## Dec 14, 2021

#### ORDER OF SHEETS

Typical Sections and Details Estimate of Quantities Section No. Section No. Miscellaneous Quantities

Plan and Profile (Includes Erosion Control Plans) Section No. Standard Detail Drawings Section No.

Structure Plans

TOTAL SHEETS =

Section No Section No.

154

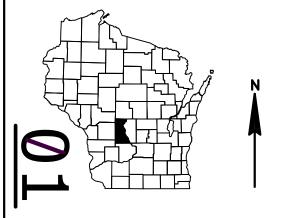
# STATE OF WISCONSIN **DEPARTMENT OF TRANSPORTATION**

PLAN OF PROPOSED IMPROVEMENT

# JUNEAU COUNTY STRUCTURE REPAIR

IH 90/94 **JUNEAU COUNTY** 

> STATE PROJECT NUMBER 1016-01-64



= 30,000,000

#### **DESIGN DESIGNATION**

**ESALS** 

A.A.D.T. 2022 = 33,500 A.A.D.T. D.H.V. = 5,184 D.D. = 56/44 = 32.3% DESIGN SPEED = 70 MPH

#### PROJECT LOCATION

B-29-44 (EB), B-29-45 (WB) STA 561+07'EB' TO STA 575+77'EB' Y=189,516.317 X=442.315.377

#### CONVENTIONAL SYMBOLS



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



T 16 N T 15 N PROJECT LOCATION B-29-18 (EB), B-29-19 (WB) STA 1815+64'EB' TO STA 1828+84'EB' Y=106,394.215 X=532.743.363

FEDERAL PROJECT STATE PROJECT PROJECT CONTRACT WISC 2022061

# ORIGINAL PLANS PREPARED BY



#### STATE OF WISCONSIN **DEPARTMENT OF TRANSPORTATION**

PREPARED BY	
Surveyor	SEH
Designer	SEH
Project Manager	JOHN BAINTER
Regional Examiner	SW REGION
Regional Supervisor	JAMES SAVOLDELLI
negional supervisor	

UTILITY PEDESTAL

TELEPHONE POLE

**PROFILE** 

TOTAL NET LENGTH OF CENTERLINE = 0.000 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE

REFERENCE SYSTEM (WISCRS), JUNEAU COUNTY, NAD83 (2011), IN U.S. SURVEY

FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES, GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS

#### **ORDER OF SHEETS - SECTION 2**

**GENERAL NOTES** PROJECT OVERVIEW TYPICAL SECTIONS CONSTRUCTION DETAILS TRAFFIC CONTROL ALIGNMENT DETAILS

#### WISDOT DESIGN

JOHN BAINTER 3550 MORMON COULEE RD LA CROSSE, WI 54601 PHONE: (608) 785-9729 EMAIL: JOHN.BAINTER@DOT.WI.GOV

#### DNR AREA LIAISON

KAREN KALVELAGE **DNR SERVICE CENTER** 3550 MORMON COULEE RD LA CROSSE, WI 54601 PHONE: (608)785-9115

FL

FO

CWT

FLOW LINE

FIBER OPTIC

HUNDREDWEIGH

EMAIL: KAREN.KALVELAGE@WISCONSIN.GOV

#### **CONSULTANT DESIGN**

JEREMY TOMESH SEH INC. 329 JAY STREET LA CROSSE, WI 54601-4034 PHONE: (608) 498-4947 EMAIL: JTOMESH@SEHINC.COM

### STANDARD ABBREVIATIONS

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

YD

NORTH GRID COORDINATE

#### **UTILITY CONTACT LIST**

KENNETH NINE AT&T LEGACY - COMMUNICATION LINE 110 N MAIN ST **CULVER, IN 46511** (574) 842-8830 KNINE@JMCEAINC.COM

DOUG VOSBERG ATC MANAGEMENT, INC. - ELECTRICITY TRANSMISSION 2489 RINDEN ROAD COTTAGE GROVE, WI 53527 (608) 877-7650 DVOSBERG@ATCLLC.COM

TYLER DONOVAN **ALLIANT ENERGY - GAS/PETROLEUM** 338 E STATE ST MAUSTON, WI 53948 (608) 847-1302 TYLERDONOVAN@ALLIANTENERGY.COM

BEN GRILLEY LEMONWEIR VALLEY TELEPHONE COMPANY -**COMMUNICATION LINE** 127 US HWY 12 P.O. BOX 267 CAMP DOUGLAS, WI 54618 (608) 427-4036 BEN.GRILLEY@GETLYNXX.COM

**CRAIG EGGERT** MEDIACOM WISCONSIN LLC - COMMUNICATION 1240 HIGHWAY 52 CHATFIELD, MN 55923 (563) 419-5160 CEGGERT@MEDIACOMCC.COM

# RAILROAD CONTACT LIST

JACKIE MACEWICZ WISCONSIN CENTRAL LTD (CN) 3912 S. POKEGAMA ROAD SUPERIOR, WI 54880 (715)345-2503 JACKIE.MACEWICZ@CN.CA

**BRIAN OSBORNE** SOO LINE RAILROAD COMPANY (CP) CANADIAN PACIFIC PLAZA, 120 SOUTH 6TH STREET, SUITE MINNEAPOLIS, MN 55402 (612)330-4555 BRIAN OSBORNE@CPR.CA

#### LIST DATE: 04/01/21

NICK WYSS NEW LISBON CITY OF ELEC & WATER UT -ELECTRICITY, SEWER, WATER 232 W PLEASANT ST NEW LISBON, WI 53950 (608) 562-5213 NLDPW@MWT.NET

MATT RIGGS OAKDALE ELECTRIC COOPERATIVE - ELECTRICITY P.O. BOX 40 OAKDALE, WI 54649 (608) 372-8828 MRIGGS@OAKDALEREC.COM

VICKIF MORAN **ROGERS TELECOM - COMMUNICATION LINE** 4804 N 40TH ST SHEBOYGAN, WI 53083 (920) 395-7125 VMORAN@GABES.COM

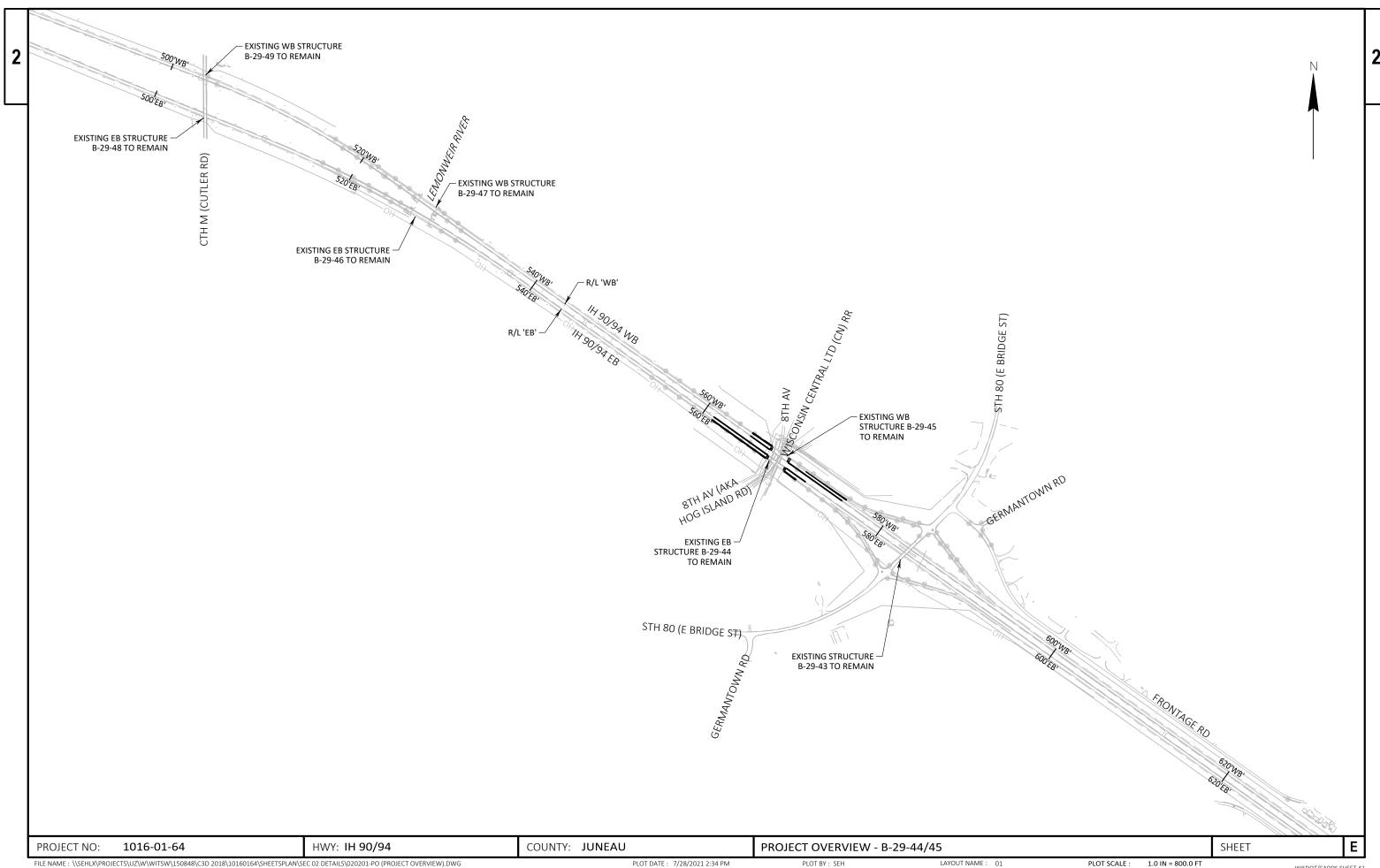
#### **GENERAL NOTES**

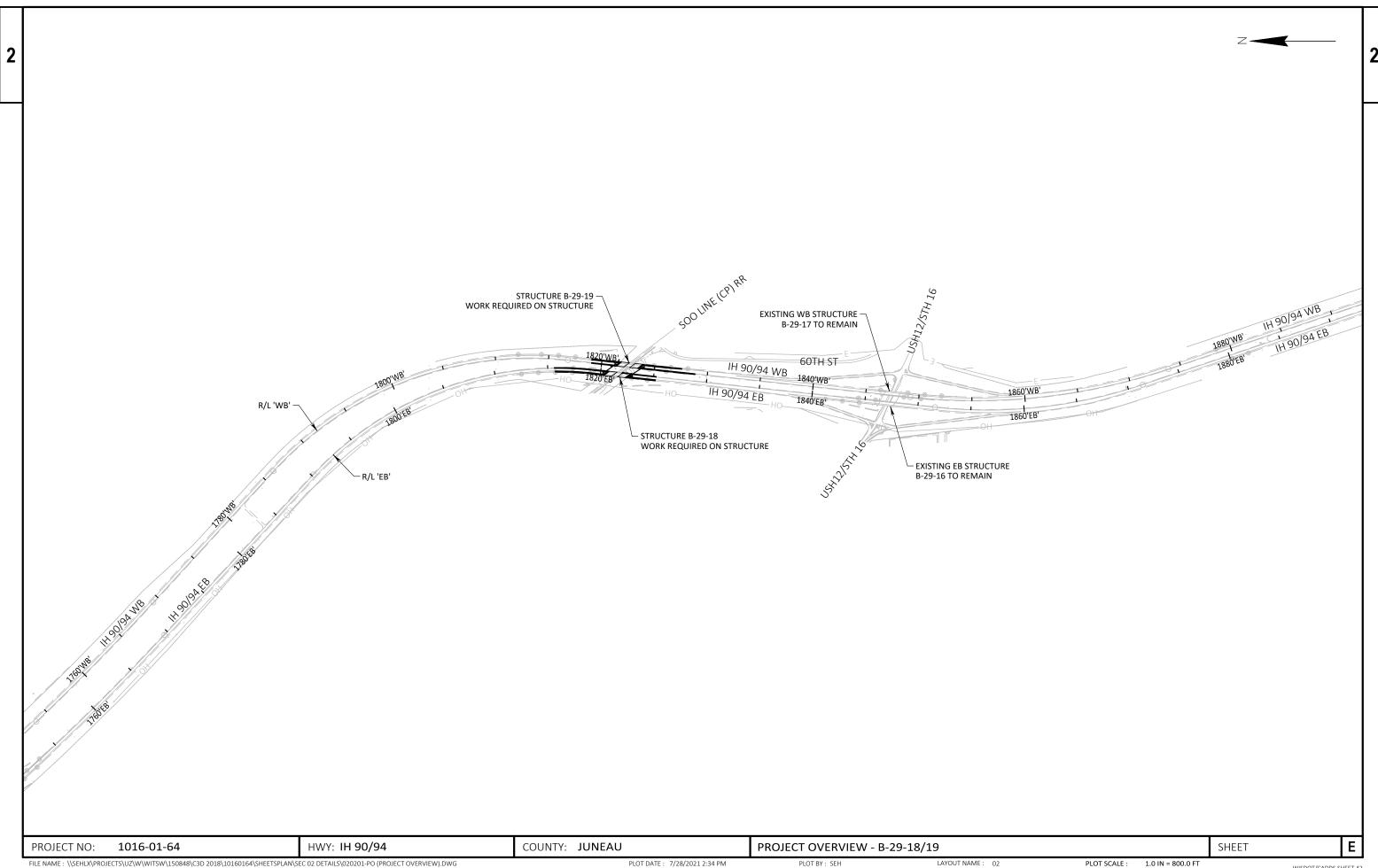
- 1. NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE
- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK, ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
- WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.
- BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP.
- TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.
- THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- ASPHALTIC AND CONCRETE SURFACES SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
- 10. DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE TOPSOILED, FERTILIZED, SEEDED AND MULCHED OR EROSION MATTED.
- 11. DO NOT APPLY FERTILIZER WITHIN 20-FT OF A WATER BODY OR WETLAND.
- 12. A CONVERSION FACTOR OF 2.0 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE.
- 13. A CONVERSION FACTOR OF 112 LBS/IN/SY IS USED TO ESTIMATE QUANTITIES FOR HMA PAVEMENT.
- 14. ALL TYPES OF ASPHALTIC PAVEMENT SHALL BE CONSTRUCTED WITH THE FOLLOWING LAYERS AND GRADATIONS:

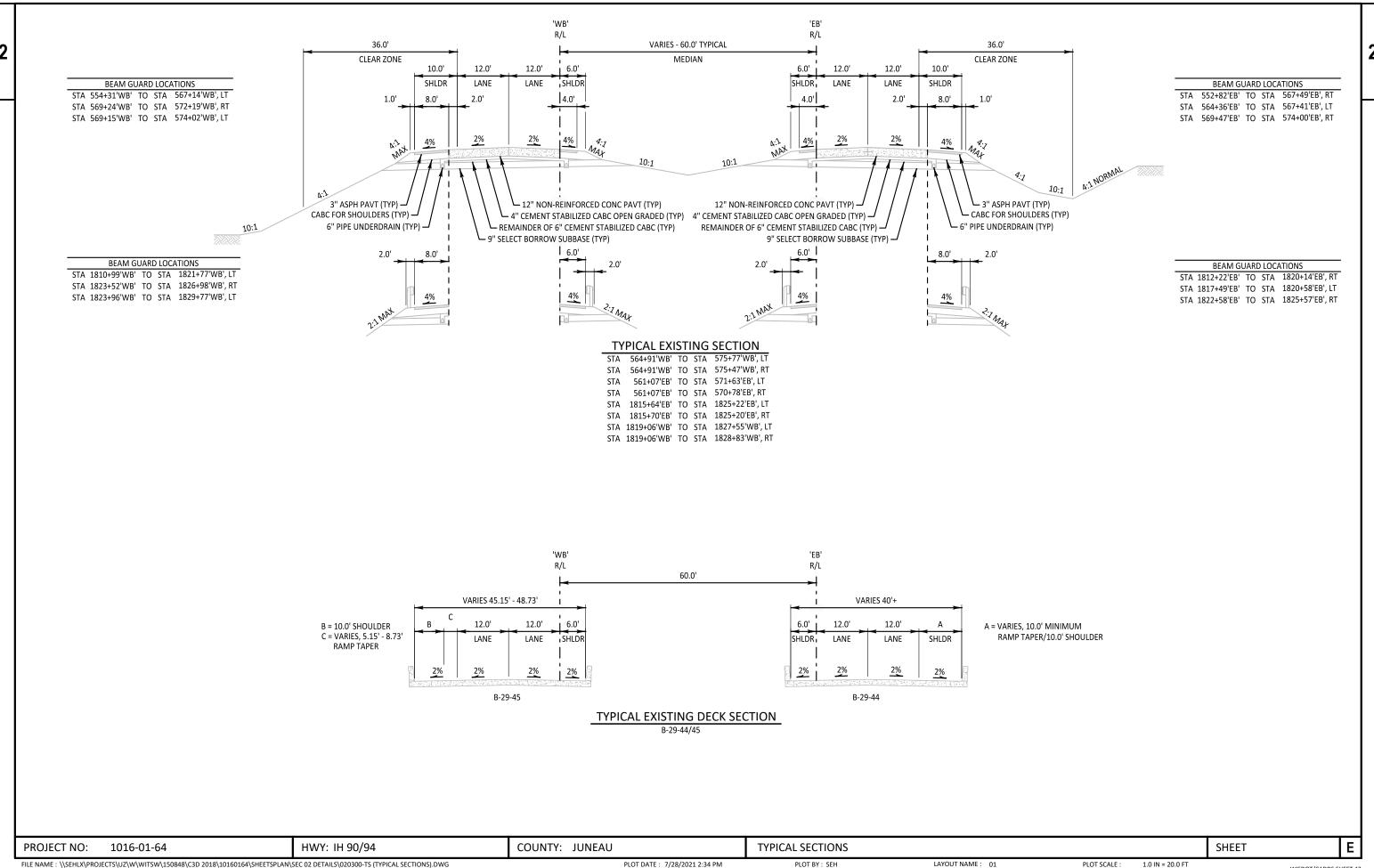
CODE	TOTAL LAYER DEPTH (INCH)	LAYER	HMA PAVEMENT ITEM
AP02	1.75	SINGLE	4 HT 58-28 H
AP05	5.0	SINGLE	3 HT 58-28 S

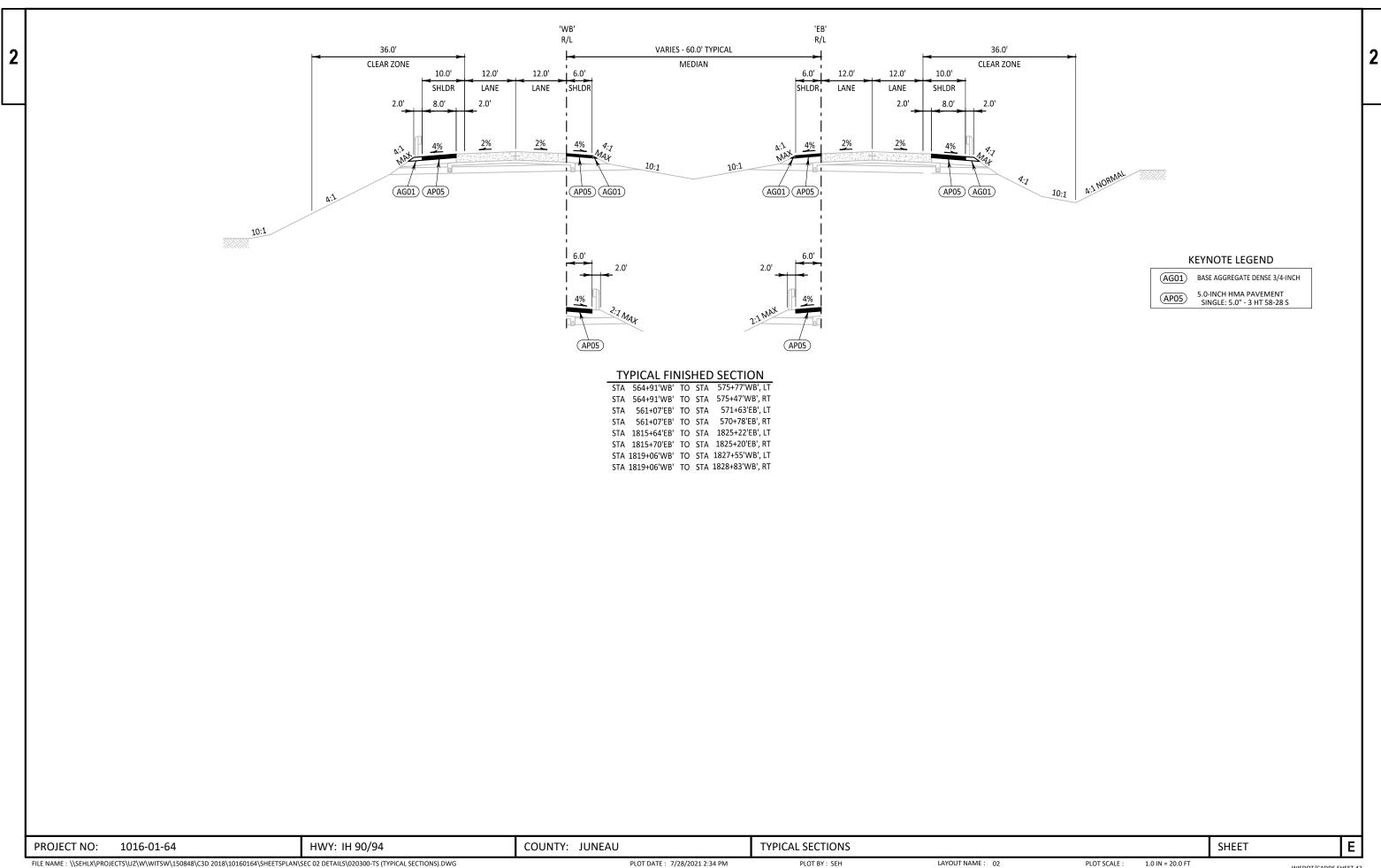
DIGGERS HOTLINE
Dial [31] or (800)242-8511
www.DiggersHotline.com

PROJECT NO: 1016-01-64 HWY: IH 90/94 COUNTY: JUNEAU **GENERAL NOTES** SHEET FILE NAME: \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 02 DETAILS\020101-GN (GENERAL NOTES).DWG PLOT DATE: 7/28/2021 2:33 PM WISDOT/CADDS SHEET 42







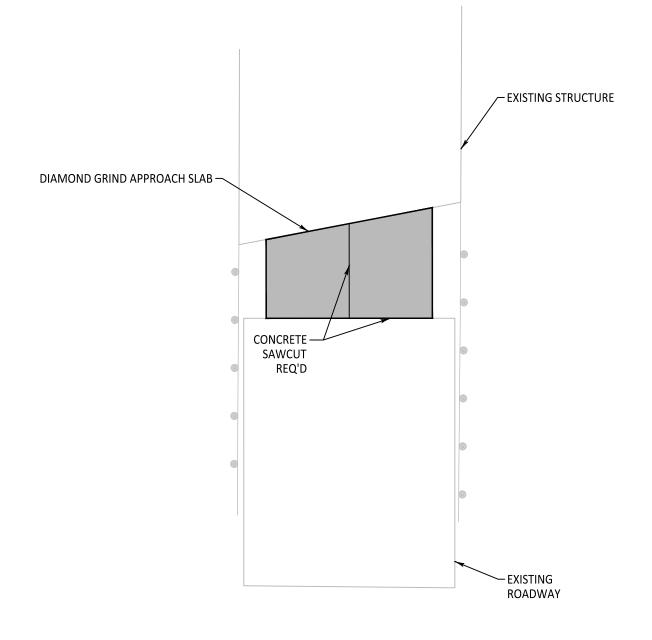


# RUNOFF COEFFICIENT TABLE

		HYDROLOGIC SOIL GROUP											
			А		В			С			D		
	SLOP	E RANGE	(PERCENT)	s	SLOPE RANGE (PERCENT)		SL	SLOPE RANGE (PERCENT)		SLOPERANGE (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	.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:					·	<u> </u>	1	ı					
ASPHALT .7095													
CONCRETE	ICK     .7080       IVES, WALKS     .7585												
BRICK													
DRIVES, WALKS								·					
ROOFS													
GRAVEL ROADS, SH													

TOTAL PROJECT AREA = 22.9 ACRES

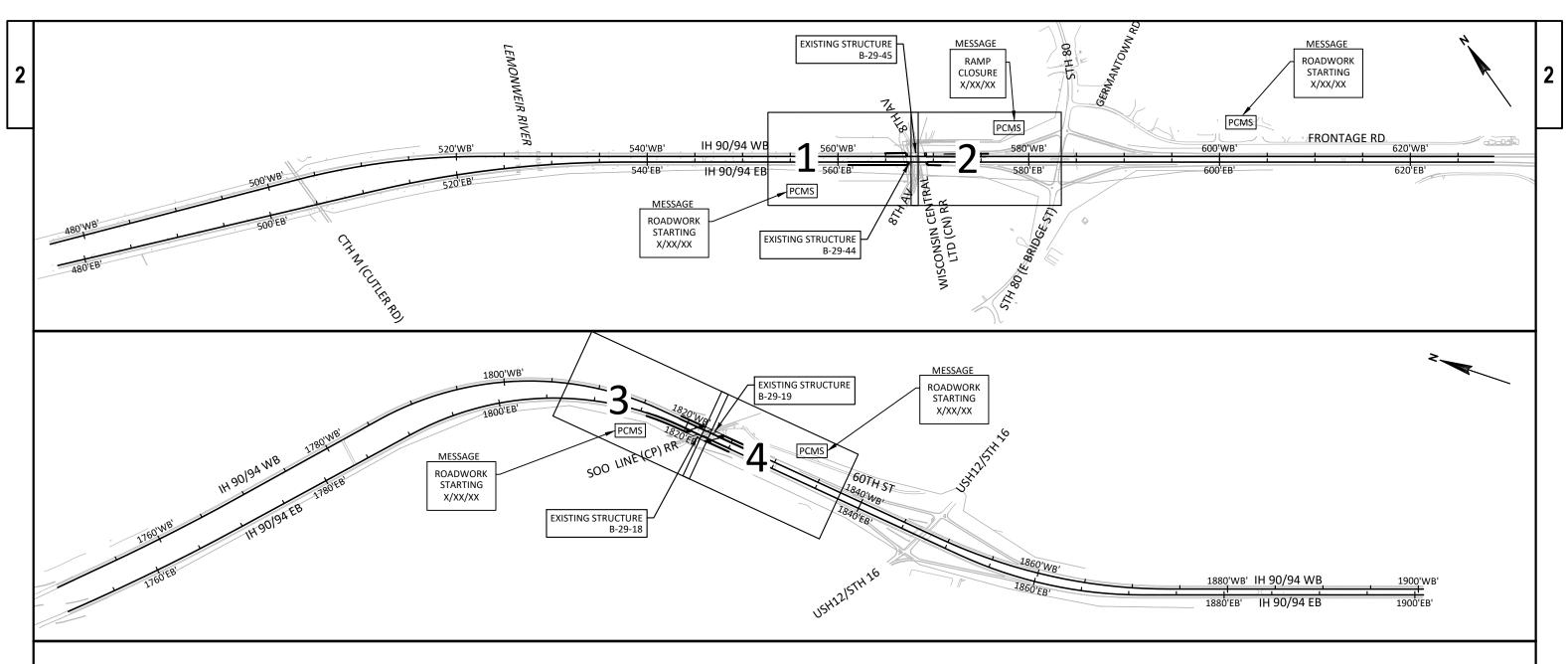
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.32 ACRES

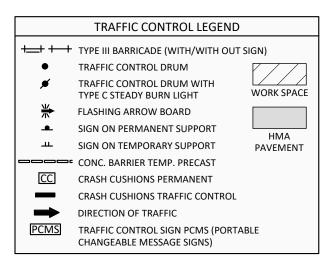


## CONCRETE APPROACH SLAB OVERLAY

REMOVE 1.75-INCHES MAX, PLACE 1.75-INCHES OF 4 HT 58-28 H HMA PAVEMENT

PROJECT NO: 1016-01-64 HWY: IH 90/94 COUNTY: JUNEAU CONSTRUCTION DETAILS SHEET **E** 



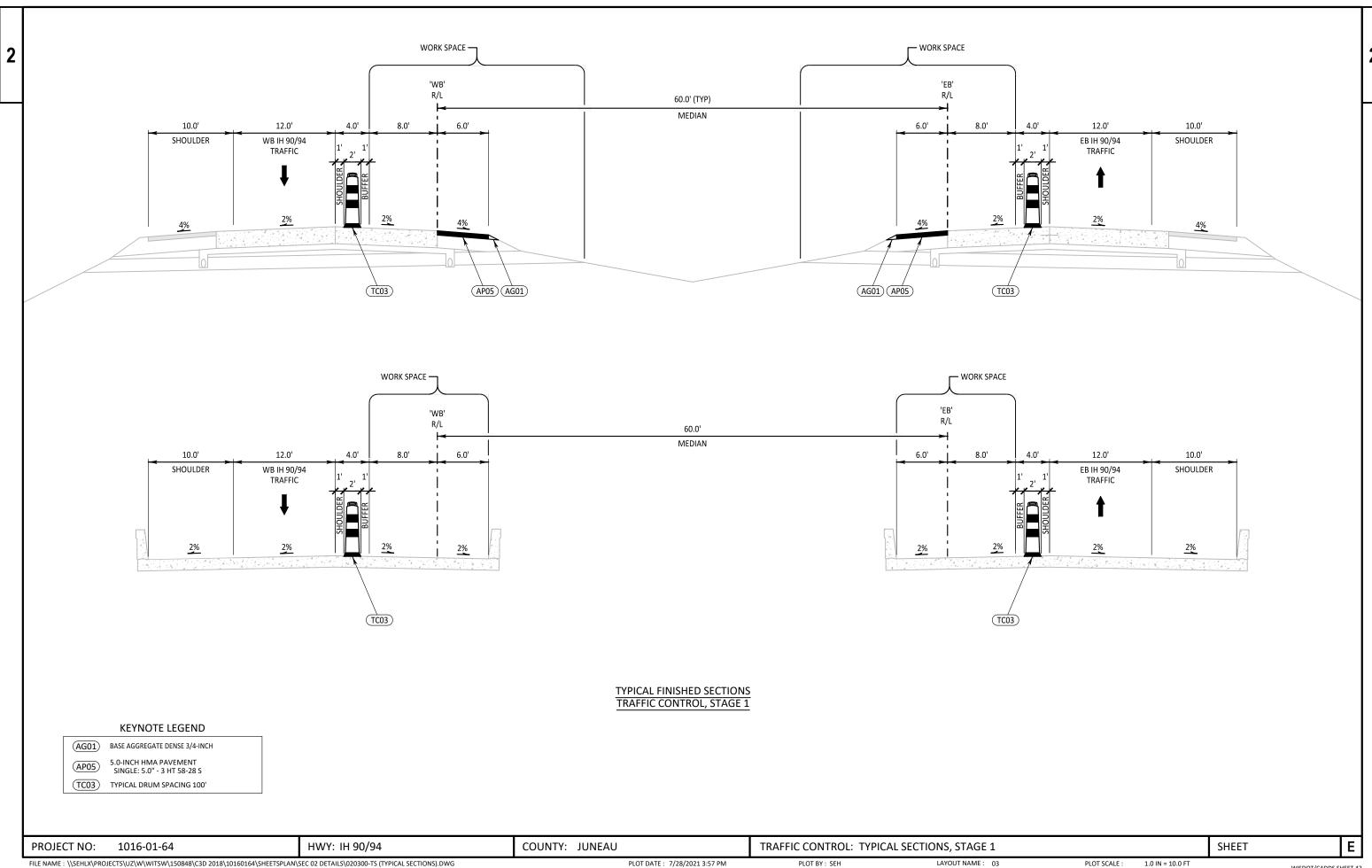


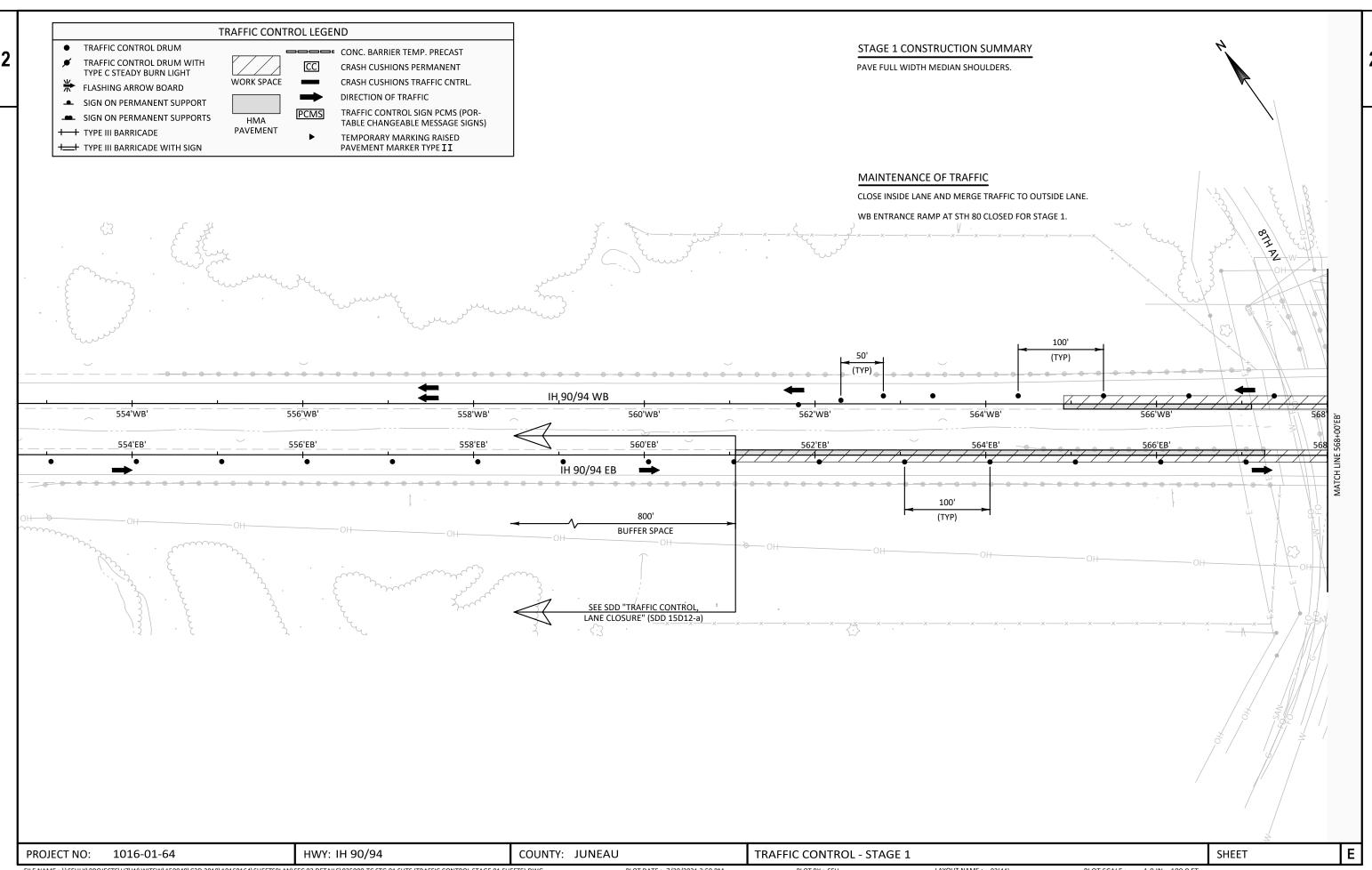
#### GENERAL NOTES: TRAFFIC CONTROL

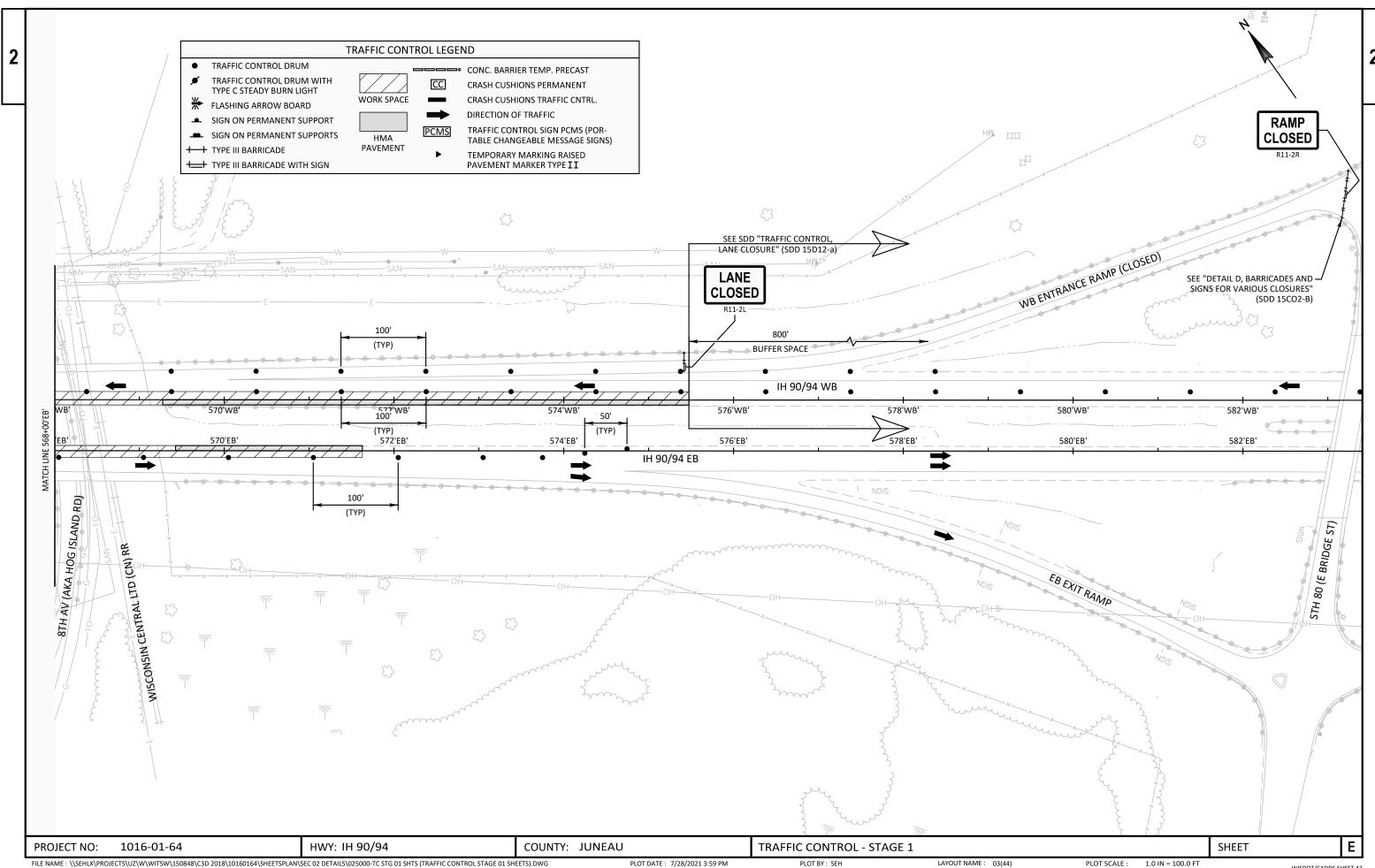
- 1. THE FOLLOWING NOTES ARE APPLICABLE TO ALL STAGES. SEE THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS FOR ADDITIONAL TRAFFIC CONTROL AND CONSTRUCTION STAGING REQUIREMENTS.
- 2. EASTBOUND AND WESTBOUND, PORTABLE CHANGEABLE MESSAGES SIGNS (PCMS), ON IH 90/94, SHALL BE LOCATED BY WISDOT SOUTHWEST REGION TRAFFIC SECTION.
- 3. FOR APPLICATION OF REGULATORY OR ADVISORY SPEED LIMIT SIGNS, CONTACT WISDOT SOUTHWEST REGION TRAFFIC SECTION.
- 4. THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS OR AS DIRECTED
- 5. ALL "WO" OR "W" DIAMOND SHAPED WARNING SIGNS, SIGNS ARE 48" X48" UNLESS OTHERWISE NOTED.
- 6. ALL DRUMS IN TAPERS SHALL HAVE A TRAFFIC CONTROL WARNING LIGHTS TYPE C, (STEADY BURN).
- 7. MOUNT ALL PORTABLE TRAFFIC CONTROL SIGNS AT A MINIMUM HEIGHT OF 5 FEET. MEASURED FROM THE BOTTOM OF THE SIGN. ABOVE THE EDGE OF PAVEMENT.
- 8. THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.
- 9. ALL SHORT TERM LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL ARROW BOARDS AND DEVICES REMOVED BEYOND THE SHOULDER WHEN THE WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION. DRUMS ADJACENT TO GUARDRAIL SHOULD BE STORED BEHIND THE GUARDRAIL IN LOCATIONS WHERE PRACTICAL

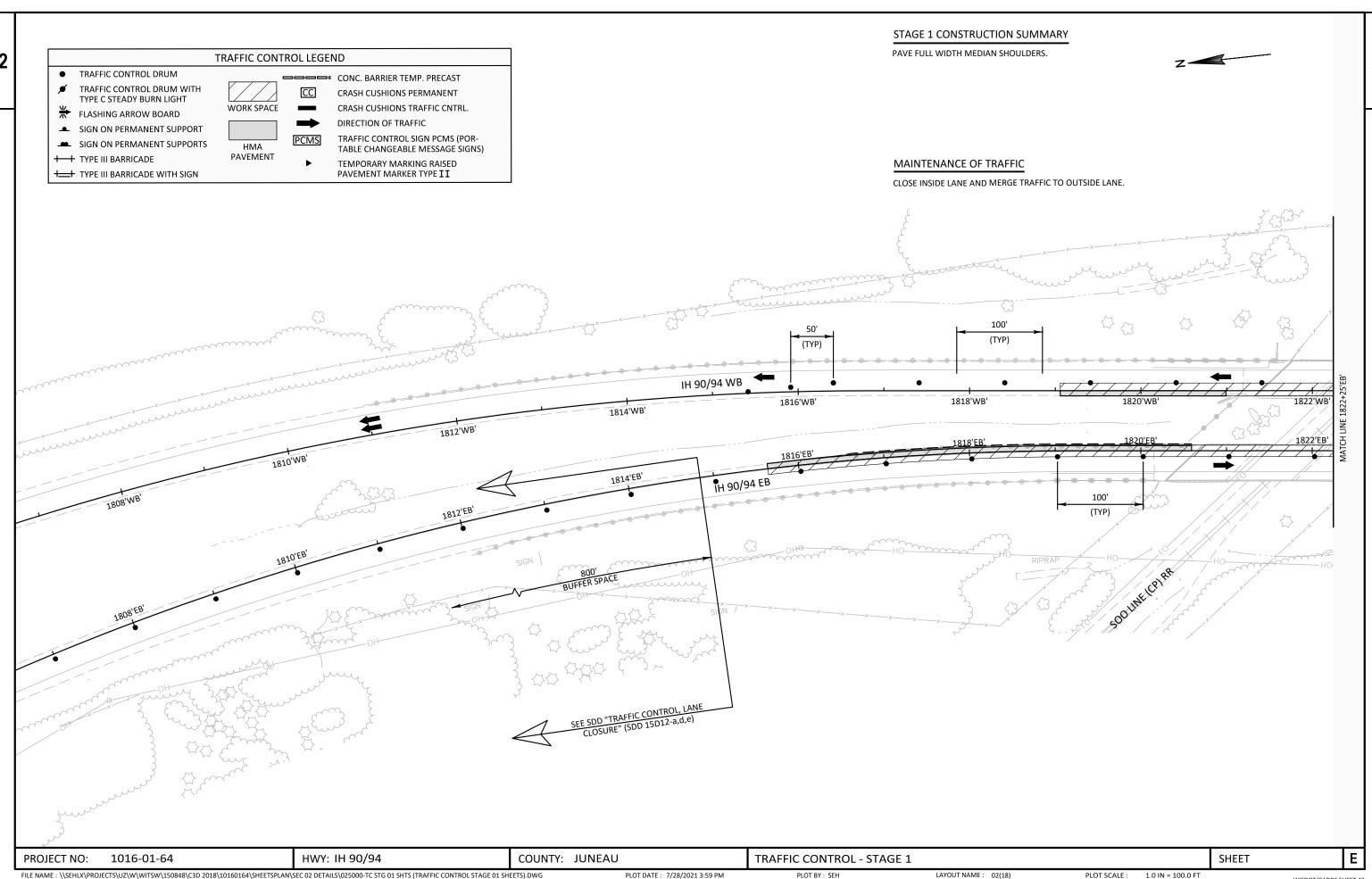
- 10. SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- 11. DIMENSIONS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE FACE OF THE BARRIER ADJACENT TO TRAFFIC. STATION/OFFSET CALL-OUTS TO CONCRETE BARRIER TEMPORARY PRECAST ARE TO THE CENTER OF THE BARRIER
- 12. ALWAYS PROVIDE A MINIMUM OF 1' CLEAR FROM EDGE OF TRAVEL LANE TO THE TOE OF THE CONCRETE BARRIER TEMPORARY PRECAST.
- 13. WITHIN 2 FEET OF TRAVEL LANE, EXISTING SHOULDER SHALL BE REPLACED WITH NEW PAVEMENTS IN THE SAME NIGHT. NO AGGREGATE SHOULDERS SHALL BE PERMITTED ADJACENT TO TRAVEL LANES.
- 14. SEE SDD 15C02-F ADVANCE WIDTH RESTRICTION SIGNING FOR DETAILS FOR STAGE 2. SIGN FOR A WIDTH OF 14 FT.
- 15. QUEUE WARNING SYSTEM WILL BE SET UP FOR THE DURATION OF THE PROJECT, SEE SDD 15D12-E TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM.
- 16. HAVE PRE-WARN PCMS IN PLACE 7 DAYS PRIOR TO CONSTRUCTION
- 17. SEE SDD 15C08-A LONGITUDINAL MARKING (MAINLINE) & SDD 15C31-C PAVEMENT MARKING, ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP FOR PERMANENT PAVEMENT MARKING DETAILS.

