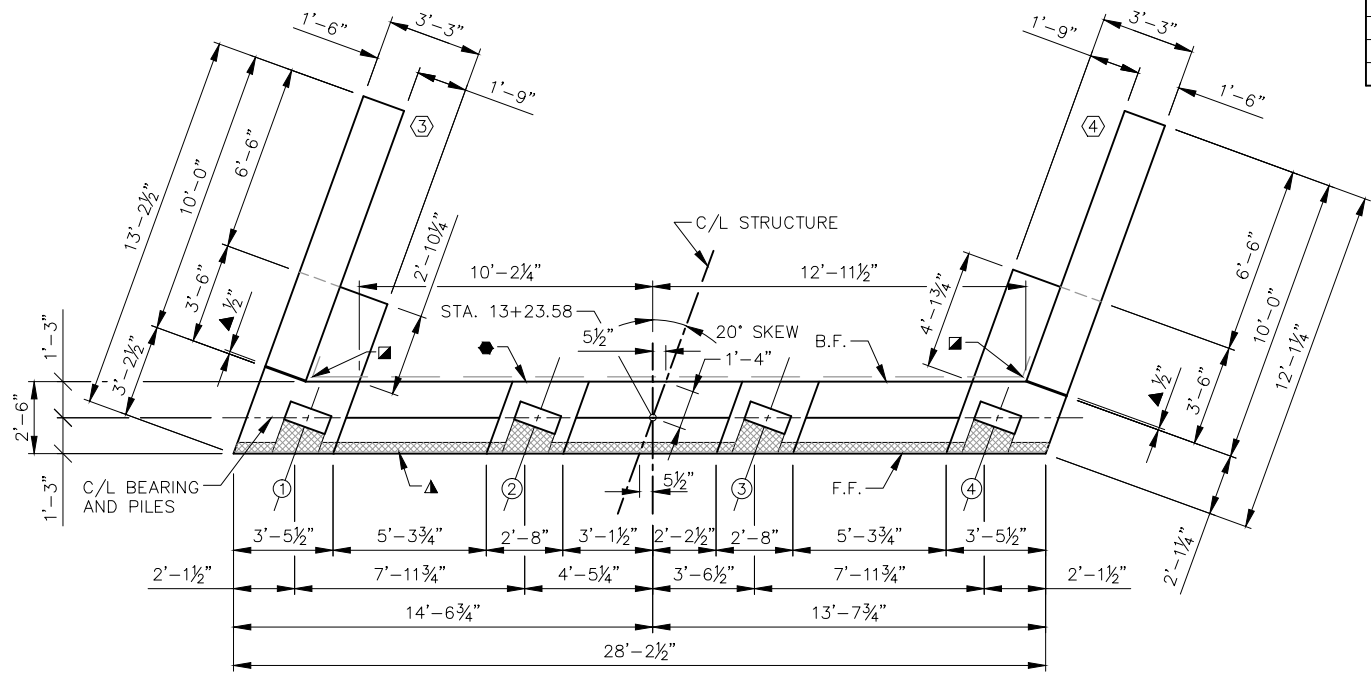


*SEE SHEET 7 FOR
WING DIMENSIONS.

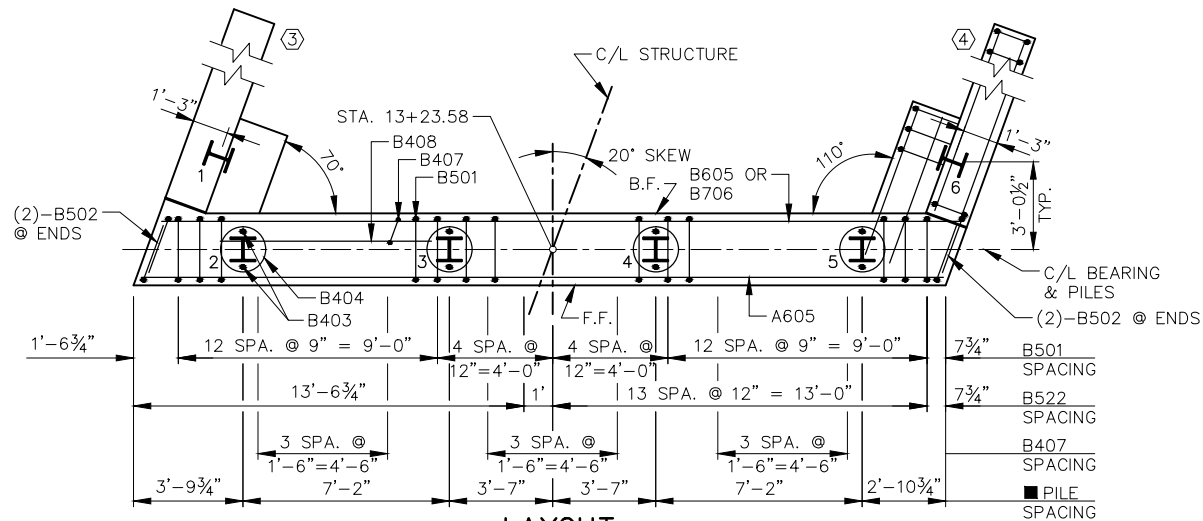
BACK FACE BAR STEEL REINF.

FRONT FACE BAR STEEL REINF.

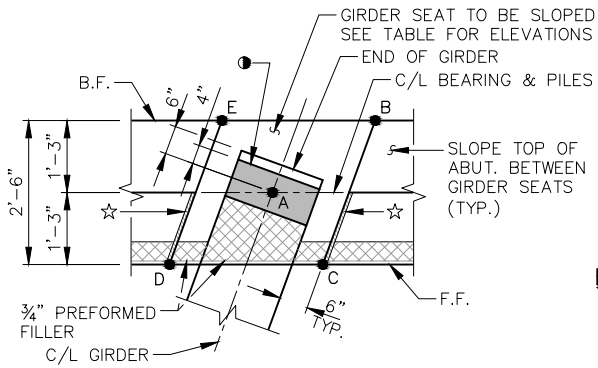
ELEVATION
(EAST ABUTMENT LOOKING EAST)



PLAN



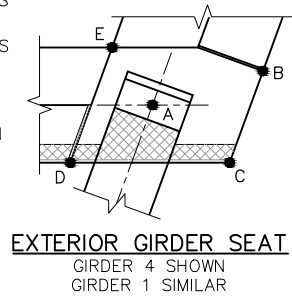
LAYOUT



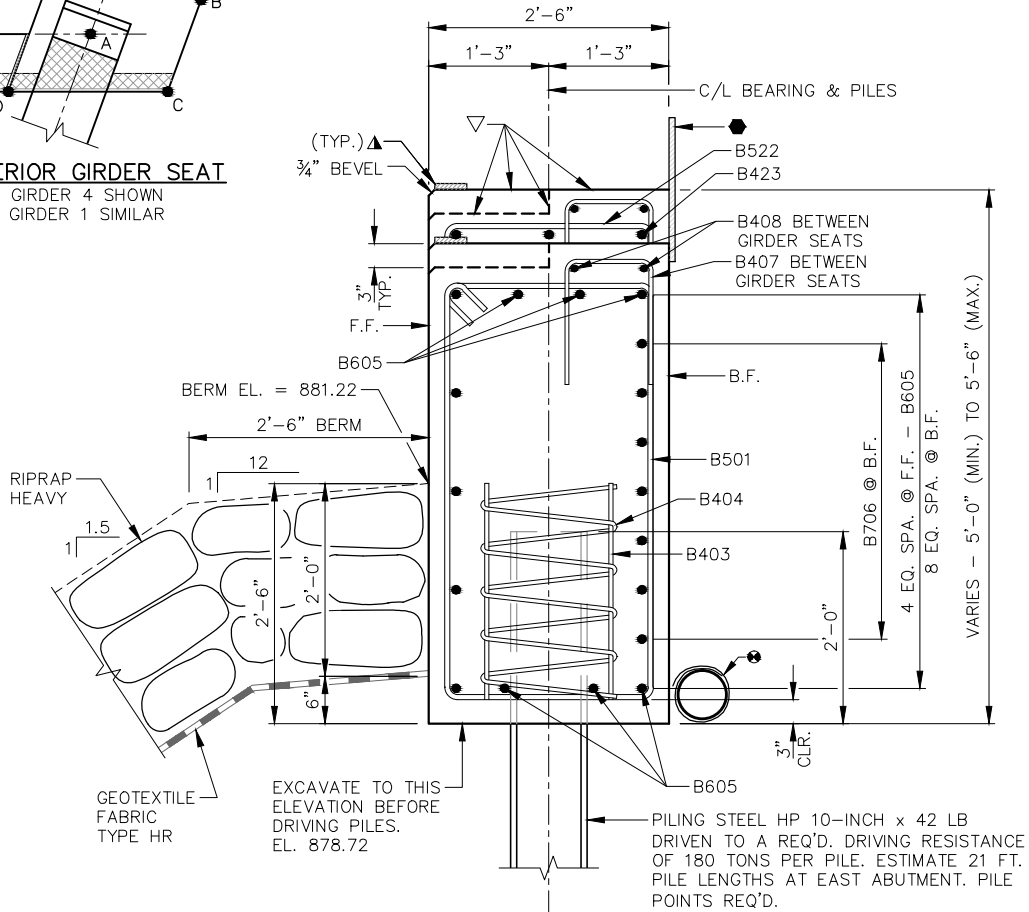
GIRDER SEAT DETAIL

GIRDER SEAT ELEVATIONS

GIRDER NUMBER	POINT ON GIRDER SEAT				
	A	B	C	D	E
①	883.72	883.79	883.68	883.64	883.77
②	884.02	884.10	883.98	883.94	884.06
③	884.20	884.28	884.16	884.12	884.24
④	884.22	884.29	884.19	884.14	884.26



EXTERIOR GIRDER SEAT
GIRDER 4 SHOWN
GIRDER 1 SIMILAR



TYPICAL SECTION THROUGH ABUTMENT BODY

LEGEND

- 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING. AT WINGWALLS EXTEND FROM 9" BELOW BRIDGE SEAT TO 1" BELOW TOP OF WINGS.
- ▲ 1/2" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE)
- ▲ 4"x3/4" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF DECK.
- ☆ 3/4" CORK FILLER ON VERTICAL GIRDER SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- 1/2"x8"x1'-6" ELASTOMERIC BEARING PAD.
- PILE SPACING MEASURED AT BASE OF ABUTMENT BODY.
- PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPED 0.5% MIN. TO SUITABLE DRAINAGE. SEE SHEET 2 FOR DETAILS. ATTACH RODENT SCREEN AT EXPOSED ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 4. RODENT SCREEN TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".
- ▽ STEEL TROWEL ENTIRE TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- INDICATES WING NUMBER.

NOTES

- SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 7 FOR BILL OF BARS.
- DO NOT PLACE FILL HIGHER THAN 3 FEET FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.
- SPACE REINFORCEMENT TO MISS PILING.
- F.F. - FRONT FACE
- B.F. - BACK FACE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
EAST ABUTMENT			SHEET 6 OF 13

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE THIS SHEET FOR BILL OF BARS.

LEGEND

- OPTIONAL CONSTRUCTION JOINT. FORM KEYWAY WITH A BEVELED 2X6. PLACE 18" RUBBERIZED MEMBRANE WATERPROOFING AT BACK FACE AND ¾" "V" GROOVE AT FRONT FACE IF USED.
- ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ◇ FINISH TOP SURFACE. SLOPE SAME AS SUPERSTRUCTURE.
- ◆ SLOPED GIRDER SEAT. SEE SHEET 6 FOR ELEVATIONS.

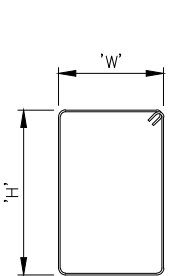
BILL OF BARS
WEST ABUTMENT

1,300 LB (COATED)
1,530 LB (UNCOATED)

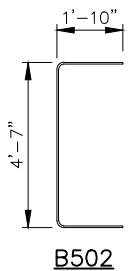
BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
B501	34	14-0	X		BODY - VERT. - STIRRUP
B502	4	8-0	X		BODY - VERT. - STIRRUP AT ENDS
B403	8	2-3			BODY - VERT. - 2 PER PILE
B404	4	28-0	X		BODY - VERT. - SPIRAL - 1 PER PILE
B605	11	27-10			BODY - HORIZ.
B706	7	27-10			BODY - HORIZ. - B.F.
B407	12	3-5	X		BODY - VERT. - TOP BETWEEN SEATS
B408	6	7-4			BODY - HORIZ. - TOP BETWEEN SEATS
B509	4	15-8	X	X	WING 3 - VERT. - STIRRUP
B510	6	6-3	X	X	WING 3 - HORIZ. - F.F.
B611	6	4-8		X	WING 3 - HORIZ. - B.F.
B612	2	5-4		X	WING 3 - HORIZ. - CENTER
B613	12	14-2	X	X	WING 3 - VERT. - TOP
B414	14	7-10		X	WING 3 & 4 - HORIZ. - BOTTOM
B415	18	9-7		X	WING 3 & 4 - HORIZ. - F.F. & B.F.
B616	4	9-7		X	WING 3 & 4 - HORIZ. - TOP
B517	4	16-8		X	WING 4 - VERT. - STIRRUP
B518	6	5-4		X	WING 4 - HORIZ. - F.F.
B619	6	5-8		X	WING 4 - HORIZ. - B.F.
B620	2	5-4		X	WING 4 - HORIZ. - CENTER
B621	12	15-4	X	X	WING 4 - VERT. - TOP
B522	14	5-0	X		BODY - VERT. - TOP
B423	3	14-9			BODY - HORIZ. - TOP

NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

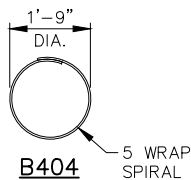
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



