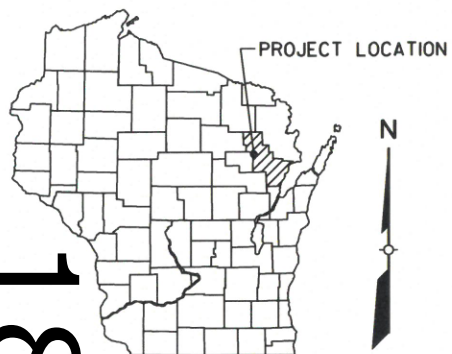


Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile (Includes Erosion Control Plan)
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section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

TOTAL SHEETS = 58



DESIGN DESIGNATION

A.A.D.T. 2018	=	300
A.A.D.T. 2038	=	330
D.H.V.	=	40
D.D.	=	60/40
T.	=	3.9%
DESIGN SPEED	=	40 MPH
ESALS	=	36,500

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

OVERHEAD UTILITIES
ELECTRIC
FIBER OPTIC
GAS
SANITARY SEWER
STORM SEWER
TELEPHONE
WATER
UTILITY PEDESTAL
POWER POLE
TELEPHONE POLE

EXISTING STRUCTURE B-42-416
(TO BE REPLACED)
STRUCTURE B-42-134

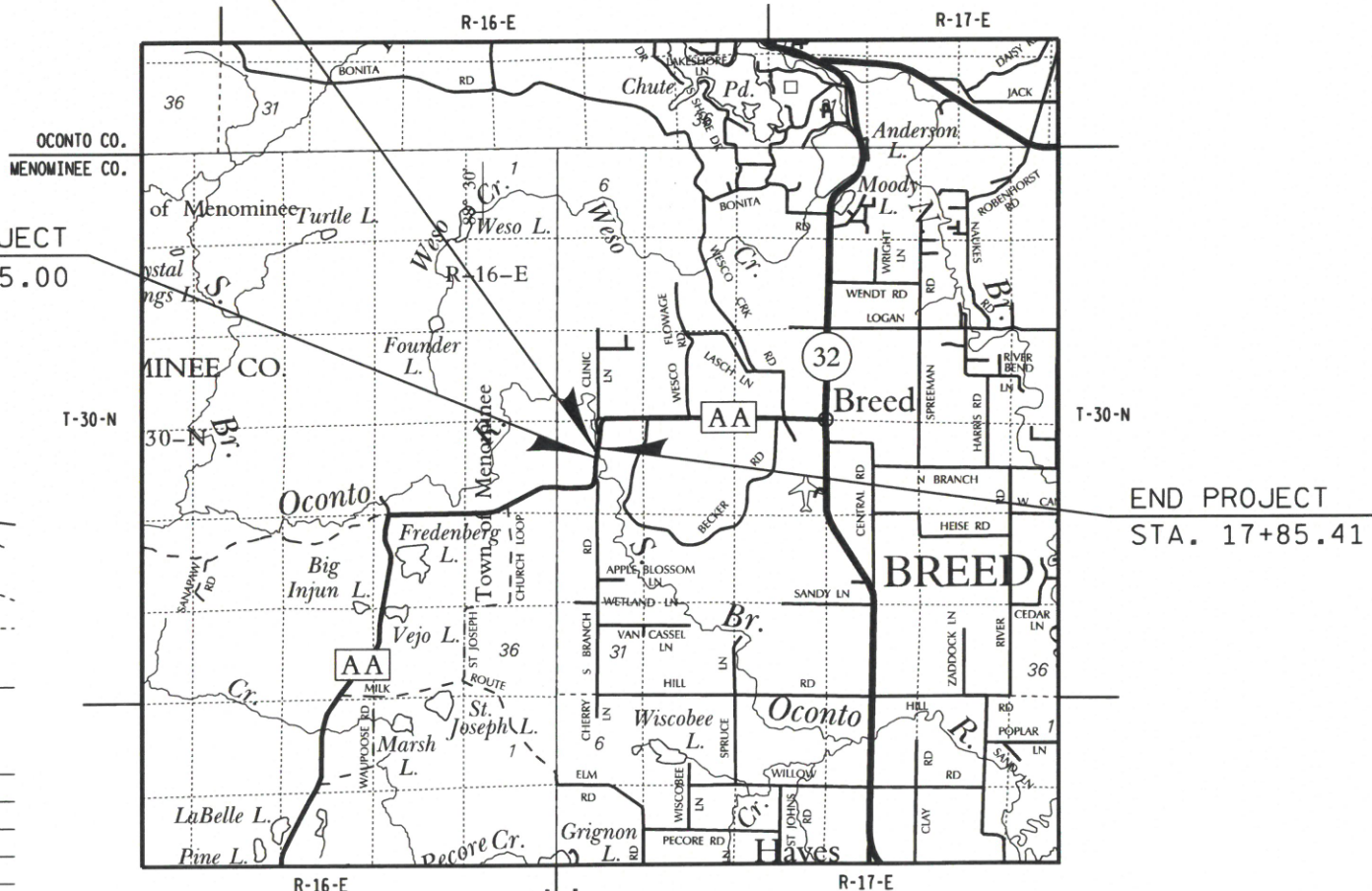
BEGIN PROJECT
STA. 12+55.00
Y=244,847.08
X=453,247.04

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

OCONTO CO, CTH AA
SOUTH BRANCH OCONTO RIVER BRIDGE
CTH AA
OCONTO COUNTY

STATE PROJECT NUMBER
9087-01-71



END PROJECT
STA. 17+85.41

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.100 MI.

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

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
9087-01-71	WISC 2018050	1

ACCEPTED FOR
COUNTY OF
OCONTO
BY
DATE: 6/28/2017
HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

AECOM



DATE: 6/28/2017
SIGNATURE: Kevin R. Hagen

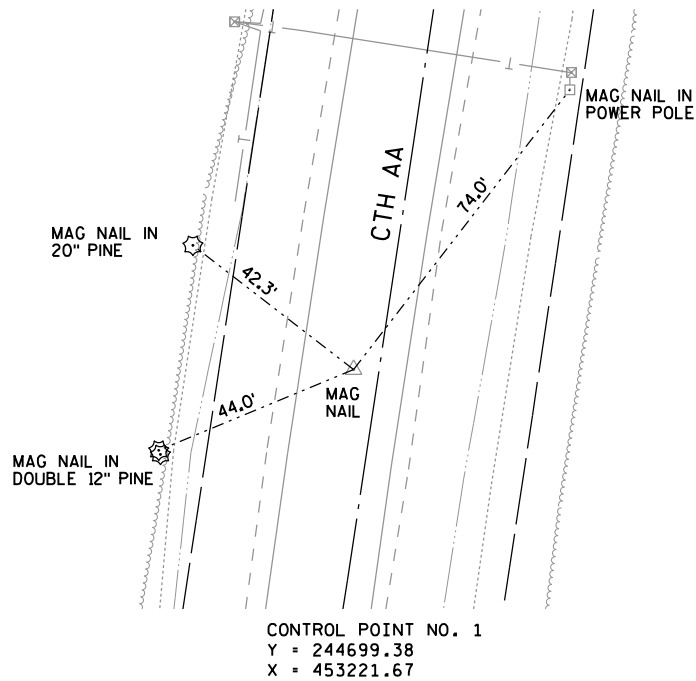
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

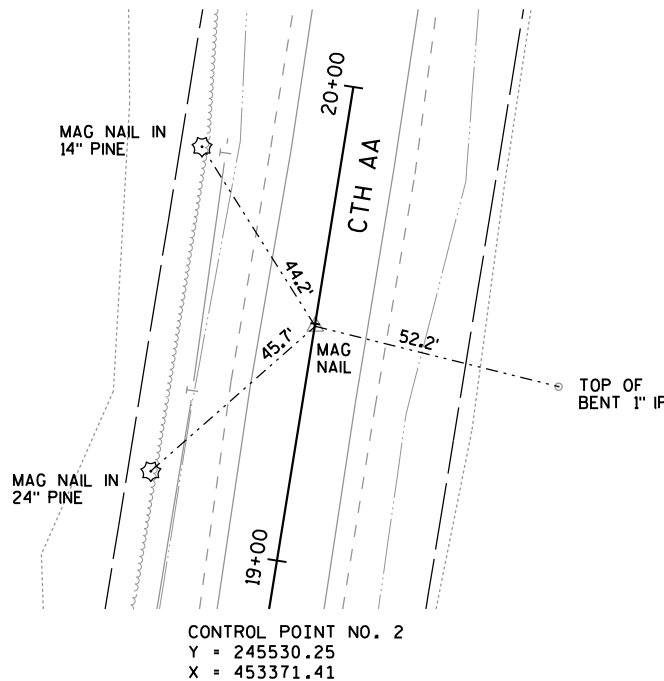
Surveyor: AECOM
Designer: AECOM
Management Consultant: JT ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT
DATE: 6/28/2017
SIGNATURE: [Signature]
(Management Consultant Signature)

E



CONTROL POINT NO. 1
Y = 244699.38
X = 453221.67



CONTROL POINT NO. 2
Y = 245530.25
X = 453371.41

GENERAL NOTES

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

PROVIDE SEED MIXTURE AS SHOWN ON THE TYPICAL SECTIONS.

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

EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS. IF EBS IS REQUIRED, IT SHALL BE MEASURED AND PAID FOR AS EXCAVATION COMMON. LOCATION FOR EBS WILL BE DETERMINED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREA WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, AND MULCHED OR EMATTED, AS DIRECTED BY THE ENGINEER.

EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ELEVATIONS SHOWN ON THIS PLAN ARE BASED ON NAVD 88 DATUM (2012).

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES.

FILL AS SHOWN ON THE PLAN SHEETS PERTAINS TO EMBANKMENTS CONSTRUCTED FROM EXCAVATION COMMON OR BORROW. THE EXPANSION FACTOR USED TO COMPUTE THE VOLUME OF MATERIAL NECESSARY TO COMPLETE THE FILL IS 25 PERCENT.

4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED IN TWO (2) LAYERS. THE UPPER LAYER SHALL BE 1 3/4 INCHES OF ASPHALTIC SURFACE. THE LOWER LAYER SHALL BE 2 1/4 INCHES OF ASPHALTIC SURFACE.

THE RUNOFF COEFFICIENTS OF SURFACE DRAINAGE AT THE PROJECT SITE WILL NOT BE CHANGED FROM BEFORE TO AFTER CONSTRUCTION.

WETLANDS ARE PRESENT WITHIN THE PROJECT LIMITS. DO NOT OPERATE EQUIPMENT OUTSIDE THE SLOPE INTERCEPTS.

THE WISCONSIN DEPARTMENT OF TRANSPORTATION WILL FURNISH THE CONTRACTOR AN ALUMINUM MONUMENT TO SET IN THE STRUCTURE AS DESIGNATED BY THE ENGINEER.

STANDARD ABBREVIATIONS

AVG	AVERAGE	EXC	EXCAVATION	R	RADIUS
BK	BACK	EXIST	EXISTING	RL OR R	REFERENCE LINE
BM	BENCH MARK	FE	FIELD ENTRANCE	RT	RIGHT
CL OR C	CENTER LINE	L	LENGTH OF CURVE	R/W	RIGHT OF WAY
△	CENTRAL ANGLE OR DELTA	N	NORTH	RD	ROAD
CE	COMMERCIAL ENTRANCE	PC	POINT OF CURVATURE	S	SOUTH
CTH	COUNTY TRUNK HIGHWAY	PI	POINT OF INTERSECTION	STA	STATION
CY OR CUYD	CUBIC YARD	PT	POINT OF TANGENCY	TLE	TEMPORARY LIMITED EASEMENT
CP	CULVERT PIPE	PE	PRIVATE ENTRANCE	T	TRUCKS (PERCENT OF)
D	DEGREE OF CURVE	PL	PROPERTY LINE	TYP	TYPICAL
DHV	DESIGN HOUR VOLUME	PVC	VERTICAL POINT OF CURVE	USH	UNITED STATES HIGHWAY
DD	DIRECTIONAL DISTRIBUTION	PVI	VERTICAL POINT OF INTERSECTION	VC	VERTICAL CURVE
E	EAST	PVT	VERTICAL POINT OF TANGENCY	W	WEST
EL OR ELEV	ELEVATION				

UTILITY CONTACTS

CENTURYLINK (TELEPHONE)
RICK KLUSSENDORF
PO BOX 260
WAUSAUKEE, WI 54177
(715)-856-0051
RICK.KLUSSENDORF@CENTURYLINK.COM

OCONTO ELECTRIC (ELECTRIC)
JACK PARDY
PO BOX 168
OCONTO FALLS, WI 54154
(920)-373-8524
JPARDY@OCONTOELECTRIC.COM

WDNR CONTACT

DEPARTMENT OF NATURAL RESOURCES
JAMES DOPERALSKI
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920)-412-0165
JAMES.DOPERALSKI@WISCONSIN.GOV



Dial 811 or (800) 242-8511

www.DiggersHotline.com

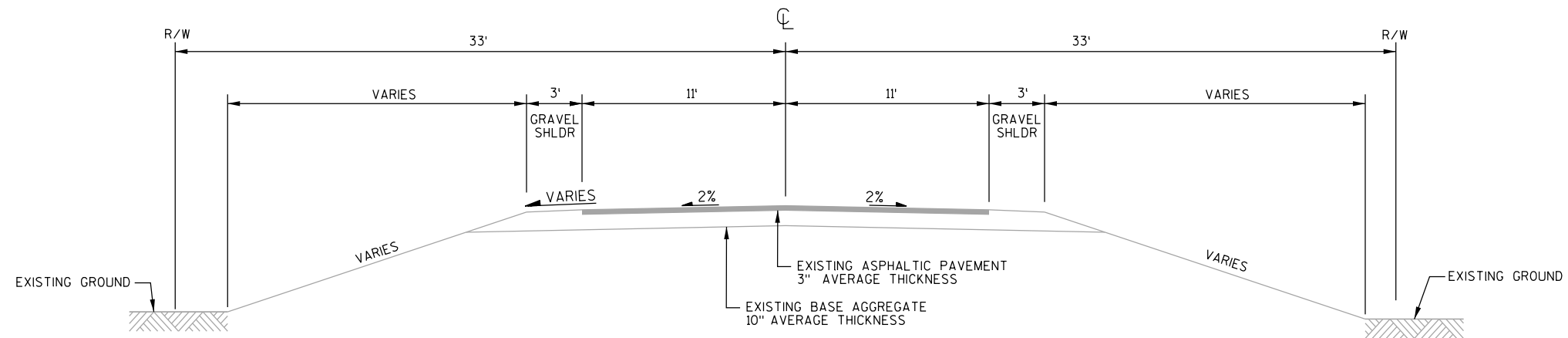
** DENOTES UTILITIES THAT ARE NOT
DIGGER'S HOTLINE MEMBERS

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											

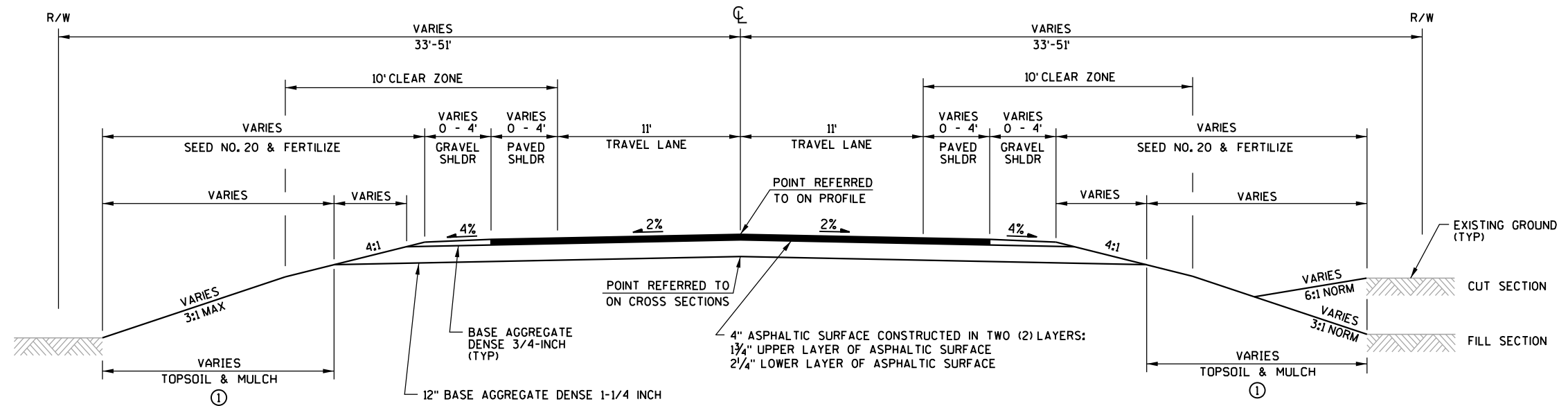
TOTAL PROJECT AREA = 0.608 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.608 ACRES



TYPICAL EXISTING SECTION - CTH AA

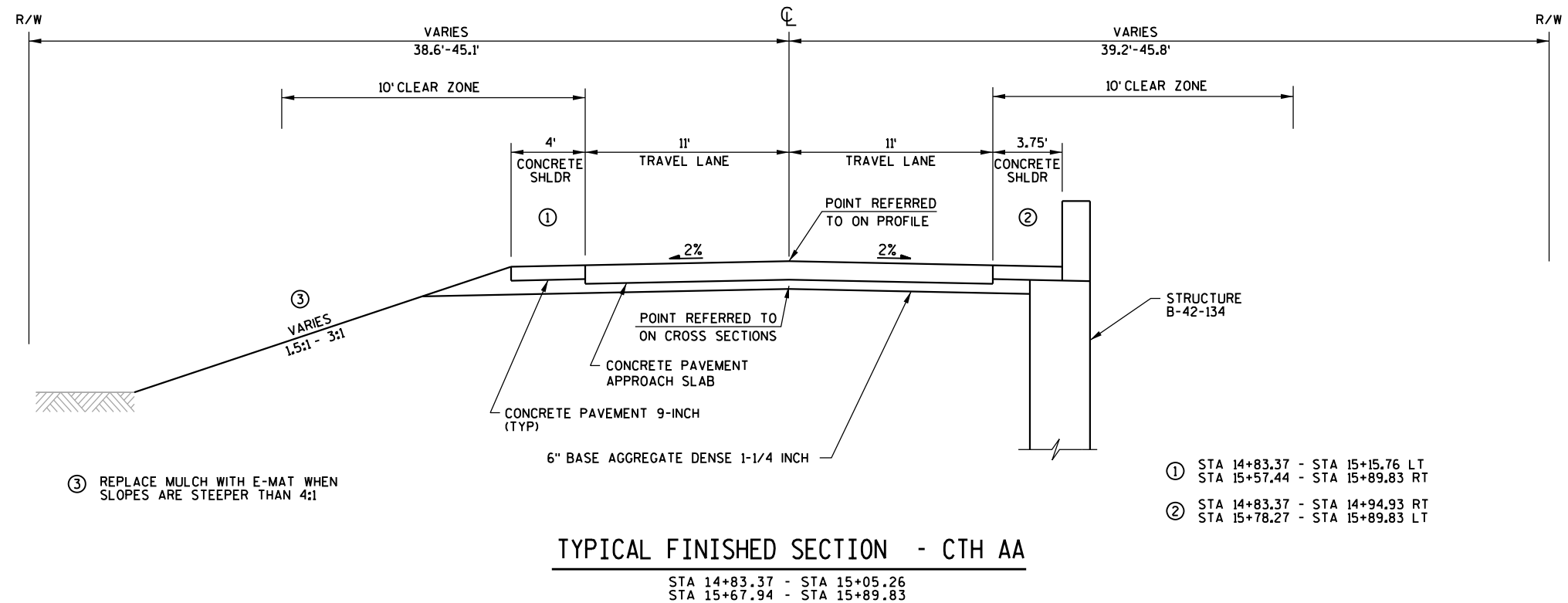
STA 12+55 - STA 15+13
STA 15+60 - STA 17+85.41



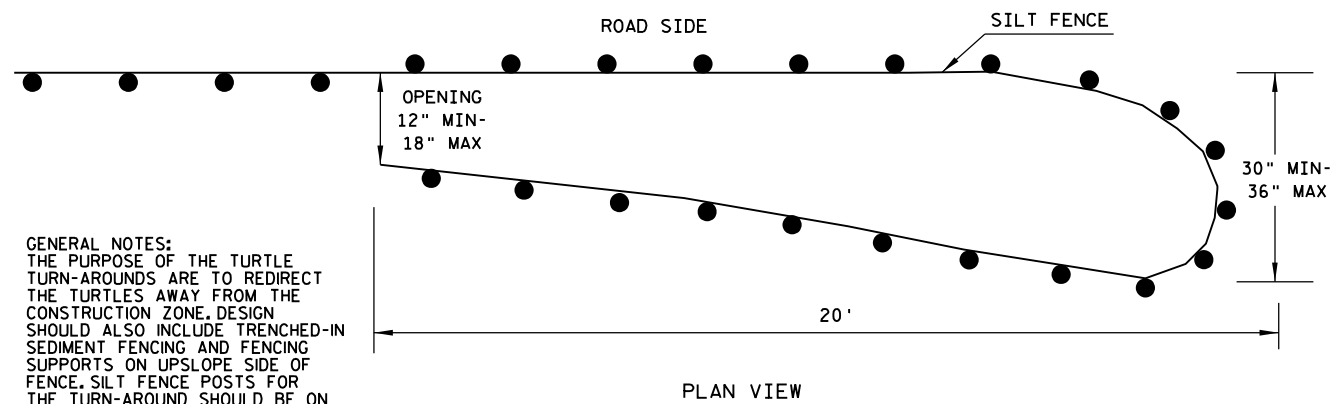
TYPICAL FINISHED SECTION - CTH AA

STA 12+55.00 - STA 14+83.37
STA 15+89.83 - STA 17+85.41

① REPLACE MULCH WITH E-MAT WHEN
SLOPES ARE STEEPER THAN 4:1

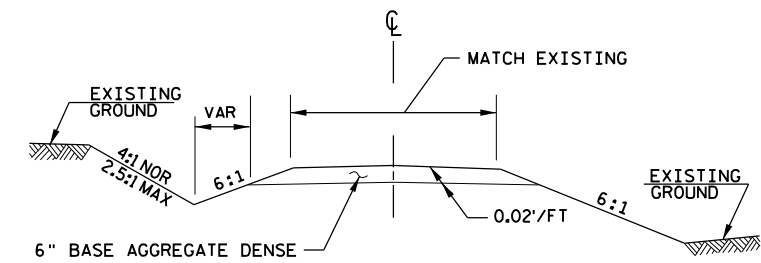


2

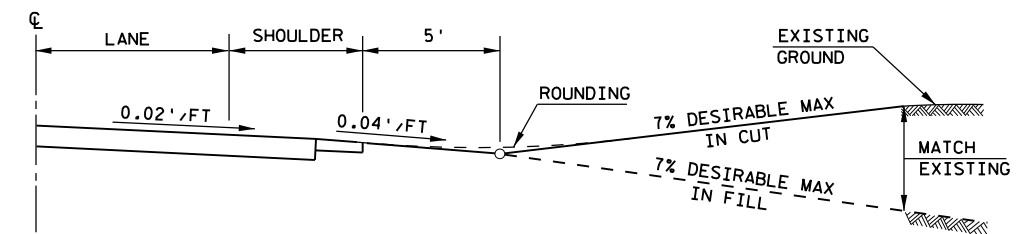


GENERAL NOTES:
THE PURPOSE OF THE TURTLE
TURN-AROUNDS ARE TO REDIRECT
THE TURTLES AWAY FROM THE
CONSTRUCTION ZONE. DESIGN
SHOULD ALSO INCLUDE TRENCHED-IN
SEDIMENT FENCING AND FENCING
SUPPORTS ON UPSLOPE SIDE OF
FENCE. SILT FENCE POSTS FOR
THE TURN-AROUND SHOULD BE ON
THE OUTSIDE OF THE TURN-AROUND.

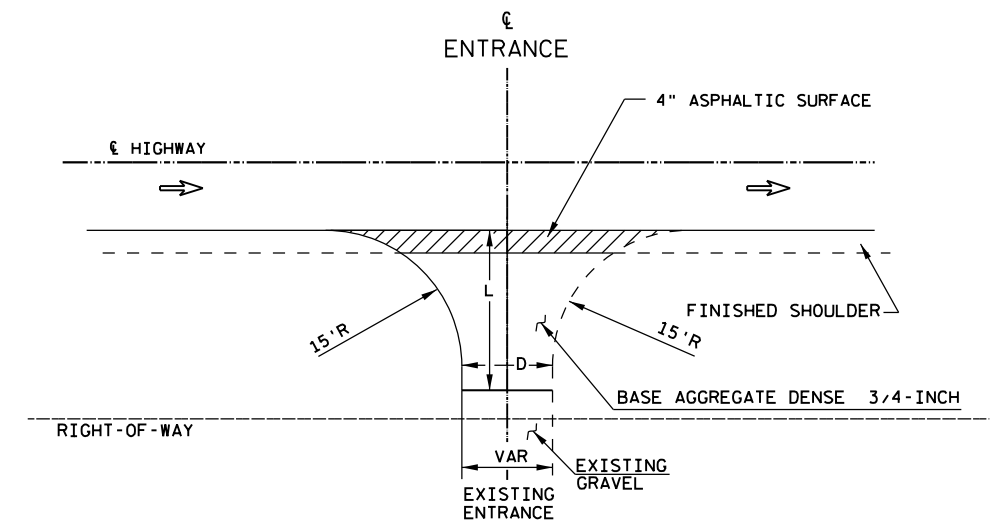
TEMPORARY TURTLE TURN-AROUND DETAIL



TYPICAL CROSS SECTION



TYPICAL PROFILE VIEW



L=VARIABLE, EXACT LENGTH TO BE DETERMINED
IN THE FIELD BY THE ENGINEER

D=DRIVEWAY WIDTH (MATCH EXISTING)

PLAN VIEW

RURAL DRIVEWAY INTERSECTION DETAIL

PROJECT NUMBER: 9087-01-71

HWY: CTH AA

COUNTY: OCONTO

CONSTRUCTION DETAILS

SHEET

E

Estimate Of Quantities

9087-01-71

Line	Item	Item Description	Unit	Total	Qty
0002	201.0205	Grubbing **P**	STA	5.000	5.000
0004	203.0600.S	Removing Old Structure Over Waterway With Minimal Debris (station) 01. 15+37	LS	1.000	1.000
0006	205.0100	Excavation Common **P**	CY	348.000	348.000
0008	206.1000	Excavation for Structures Bridges (structure) 01. B-42-134	LS	1.000	1.000
0010	206.5000	Cofferdams (structure) 01. B-42-134	LS	1.000	1.000
0012	208.0100	Borrow **P**	CY	610.000	610.000
0014	210.1500	Backfill Structure Type A	TON	1,380.000	1,380.000
0016	213.0100	Finishing Roadway (project) 01. 9087-01-71	EACH	1.000	1.000
0018	305.0110	Base Aggregate Dense 3/4-Inch	TON	100.000	100.000
0020	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	1,300.000	1,300.000
0022	312.0110	Select Crushed Material	TON	65.000	65.000
0024	415.0090	Concrete Pavement 9-Inch	SY	34.000	34.000
0026	415.0410	Concrete Pavement Approach Slab	SY	112.000	112.000
0028	455.0605	Tack Coat	GAL	90.000	90.000
0030	465.0105	Asphaltic Surface	TON	260.000	260.000
0032	502.0100	Concrete Masonry Bridges **P**	CY	253.000	253.000
0034	502.3200	Protective Surface Treatment	SY	330.000	330.000
0036	503.0128	Prestressed Girder Type I 28-Inch	LF	354.000	354.000
0038	505.0400	Bar Steel Reinforcement HS Structures **P**	LB	9,160.000	9,160.000
0040	505.0600	Bar Steel Reinforcement HS Coated Structures **P**	LB	20,180.000	20,180.000
0042	506.2605	Bearing Pads Elastomeric Non-Laminated	EACH	12.000	12.000
0044	506.4000	Steel Diaphragms (structure) 01. B-42-134	EACH	5.000	5.000
0046	513.4061	Railing Tubular Type M (structure) 01. B-42-134	LF	178.000	178.000
0048	516.0500	Rubberized Membrane Waterproofing	SY	42.000	42.000
0050	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	880.000	880.000
0052	606.0300	Riprap Heavy	CY	270.000	270.000
0054	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	200.000	200.000
0056	619.1000	Mobilization	EACH	1.000	1.000
0058	624.0100	Water	MGAL	14.300	14.300
0060	625.0100	Topsoil **P**	SY	1,200.000	1,200.000
0062	627.0200	Mulching **P**	SY	200.000	200.000
0064	628.1504	Silt Fence	LF	730.000	730.000
0066	628.1520	Silt Fence Maintenance	LF	730.000	730.000
0068	628.1905	Mobilizations Erosion Control	EACH	5.000	5.000
0070	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0072	628.2006	Erosion Mat Urban Class I Type A	SY	1,050.000	1,050.000
0074	628.7504	Temporary Ditch Checks	LF	48.000	48.000
0076	628.7570	Rock Bags	EACH	30.000	30.000

Estimate Of Quantities

9087-01-71

Line	Item	Item Description	Unit	Total	Qty
0078	629.0210	Fertilizer Type B **P**	CWT	1.100	1.100
0080	630.0120	Seeding Mixture No. 20 **P**	LB	35.000	35.000
0082	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	4.000	4.000
0084	637.2210	Signs Type II Reflective H	SF	12.000	12.000
0086	638.2602	Removing Signs Type II	EACH	6.000	6.000
0088	638.3000	Removing Small Sign Supports	EACH	6.000	6.000
0090	642.5001	Field Office Type B	EACH	1.000	1.000
0092	643.0300	Traffic Control Drums	DAY	1,580.000	1,580.000
0094	643.0420	Traffic Control Barricades Type III	DAY	1,422.000	1,422.000
0096	643.0705	Traffic Control Warning Lights Type A	DAY	2,212.000	2,212.000
0098	643.0900	Traffic Control Signs	DAY	1,106.000	1,106.000
0100	643.1000	Traffic Control Signs Fixed Message	SF	60.000	60.000
0102	643.5000	Traffic Control	EACH	1.000	1.000
0104	645.0111	Geotextile Type DF Schedule A	SY	130.000	130.000
0106	645.0120	Geotextile Type HR	SY	530.000	530.000
0108	646.1020	Marking Line Epoxy 4-Inch	LF	2,123.000	2,123.000
0110	650.4500	Construction Staking Subgrade **P**	LF	475.000	475.000
0112	650.5000	Construction Staking Base **P**	LF	475.000	475.000
0114	650.6500	Construction Staking Structure Layout (structure) 01. B-42-134	LS	1.000	1.000
0116	650.9910	Construction Staking Supplemental Control (project) 01. 9087-01-71	LS	1.000	1.000
0118	650.9920	Construction Staking Slope Stakes **P**	LF	475.000	475.000
0120	690.0150	Sawing Asphalt **P**	LF	46.000	46.000
0122	715.0415	Incentive Strength Concrete Pavement	DOL	500.000	500.000
0124	715.0502	Incentive Strength Concrete Structures	DOL	1,518.000	1,518.000
0126	999.1000.S	Seismograph	LS	1.000	1.000
0128	999.1500.S	Crack and Damage Survey	LS	1.000	1.000
0130	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	300.000	300.000
0132	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	600.000	600.000

GRUBBING

201.0205 GRUBBING				
STATION	TO	STATION	LOCATION	STA
13+00	-	15+00	CTH AA RT/ LT	2
15+00	-	18+00	CTH AA LT	3
PROJECT 9087-01-71 TOTAL				5

BASE AGGREGATE DENSE

				305.0110	305.0120	624.0100
STATION	-	STATION	LOCATION	3/4-INCH TON	1 1/4-INCH TON	WATER MGAL
12+55	-	15+05	CTH AA LT	27	---	0.3
12+55	-	15+05	CTH AA RT	27	---	0.3
12+55	-	15+05	CTH AA RT/LT	---	673	6.8
15+68	-	17+85	CTH AA LT	19	---	0.2
15+68	-	17+85	CTH AA RT	21	---	0.3
15+68	-	17+85	CTH AA RT/LT	---	576	5.8
UNDISTRIBUTED			CTH AA	6	51	0.6
PROJECT 9087-01-71 TOTAL				100	1,300	14.3

CONCRETE

			415.0090 CONCRETE PAVEMENT 9-INCH SY	415.0410 CONCRETE PAVEMENT APPROACH SLAB SY	
STATION	-	STATION	LOCATION		
14+91	-	15+15	CTH AA LT	11	---
14+83	-	14+97	CTH AA RT	6	---
14+83	-	15+06	CTH AA	---	56
15+76	-	15+90	CTH AA LT	6	---
15+58	-	15+82	CTH AA RT	11	---
15+67	-	15+90	CTH AA	---	56
PROJECT 9087-01-71 TOTAL				34	112

EROSION CONTROL & LANDSCAPING

				625.0100	627.0200	628.2006	629.0210	630.0120	628.1504	628.1520
				TOPSOIL	MULCHING	EROSION MAT URBAN CLASS I TYPE A	FERTILIZER TYPE B	SEEDING MIXTURE NO. 20	SILT FENCE	SILT FENCE MAINTENANCE
STATION	-	STATION	LOCATION	SY	SY	SY	CWT	LB	LF	LF
12+55	-	13+23	LT	65	65	---	0.1	2	---	---
13+40	-	15+07	LT	210	---	210	0.2	6	188	188
16+13	-	17+85	LT	370	---	370	0.3	10	192	192
12+41	-	12+51	RT	4	4	---	0.1	1	---	---
12+62	-	14+61	RT	285	75	210	0.2	8	96	96
15+68	-	17+85	RT	165	35	130	0.1	5	186	186
UNDISTRIBUTED			---	101	21	130	0.1	3	68	68
PROJECT 9087-01-71 TOTAL				1,200	200	1,050	1.1	35	730	730

EARTHWORK SUMMARY

Division	From/To Station	Location	Common Excavation (1) (item # 205.0100)	Salvaged/Unusable Pavement Material (3)	Available Material (4)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate +/- (6)	Borrow (item #208.0100)	Comment:
			Cut (2)				Factor 1.25			
	1 Sta. 12+55 to Sta. 15+00	South Approach	208	31	177	310	388	-210		CTH AA-South CTH AA-North
	2 Sta. 15+68 to Sta. 17+85	North Approach	140	27	113	410	513	-400		
Grand Total			348	58	290	720	900	-610	610	
Total Common Exc			348							

NOTES:

- 1) Common Excavation is the total quantity of Cut. Item number 205.0100.
2) Salvaged/Unusable Pavement Material is included in Cut.
3) Salvaged/Unusable Pavement Material.
4) Available Material = Cut - Salvaged/Unusable Pavement Material
5) Expanded Fill Factor = 1.25
6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division.
Minus indicates a shortage of material within the Division.

ASPHALT PAVEMENT ITEMS

					455.0605	465.0105
					TACK	ASPHALTIC
					COAT	SURFACE
STATION	-	STATION	OFFSET	LOCATION	GAL	TON
12+55	-	14+83	LT/ RT	CTH AA	50	142
15+90	-	17+85	LT/ RT	CTH AA	40	118
PROJECT 9087-01-71 TOTAL					90	260

EROSION CONTROL MOBILIZATION

PROJECT	628.1905 MOBILIZATION EROSION CONTROL	628.1910 MOBILIZATION EMERGENCY EROSION CONTROL
	EACH	EACH
CTH AA	5	2
PROJECT 9087-01-71 TOTAL	5	2

TEMPORARY DITCH CHECKS AND ROCK BAGS

PROJECT NUMBER	STATION	OFFSET	628.7504 TEMPORARY DITCH CHECKS	628.7570 ROCK BAGS
			LF	EACH
9087-01-71	14+30	LT	12	---
	14+90	LT	12	---
	16+40	RT	12	---
	UNDISTRIBUTED		12	30
PROJECT 9087-01-71 TOTAL			48	30

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

PERMANENT SIGNING

						634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H	638.2602 REMOVING SIGNS TYPE II	638.3000 REMOVING SMALL SIGN SUPPORTS
STATION	OFFSET	SIGN CODE	SIGN MESSAGE	SIGN SIZE IN x IN			SF	EACH	EACH
14+60	RT	---	WEIGHT LIMIT 40 TONS	---	---	---	---	1	1
15+02	RT	---	OBJECT MARKER	---	---	---	---	1	1
15+20	LT	---	OBJECT MARKER	---	---	---	---	1	1
15+51	RT	---	OBJECT MARKER	---	---	---	---	1	1
15+68	LT	---	OBJECT MARKER	---	---	---	---	1	1
16+51	LT	---	WEIGHT LIMIT 40 TONS	---	---	---	---	1	1
14+60	RT	W5-52R	OBJECT MARKER	12" x 36"	1	3.00	---	---	---
15+15	LT	W5-52L	OBJECT MARKER	12" x 36"	1	3.00	---	---	---
15+58	RT	W5-52L	OBJECT MARKER	12" x 36"	1	3.00	---	---	---
16+03	LT	W5-52R	OBJECT MARKER	12" x 36"	1	3.00	---	---	---
PROJECT 9087-01-71 TOTAL						4	12.00	6	6

TRAFFIC CONTROL

		643.0420		643.0705		643.0900		643.0300		643.1000		
	DAYS IN	TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL SIGNS FIXED MESSAGE		
LOCATION	SERVICE	NO.	DAY	NO.	DAY	NO.	DAY	NO.	DAY	NO.	SIZE	SF
CTH AA	79	18	1,422	28	2,212	14	1,106			6	60" x 24"	60
UNDISTRIBUTED	79							20	1,580			
PROJECT 9087-01-71 TOTAL			1,422		2,212		1,106		1,580			60

MARKING LINE ITEMS

						646.1020 MARKING LINE EPOXY 4-INCH	
						YELLOW LF	WHITE LF
STATION	-	STATION	TYPE				
12+55	-	17+85	CENTERLINE DOUBLE YELLOW			1,061	---
12+55	-	17+85	EDGE LINE LT			---	531
12+55	-	17+85	EDGE LINE RT			---	531
PROJECT 9087-01-71 TOTAL						2,123	

CONSTRUCTION STAKING

				(Category 0020)			
		650.4500 SUBGRADE		650.5000 BASE		650.6500 CONSTRUCTION STAKING STRUCTURE LAYOUT B-42-134	
STATION	-	STATION	LF	LF		LS	LF
12+55	-	15+06	255	255	---	---	255
15+67	-	17+85	220	220	---	---	220
CTH AA			---	---	1	1	---
PROJECT 9087-01-71 TOTAL			475	475	1	1	475

SAWING PAVEMENT

						690.0150 SAWING ASPHALT	
PROJECT NUMBER	STATION	LOCATION				LF	
9087-01-71							
	12+55	CTH AA				23	
	17+85	CTH AA				23	
PROJECT 9087-01-71 TOTAL						46	

ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE SPECIFIED.

