

PROJECT ID:

7026-00-70

COUNTY:

JACKSON

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile (Includes Erosion Control)
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.	2015	=	550
A.A.D.T.	2035	=	600
D.H.V.		=	70
D.D.		=	60/40
T.		=	5.2
DESIGN SPEED		=	55 MPH
ESALS		=	73,000

CONVENTIONAL SYMBOLS

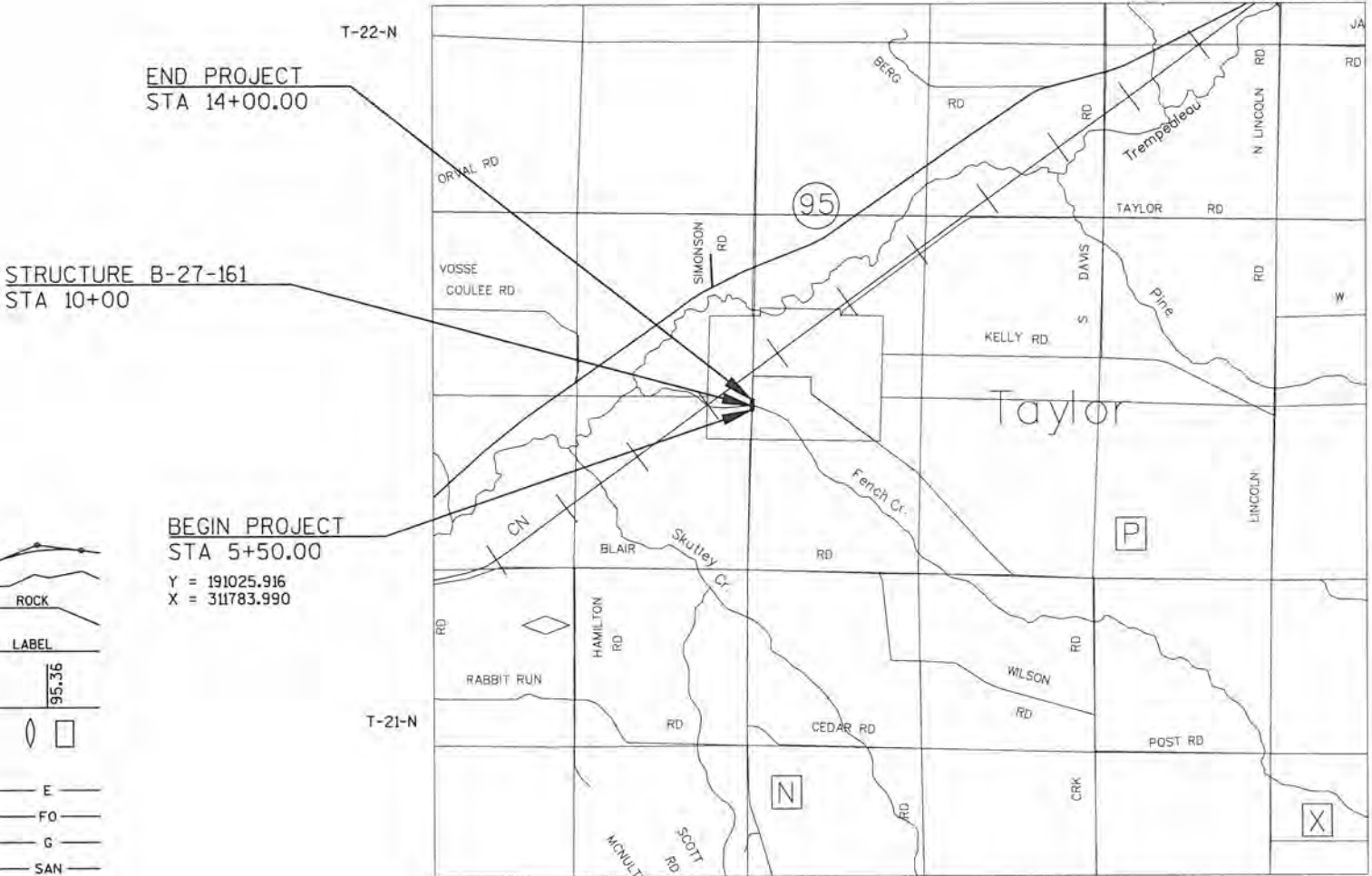
PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

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

ROCK	
LABEL	
95.36	
E	
FO	
G	
SAN	
SS	
T	
W	
W	
W	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PLAN OF PROPOSED IMPROVEMENT
V TAYLOR, BRIDGE STREET
FRENCH CREEK BRIDGE B-27-161
CTH N
JACKSON COUNTY

STATE PROJECT NUMBER
7026-00-70



SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.161 MI

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, JACKSON COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
7026-00-70	WISC 2015323	1

ACCEPTED FOR
COUNTY of JACKSON

3-13-15 (Date) Randy Z Anderson (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SEH
Designer	SEH
Management Consultant	KNIGHT ENGINEERING
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 3/10/15 Ryan B McKone (Management Consultant Signature)

E

STANDARD ABBREVIATIONS:

ABUT	ABUTMENT	CWT	HUNDREDWEIGHT
AC	ACRE	HYD	HYDRANT
AGG	AGGREGATE	ID	INSIDE DIAMETER
AECPRC	APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE	INV	INVERT
AECPCS	APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL	IP	IRON PIPE OR PIN
ASPH	ASPHALTIC	LHF	LEFT-HAND FORWARD
AVG	AVERAGE	L	LENGTH OF CURVE
ADT	AVERAGE DAILY TRAFFIC	LF	LINEAR FOOT
BF	BACK FACE	LC	LONG CHORD OF CURVE
BM	BENCH MARK	LS	LUMP SUM
BR	BRIDGE	MH	MANHOLE
CE	COMMERCIAL ENTRANCE	MOR	MID POINT OF RADIUS
CL OR C/L OR ☿	CENTER LINE	MCE	MARKERS CULVERT END
Δ	CENTRAL ANGLE OR DELTA	NC	NORMAL CROWN
CONC	CONCRETE	NO	NUMBER
CPRC	CULVERT PIPE REINFORCED CONCRETE	OBLIT	OBLITERATE
CPCS	CULVERT PIPE CORRUGATED STEEL	PAVT	PAVEMENT
CR	CREEK	PE	PRIVATE ENTRANCE
CY	CUBIC YARD	PVRC	POINT OF VERTICAL REVERSE CURVE
C & G	CURB AND GUTTER	QOR	QUARTER POINT OF RADIUS
D	DEGREE OF CURVE	R	RADIUS
DHV	DESIGN HOUR VOLUME	REQ'D	REQUIRED
DISCH	DISCHARGE	RES	RESIDENCE OR RESIDENTIAL
DG	DITCH GRADE	RHF	RIGHT-HAND FORWARD
DWY	DRIVEWAY	R/W	RIGHT-OF-WAY
X	EAST GRID COORDINATE	R	RIVER
EAT	STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL	RDWY	ROADWAY
EOR	END POINT OF RADIUS	R/L OR ☿	REFERENCE LINE
EL	ELEVATION	SALV	SALVAGED
ENT	ENTRANCE	SAN	SANITARY SEWER
ESALS	EQUIVALENT SINGLE AXLE LOADS	SF	SQUARE FEET
EXC	EXCAVATION	SY	SQUARE YARD
EBS	EXCAVATION BELOW SUBGRADE	SDD	STANDARD DETAIL DRAWINGS
EXIST	EXISTING	STA	STATION
FC	FACE OF CURB	SS	STORM SEWER
FF	FACE TO FACE	SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
FERT	FERTILIZE	SE	SUPERELEVATION RATE
FE	FIELD ENTRANCE	TC	TOP OF CURB
FL	FLOW LINE	T OR TN	TOWN
FO	FIBER OPTIC	T	TRUCKS (PERCENT OF)
		TYP	TYPICAL
		VAR	VARIABLE
		VC	VERTICAL CURVE
		Y	NORTH GRID COORDINATE
		YD	YARD

GENERAL NOTES:

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

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

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH TOPSOILED, FERTILIZED, SEEDED AND MULCHED.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING DRIVEWAYS AND PAVEMENTS AT REMOVAL LIMITS.

CONSTRUCTION PERMITS FOR SIDEWALK AND/OR DRIVEWAY CONSTRUCTION HAVE BEEN OBTAINED AND SUCH RIGHTS WILL BE EXTENDED TO THE CONTRACTOR.

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.

4-INCH HMA PAVEMENT TYPE E-1 SHALL BE CONSTRUCTED IN TWO 2-INCH LIFTS WITH 12.5-MM NOMINAL AGGREGATE SIZE FOR BOTH LIFTS AND PG58-28 BINDER.

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER, AND IN PLACE PRIOR TO BRIDGE REMOVAL.

WISDOT MONUMENTS WILL BE SUPPLIED BY THE STATE AND INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.

UTILITY CONTACTS

CENTURYLINK
835 RED IRON ROAD
BLACK RIVER FALLS, WI 54615
TELEPHONE: 715.284.4375
ATTENTION: DONNA SMOTHERS
EMAIL: DONNA.SMOTHERS@CENTURYLINK.COM

TRI-COUNTY COMMUNICATIONS
PO BOX 478
417 5TH AVENUE NORTH
STRUM, WI 54770
TELEPHONE: 715.695.2816
ATTENTION: BUCK WEBB
EMAIL: BWEBB@TCC.COOP

WE ENERGIES
1921 8TH STREET SOUTH
WISCONSIN RAPIDS, WI 54495
TELEPHONE: 715.421.7256
ATTENTION: TRAVIS KAHL
EMAIL: TRAVIS.KAHL@WE-ENERGIES.COM

XCEL ENERGY - DISTRIBUTION
1003 BLACK RIVER STREET
SPARTA, WI 54656
TELEPHONE: 608.789.3677 EXT. 14
ATTENTION: KAYE CROOK
EMAIL: KAYE.M.CROOK@XCELENERGY.COM

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

DIGGERS HOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

NOTE: WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

**NOT A MEMBER OF DIGGERS HOTLINE

DESIGN CONTACTS

SEH
10 NORTH BRIDGE ST
CHIPPEWA FALLS, WI 54729-2550
TELEPHONE: 715.720.6267
ATTENTION: DAN GUSTAFSON
EMAIL: DGUSTAFSON@SEHINC.COM

MUNICIPAL CONTACTS

JACKSON COUNTY HIGHWAY DEPARTMENT
119 HARRISON STREET
BLACK RIVER FALLS, WI 54615
TELEPHONE: 715.284.0233
ATTENTION: RANDY ANDERSON
EMAIL: RANDY.ANDERSON@CO.JACKSON.WI.US

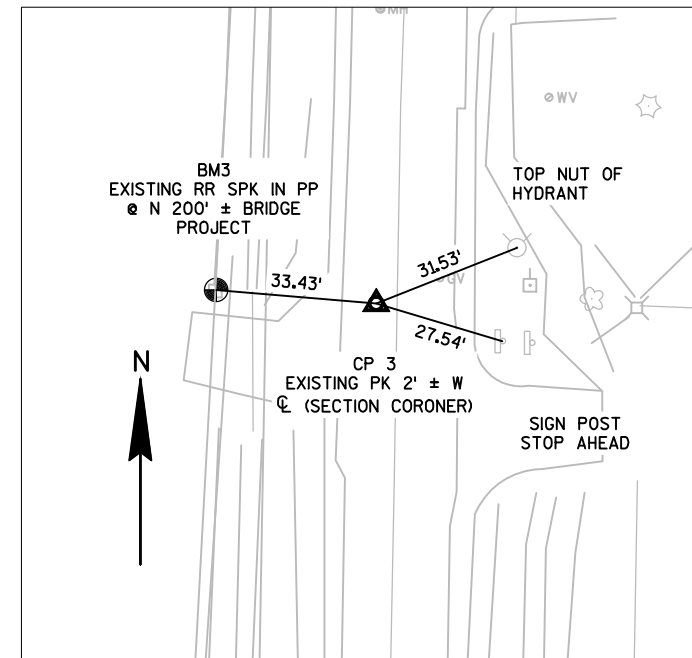
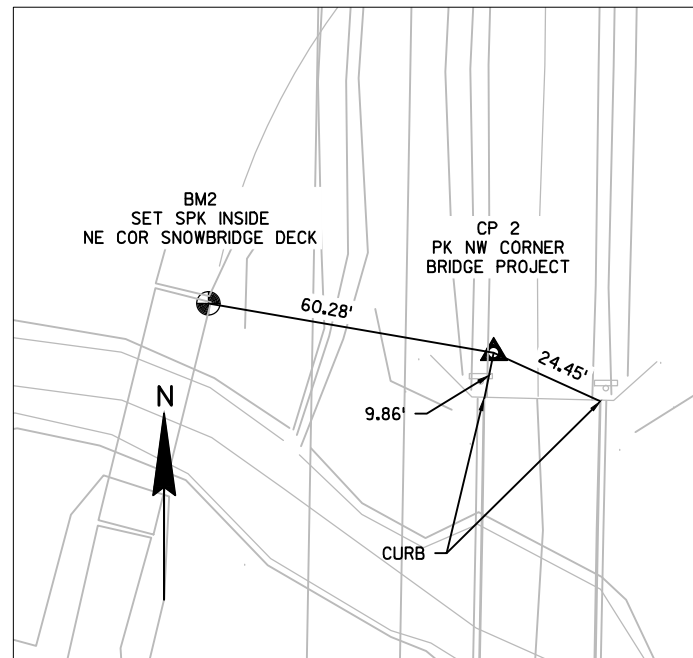
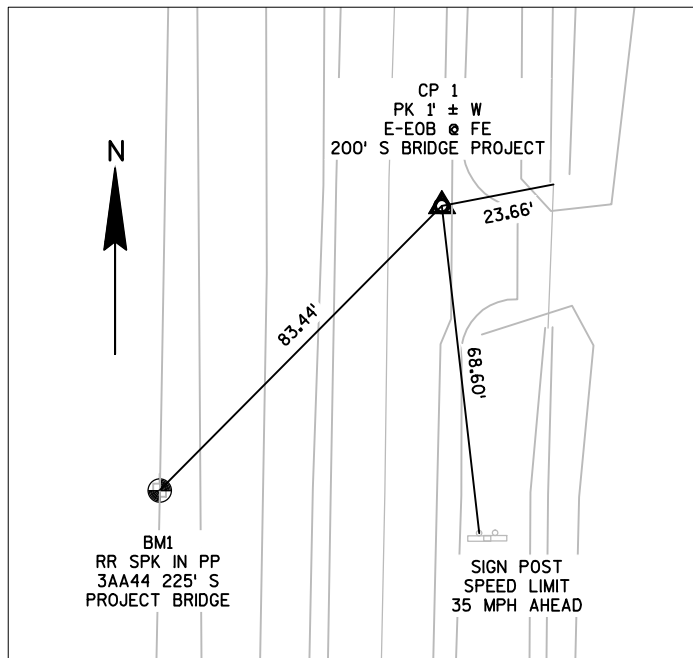
WDNR CONTACTS

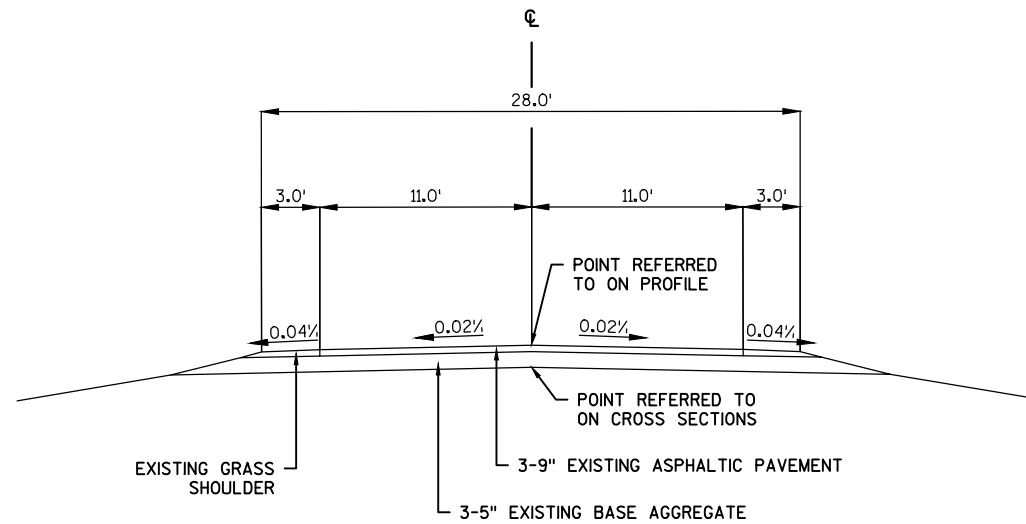
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
3550 MORMON COULEE ROAD
LA CROSSE, WI 54601
TELEPHONE: 715.785.9115
ATTENTION: KAREN KALVELAGE
EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

RAILROAD CONTACTS

WISCONSIN CENTRAL LTD (CN)
1625 DEPOT STREET
STEVENS POINT, WI 54481
TELEPHONE: 715.345.2503
ATTENTION: JACKIE MACEWICZ,
MANAGER PUBLIC WORKS
EMAIL: JACKIE.MACEWICZ@CN.CA

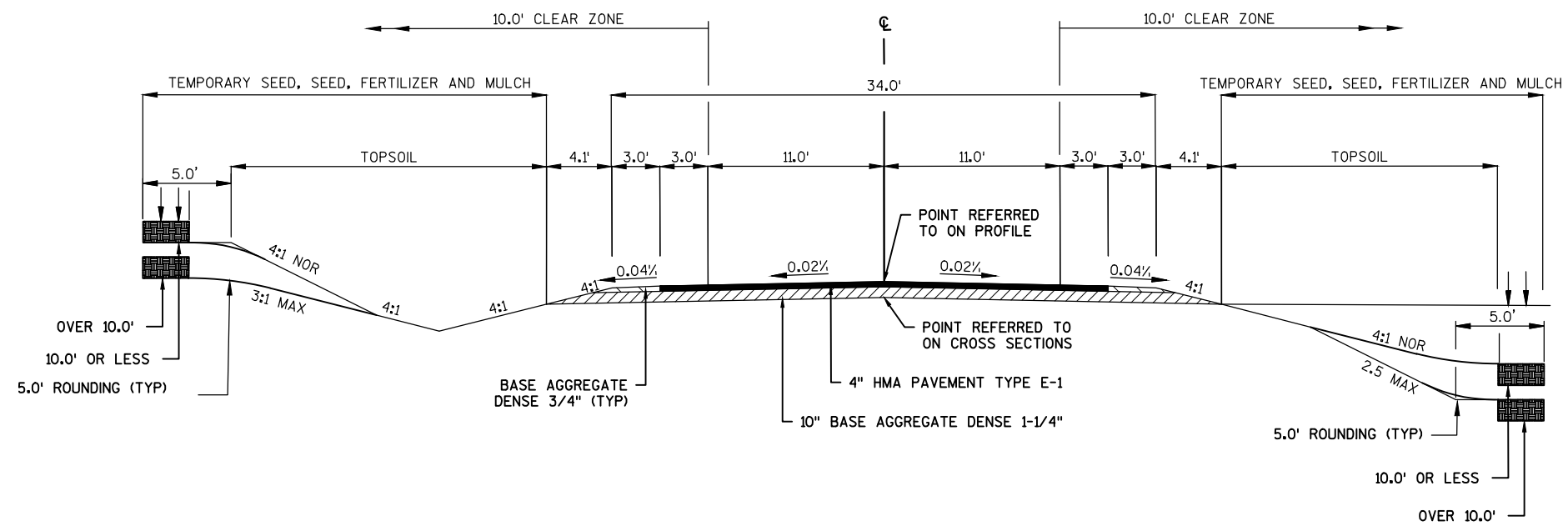
ALIGNMENT TIES





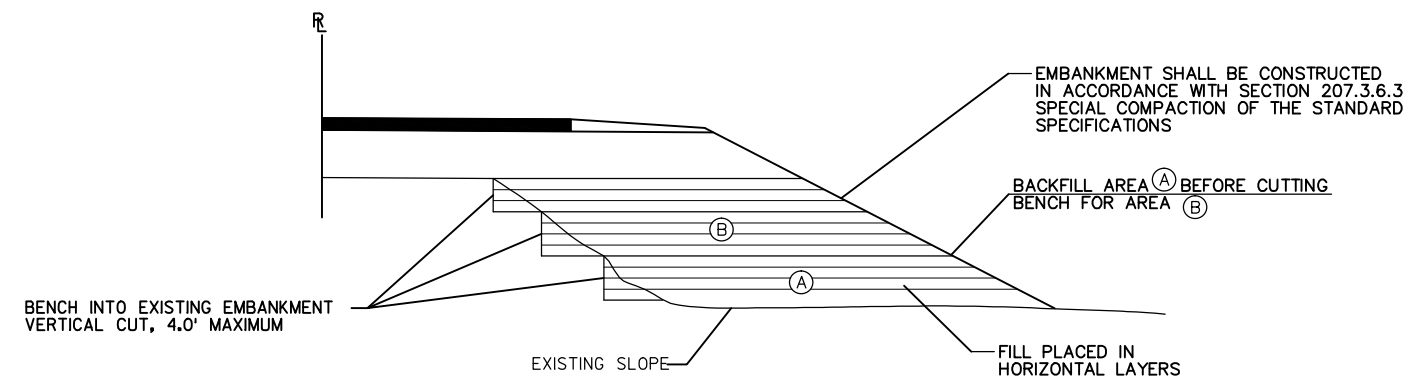
TYPICAL EXISTING SECTION

STA 5+50 TO STA 9+41
STA 10+41 TO STA 14+00



TYPICAL FINISHED SECTION

STA 5+50 TO STA 9+53.71
STA 10+46.29 TO STA 14+00



DETAIL SHOWING METHOD FOR BENCHING
FILL INTO EXISTING EMBANKMENT

STA 5+50 TO STA 9+53.71
STA 10+46.29 TO STA 14+00

DATE 27MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE		7026-00-70			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0010	201.0105	Clearing	STA	1.000	1.000
0020	201.0205	Grubbing	STA	1.000	1.000
0030	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00	LS	1.000	1.000
0040	205.0100	Excavation Common	CY	333.000	333.000
0050	206.1000	Excavation for Structures Bridges (structure) 01. B-27-161	LS	1.000	1.000
0060	208.0100	Borrow	CY	2,079.000	2,079.000
0070	210.0100	Backfill Structure	CY	224.000	224.000
0080	213.0100	Finishing Roadway (project) 01. 7026-00-70	EACH	1.000	1.000
0090	305.0110	Base Aggregate Dense 3/4-Inch	TON	215.000	215.000
0100	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,042.000	2,042.000
0110	455.0105	Asphaltic Material PG58-28	TON	31.000	31.000
0120	455.0605	Tack Coat	GAL	150.000	150.000
0130	460.1101	HMA Pavement Type E-1	TON	560.000	560.000
0140	460.2000	Incentive Density HMA Pavement	DOL	360.000	360.000
0150	502.0100	Concrete Masonry Bridges	CY	176.000	176.000
0160	502.3200	Protective Surface Treatment	SY	401.000	401.000
0170	503.0137	Prestressed Girder Type I 36W-Inch	LF	546.000	546.000
0180	505.0405	Bar Steel Reinforcement HS Bridges	LB	4,840.000	4,840.000
0190	505.0605	Bar Steel Reinforcement HS Coated Bridges	LB	22,220.000	22,220.000
0200	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	12.000	12.000
0210	506.4000	Steel Diaphragms (structure) 01. B-27-161	EACH	10.000	10.000
0220	513.4060	Railing Tubular Type M (structure) 01. B-27-161	LS	1.000	1.000
0230	516.0500	Rubberized Membrane Waterproofing	SY	22.000	22.000
0240	550.2124	Piling CIP Concrete 12 3/4 X 0.25-Inch	LF	1,080.000	1,080.000
0250	606.0300	Riprap Heavy	CY	183.000	183.000
0260	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	60.000	60.000
0270	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	120.000	120.000
0280	614.2300	MGS Guardrail 3	LF	50.000	50.000
0290	614.2500	MGS Thrie Beam Transition	LF	157.600	157.600
0300	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0310	619.1000	Mobilization	EACH	1.000	1.000
0320	625.0100	Topsoil	SY	2,525.000	2,525.000
0330	627.0200	Mulching	SY	2,950.000	2,950.000
0340	628.1504	Silt Fence	LF	1,450.000	1,450.000
0350	628.1520	Silt Fence Maintenance	LF	1,450.000	1,450.000
0360	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0370	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0380	628.2006	Erosion Mat Urban Class I Type A	SY	500.000	500.000
0390	628.7504	Temporary Ditch Checks	LF	40.000	40.000
0400	629.0205	Fertilizer Type A	CWT	2.000	2.000
0410	630.0120	Seeding Mixture No. 20	LB	80.000	80.000
0420	630.0200	Seeding Temporary	LB	80.000	80.000
0430	630.0300	Seeding Borrow Pit	LB	20.000	20.000
0440	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0450	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0460	637.2210	Signs Type II Reflective H	SF	23.000	23.000
0470	637.2230	Signs Type II Reflective F	SF	21.000	21.000
0480	638.2102	Moving Signs Type II	EACH	1.000	1.000
0490	638.2602	Removing Signs Type II	EACH	8.000	8.000

DATE 27MAR15		E S T I M A T E O F Q U A N T I T I E S			
LINE					7026-00-70
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0500	638.3000	Removing Small Sign Supports	EACH	8.000	8.000
0510	642.5001	Field Office Type B	EACH	1.000	1.000
0520	643.0100	Traffic Control (project) 01. 7026-00-70	EACH	1.000	1.000
0530	645.0120	Geotextile Fabric Type HR	SY	378.000	378.000
0540	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,912.000	1,912.000
0550	650.4500	Construction Staking Subgrade	LF	758.000	758.000
0560	650.5000	Construction Staking Base	LF	758.000	758.000
0570	650.6500	Construction Staking Structure Layout (structure) 01. B-27-161	LS	1.000	1.000
0580	650.9910	Construction Staking Supplemental Control (project) 01. 7026-00-70	LS	1.000	1.000
0590	650.9920	Construction Staking Slope Stakes	LF	758.000	758.000
0600	690.0150	Sawing Asphalt	LF	44.000	44.000
0610	715.0502	Incentive Strength Concrete Structures	DOL	1,060.000	1,060.000
0620	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
0630	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000

3

CLEARING & GRUBBING

STATION - STATION	LOCATION	201.0105	201.0205
		CLEARING STA	GRUBBING STA
CTH N			
9+00 - 10+00	RT	1	1
ITEM TOTALS		1	1

ASPHALTIC PAVEMENT ITEMS

STATION - STATION	LOCATION	455.0105	455.0605	460.1101
		ASPHALTIC MATERIAL PG 58-28 TON	TACK COAT GAL	HMA PAVEMENT TYPE E-1 TON
CTH N				
5+50- 9+53.71	LT & RT	17	80	300
10+46.29 - 14+00	LT & RT	14	70	260
ITEM TOTALS		31	150	560

3

EXCAVATION

STATION - STATION	LOCATION	205.0100 COMMON CY	AIR FILL CY	EXPAND. FILL CY	208.0100 BORROW CY
CTH N					
5+50- 9+41	LT & RT	175	892	1159	984
10+41 - 14+00	LT & RT	158	963	1252	1095
ITEM TOTALS		333	1855	2411	2079

NOTES:
1) SALVAGED/UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION.
2) FILL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
3) FILL WILL BE BACKFILLED WITH CUT OR BORROW.
4) POSITIVE BORROW INDICATES A SHORTAGE OF MATERIAL.
5) EXPANSION FACTOR = 1.3

GUARDRAIL ITEMS

STATION	LOCATION	614.2300	614.2500	614.2610
		MGS GUARDRAIL 3 LF	MGS GUARDRAIL THRIE BEAM TRANSITION LF	MGS GUARDRAIL TERMINAL EAT EACH
CTH N				
7+97.98 - 8+51.03	RT			1
8+51.03 - 9+01.03	RT	50		
8+56.34 - 9+09.43	LT			1
9+01.03 - 9+40.39	RT		39.4	
9+09.43 - 9+48.83	LT		39.4	
10+51.17 - 10+90.57	RT		39.4	
10+59.61 - 10+99.01	LT		39.4	
10+90.57 - 11+43.66	RT			1
10+99.01 - 11+52.10	LT			1
ITEM TOTALS		50	157.6	4

FINISHING ROADWAY (7026-00-70)

STATION - STATION	213.0100 EACH
CTH N	
5+50- 14+00	1
ITEM TOTAL	1

MOBILIZATION

STATION - STATION	619.1000 EACH
CTH N	
CATEGORY 0010	0.25
CATEGORY 0020	0.75
ITEM TOTAL	1

BASE AGGREGATE DENSE

STATION - STATION	LOCATION	305.0110	305.0120
		3/4-INCH TON	1 1/4-INCH TON
CTH N			
5+50- 9+53.71	LT & RT	118	1096
10+46.29 - 14+00	LT & RT	97	946
ITEM TOTALS		215	2042

TOPSOIL, MULCHING AND SEEDING

STATION - STATION	LOCATION	625.0100	627.0200	629.0205	630.0120	630.0200	630.0000
		TOPSOIL SY	MULCHING SY	FERTILIZER TYPE A CWT	SEEDING MIXTURE NO. 20 LB	SEEDING TEMPORARY LB	SEEDING BORROW PIT LB
CTH N							
5+50- 9+53.71	LT & RT	1225	1450	1	40	40	20
10+46.29 - 14+00	LT & RT	1300	1500	1	40	40	
ITEM TOTALS		2525	2950	2	80	80	20

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PROJECT NO: 7026-00-70

HWY: CTH N

COUNTY: JACKSON

MISCELLANEOUS QUANTITIES

SHEET

E

3

EROSION CONTROL ITEMS

STATION - STATION	LOCATION	628.1504	628.1520	628.2006	628.7504
		SILT FENCE LF	SILT FENCE MAINTENANCE LF	EROSION MAT URBAN CLASS I TYPE A SY	TEMPORARY DITCH CHECKS LF
CTH N					
5+50- 9+41	LT & RT	625	625	300	20
10+41 - 14+00	LT & RT	825	825	200	20
ITEM TOTALS		1450	1450	500	40

TRAFFIC CONTROL (7026-00-70)

STATION - STATION	643.0100 EACH
CTH N	
5+50- 14+00	1
ITEM TOTAL	1

3

MOBILIZATIONS EROSION CONTROL

STATION - STATION	628.1905 EROSION CONTROL EACH	628.1910 EMERGENCY EROSION CONTROL EACH
CTH N		
5+50- 14+00	3	3
ITEM TOTALS	3	3

PAVEMENT MARKING

STATION - STATION	LOCATION	646.0106 EPOXY 4-INCH LF	REMARKS
CTH BC			
5+50 - 14+00	~	212	YELLOW SKIPS
5+50 - 14+00	LT & RT	1,700	WHITE EDGELINE
TOTALS		1,912	

PERMANENT SIGNING

SIGN GROUP CODE	SIGN CODE	TYPE II SIZE	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0612 POSTS WOOD 4X6-INCH EACH	634.0616 POSTS WOOD 4X6-INCH EACH	638.2102 MOVING SIGNS TYPE II EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
CTH N										
1-1	W3-5	SPEED LIMIT AHEAD 35	36" X 36"			1		1	1	REPLACE
1-2	J1-2	JCT / END P / N	48" X 39"	13		1		1	1	REPLACE
1-3	W5-52L	CLEARANCE STRIPER	12" X 36"		3	1		1	1	REPLACE
1-4	W5-52R	CLEARANCE STRIPER	12" X 36"		3	1		1	1	REPLACE
1-5	W5-52R	CLEARANCE STRIPER	12" X 36"		3	1		1	1	REPLACE
1-6	W5-52L	CLEARANCE STRIPER	12" X 36"		3	1		1	1	REPLACE
1-7	R2-1	SPEED LIMIT 55	24" X 30"	5		1		1	1	REPLACE
1-8	R2-1	SPEED LIMIT 35	24" X 30"	5		1		1	1	REPLACE
		VILLAGE OF TAYLOR					1			SALVAGE & REINSTALL EXISTING SIGN
ITEM TOTALS			23	21	4	4	1	8	8	

CONSTRUCTION STAKING

STATION - STATION	LOCATION	650.4500 SUBGRADE LF	650.5000 BASE LF	*650.6500 STRUCTURE LAYOUT (B-27-0161) LS	650.9910 SUPPLEMENTAL CONTROL (7026-00-70) LS	650.9920 SLOPE STAKES LF
CTH N					1	
5+50- 9+53.71	LT & RT	404	404			404
10+00	LT & RT			1		
10+46.29 - 14+00		354	354			354
ITEM TOTALS		758	758	1	1	758
*CATEGORY 0020.						

FIELD OFFICE TYPE B

STATION - STATION	642.5001 EACH
CTH N	
5+50- 14+00	1
ITEM TOTAL	1

SAWING ASPHALT

STATION - STATION	LOCATION	690.0150 LF
CTH N		
5+50	LT & RT	22
14+00	LT & RT	22
ITEM TOTAL		44

NOTE: ALL ITEMS AND QUANTITIES ON THIS SHEET ARE FOR
ENGINEER ESTIMATE CATEGORY 0010, UNLESS OTHERWISE NOTED.

PROJECT NO: 7026-00-70

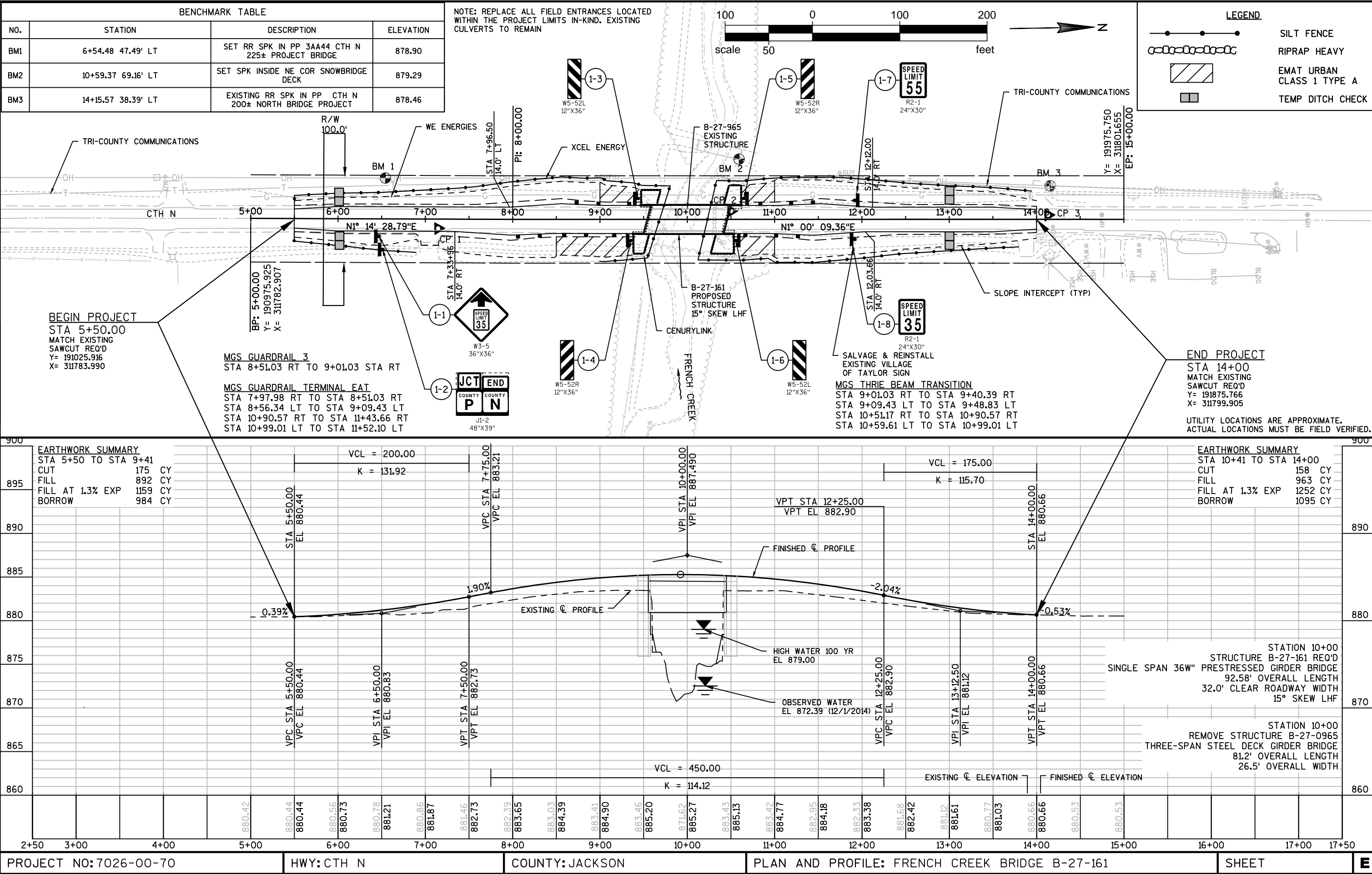
HWY: CTH N

COUNTY: JACKSON

MISCELLANEOUS QUANTITIES

SHEET

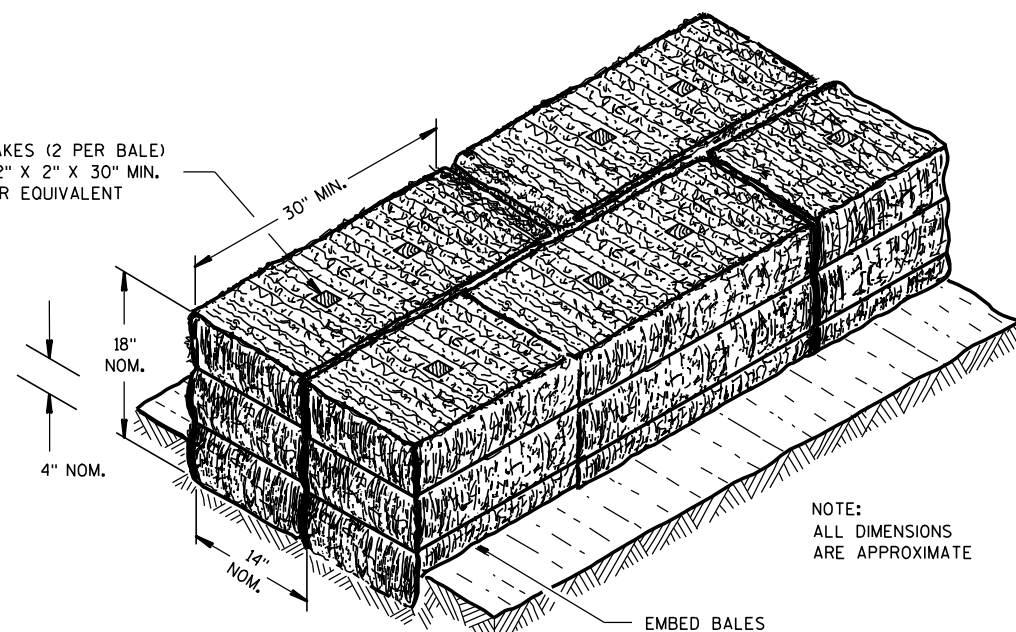
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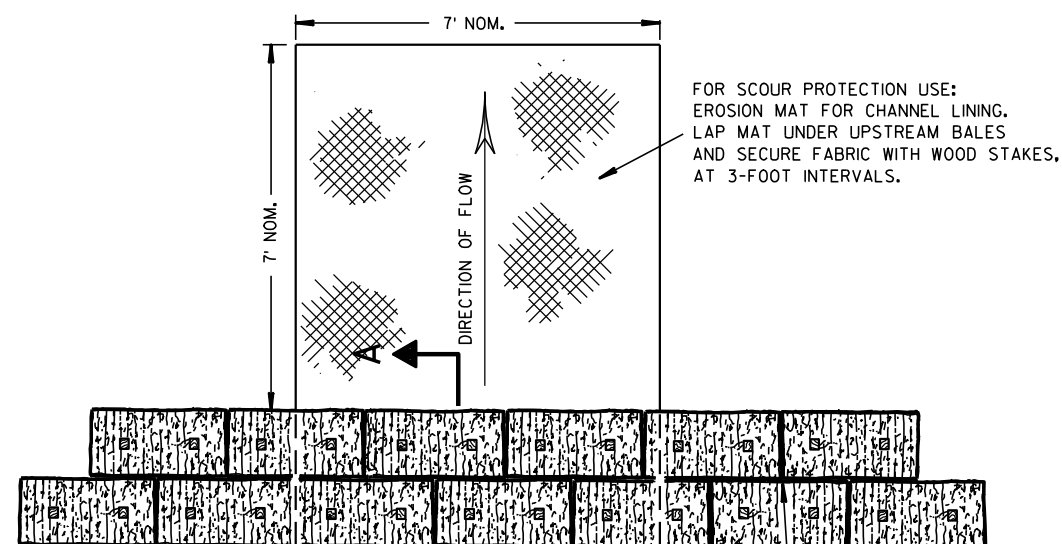
Standard Detail Drawing List