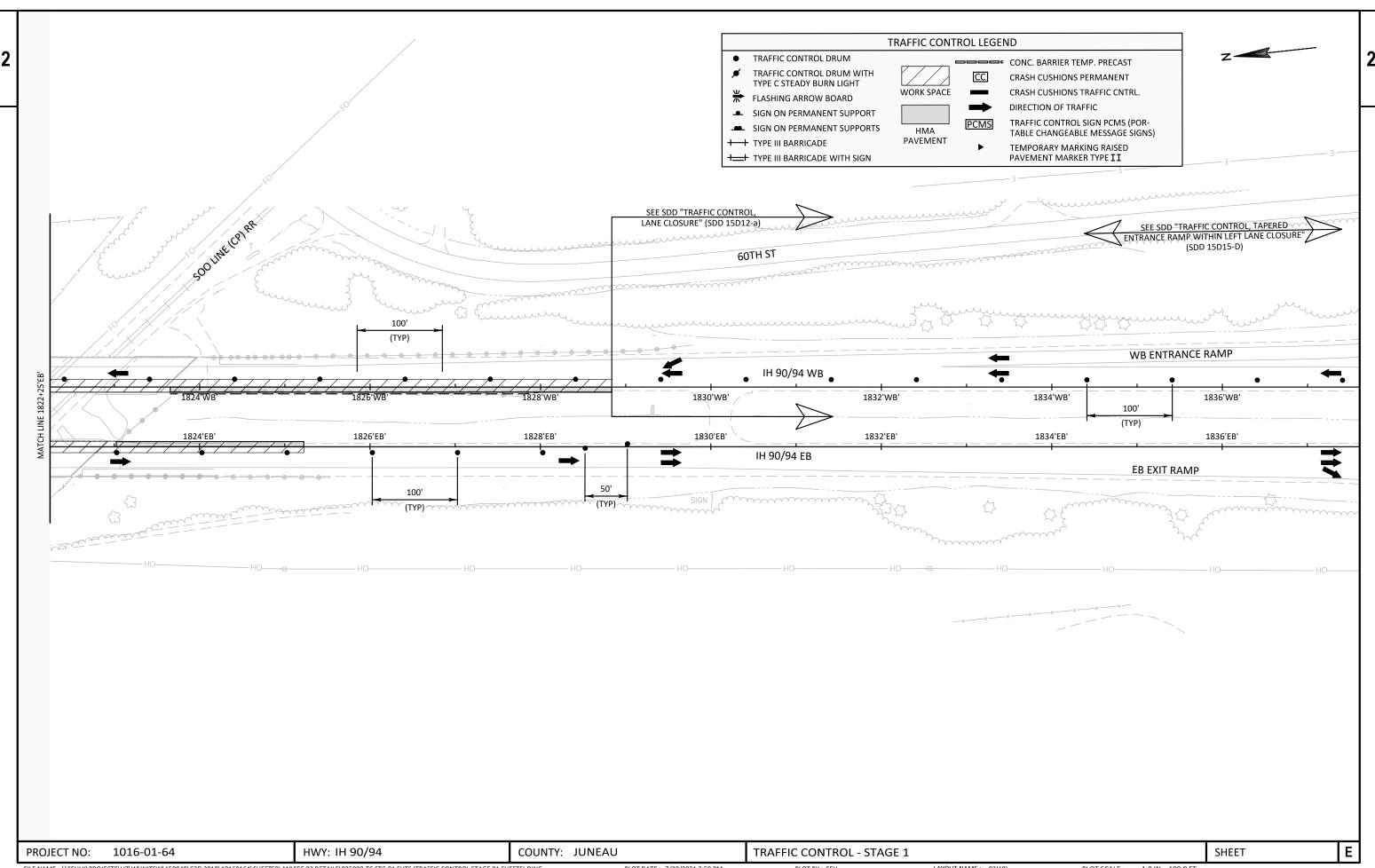
PROJECT NO: 1016-01-64 HWY: IH 90/94 COUNTY: JUNEAU TRAFFIC CONTROL - GENERAL NOTES & SHEET INDEX SHEET FILE NAME: \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 02 DETAILS\025000-TC GN (TRAFFIC CONTROL GEN NOTES & SHT INDEX).DWG PLOT DATE: 7/28/2021 2:36 PM PLOT BY: SEH LAYOUT NAME: 01 PLOT SCALE : 1.0 IN = 1000.0 FT

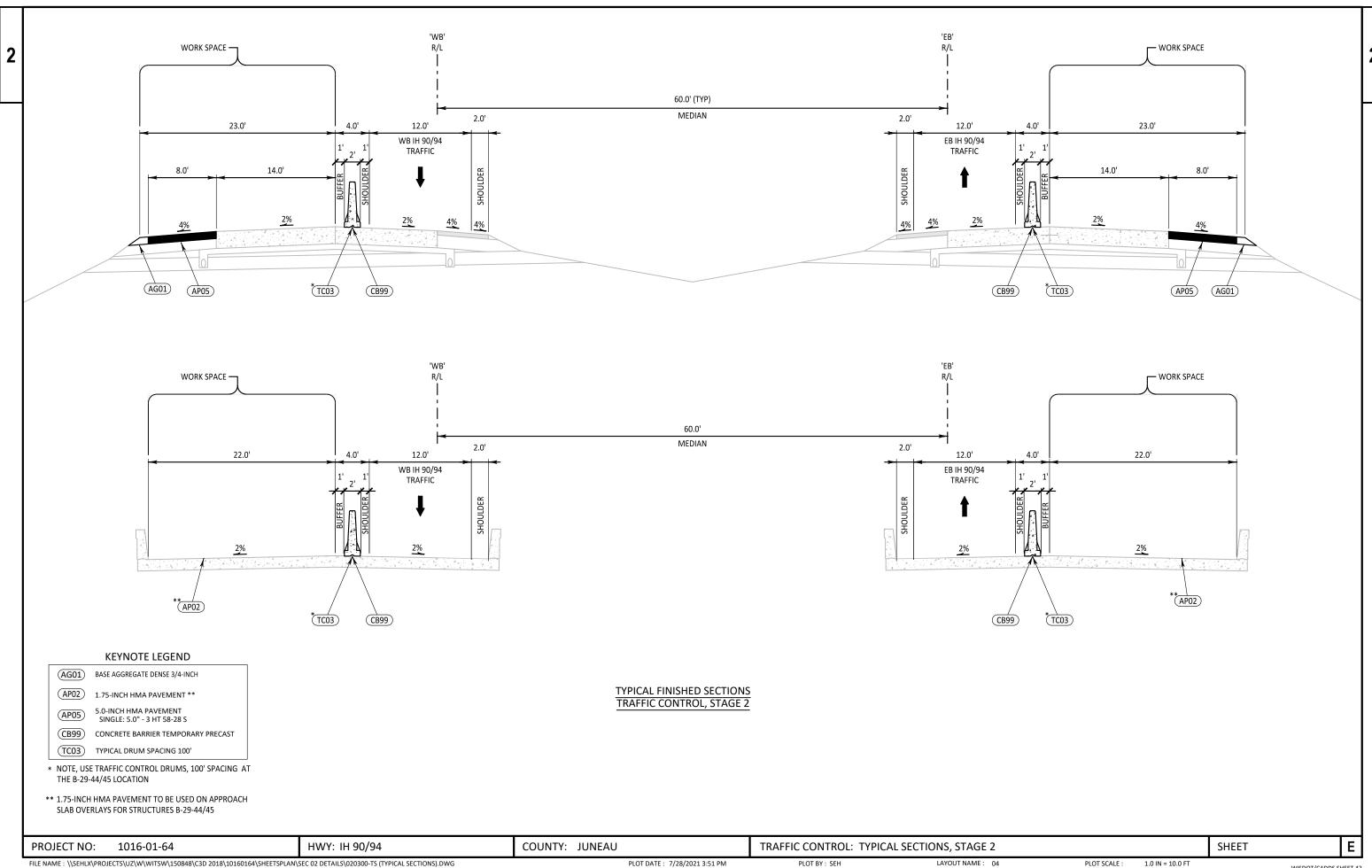


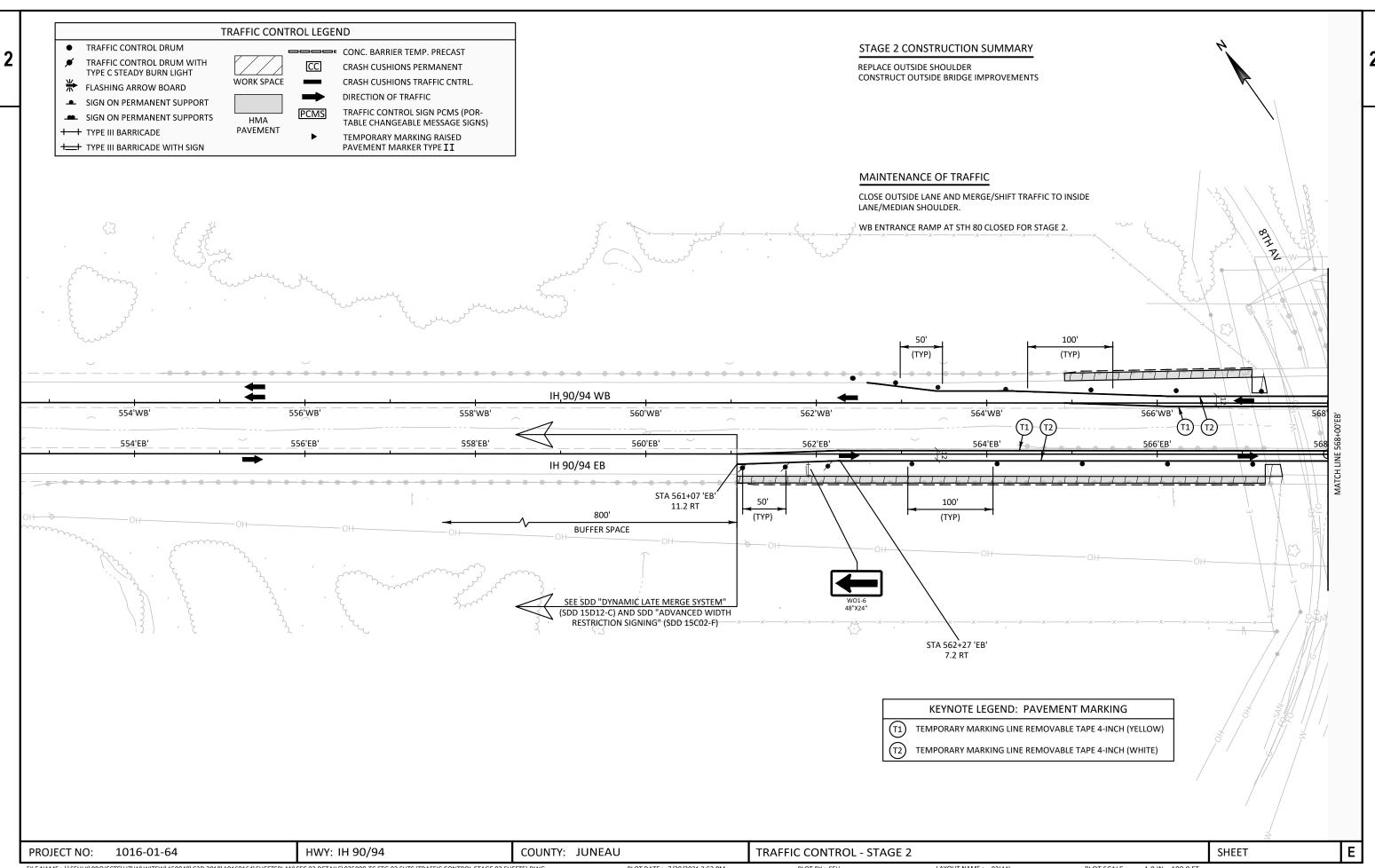


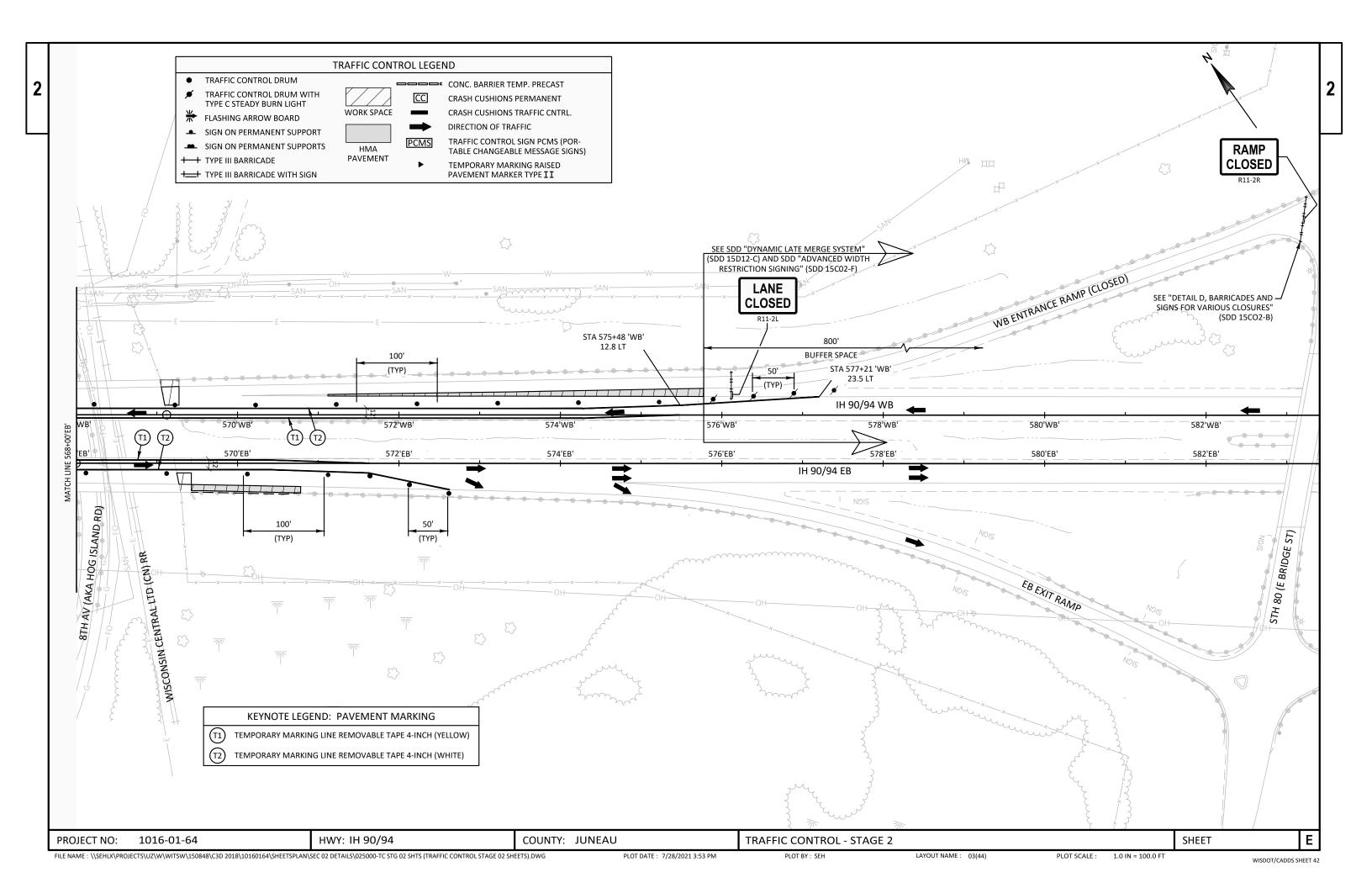


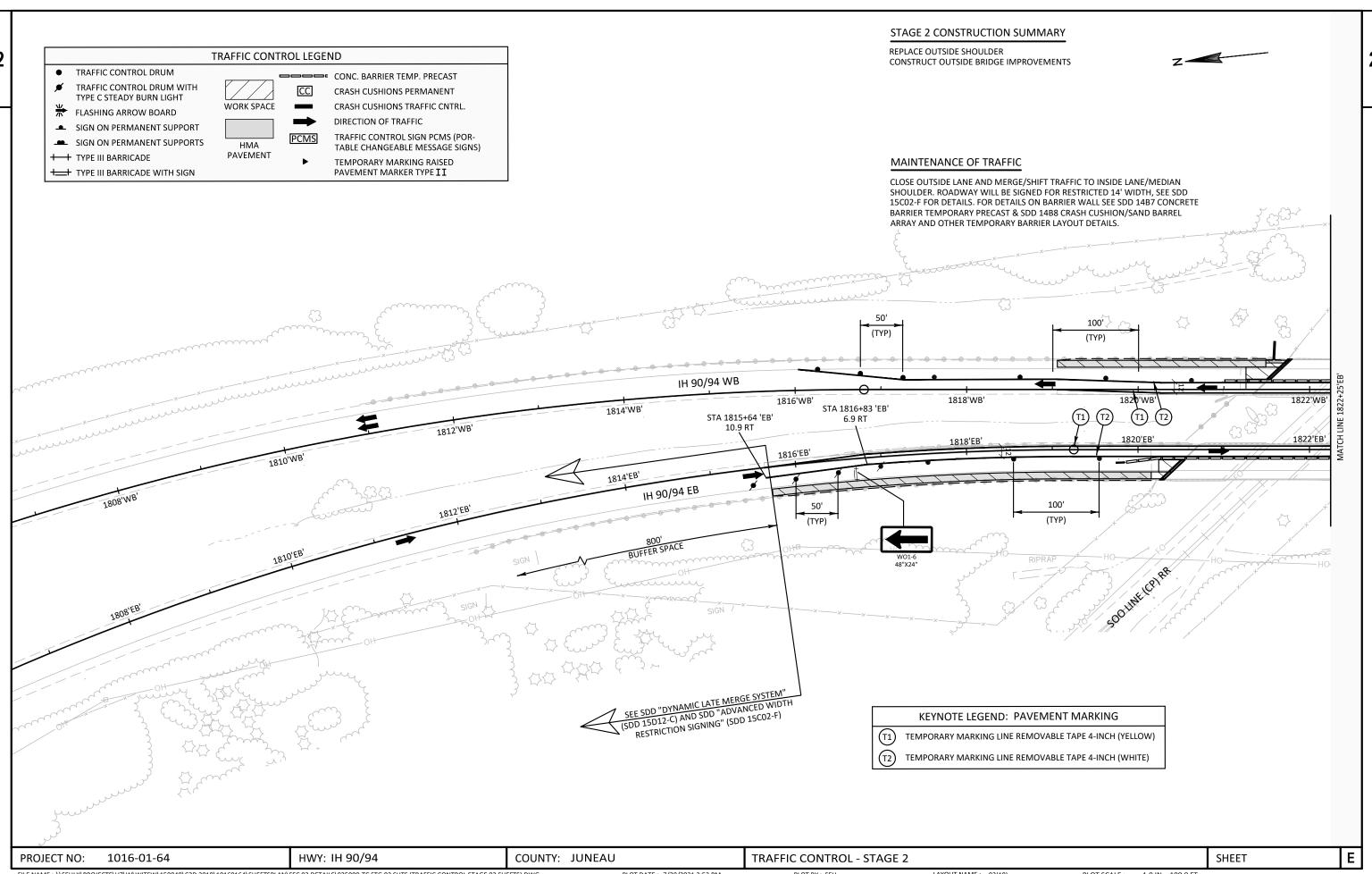


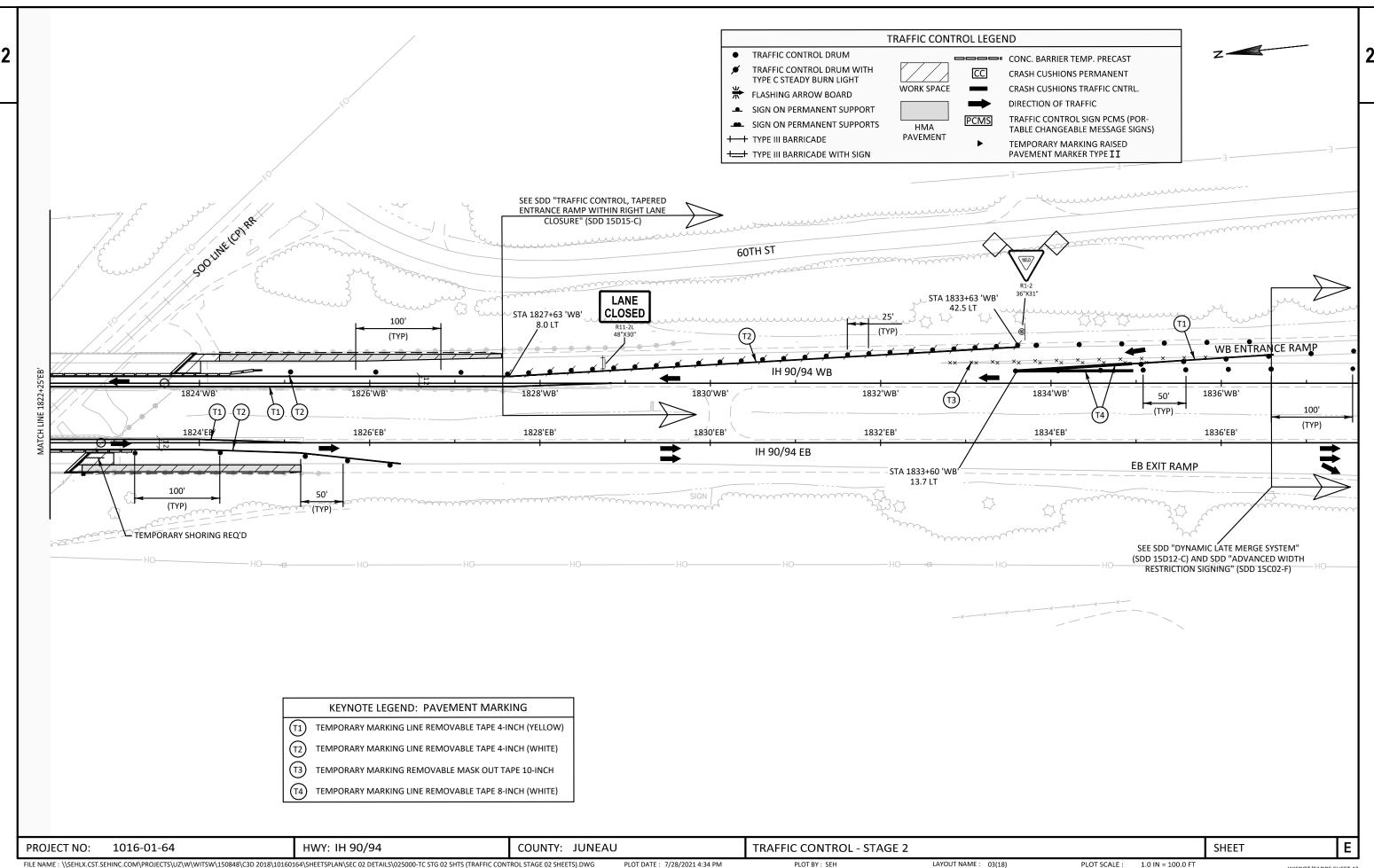


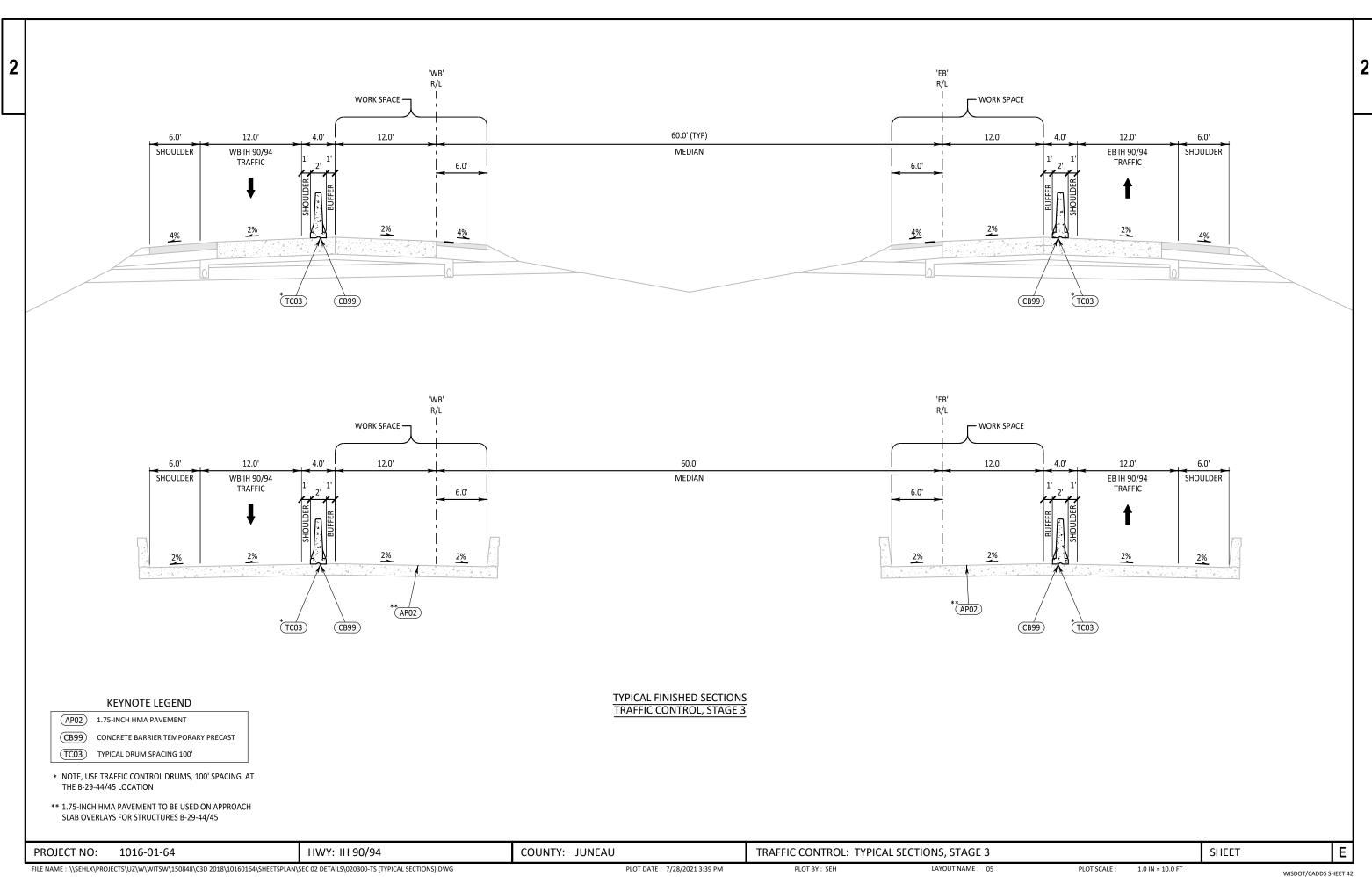


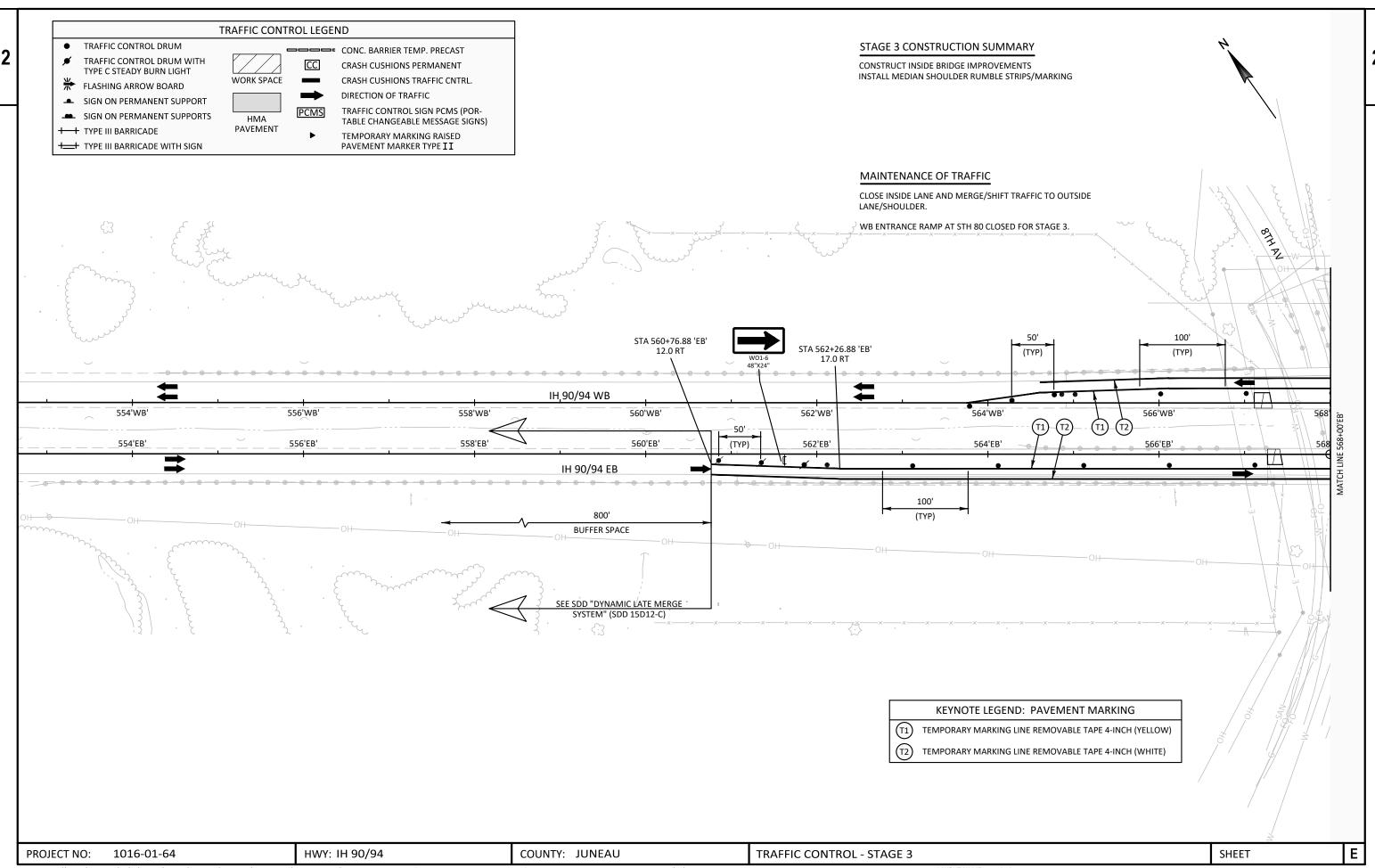


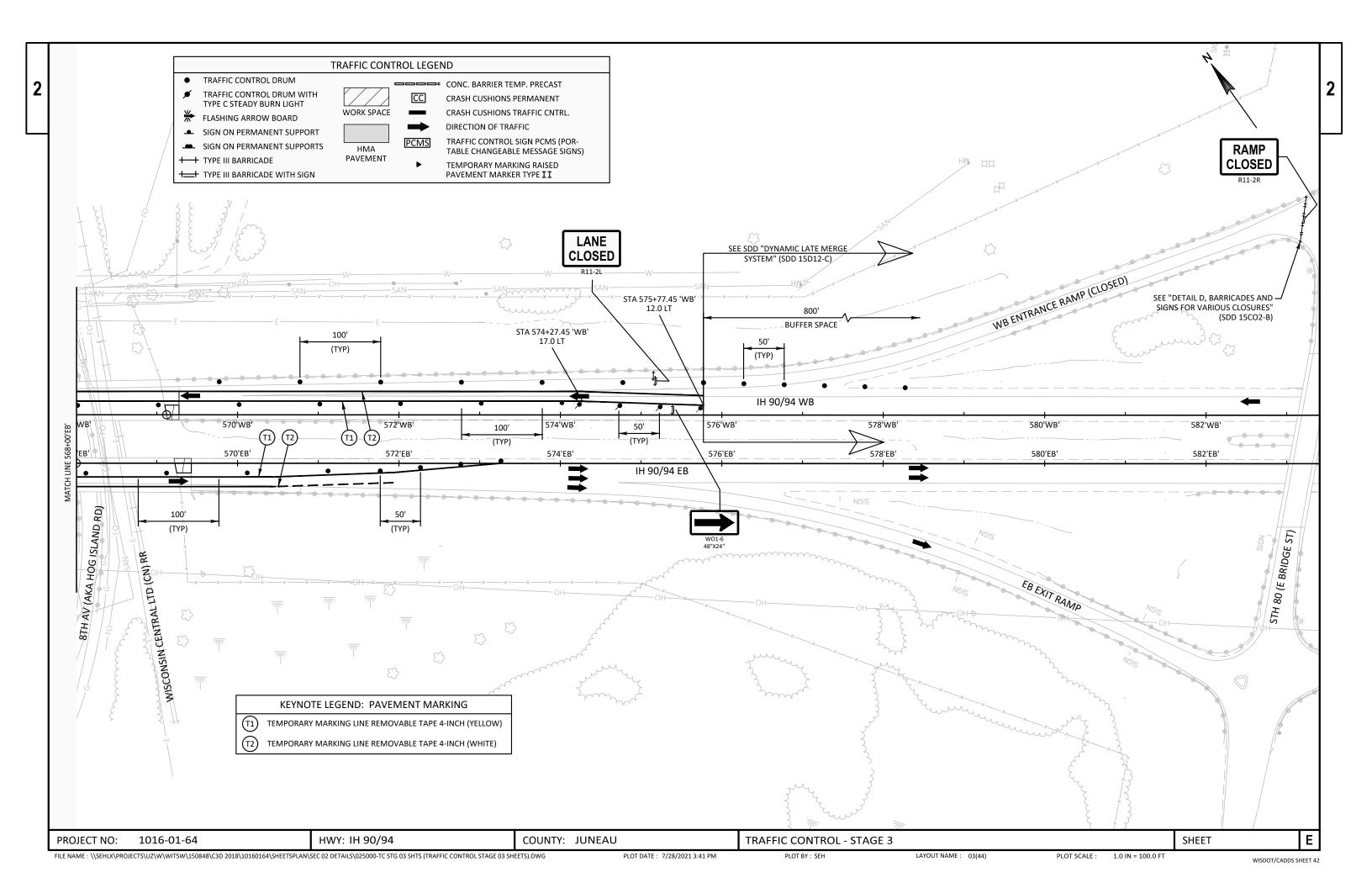


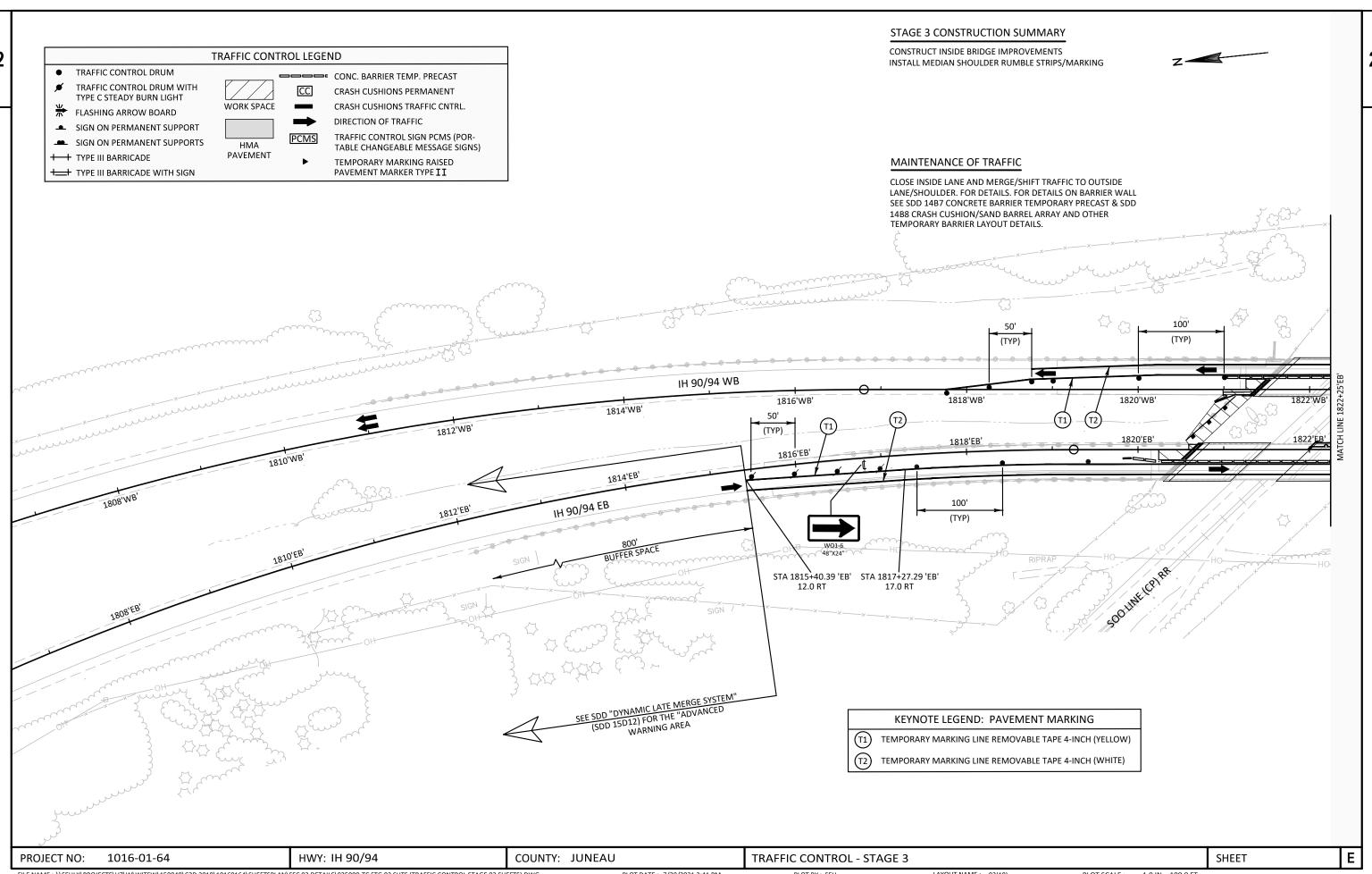


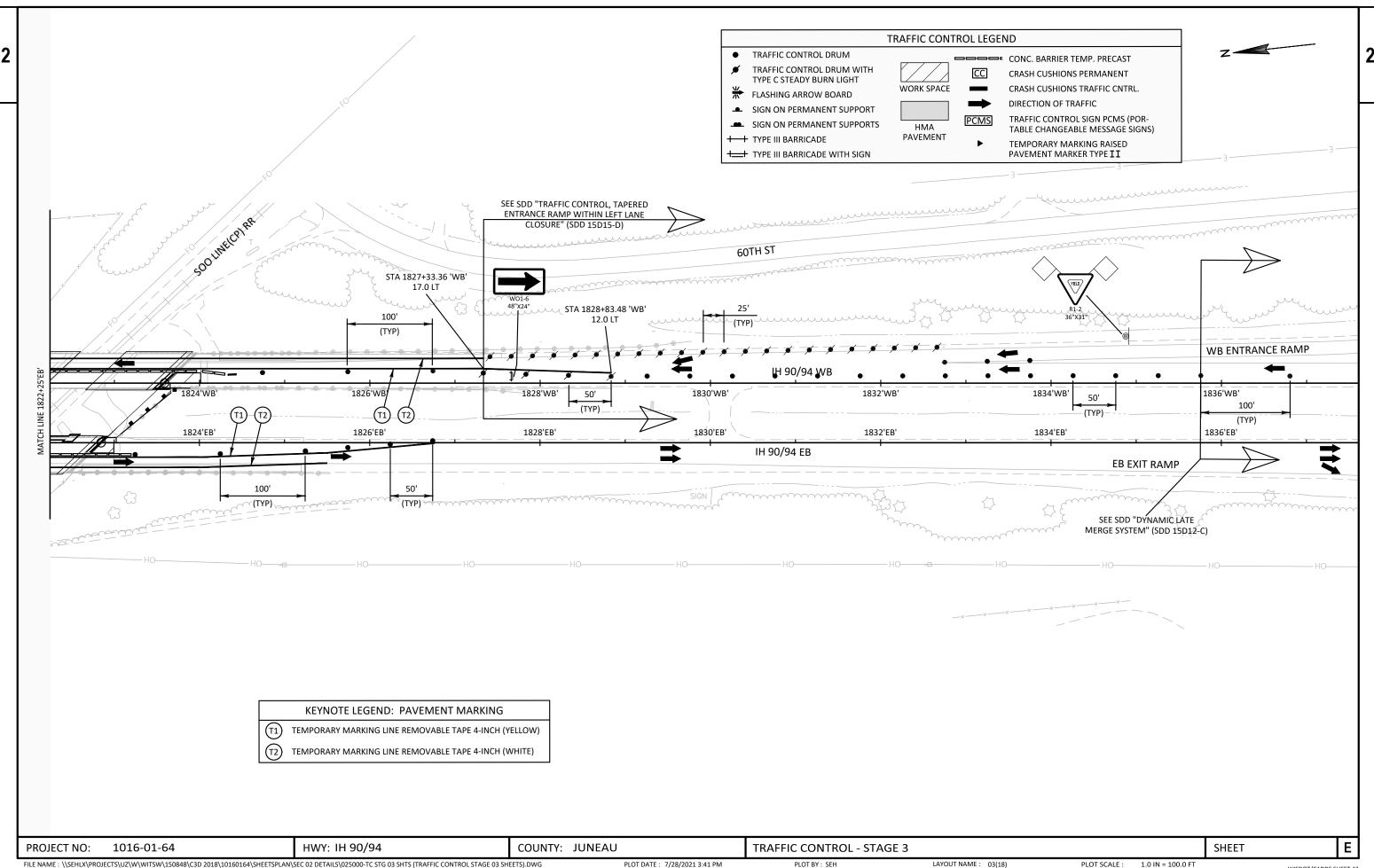


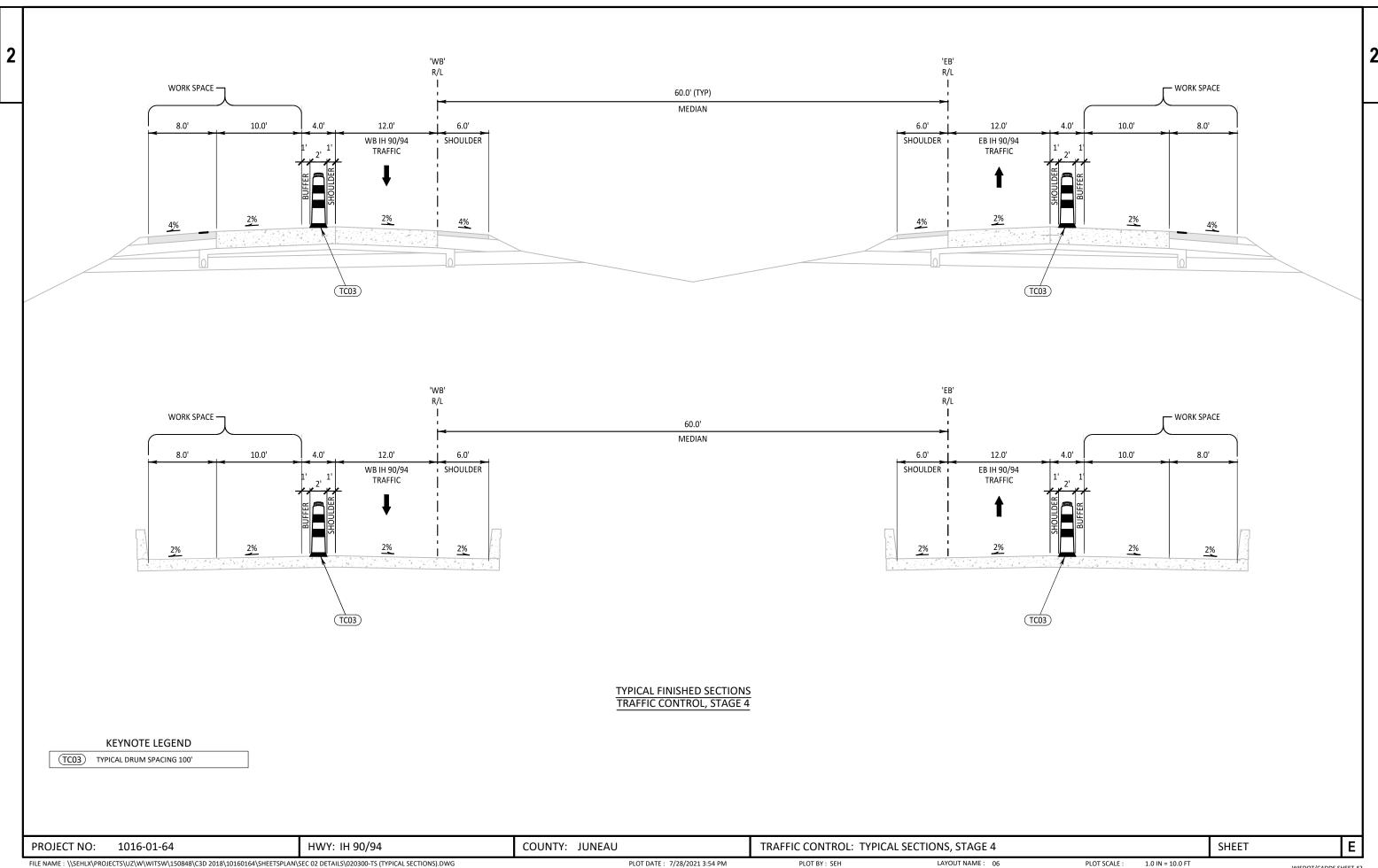


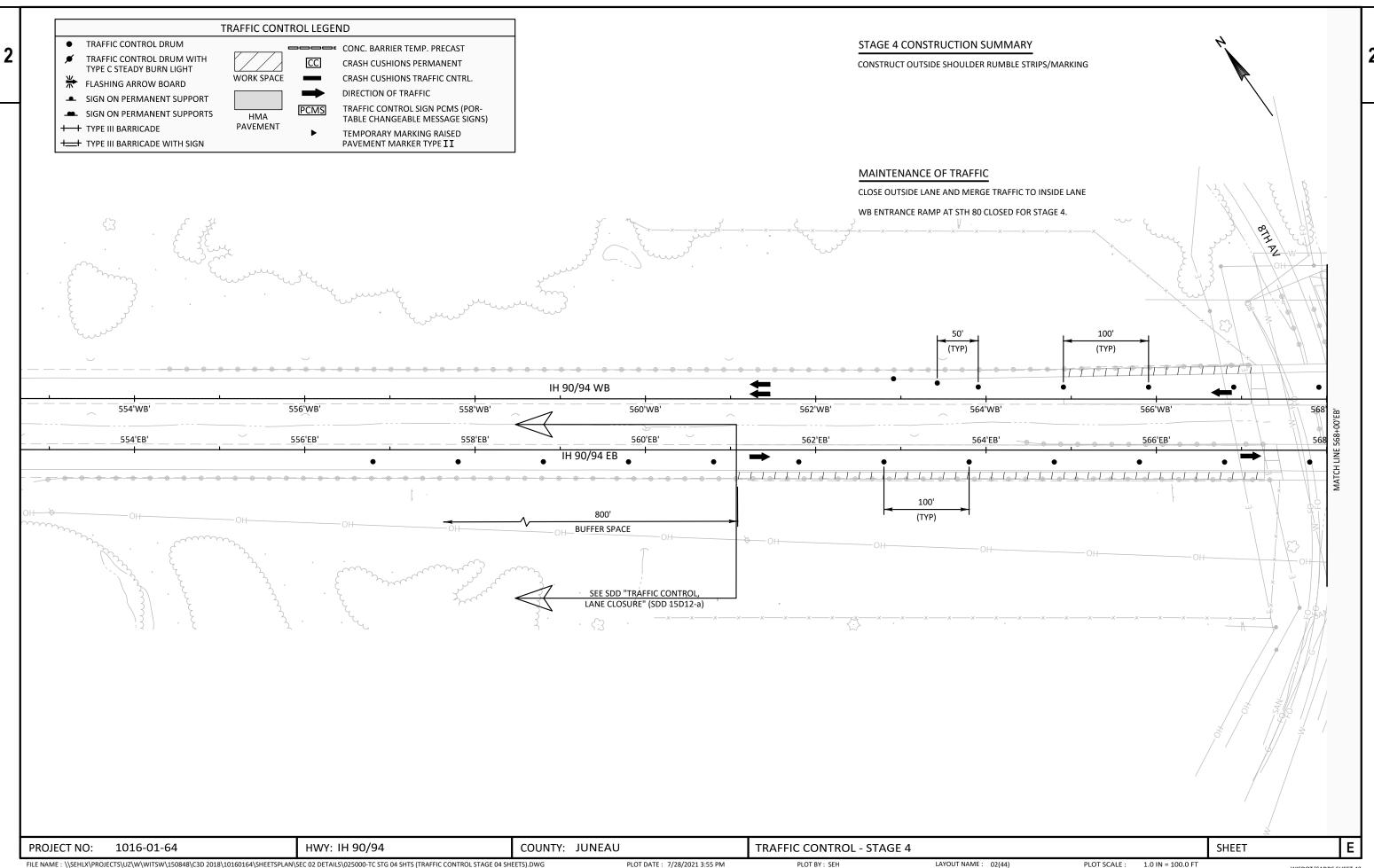


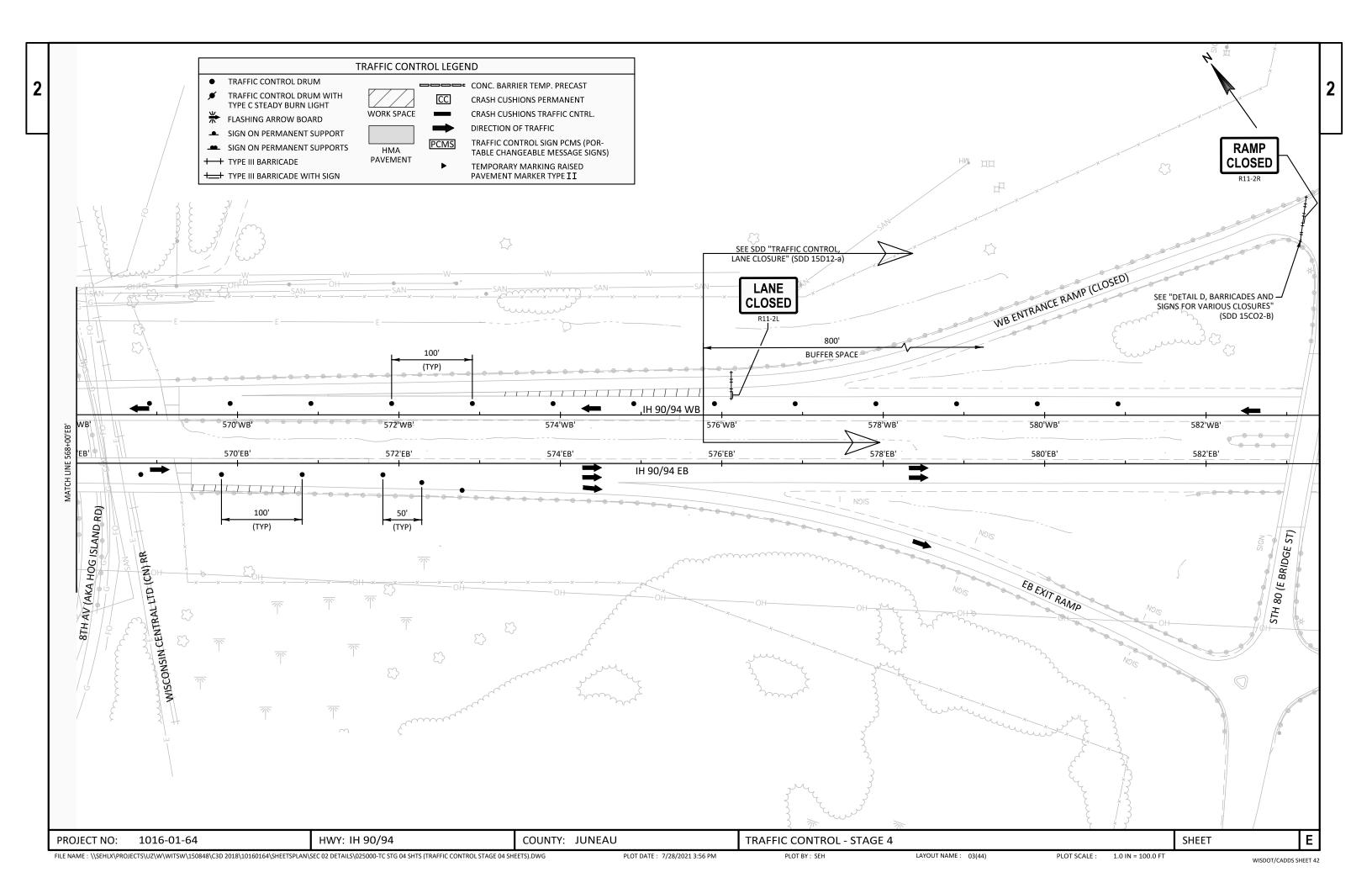


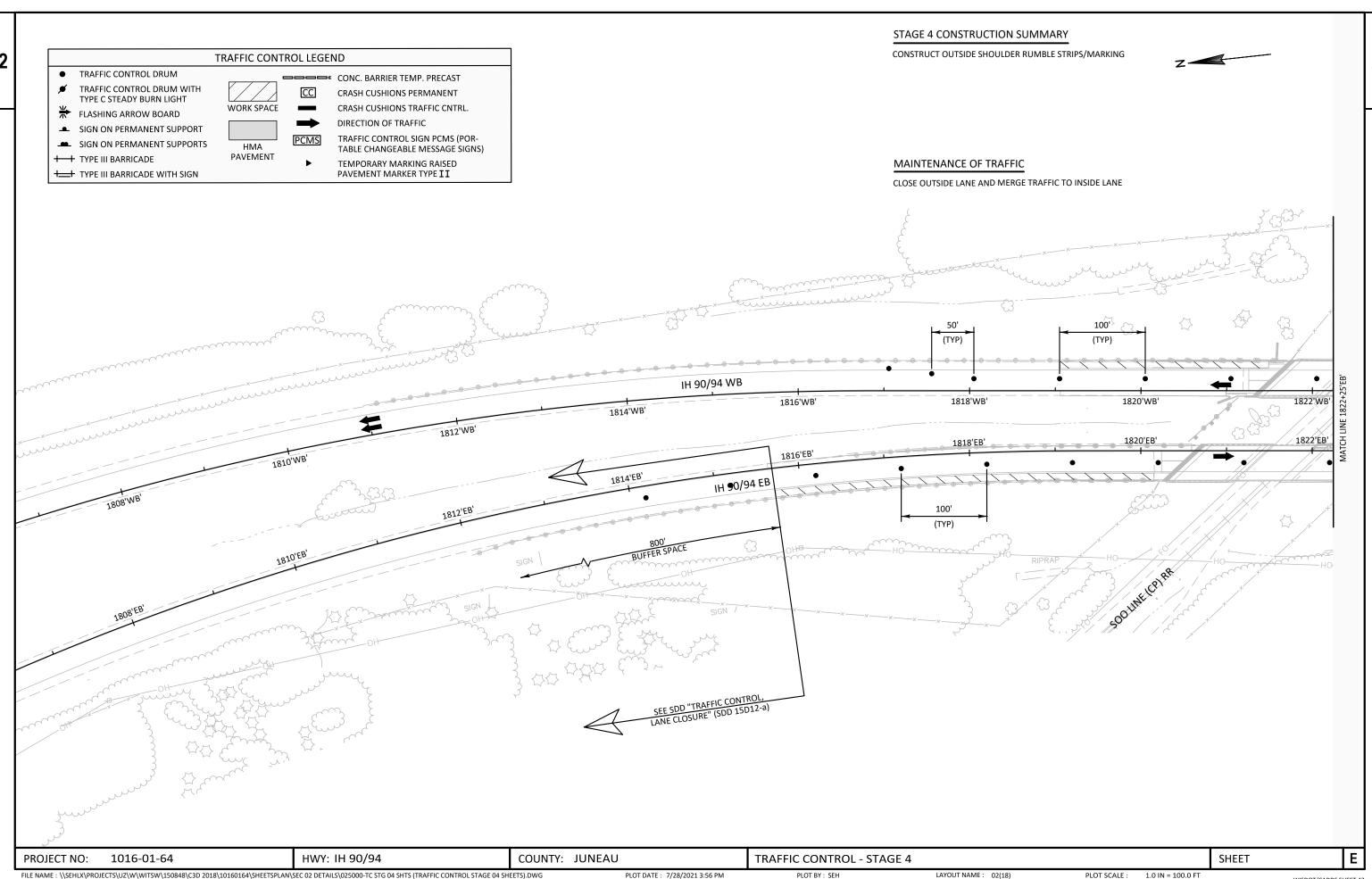


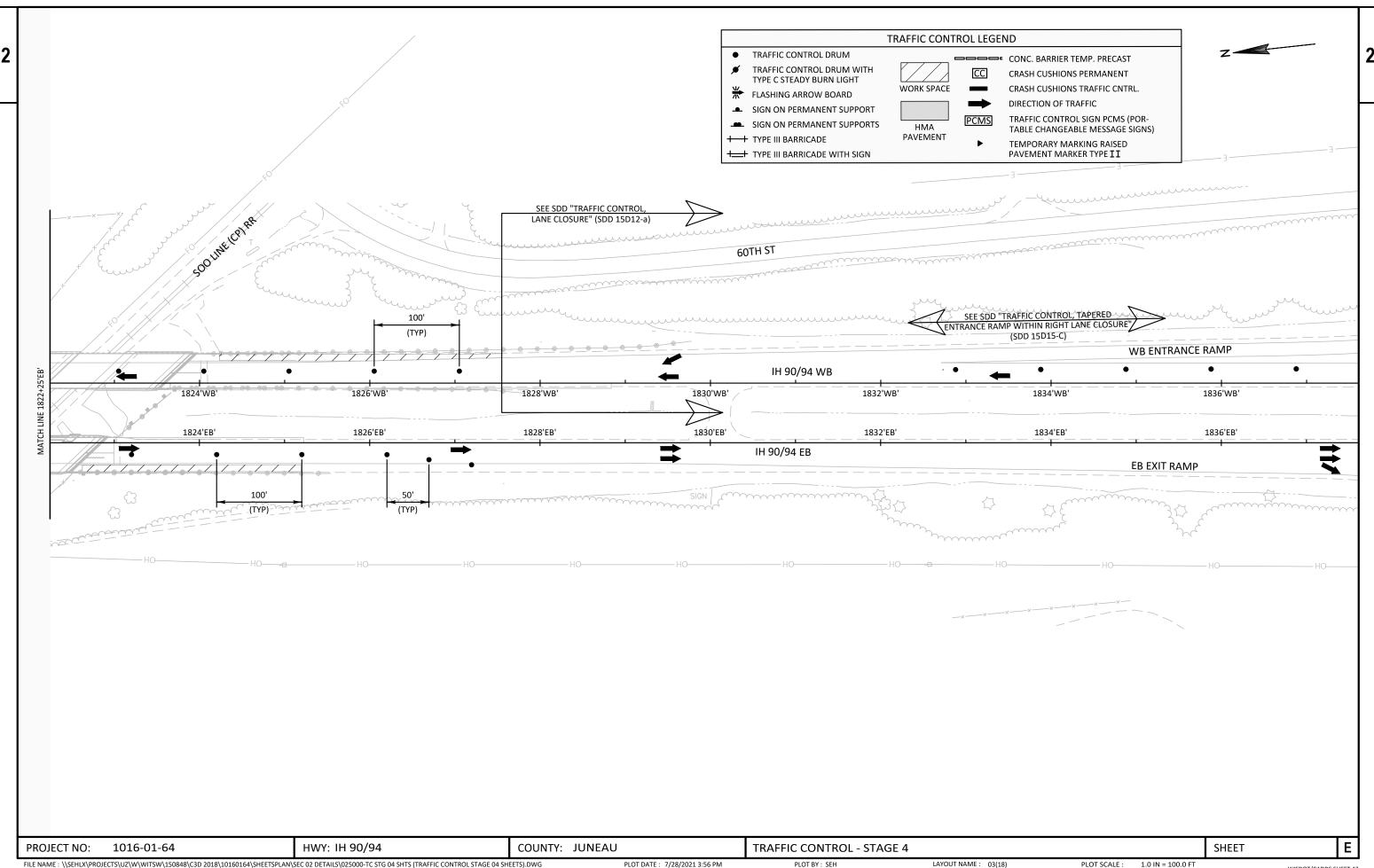


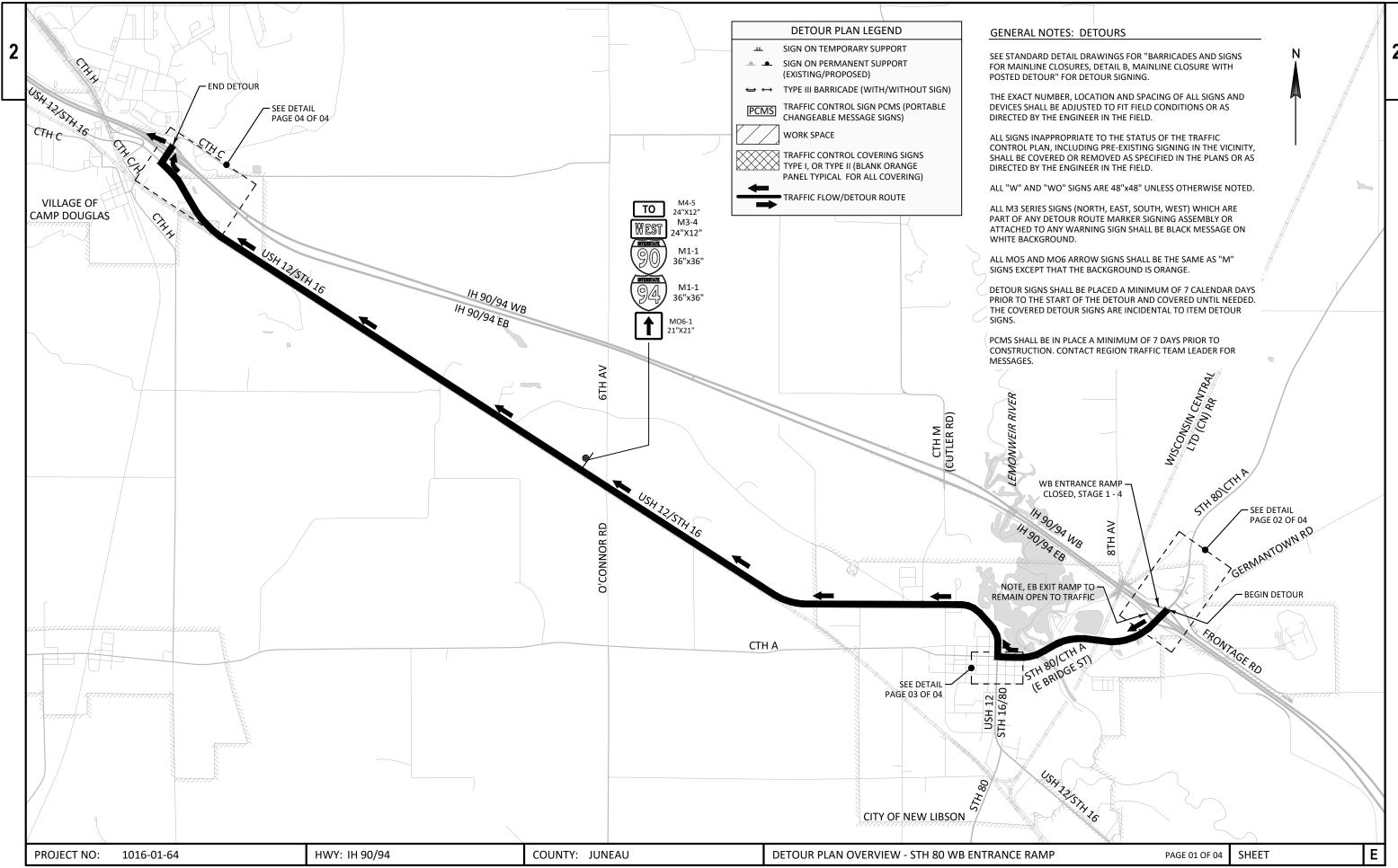












FILE NAME: \\SEHLX\PROJECTS\UZ\W\\WITSW\150848\C3D 2018\10160164\\SHEETSPLAN\SEC 02 DETAILS\\027000-DT (DETOUR OVERVIEW).DWG