CONVENTIONAL SIGNS AND ABBREVIATIONS

STATE LINE	---	SECTION CORNER		FOUNDATION OR RUIN BUILDING	
COUNTY LINE	---	NOTATION FOR COMBUSTIBLE FLUIDS		CEMETERY	
TOWNSHIP AND RANGE LINES	---	NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES		R/W MONUMENT	
SECTION LINE	---	BRIDGE		NON-MONUMENTED R/W POINT	
QUARTER LINE	---	STREAM OR RIVER		IRON PIN	
SIXTEENTH LINE	---	LAKE		VALVE	
NEW REFERENCE LINE	---	CULVERT (Box, Pipe Or Cattle Pass)		WINDMILL	
NEW R/W LINE	---	SIGN		MANHOLE, SEPTIC VENT, WELL, ETC.	
EXISTING R/W LINE	---	ENCROACHING SIGN		GAS PUMPS	
PROPERTY LINE	---			BUSHES	
CORPORATE LIMITS	---			TREES (Deciduous)	
LOT, TIE AND OTHER MINOR LINES	---			TREES (Coniferous)	
SLOPE INTERCEPTS	---			WOODS	
UNDERGROUND FACILITY (Communications, Electric, Etc.)	---				
FENCE	---				
FEE INTEREST	---				
TEMPORARY INTEREST	---				
EASEMENT (Highway, Permanent Limited or Restricted Development)	---				
BEAM GUARD	---				
TRANSMISSION STRUCTURES (Line Optional)	---				
RAIL LINE	---				

P.I.	Point of Intersection	ST.	Street
or PI		IP	Iron Pipe or Iron Pin
°.	Deflection Angle	C.S.M.	Certified Survey Map
D.	Degree of Curve	COR.	Corner
T.	Tangent Length	L.C.	Long Chord
L.	Length	L.C.B.	Long Chord Bearing
R.	Radius	MI.	Miles
CATV	Cable Television Line	MISC	Miscellaneous
FO	Fiber Optic Cable	N/A	Not Available or Applicable
G	Gas Line	P.L.	Property Line
GUY	Guy Wire	P.L.E.	Permanent Limited Easement
GV	Gas Valve	P.O.B.	Point of Beginning
SAN	Sanitary Sewer Line	PC	Point of Curvature
SEPV.	Septic Vent	PG.	Page
T	Telephone Line	PROP	Property Corner
W	Water Line	PT	Point of Tangency
ANT.	Antenna	R/W	Right of Way
B	Barn or Building	RD.	Road
G	Garage	REM.	Remnant
H	House	S.F.	Square Feet
S	Shed	SEC.	Section
C.T.H.	County Trunk Highway	STA.	Station
CORP	Corporation	T.L.E.	Temporary Limited Easement
LLC	Limited Liability Corporation	or TLE	
RR.	Railroad	VOL.	Volume
S.T.H.	State Trunk Highway		

NOTES

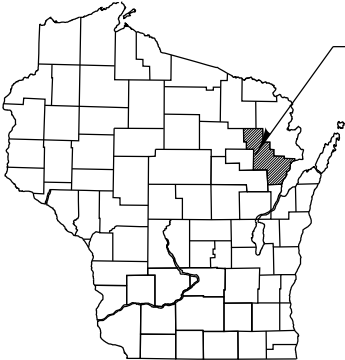
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATES REFERENCE SYSTEM COORDINATES (WISCRS), OCONTO COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED FOR GROUND DISTANCES.

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

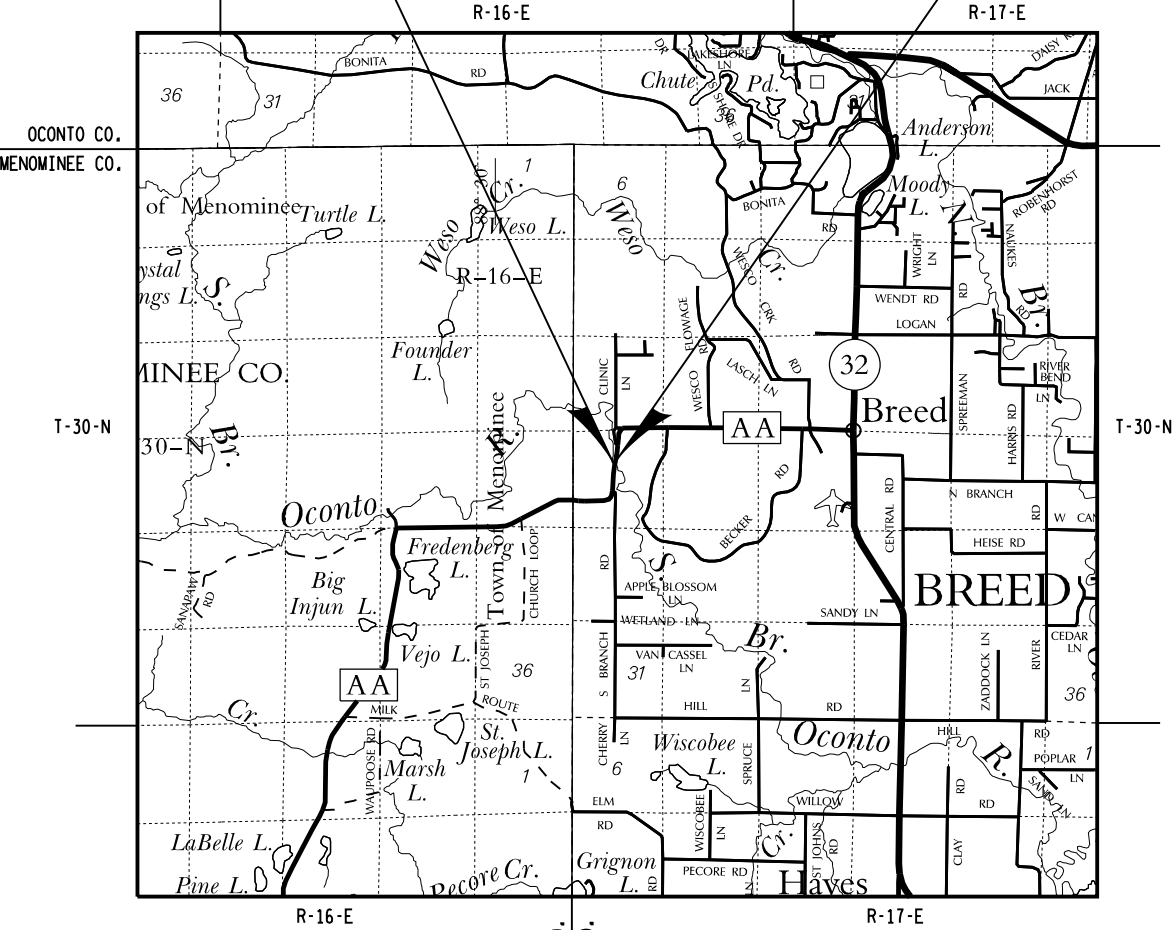
RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE OCONTO COUNTY COUNTY HIGHWAY DEPARTMENT.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. EXCLUDING RIGHTOF WAY LINES, THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.



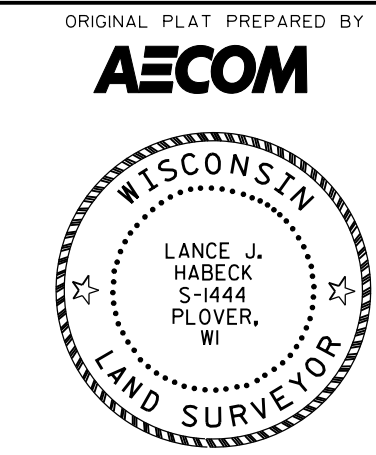
BEGIN RELOCATION ORDER
STA. 13+75.00
2121.56' SOUTH AND 238.62' WEST
OF THE NORTH QUARTER CORNER
OF SECTION 19, T30N, R17E.



LAYOUT
SCALE 0 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.076 MI.

END RELOCATION ORDER
STA. 17+75.00
1728.37' SOUTH AND 165.45' WEST
OF THE NORTH QUARTER CORNER
OF SECTION 19, T30N, R17E.



Lance J. Habeck
LANCE J. HABECK, PLS-1444

DATE: 1/20/2017

OCONTO COUNTY
HIGHWAY DEPARTMENT

APPROVED FOR THE DEPARTMENT
DATE: (Signature)

E

NOTE: EXISTING RIGHT OF WAY FOR CTH AA WAS
ESTABLISHED BY 3 PLATS OF SURVEY BY
HARRY J. SMITH DATED 12/1/06, 5/21/08
AND 6/10/15.

P.L. = 12+21.43 P.L. = 16+47.51 P.L. = 20+00.00
Y 244814.150 Y 245232.139 Y 245580.120
X 453240.535 X 453323.151 X 453379.378
Δ. = 02°15'00" RT. Δ. = 02°00'06" LT.

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

PARCEL NUMBER	OWNER (S)	INTEREST REQUIRED	R/W ACRES REQUIRED		
			NEW	EXISTING	TOTAL
1	STEVEN P. DRAKE & IRENE J. DRAKE	FEE	0.05	0.12	0.17
2	PAUL D. LUBINSKI & KATHERINE A. LUBINSKI	FEE	0.08	0.49	0.57
3	KAREN HOFFMAN, LIFE ESTATE TO JAMES QUANDT & EVELYN QUANDT	FEE	0.02	----	0.02

BEGIN RELOCATION ORDER

STA. 13+75.00

Y=244964.805
X=453270.312

SE-NW
SEC. 19

BREED

2

PAUL D. LUBINSKI &
KATHERINE A. LUBINSKI

TAX PARCEL NO.: 010-191901124A

END RELOCATION ORDER

STA. 17+75.00

Y=245358.001
X=453343.488

SW-NE
SEC. 19

3

KAREN HOFFMAN
LIFE ESTATE TO
JAMES QUANDT &
EVELYN QUANDT

TAX PARCEL NO.: 010-191900613C

SLOPE
INTERCEPTS

TOWN

OF

RIVER

PLAT OF SURVEY
BY HARRY J. SMITH
DATED 6/10/15

CENTURYLINK
(TELEPHONE)

WATERWAY
0.02 AC.

OCONTO

SLOPE
INTERCEPTS

PLAT OF SURVEY
BY HARRY J. SMITH
DATED 5/21/08

STEVEN P. DRAKE
& IRENE J. DRAKE

TAX PARCEL NO.:
010-191901224B

BRANCH

NEW STRUCTURE
NO. B-42-0134

WATERWAY
0.02 AC.

WATERWAY
0.01 AC.

QUARTER LINE

OCONTO ELECTRIC
COOPERATIVE

ALUMINUM MON.
FOUND
Y=241850.250
X=453215.866

R/W POINT COORDINATE TABLE

POINT	Y	X
313	245024.261	453242.645
502	244959.026	453299.549
503	244979.636	453324.211
504	244999.256	453328.089
507	245064.965	453253.505
508	245095.576	453253.347
509	245118.530	453343.508
510	245152.866	453350.295
513	245203.713	453350.901
514	245350.690	453294.697
517	245363.407	453310.031
520	244971.837	453234.735
521	245352.879	453375.186

PLAT OF SURVEY
BY HARRY J. SMITH
DATED 12/1/06

REVISION DATE

DATE 1-20-17

SCALE, FEET

HWY: CTH AA

STATE R/W PROJECT NUMBER 9087-01-00

PLAT SHEET 4.02

GRID FACTOR N/A

0 20 40

COUNTY: OCONTO

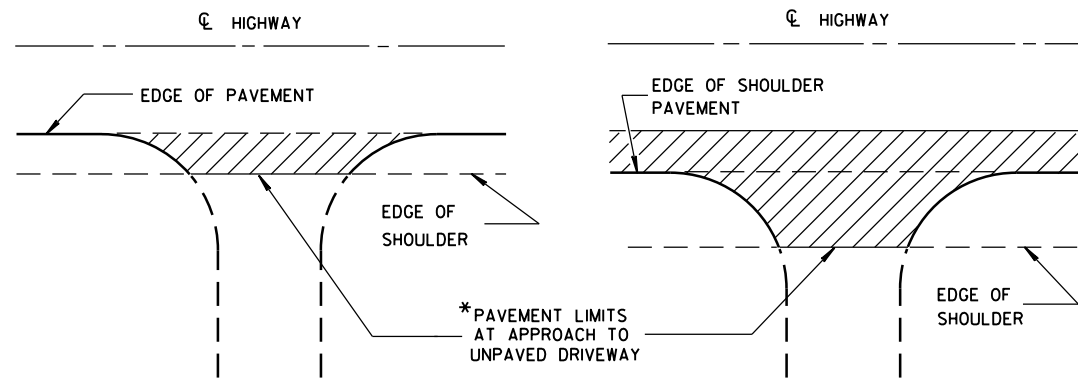
CONSTRUCTION PROJECT NUMBER 9087-01-71

PS&E SHEET

E

Standard Detail Drawing List

08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
12A03-10	NAME PLATE (STRUCTURES)
13A03-06	CONCRETE PAVEMENT SHOULDERS
13B02-08A	CONCRETE PAVEMENT APPROACH SLAB
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	LONGITUDINAL MARKING (MAINLINE)
15D38-01A	TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS
15D38-01B	ATTACHMENT OF SIGNS TO POSTS

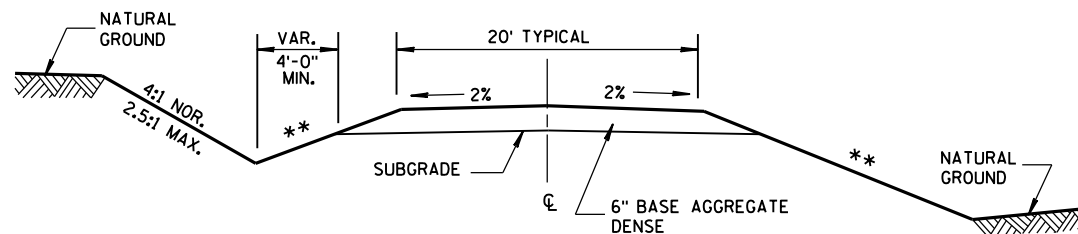


*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

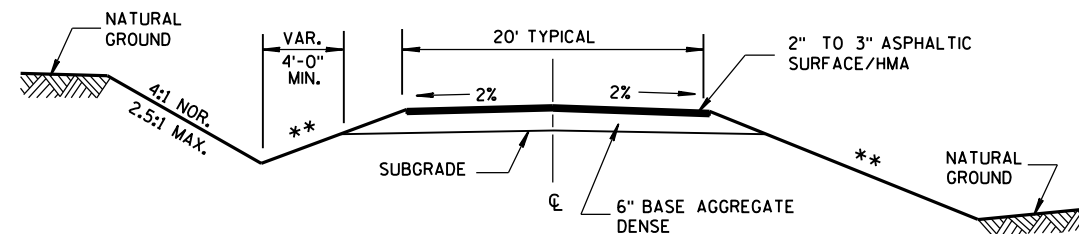
RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB & GUTTER OR SIDEWALK)



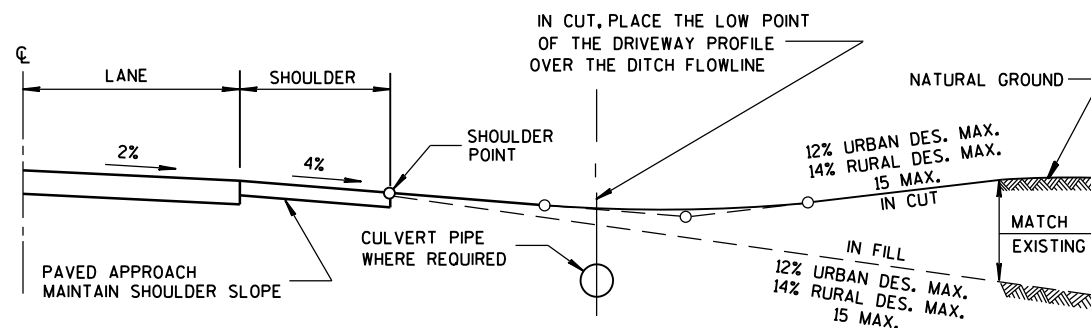
IN CUT **IN FILL**
TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE

** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥35 TO <60	6:1
≥60	10:1



IN CUT **IN FILL**
TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE

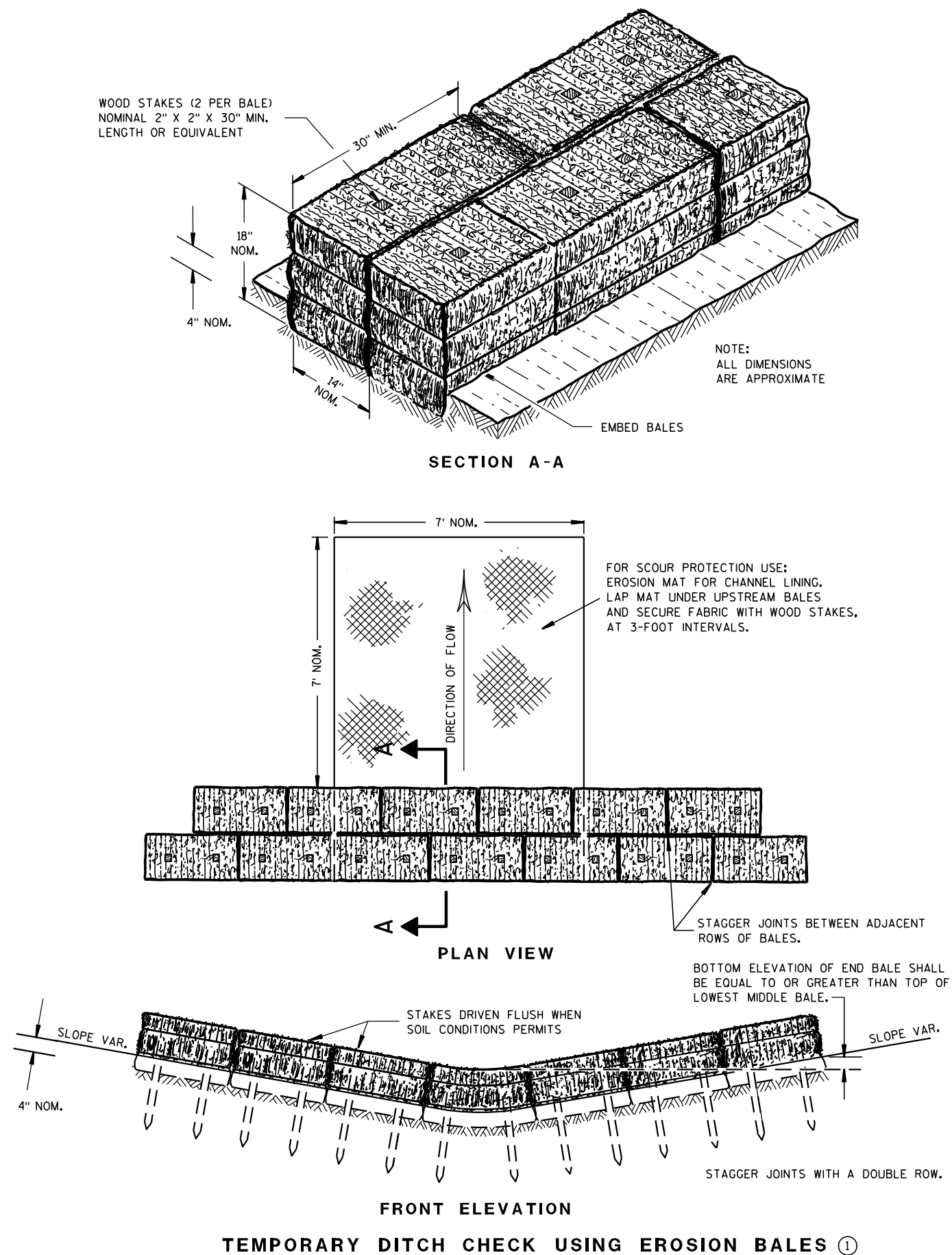


TYPICAL DRIVEWAY PROFILES

DRIVEWAYS
WITHOUT CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

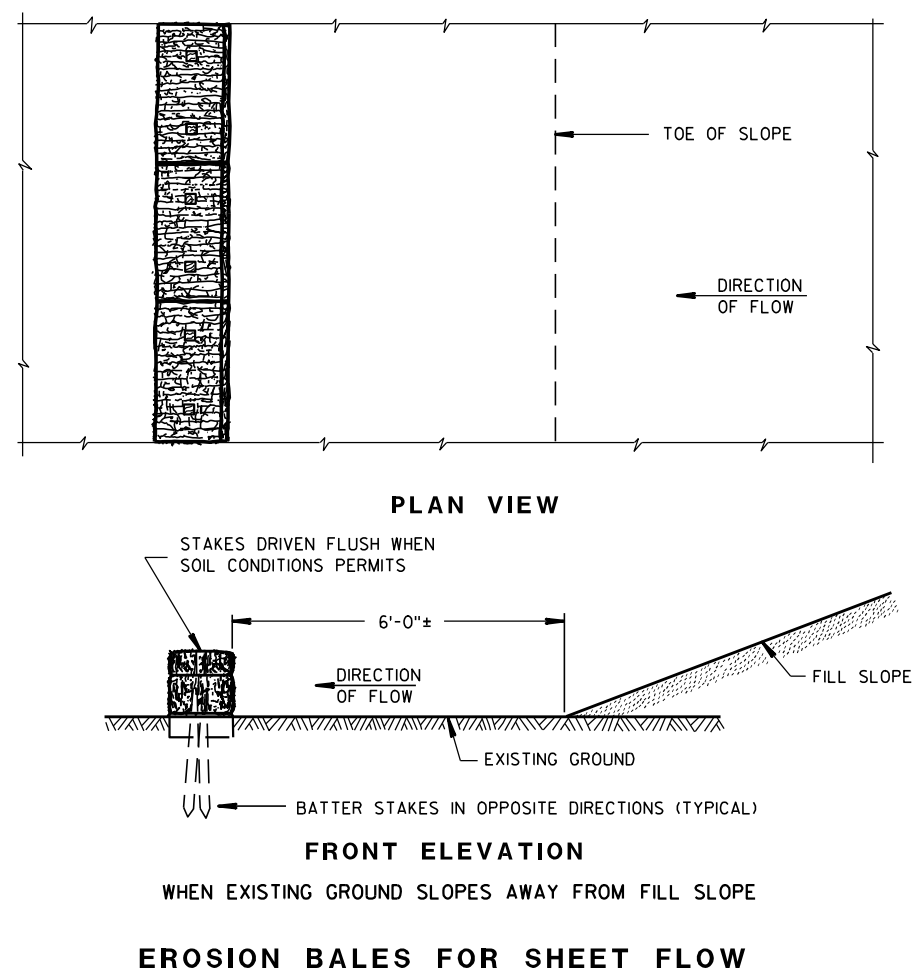
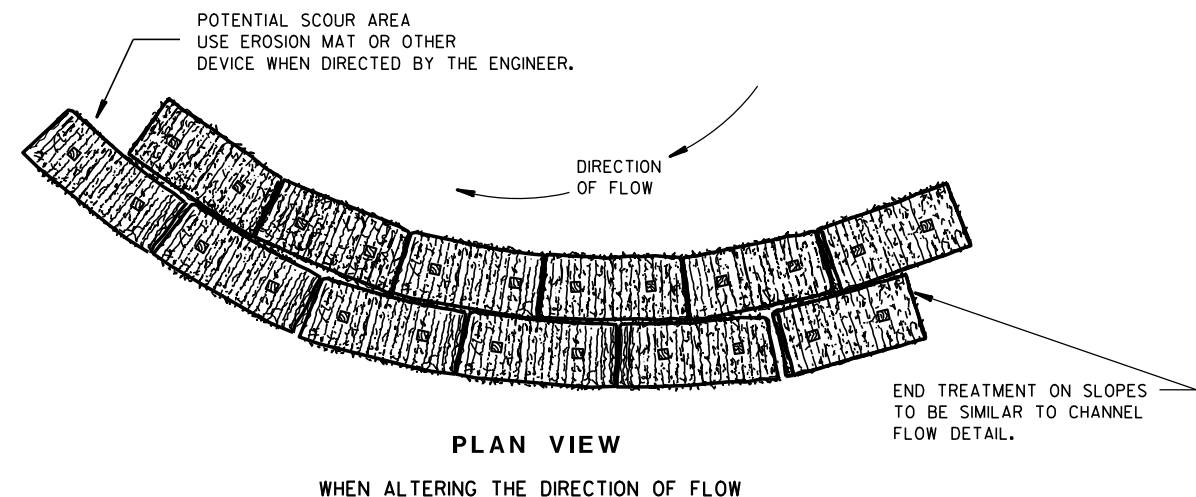
APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



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.

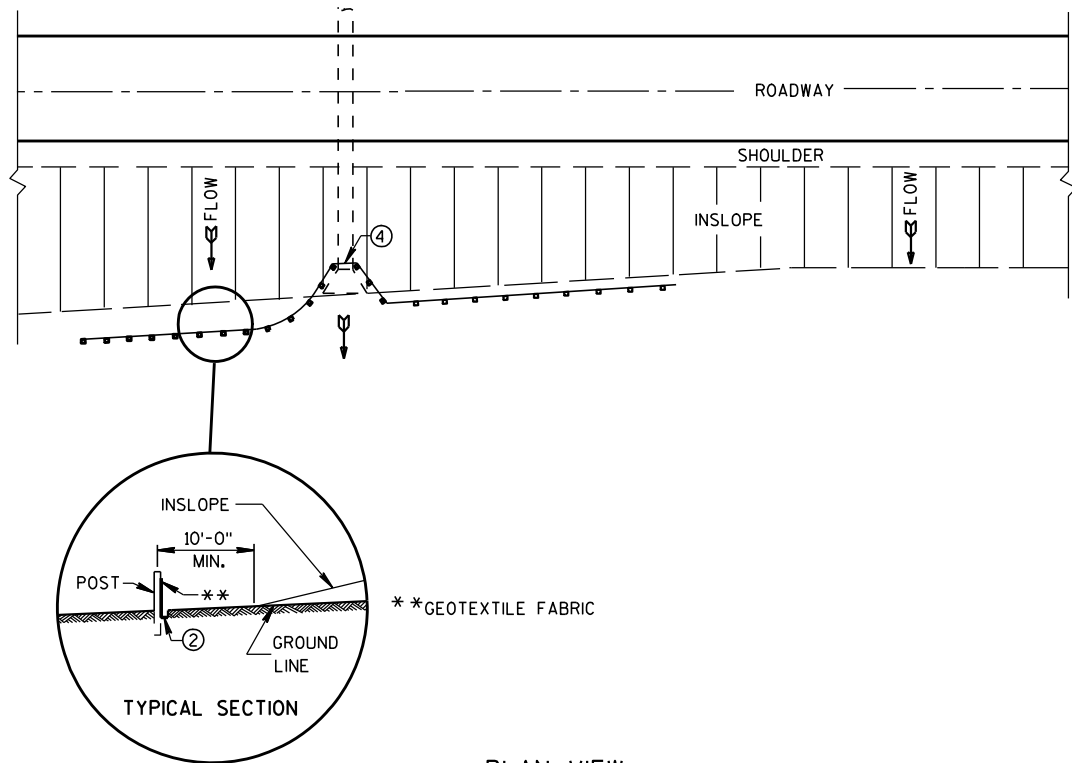
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

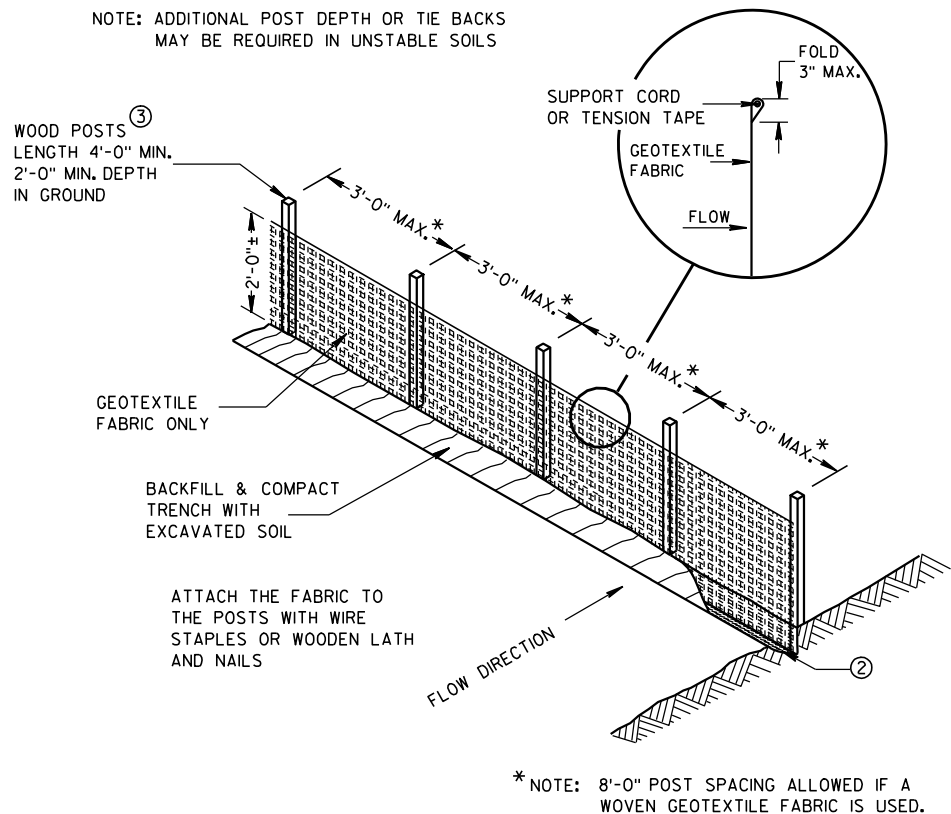
APPROVED

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

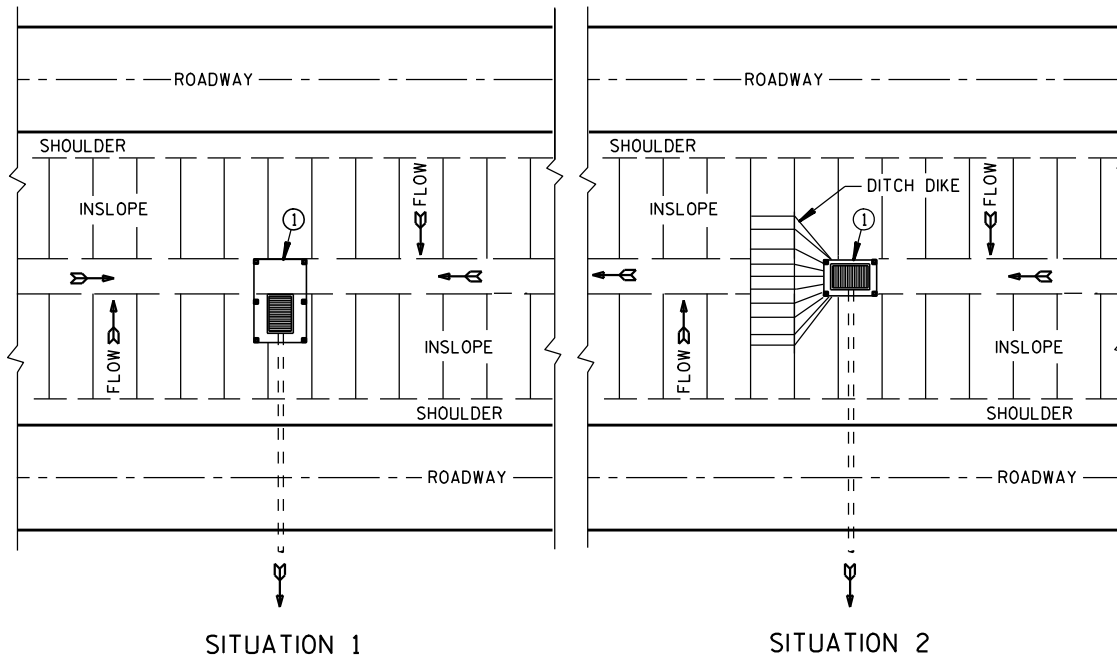
FHWA



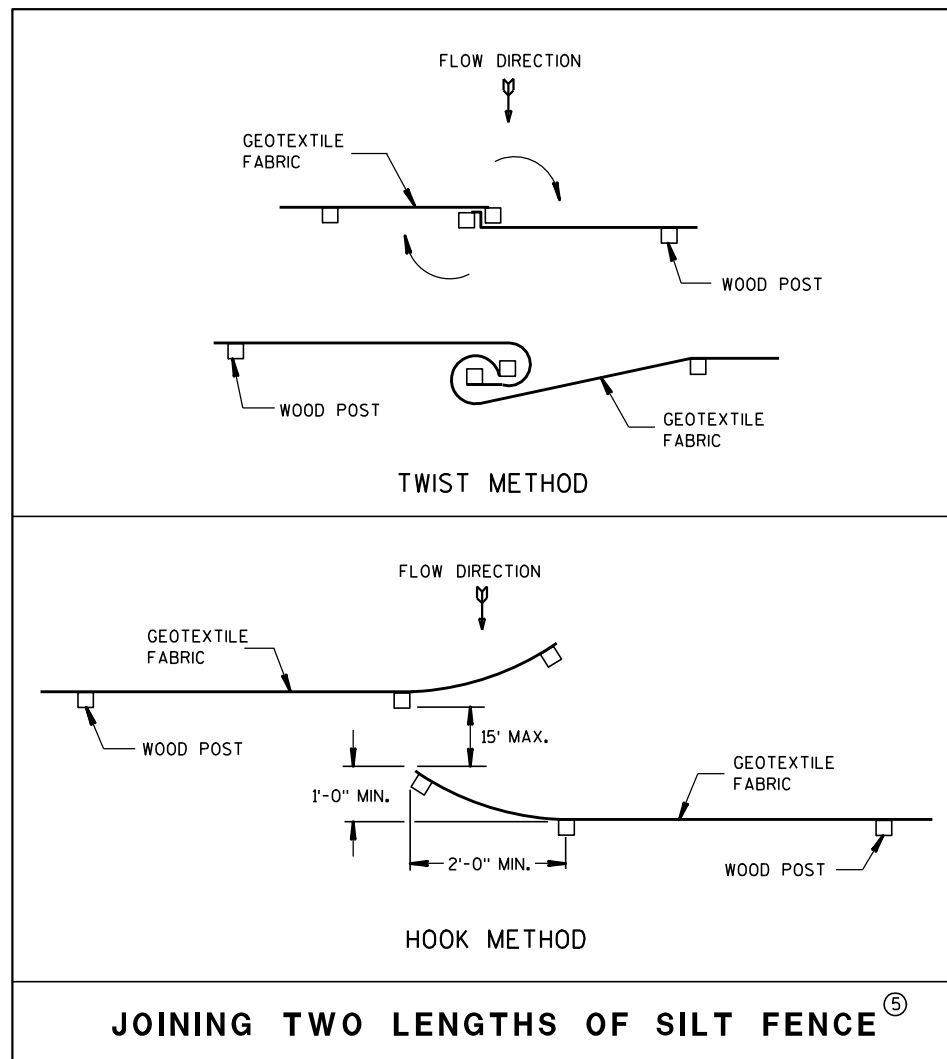
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

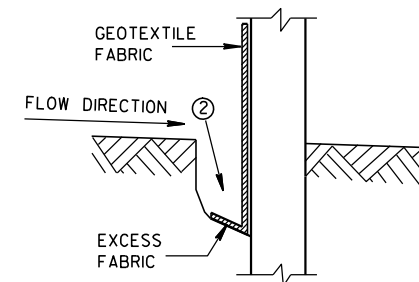


JOINING TWO LENGTHS OF SILT FENCE^⑤

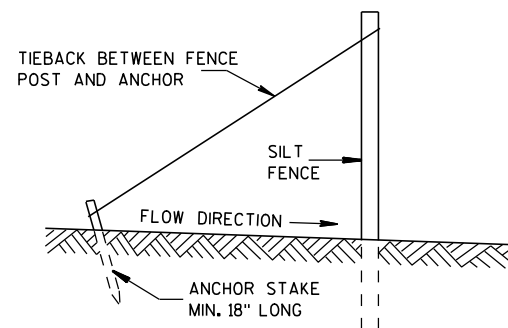
GENERAL NOTES

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.

