

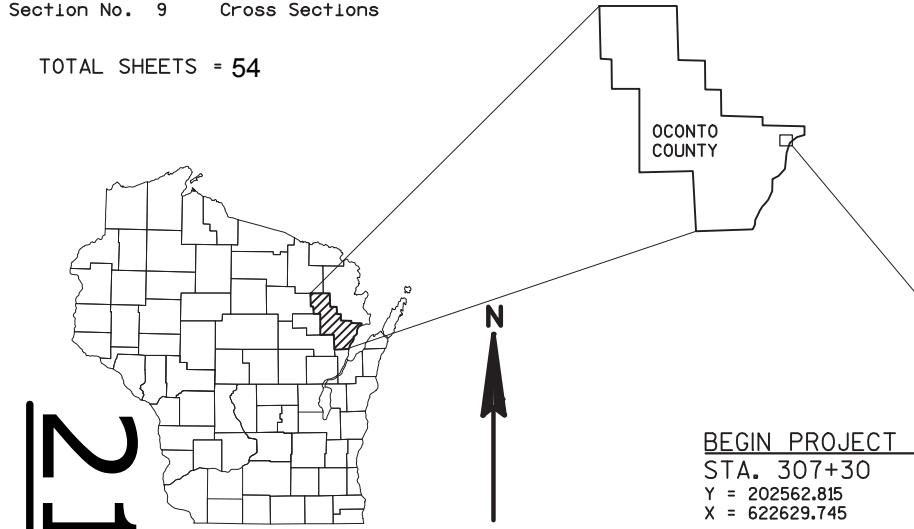
NEL
PROJECT ID: 9007-03-71
WITH: N/A
COUNTY: OCONTO

NOVEMBER 2017

ORDER OF SHEETS

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

TOTAL SHEETS = 54



DESIGN DESIGNATION

A.A.D.T. (2018)	=	490
A.A.D.T. (2038)	=	560
D.H.V.	=	115
D.D.	=	0.5
T.	=	8.3%
DESIGN SPEED	=	60 MPH
ESALS	=	88,000

CONVENTIONAL SYMBOLS

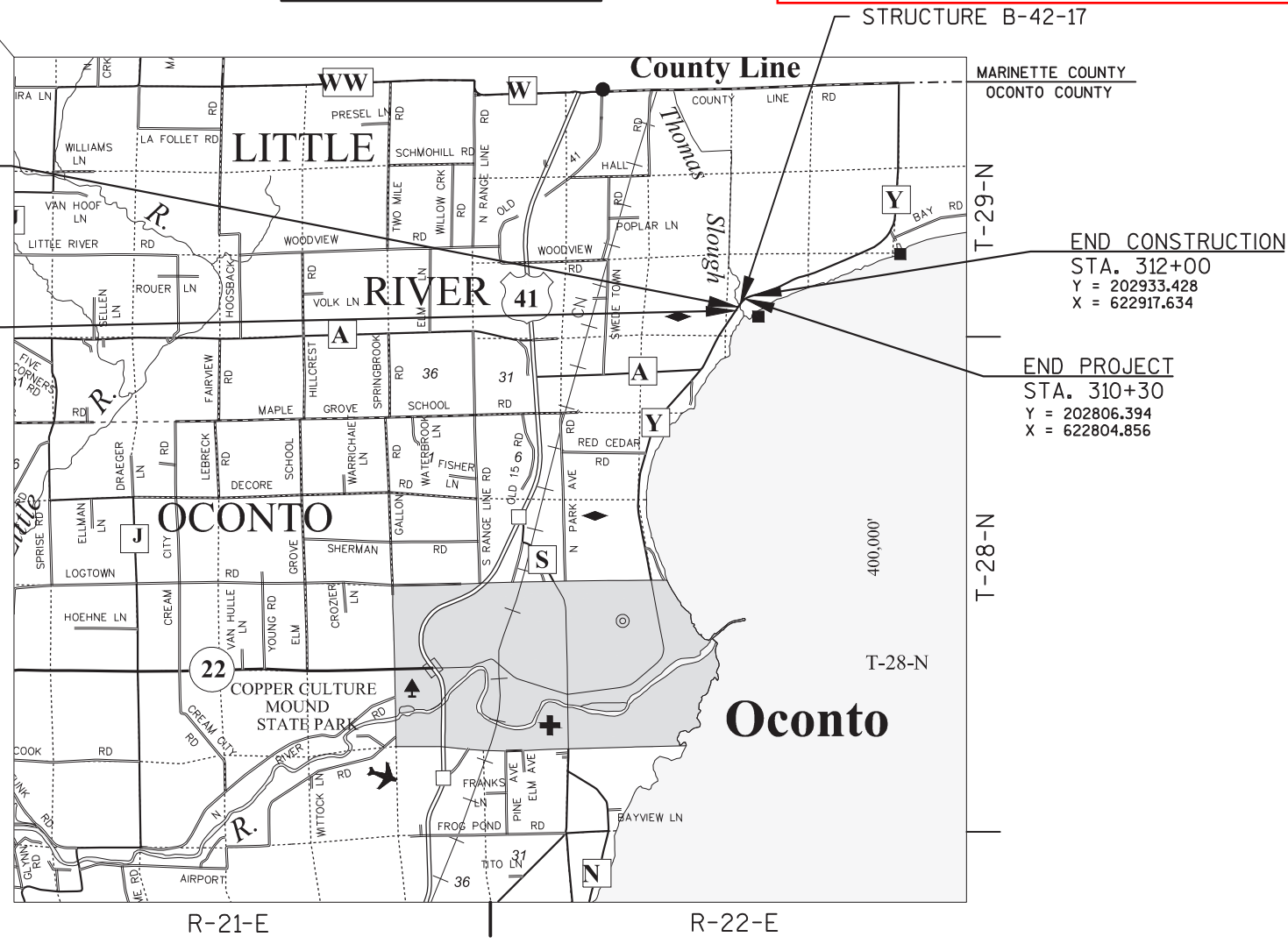
PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

T LITTLE RIVER, CTH Y
THOMAS SLOUGH BRIDGE & APPROACHES
CTH Y
OCONTO COUNTY

STATE PROJECT NUMBER
9007-03-71



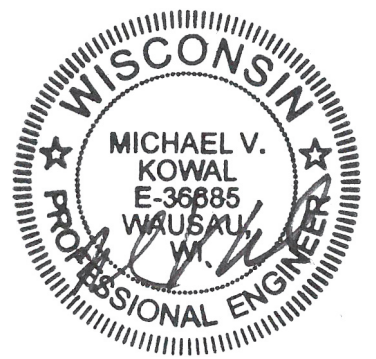
LAYOUT
SCALE 0 2 MI
TOTAL NET LENGTH OF CENTERLINE = 0.057 MILES

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

AS-BUILT PLAN
SUPERVISOR: Dan Segerstrom
PROJECT MANAGER: Matt Ternes
PROJECT ENGINEER: April Glime
PRIME CONTRACTOR: Lunda Construction Co.
WORK STARTED: 9/10/18
WORK COMPLETED: 10/17/18

ACCEPTED FOR
COUNTY OF OCONTO
4/27/17 Patrick Skarlan
(Date) (Signature & Title of Official)

ORIGINAL PLAN PREPARED BY
BECHER HOPPE 330 Fourth Street • PO Box 8000
Wausau, WI • 54402-8000
715.845.8000 • Fax 715.845.8008
becherhoppe.com



4-26-2017
(Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor BECHER HOPPE
Designer BECHER HOPPE
Management Consultant JT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT
DATE: 4/26/17 (Management Consultant Signature)

E

GENERAL NOTES

BEARINGS SHOWN ON THE PLAN ARE TRUE BEARINGS TO THE NEAREST SECOND.

COORDINATES AND BEARINGS ON THIS PLAN ARE ORIENTED TO THE OCONTO COUNTY COORDINATE SYSTEM. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

PURSUANT TO CHAPTER 59 OF THE WISCONSIN STATUTES, THE CONTRACTOR SHALL CAREFULLY MAKE A SEARCH FOR EVIDENCE OF A LANDMARK IN ALL AREAS WHERE SUCH A LANDMARK MAY EXIST.

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

SILT FENCE IS TO BE PLACED AS SHOWN ON THE PLAN, OR AS DIRECTED BY THE ENGINEER. SILT FENCE IS TO BE PLACED PRIOR TO CONSTRUCTION.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND COVERED WITH EROSION MAT.

WETLANDS EXIST IN THE PROJECT AREA AND THE CONTRACTOR SHALL NOT DISTURB OUTSIDE OF THE SLOPE INTERCEPTS IN THESE AREAS.

4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED IN TWO LIFTS WITH AN 1 3/4-INCH UPPER LAYER AND A 2 1/4-INCH LOWER LAYER. ASPHALTIC SURFACE SHALL USE 12.5-MM NOMINAL AGGREGATE SIZE FOR THE UPPER LAYER AND 19.0-MM NOMINAL AGGREGATE SIZE FOR THE LOWER LAYER.

THERE ARE NO KNOWN UTILITY FACILITIES WITHIN THE PROJECT AREA.

ABBREVIATIONS

AC	ACRES
CHIS	CHISELED
CL	CENTERLINE
COR	CORNER
CWT	COUNT
CY	CUBIC YARD
ELEV	ELEVATION
E.O.P.	EDGE OF PAVEMENT
GAL	GALLON
H	HOUSE
IP	IRON PIPE
LB	POUND
LF	LINEAR FOOT
LS	LUMP SUM
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MON	MONUMENT
NOR	NORMAL
OAL	OVERALL LENGTH
PC	POINT OF CURVATURE
PD	PEDESTAL
PI	POINT OF INTERSECTION
PK	PARKER-KALON
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
PP	POWER POLE
PT	POINT OF TANGENCY
R	RADIUS
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SF	SQUARE FEET
SHLD	SHOULDER
STA	STATION
SY	SQUARE YARD
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
VAR	VARIES
WL	WELL

SECTION 2 ORDER

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
EROSION CONTROL
CONTROL POINT DATA

RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = 1.33 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.84 ACRES

DNR CONTACT

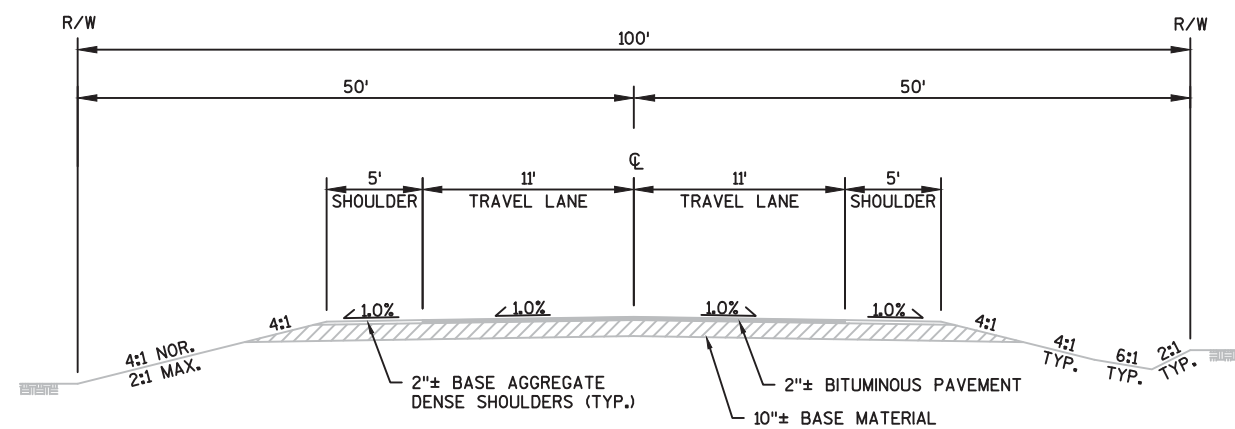
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVE
GREEN BAY, WI 54313
JAMES DOPERALSKI
PHONE: (920) 412-0165
James.Doperalski@wisconsin.gov



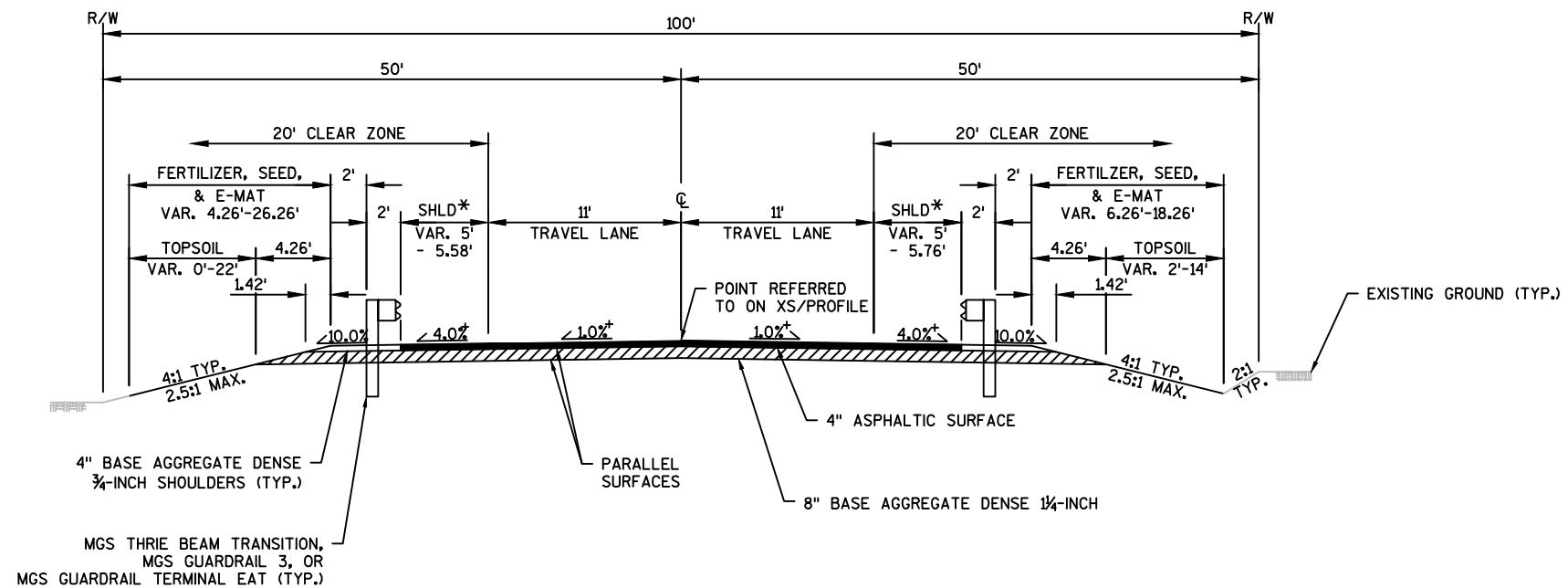
Dial  or (800)242-8511
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS



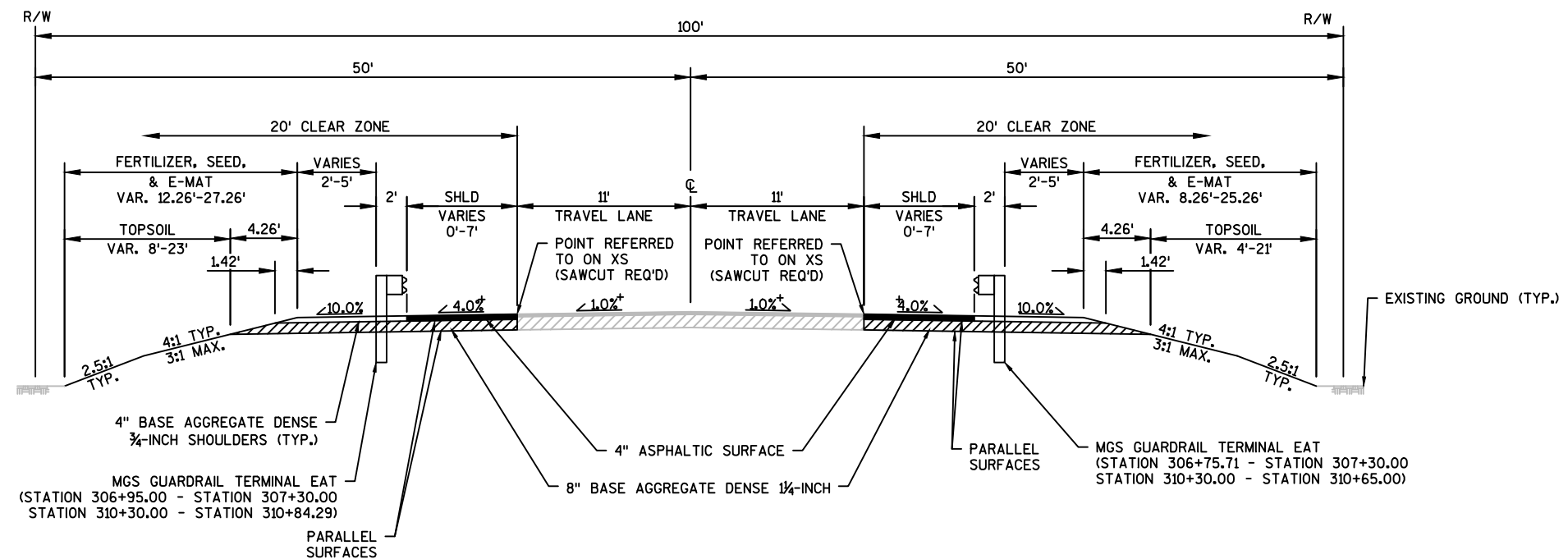


EXISTING TYPICAL SECTION - CTH Y
STATION 306+25.97 - STATION 312+00



FINISHED TYPICAL SECTION - CTH Y

STATION 307+30 - STATION 308+50.39
STATION 309+09.61 - STATION 310+30



NOTES:
THE SUBGRADE SLOPE IS PARALLEL TO THE TOP SURFACE SLOPE.

* THE ASPHALTIC SURFACE SHALL BE PLACED 32 FEET WIDE AT THE ENDS OF THE BRIDGE, FOLLOW THE GUARDRAIL, AND TAPER TO 22 FEET WIDE AT THE ENDS OF THE PROJECT.

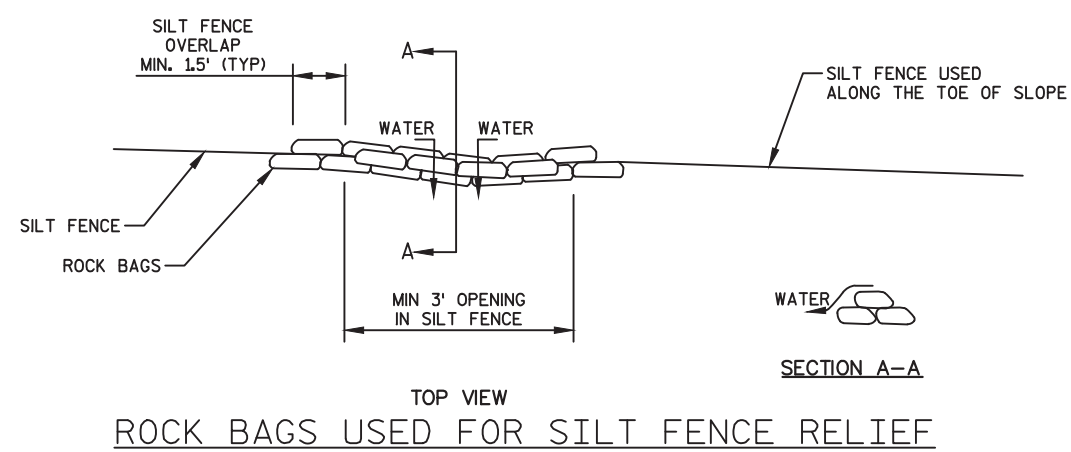
* CROSS SLOPE VARIES THROUGH CURVE 01 (PI STA 314+76.91)

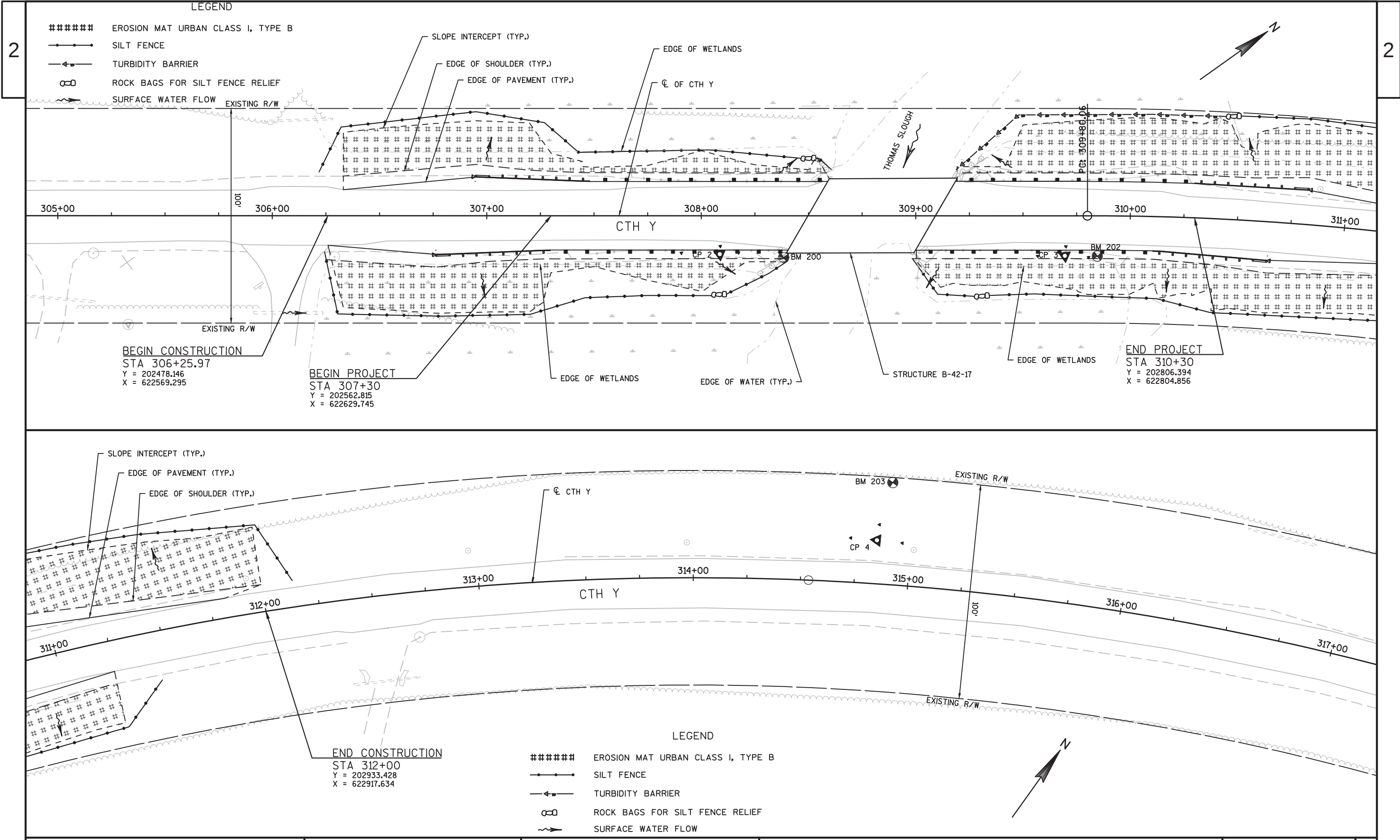
PROPOSED SUPERELEVATION TABLE						
CURVE NO.	PI STA.	CURVE DIRECTION	APPROX. EXIST. SUPERELEVATION		PROPOSED SUPERELEVATION	
			LT	RT	LT	RT
01	314+76.91	RT	3.9%	-3.9%	3.9%	-3.9%

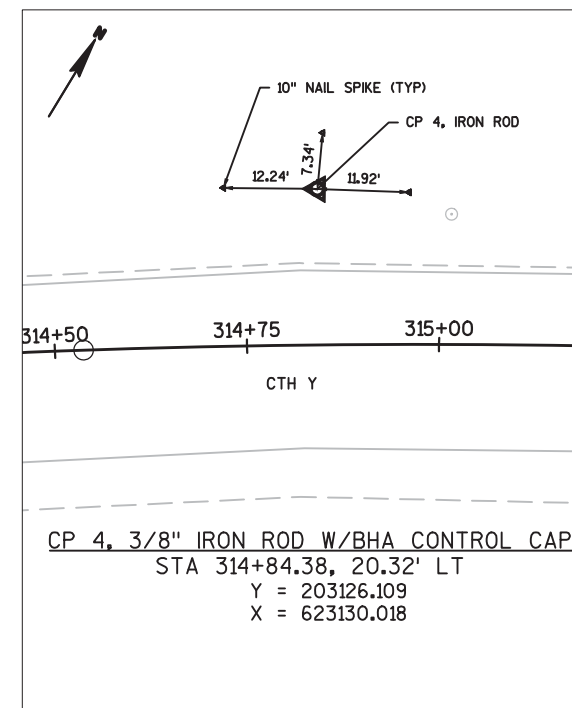
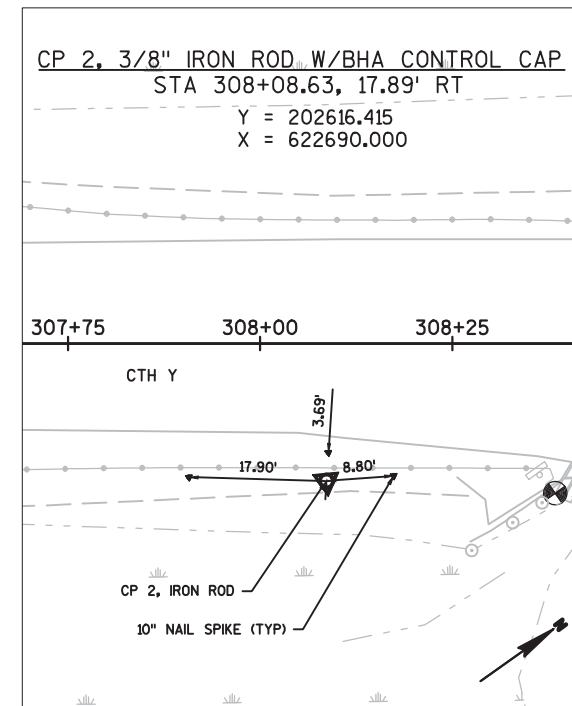
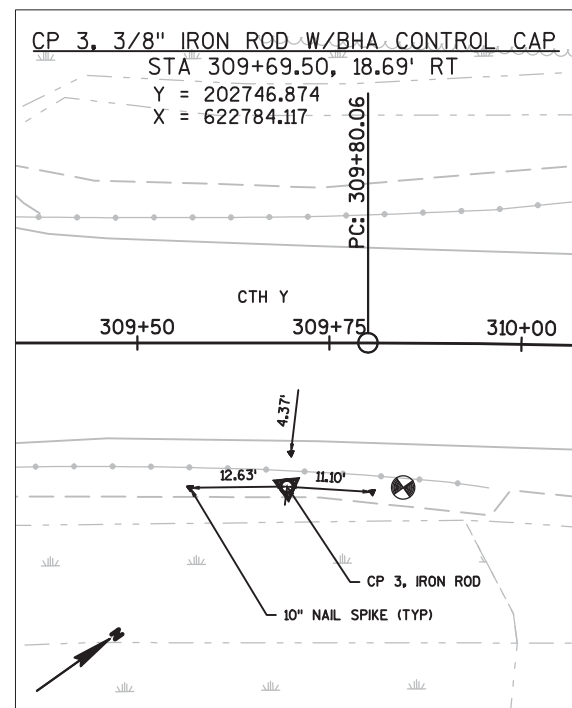
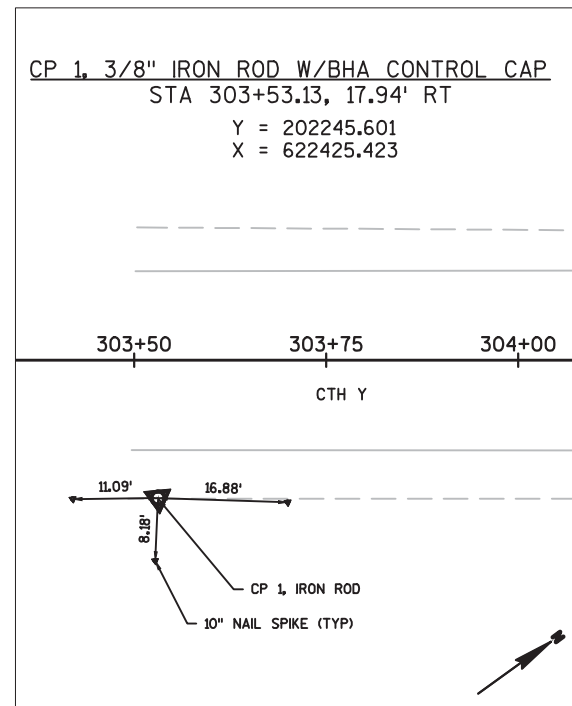
FINISHED TYPICAL SECTION - CTH Y

WIDENING AT MGS GUARDRAIL TERMINAL EATS

STATION 306+26 RT - STATION 307+30 RT
STATION 306+33 LT - STATION 307+30 LT
STATION 310+30 RT - STATION 311+25 RT
STATION 310+30 LT - STATION 311+82 LT







Estimate Of Quantities

9007-03-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	4.000	4.000
0004	201.0205	Grubbing	STA	4.000	4.000
0006	205.0100	Excavation Common **P**	CY	365.000	365.000
0008	208.0100	Borrow **P**	CY	382.000	382.000
0010	213.0100	Finishing Roadway (project) 01. 9007-03-71	EACH	1.000	1.000
0012	305.0110	Base Aggregate Dense 3/4-Inch	TON	141.000	141.000
0014	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	885.000	885.000
0016	450.4000	HMA Cold Weather Paving	TON	245.000	245.000
0018	455.0605	Tack Coat	GAL	76.000	76.000
0020	465.0105	Asphaltic Surface	TON	245.000	245.000
0022	502.3200	Protective Surface Treatment	SY	205.000	205.000
0024	509.0301	Preparation Decks Type 1	SY	60.000	60.000
0026	509.0302	Preparation Decks Type 2	SY	45.000	45.000
0028	509.0500	Cleaning Decks	SY	205.000	205.000
0030	509.1500	Concrete Surface Repair	SF	10.000	10.000
0032	509.2000	Full-Depth Deck Repair	SY	1.000	1.000
0034	509.2500	Concrete Masonry Overlay Decks	CY	12.000	12.000
0036	517.1800.S	Structure Repainting Recycled Abrasive (structure) 01. B-42-17	LS	1.000	1.000
0038	517.4500.S	Negative Pressure Containment and Collection of Waste Materials (structure) 01. B-42-17	LS	1.000	1.000
0040	517.6001.S	Portable Decontamination Facility	EACH	1.000	1.000
0042	614.0920	Salvaged Rail	LF	381.000	381.000
0044	614.2300	MGS Guardrail 3	LF	300.000	300.000
0046	614.2500	MGS Thrie Beam Transition	LF	156.000	156.000
0048	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0050	619.1000	Mobilization	EACH	1.000	1.000
0052	624.0100	Water	MGAL	21.000	21.000
0054	625.0100	Topsoil **P**	SY	1,275.000	1,275.000
0056	628.1504	Silt Fence	LF	985.000	985.000
0058	628.1520	Silt Fence Maintenance	LF	1,478.000	1,478.000
0060	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0062	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0064	628.2008	Erosion Mat Urban Class I Type B **P**	SY	1,715.000	1,715.000
0066	628.6005	Turbidity Barriers	SY	70.000	70.000
0068	628.7504	Temporary Ditch Checks	LF	30.000	30.000
0070	628.7570	Rock Bags	EACH	70.000	70.000
0072	629.0210	Fertilizer Type B	CWT	1.000	1.000
0074	630.0120	Seeding Mixture No. 20	LB	47.000	47.000
0076	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000