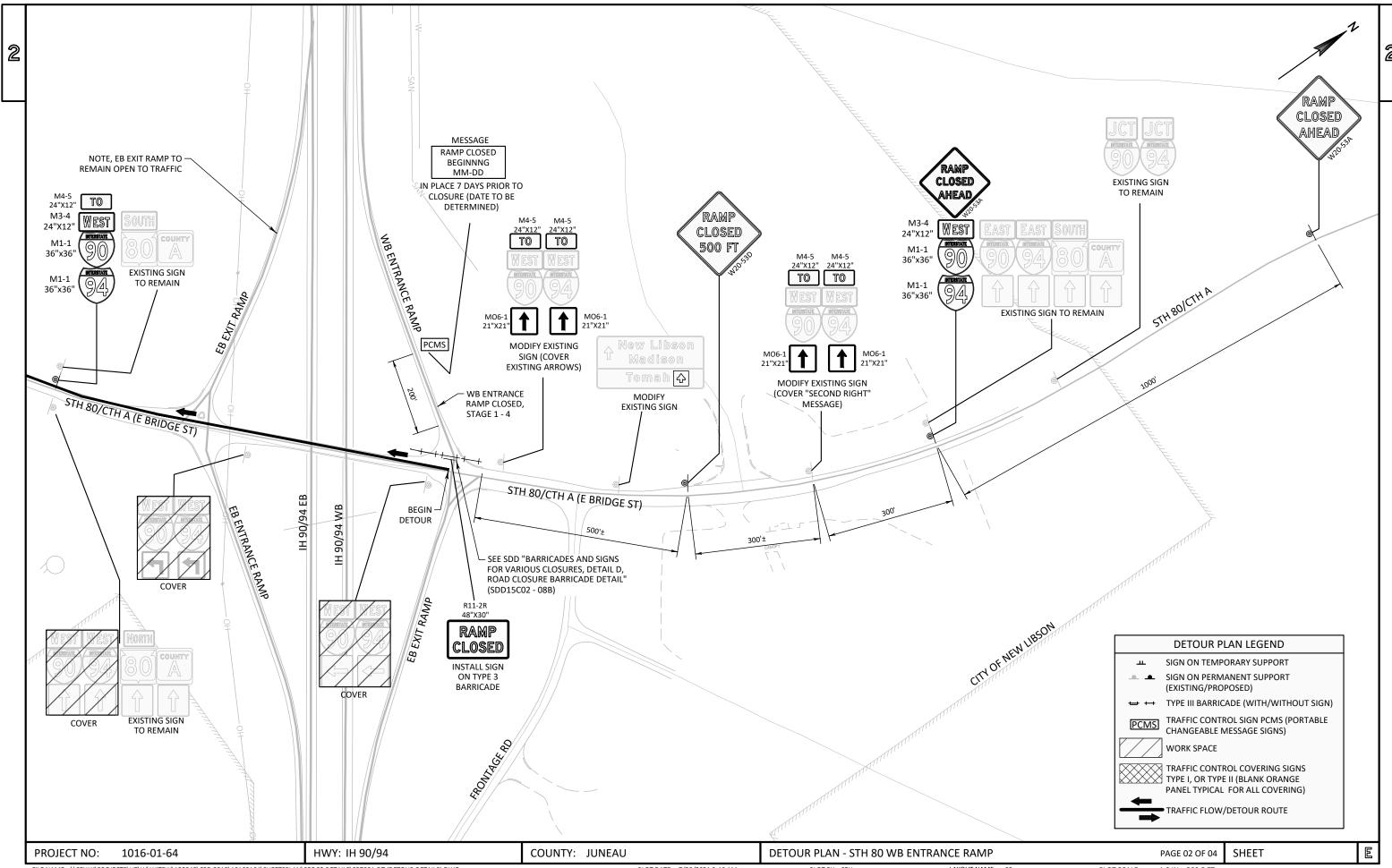
PLOT DATE: 7/29/2021 9:44 AM

PLOT BY: SEH

LAYOUT NAME: 01

PLOT SCALE: 1.0 IN = 2640.0 FT

WISDOT/CADDS SHEET 42



FILE NAME: \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 02 DETAILS\027001-DT (DETOUR DETAILS).DWG

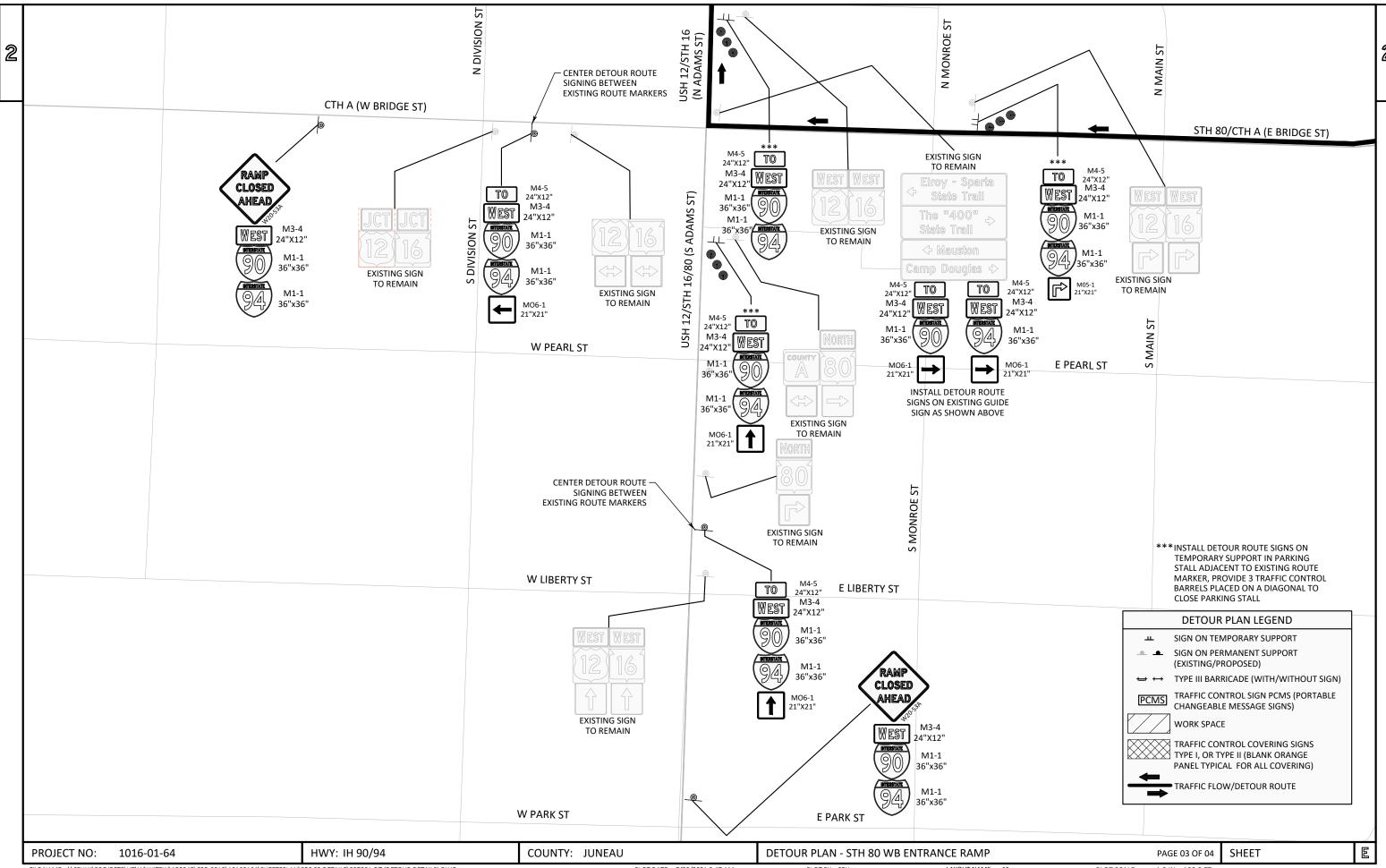
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PLOT BY: SEH

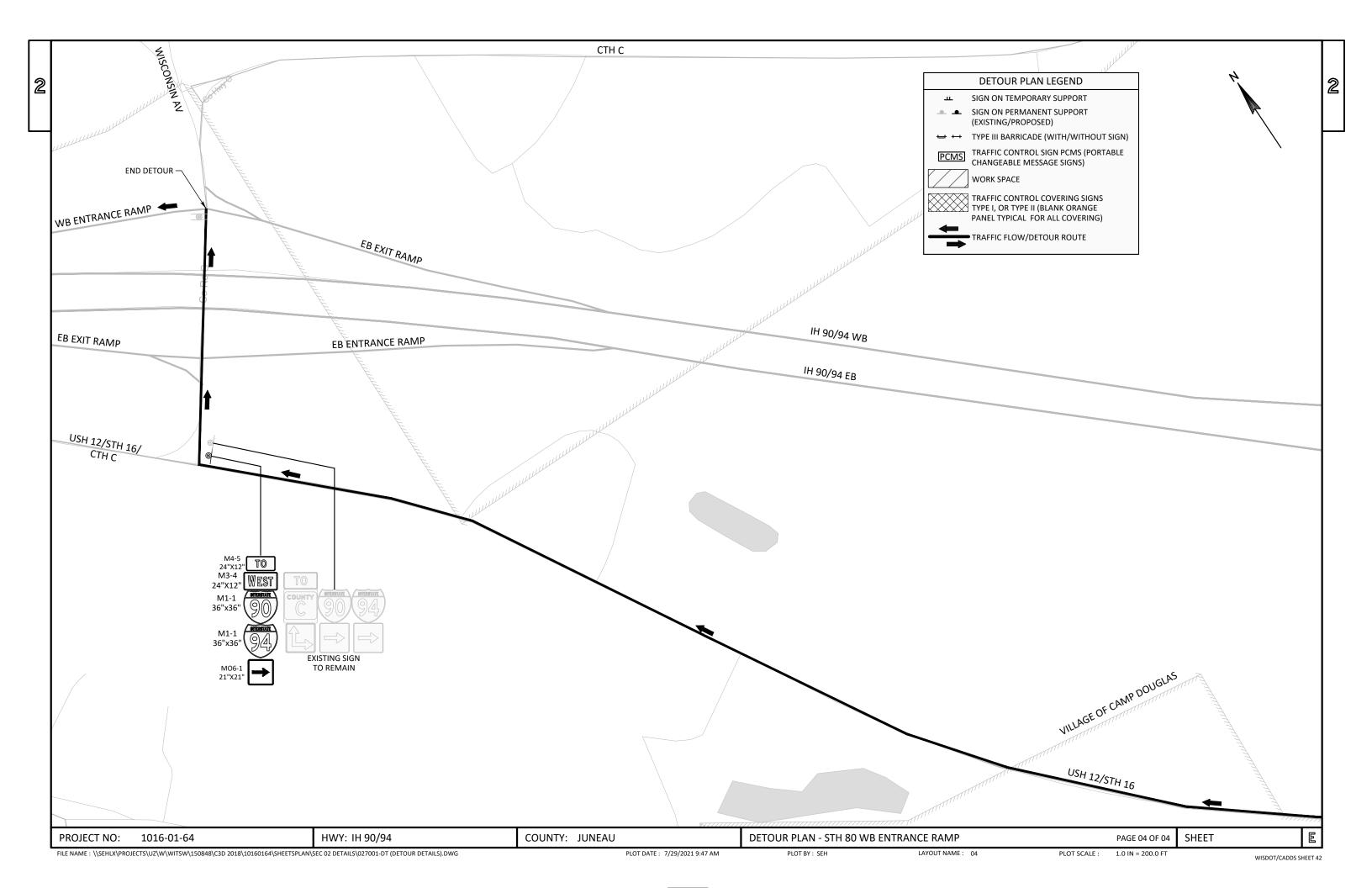
LAYOUT NAME: 02

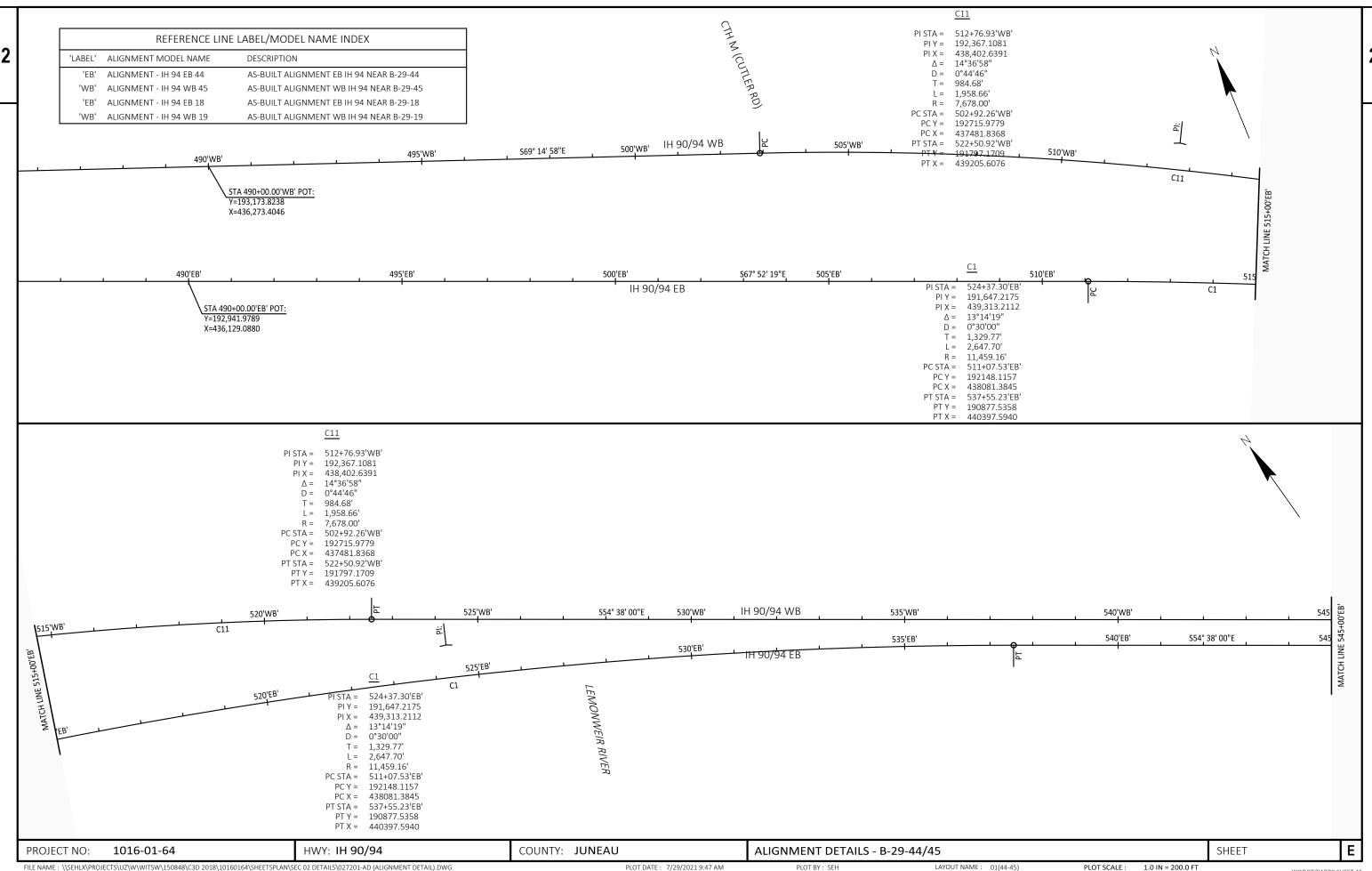
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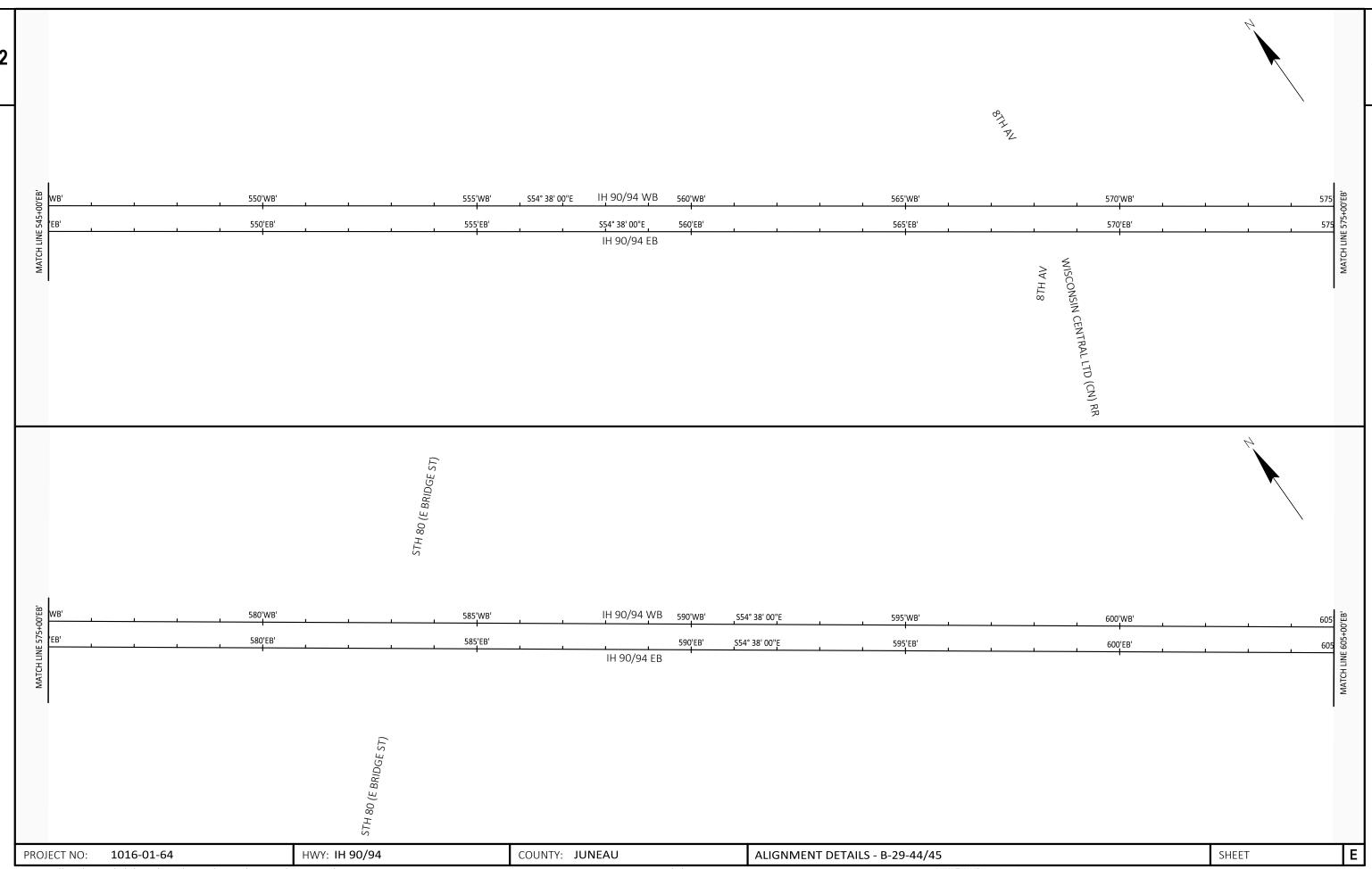
WISDOT/CADDS SHEET 42

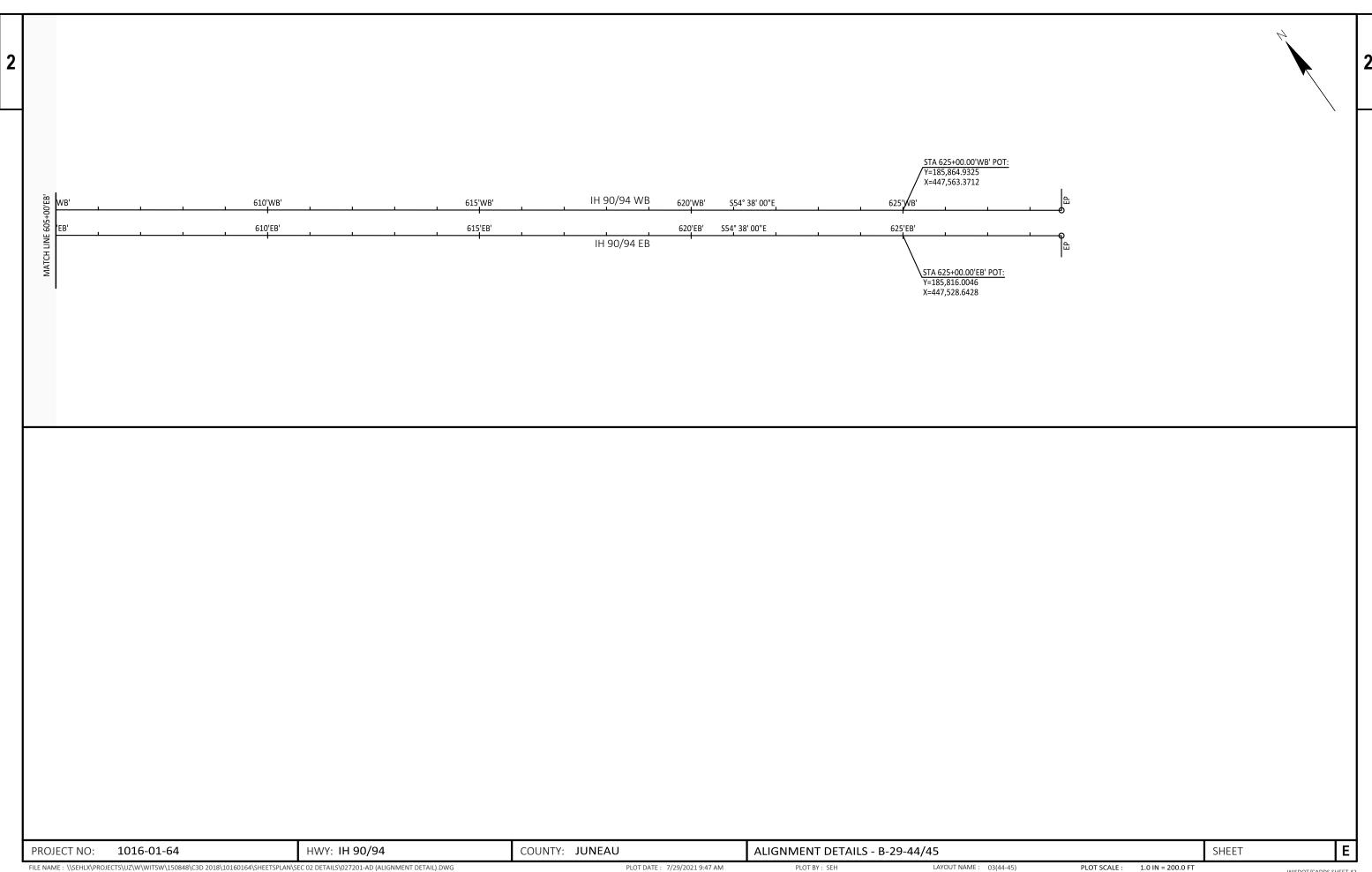


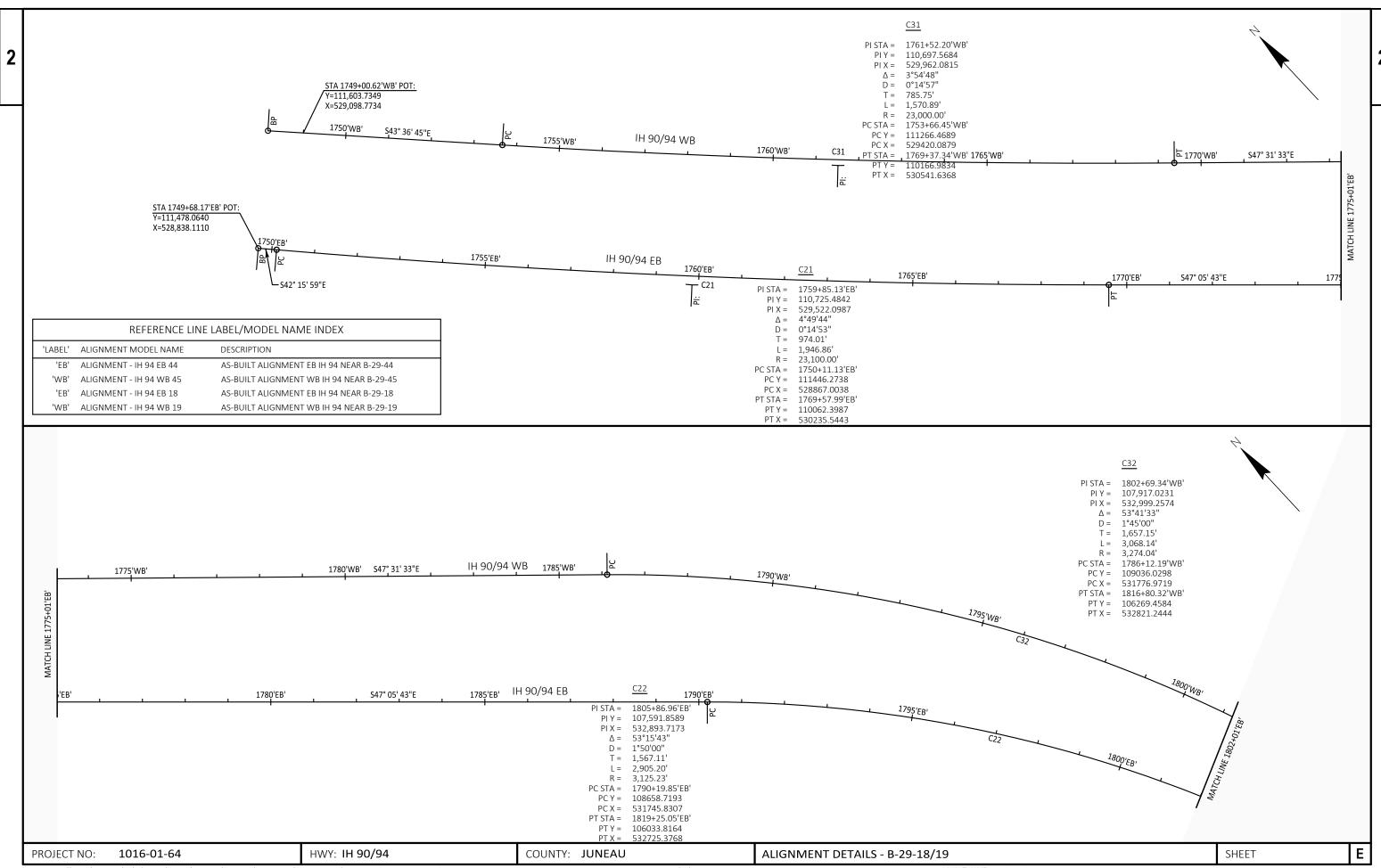
WISDOT/CADDS SHEET 42

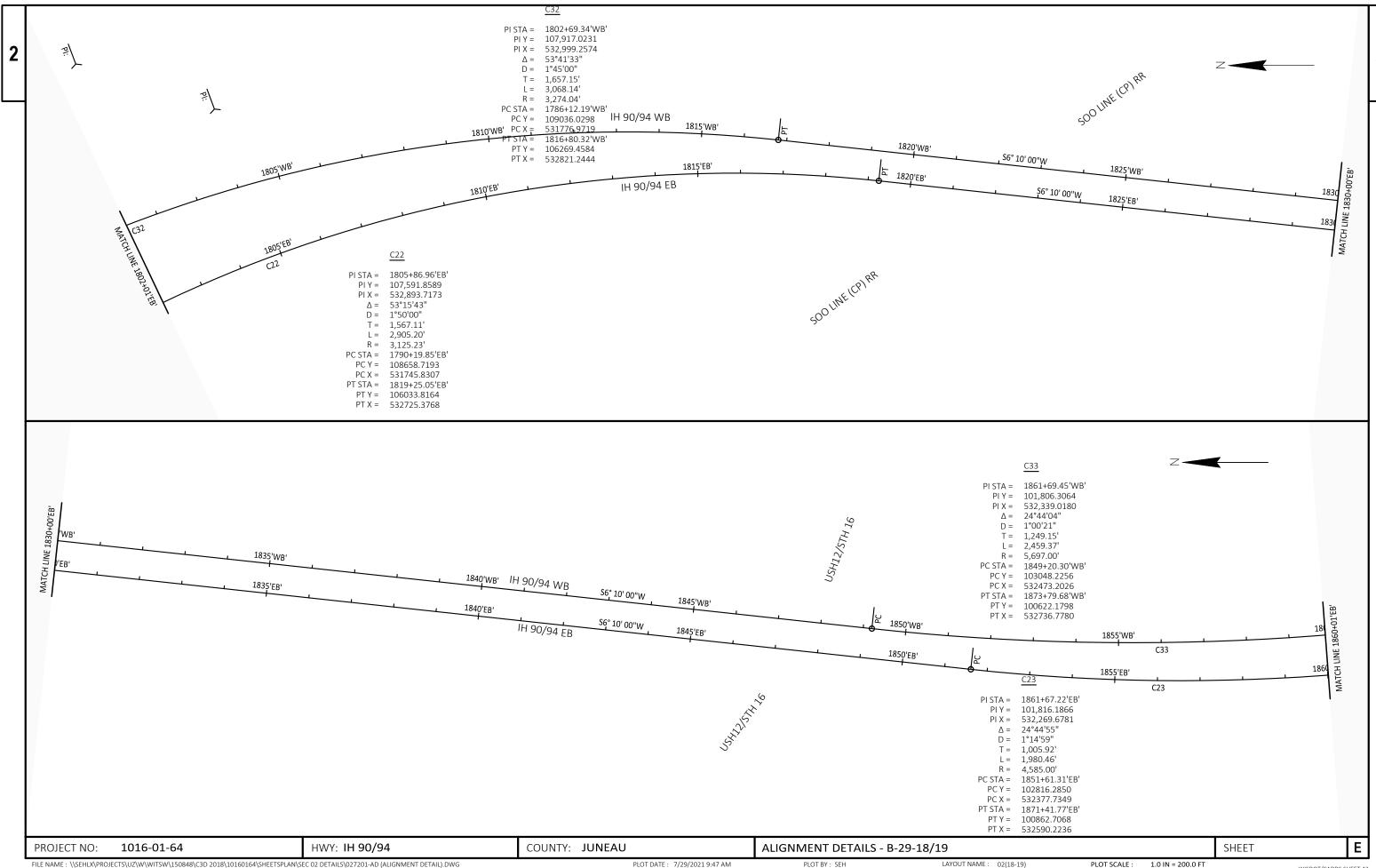


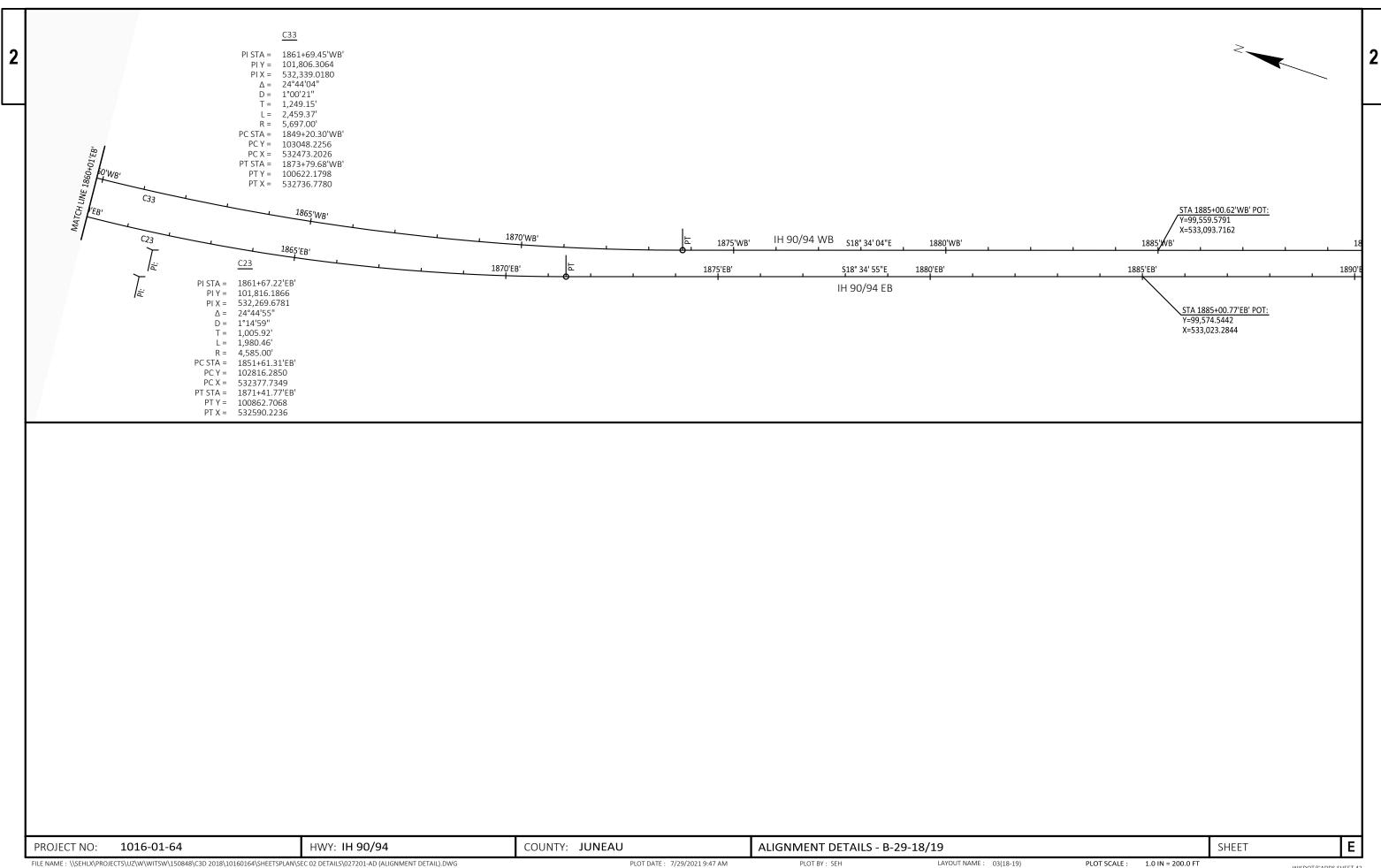












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- 1	UʻI	l 0-l	U I	-64

					1016-01-64	
Line	Item	Item Description	Unit	Total	Qty	
0002	203.0211.S	Abatement of Asbestos Containing Material (structure) 01. B-29-18	EACH	1.000	1.000	
0004	203.0211.S	Abatement of Asbestos Containing Material (structure) 02. B-29-19	EACH	1.000	1.000	
0006	203.0220	Removing Structure (structure) 01. B-29-18	EACH	1.000	1.000	
8000	203.0220	Removing Structure (structure) 02. B-29-19	EACH	1.000	1.000	
0010	204.0100	Removing Concrete Pavement	SY	453.000	453.000	
0012	204.0110	Removing Asphaltic Surface	SY	4,327.000	4,327.000	
0014	204.0165	Removing Guardrail	LF	154.000	154.000	
0016	204.0175	Removing Concrete Slope Paving	SY	71.000	71.000	
0018	204.0190	Removing Surface Drains	EACH	2.000	2.000	
0020	206.1000	Excavation for Structures Bridges (structure) 01. B-29-18	LS	1.000	1.000	
0022	206.1000	Excavation for Structures Bridges (structure) 02. B-29-19	LS	1.000	1.000	
0024	210.1500	Backfill Structure Type A	TON	95.000	95.000	
0026	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	69.000	69.000	
0028	213.0100	Finishing Roadway (project) 01. 1016-01-64	EACH	1.000	1.000	
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	295.000	295.000	
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	234.000	234.000	
0034		Hauling Excess Shoulder Material	CY	9.900	9.900	
0036	415.1080	Concrete Pavement HES 8-Inch	SY	112.000	112.000	
0038	415.1410	Concrete Pavement Approach Slab HES	SY	333.000	333.000	
0040	416.0610	Drilled Tie Bars	EACH	100.000	100.000	
0042	416.1015	Concrete Surface Drains HES	CY	7.000	7.000	
0044	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	238.000	238.000	
0046	450.4000	HMA Cold Weather Paving	TON	585.000	585.000	
0048	455.0605	Tack Coat	GAL	17.000	17.000	
0050	460.2000	Incentive Density HMA Pavement	DOL	820.000	820.000	
0052	460.7223	HMA Pavement 3 HT 58-28 S	TON	1,229.000	1,229.000	
0054	460.7424	HMA Pavement 4 HT 58-28 H	TON LF	27.000	27.000	
0056	465.0400	Asphaltic Shoulder Rumble Strips		5,824.000	5,824.000	
0058	502.0100	Concrete Masonry Bridges	CY LF	40.000 248.000	40.000 248.000	
0060 0062	502.3101 502.3210	Expansion Device Pigmented Surface Sealer	SY	406.000	406.000	
0062	502.3210	Adhesive Anchors No. 5 Bar	EACH	233.000	233.000	
0066	502.4206	Adhesive Anchors No. 6 Bar	EACH	98.000	98.000	
0068	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	9,170.000	9,170.000	
0070	505.0904	Bar Couplers No. 4	EACH	8.000	8.000	
0070	505.0905	Bar Couplers No. 5	EACH	52.000	52.000	
0074		Bar Couplers No. 6	EACH	20.000	20.000	
0076	506.6000	Bearing Assemblies Expansion (structure) 01. B-29-19	EACH	1.000	1.000	
0078		Removing Bearings (structure) 01. B-29-19	EACH	1.000	1.000	
0080	509.1000	Joint Repair	SY	102.000	102.000	
0082	509.1500	Concrete Surface Repair	SF	271.000	271.000	
0084		Polymer Overlay	SY	98.000	98.000	
0086		Cleaning Parapets	LF	987.000	987.000	
0088	511.1200	Temporary Shoring (structure) 01. B-29-18	SF	72.000	72.000	
0090	516.0500	Rubberized Membrane Waterproofing	SY	8.000	8.000	
0092		Structure Overcoating Cleaning and Priming (structure) 01. B-29-18	EACH	1.000	1.000	
0094		Structure Overcoating Cleaning and Priming (structure) 02. B-29-19	EACH	1.000	1.000	
0096		Containment and Collection of Waste Materials (structure) 01. B-29-18	EACH	1.000	1.000	
0098		Containment and Collection of Waste Materials (structure) 02. B-29-19	EACH	1.000	1.000	

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					1016-01-64	
Line	Item	Item Description	Unit	Total	Qty	
0100	601.0590	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type TBTT	LF	27.000	27.000	
0102	603.8000	Concrete Barrier Temporary Precast Delivered	LF	706.000	706.000	
0104	603.8125	Concrete Barrier Temporary Precast Installed	LF	1,372.000	1,372.000	
0106	604.0400	Slope Paving Concrete	SY	47.000	47.000	
0108	606.0200	Riprap Medium	CY	10.000	10.000	
0110	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	80.000	80.000	
0112	614.0150	Anchor Assemblies for Steel Plate Beam Guard	EACH	2.000	2.000	
0114	614.0905	Crash Cushions Temporary	EACH	4.000	4.000	
0116	614.2300	MGS Guardrail 3	LF	154.000	154.000	
0118	614.2620	MGS Guardrail Terminal Type 2	EACH	4.000	4.000	
0120	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1016-01-64	EACH	1.000	1.000	
0122	619.1000	Mobilization	EACH	1.000	1.000	
0124	625.0500	Salvaged Topsoil	SY	400.000	400.000	
0126	628.1504	Silt Fence	LF	190.000	190.000	
0128	628.1520	Silt Fence Maintenance	LF	190.000	190.000	
0130	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000	
0132	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000	
0134	628.2004	Erosion Mat Class I Type B	SY	400.000	400.000	
0136	628.7504	Temporary Ditch Checks	LF	12.000	12.000	
0138	629.0210	Fertilizer Type B	CWT	0.300	0.300	
0140	630.0130	Seeding Mixture No. 30	LB	8.000	8.000	
0142	630.0200	Seeding Temporary	LB	11.000	11.000	
0144	630.0500	Seed Water	MGAL	84.000	84.000	
0146	642.5001	Field Office Type B	EACH	1.000	1.000	
0148	643.0300	Traffic Control Drums	DAY	3,670.000	3,670.000	
0150	643.0420	Traffic Control Barricades Type III	DAY	205.000	205.000	
0152	643.0705	Traffic Control Warning Lights Type A	DAY	260.000	260.000	
0154	643.0715	Traffic Control Warning Lights Type C	DAY	1,388.000	1,388.000	
0156	643.0800	Traffic Control Arrow Boards	DAY	60.000	60.000	
0158	643.0900	Traffic Control Signs	DAY	2,821.000	2,821.000	
0160	643.0920	Traffic Control Covering Signs Type II	EACH	3.000	3.000	
0162	643.1051	Traffic Control Signs PCMS with Cellular Communications	DAY	35.000	35.000	
0164		•	DAY	52.000	52.000	
0166		Portable Automated Real-Time Traffic Queue Warning System	DAY	495.000	495.000	
0168	643.5000	Traffic Control	EACH	1.000	1.000	
0170	645.0111	Geotextile Type UP	SY	31.000	31.000	
0172		Geotextile Type HR	SY	19.000	19.000	
0174	646.1020	Marking Line Epoxy 4-Inch Marking Line Epoxy 8-Inch	LF	5,649.000	5,649.000	
0176	646.3020	· · · · · · · · · · · · · · · · · · ·	LF LF	1,144.000 22,413.000	1,144.000	
0178	649.0150	Temporary Marking Line Removable Tape 4-Inch		•	22,413.000	
0180	649.0250	Temporary Marking Removable Tape 8-Inch	LF	552.000	552.000	
0182	649.0970	Temporary Marking Removable Mask Out Tape 10-Inch	LF LF	1,170.000	1,170.000	
0184 0186	690.0150 690.0250	Sawing Asphalt Sawing Concrete	LF LF	1,042.000 472.000	1,042.000 472.000	
		-		588.000		
0188	715.0502	Incentive Strength Concrete Structures	DOL	44,496.000	588.000	
0190 0192	801.0117 ASP.1T0A	Railroad Flagging Reimbursement On-the-Job Training Apprentice at \$5.00/HR	DOL HRS	1,200.000	44,496.000	
	ASP.110A ASP.1T0G			1,200.000	1,200.000	
0194		<u>-</u>	HRS		1,200.000	
0196	SPV.0090	Special 01. Salvage and Reinstall Steel Thrie Beam Structure Approach	LF	42.000	42.000	

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Estimate Of Quantities Page

1016-01-64 0198 SPV.0180 Special 01. Abutment Seat Cleaning and Sealing SY 62.000 62.000

#### <u>REMOVALS</u>

204.0100 204.0110 204.0190 REMOVING REMOVING 204.0165 REMOVING

CONCRETE ASPHALTIC REMOVING SURFACE PAVEMENT SURFACE <u>DRAINS</u>

			I A A FIAIFIA I	JOHIACE	COMINDIANE	DIVALIVO			
CATEGORY	STAGE	STATION	SY	SY	LF	EACH	COMMENTS		
0010	1	564+91 WB - 567+11 WB	-	149	-	-	MEDIAN SHOULDER		
	1	561+06 EB - 567+26 EB	-	418	-	-	MEDIAN SHOULDER		
	1	569+27 WB - 575+47 WB	-	439	-	-	MEDIAN SHOULDER		
	1	569+42 EB - 571+63 EB	-	149	-	-	MEDIAN SHOULDER		
	1	1819+05 WB - 1820+99 WB	-	128	-	-	MEDIAN SHOULDER		
	1	1815+63 EB - 1820+59 EB	-	337	-	-	MEDIAN SHOULDER		
	1	1823+65 WB - 1828+83 WB	-	321	-	-	MEDIAN SHOULDER		
	1	1823+02 EB - 1825+22 EB	-	99	-	-	MEDIAN SHOULDER		
		STAGE 1 SUBTOTALS	0	2040	0	0			
	2	1821+25 WB - 1821+77 WB	76	-	-	-	CONC. APPROACH SLAB		
	2	1820+15 EB - 1820+54 EB	53	=	=	=	CONC. APPROACH SLAB		
	2	1823+71 WB - 1824+24 WB	65	-	-	-	CONC. APPROACH SLAB		
	2	1822+47 EB - 1822+99 EB	65	-	-	-	CONC. APPROACH SLAB		
	2	564+91 WB - 567+11 WB	-	221	-	-	OUTSIDE SHOULDER		
	2	561+06 EB - 567+27 EB	-	552	-	-	OUTSIDE SHOULDER		
	2	571+11 WB - 575+77 WB	=	297	-	-	RAMP, PAVT. GORE		
	2	569+42 EB - 570+78 EB	-	117	-	-	OUTSIDE SHOULDER		
	2	1819+05 WB - 1821+49 WB	-	217	-	-	OUTSIDE SHOULDER		
	2	1815+69 EB - 1820+15 EB	-	392	-	-	OUTSIDE SHOULDER		
	2	1824+23 WB - 1827+55 WB	-	262	-	-	OUTSIDE SHOULDER		
	2	1822+62 EB - 1825+19 EB	-	229	=	=	OUTSIDE SHOULDER		
	2	1821+58 WB, LT	-	-	-	1	SURFACE DRAIN		
		STAGE 2 SUBTOTALS	259	2287	0	1			
	3	1820+99 WB - 1821+53 WB	42	-	-	-	CONC. APPROACH SLAB		
	3	1820+24 EB - 1820+73 EB	56	-	-	-	CONC. APPROACH SLAB		
	3	1823+52 WB - 1824+01 WB	57	-	-	-	CONC. APPROACH SLAB		
	3	1822+71 EB - 1823+02EB	39	=	=	=	CONC. APPROACH SLAB		
	3	1821+15 WB, RT	-	-	-	1	SURFACE DRAIN		
	3	1820+55 EB - 1821+13 EB	-	-	77	-	GUARDRAIL		
	3	1823+07 EB - 1823+67 EB	-	-	77	-	GUARDRAIL		
		STAGE 3 SUBTOTALS	194	0	154	1			