08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-03A	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)
14B45-03D	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03E	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03F	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03H	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03I	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-03J	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-07	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-16A	PAVEMENT MARKING (MAINLINE)

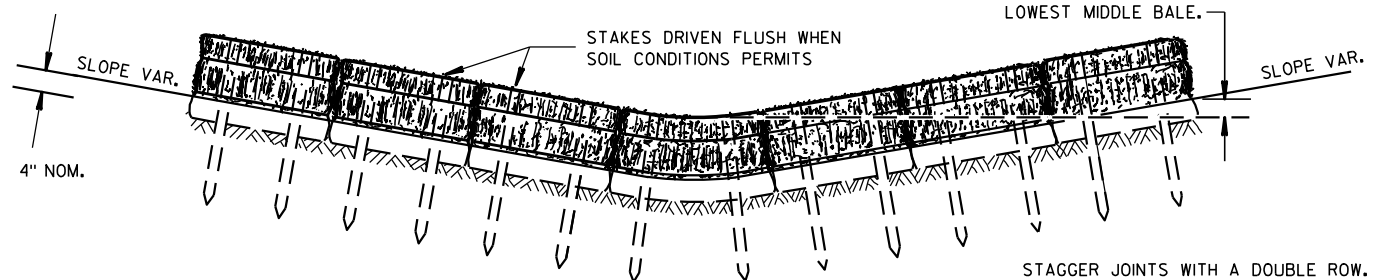
WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



SECTION A-A



PLAN VIEW



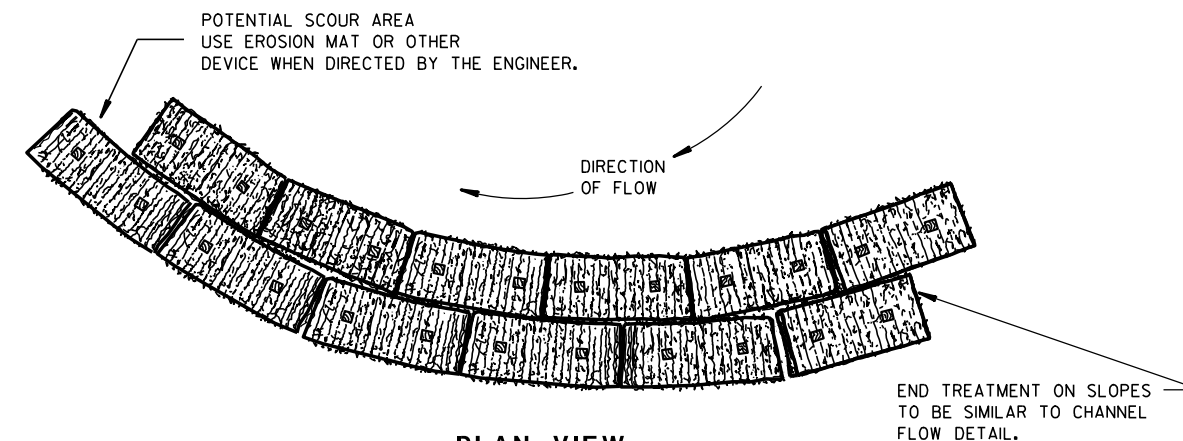
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

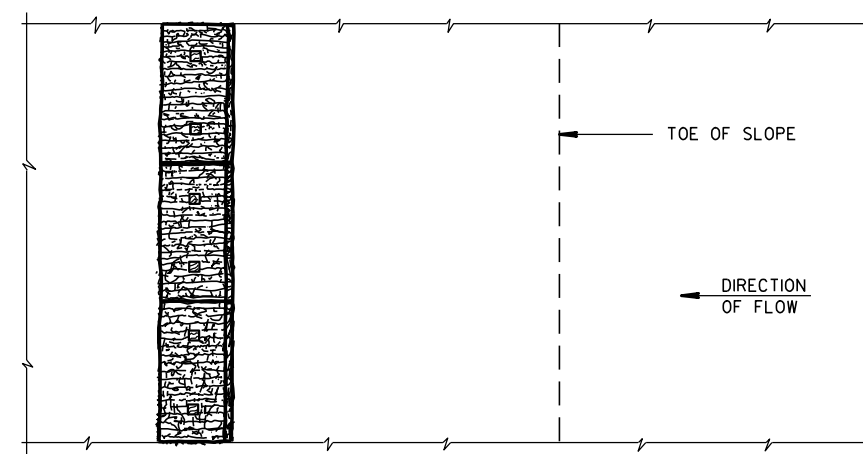
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

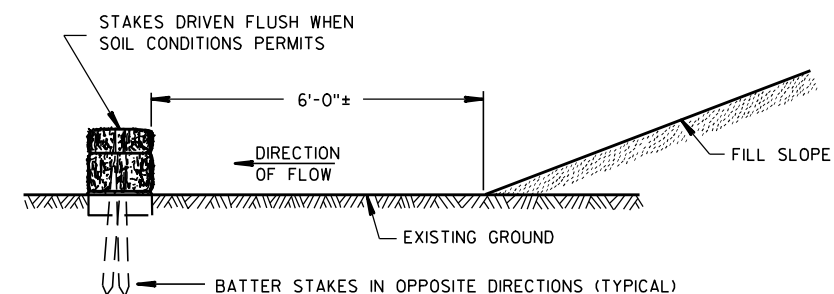


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

FHWA

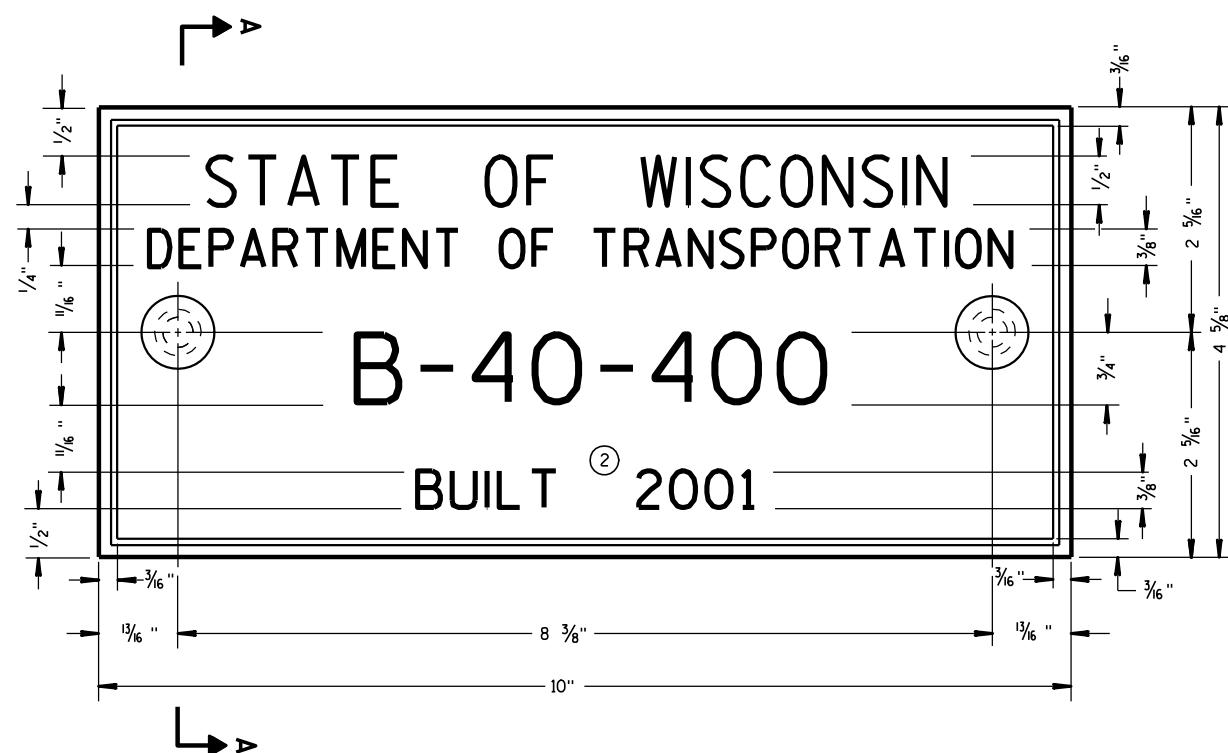
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- 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.

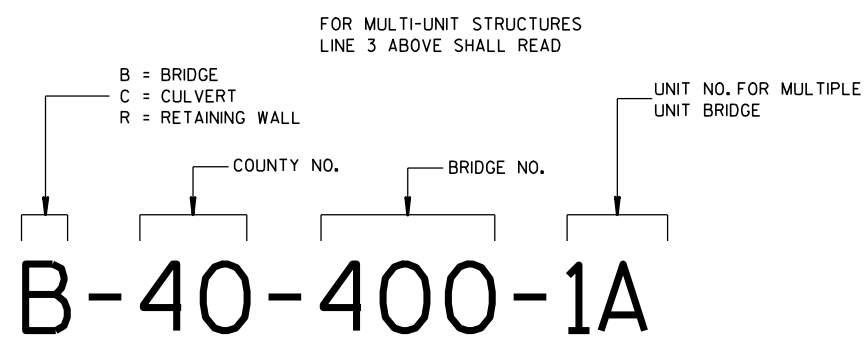


<div style="text-align: center;"><h1>SILT FENCE</h1></div>	
<div style="text-align: center;"><h2>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</h2></div>	
<div>APPROVED</div> <div><u>4-29-05</u></div> <div><u>DATE</u></div>	<div><u>/S/ Beth Canestra</u></div> <div>CHIEF ROADWAY DEVELOPMENT ENGINEER</div>



TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



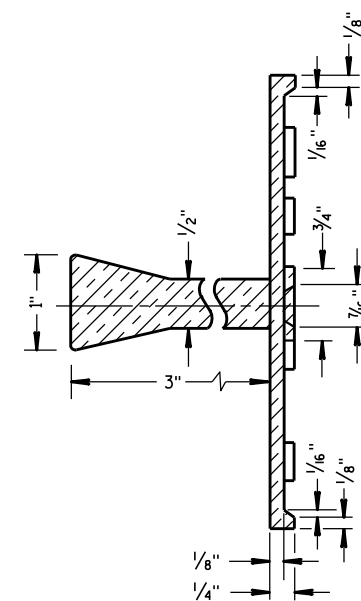
NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

GENERAL NOTES

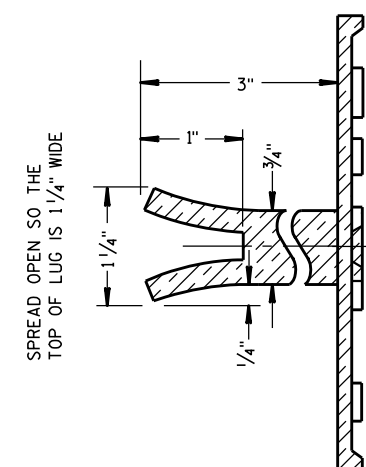
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

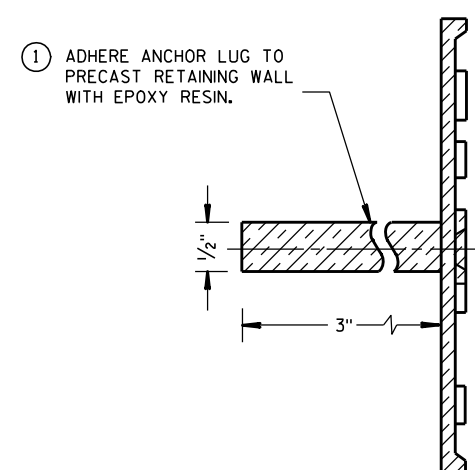
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

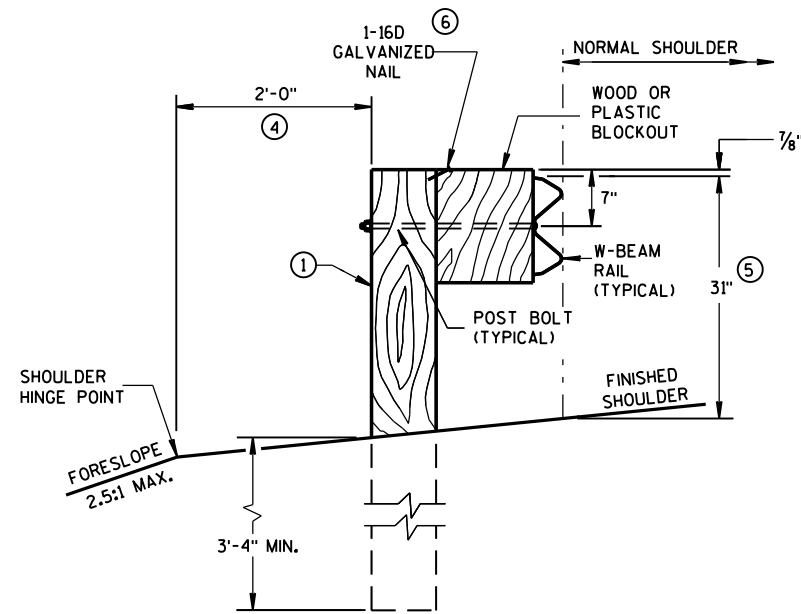
3/26/10
DATE

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER

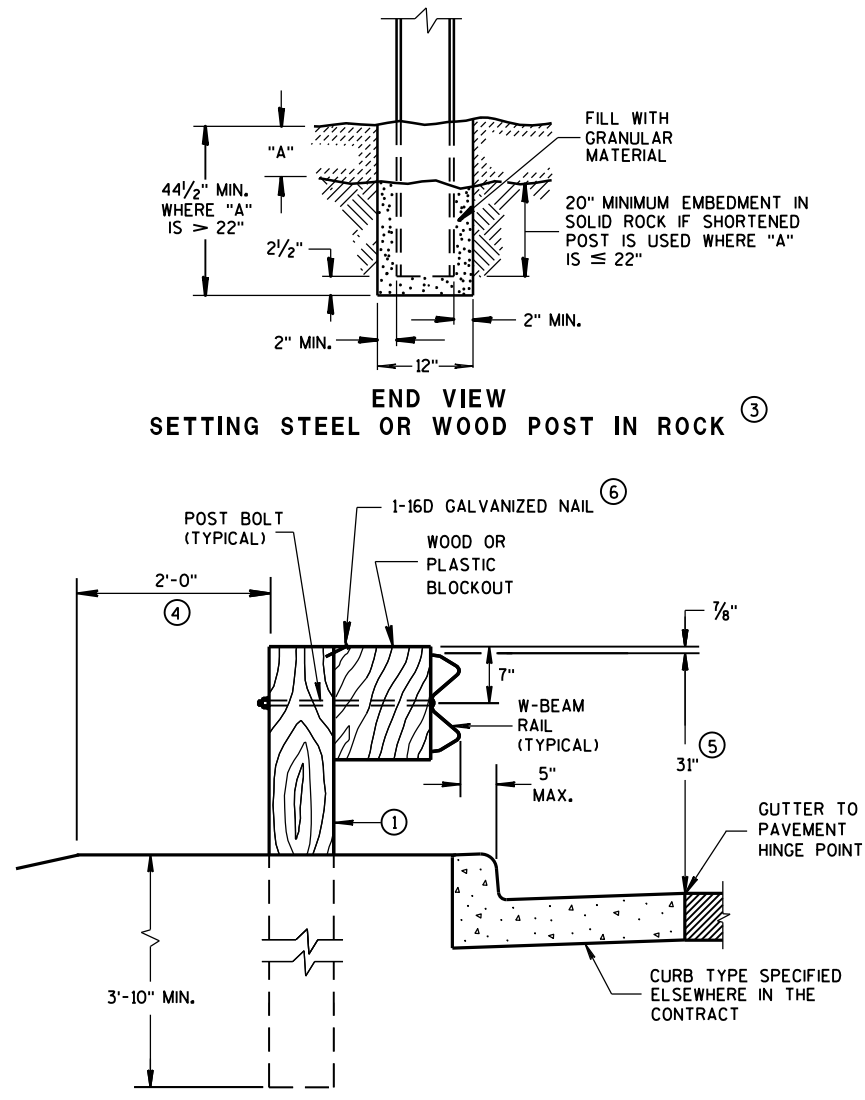
FHWA

GENERAL NOTES

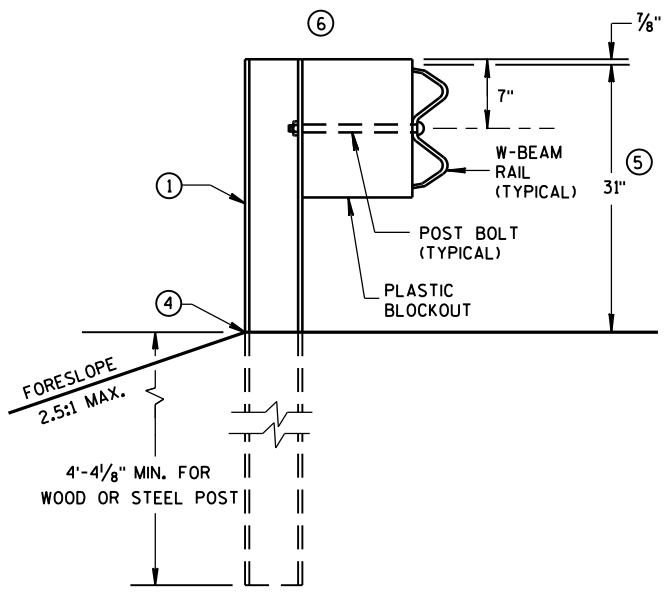
- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



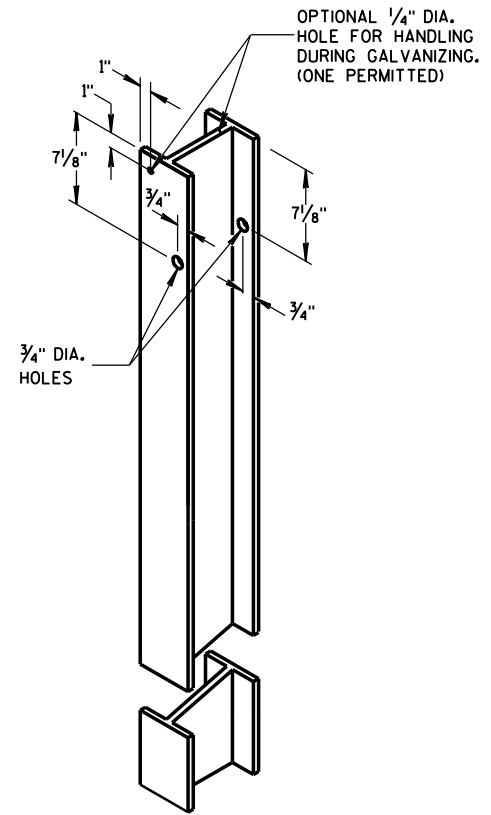
END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



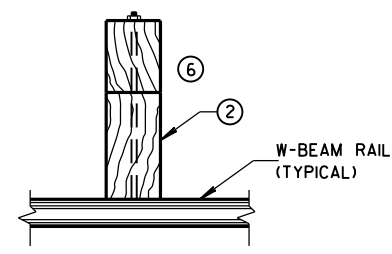
END VIEW
LOCATED ALONG A CURBED ROADWAY



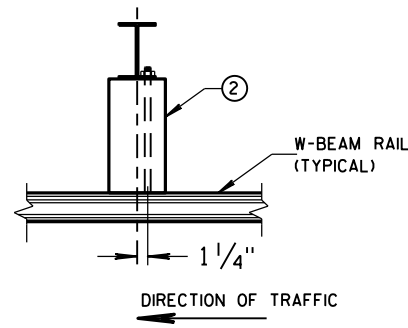
END VIEW
MGS LONGER POST AT HALFPST SPACING W BEAM (K)



STEEL POST &
HOLE PUNCHING DETAIL
(w6X9)



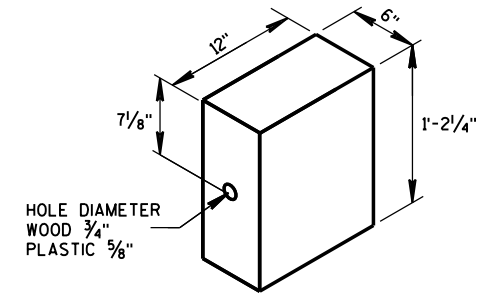
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



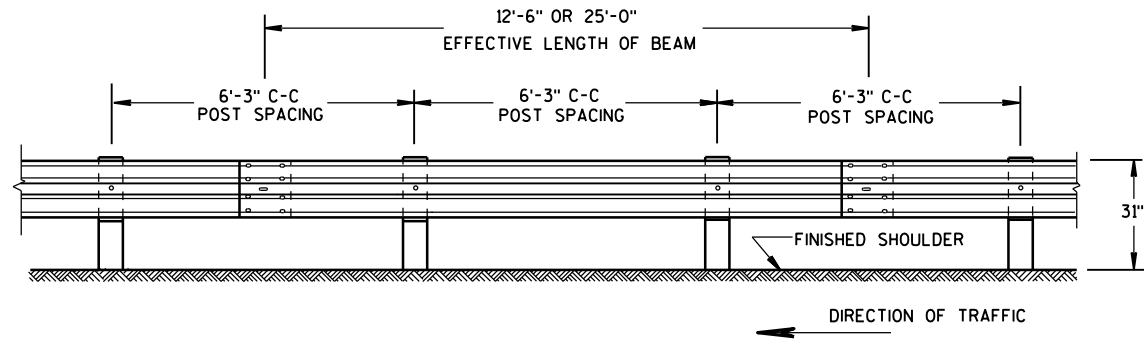
PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST
(6" X 8") NOMINAL

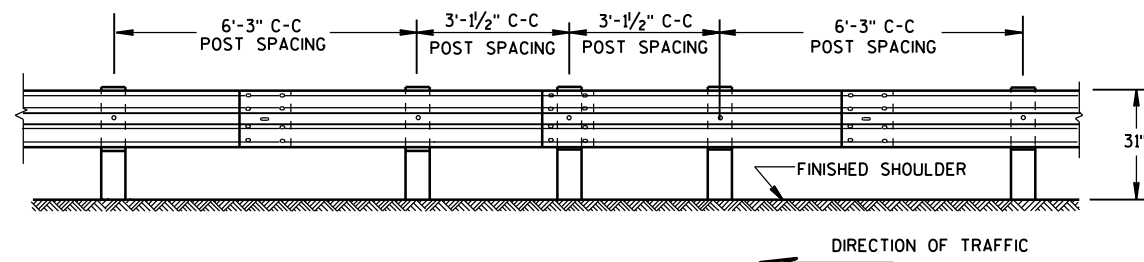


WOOD OR
PLASTIC BLOCKOUT



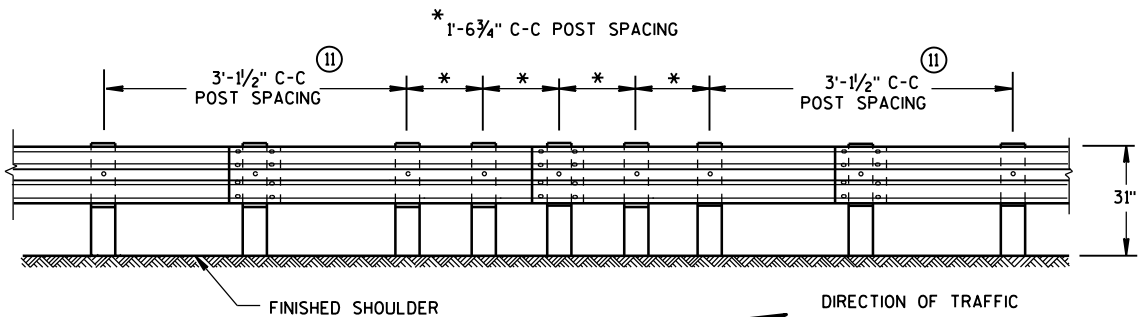
FRONT VIEW

POST SPACING STANDARD INSTALLATION



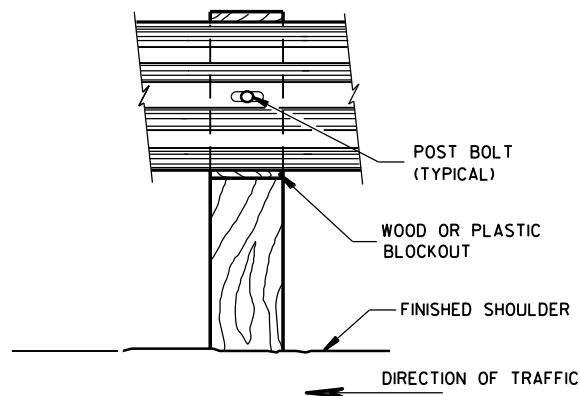
FRONT VIEW

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

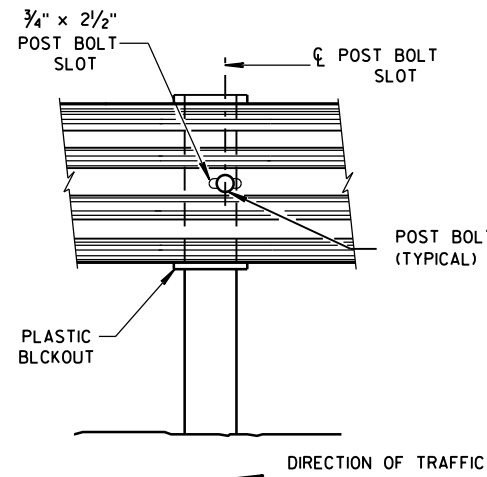


FRONT VIEW

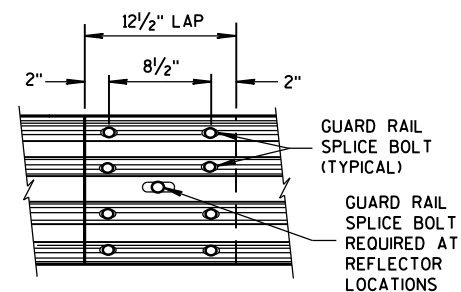
QUARTER POST SPACING (QS)



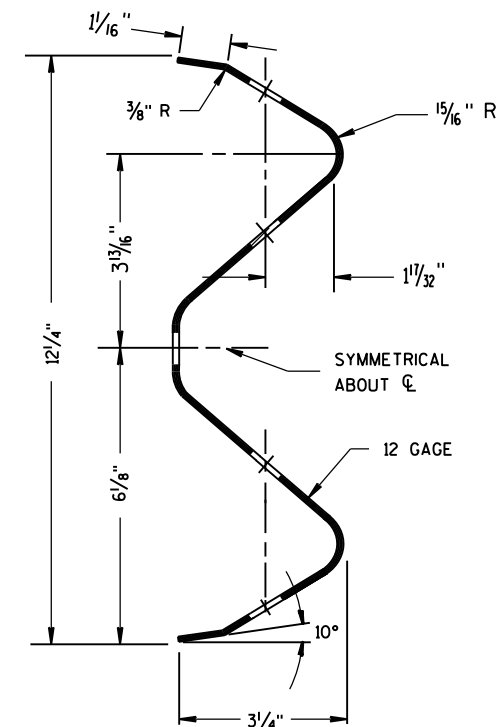
FRONT VIEW AT WOOD POST



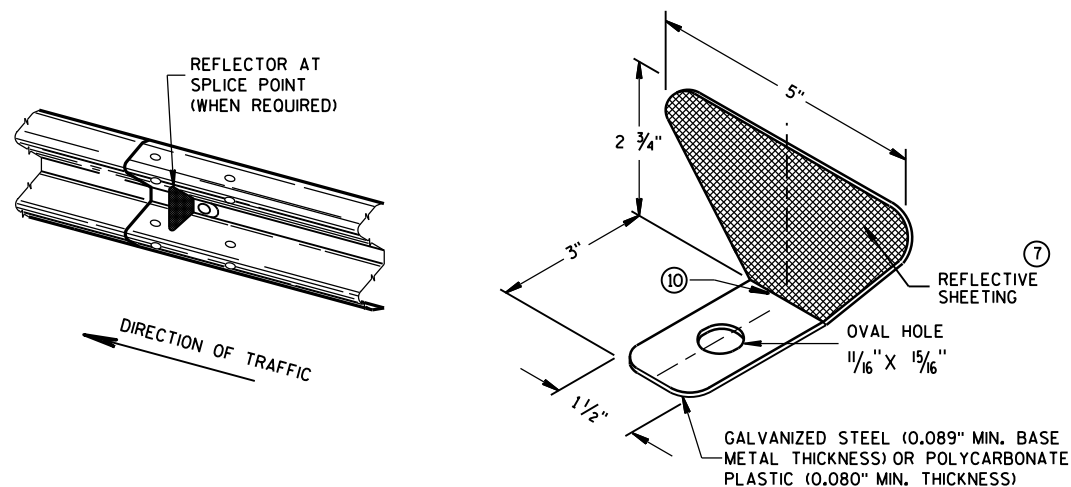
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

GENERAL NOTES

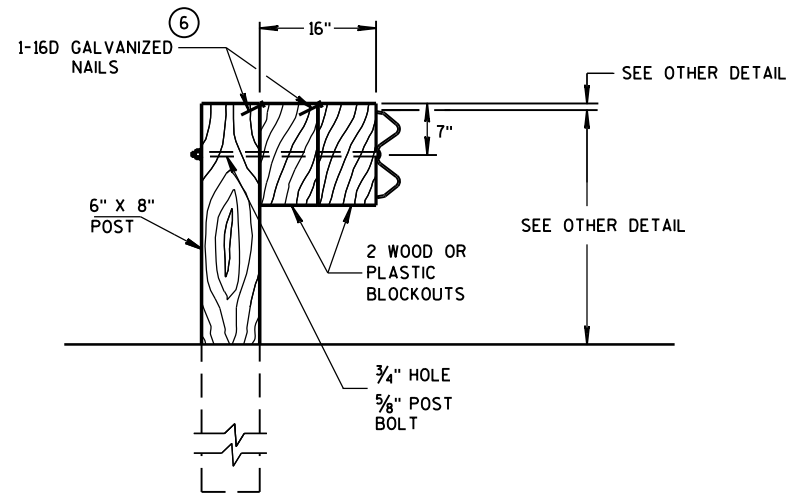
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF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

REFLECTOR SPACING

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

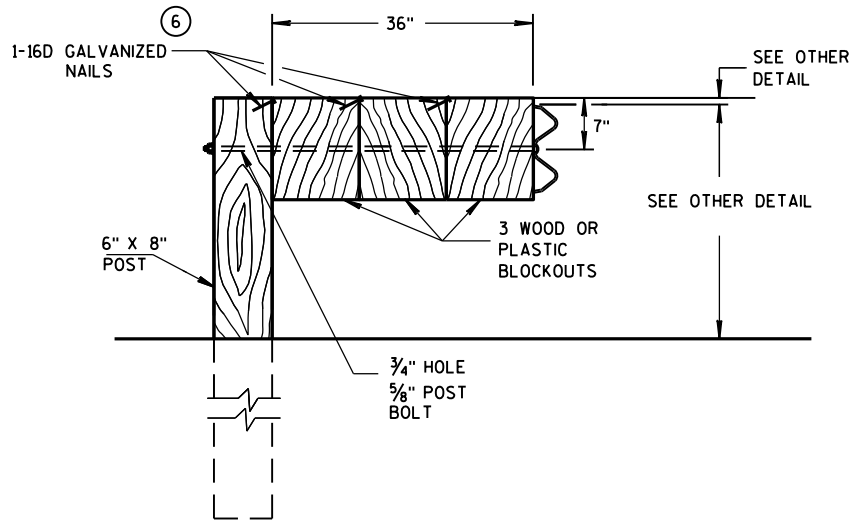
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

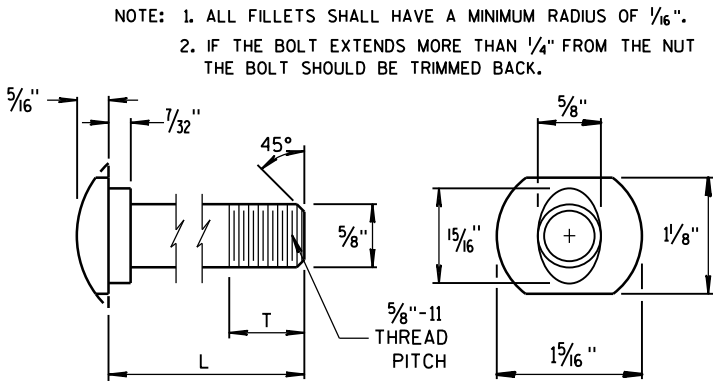
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



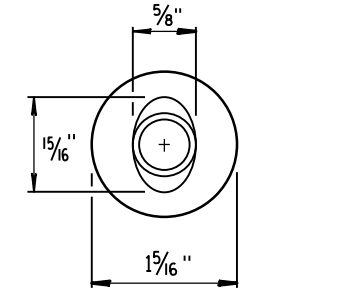
DETAIL FOR 36" BLOCKOUT DEPTH

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

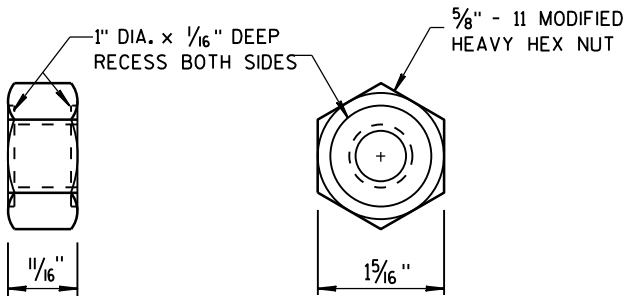
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



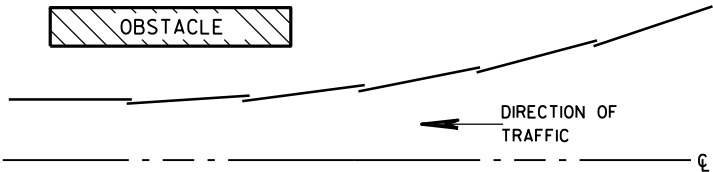
POST BOLT TABLE



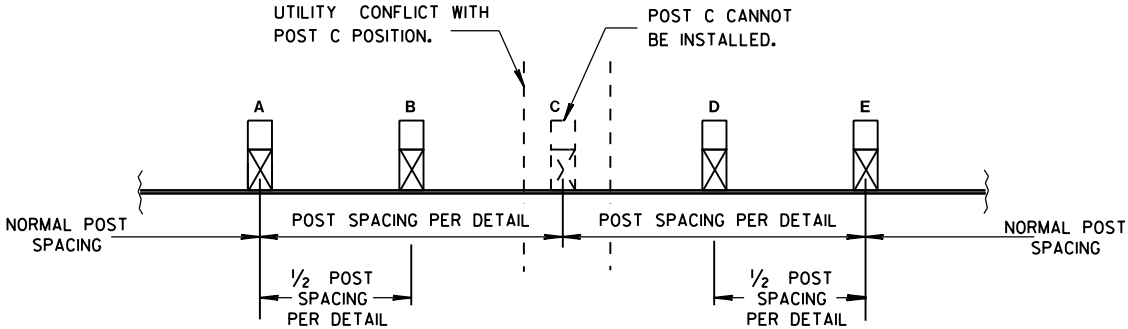
ALTERNATE BOLT HEAD



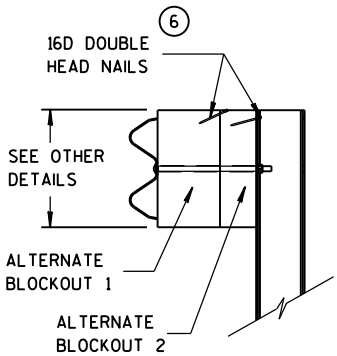
POST BOLT
AND RECESS NUT



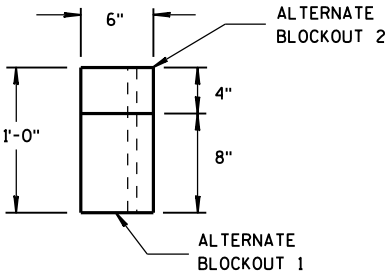
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

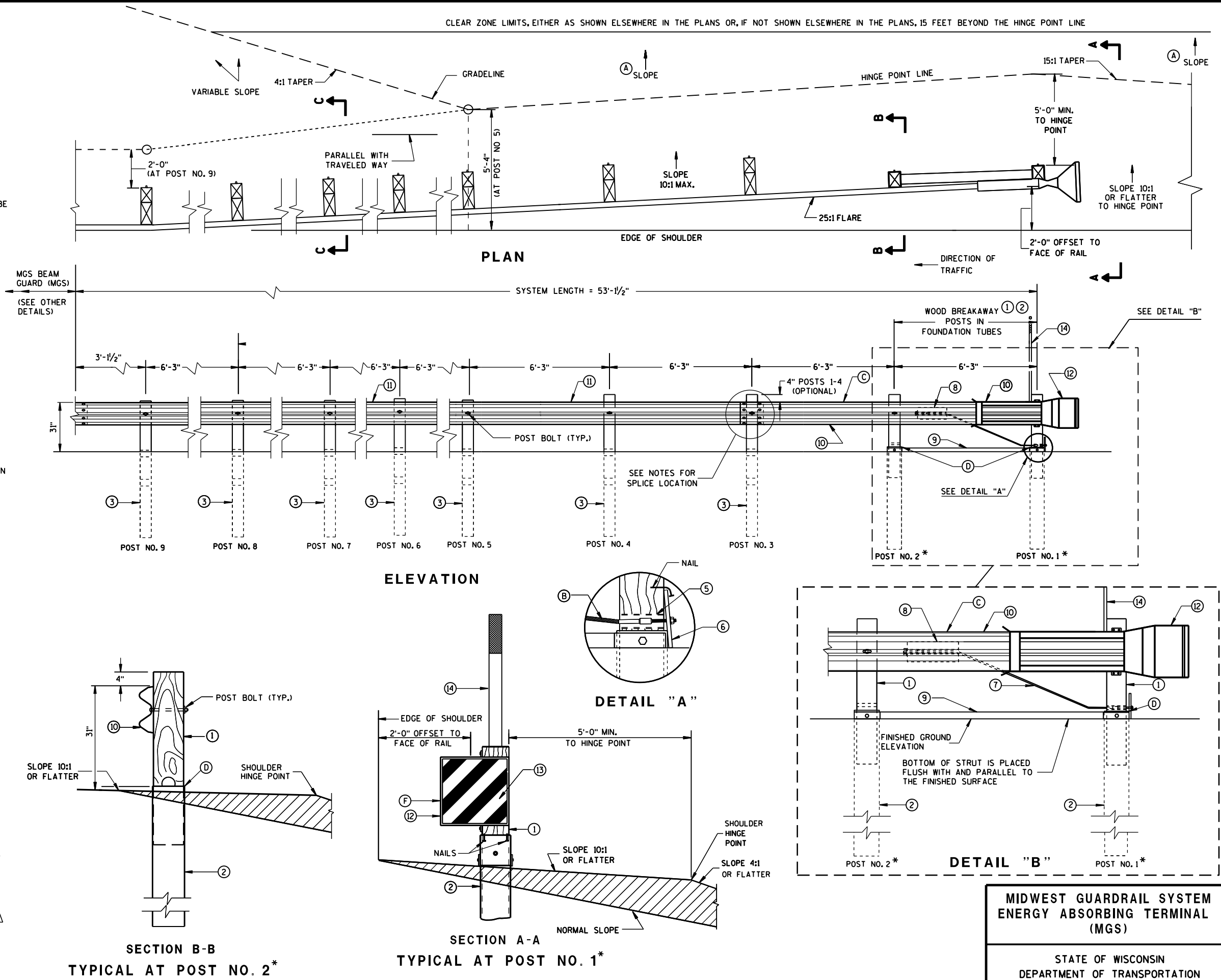
SEE SDD 14B42 FOR MORE INFORMATION.