Estimate Of Quantities

9007-03-71					
Line	Item	Item Description	Unit	Total	Qty
0078	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0080	638.2602	Removing Signs Type II	EACH	4.000	4.000
0082	638.3000	Removing Small Sign Supports	EACH	4.000	4.000
0084	642.5001	Field Office Type B	EACH	1.000	1.000
0086	643.0100	Traffic Control (project) 01. 9007-03-71	EACH	1.000	1.000
0088	643.0420	Traffic Control Barricades Type III	DAY	828.000	828.000
0090	643.0705	Traffic Control Warning Lights Type A	DAY	1,288.000	1,288.000
0092	643.0900	Traffic Control Signs	DAY	648.000	648.000
0094	646.0106	Pavement Marking Epoxy 4-Inch	LF	1,635.000	1,635.000
0096	647.0105	Pavement Marking Railroad Crossings Paint	EACH	2.000	2.000
0098	650.4500	Construction Staking Subgrade	LF	516.000	516.000
0100	650.5000	Construction Staking Base	LF	516.000	516.000
0102	650.9910	Construction Staking Supplemental Control (project) 01. 9007-03-71	LS	1.000	1.000
0104	650.9920	Construction Staking Slope Stakes	LF	516.000	516.000
0106	690.0150	Sawing Asphalt	LF	514.000	514.000
0108	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	150.000	150.000
0110	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
0112	SPV.0060	Special 01. Cleaning and Painting Piling	EACH	28.000	28.000

CLEARING & GRUBBING					
			201.0105		201.0205
			CLEARING		GRUBBING
STATION TO	STATION	LOCATION	STA		STA
306+32	- 306+82	RT	1		1
309+67	- 311+58	LT	3		3
TOTALS			4		4

EARTHWORK SUMMARY												
				205.0100		UNUSABLE				MASS		208.0100
				EXCAVATION COMMON (1)		PAVEMENT	AVAILABLE			ORDINATE	BORROW (8)	
				P		MATERIAL	MATERIAL	UNEXPANDED	EXPANDED			
				CUT (2)	EBS (3)	(4)	(5)	FILL	FILL (6)	± (7)	**P**	
DIVISION	STATION	TO	STATION	CY	CY	CY	CY	CY	CY	CY	CY	COMMENTS:
1	306+25.97	-	308+40.53	196	0	18	178	133	166	12		
	309+19.27	-	312+00	169	0	17	152	437	546	-394		
TOTALS				365	0	35	330	570	712	-382	382	

TOTAL EXCAVATION COMMON 365

- 1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NO. 205.0100.
- 2) UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 3) EBS EXCAVATION TO BE BACKFILLED WITH CUT MATERIAL.
- 4) UNUSABLE PAVEMENT MATERIAL.
- 5) AVAILABLE MATERIAL = CUT - UNUSABLE PAVEMENT MATERIAL.
- 6) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25.
- 7) MASS ORDINATE = (AVAILABLE MATERIAL) - (EXPANDED FILL). PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
- 8) USE 12 CY OF EXCESS MATERIAL FROM STA 306+25.97 - STA 308+40.53

BASE AGGREGATE DENSE							
				305.0110	305.0120	624.0100	
				3/4-INCH	1 1/4-INCH	WATER	
STATION	TO	STATION	LOCATION	TON	TON	MGAL	COMMENT
306+21	-	308+59	CL	-	420	8	MAINLINE
306+21	-	308+41	RT	31	-	1	SHOULDERS
306+33	-	308+59	LT	33	-	1	SHOULDERS
308+98	-	312+00	CL	-	465	9	MAINLINE
308+98	-	311+25	RT	31	-	1	SHOULDERS
309+18	-	312+00	LT	46	-	1	SHOULDERS
TOTALS				141	885	21	

ALL ITEMS AND QUANTITIES ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

ASPHALTIC SURFACE							
		450.4000	455.0605	465.0105			
		HMA COLD	TACK COAT	ASPHALTIC			
		WEATHER PAVING		SURFACE			
STATION	TO	STATION	LOCATION	TON	GAL	TON	COMMENT
306+26	-	308+59	CL	120	37	120	MAINLINE
309+00	-	311+80	CL	125	39	125	MAINLINE
TOTALS				245	76	245	

614.0920 SALVAGED RAIL				
STATION	TO	STATION	LOCATION	LF
307+46	-	308+38	RT	92
307+64	-	308+57	LT	93
309+01	-	309+96	RT	95
309+21	-	310+22	LT	101
TOTAL				381

614.2300 MGS GUARDRAIL 3				
STATION	TO	STATION	LOCATION	LF
307+28.84	-	308+03.84	RT	75
307+48.13	-	308+23.13	LT	75
309+36.87	-	310+11.87	RT	75
309+56.16	-	310+31.16	LT	75
TOTAL				300

614.2500 MGS THRIE BEAM TRANSITION				
STATION	TO	STATION	LOCATION	LF
308+03.84	-	308+43.24	RT	39
308+23.13	-	308+62.53	LT	39
308+97.47	-	309+36.87	RT	39
309+16.76	-	309+56.16	LT	39
TOTAL				156

614.2610 MGS GUARDRAIL TERMINAL EAT				
STATION	TO	STATION	LOCATION	EACH
306+75.71	-	307+28.84	RT	1
306+95.00	-	307+48.13	LT	1
310+11.87	-	310+65.00	RT	1
310+31.16	-	310+84.29	LT	1
TOTAL				4

TOPSOIL, FERTILIZER, & SEED						
		625.0100	629.0210	630.0120		
		TOPSOIL	FERTILIZER	SEEDING		
		P	TYPE B	MIXTURE NO. 20		
STATION	TO	STATION	LOCATION	SY	CWT	LB
306+27	-	308+37	RT	235	0.2	9
306+33	-	308+59	LT	180	0.2	8
309+00	-	311+25	RT	270	0.2	10
309+21	-	312+00	LT	590	0.4	20
TOTALS				1,275	1.0	47

SILT FENCE & SILT FENCE MAINTENANCE					
				628.1504	628.1520
				SILT FENCE	SILT FENCE
				MAINTENANCE	
STATION	TO	STATION	LOCATION	LF	LF
306+22	-	308+61	LT	250	375
306+24	-	308+40	RT	240	360
308+98	-	311+47	RT	255	383
310+45	-	312+14	LT	190	285
UNDISTRIBUTED				50	75
TOTALS				985	1,478

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL		
	628.1905	628.1910
	MOBILIZATIONS	MOBILIZATIONS
	EROSION CONTROL	EROSION CONTROL
LOCATION	EACH	EACH
PROJECT 9007-03-71	3	2

ALL ITEMS AND QUANTITIES ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

628.2008 EROSION MAT URBAN CLASS I TYPE B **P**				
STATION	TO	STATION	LOCATION	SY
306+27	-	308+37	RT	335
306+33	-	308+59	LT	285
309+00	-	311+25	RT	375
309+21	-	312+00	LT	720
TOTAL				1,715

628.6005 TURBIDITY BARRIERS				
STATION	TO	STATION	LOCATION	SY
309+19	-	310+45	LT	45
UNDISTRIBUTED				25
TOTAL				70

628.7504 TEMPORARY DITCH CHECKS	
LOCATION	LF
UNDISTRIBUTED	30

628.7570 ROCK BAGS			
STATION	LOCATION	EACH	COMMENT
308+07	RT	10	SILT FENCE RELIEF
308+50	LT	10	SILT FENCE RELIEF
309+31	RT	10	SILT FENCE RELIEF
309+51	LT	10	SILT FENCE RELIEF
UNDISTRIBUTED		30	
TOTAL		70	

SIGNING SCHEDULE									
				634.0612		637.2230	638.2602	638.3000	
				POSTS WOOD		SIGNS	REMOVING	REMOVING	
				4X6-INCH		TYPE II	SIGNS	SMALL SIGN	
				SIZE		REFLECTIVE F	TYPE II	SUPPORTS	
STATION	OFFSET	CODE NO.	DESCRIPTION	IN	X	IN	EACH	SF	EACH
308+37	RT	W5-52R	Chevron	12	X	36	1	3.00	1
308+54	LT	W5-52L	Chevron	12	X	36	1	3.00	1
309+03	RT	W5-52L	Chevron	12	X	36	1	3.00	1
309+22	LT	W5-52R	Chevron	12	X	36	1	3.00	1
TOTALS							4	12.00	4

TRAFFIC CONTROL									
		643.0100.01	643.0420	643.0705		643.0900			
		PROJECT	BARRICADES	WARNING LIGHTS		SIGNS			
		9007-03-71	TYPE III	TYPE A					
LOCATION	DURATION (DAYS)								
		EACH	EACH	DAY	EACH	DAY	EACH	DAY	
CTH A / CN RR INTERSECTION PAVEMENT MARKING		1	---	---	---	---	---	4	4
CTH Y (ADVANCED WARNING)		46	---	---	---	---	---	3	138
CTH Y (AT INTERSECTION WITH CTH A)		46	---	2	92	4	184	2	92
B-42-0017 CLOSURE (S SIDE)		46	---	7	322	10	460	2	92
B-42-0017 CLOSURE (N SIDE)		46	---	7	322	10	460	2	92
CTH Y (AT INTERSECTION WITH BAY RD)		46	---	2	92	4	184	2	92
CTH Y (ADVANCED WARNING)		46	---	---	---	---	---	3	138
UNDISTRIBUTED (PROJECT 9007-03-71)		46	1	---	---	---	---	---	---
TOTALS		1		828		1,288		648	

NOTE: ASSUMED 46 CALENDAR DAYS.

PAVEMENT MARKING						
			646.0106	647.0105		
			EPOXY	RAILROAD		
			4-INCH	CROSSINGS PAINT		
STATION	TO	STATION	LOCATION	LF	EACH	COMMENT
CTH A / CN RR INTERSECTION				-	2	PROJECT DETOUR
306+26	-	311+25	RT	499	-	WHITE EDGE LINE
306+33	-	312+00	LT	567	-	WHITE EDGE LINE
307+30	-	307+72	CL	11	-	SB YELLOW C/L (12.5' LINE, 37.5' GAP)
307+30	-	307+72	CL	42	-	NB SOLID YELLOW C/L
307+72	-	310+30	CL	516	-	DOUBLE YELLOW C/L
TOTALS				1,635	2	

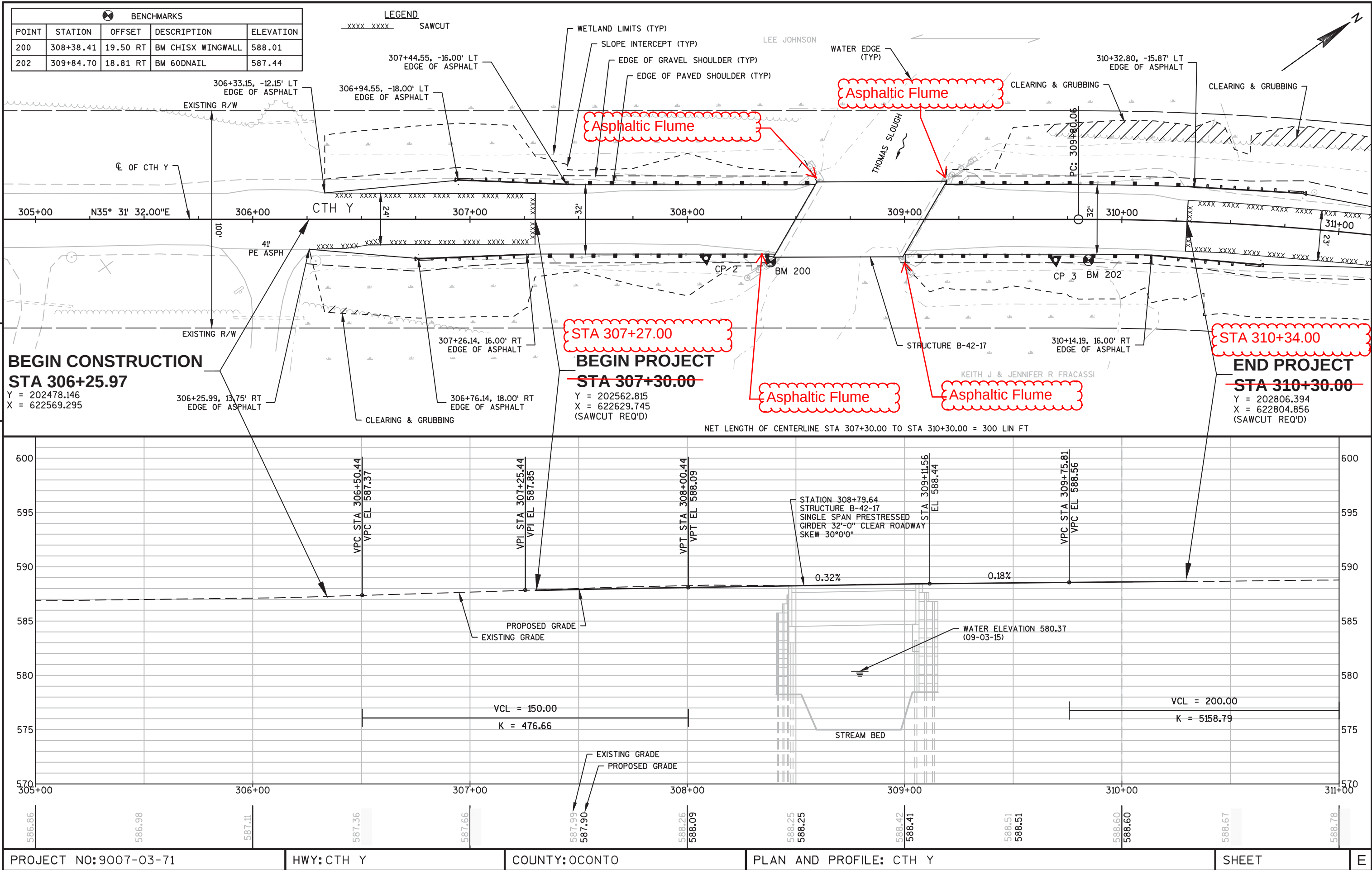
NOTE: PAVEMENT MARKING RAILROAD CROSSINGS PAINT ARE TO BE IN PLACE ON CTH A PRIOR TO CLOSING CTH Y.

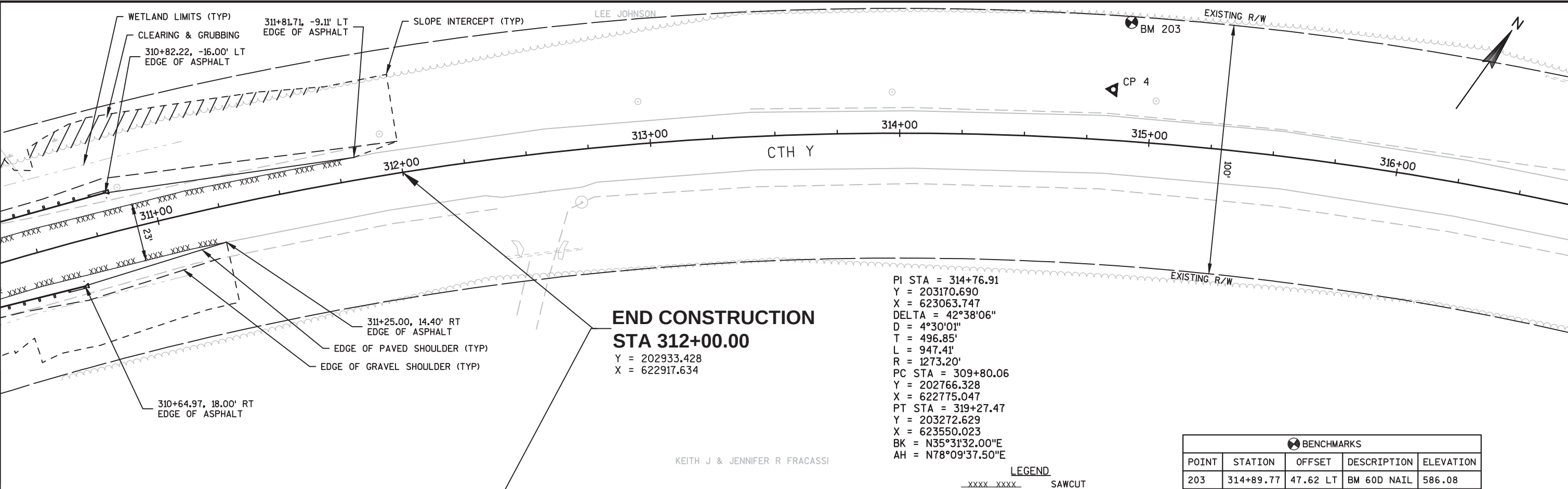
ALL ITEMS AND QUANTITIES ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

CONSTRUCTION STAKING							
		650.4500		650.5000		650.9910	
		SUBGRADE		BASE		SUPPLEMENTAL	
						CONTROL	
						9007-03-71	
STATION	TO	STATION	LOCATION	LF	LF	LS	LF
306+29	-	312+00	LT/RT	516	516	---	516
PROJECT ID 9007-03-71				---	---	1	---
TOTALS				516	516	1	516

690.0150 SAWING ASPHALT					
STATION	TO	STATION	LOCATION	LF	COMMENT
306+26	-	307+30	RT	104	EDGE OF PAVEMENT
306+33	-	307+30	LT	97	EDGE OF PAVEMENT
		307+30	LT/RT	24	TERMINI
		310+30	LT/RT	24	TERMINI
310+30	-	311+25	RT	95	EDGE OF PAVEMENT
310+30	-	312+00	LT	170	EDGE OF PAVEMENT
TOTAL				514	

ALL ITEMS AND QUANTITIES ON THIS SHEET ARE CATEGORY 0010 UNLESS OTHERWISE NOTED



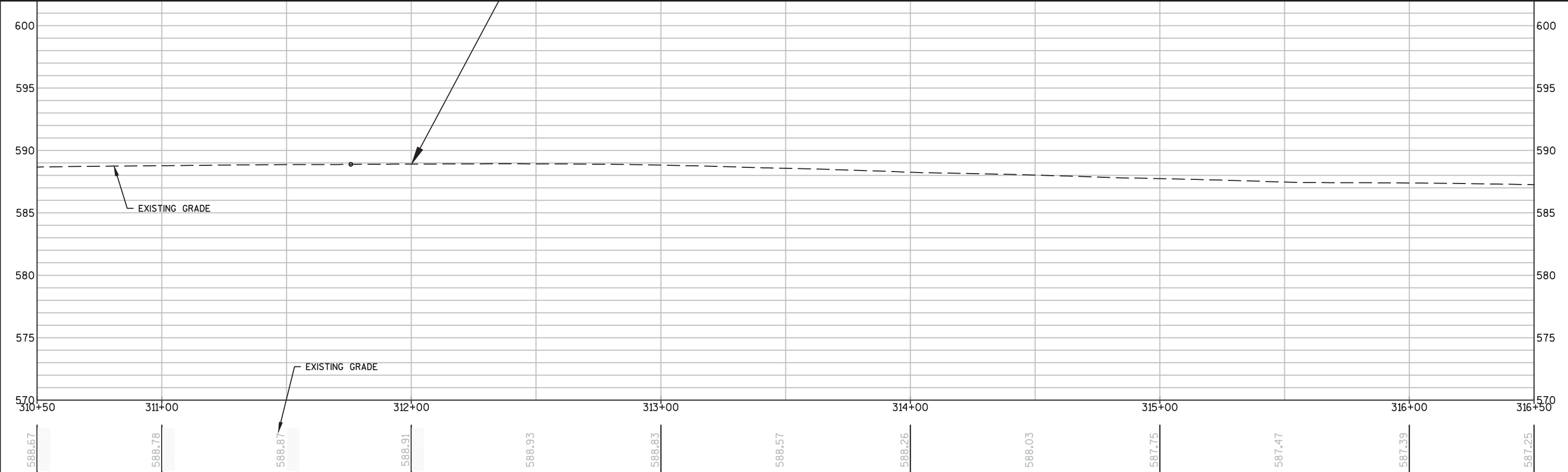


KEITH J & JENNIFER R FRACASSI

LEGEND

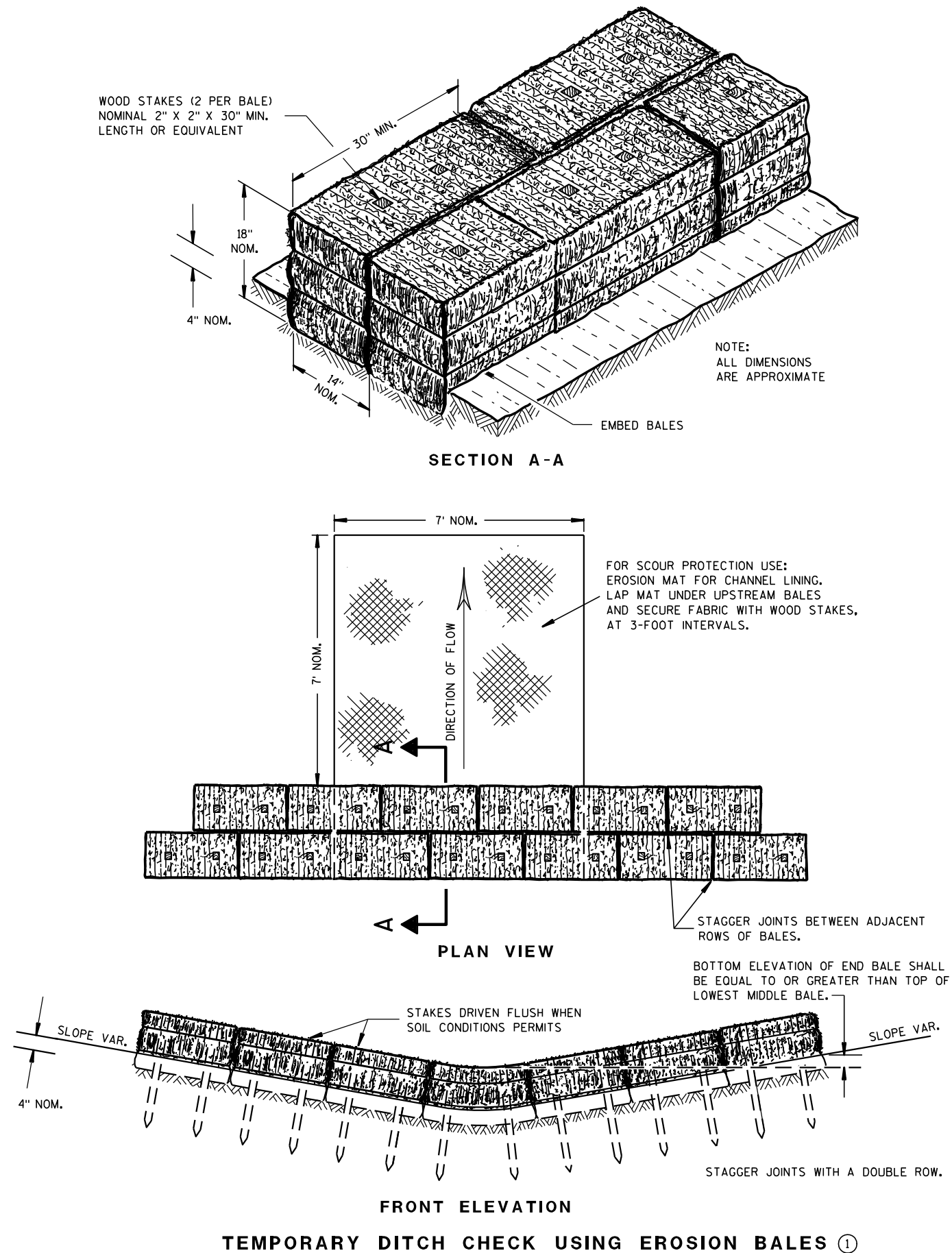
XXXX XXXX SAWCUT

BENCHMARKS				
POINT	STATION	OFFSET	DESCRIPTION	ELEVATION
203	314+89.77	47.62 LT	BM 60D NAIL	586.08



Standard Detail Drawing List

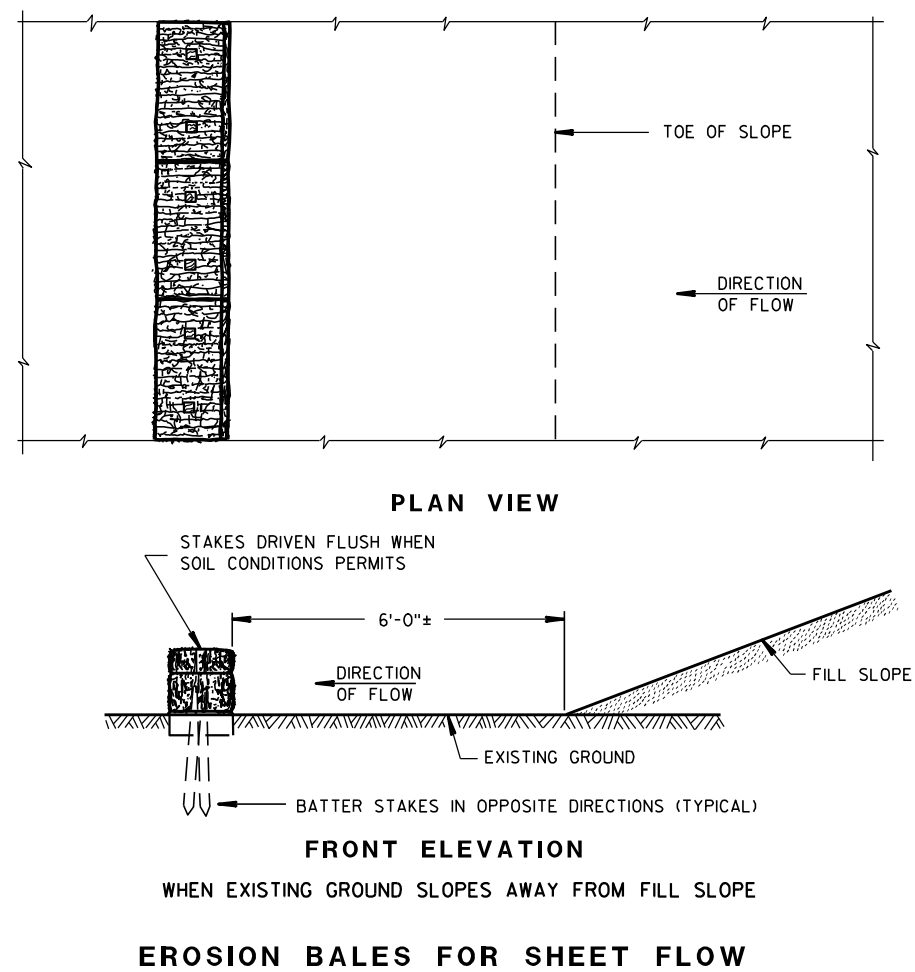
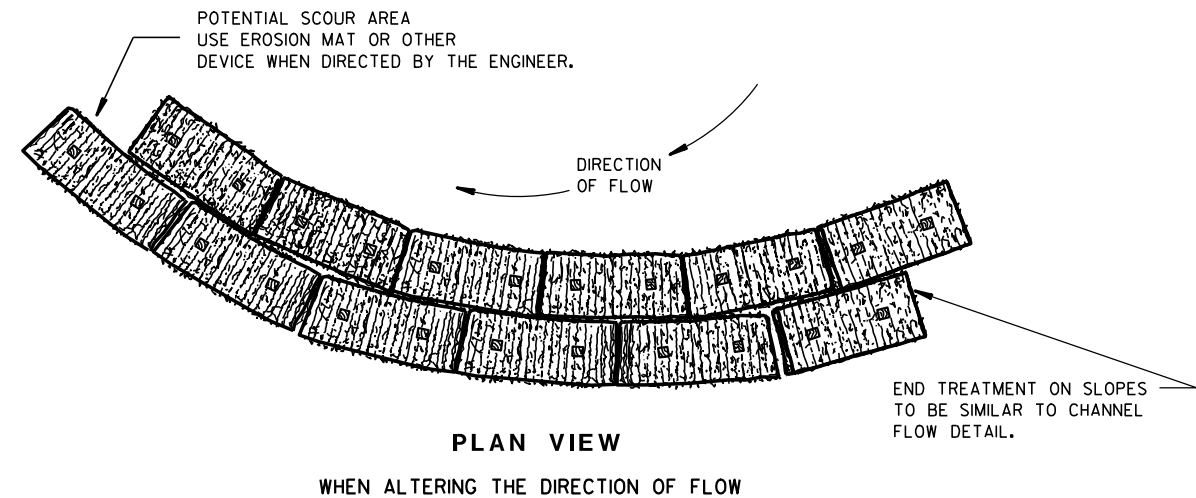
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
14B42-04A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-04C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B45-04A	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04B	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04C	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
14B45-04G	MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C06-08	SIGNING & MARKING FOR TWO LANE BRIDGES
15C08-17A	PAVEMENT MARKING (MAINLINE)
15C09-10A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C19-04A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY



GENERAL NOTES

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

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

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

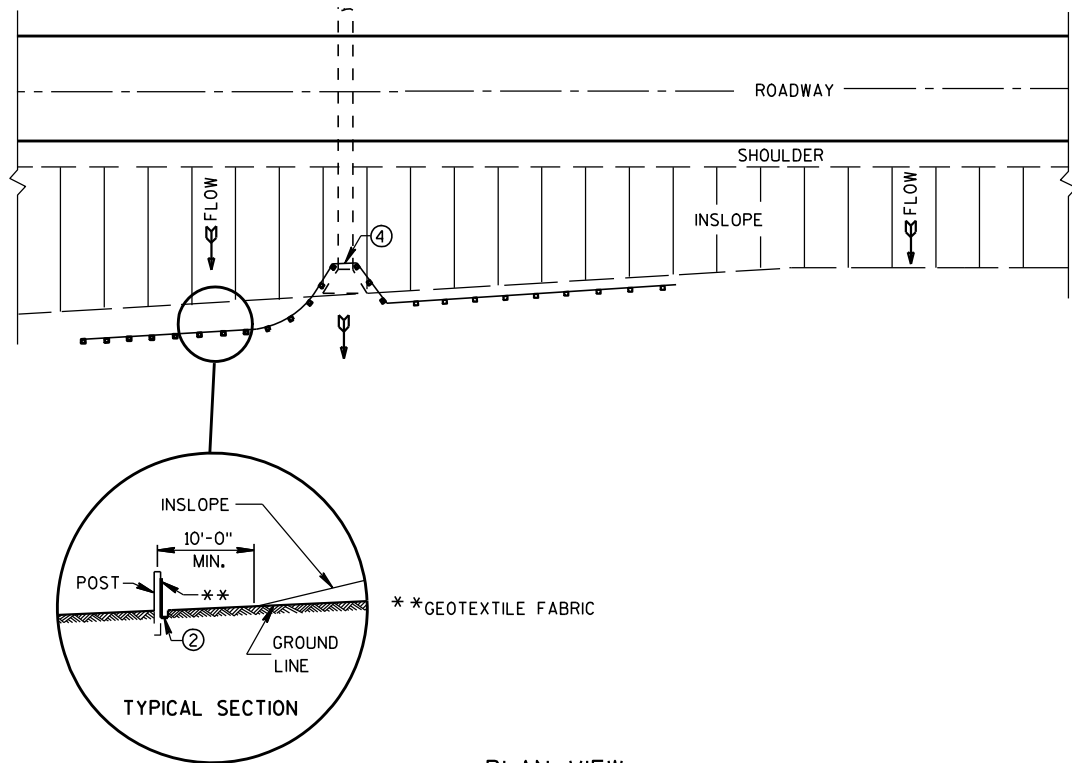
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