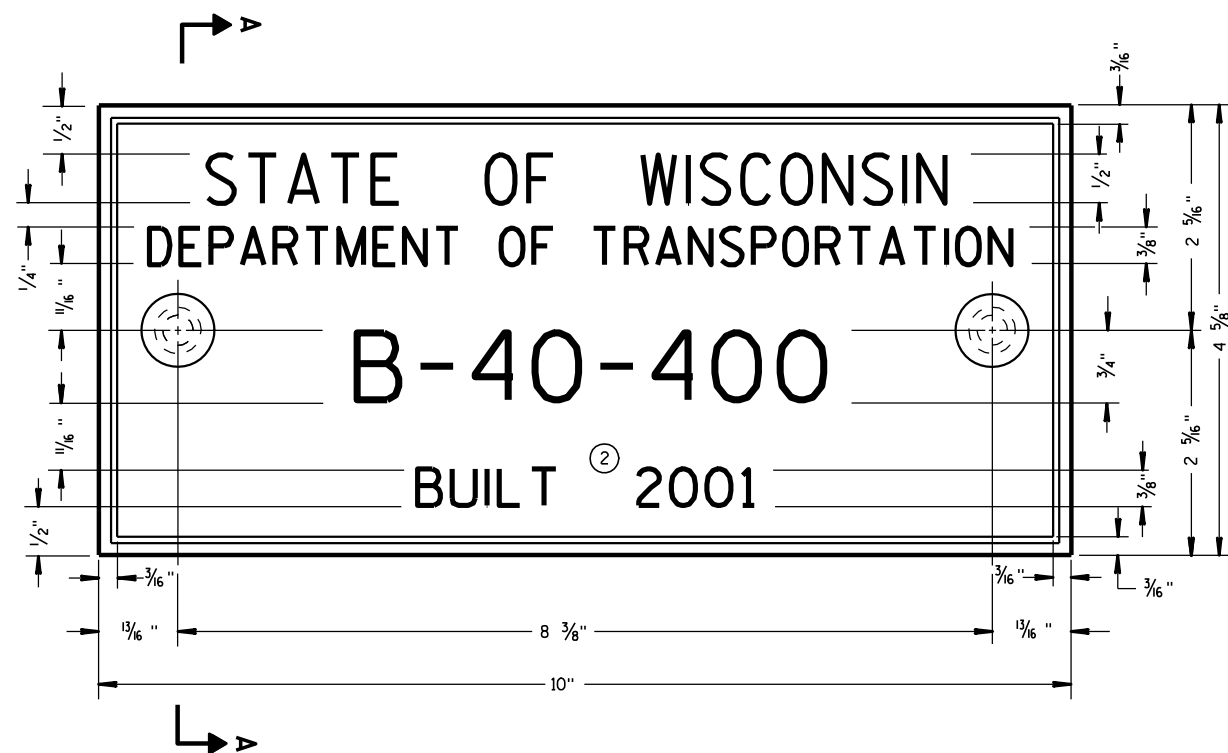


TRENCH DETAIL

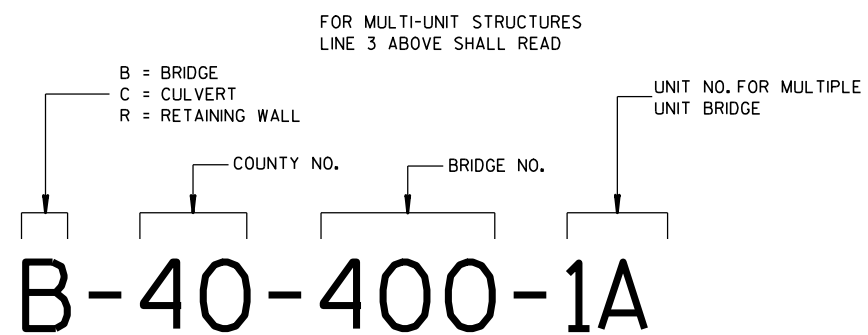


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

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



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



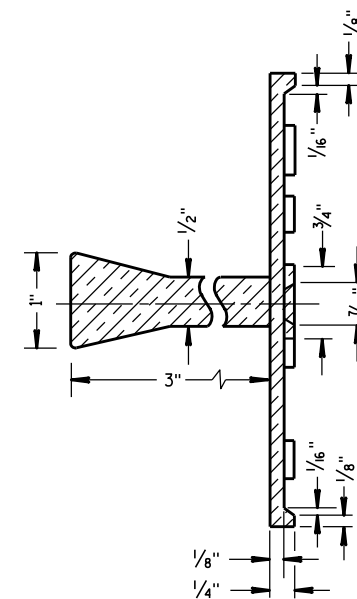
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

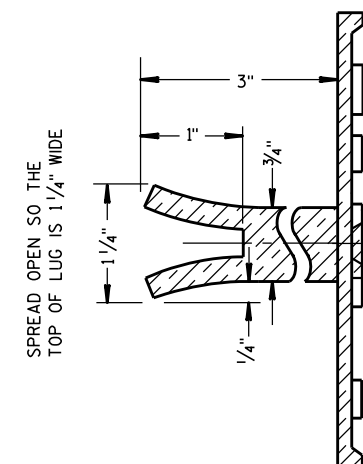
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

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

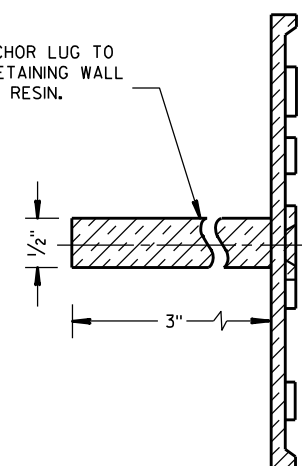


SECTION A-A



ALTERNATE LUG

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



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

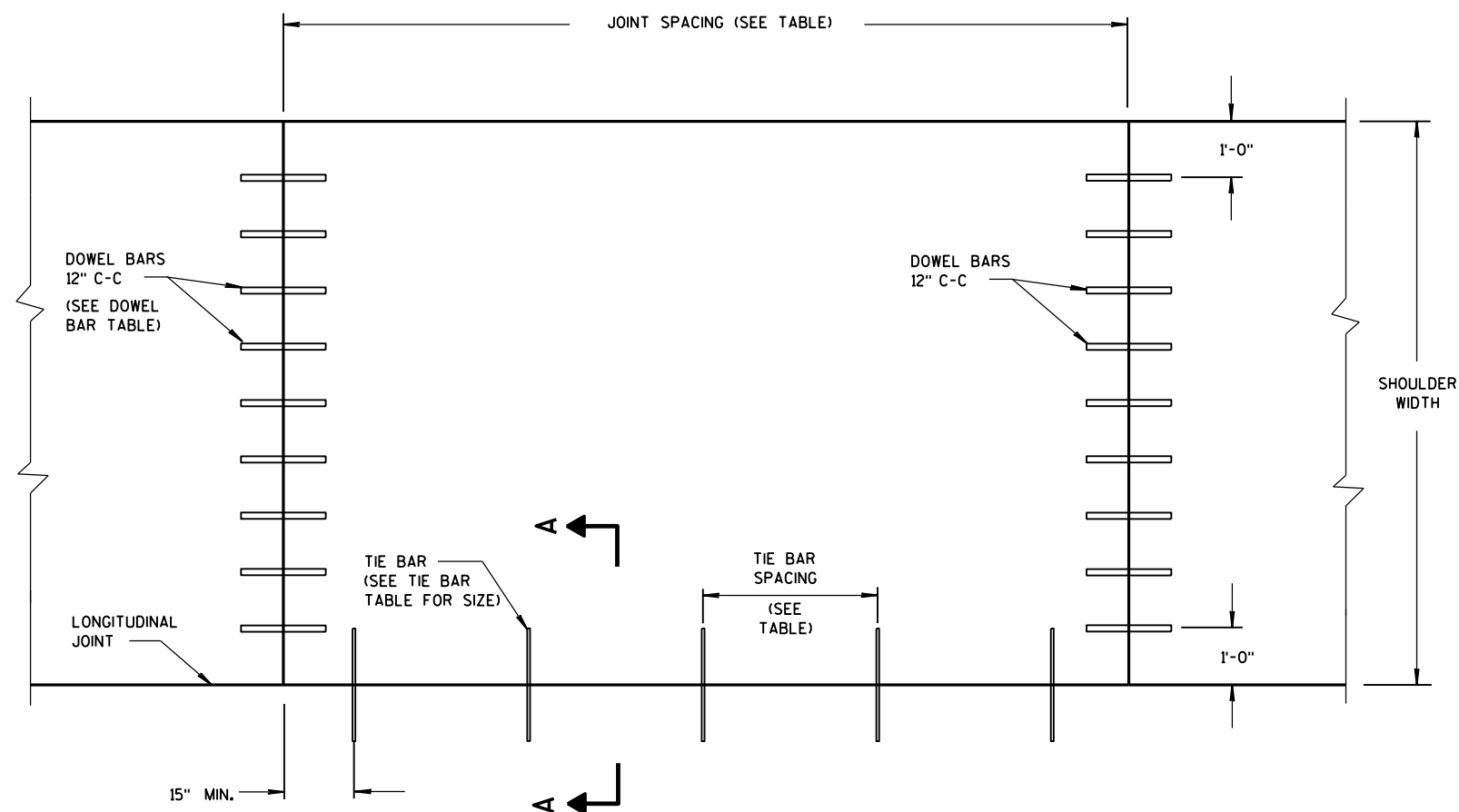
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10
DATE

FHWA

/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



PLAN VIEW
CONCRETE PAVEMENT SHOULDER

TIE BAR TABLE

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

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

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

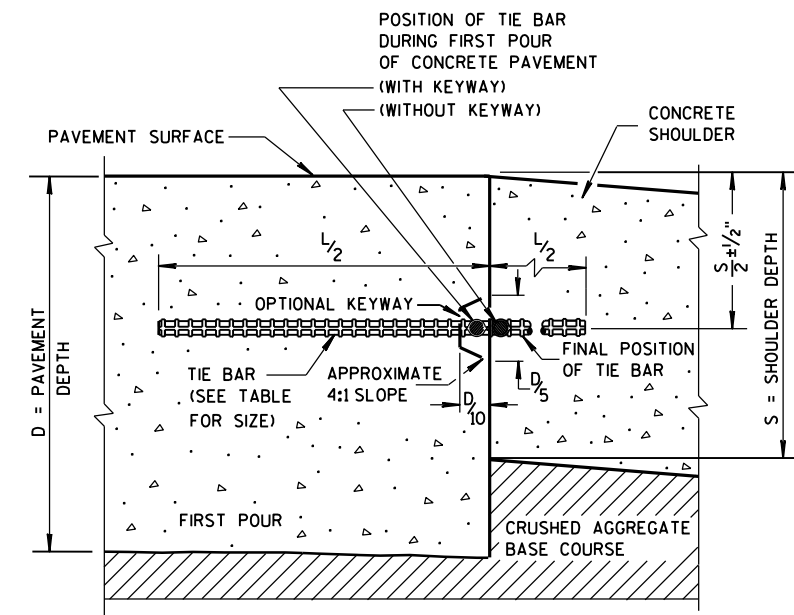
GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

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

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



SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE
AND JOINT SPACING TABLE

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

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

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

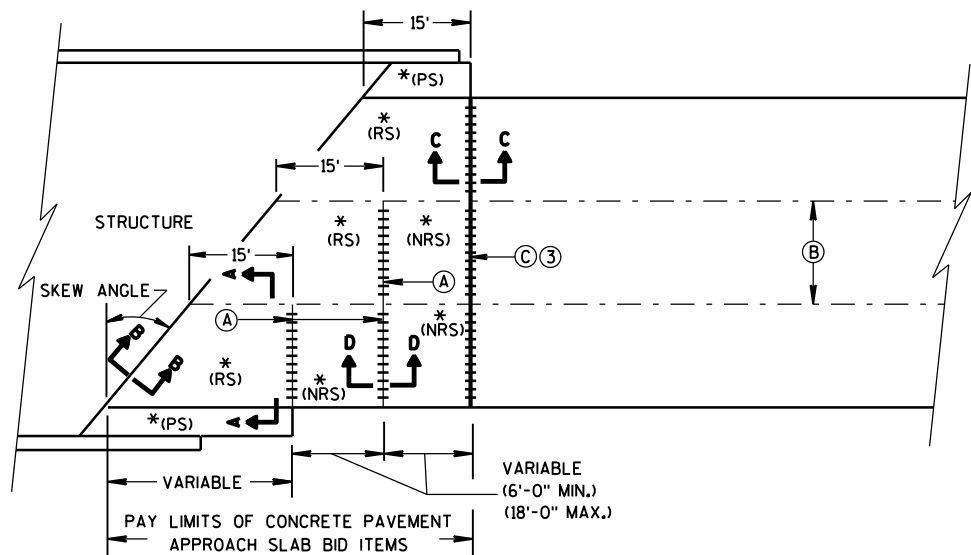
June, 2015

DATE

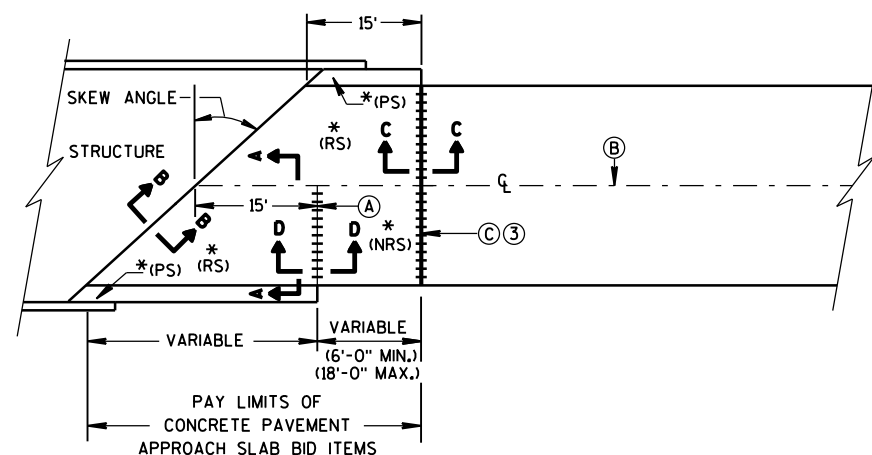
FHWA

/S/ Peter Kemp, P.E.

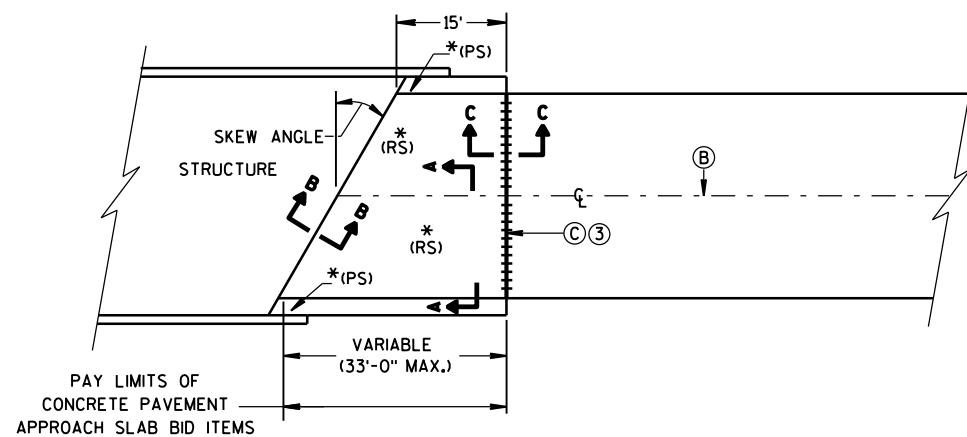
PAVEMENT SUPERVISOR



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



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

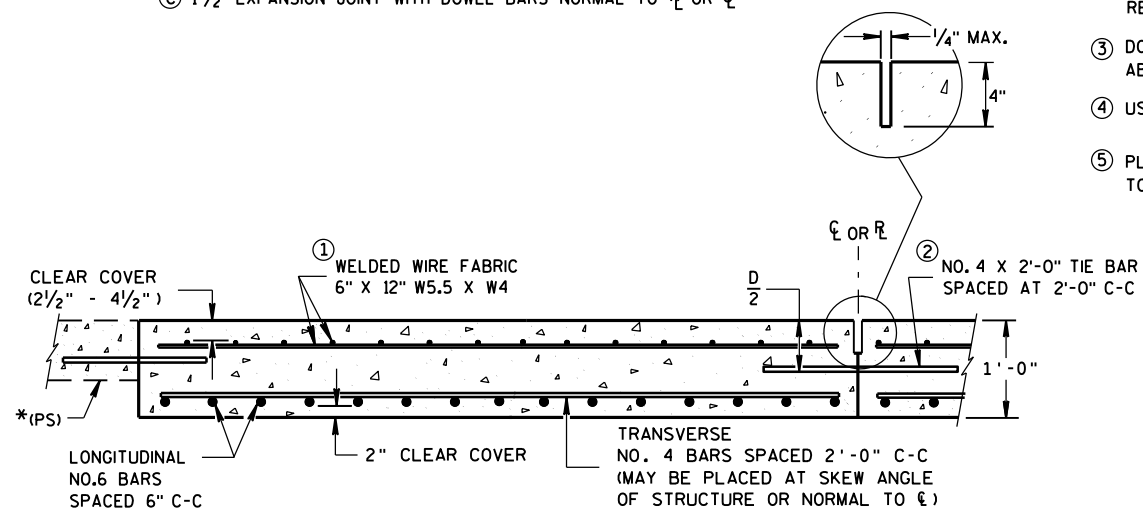


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

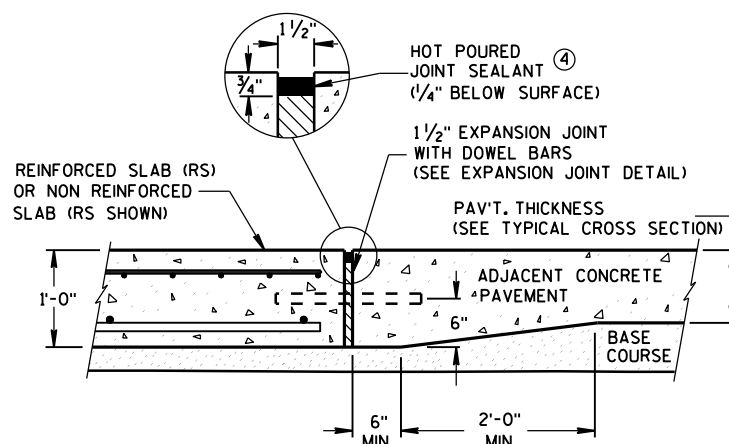
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

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

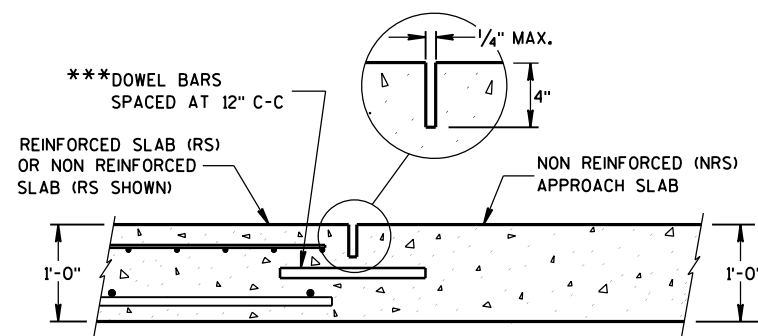
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



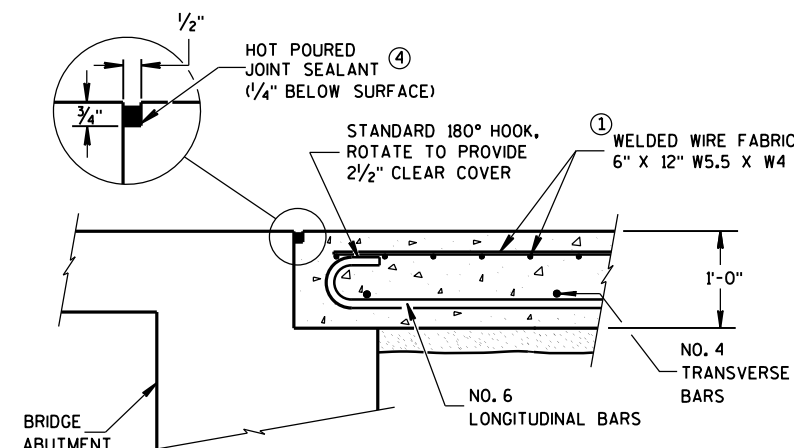
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

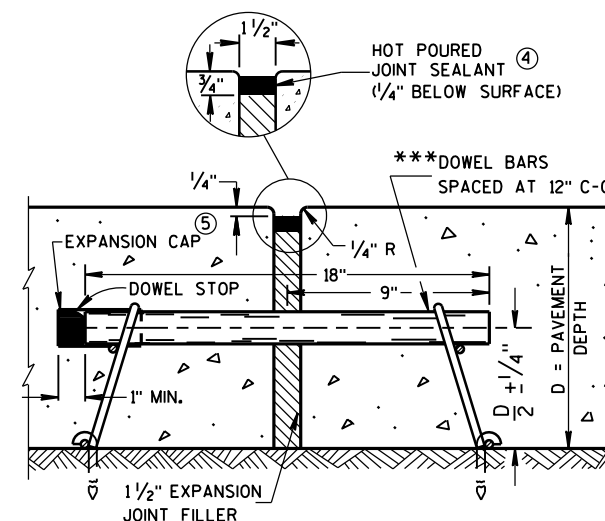
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

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



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

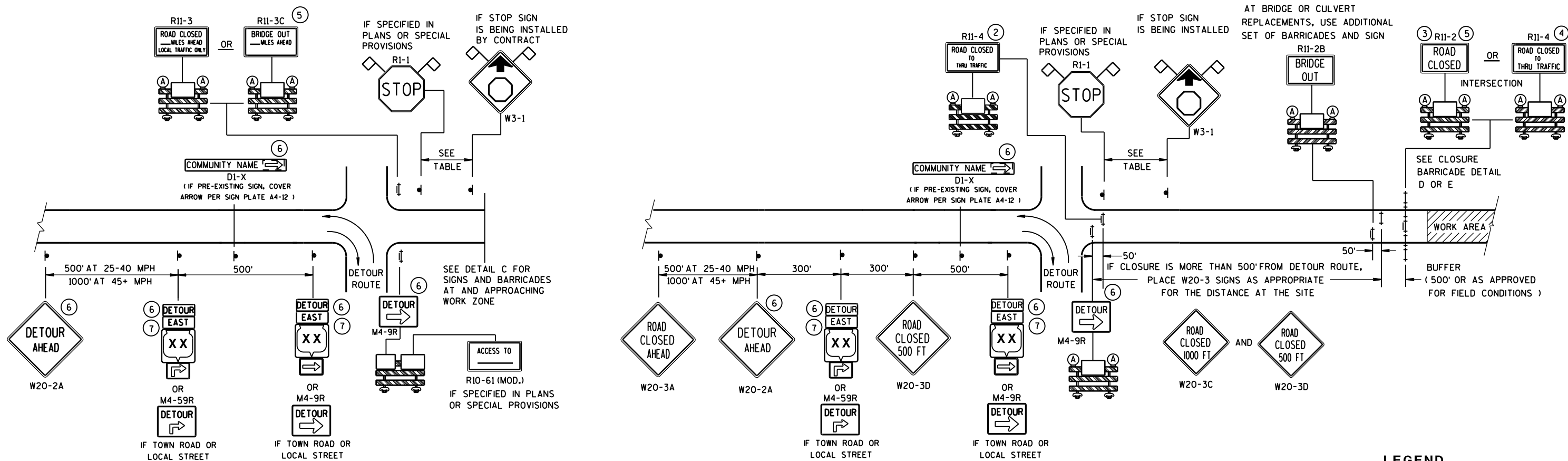


EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- ⊥ TYPE III BARRICADE
- ⊥ TYPE III BARRICADE WITH ATTACHED SIGN
- Ⓐ TYPE "A" WARNING LIGHT (FLASHING)

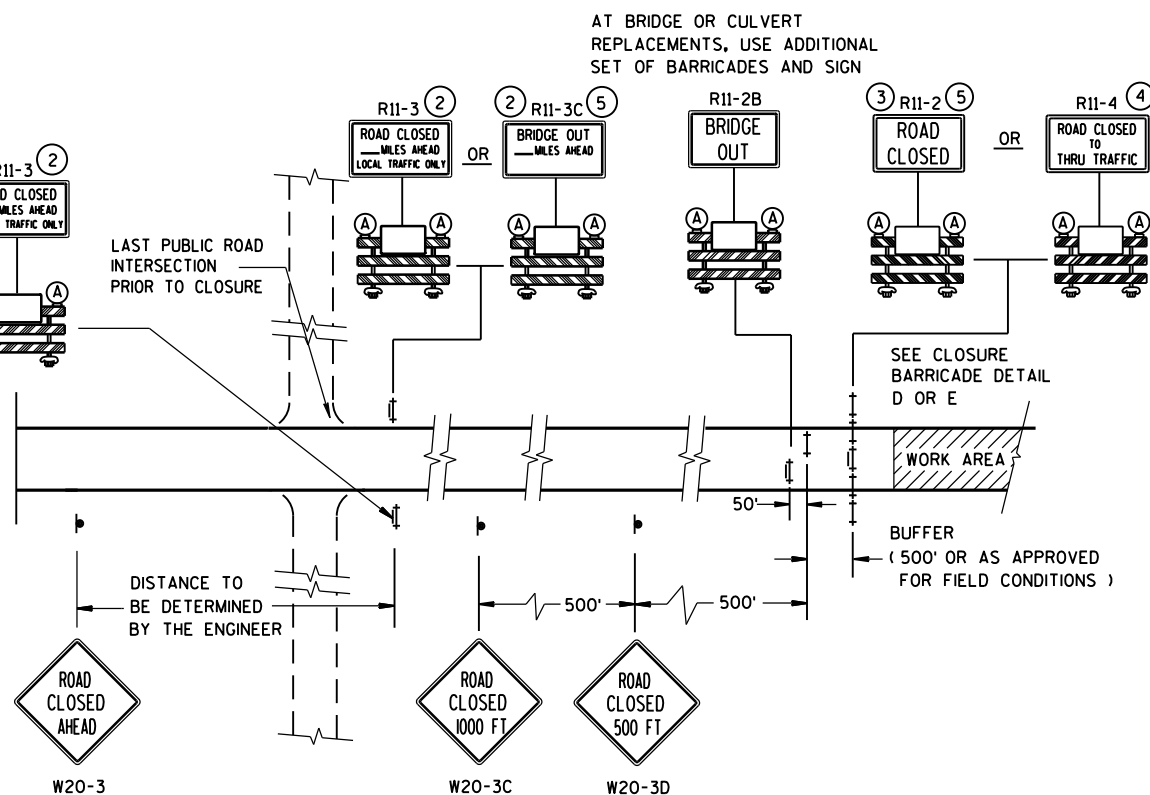
WORK AREA

DETOUR EAST M4-8
M3-X
XX OR COUNTY XX OR XX
M1-4 M1-5A M1-6

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

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



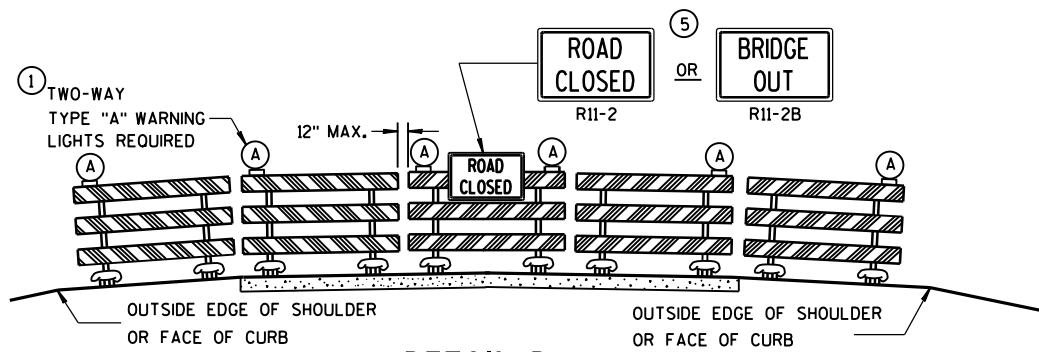
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

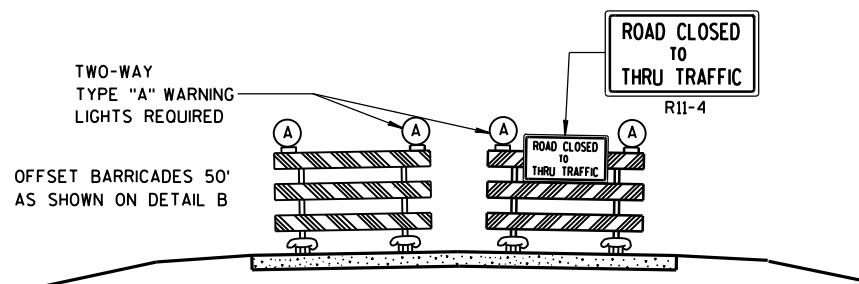
**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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:

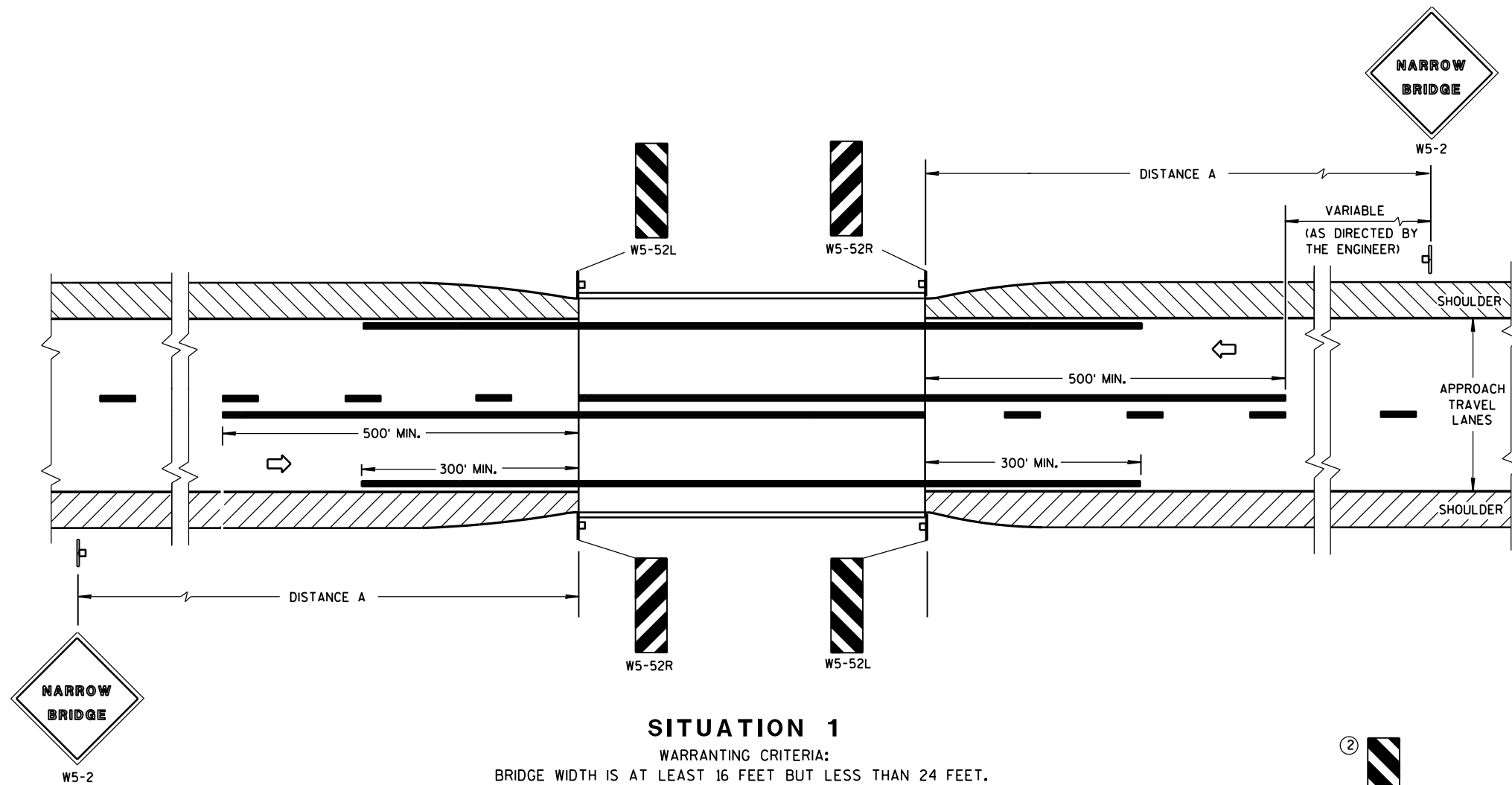
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" 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

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



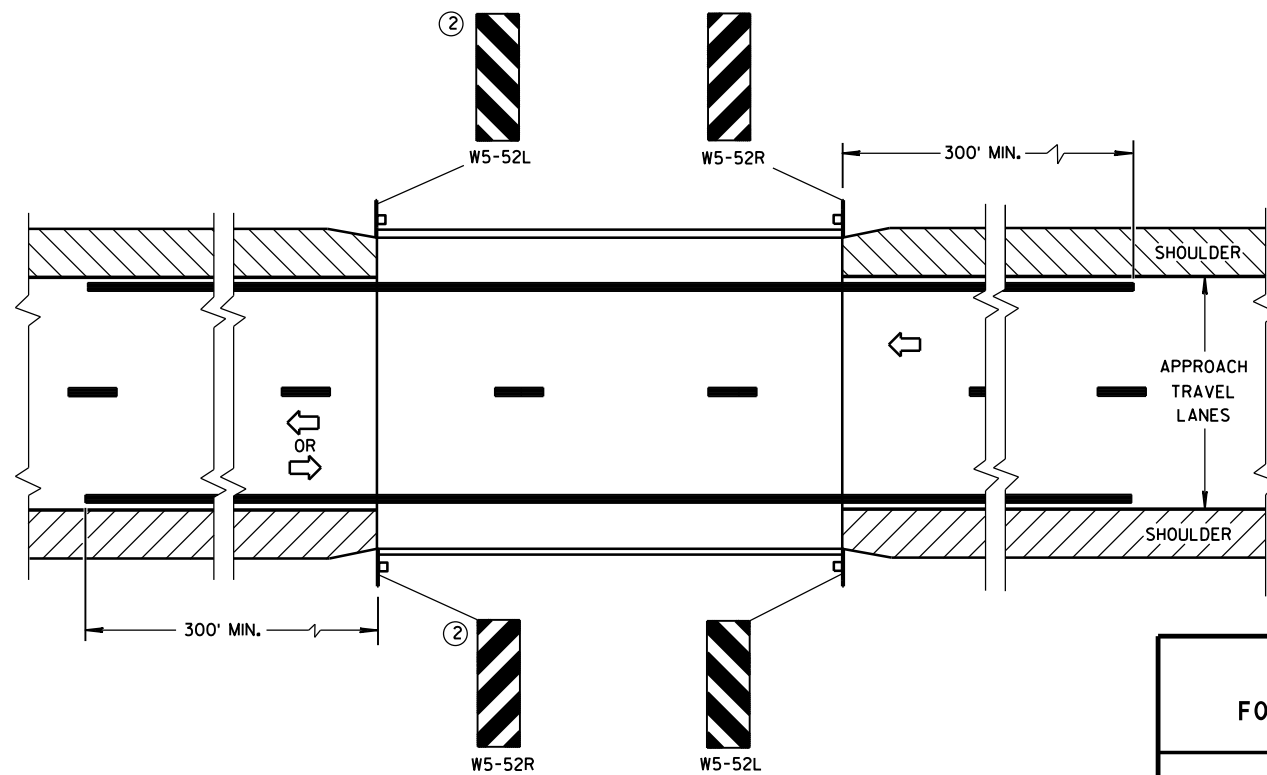
DISTANCE TABLE

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

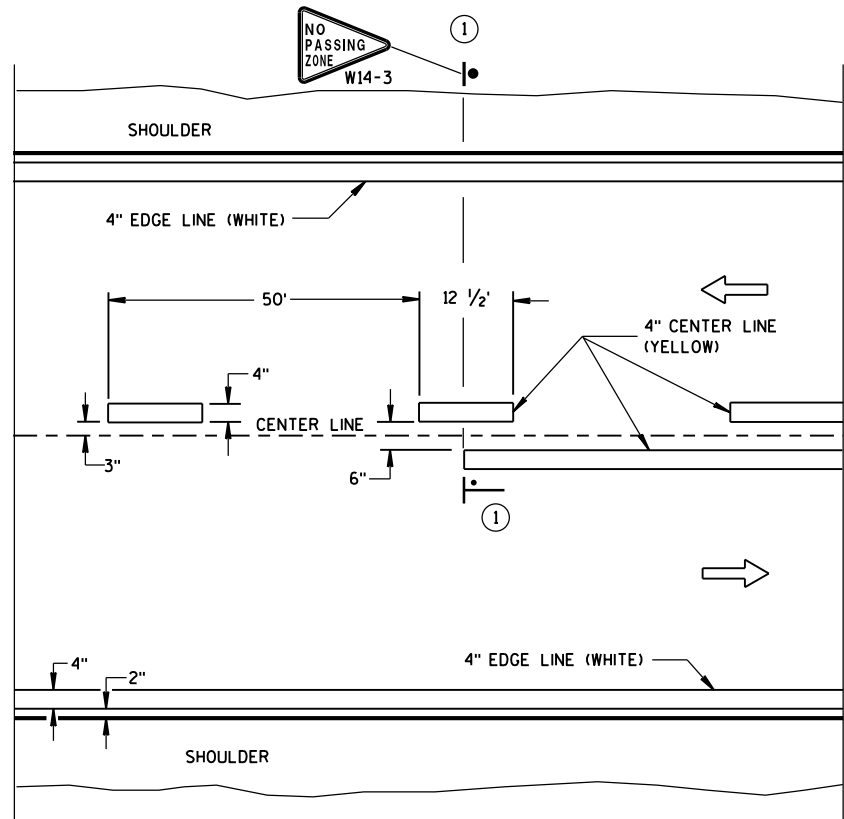
APPROVED

4-18-16

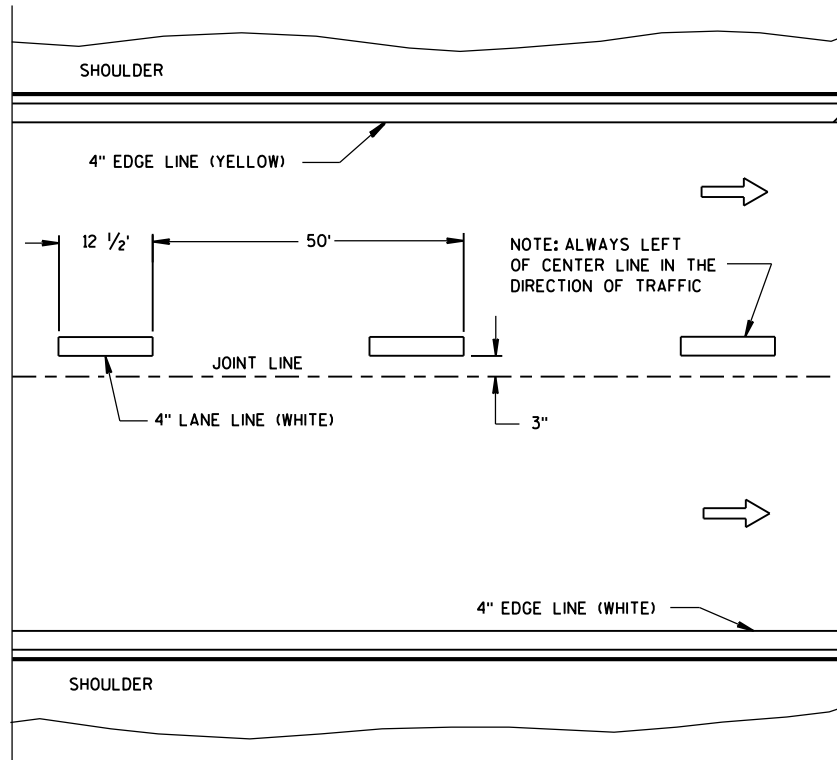
DATE

FHWA

/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER

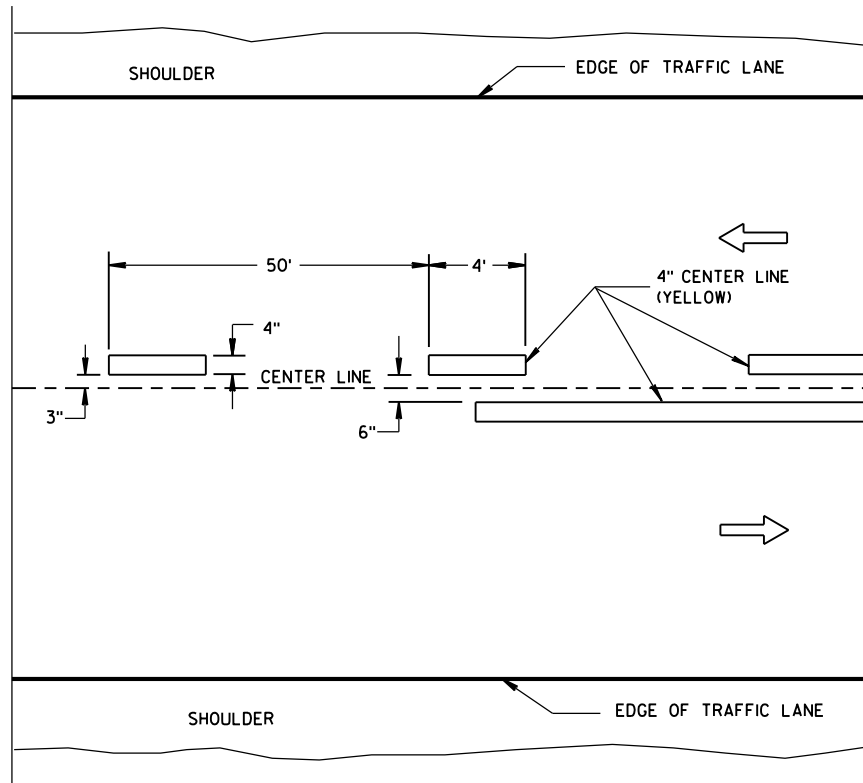


TWO WAY TRAFFIC

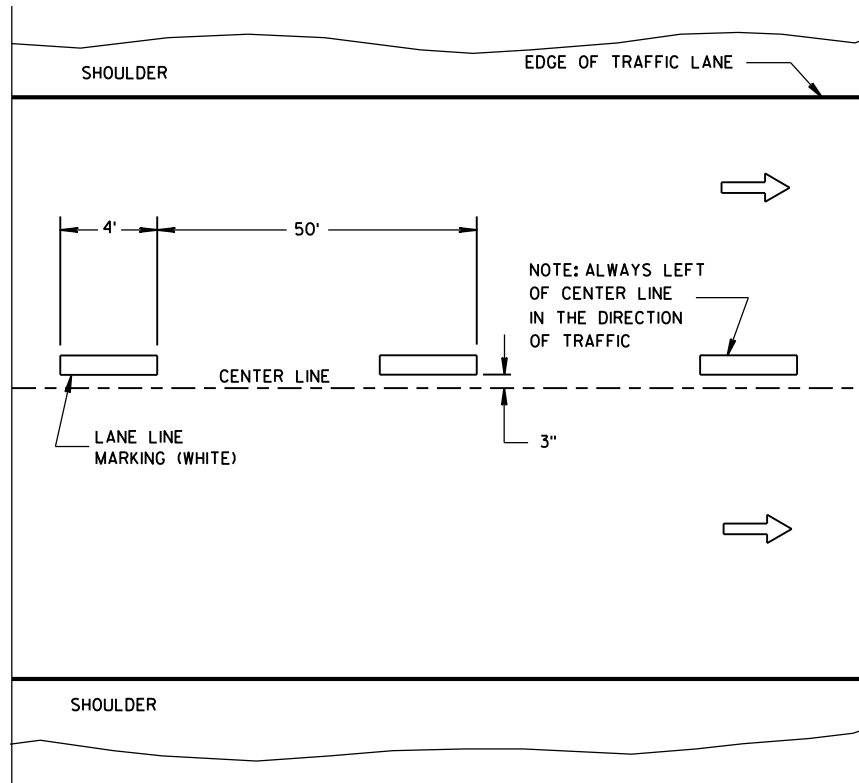


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

├── "T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

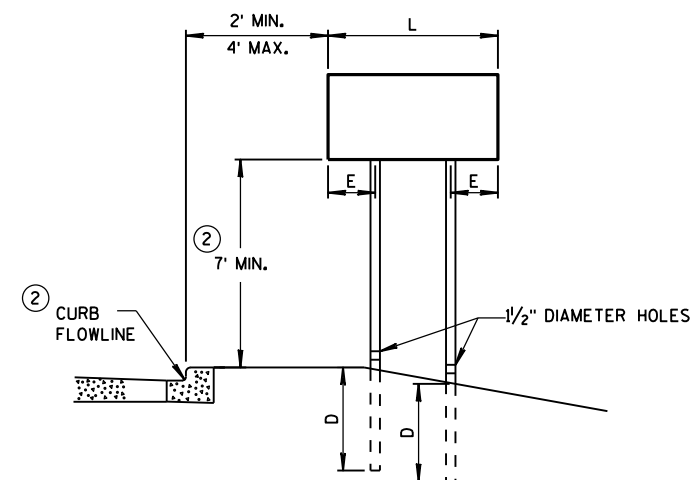
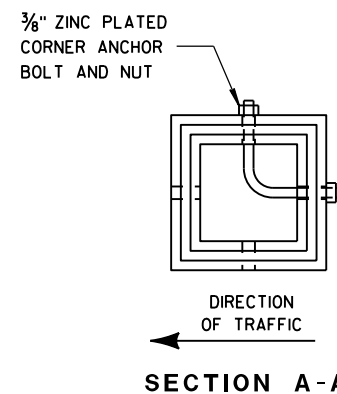
APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL POSTS
9 OR LESS	1
GREATER THAN 9 LESS THAN OR EQUAL TO 18	2
GREATER THAN 18 LESS THAN OR EQUAL TO 27	3

SIGNS LARGER THAN 27 SQ.FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.