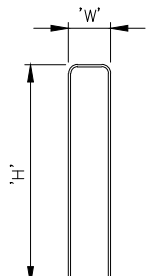
B501, B509, B517



B502



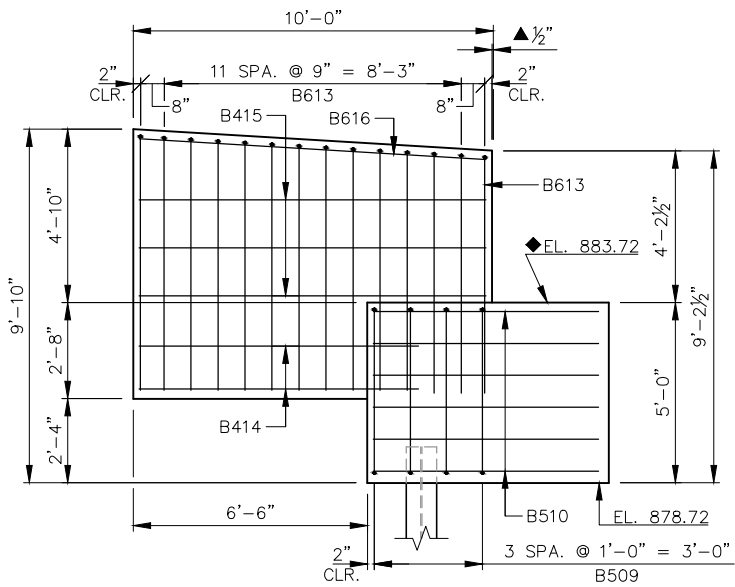
B404



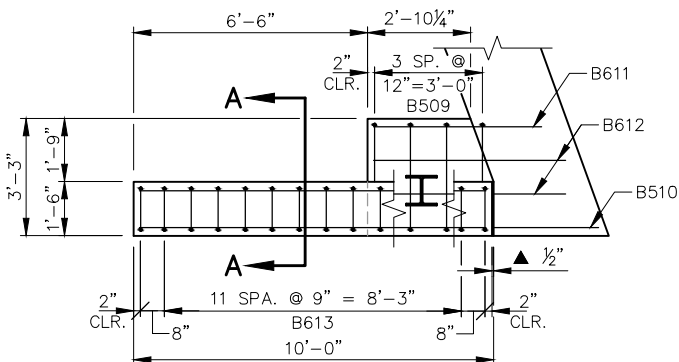
B407, B613, B621, B522

MARK	'W'	'H'
B407	0-11	1-4
B613	1-2	6-4
B621	1-2	6-1
B522	2-2	1-6

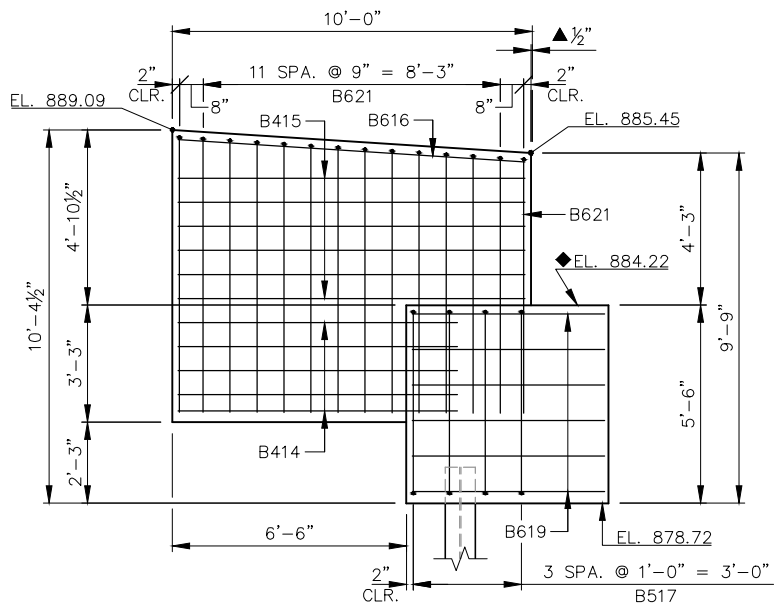
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
EAST ABUTMENT DETAILS			SHEET 7 OF 13



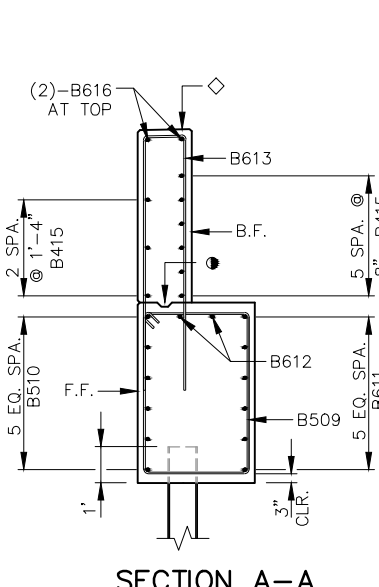
F.F. ELEVATION - WING 3



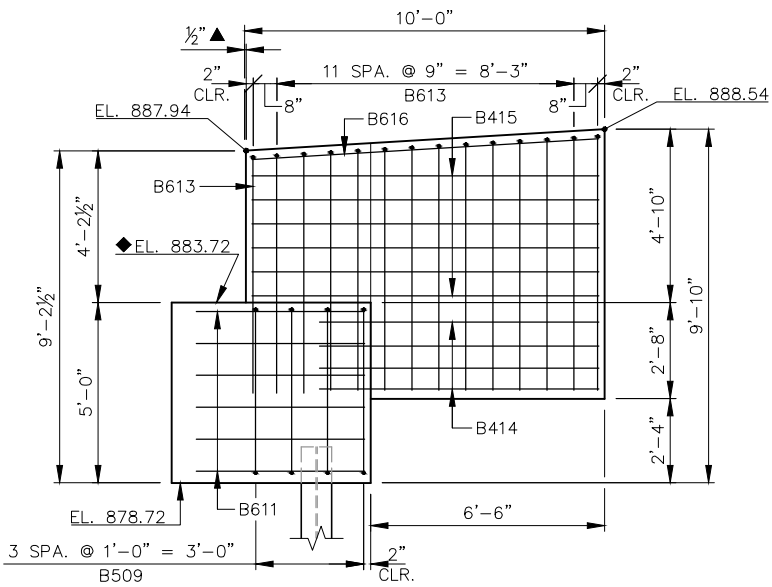
PLAN VIEW - WING 3



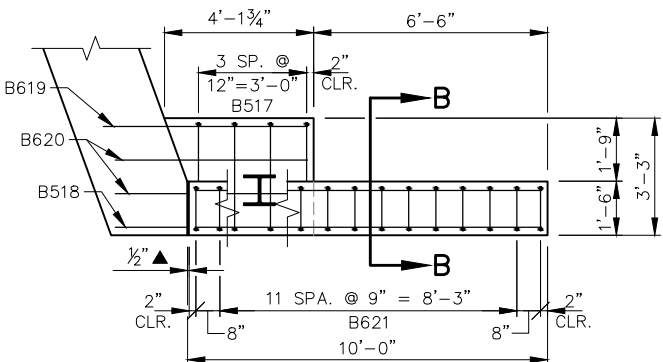
B.F. ELEVATION - WING 4



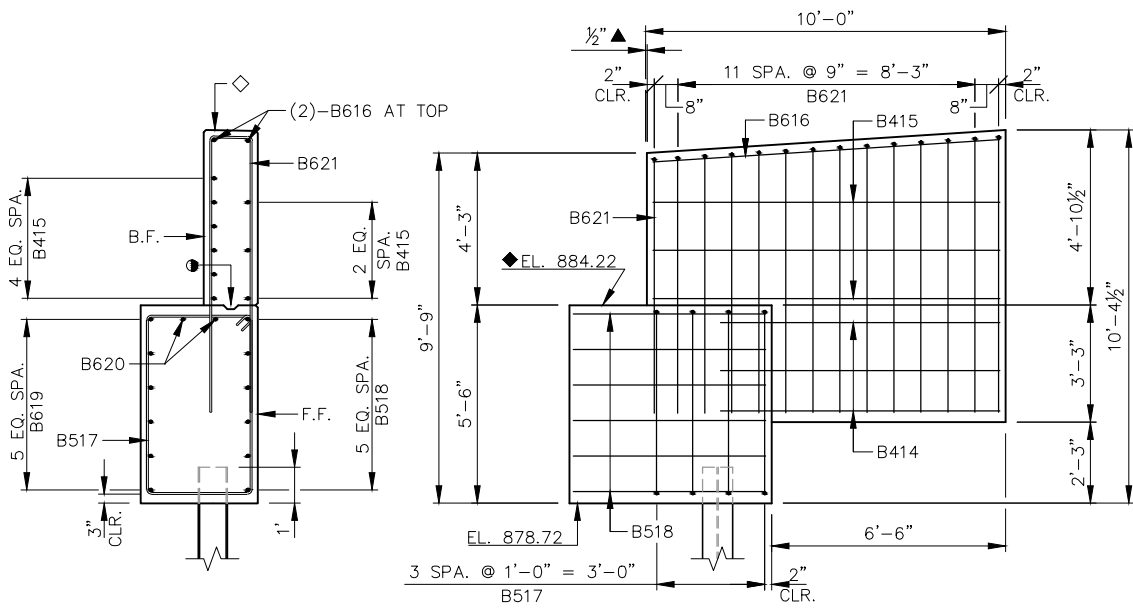
SECTION A-A



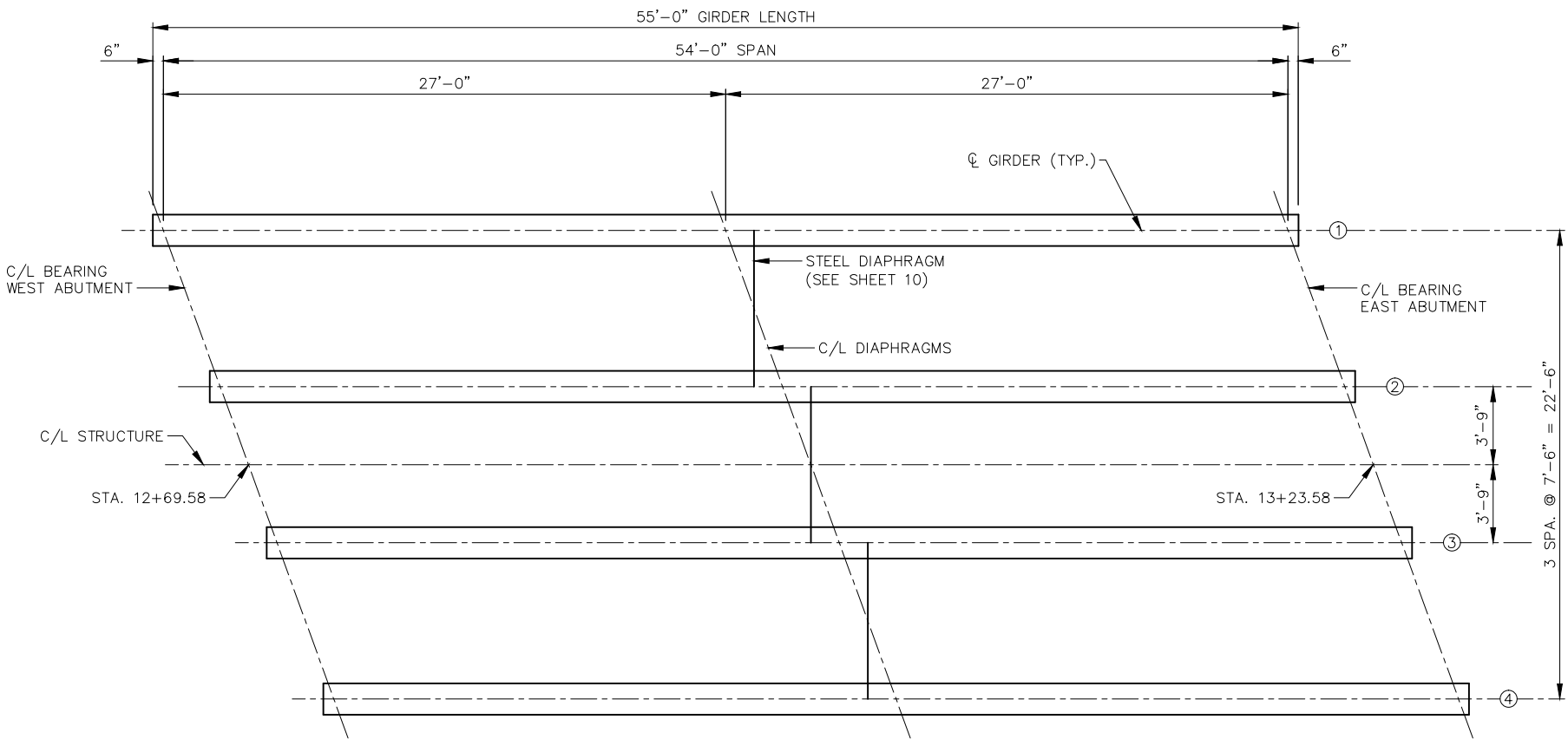
B.F. ELEVATION - WING 3



PLAN VIEW - WING 4



F.F. ELEVATION - WING 4



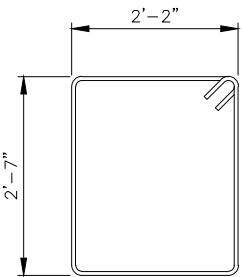
GIRDER LAYOUT

BILL OF BARS
SUPERSTRUCTURE

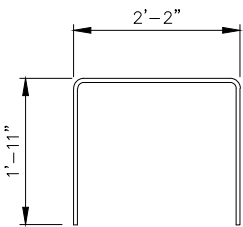
11,990 LB (COATED)

BAR MARK	NO. REQ'D.	LENGTH	BENT	COAT	LOCATION
S501	62	10-0	X	X	ABUT. DIAPHRAGM - VERT.
S502	62	5-9	X	X	ABUT. DIAPHRAGM - VERT. - TOP
S603	4	1-0		X	ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S604	12	1-3		X	ABUT. DIAPHRAGM - HORIZ. - FRONT - ENDS
S605	6	6-0		X	ABUT. DIAPHRAGM - HORIZ. - FRONT
S606	36	6-6		X	ABUT. DIAPHRAGM - HORIZ. - FRONT
S607	12	27-10		X	ABUT. DIAPHRAGM - HORIZ. - BACK
S408	12	5-0		X	ABUT. DIAPHRAGM - HORIZ. - BOT.
S409	36	3-9	X	X	ABUT. DIAPHRAGM - VERT. - BOT.
S510	16	6-0		X	ABUT. DIAPHRAGM - GIRDER WEB
S511	193	27-10		X	DECK - TOP & BOT. - TRANSVERSE
S412	150	29-0		X	DECK - TOP & BOT. - LONGITUDINAL
S613	36	12-0	X	X	DECK - RAIL POSTS
S614	64	6-0		X	DECK - RAIL POSTS - INTERIOR
S615	4	12-0	X	X	DECK - RAIL POSTS - ENDS
S616	16	5-4	X	X	DECK - RAIL POSTS - ENDS

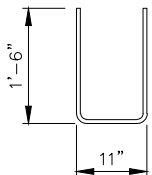
NOTES: THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



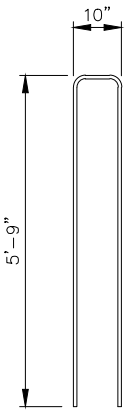
S501



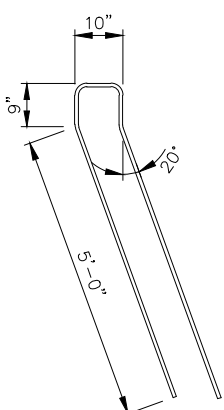
S502



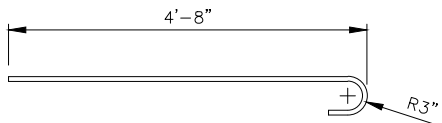
S409



S613



S615



S616

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
GIRDER LAYOUT		SHEET 8 OF 13	

GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 2" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 2" OF THE TOP FLANGE.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL BE 0.6-INCH DIAMETER 7-WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270 KSI.