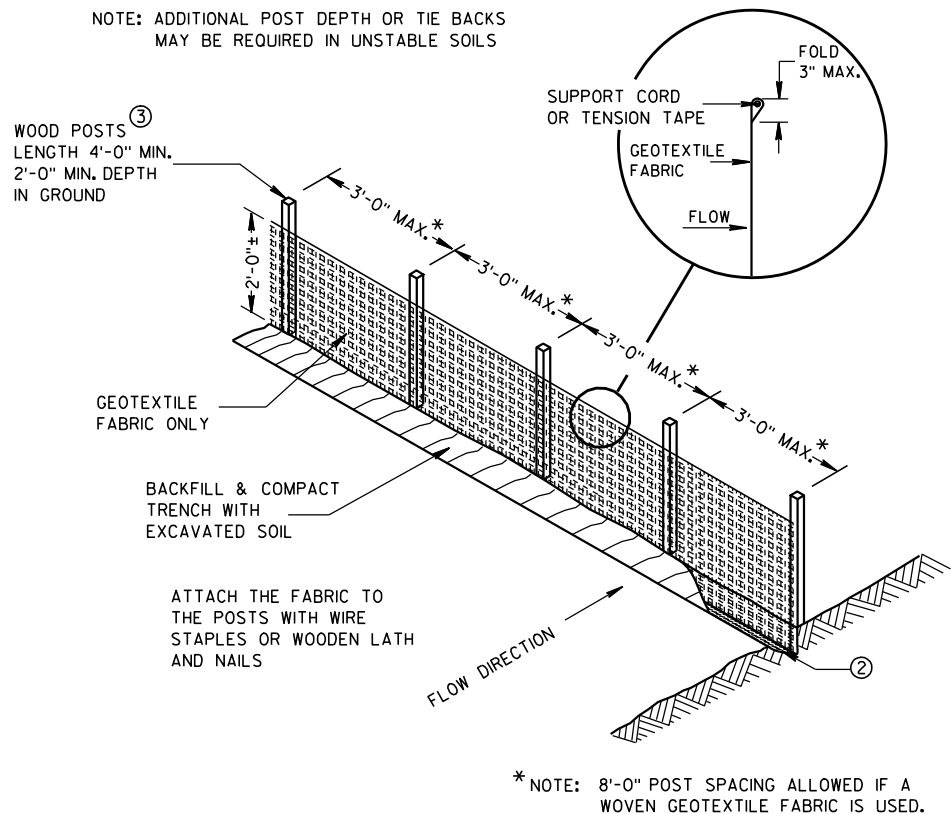
6/04/02
DATE

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

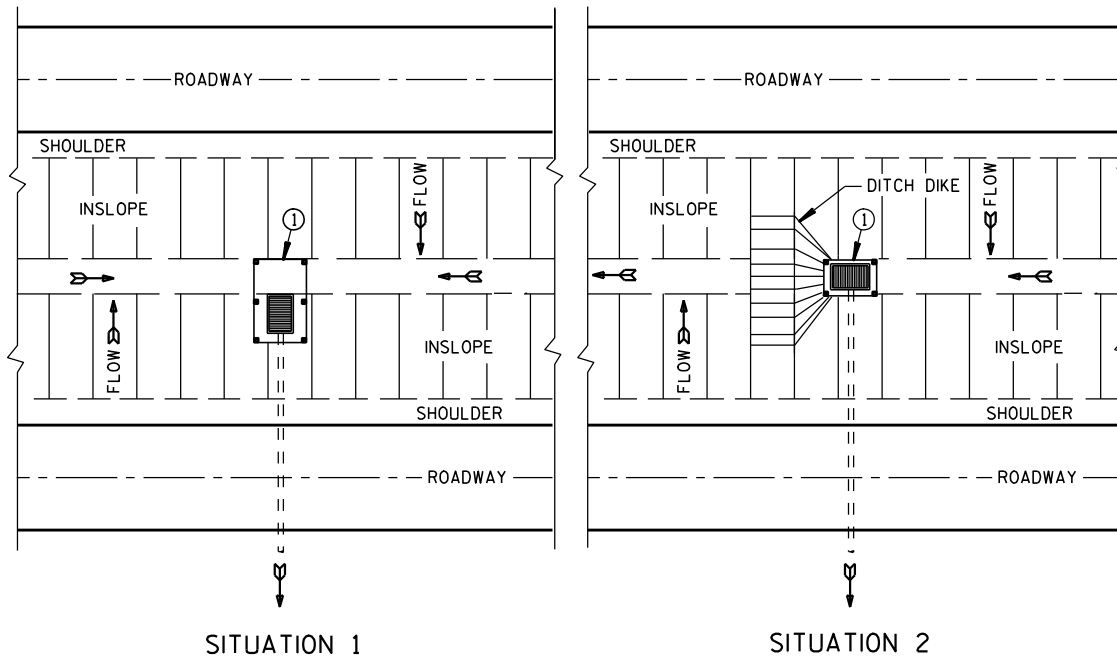
FHWA



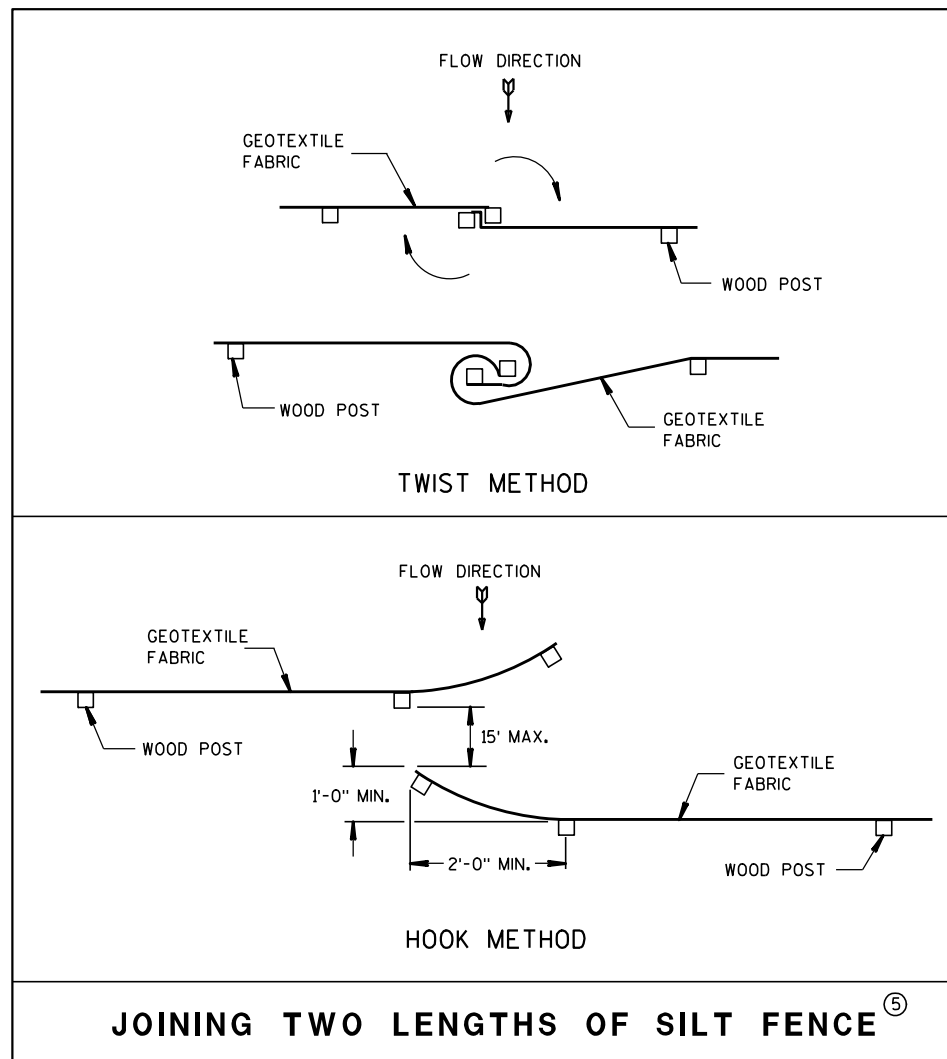
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

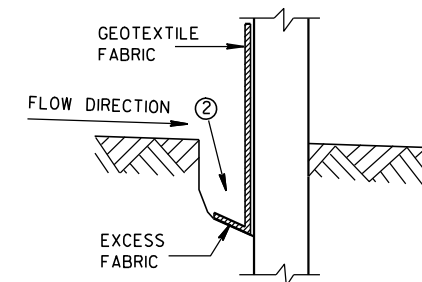


JOINING TWO LENGTHS OF SILT FENCE (5)

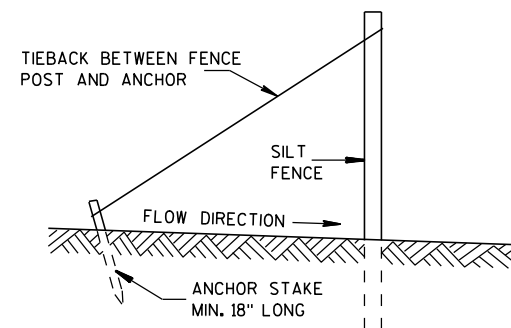
GENERAL NOTES

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

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

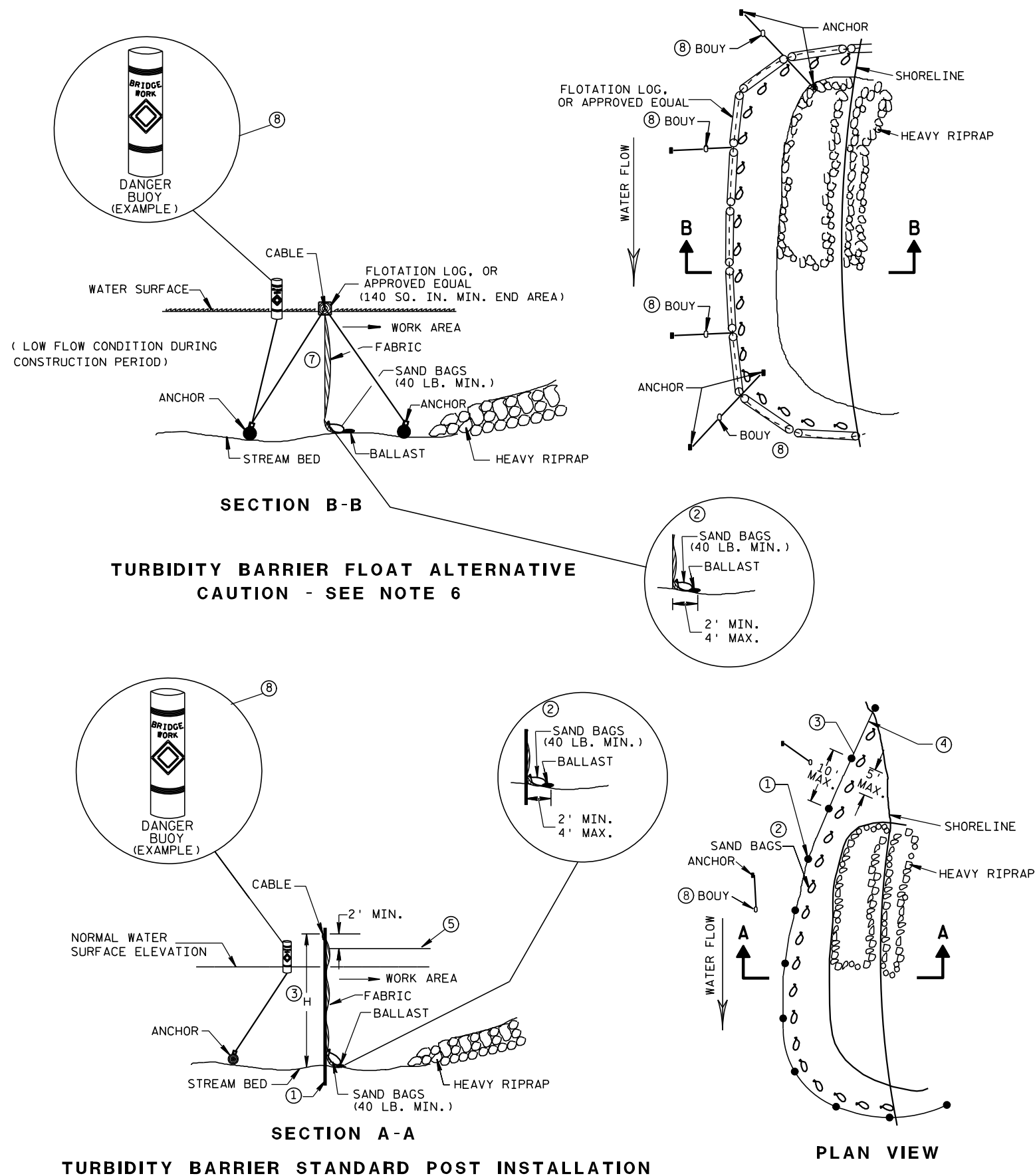


TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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

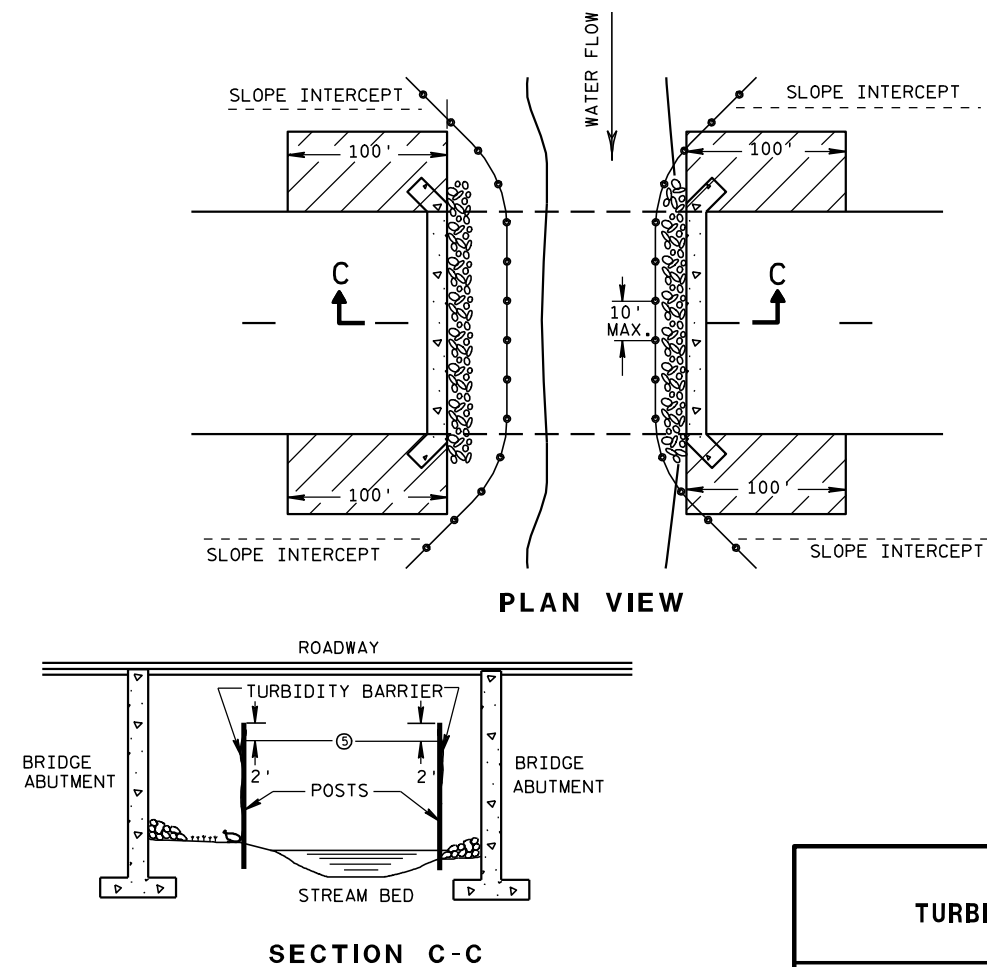


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

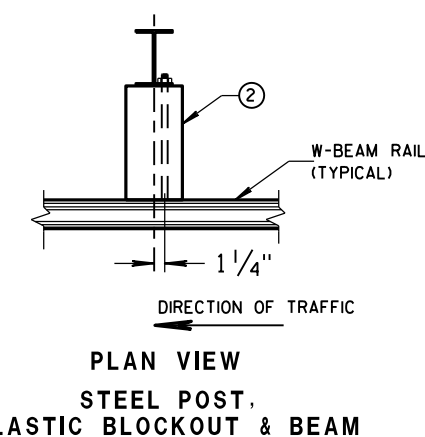
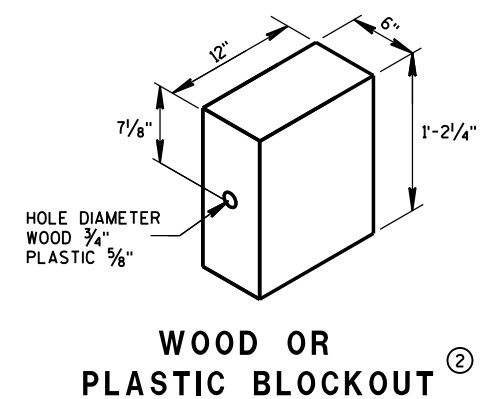
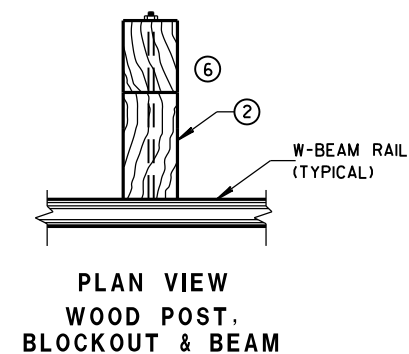
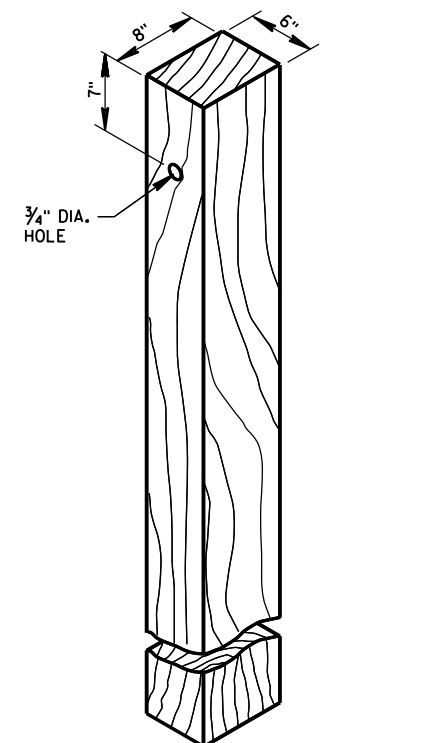
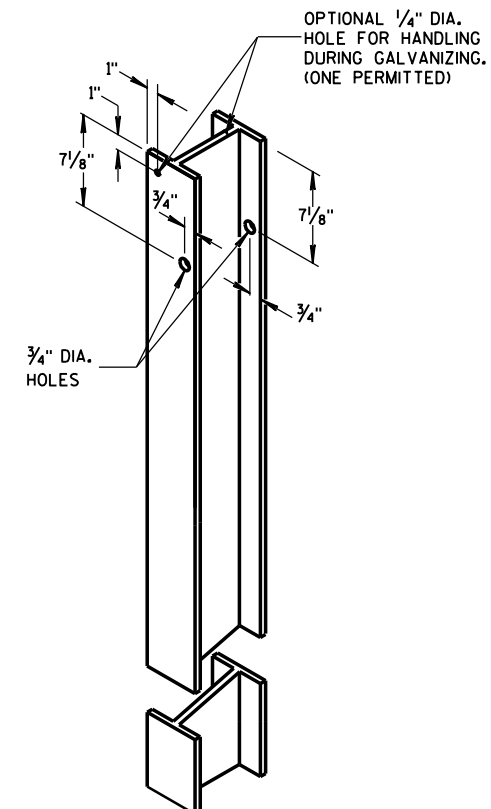
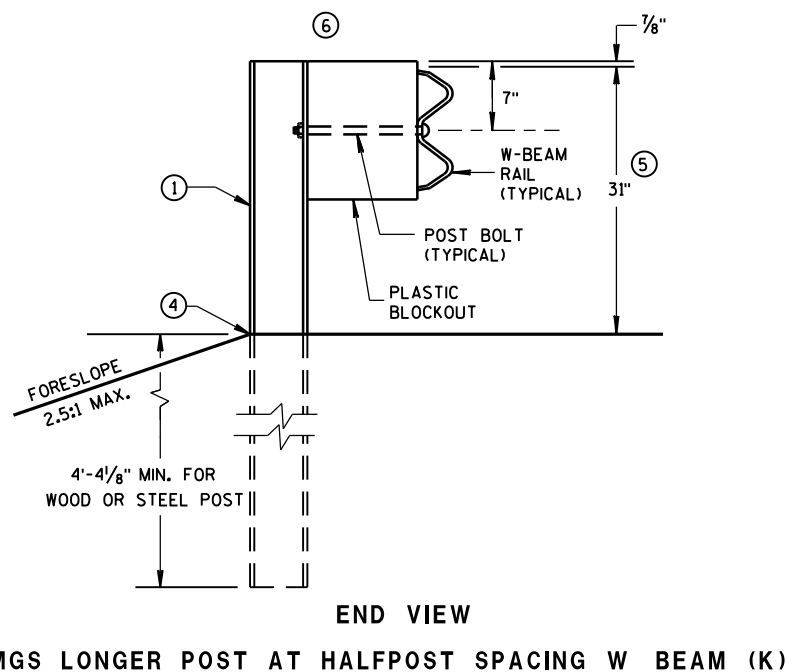
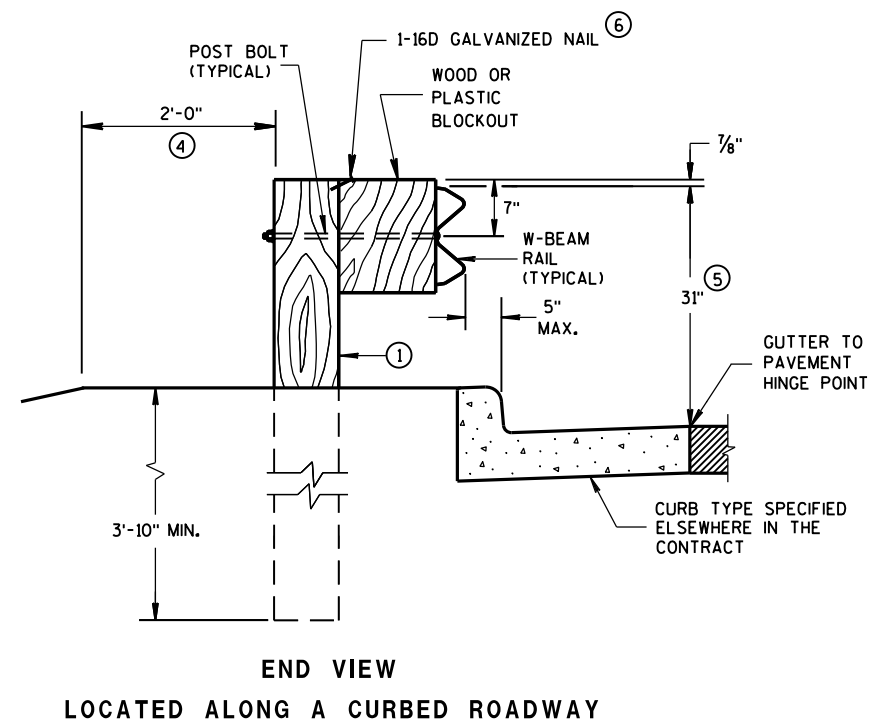
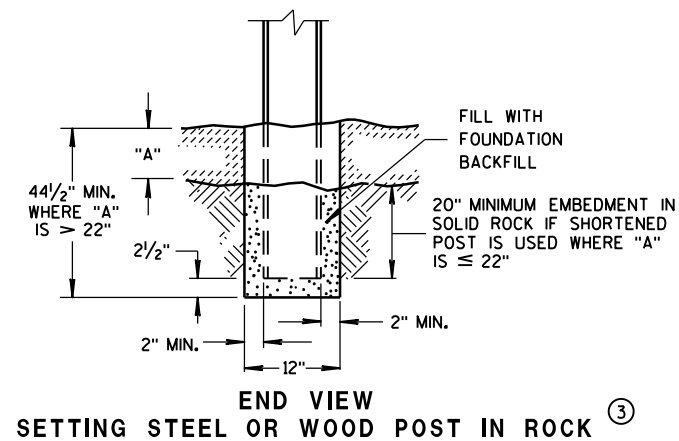
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

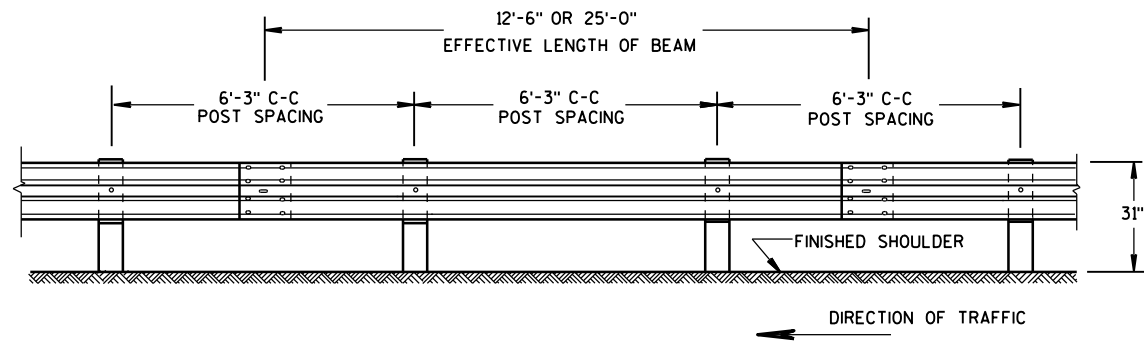
APPROVED

6/04/02
DATE

FHWA

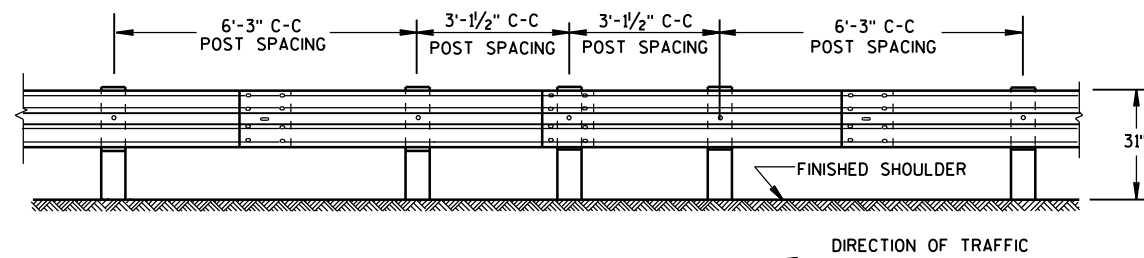
/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER





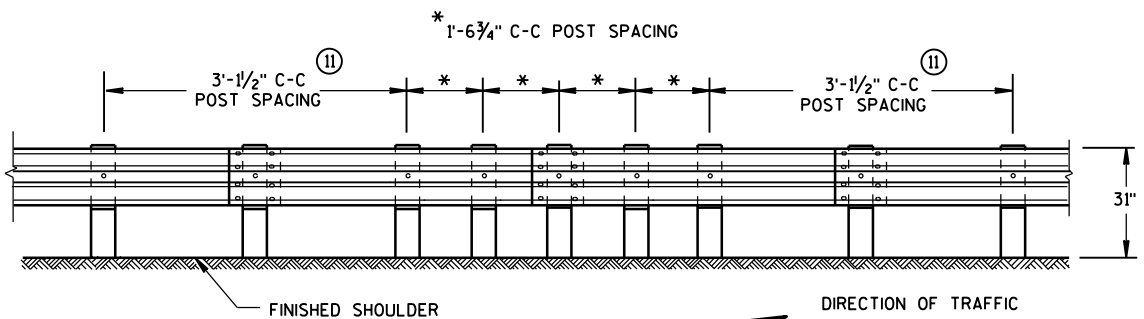
FRONT VIEW

POST SPACING STANDARD INSTALLATION



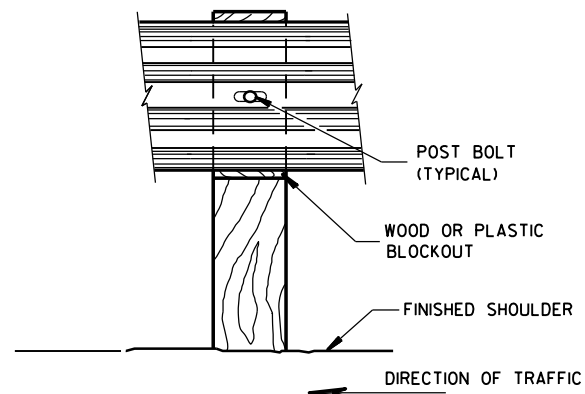
FRONT VIEW

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

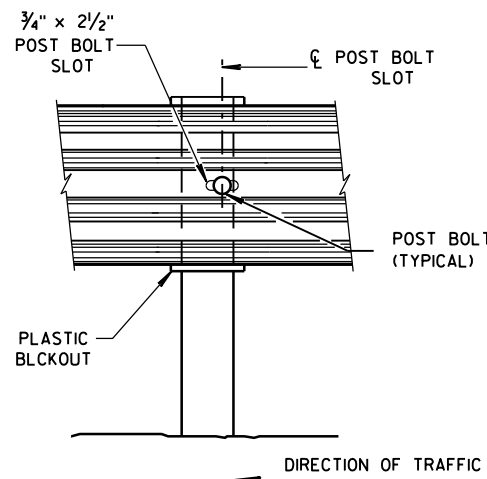


FRONT VIEW

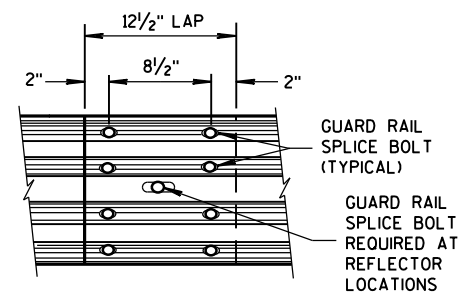
QUARTER POST SPACING (QS)



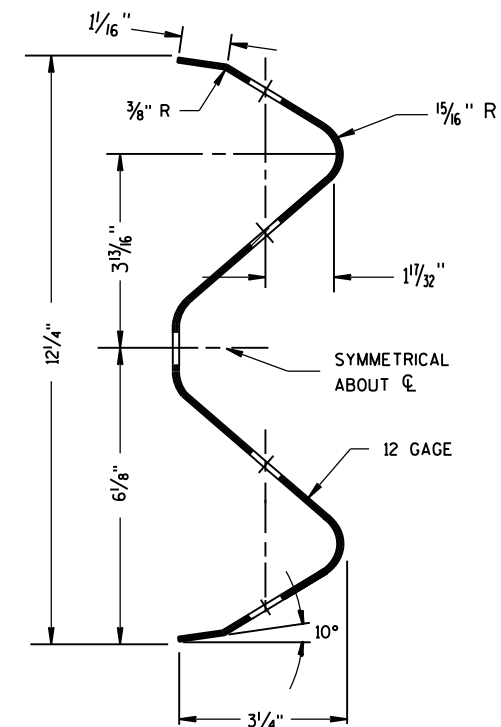
FRONT VIEW AT WOOD POST



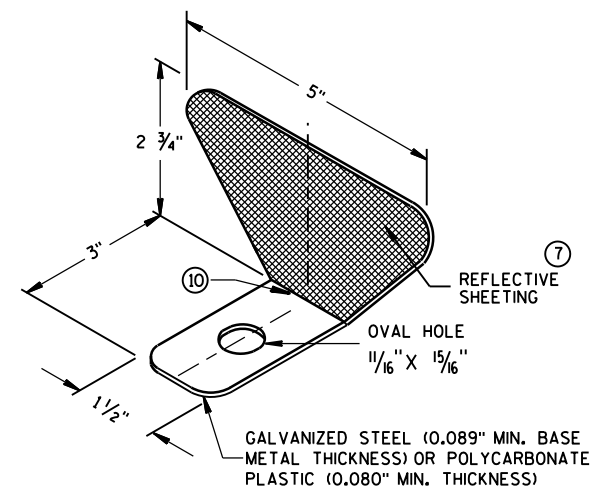
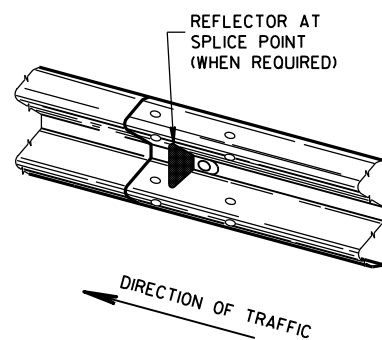
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