4327

154

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#### BASE AGGREGATE DENSE

305.0110 305.0120 BASE AGGREGATE BASE AGGREGATE DENSE 3/4-INCH DENSE 1 1/4-INCH

CATEGORY	STAGE	STATION	TON	TON	COMMENTS
0010	1	561+06 EB - 564+36 EB	10	-	MEDIAN SHOULDER
	1	564+91 WB - 567+11 WB	7	-	MEDIAN SHOULDER
	1	572+19 WB - 575+47 WB	10	-	MEDIAN SHOULDER
	1	569+42 EB -571+63 EB	7	-	MEDIAN SHOULDER
	1	1816+43 EB - 1820+59 EB	27		MEDIAN SHOULDER
	1	1819+05 WB - 1820+99 WB	6	-	MEDIAN SHOULDER
	1	1815+63 EB - 1816+63 EB	3	-	MEDIAN SHOULDER
	1	1827+80 WB - 1828+83 WB	4	=	MEDIAN SHOULDER
	1	1823+02 EB - 1825+22 EB	7	-	MEDIAN SHOULDER
	1	1823+66 WB - 1828+01 WB	28		MEDIAN SHOULDER
		UNDISTRIBUTED QTY	20	20	AREAS OF CONCERN
		STAGE 1 SUBTOTALS	129	20	
	2	561+07 EB - 567+27 EB	40	-	OUTSIDE SHOULDER
	2	564+91 WB - 567+11 WB	14	-	OUTSIDE SHOULDER
	2	569+43 EB - 570+78 EB	9	=	OUTSIDE SHOULDER
	2	1815+70 EB - 1820+15 EB	29	-	OUTSIDE SHOULDER
	2	1819+06 WB - 1821+49 WB	16	=	OUTSIDE SHOULDER
	2	1821+25 WB - 1821+77 WB	-	26	APPROACH SLAB, B-29-19
	2	1820+15 EB - 1820+54 EB	=	22	APPROACH SLAB, B-29-18
	2	1823+71 WB - 1824+24 WB	-	28	APPROACH SLAB, B-29-19
	2	1822+47 EB - 1822+99 EB	-	24	APPROACH SLAB, B-29-18
	2	1822+62 EB - 1825+20 EB	17	-	OUTSIDE SHOULDER
	2	1824+23 WB - 1827+55 WB	21	-	OUTSIDE SHOULDER
	2	1821+58 WB, LT	-	9	SURFACE DRAIN, B-29-19
		UNDISTRIBUTED QTY	20	20	AREAS OF CONCERN
		STAGE 2 SUBTOTALS	166	129	
	3	1820+99 WB - 1821+53 WB	_	17	APPROACH SLAB, B-29-19
	3	1820+24 EB - 1820+73 EB	-	21	APPROACH SLAB, B-29-18
	3	1823+52 WB - 1824+01 WB	-	21	APPROACH SLAB, B-29-19
	3	1822+71 EB - 1823+02EB	-	14	APPROACH SLAB, B-29-18
	3	1821+15 WB, RT	-	12	SURFACE DRAIN, B-29-19
		STAGE 3 SUBTOTALS	0	86	
		PROJECT TOTALS	295	234	_

Ε HWY: IH 90/94 COUNTY: JUNEAU MISCELLANEOUS QUANTITIES SHEET PLOT DATE : 7/29/2021 9:33 AM PLOT BY: CLARISSA HOETH PLOT SCALE : 1" = 1'

FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 01

PROJECT NO: 1016-01-64

PROJECT TOTALS

PLOT NAME :

#### CONCRETE ITEMS

CATEGORY	/ STAGE	: STATION	415.1080 CONCRETE PAVEMENT HES <u>8-INCH</u> SY	415.1410 CONCRETE PAVEMENT APPROACH SLAB HES SY	416.1015 CONCRETE SURFACE <u>DRAINS HES</u> CY	416.0610 DRILLED DOWEL <u>BARS</u> EACH	420.1000 CONTINUOUS DIAMOND GRINDING CONCRETE <u>PAVEMENT</u> SY	601.0590 CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE TBTT LF	COMMENTS
0010	2	1821+25 WB - 1821+77 WB	13	55	_	13	_	_	APPROACH SLAB, B-29-19
0010	2	1820+15 EB - 1820+54 EB	18	35	_	13	_	_	APPROACH SLAB, B-29-18
	2	1823+71 WB - 1824+24 WB	30	35	_	13	<del>-</del>	<del>-</del>	APPROACH SLAB, B-29-19
	2	1822+47 EB - 1822+99 EB	10	55	=	13	-	-	APPROACH SLAB, B-29-18
	2	1821+58 WB, LT	-	-	3	-	-	14	SURFACE DRAIN, B-29-19
		STAGE 2 SUBTOTALS	71	180	3	52	0	14	,
	3	1820+99 WB - 1821+53 WB	14	29	-	12	-	-	APPROACH SLAB, B-29-19
	3	1820+24 EB - 1820+73 EB	8	49	-	12	-	-	APPROACH SLAB, B-29-18
	3	1823+52 WB - 1824+01 WB	9	49	-	12	-	-	APPROACH SLAB, B-29-19
	3	1822+71 EB - 1823+02EB	10	26	-	12	=	=	APPROACH SLAB, B-29-18
	3	1821+15 WB, RT	-	-	4		-	13	SURFACE DRAIN, B-29-19
		STAGE 3 SUBTOTALS	41	153	4	48	0	13	
	CAT	0010 TOTALS	112	333	7	100	0	27	
0040	2	567+26 EB - 567+49 EB	-	-	-	-	30	-	APPROACH SLAB, B-29-44
	2	569+24 EB - 569+43 EB	-	-	-	-	27	-	APPROACH SLAB, B-29-44
		STAGE 2 SUBTOTALS	0	0	0	0	57	0	
	3	567+26 EB - 567+44 EB	-	-	-	-	22	-	APPROACH SLAB, B-29-44
	3	569+21 EB - 569+43 EB	-	-	-	-	26	-	APPROACH SLAB, B-29-44
		STAGE 3 SUBTOTALS	0	0	0	0	48	0	
	CAT	0040 TOTALS	0	0	0	0	105	0	
0050	2	567+11 WB - 567+29 WB	-	-	-	=	34	-	APPROACH SLAB, B-29-45
	2	569+03 WB - 569+28 WB	-	-	-	-	51	-	APPROACH SLAB, B-29-45
		STAGE 2 SUBTOTALS	0	0	0	0	85	0	
	3	567+11 WB - 567+32 WB	-	-	-	-	26	-	APPROACH SLAB, B-29-45
	3	569+09 WB - 569+27 WB	-	-	-	-	22	-	APPROACH SLAB, B-29-45
		STAGE 3 SUBTOTALS	0	0	0	0	48	0	
	CAT 00	050 SUBTOTALS	0	0	0	0	133	0	
		PROJECT TOTALS	112	333	7	100	238	27	

HWY: IH 90/94 COUNTY: JUNEAU SHEET Ε PROJECT NO: 1016-01-64 MISCELLANEOUS QUANTITIES FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 02 PLOT DATE: 7/29/2021 9:33 AM

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**HMA PAVEMENT** 

RUMBLE STRIPS

CATEGORY :	STAGE_	STATION	211.0400 PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	305.0504.S HAULING EXCESS SHOULDER <u>MATERIAL</u> (CY)	455.0605 TACK COAT (GAL)	450.4000 HMA COLD WEATHER PAVING TON	460.7223 HMA PAVEMENT 3 HT 58-28 S TON	460.7424 HMA PAVEMENT 4 HT 58-28 H TON	COMMENTS
0010	1	564+91 WB - 567+11 WB	3	0.4	_	42	42	-	MEDIAN SHOULDER
0010	1	561+06 EB - 567+26 EB	7	0.9	_	116	116	_	MEDIAN SHOULDER
	1	569+27 WB - 575+47 WB	, 7	1.0	_	116	116	_	MEDIAN SHOULDER
	1	569+42 EB - 571+63 EB	3	0.4	_	42	42	_	MEDIAN SHOULDER
		1819+05 WB - 1820+99 WB	2	0.3	_	37	37	_	MEDIAN SHOULDER
	1	1815+63 EB - 1820+59 EB	5	0.7	_	93	93	_	MEDIAN SHOULDER
		1823+65 WB - 1828+83 WB	6	0.7	_	97	97	_	MEDIAN SHOULDER
	1	1823+02 EB - 1825+22 EB	3	0.3	_	42	42	_	MEDIAN SHOULDER
_		STAGE 1 SUBTOTALS	36	4.7	0	585	585	0	
	2	564+91 WB - 567+11 WB	4	0.5	-	-	62	-	OUTSIDE SHOULDERS
	2	561+06 EB - 567+27 EB	7	1.2	-	-	155	-	OUTSIDE SHOULDERS
	2	571+11 WB - 575+77 WB	5	0.7	-	-	84	-	RAMP, PAVT. GORE
	2	569+42 EB - 570+78 EB	2	0.3	-	-	33	-	OUTSIDE SHOULDERS
	2	1819+05 WB - 1821+49 WB	3	0.5	-	-	61	-	OUTSIDE SHOULDERS
	2	1815+69 EB - 1820+15 EB	5	0.9	-	-	110	-	OUTSIDE SHOULDERS
	2	1824+23 WB - 1827+55 WB	4	0.6	-	-	74	-	OUTSIDE SHOULDERS
_	2	1822+62 EB - 1825+19 EB	3	0.5	-	-	65	-	OUTSIDE SHOULDERS
		STAGE 2 SUBTOTALS	33	5.2	0	0	644	0	
	CA	AT 0010 SUBTOTALS	69	9.9	0	585	1229	0	
0040	2	567+26 EB - 567+49 EB	-	-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-44
_	2	569+24 EB - 569+43 EB	-	-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-44
		STAGE 2 SUBTOTALS	0	0	4	0	0	6	
	3	567+26 EB - 567+44 EB	-	-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-44
	3	569+21 EB - 569+43 EB	-	-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-44
_		STAGE 3 SUBTOTALS	0	0	3	0	0	6	
	CA	AT 0040 SUBTOTALS	0	0	7	0	0	12	
0050	2	567+11 WB - 567+29 WB	-	-	2	-	-	4	APPROACH SLAB OVERLAY, B-29-45
_	2	569+03 WB - 569+28 WB	<u> </u>	=	4	=	=	5	APPROACH SLAB OVERLAY, B-29-45
		STAGE 2 SUBTOTALS	0	0	6	0	0	9	
	3	567+11 WB - 567+32 WB		-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-45
_	3	569+09 WB - 569+27 WB	-	-	2	-	-	3	APPROACH SLAB OVERLAY, B-29-45
		STAGE 3 SUBTOTALS	0	0	3	0	0	6	
	CA	AT 0050 SUBTOTALS	0	0	10	0	0	15	
		PROJECT TOTALS	69	9.9	17	585	1229	27	

			<u>RUMBLE STRIPS</u>	
CATEGORY	STAGE	STATION	LF	COMMENTS
0010	3	564+91 WB - 567+11 WB, RT	220	MEDIAN SHOULDER
	3	569+27 WB - 575+47 WB, RT	620	MEDIAN SHOULDER
	3	561+06 EB - 567+26 EB, LT	620	MEDIAN SHOULDER
	3	569+43 EB - 571+62 EB, LT	219	MEDIAN SHOULDER
	3	1819+05 WB - 1820+99 WB, RT	194	MEDIAN SHOULDER
	3	1823+65 WB - 1828+83 WB, RT	518	MEDIAN SHOULDER
	3	1815+63 EB - 1820+59 EB, LT	496	MEDIAN SHOULDER
	3	1823+02 EB - 1825+22 EB, LT	220	MEDIAN SHOULDER
		STAGE 3 SUBTOTALS	3107	
	4	564+91 WB - 567+11 WB, LT	220	OUTSIDE SHOULDER
	4	571+12 WB - 575+77 WB, LT	465	OUTSIDE SHOULDER
	4	561+06 EB - 567+26 EB, RT	620	OUTSIDE SHOULDER
	4	569+43 EB - 570+78 EB, RT	135	OUTSIDE SHOULDER
	4	1819+05 WB - 1821+48 WB, LT	243	OUTSIDE SHOULDER
	4	1824+23 WB - 1827+54 WB, LT	331	OUTSIDE SHOULDER
	4	1815+69 EB - 1820+15 EB, RT	446	OUTSIDE SHOULDER
	4	1822+62 EB - 1825+19 EB, RT	257	OUTSIDE SHOULDER
		STAGE 4 SUBTOTALS	2717	
		PROJECT TOTALS	5824	

465.0400 ASPHALTIC SHOULDER

#### CONCRETE BARRIER TEMPORARY PRECAST

603.8000

603.8125

			CONCRETE BARRIER	CONCRETE BARRIER	CRASH
			TEMPORARY PRECAST	TEMPORARY PRECAST	CUSHIONS
			<u>DELIVERED</u>	<u>INSTALLED</u>	<u>TEMPORARY</u>
CATEGORY	STAGE	STATION	LF	LF	EACH
0010	2	1821+00 WB - 1824+63 WB	365	365	1
	2	1819+84 EB - 1823+24 EB	341	341	1
		STAGE 2 SUBTOTALS	706	706	2
	3	1821+00 WB - 1824+33 WB	-	333	1
	3	1819+92 EB - 1823+24 EB	-	333	1
		STAGE 3 SUBTOTALS	0	666	2
		PROJECT TOTALS	706	1372	4

Ε HWY: IH 90/94 COUNTY: JUNEAU SHEET PROJECT NO: 1016-01-64 MISCELLANEOUS QUANTITIES \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 03 PLOT BY: CLARISSA HOETH FILE NAME :

PLOT DATE: 7/29/2021 9:33 AM

PLOT NAME :

PLOT SCALE : 1" = 1'

614.0905

#### MGS GUARDRAIL

SPV.0090.01

614.2300 614.2620 SALVAGE AND REINSTALL MGS MGS GUARDRAIL STEEL THRIE BEAM GUARDRAIL 3 TERMINAL TYPE 2 STRUCTURE APPROACH

		GOTHIOTOTICS	TEITIVIII VIII L Z	STRUCTURE ALL TRUMENT	
STAGE	STATION	LF	EACH	LF	COMMENTS
2	1822+55 EB - 1822+76 EB	0	0	21	B-29-18 OUTSIDE PARAPET
	STAGE 2 SUBTOTALS	0	0	21	
3	1820+55 EB - 1821+14 EB	77	2	-	LOCATED IN MEDIAN
3	1823+07 EB - 1823+67 EB	77	2	-	LOCATED IN MEDIAN
3	1823+62 WB - 1823+83 WB	0	0	21	B-29-19 MEDIAN PARAPET
	STAGE 3 SUBTOTALS	154	4	21	
	PROJECT TOTALS	154	4	42	
	3 3	2 1822+55 EB - 1822+76 EB  STAGE 2 SUBTOTALS  3 1820+55 EB - 1821+14 EB  3 1823+07 EB - 1823+67 EB  3 1823+62 WB - 1823+83 WB  STAGE 3 SUBTOTALS	STAGE         STATION         LF           2         1822+55 EB - 1822+76 EB         0           STAGE 2 SUBTOTALS         0           3         1820+55 EB - 1821+14 EB         77           3         1823+07 EB - 1823+67 EB         77           3         1823+62 WB - 1823+83 WB         0           STAGE 3 SUBTOTALS         154	STAGE         STATION         LF         EACH           2         1822+55 EB - 1822+76 EB         0         0           STAGE 2 SUBTOTALS         0         0           3         1820+55 EB - 1821+14 EB         77         2           3         1823+07 EB - 1823+67 EB         77         2           3         1823+62 WB - 1823+83 WB         0         0           STAGE 3 SUBTOTALS         154         4	STAGE         STATION         LF         EACH         LF           2         1822+55 EB - 1822+76 EB         0         0         21           STAGE 2 SUBTOTALS         0         0         21           3         1820+55 EB - 1821+14 EB         77         2         -           3         1823+07 EB - 1823+67 EB         77         2         -           3         1823+62 WB - 1823+83 WB         0         0         21           STAGE 3 SUBTOTALS         154         4         21

#### **EROSION CONTROL**

CATEGORY	STAGE	LOCATION	606.0200 RIPRAP <u>MEDIUM</u> CY	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT <u>FENCE</u> LF	628.1504 SILT FENCE <u>MAINTENANCE</u> LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBLIZATIONS EMERGENCY EROSION CONTROL EACH	628.2004  EROSION MAT  CLASS I  TYPE B  SY	628.7504 TEMPORARY DITCH CHECKS LF	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	630.0200	630.0500 SEED <u>WATER</u> MGAL	645.0120 GEOTEXTILE TYPE HR SY
0010	1	MEDIAN	-	-	-	-	1	1	-	-	-	-	-	-	-
		STAGE 1 SUBTOTALS	0	0	0	0	1	1	0	0	0	0		0	0
	2	OUTSIDE SHOULDER	3	-	-	-	1	1	-	-	-	-	-	-	6
		STAGE 2 SUBTOTALS	3	0	0	0	1	1	0	0	0	0	0	0	6
	3	B-29-18 & 19 NORTH MEDIAN	-	156	73	73	-	-	156	5	0.1	3	5	32	-
	3	B-29-18 & 19 SOUTH MEDIAN	-	173	83	83	-	-	173	5	0.1	4	5	35	-
	3	MEDIAN SHOULDER	5	-	-	-	-	-	-	-	-	-	-	0	9
'		STAGE 3 SUBTOTALS	5	329	156	156	0	0	329	10	0.2	7	10	67	9
		UNDISTRIBUTED	2	71	34	34	2	2	71	2	0.1	1	1	17	4
		PROJECT TOTALS	10	400	190	190	4	4	400	12	0.3	8	11	84	19

E HWY: IH 90/94 COUNTY: JUNEAU SHEET PROJECT NO: 1016-01-64 MISCELLANEOUS QUANTITIES

#### TRAFFIC CONTROL

CATEGORY	ZONE	STAGE	PROJECT LOCATION	APPROX. SERVICE PERIOD DAYS	TRAFFIC	0300 CONTROL UMS DAYS	TRAFFIC	3.0420 C CONTROL DES TYPE III DAYS	TRAFFIC WARNIN	.0705 CONTROL NG LIGHTS PE A DAYS	TRAFFIC WARNIN	.0715 CONTROL NG LIGHTS PE C DAYS	TRAFFIC	0800 CONTROL BOARDS DAYS	TRAFFI	3.0900 C CONTROL SIGNS DAYS	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II EACH	TRAFFIC SIGN WITH (	B.1051 C CONTROL IS PCMS CELLULAR INICATIONS DAYS	. NOTES
0010	ALL	-	PRIOR TO CONSTRUCTION	7	0	0	0	0	0	0	0	0	0	0	0	0	0	5	35	
	NORTH	ALL	DETOUR	25	9	225	7	175	8	200	0	0	0	0	72	1800	3	0	0	WB ENTRANCE RAMP AT STH 80 CLOSURE DETOUR
	NORTH	1	OUTSIDE LANE	4	124	496	2	8	4	16	34	136	4	16	18	72	0	0	0	B-29-44/45
	SOUTH	1	SEE SDD 15D15-d	4	22	88	0	0	0	0	22	88	0	0	5	20	0	0	0	SDD 15D15-d TAPERED ENTRANCE RAMP WITHIN LT LANE CLOSURE
	SOUTH	1	OUTSIDE LANE	4	112	448	2	8	4	16	34	136	4	16	18	72	0	0	0	B-29-18/19
-			STAGE 1 SUBTOTALS			1257		191		232		360		32		1964	3		35	
	NORTH	2	SEE SDD 15C02-f	5	0	0	0	0	0	0	0	0	0	0	24	120	0	0	0	SDD 15C02-f ADVANCED WIDTH RESTRICTION SIGNING
	NORTH	2	INSIDE LANE	3	36	108	0	0	0	0	8	24	0	0	8	24	0	0	0	B-29-44/45
	SOUTH	2	SEE SDD 15C02-f	12	0	0	0	0	0	0	0	0	0	0	24	288	0	0	0	SDD 15C02-f ADVANCED WIDTH RESTRICTION SIGNING
	SOUTH	2	SEE SDD 15D15-c	10	44	440	0	0	0	0	25	250	0	0	5	50	0	0	0	SDD 15D15-c TAPERED ENTRANCE RAMP WITHIN RT LANE CLOSURE
	SOUTH	2	INSIDE LANE	10	38	380	0	0	0	0	12	120	0	0	8	80	0	0	0	B-29-18/19
_			STAGE 2 SUBTOTALS			928		0		0		394		0		562	0		0	
	NORTH	3	OUTSIDE LANE	3	44	132	0	0	0	0	7	21	0	0	8	24	0	0	0	B-29-44/45
	SOUTH	3	SEE SDD 15D15-d	10	22	220	0	0	0	0	22	220	0	0	5	50	0	0	0	SDD 15D15-d TAPERED ENTRANCE RAMP WITHIN LT LANE CLOSURE
_	SOUTH	3	OUTSIDE LANE	10	24	240	0	0	0	0	8	80	0	0	8	80	0	0	0	B-29-18/19
			STAGE 3 SUBTOTALS			592		0		0		321		0		154	0		0	
	NORTH	4	INSIDE LANE	4	110	440	2	8	4	16	34	136	4	16	18	72	0	0	0	B-29-44/45
	SOUTH	4	SEE SDD 15D15-c	3	44	132	0	0	0	0	25	75	0	0	5	15	0	0	0	SDD 15D15-c TAPERED ENTRANCE RAMP WITHIN RT LANE CLOSURE
	SOUTH	4	INSIDE LANE	3	107	321	2	6	4	12	34	102	4	12	18	54	0	0	0	B-29-18/19
-			STAGE 4 SUBTOTALS			893		14		28		313		28		141	0		0	
			PROJECT TOTAL	LS		3670		205		260		1388		60		2821	3		35	

HWY: IH 90/94 COUNTY: JUNEAU SHEET Ε PROJECT NO: 1016-01-64 MISCELLANEOUS QUANTITIES FILE NAME : \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 05 PLOT BY: CLARISSA HOETH PLOT DATE: 7/29/2021 9:33 AM PLOT NAME : PLOT SCALE : 1" = 1'

### **DYNAMIC LATE MERGE SYSTEM (DLMS)**

				DISTANCE	APPROX. SERVICE PERIOD	643.1100.S DYNAMIC LATE MERGE SYSTEM		_
CATEGORY	ZONE	STAGE	PROJECT LOCATION	(MILES)	DAYS	QTY.	DAYS	NOTES
0010	NORTH	2,3	IH 94 EB	1	6	1	6	3 PCMS, 1 FBS
	NORTH	2, 3	IH 94 WB	1	6	1	6	3 PCMS, 1 FBS
	SOUTH	2, 3	IH 94 EB	1	20	1	20	3 PCMS, 1 FBS
	SOUTH	2,3	IH 94 WB	1	20	1	20	3 PCMS, 1 FBS
			PROJECT TOTALS				52	

#### PORTABLE AUTOMATED REAL-TIME TRAFFIC QUEUE WARNING SYSTEM

APPROX. SERVICE

				DISTANCE	PERIOD	643.1	1200.S	
CATEGORY	ZONE	STAGE	PROJECT LOCATION	(MILES)	DAYS	QTY.	DAYS	NOTES
0010	NORTH	1	IH 94 EB	6	4	6	24	6 PCMS; PCMS #1 LOCATED NORTH OF CTH C OFF RAMP
	NORTH	1	IH 94 WB	8	4	8	32	8 PCMS; PCMS #1 LOCATED SOUTH OF STH 82 OFF RAMP
	SOUTH	1	IH 94 EB	6	4	6	24	6 PCMS; PCMS #1 LOCATED NORTH OF CTH HH OFF RAMP
	SOUTH	1	IH 94 WB	7	4	7	28	7 PCMS; PCMS #1 LOCATED SOUTH OF USH 12 OFF RAMP
	NORTH	2	IH 94 EB	5	3	5	15	4 PCMS; PCMS #1 LOCATED NORTH OF CTH C OFF RAMP
	NORTH	2	IH 94 WB	7	3	7	21	6 PCMS; PCMS #1 LOCATED SOUTH OF STH 82 OFF RAMP
	SOUTH	2	IH 94 EB	5	10	5	50	4 PCMS; PCMS #1 LOCATED NORTH OF CTH HH OFF RAMP
	SOUTH	2	IH 94 WB	6	10	6	60	5 PCMS; PCMS #1 LOCATED SOUTH OF USH 12 OFF RAMP
	NORTH	3	IH 94 EB	5	3	5	15	4 PCMS; PCMS #1 LOCATED NORTH OF CTH C OFF RAMP
	NORTH	3	IH 94 WB	7	3	7	21	6 PCMS; PCMS #1 LOCATED SOUTH OF STH 82 OFF RAMP
	SOUTH	3	IH 94 EB	5	10	5	50	4 PCMS; PCMS #1 LOCATED NORTH OF CTH HH OFF RAMP
	SOUTH	3	IH 94 WB	6	10	6	60	5 PCMS; PCMS #1 LOCATED SOUTH OF USH 12 OFF RAMP
	NORTH	4	IH 94 EB	6	4	6	24	6 PCMS; PCMS #1 LOCATED NORTH OF CTH C OFF RAMP
	NORTH	4	IH 94 WB	8	4	8	32	8 PCMS; PCMS #1 LOCATED SOUTH OF STH 82 OFF RAMP
	SOUTH	4	IH 94 EB	6	3	6	18	6 PCMS; PCMS #1 LOCATED NORTH OF CTH HH OFF RAMP
	SOUTH	4	IH 94 WB	7	3	7	21	7 PCMS; PCMS #1 LOCATED SOUTH OF USH 12 OFF RAMP

#### PERMANENT MARKINGS

			646.1 MARKIN		646.3020	
			EPOXY -		MARKING LINE EPOXY 8-INCH	
CATECORY	CTA CE	CTATION	YELLOW		<u>WHITE</u>	CON AN AFRITC
CATEGORY	STAGE	STATION	LF	LF	LF	COMMENTS
0010	3	564+91 WB - 567+32 WB, RT	241	_	_	MEDIAN SHOULDER
	3	569+12 WB - 575+47 WB, RT	635	_	-	MEDIAN SHOULDER
	3	561+06 EB - 567+43 EB. LT	637	=	-	MEDIAN SHOULDER
	3	569+22 EB - 571+62 EB, LT	240	-	-	MEDIAN SHOULDER
	3	1819+05 WB - 1821+41 WB, RT	236	-	=	MEDIAN SHOULDER
	3	1823+58 WB - 1828+83 WB, RT	525	-	-	MEDIAN SHOULDER
	3	1815+63 EB - 1820+67 EB, LT	504	-	-	MEDIAN SHOULDER
	3	1822+84 EB - 1825+22 EB, LT	238	=	-	MEDIAN SHOULDER
		STAGE 3 SUBTOTALS	3256	0	0	
	4	564+91 WB - 567+26 WB, LT	_	235	-	OUTSIDE SHOULDER
	4	571+12 WB - 575+77 WB, LT	-	-	1144	RAMP GORE
	4	561+06 EB - 567+48 EB, RT	-	642	-	OUTSIDE SHOULDER
	4	569+27 EB - 570+78 EB, RT	-	151	-	OUTSIDE SHOULDER
	4	1819+05 WB - 1821+69 WB, LT	-	264	=	OUTSIDE SHOULDER
	4	1823+86 WB - 1827+54 WB, LT	-	368	-	OUTSIDE SHOULDER
	4	1815+69 EB - 1820+40 EB, RT	-	471	-	OUTSIDE SHOULDER
	4	1822+57 EB - 1825+19 EB, RT	-	262	-	OUTSIDE SHOULDER
		STAGE 4 SUBTOTALS	0	2393	1144	
		PROJECT TOTALS	56	49	1144	

COUNTY: JUNEAU SHEET Ε PROJECT NO: 1016-01-64 HWY: IH 90/94 MISCELLANEOUS QUANTITIES

\\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 06 FILE NAME :

PLOT DATE: 7/29/2021 9:33 AM

PLOT BY: CLARISSA HOETH

PLOT NAME :

PLOT SCALE : 1" = 1'

PROJECT TOTALS

495

#### TEMPORARY MARKINGS

			TEMPORAR	0150 Y MARKING MOVABLE	649.0250 TEMPORARY MARKING LINE REMOVABLE	649.0970 TEMPORARY MARKING REMOVABLE	
				1-INCH	TAPE 8-INCH	MASK OUT	
			<u>YELLOW</u>	<u>WHITE</u>	<u>WHITE</u>	TAPE 10-INCH	
CATEGORY	STAGE	STATION	LF	LF	LF	LF	COMMENTS
0010	2	562+59 WB - 577+21 WB	1058	1463	-	-	B-29-45
	2	561+06 EB - 572+64 EB	1057	1159	-	-	B-29-44
	2	1816+04 WB - 1832+71 WB	979	1669	-	-	B-29-19
	2	1815+63 EB - 1826+36 EB	957	1073	-	-	B-19-18
	2	ENTRANCE RAMP TAPER	167	1761	276	585	B-29-19
		STAGE 2 SUBTOTALS	4218	7125	276	585	
	3	563+75 WB - 575+78 WB	1204	1117	-	-	B-29-45
	3	560+75 EB - 573+87 EB	1249	1311	-	-	B-29-44
	3	1817+75 WB - 1828+85 WB	1110	1009	-	-	B-29-19
	3	1815+39 EB - 1826+76 EB	1135	1007	-	-	B-19-18
		STAGE 3 SUBTOTALS	4698	4444	0	0	
	4	ENTRANCE RAMP TAPER	167	1761	276	585	B-29-19
		STAGE 4 SUBTOTALS	167	1761	276	585	
		PROJECT TOTALS	22,	413	552	1,170	

#### <u>SAWCUT</u>

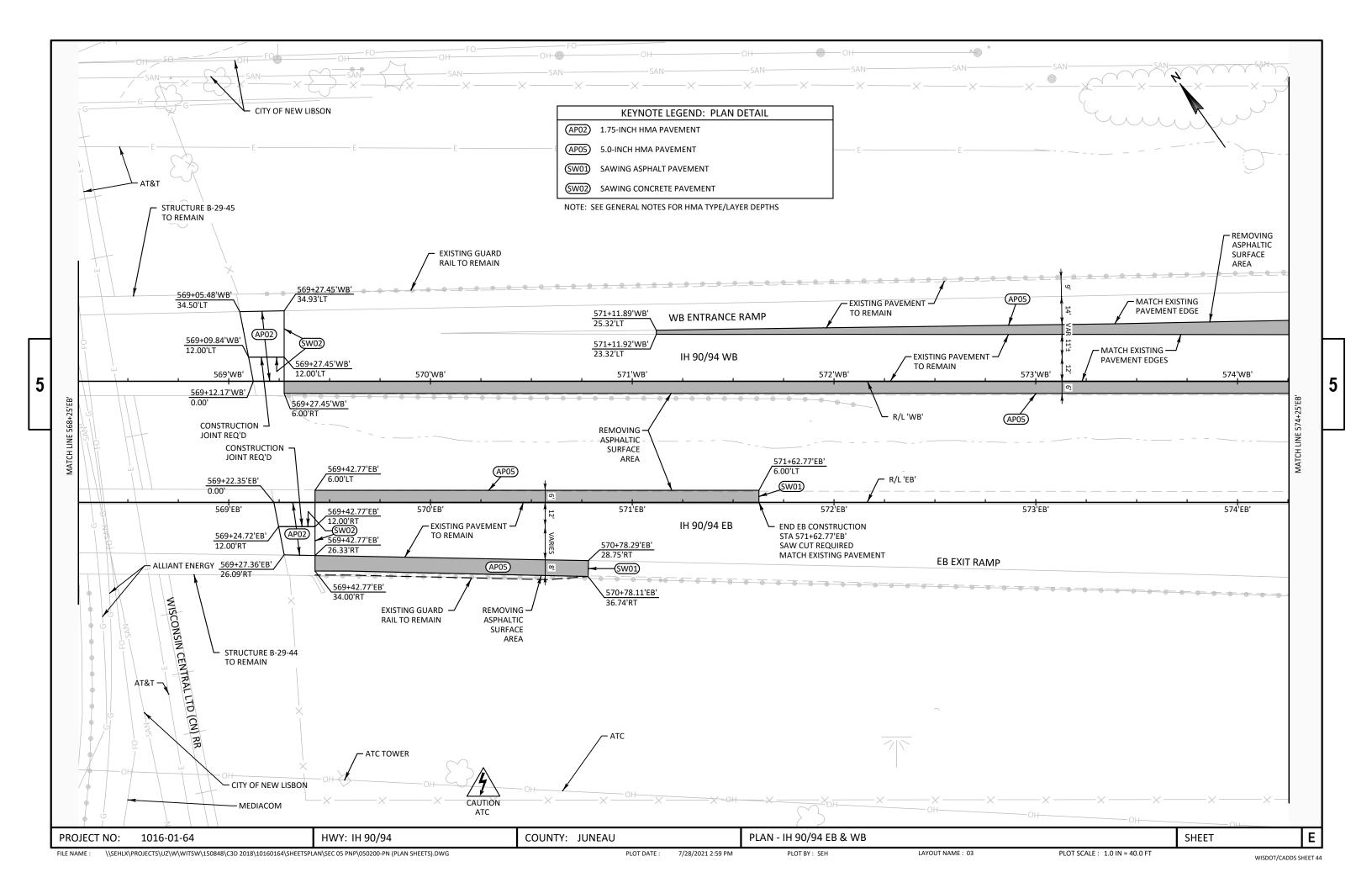
			690.0150 SAWING <u>ASPHALT</u>	690.0250 SAWING <u>CONCRETE</u>	
CATEGORY	STAGE	STATION	LF	LF	COMMENTS
0010	1	564+91 WB	6	-	MEDIAN SHOULDER
	1	575+47 WB	6	-	MEDIAN SHOULDER
	1	561+06 EB	6	=	MEDIAN SHOULDER
	1	571+63 EB	6	-	MEDIAN SHOULDER
	1	1819+05 WB	6	-	MEDIAN SHOULDER
	1	1828+84 WB	6	-	MEDIAN SHOULDER
	1	1815+63 EB	6	-	MEDIAN SHOULDER
	1	1825+22 EB	6	-	MEDIAN SHOULDER
		STAGE 1 SUBTOTALS	48	0	
	2	564+91 WB	6	-	MEDIAN SHOULDER
	2	567+11 WB - 567+29 WB	-	37	APPROACH SLAB B-29-
	2	569+09 WB - 569+27 WB	-	41	APPROACH SLAB B-29-
	2	571+11 WB - 575+77 WB	943	-	ON RAMP GORE
	2	561+06 EB	8	-	OUTSIDE SHOULDER
	2	567+28 EB - 567+44 EB	-	32	APPROACH SLAB B-29-
	2	569+24 EB - 569+43 EB	-	33	APPROACH SLAB B-29-
	2	570+78 EB	8	-	OUTSIDE SHOULDER
	2	1819+05 WB	8	-	OUTSIDE SHOULDER
	2	1821+25 WB - 1821+53 WB	-	42	APPROACH SLAB B-29-
	2	1823+71 WB - 1824+23 WB	-	66	APPROACH SLAB B-29-
	2	1827+55 WB	5	-	OUTSIDE SHOULDER
	2	1815+69 EB	8	_	OUTSIDE SHOULDER
	2	1820+15 EB - 1820+54 EB	_	53	APPROACH SLAB B-29-
	2	1822+71 EB - 1822+99 EB	_	42	APPROACH SLAB B-29-
	2	1825+19 EB	8	-	OUTSIDE SHOULDER
•		STAGE 2 SUBTOTALS	994	346	
	3	567+11 WB - 567+29 WB	_	12	APPROACH SLAB B-29-
	3	569+09 WB - 569+27 WB	_	12	APPROACH SLAB B-29-
	3	567+26 EB - 567+44 EB	_	12	APPROACH SLAB B-29-
	3	569+24 EB -569+43 EB	_	12	APPROACH SLAB B-29-
		1820+99 WB - 1821+25 WB			APPROACH SLAB B-29-
	3 3	1824+01 WB		39 12	APPROACH SLAB B-29-
	3	1820+24 EB	-	12	APPROACH SLAB B-29-
	3	1822+99 EB - 1823+02 EB	-	15	APPROACH SLAB B-29-
	ی	STAGE 3 SUBTOTALS	0	126	ALL NOACH SEAD B-23-

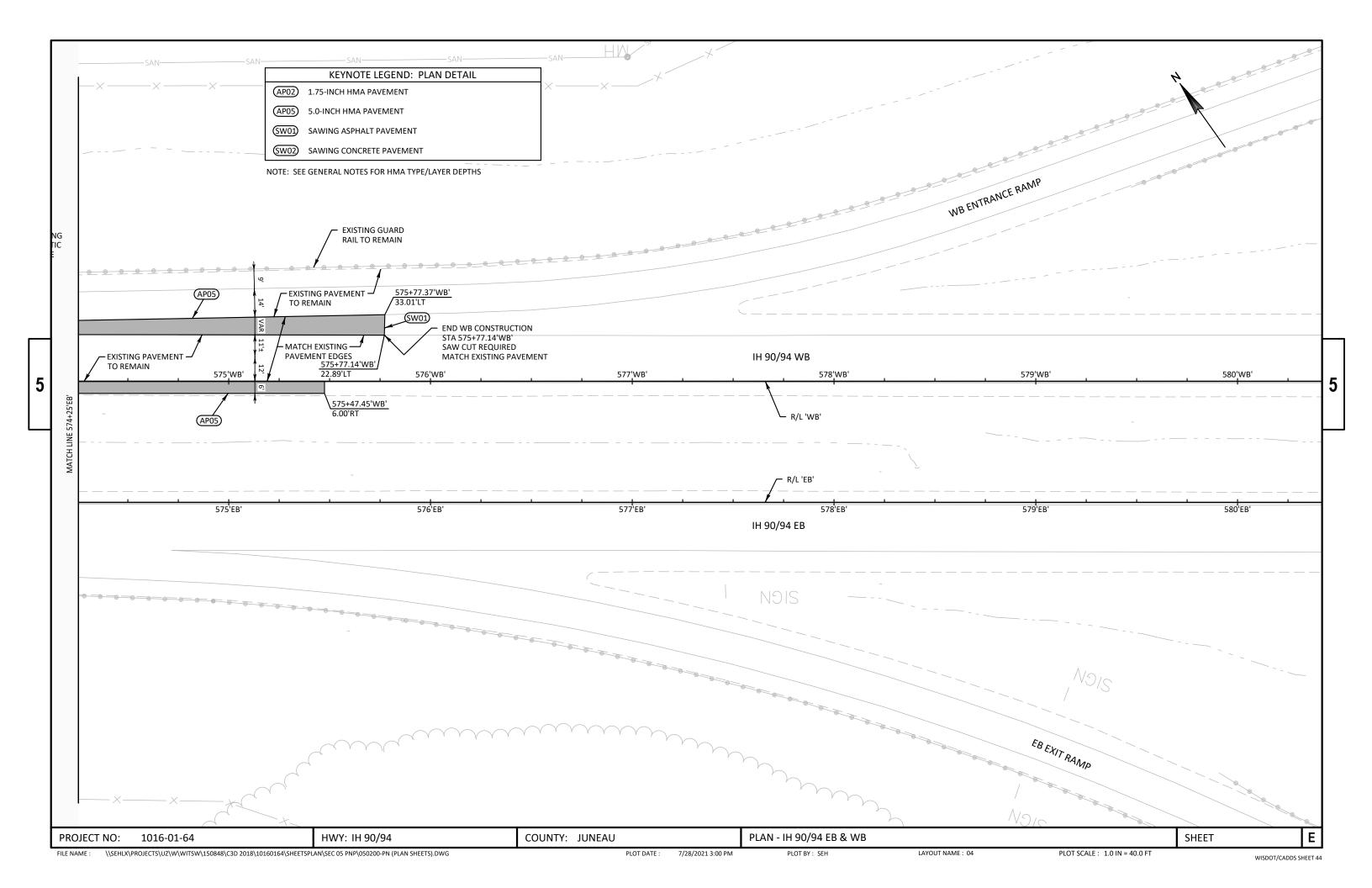
COUNTY: JUNEAU SHEET E HWY: IH 90/94 PROJECT NO: 1016-01-64 MISCELLANEOUS QUANTITIES \\SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 03 MIS QTY\030201-MQ.DWG LAYOUT NAME - 07 PLOT BY: CLARISSA HOETH FILE NAME : PLOT DATE : 7/29/2021 10:50 AM PLOT NAME : PLOT SCALE : 1" = 1' WISDOT/CADDS SHEET 42

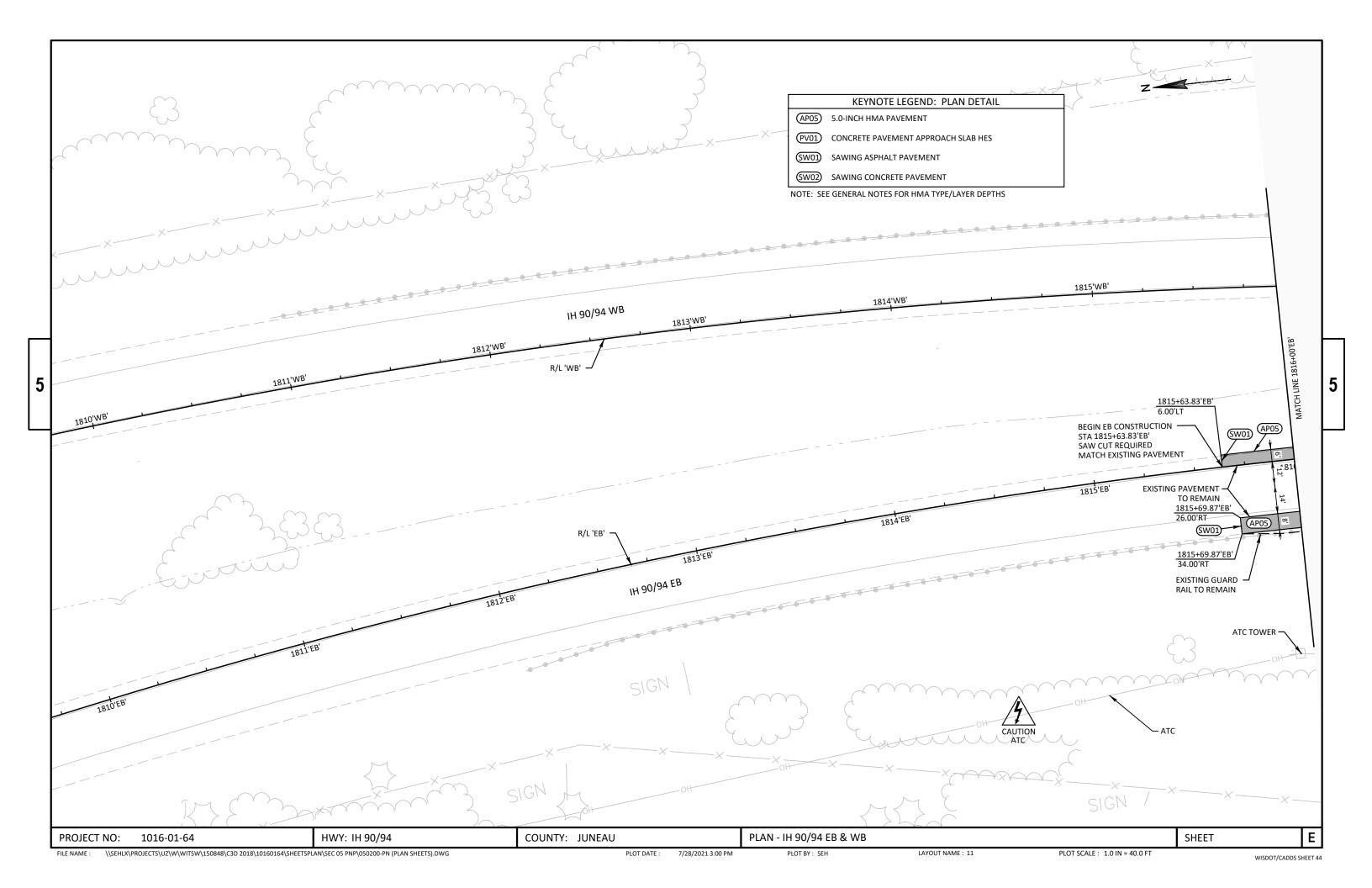
WISDOT/CADDS SHEET 44

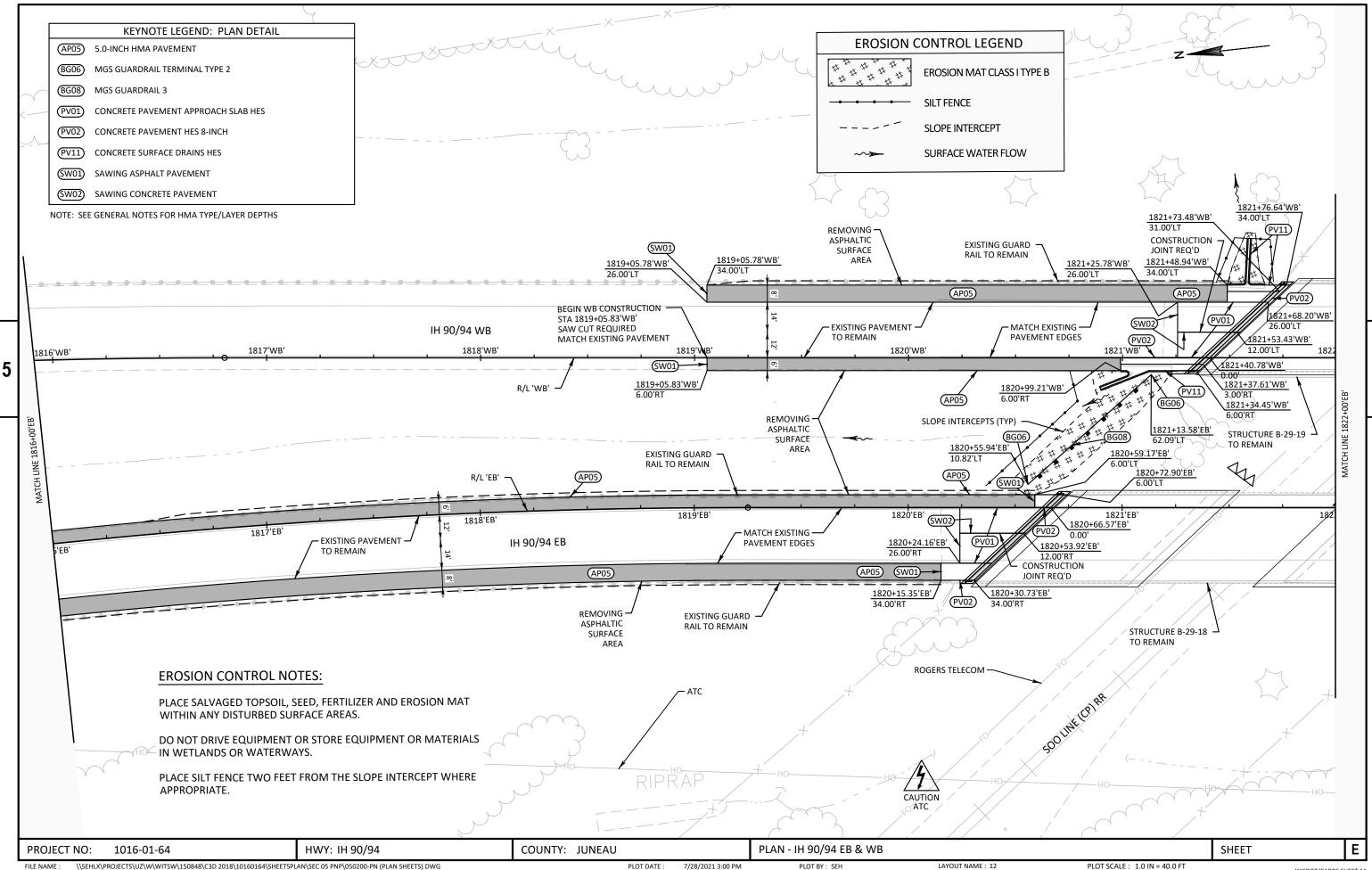
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WISDOT/CADDS SHEET 44

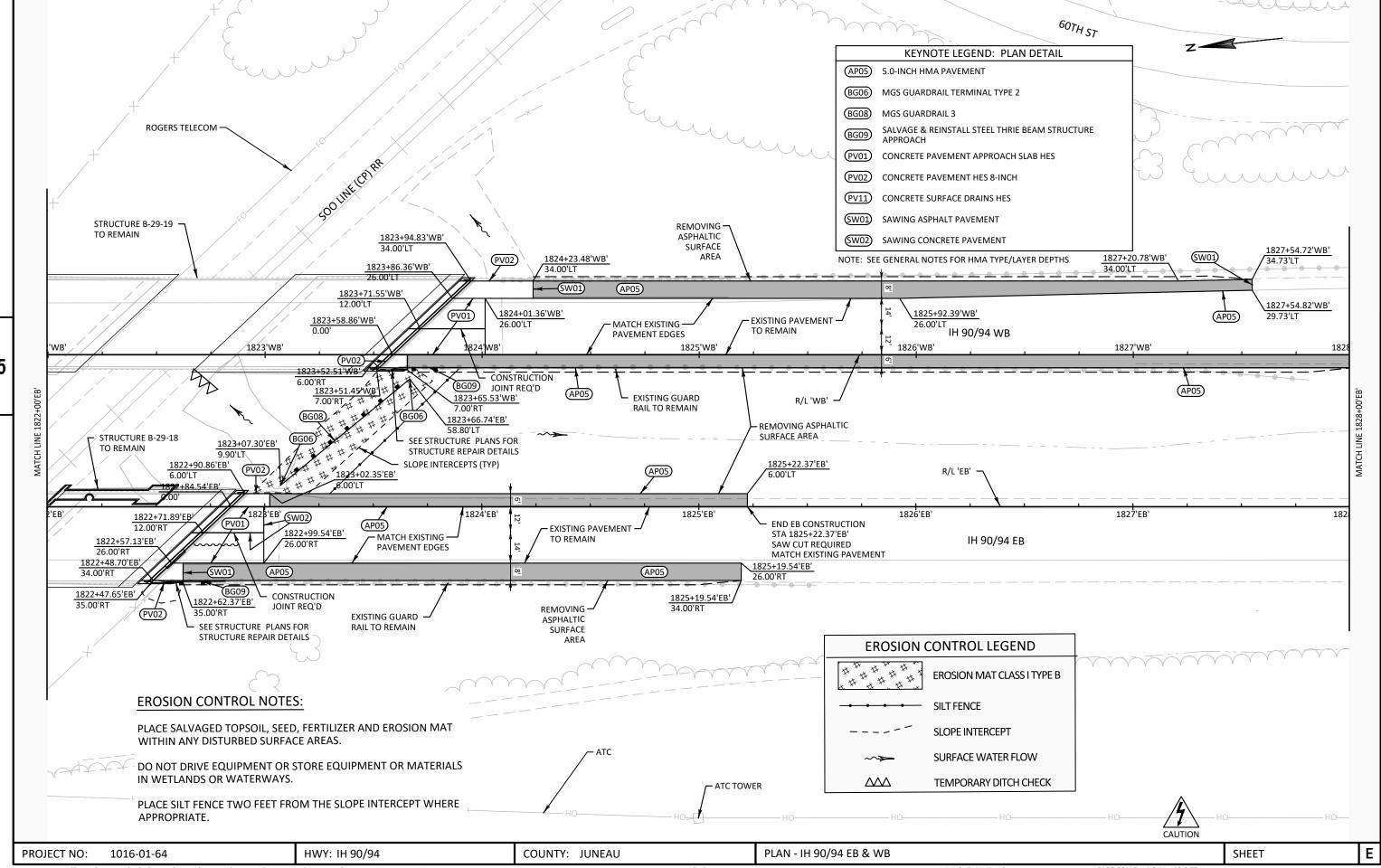




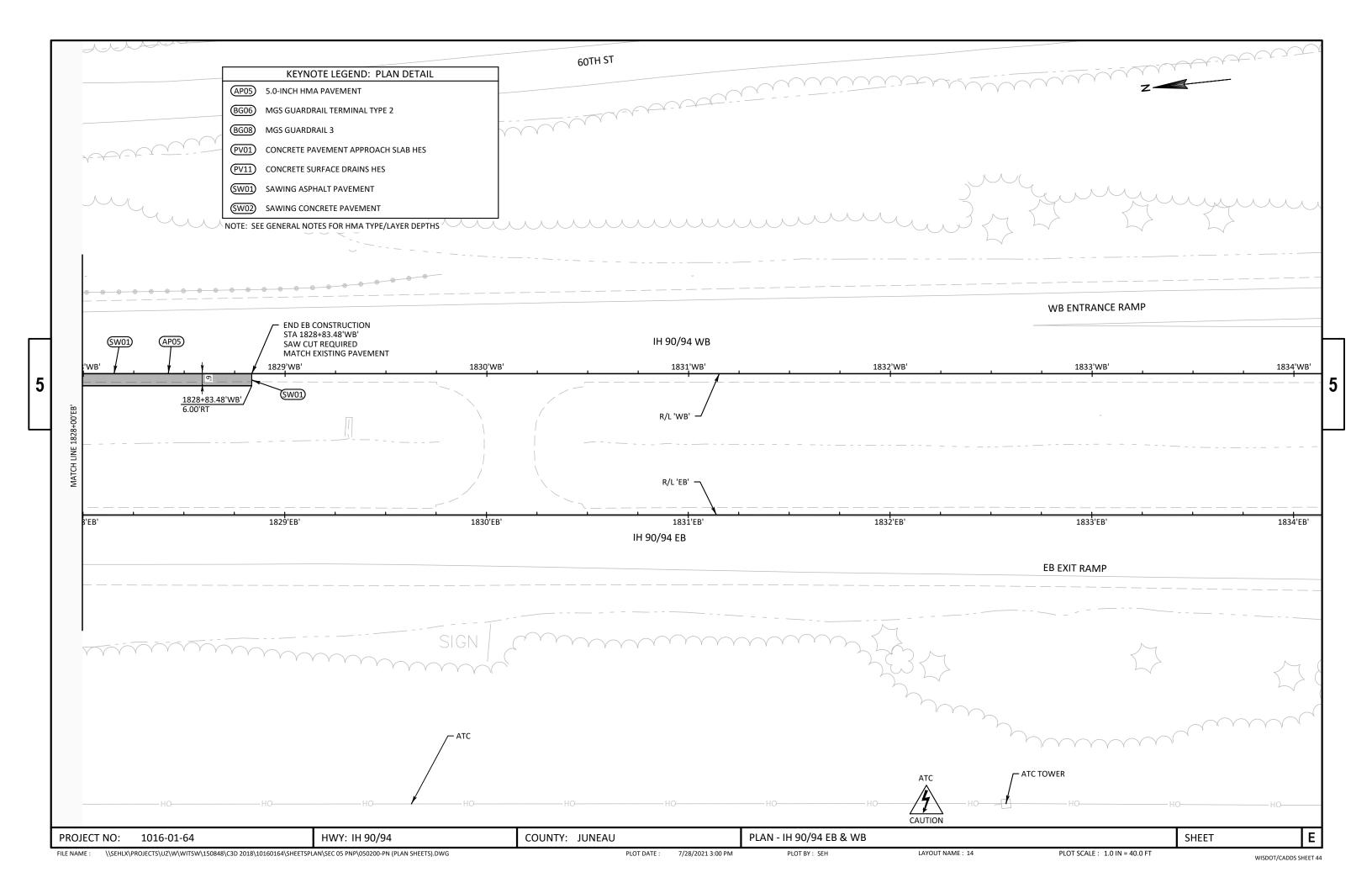




WISDOT/CADDS SHEET 44



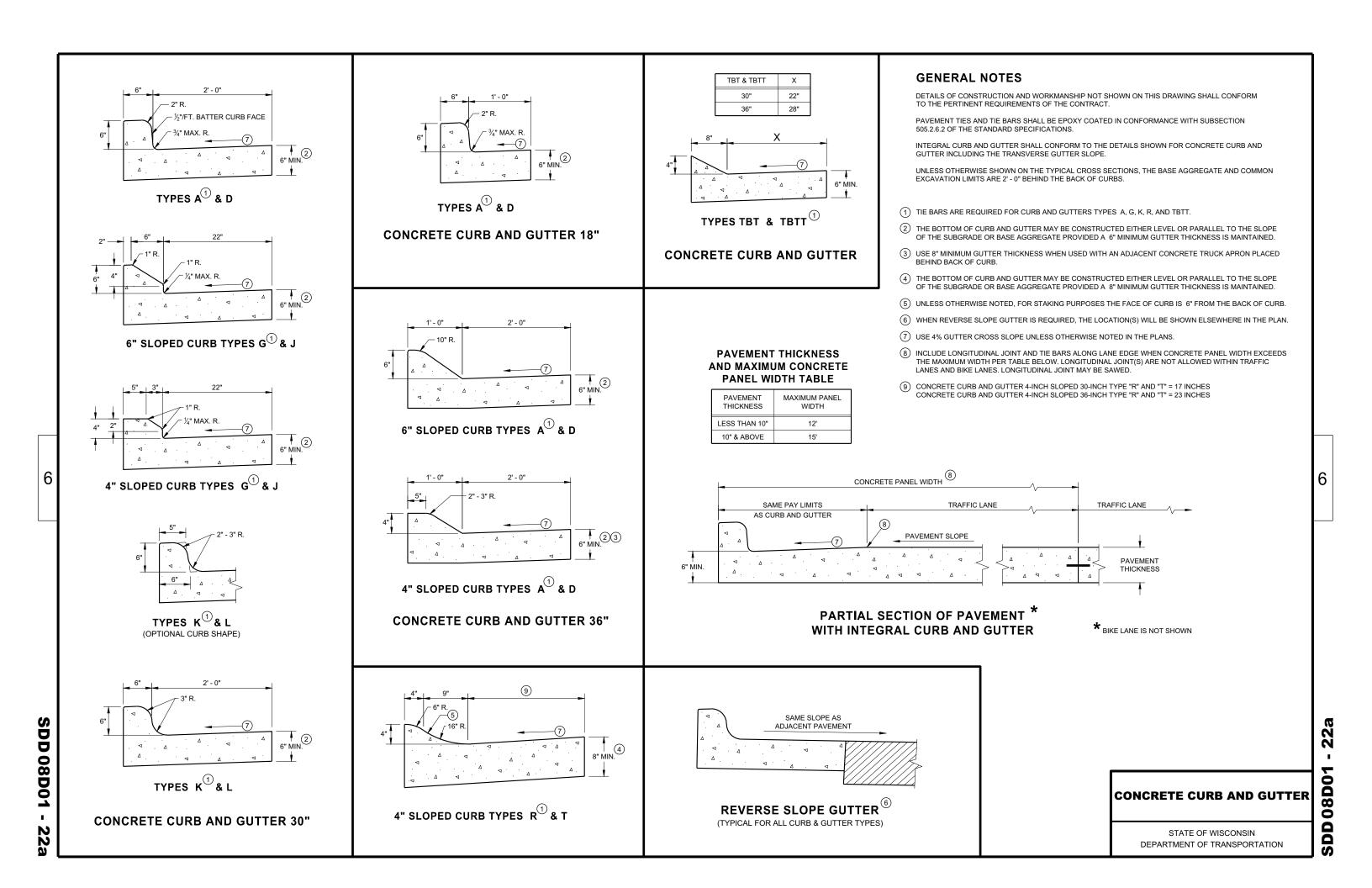
FILE NAME: \SEHLX\PROJECTS\UZ\W\WITSW\150848\C3D 2018\10160164\SHEETSPLAN\SEC 05 PNP\050200-PN (PLAN SHEETS).DWG PLOT DATE: 7/28/2021 3:00 PM PLOT BY: SEH LAYOUT NAME: 13 PLOT SCALE: 1.0 IN = 40.0 FT WISDOT/CADDS SHEET 44