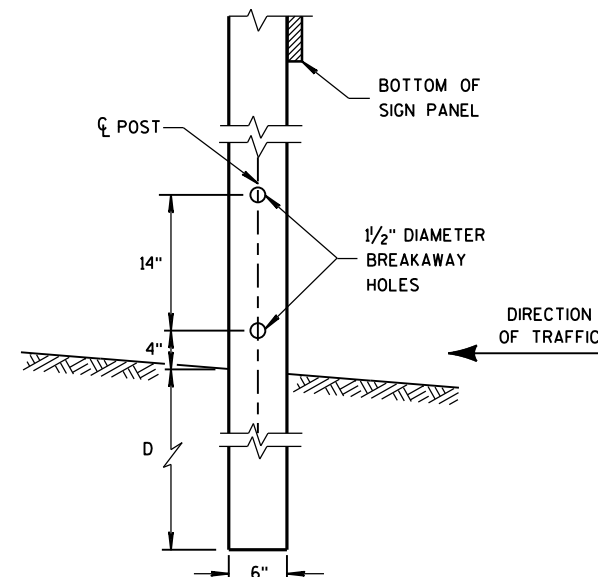


URBAN AREA

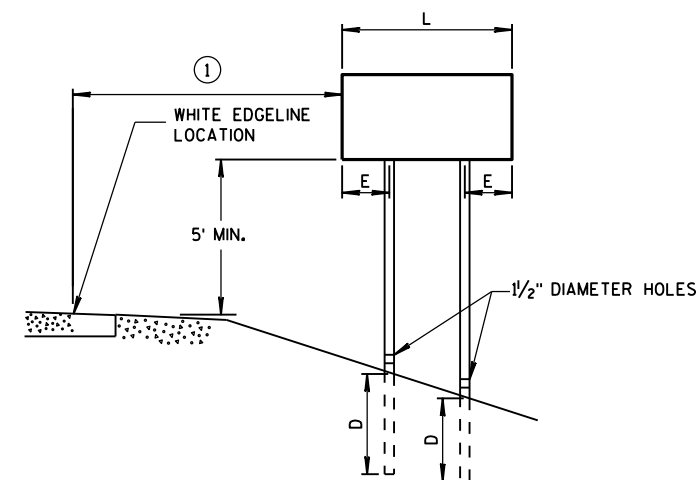
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST
EMBEDMENT DEPTH

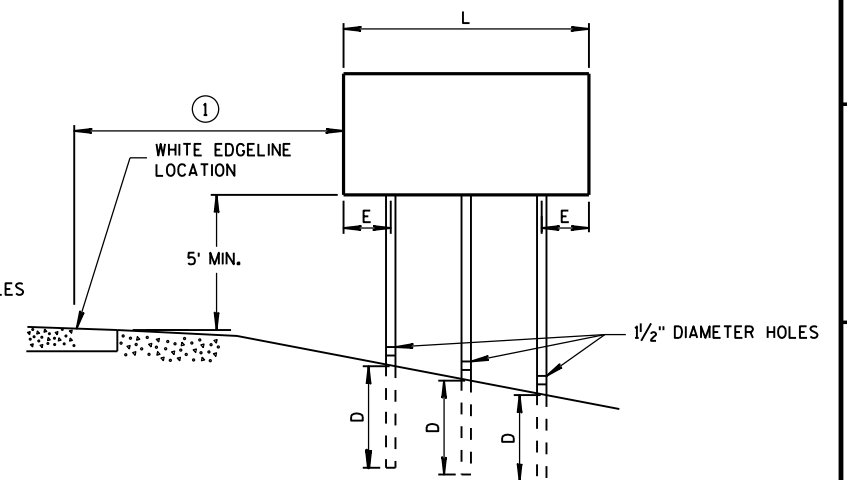
AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'



4" x 6" WOOD POST MODIFICATION



RURAL AREA



GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

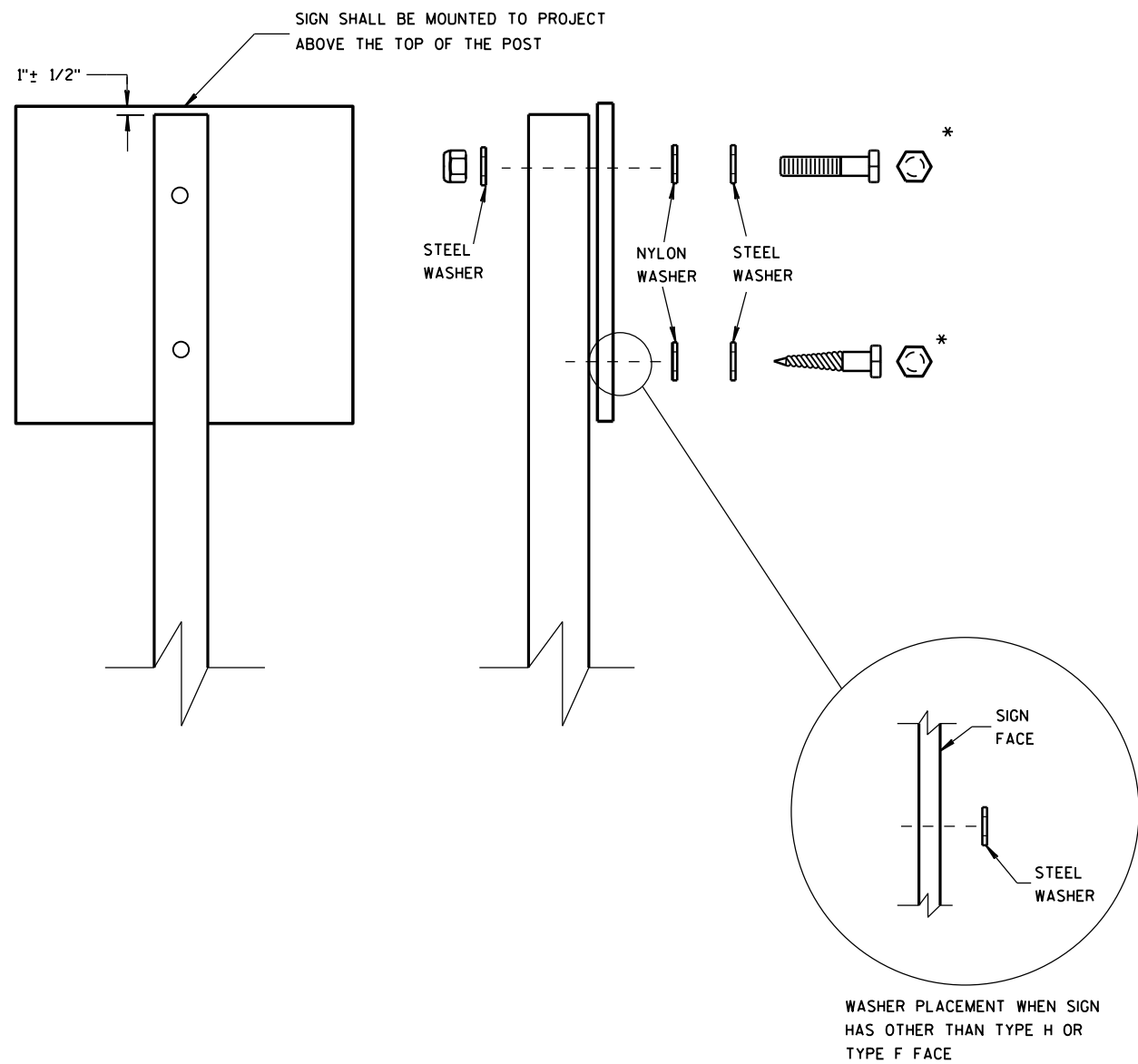
4" X 6" WOOD POST

POST SPACING REQUIREMENTS		NUMBER OF WOOD POSTS REQUIRED
L	E	
48" OR LESS AND LESS THAN 20 SQ. FT.	-	1
LESS THAN 60"	12"	2
60" TO 120"	L/5	2
GREATER THAN 120" LESS THAN 168"	12"	3
168" AND GREATER	12"	4

SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" X 3"
 - MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

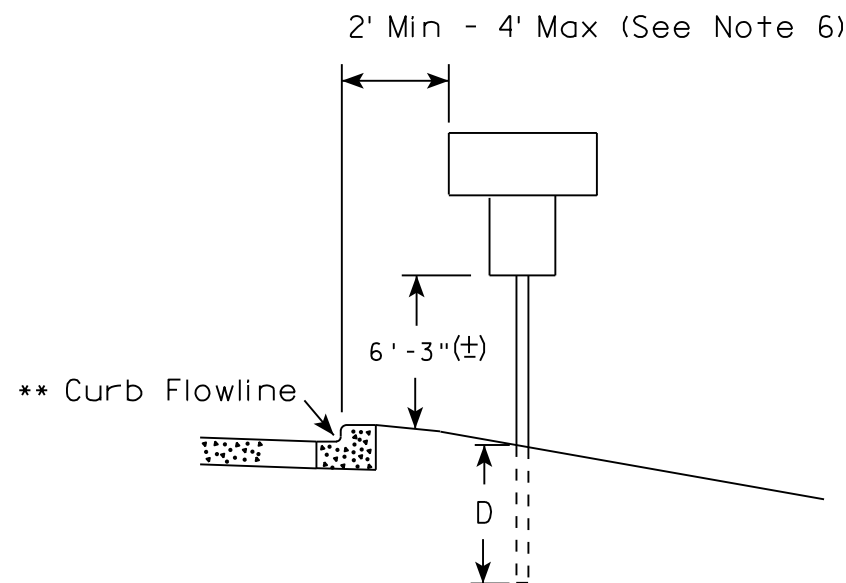
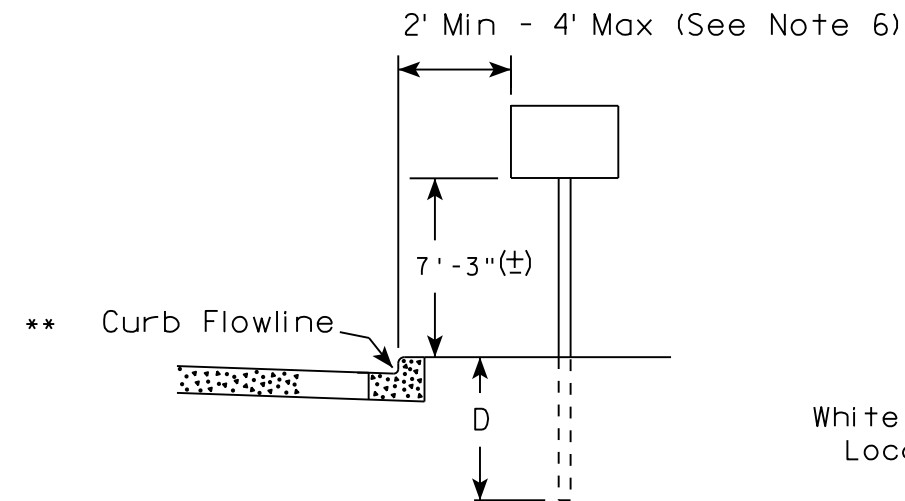
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
 - 1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

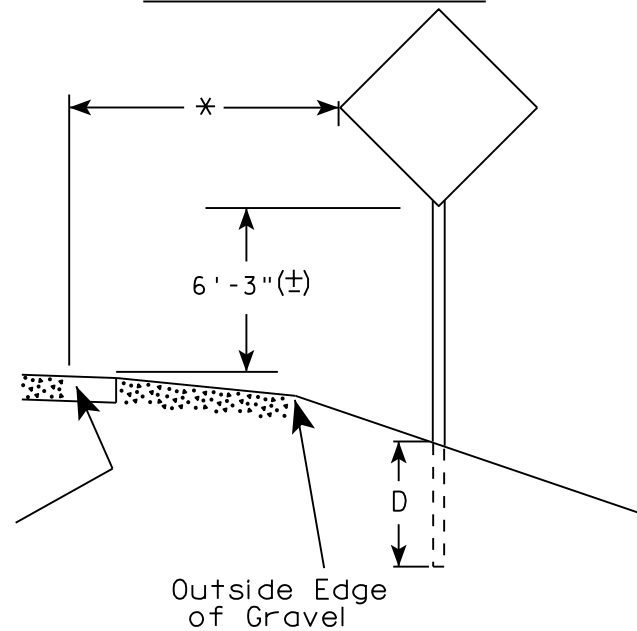
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Feb. 2015 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	

URBAN AREA

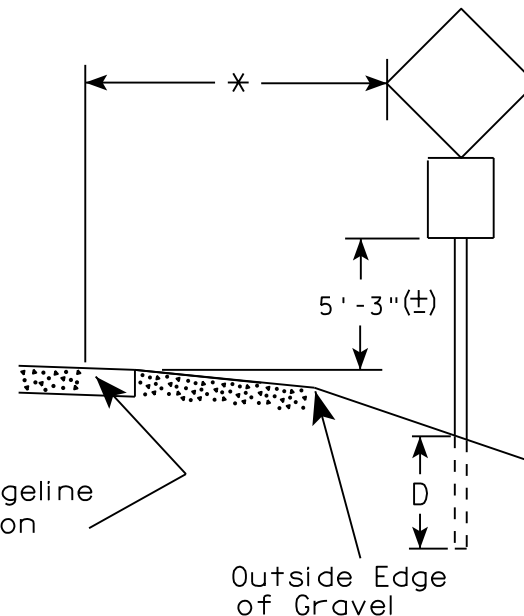


White Edgeline
Location

RURAL AREA (See Note 2)



White Edgeline
Location



Outside Edge
of Gravel

POST EMBEDMENT DEPTH

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

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. J-Assemblies are considered to be one sign for mounting height.
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" (±).

✱✱ 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.

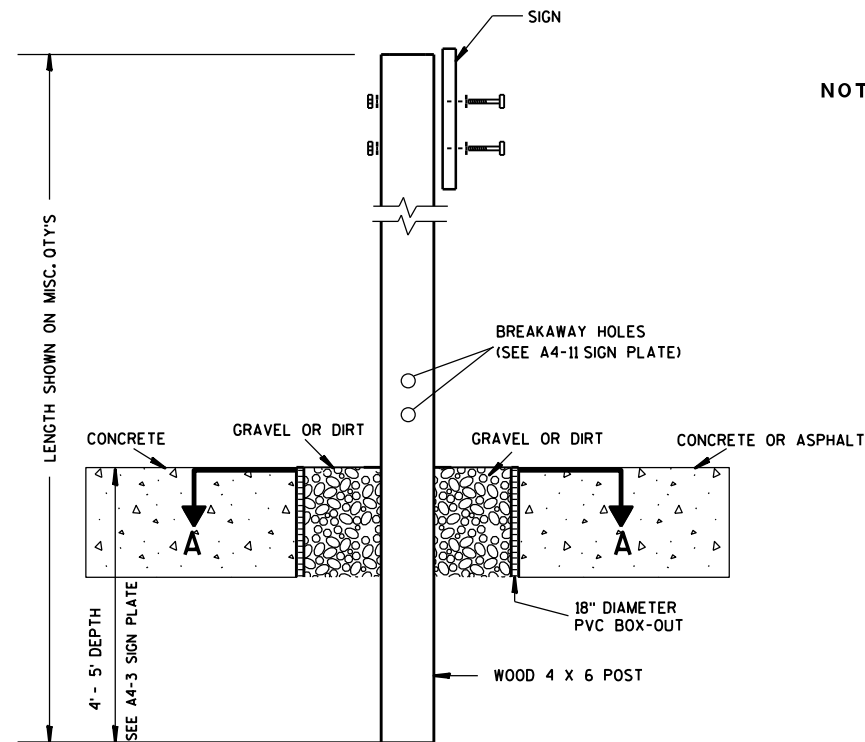
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

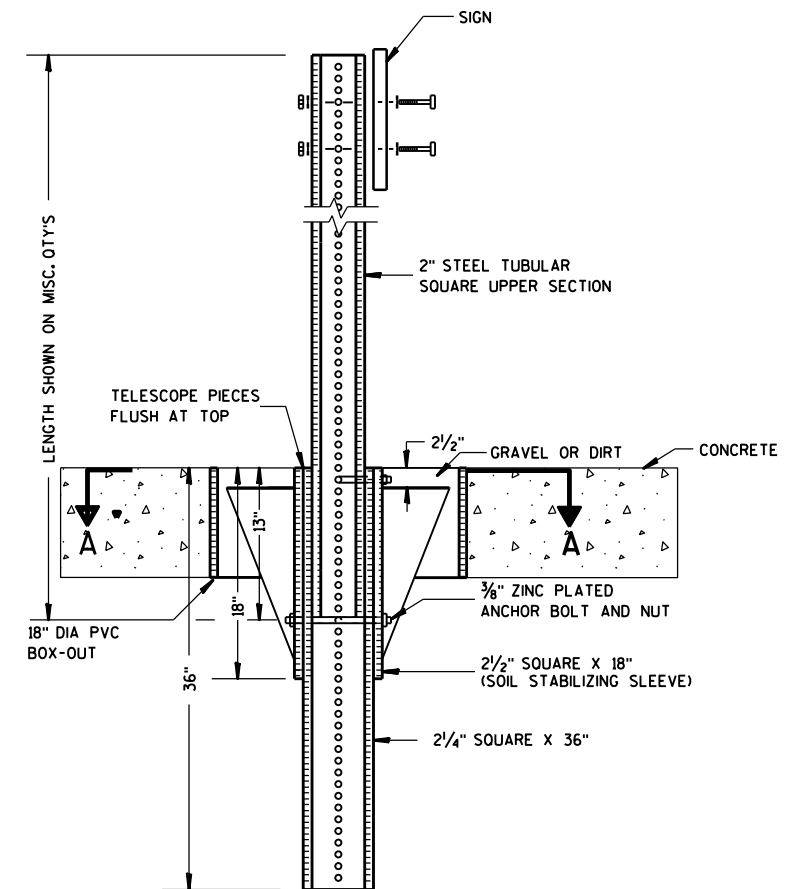
DATE 8/21/17 PLATE NO. A4-3.21



ELEVATION VIEW

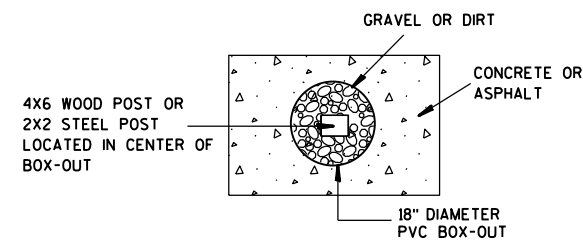
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 1/27/14 PLATE NO. A4-3B.1

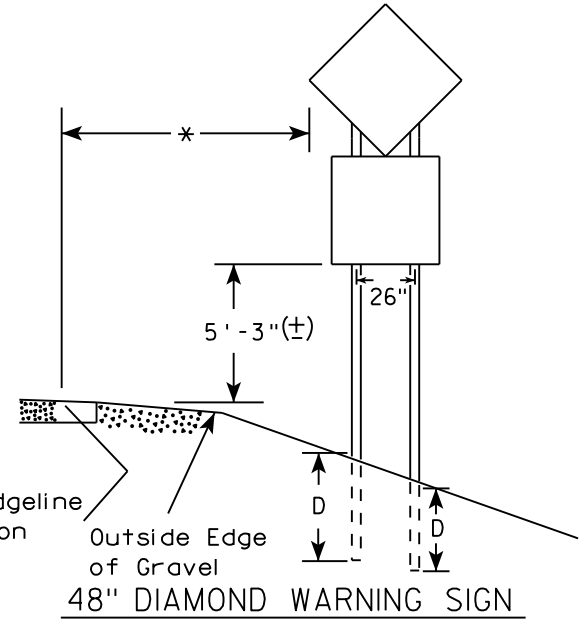
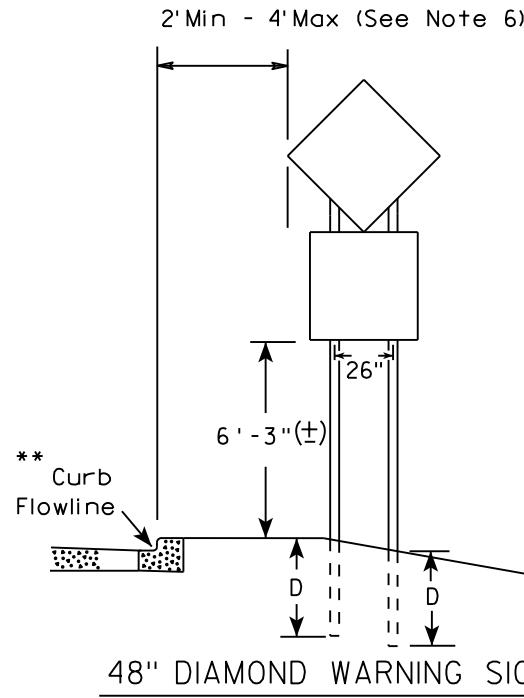
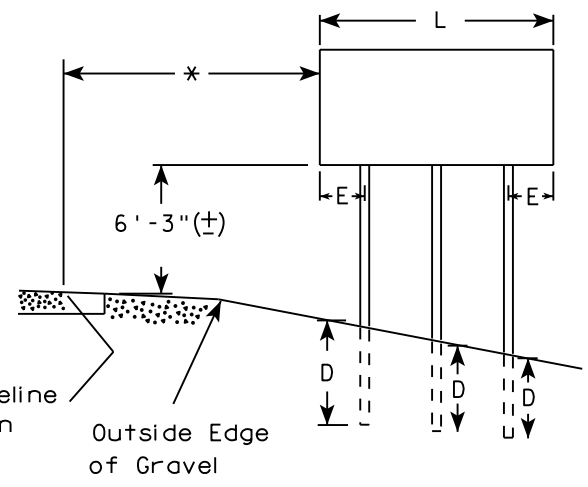
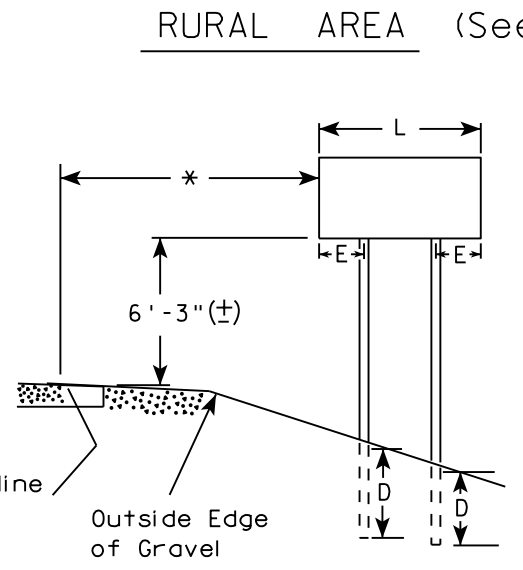
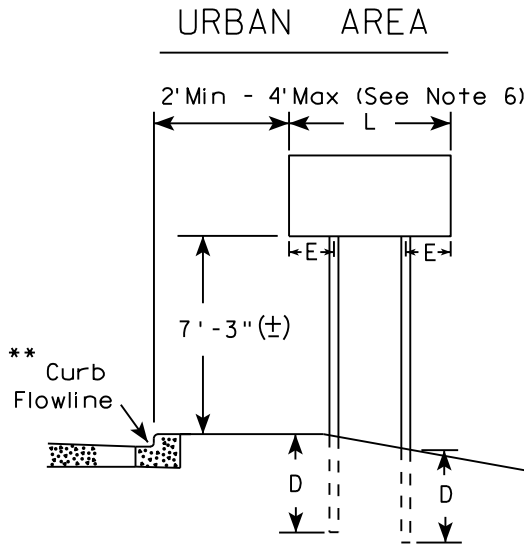
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



- GENERAL NOTES
1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
 2. See tables below for required number of posts.
 3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
 4. The (±) tolerance for mounting height is 3 inches.
 5. J-Assemblies are considered to be one sign for mounting height.
 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
 7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
 8. 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.

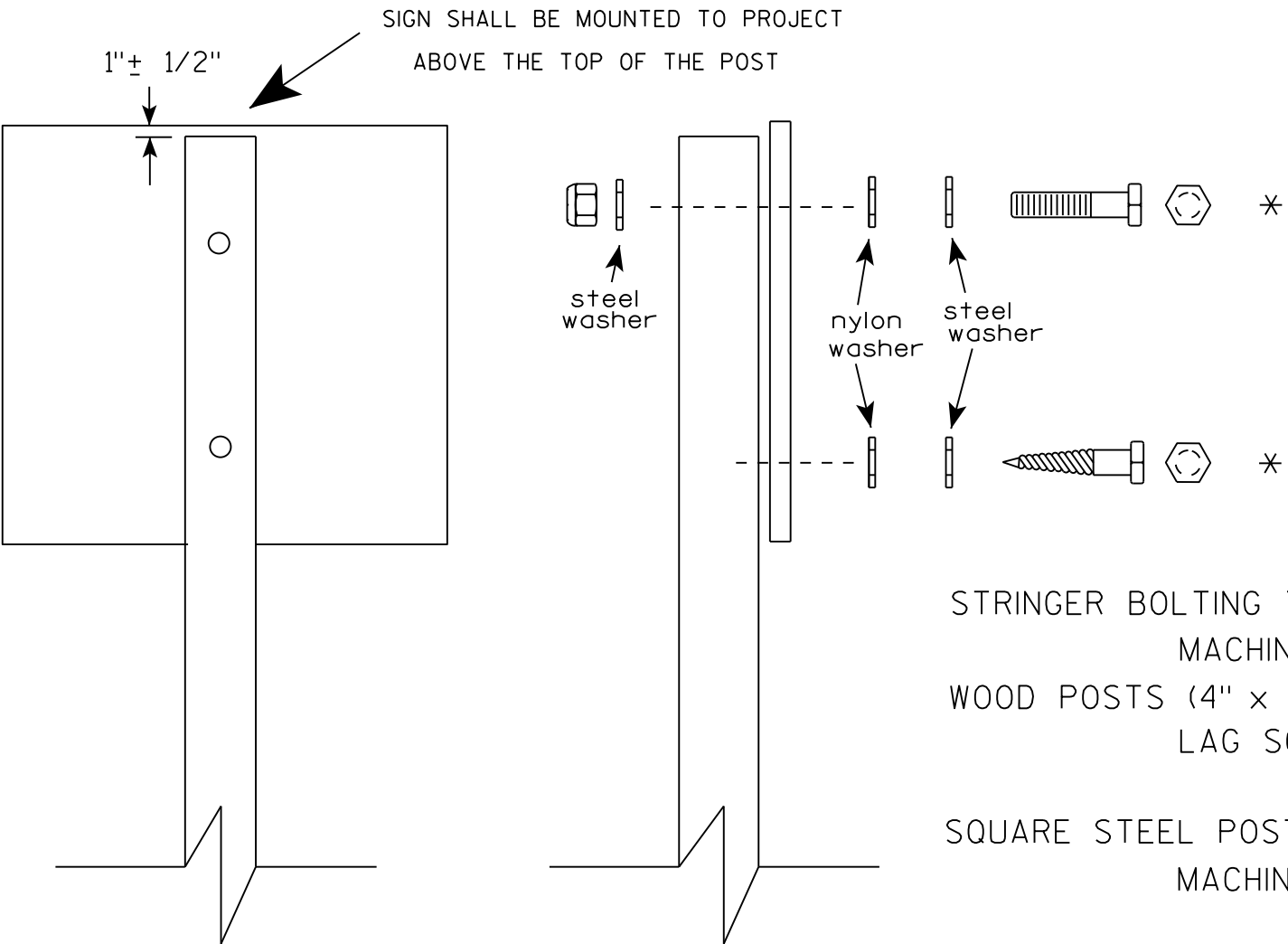
SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 108"	L/5

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	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	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 8/21/17	PLATE NO. A4-4.15



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.

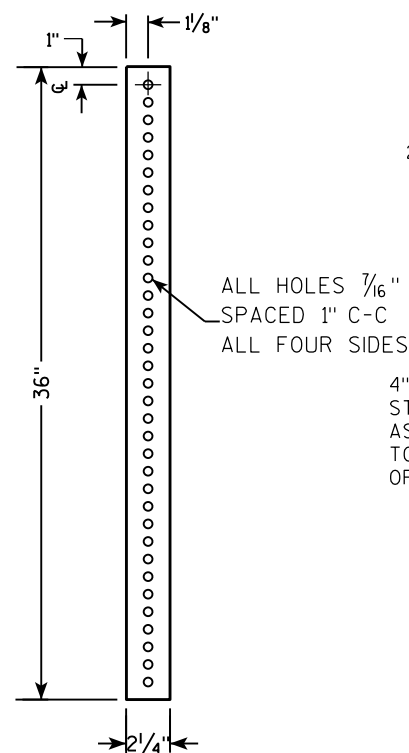
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

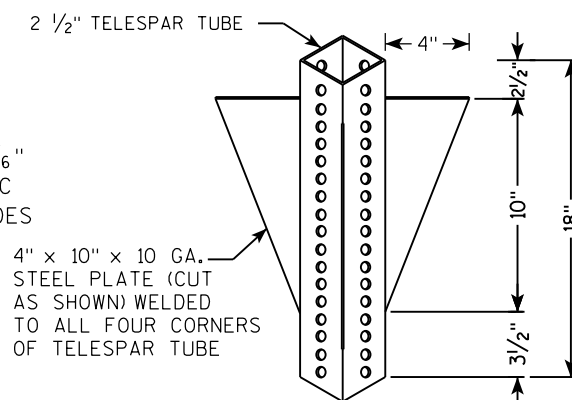
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

**2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH**



**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

Side View Labels:

- SIGN
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 2 1/2" GRAVEL OR DIRT
- $\frac{3}{16}$ " ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- 2 1/4" SQUARE X 36"

Cross Section Labels:

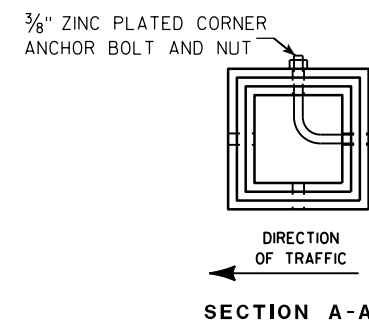
- TELESCOPE PIECES FLUSH AT TOP
- 13"
- 18"
- 36"
- 18" DIA SCHEDULE 40 PVC BOX-OUT

Vertical Dimension:

- LENGTH SHOWN ON MISC. QTY'S

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- Dimensions:**
 - Overall height: LENGTH SHOWN ON MISC. Q'TYS
 - Section A-A: 36" (total), 18" (upper), 12" (lower)
 - Section B-B: 1"
- Components:**
 - SIGN
 - SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 - 2" STEEL TUBULAR SQUARE UPPER SECTION
 - ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C
 - ALL FOUR SIDES
 - $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 - $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 - 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 - 2 1/4" SQUARE X 36"
 - TELESCOPE PIECES FLUSH AT TOP



Area of Sign Installation (Sq. Ft.)	Number of Required Posts
9 or less	1
Greater than 9 less than or equal to 18	2
Greater than 18 less than or equal to 27	3

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

PROJECT NO:

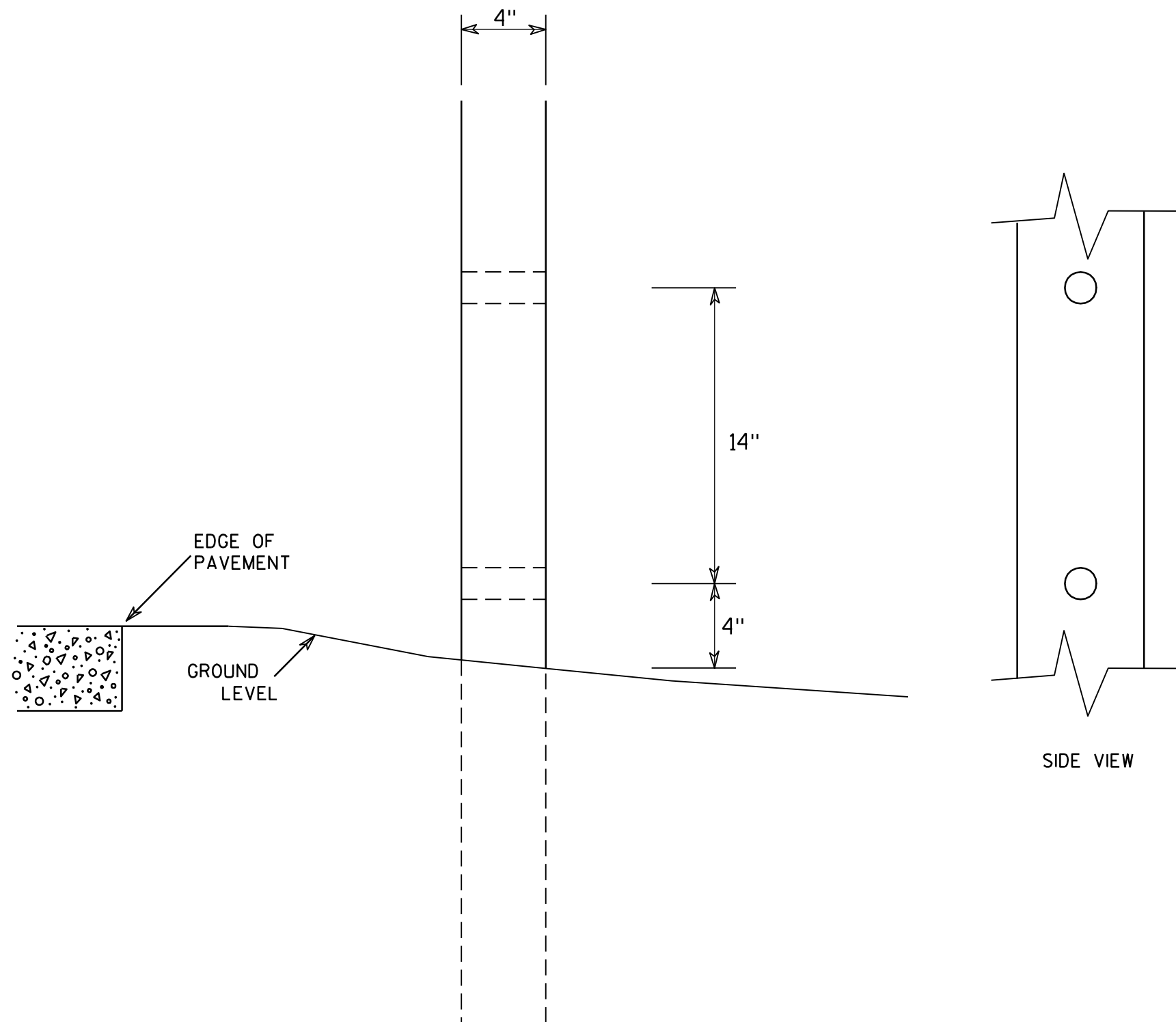
HWY:

COUNTY:

SHEET NO:

T

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

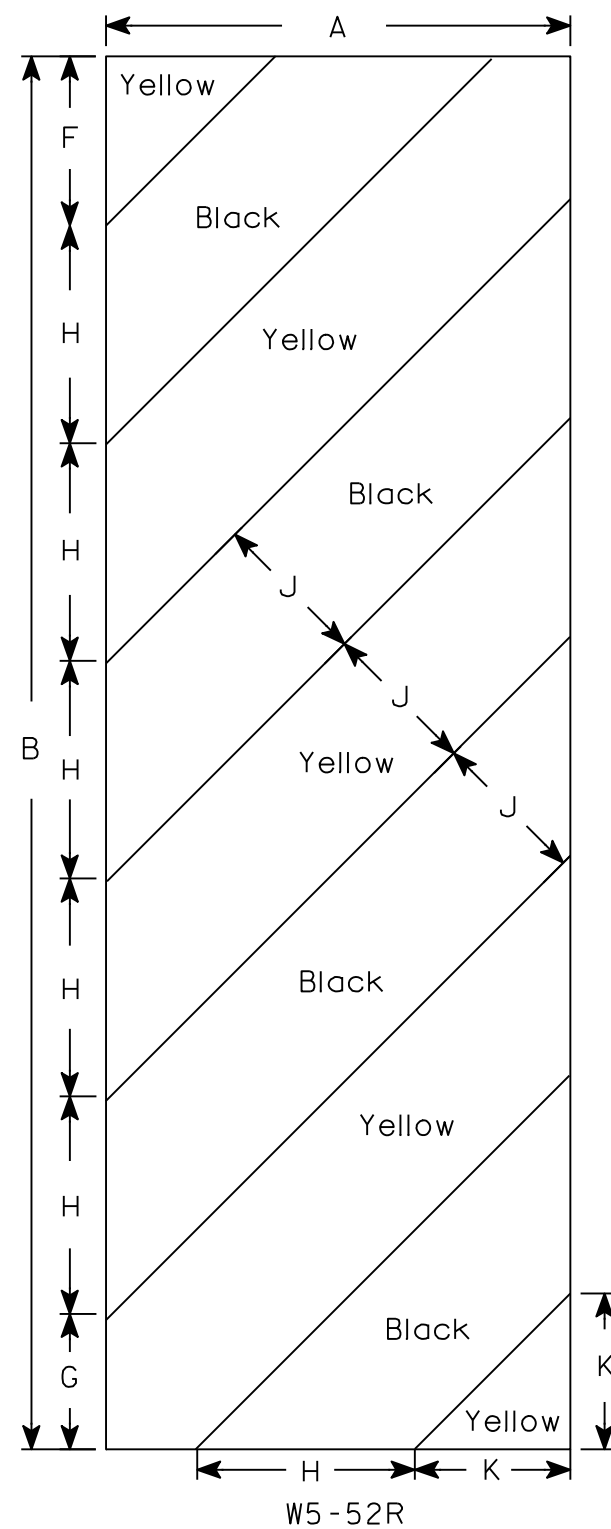
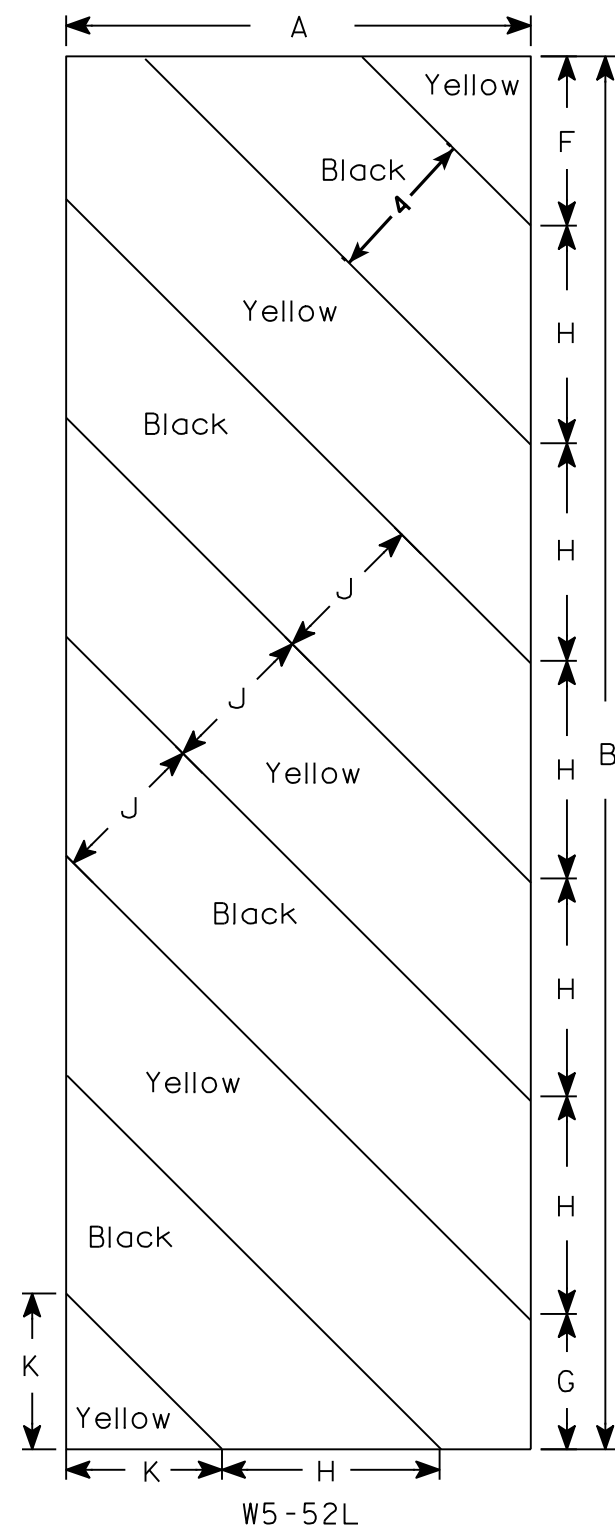
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

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

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PRINTER DRIVER: S:\aom-CAD\stds\Libraries\MSD001\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: P:\60440973\900-Work-CAD\20-SHEETS\MS-Printing\Pen_Tables\AE_11s001.tbl
FILE NAME: P:\60440973\900-Work-CAD\910-CAD\20-SHEETS\01-134-General.Plandgn
PLOT DATE: 8/29/2017

BATCH PRINT SHEET 1 OF 18

8

* PROVIDE FOR THRIE BEAM GUARDRAIL ATTACHMENT.

