#### **APRIL 2019** ORDER OF SHEETS

Section No. 1 Section No. 2 Typical Sections and Details

Section No. 3 Estimate of Quantities Section No. 3 Miscellaneous Quantitles

Section No. 5 Plan and Profile

Standard Detail Drawings Section No. 6

Section No. 7 Sign Plates Section No. 8 Structure Plans

Section No. 9 Computer Earthwork Data

Section No. 9 Cross Sections

TOTAL SHEETS = 40

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

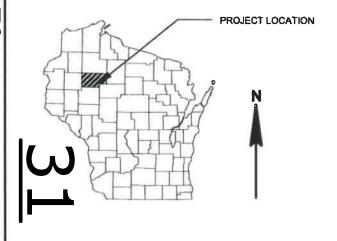
# T MARSHALL, BROKEN ARROW ROAD

**LITTLE JUMP RIVER BRIDGE B-54-0122** 

LOCAL STREET **RUSK COUNTY** 

> STATE PROJECT NUMBER 8433-01-70

> > R-6-W



#### DESIGN DESIGNATION

**ESALS** 

2019 = 80 (EST.) A.A.D.T. 2039 = 100 (EST.) D.H.V. = N/A = N/A = 10.0% (EST.) DESIGN SPEED = 35 MPH

= 36,500

#### CONVENTIONAL SYMBOLS

COMBUSTIBLE FLUIDS

WOODED OR SHRUB AREA

MARSH AREA

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)

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

UTILITY PEDESTAL

TELEPHONE POLE

POWER POLE

PROFILE

X Ġ

ANSEN RD SHAFO RE T-34-N Cr. Juny Skunk MEADON'S NO HOMESTEAD DALEY RD **BEGIN PROJECT** 8433-01-70 STA, 9+10,75 Y=516305,44 T-33-N X=843006.68 ARD Sheldon STRUCTURE B-54-0122 Should@ **END PROJECT** 8433-01-70 STA. 10+83.25 Y=516305.63 X=843179.18 HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY

(Dote) HIGHWAY COMMISSIONER ORIGINAL PLANS PREPARED BY SPROMBERG E 37771-008 SCHOFIELD,

COUNTY

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT

ACCEPTED FOR

ACCEPTED FOR

MARSHALL

RUSK

Rep. for they Commission

CONTRACT

**PROJECT** 

WISC 2019236

STATE PROJECT

8433-01-70

PREPARED BY

Dealgner

MSA PROFESSIONAL SERVICES, INC. MSA PROFESSIONAL SERVICES, INC.

KNIGHT E/A INC.

APPROVED FOR THE DEPARTMENT

FILE NAME: P:\6700S\6740S\6747\06747016\RHINELANDER\CADD\SHEETSOTHER\TITLE BROKEN ARROW RD.DWG LAYOUT NAME - TITLE SHEET BROKEN ARROW ROAD

PLOT DATE: 7/3/2018 11:59 AM

TOTAL NET LENGTH OF CENTERLINE = 0.033 MI

PLOT BY : SHAWN DOLENS

PLOT NAME :

DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

COORDINATES, RUSK COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID

R-5-W

WISDOT/CADDS SHEET 10

#### 2

E

WISDOT/CADDS SHEET 42

SHEET

PLOT SCALE : 1 IN:10 FT

#### GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS SHALL BE FERTILIZED, SEEDED AND HAVE EROSION MAT INSTALLED AS DIRECTED BY THE ENGINEER. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED.

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

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO "6s49", A NGS SURVEY MONUMENT, ELEV. 1156.10, NAVD 88 DATUM.

THE 4" ASPHALTIC SURFACE SHALL CONSIST OF A 1 3/4" UPPER LAYER WITH No. 4 (12.5 MM) NOMINAL SIZE AGGREGATE AND A 2 1/4" LOWER LAYER WITH No. 3 (19.0 MM) NOMINAL SIZE AGGREGATE.

SILT FENCE AND TURBIDITY BARRIER TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO BRIDGE REMOVAL.

WETLANDS ARE PRESENT ON THE STREAM BANKS. AREAS OUTSIDE OF THE SLOPE INTERCEPTS SHALL NOT BE DISTURBED IN THIS AREA.

WHEN THE QUANTITY OF THE ITEM OF BASE LAYER IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTURAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

#### SECTION 2 ORDER

GENERAL NOTES
TYPICAL SECTIONS
TIES SHEET
TRAFFIC CONTROL OVERVIEW

#### **EROSION CONTROL NOTES**

RUNOFF COEFFICIENTS FOR THIS PROJECT: EXISTING SIDE SLOPES 0.30, PROPOSED SIDE SLOPES 0.30, EXISTING PAVEMENT 0.95, PROPOSED PAVEMENT 0.95.

TOTAL PROJECT AREA = 0.454 ACRES

TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.35 ACRES

#### **DESIGN CONTACT**

MSA PROFESSIONAL SERVICES, INC. ATTN.: ALEX PASSOW 1835 N. STEVENS STREET RHINELANDER, WI 54501 PHONE: 715-362-3244 apassow@msa-ps.com

#### DNR LIAISON

DEPARTMENT OF NATURAL RESOURCES ATTN.: JON SIMONSEN 107 SUTLIFF AVENUE RHINELANDER, WI 54501 PHONE: 715-367-1936 Jonathan.simonsen@wisconsin.gov

#### <u>UTILITIES</u>

BURIED TELEPHONE: CENTURYLINK ATTN.: BRIAN HUHN 425 ELLINGSON AVENUE HAWKINS, WI 54530 PHONE: 715-563-8294 brian.huhn@centurylink.com

#### RUSK COUNTY HIGHWAY DEPARTMENT

COUNTY HIGHWAY COMMISSIONER ATTN.: SCOTT EMCH N4711 HWY 27 LADYSMITH, WI 54848 PHONE: 715-532-2633 semch@ruskcountywi.us



PROJECT NO:8433-01-70 HWY:LOCAL STREET COUNTY:RUSK GENERAL NOTES

PLOT DATE: 10/15/2018 3:47 PM

PLOT BY : JOLIE SNYDER

PLOT NAME :

2



#### TYPICAL EXISTING SECTION

└ 6" EXISTING ASPHALTIC SURFACE

└ 6" EXISTING BASE COURSE

PAVED SHOULDER

33' R/W

2% TYP.

-POINT REFERRED TO ON CROSS SECTIONS AS €

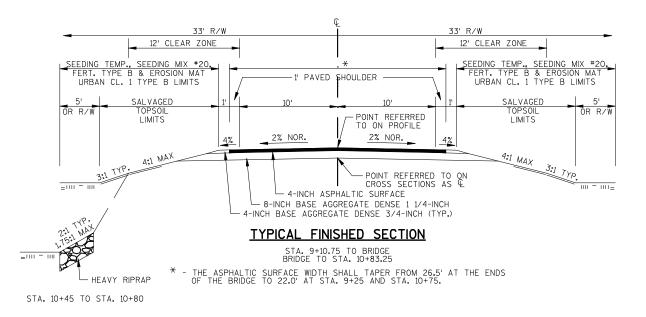
1' VARIES

33' R/W

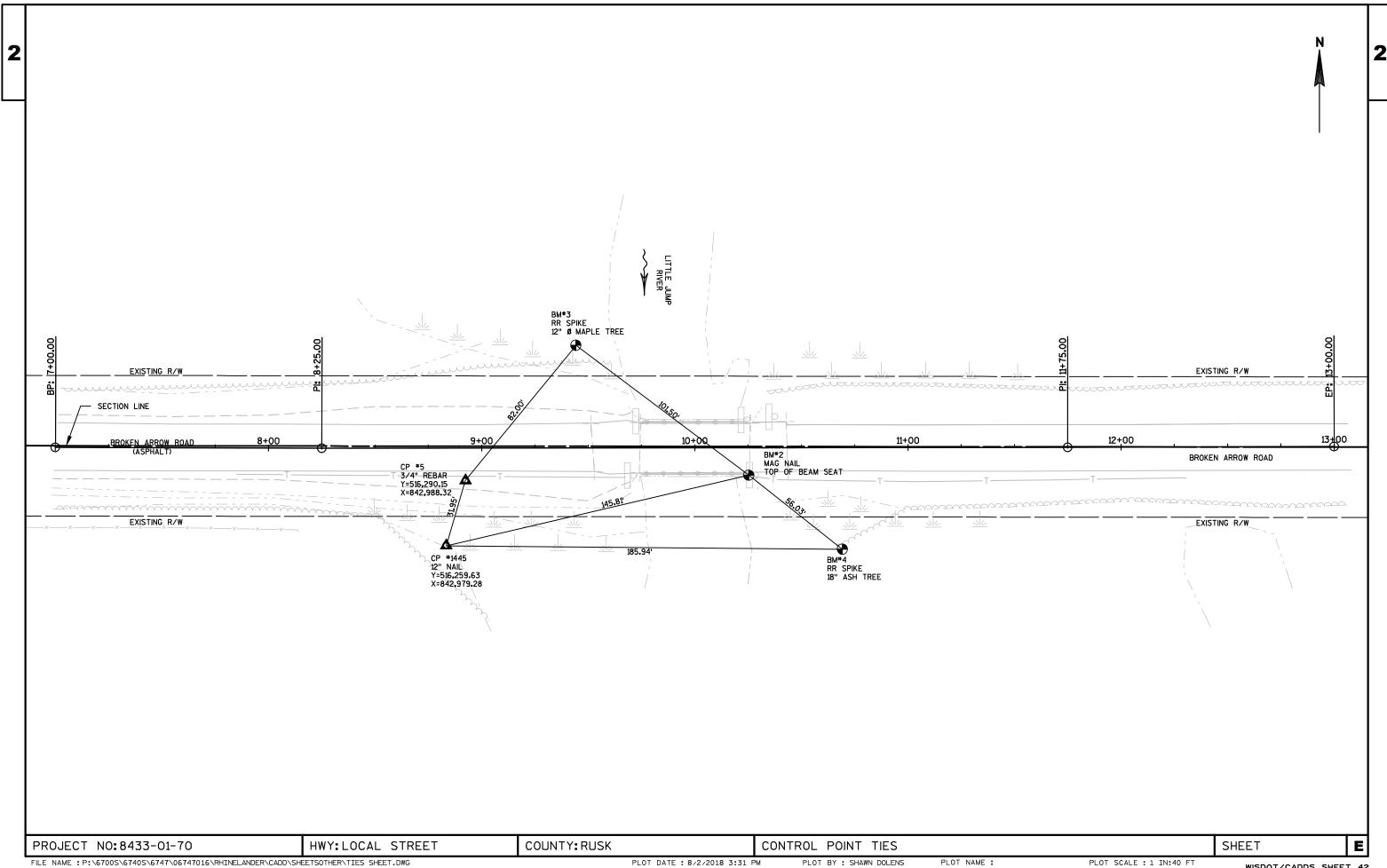
2% TYP.

1' VARIES -

STA. 9+10.75 TO BRIDGE BRIDGE TO STA. 10+83.25



PROJECT NO:8433-01-70 HWY:LOCAL STREET COUNTY:RUSK TYPICAL SECTIONS SHEET **E** 





					8433-01-70
Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	1.000	1.000
0004	201.0205	Grubbing	STA	1.000	1.000
0006	203.0600.S	9	LS	1.000	1.000
		Debris (station) 01. 10+00			
8000	205.0100	Excavation Common	CY	115.000	115.000
0010	206.1000	Excavation for Structures Bridges (structure) 01. B-54-0122	LS	1.000	1.000
0012	210.1500	Backfill Structure Type A	TON	320.000	320.000
0014	213.0100	Finishing Roadway (project) 01. 8433-01-70	EACH	1.000	1.000
0016	305.0110	Base Aggregate Dense 3/4-Inch	TON	10.000	10.000
0018	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	160.000	160.000
0020	455.0605	Tack Coat	GAL	14.000	14.000
0022	465.0105	Asphaltic Surface	TON	60.000	60.000
0024	502.0100	Concrete Masonry Bridges	CY	200.000	200.000
0026	502.3200	Protective Surface Treatment	SY	285.000	285.000
0028	505.0400	Bar Steel Reinforcement HS Structures	LB	5,900.000	5,900.000
0030	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	24,800.000	24,800.000
0032	513.4061	Railing Tubular Type M 01. B-54-0122	LF	149.000	149.000
0034	516.0500	Rubberized Membrane Waterproofing	SY	10.000	10.000
0036	550.0500	Pile Points	EACH	17.000	17.000
0038	550.2108	Piling CIP Concrete 10 3/4 X 0.50-Inch	LF	860.000	860.000
0040	606.0300	Riprap Heavy	CY	180.000	180.000
0042	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	160.000	160.000
0044	618.0100	Maintenance And Repair of Haul Roads (project) 01. 8433-01-70	EACH	1.000	1.000
0046	619.1000	Mobilization	EACH	1.000	1.000
0048	624.0100	Water	MGAL	9.000	9.000
0050	625.0500	Salvaged Topsoil	SY	470.000	470.000
0052	628.1504	Silt Fence	LF	310.000	310.000
0054	628.1520	Silt Fence Maintenance	LF	310.000	310.000
0056	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0060	628.2008	Erosion Mat Urban Class I Type B	SY	470.000	470.000
0062	628.6005	Turbidity Barriers	SY	250.000	250.000
0064	628.7570	Rock Bags	EACH	40.000	40.000
0066	629.0210	Fertilizer Type B	CWT	0.400	0.400
0068	630.0120	Seeding Mixture No. 20	LB	15.000	15.000
0070	630.0200	Seeding Temporary	LB	15.000	15.000
0070	634.0612	Posts Wood 4x6-Inch X 12-FT	EACH	4.000	4.000
0072	637.2230	Signs Type II Reflective F	SF	12.000	12.000
0074	031.2230	olgna Type II Nellective F	SF	12.000	12.000