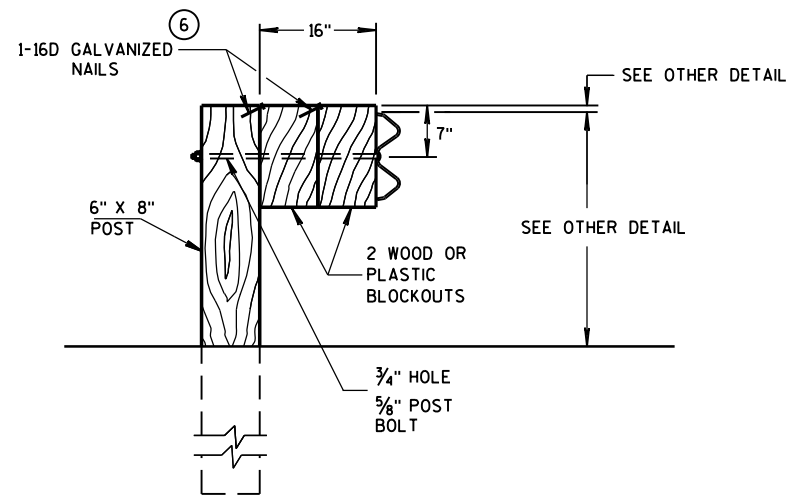
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF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

REFLECTOR SPACING

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

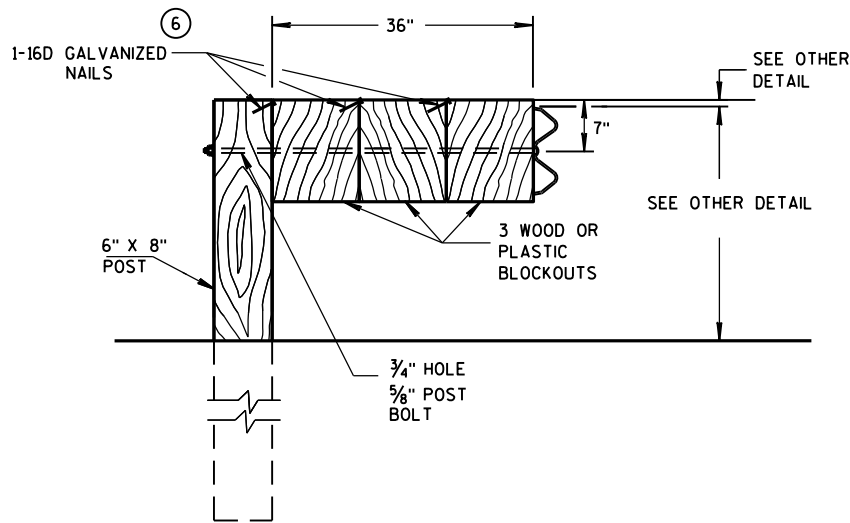
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

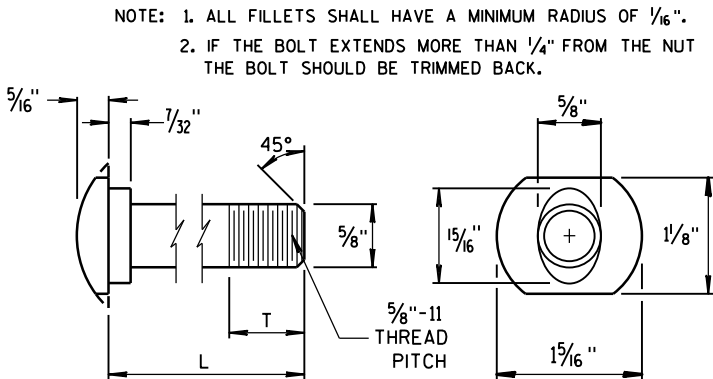
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



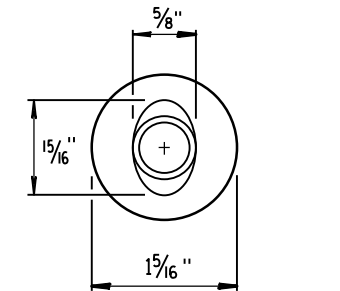
DETAIL FOR 36" BLOCKOUT DEPTH

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

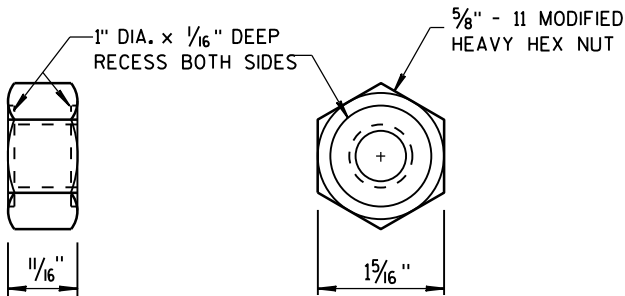
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



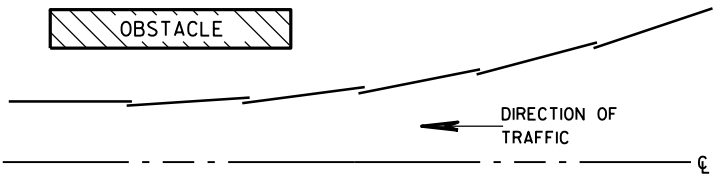
POST BOLT TABLE



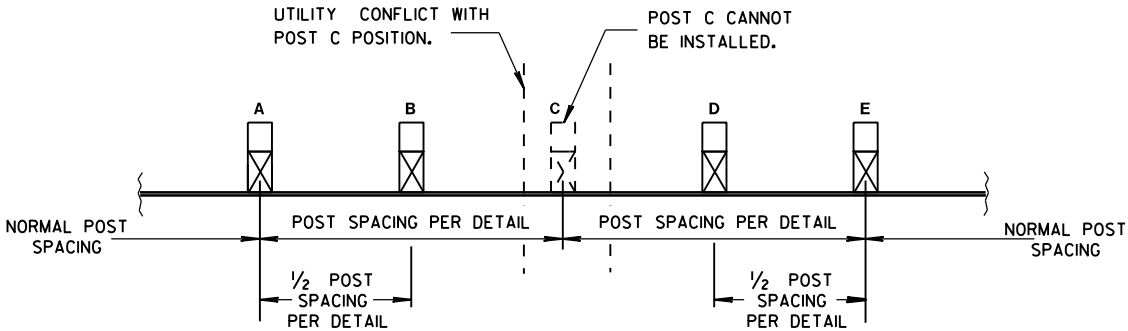
ALTERNATE BOLT HEAD



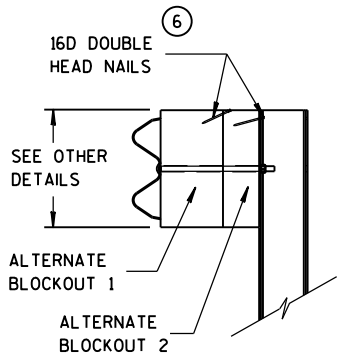
POST BOLT, SPLICE BOLT AND RECESS NUT



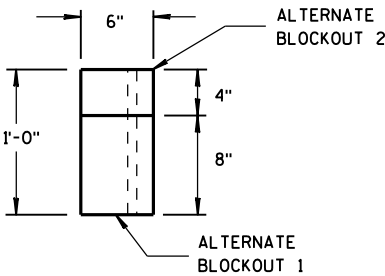
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

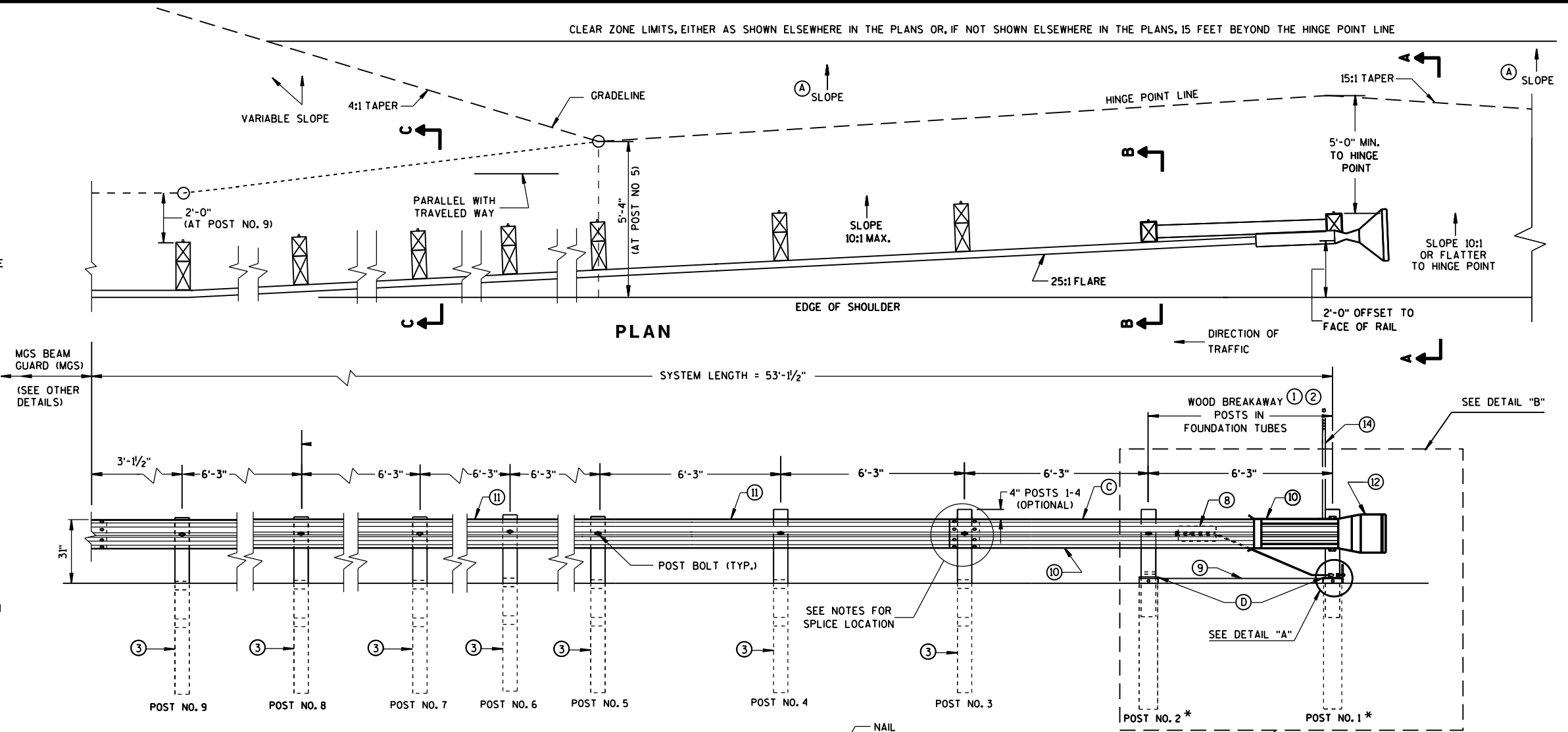
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

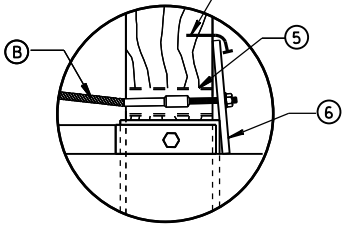
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

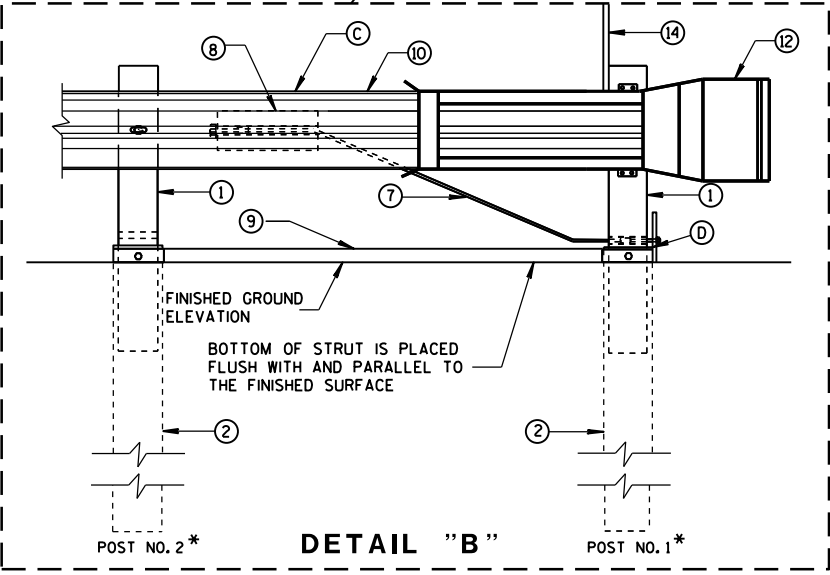
THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.



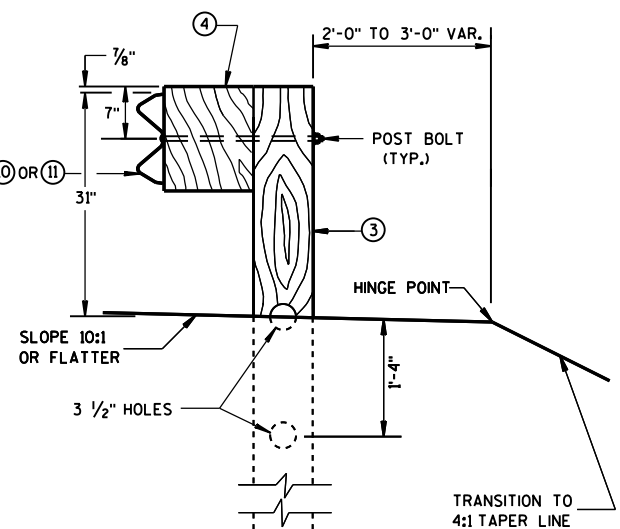
ELEVATION



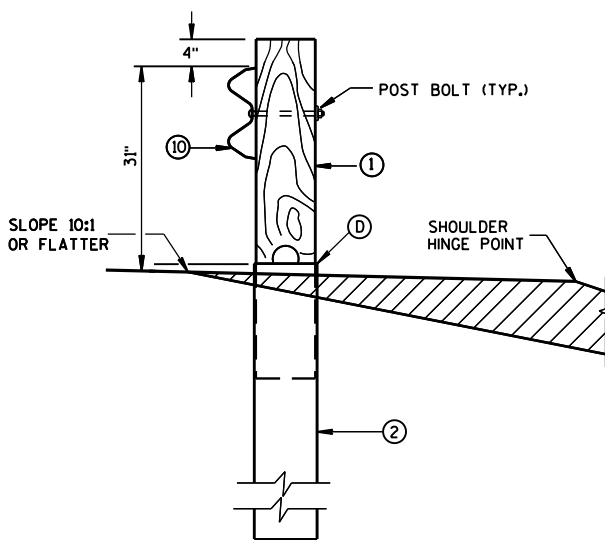
DETAIL "A"



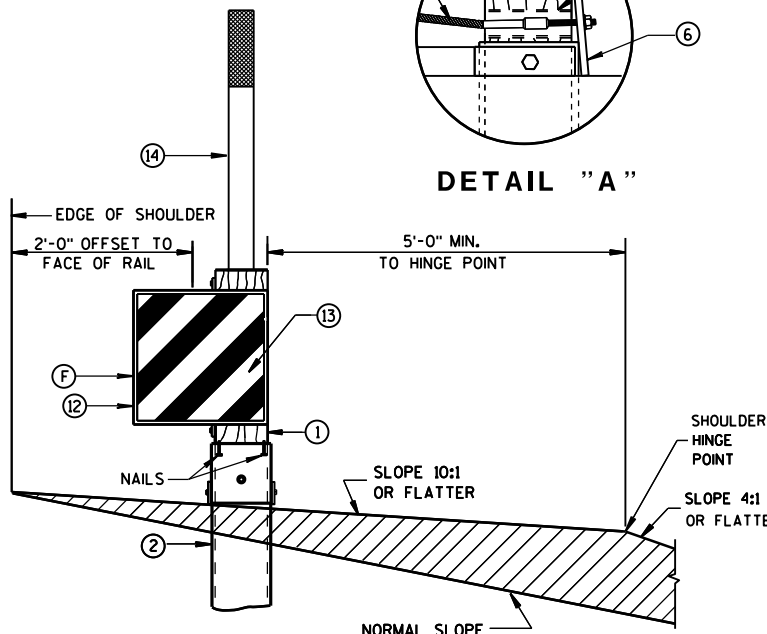
DETAIL "B"



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



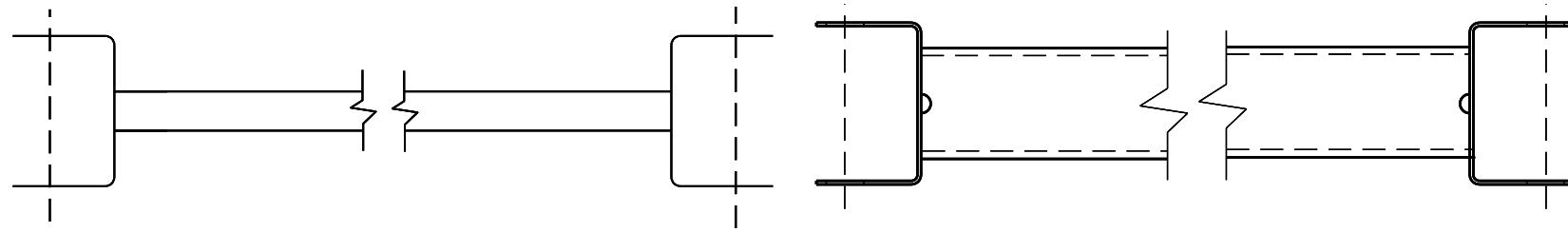
SECTION B-B
TYPICAL AT POST NO. 2*



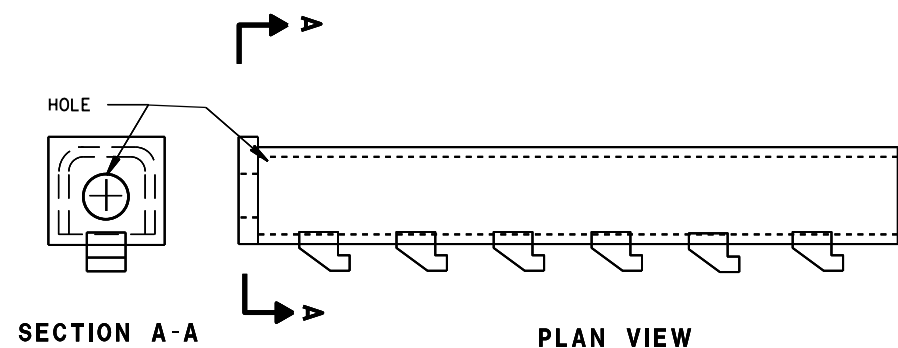
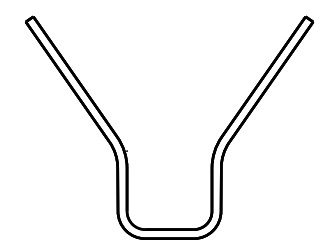
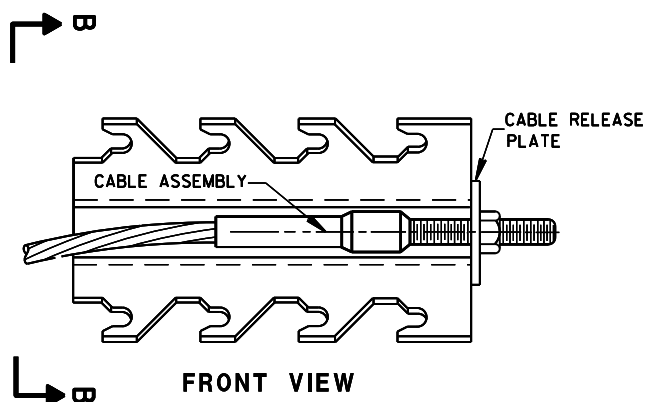
SECTION A-A
TYPICAL AT POST NO. 1*

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

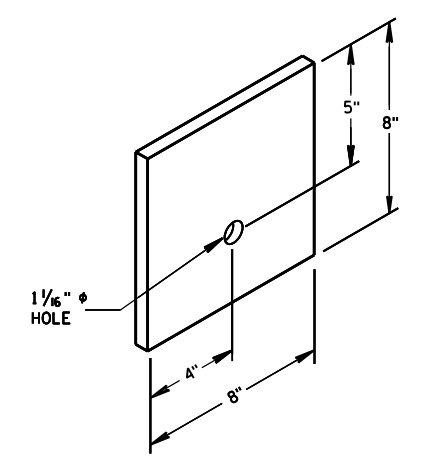


9 H
GENERIC GROUND STRUT

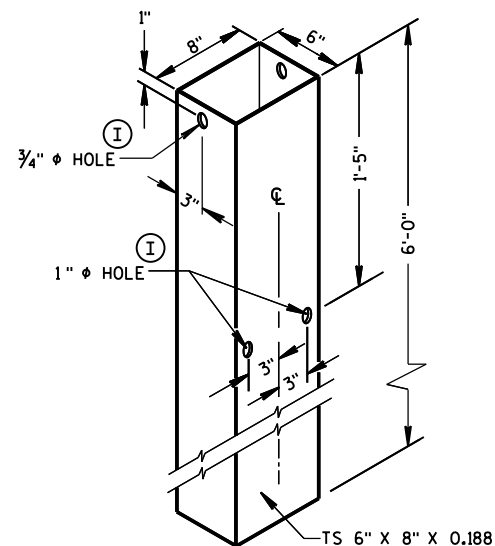


8 H
GENERIC ANCHOR CABLE BOX

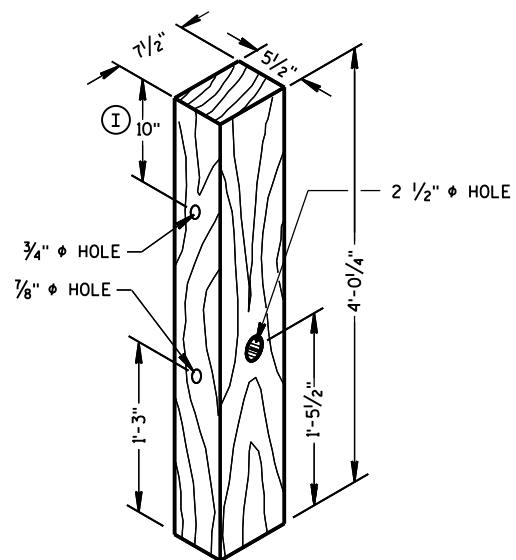
BILL OF MATERIALS	
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR 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)



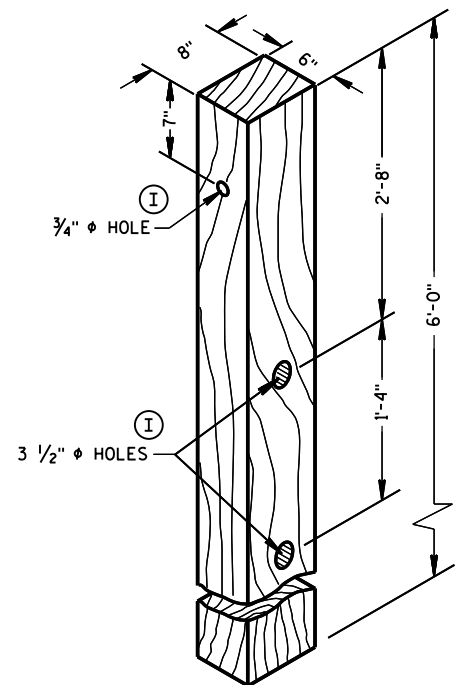
⑥
BEARING PLATE



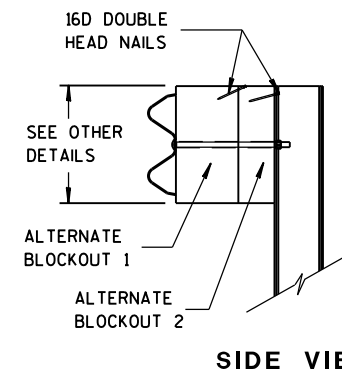
FOUNDATION TUBE ②



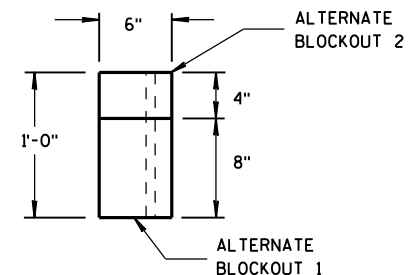
POSTS NUMBER 1 AND 2
WOOD BREAKAWAY POST ①



POSTS NUMBER 3-9
WOOD CRT POST ③

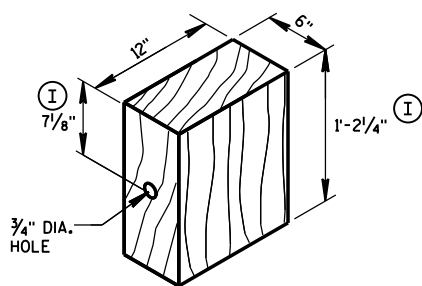


SIDE VIEW



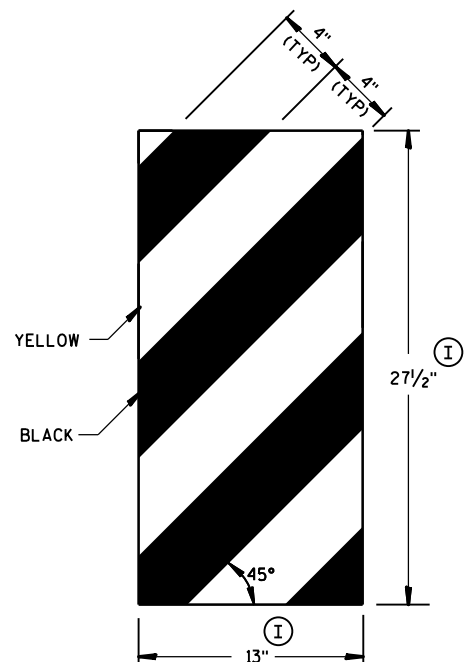
TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

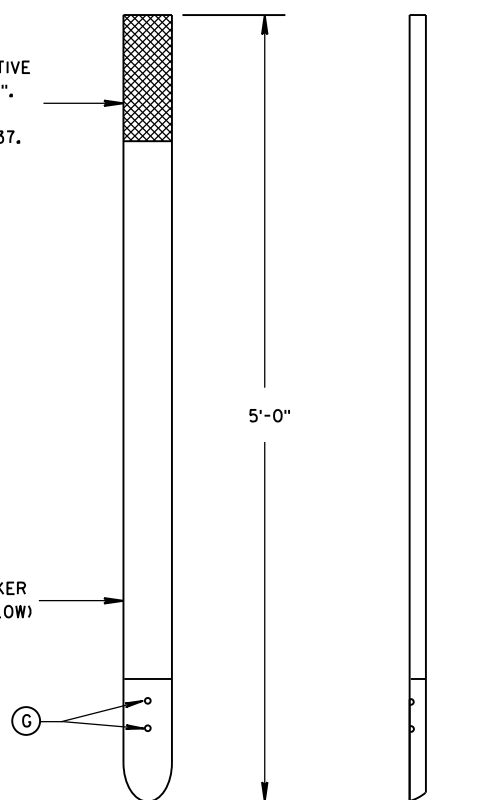
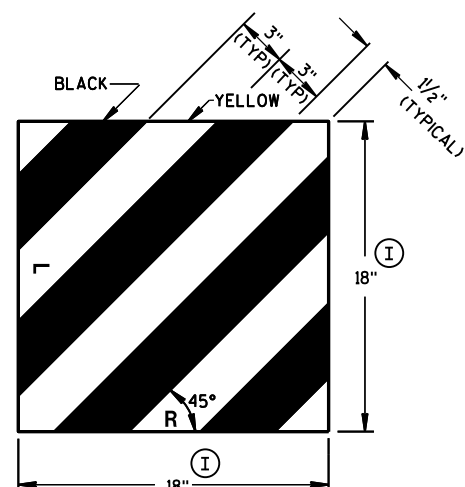


WOOD BLOCKOUT ④
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

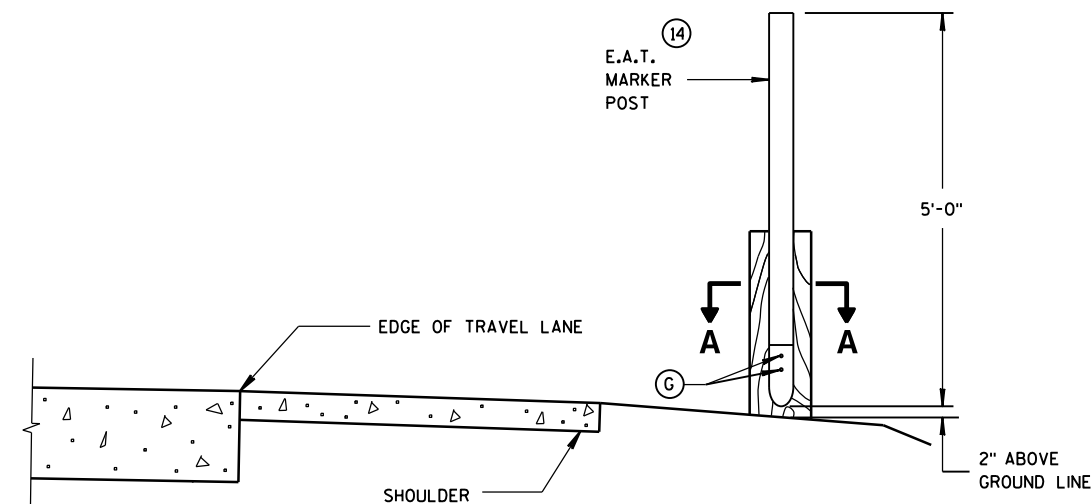
TYPE H
YELLOW REFLECTIVE
SHEETING 3" X 9".
SEE STANDARD
SPECIFICATION 637.