(X) INDICATES WING NUMBER

STATE PROJECT NUMBER

9087-01-71

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR = 1.09
OPERATING RATING FACTOR = 1.55
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 PSF.

MATERIAL PROPERTIES:

CONCRETE MASONRY - SUPERSTRUCTURE $f'_c = 4,000$ P.S.I.
- ALL OTHER $f'_c = 3,500$ P.S.I.

BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

28" PRESTRESSED GIRDER

CONCRETE MASONRY $f'_c = 8,000$ P.S.I.

STRANDS - 0.5" DIA. WITH ULTIMATE TENSILE STRENGTH OF—270,000 P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 180 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50'-0" LONG FOR THE SOUTH ABUTMENT AND 60'-0" LONG FOR THE NORTH 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 THE MODIFIED GATES DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

CTH AA

A.D.T. (2018) = 300
A.D.T. (2038) = 330
DESIGN SPEED = 40 MPH

UTILITIES

CENTURY LINK (TELEPHONE)
ATTN: PETE JOHNSON
(715)-938-1480
peter.s.johnson@centurylink.com

OCONTO ELECTRIC (ELECTRIC)
ATTN: JACK PARDY
(920)-373-8524
jpardy@ocontoelectric.com

HYDRAULIC DATA

100 YEAR FREQUENCY

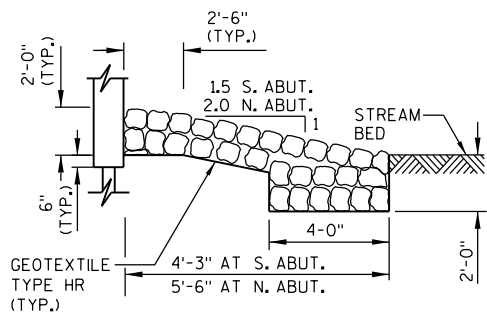
Q100—1,990 CFS
VELOCITY—5.2 FPS
HIGH WATER ELEVATION—842.42
WATERWAY AREA—383 SQ. FT.
DRAINAGE AREA—151 SQ. MI.
ROAD OVERTOPPING—N/A
SCOUR CRITICAL CODE—5

2 YEAR FREQUENCY

Q2—760 CFS
HIGH WATER 2 ELEVATION—839.64

COFFERDAM NOTES:

THE HIGH WATER ELEVATION FOR Q2 WITH COFFERDAMS INSTALLED AT BOTH ABUTMENTS IS APPROXIMATELY 839.90.



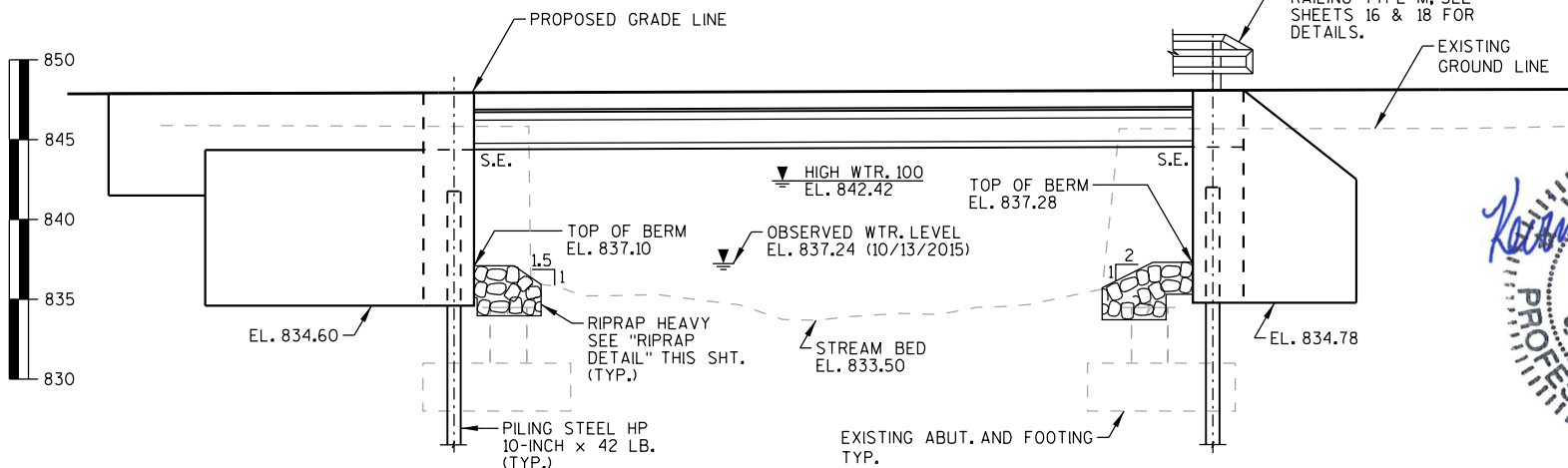
RIPRAP DETAIL

PLAN

(SINGLE SPAN - 28" PRESTRESSED GIRDERS)

LIST OF DRAWINGS

1. GENERAL PLAN
2. CROSS SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT - 1
5. SOUTH ABUTMENT - 2
6. WING 1
7. WING 2
8. NORTH ABUTMENT - 1
9. NORTH ABUTMENT - 2
10. WING 3
11. WING 4
12. ABUTMENT DETAILS
13. 28" PRESTRESSED GIRDER DETAILS
14. INTERMEDIATE STEEL DIAPHRAGM
15. SUPERSTRUCTURE - 1
16. SUPERSTRUCTURE - 2
17. SUPERSTRUCTURE - 3
18. TUBULAR STEEL RAILING TYPE 'M'



ELEVATION

NORMAL TO SOUTH BRANCH OCONTO RIVER

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489

CONSULTANT:
KEVIN HAGEN (715) 342-3053

AECOM PROJECT NO. 60440973

BENCH MARK TABLE

NO.	STATION	DESCRIPTION	ELEVATION
1	15+83.82 RT	MAG NAIL IN PP #E298 ON N. SIDE OF BRIDGE OVER S. BRANCH OCONTO RIVER E. SIDE CTH AA.	843.09
2	15+03.86 RT	CHISELED SQUARE ON SE WING WALL OF BRIDGE OVER S. BRANCH OCONTO RIVER	846.55
3	14+96.46 LT	MAG NAIL IN TELEPHONE POLE AT SW CORNER OF BRIDGE OVER S. BRANCH OCONTO RIVER	844.47

HORIZ. COORDINATES TIED TO WISCONSIN COUNTY COORDINATES SYS. NAD 83 (2011)
AND CHECKED TO STATION BREED GPS. VERT. TIED TO STATION SCOTT NAVD 88.

NO.	DATE	REVISION	BY
AECOM			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED	<i>William C. Dreher</i> SDR CHIEF STRUCTURES DESIGN ENGINEER		09/05/17 DATE
STRUCTURE B-42-134			
CTH AA OVER S. BRANCH OCONTO RIVER			
COUNTY	OCONTO	TOWN/CITY/VILLAGE	BREED
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	KB	DESIGN CK'D. CAB/KRH	DRAWN BY KAM PLANS CK'D. KRH
GENERAL PLAN			SHEET 1 OF 18

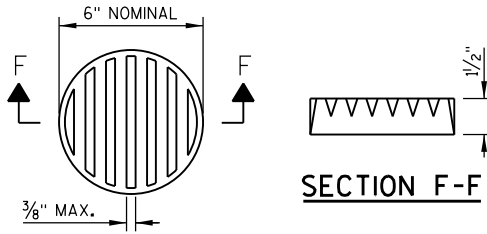
8

PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\9002_Work\CAD\910-CAD\20-SHEETS\MS-Printing\Pen_Tables\AE_11x17.tbl

FILE NAME: P:\60440973\9002_Work\CAD\910-CAD\20-SHEETS\02-134-Cross.Section.dgn
PLOT DATE: 8/3/2017
PLOT TIME: 15:57:32 PM

BATCH PRINT SHEET 2 OF 18

8

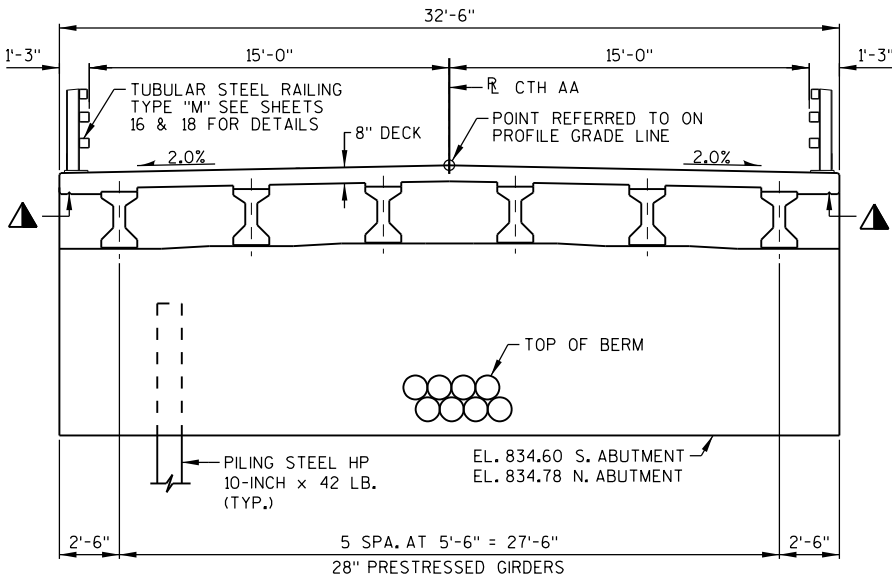


RODENT SHIELD DETAIL

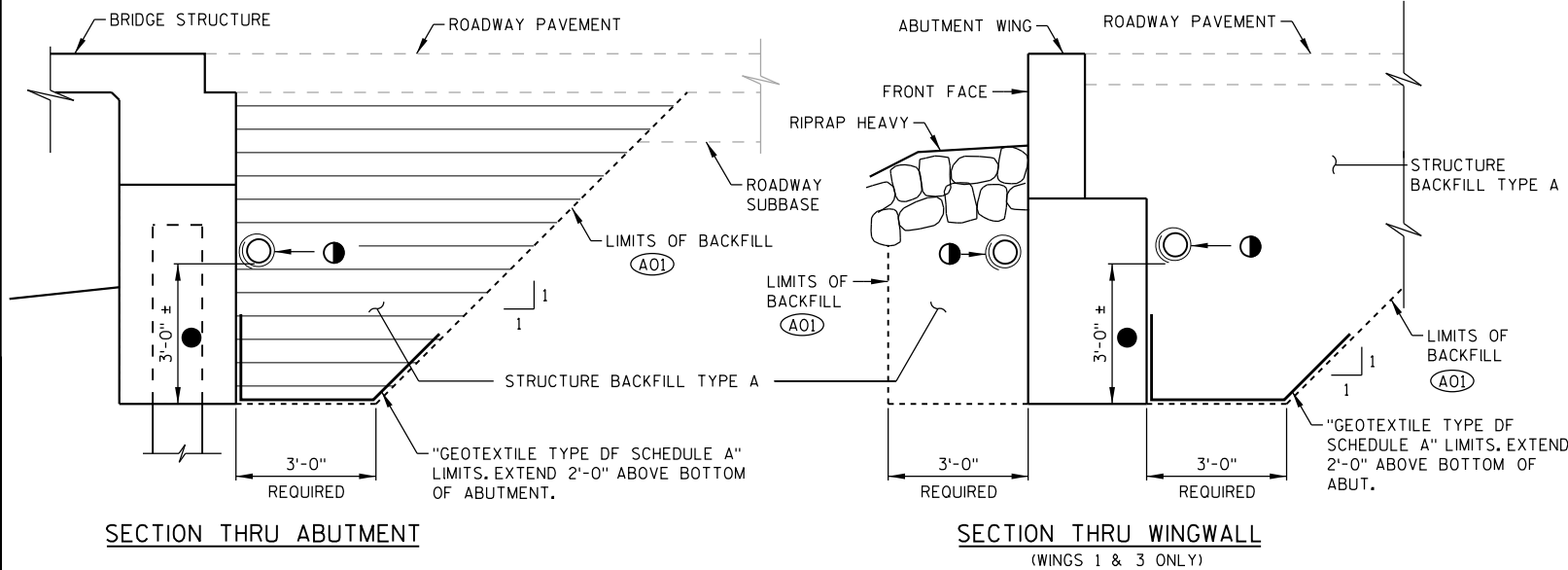
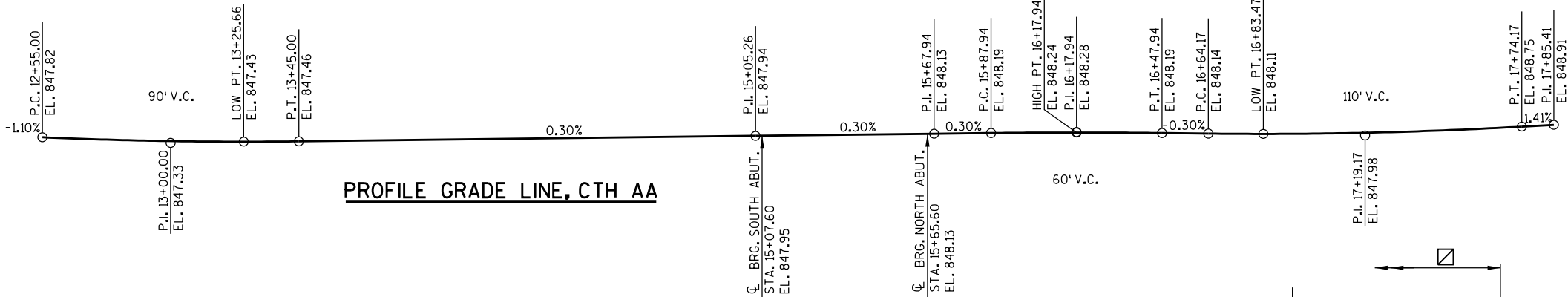
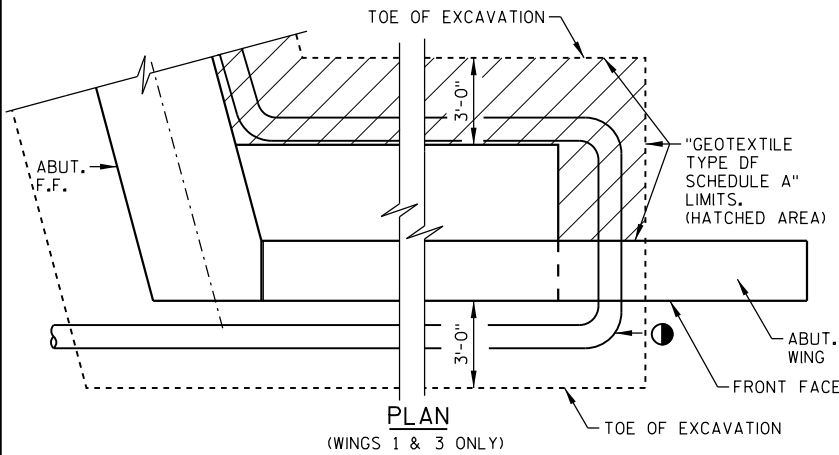
DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING, ORIENT SO SLOTS ARE VERTICAL.

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

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS 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 SHEET METAL SCREWS.



CROSS SECTION THRU ROADWAY (LOOKING UPSTATION)



SECTION THRU ABUTMENT

SECTION THRU WINGWALL (WINGS 1 & 3 ONLY)

BACKFILL STRUCTURE LIMITS

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-42-134" SHALL BE THE EXISTING GROUNDLINE.

AO1 BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES, LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE THE BOTTOM OF THE ABUTMENT.

PIPE UNDERDRAIN WRAPPED (6-INCH), SLOPE 0.5% MIN. TO SUITABLE DRAINAGE, ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

SET PIPE UNDERDRAIN WRAPPED (6-INCH) SO THAT MIN. ELEVATION IS ± 6 INCHES ABOVE NORMAL WATER ELEVATION.

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEM	UNIT	SOUTH ABUTMENT	NORTH ABUTMENT	SUPER.	TOTALS
203.0600.S	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 15+37	LS				1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-42-134	LS				1
206.5000	COFFERDAMS B-42-134	LS				1
210.1500	BACKFILL STRUCTURE TYPE A	TON	690	690		1,380
312.0115	SELECT CRUSHED MATERIAL	CY	30	35		65
502.0100	CONCRETE MASONRY BRIDGES	CY	87	87	79	253
502.3200	PROTECTIVE SURFACE TREATMENT	SY	40	40	250	330
503.0128	PRESTRESSED GIRDER TYPE I 28-INCH	LF			354	354
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	4,580	4,580		9,160
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	3,615	3,615	12,950	20,180
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	6		12
506.4000	STEEL DIAPHRAGMS B-42-134	EACH			5	5
513.4061	RAILING TUBULAR TYPE M B-42-134	LF	26	26	126	178
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	21	21		42
550.1100	PILING STEEL HP 10-INCH X 42 LB (TYP.)	LF	400	480		880
606.0300	RIPRAP HEAVY	CY	120	150		270
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	100	100		200
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	65	65		130
645.0120	GEOTEXTILE TYPE HR	SY	240	290		530
NON-BID ITEMS						
	FILLER	SIZE				1/2" & 3/4"

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE 'HR' WITHIN THE LIMITS SHOWN ON SHEET 1, ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

THE EXISTING STRUCTURE (B-42-416) IS A SINGLE SPAN CONCRETE DECK GIRDER BRIDGE, 48' LONG X 28' WIDE, TO BE REMOVED.

ALL REQUIRED REMOVAL OF THE EXISTING SUBSTRUCTURES IS INCLUDED IN THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS, STATION 15+37."

EXCAVATION REQUIRED UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-42-134" IS NOT USED TO BALANCE THE EARTHWORK.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAIL SHEET.

① FILL TOP SURFACE OF RIPRAP HEAVY VOIDS WITH SELECT CRUSHED MATERIAL.

PROTECTIVE SURFACE TREATMENT DETAIL AT SUPERSTRUCTURE

(RAILING AND REINFORCEMENT NOT SHOWN FOR CLARITY)

LEGEND

☐ COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENT.

▲ ¾" V-GROOVE REQUIRED, EXTEND TO 6" FROM FRONT FACE OF ABUT. DIAPHRAGM.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CKD. KRH
CROSS SECTION AND QUANTITIES		SHEET 2 OF 18	

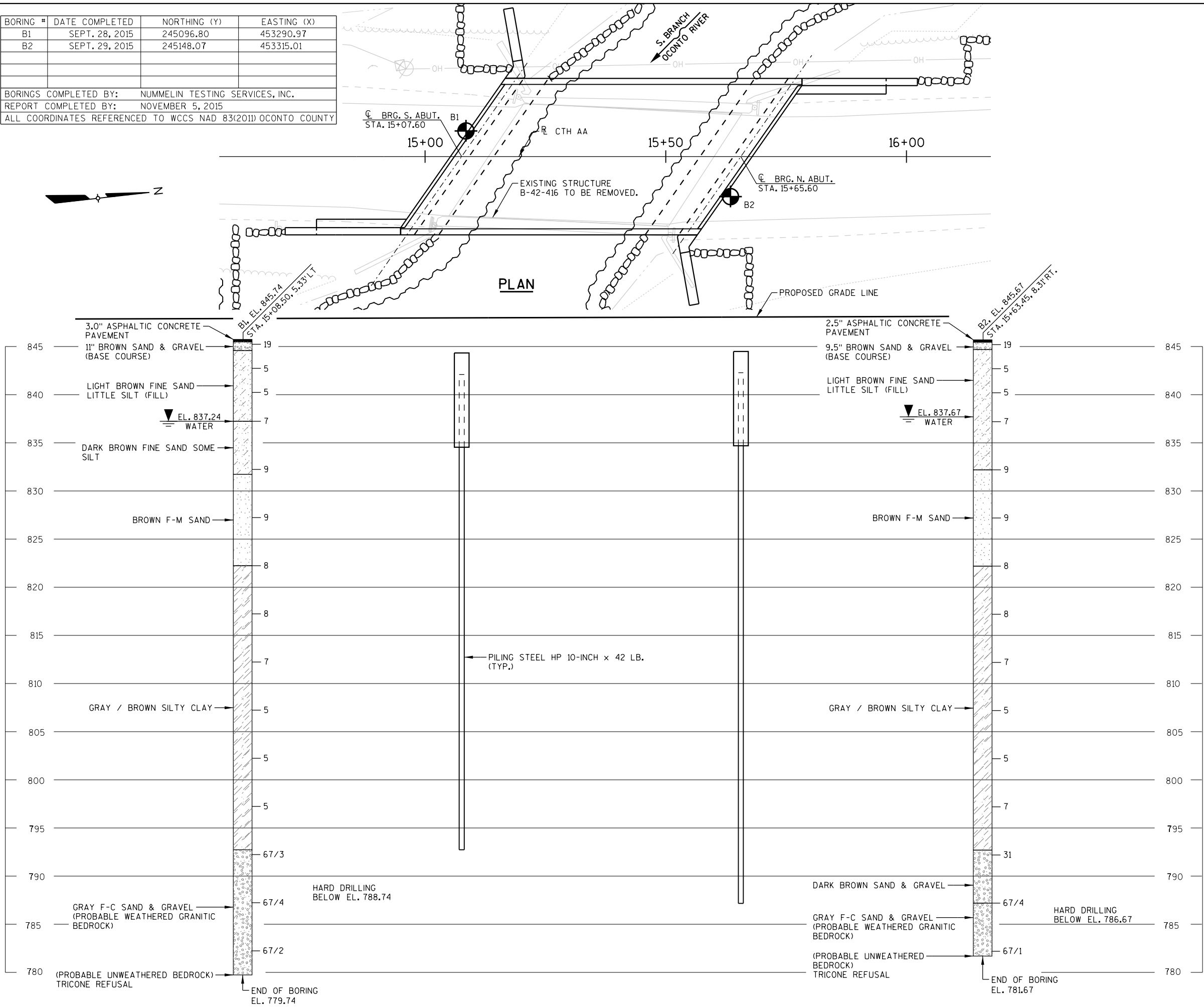
8

PRINTER DRIVER: G:\acm-CADstds\Libraries\WISDOT\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\MS-Printing\Pen.Tables\AE.Wis001.tbl
FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\03-134-Subsurface.dgn
PLOT TIME: 15:57:34 PM

BATCH PRINT SHEET 3 OF 18

8

BORING #	DATE COMPLETED	NORTHING (Y)	EASTING (X)
B1	SEPT. 28, 2015	245096.80	453290.97
B2	SEPT. 29, 2015	245148.07	453315.01
BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC.			
REPORT COMPLETED BY: NOVEMBER 5, 2015			
ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) OCONTO COUNTY			



STATE PROJECT NUMBER
9087-01-71

MATERIAL SYMBOLS

ASPHALT

CONCRETE

SAND

BOULDERS OR COBBLES

SHALE

TOPSOIL

FILL

CLAY

LIMESTONE

SANDSTONE

PEAT

GRAVEL

SILT

BEDROCK (UNKNOWN)

IGNEOUS/META

LEGEND OF BORING

BORING # / EL. STA. / OFF-SET

ST 0.25 17

F-C COBBLE OR BOULDER

WEATHERED LIMESTONE

CORE RUN #1 - 24'-29' REC=80%, ROD=72%

(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

AT TIME OF DRILLING

END OF DRILLING

AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

8

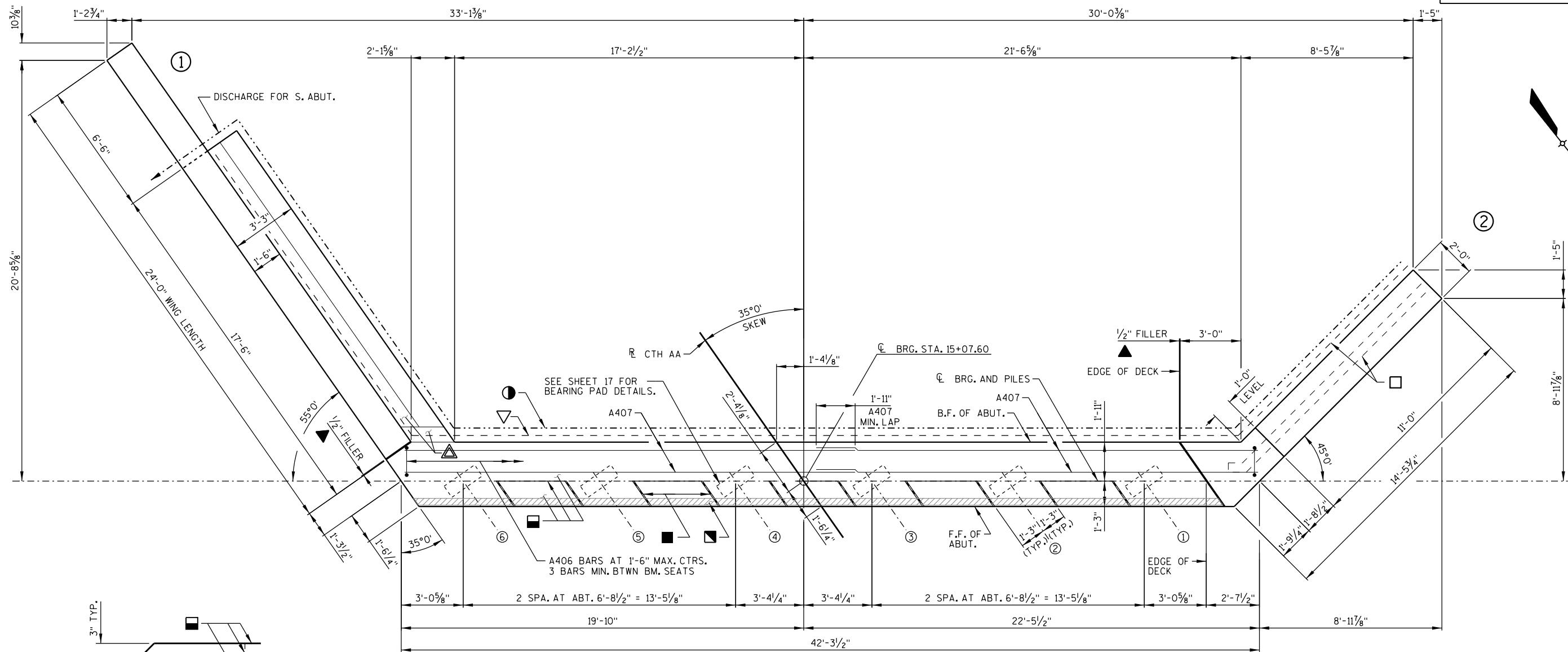
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. KRH
SUBSURFACE EXPLORATION			SHEET 3 OF 18

PRINTER DRIVER: G:\acm-CADstds\Libraries\MS001\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\9002_Work\CAD-910-CAD-20-SHEETS\MS_Printing\Pen_Tables\AE_Wis001.tbl

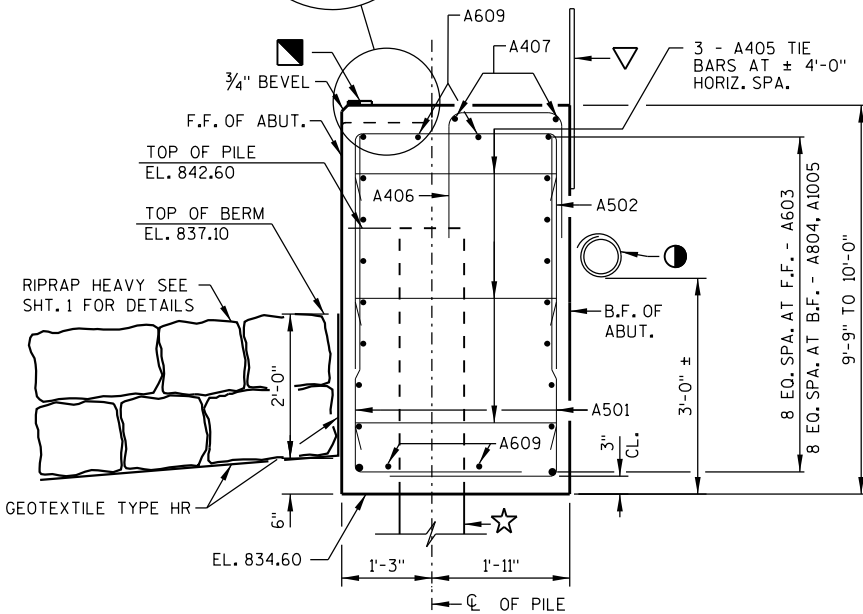
FILE NAME: P:\60440973\9002_Work\CAD-910-CAD-20-SHEETS\04-134-South-Abutment.Ldgn
PLOT DATE: 8/3/2017
PLOT TIME: 15:7:35 PM

BATCH PRINT SHEET 4 OF 18

8



PLAN



TYPICAL SECTION THRU BODY

NOTES

ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE C. OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS SEE SHEETS 6 & 7.

WING LENGTHS FOR WINGS 1 & 3 INCLUDES 1/2" FILLER.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

LEGEND

- ☆ SUPPORT ABUTMENTS ON PILING STEEL HP 10-INCH x 42 LB.. SEE FOUNDATION DATA ON SHEET 1 AND PILE SPLICE DETAIL ON SHEET 12.
- ① PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. DRAIN BOTH ABUTMENTS TO DOWNSTREAM SIDE OF BRIDGE. ATTACH RODENT SHIELD AT ENDS OF PIPE. SEE SHT. 2.
- ▲ 1/2" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)
- ▽ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.
- 4"x3/4" FILLER - TO EXTEND FULL LENGTH OF ABUTMENT BODY.
- OPTIONAL CONSTRUCTION JOINT KEYWAY FORMED BY A BEVELED 2"x6", WITH RUBBERIZED MEMBRANE WATERPROOFING ON BACKFACE. 3/4" BEVEL REQUIRED ON JOINT EDGES ON F.F., B.F. AND END OF WING.
- △ PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING, HORIZONTAL IN THIS AREA.
- 3/4" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.
- STEEL TROWEL TOP SURFACE OF ABUTMENT. PLACE MULTIPLE LAYERS OF POLYETHELENE SHEETS OVER ENTIRE ABUTMENT TOP BEFORE PLACING THE BEARING PADS AND SUPERSTRUCTURE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ⊗ INDICATES WING NUMBER
- ⊗ INDICATES BEAM NUMBER

STATE PROJECT NUMBER

9087-01-71

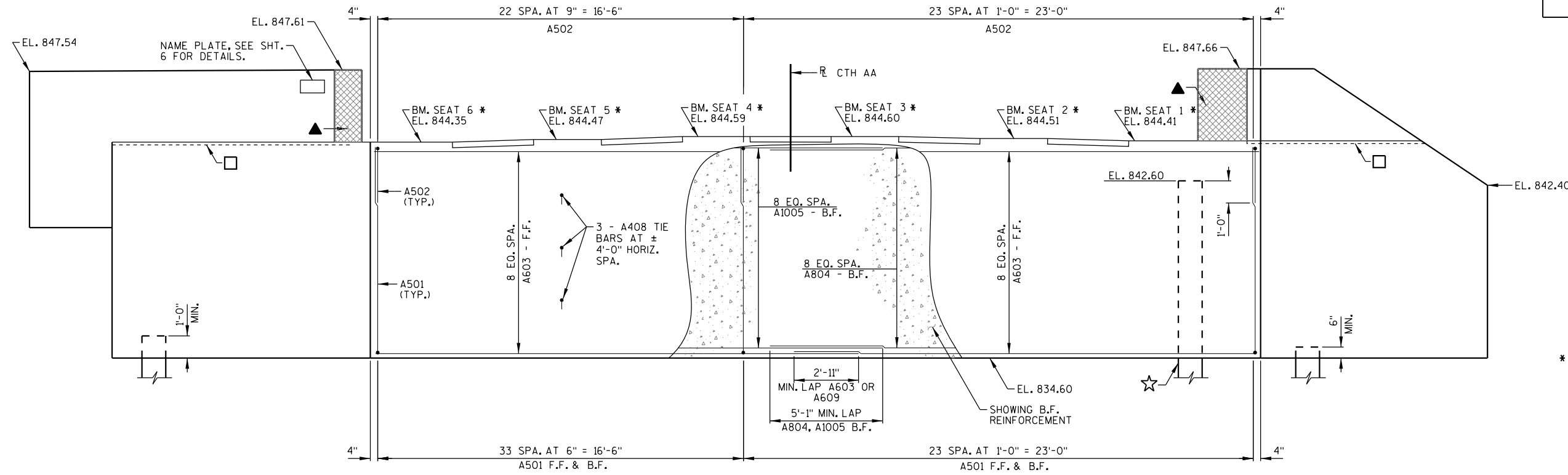
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
SOUTH ABUTMENT - 1		SHEET 4 OF 18	

8

PRINTER DRIVER: S:_com-CADstds\Libraries\WISDOT\MicrostationResources\MS_Plotting\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900.Work\CAD\910-CAD\20-SHEETS\MS_Plotting\Pen_Table\AE_WisDOT.tbl
FILE NAME: P:\60440973\900.Work\CAD\910-CAD\20-SHEETS\05-134-South.Abutment.2.dgn
PLOT TIME: 8/3/2017 15:7:36 PM

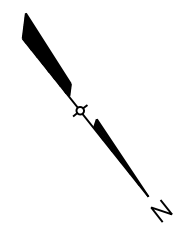
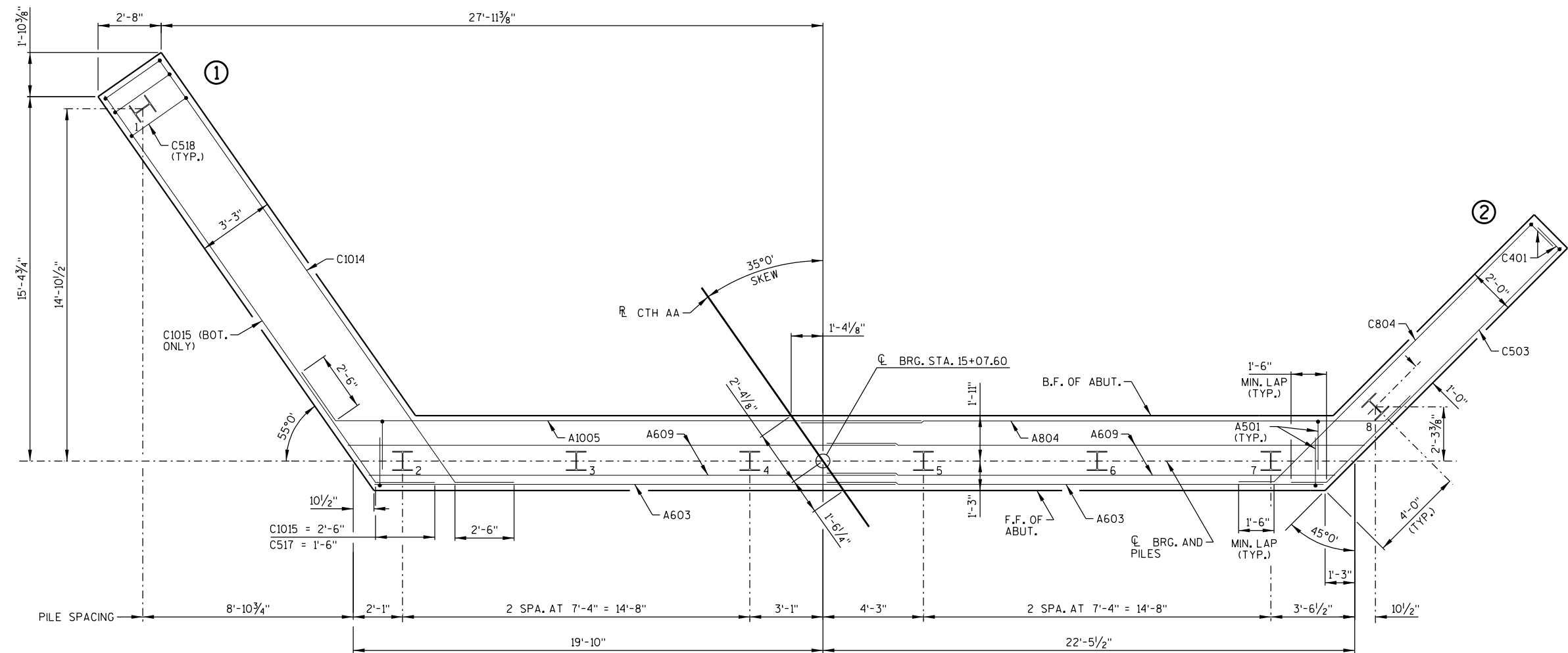
8

BATCH PRINT SHEET 5 OF 18



NOTE
SPACE A501 & A502 TO MISS PILING.