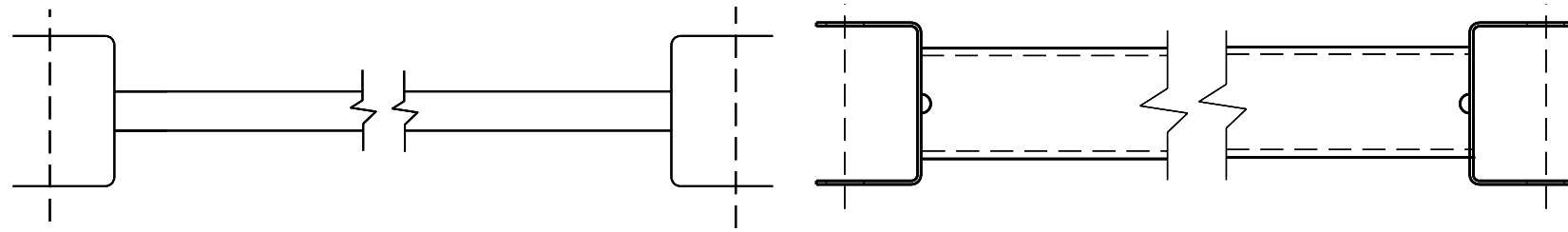
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

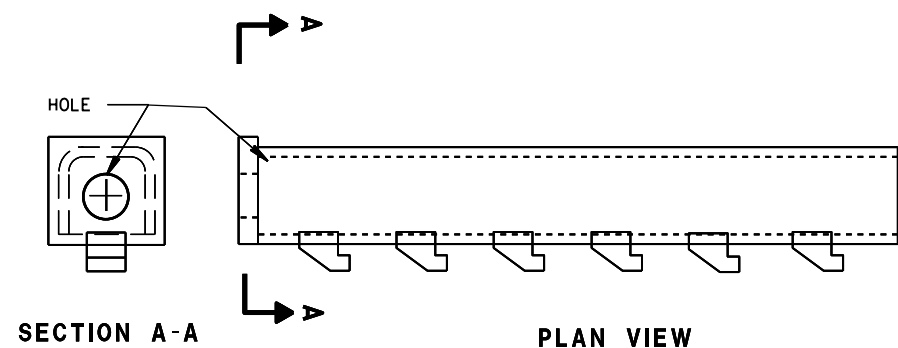
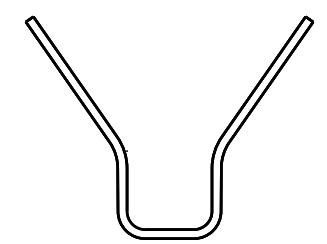
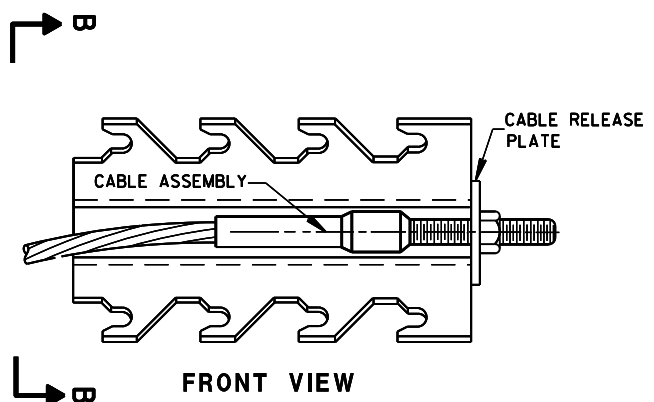
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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





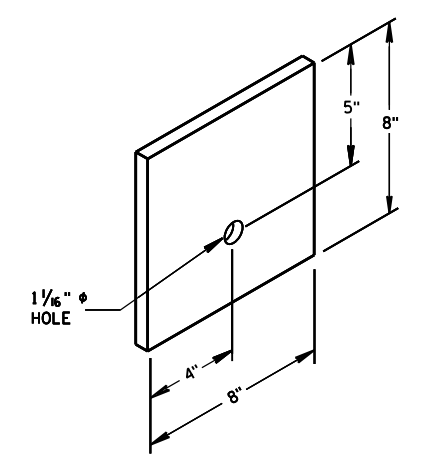
9 H
GENERIC GROUND STRUT



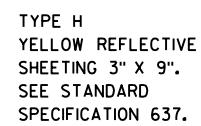
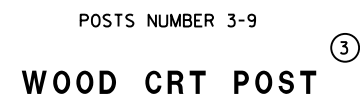
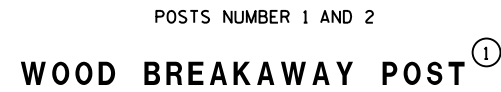
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

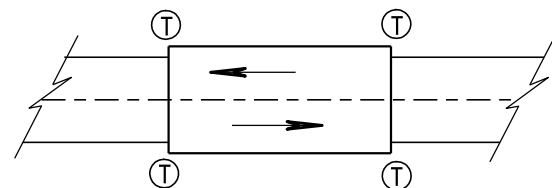
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND 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 F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



⑥
BEARING PLATE

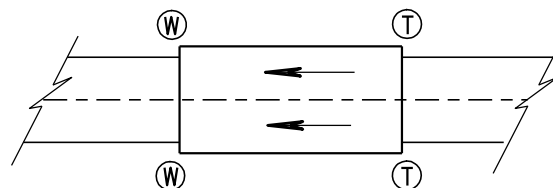


<p>MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)</p>	
<p>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</p>	
<p>APPROVED June 2014</p>	<p>/S/ Jerry H. Zogg</p>
<p>DATE</p>	<p>ROADWAY STANDARDS DEVELOPMENT ENGINEER</p>
<p>FHWA</p>	



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".

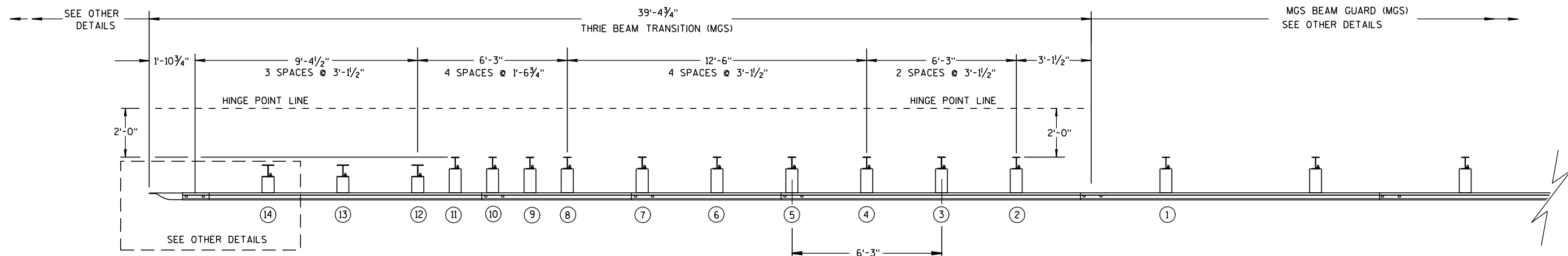
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

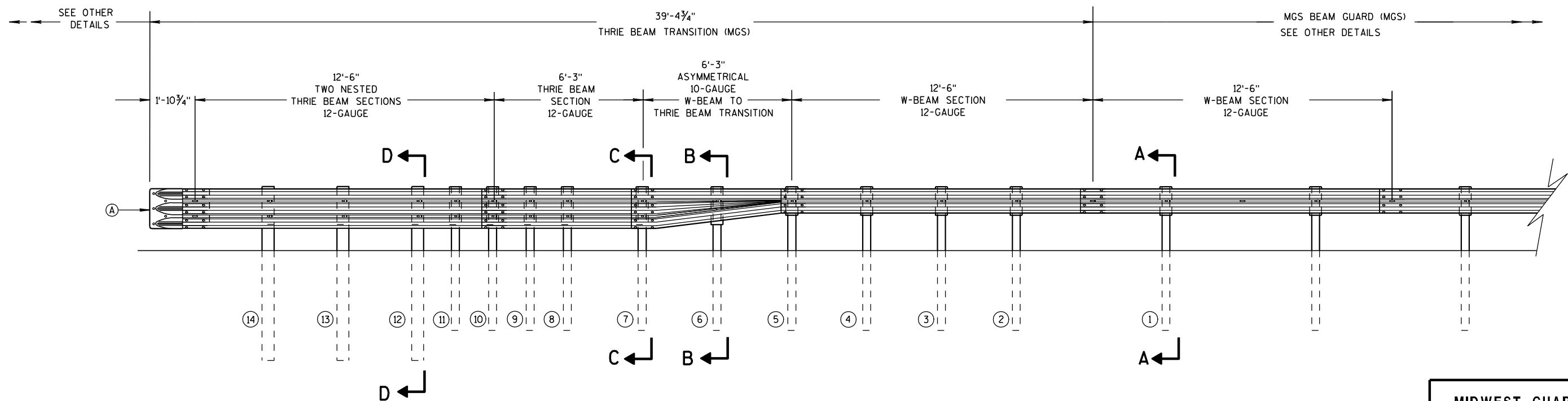
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ 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

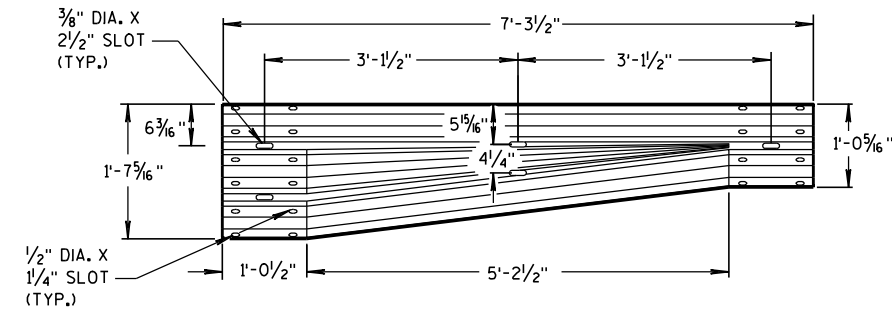
6

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

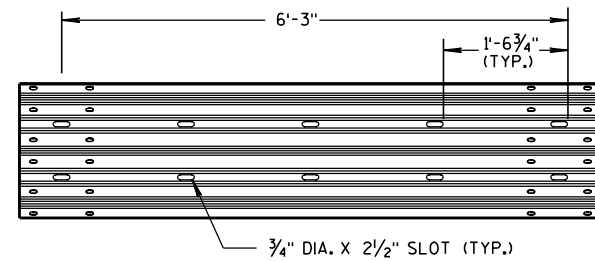


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

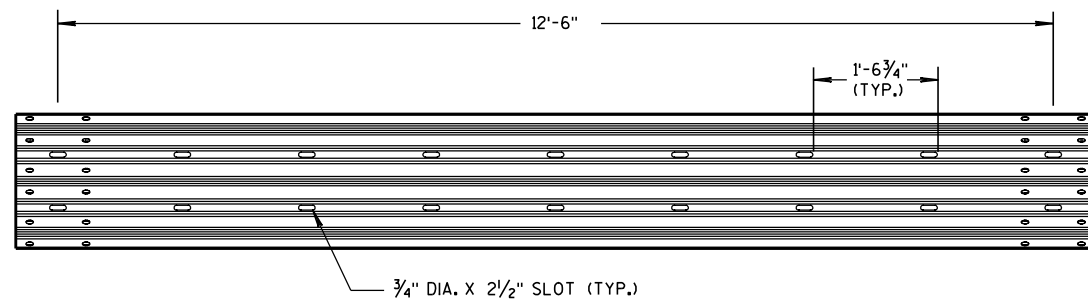
S.D.D. 14 B 45-3b



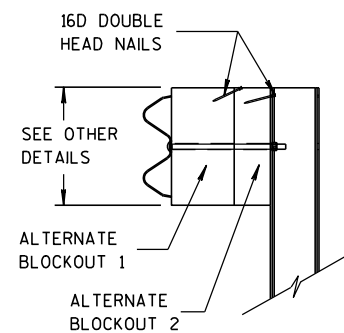
W-BEAM TO THRIE BEAM TRANSITION SECTION



6'-3" THRIE BEAM SECTION

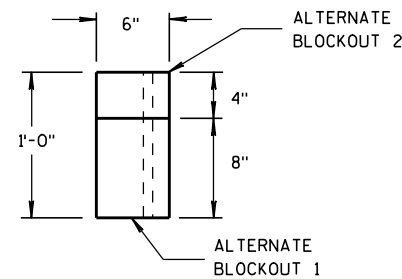


12'-6" THRIE BEAM SECTION

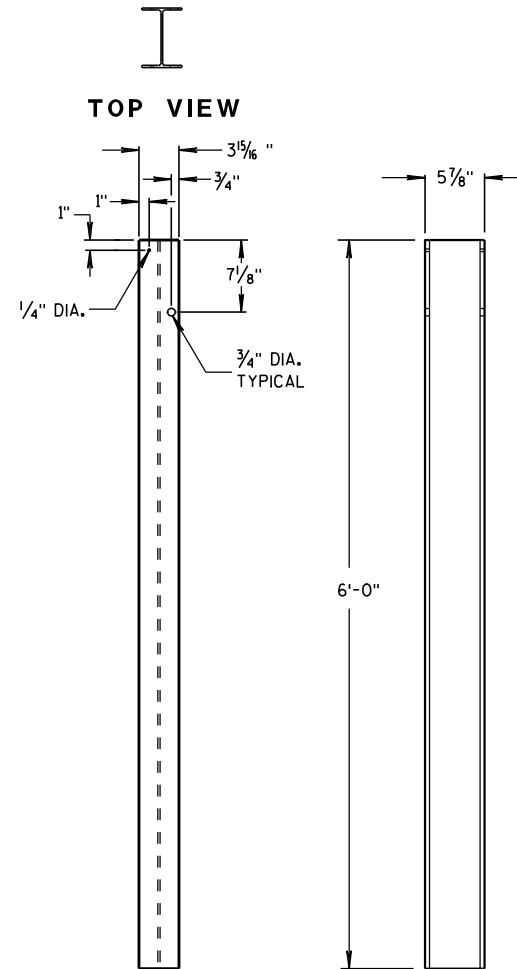


SIDE VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL



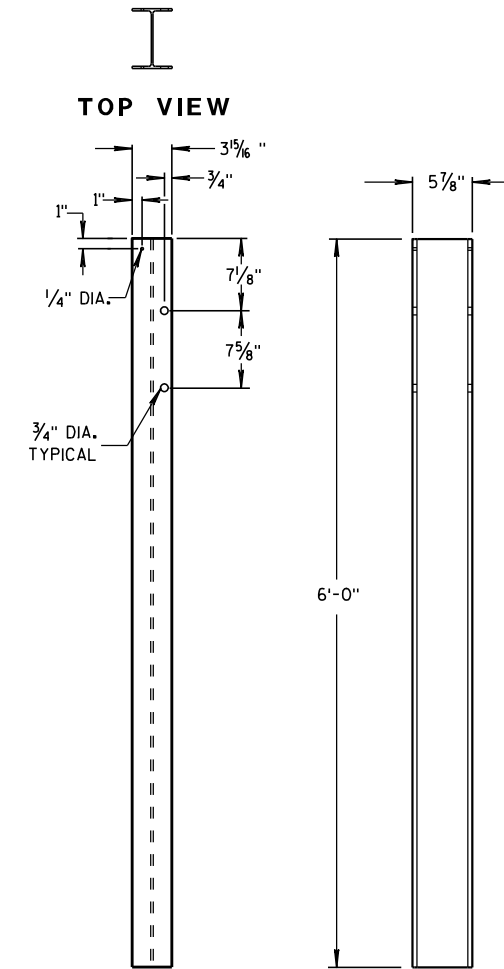
TOP VIEW



FRONT VIEW

SIDE VIEW

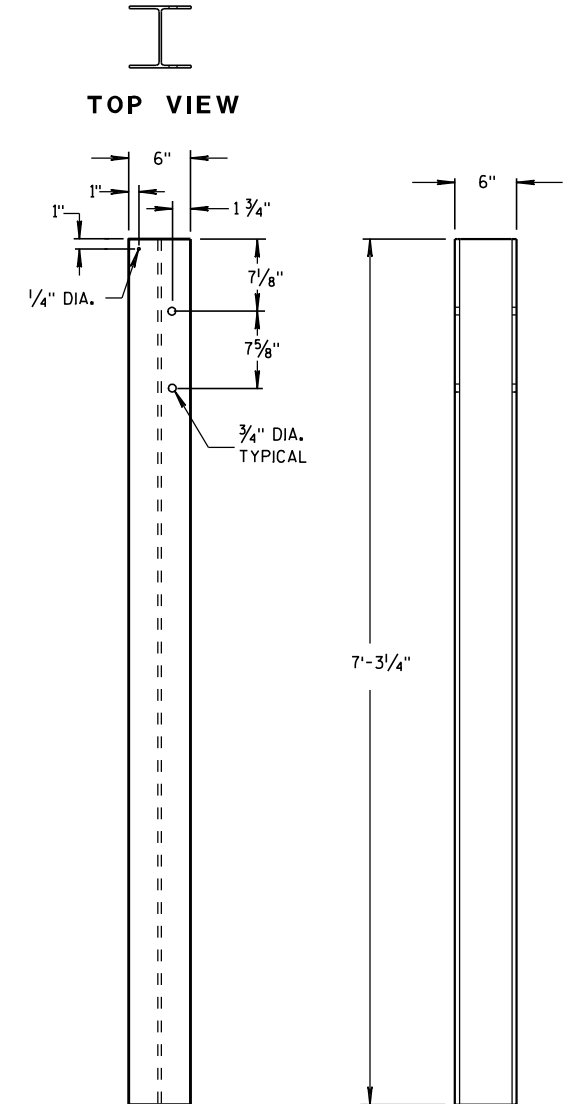
STEEL POSTS 1-5



FRONT VIEW

SIDE VIEW

STEEL POSTS 6-11



FRONT VIEW

SIDE VIEW

STEEL POSTS 12-14

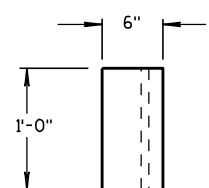
STEEL POST SIZES

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"

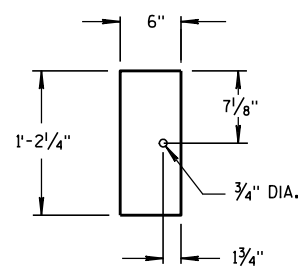
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

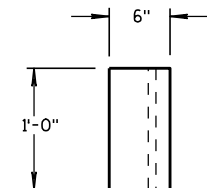


TOP VIEW

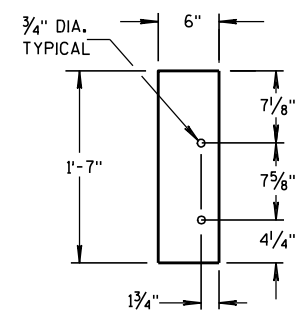


FRONT VIEW

BLOCKOUT
POSTS 1-5

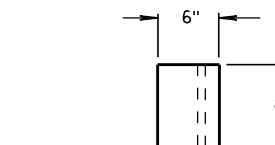


TOP VIEW

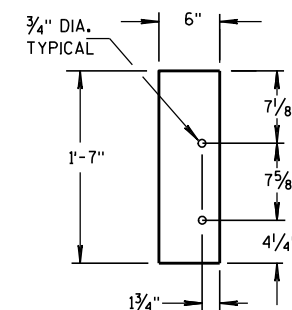


FRONT VIEW

BLOCKOUT
POSTS 6-11

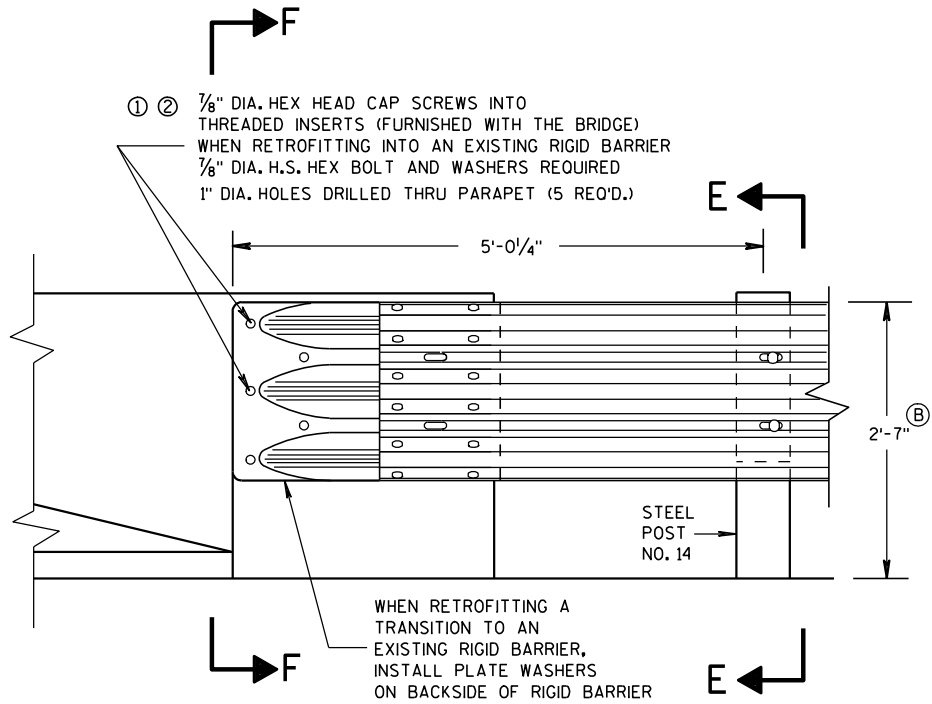


TOP VIEW



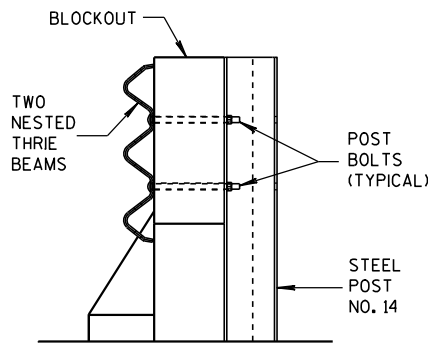
FRONT VIEW

BLOCKOUT
POSTS 12-14



FRONT VIEW

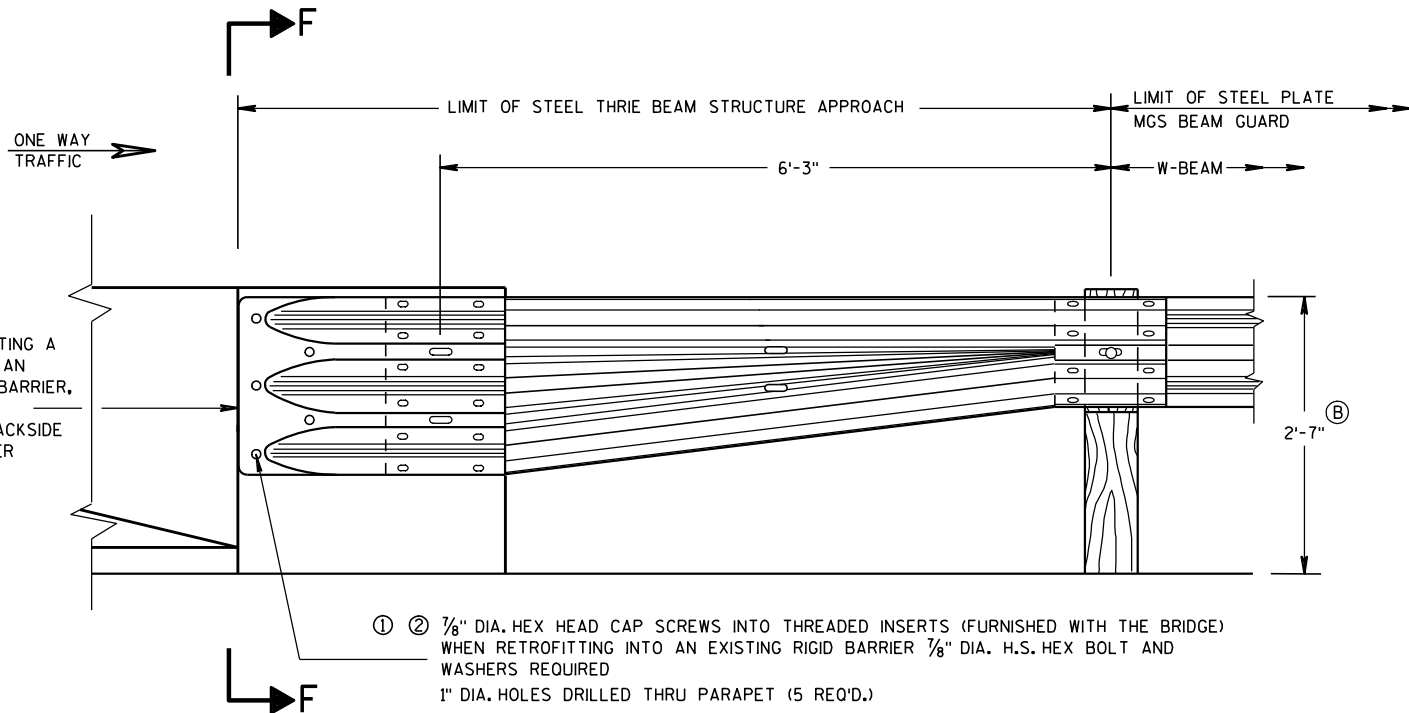
THRIE BEAM CONNECTION TO BRIDGE
PARAPET WITH SQUARE ENDS



SECTION E-E

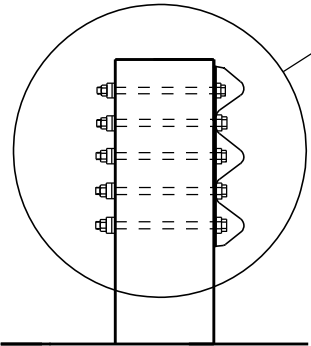
GENERAL NOTES

- THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.
- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
 - ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS, BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
 - ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

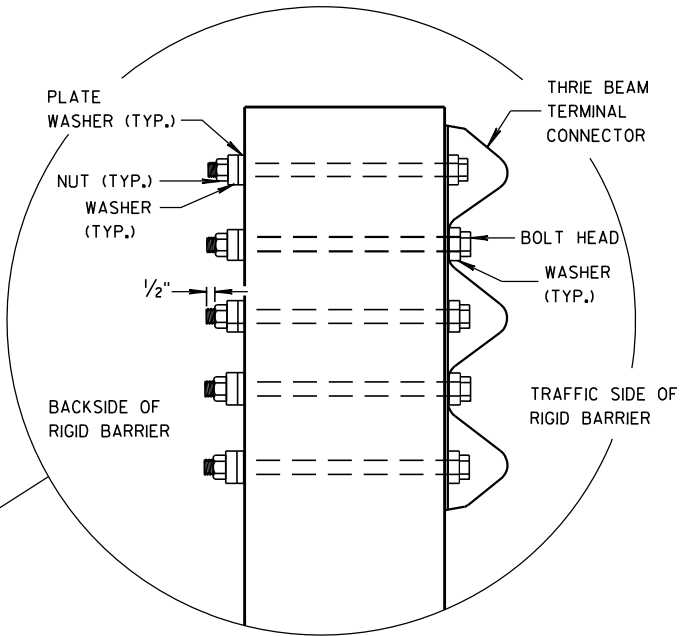


FRONT VIEW

W BEAM TRANSITION AND CONNECTION TO
BRIDGE PARAPETS WITH SQUARE ENDS
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



SECTION F-F



MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

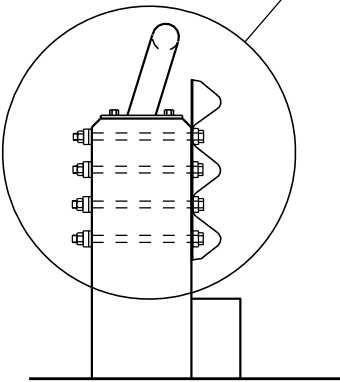
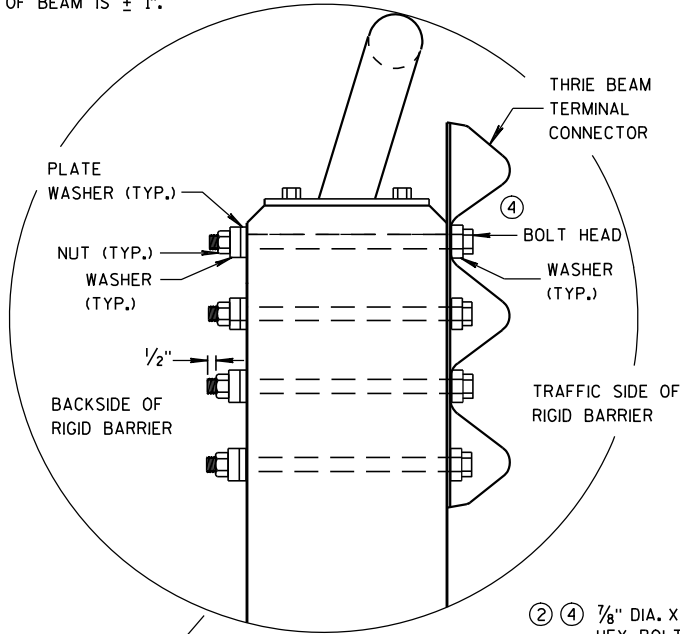
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

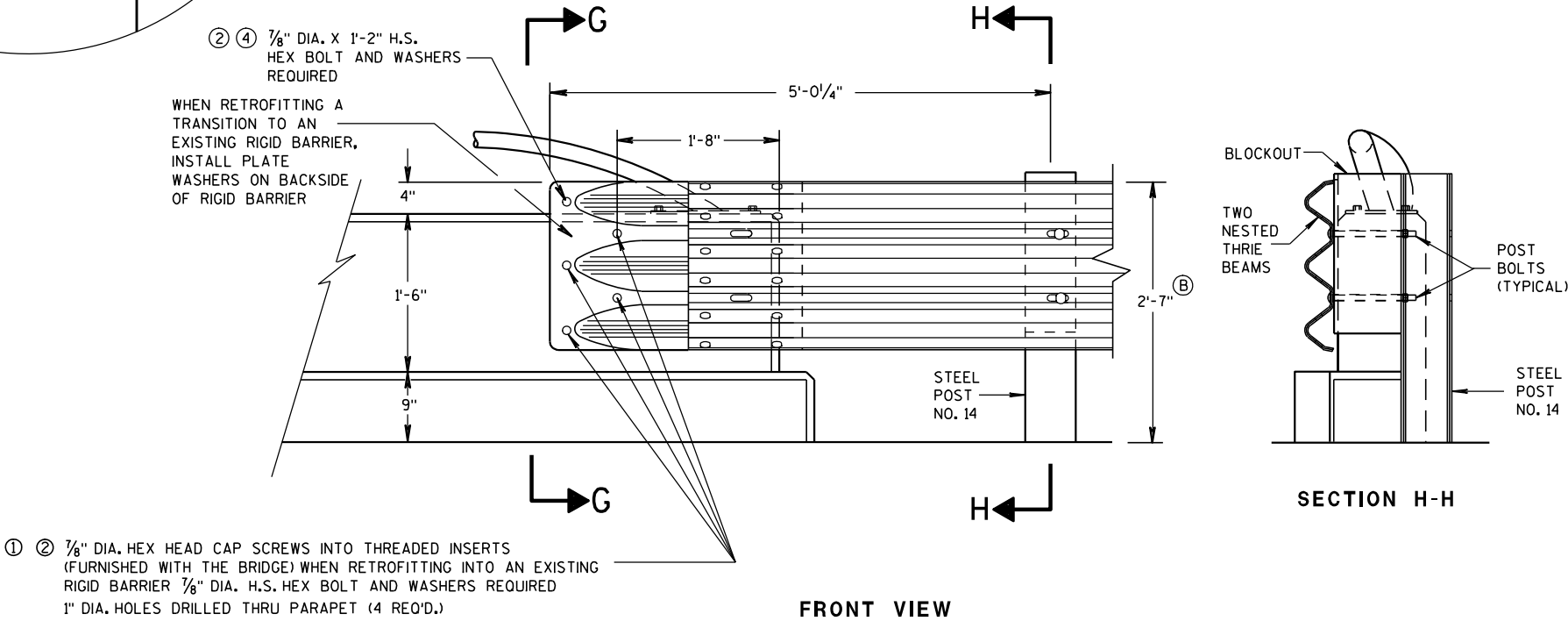
GENERAL NOTES

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

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 $\frac{1}{2}$ ". BLOCK IS INCIDENTAL TO THE CONTRACT.
- ④ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.
- ⓑ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

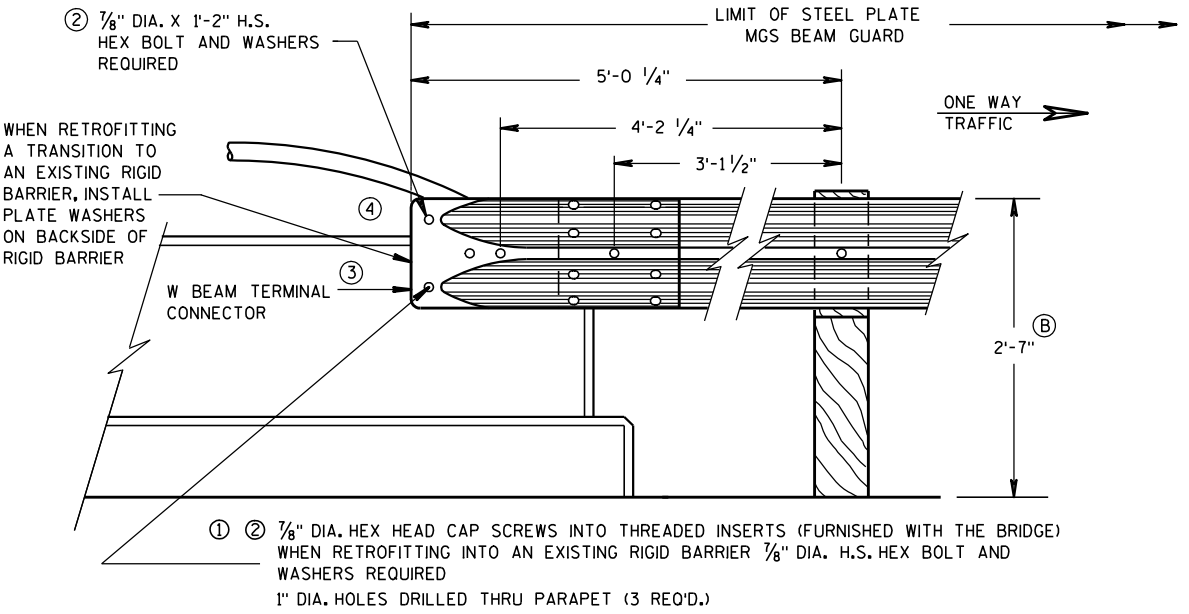


SECTION G-G



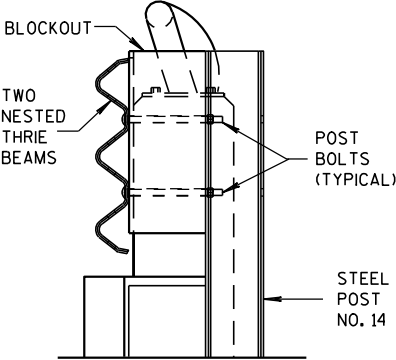
FRONT VIEW

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS



FRONT VIEW

W BEAM CONNECTION TO VERTICAL FACE PARAPET
(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

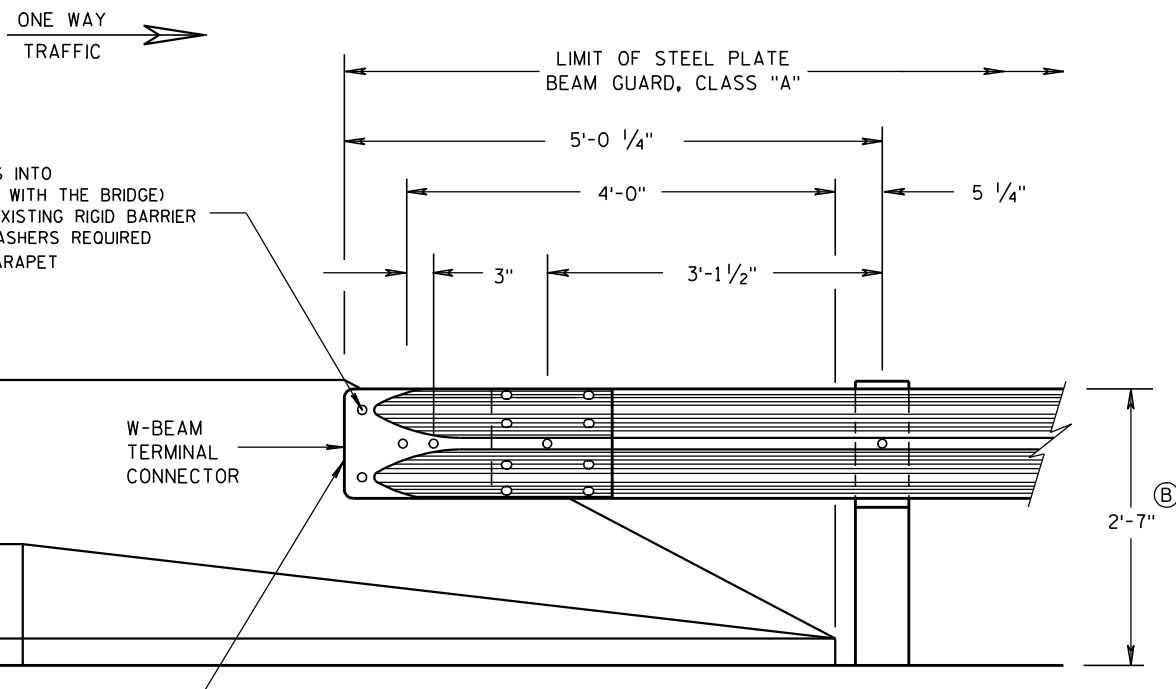


SECTION H-H

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8-31-2012 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



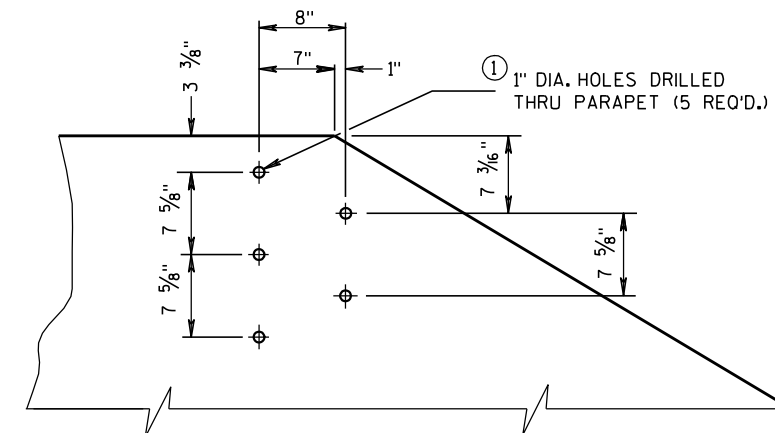
FRONT VIEW

W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

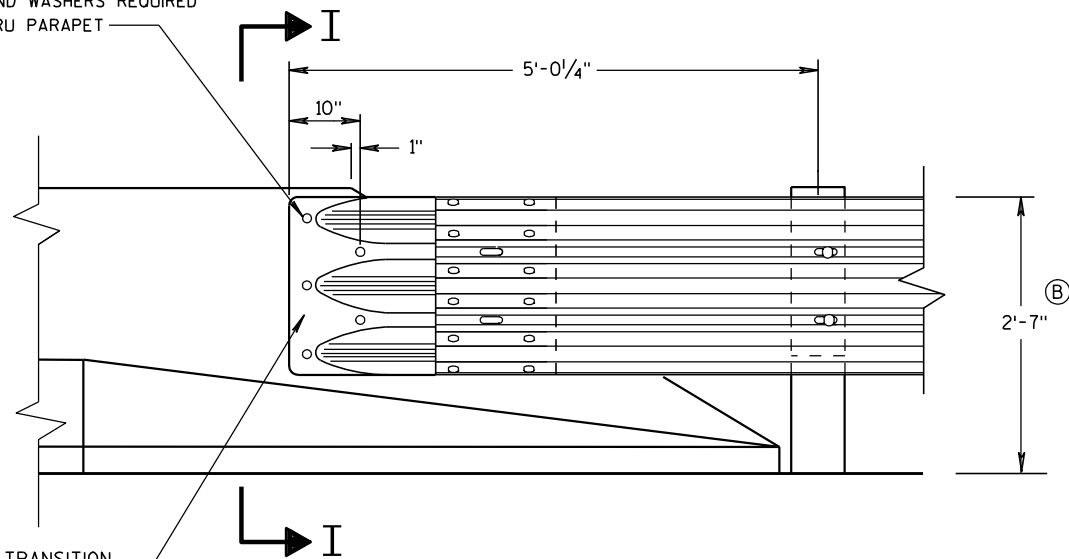
GENERAL NOTES

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ③ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.