## Estimate Of Quantities Page 2

				8433-01-70
Item	Item Description	Unit	Total	Qty
642.5001	Field Office Type B	EACH	1.000	1.000
643.0420	Traffic Control Barricades Type III	DAY	1,406.000	1,406.000
643.0705	Traffic Control Warning Lights Type A	DAY	2,220.000	2,220.000
643.0900	Traffic Control Signs	DAY	1,184.000	1,184.000
643.5000	Traffic Control	EACH	1.000	1.000
645.0111	Geotextile Type DF Schedule A	SY	60.000	60.000
645.0120	Geotextile Type HR	SY	345.000	345.000
646.1005	Marking Line Paint 4-Inch	LF	37.500	37.500
650.4500	Construction Staking Subgrade	LF	100.000	100.000
650.5000	Construction Staking Base	LF	100.000	100.000
650.6500	Construction Staking Structure Layout (structure) 01. B-54-0122	LS	1.000	1.000
650.9910	Construction Staking Supplemental Control (project) 01. 8433-01-70	LS	1.000	1.000
650.9920	Construction Staking Slope Stakes	LF	100.000	100.000
690.0150	Sawing Asphalt	LF	44.000	44.000
715.0502	Incentive Strength Concrete Structures	DOL	1,200.000	1,200.000
ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,200.000	1,200.000
ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	300.000	300.000
	642.5001 643.0420 643.0705 643.0900 643.5000 645.0111 645.0120 646.1005 650.4500 650.5000 650.6500 650.9910 650.9920 690.0150 715.0502 ASP.1T0A	642.5001 Field Office Type B 643.0420 Traffic Control Barricades Type III 643.0705 Traffic Control Warning Lights Type A 643.0900 Traffic Control Signs 643.5000 Traffic Control 645.0111 Geotextile Type DF Schedule A 645.0120 Geotextile Type HR 646.1005 Marking Line Paint 4-Inch 650.4500 Construction Staking Subgrade 650.5000 Construction Staking Structure Layout (structure) 01. B- 54-0122 650.9910 Construction Staking Supplemental Control (project) 01. 8433-01-70 650.9920 Construction Staking Slope Stakes 690.0150 Sawing Asphalt 715.0502 Incentive Strength Concrete Structures ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	642.5001 Field Office Type B 643.0420 Traffic Control Barricades Type III DAY 643.0705 Traffic Control Warning Lights Type A DAY 643.0900 Traffic Control Signs DAY 643.5000 Traffic Control EACH 645.0111 Geotextile Type DF Schedule A SY 645.0120 Geotextile Type HR SY 646.1005 Marking Line Paint 4-Inch LF 650.4500 Construction Staking Subgrade LF 650.5000 Construction Staking Base LF 650.6500 Construction Staking Structure Layout (structure) 01. B- 54-0122 650.9910 Construction Staking Supplemental Control (project) 01. LS 8433-01-70 650.9920 Construction Staking Slope Stakes LF 690.0150 Sawing Asphalt LF 715.0502 Incentive Strength Concrete Structures DOL ASP.1T0A On-the-Job Training Apprentice at \$5.00/HR	642.5001         Field Office Type B         EACH         1.000           643.0420         Traffic Control Barricades Type III         DAY         1,406.000           643.0705         Traffic Control Warning Lights Type A         DAY         2,220.000           643.0900         Traffic Control Signs         DAY         1,184.000           643.5000         Traffic Control         EACH         1.000           645.0111         Geotextile Type DF Schedule A         SY         60.000           645.0120         Geotextile Type HR         SY         345.000           646.1005         Marking Line Paint 4-Inch         LF         37.500           650.4500         Construction Staking Subgrade         LF         100.000           650.5000         Construction Staking Base         LF         100.000           650.6500         Construction Staking Structure Layout (structure) 01. B- LS         1.000           54-0122         Construction Staking Supplemental Control (project) 01. LS         1.000           650.9920         Construction Staking Slope Stakes         LF         100.000           690.0150         Sawing Asphalt         LF         44.000           715.0502         Incentive Strength Concrete Structures         DOL         1,200.000      <

#### CLEARING AND GRUBBING

		201.0105	201.0205
		CLEARING	GRUBBING
STATION	LOCATION	STA	STA
10+25 - 10+83.25	RT & LT	1	1
TOTA	1	1	

EXCAVATION								
	205.0100							
	<b>EXCAVATION</b>		EXPANDED					
	COMMON (3)	FILL (1)	FILL (1)(2)	WASTE (1)				
STATION	CY	CY	CY	CY				
9+10.75 - 9+60.75	61	0	0	61				
10+33.25 - 10+83.25	54	7	9	45				

- (1) NOT A BID ITEM FOR INFORMATIONAL PURPOSES ONLY.
- (2) FILL EXPANSION = 30%

TOTAL

(3) - EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS. SEE EARTHWORK TABLE.

106

FINISHING ROADWAY						
0.40.0.400						
	213.0100					
PROJECT	EACH					
8433-01-70	1					
TOTAL	1					

BASE AGGREGATE ITEMS								
	305.0110	305.0120	624.0100					
	BASE	BASE	WATER (1)					
	AGGREGATE	AGGREGATE						
	DENSE	DENSE						
	3/4-INCH	1 1/4-INCH						
STATION	TON	TON	MGAL					
9+10.75 - 9+60.75	5	80	2					
10+33.25 - 10+83.25	5	80	2					
TOTALS	10	160	4					

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE.

#### ASPHALT PAVEMENT ITEMS

	455.0005	105.0105
	455.0605	465.0105
	TACK	ASPHALTIC
	COAT	SURFACE
STATION	GAL	TON
9+10.75 - 9+60.75	7	30
10+33.25 - 10+83.25	7	30
TOTALS	14	60

NOTE: TACK COAT CALCULATED AT 0.05 GALLONS PER SQUARE YARD.

MARKINGI	INF	A-INCH	ı

		646.1005 (YELLOW)	)
STATION	LOCATION	LF	NOTES
9+10.75 - 10+83.25	CENTERLINE	37.5	DASHED
TOTAL	37.5		

#### RIPRAP ITEMS

		606.0300	645.0120
		RIPRAP	GEOTEXTILE
		HEAVY	TYPE HR
STATION	LOCATION	CY	SY
10+45 - 11+42	LT	25	55
TOTA	ALS	25	55

#### RESTORATION ITEMS

		625.0500 SALVAGED TOPSOIL	628.2008 EROSION MAT URBAN CLASS 1 TYPE B	629.0210 FERTILIZER TYPE B	630.0120 SEEDING MIXTURE #20	630.0200 SEEDING TEMPORARY	624.0100 WATER (1)
STATION	LOCATION	SY	SY	CWT	LB	LB	MGAL
9+10.75 - STRUCTURE	RT	105	105	0.1	3	3	1
9+10.75 - STRUCTURE	LT	95	95	0.1	3	3	1
STRUCTURE - 10+83.25	RT	90	90	0.1	3	3	1
STRUCTURE - 10+83.25	LT	130	130	0.1	4	4	1
UNDISTRIBUTED		50	50	0.1	2	2	1
TOTALS		470	470	0.4	15	15	5

(1) - ADDITIONAL QUANTITIES LISTED ELSEWHERE.

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

PROJECT NO: 8433-01-70	HWY: LOCAL STREET	COUNTY: RUSK		MISCELLANEOUS QUANTITIES		SHEET	E
FILE NAME : P:\6700\$\6740\$\6747\06747016\RHINELANDER\CADD\\$HEETSO	PLOT DATE :	3/1/2018 12:36 PM	PLOT BY :	ALEX PASSOW	PLOT NAME:		WIEDOT/CADDS SUFET 43

	EROSION (	CONTROL ITEM	S	
		628.1504	628.1520	628.7570
		SILT	SILT	ROCK
		FENCE	FENCE	BAGS
			MAINTENANCE	
STATION	LOCATION	LF	LF	EACH
9+10.75 - STRUCTURE	RT	70	70	==
9+10.75 - STRUCTURE	LT	70	70	
STRUCTURE - 10+83.25	RT	70	70	
STRUCTURE - 10+83.25	LT	70	70	
UNDISTRIBUTED		30	30	40
TOTALS	•	310	310	40

NOTE: USE ROCK BAGS FOR SILT FENCE WEEPS AS DIRECTED BY THE ENGINEER.

MOBII	MOBILIZATION EROSION CONTROL				
	628.1905	628.1910			
	MOBILIZATION	MOBILIZATIONS			
	EROSION	<b>EMERGENCY</b>			
	CONTROL	EROSION			
		CONTROL			
PROJECT	EACH	EACH			
8433-01-70	4	2			
TOTALS	4	2			

TURBIDITY BARRIERS		
	628.6005	
LOCATION	SY	
WEST ABUTMENT	58	
PIER	86	
EAST ABUTMENT	64	
UNDISTRIBUTED	42	
TOTAL	250	

		PERMA	NENT SIGNS		
				637.2230	
				SIGNS	634.0612
				TYPE II	POSTS WOOD
		SIGN	SIGN SIZE	REFLECTIVE F	4X6-INCH X12-FT
STATION	LOCATION	CODE	IN X IN	SF	EA
9+58	RT	W5-52R	12 X 36	3	1
9+58	LT	W5-52L	12 X 36	3	1
10+35	RT	W5-52R	12 X 36	3	1
10+35	LT	W5-52L	12 X 36	3	1
		TO	TALS	12	4

NOTE: COUNTY TO REMOVE EXISTING OBJECT MARKERS AT BRIDGE AND LOAD POSTED SIGNS AND POSTS

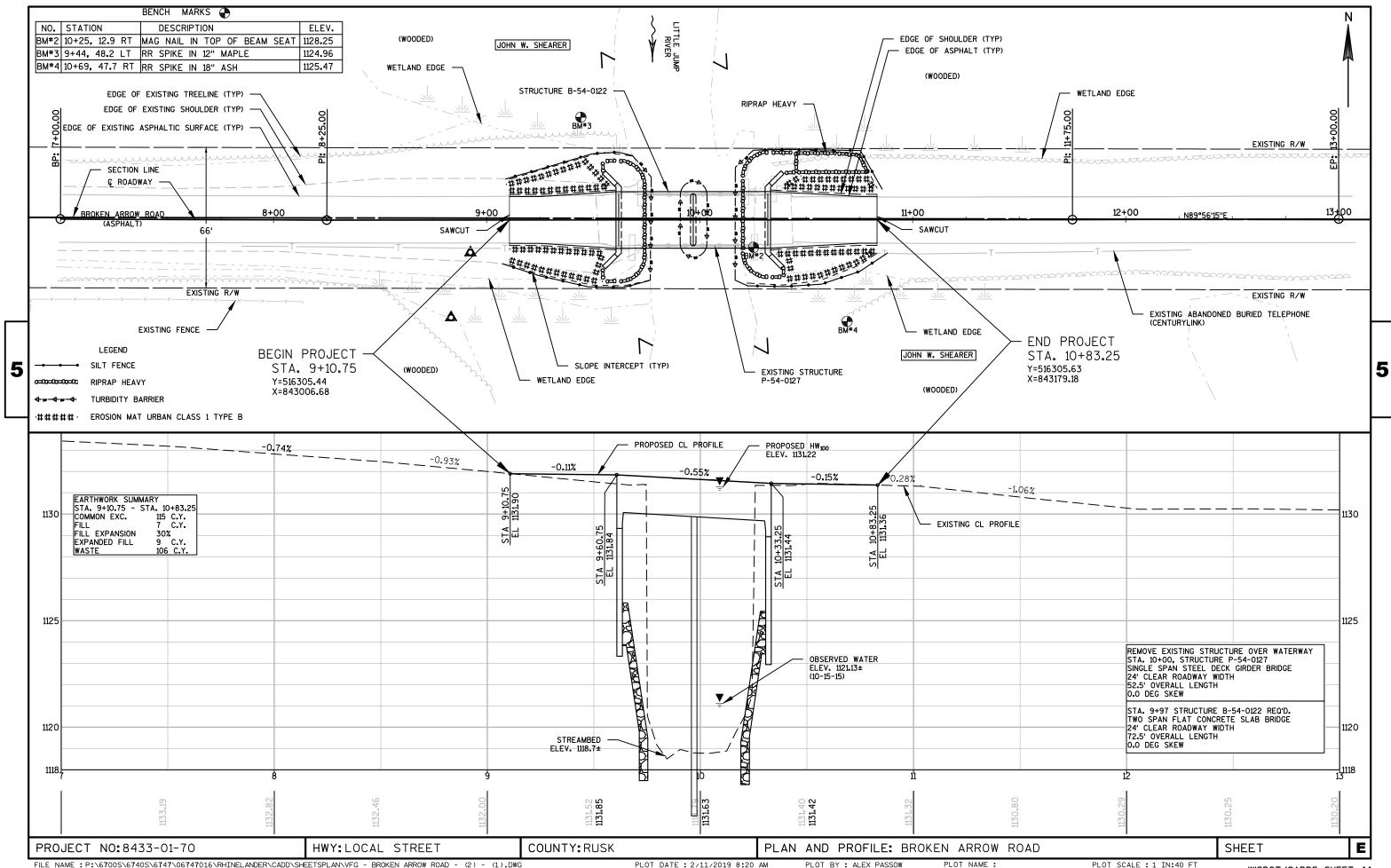
			TRAFFIC C	CONTROL ITEM	S			
		TDAFFIO	643.0420	TDAFFIO	643.0705	TD4 FF10	643.0900	643.5000
		TRAFFIC CONTROL	TRAFFIC CONTROL BARRICADES	TRAFFIC CONTROL WARNING	TRAFFIC CONTROL WARNING	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL
		TYPE III	TYPE III	LIGHTS TYPE A	LIGHTS TYPE A	SIGNS	SIGNS	
PROJECT	DAYS	EACH	DAYS	EACH	DAYS	EACH	DAYS	EACH
8433-01-70	74	18	1332	28	2072	14	1036	1
UNDISTRIBUTED	74	1	74	2	148	2	148	
TOTALS	;		1,406		2,220		1,184	1