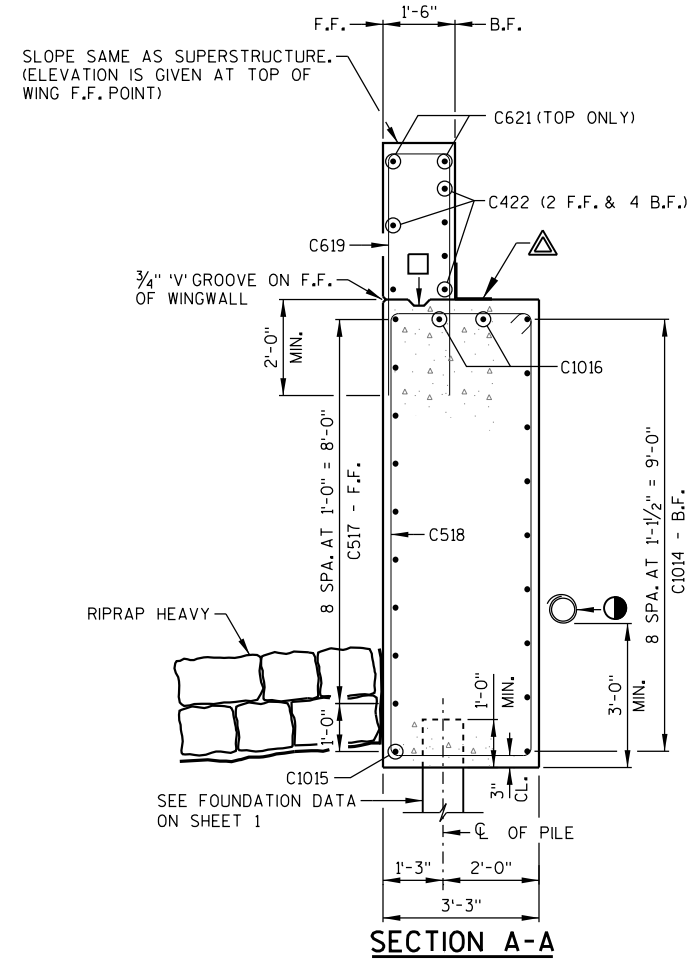
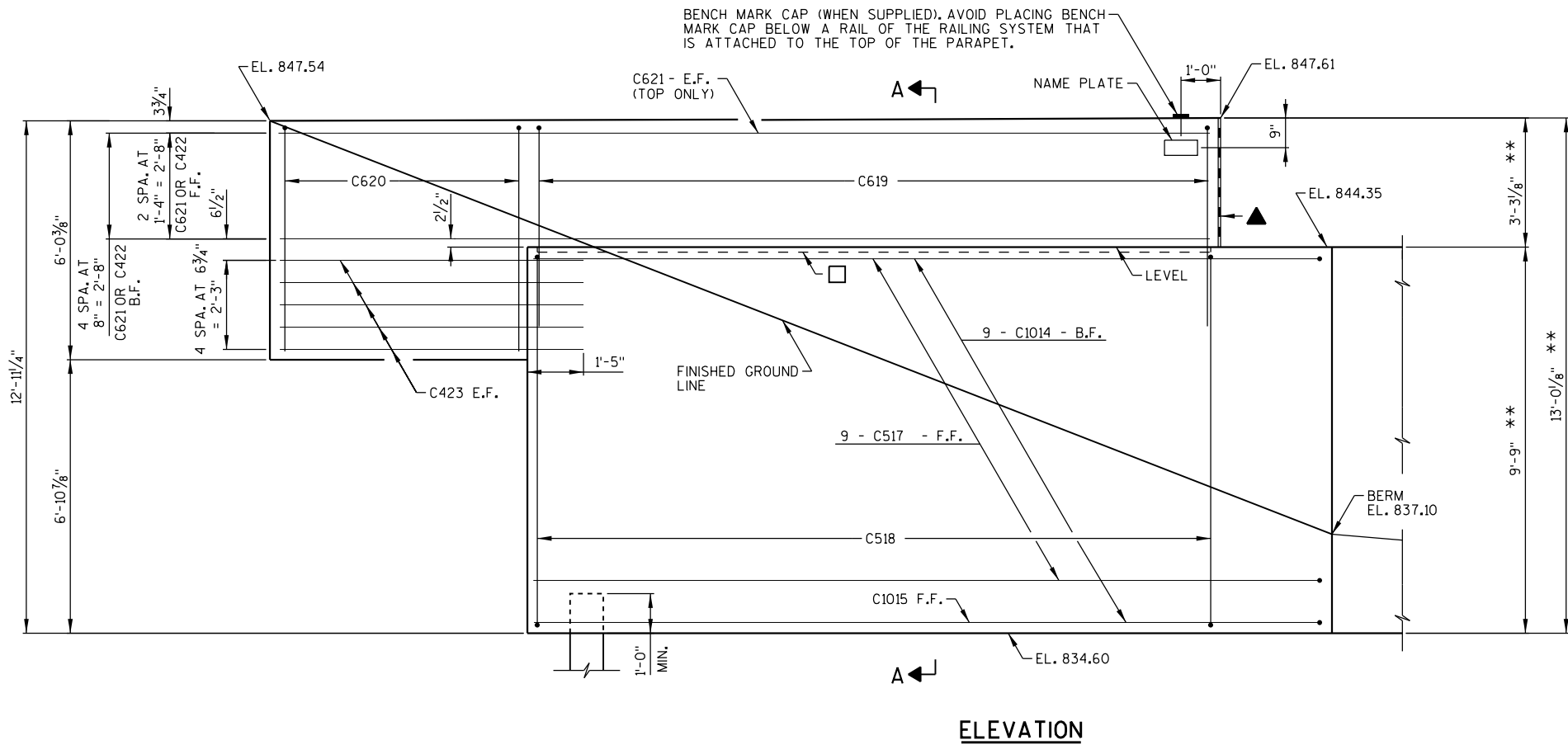
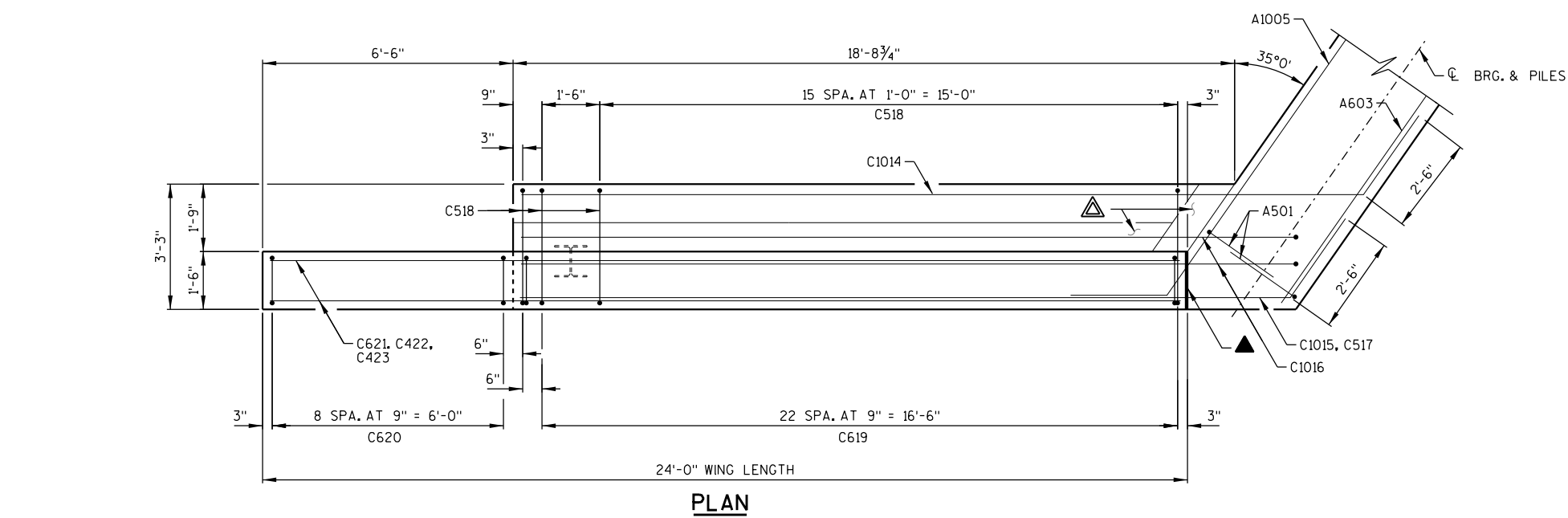
LEGEND
* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE C OF BEARING.
FOR ADDITIONAL SYMBOL DESCRIPTIONS SEE SHT. 4.



8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
SOUTH ABUTMENT - 2		SHEET 5 OF 18	

PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: P:\60440973\9002_Work\CAD\20-SHEETS\MS-Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\9002_Work\CAD\20-SHEETS\06-134-Wing.1.dgn
PLOT DATE: 8/28/2017
PLOT TIME: 2:20:33 PM



LEGEND
** DIMENSIONS AND ELEVATIONS
GIVEN AT THE B.F. OF ABUTMENT.
FOR ADDITIONAL SYMBOL
DESCRIPTIONS SEE SHT. 4.

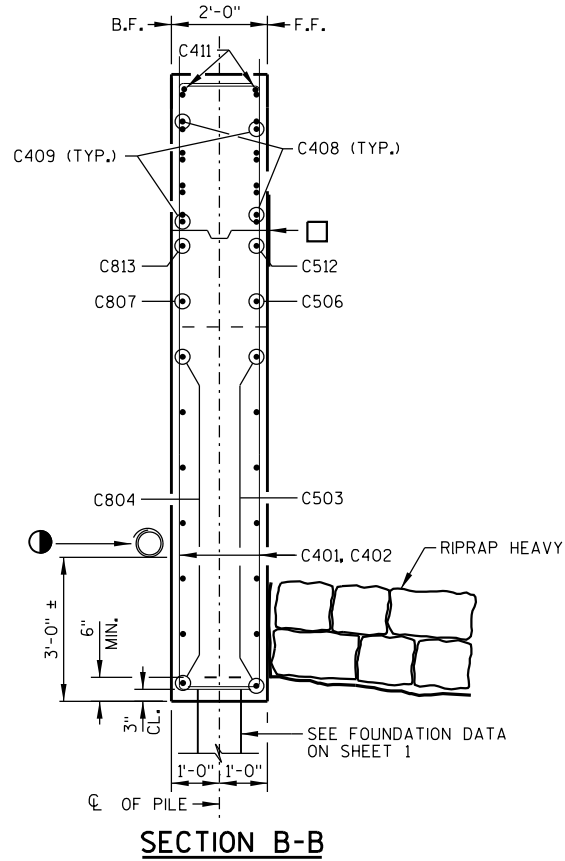
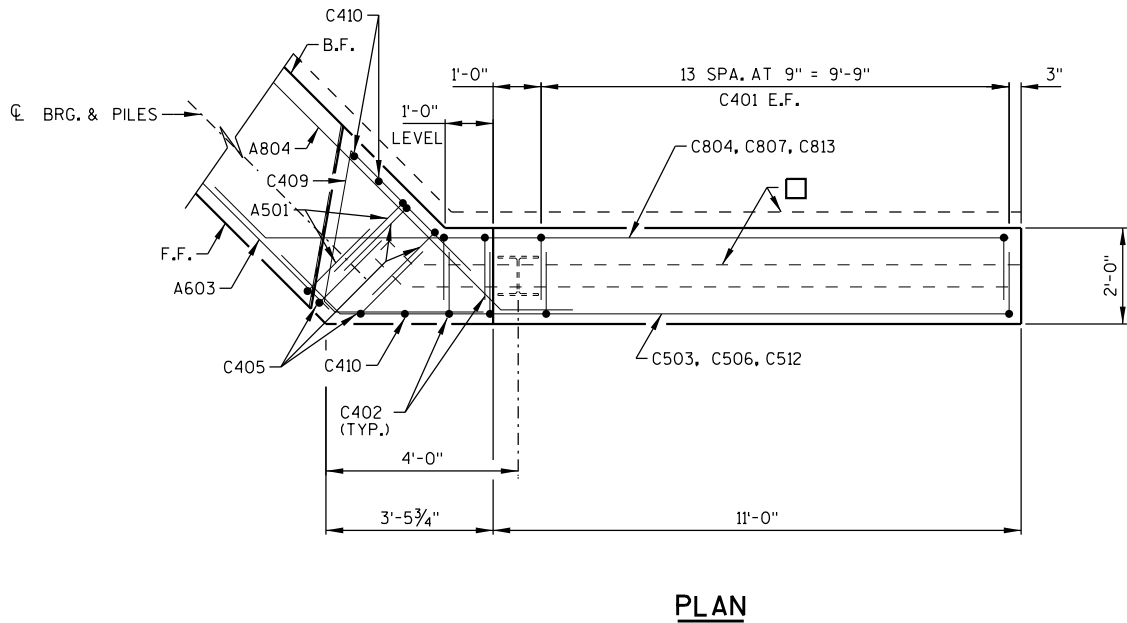
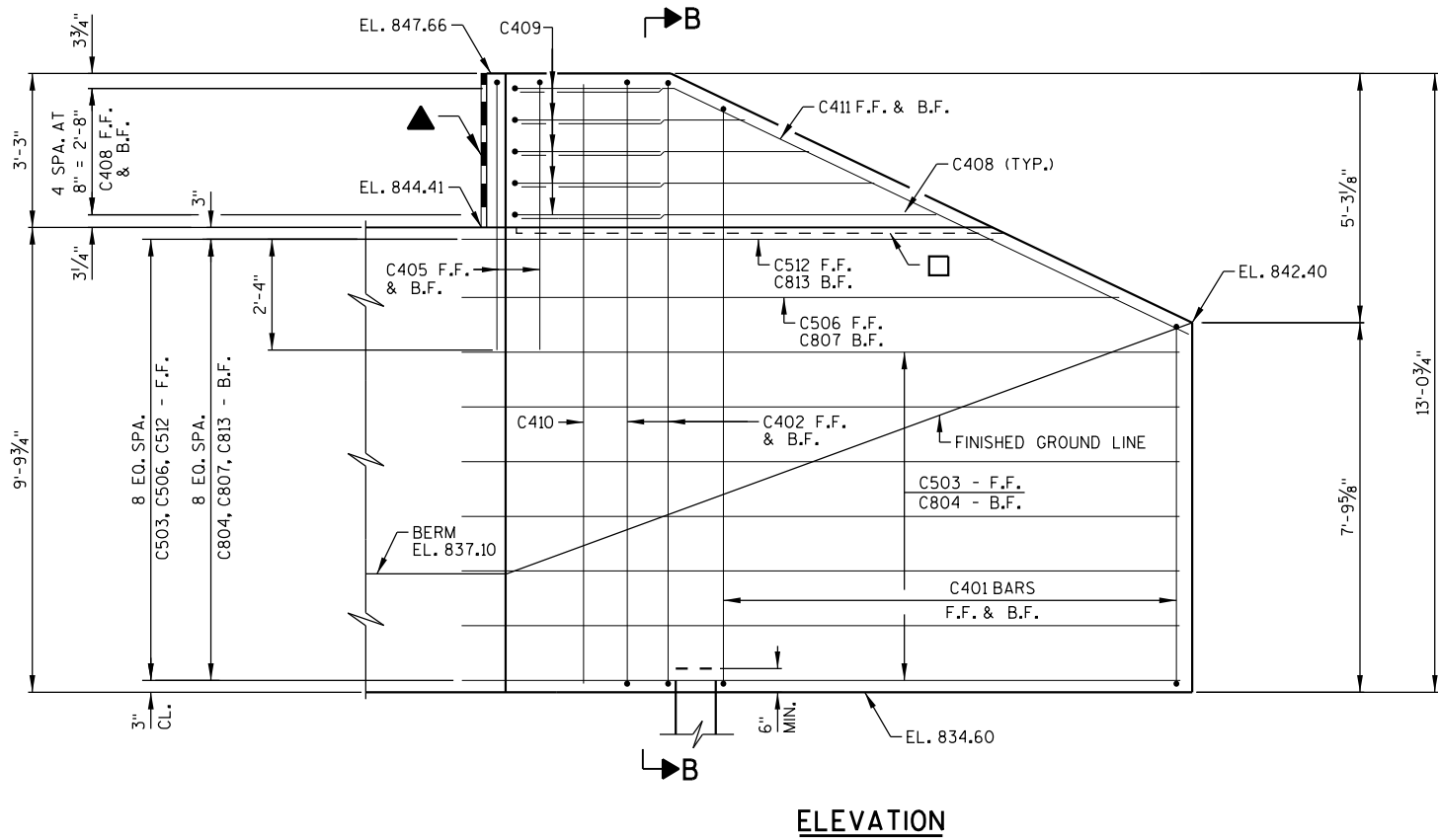
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
WING 1		SHEET 6 OF 18	

PRINTER DRIVER: S:\acm-CADstds\Libraries\WISDOT\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF.ll x 17.plt
PEN TABLE: P:\60440973\9000_Work\CAD\910-CAD\20-SHEETS\MS_Printing\Pen_Tables\AE_WisDOT.tbl

FILE NAME: P:\60440973\9000_Work\CAD\910-CAD\20-SHEETS\07-134-Wing.2.dgn
PLOT DATE: 8/29/2017

BATCH PRINT SHEET 7 OF 18

8



LEGEND
FOR ADDITIONAL SYMBOL DESCRIPTIONS
SEE SHEET 4.

STATE PROJECT NUMBER

9087-01-71

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
WING 2		SHEET 7 OF 18	

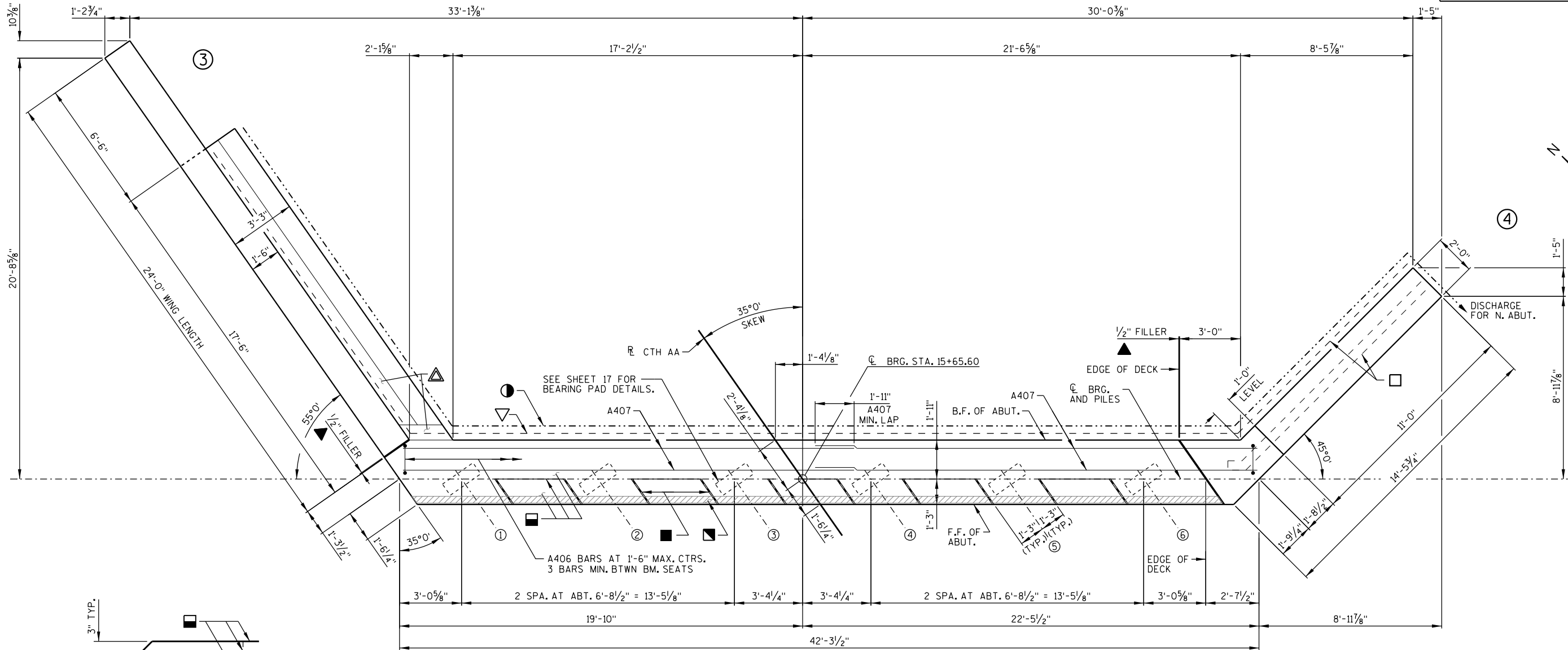
8

PRINTER DRIVER: S:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\20-SHEETS\MS-Printing\Pen-Tables\AE_Wis001.tbl

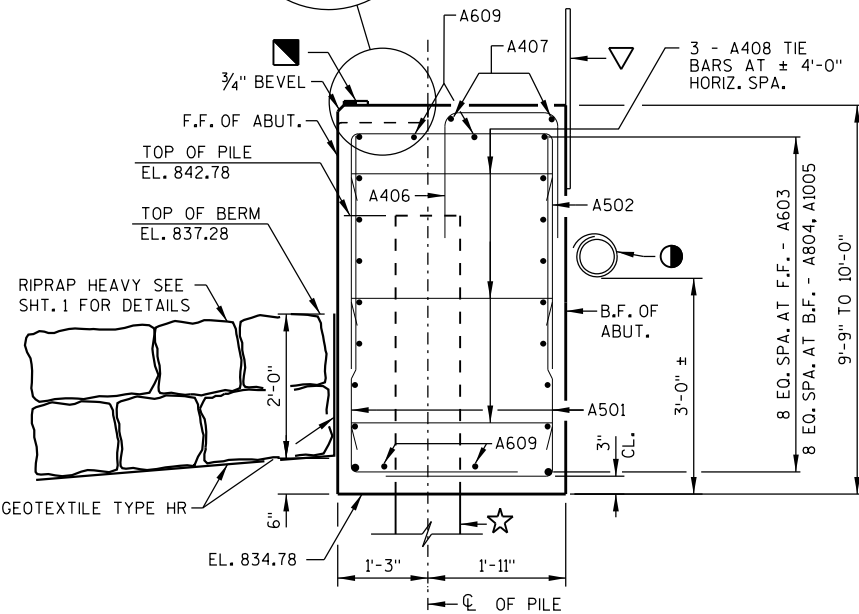
FILE NAME: P:\60440973\900_Work\CAD\20-SHEETS\08-134-North-Abutment.Ldgn
PLOT TIME: 1:57:40 PM

BATCH PRINT SHEET 8 OF 18

8



PLAN



TYPICAL SECTION THRU BODY

NOTES

ELEVATIONS AND DIMENSIONS ARE GIVEN AT THE ϕ OF ABUTMENT. FOR WING DETAILS AND ELEVATIONS SEE SHEETS 10 & 11.

WING LENGTHS FOR WINGS 1 & 3 INCLUDES $\frac{1}{2}$ " FILLER.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF THE FRONT FACE OF ABUTMENTS.

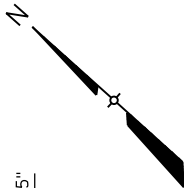
DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

LEGEND

FOR SYMBOL DESCRIPTIONS SEE SHEET 4.

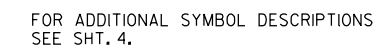
STATE PROJECT NUMBER

9087-01-71

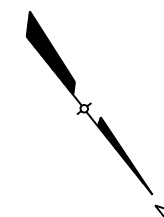


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
NORTH ABUTMENT - 1		SHEET 8 OF 18	

8



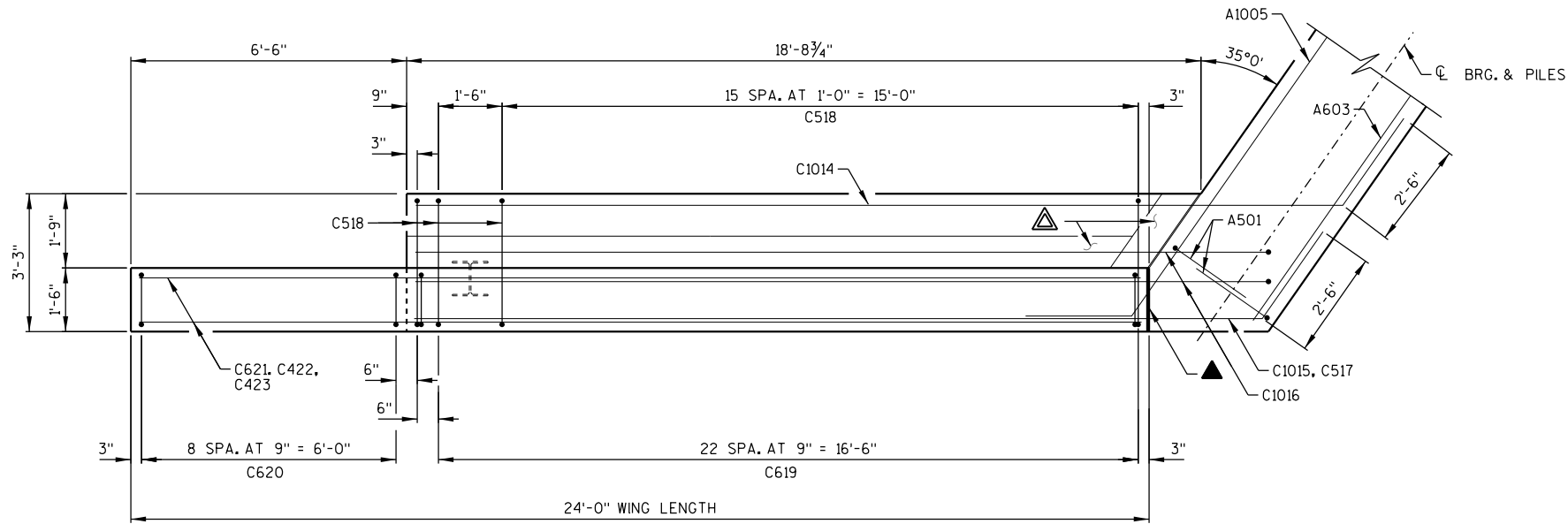
(LOOKING NORTH AT NORTH ABUTMENT)



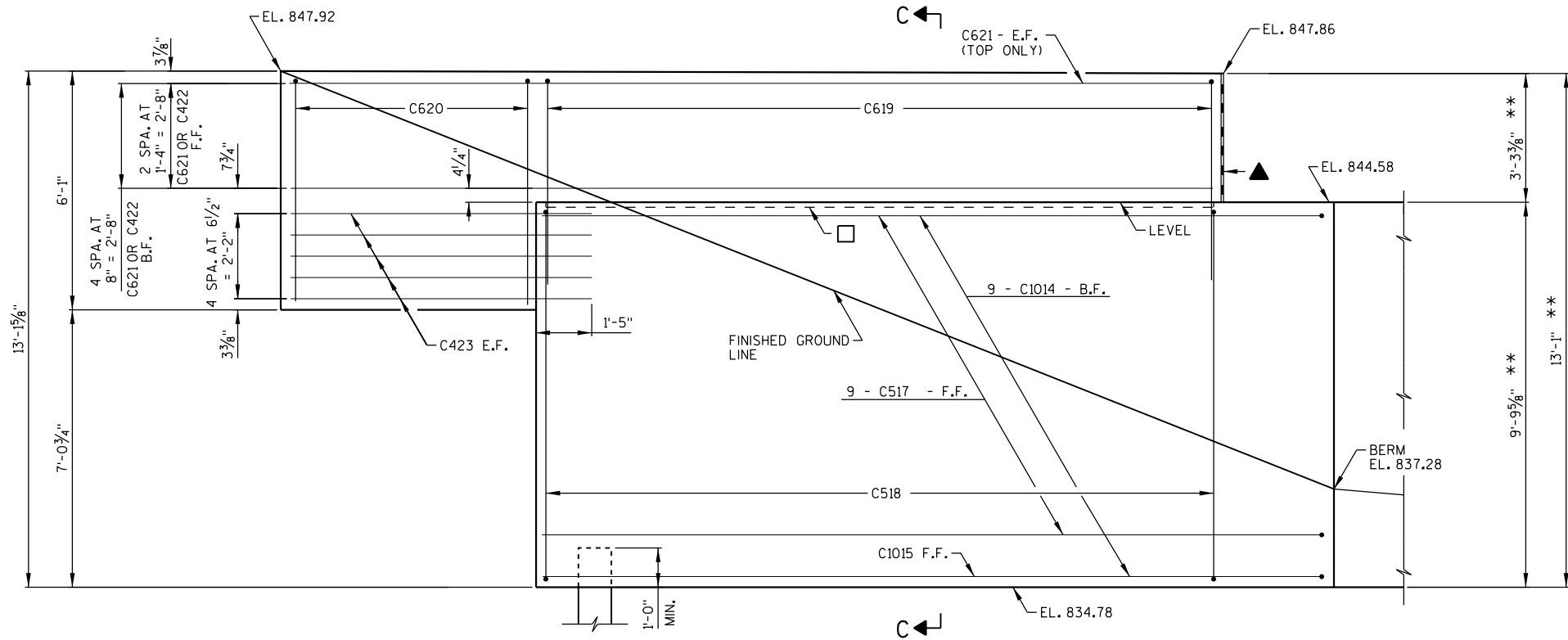
PILE PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EA
NORTH ABUTMENT - 2			SHEET 9 OF 1

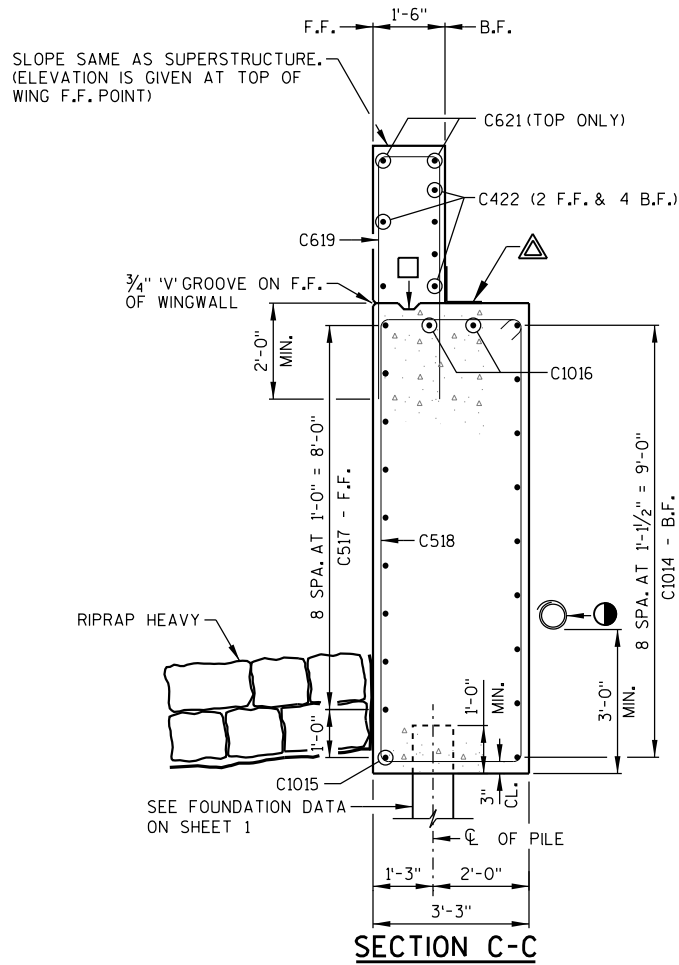
PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\20-SHEETS\MS-Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\10-134-Wing_3.dgn
PLOT DATE: 8/28/2017 PLOT TIME: 2:20:35 PM



PLAN



ELEVATION



STATE PROJECT NUMBER

9087-01-71

LEGEND

** DIMENSIONS AND ELEVATIONS
GIVEN AT THE B.F. OF ABUTMENT.

FOR ADDITIONAL SYMBOL
DESCRIPTIONS SEE SHT. 4.

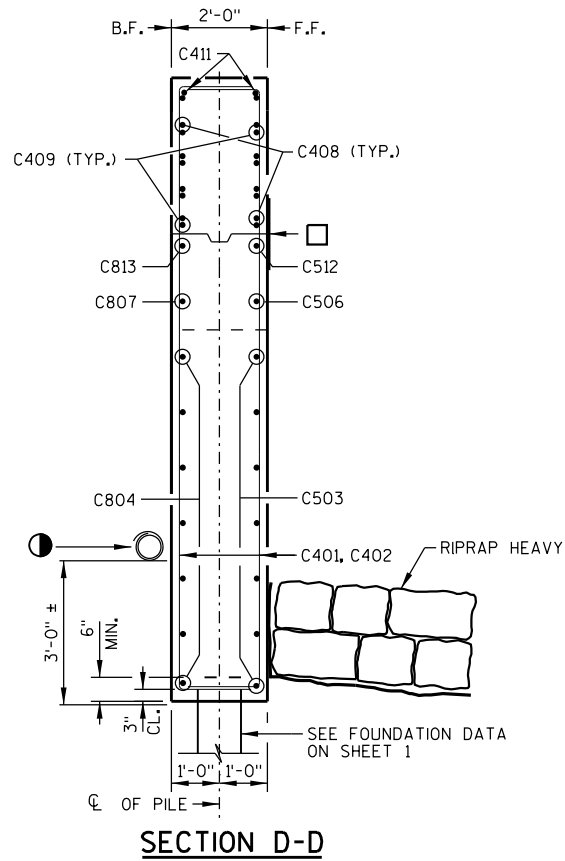
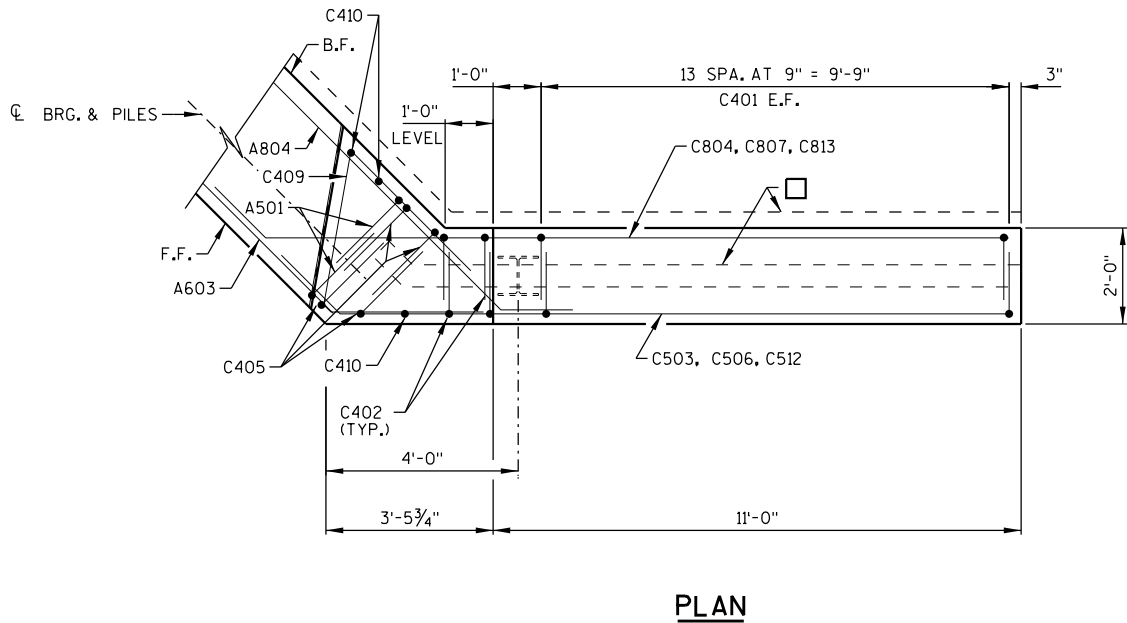
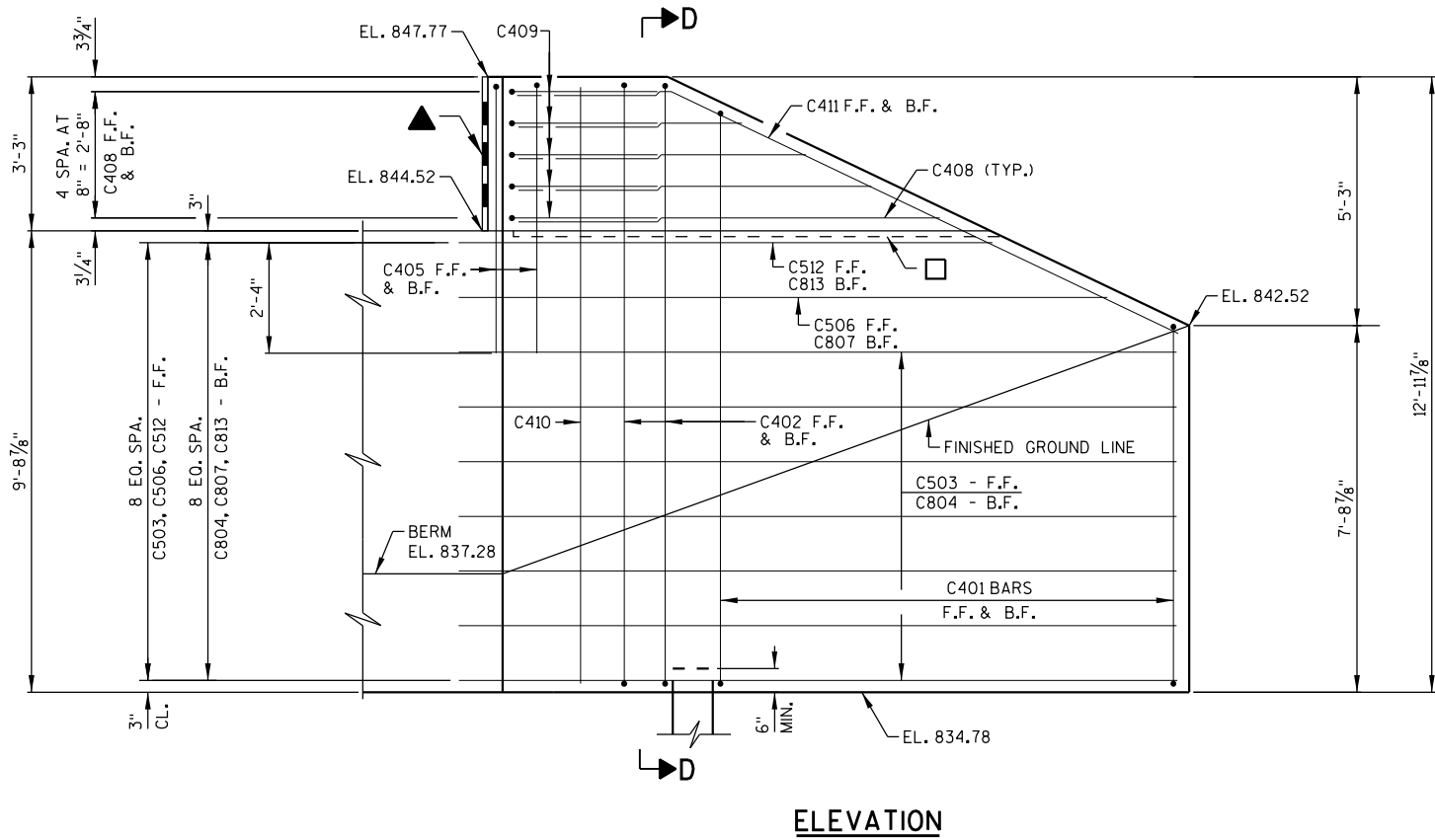
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
WING 3		SHEET 10 OF 18	

PRINTER DRIVER: S:\acm-CADstds\Libraries\WISDOT\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF.plt
PEN TABLE: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\MS_Printing\Pen_Tables\AE_WisDOT.tbl

FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\11-134-Wing-4.dgn
PLOT DATE: 8/29/2017

BATCH PRINT SHEET 11 OF 18

8



LEGEND
FOR ADDITIONAL SYMBOL DESCRIPTIONS
SEE SHEET 4.