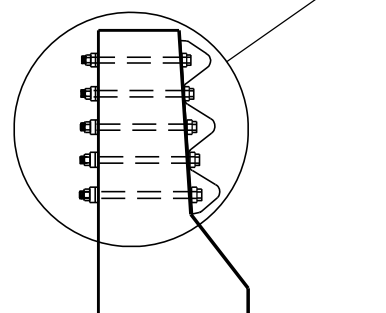
DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION

- ① ② 1/8" DIA. HEX HEAD CAP SCREWS INTO
THREADED INSERTS (FURNISHED WITH THE BRIDGE)
WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET
(5 REQ'D.)

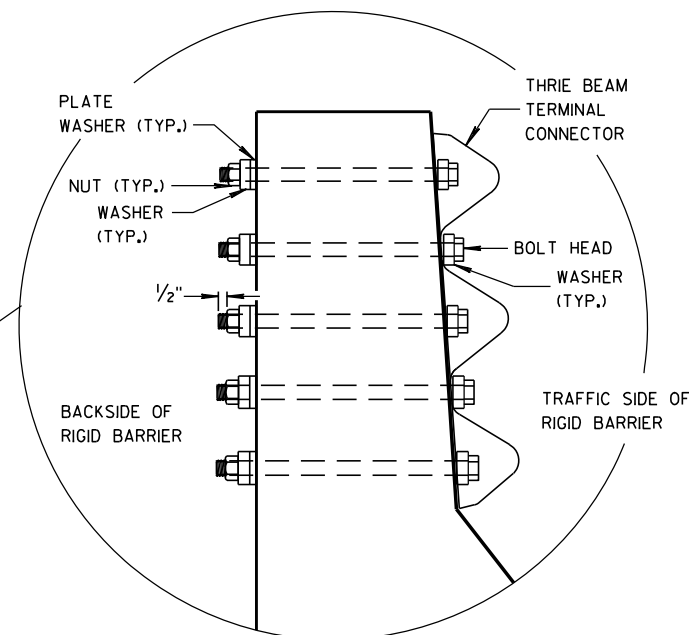


FRONT VIEW

THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS



SECTION I-I

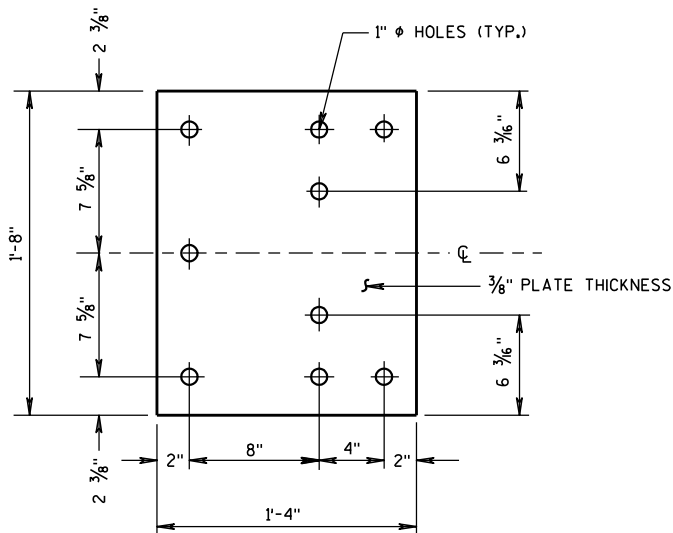


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

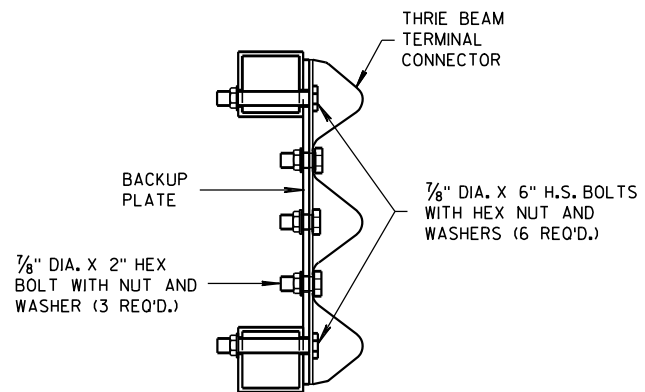
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
FHWA

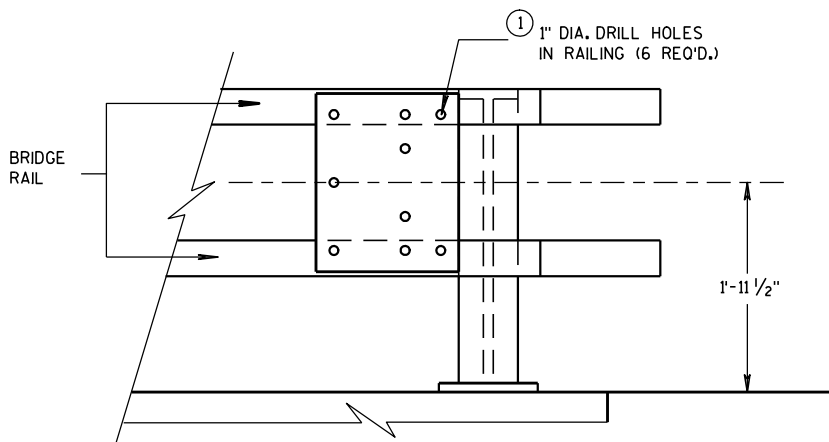
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



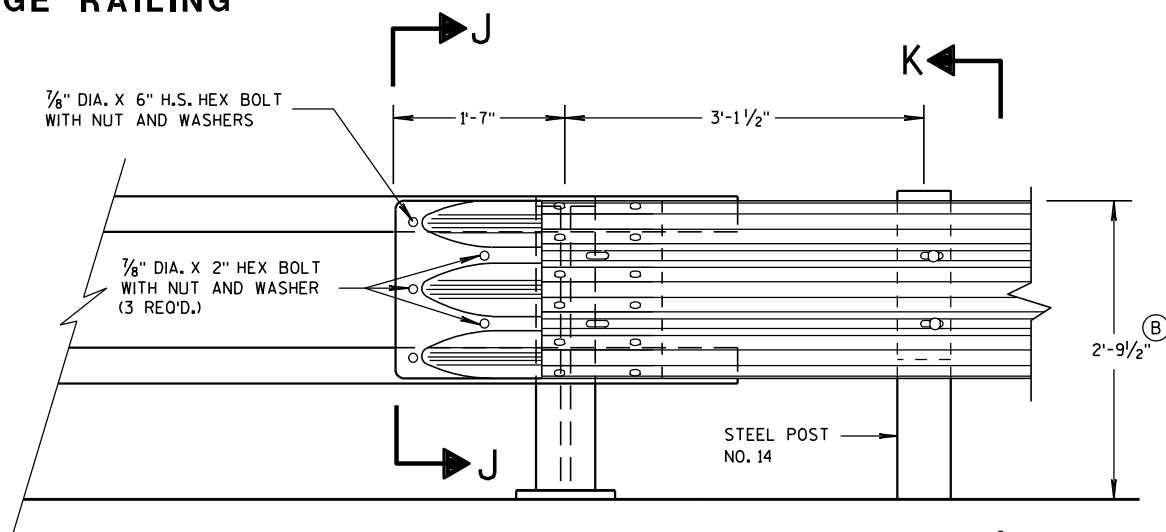
BACK-UP PLATE DETAIL



SECTION J-J

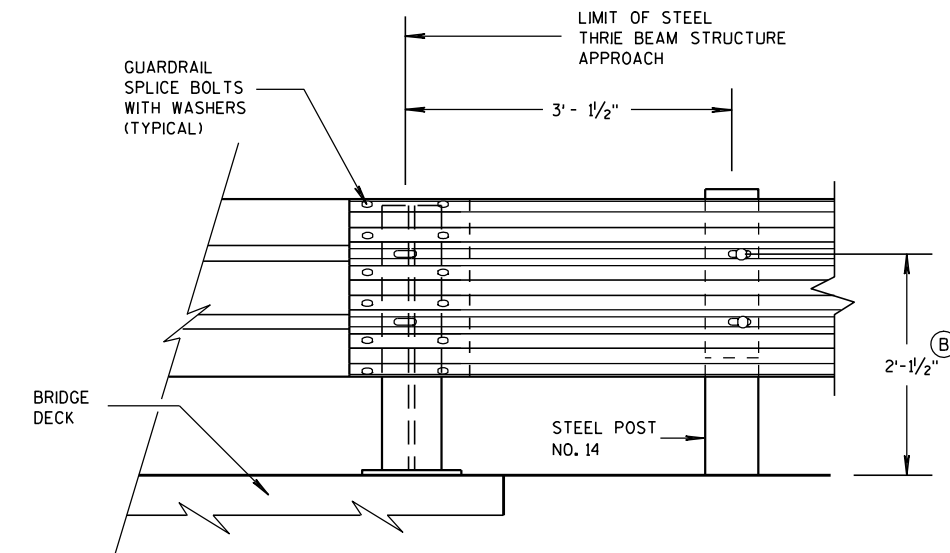


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



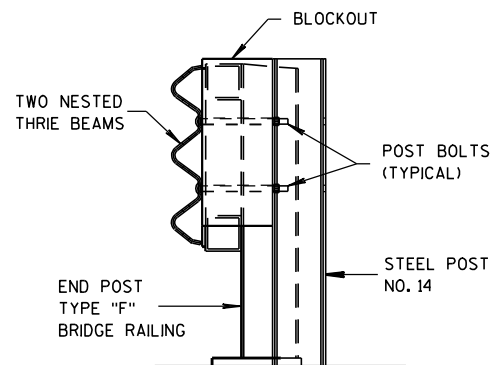
FRONT VIEW

THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"



SECTION K-K

GENERAL NOTES

- ① DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

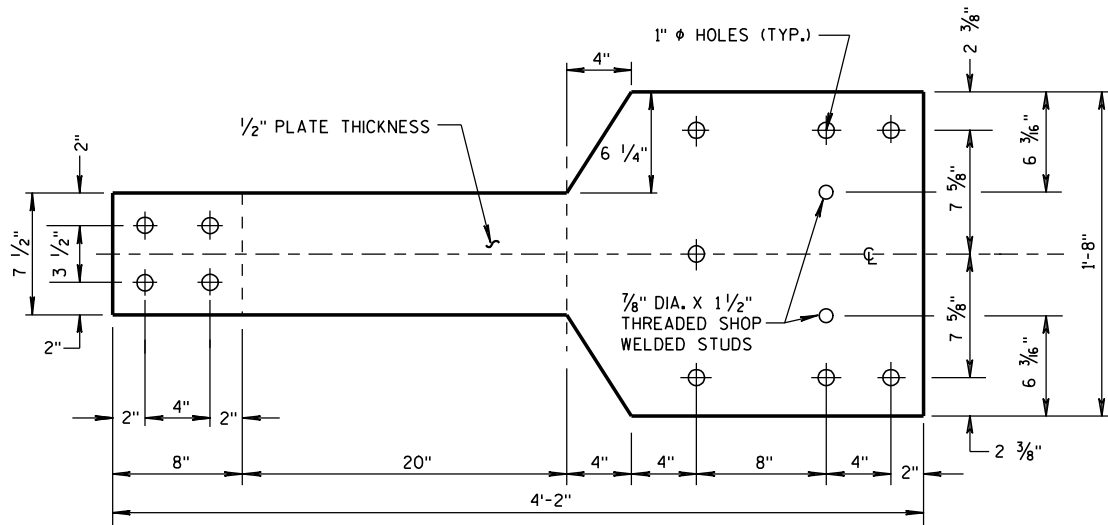
STATE OF WISCONSIN
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8/31/2012
DATE
FHWA

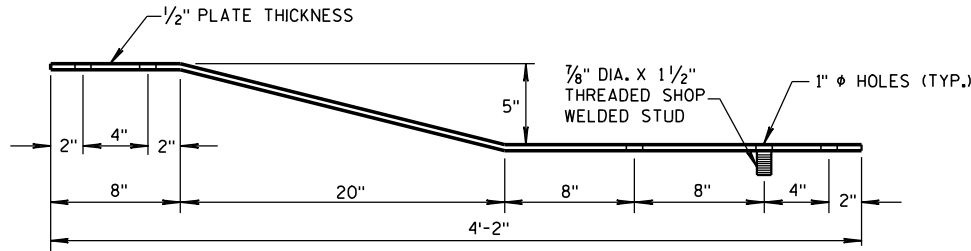
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

GENERAL NOTES

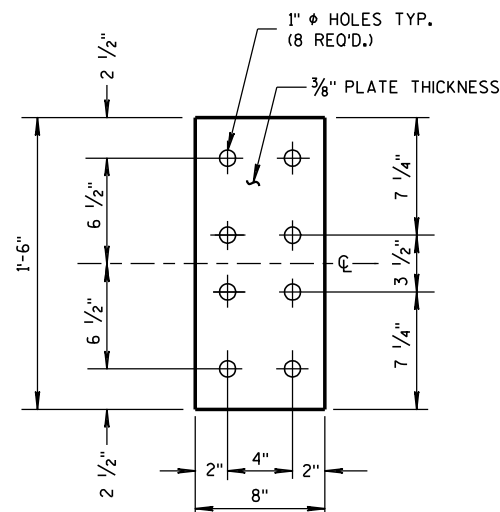
(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



FRONT VIEW

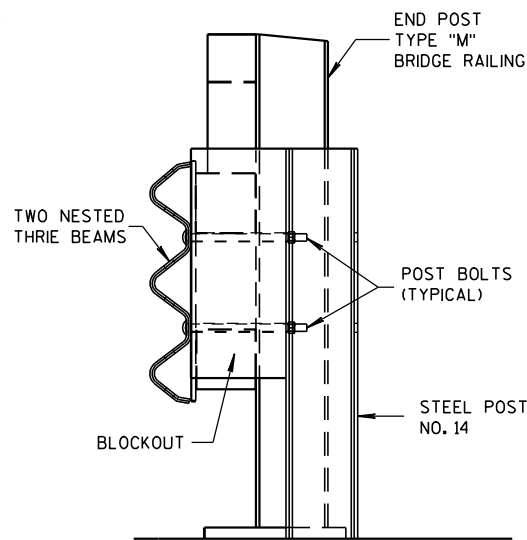


PLAN VIEW
BACK-UP PLATE DETAIL, TYPE "M"

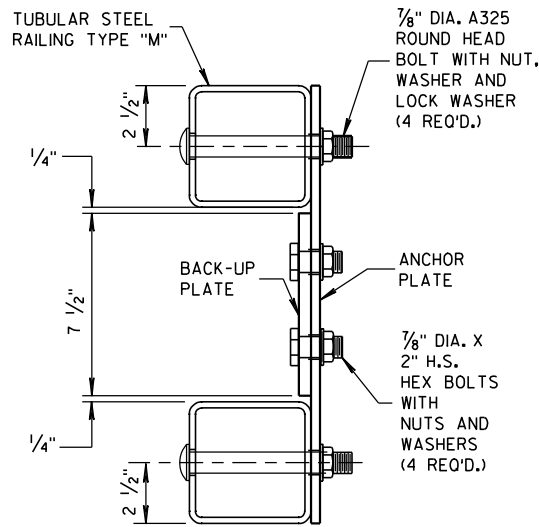


FRONT VIEW

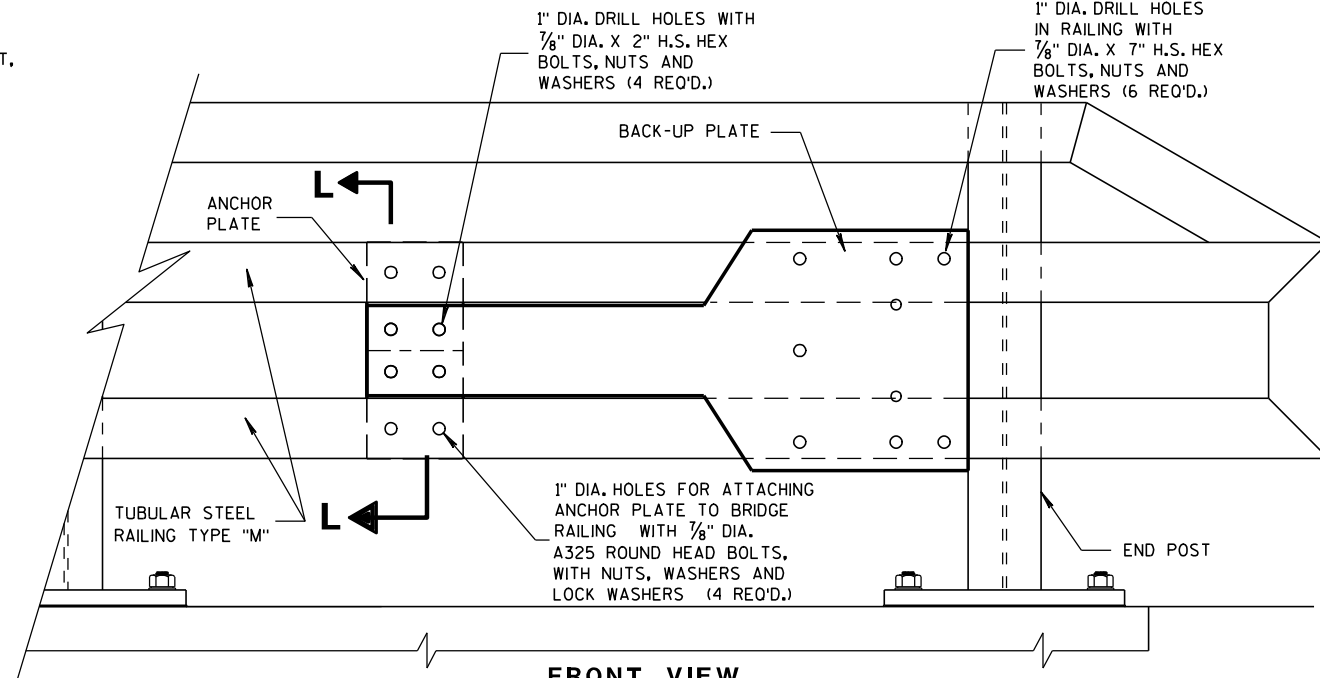
ANCHOR
PLATE DETAIL,
TYPE "M"



SECTION M-M

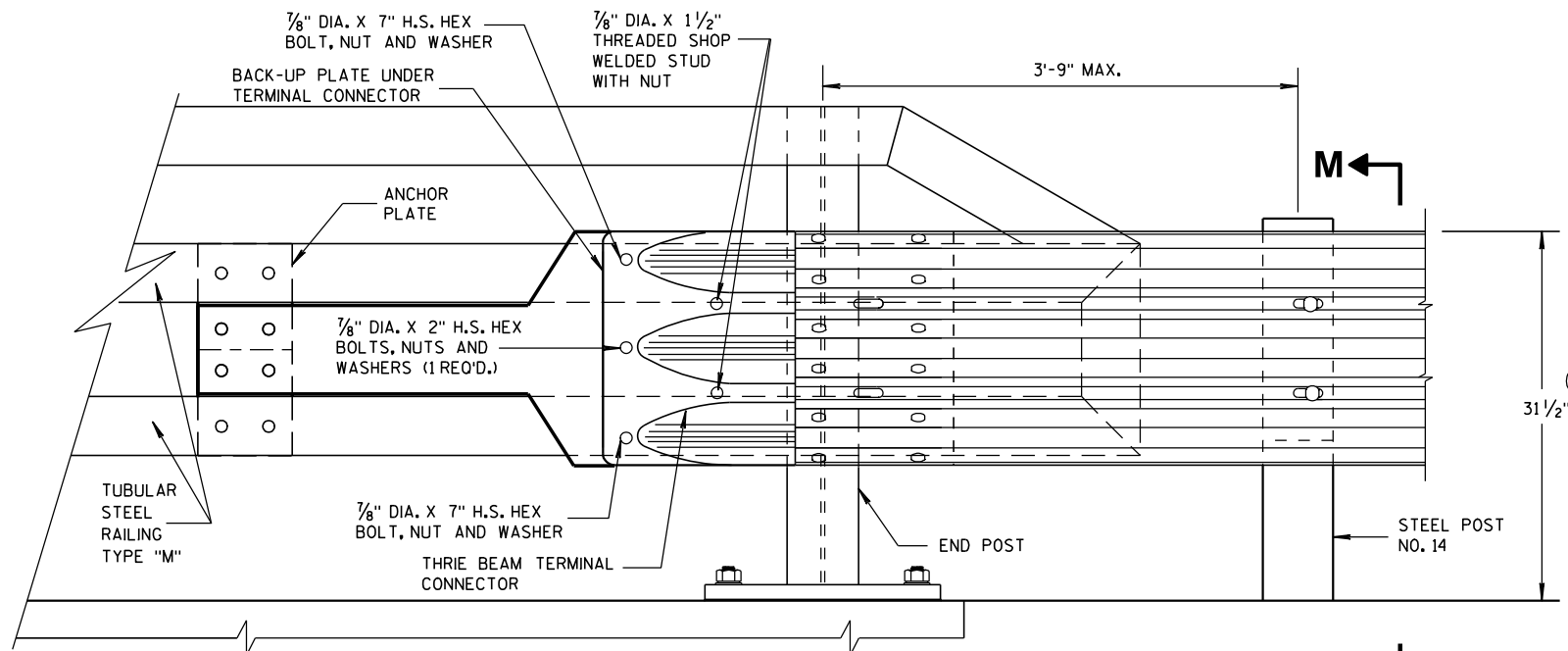


SECTION L-L

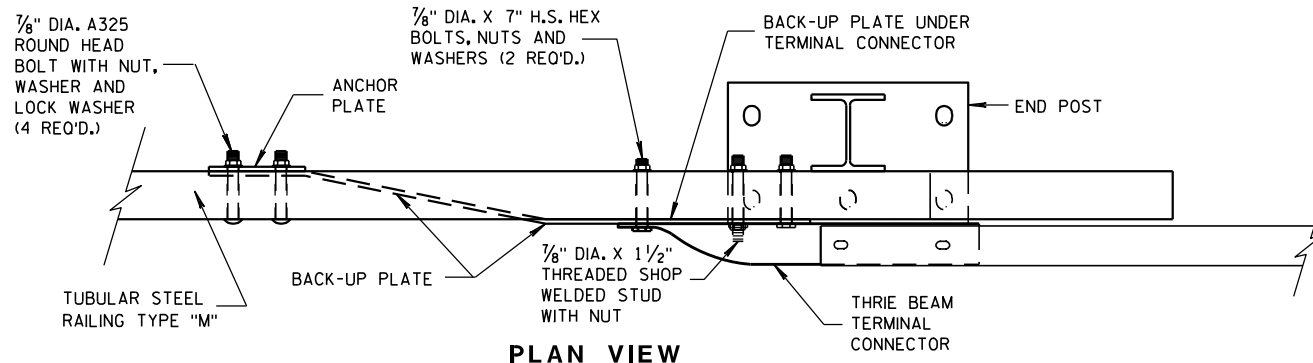


FRONT VIEW

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



SINGLE SLOPE CONNECTION PLATE

COVER PLATE PANELS ARE $\frac{3}{16}$ " THICK.

ALL STIFFENERS ARE $\frac{1}{4}$ " THICK.

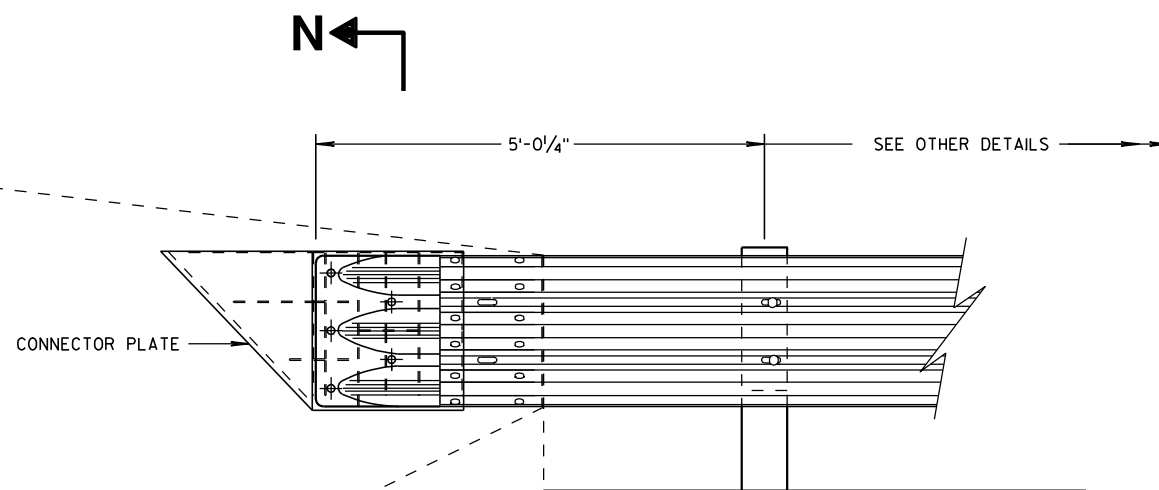
CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

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

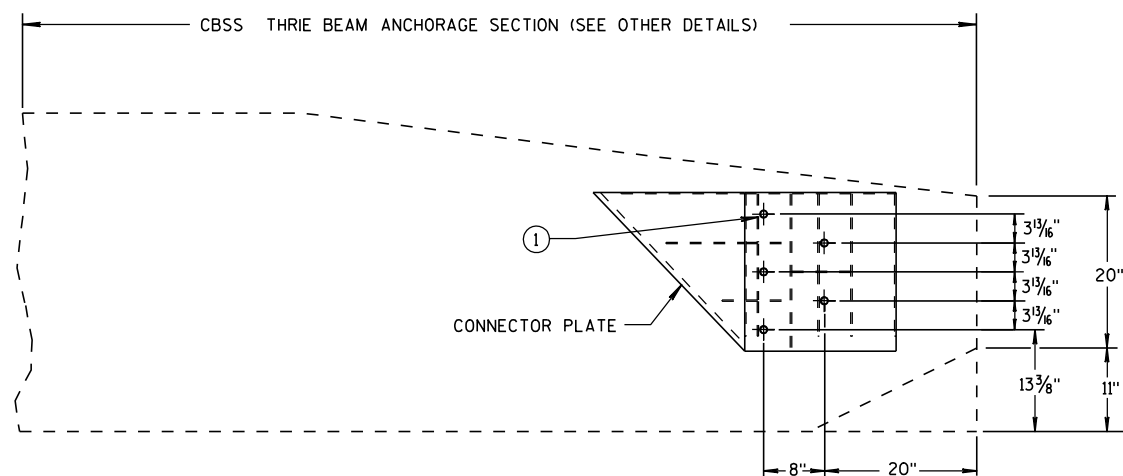
ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

- ① STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.
- ② STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
 $\frac{3}{16}$ " FILLET WELD BY 1" LONG SPACED AT 2".



THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

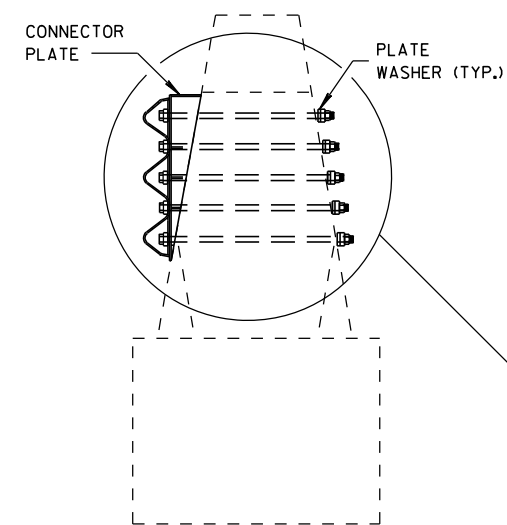


SINGLE SLOPE CONNECTION PLATE PLACEMENT

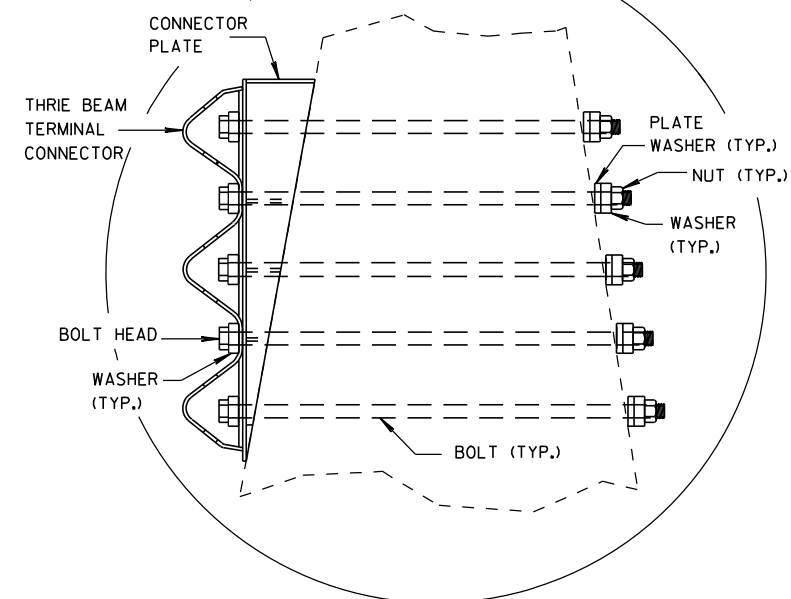
GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

- ① BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



SECTION N-N



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

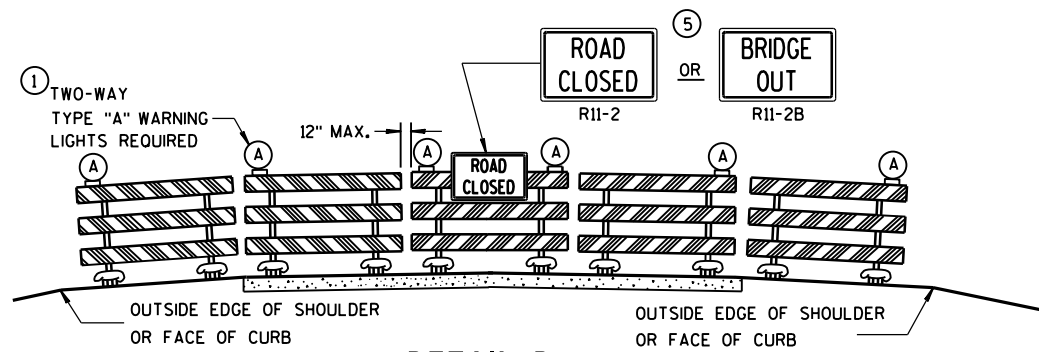
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

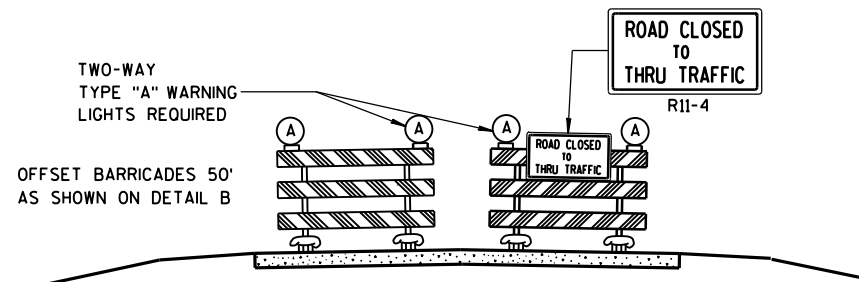
8/31/2012
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



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.

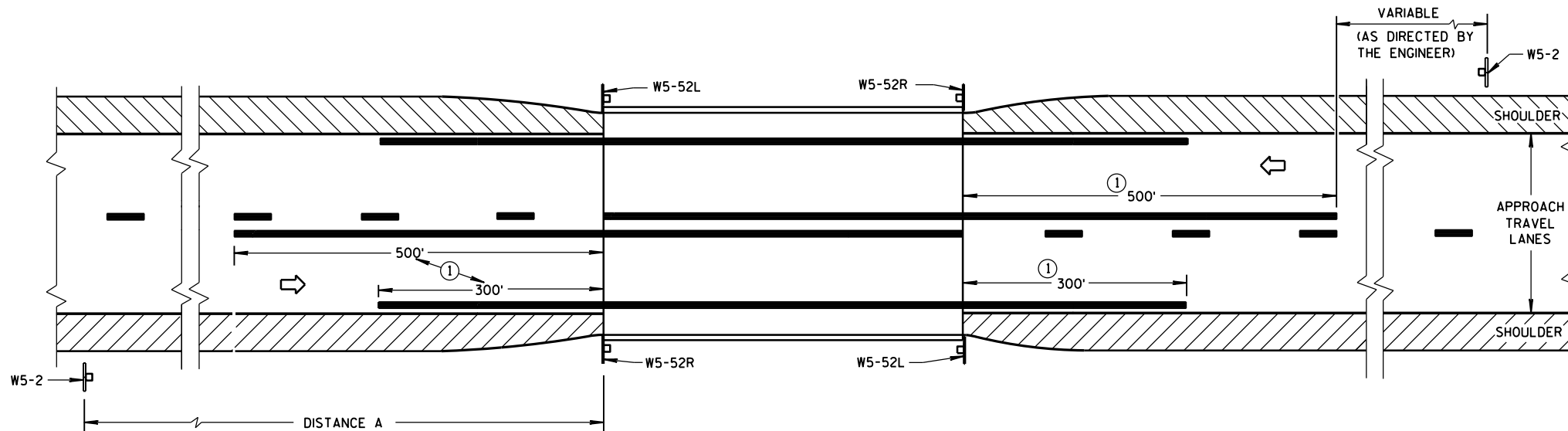
R1-1 SHALL BE 36" X 36".

- 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 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



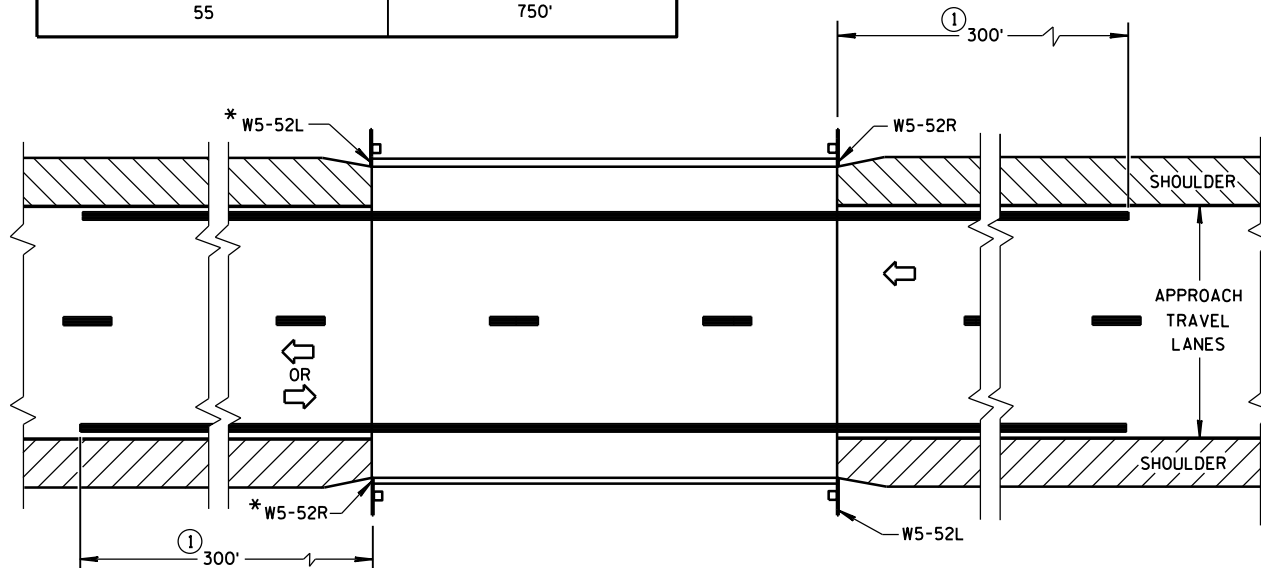
SITUATION 1

WARRANTING CRITERIA:

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

DISTANCE TABLE

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

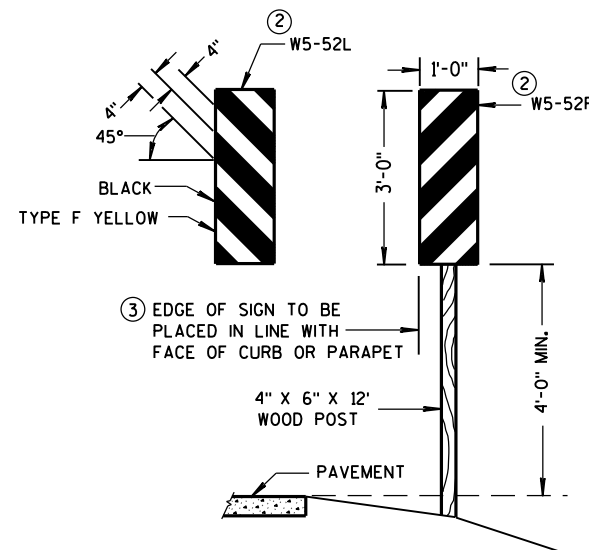


*OMIT ON ONE-WAY TRAVELLED WAYS

SITUATION 2

WARRANTING CRITERIA:

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



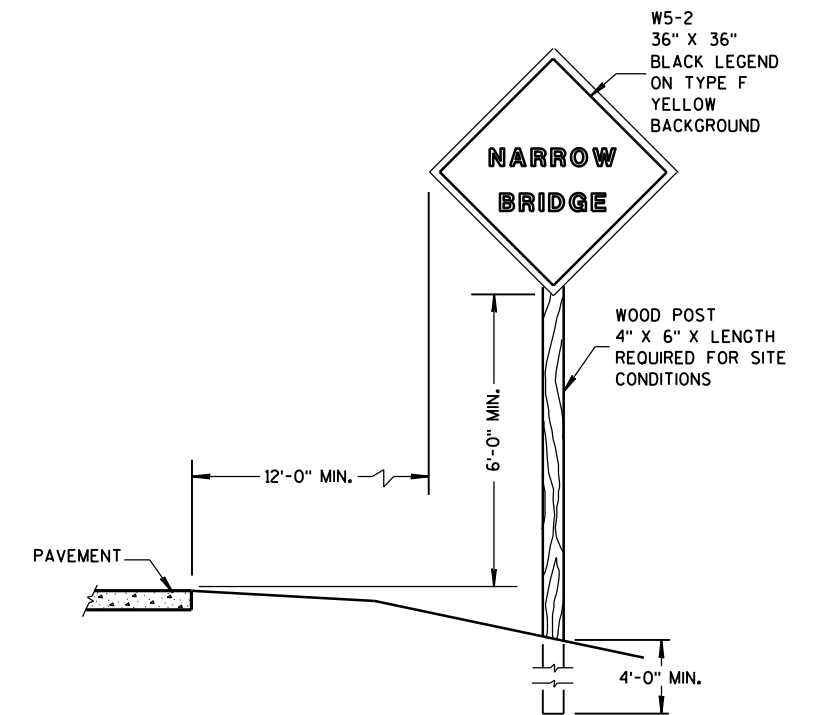
OBJECT MARKER PLACEMENT

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.