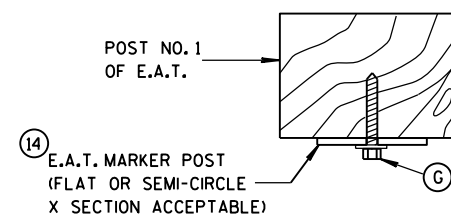
GENERIC REFLECTIVE SHEETING ⑬ ①



FRONT VIEW
SIDE VIEW
E.A.T. MARKER POST ⑭



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



SECTION A-A

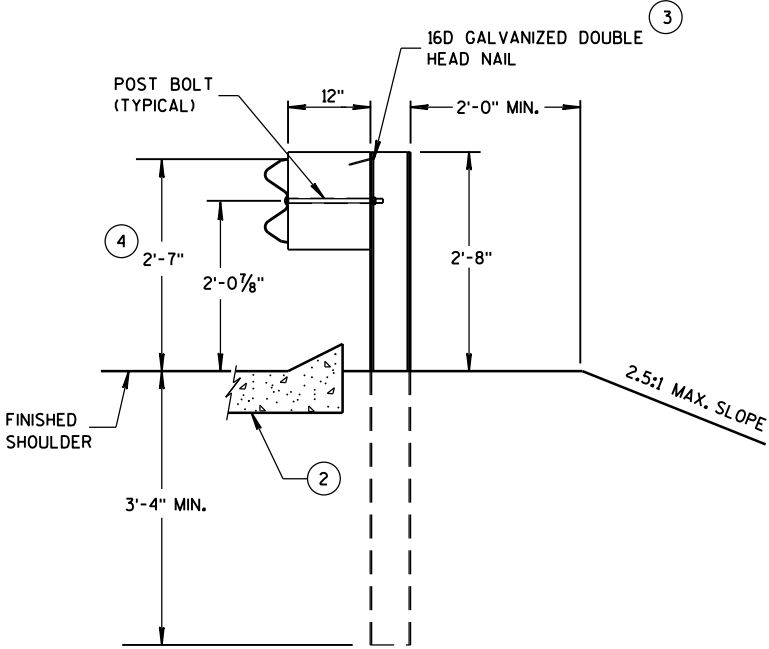
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

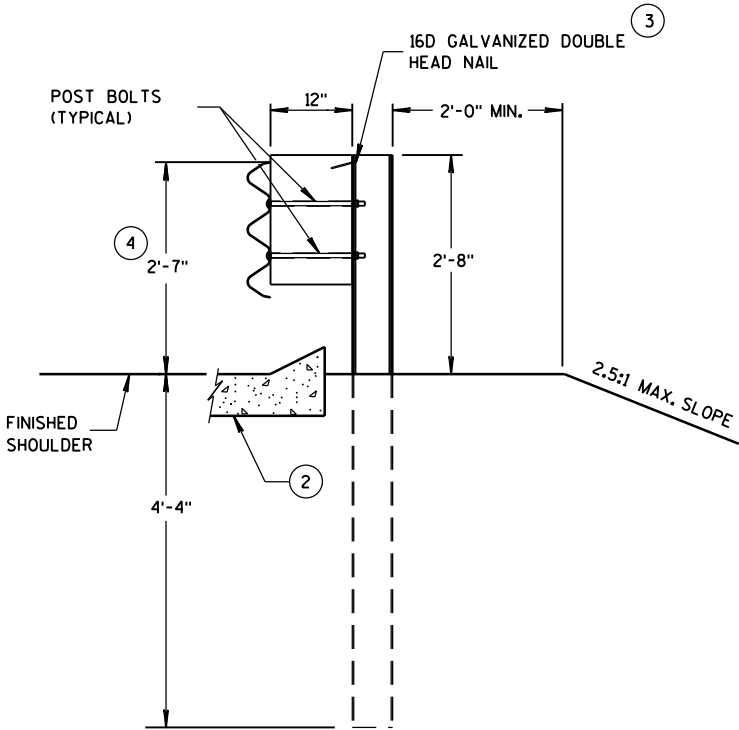
APPROVED
June 2014 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

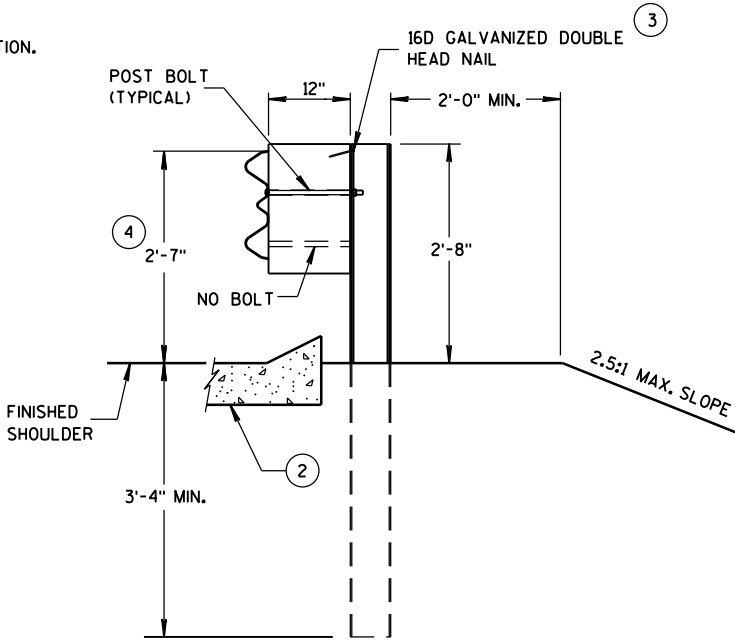
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm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



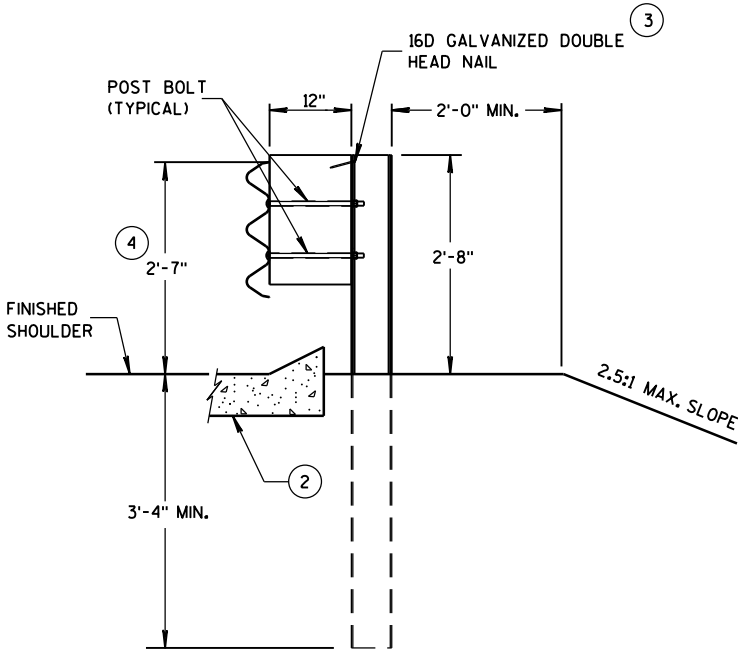
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

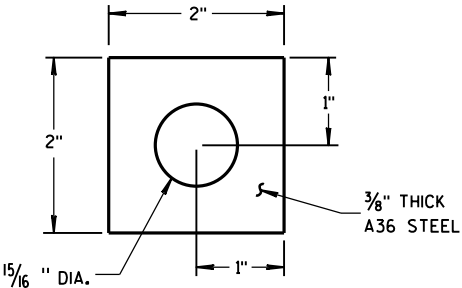
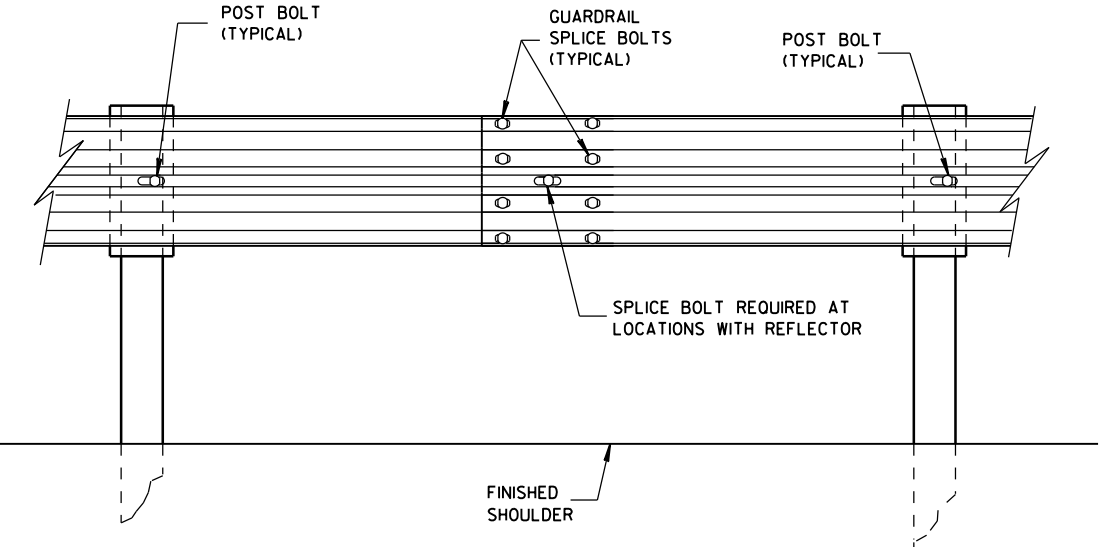
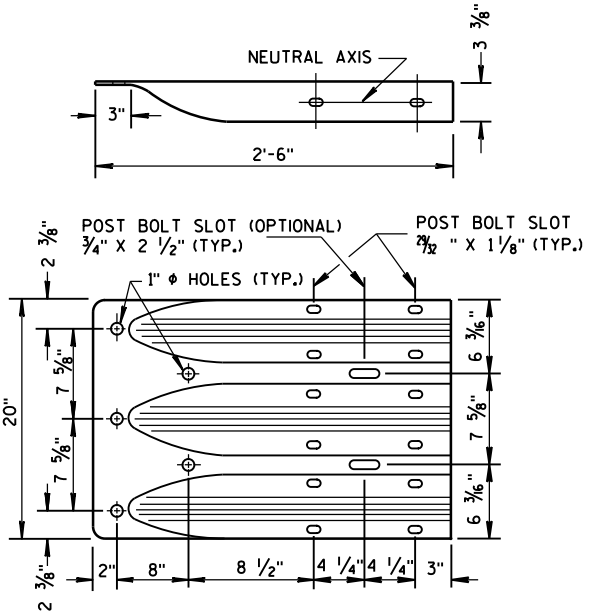


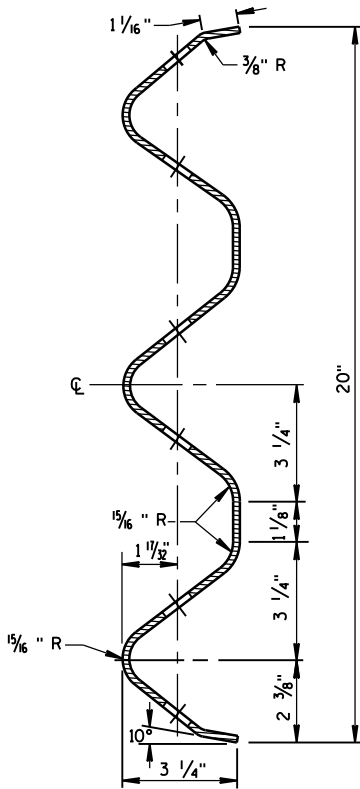
PLATE WASHER DETAIL



SPlice DETAIL



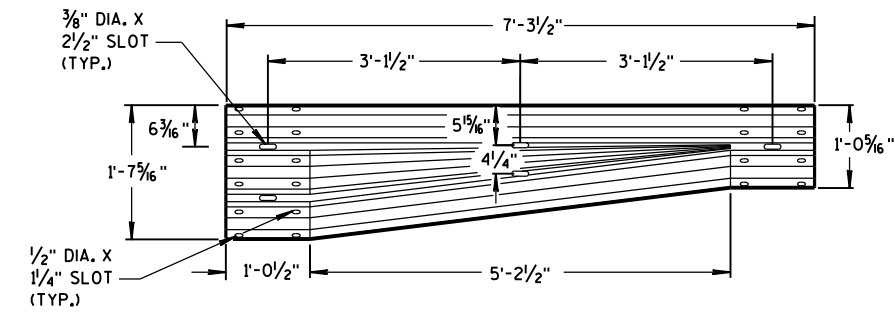
THRIE BEAM
TERMINAL CONNECTOR



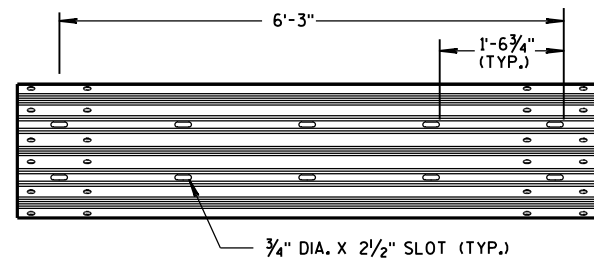
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

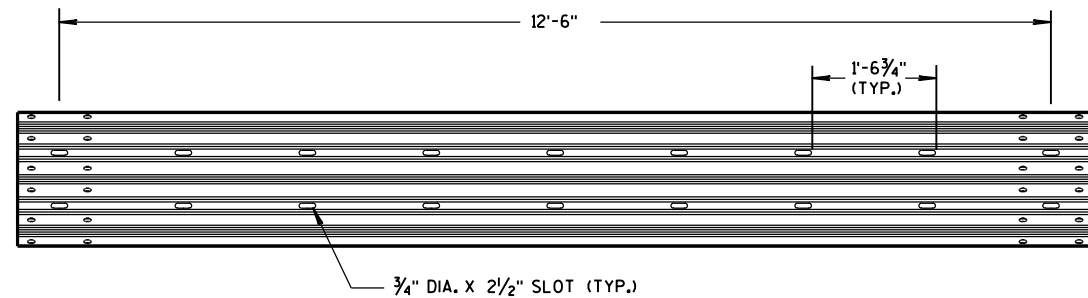
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



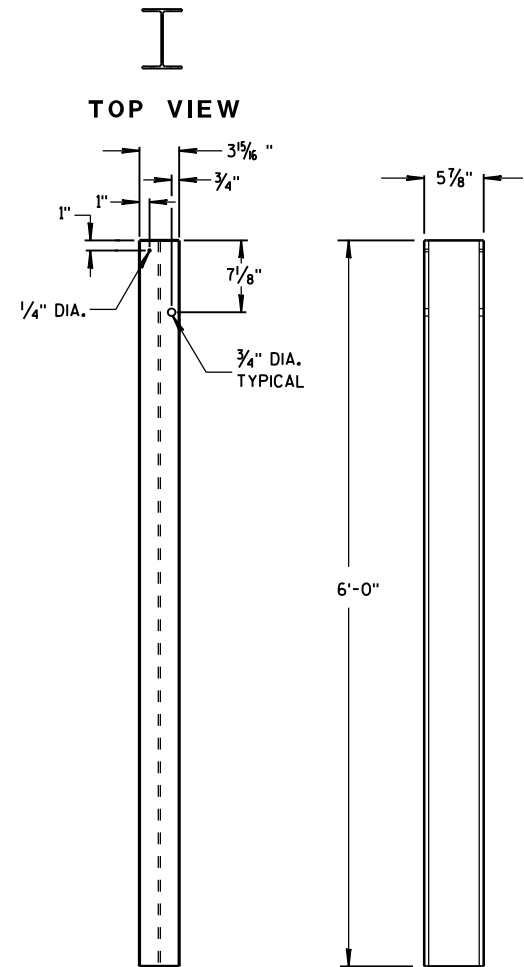
W-BEAM TO THRIE BEAM TRANSITION SECTION



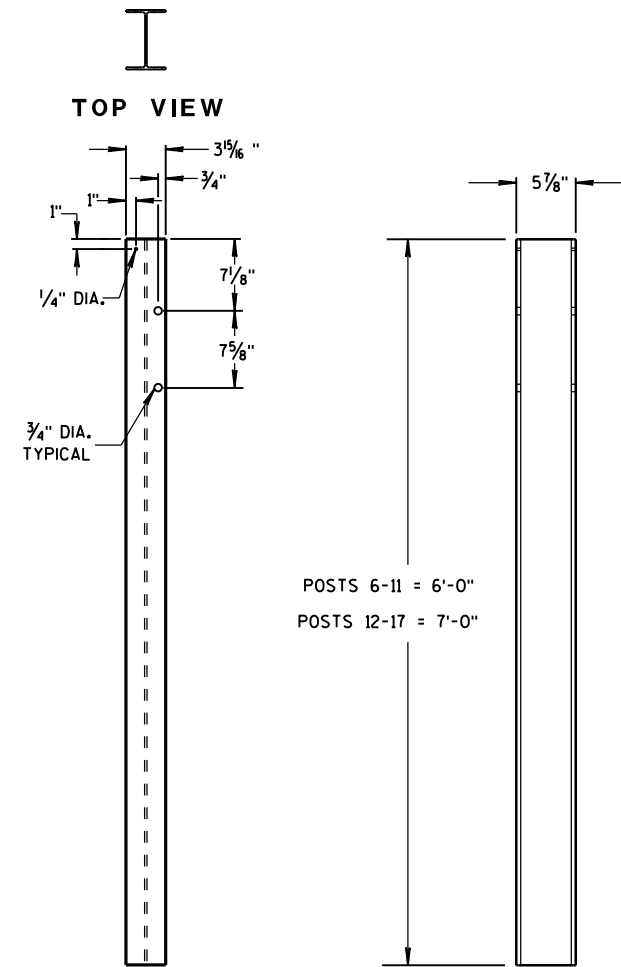
6'-3" THRIE BEAM SECTION



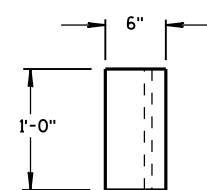
12'-6" THRIE BEAM SECTION



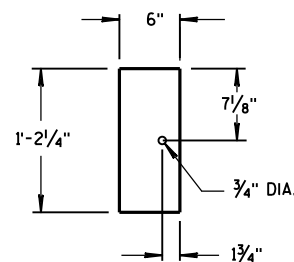
STEEL POSTS 1-5



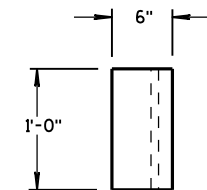
STEEL POSTS 6-17



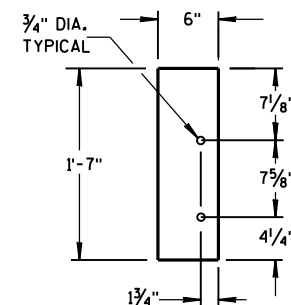
TOP VIEW



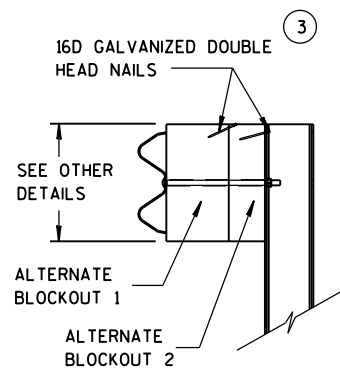
BLOCKOUT POSTS 1-5



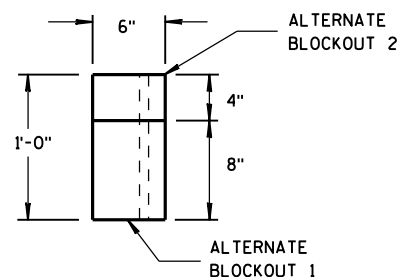
TOP VIEW



BLOCKOUT POSTS 6-17



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

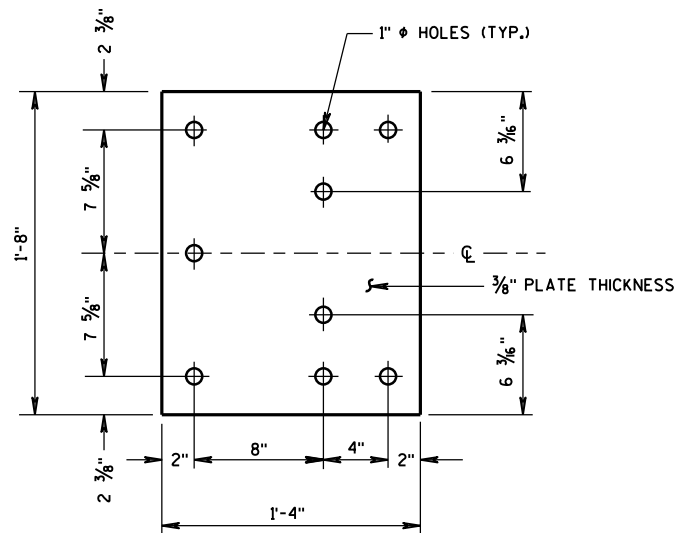
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

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

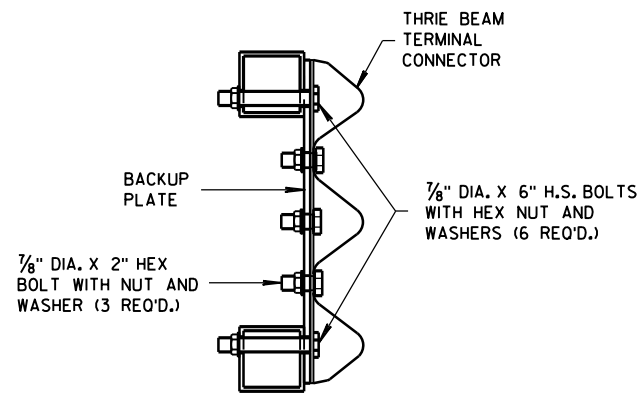
⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

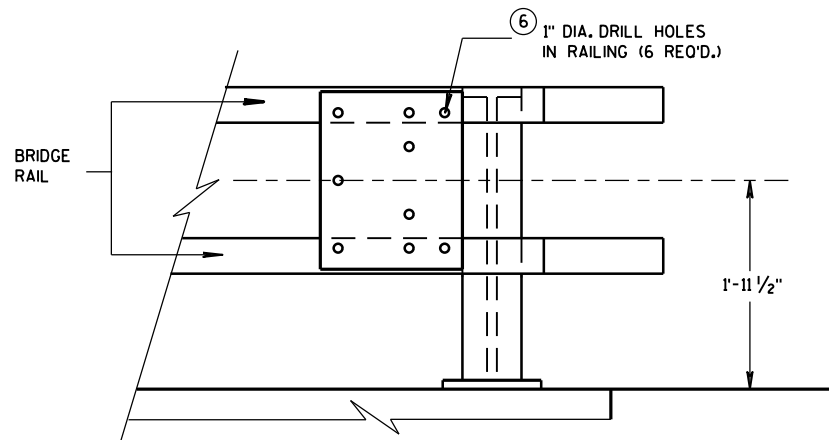
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



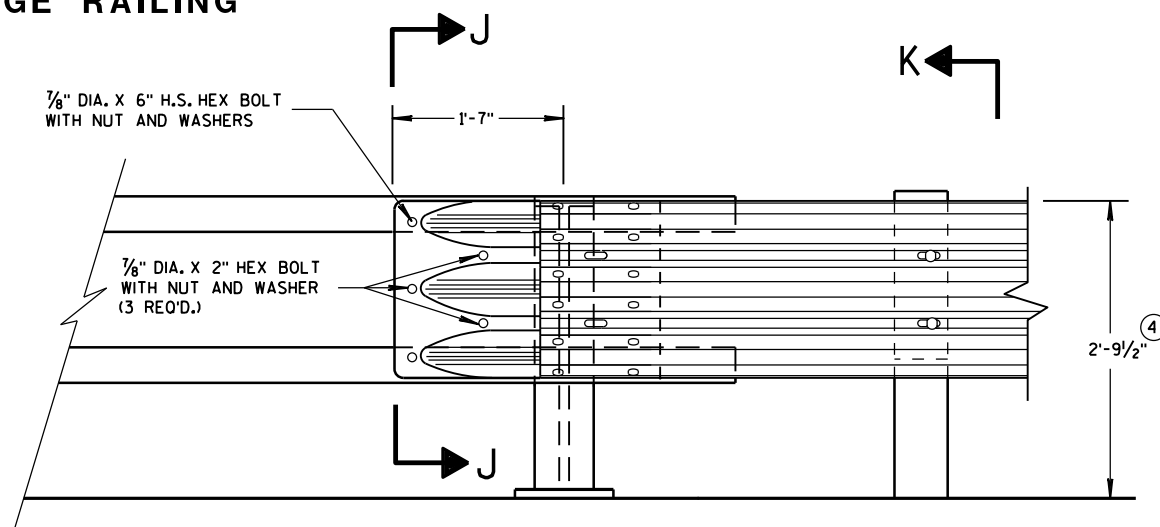
BACK-UP PLATE DETAIL



SECTION J-J

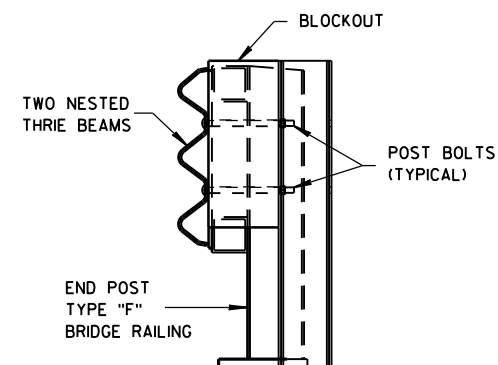


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

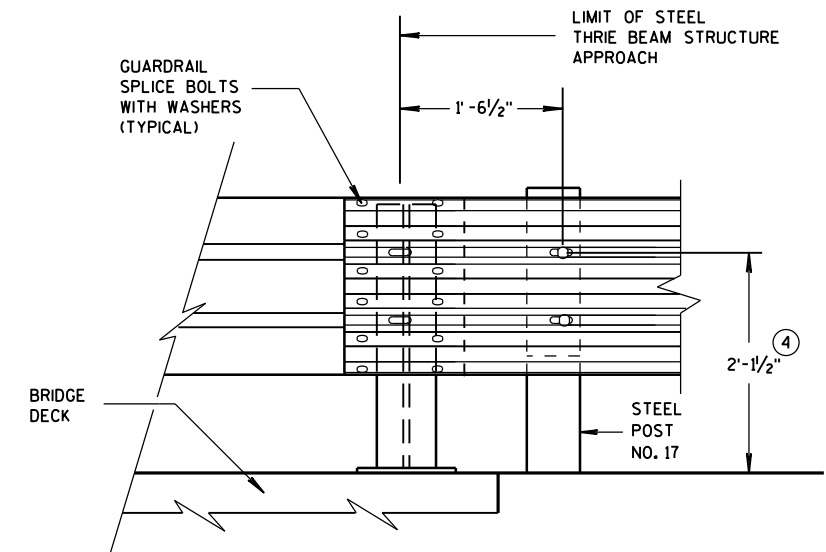
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



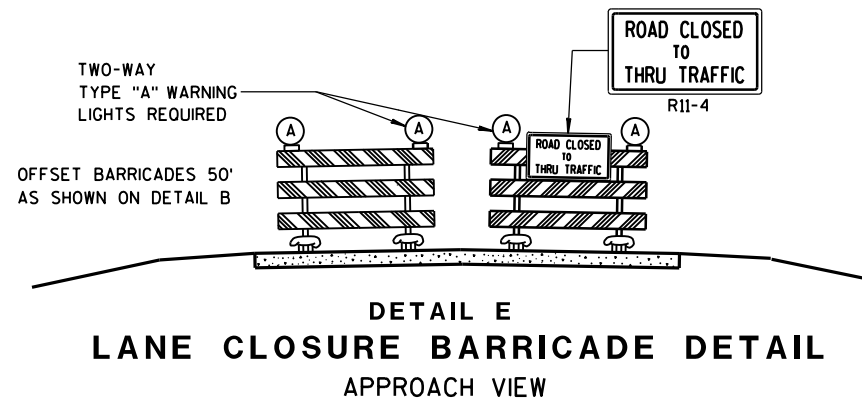
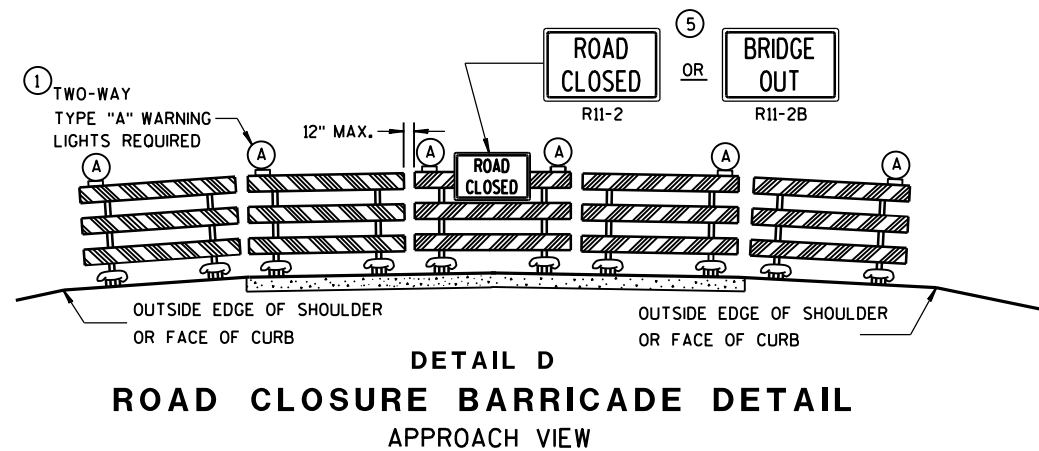
FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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.

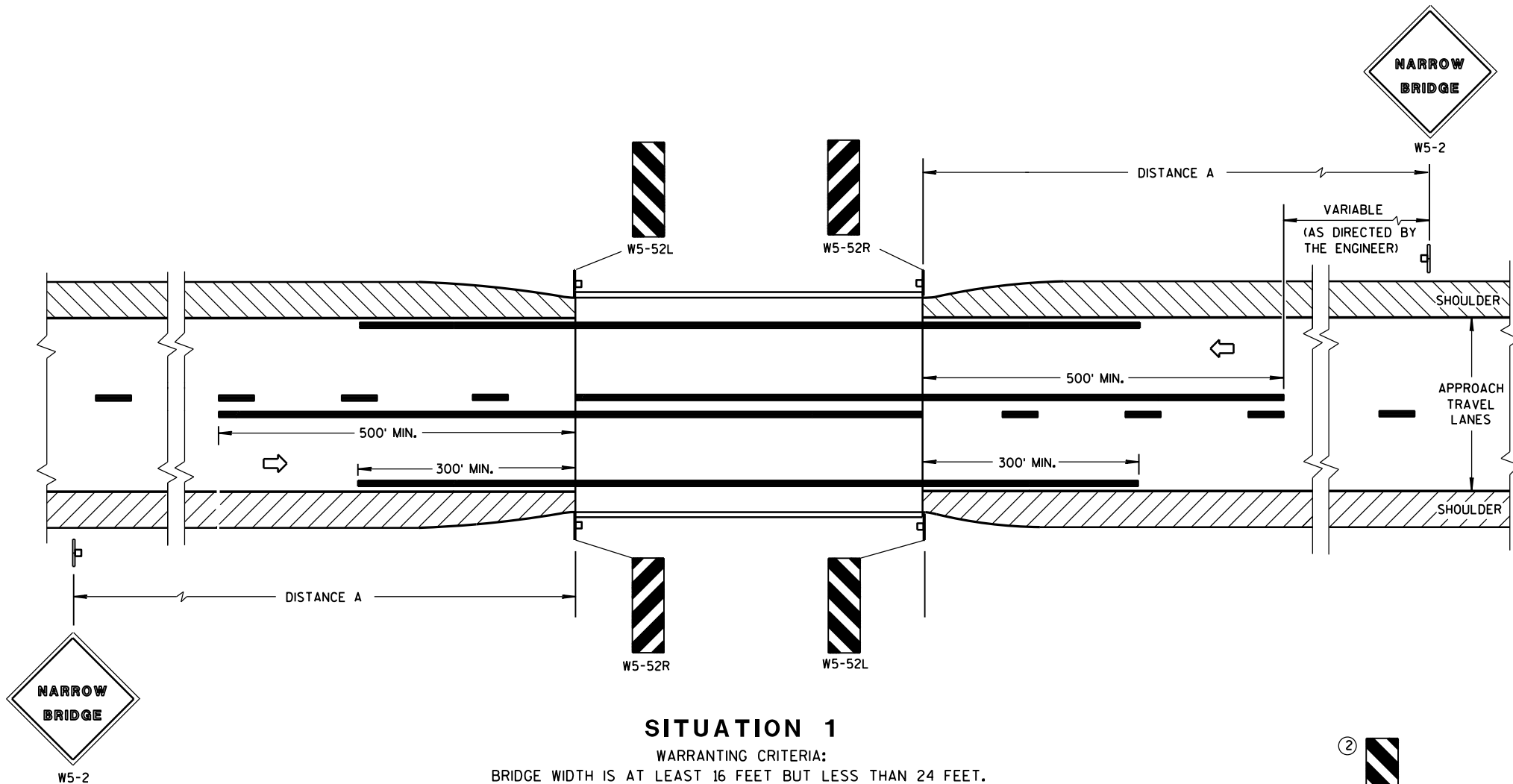
R1-1 SHALL BE 36" X 36".