STATE PROJECT NUMBER

9087-01-71

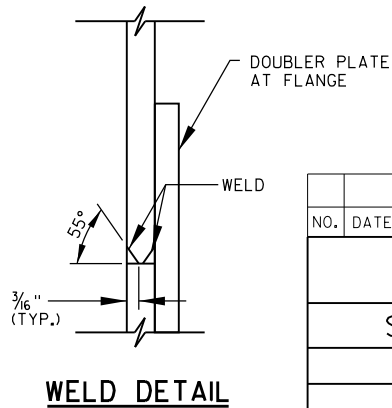
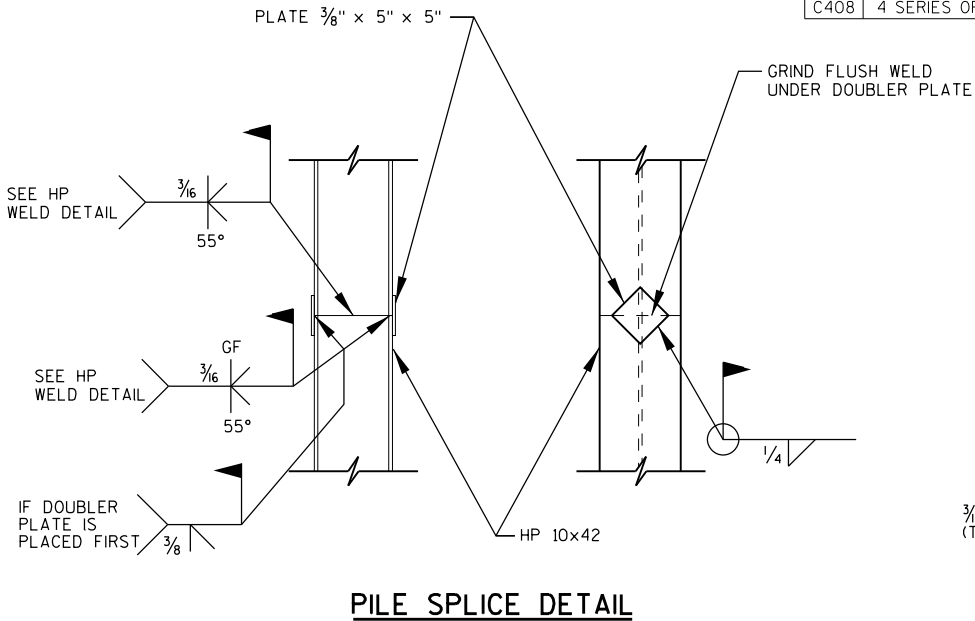
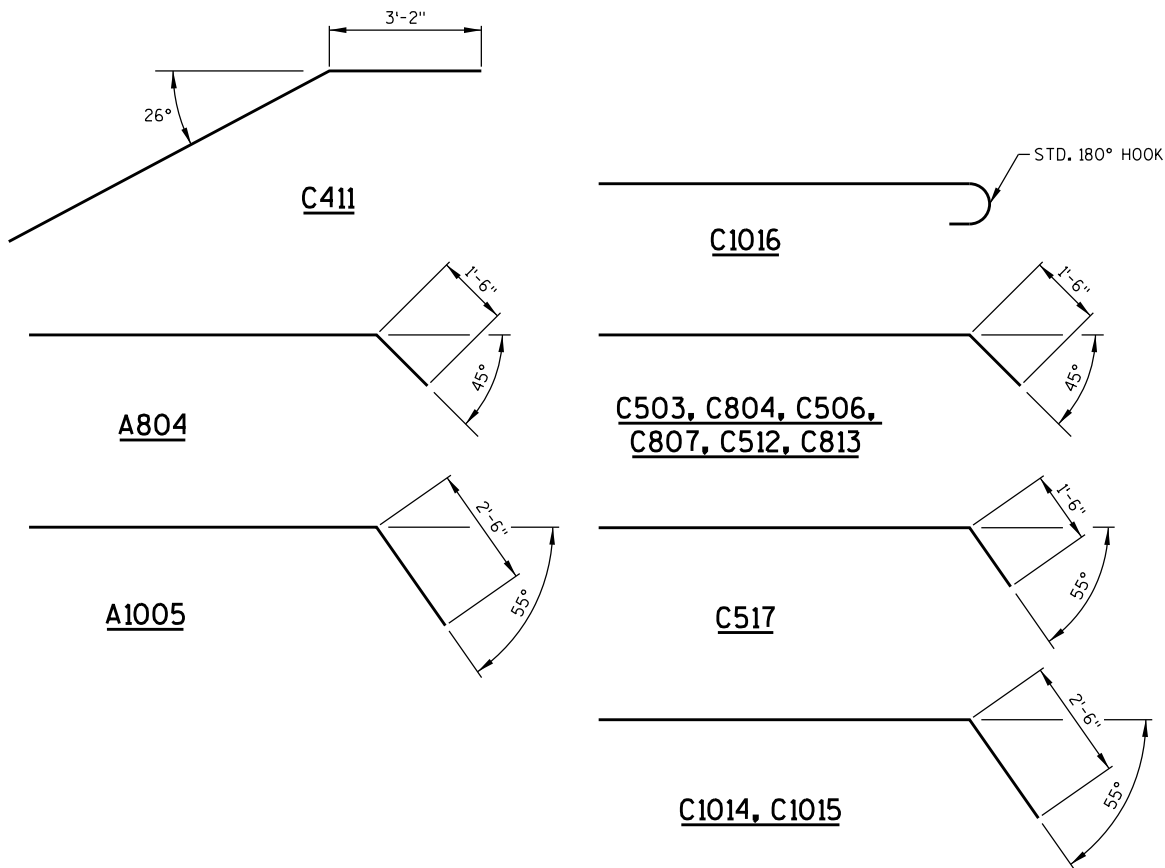
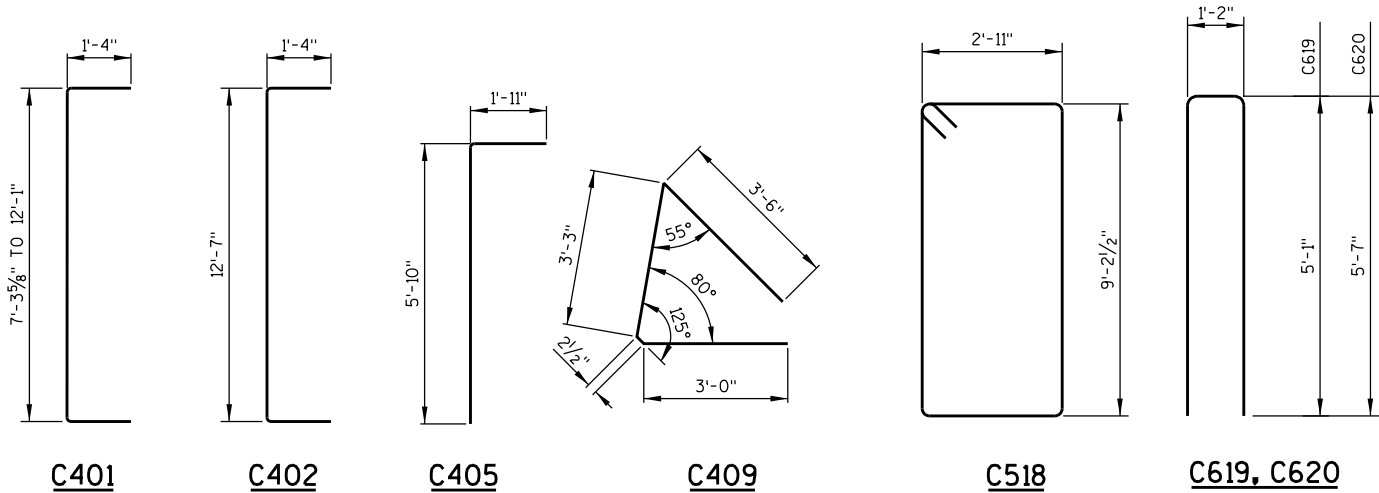
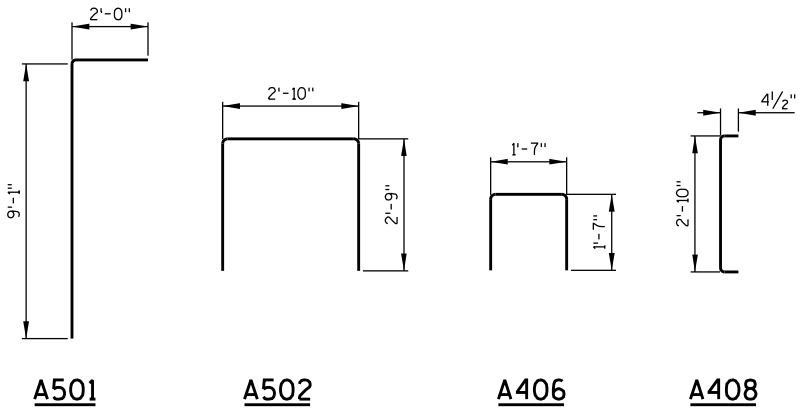
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
WING 4		SHEET 11 OF 18	

PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\604440973\9002_Work\CAD\910-CAD\20-SHEET\MS-Printing\Pen_Table\AE_Wis001.tbl
FILE NAME: P:\604440973\9002_Work\CAD\910-CAD\20-SHEETS\12-134-Abutment_Details.dgn
PLOT DATE: 8/3/2017 PLOT TIME: 1:57:52 PM

BATCH PRINT SHEET 12 OF 18

8



BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
Δ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

MARK	NO. REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
NON-COATED BARS					
TOTAL WEIGHT = 9,160 LBS					
A501	228	11-0	X		ABUTMENT - F.F. & B.F. VERT.
A502	114	8-1	X		ABUTMENT - TOP VERT.
A603	36	21-7			ABUTMENT - F.F. TRANS.
A804	18	26-6	X		ABUTMENT - B.F. TRANS.
A1005	18	27-6	X		ABUTMENT - B.F. TRANS.
A406	62	4-7	X		ABUTMENT - TOP VERT.
A407	8	22-2			ABUTMENT - TOP TRANS.
A408	66	3-5	X		ABUTMENT - TIES LONGIT.
A609	16	23-0			ABUTMENT - TOP & BOT. TRANS.
COATED BARS					
TOTAL WEIGHT = 7,230 LBS					
C401	56	12-3	X	Δ	WINGS 2 & 4 - F.F. & B.F. VERT.
C402	8	15-1	X		WINGS 2 & 4 - F.F. & B.F. VERT.
C503	14	15-7	X		WINGS 2 & 4 - F.F. HORIZ.
C804	14	17-2	X		WINGS 2 & 4 - B.F. HORIZ.
C405	8	7-8	X		WINGS 2 & 4 - F.F. & B.F. VERT.
C506	2	14-1	X		WINGS 2 & 4 - F.F. HORIZ.
C807	2	15-10	X		WINGS 2 & 4 - B.F. HORIZ.
C408	16	6-7		Δ	WINGS 2 & 4 - F.F. & B.F. HORIZ.
C409	10	9-10	X		WINGS 2 & 4 - TOP HORIZ.
C410	6	12-6			WINGS 2 & 4 - F.F. & B.F. VERT.
C411	4	15-1	X		WINGS 2 & 4 - F.F. & B.F. TOP HORIZ.
C512	2	11-10	X		WINGS 2 & 4 - F.F. HORIZ.
C813	2	13-5	X		WINGS 2 & 4 - B.F. HORIZ.
C1014	18	24-5	X		WINGS 1 & 3 - B.F. HORIZ.
C1015	2	22-4	X		WINGS 1 & 3 - F.F. BOT. HORIZ.
C1016	4	21-6	X		WINGS 1 & 3 - TOP HORIZ.
C517	18	21-4	X		WINGS 1 & 3 - F.F. HORIZ.
C518	36	24-11	X		WINGS 1 & 3 - STIRRUP VERT.
C619	48	11-0	X		WINGS 1 & 3 - WINGWALL VERT.
C620	18	12-0	X		WINGS 1 & 3 - WINGWALL VERT.
C621	4	23-6			WINGS 1 & 3 - WINGWALL TOP HORIZ.
C422	12	23-6			WINGS 1 & 3 - WINGWALL HORIZ.
C423	20	7-8			WINGS 1 & 3 - WINGWALL END HORIZ.

BAR SERIES

MARK	NO. REQ'D	LENGTH
C401	4 SERIES OF 14	9'-11" TO 14'-7"
C408	4 SERIES OF 4	4'-5 3/4" TO 8'-8 1/2"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. EAN
ABUTMENT DETAILS		SHEET 12 OF 18	

8

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING
DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE
SECT. 503.3.3 OF STANDARD SPECIFICATIONS FOR GUIDANCE.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF)
ASTM A1064 MAY BE SUBSTITUTED FOR THE STIRRUP
REINFORCEMENT SHOWN, UPON APPROVAL OF THE
STRUCTURES DEVELOPMENT SECTION.

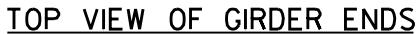
BEND EACH END OF #4 STIRRUPS 4 1/2" AND #5 STIRRUPS 6".

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



Ⓐ DETAIL TYP. AT EACH END

2 - #4 BARS BEND DOWN 16 BAR DIA. AT ENDS



IF 1 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 $\frac{1}{4}$ OF SUBSTRUCTURE UNITS
& AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS
PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS

= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 $\frac{5}{8}$ " WAS USED IN THE QUANTITY
"CONCRETE MASONRY BRIDGES".



*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	1.78

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T',
USE ACTUAL GIRDER SHOTS.

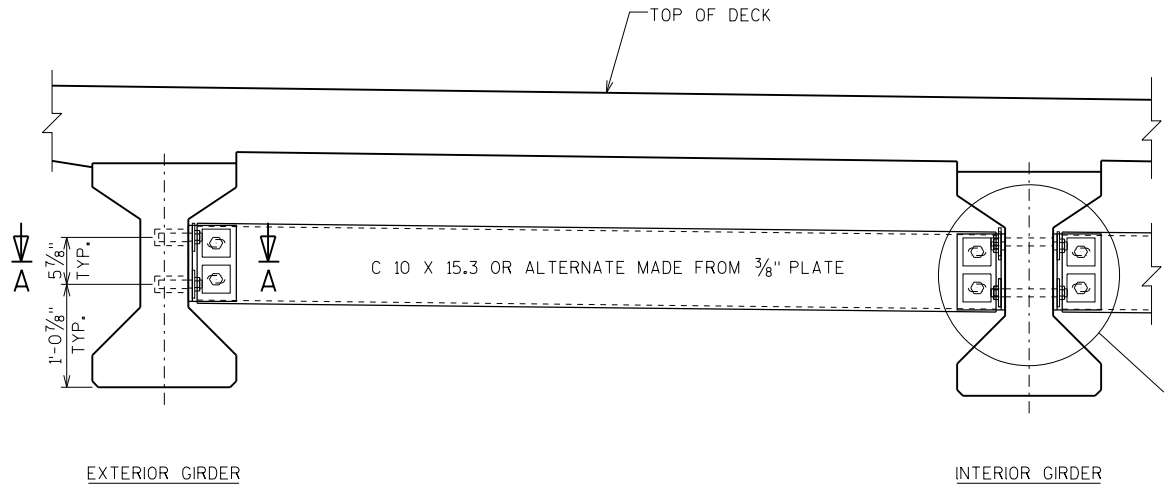
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

[illegible]

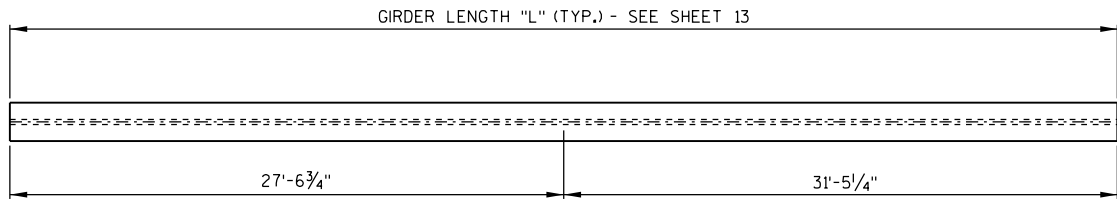
* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. CAB
28" PRESTRESSED GIRDER DETAILS		SHEET 13 OF 18	

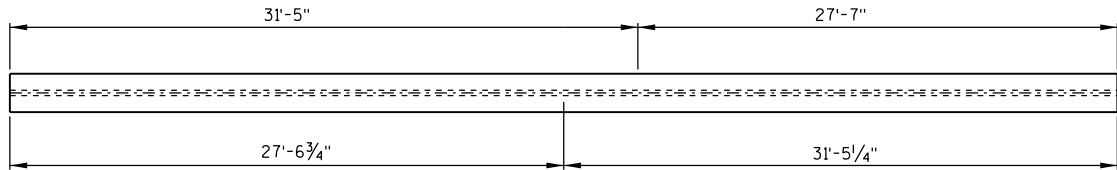
PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\MS-Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\14-134-Steel_Diaphragm.dgn
PLOT DATE: 8/3/2017 PLOT TIME: 15:54 PM



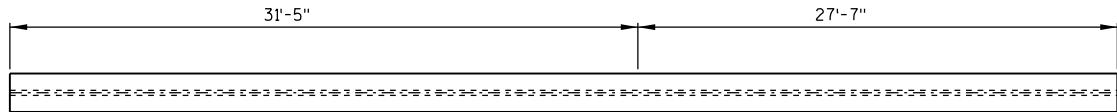
PART TRANSVERSE SECTION AT DIAPHRAGM



GIRDER 1

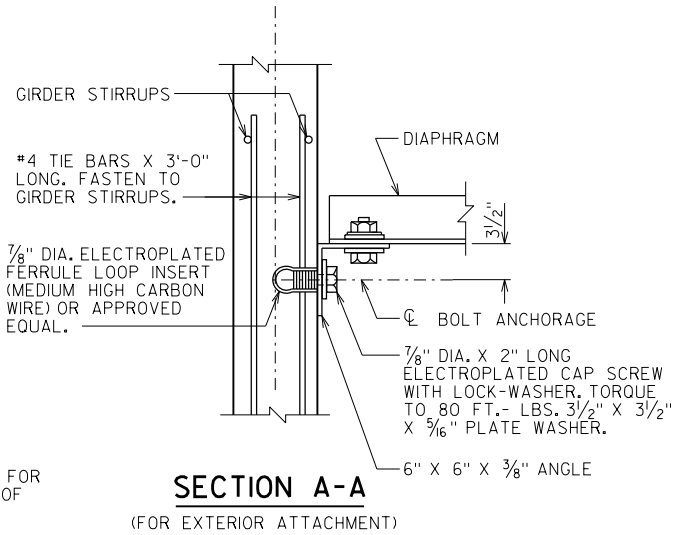


GIRDERS 2 - 5



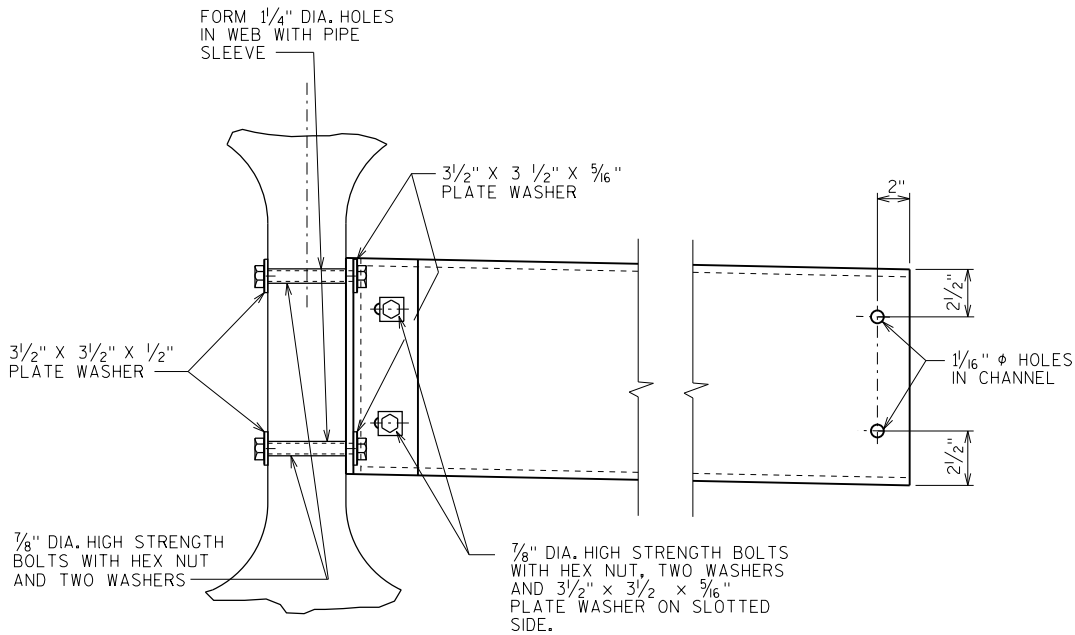
GIRDER 6

DIAPHRAGM CONNECTION SPACING



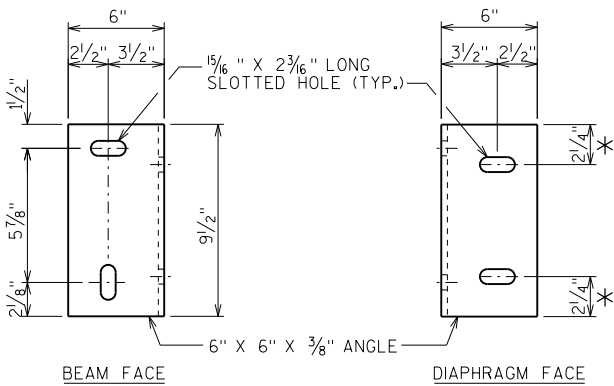
SECTION A-A

(FOR EXTERIOR ATTACHMENT)



DETAIL B

(FOR STAGGERED DIAPHRAGM)



DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

SECTION THRU ALTERNATE DIAPHRAGM

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CKD. CAB
INTERMEDIATE STEEL DIAPHRAGM		SHEET 14 OF 18	

STATE PROJECT NUMBER

9087-01-71

NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-42-134", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

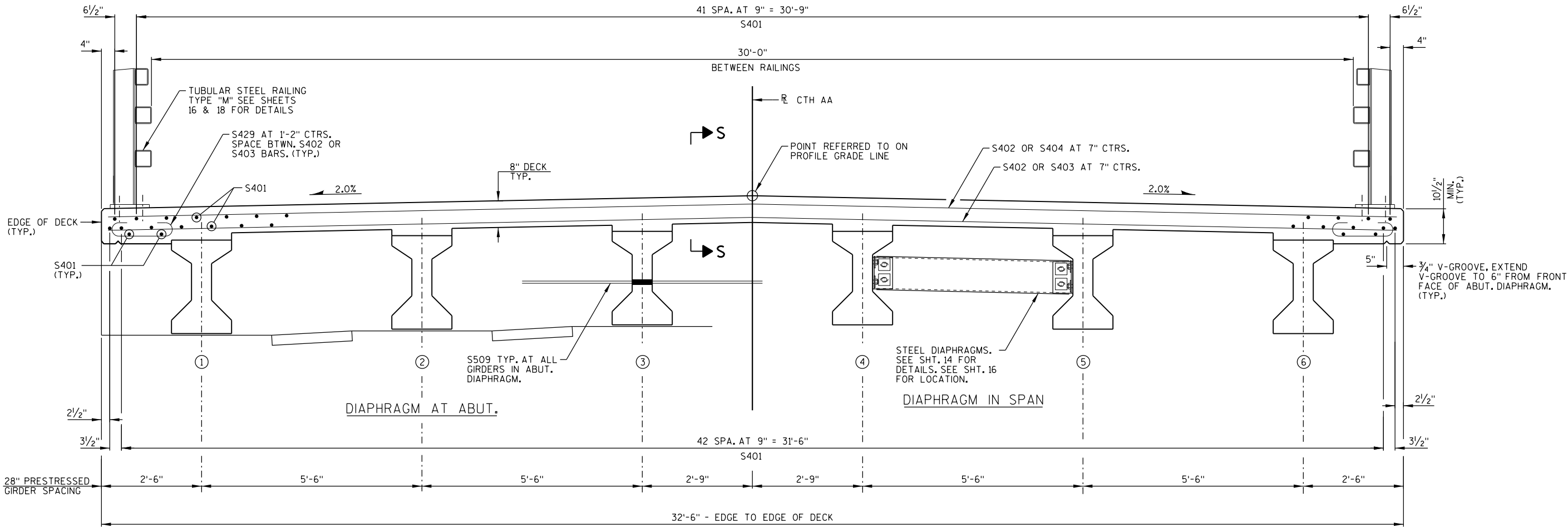
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

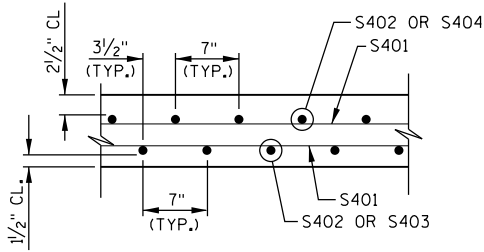
STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS 1/4 TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.

PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900.Work\CAD\910-CAD\20-SHEETS\MS_Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\900.Work\CAD\910-CAD\20-SHEETS\15-134-Superstructure.Section.dgn
PLOT TIME: 15:57 PM

BATCH PRINT SHEET 15 OF 18



CROSS SECTION THRU ROADWAY
(LOOKING NORTH)



SECTION S-S

TOP OF DECK ELEVATIONS

	CL BRG. S. ABUT.	1/10 PT.	2/10 PT.	3/10 PT.	4/10 PT.	5/10 PT.	6/10 PT.	7/10 PT.	8/10 PT.	9/10 PT.	CL BRG. N. ABUT.
EOD	847.66	847.68	847.70	847.71	847.73	847.75	847.77	847.78	847.80	847.82	847.84
BEAM 1	847.71	847.72	847.74	847.76	847.78	847.79	847.81	847.83	847.85	847.86	847.88
BEAM 2	847.81	847.82	847.84	847.86	847.87	847.89	847.91	847.93	847.94	847.96	847.98
BEAM 3	847.90	847.92	847.94	847.96	847.97	847.99	848.01	848.03	848.04	848.06	848.08
BEAM 4	847.89	847.91	847.93	847.94	847.96	847.98	848.00	848.01	848.03	848.05	848.07
BEAM 5	847.77	847.79	847.81	847.82	847.84	847.86	847.87	847.89	847.91	847.93	847.94
BEAM 6	847.65	847.67	847.68	847.70	847.72	847.74	847.75	847.77	847.79	847.81	847.82
EOD	847.59	847.61	847.63	847.65	847.66	847.68	847.70	847.72	847.73	847.75	847.77

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CKD. CAB
SUPERSTRUCTURE-1		SHEET 15 OF 18	

PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD01\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\20-SHEETS\MS_Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\16-134-Superstructure.Slab.dgn
PLOT DATE: 8/3/2017 PLOT TIME: 1:57:58 PM

BATCH PRINT SHEET 16 OF 18

NOTES

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN THE TRANSVERSE DIRECTION ON 4'-0" CENTERS.

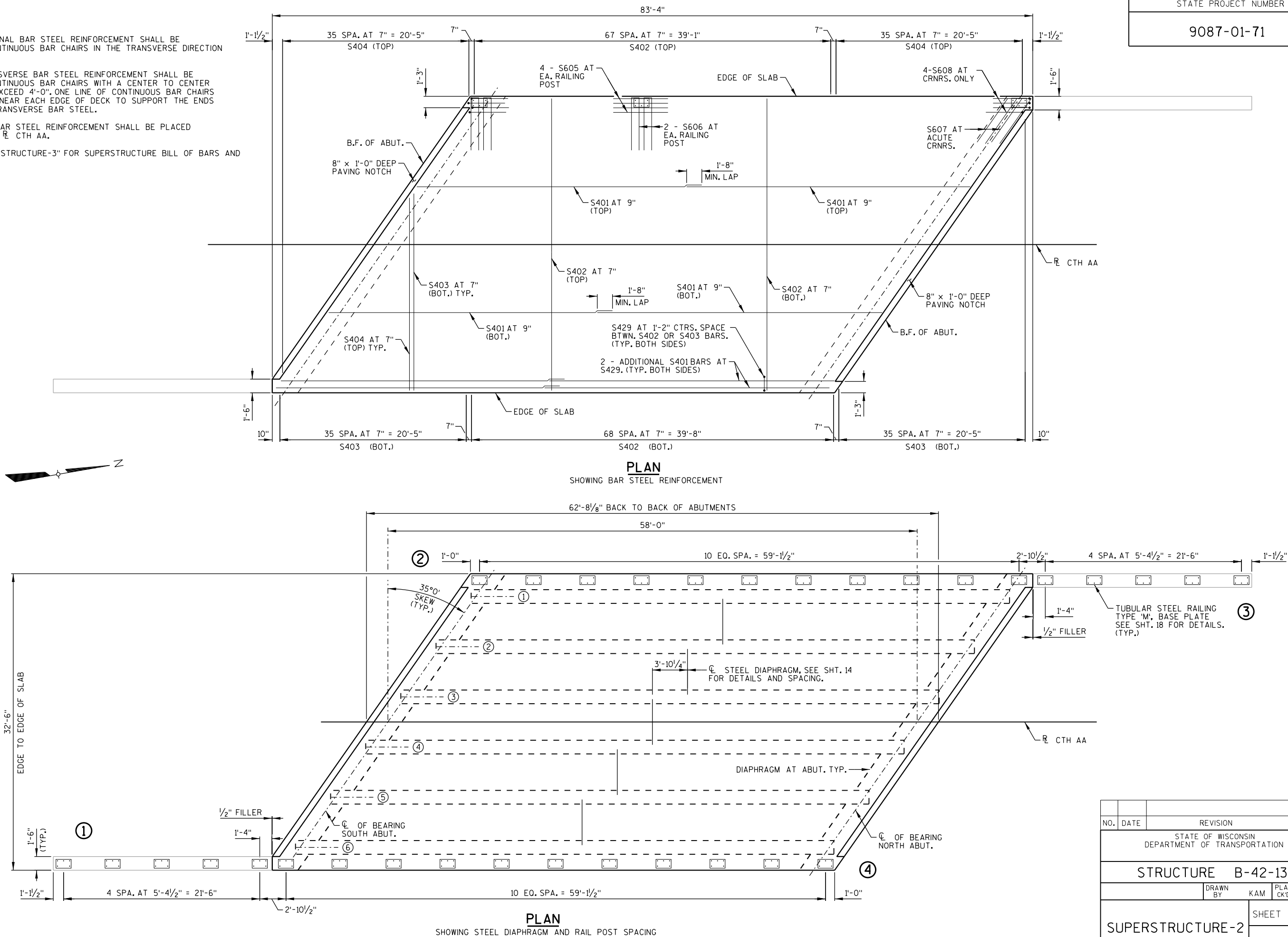
THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF DECK TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED PERPENDICULAR TO $\overline{R}$ CTH AA.

SEE SHT. 17 "SUPERSTRUCTURE-3" FOR SUPERSTRUCTURE BILL OF BARS AND BAR BEND DETAILS.

STATE PROJECT NUMBER

9087-01-71



8

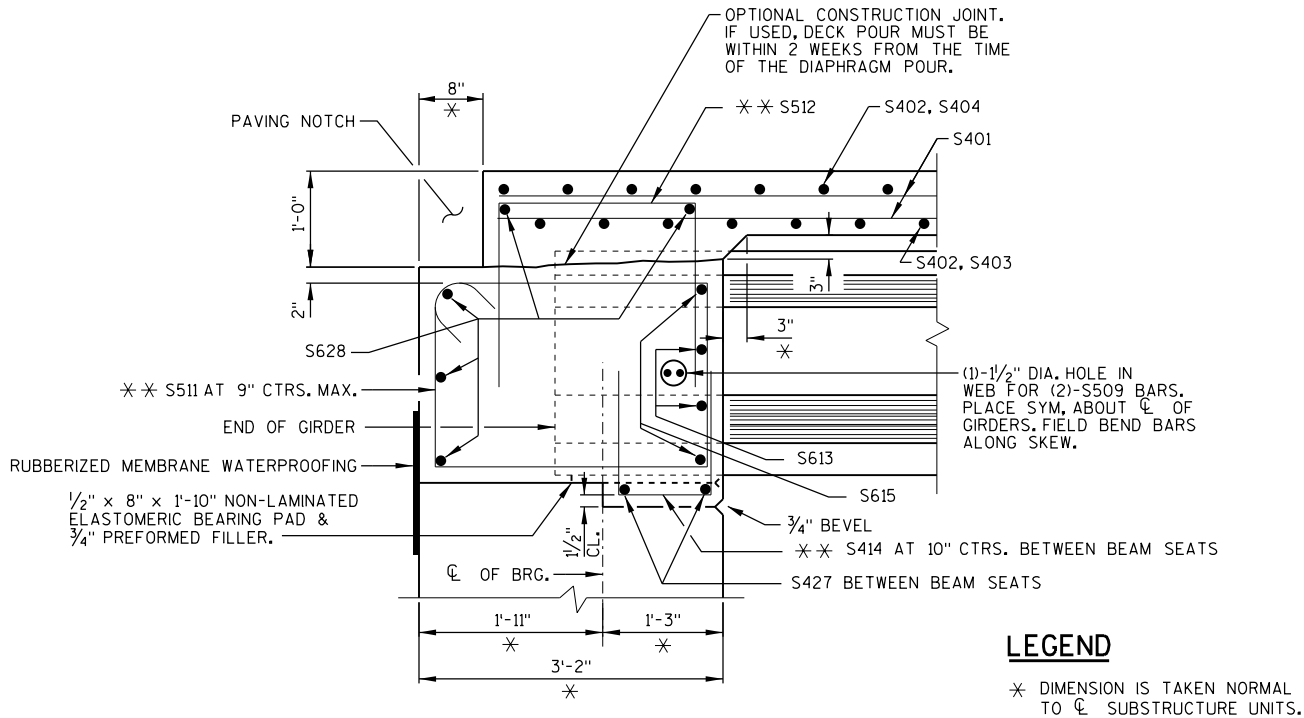
8

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CK'D. CAB
SUPERSTRUCTURE-2		SHEET 16 OF 18	

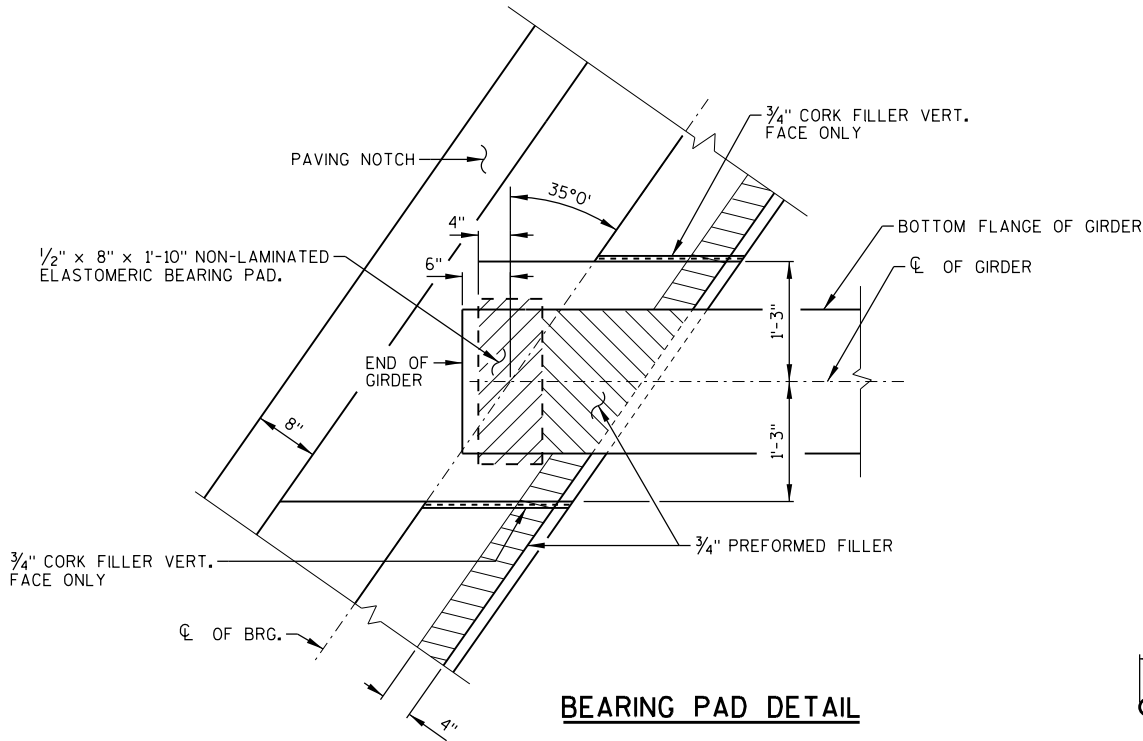
PRINTER DRIVER: G:\acm-CADstds\Libraries\MSD001\MicrostationResources\MS_Printing\Printer_Drivers\AE_PDF..11 x 17.plt
PEN TABLE: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\MS_Printing\Pen_Tables\AE_Wis001.tbl
FILE NAME: P:\60440973\900_Work\CAD\910-CAD\20-SHEETS\17-134-Superstructure_Details.dgn
PLOT DATE: 8/28/2017
PLOT TIME: 22:04:37 PM

BATCH PRINT SHEET 17 OF 18

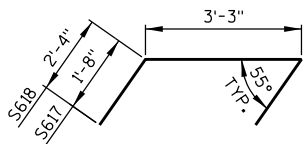
8



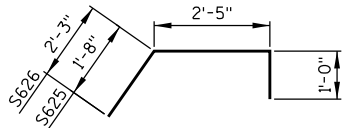
PART LONGIT. SECTION
(AT ABUTMENT)



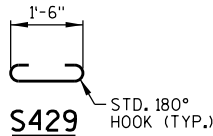
BEARING PAD DETAIL



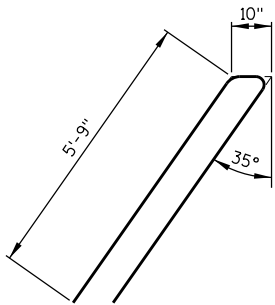
S617, S618



S625, S626

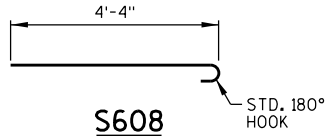


S429

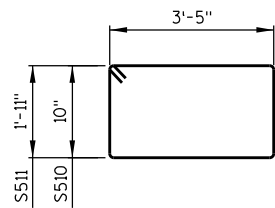


S606

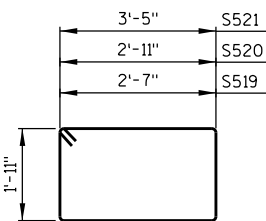
S607



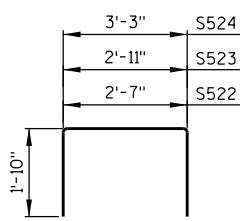
S608



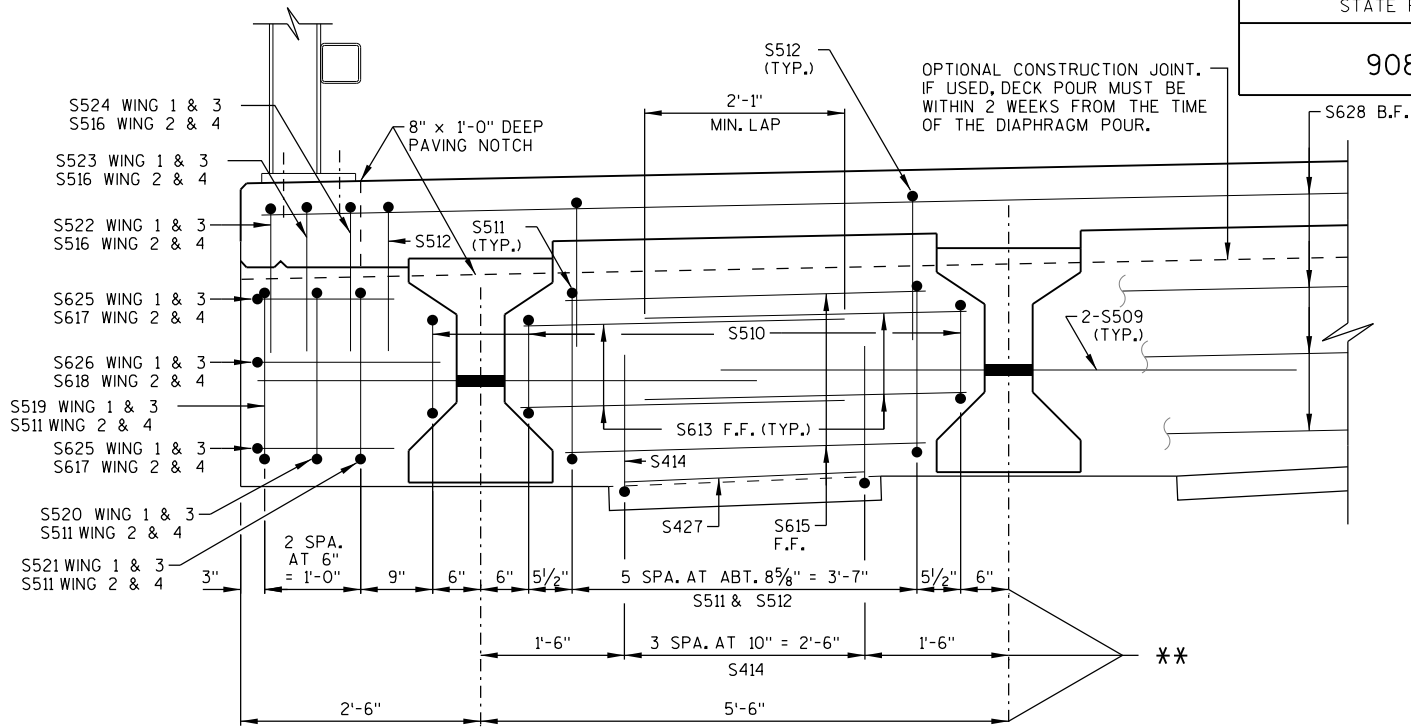
S510, S511



S519, S520, S521



S522, S523, S524



ABUTMENT DIAPHRAGM DETAILS

(LOOKING NORTH AT NORTH ABUTMENT)

BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
Δ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

MARK	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
COATED BARS					TOTAL WEIGHT = 12,950 LBS
S401	186	31-3			SLAB - TOP & BOTTOM LONGIT.
S402	137	32-2			SLAB - TOP & BOTTOM TRANS.
S403	72	15-8		Δ	SLAB - BOTTOM TRANS.
S404	72	16-0		Δ	SLAB - TOP TRANS.
S605	72	6-0			SLAB - AT RAILING POST LONGIT.
S606	40	12-0	X		SLAB - AT RAILING POST TRANS.
S607	4	12-0	X		SLAB - AT RAILING POST IN ACUTE CRNRS. TRANS.
S608	16	5-2	X		SLAB - AT RAILING POST IN ALL CRNRS. LONGIT.
S509	24	6-0			DIAPHRAGM - THRU GIRDER WEB HORIZ.
S510	24	9-2	X		DIAPHRAGM - BETWEEN GIRDERS VERT.
S511	66	11-4	X		DIAPHRAGM - BETWEEN GIRDERS VERT.
S512	64	6-0	X		DIAPHRAGM - BETWEEN GIRDERS VERT.
S613	40	3-5			DIAPHRAGM - BETWEEN GIRDERS, F.F. HORIZ.
S414	40	3-7	X		DIAPHRAGM - BETWEEN BEAM SEATS VERT.
S615	20	3-8			DIAPHRAGM - BETWEEN GIRDERS, F.F. HORIZ.
S516	6	6-10	X		DIAPHRAGM - WINGS 2 & 4 VERT.
S617	4	6-3	X		DIAPHRAGM - WINGS 2 & 4 HORIZ.
S618	2	7-7	X		DIAPHRAGM - WINGS 2 & 4 HORIZ.
S519	2	9-8	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S520	2	10-4	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S521	2	11-0	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S522	2	6-0	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S523	2	6-4	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S524	2	6-8	X		DIAPHRAGM - WINGS 1 & 3 VERT.
S625	4	4-9	X		DIAPHRAGM - WINGS 1 & 3 HORIZ.
S626	2	5-4	X		DIAPHRAGM - WINGS 1 & 3 HORIZ.
S427	20	3-3			DIAPHRAGM - BETWEEN BEAM SEATS HORIZ.
S628	10	39-1			DIAPHRAGM - B.F. & TOP HORIZ.
S429	106	2-6	X		SLAB - EDGE TRANS.