## Standard Detail Drawing List

08D01-22A	CONCRETE CURB & GUTTER
08D01-22B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D02-07A	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07в	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08D02-07C	CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
13B02-09A	CONCRETE PAVEMENT APPROACH SLAB
13в02-09в	STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB
14B07-15A	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14в07-15в	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14в07-15C	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15D	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15E	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15F	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14в07-15G	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14в07-15н	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B07-15I	CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"
14B08-02A	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14в08-02в	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14в08-02С	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02D	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B08-02E	CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS
14B20-11A	STEEL THRIE BEAM STRUCTURE APPROACH
14B20-11B	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS
14B20-11C	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS
14B20-11D	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS
14B20-11E	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"
14B20-11F	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"
14B20-11G	STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL
14в20-11н	STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT
14B42-07A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14в42-07в	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14в42-07С	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-07D	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B47-02A	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14в47-02в	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
14B47-02C	MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL
15C02-08A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-08B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-08C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-08D	ON RAMP LANE CLOSURE
15C02-08F	ADVANCED WIDTH RESTRICTION SIGNING
15C08-20A	LONGITUDINAL MARKING (MAINLINE)
15C11-08B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C31-03A	PAVEMENT MARKING (RAMPS AND GORES)
15C31-04A	PAVEMENT MARKING EXIT RAMP AND PARALLEL EXIT RAMP
15C31-04C	PAVEMENT MARKING ENTRANCE RAMP AND PARALLEL ENTRANCE RAMP
15D12-09C	DYNAMIC LATE MERGE SYSTEM
15D12-09E	TRAFFIC CONTROL, LANE CLOSURE, TRAFFIC QUEUE WARNING SYSTEM
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS
15D40-02D	TRAFFIC CONTROL, PARTIAL LANE SHIFT MULTILANE DIVIDED 50 MPH AND GREATER

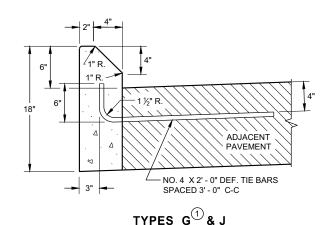
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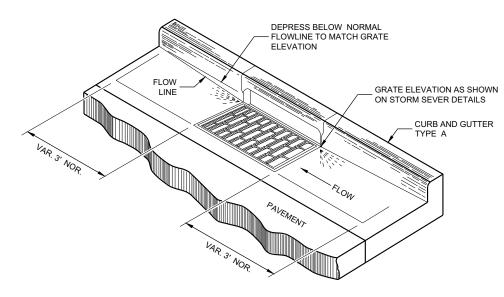
#### **DETAIL OF CURB AND GUTTER AT INLETS** (TYPICAL H INLET COVER SHOWN)

½"/FT. BATTER, FACE OF CURB (ABOVE ADJACENT PAVEMENT) ADJACENT PAVEMENT - NO. 4 X 2' - 0" DEF. TIE BARS

TYPES A D



**CONCRETE CURB** 



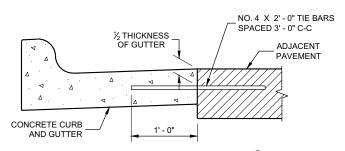
#### **GENERAL NOTES**

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

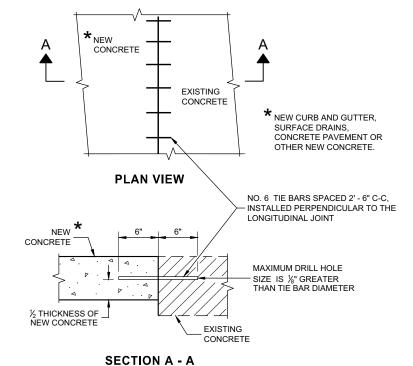
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'- 0" BEHIND THE BACK OF CURBS.

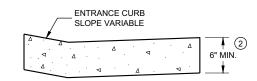
- 1) TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- 2 THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- 9 REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION  $^{\scriptsize{\scriptsize{\scriptsize{\scriptsize{\scriptsize{1}}}}}}$ 



**TIE BARS DRILLED** INTO EXISTING PAVEMENT



DRIVEWAY ENTRANCE CURB® (WHEN DIRECTED BY THE ENGINEER)

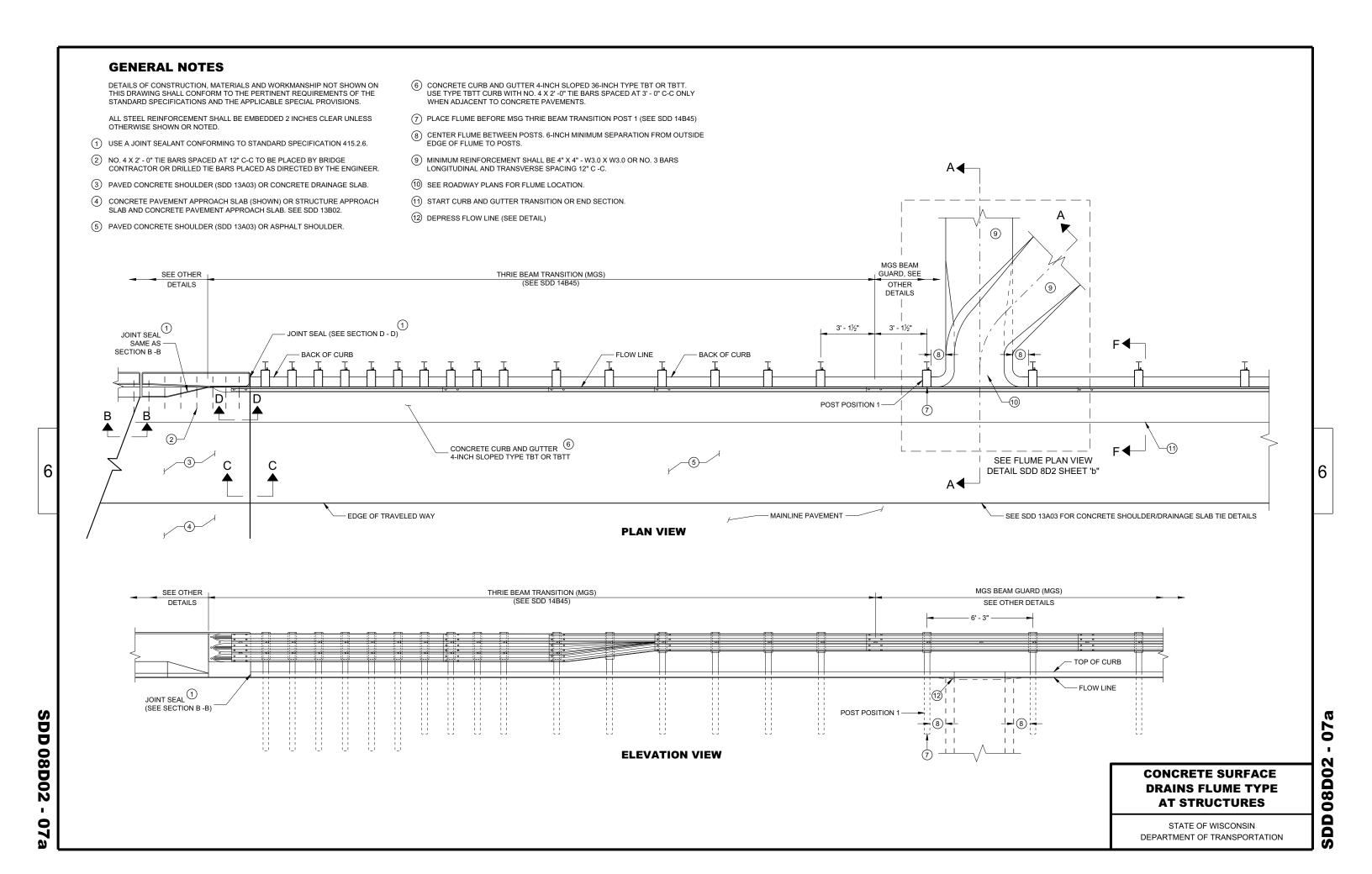
#### **CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

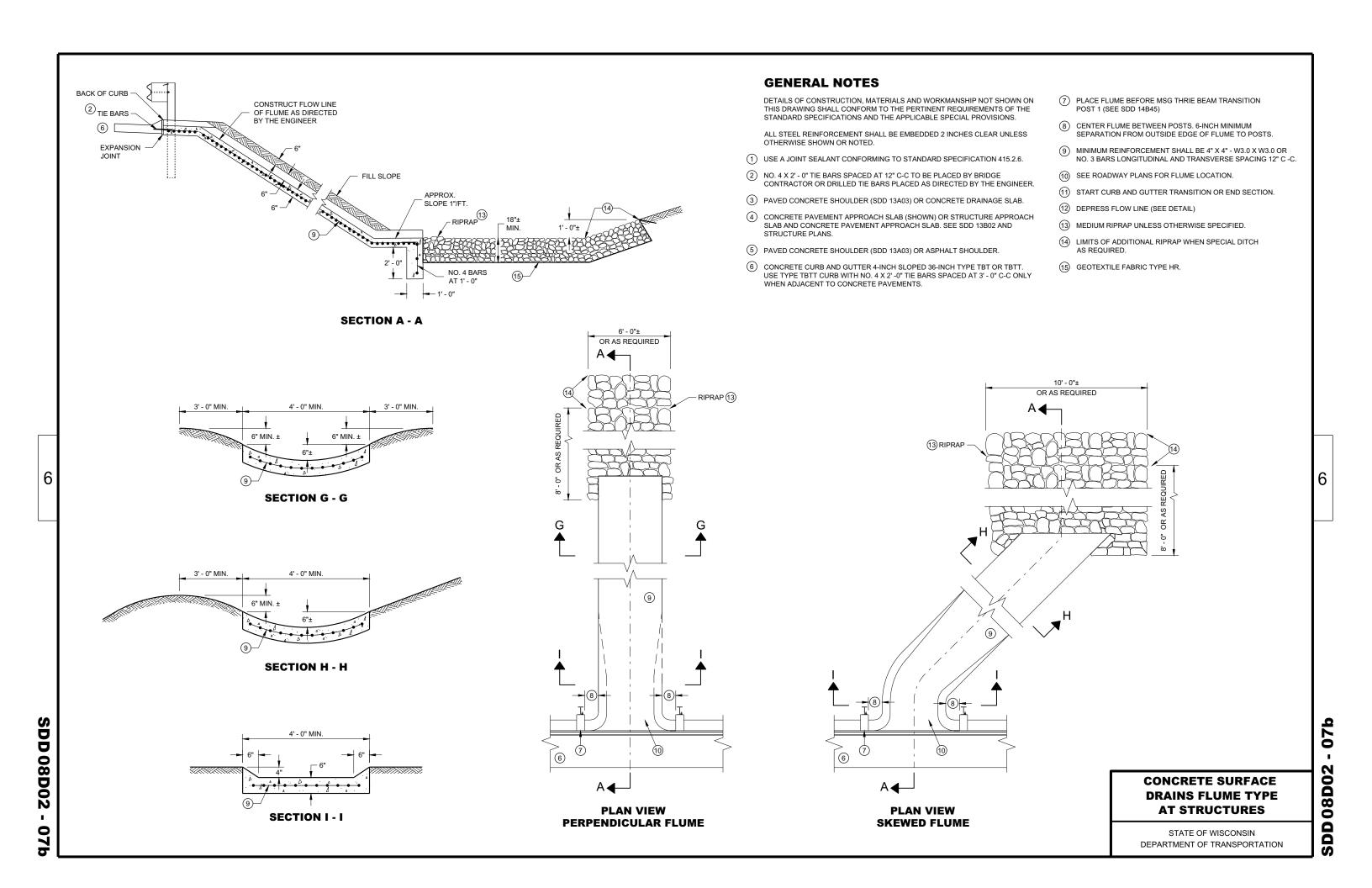
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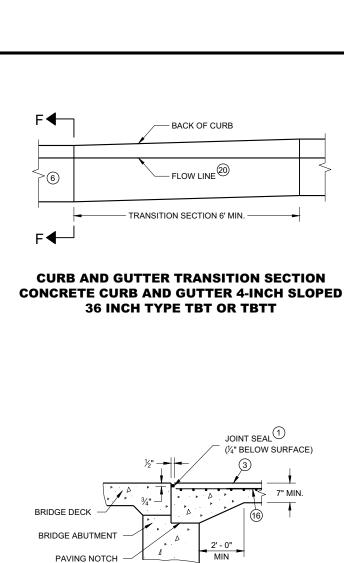
**08DO** 

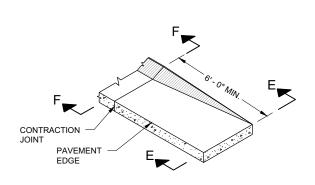
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED /S/ Rodnery Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER February 2021 DATE

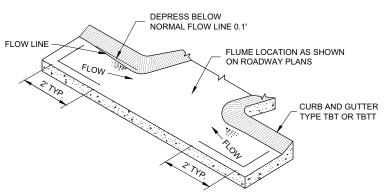




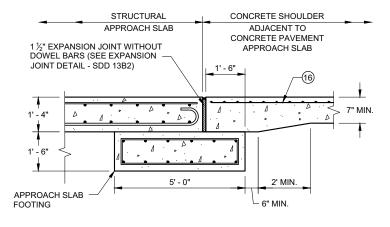




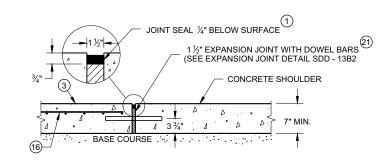
**CURB AND GUTTER END SECTION CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT** 



**CURB AND GUTTER FLOW LINE DEPRESSION** AT FLUMES CONCRETE CURB AND GUTTER 4-INCH SLOPED 36 INCH TYPE TBT OR TBTT



**SECTION C - C** JOINT DETAIL FOR BRIDGE WITH STRUCTURAL APPROACH SLAB AND CONCRETE APPROACH SLAB



**SECTION C - C** JOINT DETAIL FOR BRIDGE APPROACH WITH CONCRETE SHOULDERS

(3) PAVED CONCRETE SHOULDER (SDD 13A03) OR CONCRETE DRAINAGE SLAB.

(4) CONCRETE PAVEMENT APPROACH SLAB (SHOWN) OR STRUCTURE APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB. SEE SDD 13B02 AND STRUCTURE PLANS.

(1) USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 415.2.6.

(2) NO. 4 X 2' - 0" TIE BARS SPACED AT 12" C-C TO BE PLACED BY BRIDGE

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON

CONTRACTOR OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE

STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS

(5) PAVED CONCRETE SHOULDER (SDD 13A03) OR ASPHALT SHOULDER.

(6) CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE TBT OR TBTT. USE TYPE TBTT CURB WITH NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" C-C ONLY WHEN ADJACENT TO CONCRETE PAVEMENTS.

7 PLACE FLUME BEFORE MSG THRIE BEAM TRANSITION POST 1 (SEE SDD 14B45)

8 CENTER FLUME BETWEEN POSTS. 6-INCH MINIMUM SEPARATION FROM OUTSIDE EDGE OF FLUME TO POSTS.

9 MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C -C.

(10) SEE ROADWAY PLANS FOR FLUME LOCATION.

**GENERAL NOTES** 

(11) START CURB AND GUTTER TRANSITION OR END SECTION.

(12) DEPRESS FLOW LINE (SEE DETAIL)

(13) MEDIUM RIPRAP UNLESS OTHERWISE SPECIFIED.

(14) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

(15) GEOTEXTILE FABRIC TYPE HR.

(16) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C - C.

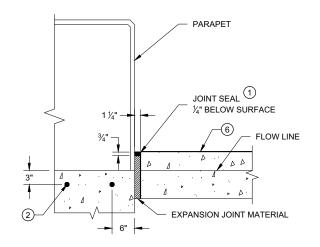
(7) MSG THRIE BEAM TRANSITION POST 1. SEE SDD 14B45 FOR ADDITIONAL CONSTRUCTION DETAILS AND ACCEPTABLE MATERIALS.

(18) MAINTAIN WIDTH, THICKNESS AND CROSS SLOPE OF ADJACENT TYPE TBT OR TBTT CURB. SEE NOTE 6 FOR TIE BAR SPACING.

(19) ALIGN FACE OF POST BLOCK WITH FLOW LINE.

20 MAINTAIN FLOW LINE AT EDGE OF PAVEMENT/FACE OF BEAM GUARD AS APPLICABLE.

(21) DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING HMA PAVEMENTS.



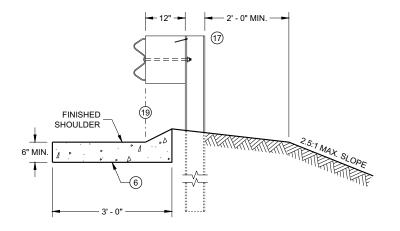
**SECTION D - D** 

SECTION B-B

**FINISHED** SHOULDER 6" MIN

**SECTION E - E** 

2' - 0" MIN. —



**SECTION F - F** 

#### **CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES**

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT
ENGINEER

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**SDD 08D02** 0

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February 2020 DATE

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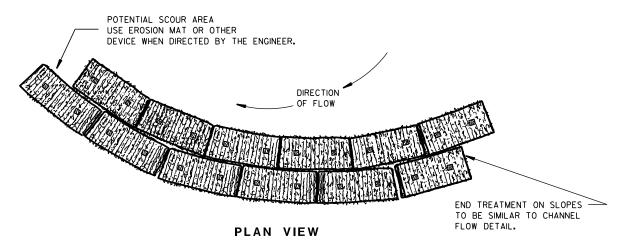
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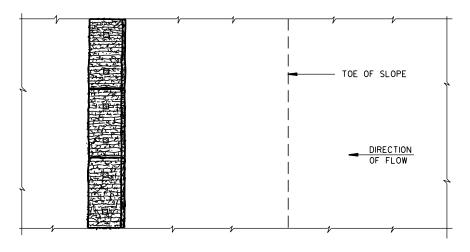
#### **GENERAL NOTES**

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.

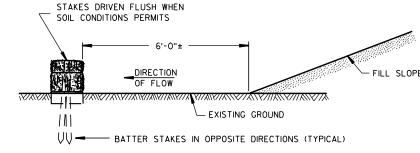
1 TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.



WHEN ALTERING THE DIRECTION OF FLOW



#### PLAN VIEW



#### FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

**EROSION BALES FOR SHEET FLOW** 

# TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE / CHIEF ROADWAY DEVELOPMENT ENGINEER

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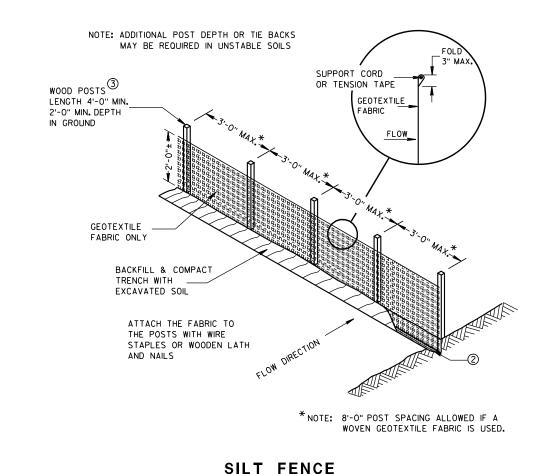
## TYPICAL APPLICATION OF SILT FENCE

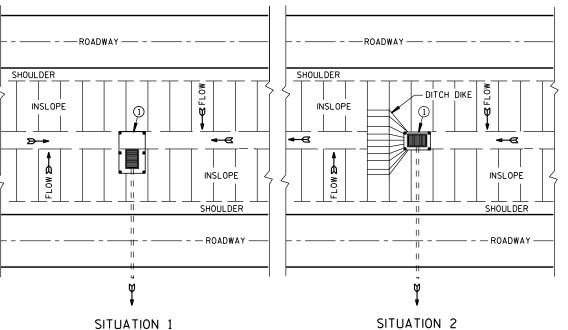
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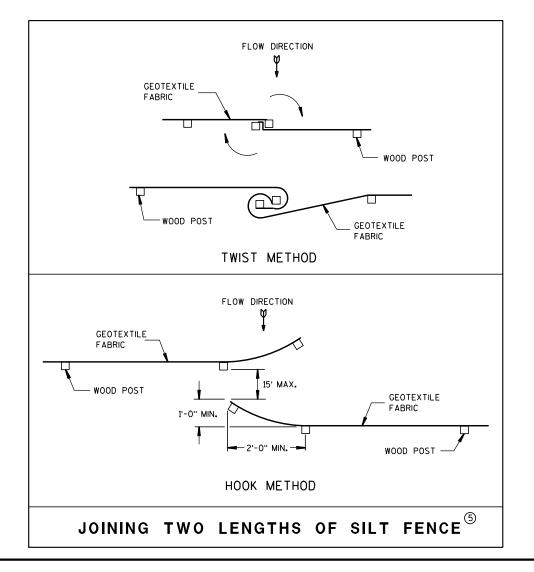
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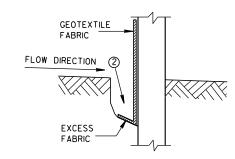
## PLAN VIEW SILT FENCE AT MEDIAN SURFACE DRAINS



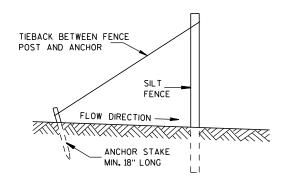
#### GENERAL NOTES

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)

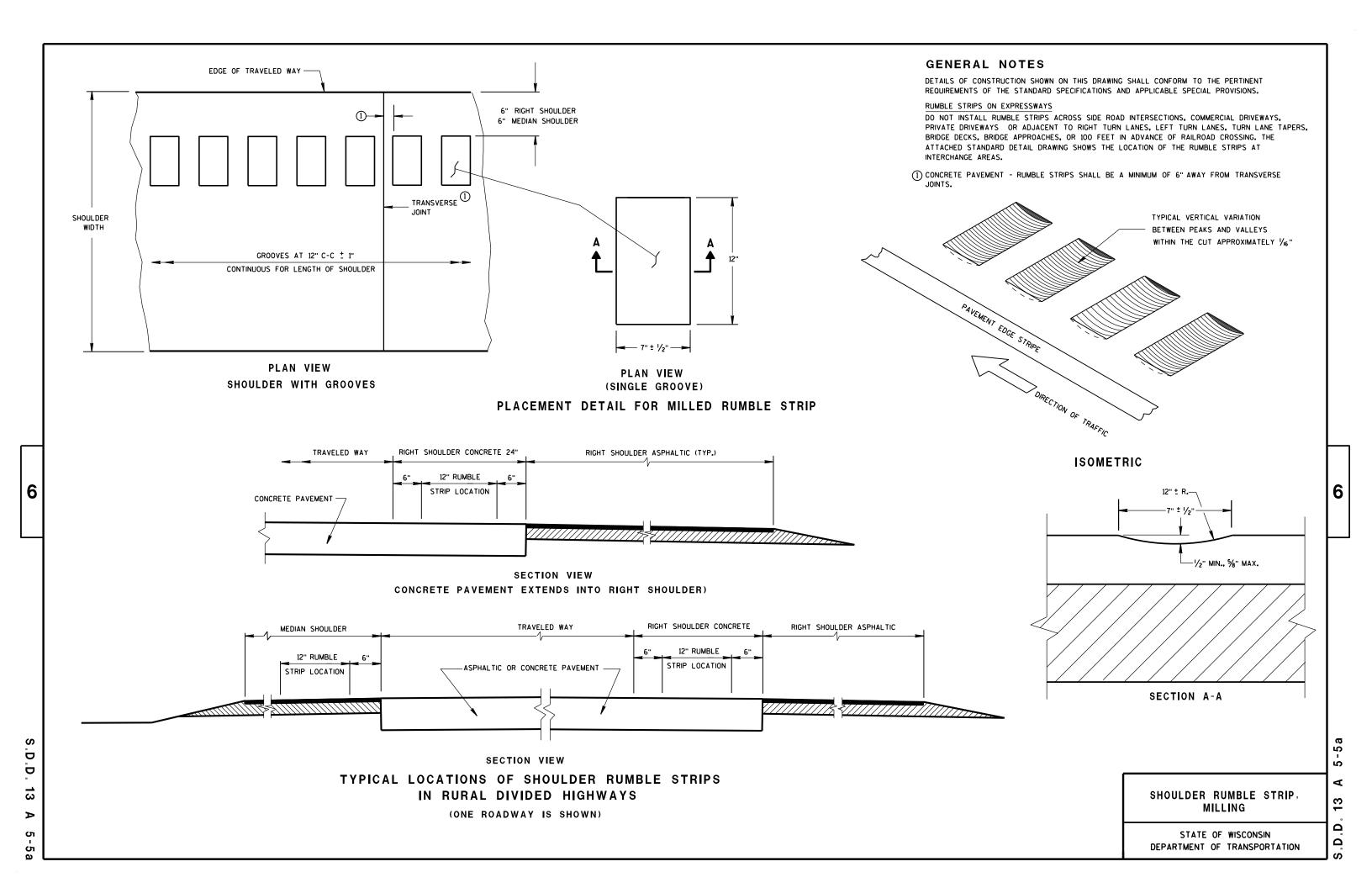
SILT FENCE

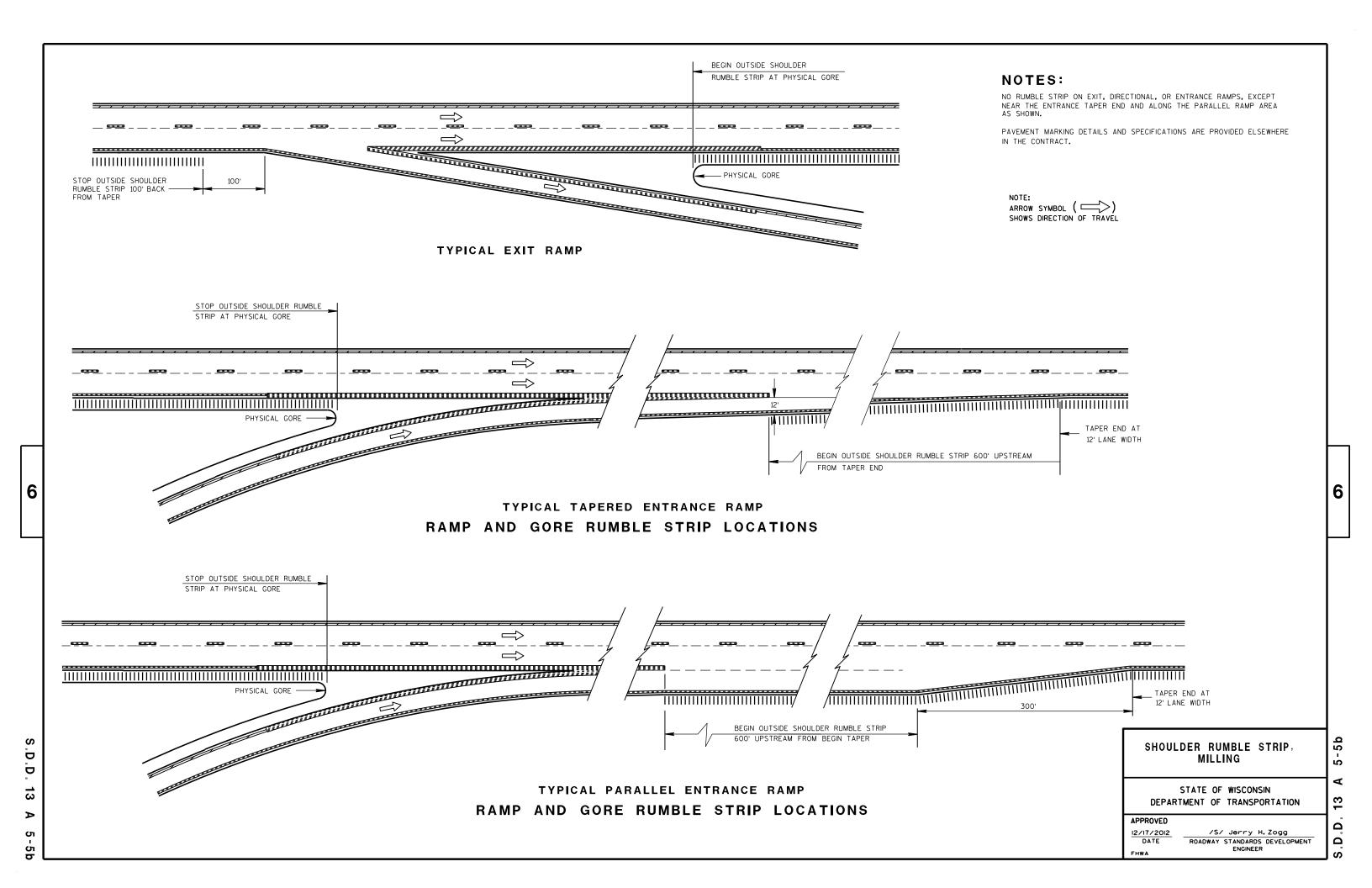
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

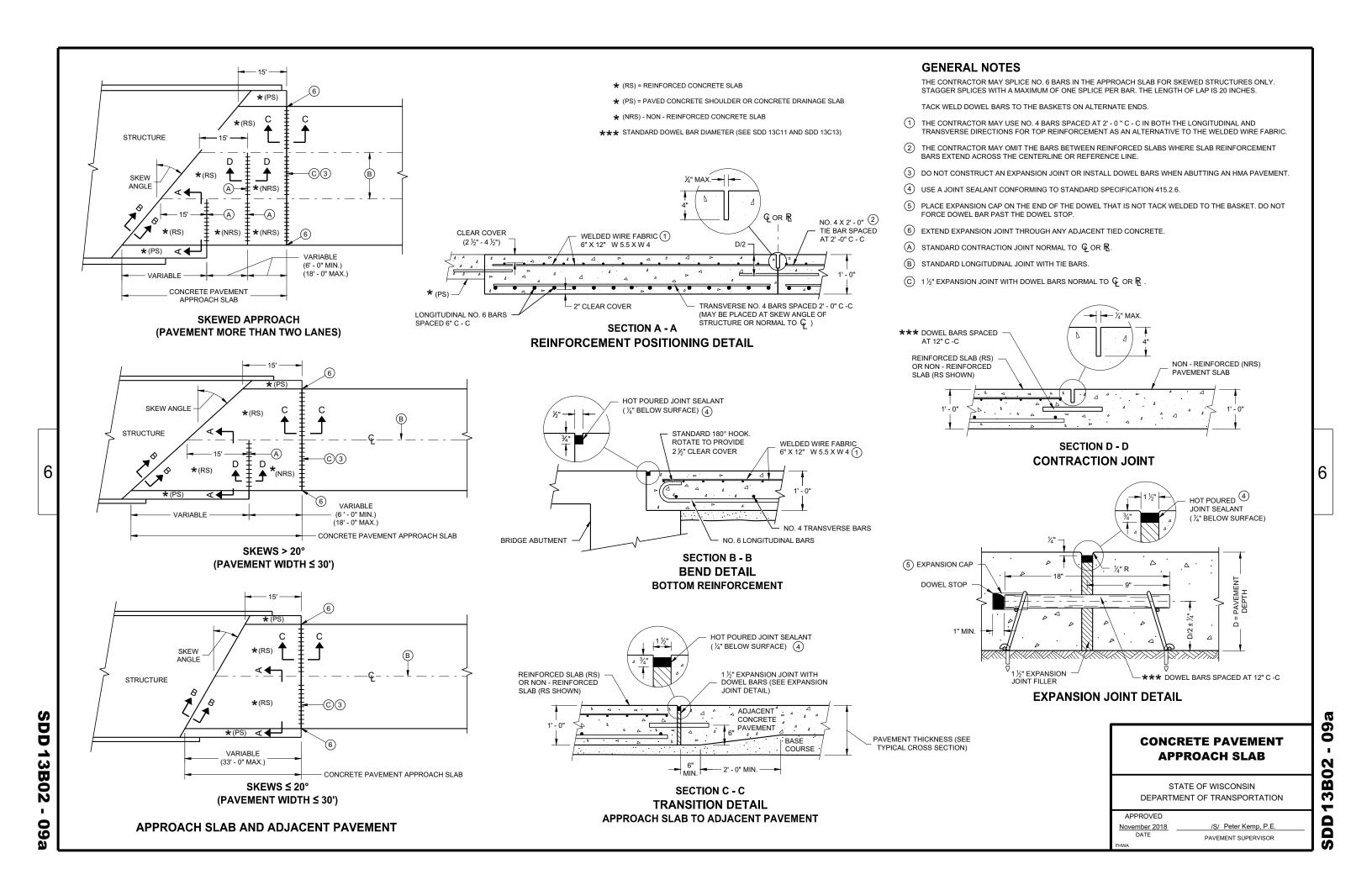
**APPROVED** 4-29-05

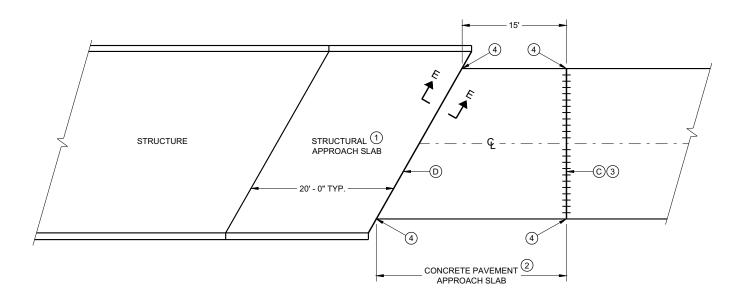
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER 6

3.D.D. 8 E 9-6

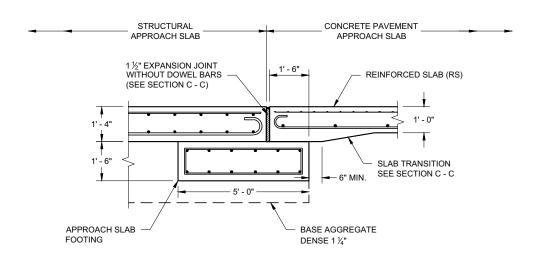








#### **BRIDGE APPROACHES**



SECTION E - E
FOOTING DETAIL
STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

#### **GENERAL NOTES**

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

- (1) SEE BRIDGE PLAN.
- (2) CONFORM TO SDD 13B02 SHEET A FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS
- $\bigcirc$  DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- 4 EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.
- © 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO GOR R.
- D 1 ½" EXPANSION JOINT (NO DOWELS)

STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

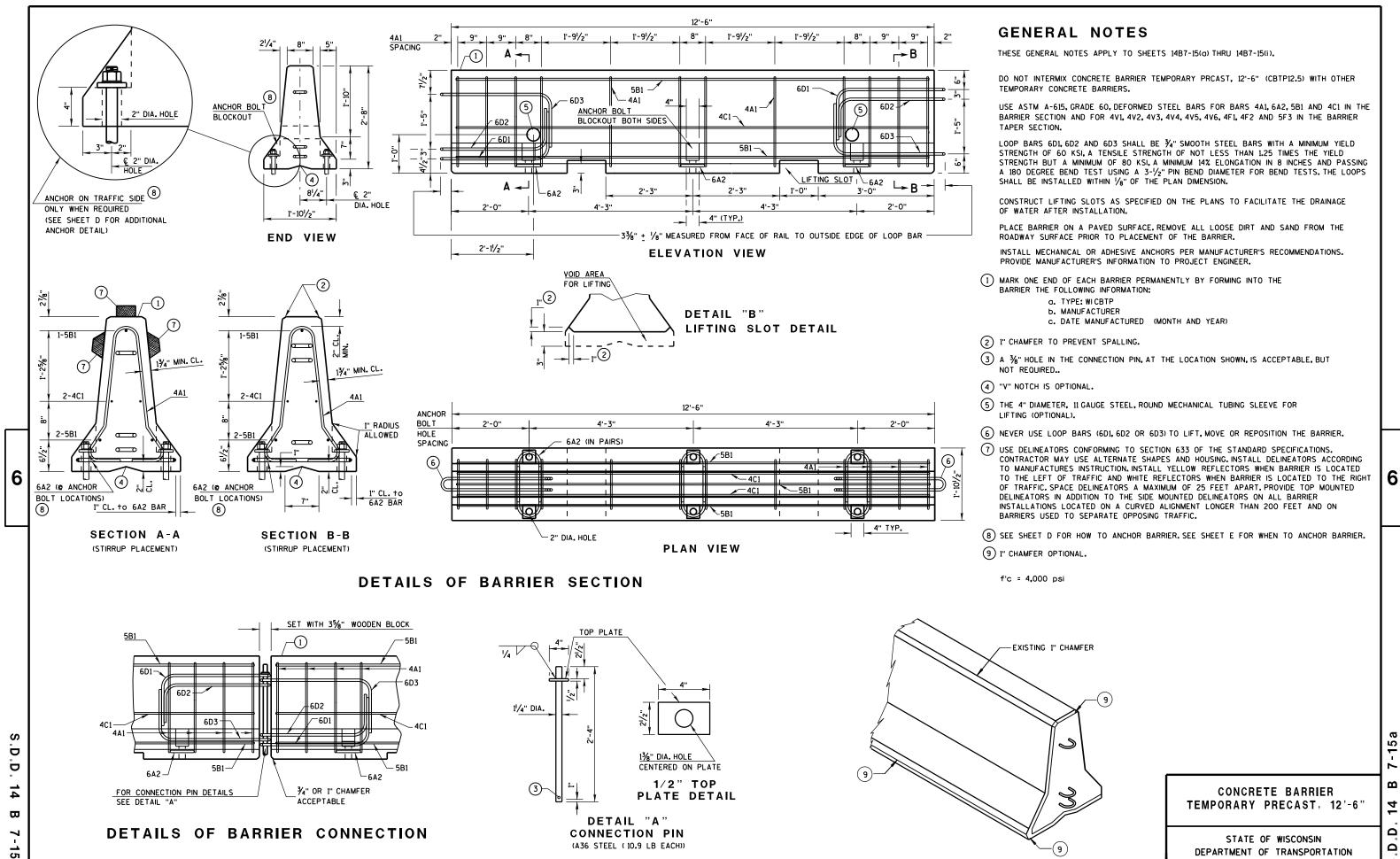
APPROVED

November 2018

DATE

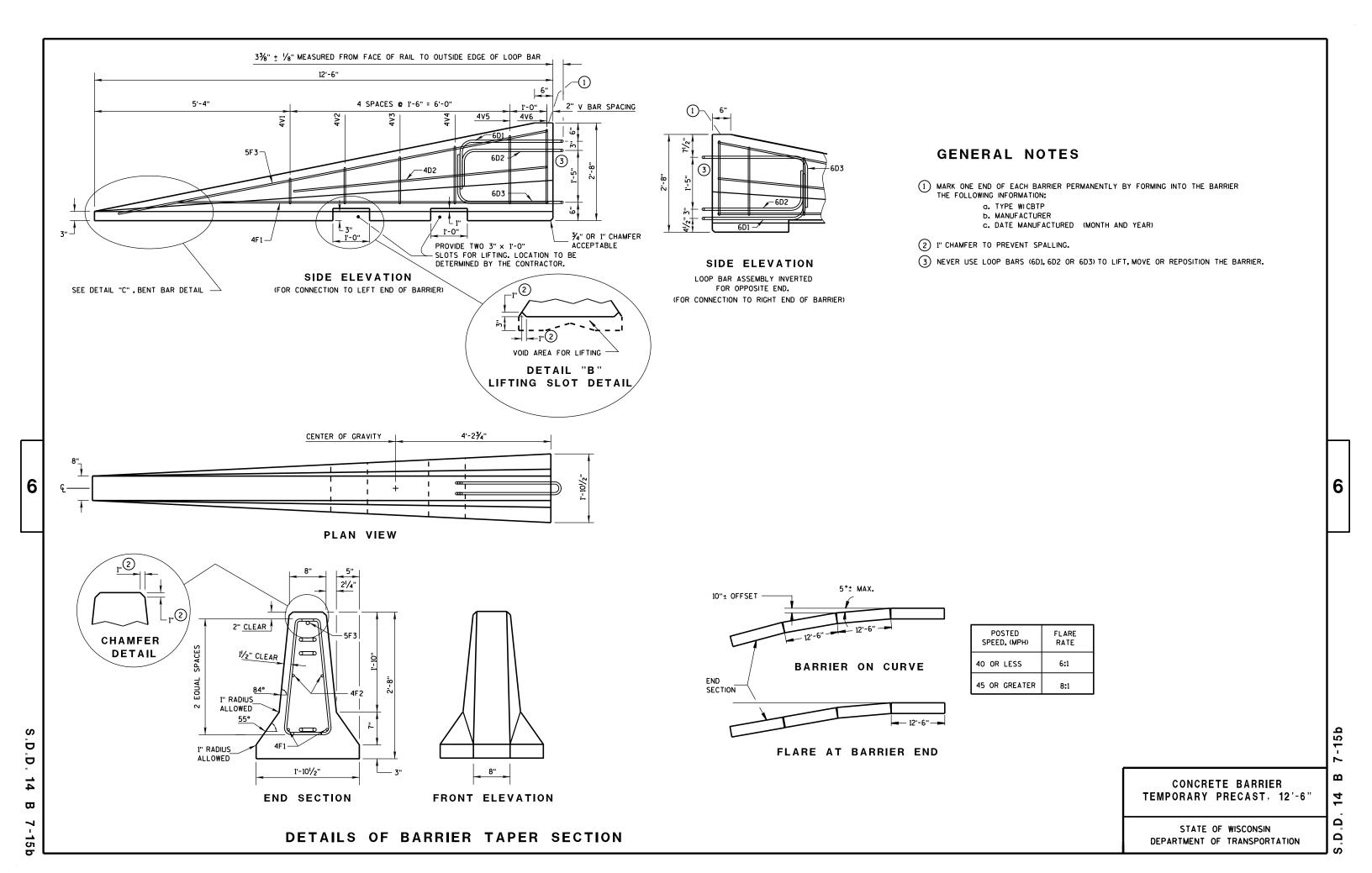
/S/ Peter Kemp P.E.
PAVEMENT SUPERVISOR

SDD 13B02 - 09



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DEPARTMENT OF TRANSPORTATION



BARRIER SECTION

**BILL OF MATERIALS** (PER 12'-6" BARRIER SECTION)

LENGTH

#### BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

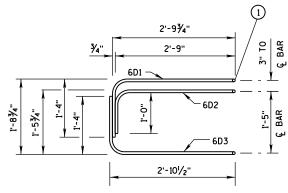
WENTE O BANNEN TAPEN SECTION									
BAR	BAR SIZE	NO. OF BARS	LENGTH FT.						
4V1	4	2	1'-11"						
4V2	4	2	2'-2"						
4٧3	4	2	2'-6"						
4V4	4	2	2'-9"						
4V5	4	2	3'-2"						
4V6	4	2	3'-4"						
4F1	4	2	12'-0"						
4F2	4	2	7'-6"						
5F3	5	1	11'-9"						
L	LOOP ASSEMBLY								
6D1	6	1	8'-5"						
6D2	6	1	7'-7"						
6D3	6	1	8'-6"						
•									

2" MIN. CLEAR

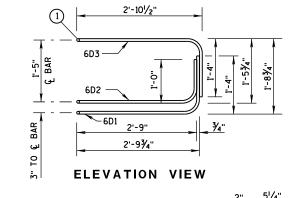
DETAIL "C"

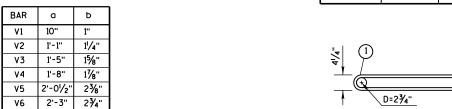
BENT BAR DETAIL

2" MIN. CLEAR

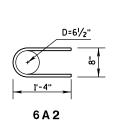


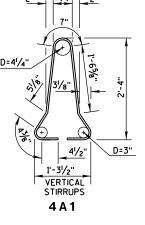












### TAPER BARRIER SECTION

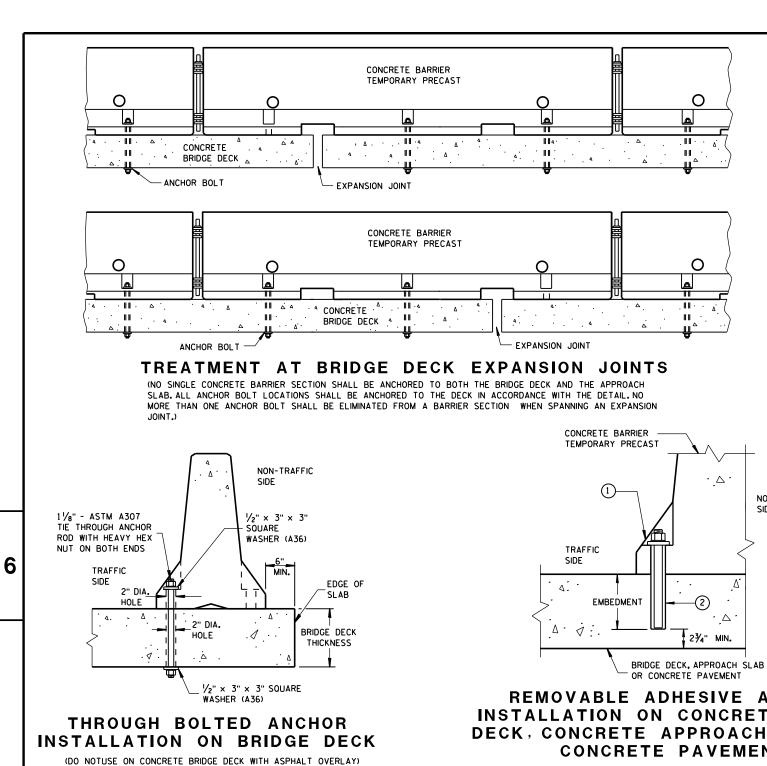
**BARRIER SECTION** 

CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION 6

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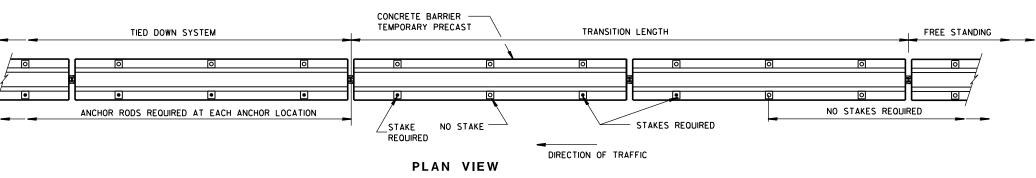
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## REMOVABLE ADHESIVE ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR **CONCRETE PAVEMENT**

NON-TRAFFIC

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)



FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

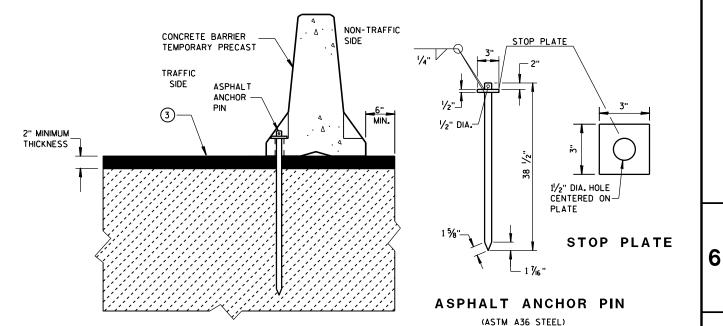
(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN,)

#### GENERAL NOTES

SEE SHEET E FOR WHEN TO ANCHOR. OTHER PARTS OF THE PLAN MAY SHOW ADDITIONAL LOCATIONS REQUIRING ANCHORING.