- 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

Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



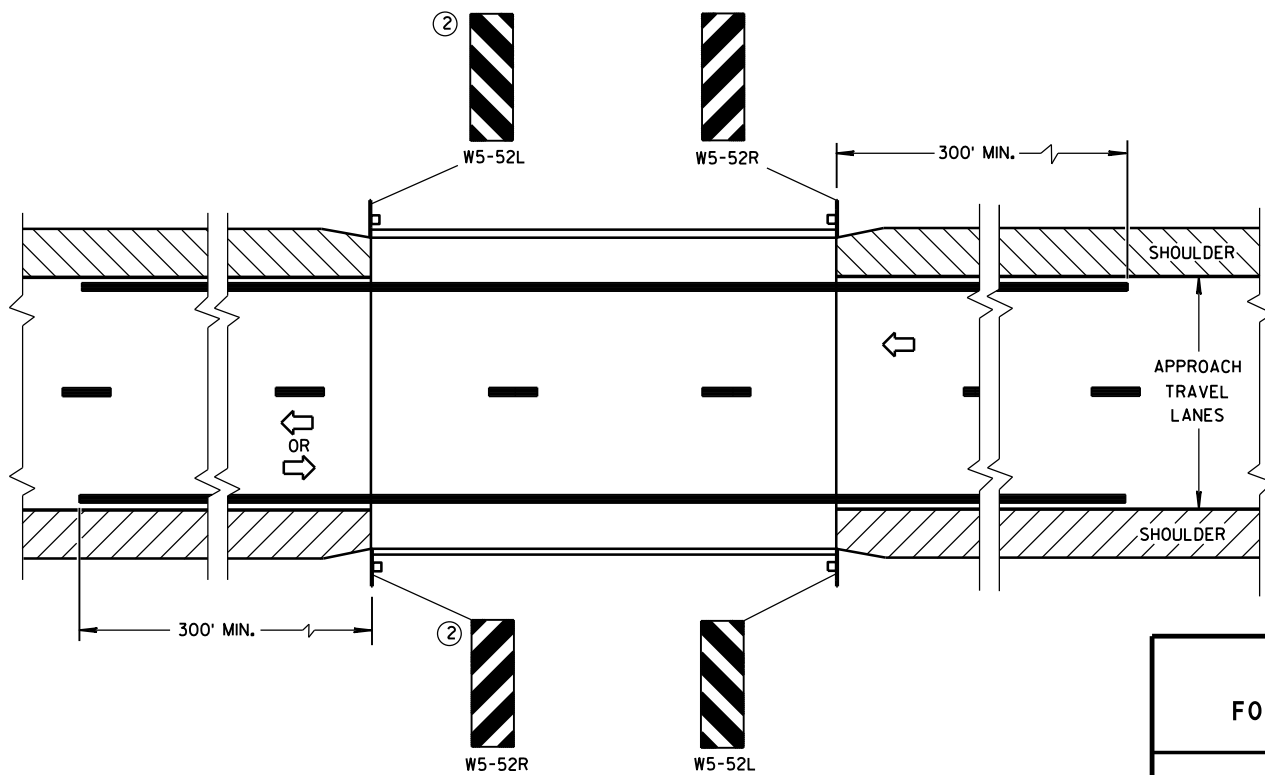
DISTANCE TABLE

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

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.

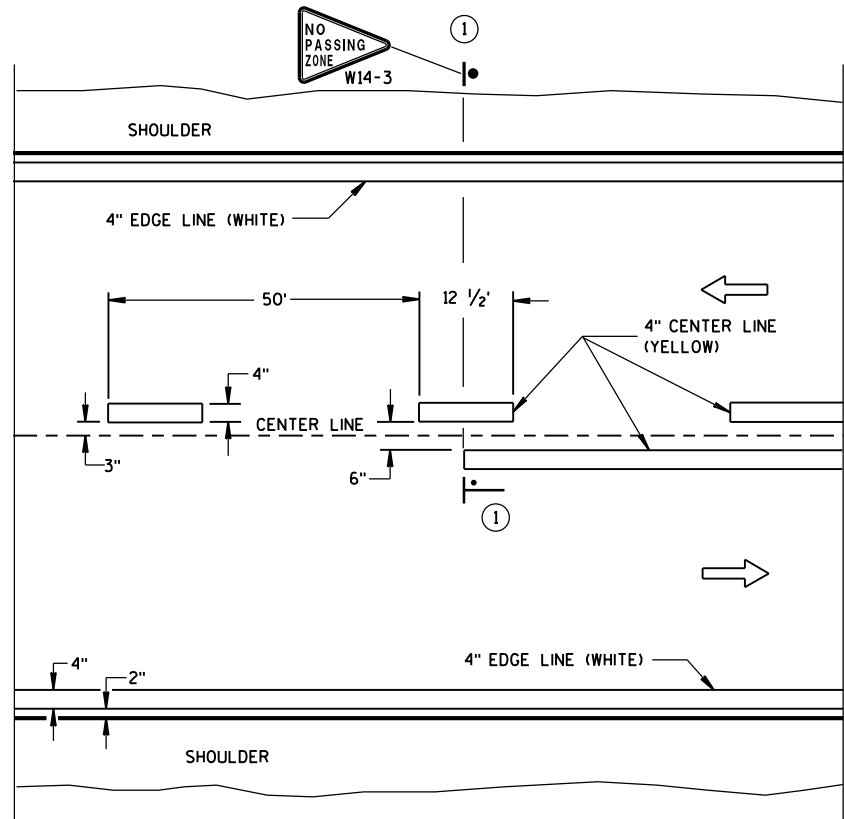
- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



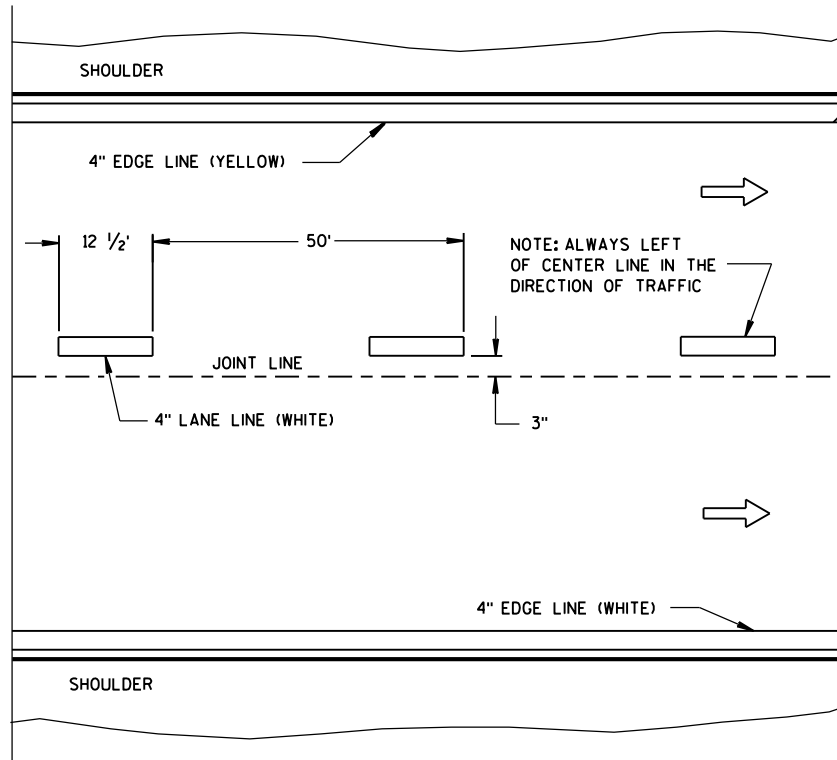
SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

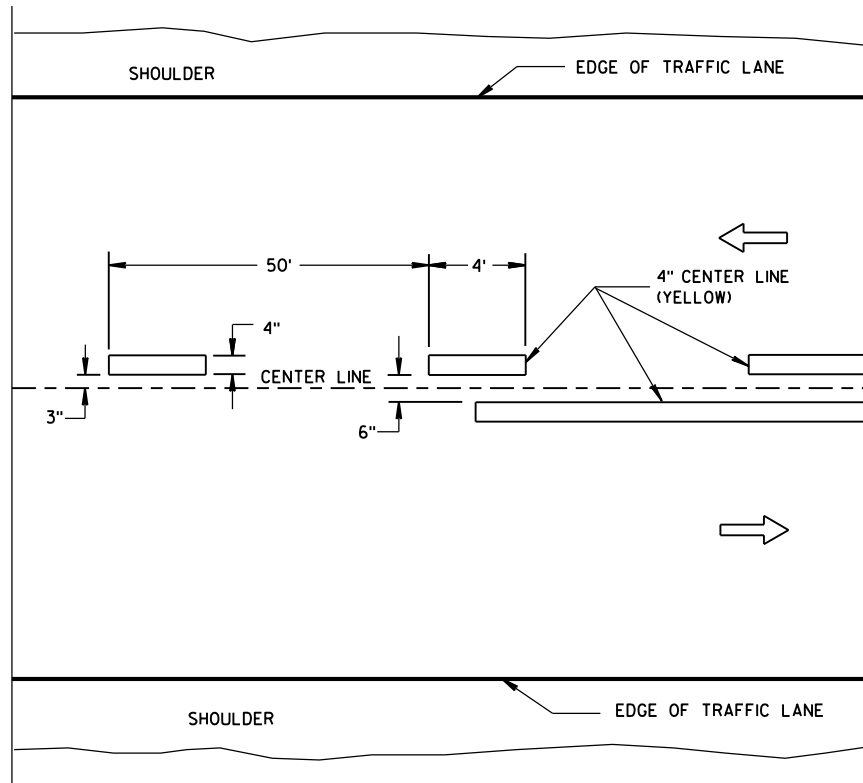


TWO WAY TRAFFIC

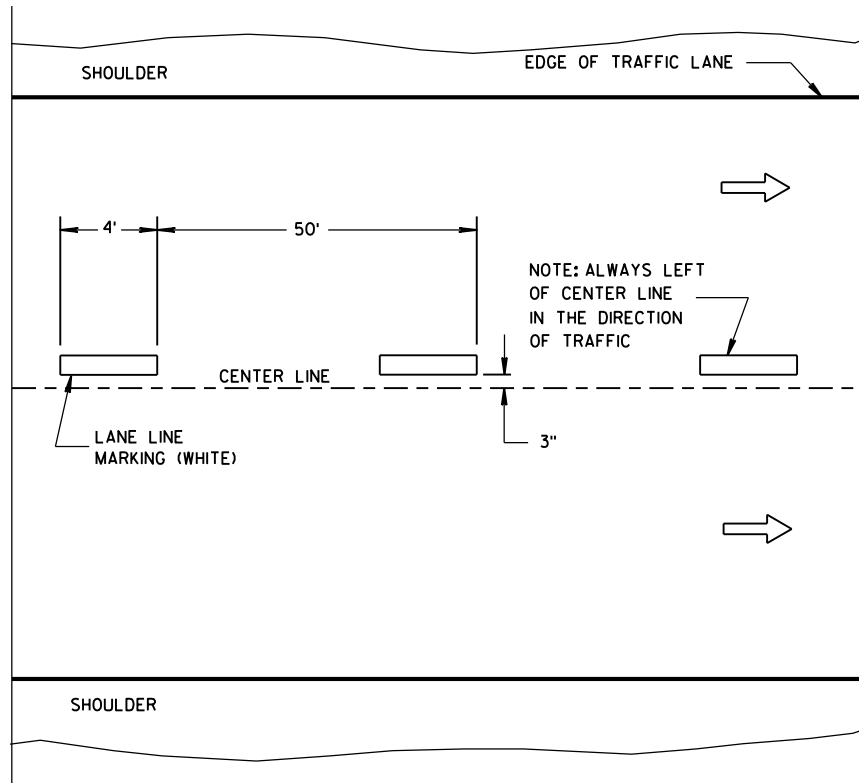


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

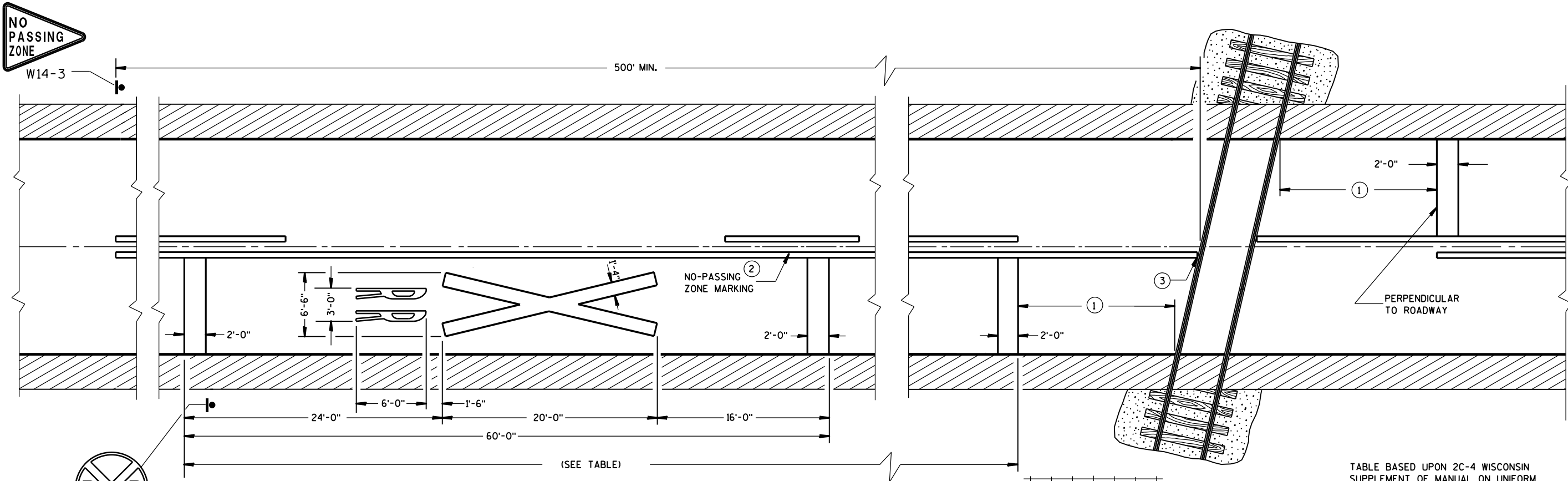
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PAVEMENT MARKING

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.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE.

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

RETRACE EXISTING SYMBOL WHERE EXISTING SYMBOLS ARE PLACED.

- ① MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
- ② 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
- ③ FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

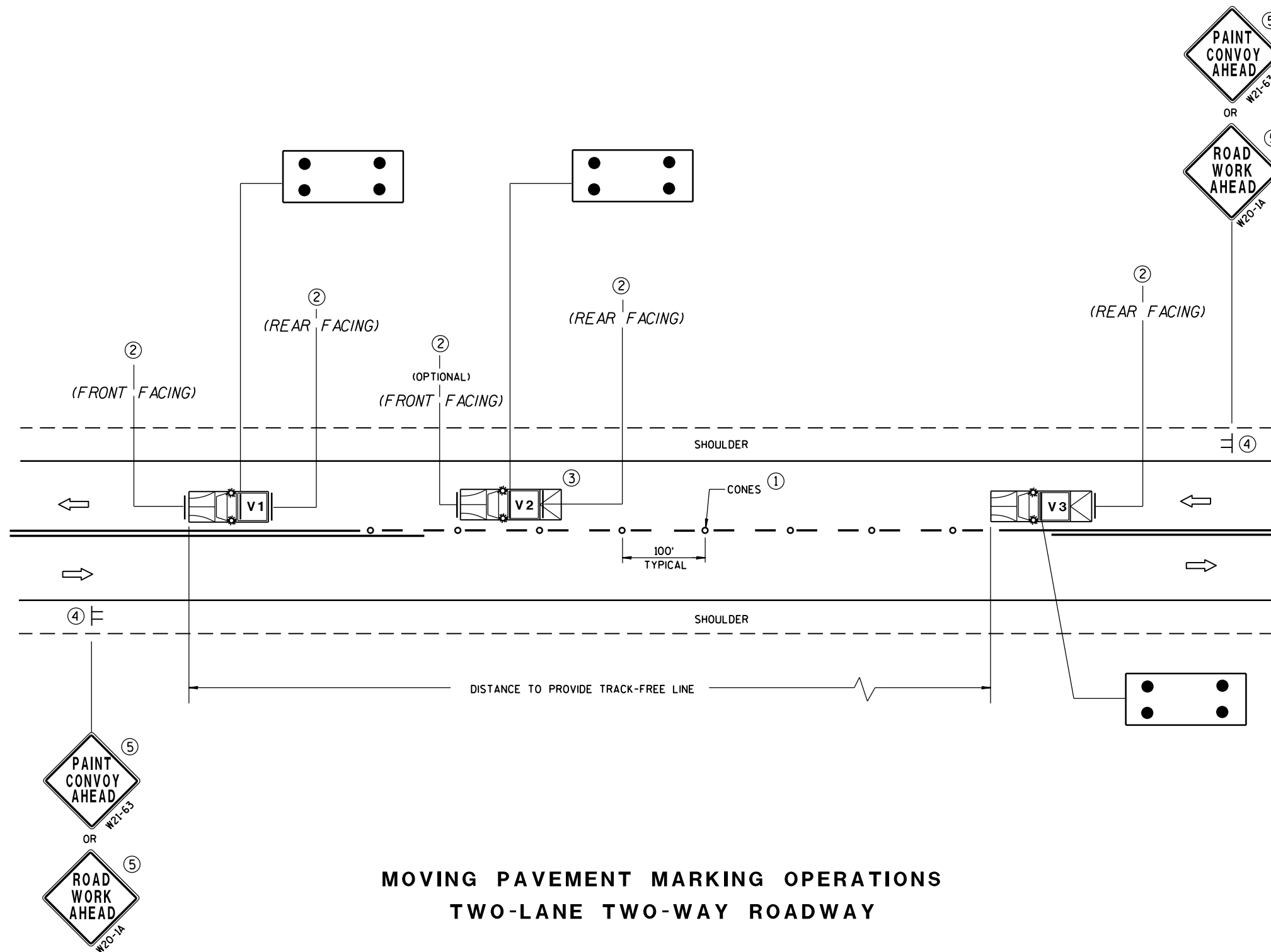
Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.

SIGNING AND PAVEMENT MARKING
DETAILS FOR RAILROAD-HIGHWAY
GRADE CROSSINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



MOVING PAVEMENT MARKING OPERATIONS TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

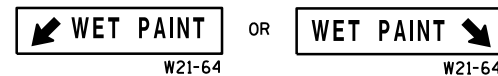
THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.



③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.

④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

LEGEND

V1 LEAD VEHICLE

V2 SHADOW VEHICLE

V3 TRAIL VEHICLE WITH TMA

TMA TRUCK-MOUNTED ATTENUATOR

SIGN ON TEMPORARY SUPPORT

DIRECTION OF TRAFFIC

CONES

FLASHING ARROW PANEL (CAUTION)

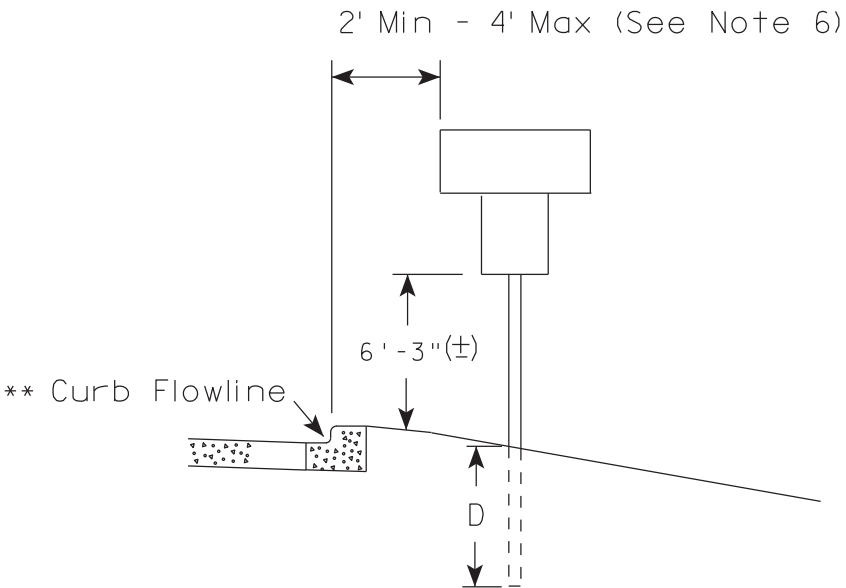
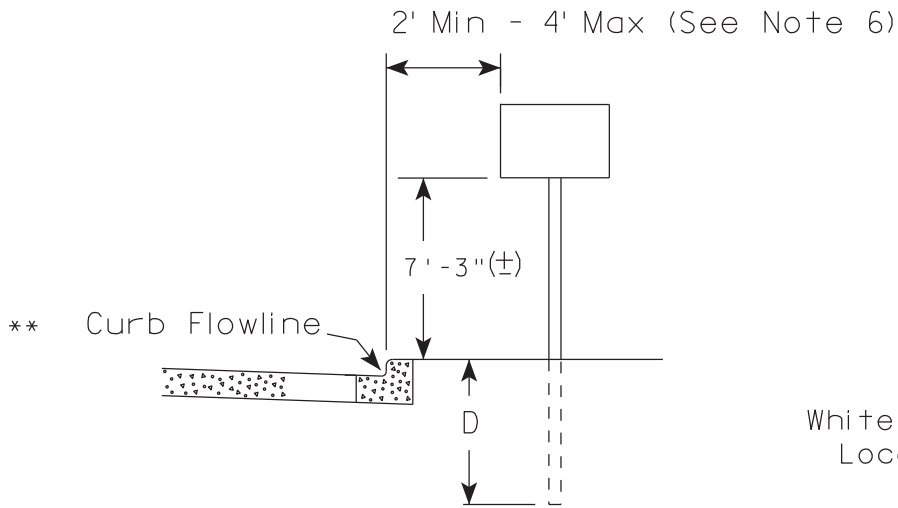
MOVING PAVEMENT MARKING
OPERATION
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

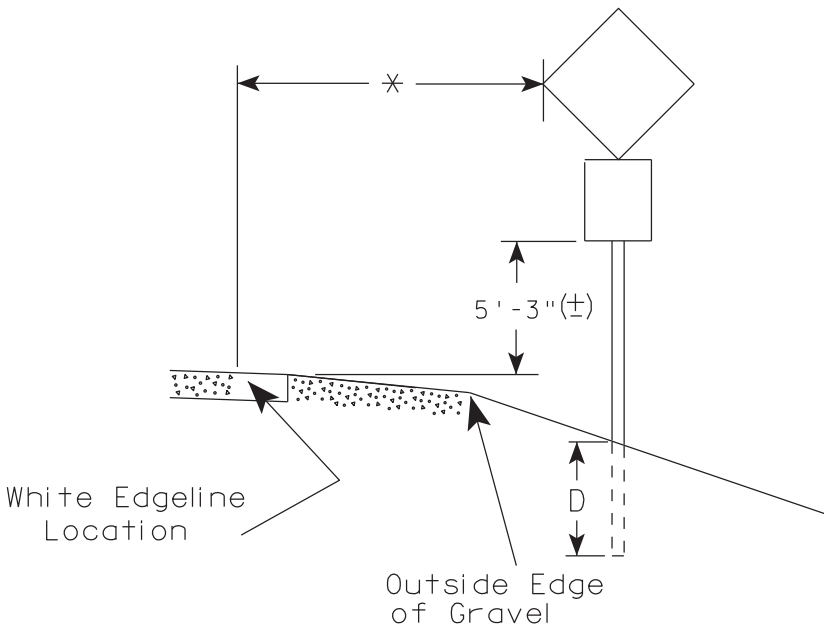
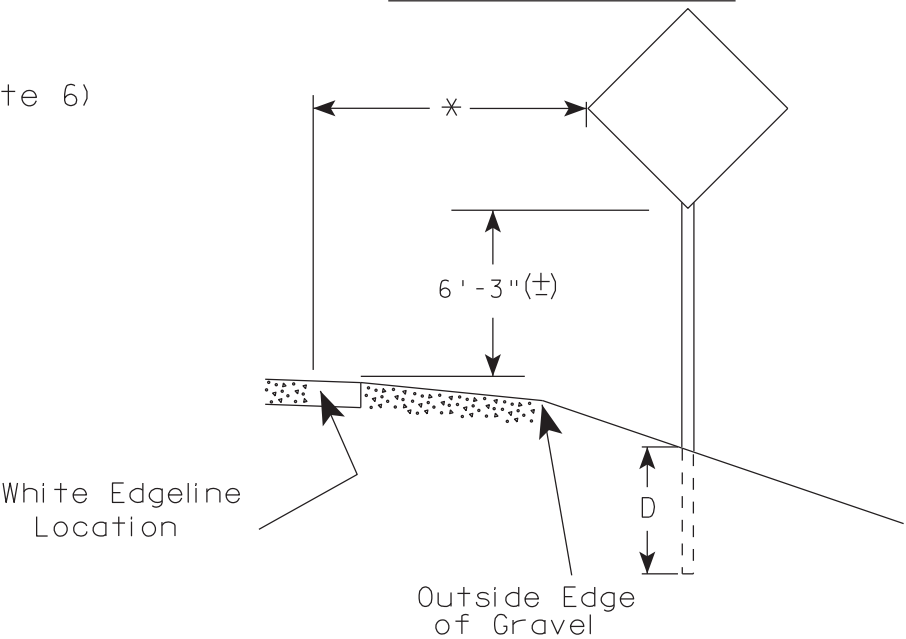
APPROVED
June 2016
DATE
FHWA

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on 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.

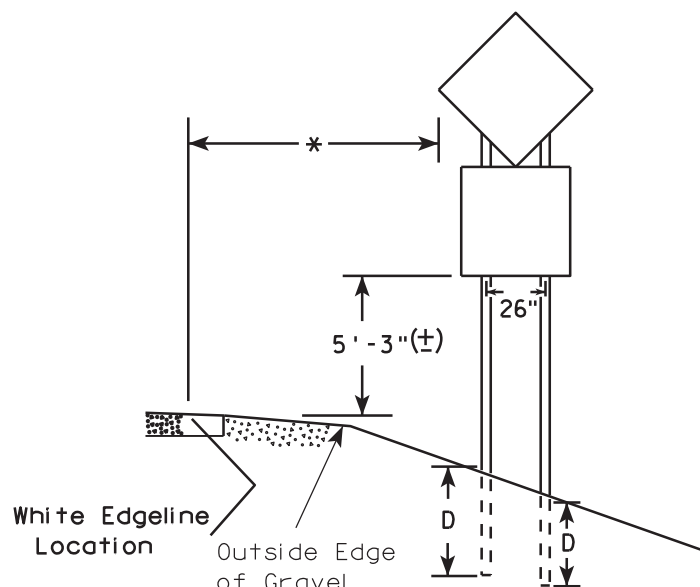
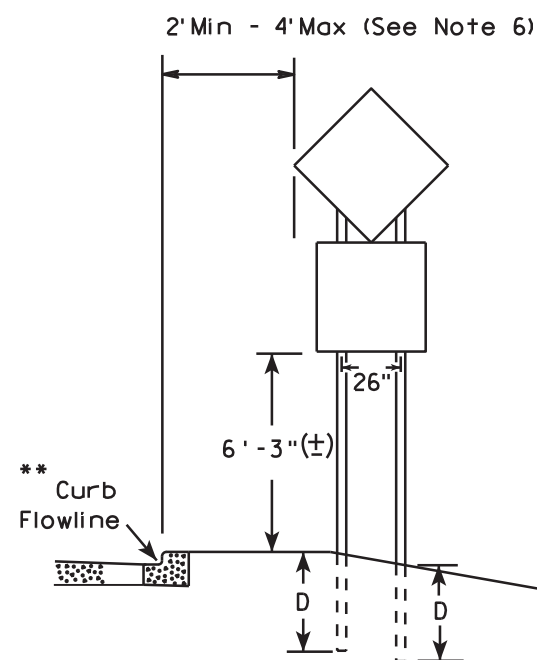
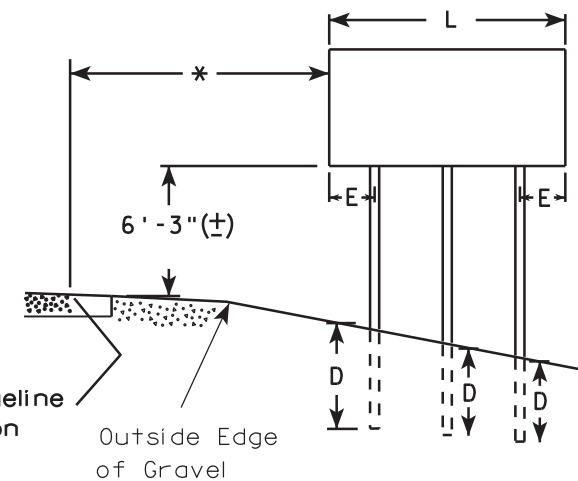
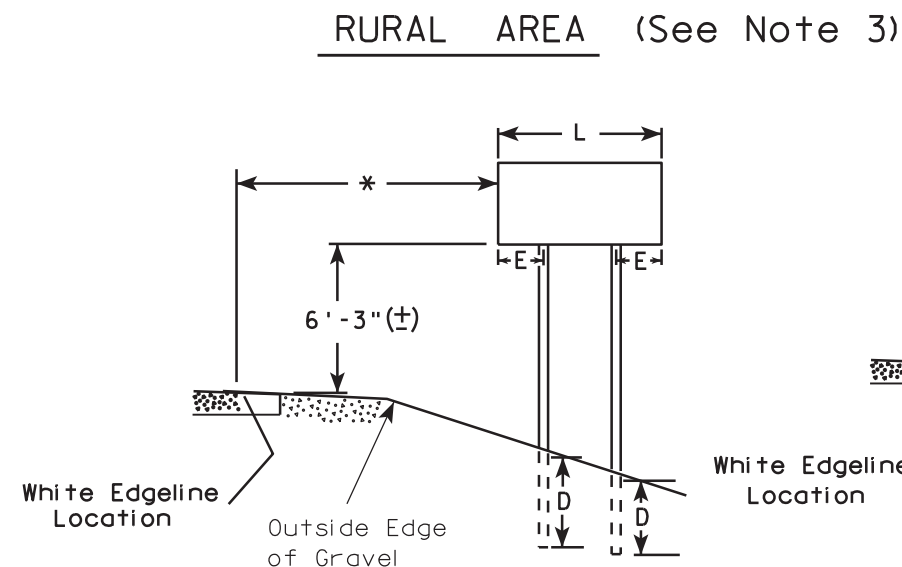
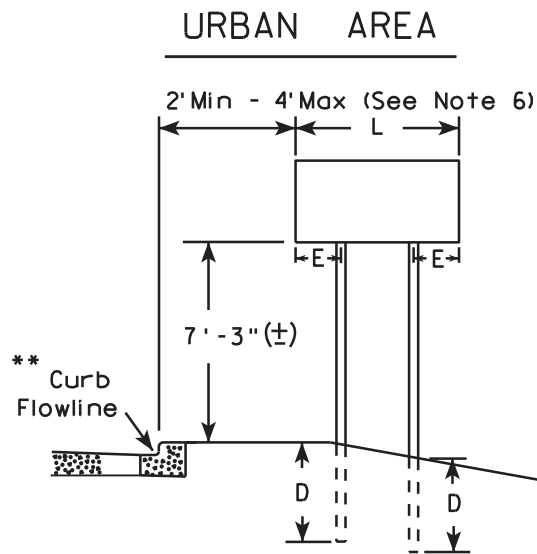
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

- GENERAL NOTES**
- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 - See tables below for required number of posts.
 - For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 - The (±) tolerance for mounting height is 3 inches.
 - Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
 - Offset distance shall be consistent with existing signs or consistent throughout length of project.
 - Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 - The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