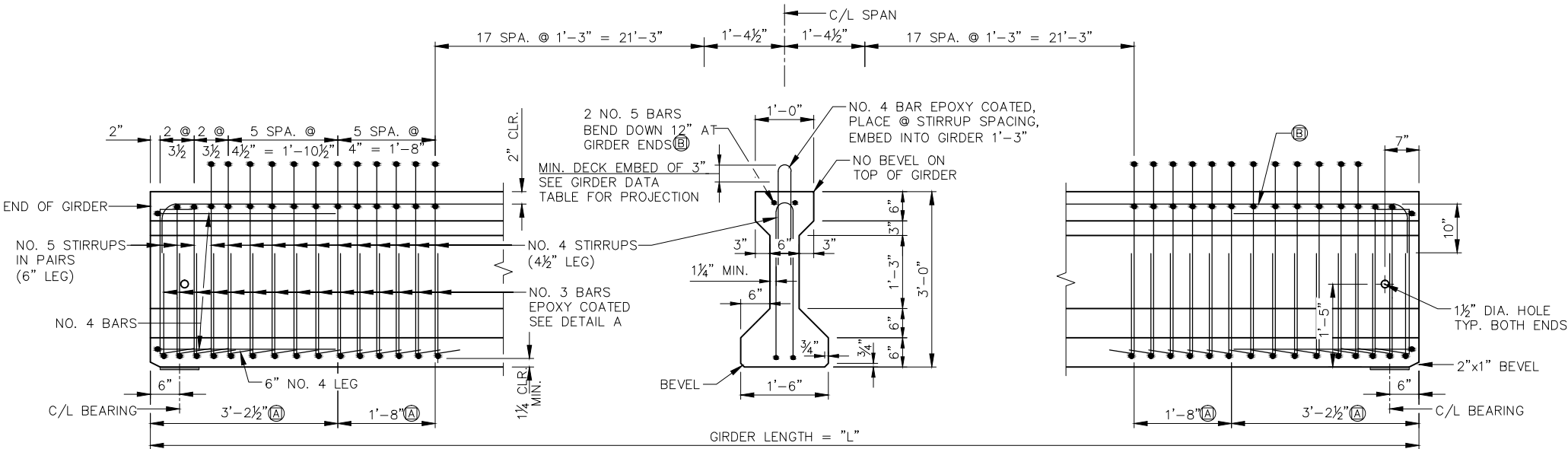
STRANDS SHALL BE FLUSH WITH THE ENDS OF THE GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINEOUS JOINT SEALER.

SPACING SHOWN FOR NO. 4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

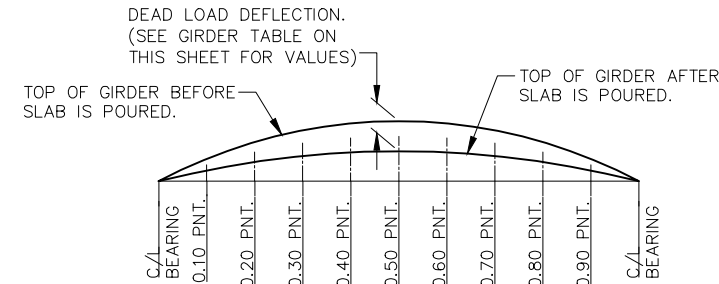
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHEET 10.

DATA SHOWN IN DEFLECTION DATA IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

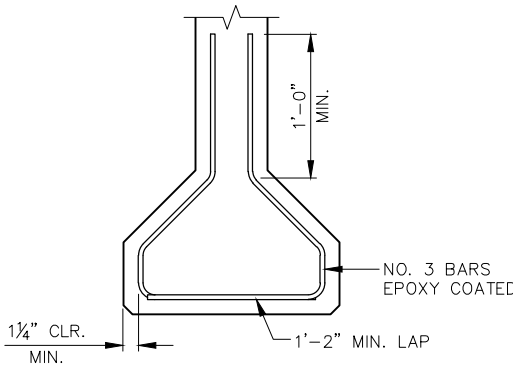


36-INCH GIRDER - SIDE VIEW & TYP. SECTION IN SPAN

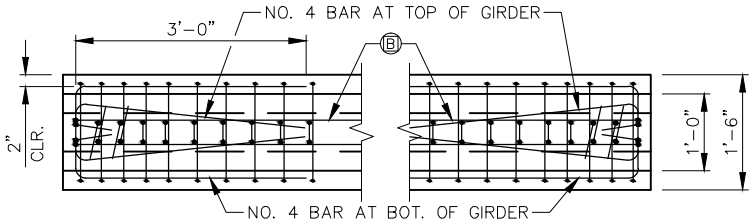
(A) DETAIL TYP. AT EACH END



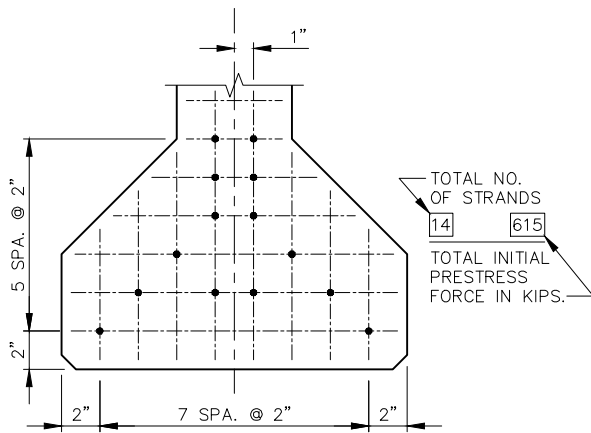
DEAD LOAD DEFLECTION DIAGRAM



DETAIL A



TOP VIEW OF GIRDER ENDS

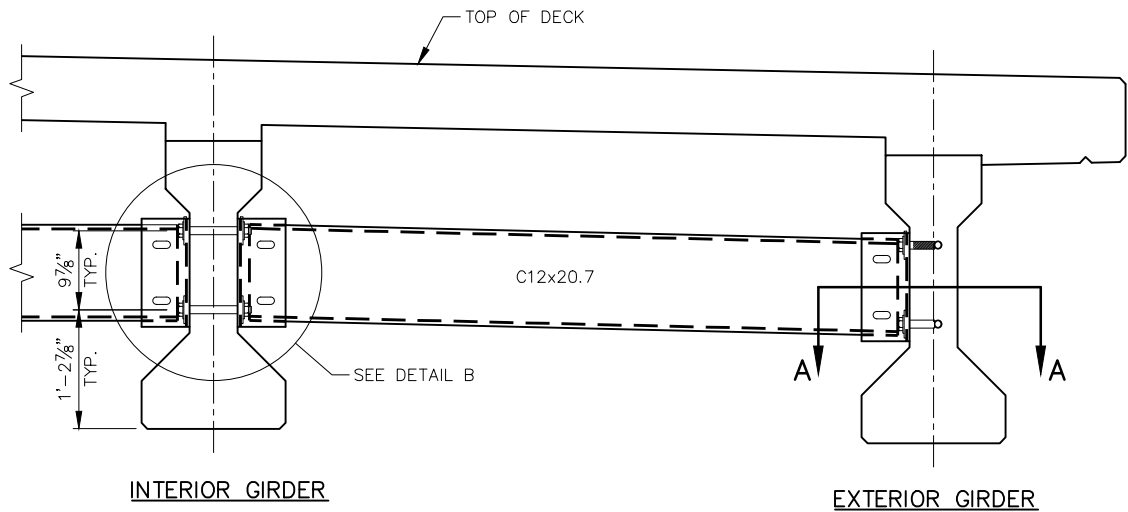


TYP. STRAND PATTERN

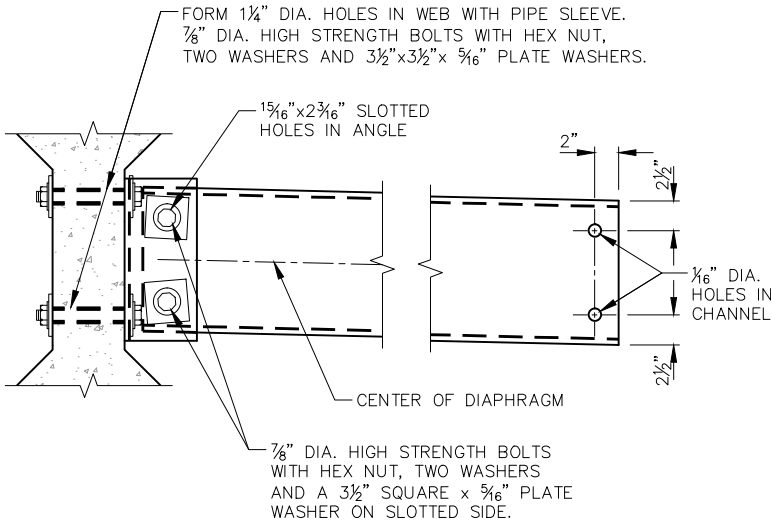
GIRDER DATA											STIRRUP PROJECTION "P"			DIA. OF STRAND (IN.)	Ⓟ NO. 5 "B" BARS MAY BE SPLICED, USE 44" MIN. LAP.								
GIRDER LENGTH "L"	QUANT.	DEAD LOAD DEFLECTION													CONC. STRENGTH f'c Ksi	DRAPED PATTERN				UNDRAPED PATTERN		GIRDER NO.	
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	TOTAL NO. OF STRANDS	f'ci Ksi *	(INCHES) "A" "B" "B" "C" MIN. MAX.				TOTAL NO. OF STRANDS	f'ci Ksi *					
55'-0"	4	1/8"	1/4"	3/8"	1/2"	1/2"	1/2"	3/8"	1/4"	1/8"	8	8"	6"	8"	0.6	--	--	--	--	--	14	6.8	1-4

* MIN. CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

NO.	DATE	REVISION	BY
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STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
36-INCH PRESTRESSED GIRDER DETAILS		SHEET 9 OF 13	



PART TRANSVERSE SECTION AT DIAPHRAGM



DETAIL B
(FOR STAGGERED DIAPHRAGMS)

GIRDER NOTES

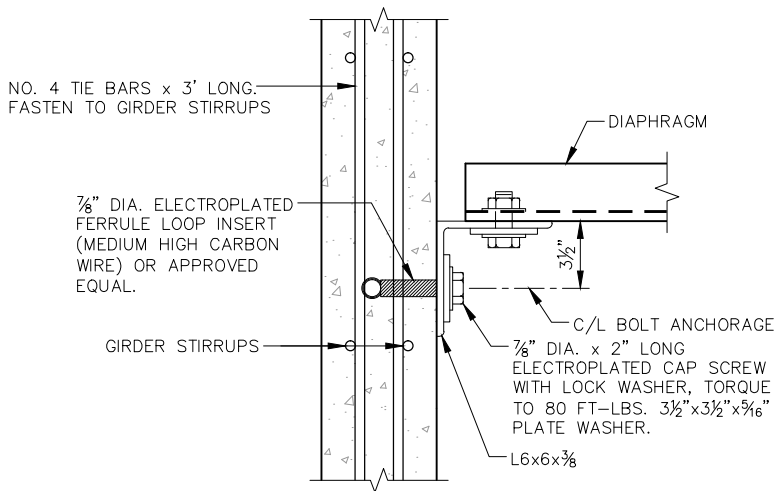
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-22-0283", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

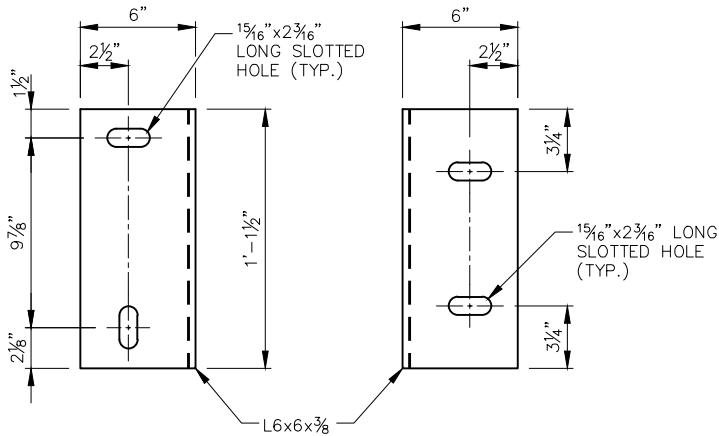
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS, AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

PLACE ONE DIAPHRAGM AT MID-LENGTH OF GIRDER AS INDICATED ON SHEET 8.



SECTION A-A
(FOR EXTERIOR ATTACHMENT)



GIRDER FACE DIAPHRAGM FACE

DIAPHRAGM SUPPORT

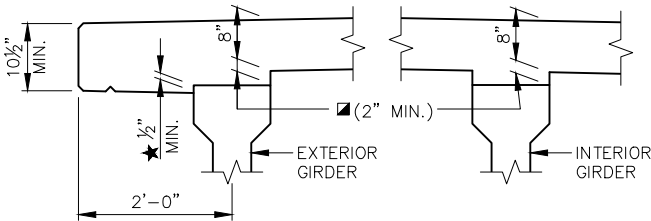
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
STEEL DIAPHRAGM		SHEET 10 OF 13	

NOTES

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

T.D. - TOP OF DECK
T.G. - TOP OF GIRDER

ELEVATIONS SHOWN AT THE TOP OF GIRDER ARE FOR THE MATERIAL AS ERECTED.



IF 2" MINIMUM HAUNCH HEIGHT "■" CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. MAXIMUM HAUNCH HEIGHT EQUALS "STIRRUP PROJECTION" MINUS 3".

TO DETERMINE "■" (AFTER GIRDERS ARE IN PLACE):
OBTAIN THE ELEVATIONS OF THE TOP OF GIRDER AT THE C/L OF SUBSTRUCTURE UNITS AND AT EACH ¼ POINT FOR EVERY GIRDER AND ALL SPANS, THEN PROCEED WITH THE PROCESS SHOWN BELOW.

TOP OF DECK ELEVATION AT THE FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT "■"

NOTE: AN AVERAGE HAUNCH "■" OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

★SLAB THICKNESS SHALL BE INCREASED AS NECESSARY TO CONCEAL INTERSECTION OF SLAB AND TOP OF GIRDER AT ALL FACIA GIRDERS.

SLAB HAUNCH DETAIL

ELEVATIONS AT TOP OF DECK

GIRDER LINE		C/L BRG. W. ABUT.	0.10 PT.	0.20 PT.	0.30 PT.	0.40 PT.	0.50 PT.	0.60 PT.	0.70 PT.	0.80 PT.	0.90 PT.	C/L BRG. E. ABUT.
N. EDGE	T.D.	885.58	885.73	885.89	886.08	886.27	886.48	886.71	886.96	887.22	887.50	887.79
①	T.D.	885.64	885.79	885.96	886.14	886.34	886.55	886.79	887.03	887.30	887.58	887.88
①	T.G.	884.53										886.76
②	T.D.	885.87	886.02	886.20	886.39	886.60	886.82	887.06	887.32	887.59	887.88	888.18
②	T.G.	884.75										887.06
C/L	T.D.	885.98	886.14	886.32	886.51	886.73	886.95	887.20	887.46	887.73	888.03	888.34
③	T.D.	885.94	886.11	886.29	886.49	886.71	886.94	887.19	887.45	887.73	888.03	888.34
③	T.G.	884.84										887.24
④	T.D.	885.88	886.05	886.24	886.45	886.67	886.91	887.17	887.44	887.73	888.04	888.36
④	T.G.	884.77										887.26
S. EDGE	T.D.	885.86	886.04	886.23	886.44	886.66	886.91	887.16	887.44	887.73	888.04	888.36

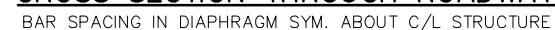
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
SUPERSTRUCTURE		SHEET 11 OF 13	



BAR SPACING IN DIAPHRAGM SYM. ABOUT C/L STRUCTURE

SOME BARS HAVE BEEN OMITTED FOR CLARITY. SEE SHEET 8 FOR BILL OF BARS.