SIGN PLACEMENT

SIGNING & MARKING FOR TWO LANE BRIDGES

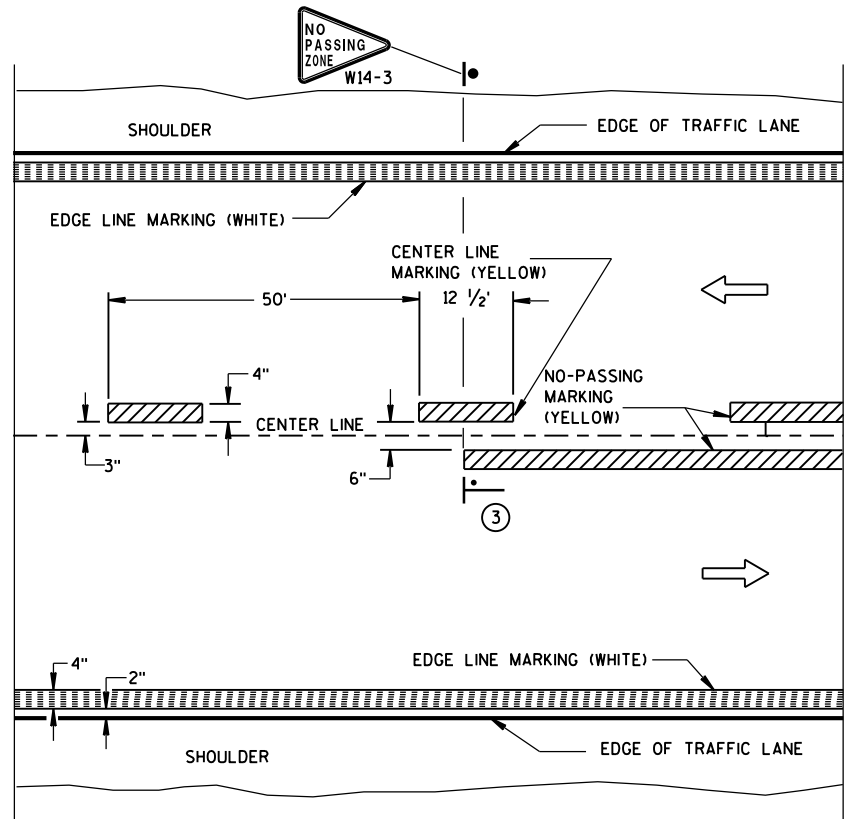
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

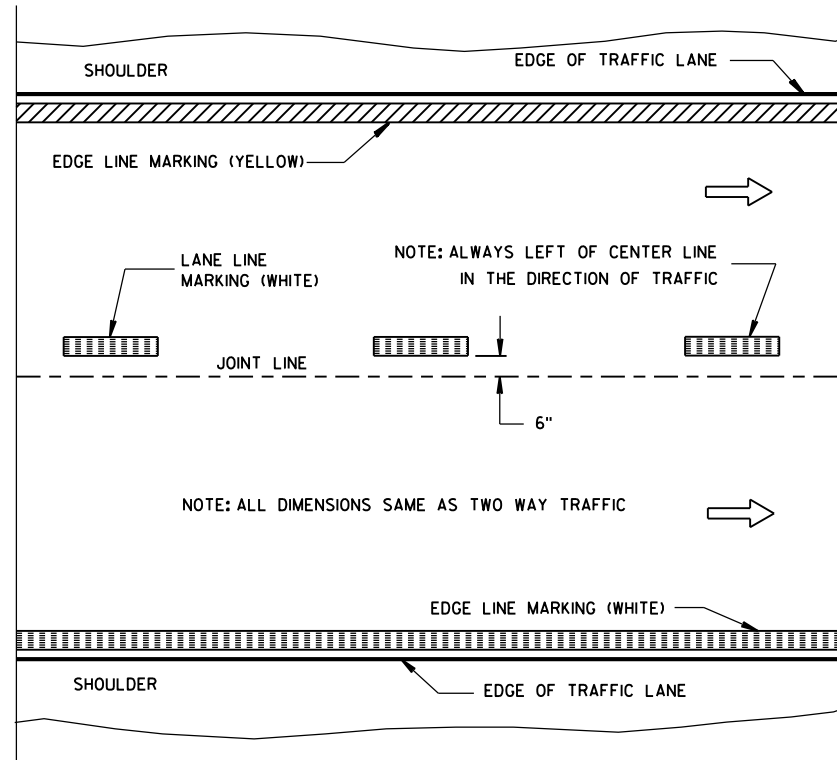
3-2014
DATE

FHWA

/S/ Travis Fettes
STATE TRAFFIC ENGINEER OF DESIGN

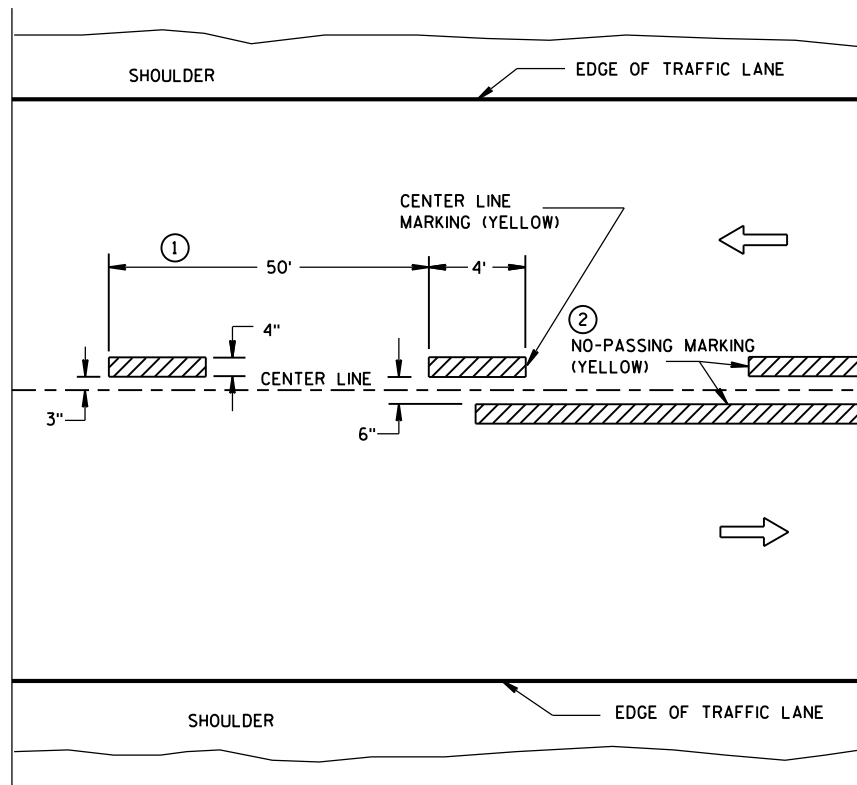


TWO WAY TRAFFIC

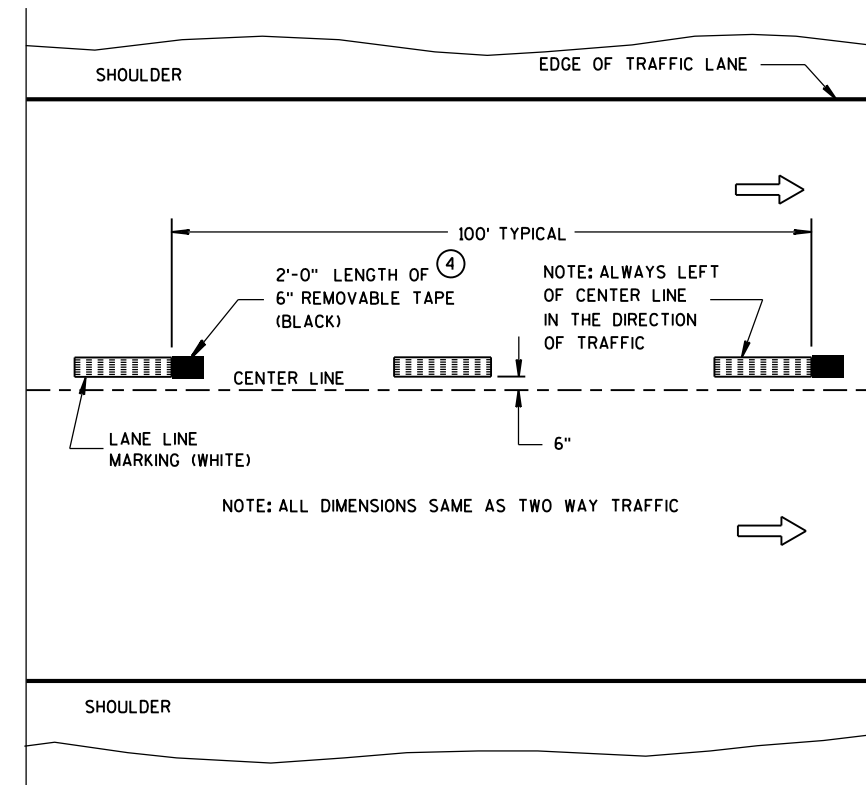


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

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

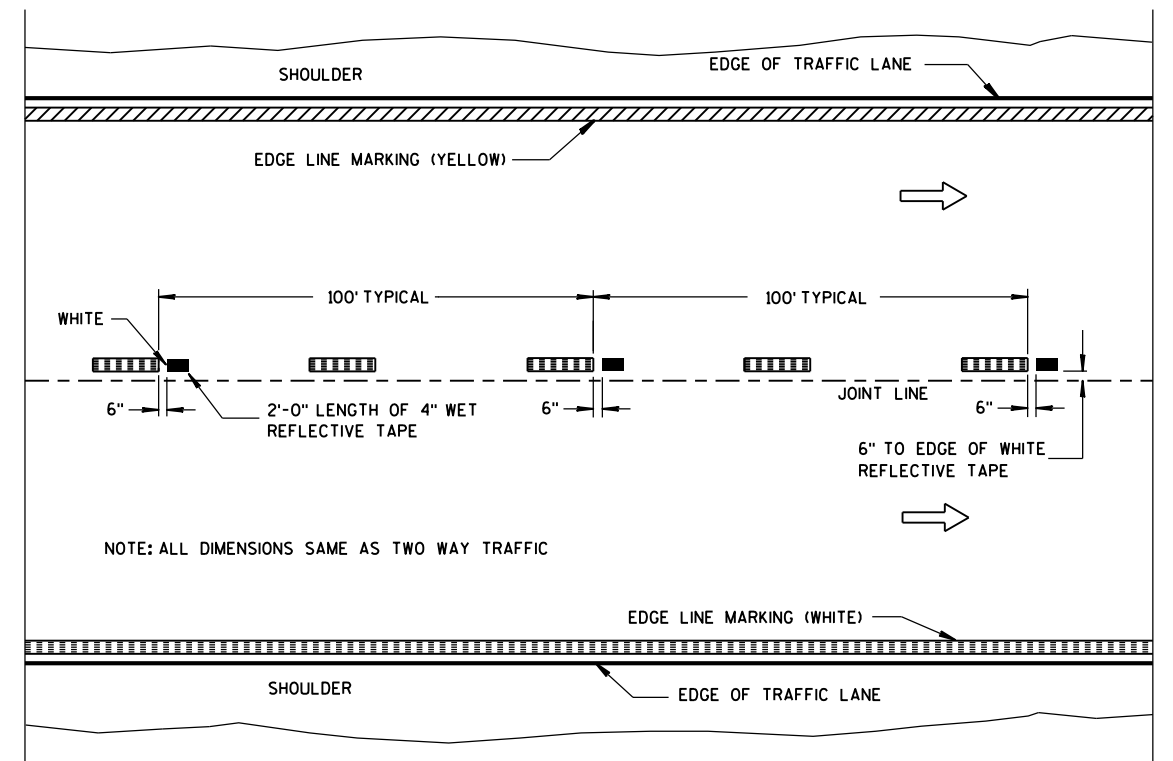
GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL



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

LEGEND

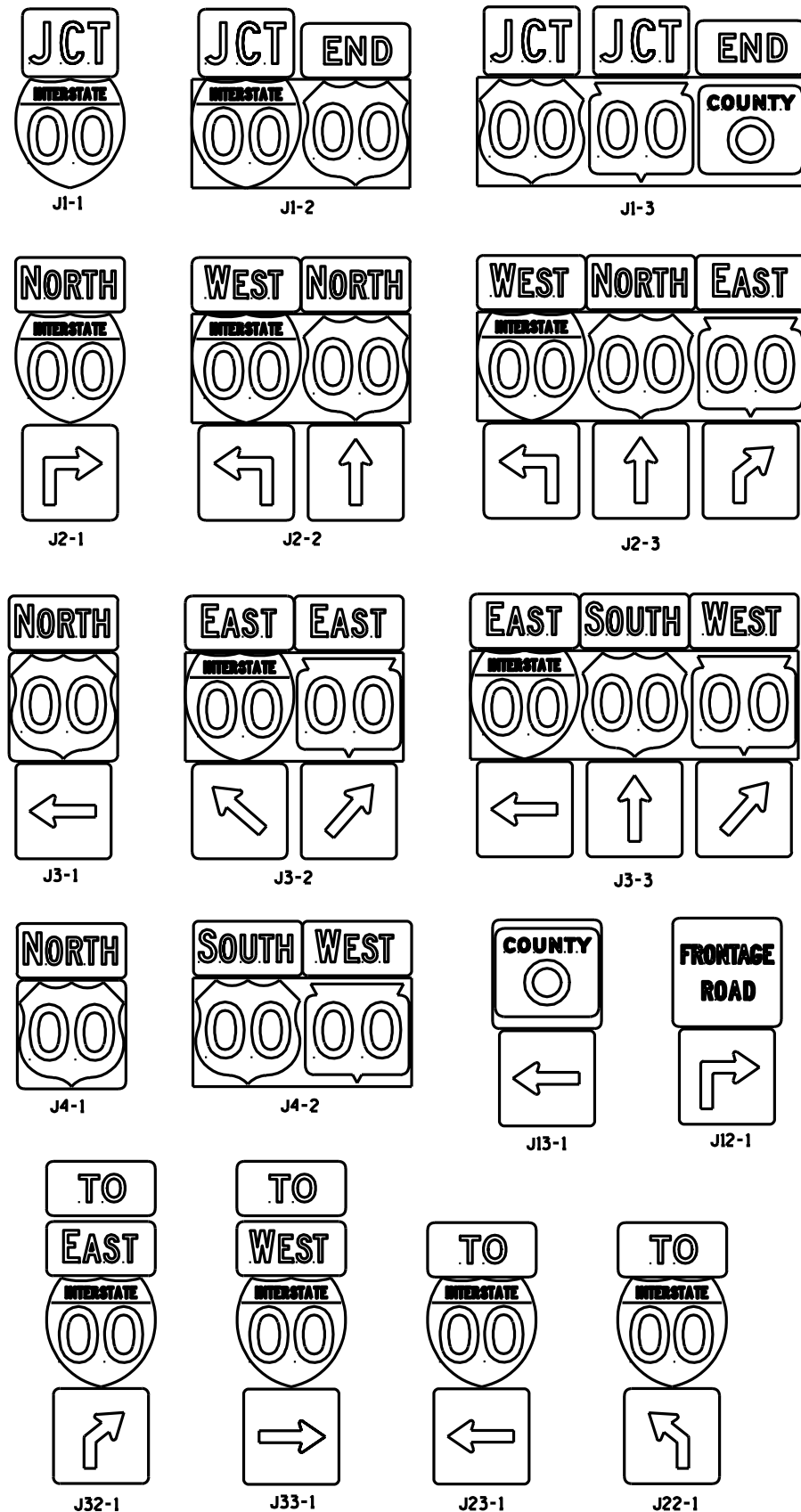
- "T" MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING
(MAINLINE)

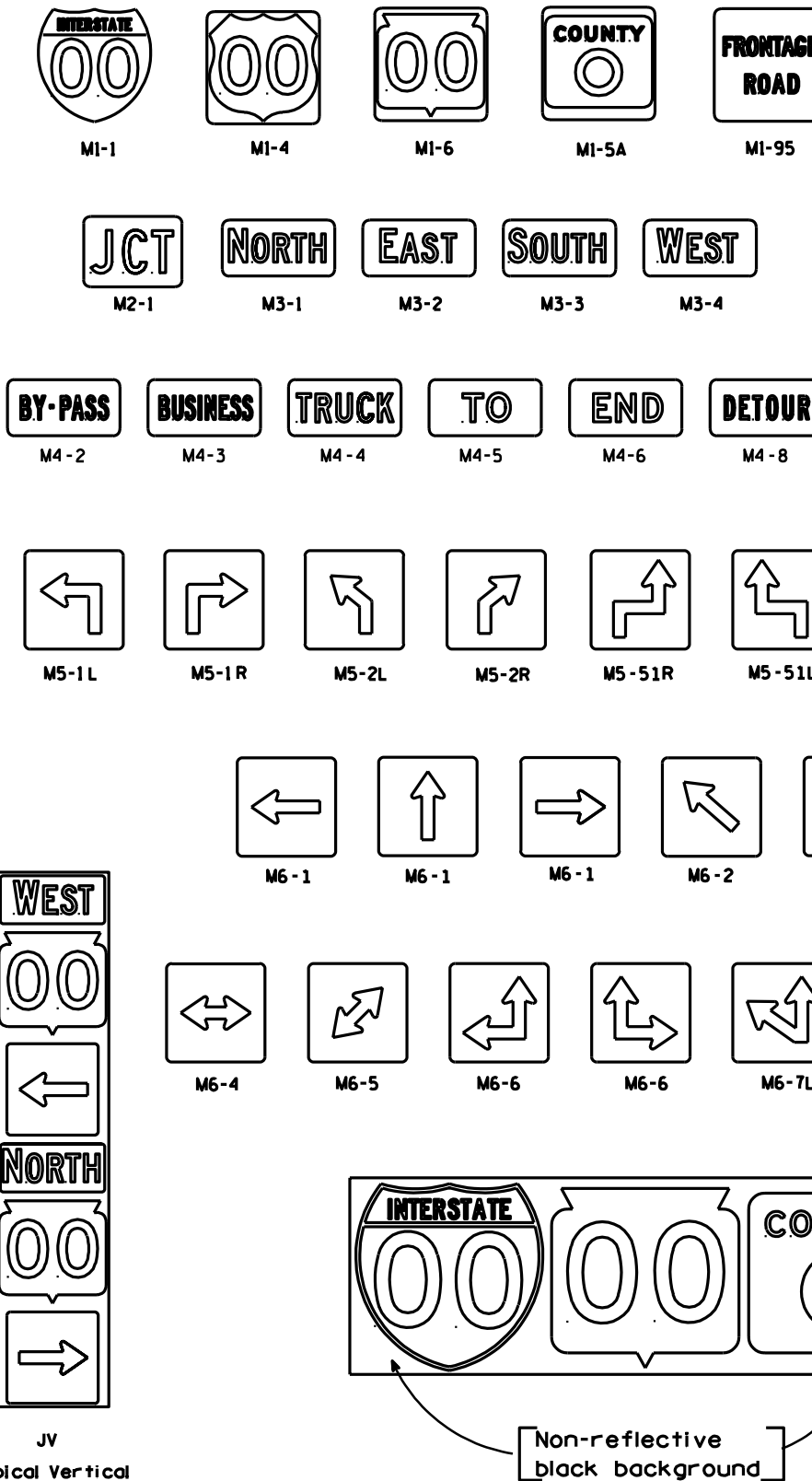
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

TYPICAL ASSEMBLIES



INDIVIDUAL COMPONENTS OF ASSEMBLIES



GENERAL NOTES

- All components within any individual assembly shall be the same "size". The following table illustrates that situation:
- For any assembly containing two or more route markers, the route markers SHALL be placed on a single high density overlay PLYWOOD panel. All other materials within the assembly can be either plywood or aluminum.
- Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 marker shall be blue.
- All vertical J assemblies are given a sign code of JV.

SIZE	M1'S	M2	M3'S & M4'S	M5'S & M6'S
2	24 X 24	21 X 15	24 X 12	21 X 21
3,4-5	36 X 36	30 X 21	30 X 15	30 X 30

ROUTE MARKERS & COMPONENTS IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Chester J. Spang*
for State Traffic Engineer

DATE 3/06/00 A2-1.6

PROJECT NO:

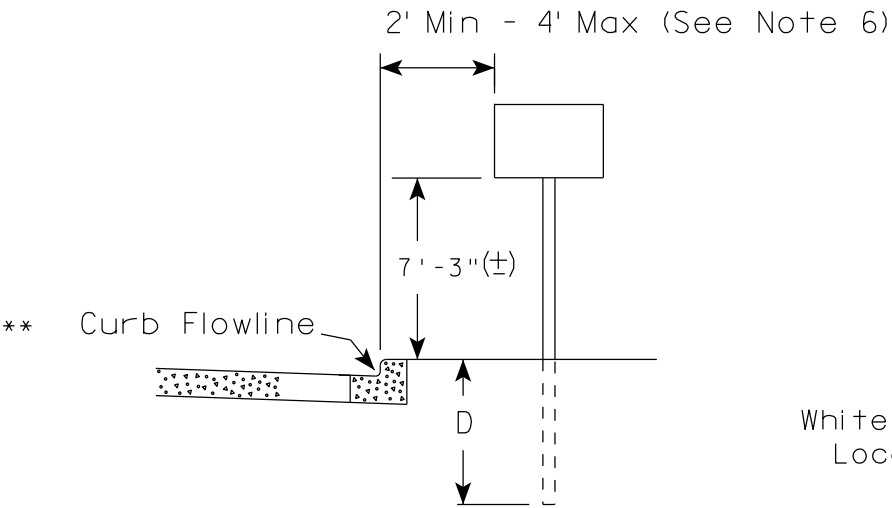
HWY:

COUNTY:

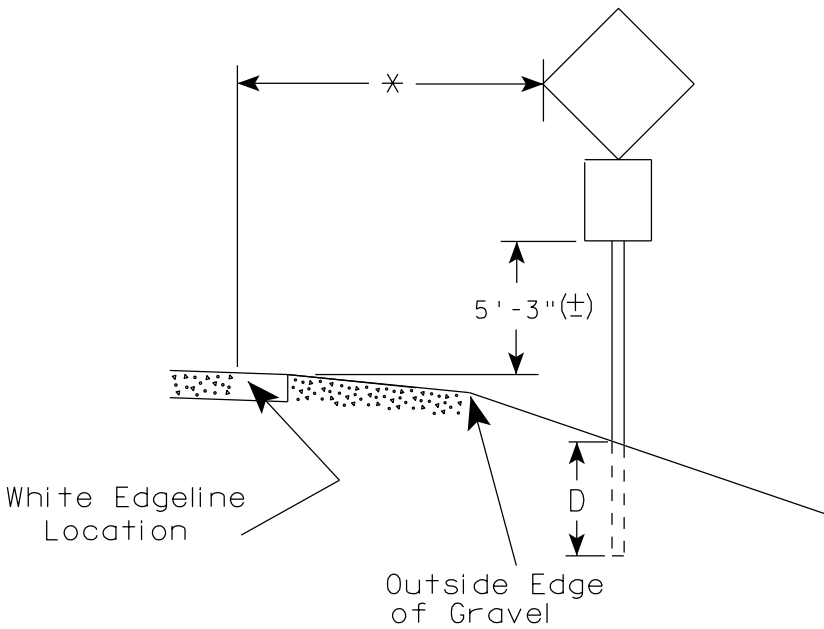
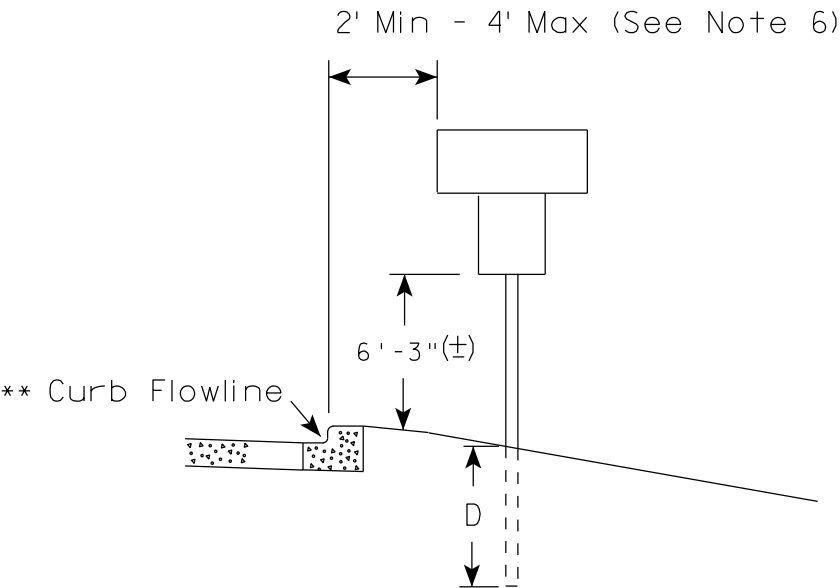
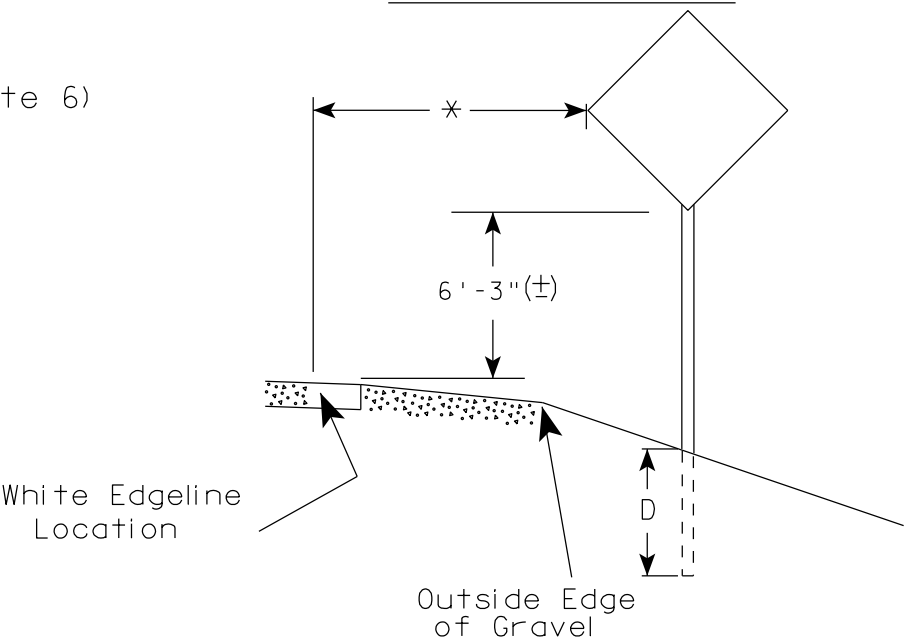
SHEET NO:

E

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

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

POST EMBEDMENT DEPTH

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

×× 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.

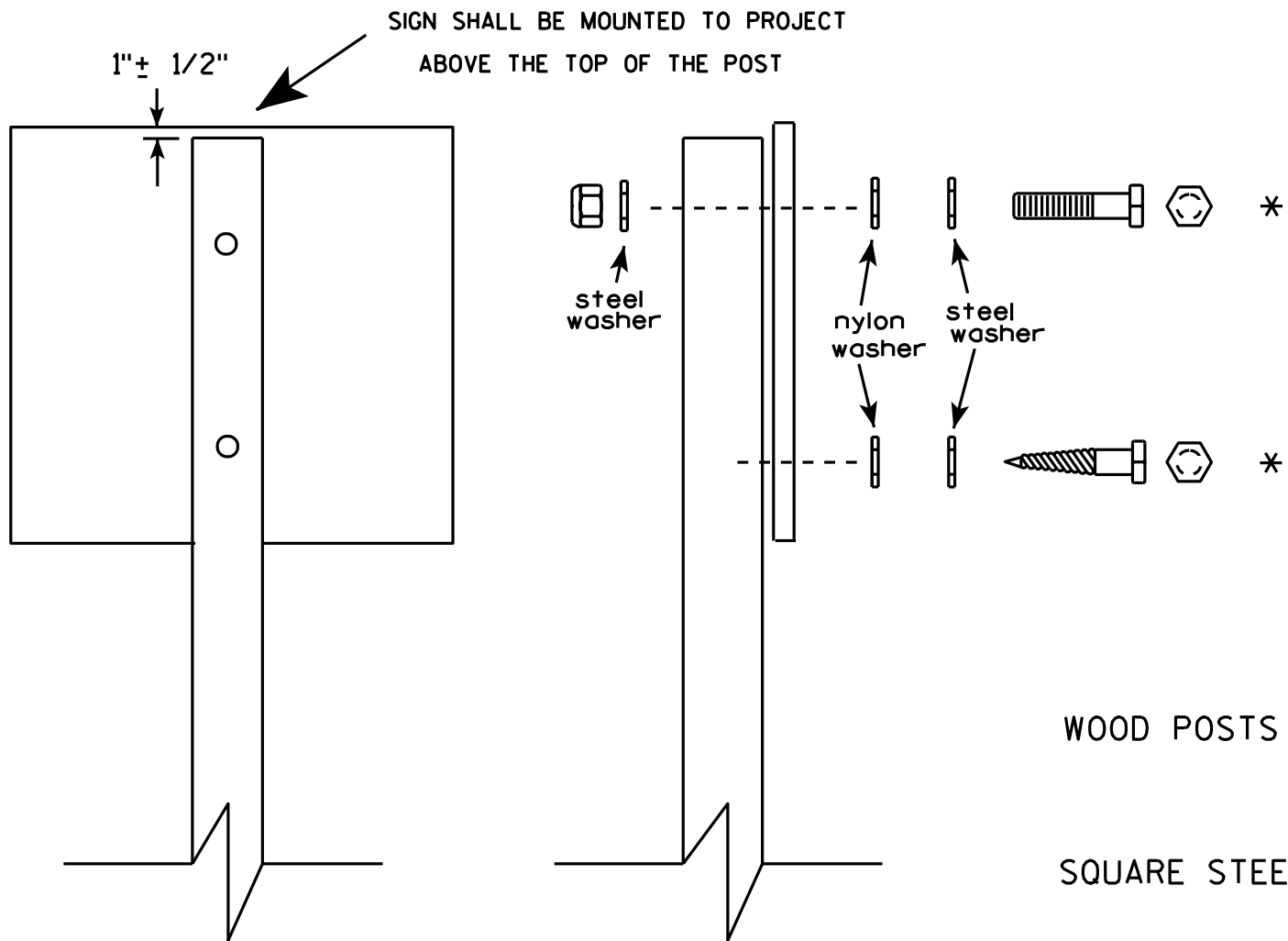
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

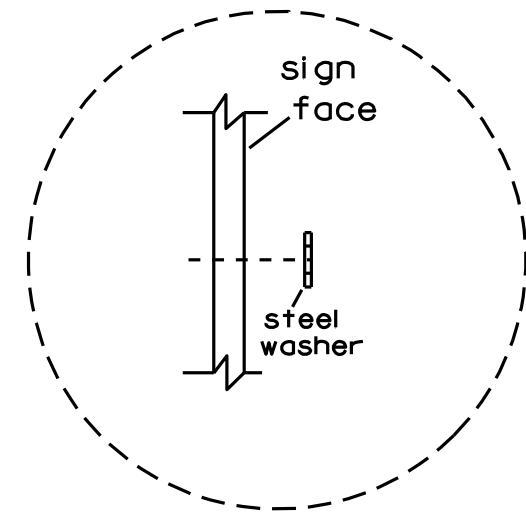
DATE 11/12/14 PLATE NO. A4-3.19



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

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

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

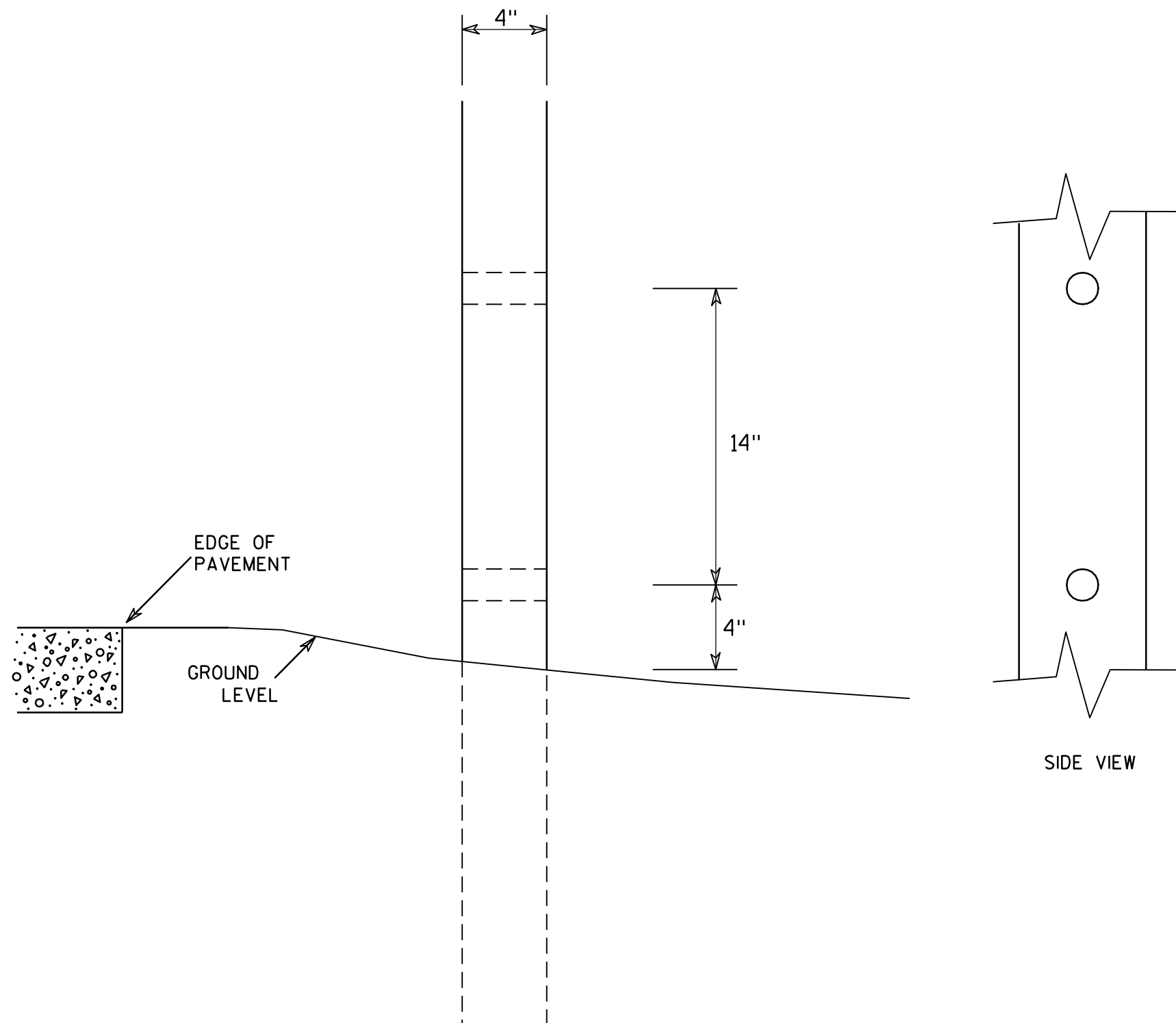


Washer Placement when Sign Has Other Than Type H or Type F Face

* 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	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 3/23/10	PLATE NO. A4-8.7

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

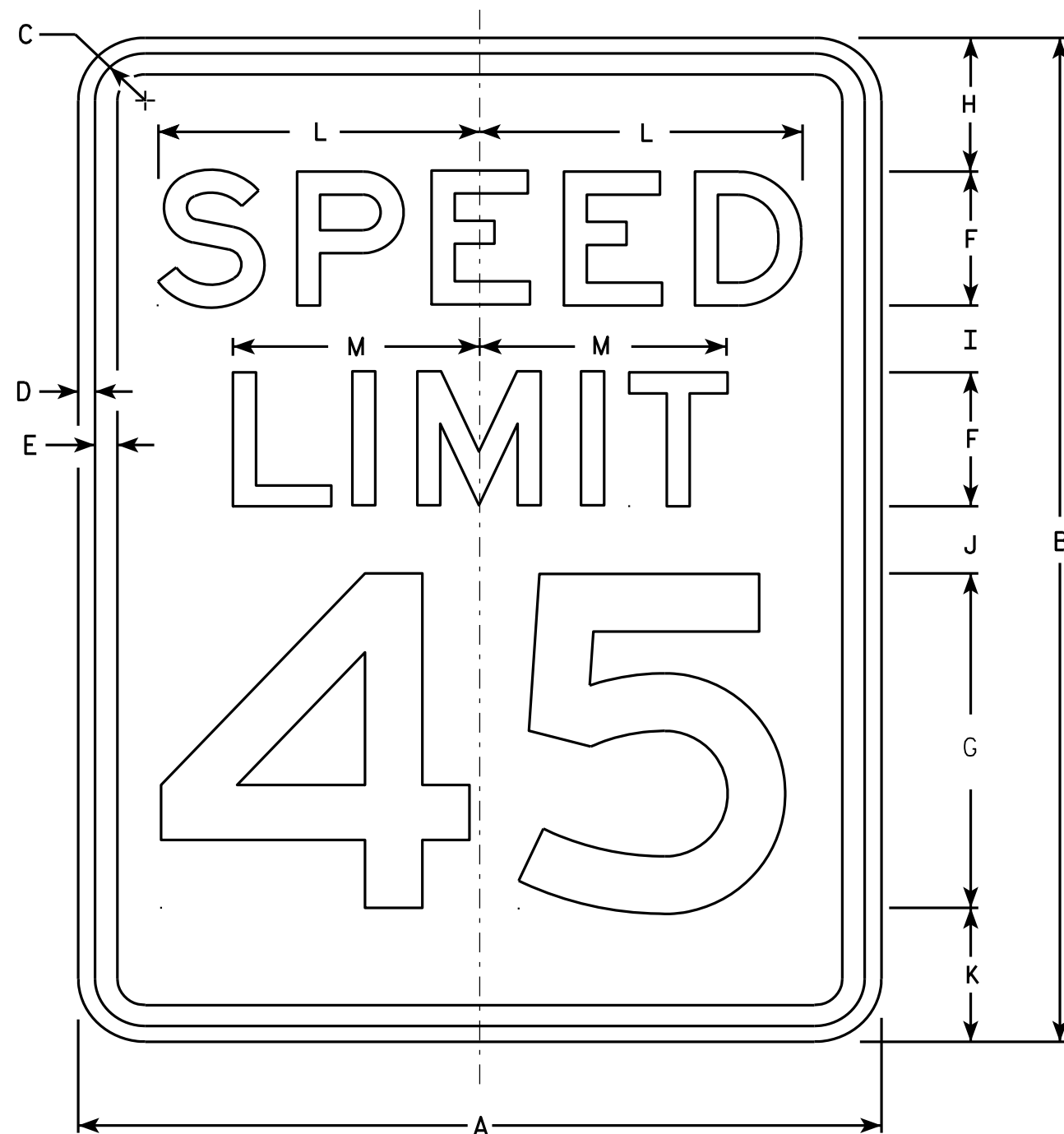
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



R2-1

NOTES

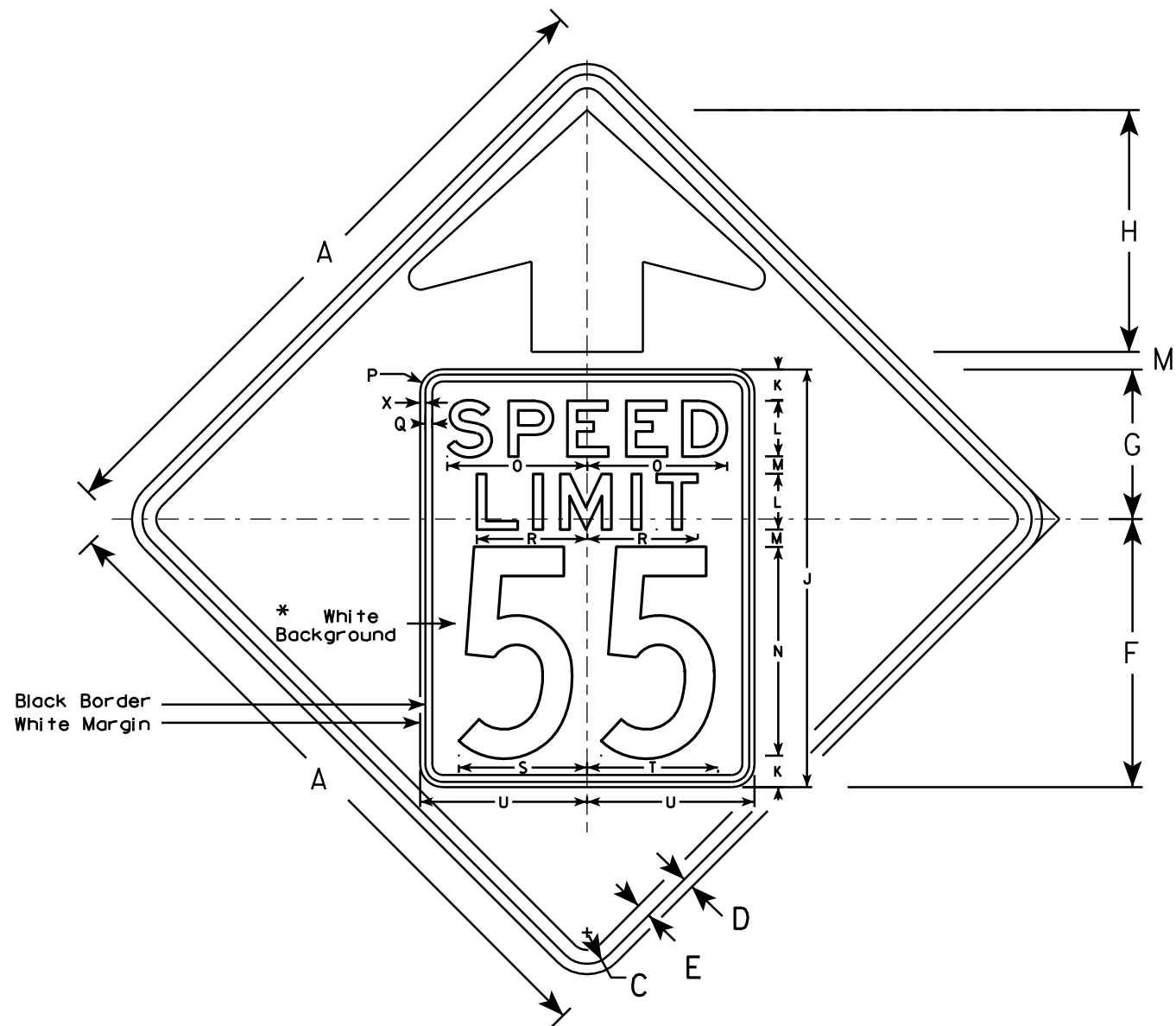
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically 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	18	24	1 1/8	3/8	1/2	3	8	3	2	2	3	7 1/4	5 1/2														3.0
2S	24	30	1 1/8	3/8	1/2	4	10	3	2 1/4	3 3/8	3 3/8	9 5/8	7 3/8														5.0
2M	30	36	1 3/8	1/2	5/8	5	12	5	2 1/2	2 1/2	4	12	9 1/4														7.5
3	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
4	36	48	1 3/8	1/2	5/8	6	14	6	5	5	6	14 3/8	11														12.0
5	48	60	2 1/4	3/4	1	8	20	6	4 1/2	6 3/4	6 3/4	19 1/4	14 5/8														20.0

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: HWY: COUNTY: SHEET NO: E

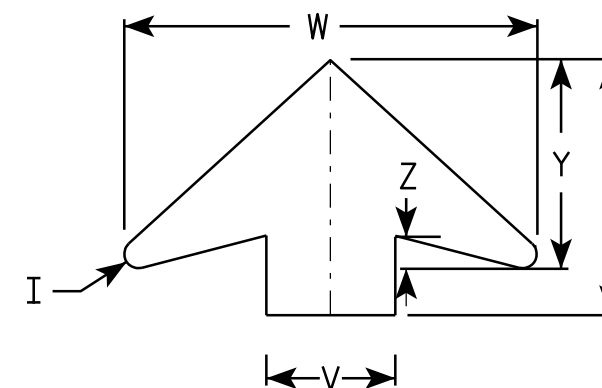


W3-5

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 - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
2M	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
3	36		1 5⁄8	5⁄8	3⁄4	14 1⁄2	9 1⁄2	11 1⁄2	5⁄8	24	2	3	1	12	7 1⁄8	1 1⁄2	3⁄8	5 3⁄4	7 1⁄4	7 1⁄8	9	6	19 1⁄4	3⁄8	9 3⁄4	1 5⁄8	9.0
4	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0
5	48		2 1⁄4	3⁄4	1	19 1⁄4	10 3⁄4	17 3⁄8	7⁄8	30	2 1⁄4	4	1 1⁄4	15	10	1 5⁄8	1⁄2	8	9 1⁄4	9 3⁄8	12	8	25 5⁄8	3⁄8	13	2	16.0

STANDARD SIGN

W3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 5/29/12

PLATE NO. W3-5.5

PROJECT NO:

SHEET NO:

E

DESIGN DATA

LIVE LOAD:

DESIGN RATING = HL93
INVENTORY RATING = 1.03
OPERATING RATING = 1.65
WISCONSIN STANDARD PERMIT VEHICLE LOAD = 220 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE
OF 20 PSF
INVENTORY AND OPERATIONAL RATINGS DO NOT INCLUDE
FUTURE WEARING SURFACE.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY - SLAB $f'_c = 4,000$ psi
- ALL OTHER (GRADE A) $f'_c = 3,500$ psi

HIGH STRENGTH BAR STEEL REINFORCEMENT
AASHTO GRADE 60 $f_y = 60,000$ psi

PRESTRESSED CONCRETE GIRDER
(TYPE 136W) CONCRETE $f'_c = 8,000$ psi

STRANDS, 0.6 DIA ULTIMATE
TENSILE STRENGTH $F_y = 270,000$ psi

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON 12 $\frac{3}{4}$ " DIA X 0.25-INCH CIP
CONCRETE PILES WITH A REQUIRED DRIVING RESISTANCE OF
131 TONS* PER PILE AS DETERMINED BY THE MODIFIED GATES
DYNAMIC EQUATION, ESTIMATED 60 FEET LONG AT EACH ABUTMENT.