BAR SERIES

MARK	NO. REQ'D	LENGTH
S403	2 SERIES OF 36	1'-1" TO 30'-2"
S404	2 SERIES OF 36	1'-5" TO 30'-7"

STATE PROJECT NUMBER			
9087-01-71			
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CKD. CAB
SUPERSTRUCTURE-3		SHEET 17 OF 18	

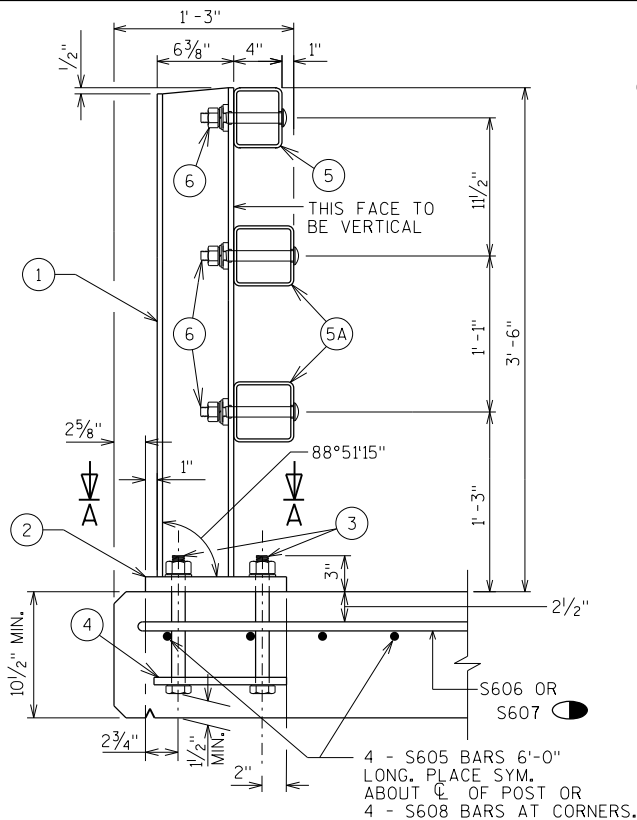
8

PRINTER DRIVER: S:_com-CADstds\Libraries\MSD001\MicrostationResources\MS-Printing\Printer_Drivers\AE_PDF_11 x 17.plt
PEN TABLE: P:\60444073\9002_Work-CAD-910-CAD-20-SHEETS\MS-Printing\Pen-Tables\AE_11x17.tbl

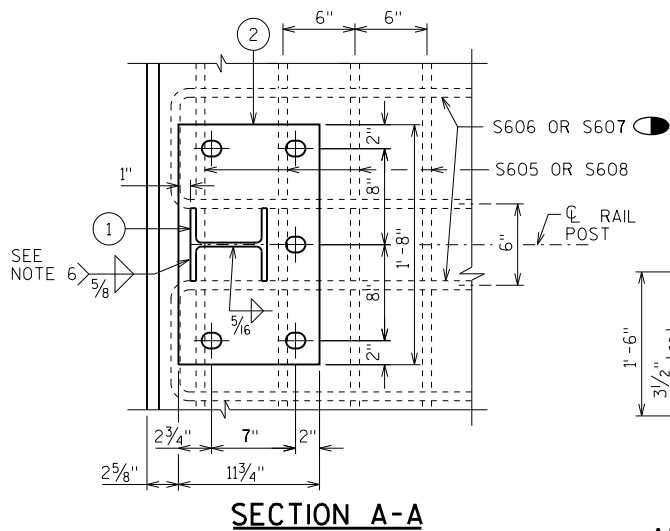
FILE NAME: P:\60444073\9002_Work-CAD-910-CAD-20-SHEETS\B-134-Railing-Details.dgn
PLOT TIME: 8/3/2017 15:56:08 PM

BATCH PRINT SHEET 18 OF 18

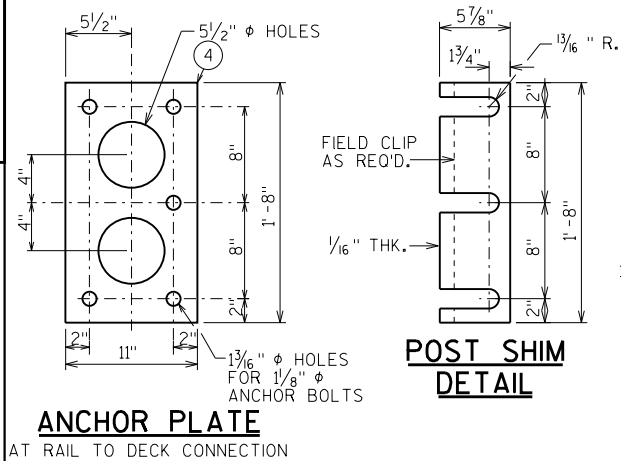
8



SECTION THRU RAILING ON DECK

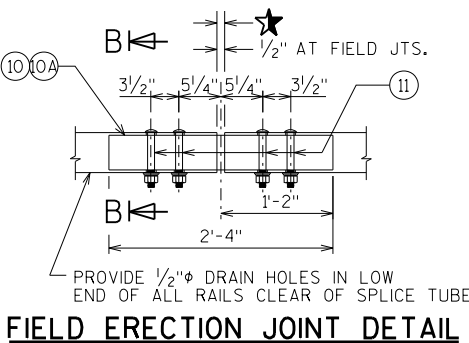


SECTION A-A

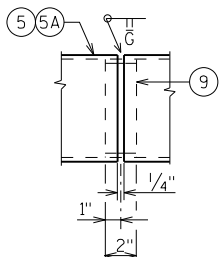


ANCHOR PLATE

AT RAIL TO DECK CONNECTION

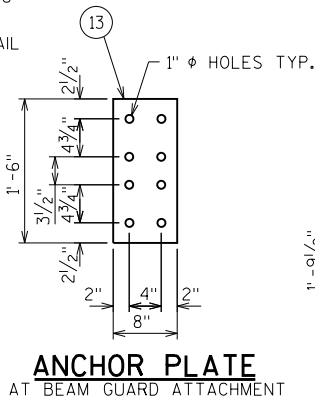


FIELD ERECTION JOINT DETAIL



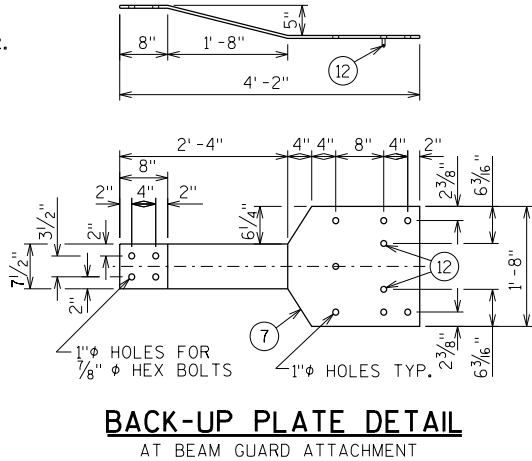
SHOP RAIL SPLICE DETAIL

LOCATION MUST BE SHOWN ON SHOP DRAWINGS



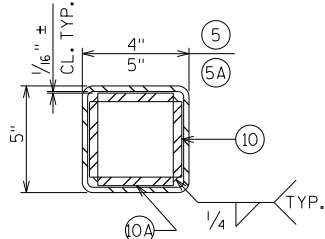
ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

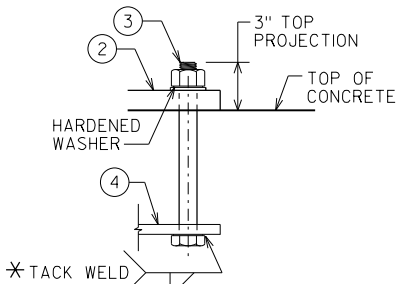


BACK-UP PLATE DETAIL

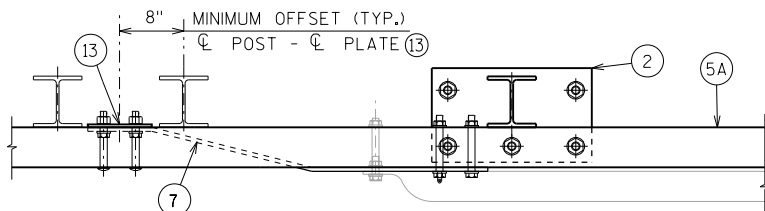
AT BEAM GUARD ATTACHMENT



SECTION B-B

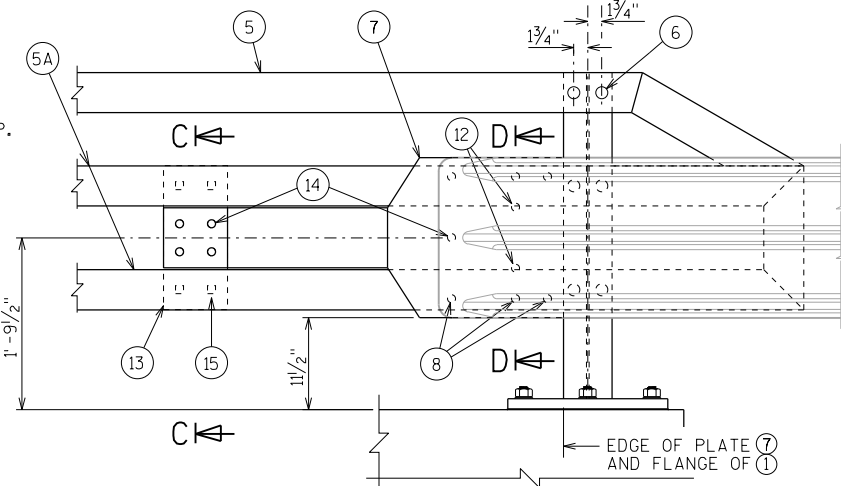


ANCHOR BOLTS



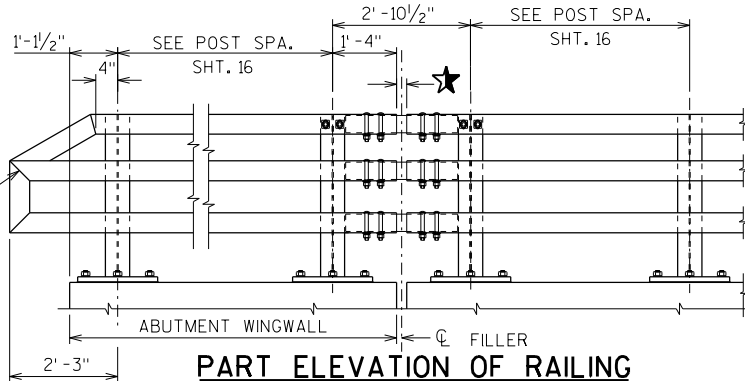
TOP VIEW AT END POST

THRIE BEAM RAIL ATTACHMENT

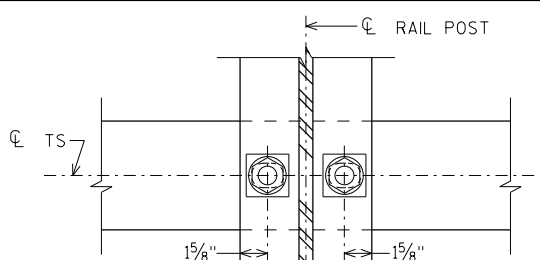


DETAIL AT END POST

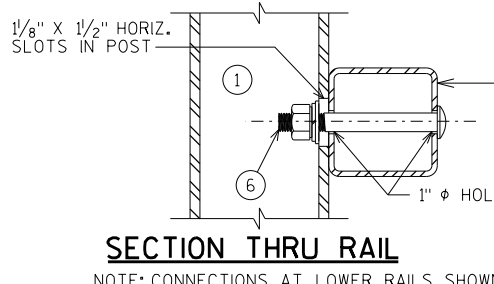
THRIE BEAM RAIL ATTACHMENT



PART ELEVATION OF RAILING



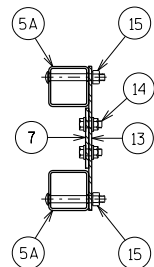
SECTION THRU POST WEB



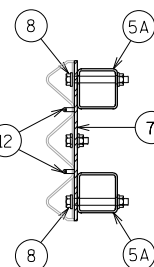
SECTION THRU RAIL

NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS



SECTION C-C



SECTION D-D

LEGEND

- W6 x 25 with 1/8" x 1/2" HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- PLATE 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" x 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ASTM A449 - 1/8" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTIBILITY.)
- 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 1 5/4" x 1 5/4" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" x 1/2" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
- 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 3/8" x 3 5/8" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- 3/8" x 2 5/8" x 2'-4" PLATE USED IN NO. 5, 3/8" x 3 5/8" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 1 5/16" x 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS AND 1 5/16" x 2 1/4" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.
- 7/8" DIA. x 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D.).
- 3/8" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- 7/8" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- 1" DIA. HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

GENERAL NOTES

- BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-42-134" WHICH INCLUDES ALL ITEMS SHOWN.
- RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
- RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
- ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
- POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY SSPC SPECIFICATIONS.
- THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).

TIE TO TOP MAT OF STEEL.

* FOR ANCHOR BOLTS IN WINGS, TACK WELD MAY BE USED IN FIELD AFTER ANCHOR PLATE IS IN POSITION IF REQ'D. FOR CONSTRUCTIBILITY.

★ 1/2" OPENING.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-42-134			
DRAWN BY		KAM	PLANS CKD. KRH
TUBULAR STEEL RAILING TYPE 'M'			SHEET 18 OF 18

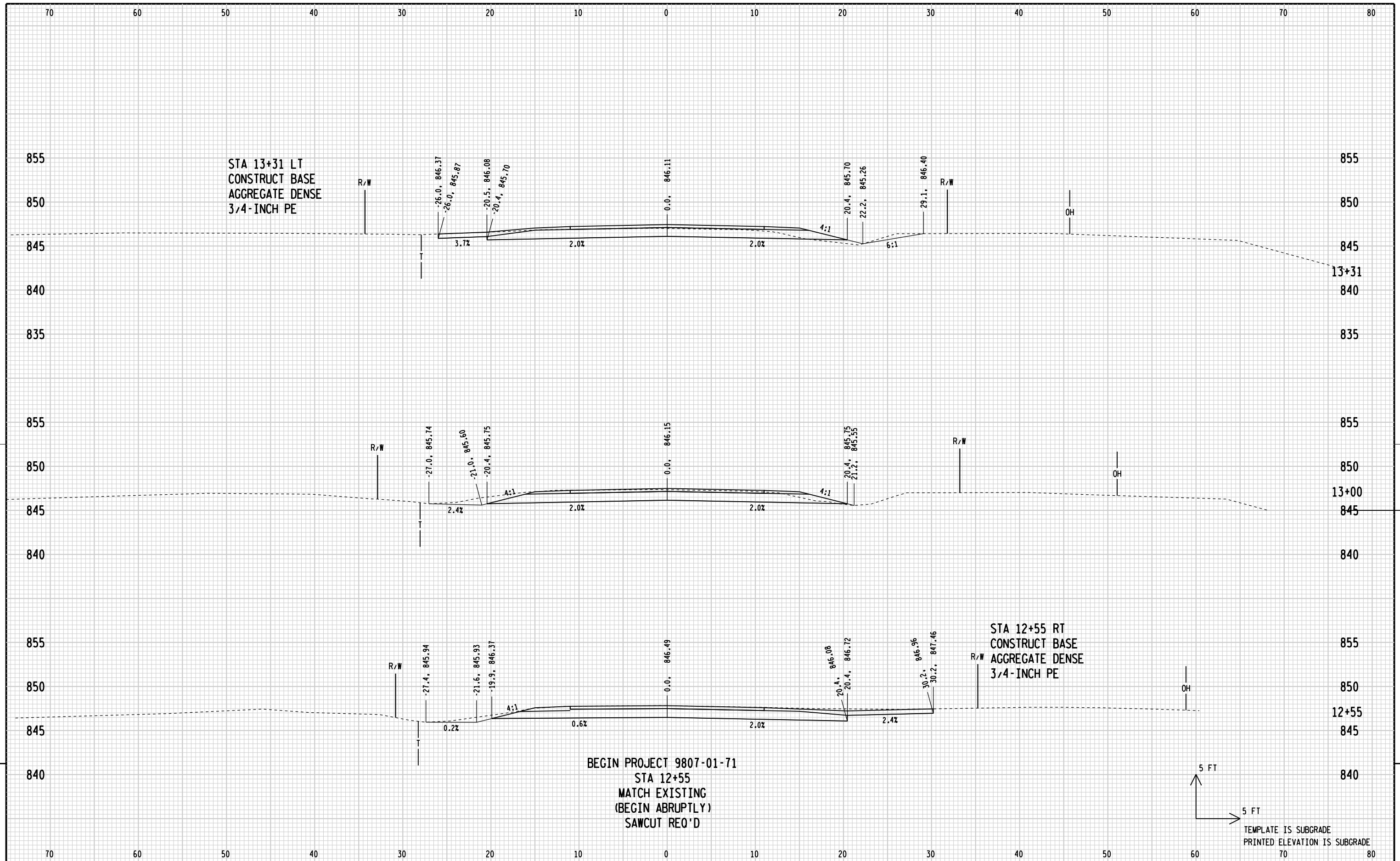
8

Station	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	
12+55	1255		59	3	0	0	0	0	0	0	0
13+00	1300	45	46	3	0	87	6	0	87	0	81
13+31	1331	31	36	3	1	48	4	1	135	1	124
13+50	1350	19	29	3	0	23	2	1	158	2	144
14+00	1400	50	6	3	46	32	6	43	190	56	116
14+50	1450	50	0	3	77	5	6	114	195	199	-28
14+71	1471	21	0	3	91	0	3	65	195	280	-113
15+00	1500	29	25	3	69	13	4	86	208	388	-210
CTH AA-South Approach Totals						208	31	310			

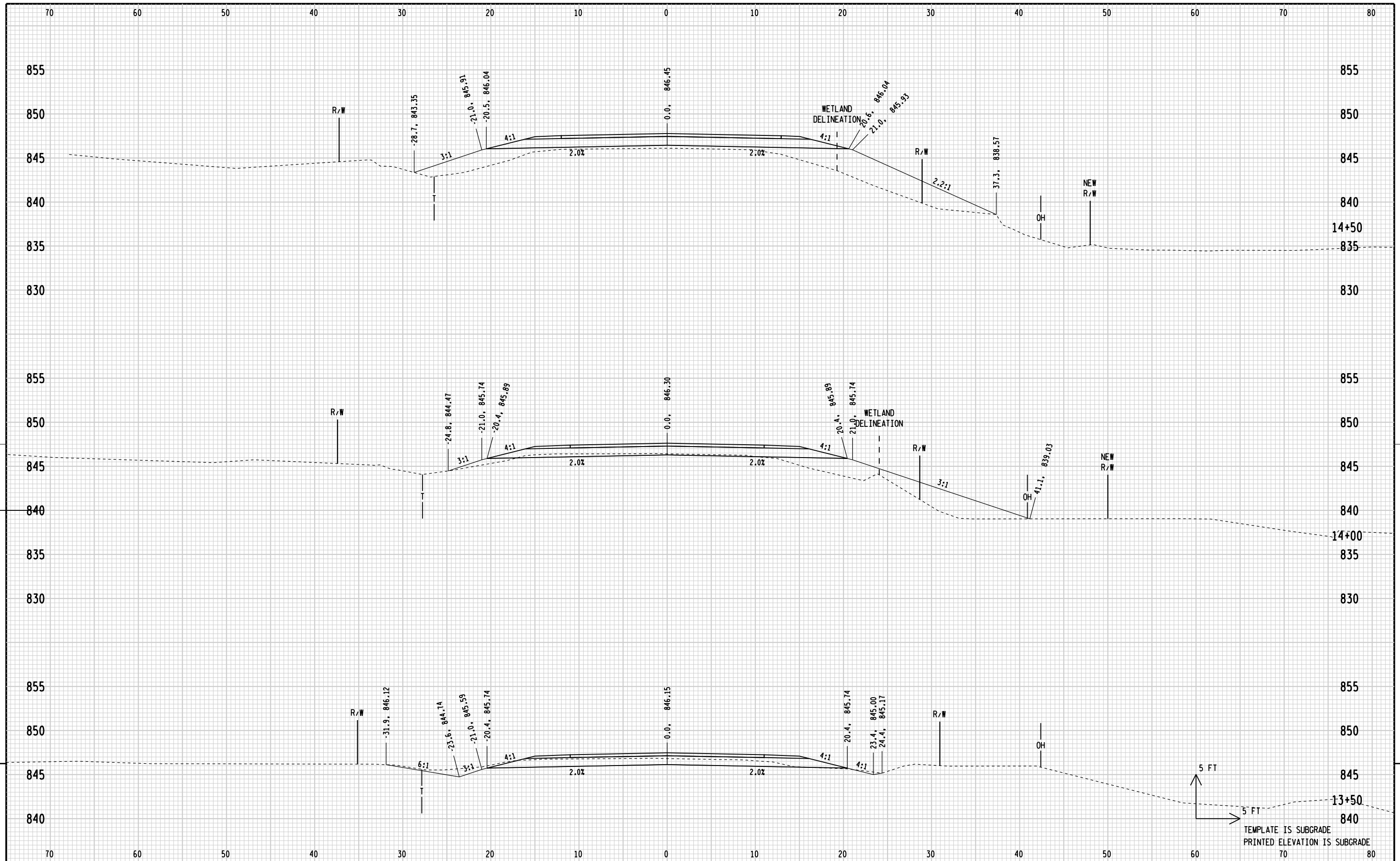
NOTES:
1) Cut is Material Removed. Expanded Fill Factor = 1.00.
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) Fill is Suitable Backfill Material. Expanded Fill Factor = 1.25.
4) The Mass Ordinate + or - Qty calculated. Plus quantity indicates an excess of material and Minus indicates a shortage of material.

Station	Real Station	Distance	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		Mass Ordinate
			Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut 1.00	Expanded Fill 1.25	
15+68	1568		0.2	3.4	85.3	0	0	0	0	0	0
16+00	1600	32	0.3	3.4	88.7	0	4	103	0	129	-133
16+50	1650	50	0.2	3.4	61.0	0	6	139	1	302	-312
17+00	1700	50	25.5	3.4	46.5	24	6	100	24	427	-419
17+50	1750	50	41.9	3.4	15.3	62	6	57	87	498	-434
17+85	1785	35	39.9	3.4	2.4	53	4	11	140	513	-400
CTH AA-North Approach Totals						140	27	410			

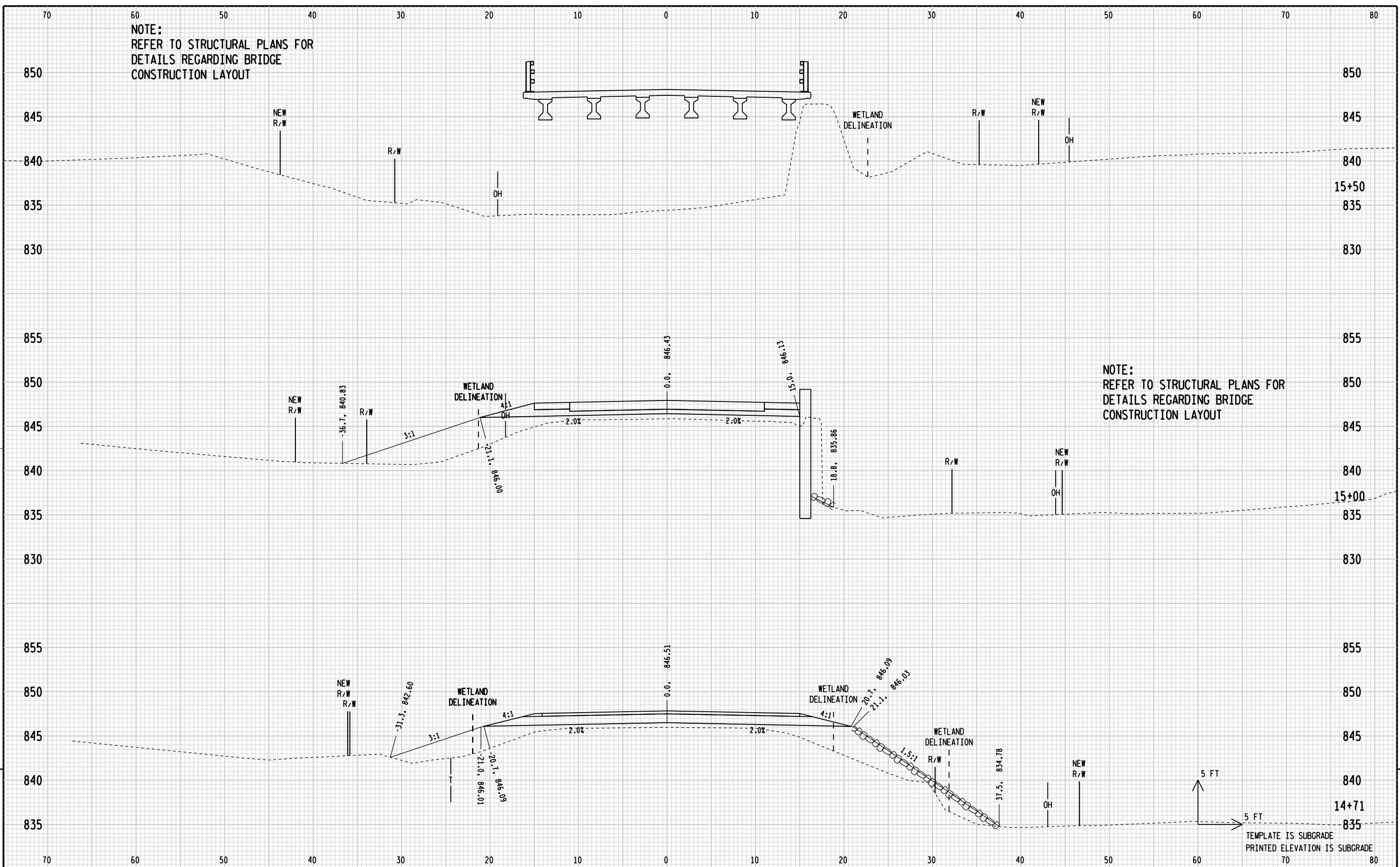
NOTES:
1) Cut is Material Removed. Expanded Fill Factor = 1.00.
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) Fill is Suitable Backfill Material. Expanded Fill Factor = 1.25.
4) The Mass Ordinate + or - Qty calculated. Plus quantity indicates an excess of material and Minus indicates a shortage of material.

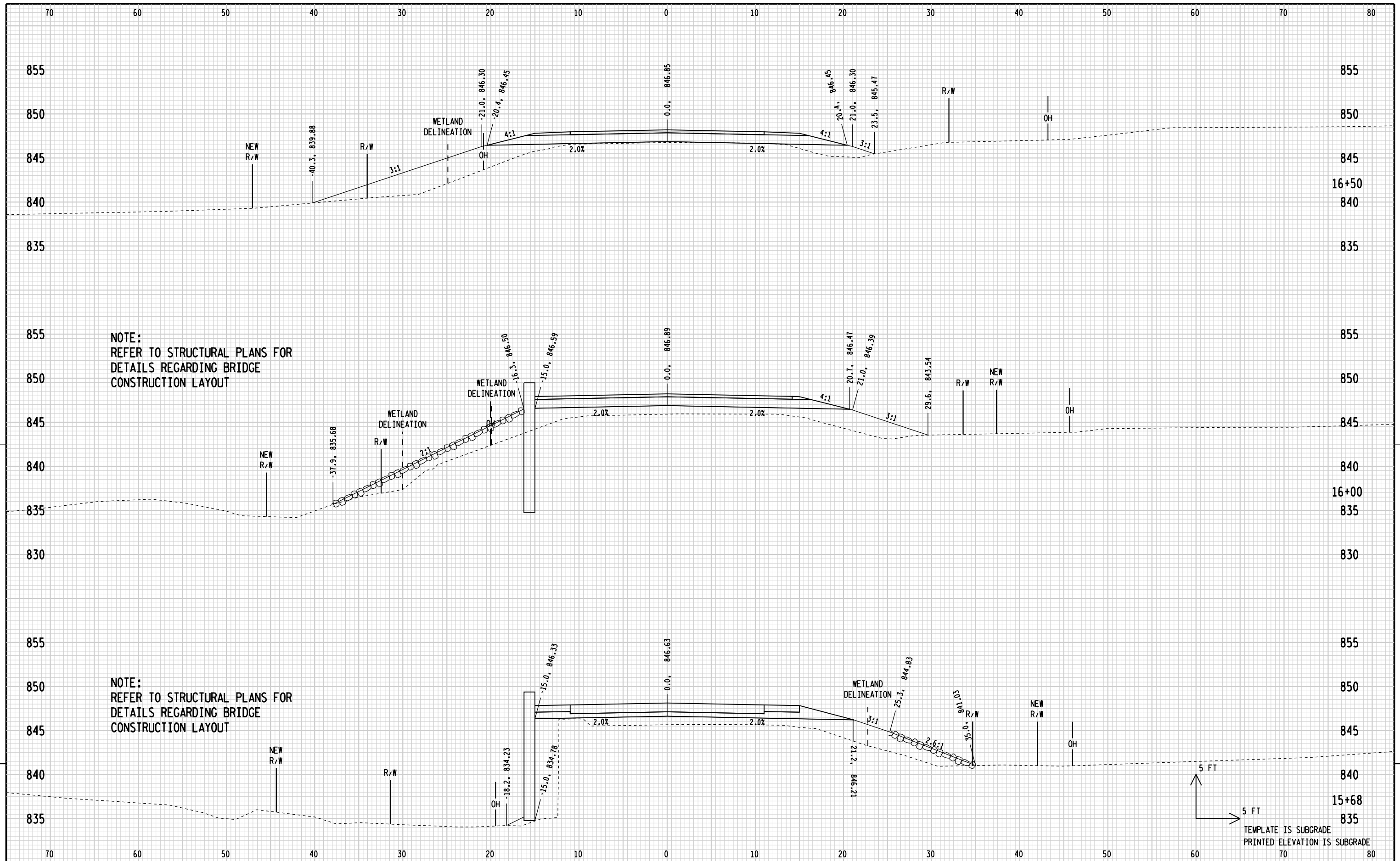


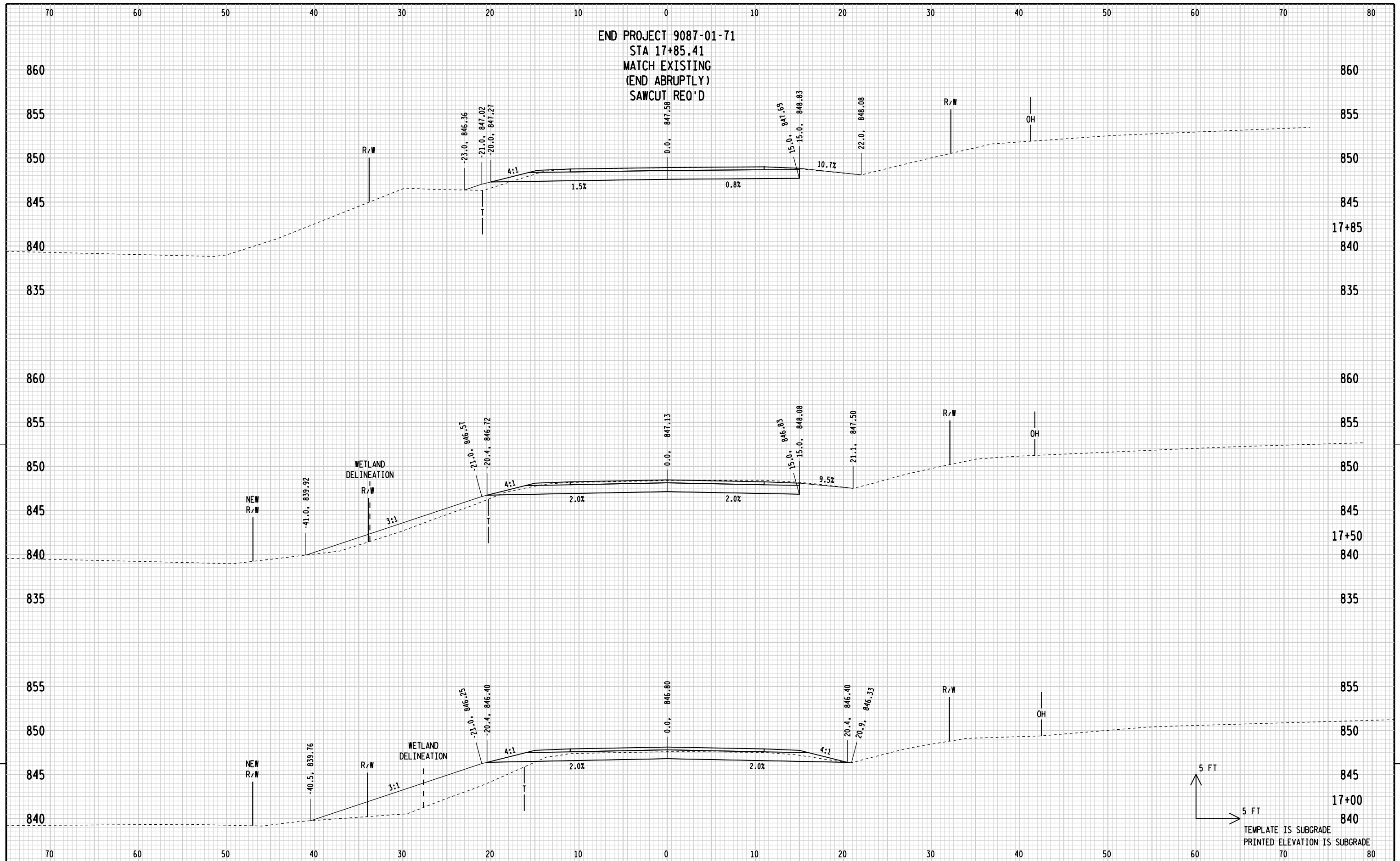
STATE PROJECT NUMBER:9087-01-71	HWY:CTH AA	COUNTY:OCONTO	CROSS SECTIONS:	SHEET	E
---------------------------------	------------	---------------	-----------------	-------	---



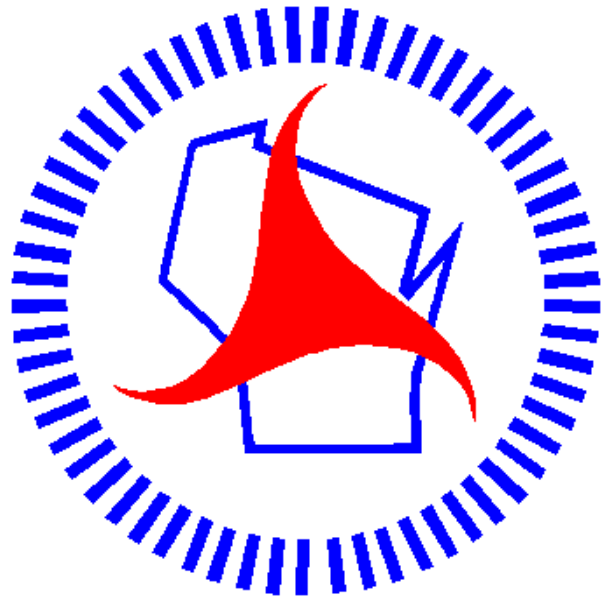
NOTE:
REFER TO STRUCTURAL PLANS FOR
DETAILS REGARDING BRIDGE
CONSTRUCTION LAYOUT







Notes



Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

<http://www.dot.wisconsin.gov>