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

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

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

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

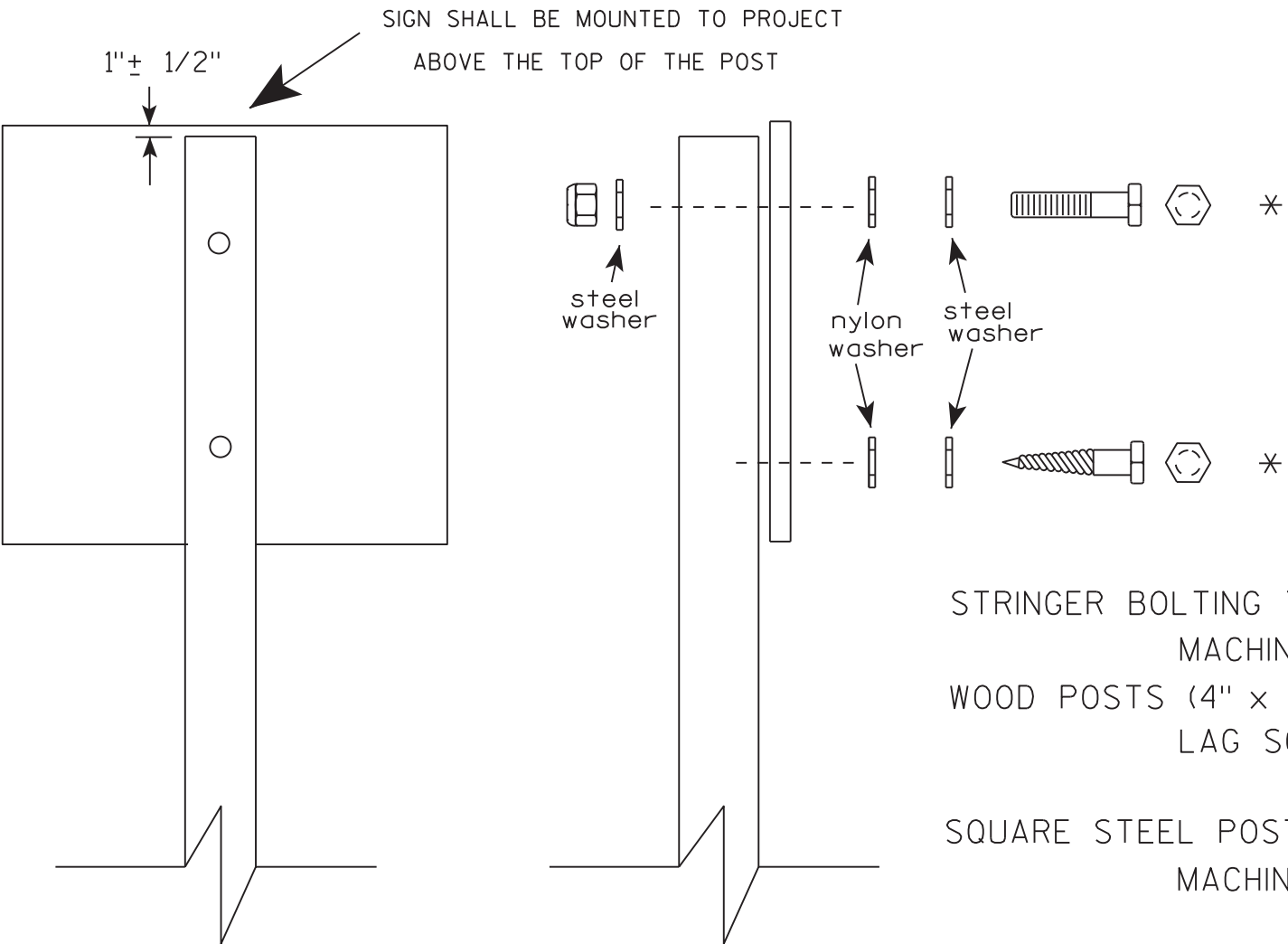
Area of Sign Installation (Sq. Ft.)	D (Min)
20 or Less	4'
Greater than 20	5'

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4.14



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

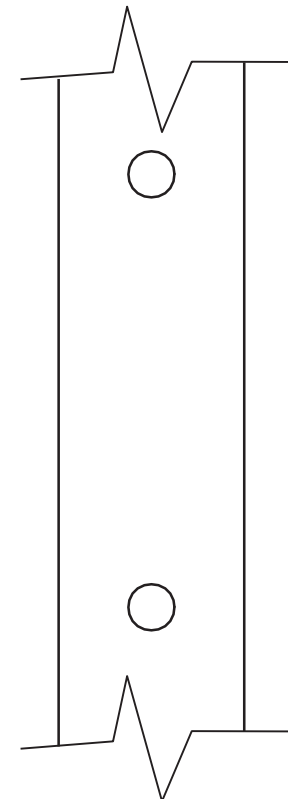
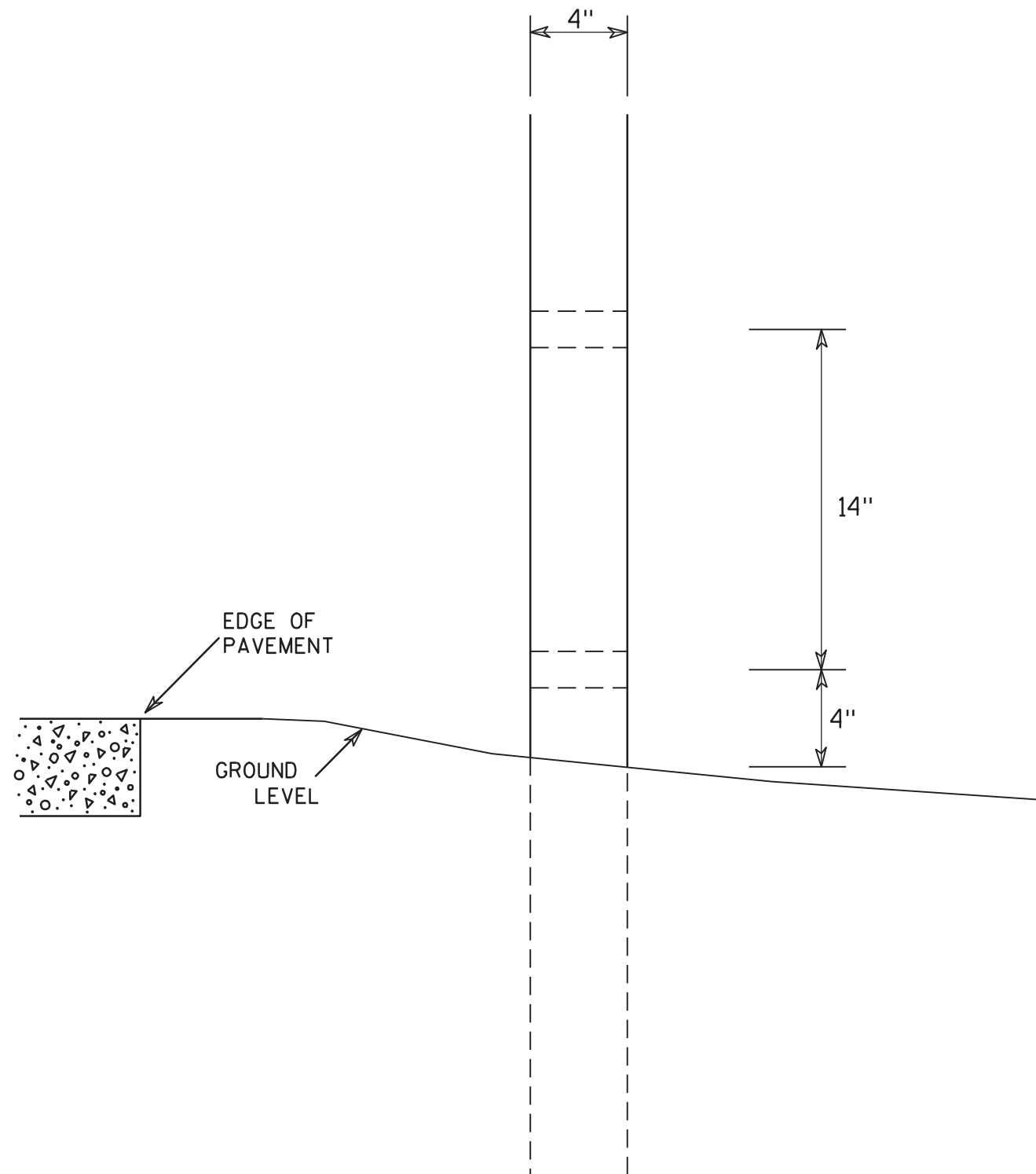
- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
 - 3/8" X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - 3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON

* 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 8/11/16	PLATE NO. A4-8.8



SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1 1/2" diameter holes drilled perpendicular to the roadway centerline.

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

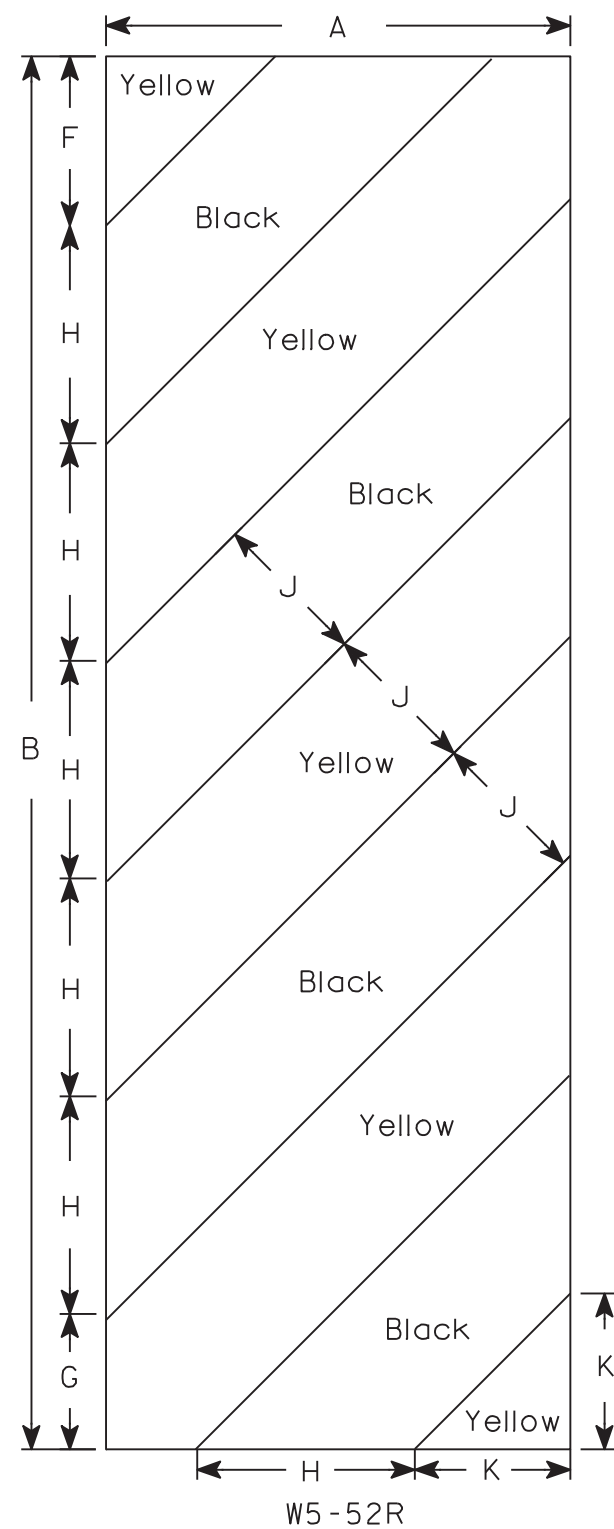
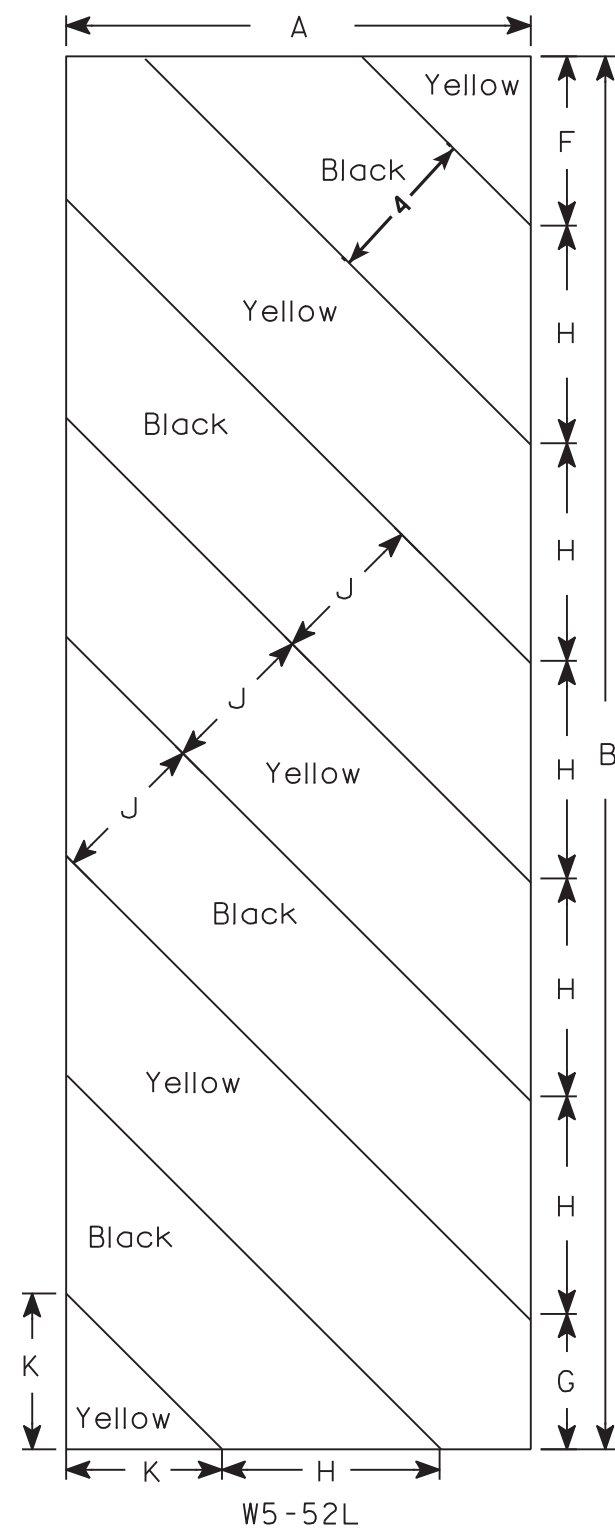
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

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

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

PROFILE GRADE LINE SHALL BE DETERMINED BASED ON A MINIMUM OVERLAY THICKNESS OF 1 1/2" PLACED ABOVE THE DECK SURFACE AFTER CLEANING, EXPECTED AVERAGE OVERLAY THICKNESS IS 2". IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

DIMENSIONS AND STATIONING SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

- EXISTING CROWN IS 1.0%. MAINTAIN THE EXISTING CROWN WITH THE CONCRETE OVERLAY.

- A MINIMUM OF 1 1/2" OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE ENTIRE TOP SURFACE OF THE NEW CONCRETE OVERLAY.

PROVIDE 1 1/2" DEEP SAW CUT ALONG DECK PRIOR TO CONCRETE REMOVAL. WORK IS INCIDENTAL TO THE BID ITEM "CLEANING DECKS".

THE COLOR OF THE FINISH TOP COAT FOR ALL PAINTED STEEL SHALL BE GRAY, (FEDERAL STANDARD COLOR NO. 26293) OR SIMILAR COLOR APPROVED BY THE ENGINEER.

ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1" DEEP SAW CUT.

DESIGN DATA

MATERIAL PROPERTIES

CONCRETE MASONRY OVERLAY DECKS: $f'_c = 4,000$ PSI

LIVE LOAD

INVENTORY RATING: HS-17

OPERATIONAL RATING: HS-29

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 230 KIPS

TRAFFIC DATA

AADT (2018) 490

AADT (2038) 560

LEGEND

DIRECTION OF TRAVEL →

LIST OF DRAWINGS

- OVERLAY PLAN
- ELEVATION VIEW

CONTACTS

BUREAU OF STRUCTURES CONTACT
WILLIAM DREHER: 608-266-8489

CONSULTANT CONTACT
MICHAEL KOWAL: 715-845-8000

NO.	DATE	REVISION	BY

BECHER HOPPE 330 Fourth Street • PO Box 8000
Wausau, WI • 54402-8000
715.845.8000 • Fax 715.845.8008
becherhoppe.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED *William C. Dreher* ^{SR} **05/12/17**
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-42-17

CTH Y OVER THOMAS SLOUGH

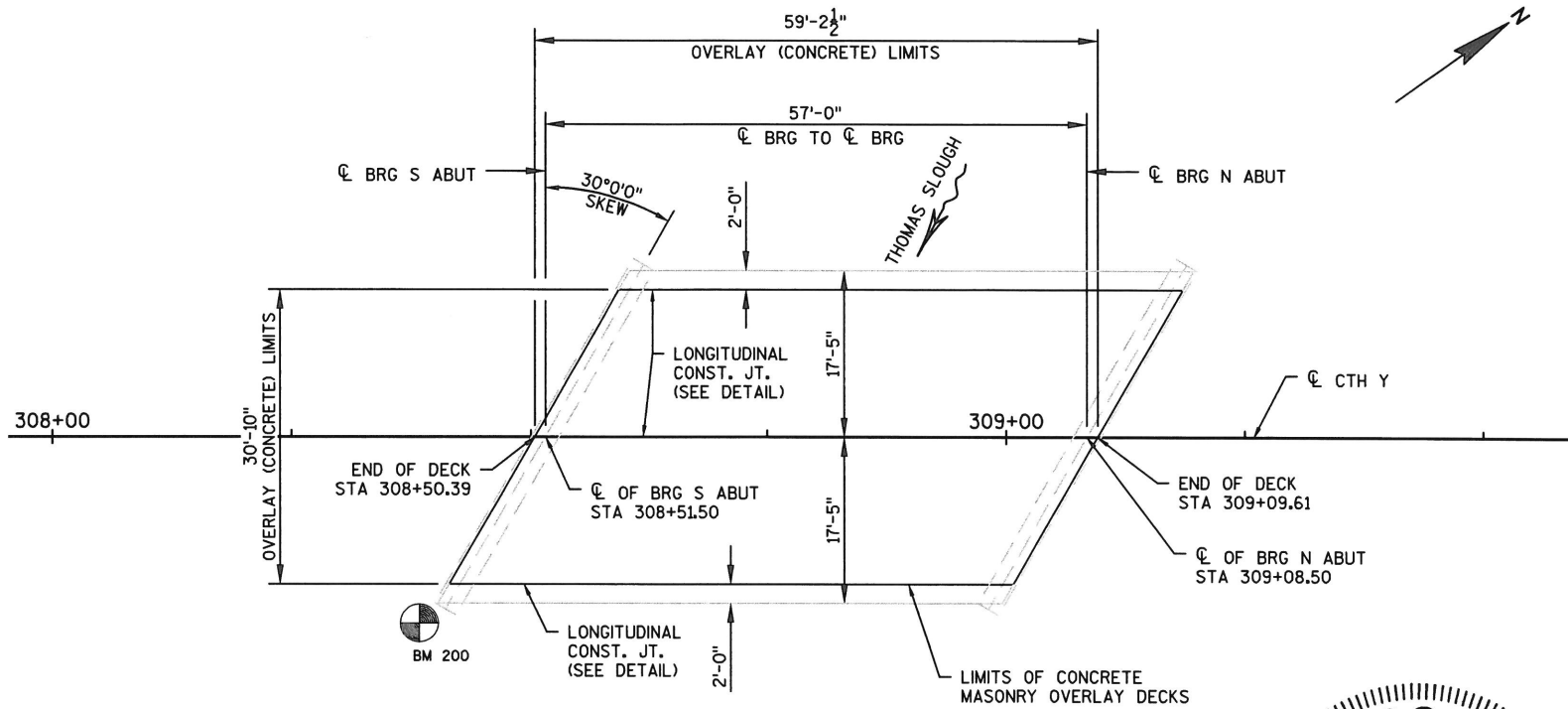
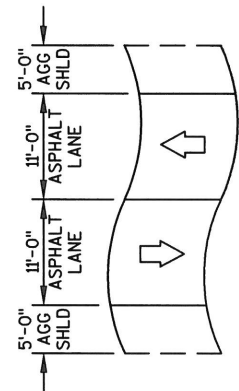
COUNTY OCONTO TOWN/CITY/VILLAGE LITTLE RIVER

DESIGN SPEC. REHABILITATION N/A

DESIGNED BY AEB	DESIGN CK'D. CJM	DRAWN BY DJG	PLANS CK'D. MVK
-----------------	------------------	--------------	-----------------

OVERLAY PLAN

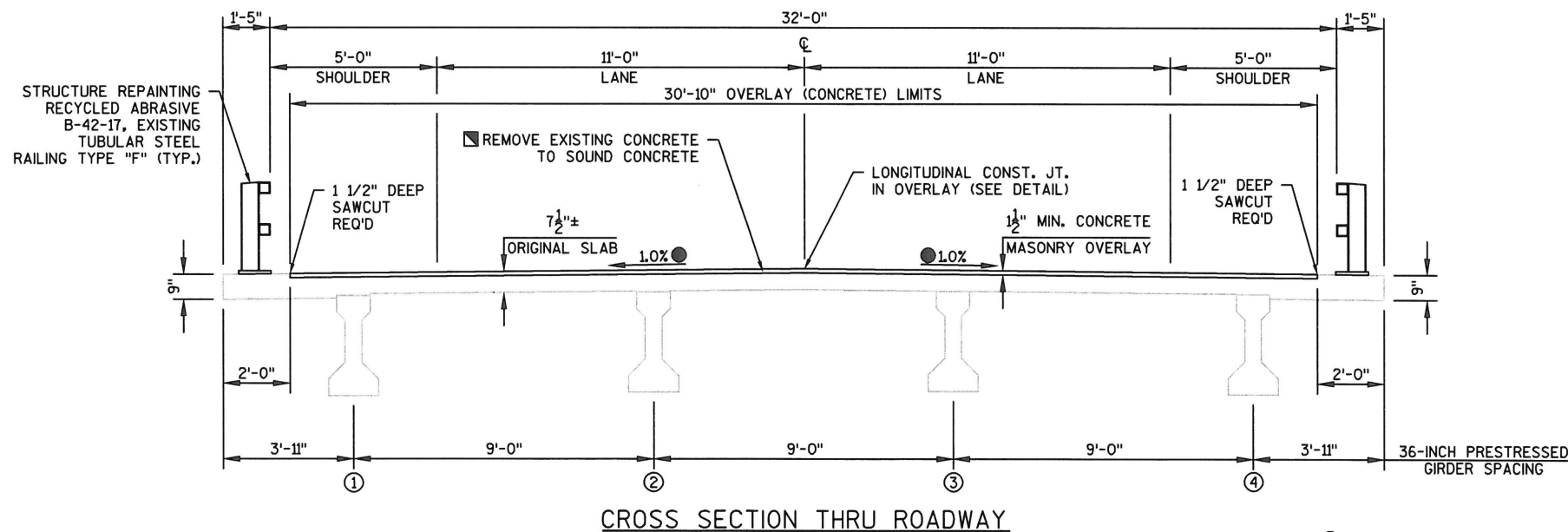
SHEET 1 OF 2



PLAN
(CONCRETE OVERLAY ON EXISTING SINGLE SPAN
PRESTRESSED CONCRETE GIRDER BRIDGE)

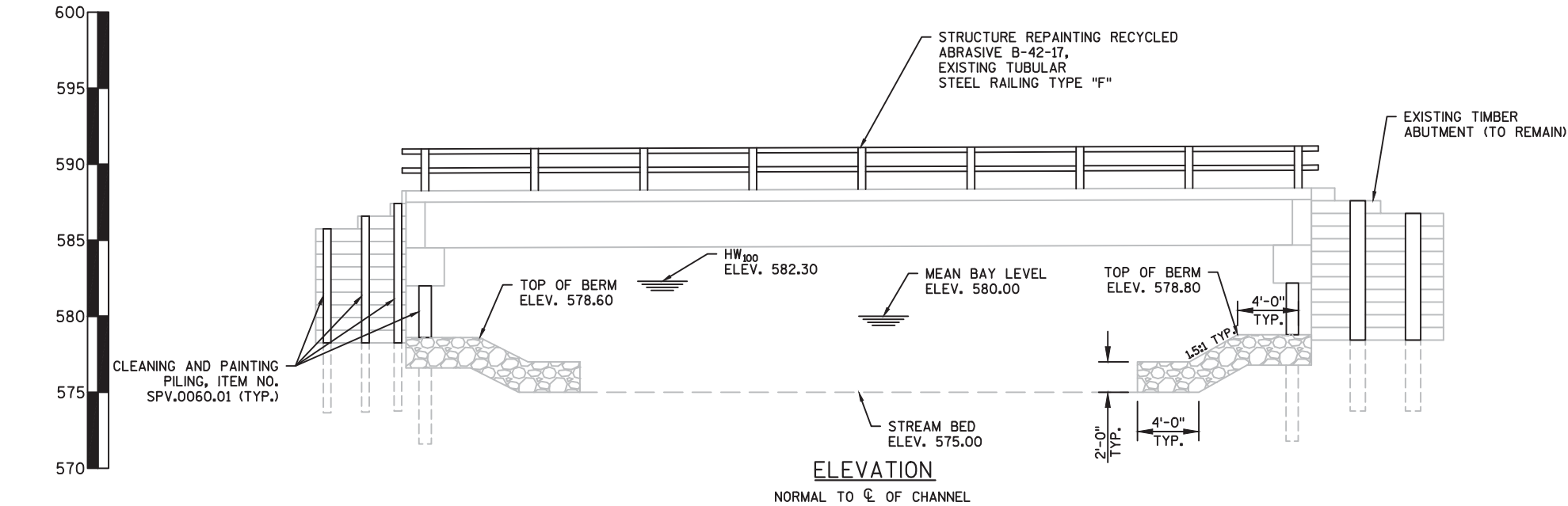
EXISTING BENCH MARK INFO

NO.	DESCRIPTION	ELEV.
200	CHISELED X ON S CORNER OF BRIDGE	588.01
202	60D NAIL	587.44



CROSS SECTION THRU ROADWAY

⊙ INDICATES GIRDER NO.

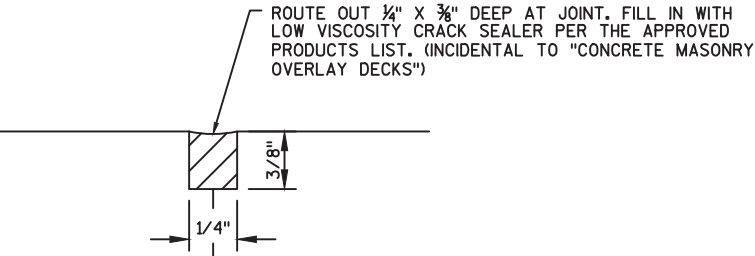


TOTAL ESTIMATED QUANTITIES

BID ITEM #	BID ITEMS	UNIT	S ABUT	N ABUT	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	---	---	205
* 509.0301	PREPARATION DECKS TYPE 1	SY	---	---	60
* 509.0302	PREPARATION DECKS TYPE 2	SY	---	---	45
509.0500	CLEANING DECKS	SY	---	---	205
* 509.1500	CONCRETE SURFACE REPAIR	SF	---	---	10
* 509.2000	FULL-DEPTH DECK REPAIR	SY	---	---	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	---	---	12
517.1800.S	STRUCTURE REPAINTING RECYCLED ABRASIVE B-42-17	LS	---	---	1
517.4500.S	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-42-17	LS	---	---	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	---	---	1
SPV.0060.01	CLEANING AND PAINTING PILING	EACH	14	14	28

NOTES:

- * QUANTITY LISTED IS TENTATIVE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL DECK REPAIR LOCATIONS WITH THE ENGINEER. DECK PREPARATION AND FULL-DEPTH DECK REPAIRS SHALL BE FILLED WITH "CONCRETE MASONRY OVERLAY DECKS".
 - * * CONCRETE SURFACE REPAIR REQ'D AS DESIGNATED BY THE ENGINEER. QUANTITY LISTED IS TENTATIVE. CONTRACTOR SHALL COORDINATE THE FIELD IDENTIFICATION AND DETERMINATION OF ALL SURFACE REPAIR LOCATIONS WITH THE ENGINEER.
- ALL ITEMS ARE CATEGORY 0020.