		CONSTRUCT	TON STAKING		
		650.4500 CONSTRUCTION STAKING SUBGRADE	650.5000 CONSTRUCTION STAKING BASE	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL	650.9920 CONSTRUCTION STAKING SLOPE STAKES
CATEGORY	LOCATION	LF	LF	(8433-01-70) LS	LF
0010	9+10.75 - 9+60.75	50	50	1	50
0010	10+33.25 - 10+83.25	50	50		50
0020	B-54-0122		<del></del>	<del></del>	
	TOTALS	100	100	1	100

SAWING	SAWING ASPHALT		
	690.0150		
STATION	LF		
9+10.75	22		
10+83.25	22		
TOTAL	44		

NOTE: ALL ITEMS ARE CATEGORY 0010 UNLESS OTHERWISE NOTED

COUNTY: RUSK HWY: LOCAL STREET SHEET PROJECT NO:8433-01-70 MISCELLANEOUS QUANTITIES E PLOT DATE: 3/1/2018 12:36 PM PLOT BY: ALEX PASSOW



## Standard Detail Drawing List

08E09-06	SILT FENCE
08E11-02	TURBIDITY BARRIER
12A03-10	NAME PLATE (STRUCTURES)
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

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### TYPICAL APPLICATION OF SILT FENCE

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# PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



#### GENERAL NOTES

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

- $\bigcirc$  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 11/8" X 11/8" 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

S.D.D. 8 E 9-6

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#### **GENERAL NOTES**

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

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

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





SECTION C-C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

#### TURBIDITY BARRIER

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 /S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER  $\infty$ 

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#### 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.



SPREAD OPEN SO THE TOP OF LUG IS 11/4" WIDE

SECTION A-A

ALTERNATE LUG



ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

#### NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

|--|

3/26/IO /S/ SCOT BECKET

CHIEF STRUCTURAL DEVELOPMENT ENGINEER

D.D. 12 A

3-10



#### 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

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.) MO5-1 AND MO6-1 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
- THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 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.
- "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

#### BARRICADES AND SIGNS FOR MAINLINE CLOSURES

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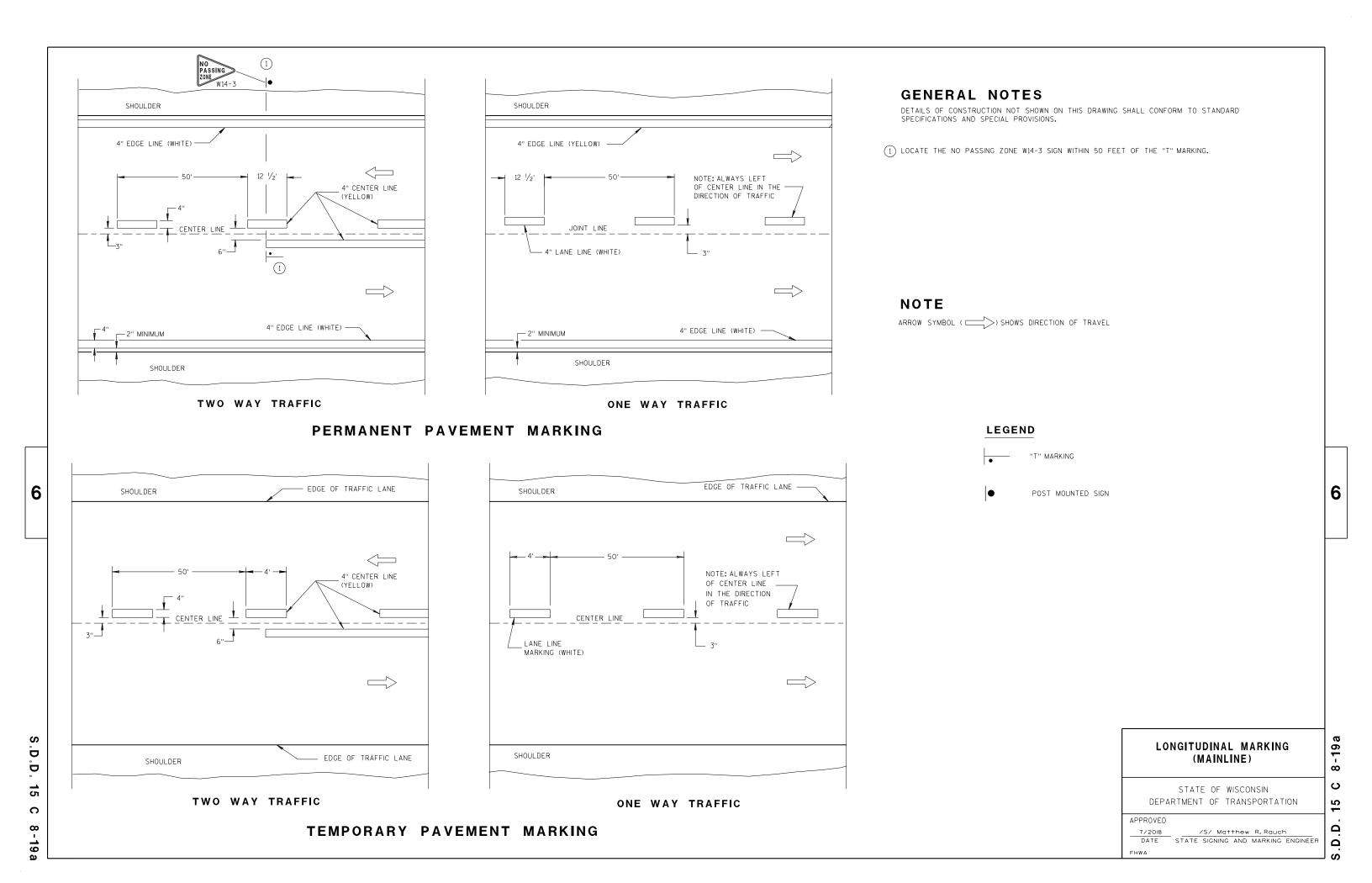
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

/S/ Peter Amakobe Atepe

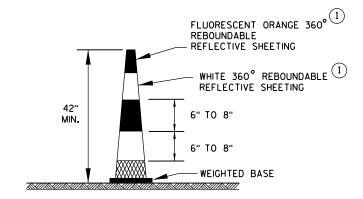
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER



**DRUM** 

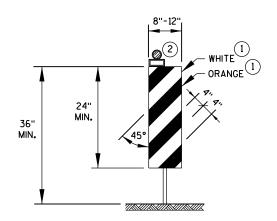
#### TYPE 2 BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



#### **42**" CONE

DO NOT USE IN TAPERS 1/2 SPACING OF DRUMS

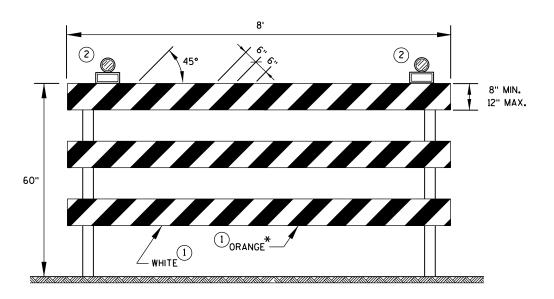


#### **VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.

#### GENERAL NOTES

- REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- (2) LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



#### TYPE 3 BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION, USE RED SHEETING.

# CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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APPROVED

June 2017
DATE

WORK ZONE ENGINEER
FHWA

S.D.D. 15 C 1



TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SO. 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 WIDER THAN 3 FEET OR LARGER THAN 9 SO.FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE). SIGNS LARGER THAN 27 SO.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

POST SPACING REQUIREM	MENTS	NUMBER OF	
L	E	WOOD POSTS REQUIRED	
48" OR LESS AND LESS THAN 20 SO.FT.	-	1	
LESS THAN 60"	12"	2	٤
60" TO 120"	L/5	2	
GREATER THAN 120" LESS THAN 168"	12"	3	
168" AND GREATER	12"	4	

SEE NOTE (3)

RURAL AREA

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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- 11/2" DIAMETER HOLES

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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 - 1/6" 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 - 1/32 " (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

June 2017 /S/ Andrew Heidtke DATE WORK ZONE ENGINEER FHWA

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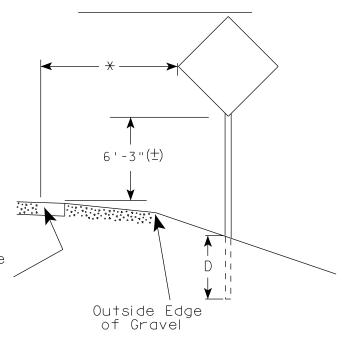
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38-2b

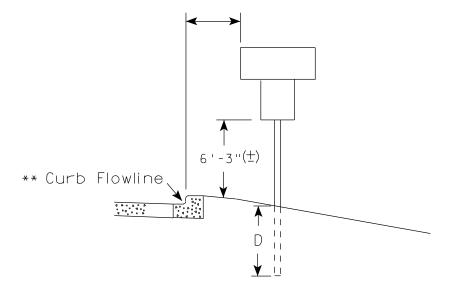
#### URBAN ARFA

2' Min - 4' Max (See Note 6) フィ-3''(士) \*\* Curb Flowline 0 4 4 0 0 4 0 0 4 0 White Edgeline Location

RURAL AREA (See Note 2)



2' Min - 4' Max (See Note 6)



5'-3"(生)  $\blacksquare$ White Edgeline Di Location Outside Edae of Gravel

 $\star\star$  The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where

HWY:

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.

PLOT BY: mscj9h

GENERAL NOTES

- 1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- 2. If signs are mounted on barrier wall, see A4-10 sign plate.
- 3. For expressways and freeways, mounting height is 7'- 3"  $(\pm)$  or 6'-3" (±) depending upon existence of a sub-sign.
- 4. Minimum mounting height for J assemblies (A2-1S) is 7'-3'' ( $\pm$ ) or 6'-3'' ( $\pm$ ) per urban or rural detail respectively.
- 5. Minimum mounting height for signs mounted on traffic signal poles is 5' - 3'' ( $\pm$ ).
- 6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 7. The (+) tolerance for mounting height is 3 inches.
- 8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
- 9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" ( $\pm$ ). 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'' ( $\pm$ ).