- 18" RUBBERIZED MEMBRANE WATERPROOFING (HORIZONTAL)
- ☆ ½" NON-LAMINATED ELASTOMERIC BEARING PAD AND ¾" PREFORMED FILLER.
- ▲ 4"x¾" PREFORMED FILLER, EXTEND FULL LENGTH OF ABUTMENTS BETWEEN EDGES OF SLAB.
- ◇ (1) 1½" DIAMETER HOLE IN WEB FOR (2) S510 HORIZONTAL BARS. BARS TO BE PLACED SYMMETRICAL ABOUT C/L OF GIRDERS. FIELD BEND BARS ALONG SKEW.
- ⊗ MEASURED PARALLEL TO C/L OF ROADWAY.
- * DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE.

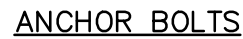


- ① W6x25 WITH $1\frac{1}{2}" \times 1\frac{1}{2}"$ HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE $1\frac{1}{2}" \times 11\frac{3}{4}" \times 1'-8"$ WITH $1\frac{1}{16}" \times 1\frac{1}{16}"$ SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 - $1\frac{1}{2}"$ DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS $> 16"$ USE 1'-3" LONG. USE $10\frac{3}{4}"$ LONG AT ALL OTHER LOCATIONS.
- ④ $\frac{5}{8}" \times 11" \times 1'-8"$ ANCHOR PLATE (GALVANIZED) WITH $1\frac{3}{16}"$ DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TSS 5x4x $\frac{1}{4}$ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TSS 5x5x $\frac{1}{4}$ STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥ $\frac{7}{8}"$ DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, $\frac{3}{16}" \times 1\frac{1}{16}" \times 1\frac{1}{16}"$ WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION).
- ⑦ $\frac{1}{2}"$ THK. BACK-UP PLATE WITH 2 - $\frac{7}{8}" \times 1\frac{1}{2}"$ THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- ⑧ 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR $\frac{7}{8}"$ DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- ⑨ SPLICE SLEEVE FABRICATED FROM $\frac{1}{4}"$ PLATE. PROVIDE "SLIDING FIT".
- ⑩ $\frac{3}{8}" \times 3\frac{3}{8}" \times 2'-4"$ PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A $\frac{3}{8}" \times 2\frac{5}{8}" \times 2'-4"$ PLATE USED IN NO. 5, $\frac{3}{8}" \times 3\frac{3}{8}" \times 2'-4"$ PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪ $\frac{7}{8}"$ DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE $1\frac{1}{16}" \times 1\frac{1}{4}"$ LONGIT. SLOTTED HOLES AT FIELD JOINTS AND $1\frac{1}{16}" \times 2\frac{1}{4}"$ MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- ⑫ $\frac{7}{8}"$ DIA. BY $1\frac{1}{2}"$ LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬ $\frac{3}{8}" \times 8" \times 1'-6"$ PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭ $\frac{7}{8}"$ DIA. $\times 2"$ LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1" DIA. HOLES IN TUBES NO. 5A FOR $\frac{7}{8}"$ A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

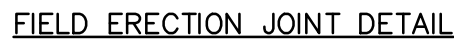
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B--22--0283" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY=50 KSI. ANCHOR PLATES AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL $\frac{1}{8}$ TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).



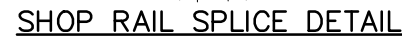
TYPICAL RAIL TO POST CONNECTIONS



ANCHOR BOLTS



FIELD ERECTION JOINT DETAIL

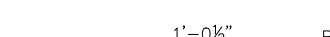
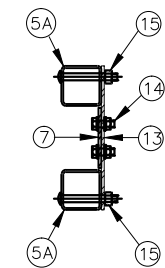


SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE
SHOWN ON SHOP DRAWINGS)



TOP VIEW AT END POST
(THRIE BEAM RAIL ATTACHMENT)



1'-0 1/2"



PART ELEVATION OF RAILING



ELEVATION AT WING 1



SECTION THRU RAILING ON DECK



SECTION A-A



ANCHOR PLATE
AT BEAM GUARD ATTACHMENT

AT BEAM GUARD ATTACHMENT



EDGE OF PLATE (7)
AND FLANGE OF (1)



ANCHOR PLATE
AT RAIL TO DECK CONNECTION

AT RAIL TO DECK CONNECTION



POST SHIM
DETAIL



BACK-UP PLATE DETAIL

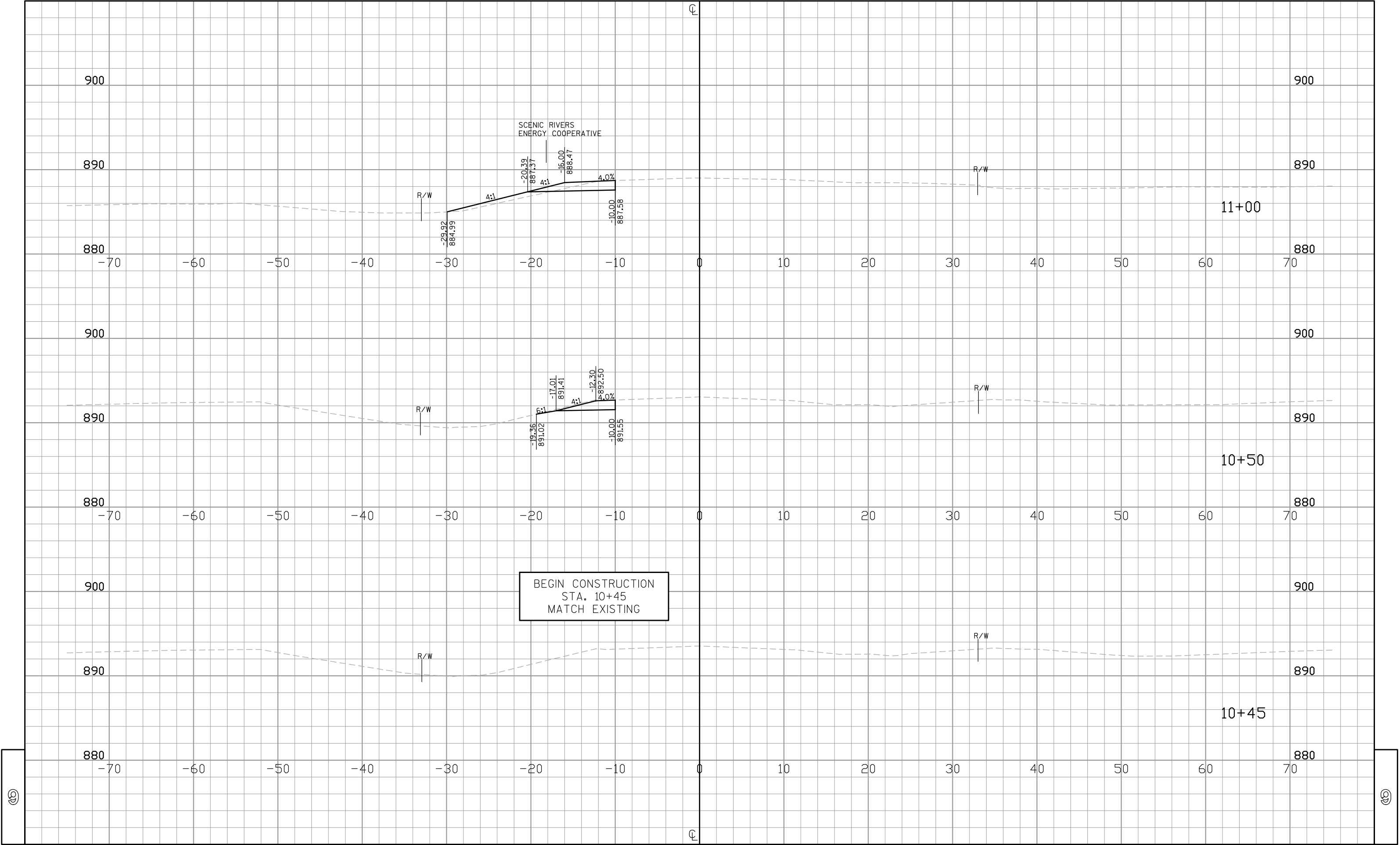
AT BEAM GUARD ATTACHMENT

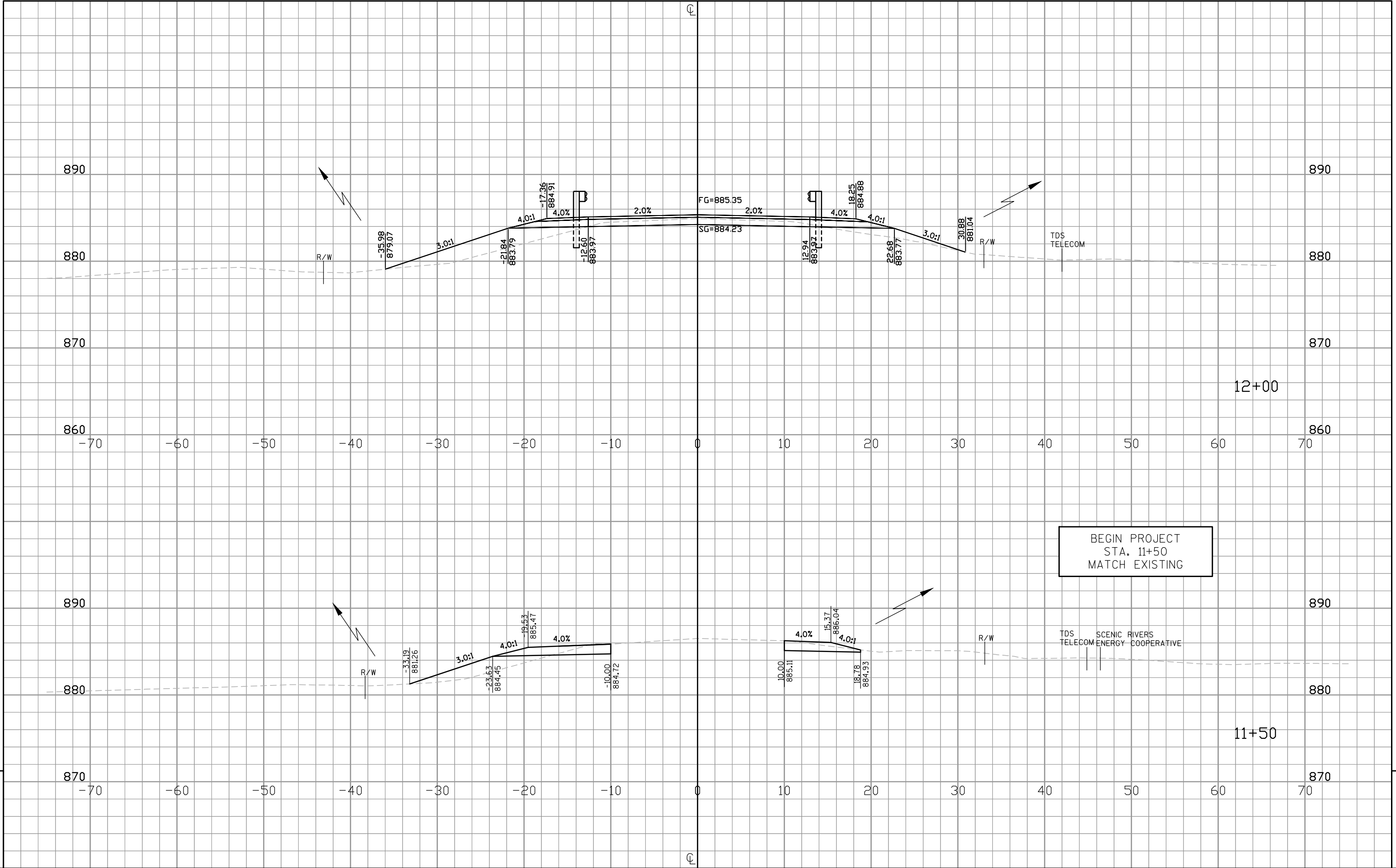
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-22-0283			
DRAWN BY		PTB	PLANS CK'D. RBH
TUBULAR RAILING TYPE M		SHEET 13 OF 13	