LONGITUDINAL CONSTRUCTION JOINT DETAIL
REQUIRED AT LONGITUDINAL CONSTRUCTION JOINTS ALONG CENTERLINE
AND OUTSIDE EDGES OF OVERLAY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-17			
DRAWN BY		DJG	PLANS CK'D. MVK
ELEVATION VIEW		SHEET 2 OF 2	

STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 5
		CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 4	
306+25	---	0	0	0	0	---	---	---	---	---	---	---
306+50	25	13	0	24	0	6	0	11	0	6	14	-8
306+76	26	13	0	49	0	13	0	36	0	18	59	-40
306+95	18	14	0	54	0	9	0	35	0	28	103	-75
307+00	5	14	0	52	0	3	0	11	0	31	116	-85
307+01	1	14	0	51	0	1	0	3	0	31	120	-88
307+20	18	15	4	18	0	10	1	24	0	41	149	-109
307+25	5	15	4	8	0	3	1	2	0	44	152	-110
307+26	1	15	4	6	0	1	0	0	0	45	153	-110
307+45	18	38	4	0	0	18	3	2	0	63	155	-97
307+50	5	38	4	0	0	7	1	0	0	70	155	-91
308+00	50	39	4	5	0	71	7	5	0	140	161	-33
308+41	41	36	4	0	0	56	6	4	0	196	166	13
				COLUMN TOTALS		196	18	133	0			

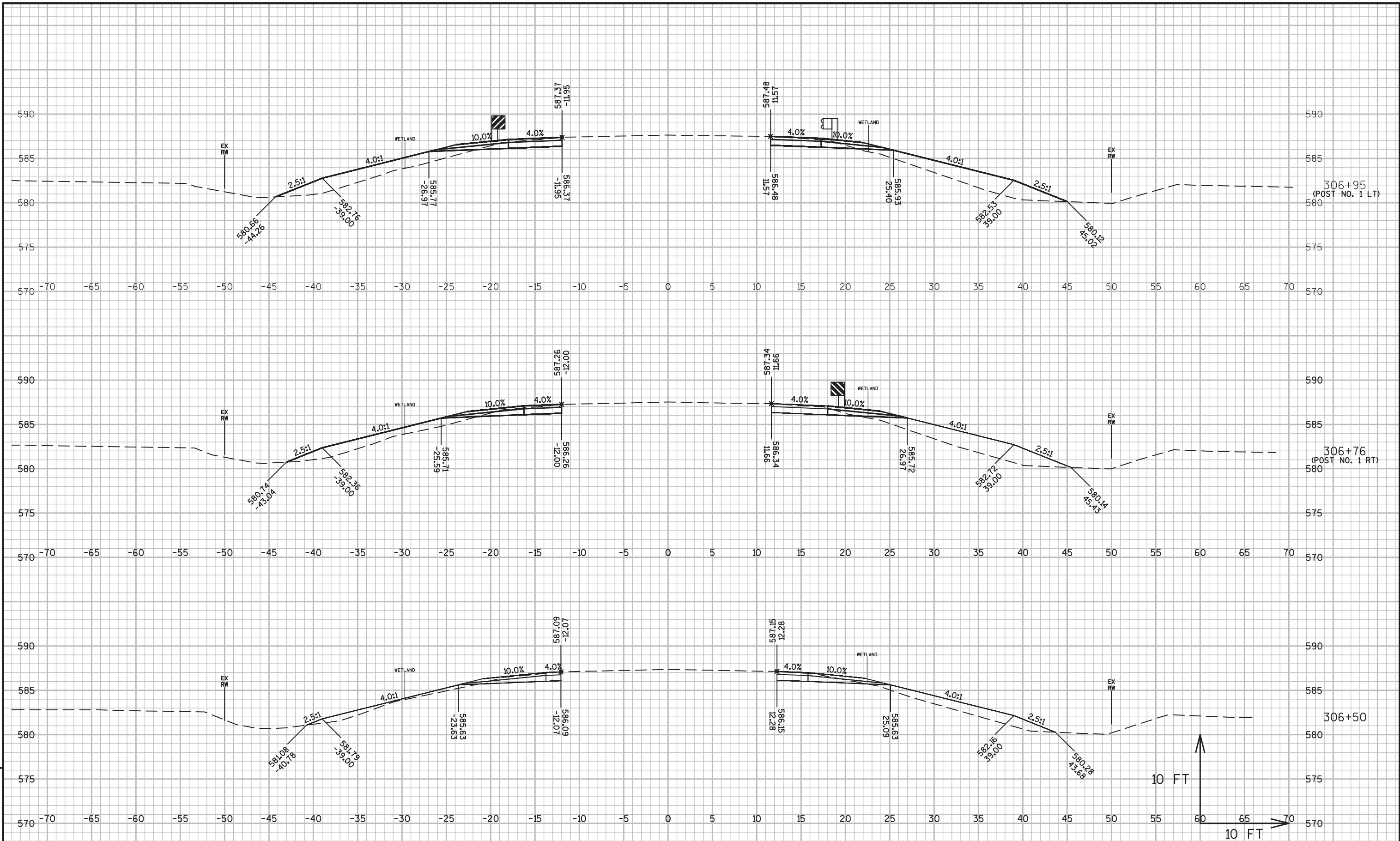
NOTES:

- 1) CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) UNUSABLE PAVEMENT MATERIAL DOES NOT APPEAR IN THE CROSS SECTIONS
3) FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL EXCAVATION VOLUME
4) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25
5) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)

STATION	DISTANCE	AREA (SF)				INCREMENTAL VOL (CY) (UNADJUSTED)				CUMULATIVE VOL (CY)		MASS ORDINATE NOTE 5
		CUT	UNUSABLE PAVEMENT MATERIAL	FILL	EBS	CUT NOTE 1	UNUSABLE PAVEMENT MATERIAL NOTE 2	FILL NOTE 3	EBS	CUT 1.00 NOTE 1	EXPANDED FILL 1.25 NOTE 4	
309+19	---	31	4	4	0	---	---	---	---	---	---	---
309+50	31	32	4	45	0	36	4	28	0	36	35	-3
310+00	50	30	4	82	0	58	7	118	0	94	182	-99
310+14	14	30	4	54	0	16	2	36	0	110	228	-131
310+32	18	11	4	52	0	14	2	36	0	124	272	-164
310+40	7	11	4	71	0	3	1	16	0	127	293	-182
310+50	10	10	0	24	0	4	1	18	0	131	315	-202
310+57	7	10	0	29	0	3	0	7	0	133	324	-208
310+65	8	10	0	41	0	3	0	10	0	136	337	-218
310+75	10	10	0	53	0	4	0	17	0	140	358	-236
310+82	7	10	0	66	0	3	0	16	0	142	378	-253
311+00	18	10	0	58	0	7	0	41	0	149	429	-298
311+50	50	6	0	22	0	15	0	74	0	164	521	-375
311+99	49	0	0	0	0	5	0	20	0	169	546	-394
				COLUMN TOTALS		169	17	437	0			

NOTES:

- 1) CUT INCLUDES UNUSABLE PAVEMENT MATERIAL
2) UNUSABLE PAVEMENT MATERIAL DOES NOT APPEAR IN THE CROSS SECTIONS
3) FILL DOES NOT INCLUDE UNUSABLE PAVEMENT MATERIAL EXCAVATION VOLUME
4) EXPANDED FILL = UNEXPANDED FILL * EXPANDED FILL FACTOR. EXPANDED FILL FACTOR = 1.25
5) MASS ORDINATE = (CUT - UNUSABLE PAVEMENT MATERIAL) - (FILL * FILL FACTOR)



PROJECT NO:9007-03-71

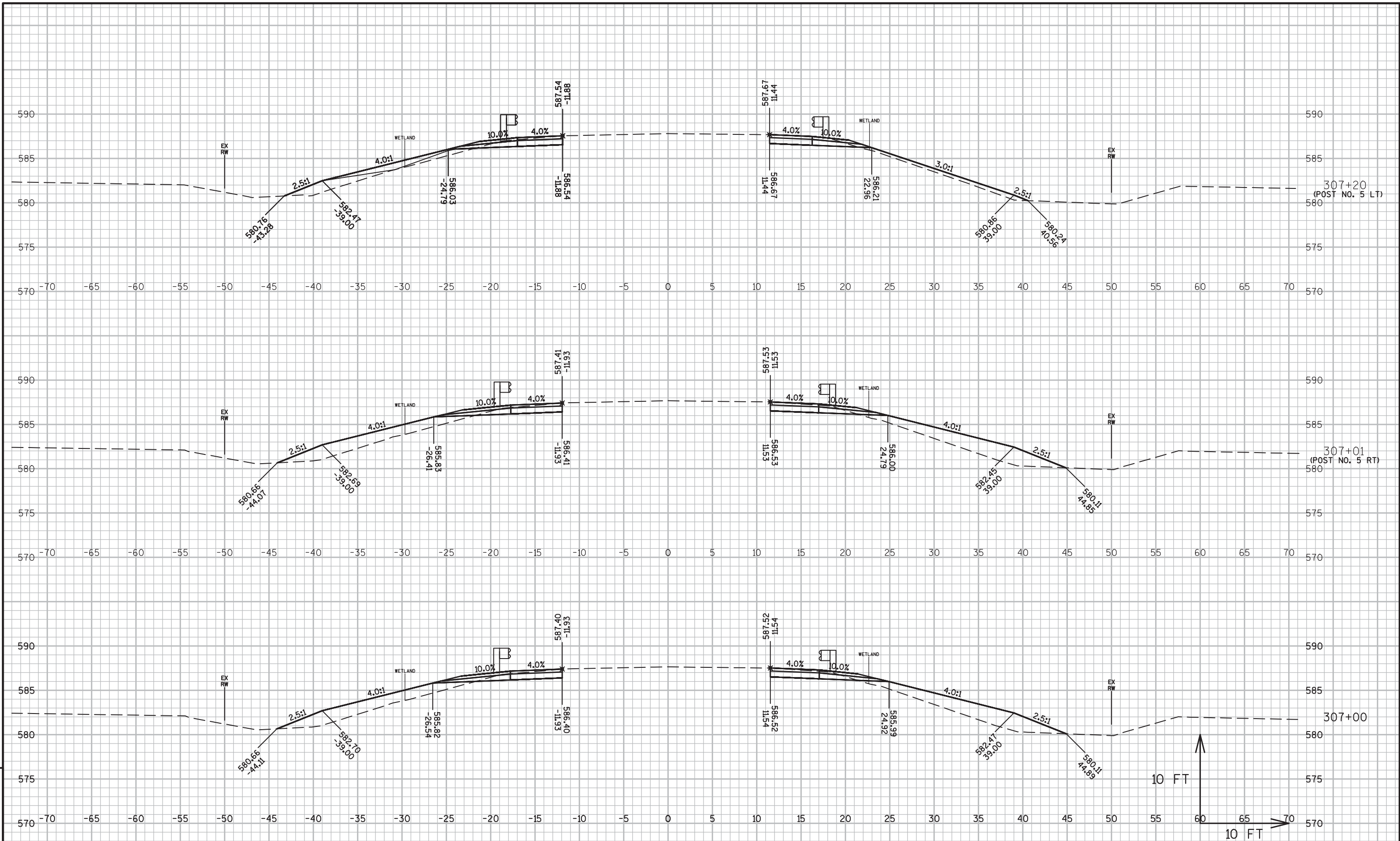
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COUNTY:OCONTO

CROSS SECTIONS: CTH Y

SHEET

E



PROJECT NO:9007-03-71

HWY:CTH Y

COUNTY:OCONTO

CROSS SECTIONS: CTH Y

SHEET

E

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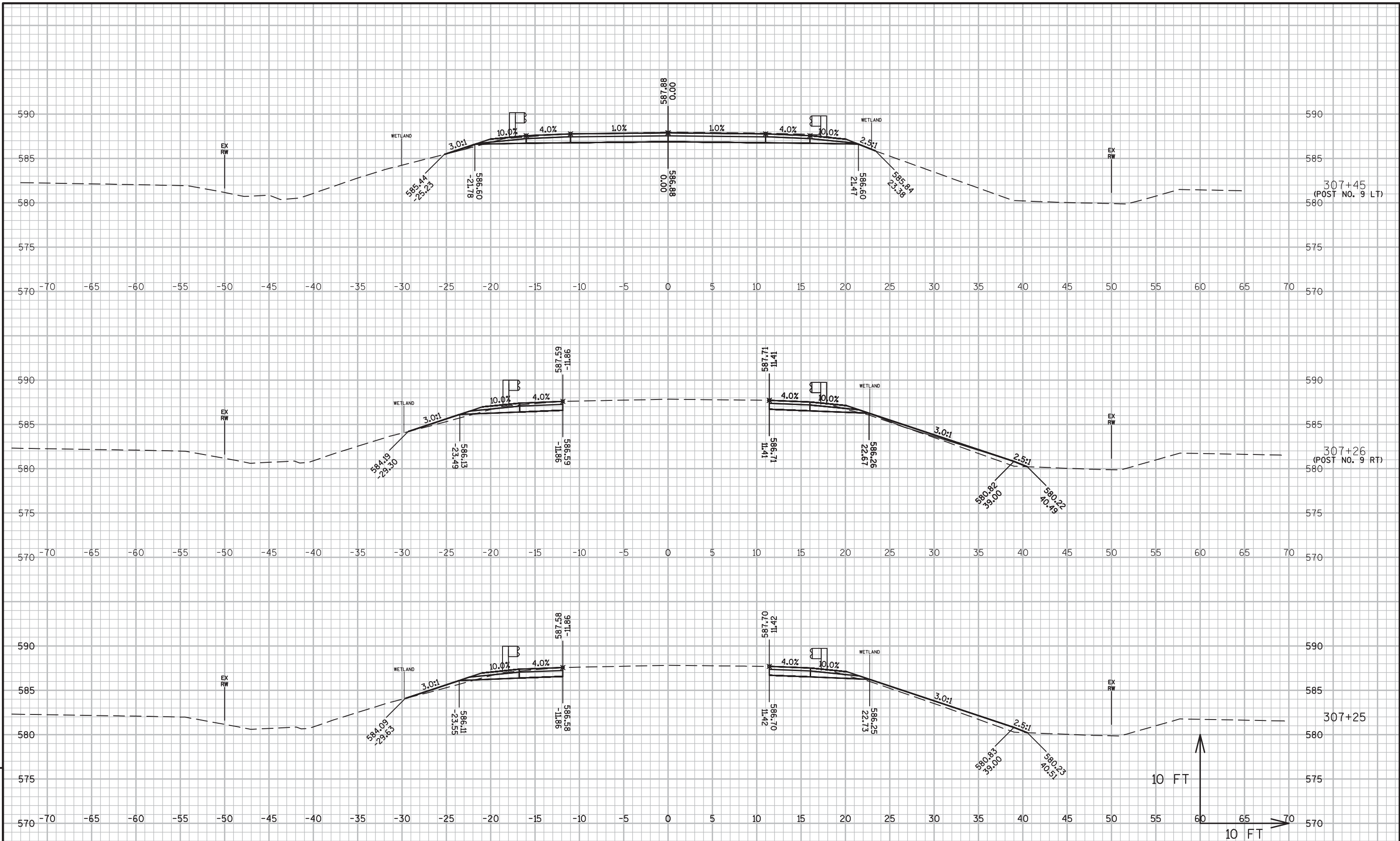
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PLOT BY : DANIEL J. GERLING

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49



PROJECT NO:9007-03-71

HWY:CTH Y

COUNTY:OCONTO

CROSS SECTIONS: CTH Y

SHEET

E

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LAYOUT NAME - 090103

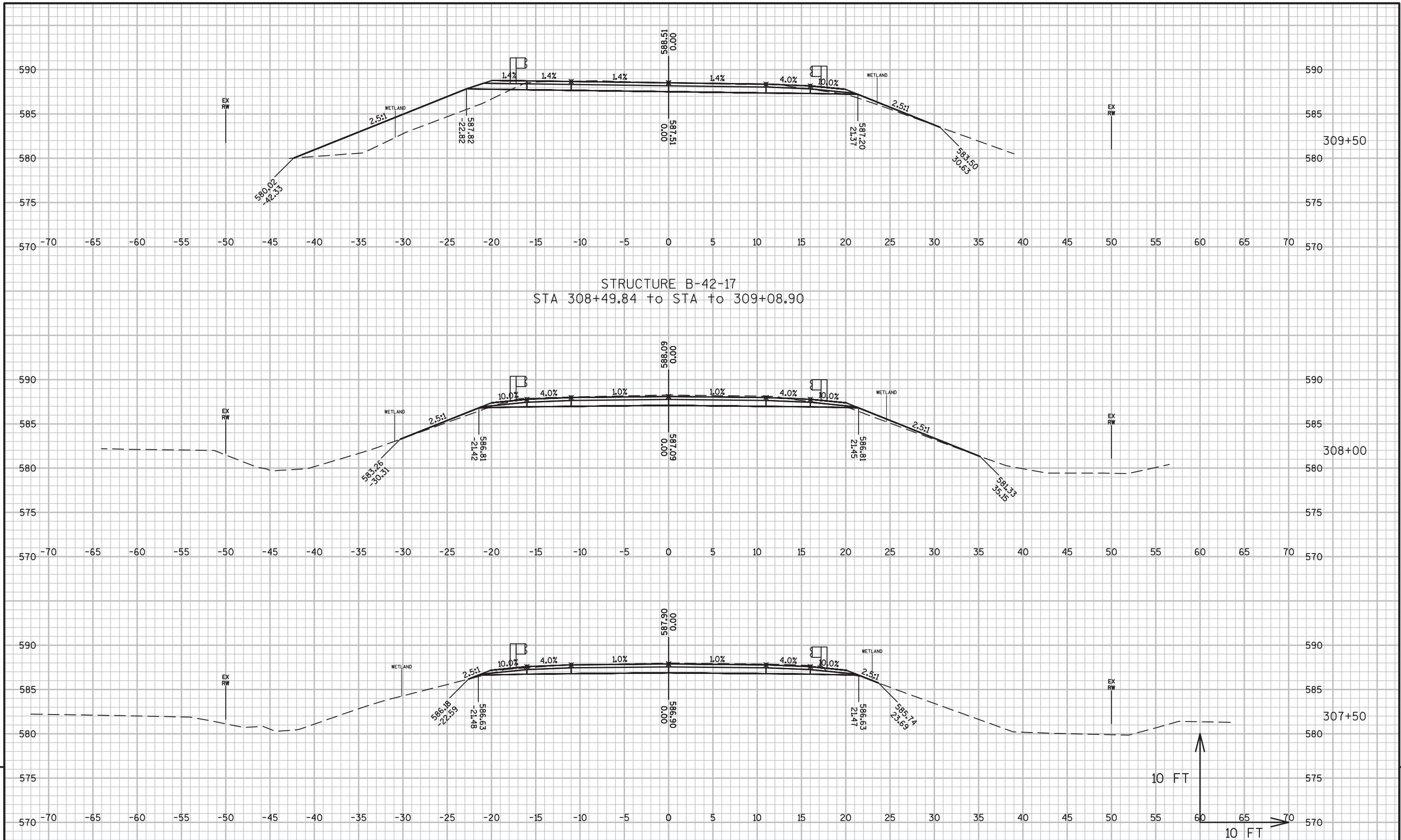
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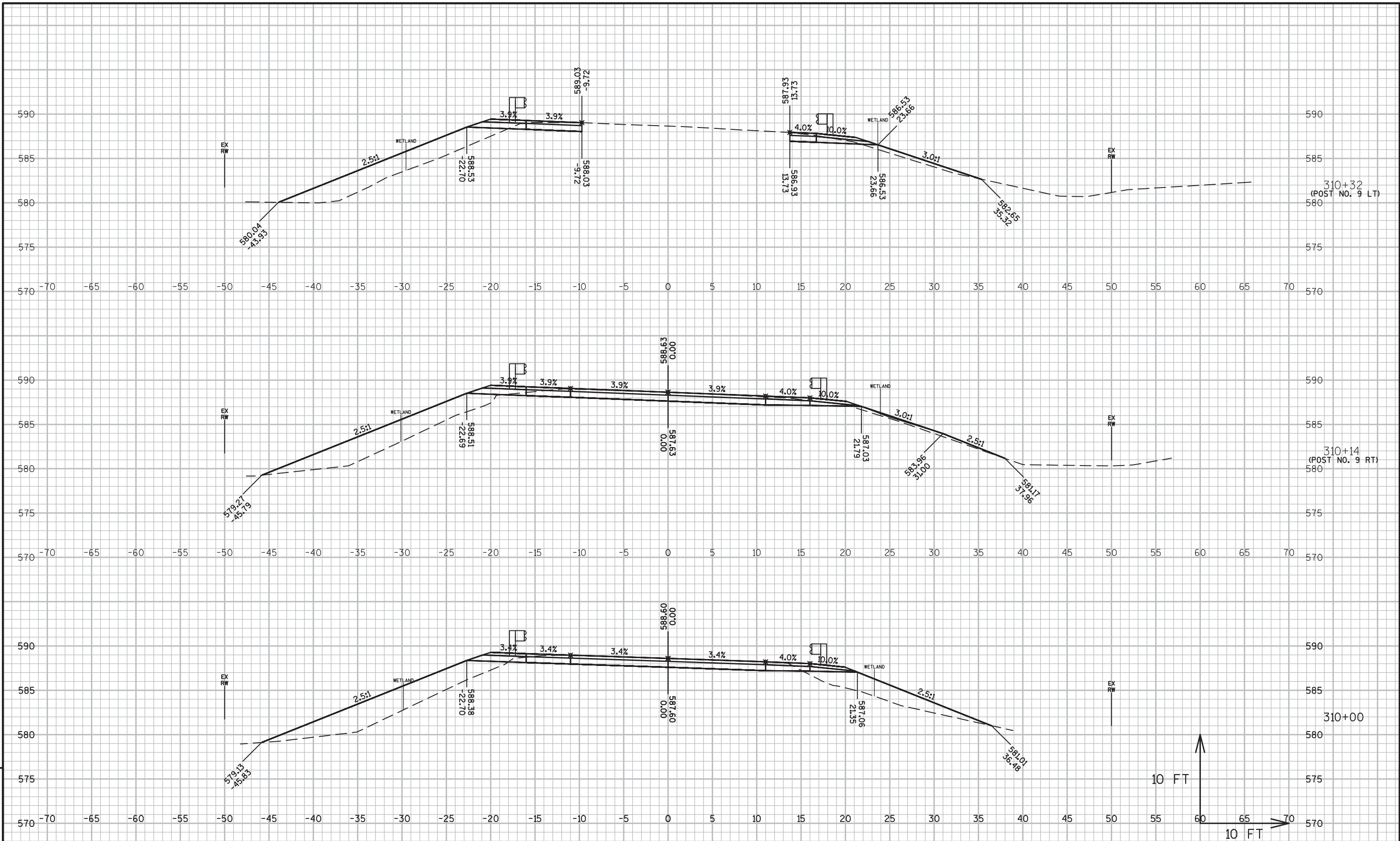
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PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDs SHEET 49





PROJECT NO:9007-03-71

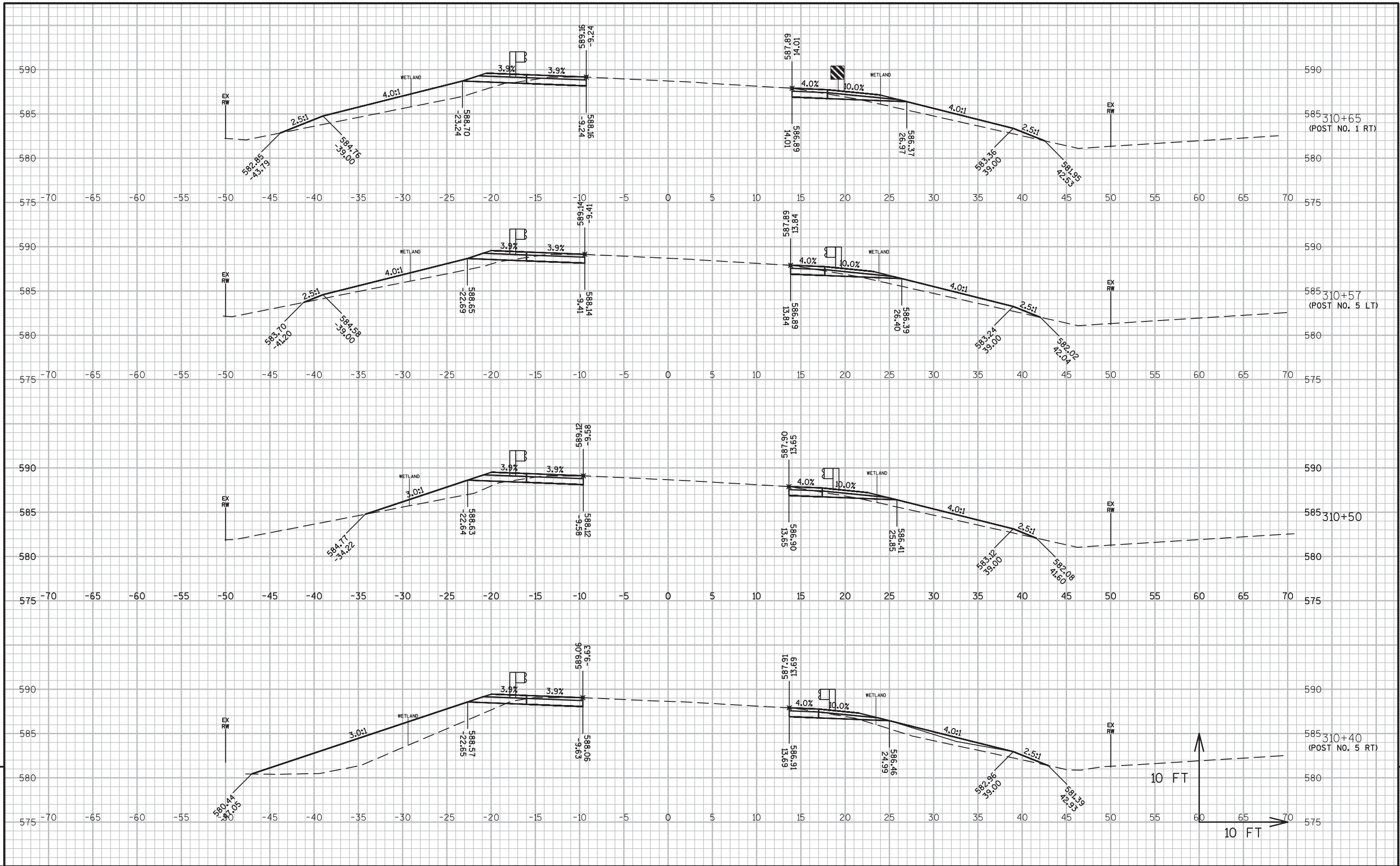
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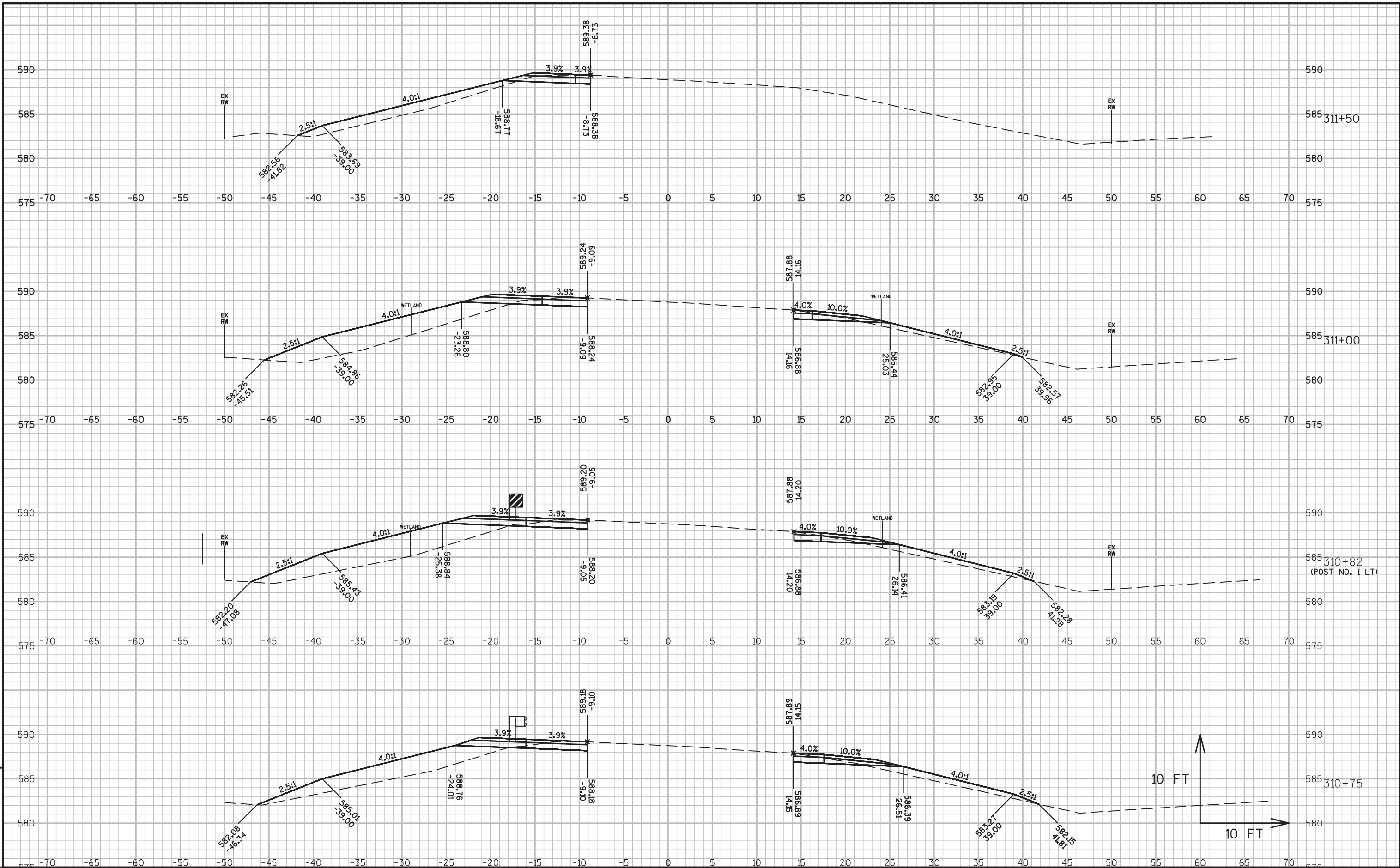
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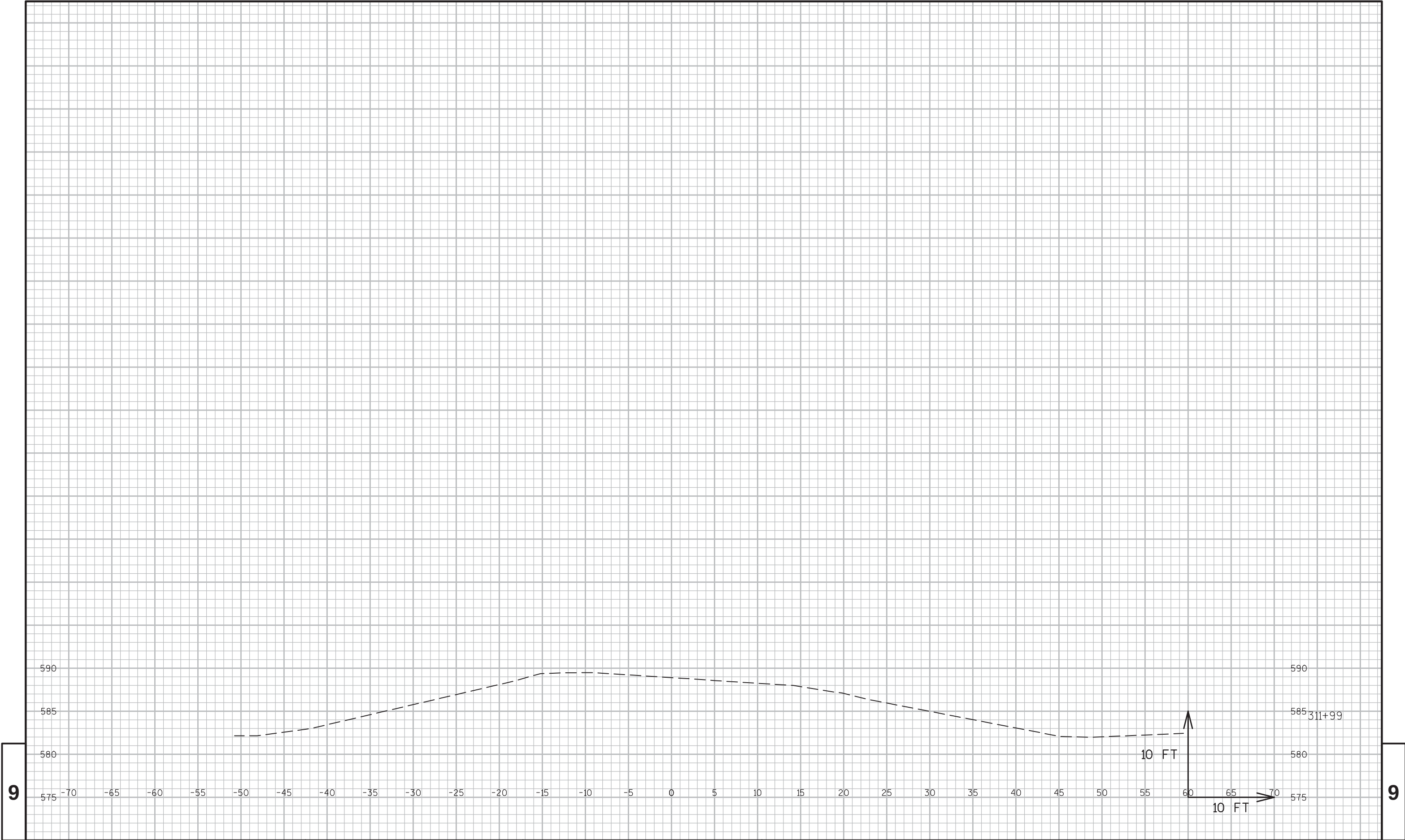
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SHEET

E





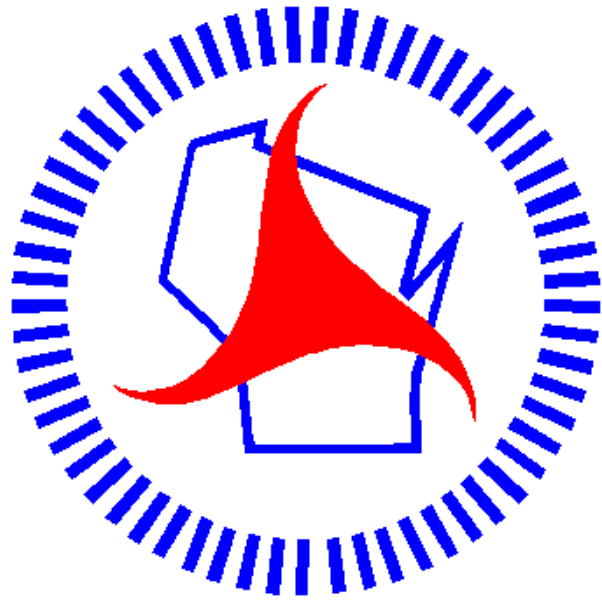


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PROJECT NO:9007-03-71	HWY:CTH Y	COUNTY:OCONTO	CROSS SECTIONS: CTH Y	SHEET	E
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Notes



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