#### POST EMBEDMENT DEPTH

Area of Sign D Installation (Min) ( Sq. Ft.) 20 or Less 4١ Greater than 20

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

for State Traffic Engineer

DATE 7/23/15

PLATE NO. <u>A4-3.20</u>

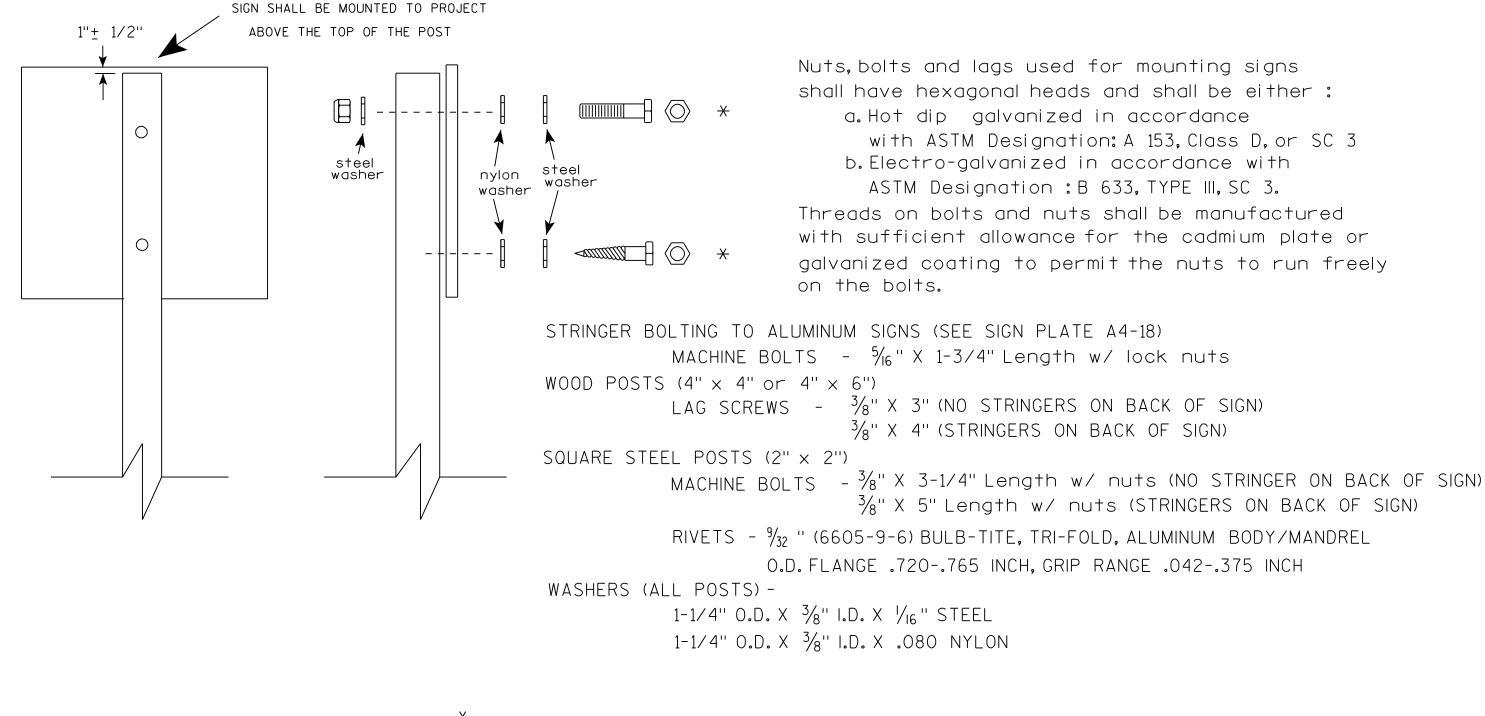
PROJECT NO: FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A43.DGN COUNTY:

PLOT DATE: 23-JUL-2015 15:21

PLOT NAME :

SHEET NO:

PLOT SCALE: 99.237937:1.000000 WISDOT/CADDS SHEET 42



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.

PLOT DATE • 11-4UG-2016 11•35

ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther K Kauv

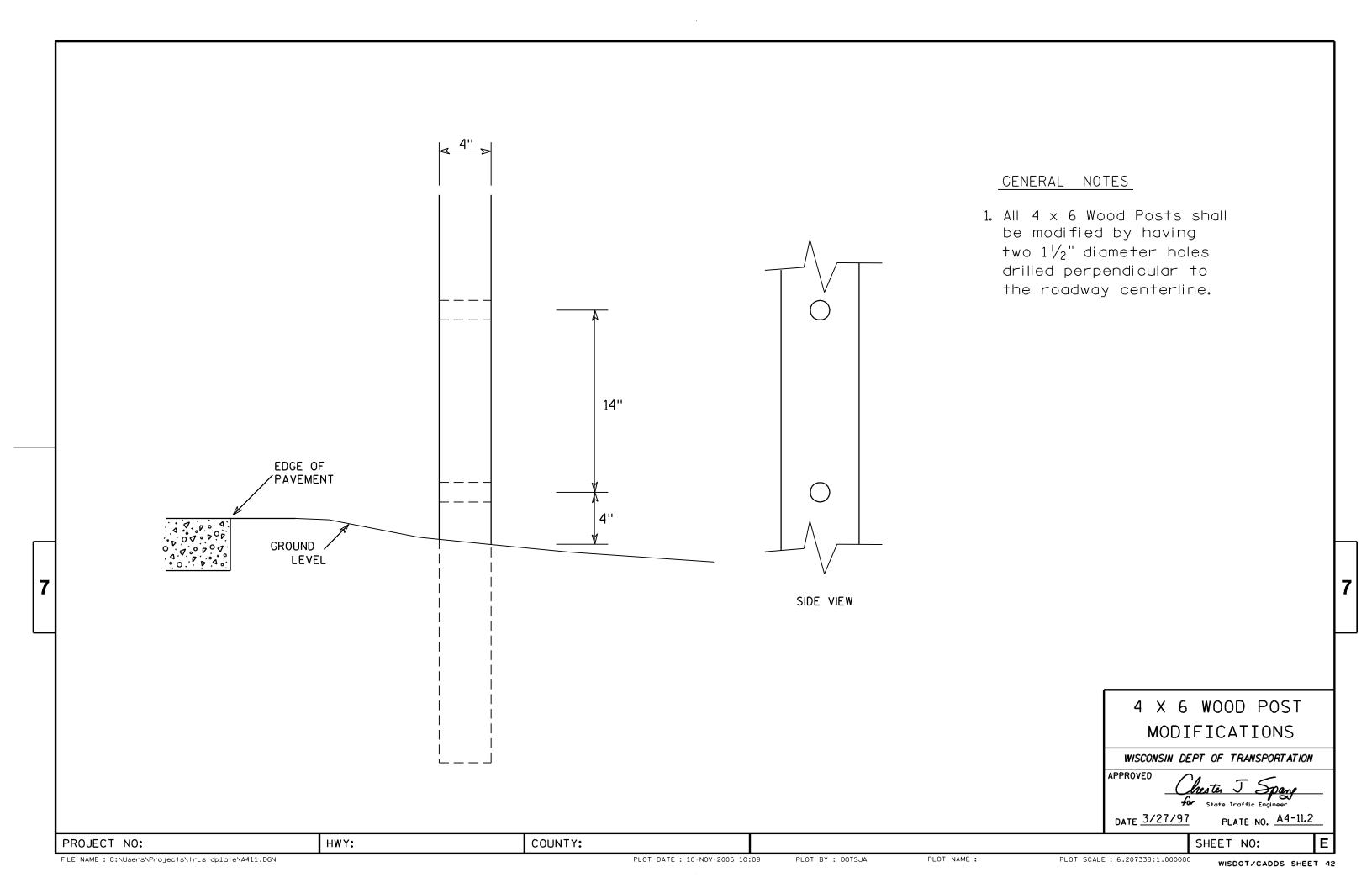
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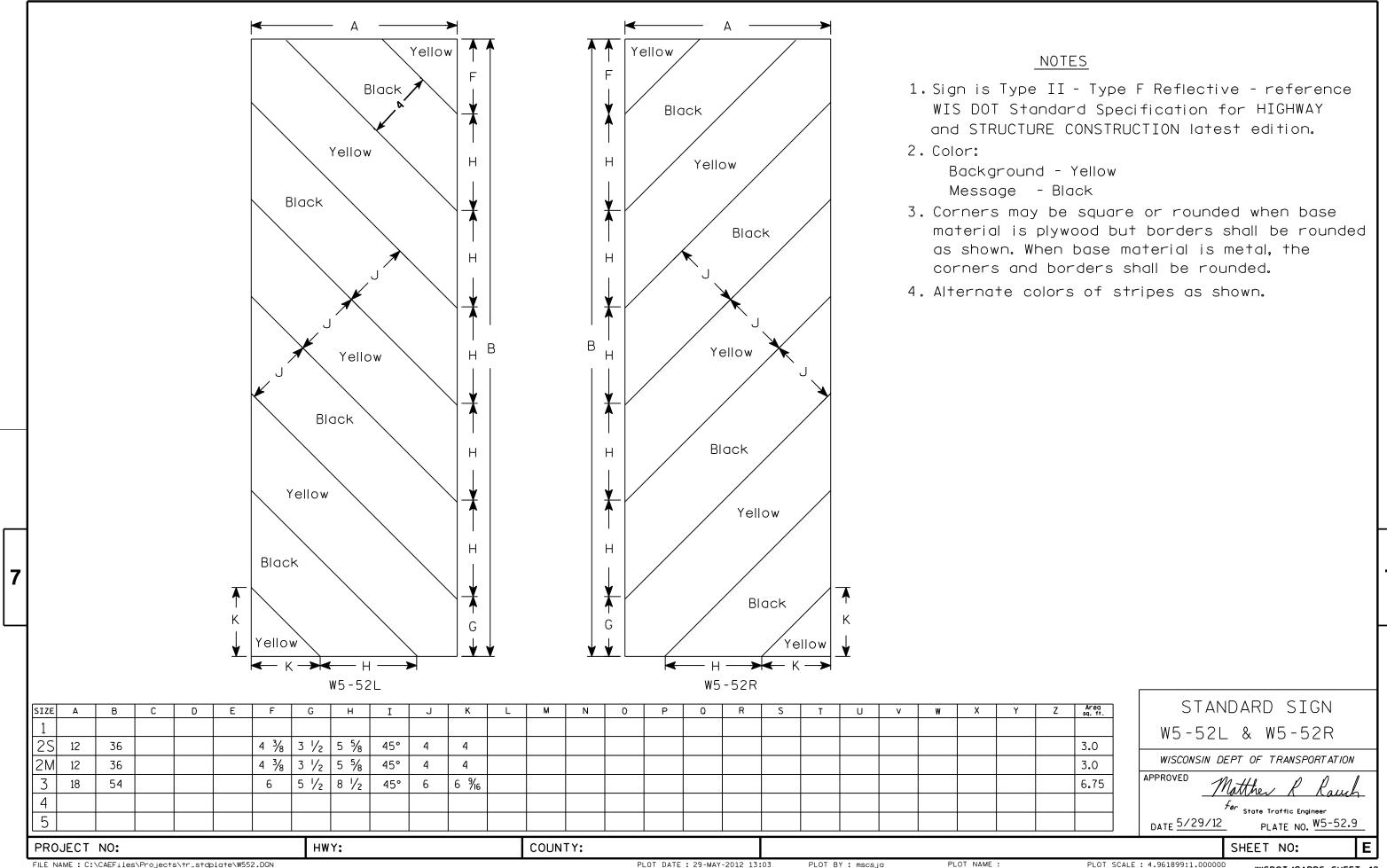
DATE <u>8/11/16</u>

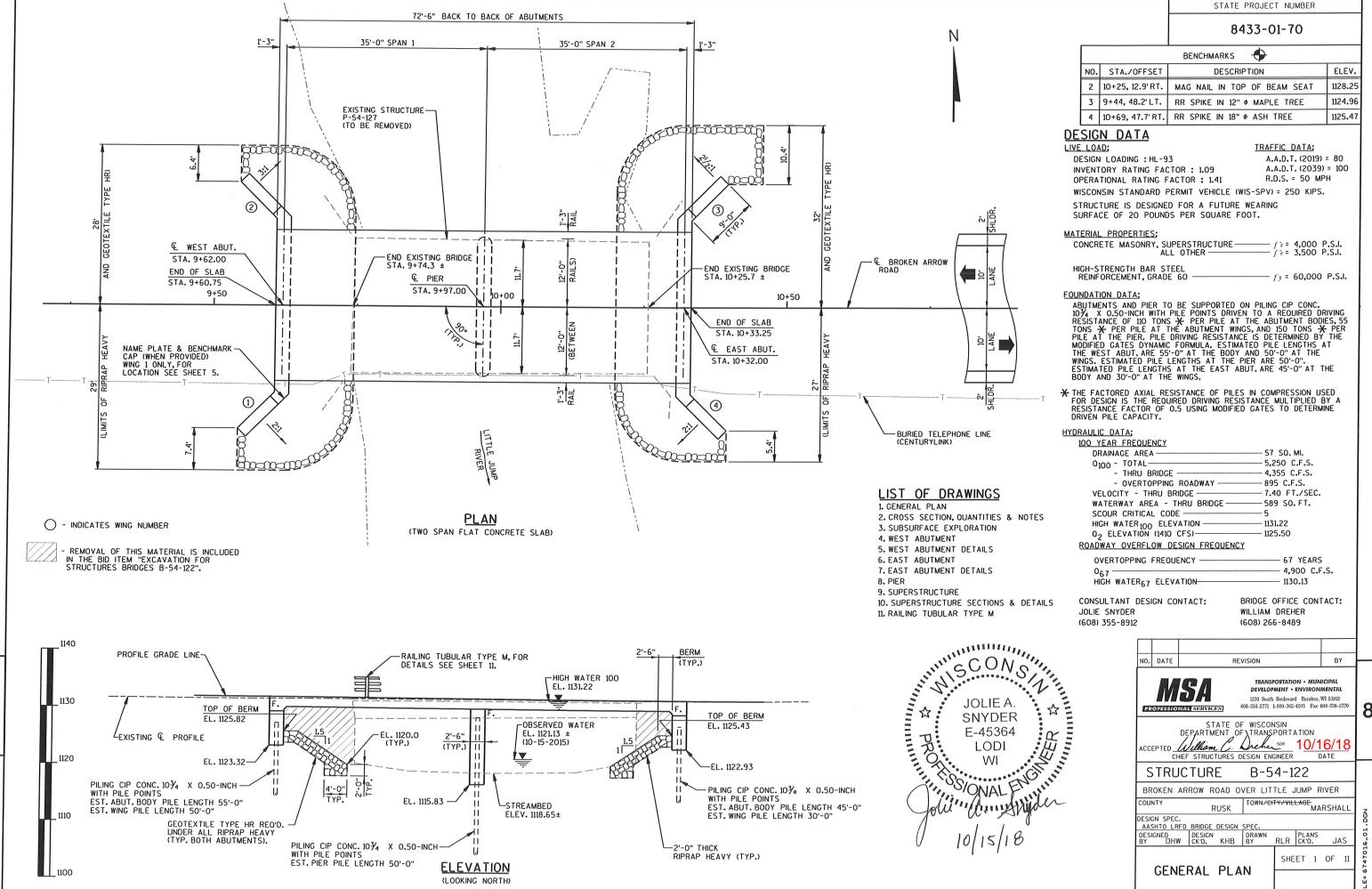
PROJECT NO:

PLOT BY \* \$\$ plotuser \$\$

FILE NAME . C.\CAFfiles\Projects\tr stdplote\A48 DGN







6747016 01.dgn 4/24/2018 1:43:58 PM rrabska

CROSS SECTION THRU BRIDGE

(LOOKING EAST)

#### TOTAL ESTIMATED QUANTITIES

ITEM NUMBER	BID ITEM	UNIT	WEST ABUT.	PIER	EAST ABUT.	SUPER	TOTAL
203.0600.S.01	REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00	LS	-	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-54-122	LS	-	ı	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	160	-	160	-	320
502.0100	CONCRETE MASONRY BRIDGES	CY	29	31	29	111	200
502.3200	PROTECTIVE SURFACE TREATMENT	SY	16	ı	16	253	285
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	2170	1560	2170	-	5900
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1465	50	1465	21820	24800
513.4061.01	RAILING TUBULAR TYPE M B-54-122	LF	-	-	-	149	149
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	5	-	5	-	10
550.0500	PILE POINTS	EACH	6	5	6	-	17
550.2108	PILING CIP CONCRETE 10 3/4 X 0.50-INCH	LF	320	300	240	-	860
606.0300	RIPRAP HEAVY	CY	75	-	80	-	155
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80	-	80	-	160
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	30	-	30	-	60
645.0120	GEOTEXTILE TYPE HR	SY	140	-	150	-	290
	NON-BID ITEMS						
	PREFORMED FILLER	SIZE					1/2" & 3/4"

(PILING NOT SHOWN)

#### **GENERAL NOTES**

DRAWINGS SHALL NOT BE SCALED.

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

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

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" AT THE ABUTMENTS AND PIER.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

THIS STRUCTURE WILL REPLACE EXISTING BRIDGE, P-54-127, A 51.4 FT. LONG, 23.4 CLEAR WIDTH, SINGLE SPAN, STEEL DECK GIRDER BRIDGE ON TIMBER ABUTMENTS WITH TIMBER PILING.

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

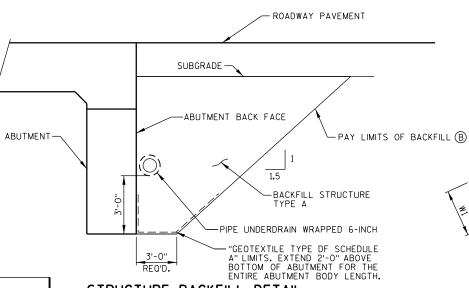
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 DATUM, 2012 ADJUSTED, AND WERE ESTABLISHED AT THE SITE USING GPS TECHNOLOGY.

(B) - BACKFILL PAY LIMITS, BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

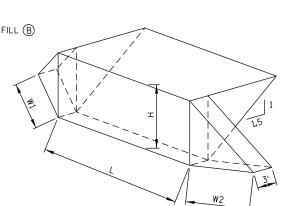
THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-O" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, TO THE EXPOSED FRONT FACES OF WINGS, AND TO THE END 1'-O" OF THE FRONT FACE OF ABUTMENTS.



STRUCTURE BACKFILL DETAIL



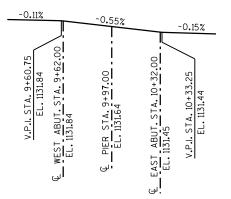
STATE PROJECT NUMBER

8433-01-70

#### ABUTMENT BACKFILL DIAGRAM

L = OUT-TO-OUT OF ABUTMENT H = AVERAGE ABUTMENT FILL HEIGHT W1 = WING 1 LENGTH W2 = WING 2 LENGTH

= (L)(3.0')(H)+(L)(0.5)(1.5H)(H)+(0.5)(H)(W1+W2)(3.0')  $V_{TON} = V_{CF}(2.0)/27$ 

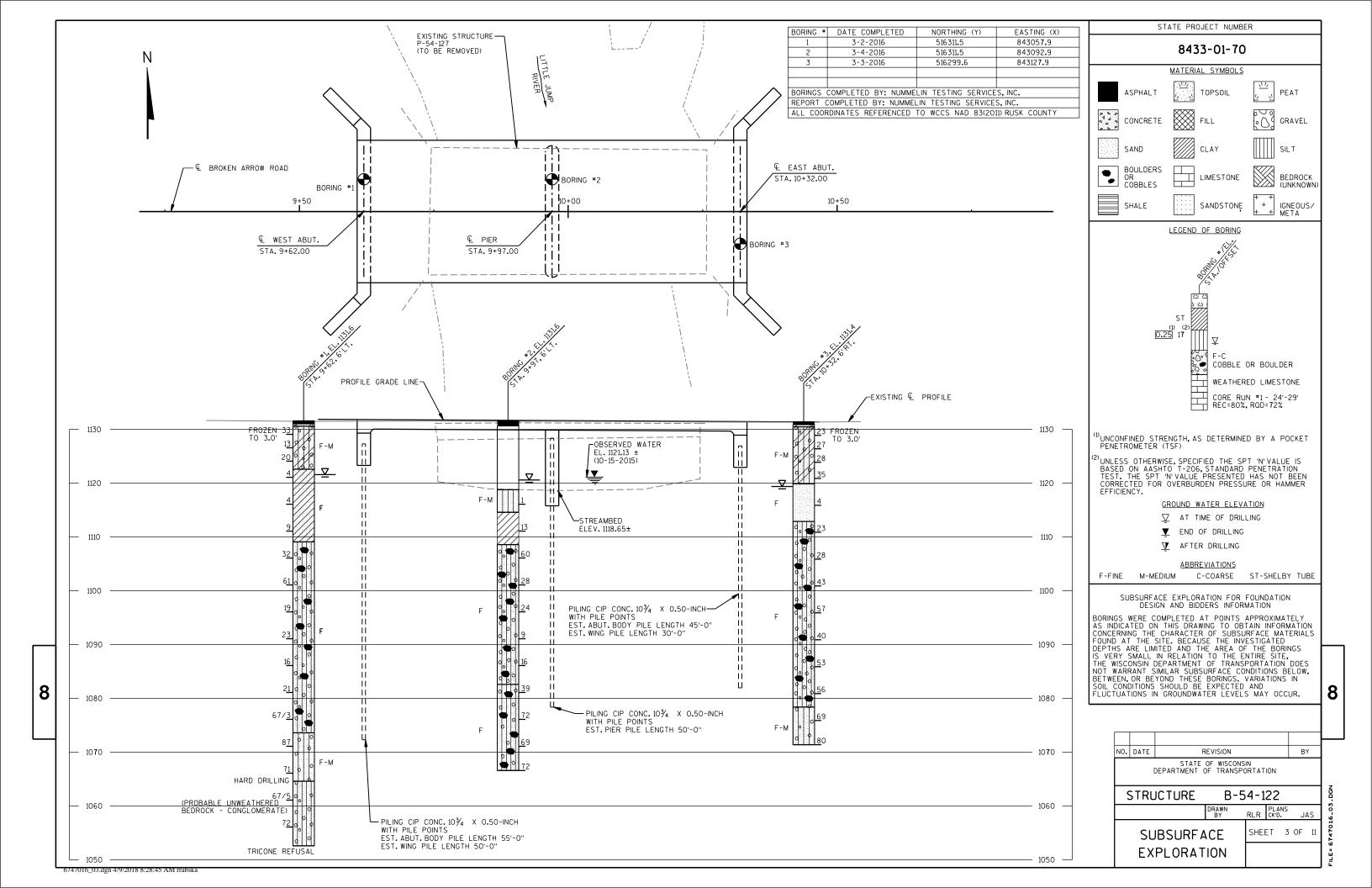


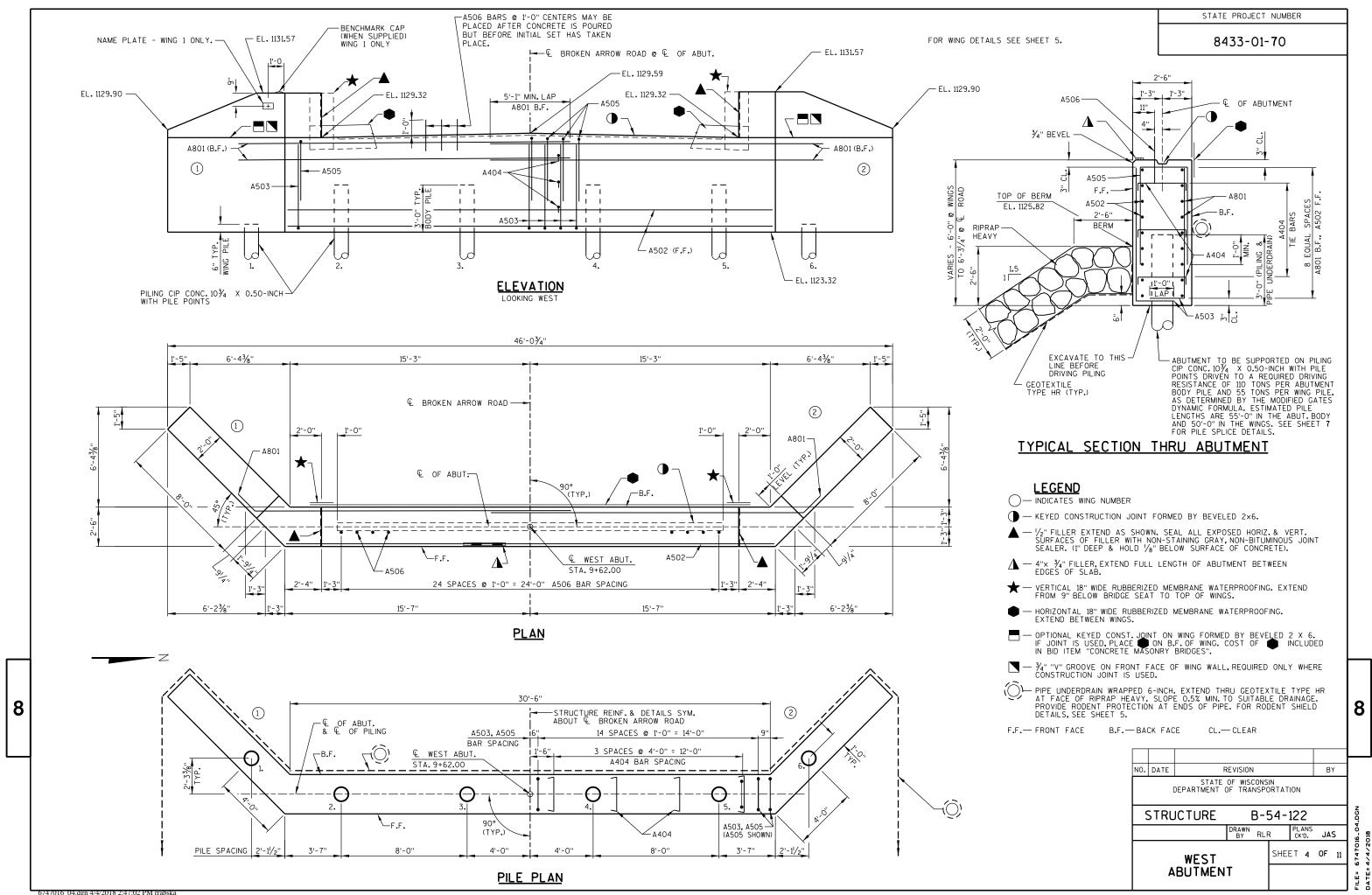
PROFILE GRADE LINE - BROKEN ARROW ROAD

NO.	DATE	F	REVISION			BY
	STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION					
	STRUC	TURE	[	3-54-	122	
			DRAWN BY	RLR	PLANS CK'D.	JAS

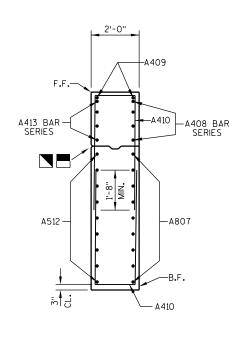
CROSS SECTION, QUANTITIES & NOTES

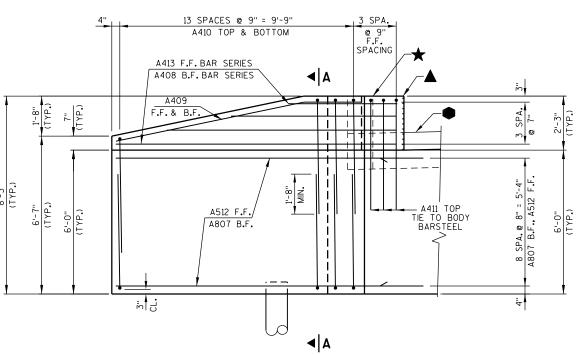
SHEET 2 OF 11





8433-01-70

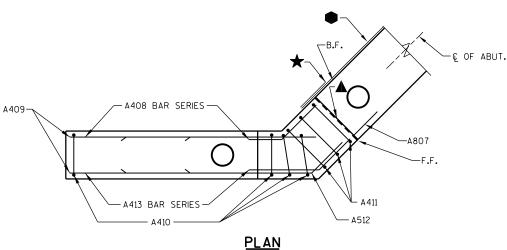




SECTION A-A THRU WING

**ELEVATION** (LOOKING AT F.F. OF WING)

NOTE: WING 1 SHOWN, WING 2 SIMILAR.