*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.

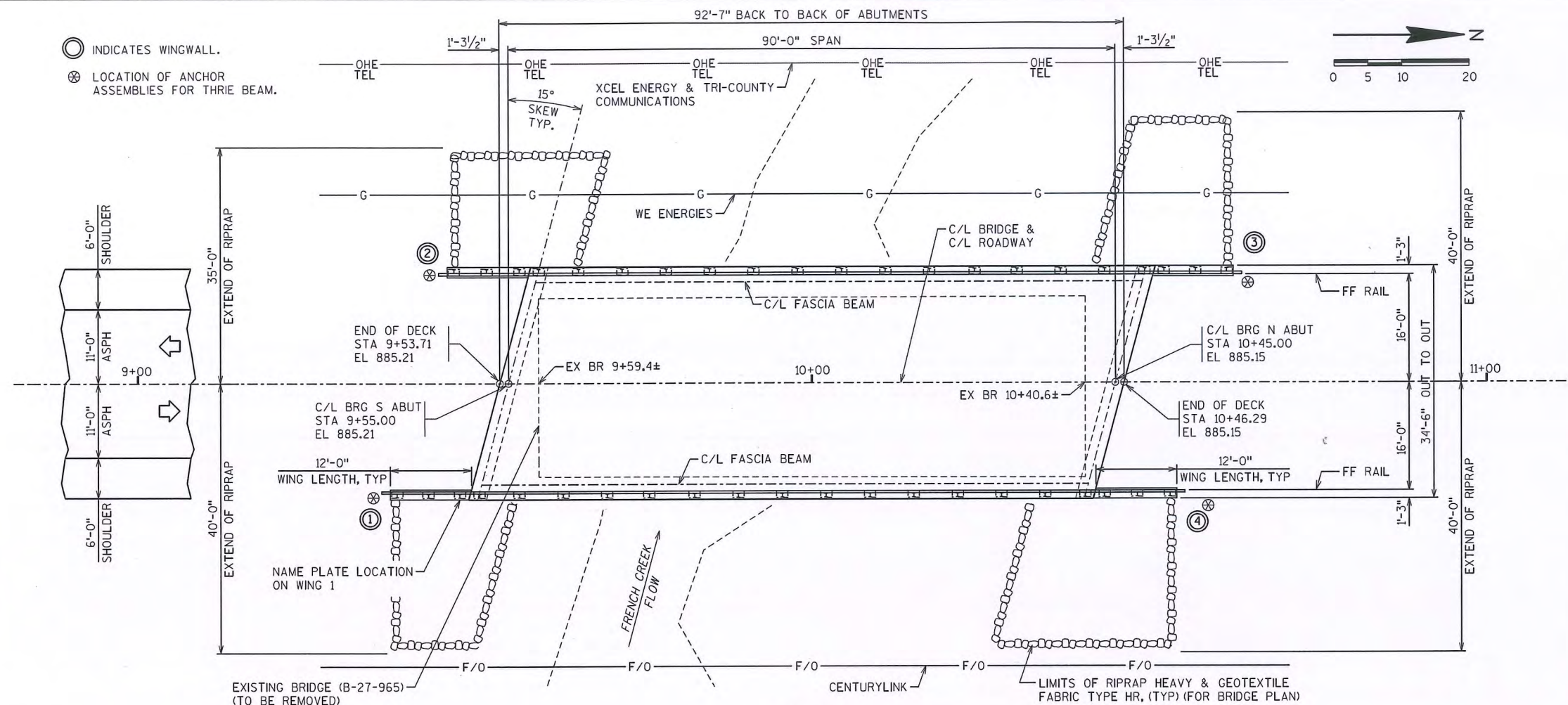
HYDRAULIC DATA

100 YEAR FREQUENCY
 Q_{100} 1750 CFS
 Q_{100} THRU BRIDGE 1750 CFS
VELOCITY 5.85 FPS
HIGH WATER EL 878.86 FT
WATERWAY AREA 299 SQ FT
DRAINAGE AREA 27.3 SQ MI

TRAFFIC DATA

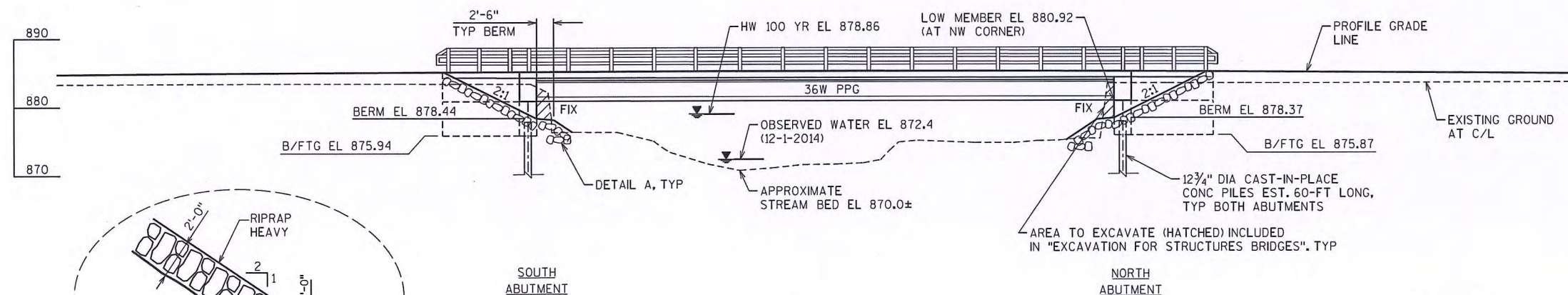
ADT (2015) = 550
ADT (2035) = 600
DHW = 70
DD = 60/40 %
T = 5.2 %
DESIGN SPEED = 55 MPH

2 YEAR FREQUENCY
 Q_2 577 CFS
HIGH WATER EL 877.14 FT
SCOUR CODE 8



PLAN

SINGLE-SPAN TYPE I 36W PRESTRESSED CONCRETE GIRDER BRIDGE

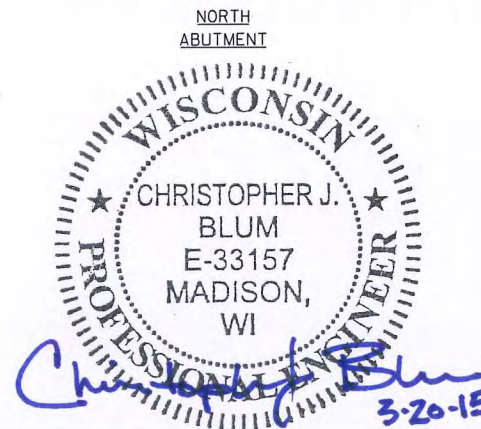
ELEVATION
LOOKING WESTDETAIL A
AT BOTH ENDS OF BRIDGE

BENCHMARK (DATUM = NAVD 88)

NO	STATION	DESCRIPTION	ELEV
1	6+54.48 47.49'LT.	SET RR SPK IN PP 3AA44 CTH N 225± PROJECT BRIDGE	878.90
2	10+59.37 69.16'LT.	SET SPK INSIDE NE COR SNOWBRIDGE DECK	879.29
3	14+15.57 38.39'LT.	EXISTING RR SPK IN PP CTH N 200± NORTH BRIDGE PROJECT	878.46

LIST OF DRAWINGS

- 1 GENERAL PLAN
- 2 CROSS SECTION, PROFILE, QUANTITIES & GENERAL NOTES
- 3 SUBSURFACE EXPLORATION
- 4-6 SOUTH AND NORTH ABUTMENT DETAILS
- 7-8 SUPERSTRUCTURE DETAILS
- 9-10 36W PRESTRESSED GIRDER DETAILS
- 11 STEEL DIAPHRAGM
- 12 TUBULAR STEEL RAILING TYPE M



SEH CONTACT: DAN GUSTAFSON, PE, 715.720.6267
WISDOT BRIDGE OFFICE CONTACT: BILL DREHER, PE, 608.266.8489

NO.	DATE	REVISION	BY
SEH SHORT ELLIOTT HENDRICKSON INC.			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED <i>William C. Dreher</i>		03/23/15	
CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-27-161			
CTH N OVER FRENCH CREEK			
COUNTY	JACKSON	TOWN/CITY/VILLAGE	TAYLOR
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	CJB/NCK	DESIGN CK'D.	CJB
DRAWN BY	DLF	PLANS CK'D.	CJB/NCK
GENERAL PLAN			SHEET 1 OF 12



Diagram illustrating the cross-section of a bridge deck, showing dimensions and components:

- Overall Dimensions:**
 - 34'-6" OUT TO OUT (Total width)
 - 16'-0" (Half-width from centerline to outer edge)
 - 2'-3" (Width of fascia beam)
 - 15'-0" (Width of precast girder section)
 - 5 SPA @ 6'-0" = 30'-0" (Spacing of precast girders)
- Components and Details:**
 - C/L BRIDGE & C/L ROADWAY (Centerline)
 - POINT ON PROFILE GRADE
 - 8" MIN SLAB
 - 0.02 FT/FT (Slope)
 - RAILING TUBULAR TYPE M, TYP
 - 3'-0" (Spacing between girders)
 - INTERMEDIATE STEEL DIAPHRAGM, TYP
 - TYPE I36W PRESTRESSED PRECAST CONCRETE GIRDER, TYP
 - 3/4" CONTINUOUS DRIP V-GROOVE, TYP
 - 10 1/2" (Height of parapet)
 - 1'-3" (Height of railing)
 - 3'-6" (Height of deck)
 - C/L FASCIA BEAM
 - SYMMETRICAL ABOUT C/L BRIDGE
- Orientation:** EAST SIDE

SHOWN IN SPAN
(LOOKING NORTH)

BID ITEM	BID ITEMS	UNIT	SOUTH ABUT	NORTH ABUT	SUPER	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-27-161	LS	-	-	-	1
210.0100	BACKFILL STRUCTURE	CY	112	112	-	224
502.0100	CONCRETE MASONRY BRIDGES	CY	36.0	36.0	104.0	176
502.3200	PROTECTIVE SURFACE TREATMENT	SY	6	6	389	401
503.0137	PRESTRESSED GIRDER TYPE I 36W-INCH	LF	-	-	546	546
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	2420	2420	-	4,840
505.0605	BAR STEEL REINFORCEMENT HS COATED BRIDGES	LB	2060	2060	18100	22,220
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EA	-	-	12	12
506.4000	STEEL DIAPHRAGMS B-27-161	EA	-	-	10	10
513.4060	RAILING TUBULAR TYPE M B-27-161	LS	-	-	-	1
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	11	11	-	22
550.2124	PILING CIP CONCRETE 12 3/4 X 0.25-INCH	LF	540	540	-	1080
606.0300	RIPRAP HEAVY	CY	80	103	-	183
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30	30	-	60
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	60	60	-	120
645.0120	GEOTEXTILE FABRIC TYPE HR	SY	170	208	-	378
	NON-BID ITEMS					
	FILLER	SIZE	_____	_____	_____	1/2 & 3/4
	NAME PLATE	EACH	_____	_____	_____	1

ALL UTILITIES WILL REMAIN IN PLACE.

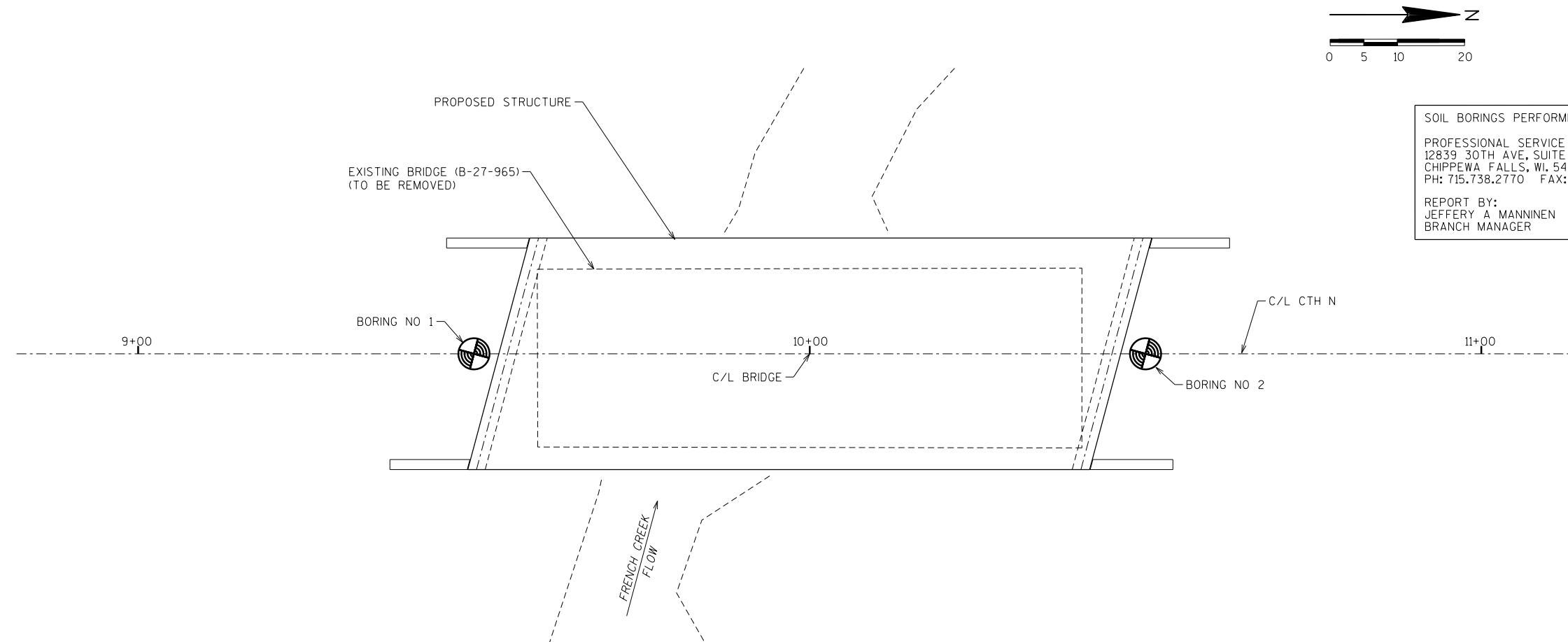
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
		DRAWN BY DLF	PLANS CK'D. NCK
CROSS SECTION, PROFILE, QUANTITIES & GENERAL NOTES		SHEET 2 OF 12	

PLOT TIME: 9/23/35 AM

PLOT DATE: 3/20/2015

FILE NAME : S:\F\U\Jack\130615-1-findi-dgn\51-drawings\20-Structure\bridge\27161bl.dgn

8



SOIL BORINGS PERFORMED BY:
PROFESSIONAL SERVICE INDUSTRIES, INC
12839 30TH AVE, SUITE A
CHIPPEWA FALLS, WI. 54729
PH: 715.738.2770 FAX: 715.738.2771

REPORT BY:
JEFFERY A MANNINEN
BRANCH MANAGER

STATE PROJECT NUMBER

7026-00-70

ABBREVIATIONS

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

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

ELEV. BORING NO.
STA.

UNCONFINED STRENGTH → 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"

WASH SAMPLE

SHELBY TUBE — S.T.

GROUND WATER ELEVATION

NO GROUND WATER OBSERVED ABOVE THIS ELEVATION

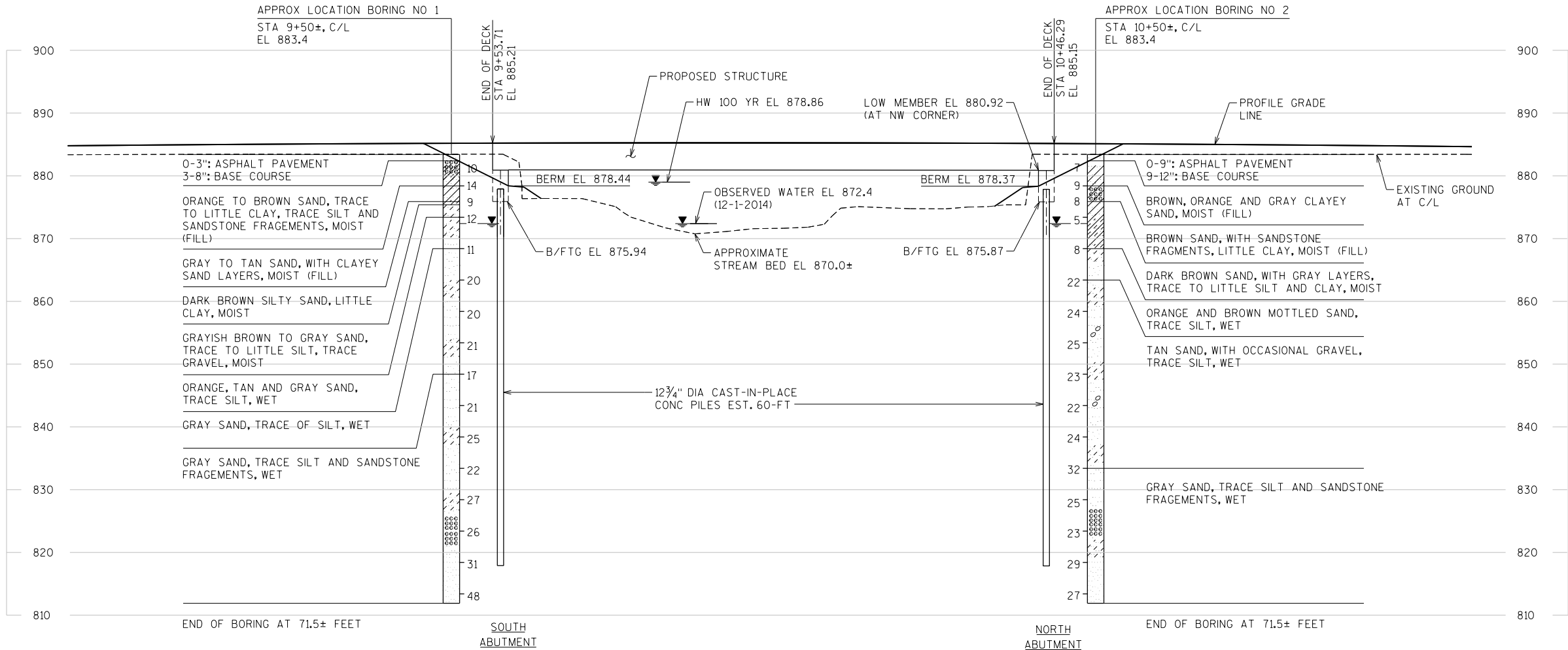
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

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 CAGED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

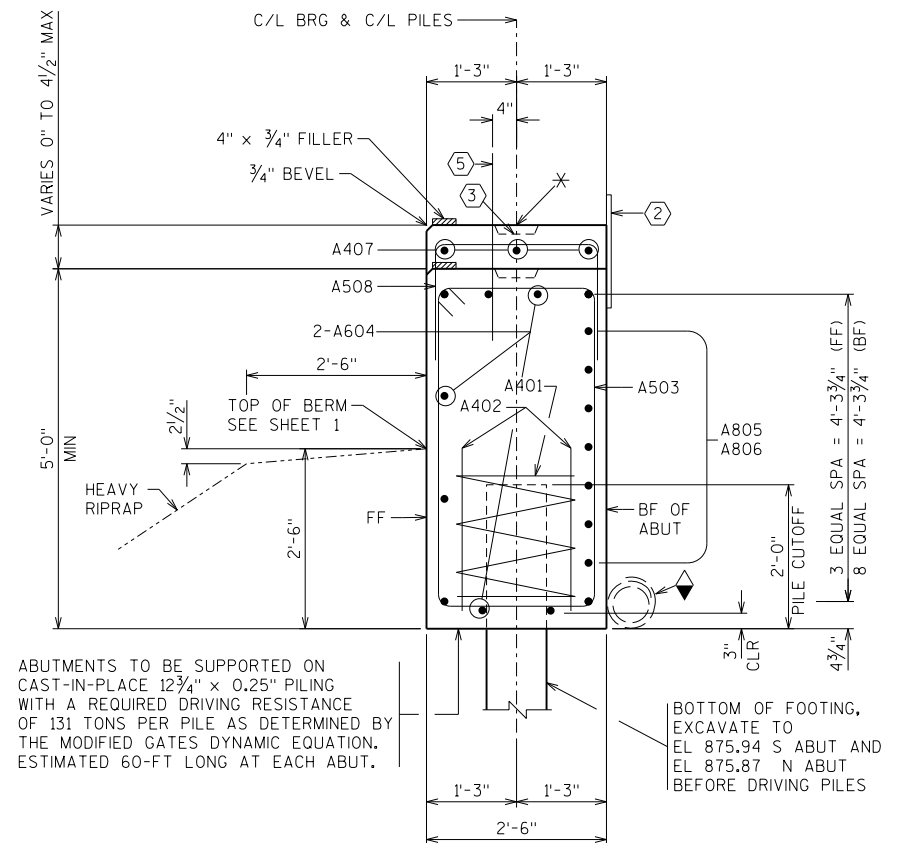
SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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.

8



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY		DLF	PLANS CK'D. NCK
SUBSURFACE EXPLORATION		SHEET 3 OF 12	

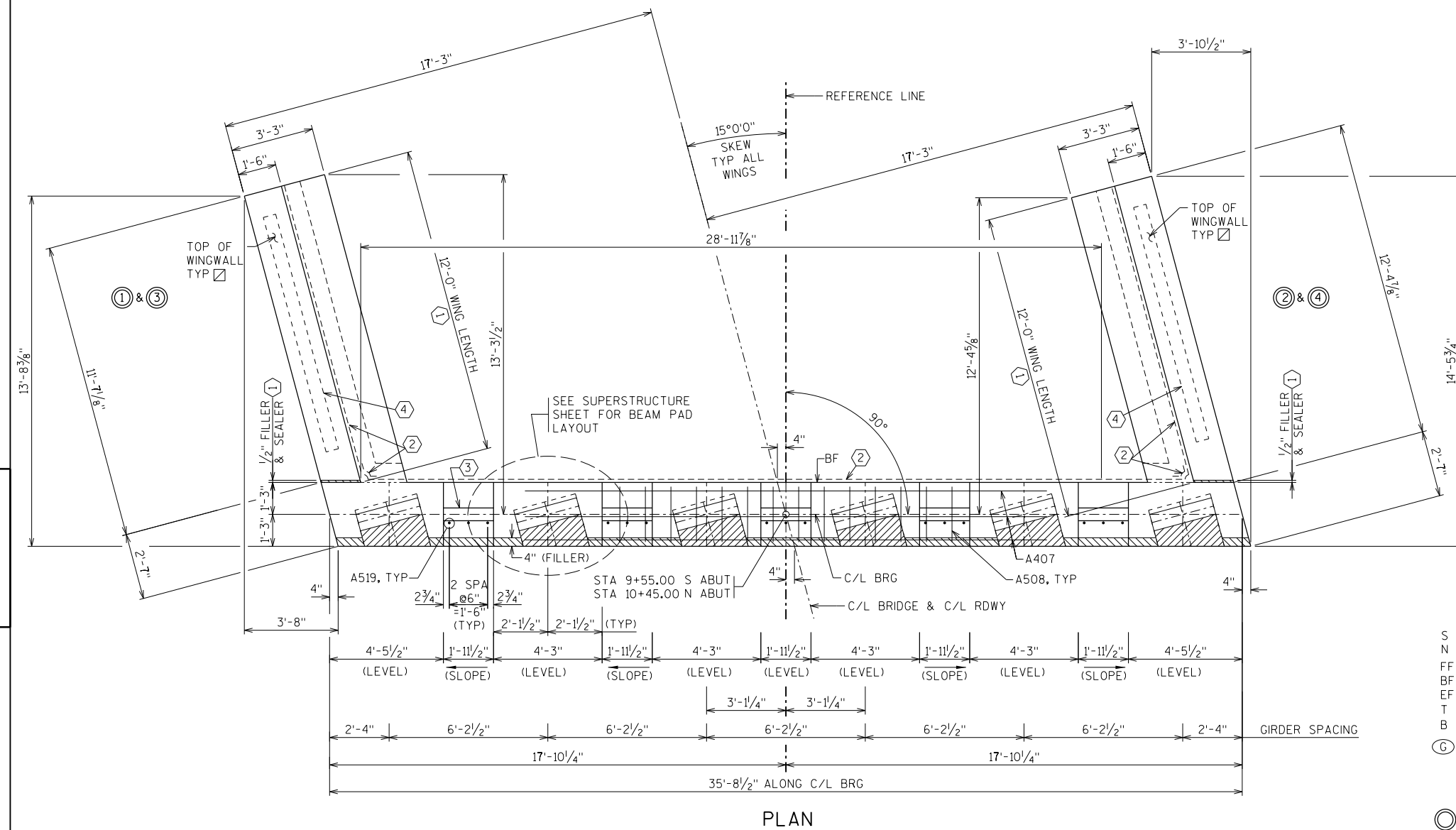


TYPICAL SECTION THRU BODY
ALL HORIZ BARS TO BE A604 UNLESS OTHERWISE SHOWN OF NOTED

- ① SEAL ALL EXPOSED HORIZ. AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE). FILLER INCLUDED IN WING LENGTH.
- ② 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ & VERT JOINTS ON BACKFACE. VERTICAL WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.
- ③ KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6" WITH MEMBRANE ON BACKFACE.
- ④ OPTIONAL KEYED CONSTRUCTION JOINT FORMED BY A BEVELED 2" X 6" WITH MEMBRANE ON BACKFACE.
- ⑤ A519 BARS MAY BE PLACED AFTER CONC HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE.

✱ ELEVATIONS GIVEN AT THIS POINT. SEE WINGWALL SHEET FOR ELEVATIONS.

▲ PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN BEHIND ABUTMENT BODY AND WINGS. PIPE UNDERDRAIN UNPERFORATED TO BE PLACED OUTSIDE WINGS.



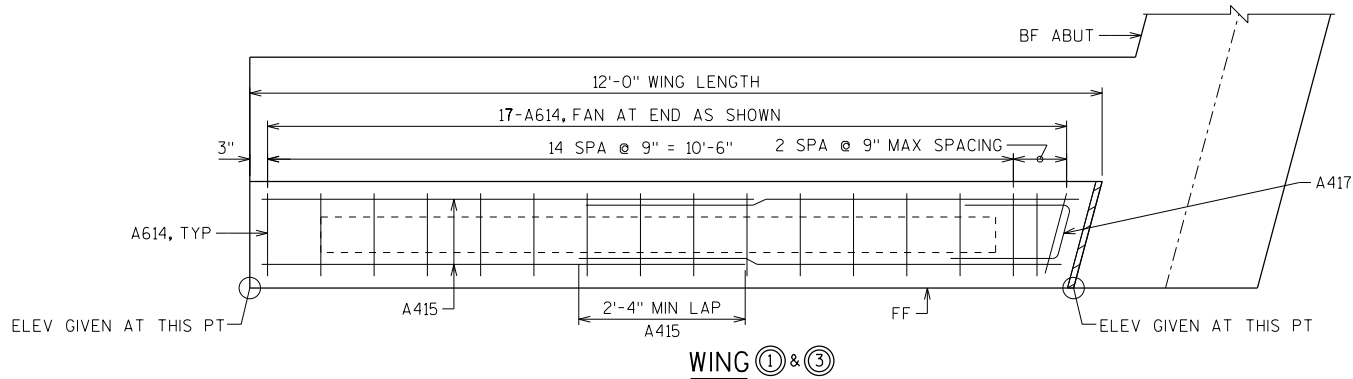
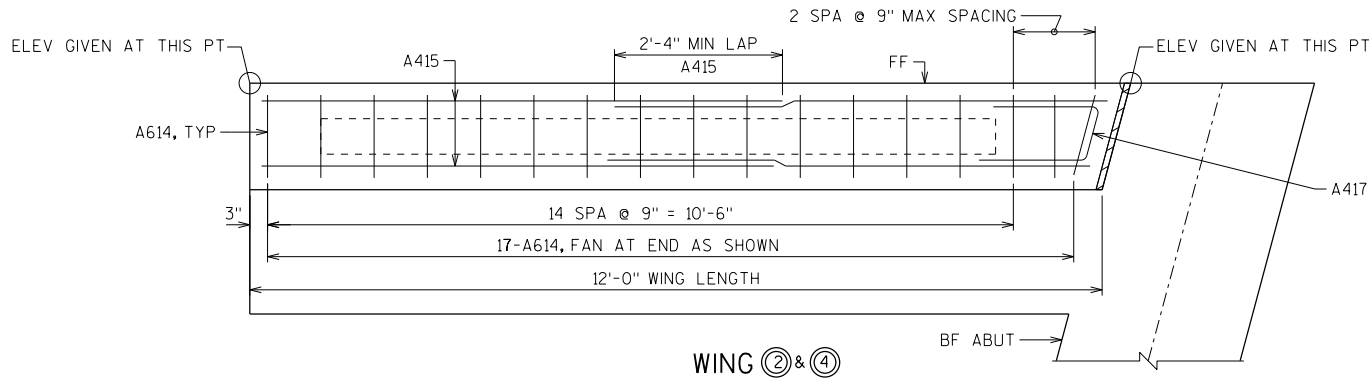
S ABUT = SOUTH ABUTMENT
N ABUT = NORTH ABUTMENT
FF = FRONT FACE
BF = BACK FACE
EF = EACH FACE
T = TOP
B = BOTTOM
Ⓔ = GIRDER LINE, SEE SUPERSTRUCTURE SHEET
FOR ORIENTATION OF GIRDERLINES 1 THRU 6
☐ COAT WITH "PROTECTIVE SURFACE TREATMENT"
PER THE STANDARD SPECIFICATIONS.
⓪ INDICATES WINGWALL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
		DRAWN BY DLF	PLANS CK'D. NCK
SOUTH AND NORTH ABUTMENT DETAILS		SHEET 4 OF 12	

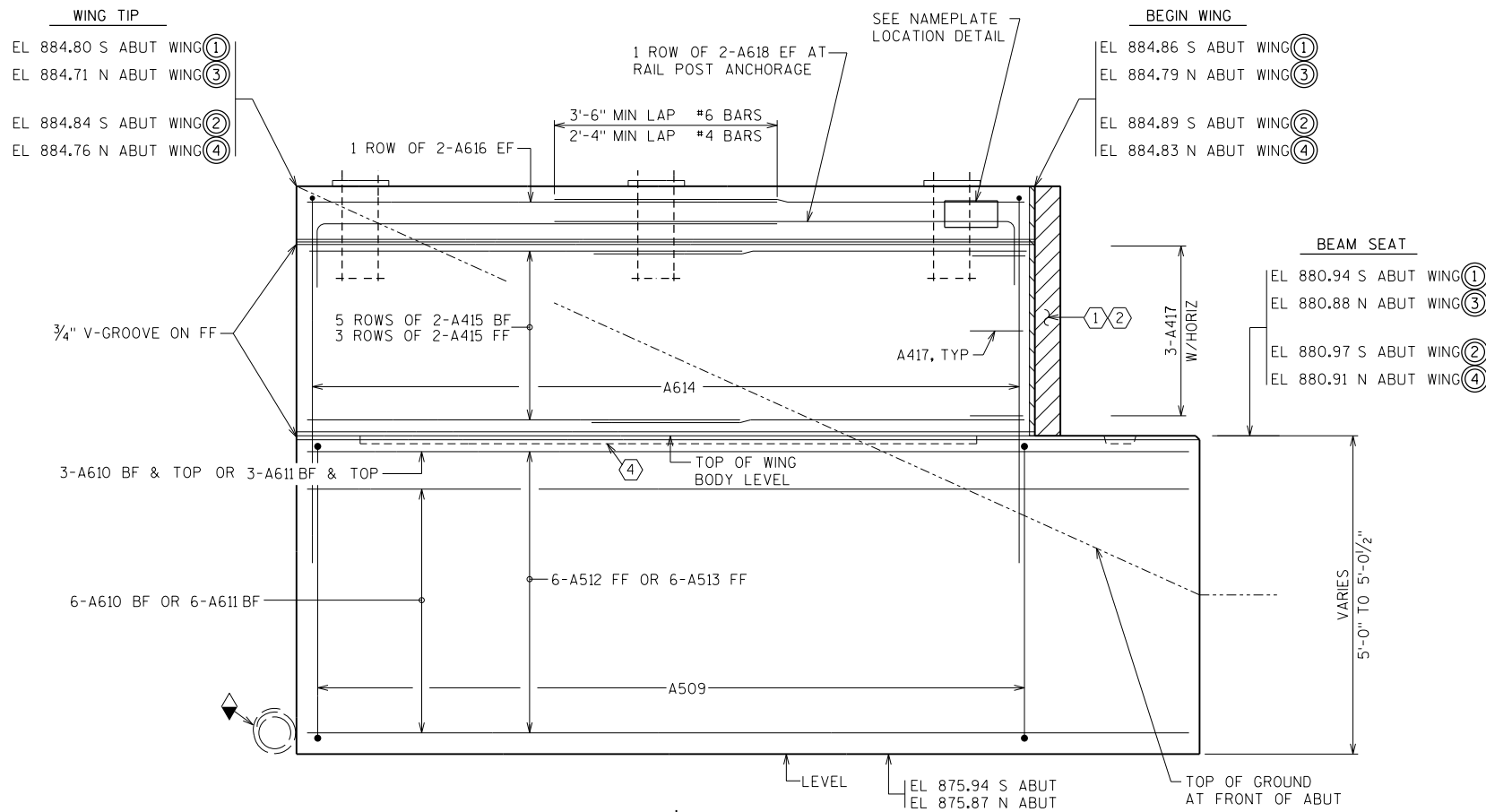
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STATE PROJECT NUMBER

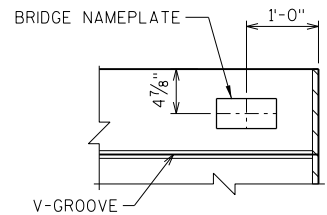
7026-00-70



SECTION A-A

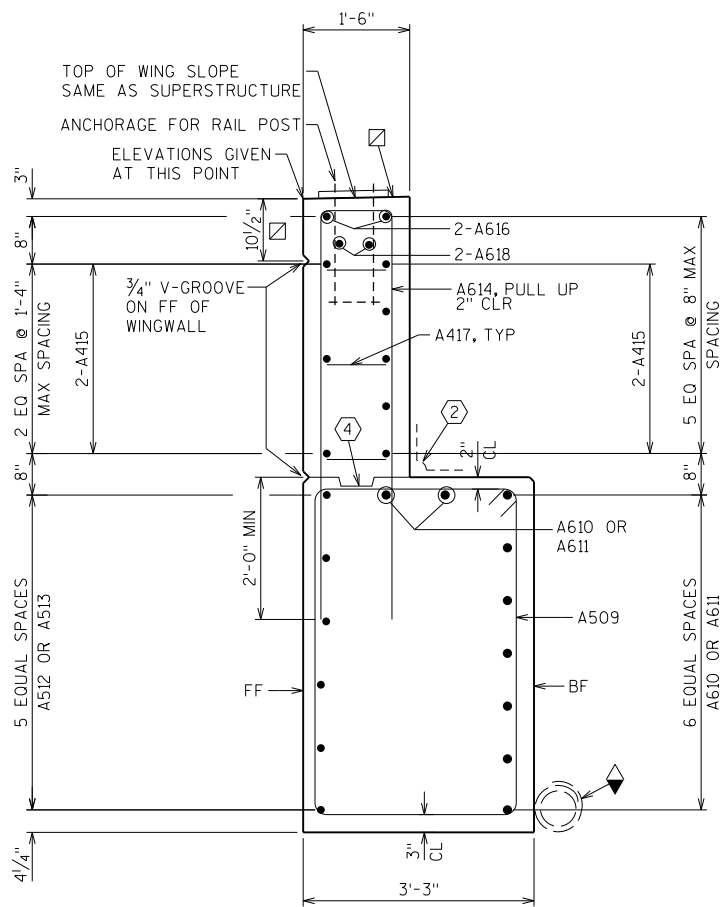


TYPICAL WING ELEVATION



NAMEPLATE LOCATION
DETAIL

(ON WING 1 SOUTH ABUTMENT ONLY)



SECTION A-A
TYP THRU WINGWALLS

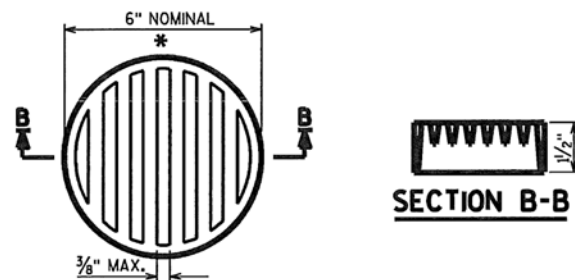
NOTE:

SEE ABUTMENT NOTES & SYMBOLS ON SHEET 4.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY DLF		PLANS CK'D. NCK	
SOUTH AND NORTH ABUTMENT DETAILS			SHEET 5 OF 12

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

RODENT SHIELD DETAIL



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

IF 'T' IS 1/4" OR LESS

B-U4a OR

1/4" MINIMUM

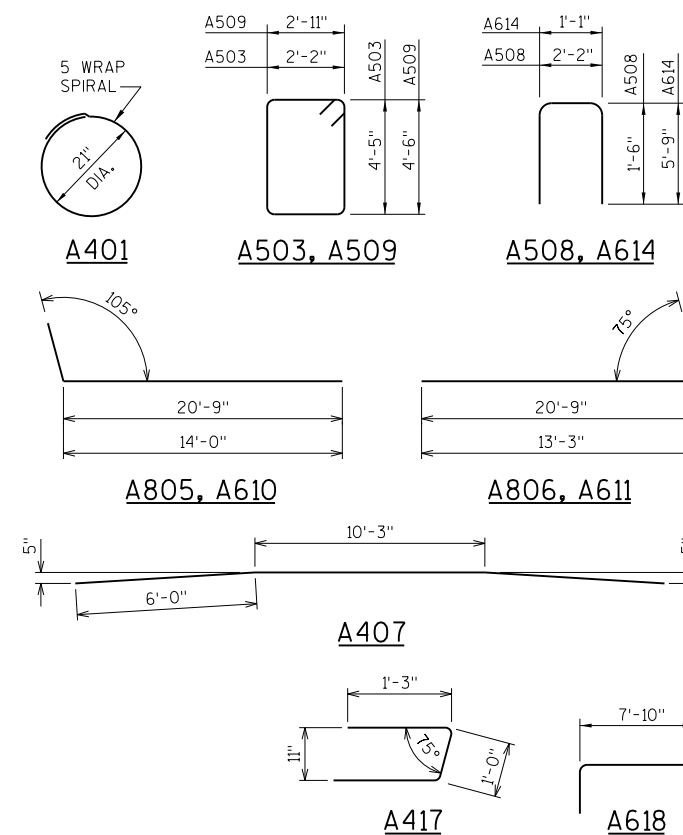
CIP PIPE PILE

BACKUP RING

1/4" MINIMUM

CIP PILE WELD DETAIL

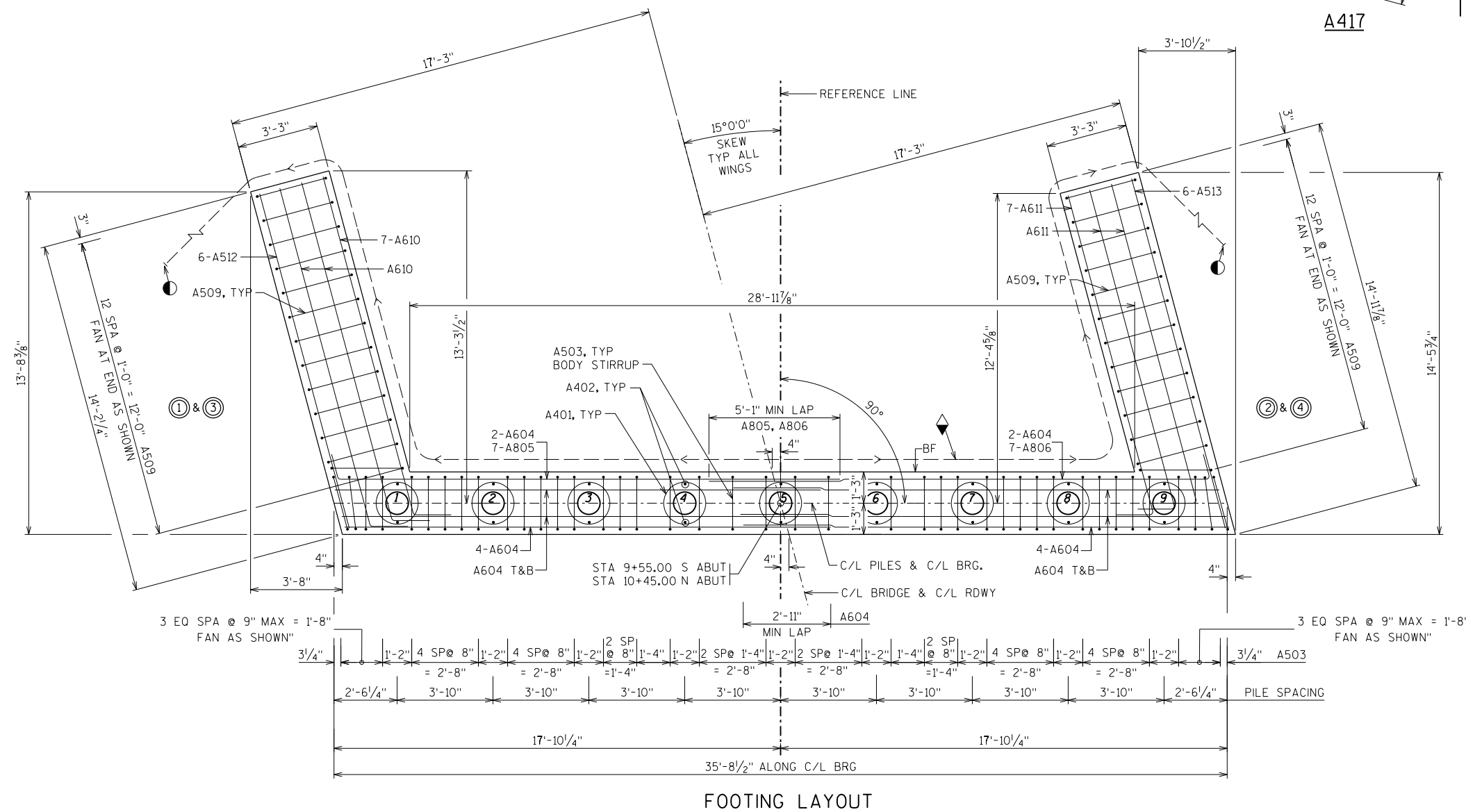
PILE SPLICE DETAIL



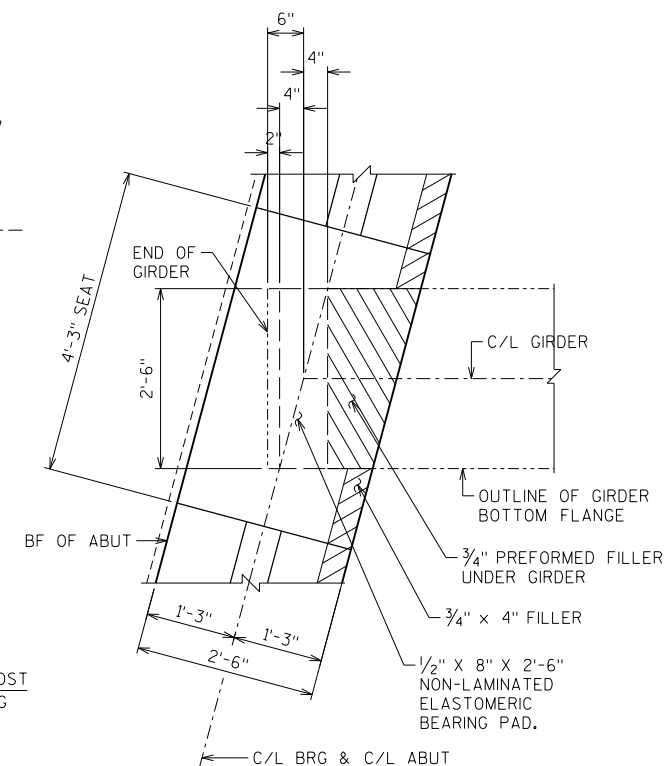
BAR MARK	COAT	NO. * REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
A401		18	28 - 0		X	BODY AT PILES
A402		36	2 - 3			BODY AT PILES
A503		84	13 - 10		X	BODY STIRRUPS
A604		40	19 - 9			BODY HORIZ
A805		14	24 - 5		X	BODY HORIZ BF
A806		14	24 - 5		X	BODY HORIZ BF
A407		6	22 - 3		X	BODY HORIZ TOP
A508		28	4 - 11		X	BODY TOP TIE
A509	X	52	15 - 6		X	WING BODY STIRRUPS
A610	X	18	16 - 0		X	WING BODY HORIZ BF & T
A611	X	18	15 - 4		X	WING BODY HORIZ BF & T
A512	X	12	13 - 10			WING BODY HORIZ FF
A513	X	12	14 - 6			WING BODY HORIZ FF
A614	X	68	12 - 4		X	WING VERT
A415	X	64	7 - 2			WING HORIZ EF
A616	X	16	7 - 9			WING HORIZ EF TOP
A417	X	12	3 - 4		X	WING ENDS
A618	X	16	9 - 10		X	WING HORIZ EF AT ANC
A519	X	30	2 - 0			BODY DOWEL

* NO. REQ'D. IS FOR 2 ABUTMENTS. DIVIDE BY 2 FOR EACH ABUTMENT.

SEE ABUTMENT NOTES &
SYMBOLS ON SHEET 4.



NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
STRUCTURE B-27-161					
			DRAWN BY	DLF	PLANS CK'D. NCK
SOUTH AND NORTH ABUTMENT DETAILS				SHEET 6 OF 12	



BEARING PAD DETAIL

FINAL TOP OF DECK ELEVATIONS											
	SOUTH ABUT	.1	.2	.3	.4	.5	.6	.7	.8	.9	NORTH ABUT
WEST EDGE OF DECK	884.89	884.91	884.92	884.93	884.93	884.92	884.91	884.89	884.86	884.83	884.79
GIRDER LINE 1	884.93	884.95	884.97	884.97	884.98	884.97	884.96	884.94	884.91	884.88	884.83
GIRDER LINE 2	885.04	885.07	885.08	885.09	885.10	885.09	885.08	885.06	885.04	885.00	884.96
GIRDER LINE 3	885.16	885.18	885.20	885.21	885.22	885.21	885.20	885.19	885.16	885.13	885.09
C/L	885.22	885.24	885.26	885.27	885.28	885.27	885.26	885.25	885.22	885.19	885.15
GIRDER LINE 4	885.15	885.18	885.20	885.21	885.22	885.21	885.21	885.19	885.17	885.13	885.10
GIRDER LINE 5	885.03	885.06	885.08	885.09	885.10	885.10	885.09	885.07	885.05	885.02	884.98
GIRDER LINE 6	884.90	884.93	884.95	884.97	884.98	884.98	884.97	884.96	884.93	884.91	884.87
EAST EDGE OF DECK	884.86	884.88	884.91	884.92	884.93	884.93	884.92	884.91	884.89	884.86	884.83

○ INDICATES WING

B = BOTTOM

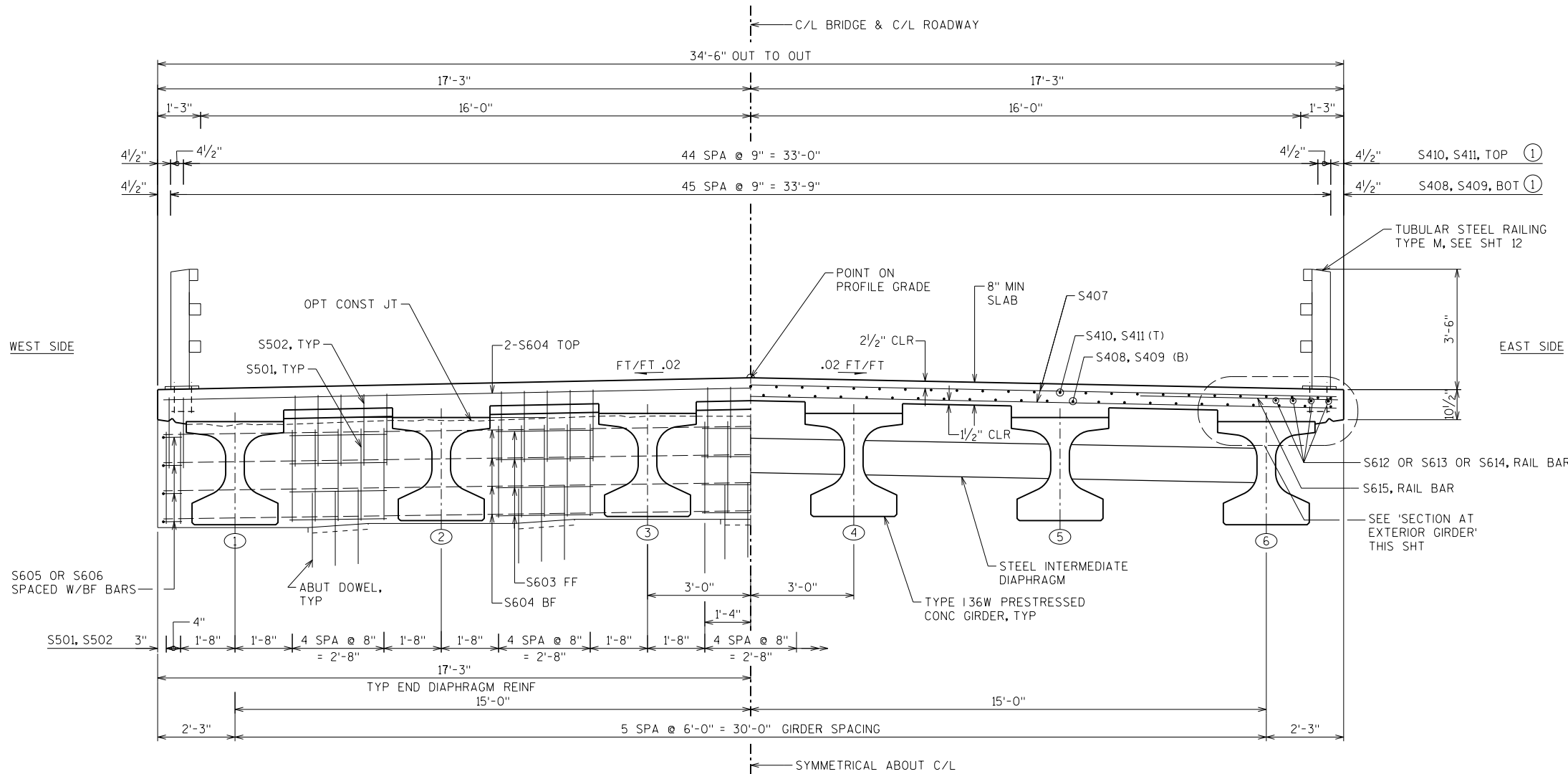


PLOT TIME: 9/12/18 AM

PLOT DATE: 3/20/2015

FILE NAME : S:\FUND\Jackh\30615\5-fnd-dgn\5i-drawings\20-Struct\bridge\27161s2.dgn

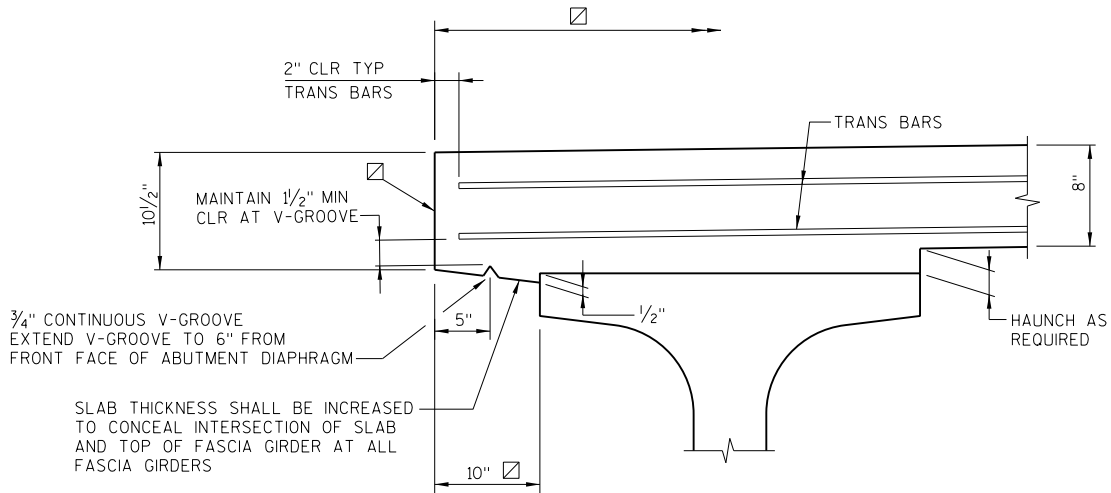
8



AT ABUTMENTS

TRANSVERSE SECTION

AT MID-SPAN



SECTION AT EXTERIOR GIRDER (TYPICAL)

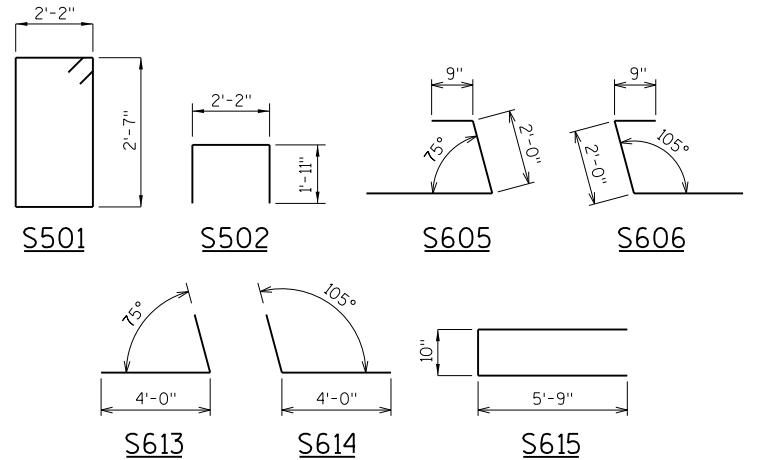
STATE PROJECT NUMBER

7026-00-70

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE ENGLISH BAR DIAMETER SIZE.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

BILL OF BARS					SUPERSTRUCTURE	
BAR MARK	COAT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION
S501	X	58	10 - 2		X	ABUT DIAPH STIRRUP
S502	X	58	6 - 0		X	ABUT DIAPH TIE
S603	X	40	2 - 11			ABUT DIAPH FF
S604	X	12	35 - 4			ABUT DIAPH BF & TOP
S605	X	8	6 - 0		X	ABUT DIAPH END TIE
S606	X	8	6 - 0		X	ABUT DIAPH END TIE
S407	X	341	35 - 4			SLAB TRANS T & B
S408	X	92	40 - 0			SLAB LONGIT B
S409	X	46	15 - 10			SLAB LONGIT B
S410	X	94	35 - 0			SLAB LONGIT T
S411	X	47	25 - 10			SLAB LONGIT T
S612	X	104	6 - 0			RAIL POST, INT
S613	X	8	6 - 0		X	RAIL POST, END
S614	X	8	6 - 0		X	RAIL POST, END
S615	X	60	12 - 0		X	RAIL POST



NOTE:

SEE SUPERSTRUCTURE NOTES & SYMBOLS ON SHEET 7.

☑ COAT WITH "PROTECTIVE SURFACE TREATMENT" PER THE STANDARD SPECIFICATIONS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY DLF		PLANS CK'D. NCK	
SUPERSTRUCTURE DETAILS			SHEET 8 OF 12

8

NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH, AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

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

STRANDS SHALL BE FLUSH WITH END OF GIRDER.FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

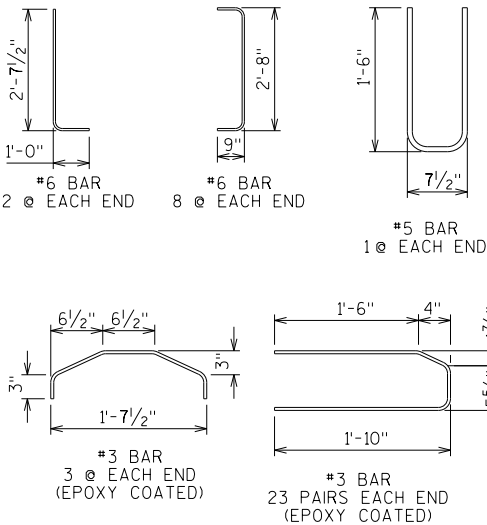
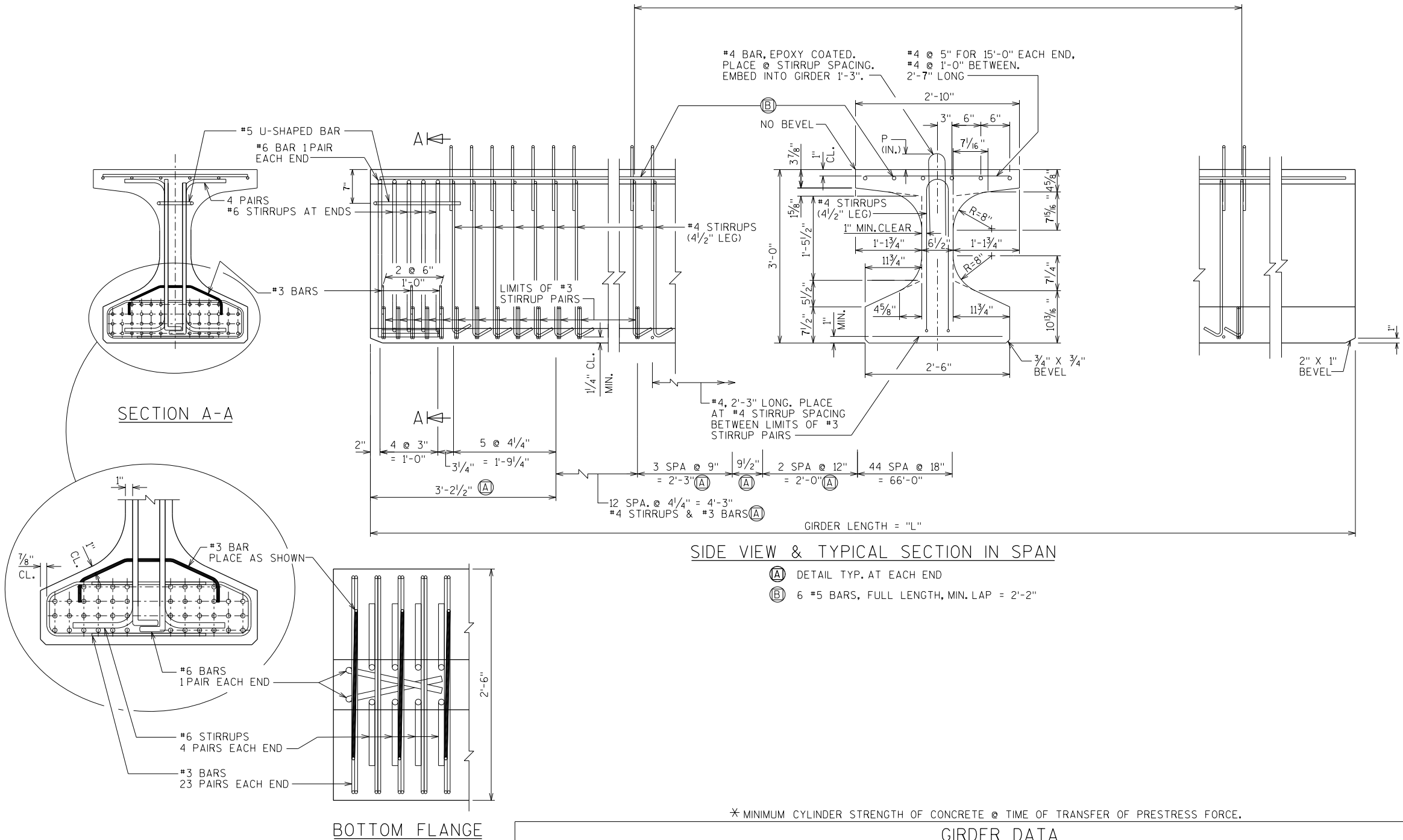
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #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.

PRESTRESSING STRANDS SHALL BE (.06" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

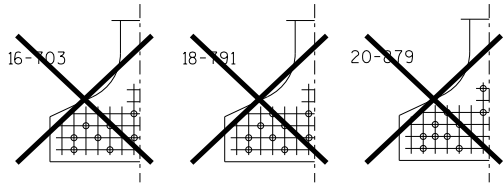
FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM" SHEET.



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

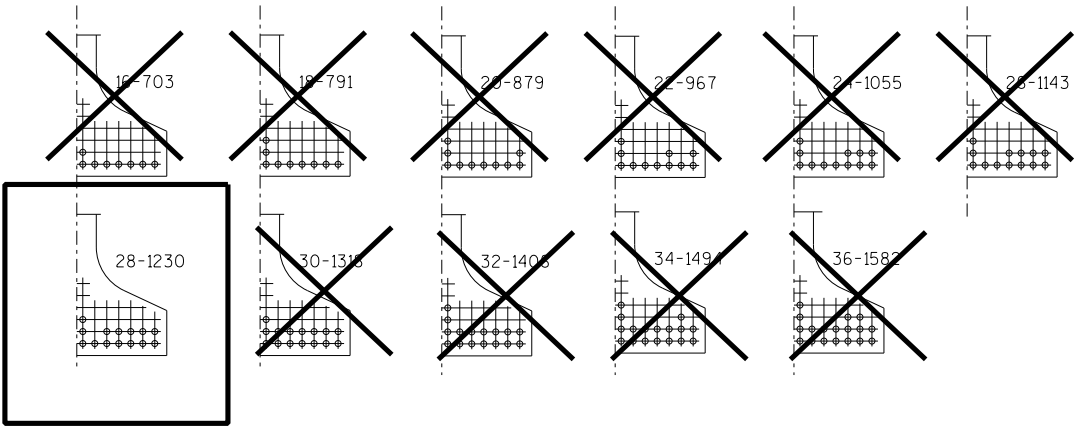
GIRDER DATA																								
SPAN	GIRDER	GIRDER LENGTH "L"	DEAD LOAD DEFL. (IN.)									CONC. STRGTH. f'c (P.S.I.)	"P" 1ST 1/3 OF GIRDER	"P" MID 1/3 OF GIRDER	"P" END 1/3 OF GIRDER	DIA. OF STRAND (IN.)	DRAPED PATTERN						UNDRAPED PATTERN	
			1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10						TOTAL NO. OF STRANDS	f'ci (P.S.I.) *	(IN.)				TOTAL NO. OF STRANDS	f'ci (P.S.I.) *
																			"A"	"B" MIN.	"B" MAX.	"C"		
1	ALL	91'	1/2	1	1 3/8	1 5/8	1 3/4	1 5/8	1 3/8	1	1/2	8.0	7	7	7	0.6	28	6.0	30	10 1/2	13 1/2	4	-	-

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY DLF		PLANS CK'D. NCK	
36W" PRESTRESSED GIRDER DETAILS		SHEET 9 OF 12	



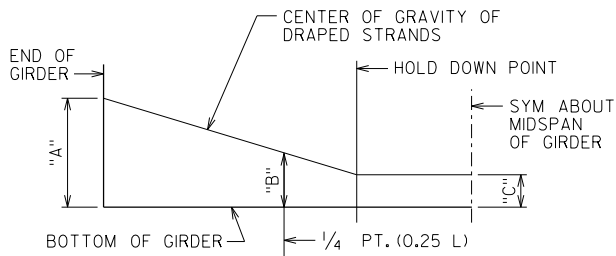
STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY
TO AVOID DRAPING OF STRANDS

0.6"φ STRANDS



ARRANGEMENT AT CL SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"φ STRANDS

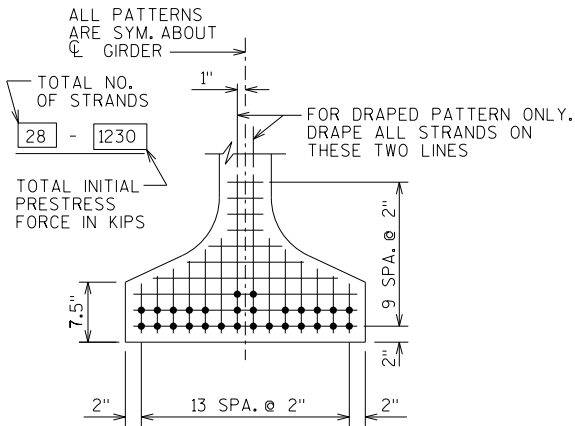


DRAPED STRAND PROFILE

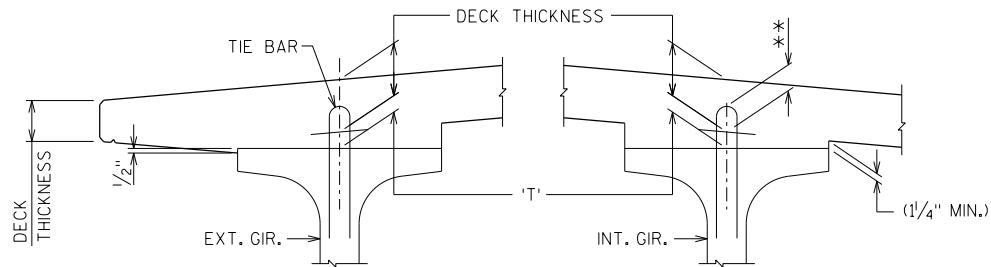
*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

SPAN	CAMBER (IN.) *
1	3/8"

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T'.
USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.



TYP. STRAND PATTERN



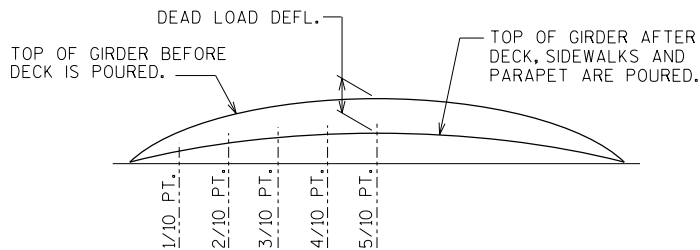
DECK HAUNCH DETAIL

IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S, AT CL OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

$$\begin{aligned} & \text{TOP OF DECK ELEV. AT FINAL GRADE} \\ & - \text{TOP OF GIRDER ELEVATION} \\ & + \text{DEAD LOAD DEFLECTION} \\ & - \text{DECK THICKNESS} \\ & = \text{HAUNCH HEIGHT 'T' } \end{aligned}$$

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".



DEAD LOAD DEFLECTION DIAGRAM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY DLF		PLANS CK'D. NCK	
36W" PRESTRESSED GIRDER DETAILS		SHEET 10 OF 12	

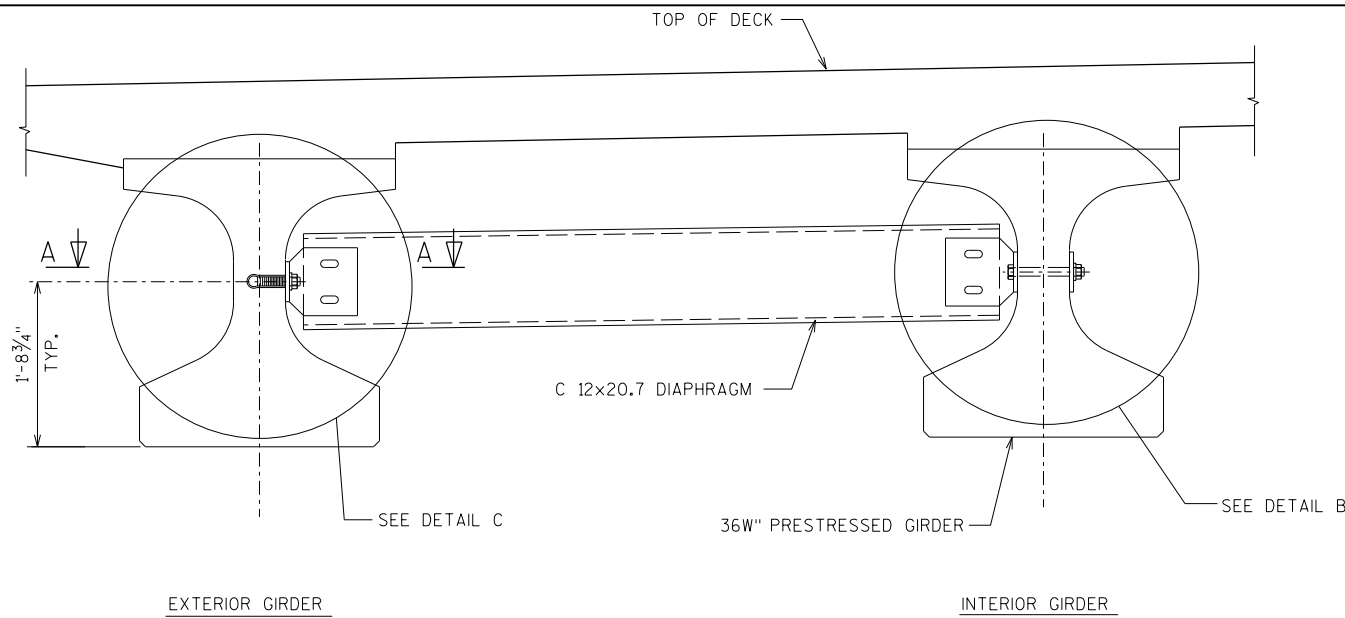
NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-27-161", EACH.

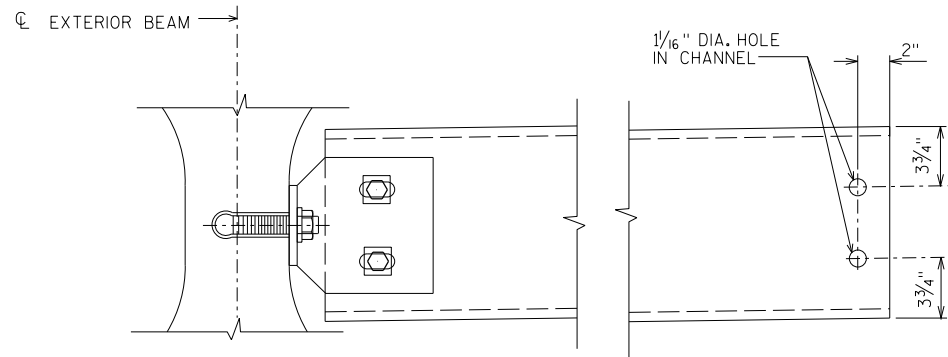
EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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

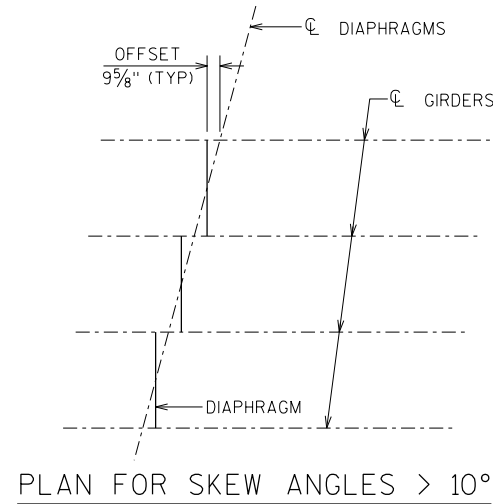
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY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



PART TRANSVERSE SECTION AT DIAPHRAGM

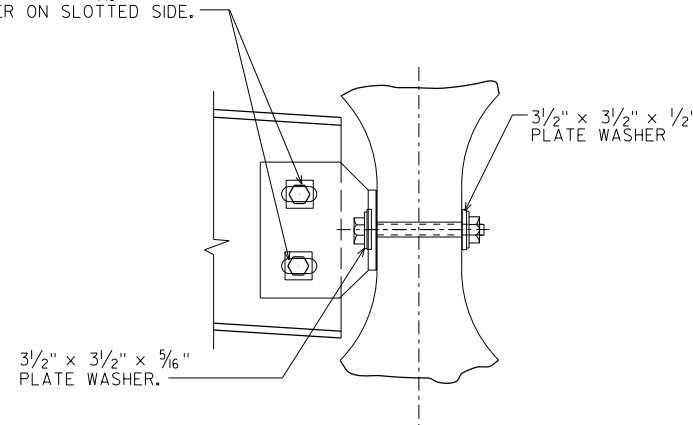


DETAIL C



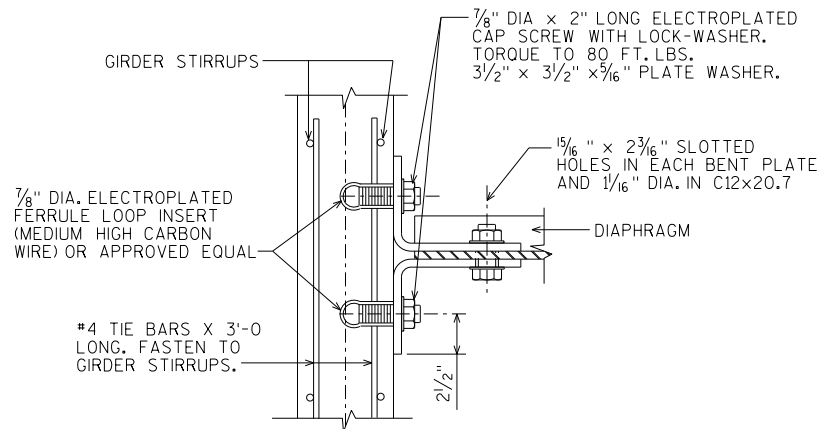
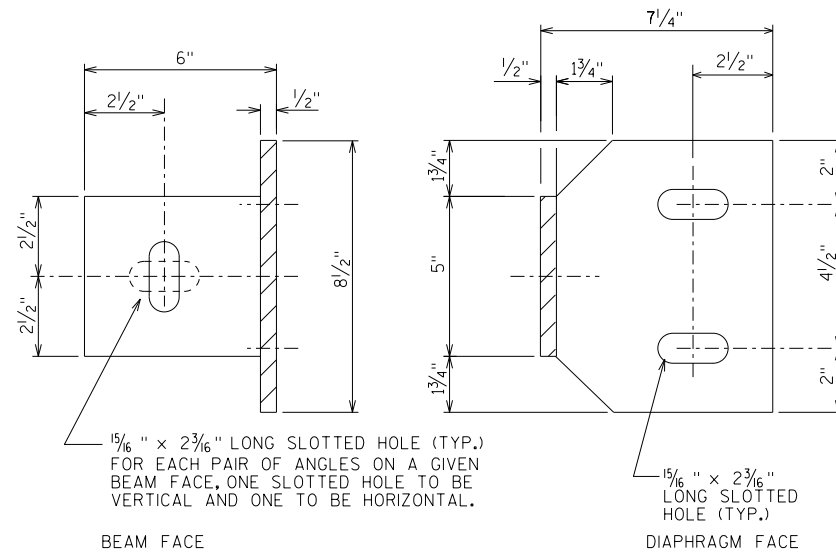
PLAN FOR SKEW ANGLES > 10°

7/8" DIA HIGH STRENGTH BOLTS WITH HEX NUT, TWO WASHERS AND A 3 1/2" SQUARE x 5/16" PLATE WASHER ON SLOTTED SIDE.