REMOVE ALL ANCHORS WHEN NO LONGER NEEDED. FILL CONCRETE PAVEMENTS, DECKS AND APPROACH SLABS WITH NON-SHRINK COMMERICAL GROUT FROM THE APPROVED PRODUCT LIST. FILL ASPHALT PAVEMENTS WITH ASTM D6690 TYPE II RUBBERIZED CRACK FILLER.

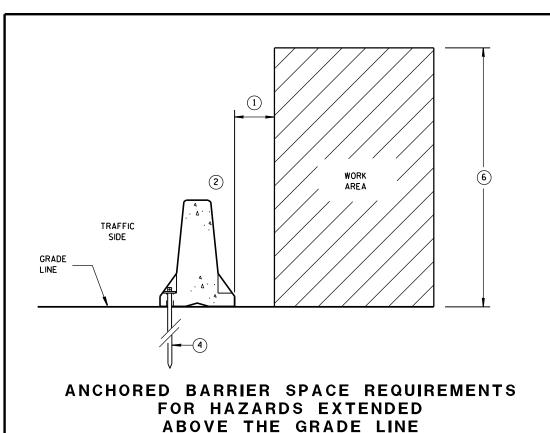
- 1 1/8" DIAMENTER A307 THREADED ROD, 1/2" X 3" X 3" SOUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.
- 2 ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 51/4" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.
- (3) ASPHALT SURFACE SHOWN. CONTRACTOR MAY DRILL THROUGH CONCRETE PAVEMENT AND THAN DRIVE ASPHALT ANCHOR PIN.

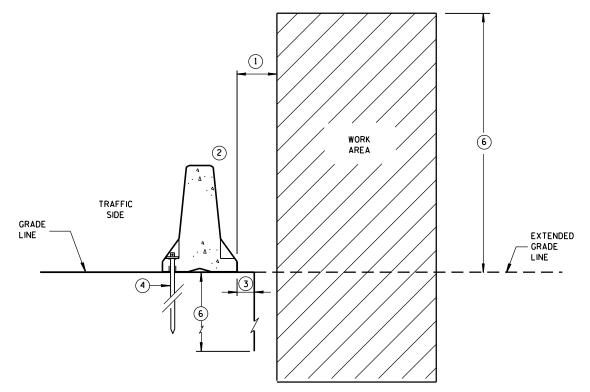


STAKE DOWN INSTALLATION FOR **ASPHALTIC SURFACE** 

**CONCRETE BARRIER** TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION -15d  $\mathbf{\omega}$ Ω

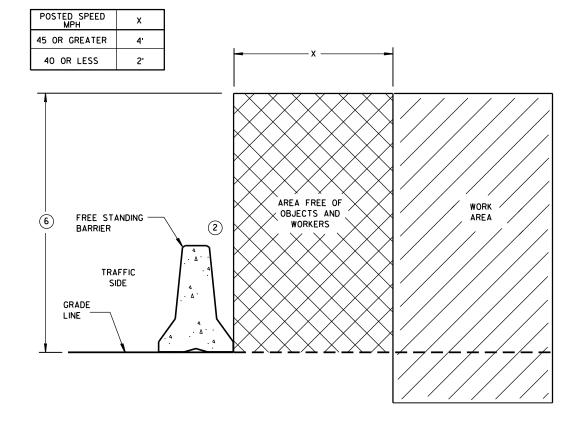


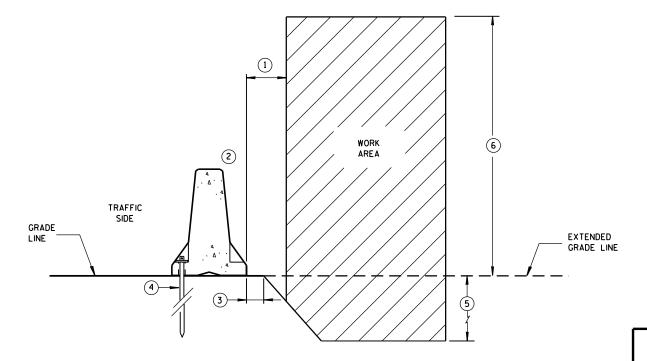


**GENERAL NOTES** 

- 1) WHEN OBJECTS EXTEND ABOVE THE GRADE, A MINIMUM OF 1 FOOT IS REQUIRED FROM BACK OF BARRIER TO OBJECT. SEE OTHER DETAILS FOR FOR THE MINIMUM OFFSET FROM BACK OF BARRIER TO SLOPES OR
- 2 OBJECTS ARE NOT TO BE PLACED ON, MOUNTED TO, OR LEANED AGAINST THE BARRIER WITHOUT PERMISSION OF THE PROJECT ENGINEER.
- (3) SEE OTHER DETAIL ON SHEET "D" FOR SPACE REQUIREMENTS.
- 4 SEE BOLT THROUGH DECK, REMOVABLE ADHESIVE ANCHOR, OR A STAKE DOWN FOR ASPHALTIC SURFACE TREATMENT DETAILS. ASPHALTIC ANCHOR SHOWN.
- (5) DEPTH OF 3 FEET OR MORE.
- (6) Y = 6'-6".

ANCHORED BARRIER SPACE REQUIREMENTS ON VERTICAL DROP OFFS





FREE STANDING BARRIER SPACE REQUIREMENTS

ANCHORED BARRIER SPACE REQUIREMENTS ON SLOPES

**CONCRETE BARRIER** TEMPORARY PRECAST, 12'-6"

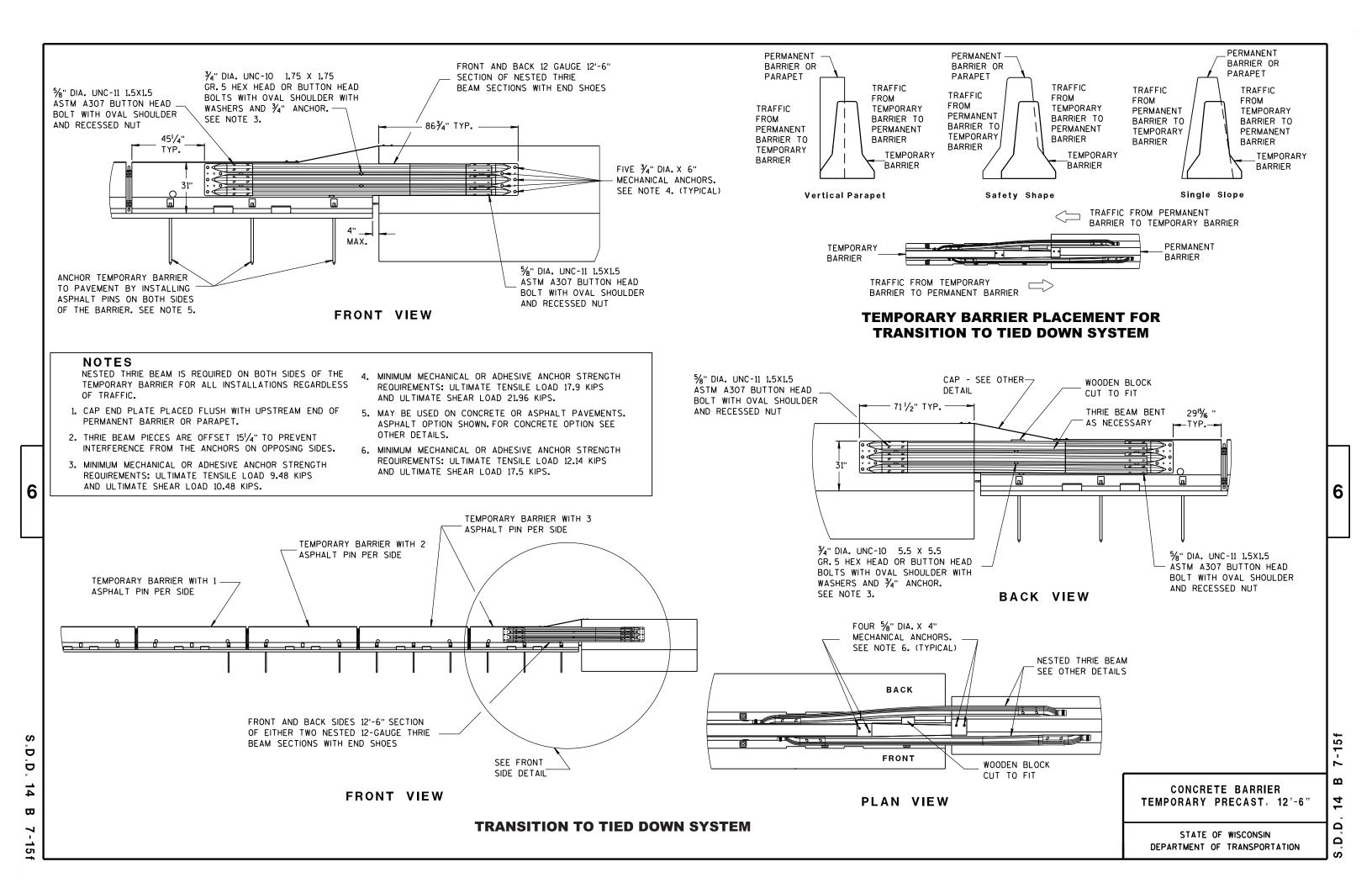
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

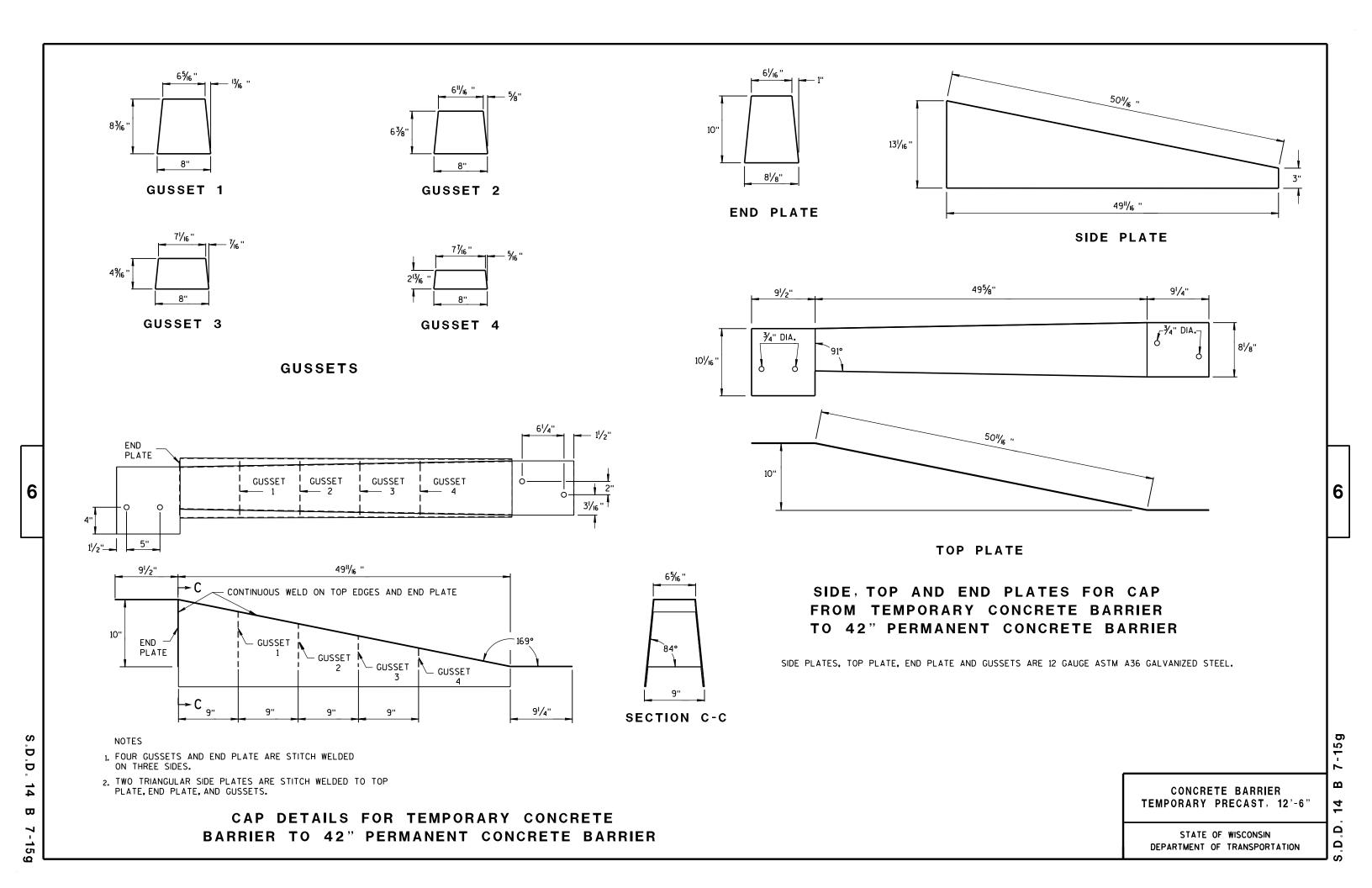
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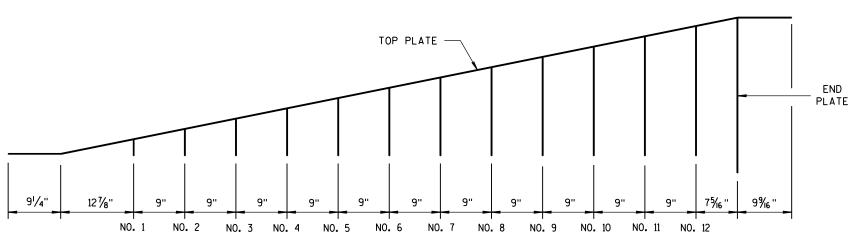
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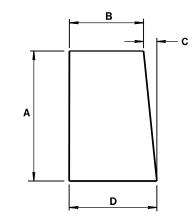
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**GUSSET LOCATION** 



**GUSSETS 1 - 12** 

ALL GUSSETS 1/8" STEEL PLATE

GUSSET DIMENSIONS				
GUSSET NO.	Α	В	С	D
1	21/8"	73/4"	1/4"	8
2	4"/16 "	7% "	1/2"	8
3	6 <sup>l</sup> /2"	73/8"	11/16 "	81/16"
4	8%"	73//6"	7⁄8"	81/16 "
5	101/8"	7''	1 1/16 "	81/16"
6	11 <sup>15</sup> / <sub>16</sub> ''	6 <sup>13</sup> / <sub>16</sub> "	1 1/4"	81/16"
7	13¾"	65%"	1 7/6"	81/16"
8	15% "	6¾6"	1 % "	81/16"
9	173/8"	61/4"	1 <sup>13</sup> / <sub>16</sub> ''	8½ <sub>6</sub> "
10	193/6"	6½ <sub>6</sub> "	1 15/16 "	81/16"
11	21"	57/8"	23/6"	81/16"
12	22 <sup>13</sup> / <sub>16</sub> "	5 <sup>11</sup> / <sub>16</sub> "	2% "	8½ <sub>6</sub> "

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES.
TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP
PLATE, END PLATE AND GUSSETS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

7-15h

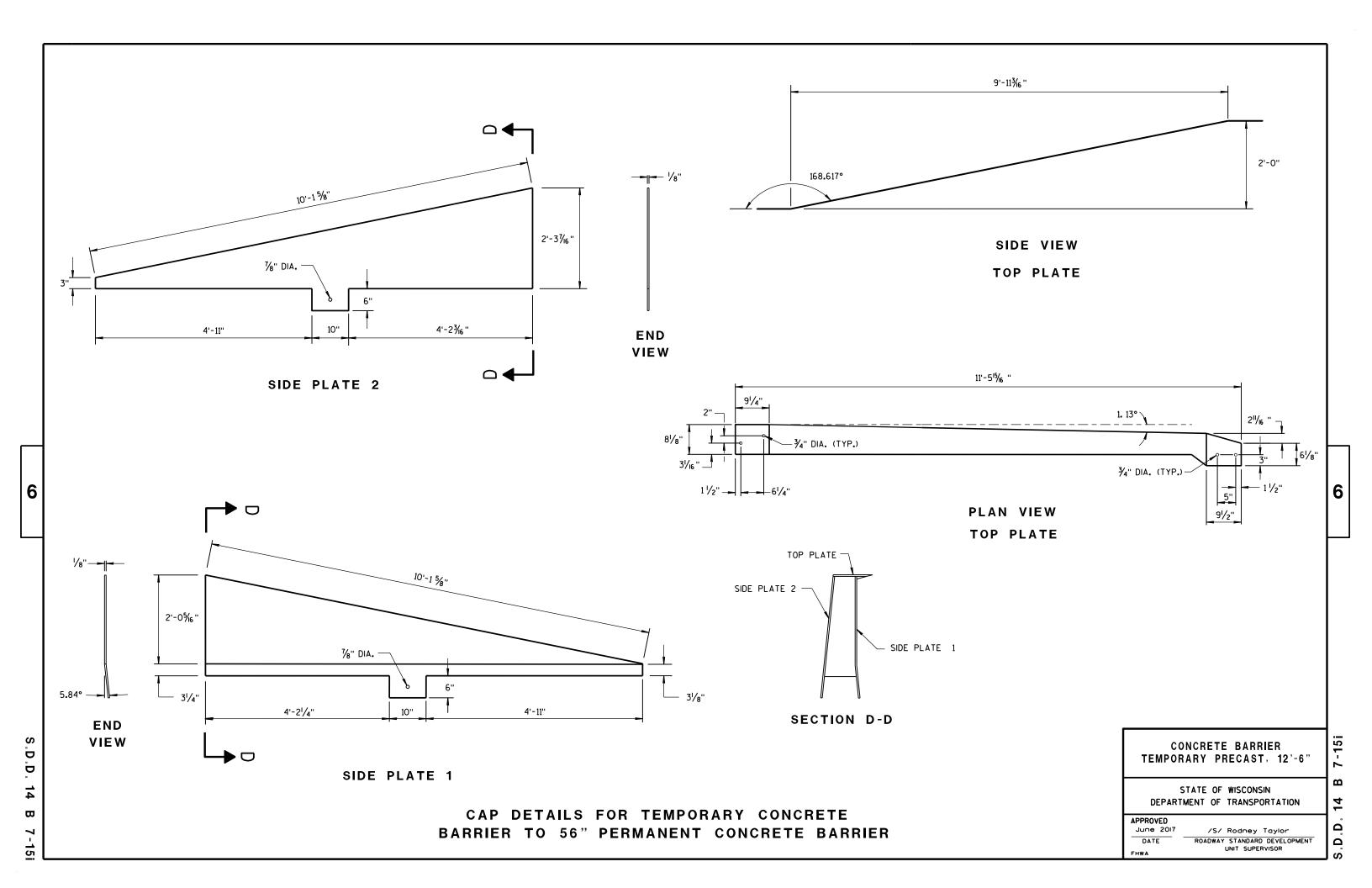
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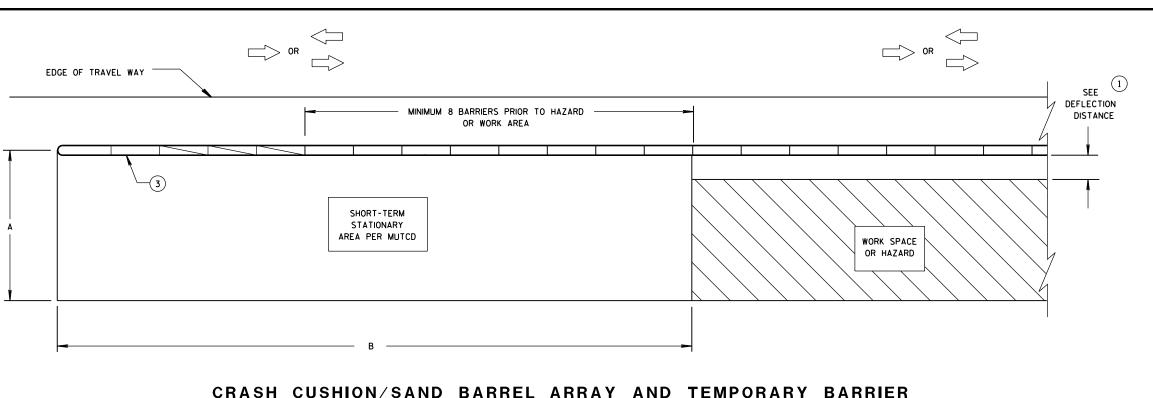
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S.D.D. 14 B 7-15h

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CAP DETAILS FOR TEMPORARY CONCRETE BARRIER TO 56" PERMANENT CONCRETE BARRIER





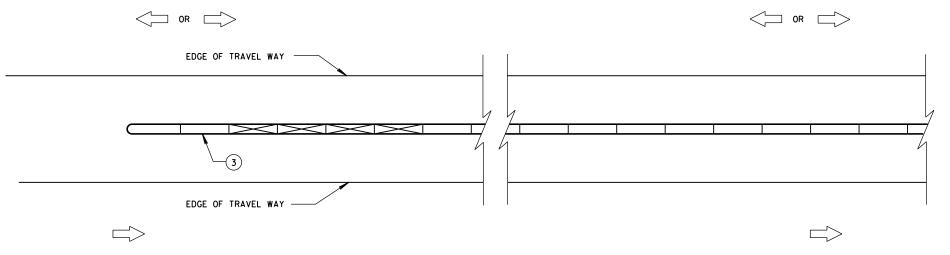
## DIMENSION A TABLE (2)

		DIMENSION A	
FACILITY	POSTED SPEED MPH	MIN. FT	MAX. FT
FREEWAY/EXPRESSWAY	ALL	15	20
NON-FREEWAY/EXPRESSWAY	GREATER THAN OR EQUAL TO 45	10	15
NON-FREEWAY/EXPRESSWAY	LESS THAN 45	8	10
AADT LESS THAN 1,500	ALL	8	10

### DIMENSION B TABLE (2)

POSTED	DIMENSION
SPEEDS	В
MPH	FT
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645

# CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER



# CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

### **GENERAL NOTES**

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SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

- 1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.
- 2 VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.
- (3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

### CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

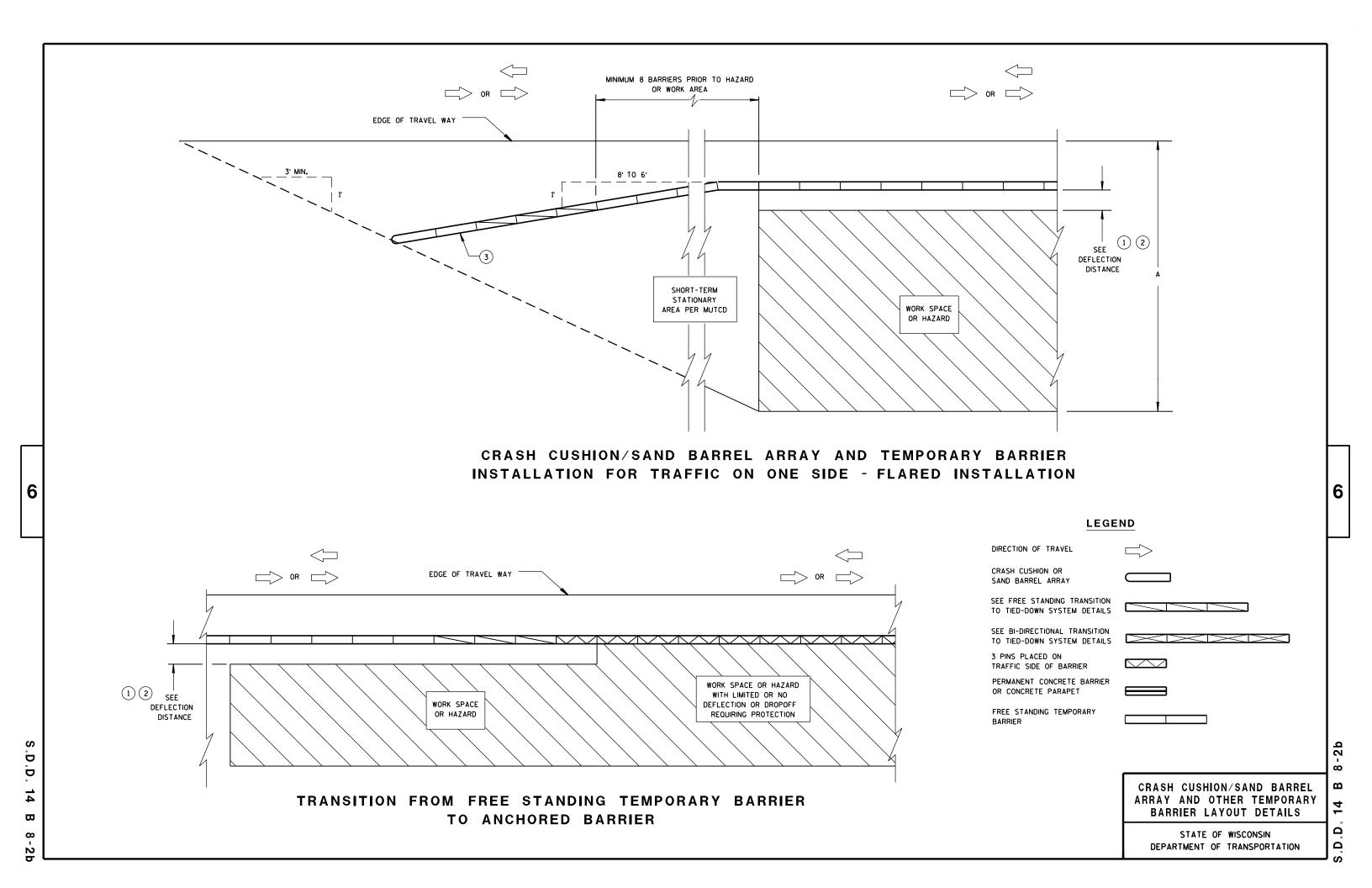
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

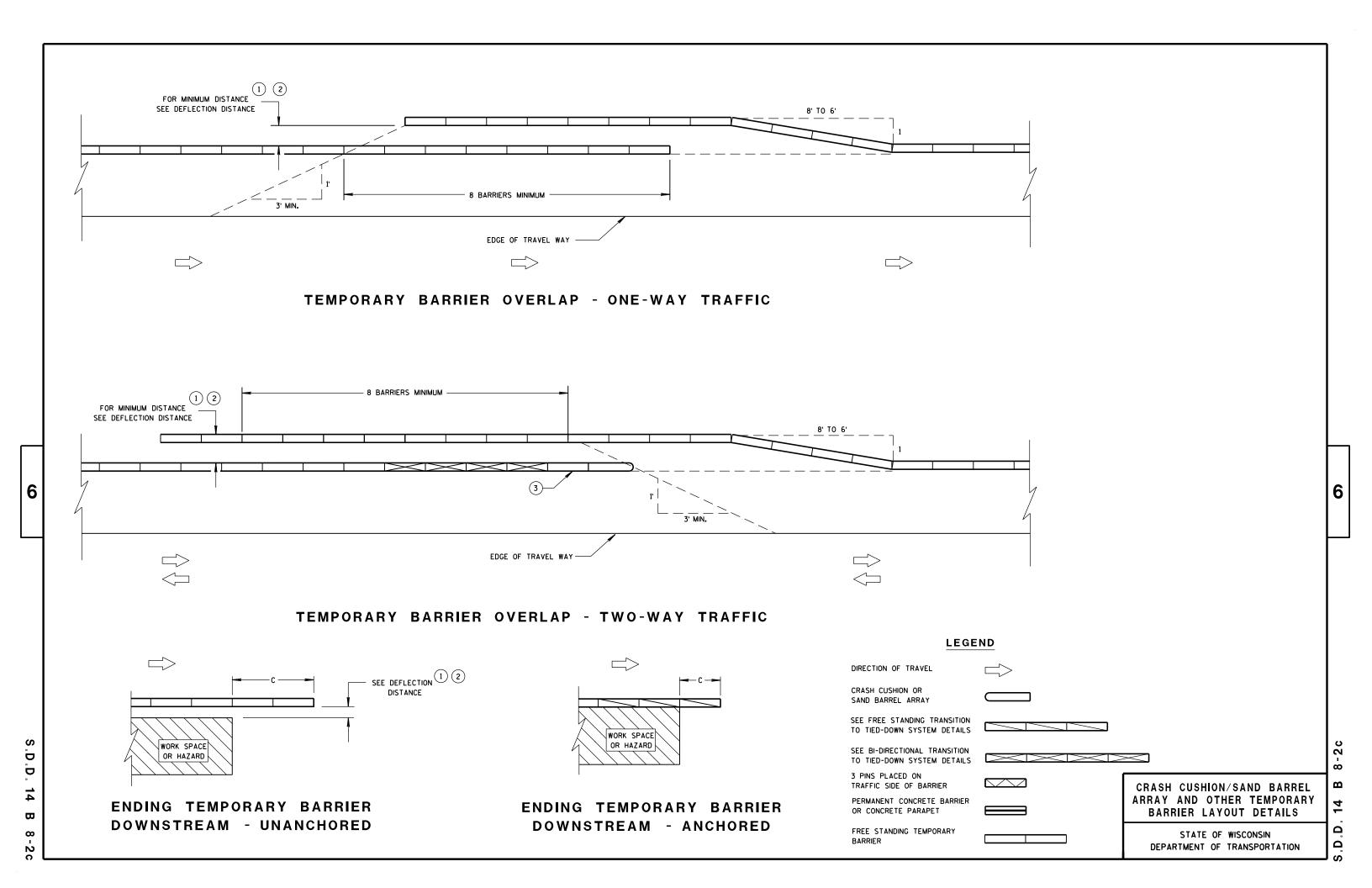
PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

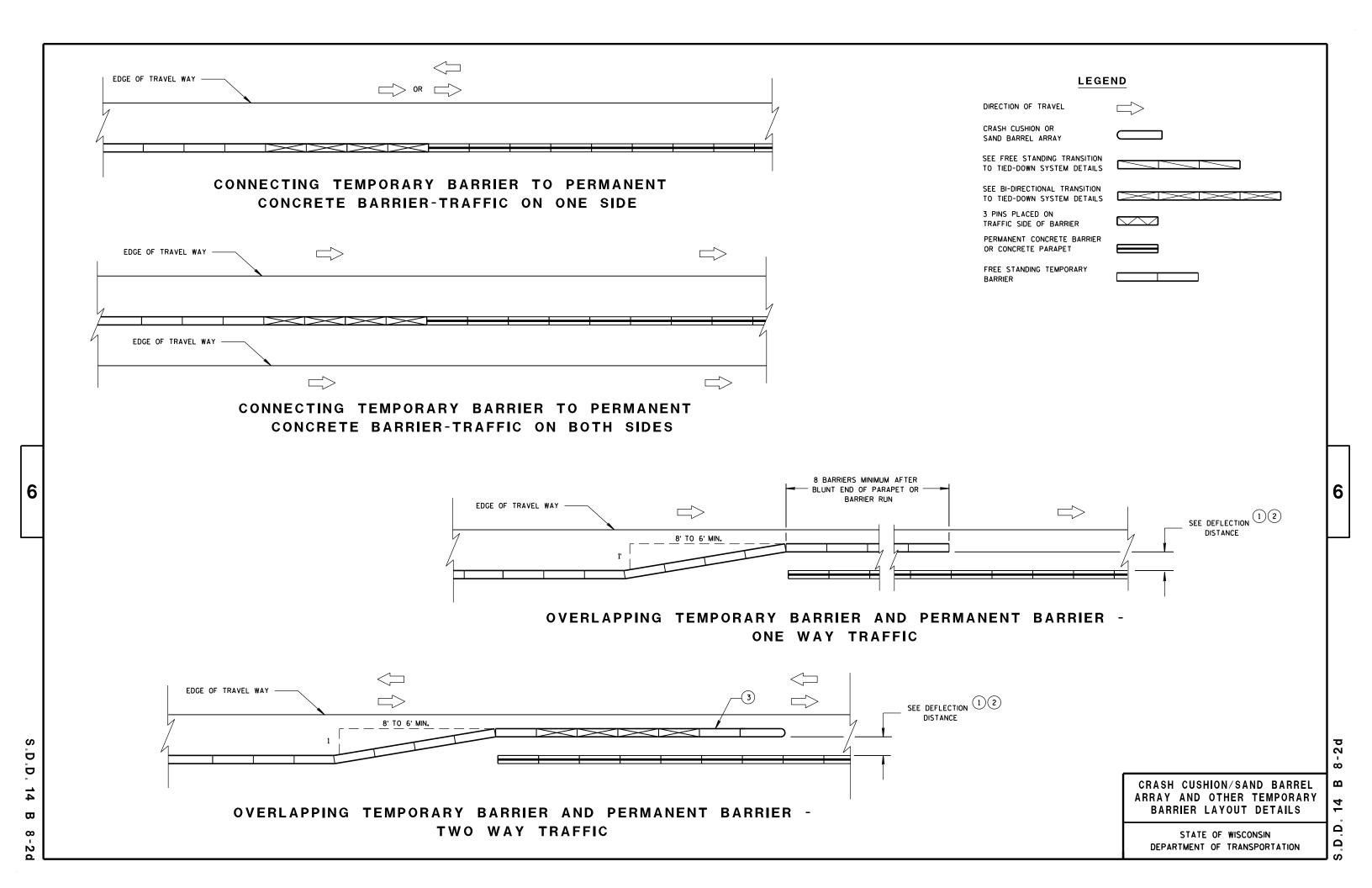
FREE STANDING TEMPORARY BARRIER

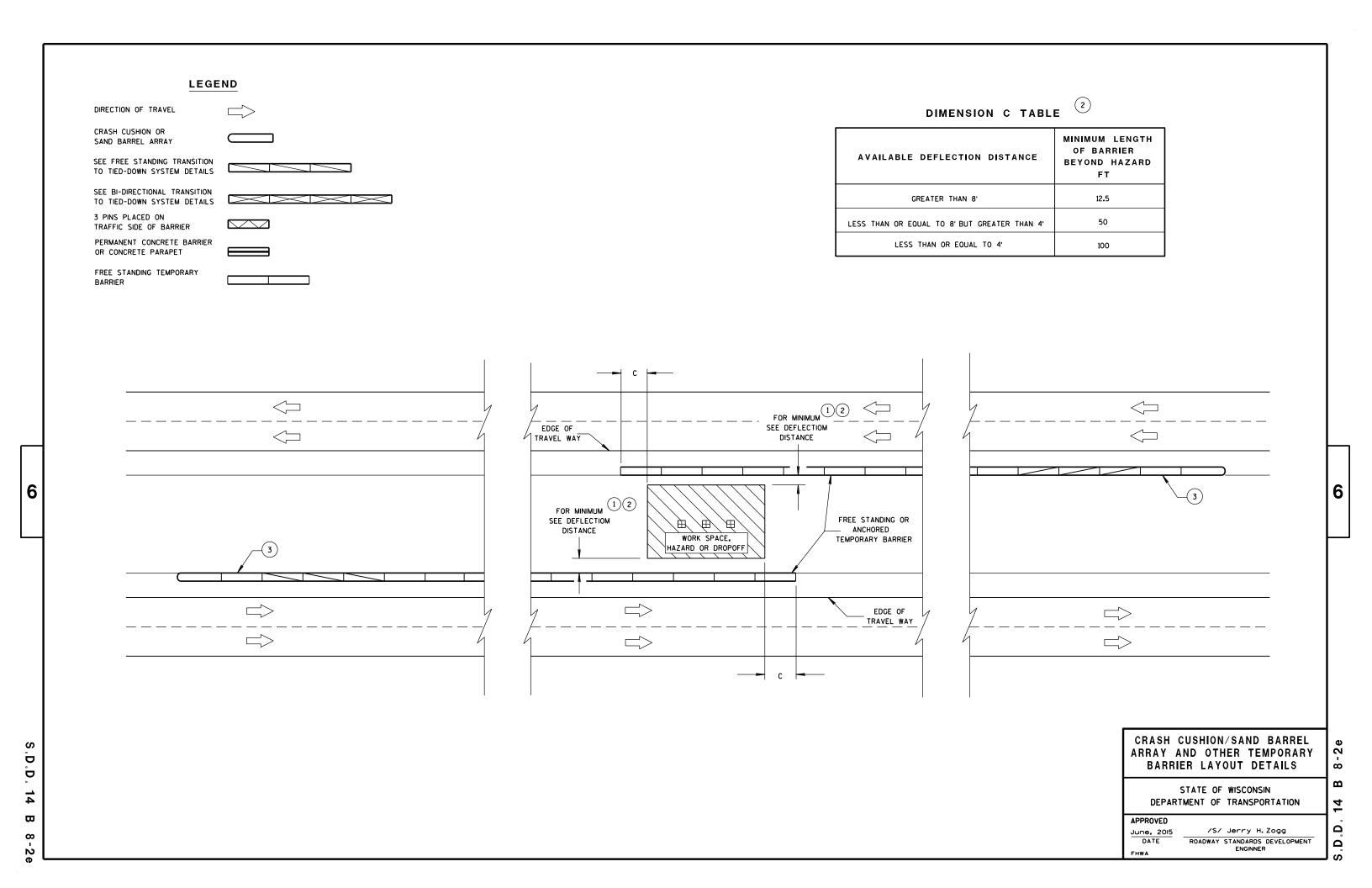
14 B 8-2a

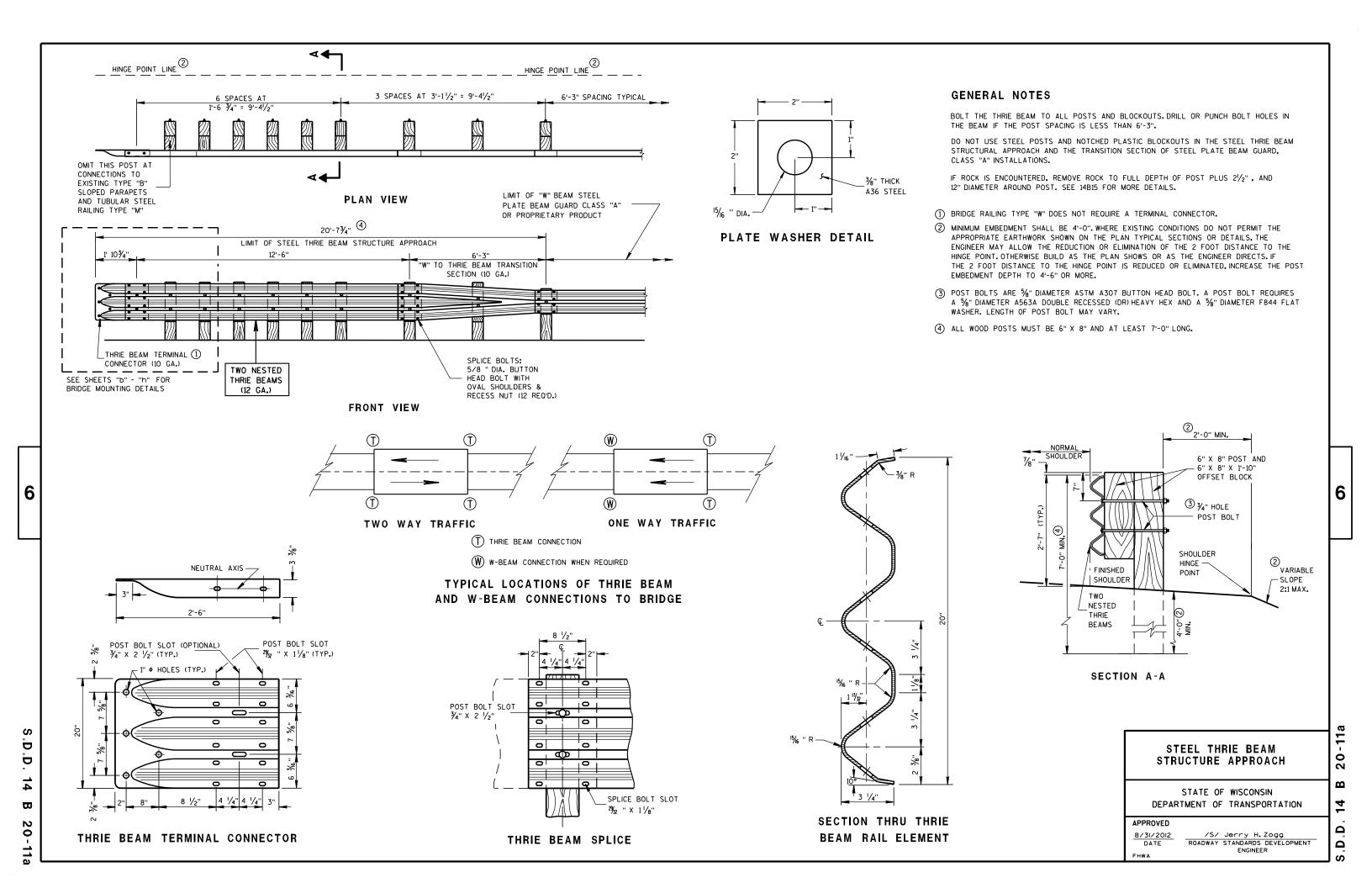
S.D.D. 14

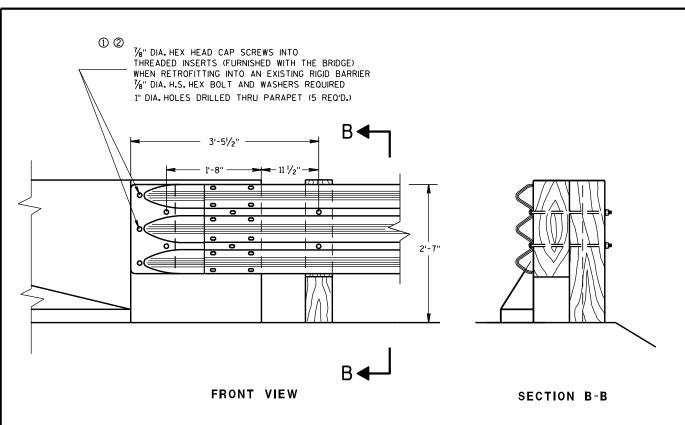




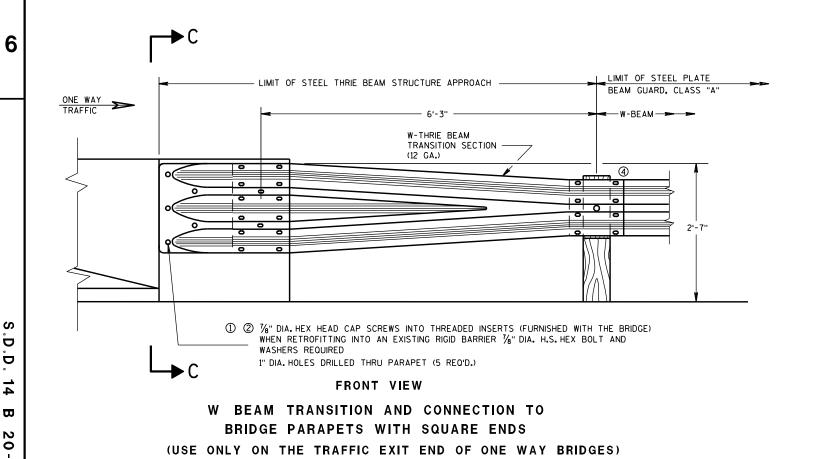








### THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS



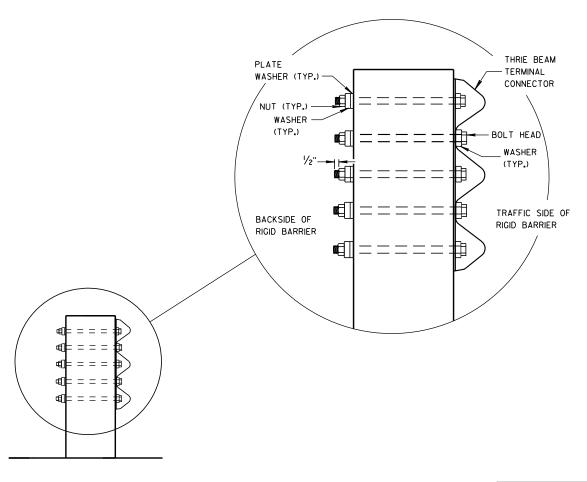
### GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

- ① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE, CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X  $\frac{5}{8}$ " THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- 3 THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3  $\frac{1}{2}$ ".
- 4 W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



SECTION C-C

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 ROADWAY STANDARDS DEVELOPMENT ENGINEER

BOLTS. NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

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

THRIE BEAM TERMINAL

CONNECTOR

BOLT HEAD

(TYP.)

WASHER

TRAFFIC SIDE OF

Δ"

1'-6"

RIGID BARRIER

- 3 THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".
- (4) W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.
- (5) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

> PLATE WASHER (TYP.

> > NUT (TYP.)

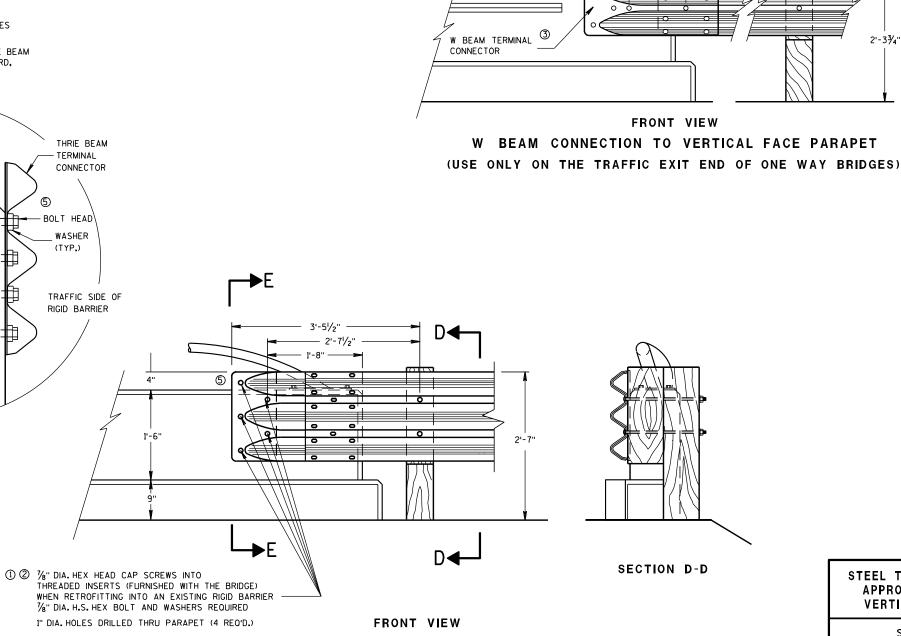
(TYP.)

BACKSIDE OF

RIGID BARRIER

WASHER

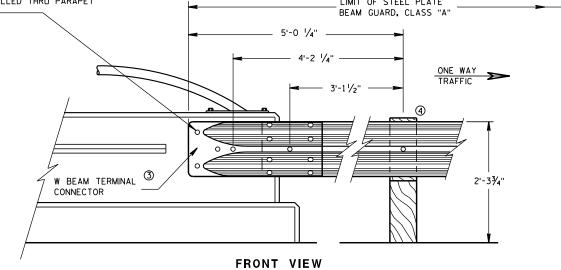
1/2".