# -Ç OF ABUT.

BILL OF BARS (WEST ABUT.)

#### UNCOATED 2170 LBS. COATED 1465 LBS.

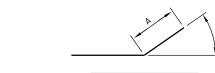
MARK	NUMBER COATED	REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
A801	-	18	21'-6"	Х		ABUTMENT BODY - B.F HORIZ.
A502	-	9	31'-0''			ABUTMENT BODY - F.F HORIZ.
A503	-	64	7'-0''	Х		ABUTMENT BODY - F.F. & B.F VERT.
A404	-	24	2'-9"	Х		ABUTMENT BODY - TIES - HORIZ.
A505	-	32	10'-1"	Х		ABUTMENT BODY - TOP - VERT.
A506	25	-	2'-0"			ABUTMENT BODY - TOP - DOWEL - VERT.
A807	18	-	13'-2"	Х		WINGS - B.F HORIZ.
A408	8	-	7'-0''	Х	\$	WINGS - B.F HORIZ.
A409	4	-	10'-5"	Х		WINGS - F.F. & B.F TOP - HORIZ.
A410	56	-	11'-0''	Х		WINGS - TOP & BOTTOM - VERT.
A411	6	-	10'-0''	Х		WINGS - TOP - VERT.
A512	18	-	11'-8''	Х		WINGS - F.F HORIZ.
A413	8	-	8'-6"	X	\$	WINGS - F.F HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
A408	2 SERIES OF 4	3'-3" TO 10'-9"
Δ413	2 SERIES OF 4	4'-9" TO 12'-3"

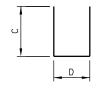
#### BAR SERIES TABLE



1'-7"

<u> 4503</u>

MARK	Α	В
A801 A807 A512	1'-6"	45°
A408	1'-10''	45°
A409	2'-5"	12°
A413	2'-0''	45°



MARK	С	D
A404	41/2"	2'-2'
A505	4'-1"	2'-2'
A410	4'-9''	1'-8''
A411	4'-0''	2'-2'

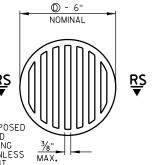
#### RODENT SHIELD NOTES:

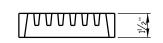
ORIENT SHIELD SO SLOTS ARE VERTICAL.

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL.

THE GRATE SIMILAR TO THIS DETAIL.

THE GRATE IS COMMERCIALLY AVAILABLE
AS A FLOOR STRAINER.
A PIPE COUPLING IS REQUIRED FOR THE
ATTACHMENT OF THIS SHIELD TO THE EXPOSED
END OF THE PIPE UNDERDRAIN. THE SHIELD
SHALL BE FASTENED TO THE PIPE COUPLING
WITH TWO OR MORE NO. 10 × 1-INCH STAINLESS
STEEL SHEET METAL SCREWS, THE RODENT
SHIELD, PIPE COUPLING AND SCREWS, SHALL BE
INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN
WRAPPED 6-INCH".



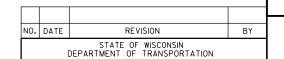


SECTION RS-RS

#### RODENT SHIELD

O - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

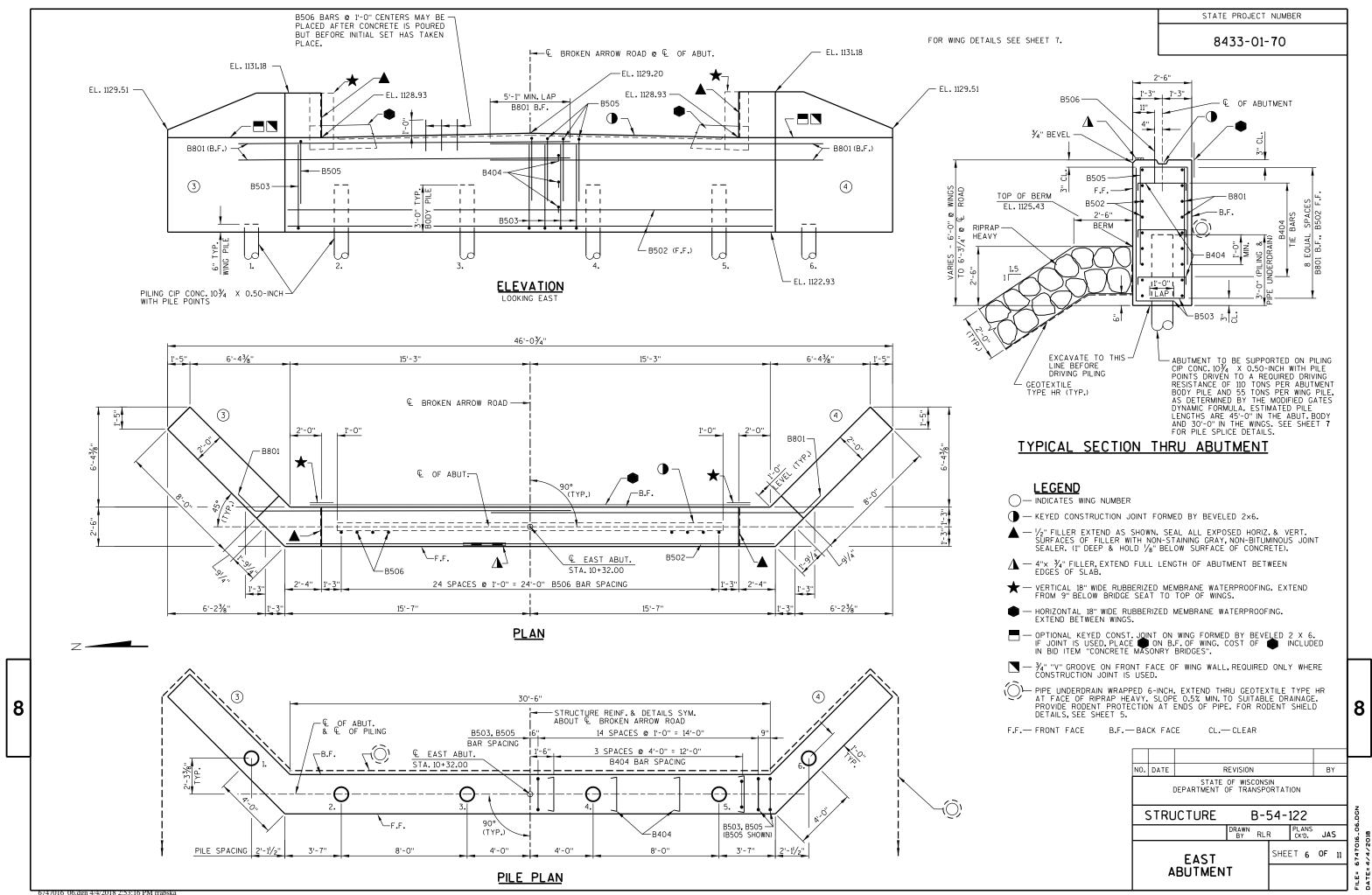




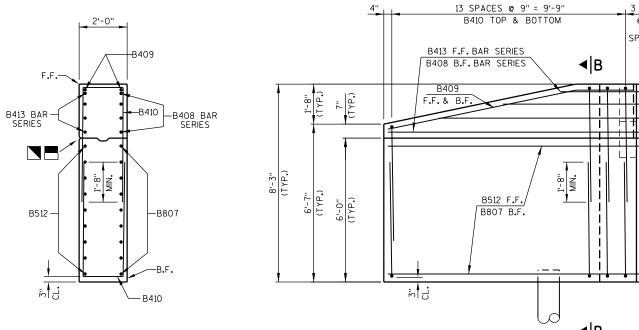
STRUCTURE B-54-122 DRAWN BY RLR JAS

WEST ABUTMENT DETAILS

SHEET 5 OF 11

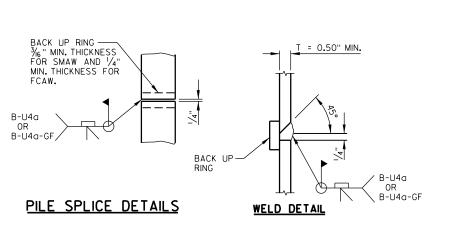


8433-01-70



@ 9" F.F. SPACING 8 SPA.@ 8" = 5'-4" B807 B.F., B512 F.F. — B411 TOP TIE TO BODY BARSTEEL **⋖**|B **ELEVATION** (LOOKING AT F.F. OF WING)

-Ç OF ABUT. NOTE: WING 3 SHOWN, WING 4 SIMILAR. -B408 BAR SERIES --B413 BAR SERIES - B512 <u>PLAN</u>





#### BILL OF BARS (EAST ABUT.)

#### UNCOATED 2170 LBS. COATED 1465 LBS.

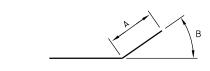
MARK	NUMBER COATED	REQUIRED UNCOATED	LENGTH	BENT	BAR SERIES	LOCATION
B801	-	18	21'-6"	Х		ABUTMENT BODY - B.F HORIZ.
B502	-	9	31'-0''			ABUTMENT BODY - F.F HORIZ.
B503	-	64	7'-0''	Х		ABUTMENT BODY - F.F. & B.F VERT.
B404	-	24	2'-9"	Х		ABUTMENT BODY - TIES - HORIZ.
B505	-	32	10'-1"	Х		ABUTMENT BODY - TOP - VERT.
B506	25	-	2'-0''			ABUTMENT BODY - TOP - DOWEL - VERT.
B807	18	-	13'-2"	Х		WINGS - B.F HORIZ.
B408	8	-	7'-0''	Х	\$	WINGS - B.F HORIZ.
B409	4	-	10'-5"	Х		WINGS - F.F. & B.F TOP - HORIZ.
B410	56	-	11'-0''	Х		WINGS - TOP & BOTTOM - VERT.
B411	6	-	10'-0''	Х		WINGS - TOP - VERT.
B512	18	-	11'-8''	Х		WINGS - F.F HORIZ.
B413	8	-	8'-6"	Х	\$	WINGS - F.F HORIZ.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

BENT BARS IF USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.

BAR MARK	NO. REQ'D.	LENGTH
B408	2 SERIES OF 4	3'-3" TO 10'-9"
B413	2 SERIES OF 4	4'-9" TO 12'-3"

#### BAR SERIES TABLE



1'-7"