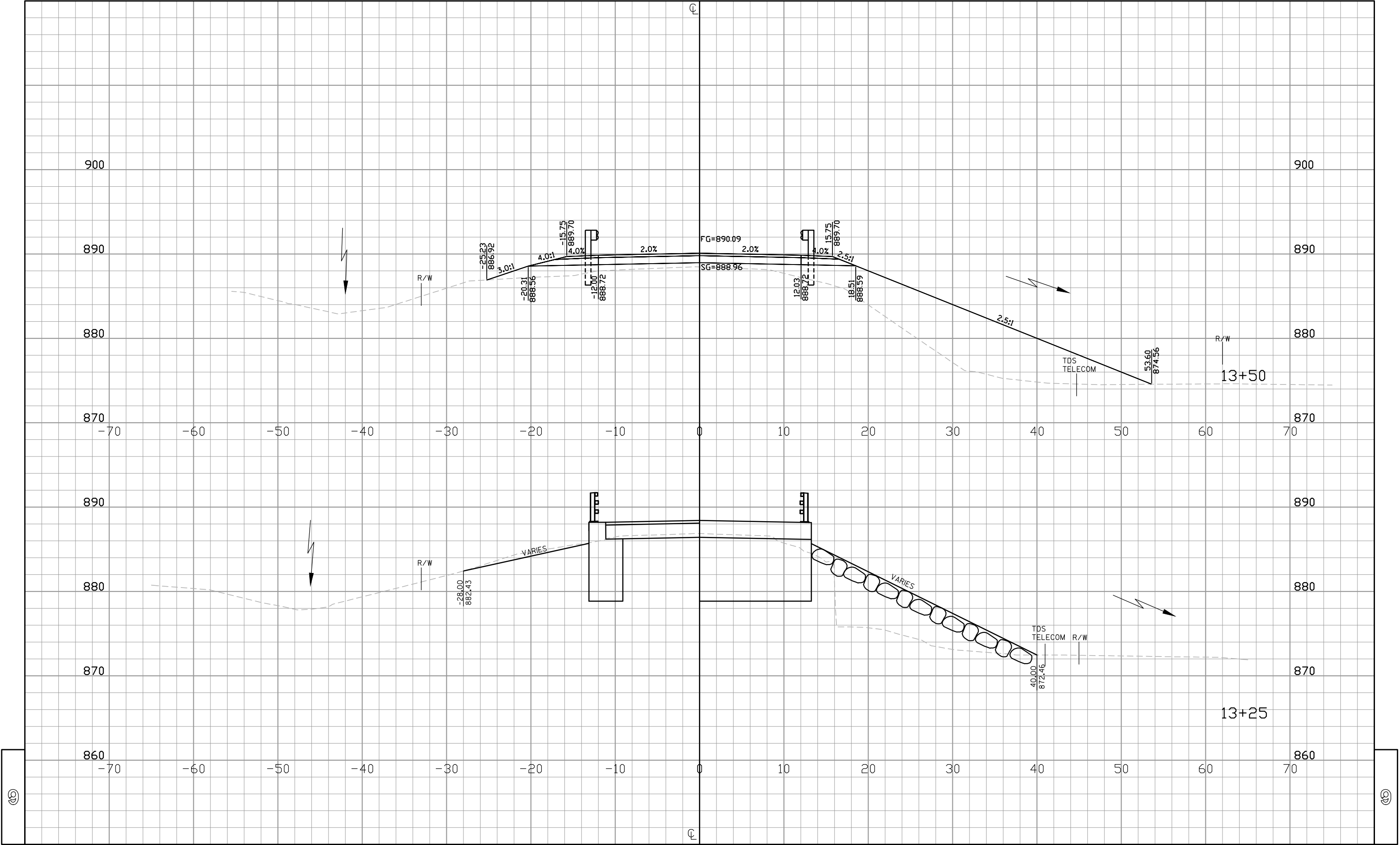
EARTHWORK-MAINLINE

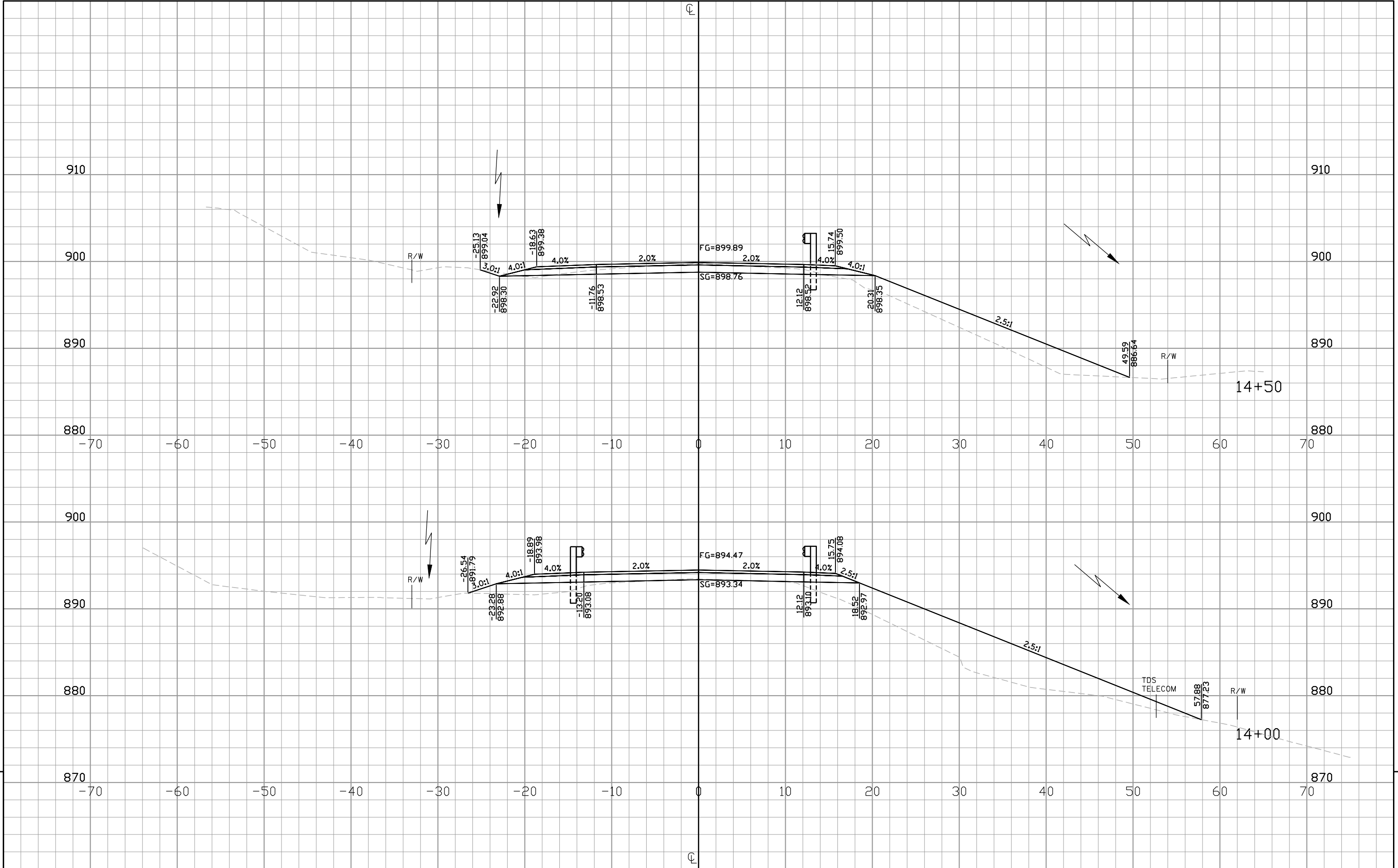
STATION	AREA (SF)					INCREMENTAL VOL (CY)								CUMMULATIVE VOLUME (CY)							
						SALVAGED/ UNUSABLE		REDUCED MARSH IN FILL		FILL	SELECT CRUSHED MATERIAL		EBS	CUT 1.00		REDUCED MARSH IN FILL		FILL	SELECT CRUSHED MATERIAL		MASS ORDINATE
	CUT	PAV'T MATERIAL	FILL	MARSH EX	EBS	CUT NOTE 1	PAV'T MATERIAL NOTE 2	FILL NOTE 3	MARSH EX	NOTE 4 (0.6)	(25%)	(1.5)		NOTE 1	FILL	EX	NOTE 4 (0.6)	NOTE 5 (25%)	(1.5)	EBS	
10+45	6	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
10+50	6	0	2	0	0	9	0	4	0	0	5	0	0	10	4	0	0	5	0	0	5
11+00	5	0	20	0	0	13	0	35	0	0	45	0	0	23	39	0	0	50	0	0	-27
11+50	11	0	50	0	0	0	0	39	0	0	50	0	0	23	78	0	0	100	0	0	-77
11+50	29	0	28	0	0	0	0	0	0	0	0	0	0	23	78	0	0	100	0	0	-77
12+00	15	0	40	0	0	42	0	63	0	0	78	0	0	65	141	0	0	178	0	0	-113
12+50	0	0	92	0	0	14	0	124	0	0	153	0	0	79	265	0	0	331	0	0	-252
12+68	0	0	92	0	0	0	0	61	0	0	76	0	0	79	326	0	0	407	0	0	-328
12+68	0	0	0	0	0	0	0	0	0	0	0	0	0	79	326	0	0	407	0	0	-328
13+00	0	0	0	0	0	0	0	0	0	0	0	0	0	79	326	0	0	407	0	0	-328
13+25	0	0	0	0	0	0	0	0	0	0	0	0	0	79	326	0	0	407	0	0	-328
13+25	0	0	205	0	0	0	0	0	0	0	0	0	0	79	326	0	0	407	0	0	-328
13+50	0	0	205	0	0	0	0	190	0	0	238	0	0	79	516	0	0	645	0	0	-566
14+00	1	0	138	0	0	1	0	319	0	0	398	0	0	80	835	0	0	1043	0	0	-963
14+50	29	0	44	0	0	29	0	169	0	0	211	0	0	109	1004	0	0	1254	0	0	-1145
14+80	29	0	0	0	0	34	0	25	0	0	31	0	0	143	1029	0	0	1285	0	0	-1142
14+80	16	0	44	0	0	0	0	0	0	0	0	0	0	143	1029	0	0	1285	0	0	-1142
15+00	14	0	2	0	0	15	0	24	0	0	31	0	0	158	1053	0	0	1316	0	0	-1158
15+50	14	0	0	0	0	38	0	3	0	0	4	0	0	196	1056	0	0	1320	0	0	-1124
15+55	12	0	0	0	0	4	0	0	0	0	0	0	0	200	1056	0	0	1320	0	0	-1120