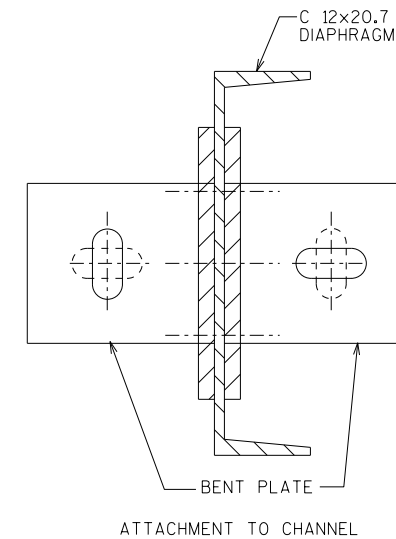
DETAIL B

SECTION AT INTERIOR GIRDERS THRU DIAPHRAGM FOR SKEW ANGLES > 10°

SECTION A-A
(FOR EXTERIOR ATTACHMENT)

BEAM FACE

DIAPHRAGM FACE

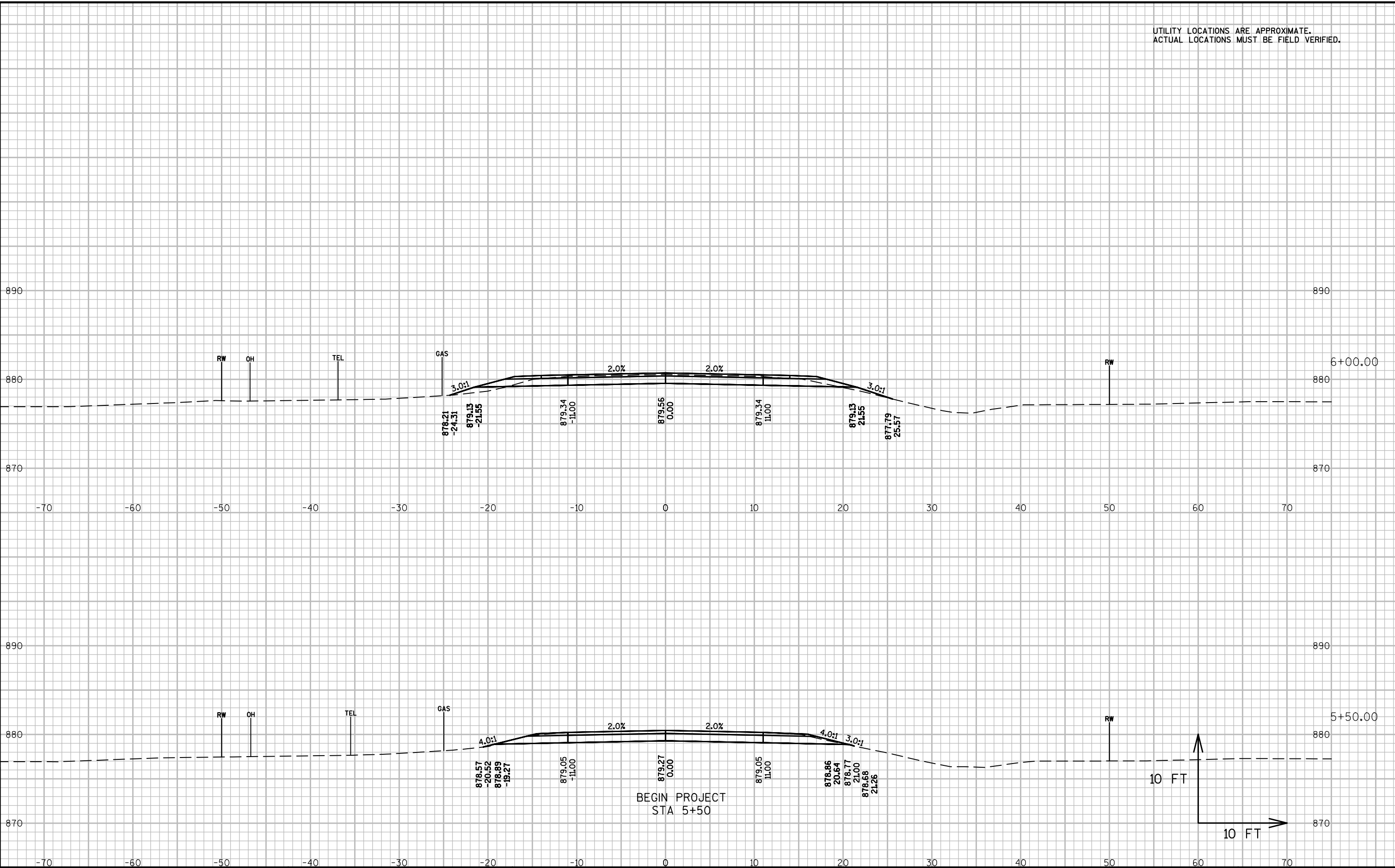


ATTACHMENT TO CHANNEL

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-27-161			
DRAWN BY DLF		PLANS CK'D. NCK	
STEEL DIAPHRAGMS			SHEET 11 OF 12

Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		Mass Ordinate
		Cut	Fill	Cut	Fill	Cut 1.00 Note 1	Expanded Fill 1.30 Note 3	
5+49	0	0	0	0	0	0	0	0
5+50	1	39	0	1	0	1	0	1
6+00	50	32	3	66	3	66	4	62
6+50	50	22	10	50	12	116	20	97
7+00	50	20	8	39	17	155	41	114
7+50	50	1	58	19	62	175	121	53
7-97.98	48	0	108	0	148	175	314	-139
8-22.88	25	0	118	0	104	175	449	-274
8-47.86	25	0	120	0	110	175	593	-417
8-56.34	8	0	114	0	37	175	640	-465
8-81.37	25	0	112	0	105	175	777	-602
9-06.30	25	0	118	0	106	175	915	-740
9-37.49	28	0	115	0	122	175	1073	-898
9+50	44	0	111	0	186	175	1157	-982
9+51	1	0	0	0	2	175	1159	-984
10+49	0	0	0	0	0	175	1159	-984
10+50	1	0	116	0	2	175	1162	-987
10+62.51	13	0	108	0	52	175	1230	-1055
10+93.70	31	0	99	0	120	175	1386	-1211
11+02.14	40	0	108	0	154	175	1430	-1255
11+18.68	17	0	143	0	77	175	1530	-1355
11+27.12	8	0	147	0	45	175	1589	-1414
11+43.66	17	0	155	0	93	175	1709	-1534
11+52.10	8	0	151	0	48	175	1772	-1596
12+00	56	3	96	2	280	177	2073	-1896
12+50	50	12	50	13	135	190	2249	-2059
13+00	50	20	29	29	74	219	2345	-2126
13+50	50	29	13	46	39	265	2396	-2131
14+00	50	43	0	67	12	332	2411	-2079
14+01	1	0	0	1	0	333	2411	-2079
Notes: 1) Salvaged/Unusable Pavement Material is included in Cut. 2) Does not include Unusable Pavement Excavation volume. 3) Will be backfilled with Cut or Borrow. 4) Plus quantity indicates an excess of material. Minus indicates a shortage of material.								

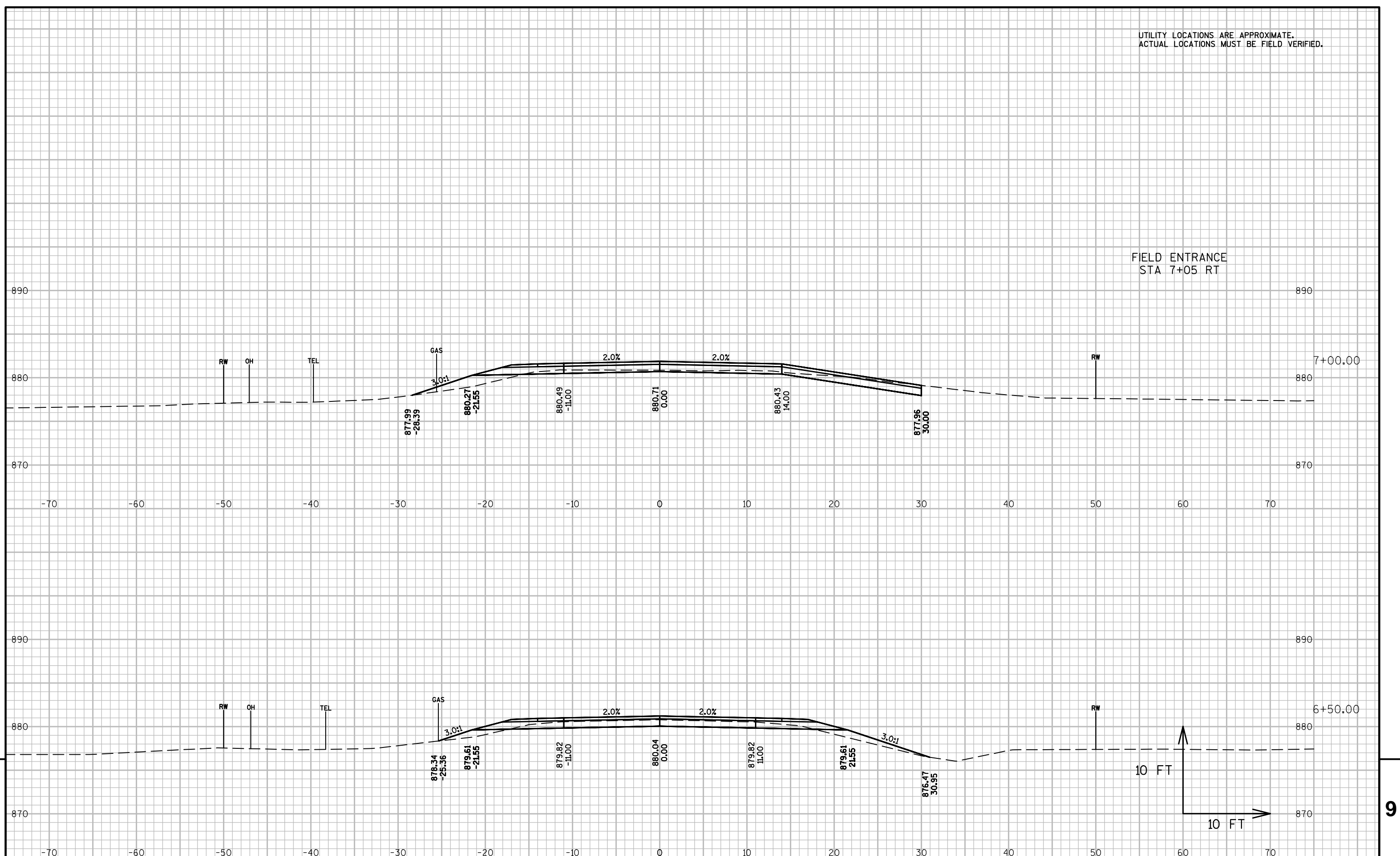
UTILITY LOCATIONS ARE APPROXIMATE.
ACTUAL LOCATIONS MUST BE FIELD VERIFIED.



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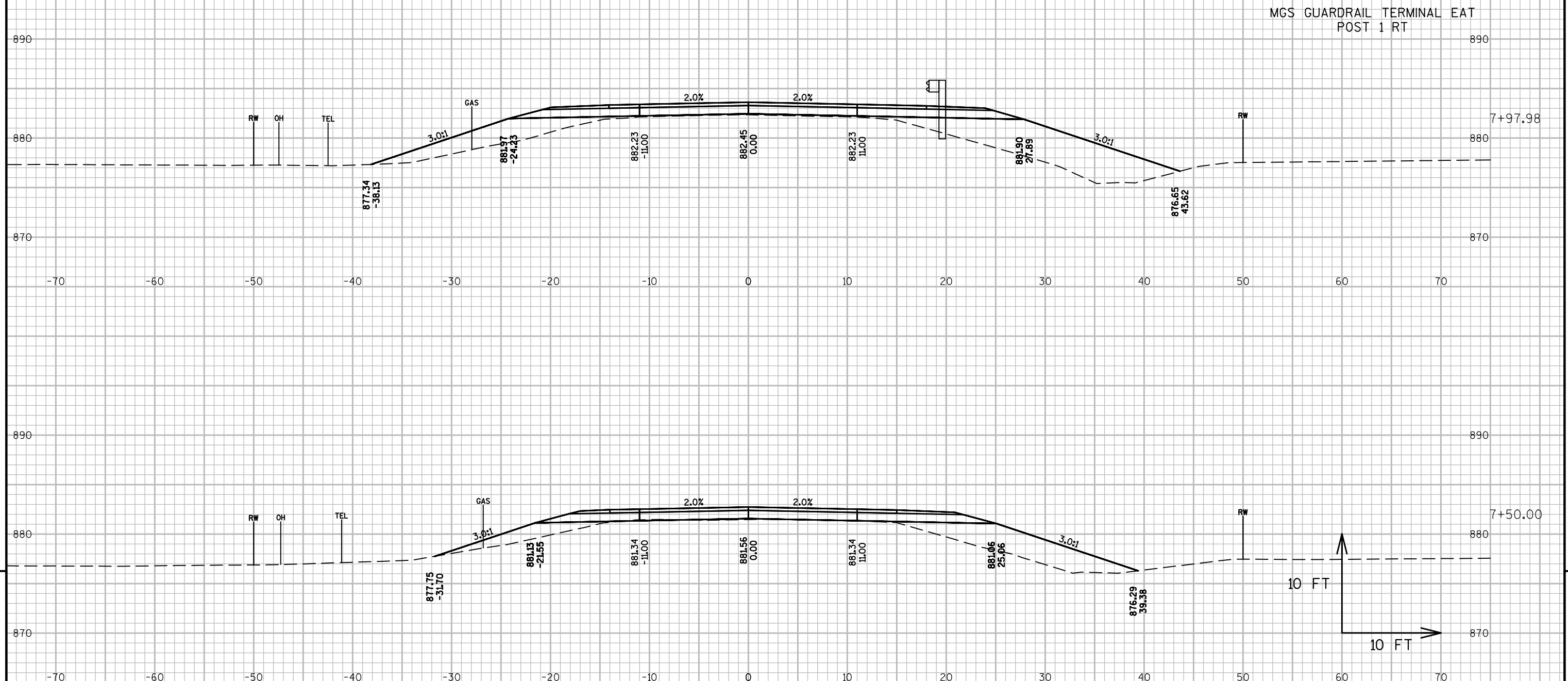
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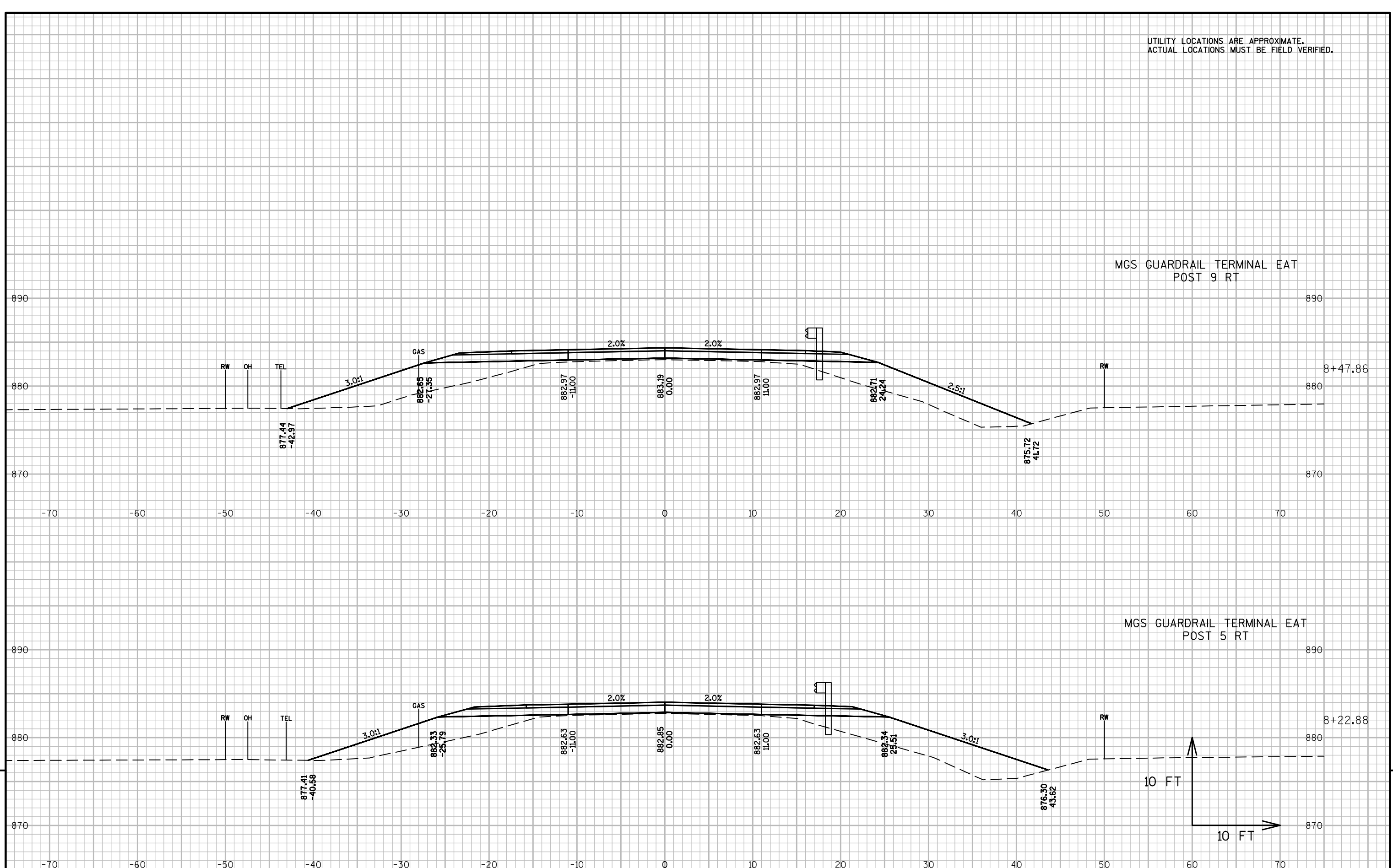
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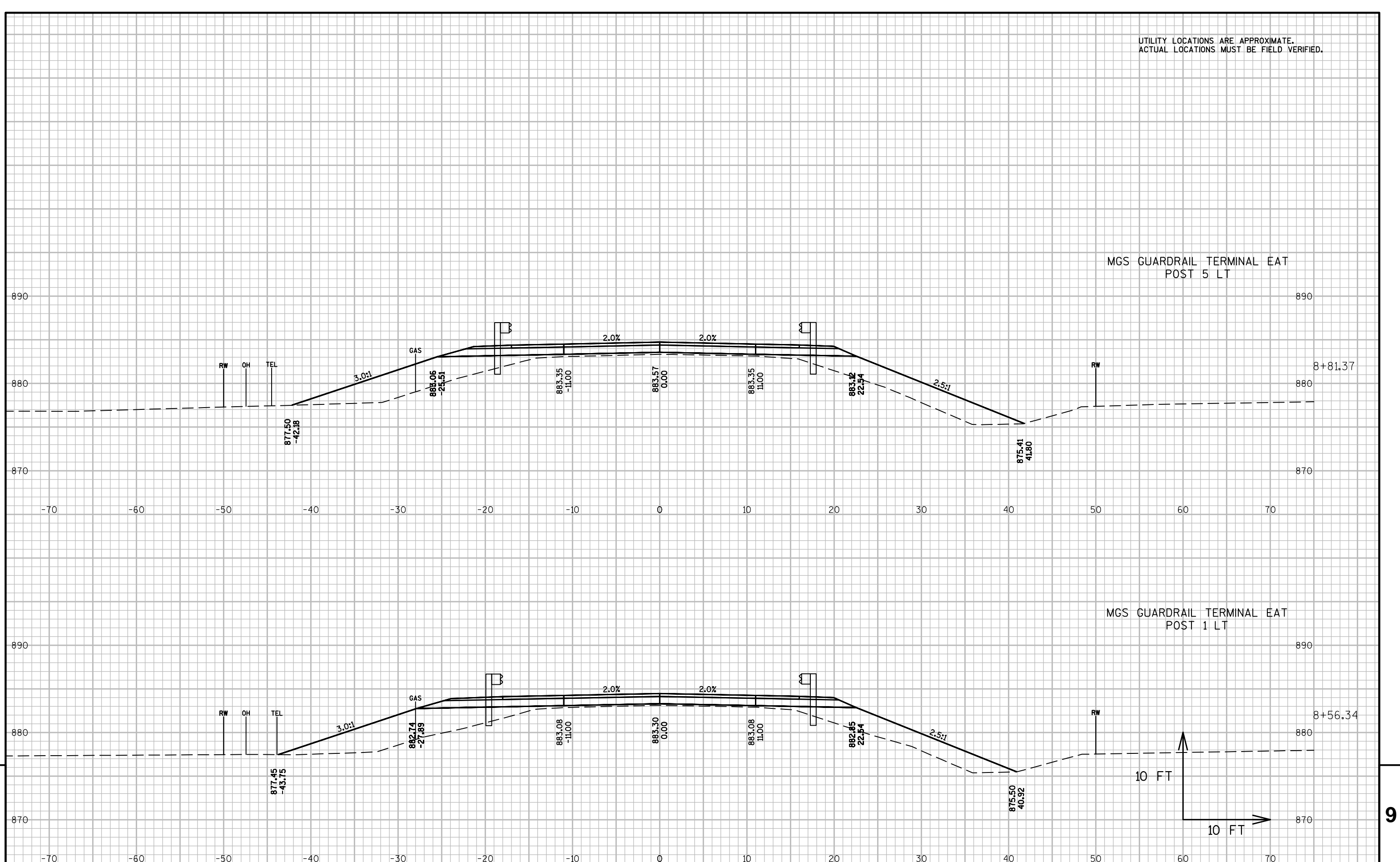
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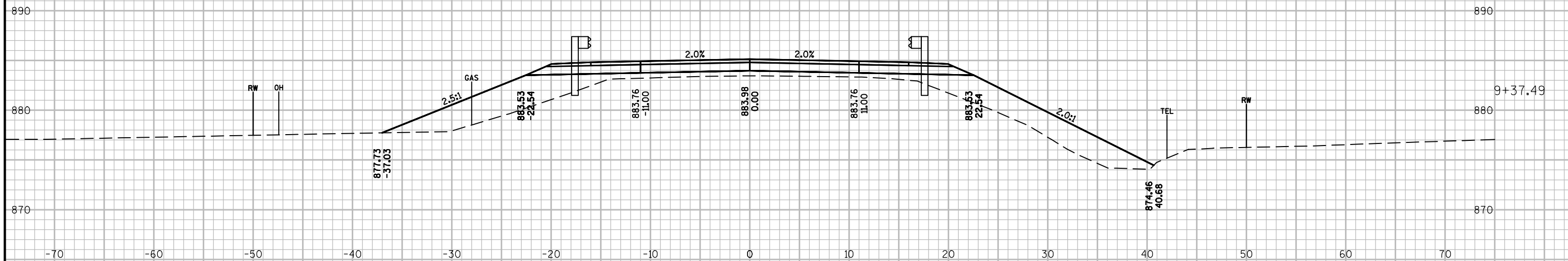


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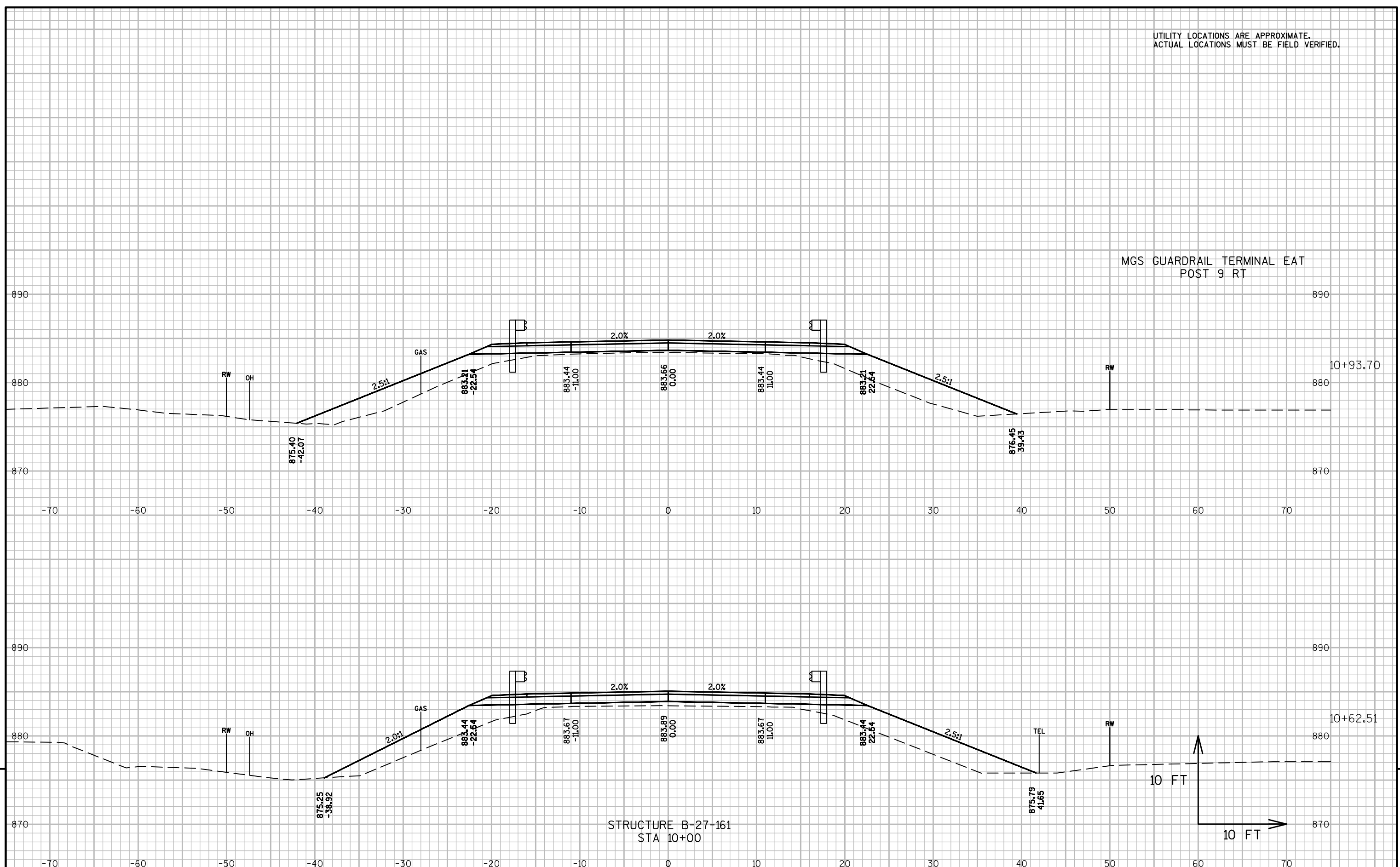
STRUCTURE B-27-161
STA 10+00



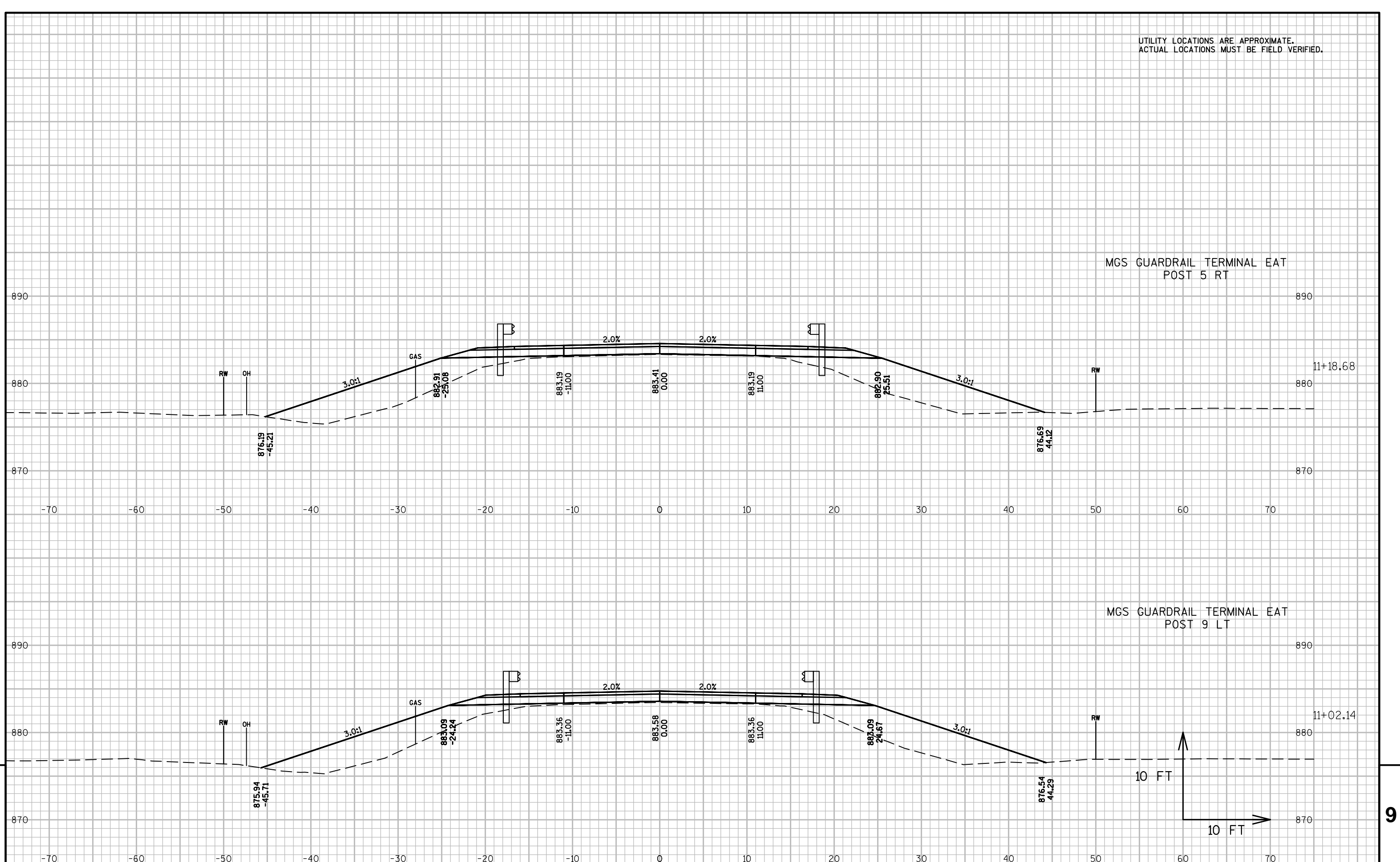
MGS GUARDRAIL TERMINAL EAT
POST 9 LT



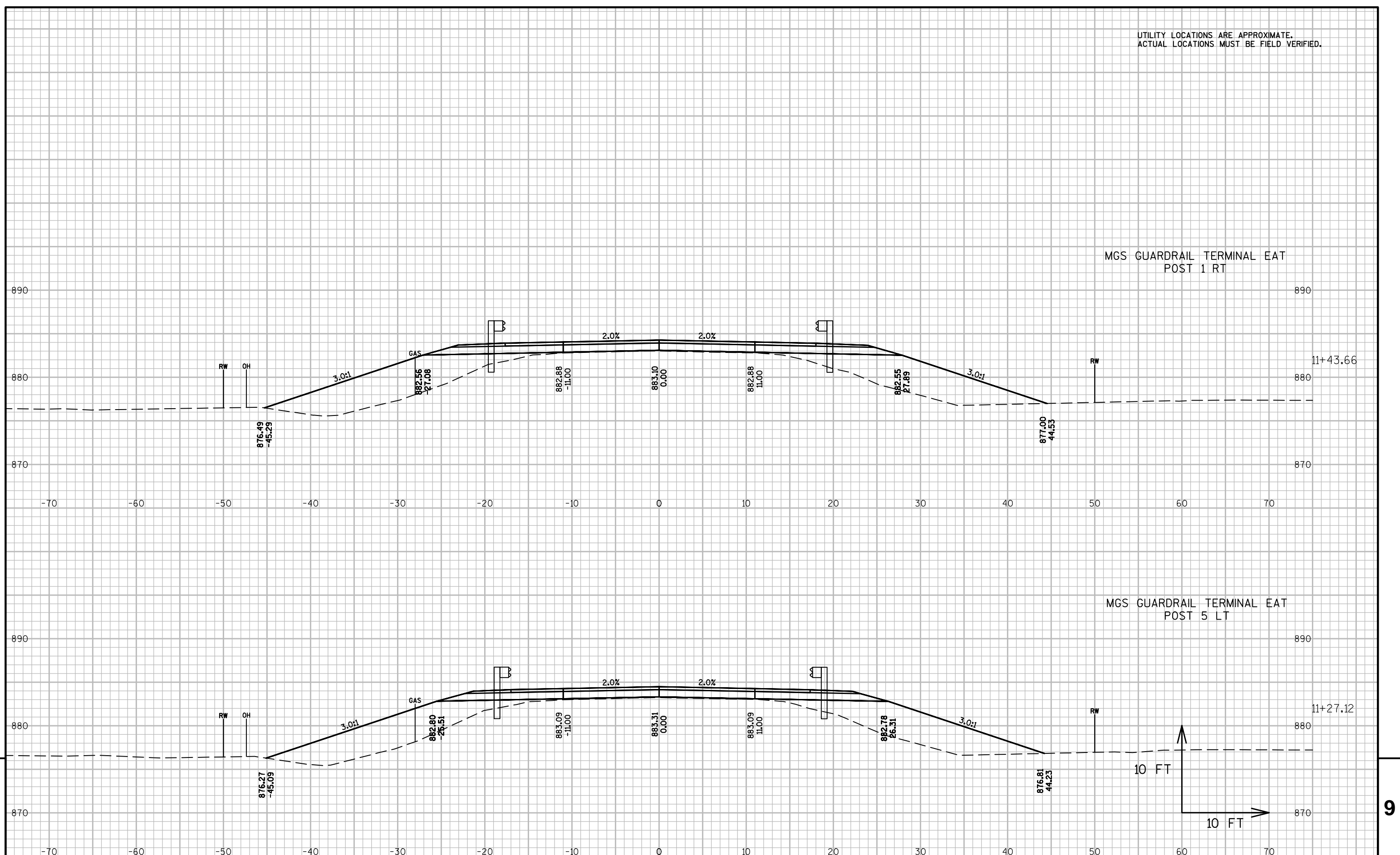
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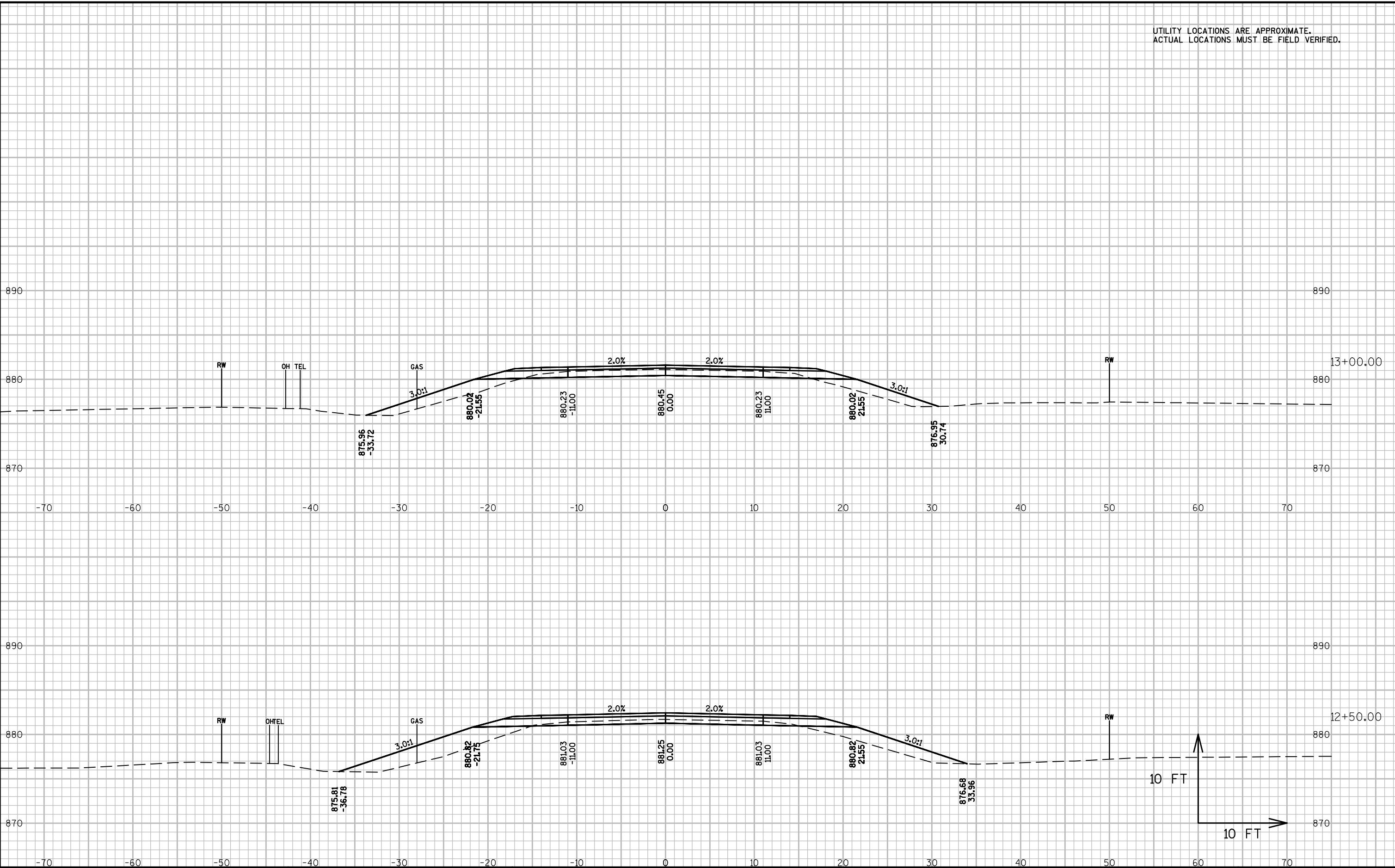


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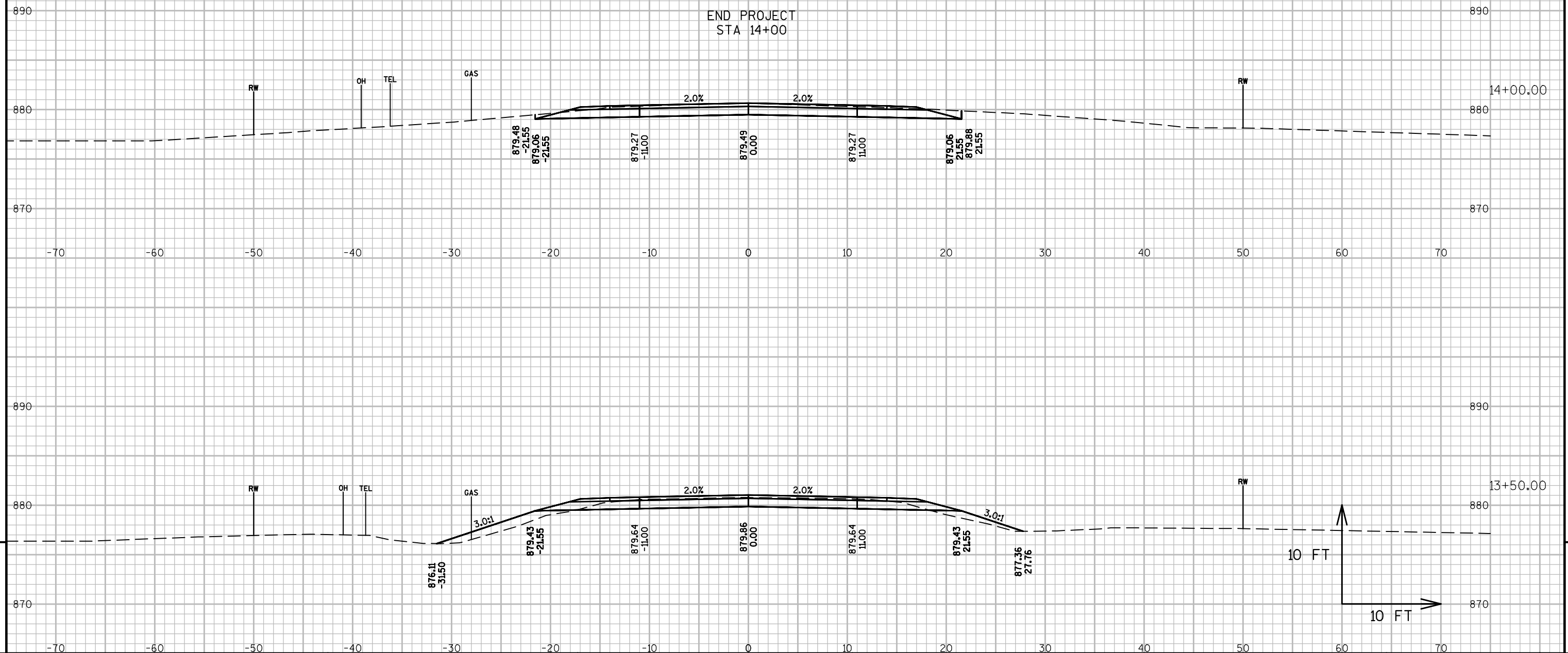


PROJECT NO: 7026-00-70	HWY: CTH N	COUNTY: JACKSON	CROSS SECTIONS: FRENCH CREEK BRIDGE B-27-161	SHEET	E
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ACTUAL LOCATIONS MUST BE FIELD VERIFIED.



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PROJECT NO: 7026-00-70

HWY: CTH N

COUNTY: JACKSON

CROSS SECTIONS: FRENCH CREEK BRIDGE B-27-161

SHEET

E

FILE NAME : P:\FJ\JACK\130615\CIVIL 3D\SHEETSP\AN\090201_XS.DWG
LAYOUT NAME - 090201_XS - SECTION SHEET - (12)

PLOT DATE : 3/18/2015 2:03 PM

PLOT BY : JUSTIN SHAVLIK

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



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