<u>B503</u>

MARK	Α	В
B801 B807 B512	1'-6"	45°
B408	1'-10''	45°
B409	2'-5"	12°
B413	2'-0"	45°



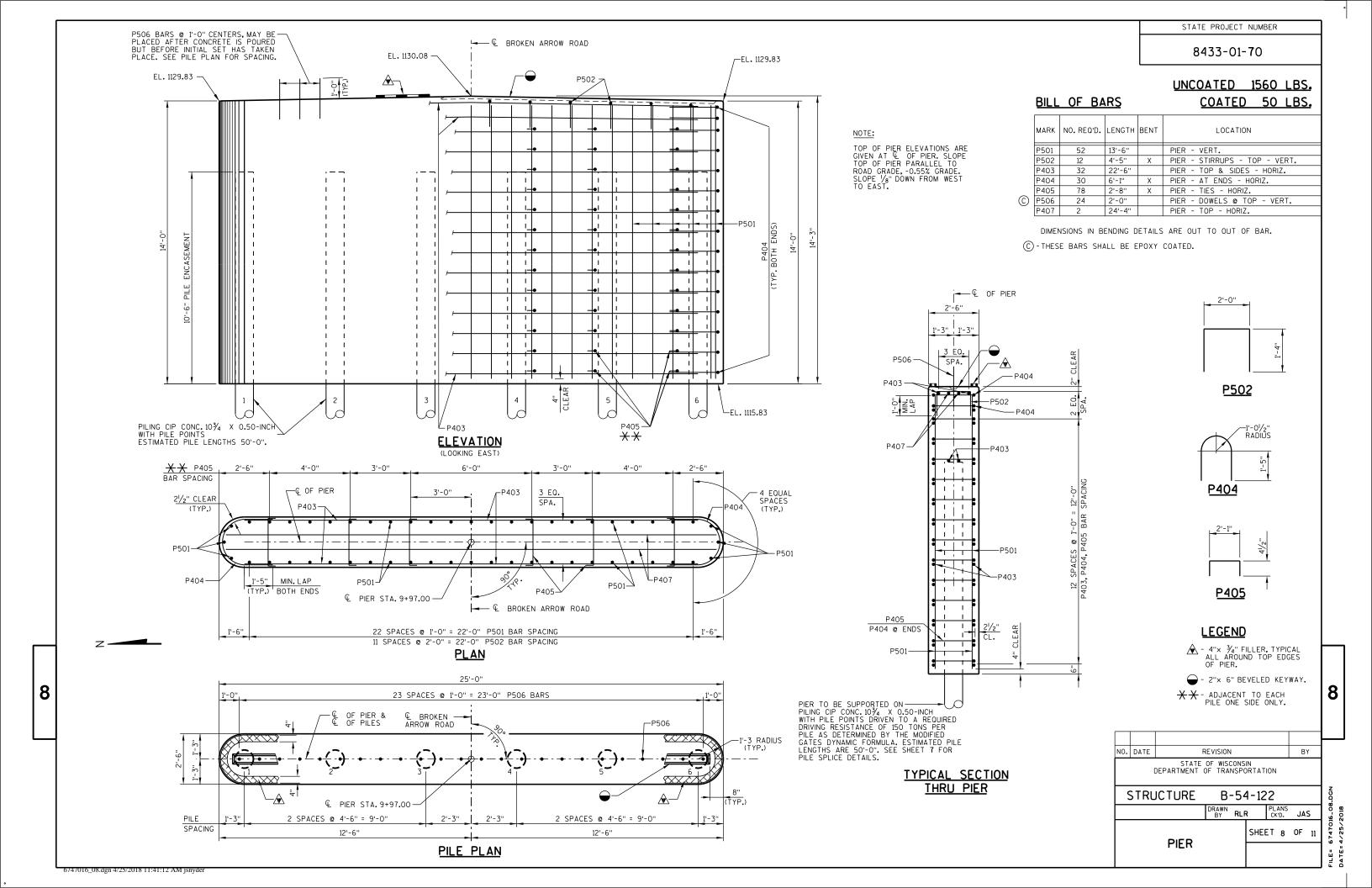
MARK	С	D
B404	41/2"	2'-2"
B505	4'-1"	2'-2"
B410	4'-9''	1'-8"
B411	4'-0''	2'-2"

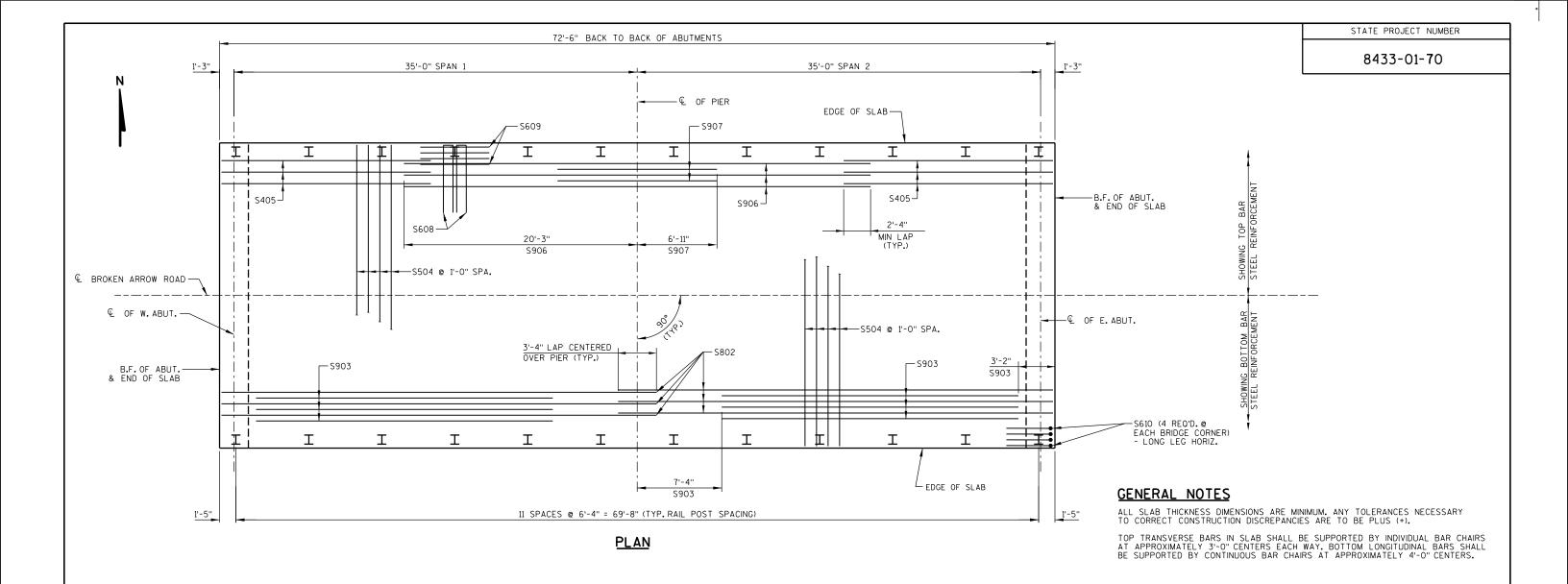
NO. DATE REVISION BY STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

STRUCTURE B-54-122 PLANS CK'D. JAS DRAWN BY RLR EAST ABUTMENT DETAILS SHEET 7 OF 11

8

SECTION B-B THRU WING

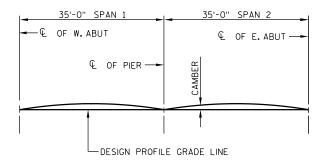




#### SURVEY TOP OF SLAB ELEVATIONS

		SOUTH	C/L	NORTH
	SPAN	SLAB	BROKEN ARROW	SLAB
LOCATION	POINT	EDGE	ROAD	EDGE
W. ABUT	1.0			
	1.5			
PIER	2.0			
	2.5			
F ABUT	3.0			

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE & OF ABUTMENTS, THE & OF THE PIER, AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR & RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.



#### CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

# TOP OF SLAB ELEVATIONS AND CAMBER VALUES

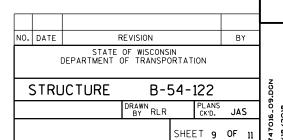
LOCATION	SOUTH EDGE OF SLAB ELEV.	€ BROKEN ARROW ROAD ELEV.	NORTH EDGE OF SLAB ELEV.	CAMBER VALUE (INCHES)
W. ABUT.	1131.57	1131.84	1131.57	0.0
1/10	1131.55	1131.81	1131.55	0.2
2/10	1131.53	1131.80	1131.53	0.3
3/10	1131.51	1131.78	1131.51	0.4
4/10	1131.49	1131.76	1131.49	0.5
5/10	1131.47	1131.74	1131.47	0.5
6/10	1131.45	1131.72	1131.45	0.4
7/10	1131.43	1131.70	1131.43	0.3
8/10	1131.42	1131.68	1131.42	0.2
9/10	1131.40	1131.66	1131.40	0.0
PIER	1131.38	1131.64	1131.38	0.0
1/10	1131.36	1131.62	1131.36	0.0
2/10	1131.34	1131.60	1131.34	0.2
3/10	1131.32	1131.58	1131.32	0.3
4/10	1131.30	1131.56	1131.30	0.4
5/10	1131.28	1131.55	1131.28	0.5
6/10	1131.26	1131.53	1131.26	0.5
7/10	1131.24	1131.51	1131.24	0.4
8/10	1131.22	1131.49	1131.22	0.3
9/10	1131.20	1131.47	1131.20	0.2
E. ABUT.	1131.18	1131.45	1131.18	0.0

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE, FOLLOW THIS PROCEDURE:

TOP OF SLAB ELEVATION AT FINAL GRADE

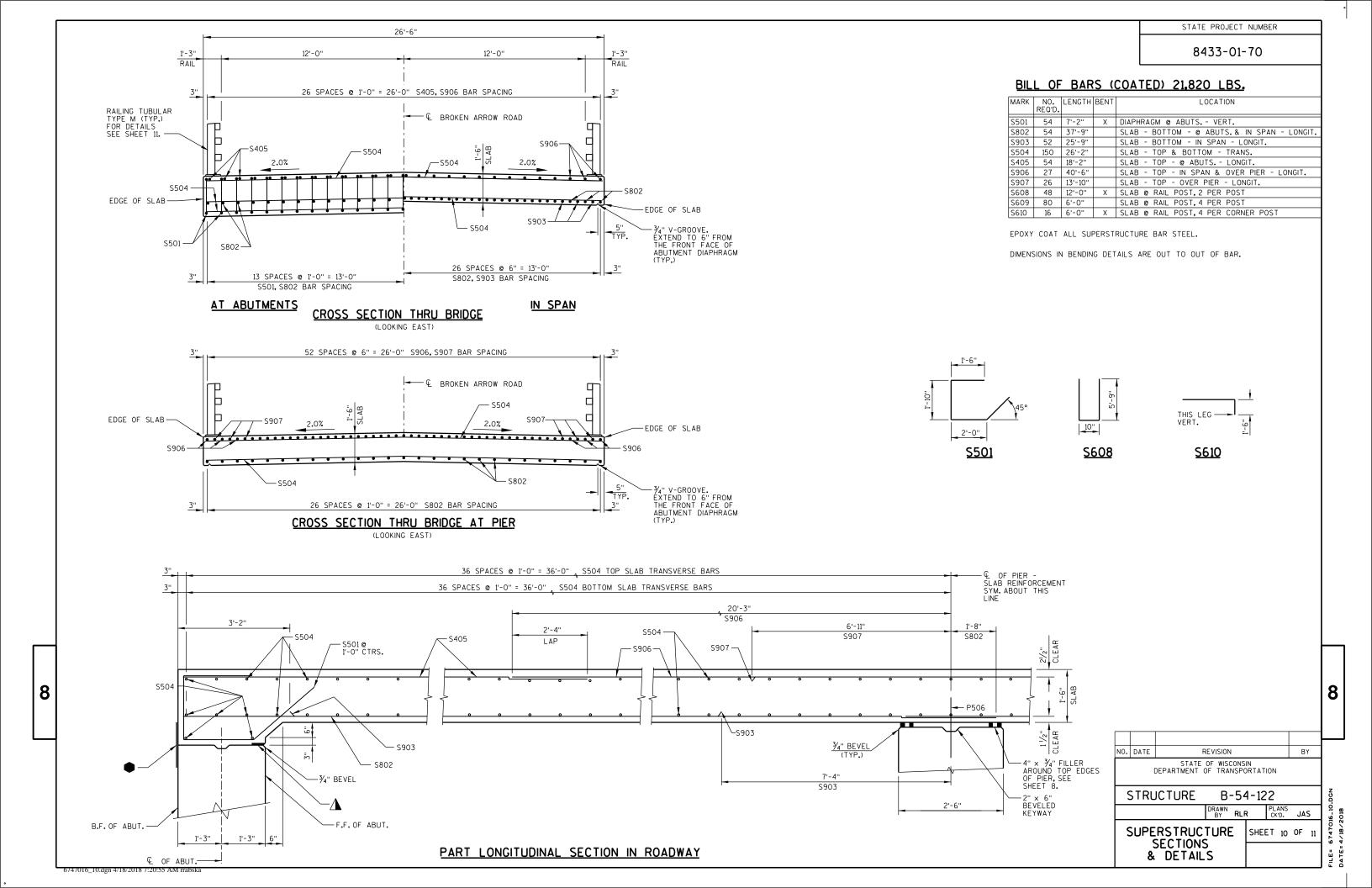
- SLAB THICKNESS
- + CAMBER
- + FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)
- = TOP OF SLAB FALSEWORK ELEVATION