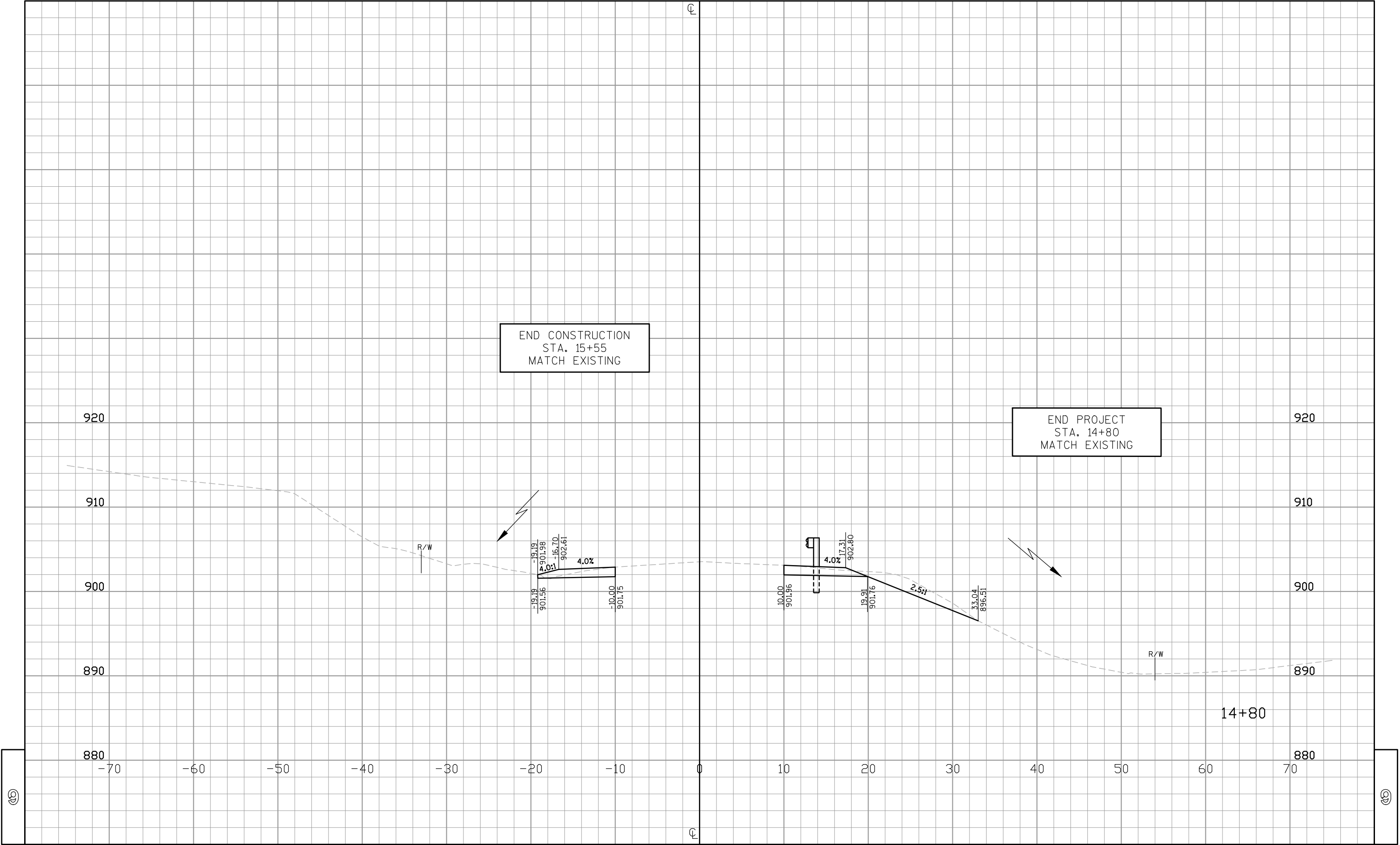
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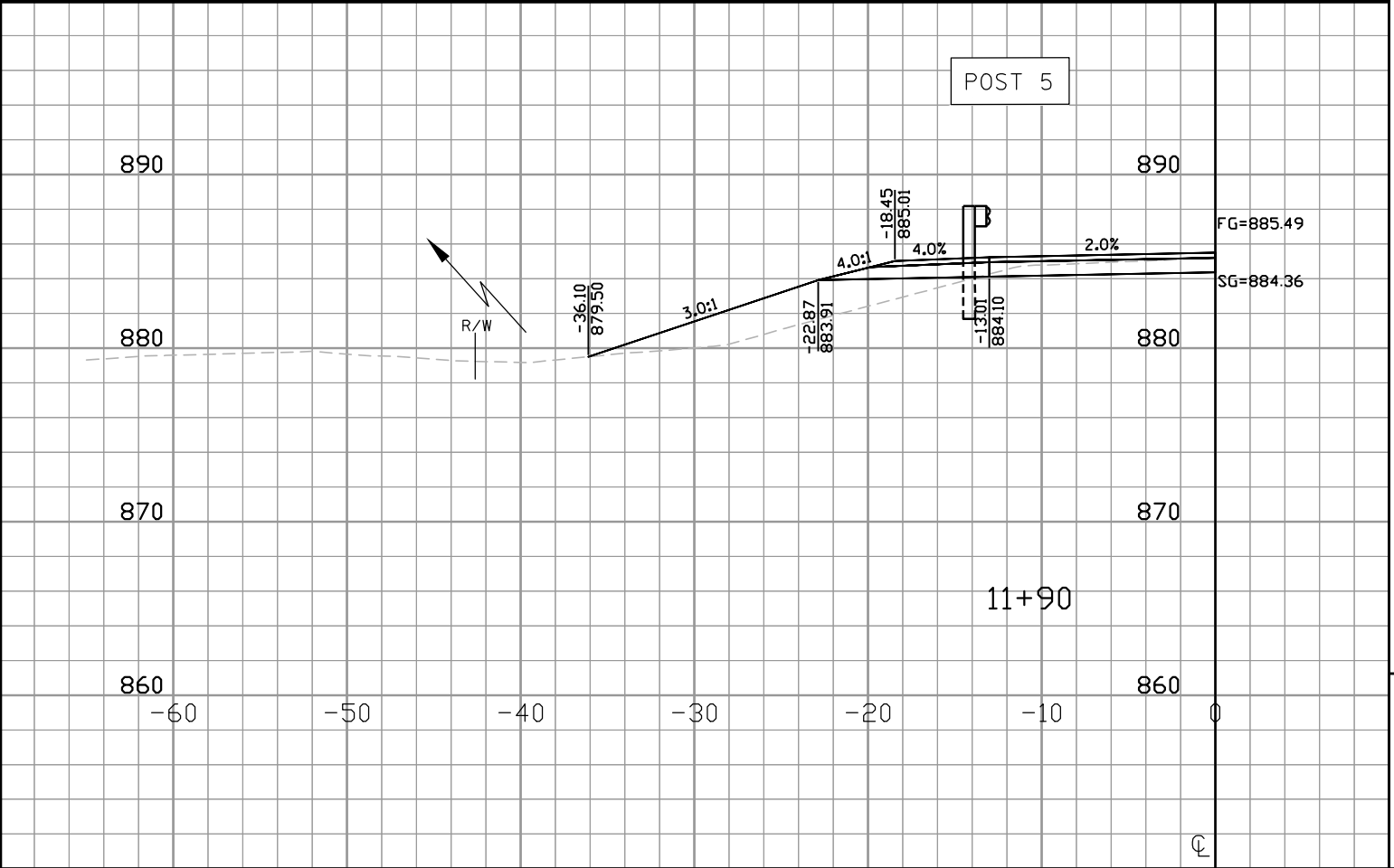
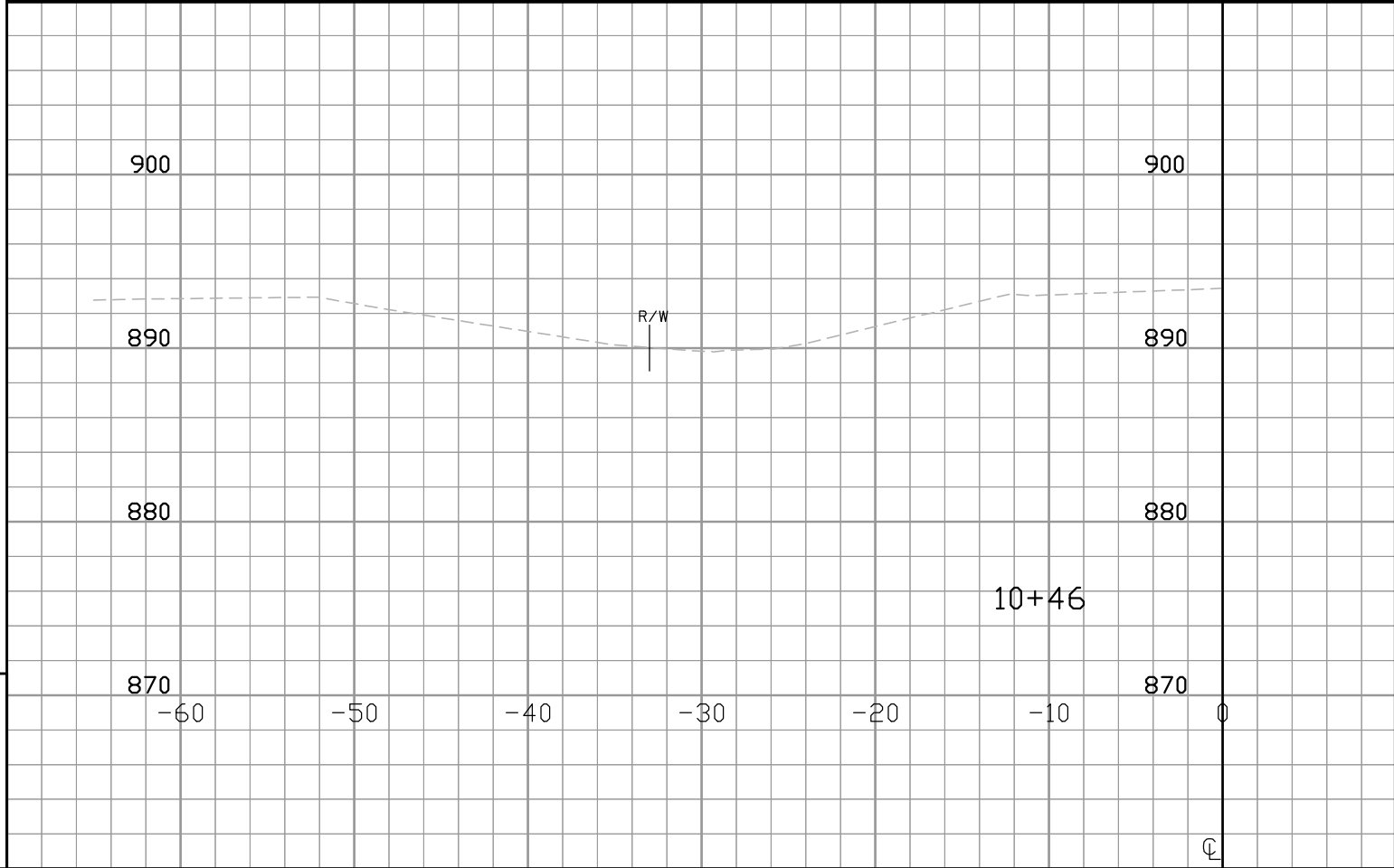
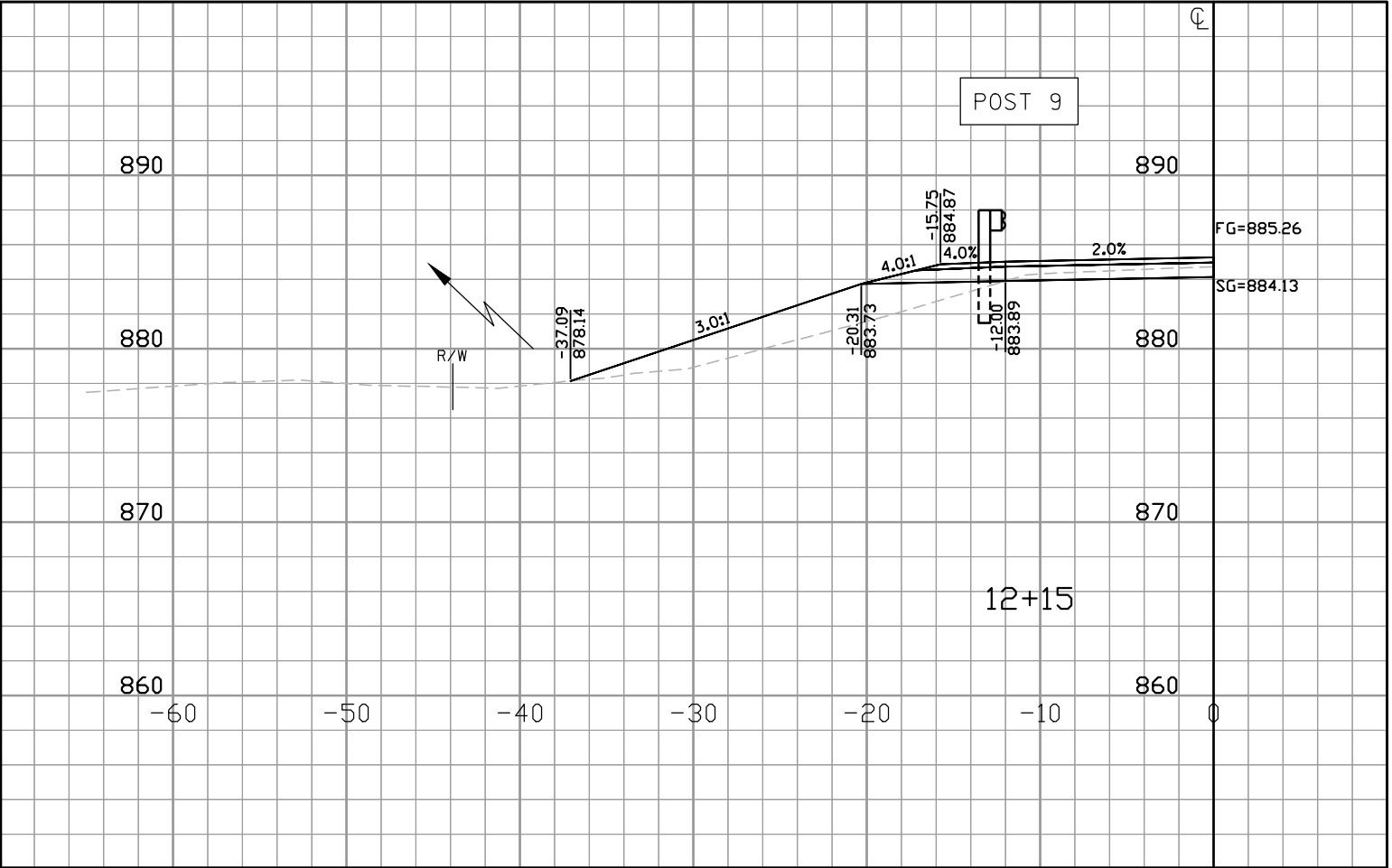
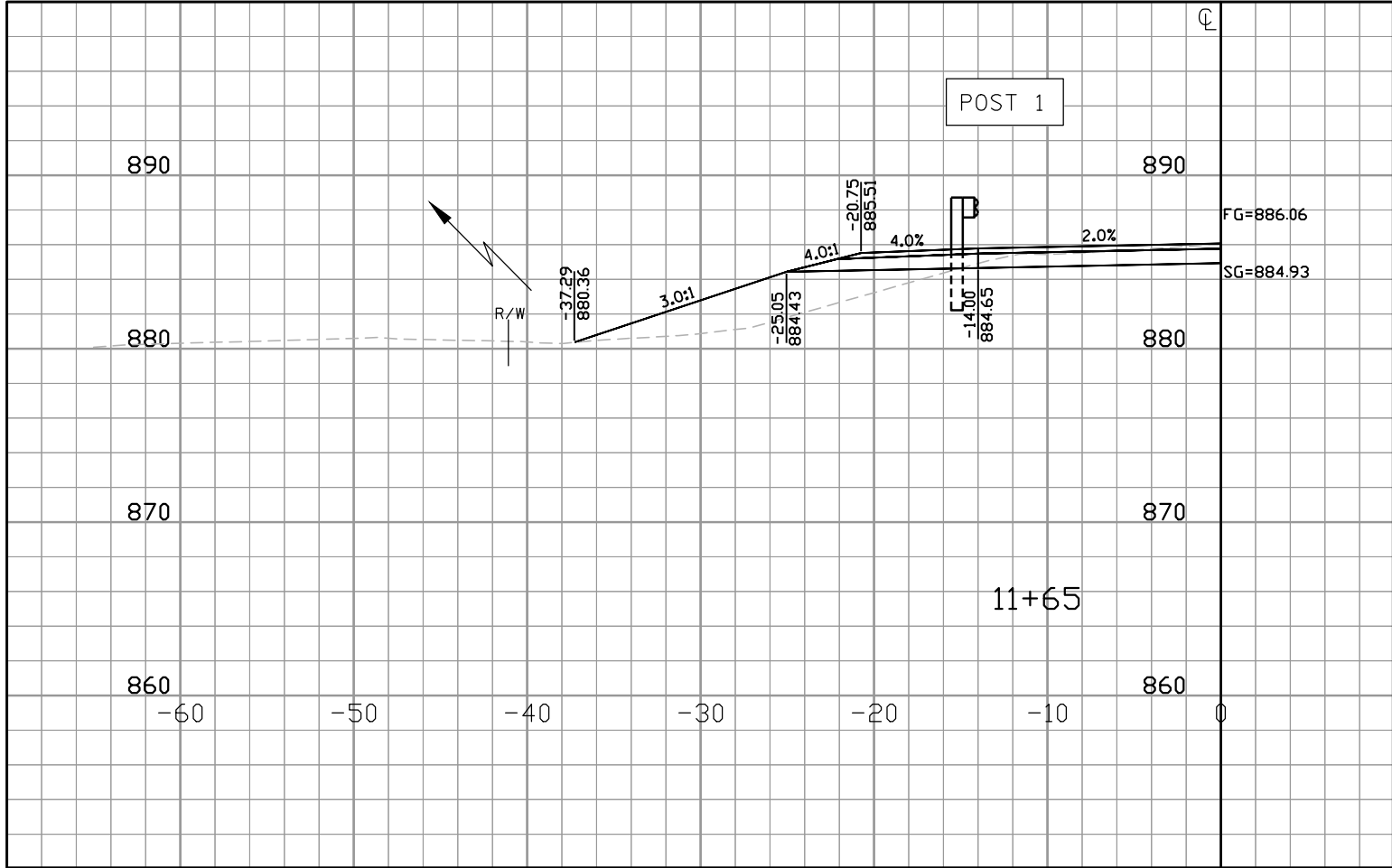


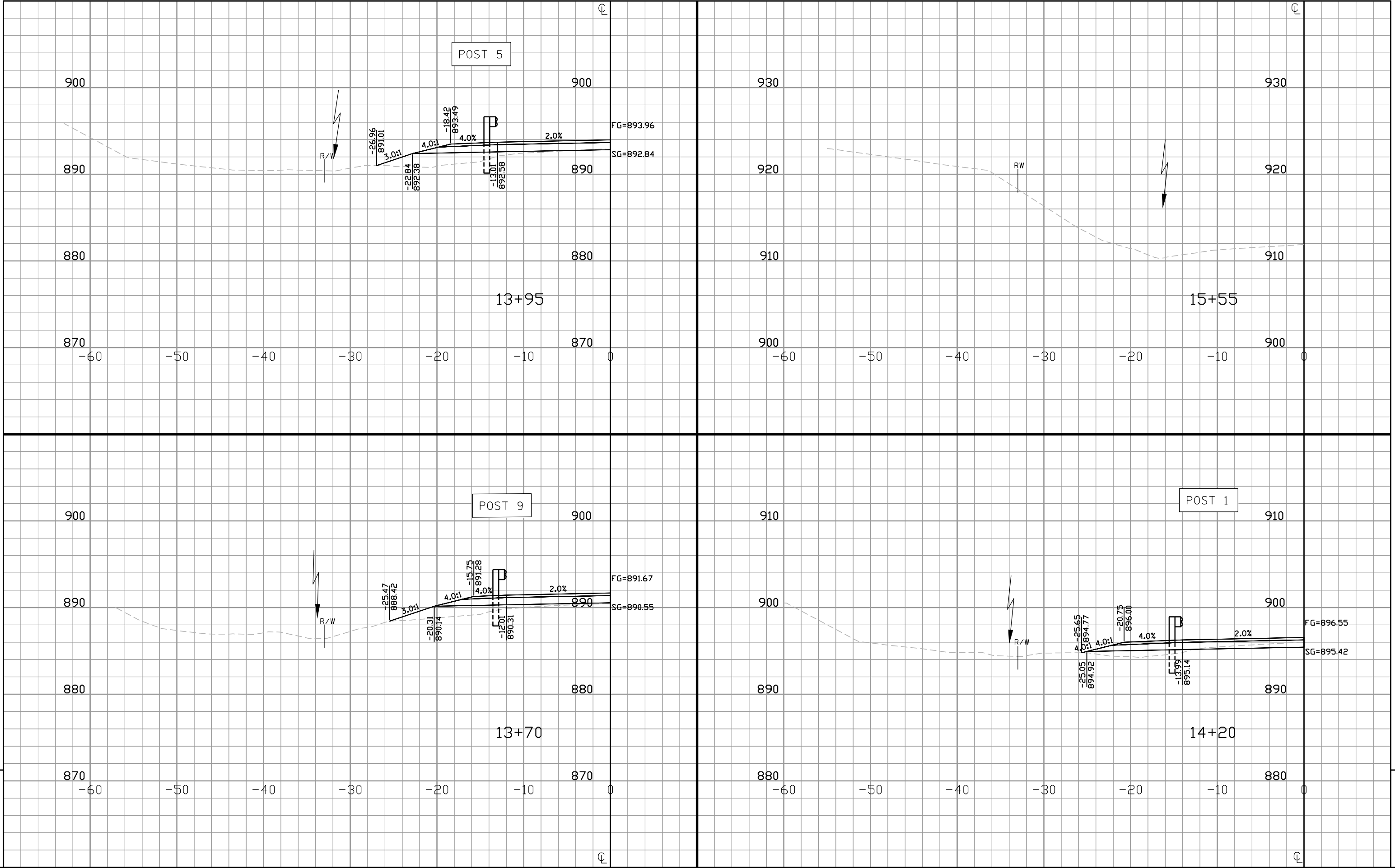


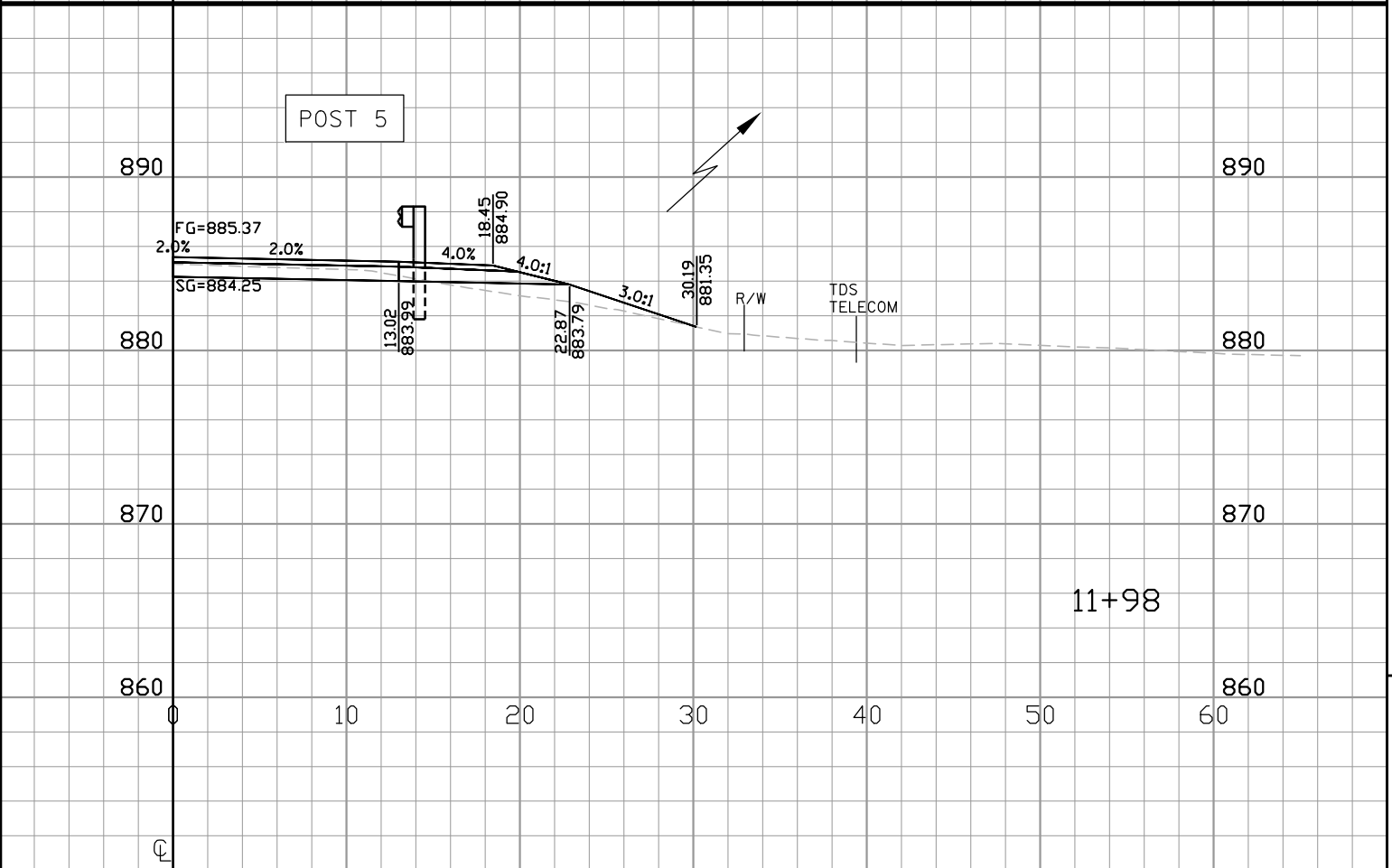
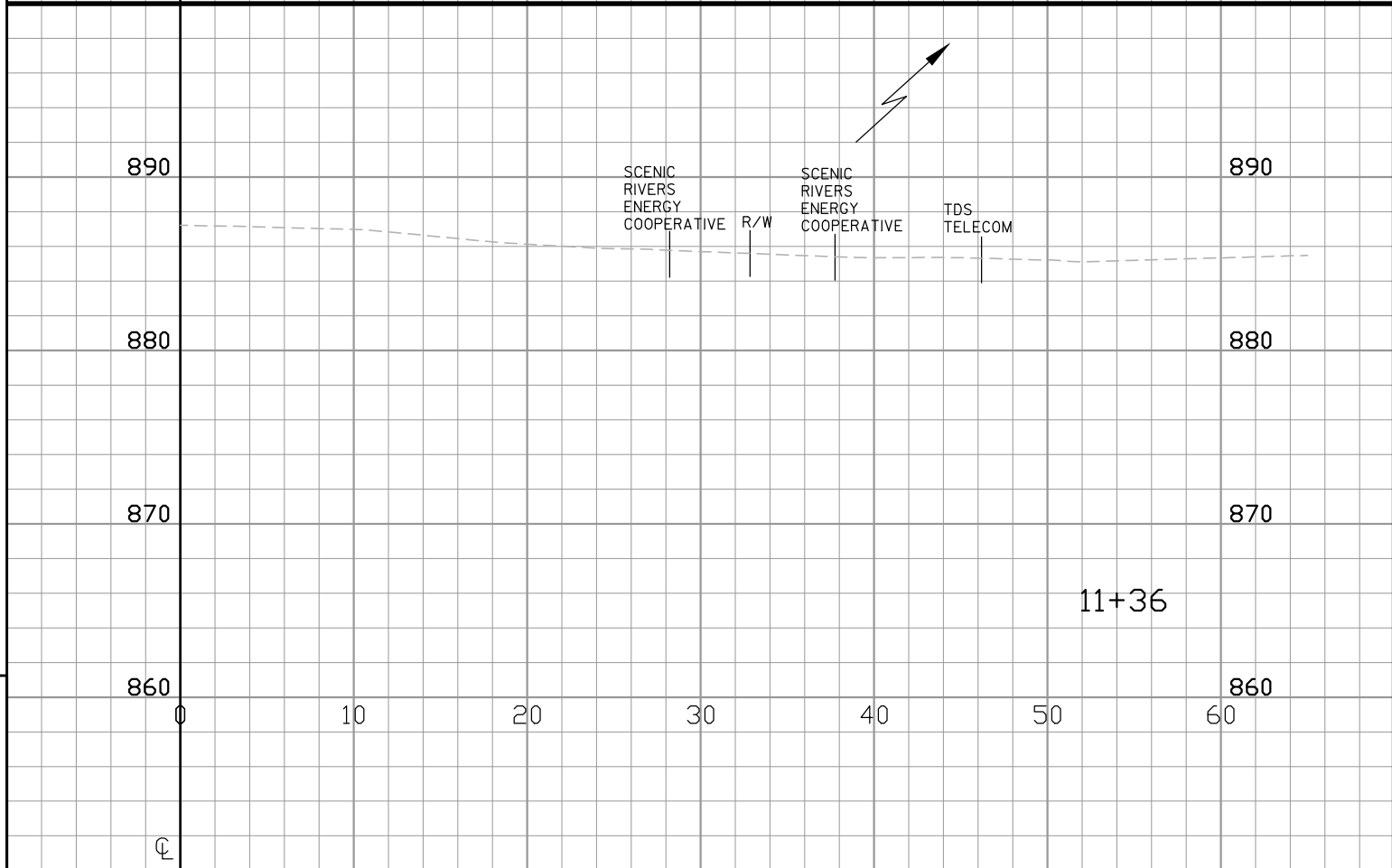
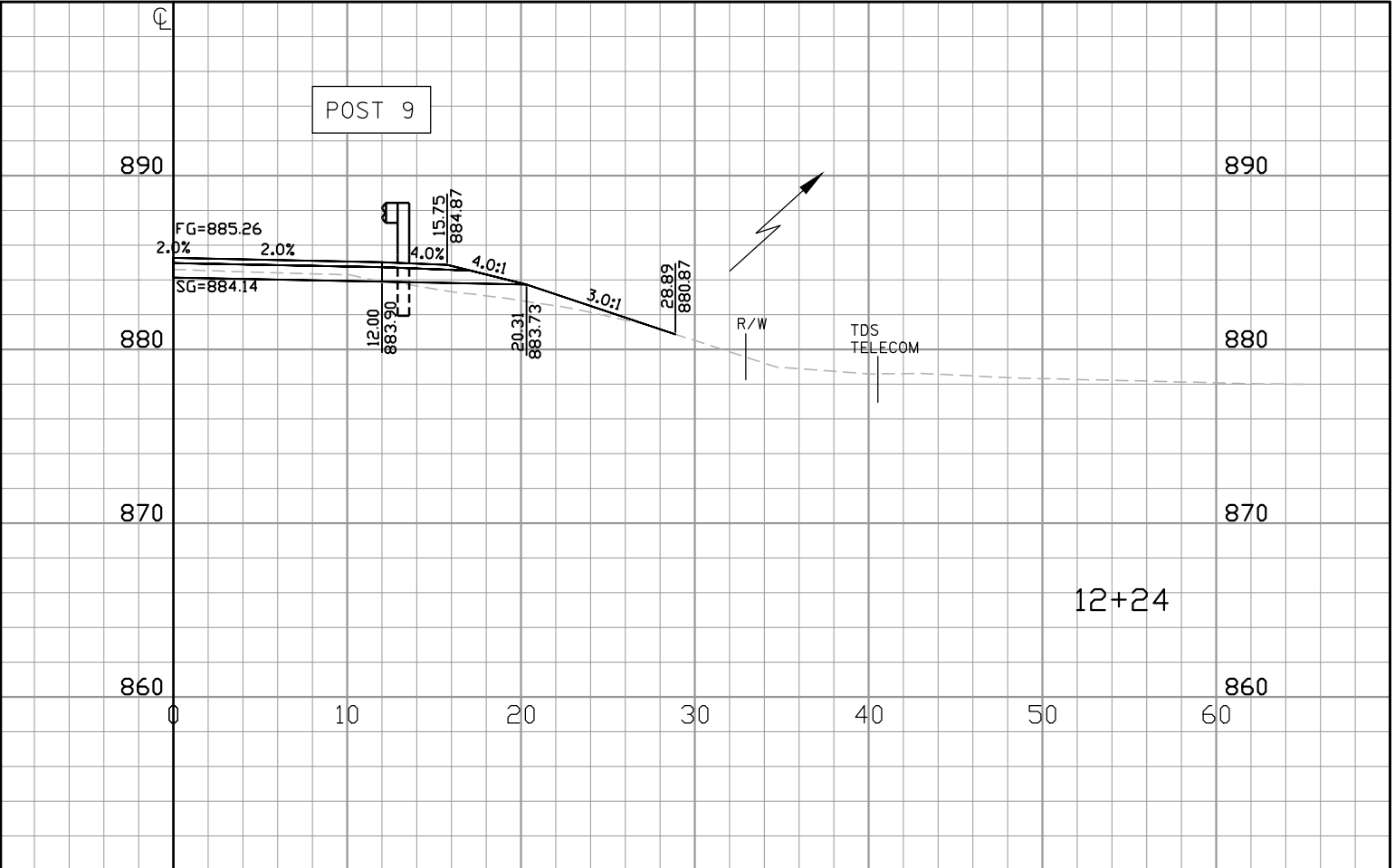
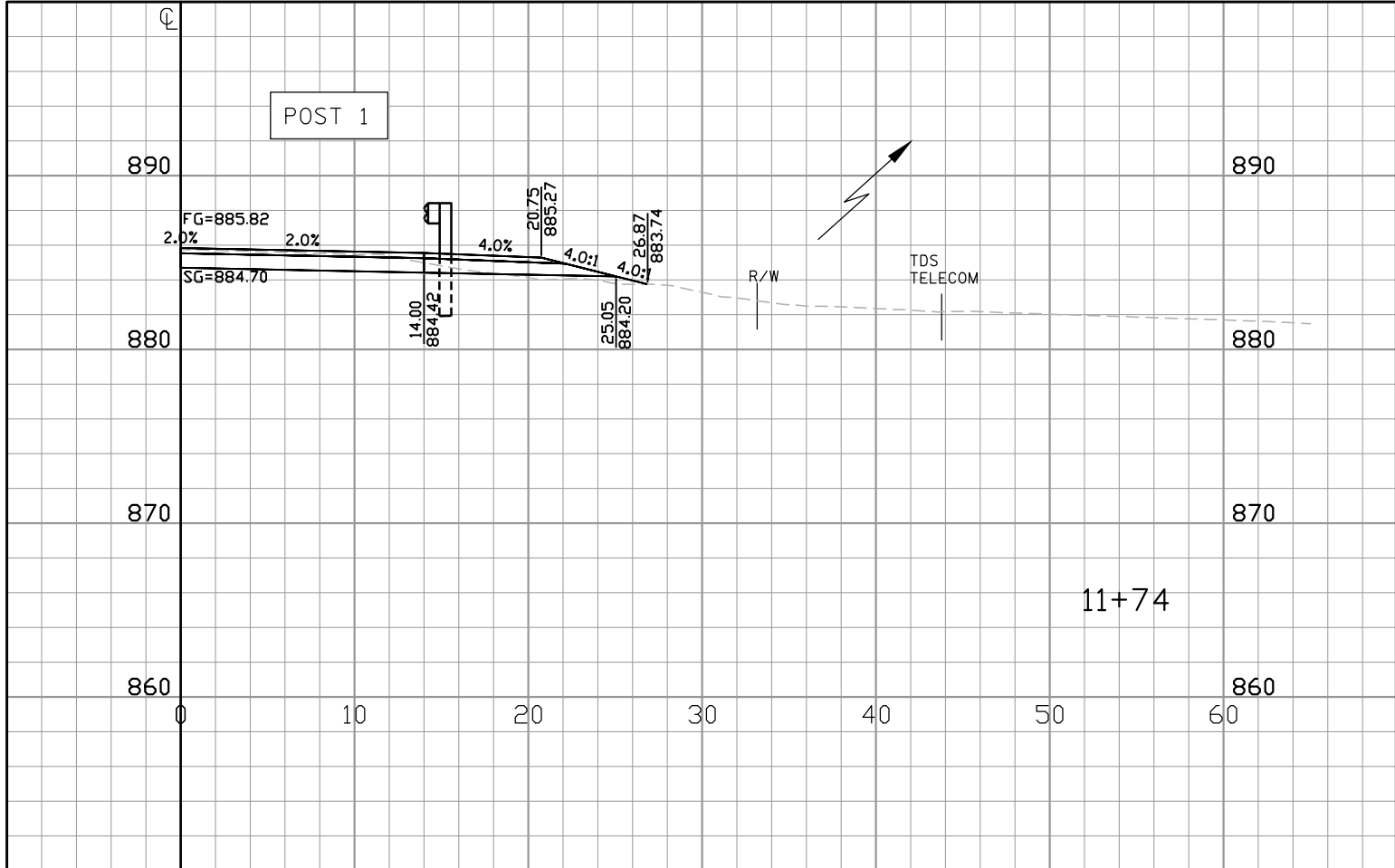