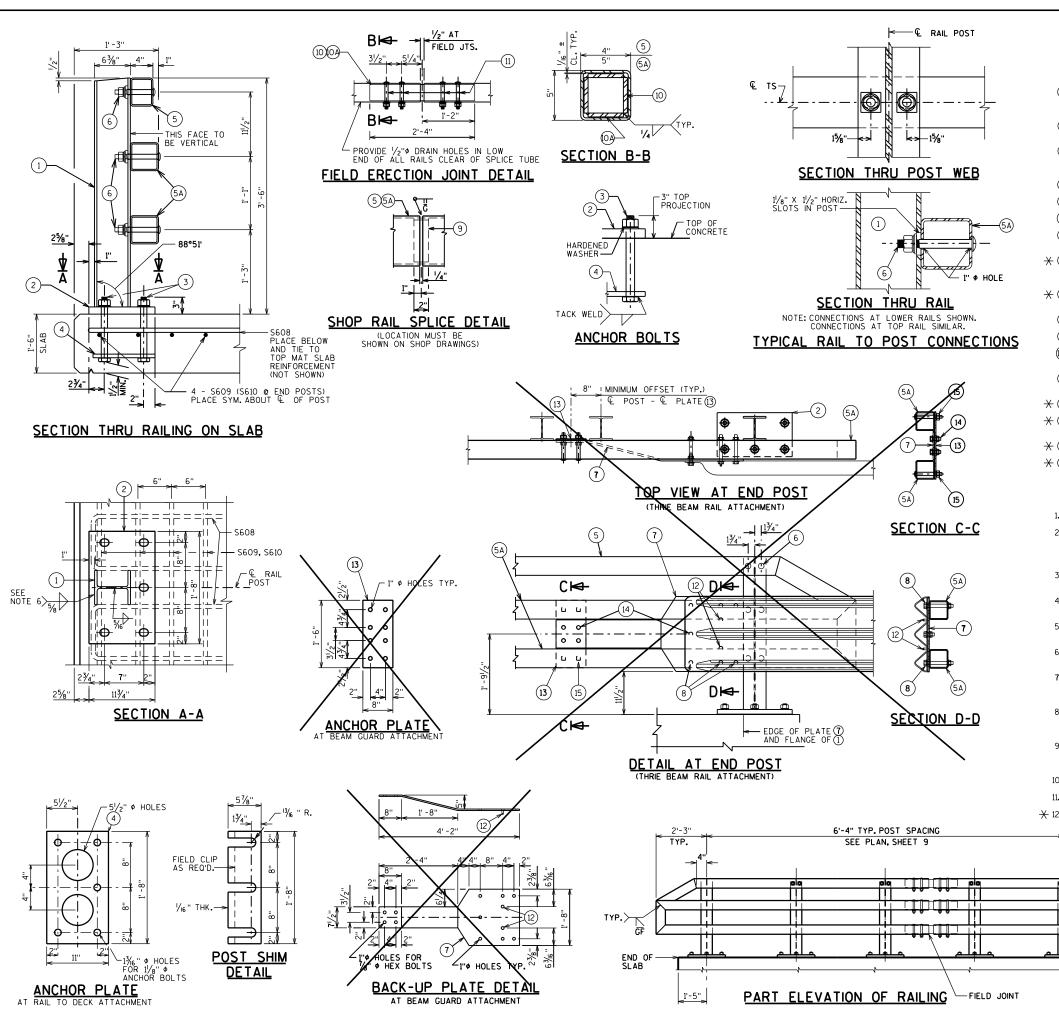
SUPERSTRUCTURE



8

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STATE PROJECT NUMBER

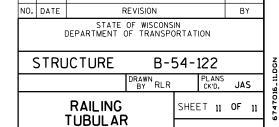
8433-01-70

#### LEGEN

- $\bigodot$  W6 x 25 With 1½" X 1½" Horiz slots on each side of post for bolt no.6. Cut bottom of post to match cross slope of roadway. Place post vertical. Place posts normal to grade line.
- ② PLATE  $1^1/_4$ "  $\times$   $1^3/_4$ "  $\times$   $1^3$ -8" WITH  $1^5/_6$ "  $\times$   $1^5/_6$ " SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- (3) ASTM A449  $1^1\!/_8$ " DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REO'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG.
- 4%" × 11" × 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1%" DIA. HOLES FOR ANCHOR BOLTS NO. 3
- (5) TS 5  $\times$  4  $\times$  0.25 STRUCTURAL TUBING. ATTACH TO NO.1 WITH NO.6.
- 5A TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO.1 WITH NO.6.
- 6 % " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, % " X 1% " X 1% " WASHER, AND LOCK WASHER (2 REO'D. AT EACH RAIL TO POST LOCATION.)
- $\star$  (7) ½" THK.BACK-UP PLATE WITH 2 ½" X 1½" 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.
- $\times$  (8) I" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR % DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
- 9 SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".
- 10~3% X ~35% X 2'-4" PLATE. 2 PER RAIL. USED IN NO.5 & 5A.
- (1) %  $^{\circ}$  A 325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE % " X  $1^{\prime}\!\!/_{\!\!4}$ " LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.
- + (12)  $\frac{1}{8}$ " DIA. X  $\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REO'D).
- $\star$  (3  $\rm 3\%$  x 8" x 1"-6" anchor plate, bolt to rail as shown in detail, regud, at thrie beam guard rail attachments only. Place sym. about tubes no.5a.
- + 14 %" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).
- $\pm$  (5) "  $\phi$  holes in tubes no.5a for %" dia.A325 round head bolt with nut, washer, and lock washer (4 reod.). 4 holes in tubes.

#### **GENERAL NOTES**

- 1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-54-122" WHICH INCLUDES ALL ITEMS SHOWN.
- 2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
- 3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL  $\%_8$  TURN.
- 4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
- 5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
- 6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
- 7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO.2 AND CAULK AROUND PERIMETER OF PLATE NO.2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REO'D. FOR ALIGNMENT.
- 8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
- 9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
- 10. PAINTING IS NOT REQUIRED.
- 11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
- $\pm$  12. DO NOT FURNISH ITEMS 7 8 2 3 4 AND 5 . THRIE BEAM RAIL ATTACHMENT IS NOT INCLUDED.



TYPE M

8

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EARTHWORK PROJECT I.D. 8433-01-70

		AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)		
STATION	Distance	Cut	Unusable Pavement Material	Fill	Cut (2)	Unusable Pavement Material (1)	Fill (1)	Cut 1.00	Expanded Fill 1.30	Mass Ordinate
9+10.75		23	11	0	0	0	0	0	0	0
9+25.00	14.25	35	11	0	15	6	0	15	0	10
9+60.75	35.75	35	11	0	46	15	0	61	0	41
	-				STRUCTURE	E B-54-0122				
10+33.25		30	11	4	0	12	0	0	0	-12
10+75.00	41.75	30	11	4	46	12	6	46	8	13
10+83.25	8.25	24	11	0	8	10	1	54	9	11
					115	54	7			

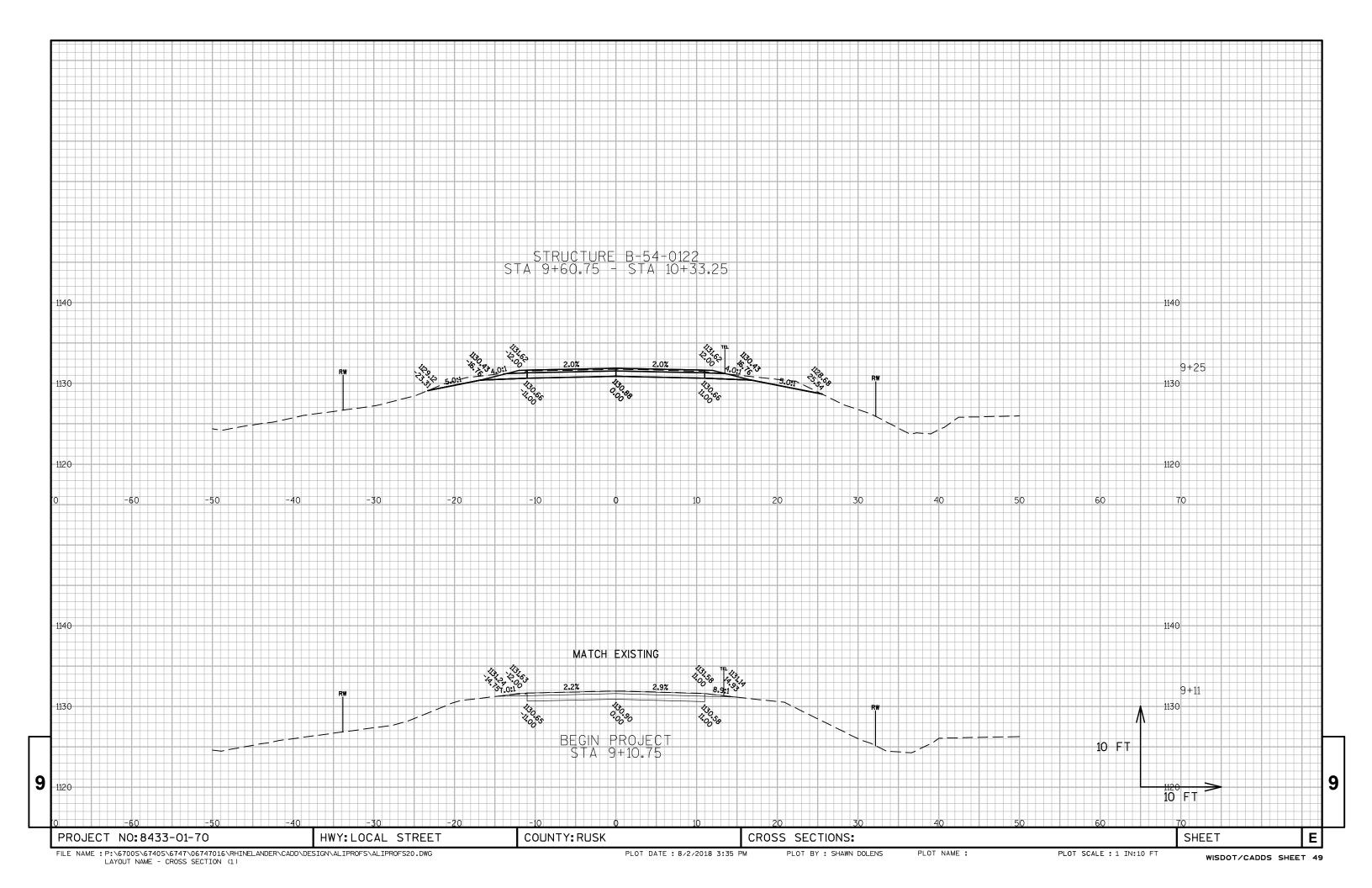
#### NOTES:

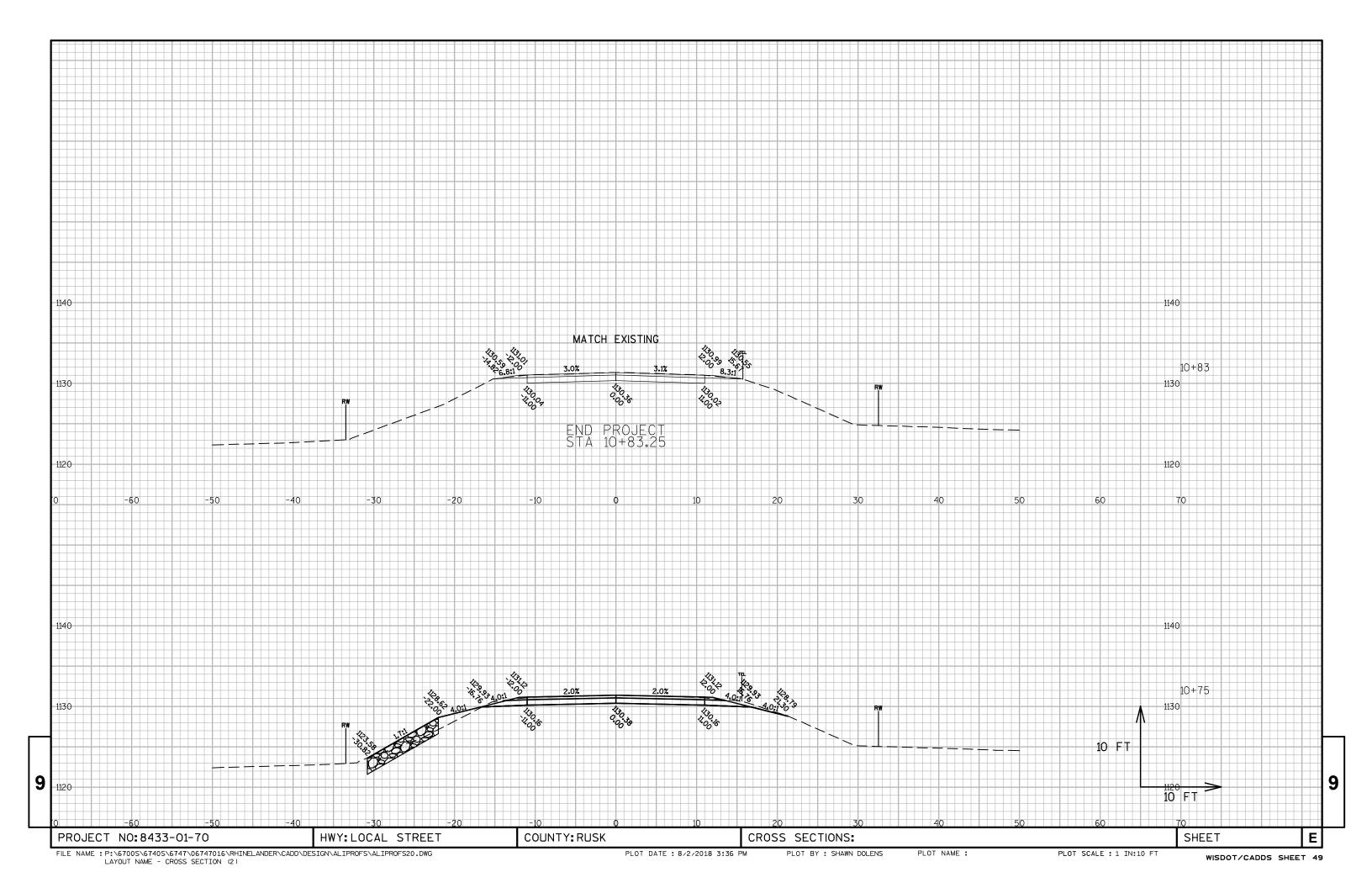
- 1) (1) NOT A BID ITEM FOR INFORMATIONAL PURPOSE ONLY
- 2) (2) UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
- 3) FILL EXPANSION 30%

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PROJECT NO:8433-01-70 HWY:LOCAL STREET COUNTY:RUSK EARTHWORK SHEET E

PLOT NAME :





Notes



# Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

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