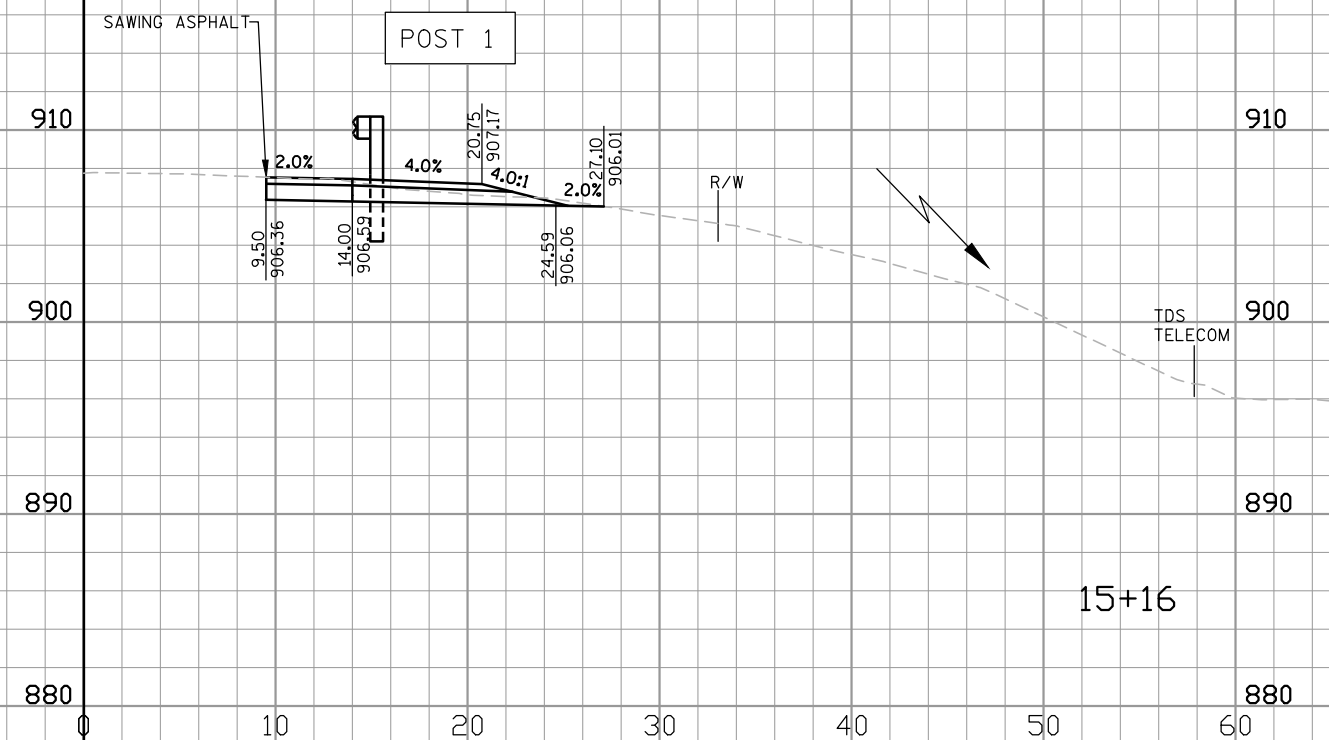
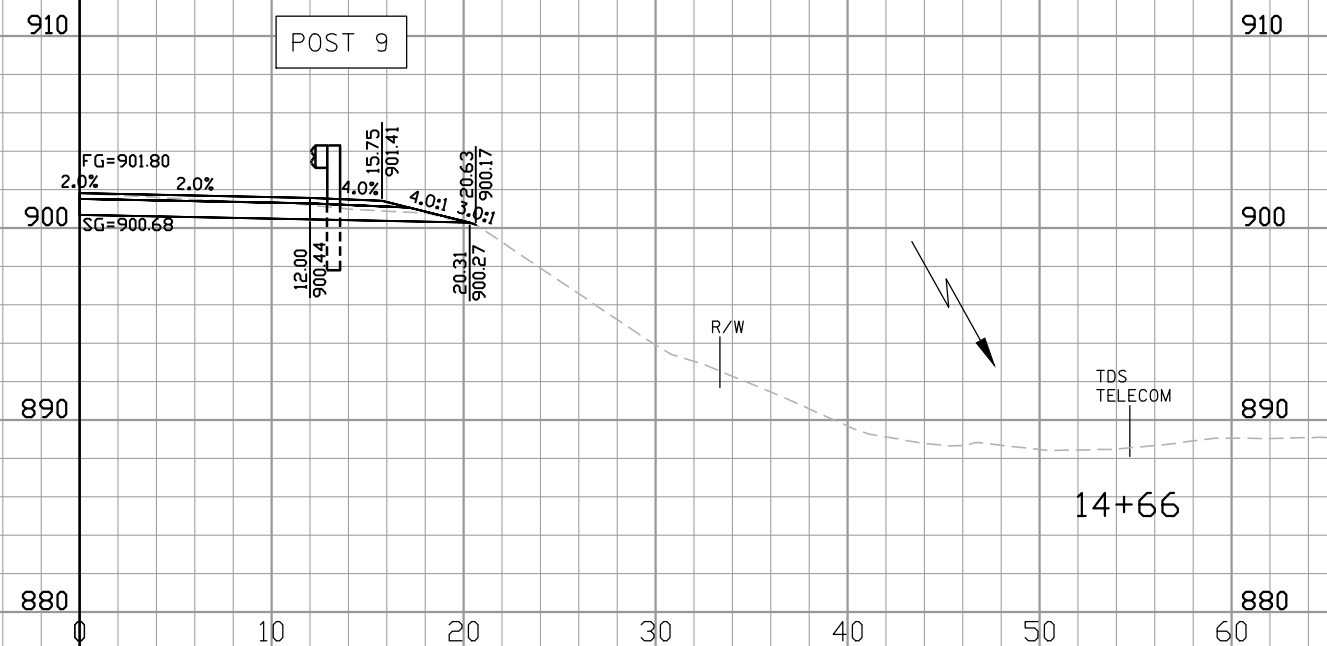
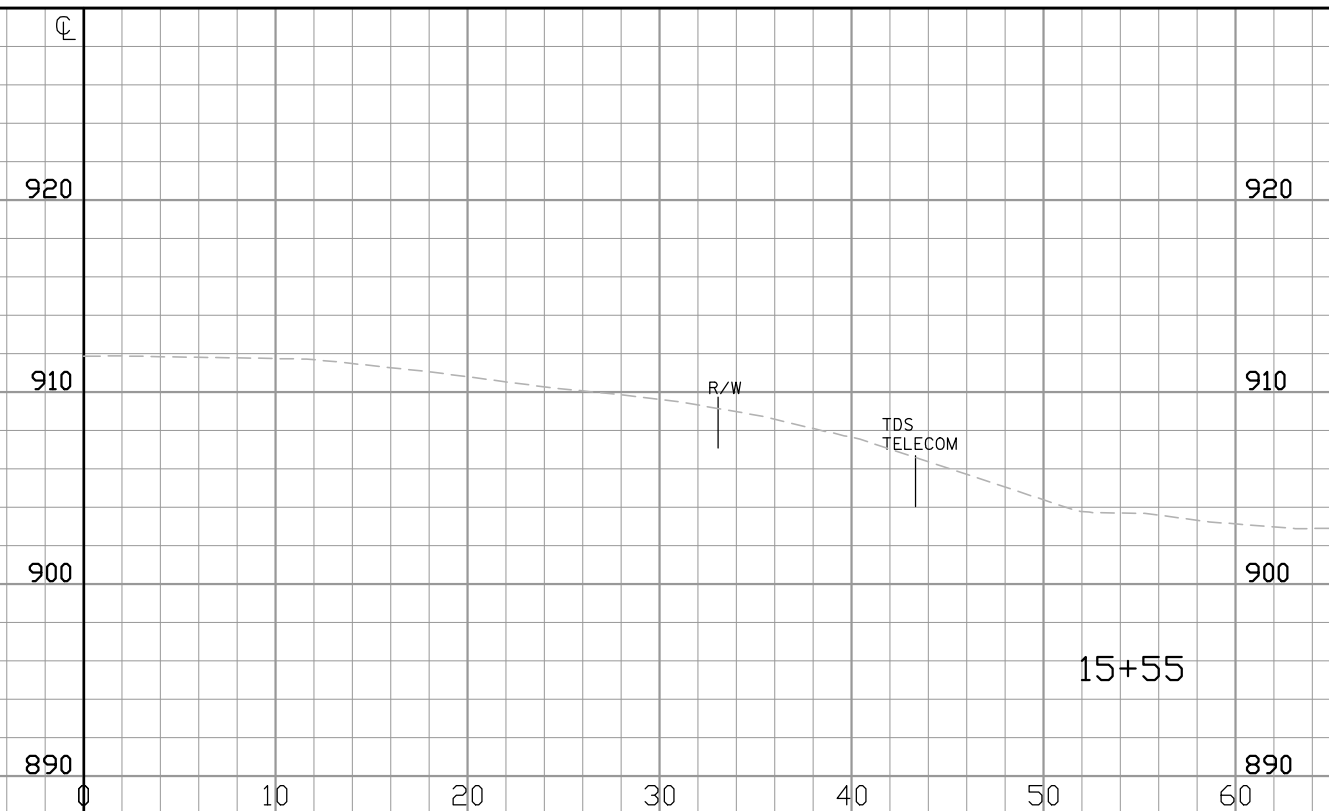
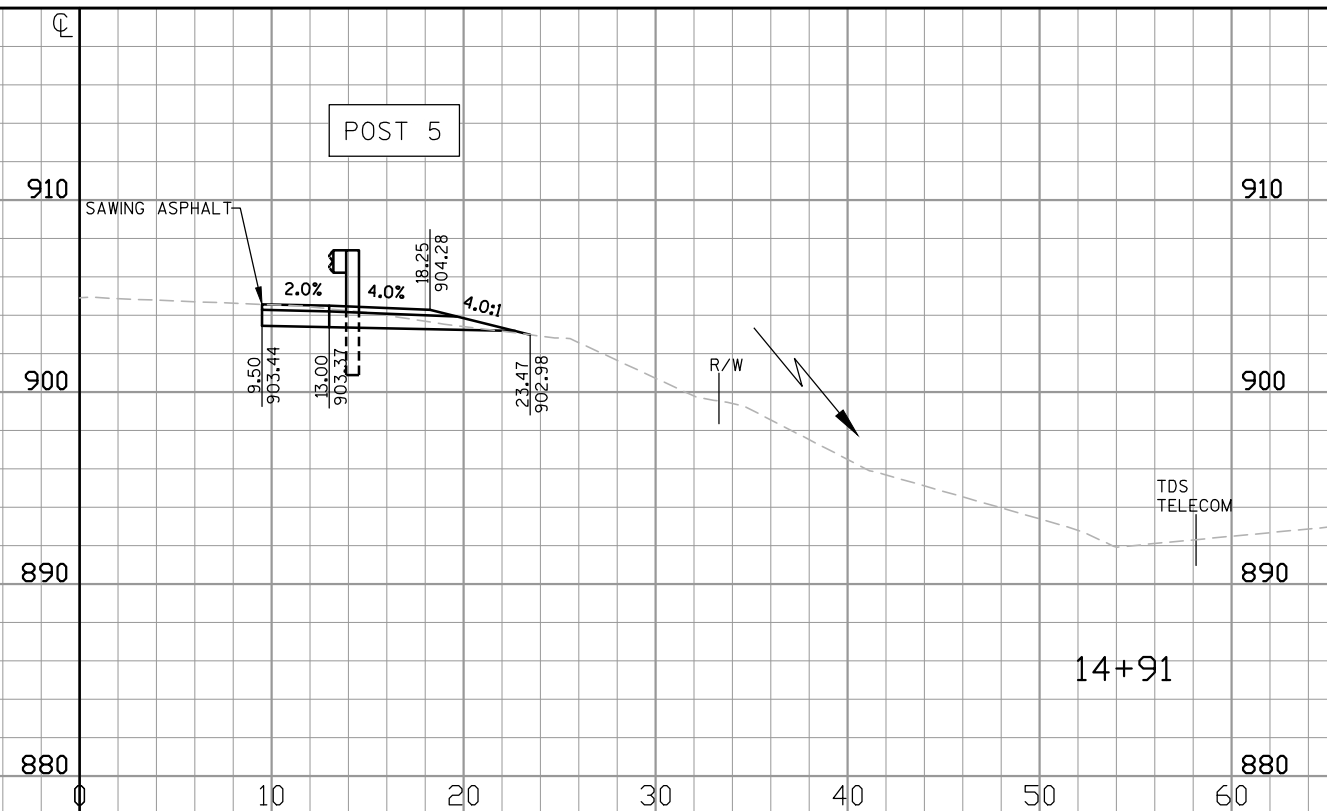




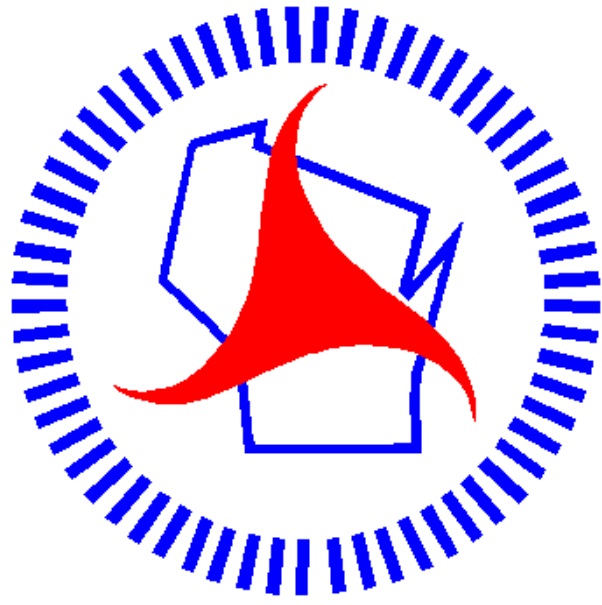








Notes



Wisconsin Department of Transportation

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