① ② 7/8" DIA. HEX HEAD CAP SCREWS INTO

THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER 1/8" DIA. H.S. HEX BOLT AND WASHERS REQUIRED 1" DIA. HOLES DRILLED THRU PARAPET LIMIT OF STEEL PLATE (4 REO'D.) BEAM GUARD, CLASS "A" 5'-0 1/4" —



W BEAM CONNECTION TO VERTICAL FACE PARAPET

STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVED 8/31/2012

/S/ Jerry H.Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER

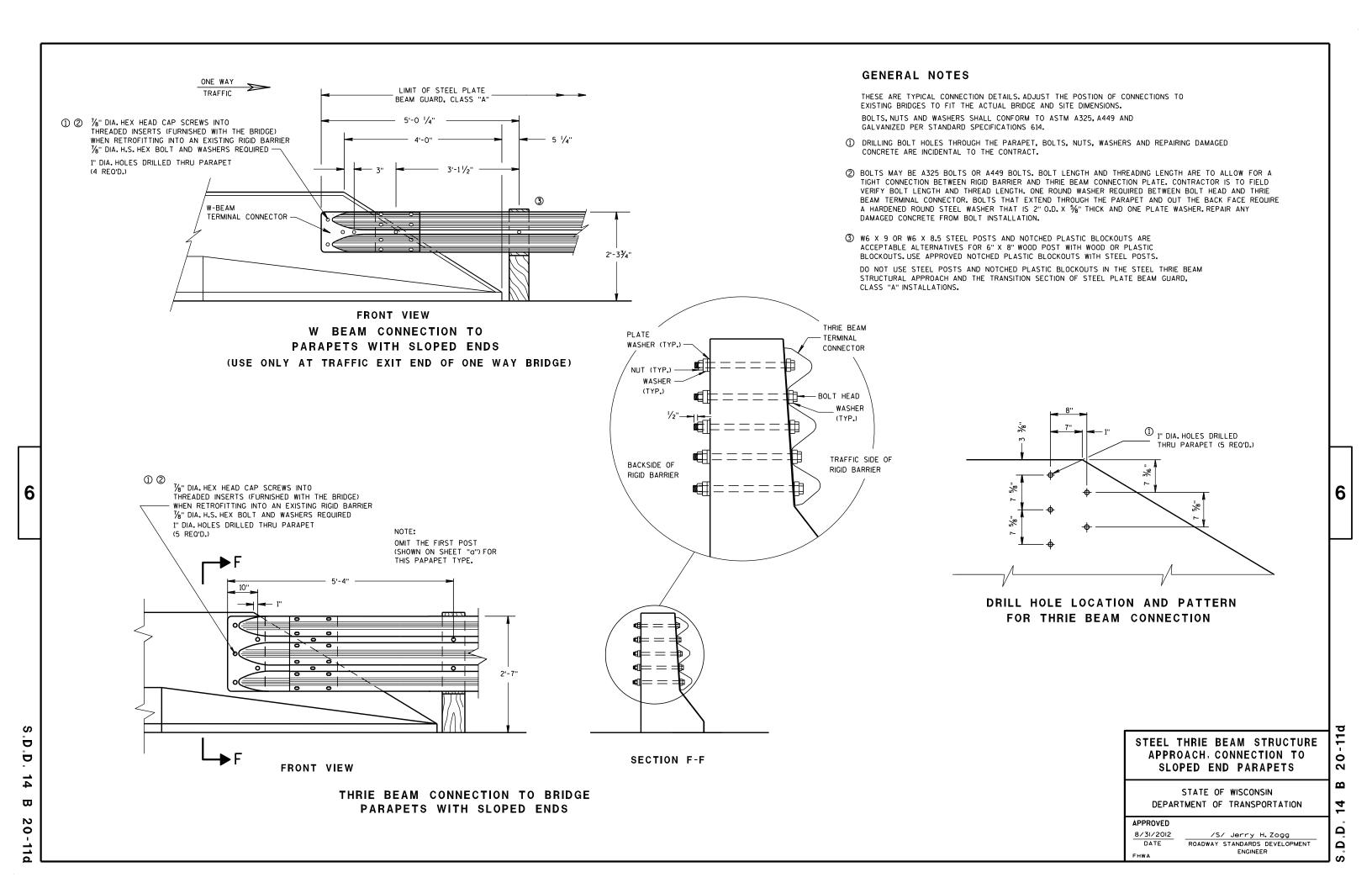
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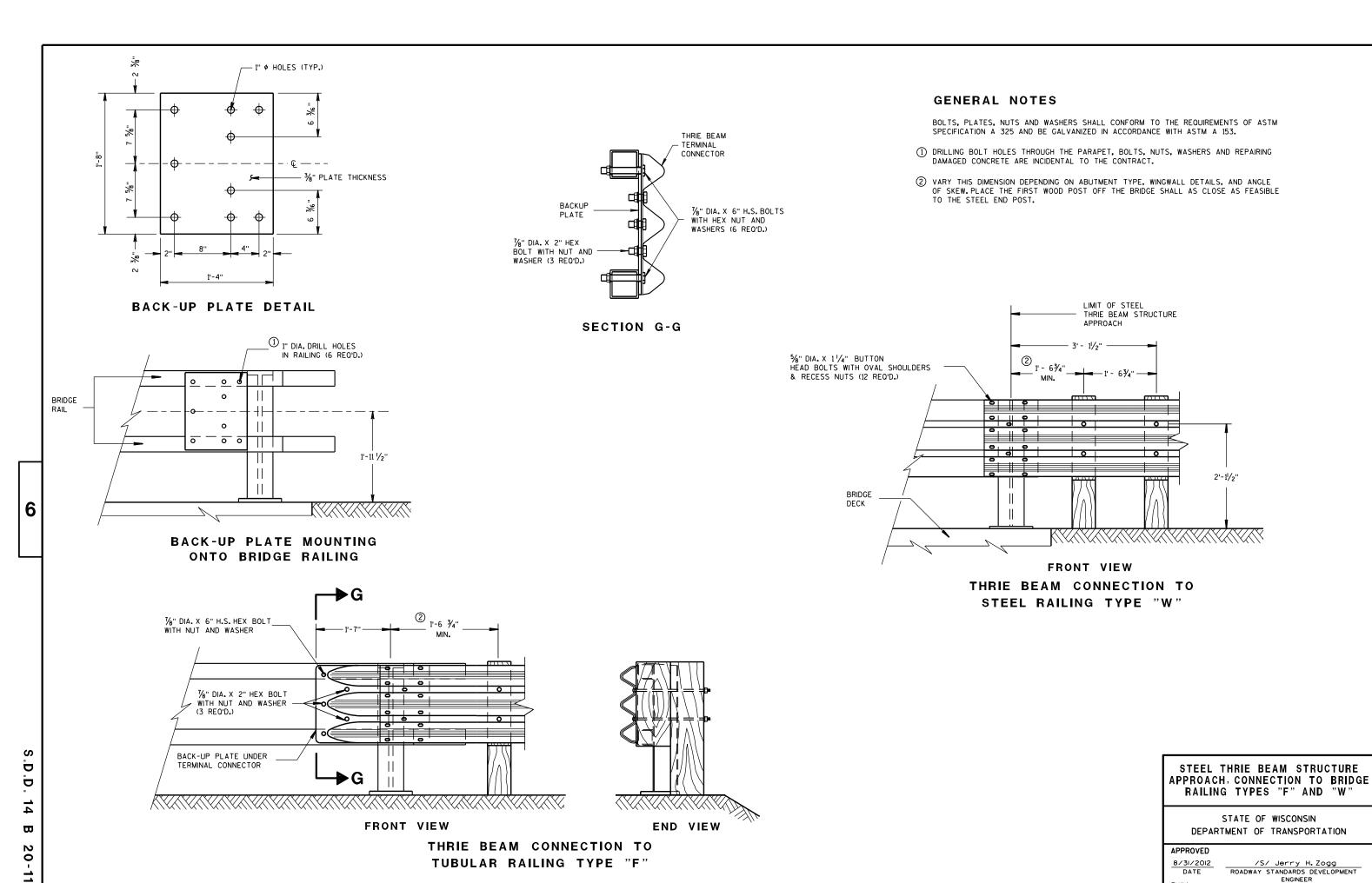
SECTION E-E

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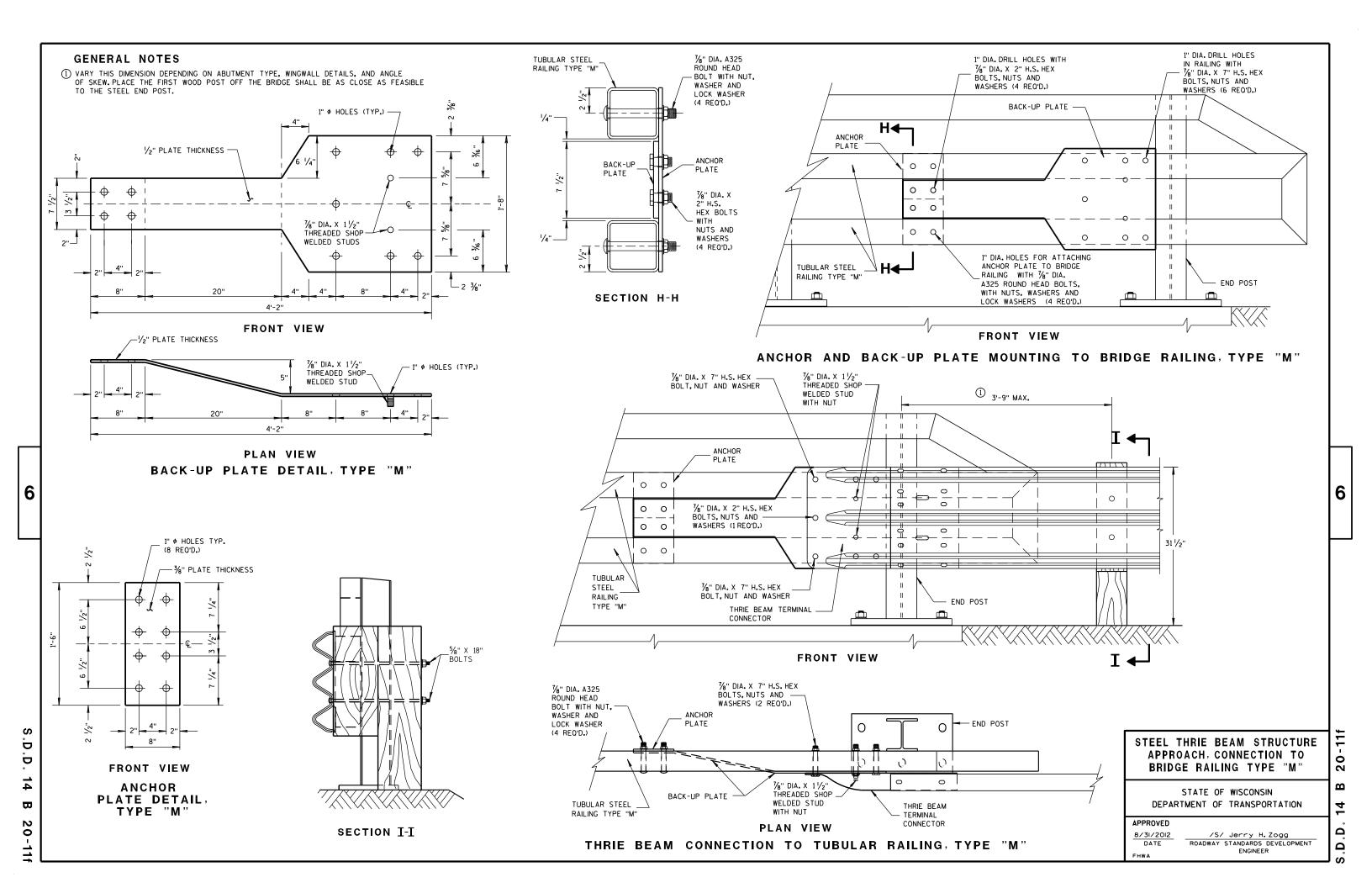


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ENGINEER

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### (PER ASSEMBLY) PLATE QUANTITY SHAPE SIZE $(A \times B \times C \times D)$ THICKNESS P1 20" × 20" 3∕16 " в₫ P2 20" × 20" × 28%; 3∕6" B₽Ĉ Р3 39" × 3%" × 20" × 19%6" 3∕16 '' BA C D S1 181/6" × 35/8" × 183/4" 4 1/4" BA 101/4" × 21/16" × 103/8" × 1/2" S2 1/4" S3 вфо 3" × 11/16" × 31/8" × 1/2" 1/4" S4 вЁ 61/8" × 21/16" 1/4" S5 1 вД 61/8" × 11/16" 1/4" в∟ S6 7¾" × 1¾" 1/4" **S7** 2%6" × 6" × 3%" × 5%" 1/4" 1<sup>5</sup>/<sub>32</sub> " × 7<sup>1</sup>/<sub>2</sub>" × 2<sup>1</sup>/<sub>2</sub>" × 7<sup>3</sup>/<sub>8</sub>" S8 1/4" S9 C B 61/16" × 63/16" × 13/32" 1/4" S10 A₽C 11/8" × 91/8" × 35/8" × 91/16 " 1/4" S11 C A 8½" × 8¾" × 11¾ " 1/4"

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STEEL THRIE BEAM STRUCTURE APPROACH

### STEEL THRIE BEAM STRUCTURE APPROACH:

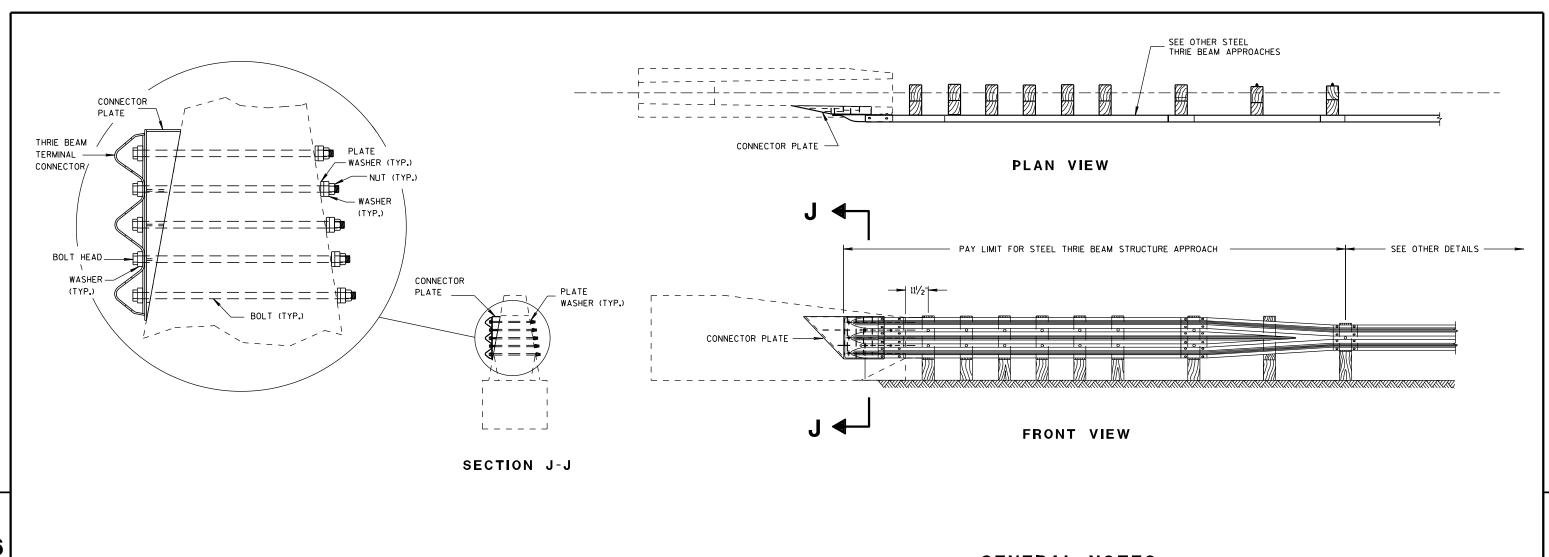
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

CONNECTOR PLATE DETAIL

APPROVED

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

D.D. 14 B 20-



# CBSS THRIE BEAM ANCHORAGE SECTION (SEE OTHER DETAILS) 1 31 1/6 3

### GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

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

### CONNECTOR PLATE LOCATION

STEEL THRIE BEAM STRUCTURE APPROACH

STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

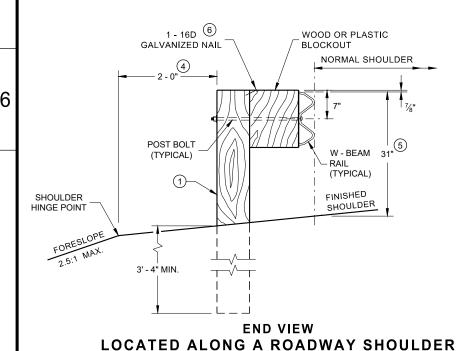
APPROVED

8/31/2012 /S/ Jerry H. Zogg

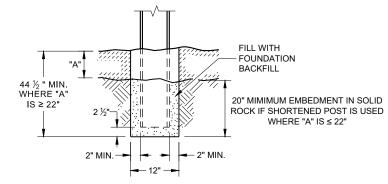
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER

S.D.D. 14 B 20-11h

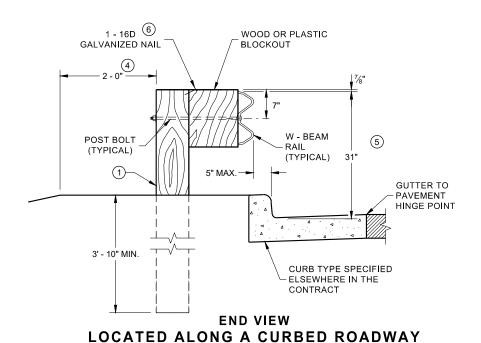
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- (3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- 4 WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- $\fill \begin{tabular}{ll} \end{tabular}$  FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS \$\pm1"\$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 % " TO 32".
- (6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- $\bigcirc$  TOTAL POST LENGTH FOR TYPE K IS 7' 0". TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' 0".

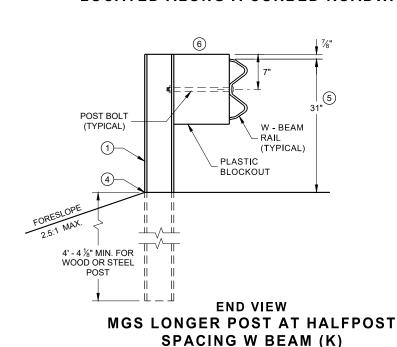


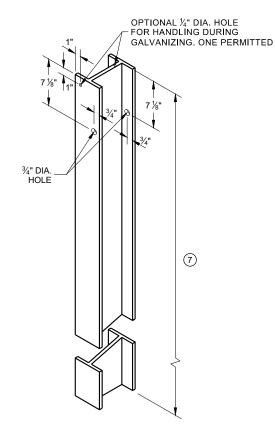
STANDARD INSTALLATION



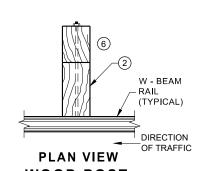
SETTING STEEL OR WOOD POST IN ROCK  $^{\odot}$ 



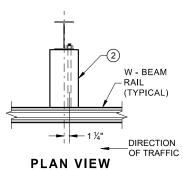




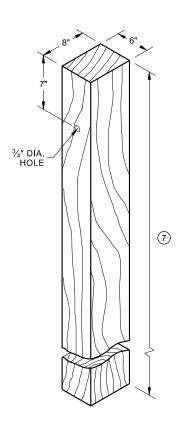
STEEL POST & HOLE PUNCHING DETAIL (W 6 X 9) (1)



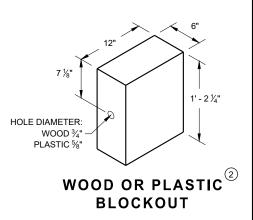
PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM



PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM



WOOD POST (6" X 8") NOMINAL



# MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

SDD 14B42 - 0

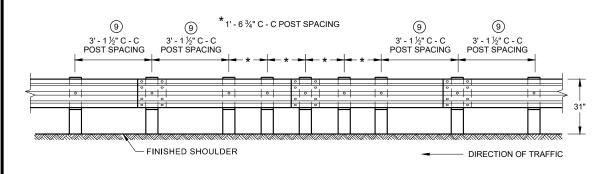
# POST SPACING PO

3' 1½" C -C 3' 1½" C - C POST SPACING POST SPACING

6' 3" C - C

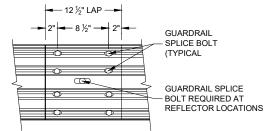
6' - 3" C -C

# FRONT VIEW HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



FRONT VIEW

QUARTER POST SPACING (QS)



FRONT VIEW
MID-SPAN BEAM SPLICE

# DO NC OF TH

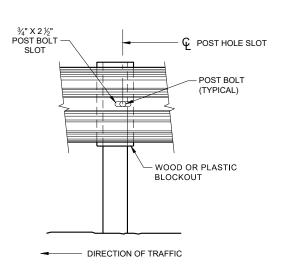
(8) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

**GENERAL NOTES** 

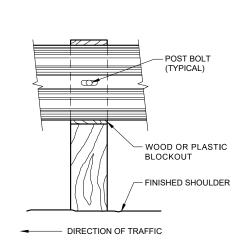
 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

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

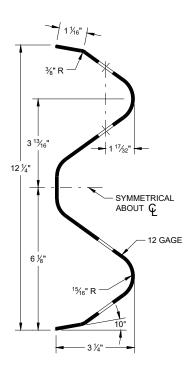
GUARD RAIL SPLICE BOLTS ARE A %" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES %" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



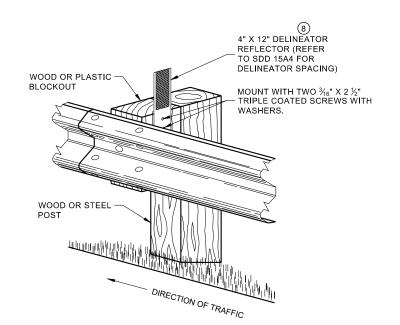
FRONT VIEW AT STEEL POST



FRONT VIEW AT WOOD POST



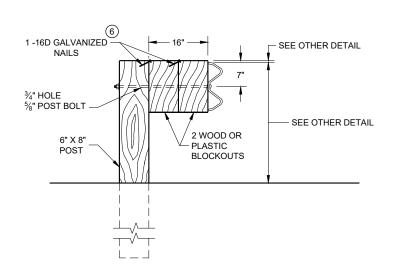
**SECTION THRU W-BEAM RAIL** 



ONE SIDED REFLECTOR DETAIL
AND TYPICAL INSTALLATION

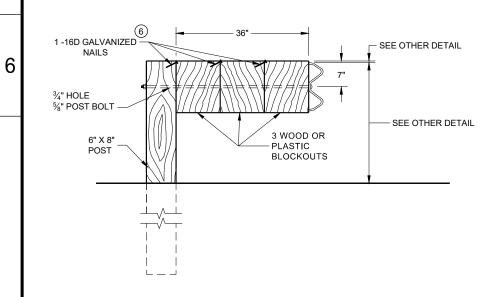
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



### **DETAIL FOR 16" BLOCKOUT DEPTH**

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



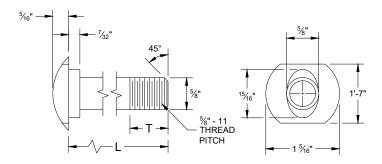
### **DETAIL FOR 36" BLOCKOUT DEPTH**

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

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

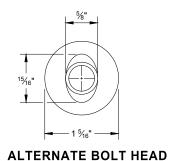
### NOTE:

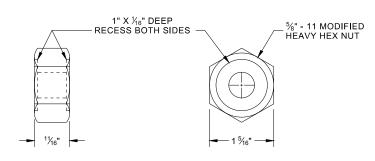
- 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
- 2. IF THE BOLT EXTENDS MORE THAN  $\mbox{\ensuremath{\mbox{\sc M}}}\mbox{\sc "}\mbox{\sc FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.}$



### **POST BOLT TABLE**

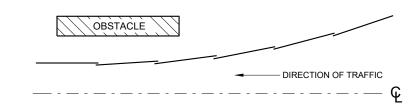
L	T (MIN.)
1 1/4"	1 1/8"
2"	1 3/4"
10"	4"
14"	4 1/16"
18"	4"
21"	4 1/16"
25"	4"



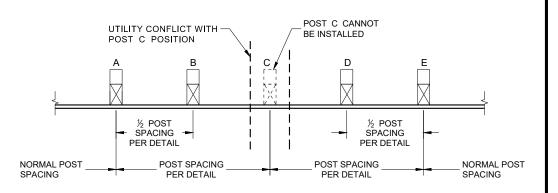


### POST BOLT, SPLICE BOLT **AND RECESS NUT**

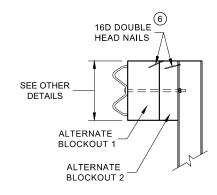
WHEN USING STEEL POST AD WOOD BLOCKOUTS, INSTALL FOUR 16D (6) GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

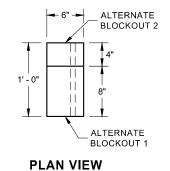


### **PLAN VIEW BEAM LAPPING DETAIL**



### POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION





SIDE VIEW

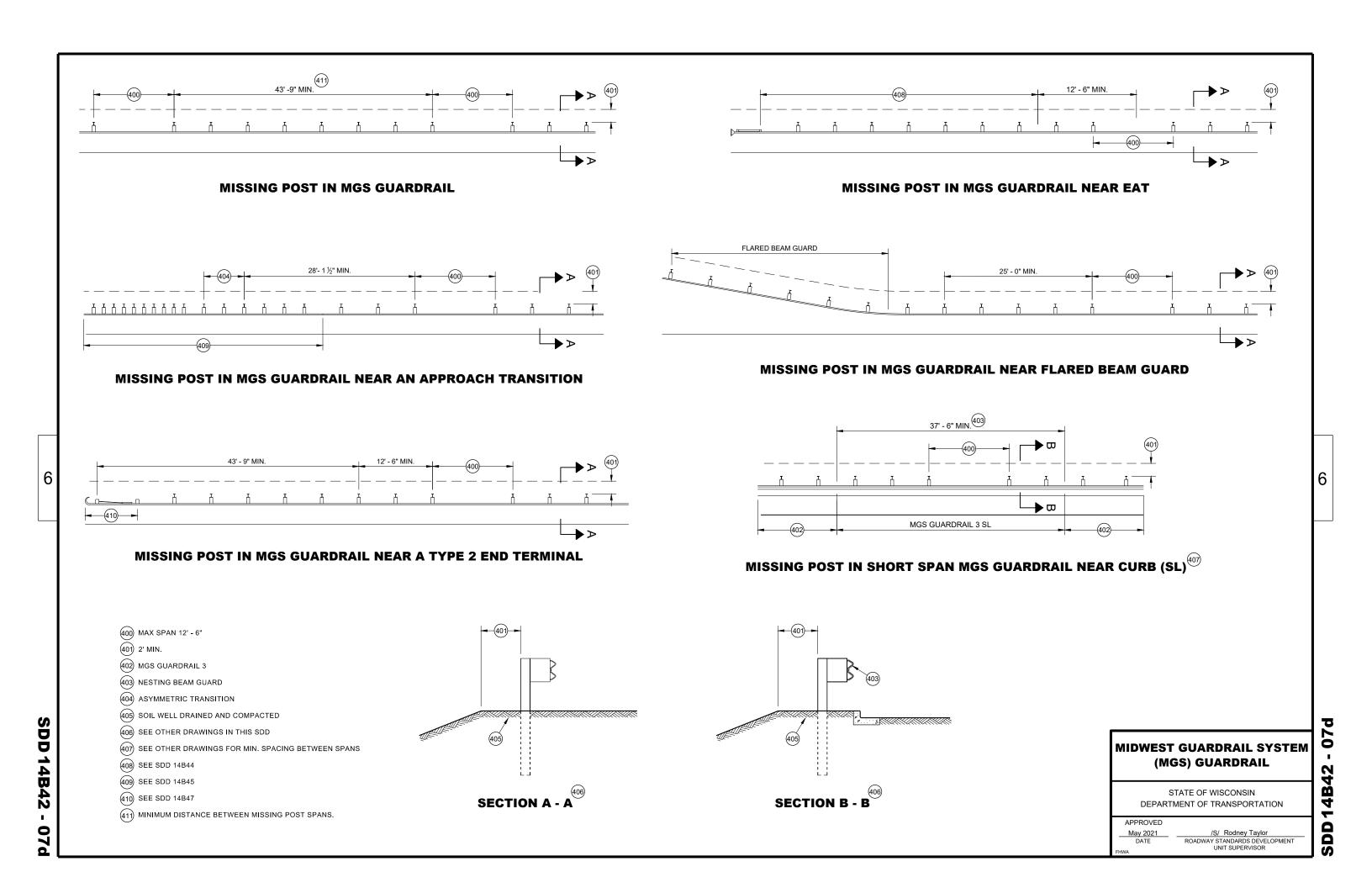
**ALTERNATE WOOD BLOCKOUT DETAIL** 

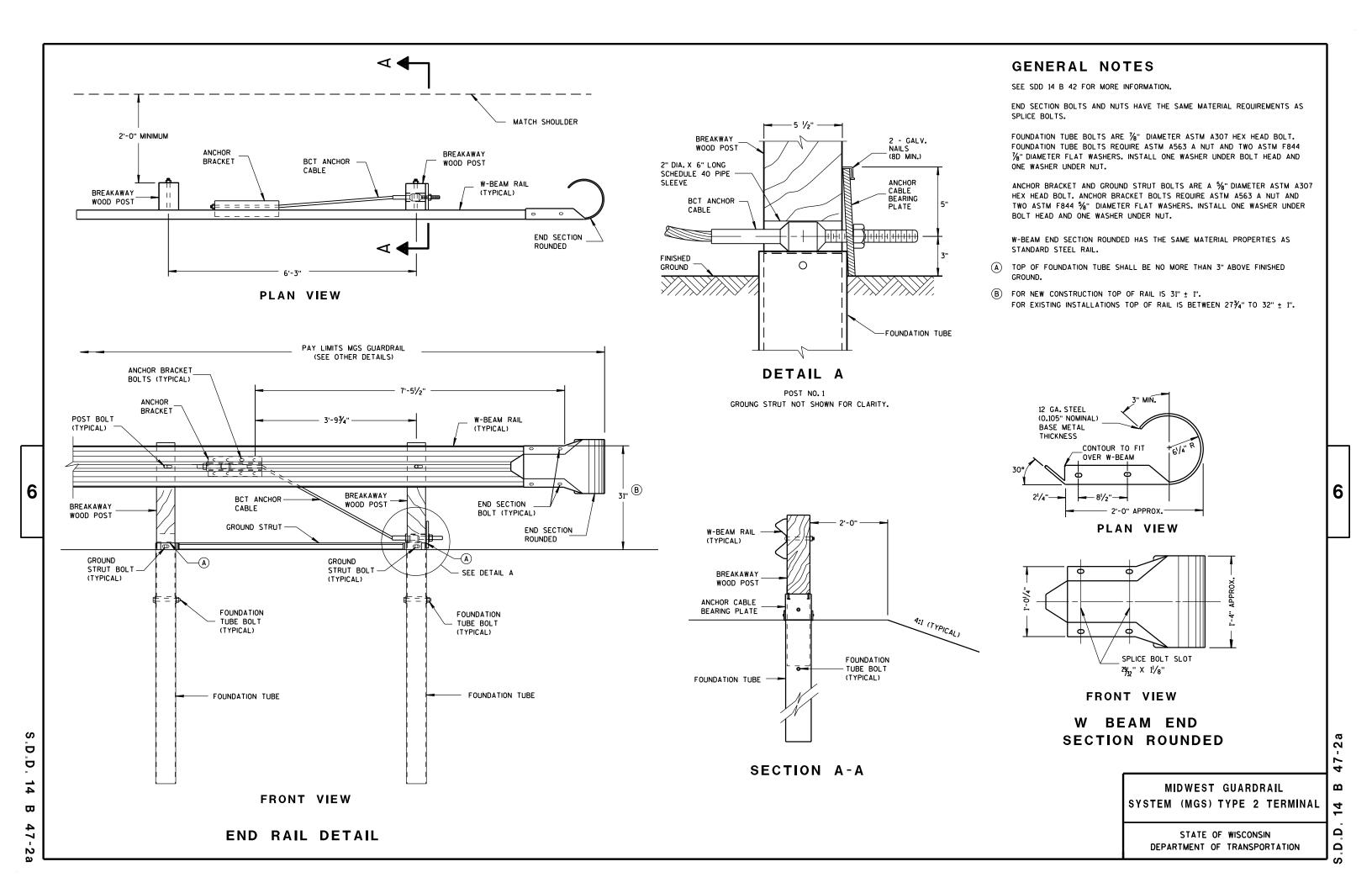
### **MIDWEST GUARDRAIL SYSTEM** (MGS) GUARDRAIL

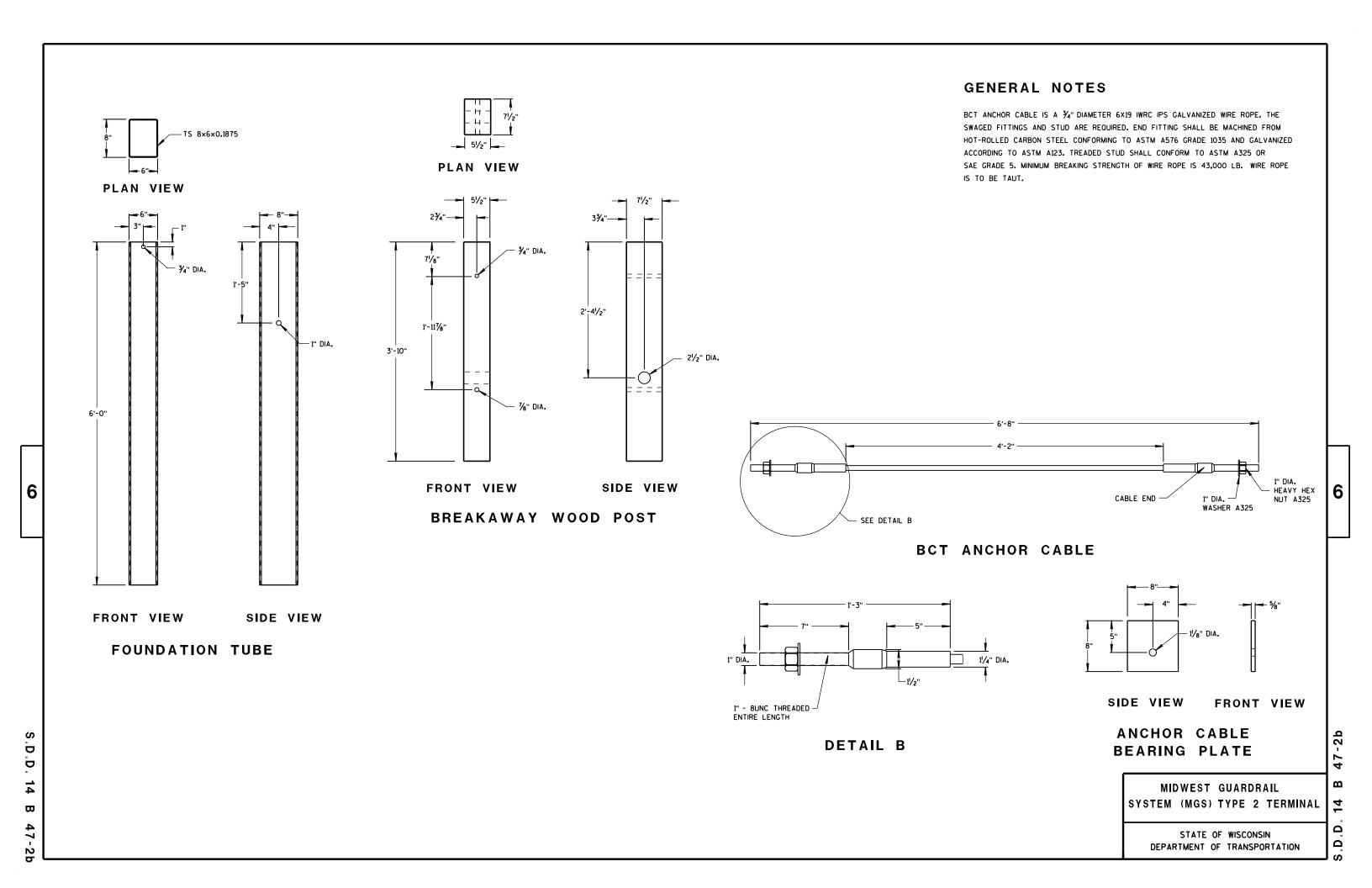
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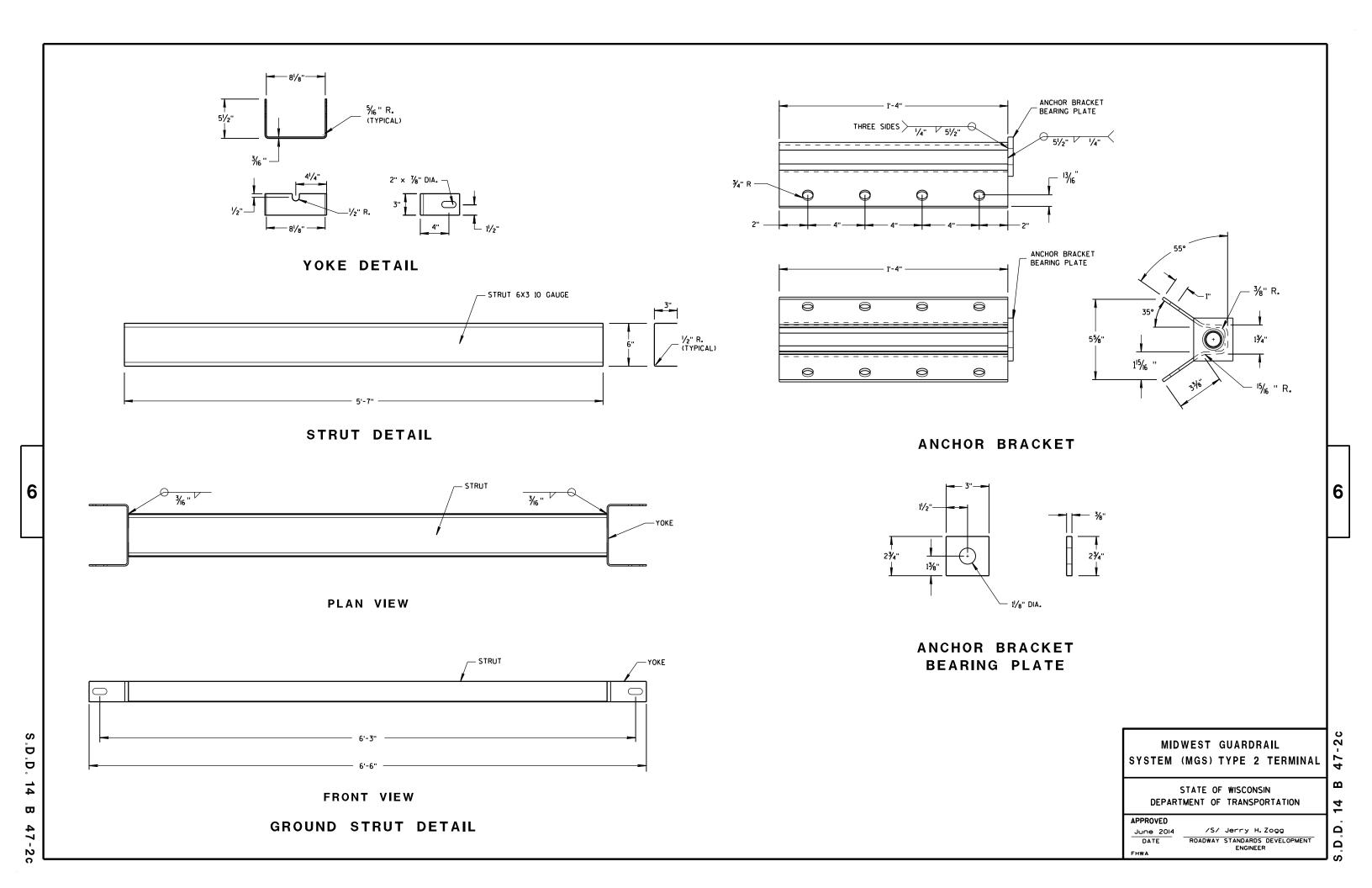
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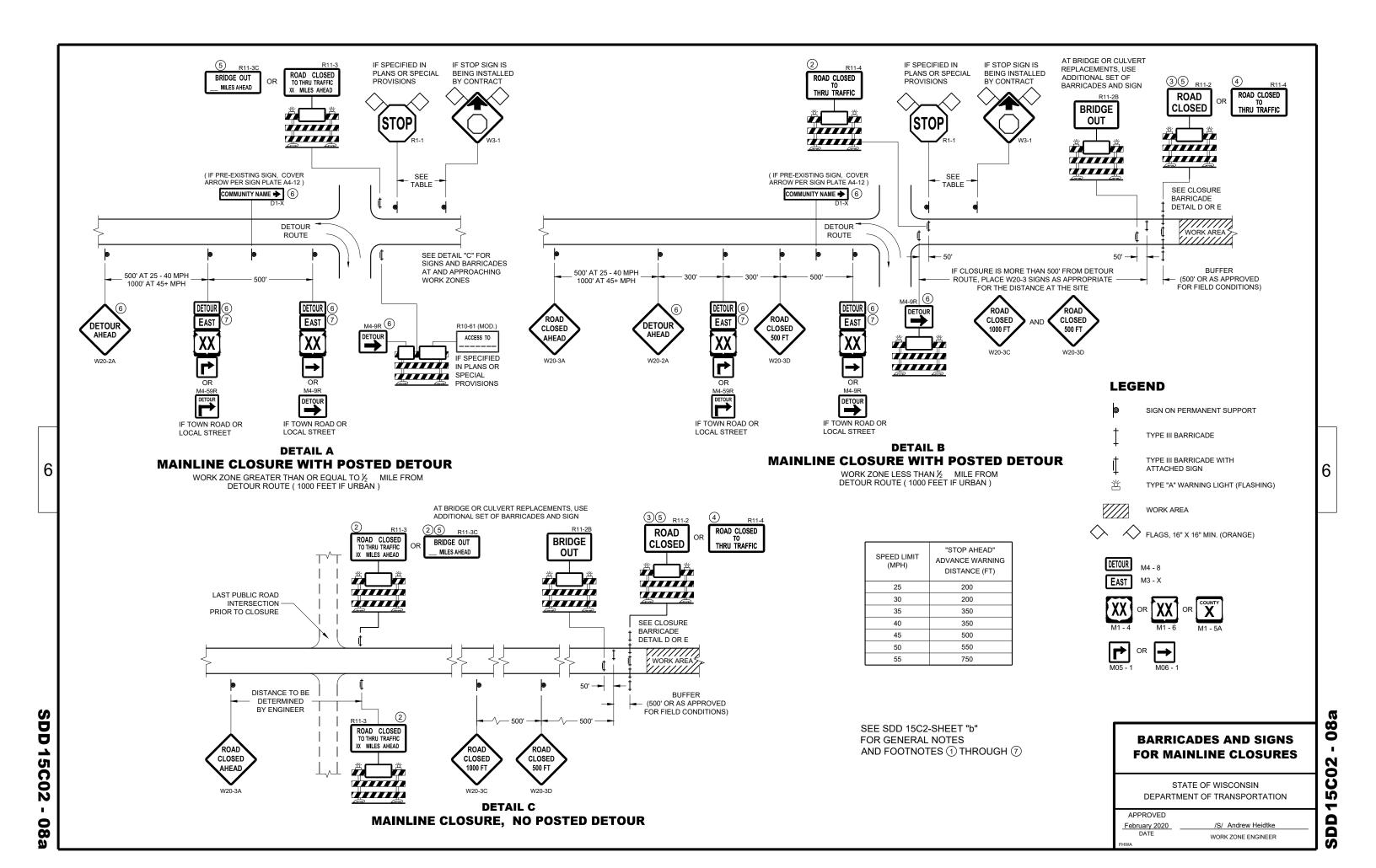
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

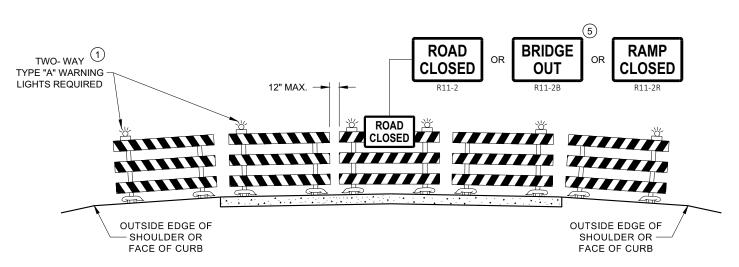




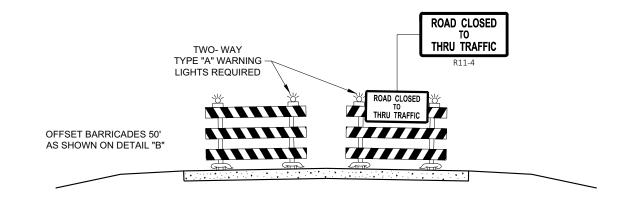








# DETAIL D ROAD CLOSURE BARRICADE DETAIL APPROACH VIEW



# 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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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 LIGHT SPACING.
- THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- (3) FOR ROAD CLOSURE <u>WITHOUT</u> LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- (4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD 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 VARIOUS CLOSURES

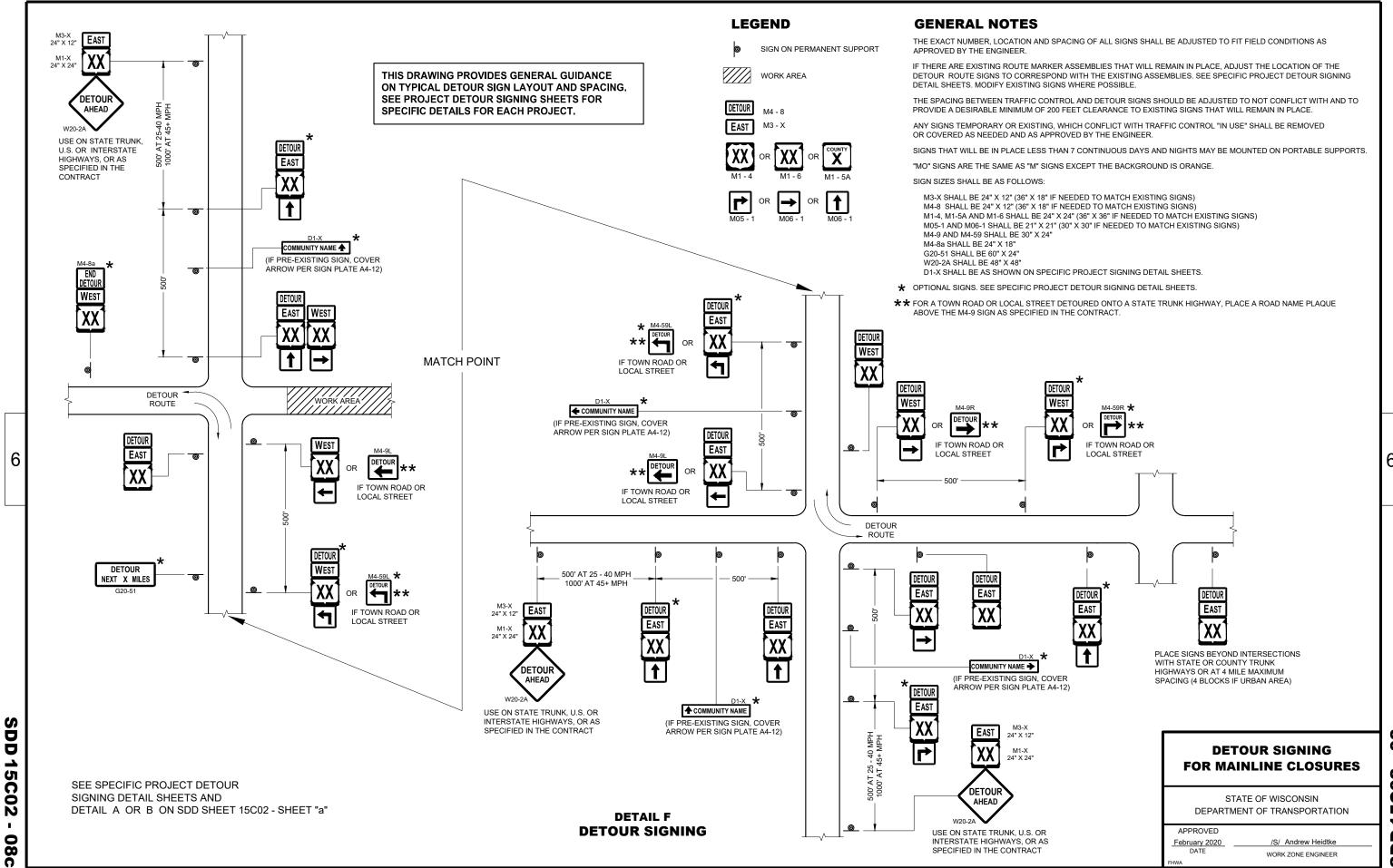
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

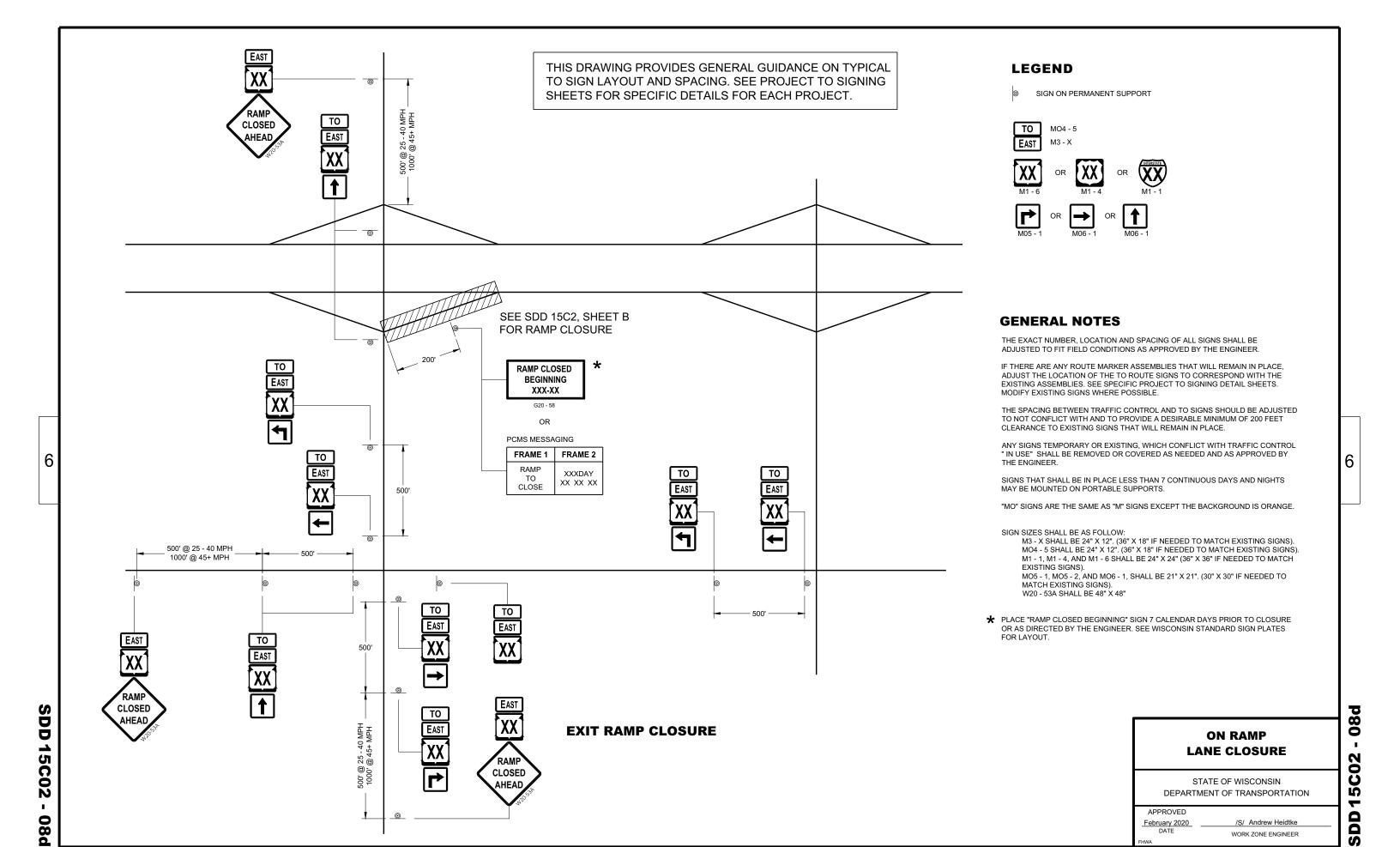
February 2020
DATE

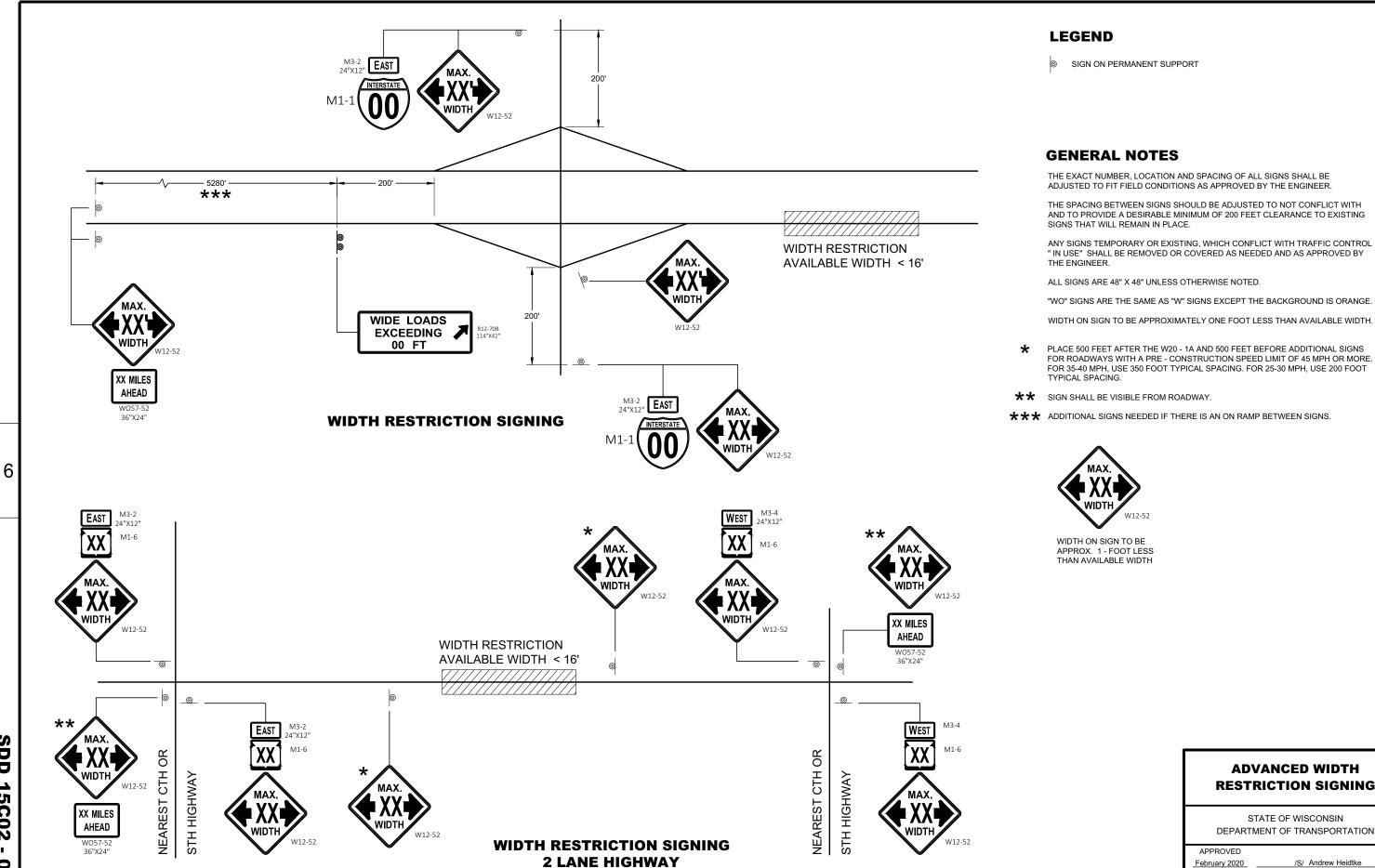
/S/ Andrew Heidtke
WORK ZONE ENGINEER

DD 15C02 - 08I



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AND TO PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING

"IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY

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

FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT

\*\*\* ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

### **ADVANCED WIDTH RESTRICTION SIGNING**

08

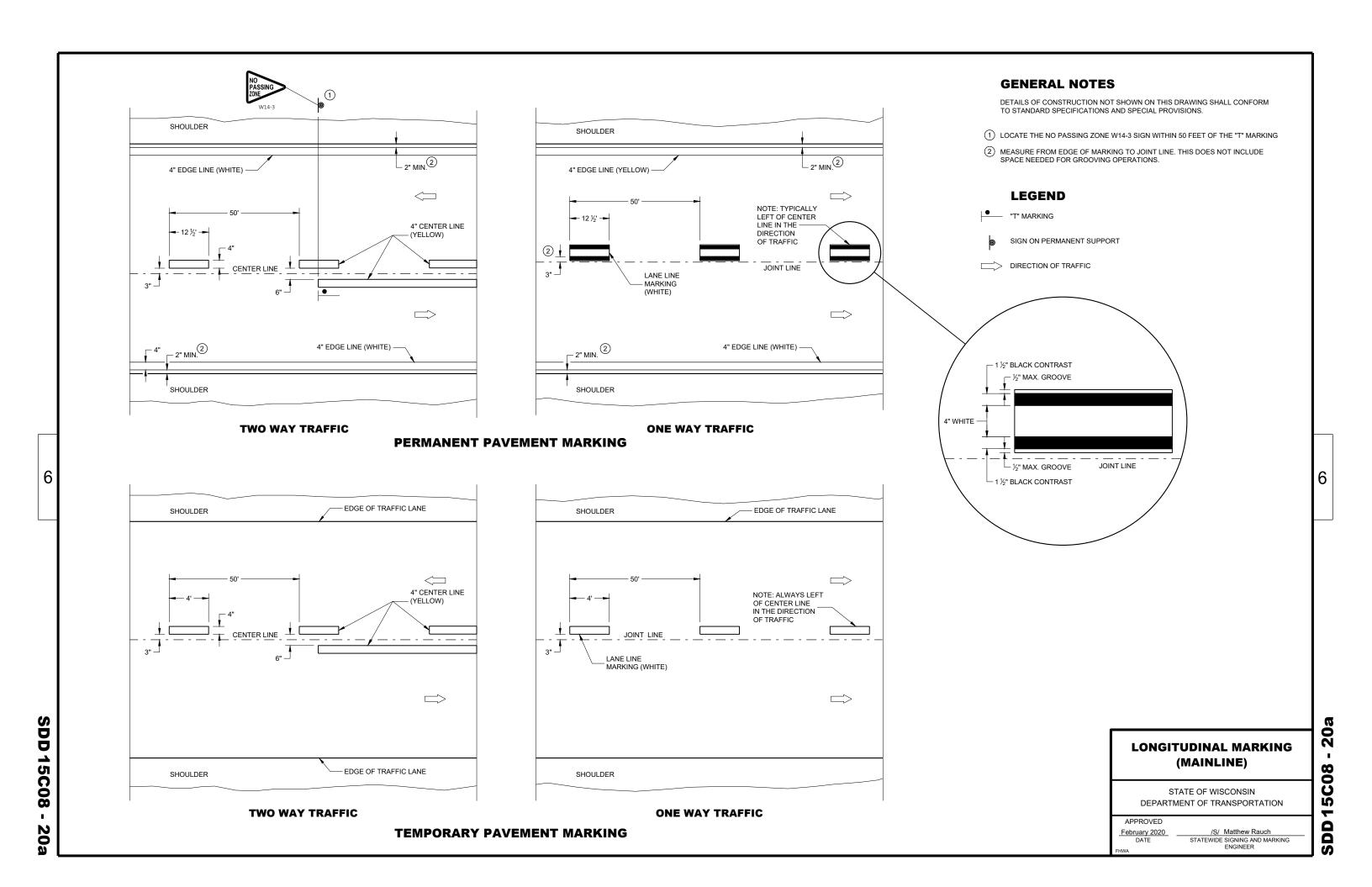
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STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

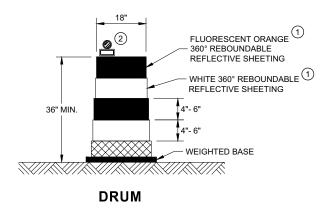
February 2020 DATE /S/ Andrew Heidtke WORK ZONE ENGINEER

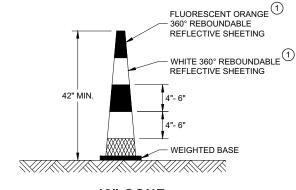
SDD 15C02 08f



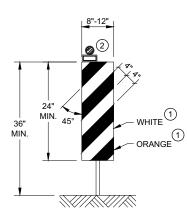
### **GENERAL NOTES**

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

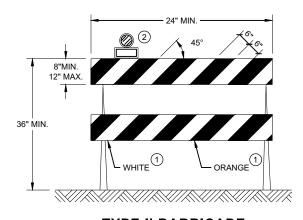




**42" CONE** DO NOT USE IN TAPERS ½ SPACING OF DRUMS

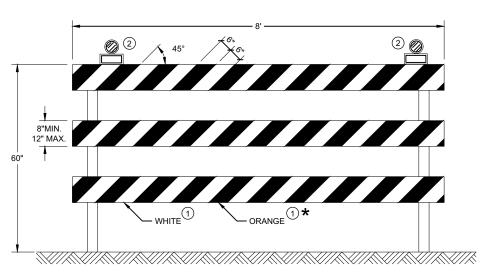


### **VERTICAL PANEL** THE STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



### **TYPE II BARRICADE**

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



### **TYPE III 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**

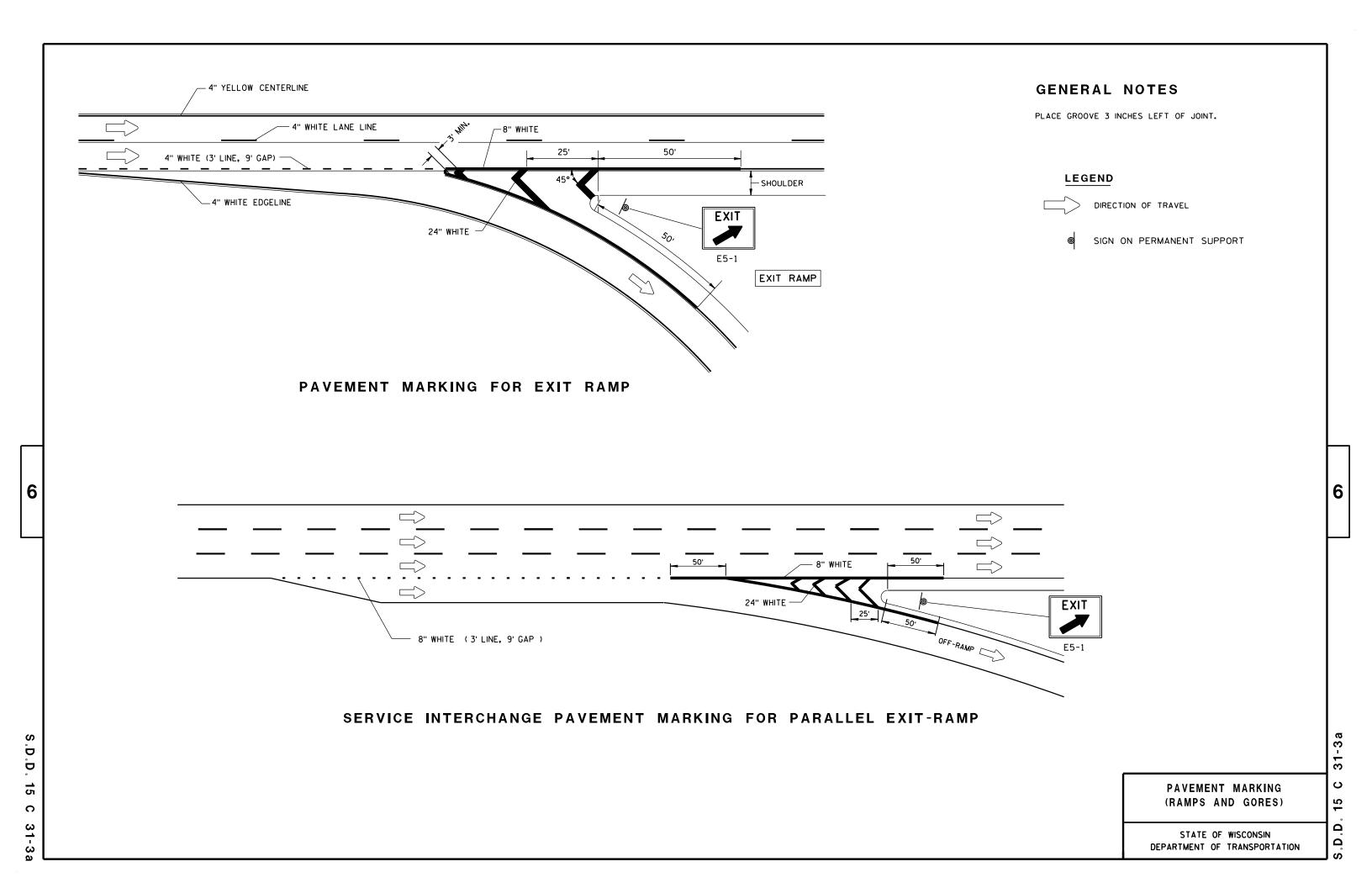
08

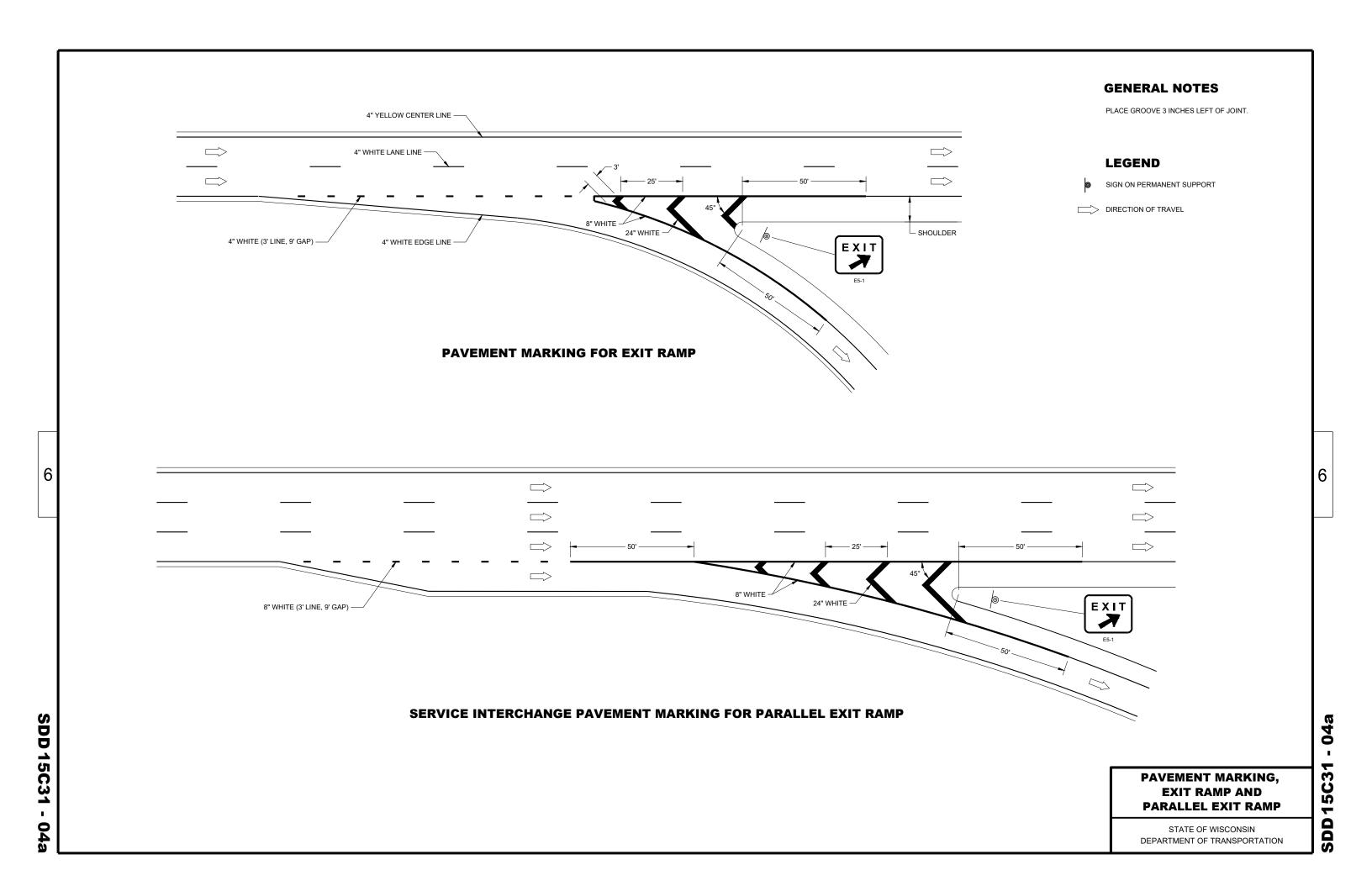
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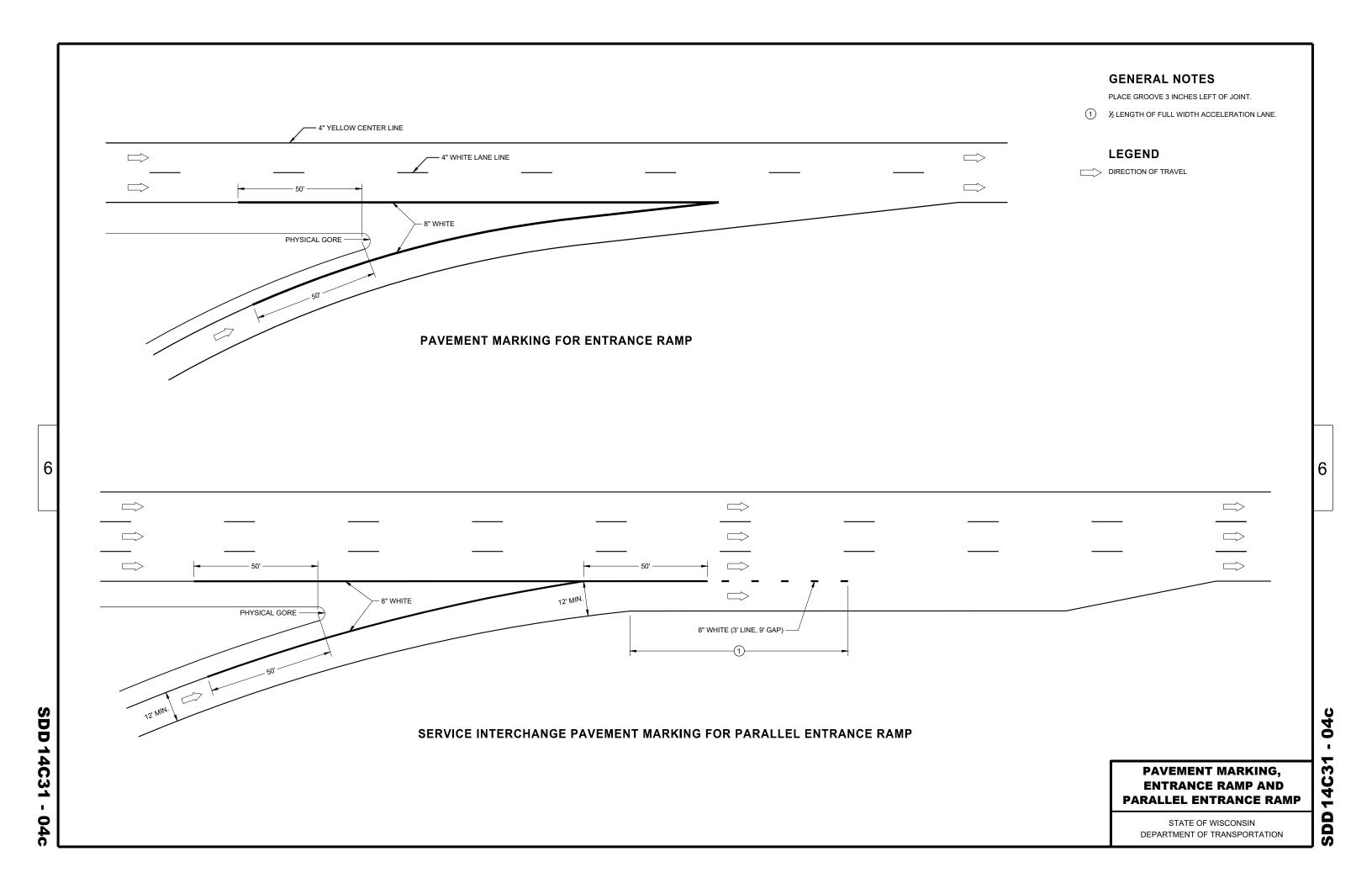
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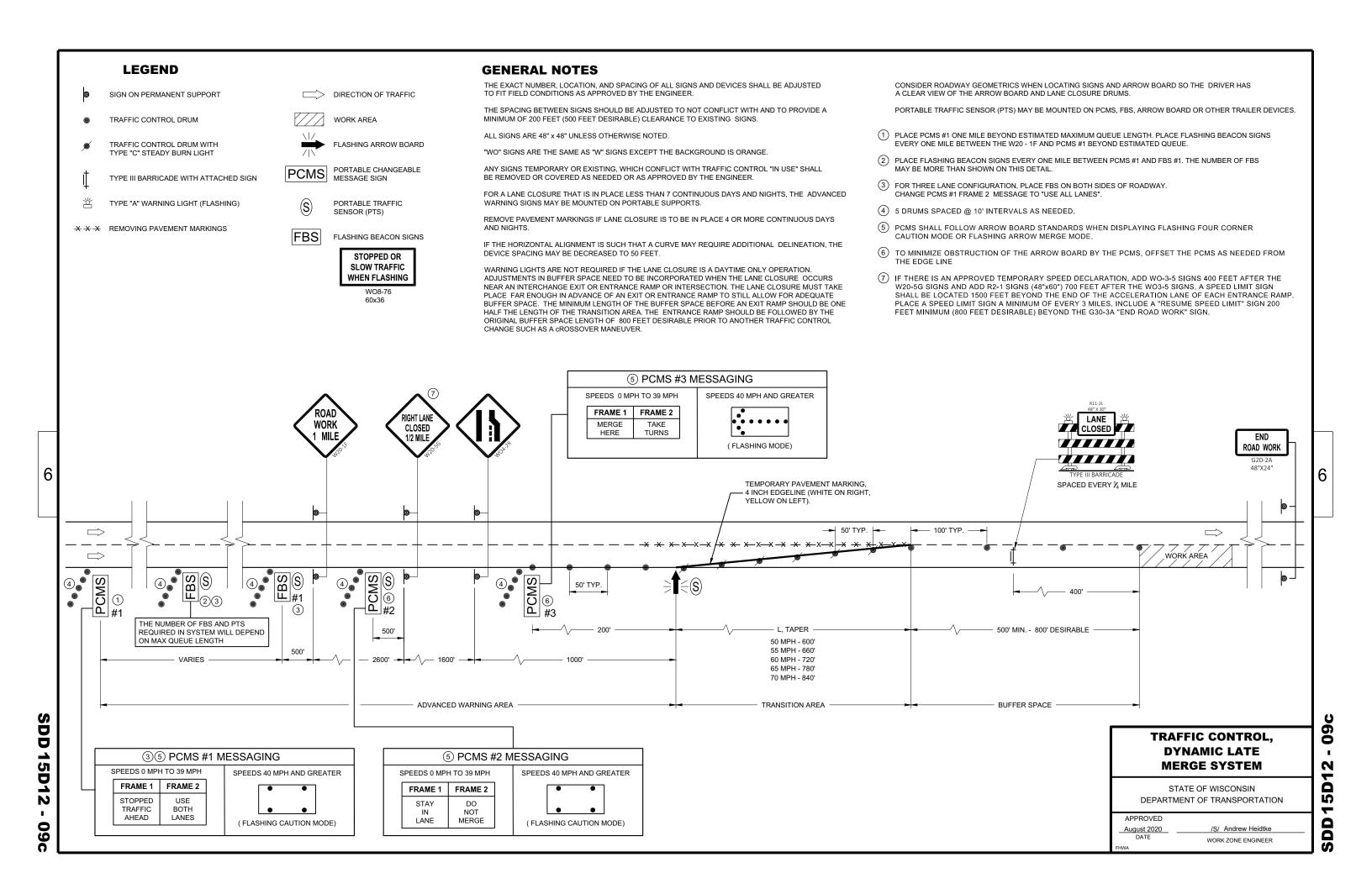
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

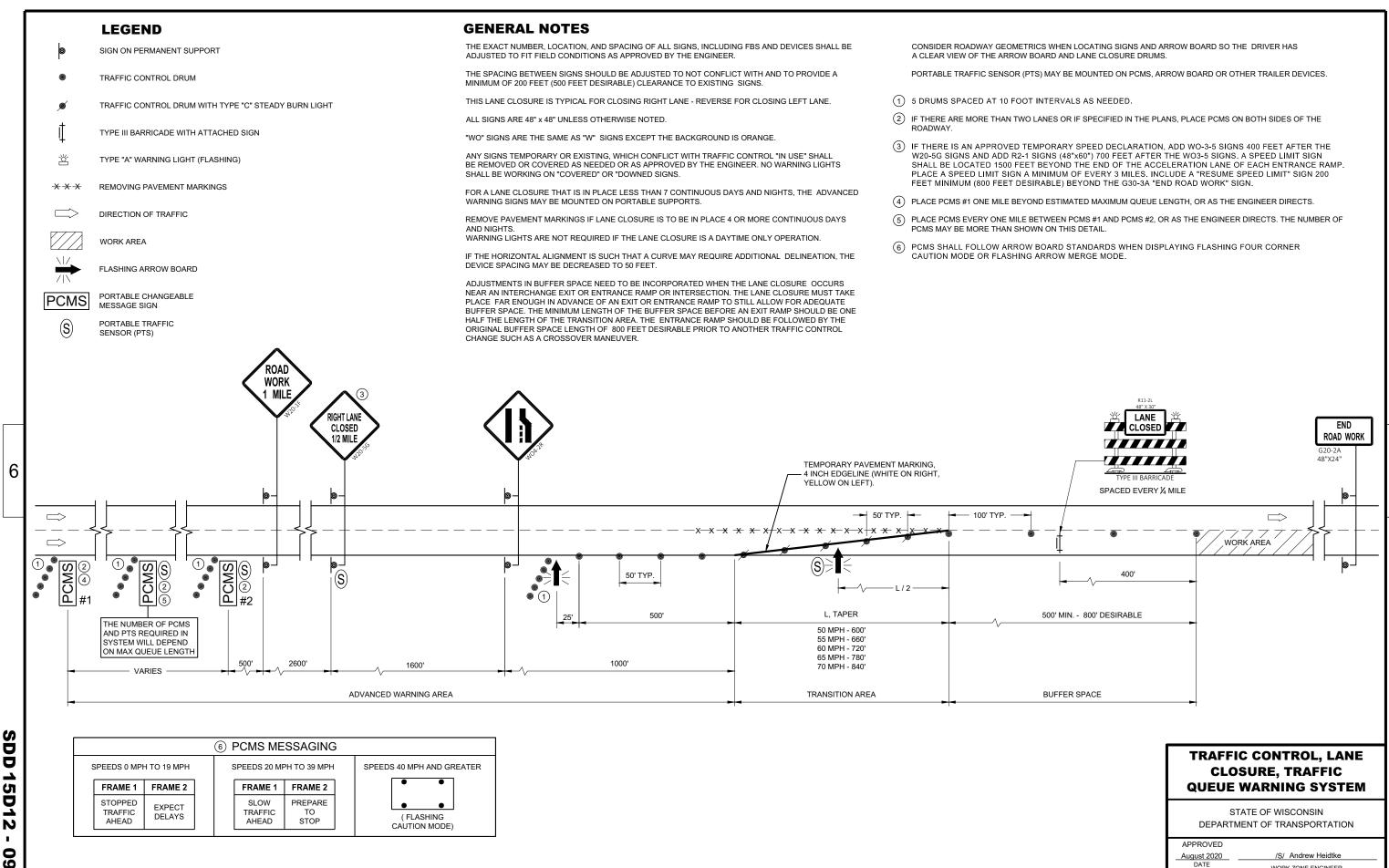
APPROVED	
November 2020	/S/ Andrew Heidtke
DATE	WORK ZONE ENGINEER





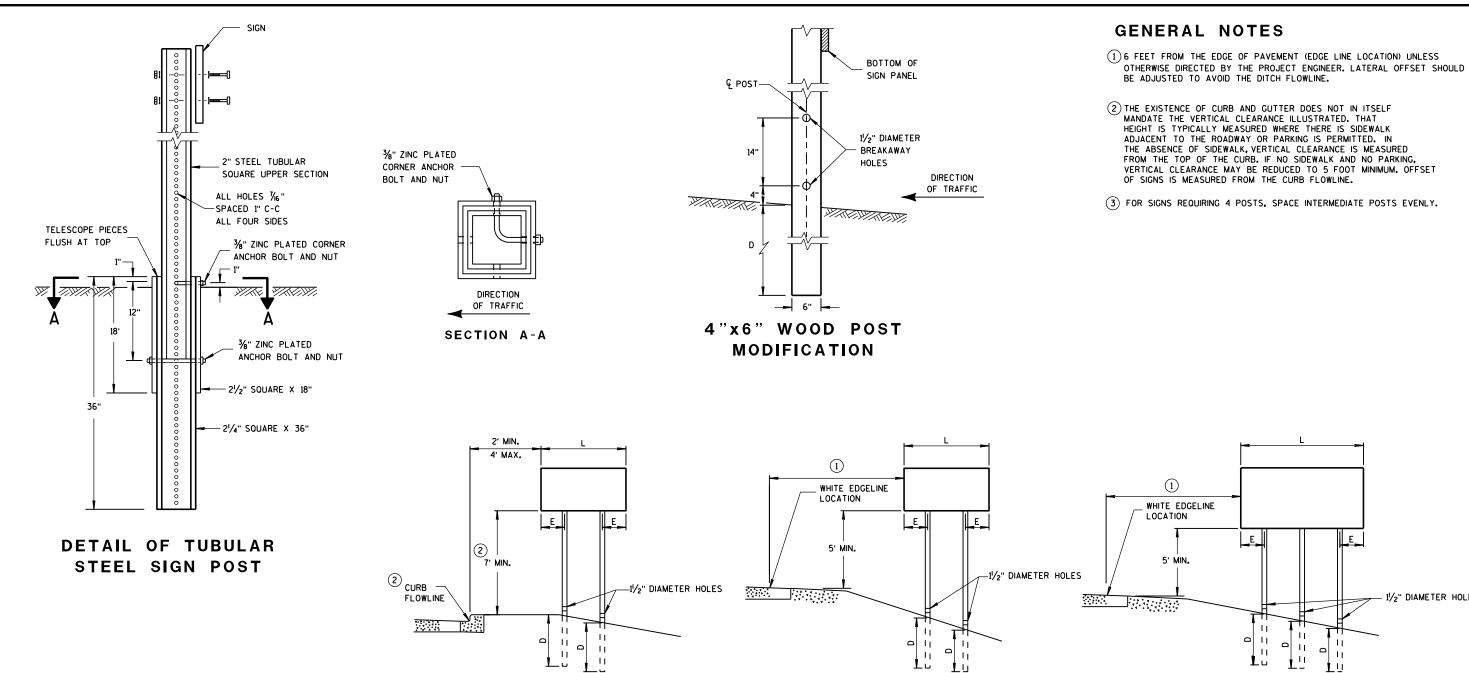






Ö 2 <u>1</u> 

WORK ZONE ENGINEER



TUBULAR STEEL POSTS

6

D

D

15

D

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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

RURAL 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	,
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 SIGN MOUNTING

6

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- 11/2" DIAMETER HOLES

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

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DEPARTMENT OF TRANSPORTATION

/S/ Andrew Heidtke WORK ZONE ENGINEER

APPROVED

June 2017 DATE

TRAFFIC CONTROL DRUM

TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT

TYPE "A" WARNING LIGHT (FLASHING)

DIRECTION OF TRAFFIC

WORK AREA

REMOVE PAVEMENT MARKING

#### **GENERAL NOTES**

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR LANE SHIFT LEFT - REVERSE FOR SHIFTING RIGHT.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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. NO WARNING LIGHTS SHALL BE WORKING ON ANY

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

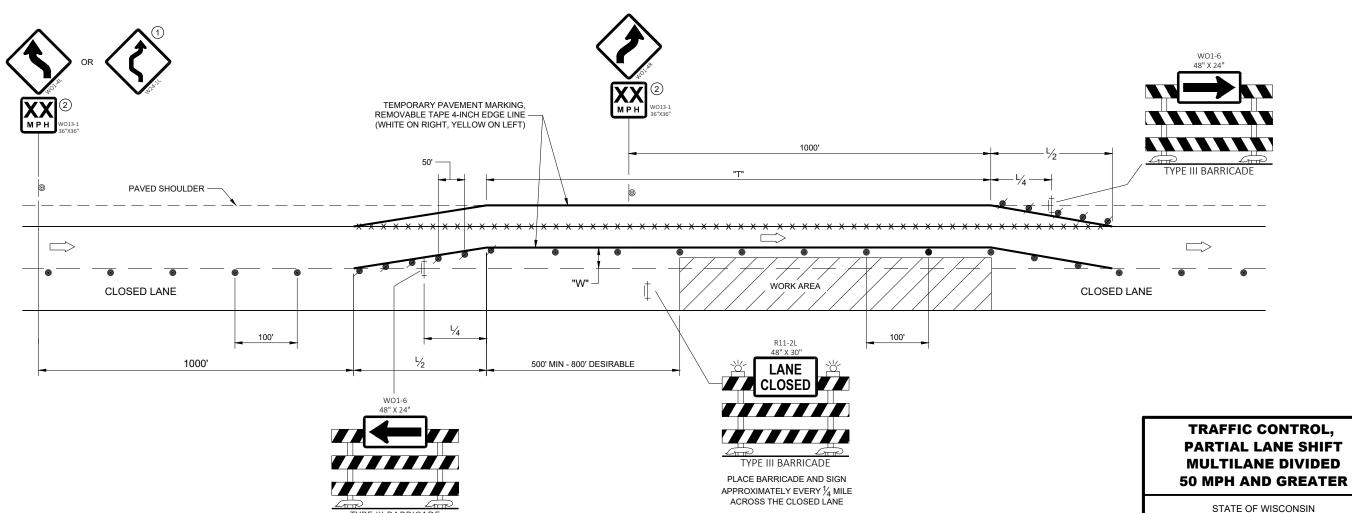
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE SHIFT OCCURS. NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE SHIFT MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE. RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL. CHANGE SUCH AS A CROSSOVER MANEUVER.

- 1) USE ONLY WHEN T<600', OMIT WO1-4R.
- (2) IF NEEDED, USE ONLY IF DESIGN SPEED IS 10 MPH BELOW POSTED SPEED.

POSTED SPEED LIMIT PRIOR TO WORK		W					R ½ ET (	•	
STARTING (MPH)	1	2	3	4	5	6	7	8	9
50	25	50	75	100	125	150	175	200	225
55	28	55	83	110	138	165	193	220	248
60	30	60	90	120	150	180	210	240	270
65	33	65	98	130	163	195	228	260	293
70	35	70	105	140	175	210	245	280	315



**SDD 15D40** 

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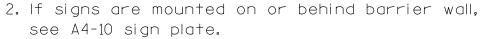
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DEPARTMENT OF TRANSPORTATION

APPROVED February 2021 DATE

ROADWAY STANDARDS DEVELOPMENT ENGINEER



The Double Arrow sign (W12-1D) 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" ( $\pm$ ).

- 3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
- 4. Minimum mounting height for signs mounted on traffic signal poles is  $5'-3''(\frac{+}{2})$ .
- 5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
- 6. The (±) tolerance for mounting height is 3 inches.
- 7. Folding signs shall be mounted at a height of 5'-3'' ( $\pm$ ) or as directd by the Engineer.

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

\*\* Curb Flowline

D
White Edgeline Location

\*

6'-3"(±)

D |

Outside Edge

of Gravel

White Edgeline
Location

Outside Edge
of Gravel

d.

POST EMBEDMENT DEPTH

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

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

HWY:

\* 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

Matther & Rawk For State Traffic Engineer

DATE 5/13/2020 PLATE NO. \_A4-3.22

SHEET NO:

Ε

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A43.dgn

PROJECT NO:

PLOT DATE: 13-MAY 2020 1:04

COUNTY:

PLOT BY : mscj9h

PLOT NAME :

PLOT SCALE: \$\$.....plo†scale.....\$\$WISDOT/CADDS SHEET 42

APPROVED



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



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

HWY:



#### PLAN VIEW

COUNTY:

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

For State Traffic Engineer

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

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A43B.DGN

PROJECT NO:

PLOT DATE: 27-JAN-2014 09:48

PLOT NAME :

PLOT BY: mscsja

PLOT SCALE: 13.659812:1.000000

APPROVED

WISDOT/CADDS SHEET 42

## 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'' ( $\pm$ ) 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.

# POST EMBEDMENT DEPTH

D
(Min)
4'
5'

WISCONSIN DEPT OF TRANSPORTATION APPROVED For State Traffic Engineer DATE 8/21/17 PLATE NO. <u>A4-4.15</u>





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

HWY:

SIGN SHAPE OTHER THAN (THREE POSTS REQUIR	
L	E
Greater than 108" to 144"	12''

COUNTY:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A44.DGN

PROJECT NO:

PLOT DATE: 21-AUG-2017 15:54

PLOT SCALE: 108.188297:1.000000

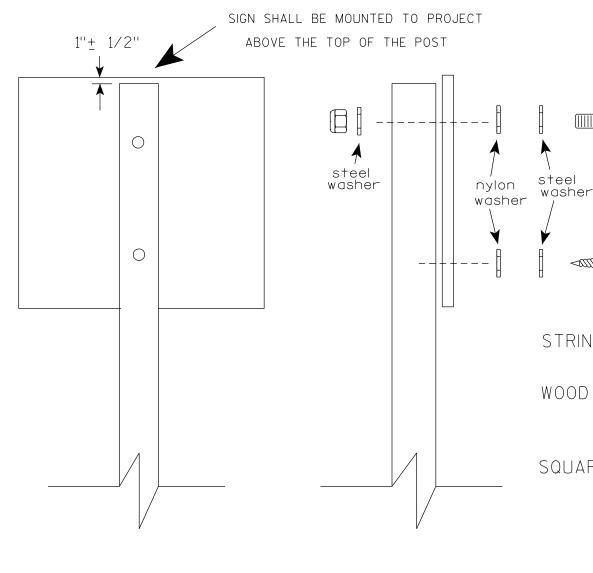
WISDOT/CADDS SHEET 42

OF TYPE II SIGNS ON MULTIPLE POSTS

TYPICAL INSTALLATION

SHEET NO:

PLOT BY: \$\$...plotuser...\$\$ PLOT NAME:



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 -  $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts

WOOD POSTS  $(4" \times 6")$ 

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 -  $\frac{1}{32}$  " (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  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ " STEEL 1-1/4" O.D. X  $\frac{3}{8}$ " 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

For State Traffic Engineer

SHEET NO:

DATE <u>4/1/202</u>0

PLATE NO. <u>44-8.9</u>

PROJECT NO:

PLOT DATE: 01-APRIL-2020

PLOT BY : dotc4c

WISDOT/CADDS SHEET 42

Ε

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A48.DGN



PROJECT NO: HWY: COUNTY: SHEET NO: FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\A49.DGN PLOT DATE: 05-FEB-2015 17:09 PLOT BY: mscsja PLOT NAME : PLOT SCALE: 13.659812:1.000000

DATE 2/05/15

PLATE NO. <u>A4-9.9</u>

For State Traffic Engineer



## SIGN LAYOUT WITH VARIOUS SIZED MESSAGES





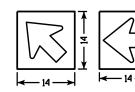




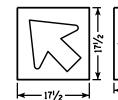


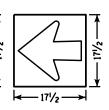










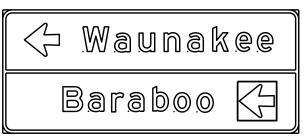


## **BEFORE**



8 | 10"/6









## GENERAL NOTES

- Materials shall conform to Standard Specification Section 637. Base - Sheet Aluminum 0.040" Thickness Sheeting - Orange Type F Reflective Arrow - Black Non-Reflective
- 2. Arrow signs shall be fastened to permanent sign by either aluminum rivets or aluminum self-tapping sheet metal screws.

  There shall be a minmum of 2 fasteners used per arrow sign.
- 3. There shall be a spacer consisting of a 0.08" nylon washer between the back of the arrow sign and the face of the permanent sign.
- 4. Arrows are per standard plate A1-2
- 5. Use separate arrow sign for each destination
- 6. Tilt arrow is always at 45 degrees
- 7. Arrow is centered on arrow sign

Lower Case Copy Size	Standard Width (Single Arrow)	Tilt Arrow	3 Line Tilt Arrow Cover Width	Height
3¾" Series C	8	9 ½	14 1/2	8
4½" Series D & E	9 1/2	10	15	9 ½
6" Series D & E	14	16	20 1/2	14
8" Series E	17 1/2	20 ½	25	17 1/2

DESTINATION DIRECTIONAL ARROW
FOR DETOUR SIGNS

WISCONSIN DEPT OF TRANSPORTATION

Matther tec state is

For State Traffic Engineer
PLATE NO. A4-12.2

SHEET NO:

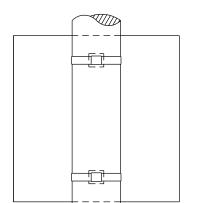
PROJECT NO:

PLOT DATE: 08-0CT-2014 11:50

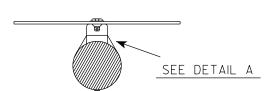
DATE 10/08/14

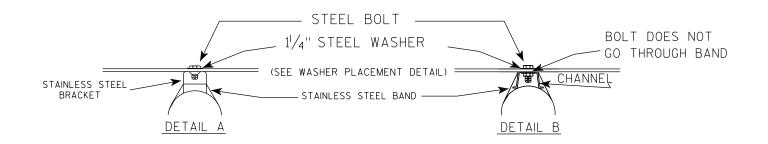
WISDOT/CADDS SHEET 42

# BANDING

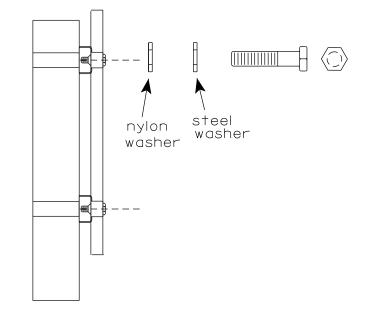


SINGLE SIGN





## WASHER PLACEMENT



HWY:

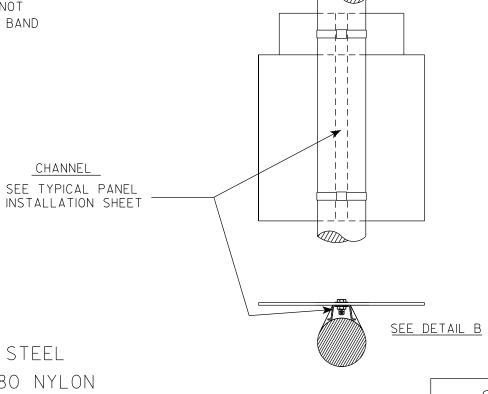
WASHERS (ALL POSTS) -

1-1/4" O.D. X<sup>3</sup>/<sub>8</sub>" I.D. X<sup>1</sup>/<sub>16</sub>" STEEL 1-1/4" O.D.  $\times \frac{3}{8}$ " I.D.  $\times$  .080 NYLON FOR ALL TYPE H SIGNS

## GENERAL NOTES

- 1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
- 2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
- 3. Banding and assembly bracket shall be stainless steel. All bands shall be  $\frac{3}{4}$ " in width and 0.025" thickness.
- 4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

## "J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

SHEET NO:

State Traffic Engineer

Ε

APPROVED

DATE 6/10/19 PLATE NO. A5-9.4

COUNTY:

PLOT DATE: 10-JUN 2019 4:10

PLOT NAME :

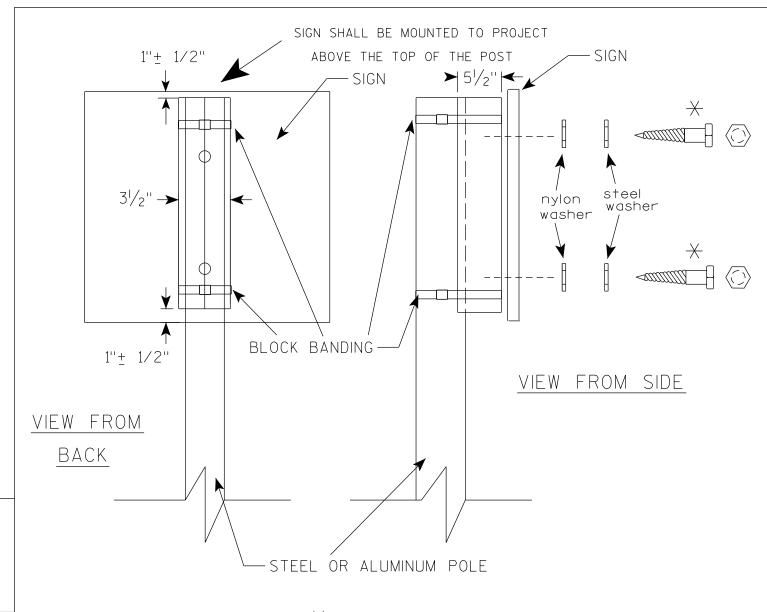
PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

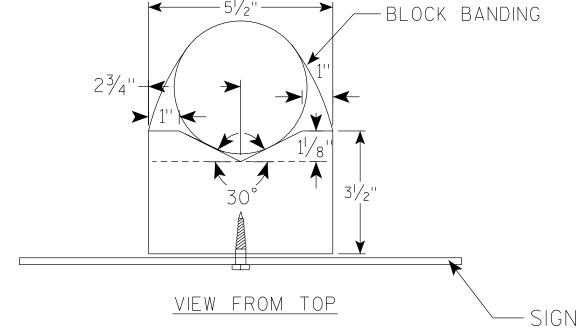
FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\A59.dgn

PROJECT NO:

PLOT BY: mscj9h

CHANNEL





## GENERAL NOTES

- 1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
- 2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
- 3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS.

  SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
- 4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
- 5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation: B 633, TYPE III, SC 3
- 6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
- 7. STEEL WASHERS SHALL BE  $1\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
- 8. NYLON WASHERS SHALL BE  $1^{1}/_{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

 $\rightarrow$  LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

BLOCK BANDING DETAIL ( V-BLOCK OPTION )

WISCONSIN DEPT OF TRANSPORTATION

| APPROVED

For State Traffic Engineer

SHEET NO:

Matthew R

DATE 6/10/19

PLATE NO. \_A5-10.2

PROJECT NO:

FILE NAME: C:\CAEfiles\Projects\tr\_stdplate\A510.dgn

PLOT DATE: 10-JUN 2019 4:15

PLOT BY: mscj9h

WISDOT/CADDS SHEET 42

## NOTES

- 1. Sign is Type II See Note 6 reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:

Background - Top Red - Bottom Blue (See Note 6) Message - White - See Note 6

- 3. Message Series See note 5
- 4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
- 5. M1-1 Numerals D Interstate - C

M1-1A - All copy - C

6. Permanent Signs

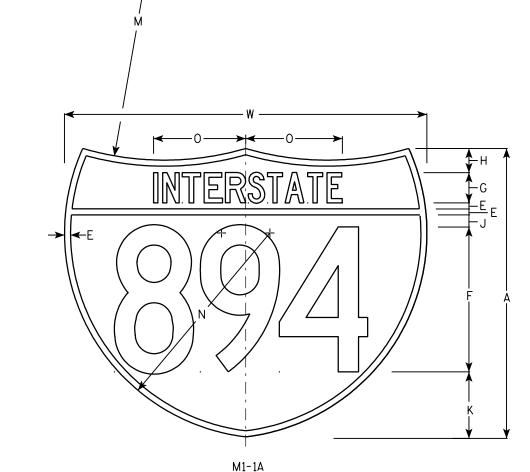
Message - Type H Reflective

Detour or other temporary signs Background - Reflective

Message - Reflective

M1-1

HWY:



PLOT DATE: 13-OCT-2005 14:49

Metric equivalent for these signs are:

SIZE	M1-1	SIZE	M1-1A
1			
2	600 mm X 600 mm	2	600 mm X 750 mm
3	900 mm X 900 mm	3	900 mm X 1125 mm
4	900 mm X 900 mm	4	900 mm X 1125 mm
5	900 mm X 900 mm	5	900 mm X 1125 mm

<u></u>	300 11111 2 300 11111 2 123 11111															M1 - 1	W1-1A	M1-1	W1-1A										
SIZE	Α	В	С	D	Е	F	G	Ι	I	J	K	L	М	N	0	Ρ	a	R	S	T	U	٧	W	Х	Y	Area sq. ft.	Area sq. ft.	Area m2	Area m2
1																													
2	24				1/2	12	2 ½	2		1	5 ½	15	24	17	7 1/8								30			3.13	3.91	<b>.</b> 36	.46
3	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 ½	36	25 ½	11 ¾								45			7.03	8.79	<b>.</b> 81	1.05
4	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 ½	36	25 ½	11 ¾								45			7.03	8.79	.81	1.05
5	36				3/4	18	3 3/4	3		1 1/2	8 1/4	22 1/2	36	25 1/2	11 ¾								45			7.03	8.79	<b>.</b> 81	1.05

COUNTY:

INTERSTATE ROUTE MARKER M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

DATE 08/23/05

For State Traffic Engineer

SHEET NO:

PLOT BY : DITJPH PLOT NAME :

PROJECT NO:







MP3-1









HWY:



## NOTES

- 1. All Signs Type II Type H
- 2. Color:

Background - See note 5 Message - See note 5

- 3. Message Series C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

5. M3-1 thru M3-4 Background - White Message - Black

MB3-1 thru MB3-4 Background - Blue

Message - White

MK3-1 thru MK3-4 Background - Green

Message - White

MM3-1 thru MM3-4 Background - White

Message - Green

MN3-1 thru MN3-4 Background - Brown

Message - White

MP3-1 thru MP3-4 Background - White

Message - Blue

6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	0	R	S	Т	U	V	W	Х	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 1/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

COUNTY:

STANDARD SIGNS M3-1 thur M3-4 **SERIES** 

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

DATE 10/15/15 PLATE NO. M3-1.14

Ε

SHEET NO:

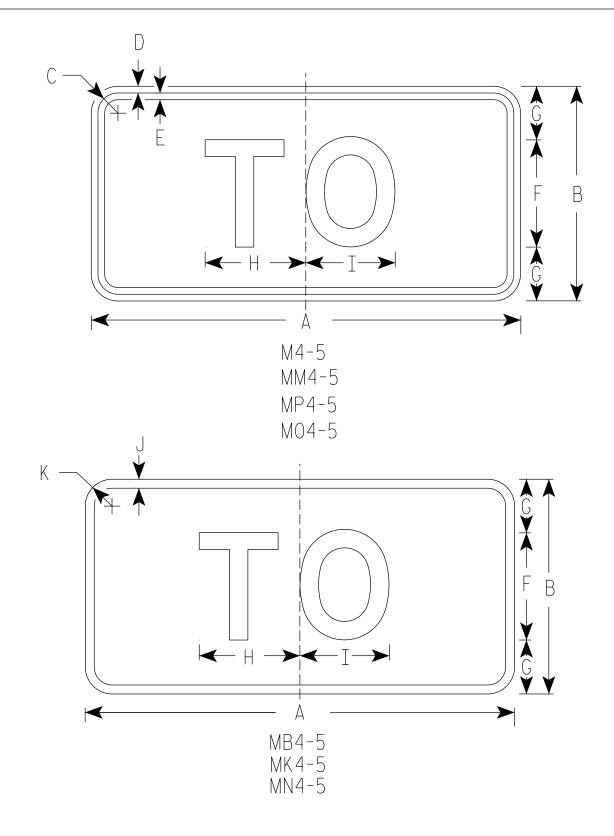
FILE NAME · C·\CAFfiles\Projects\tr stdolote\M31 DCN

PROJECT NO:

PLOT DATE . 01-DEC-2015 17:54

PLOT RY . \$\$ plotuser \$\$ PLOT NAME :

PLOT SCALE . 11 675051.1 000000



## NOTES

- 1. Sign is Type II Type H Reflective
- 2. Color:

Background - See note 5 Message - See note 5

- 3. Message Series E
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. M4-5 Background White

Message - Black

MB4-5 Background - Blue

Message - White

MK4-5 Background - Green

Message - White

MM4-5 Background - White

Message - Green

MN4-5 Background - Brown

Message - White

MP4-5 Background - White

Message - Blue

MO4-5 Background - Orange Type F Reflective

Message – Black

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	Q	R	S	Т	U	٧	W	Х	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	5 3/8	5 1/4	1/2	1 1/2																2.00
3	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
4	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2																4.5
5	36	18	1 3/8	3/8	1/2	9	4 1/2	8 1/4	8 3/8	1/2	1 1/2						·			·	·				·		4.5

COUNTY:

STANDARD SIGN M4-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther K Kauch
Forstate Traffic Engineer

DATE 03/7/19

PLATE NO. <u>M4-5.9</u>

SHEET NO:

FILE NAME : C:\CAEFiles\Projects\tr\_stdplate\M45.DGN

HWY:

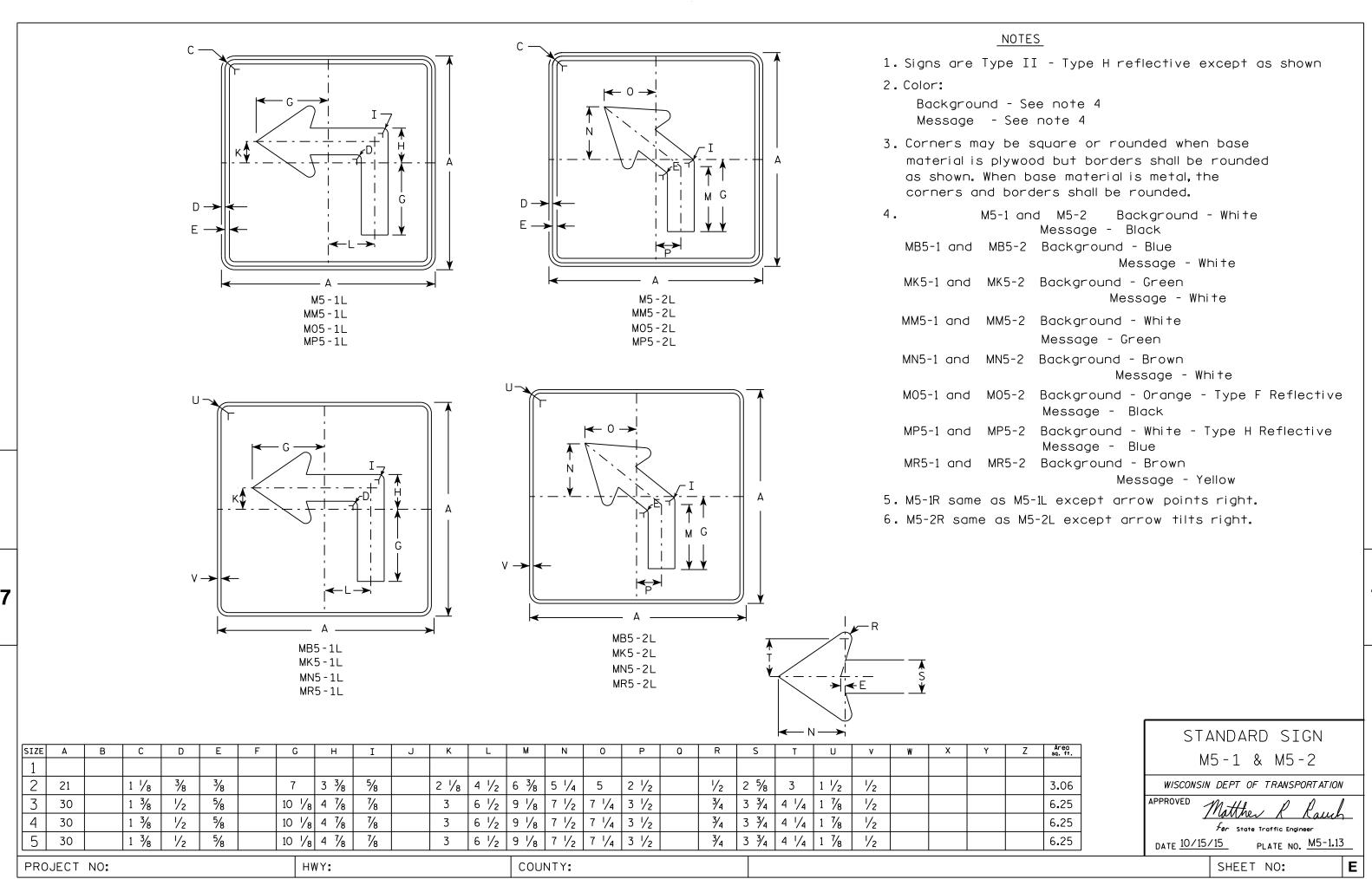
PROJECT NO:

PLOT DATE: 07-MAR-2019

PLOT BY : dotc4c

PLOT NAME :

PLOT SCALE: \$\$.....plo+scale.....\$\$ WISDOT/CADDS SHEET 42

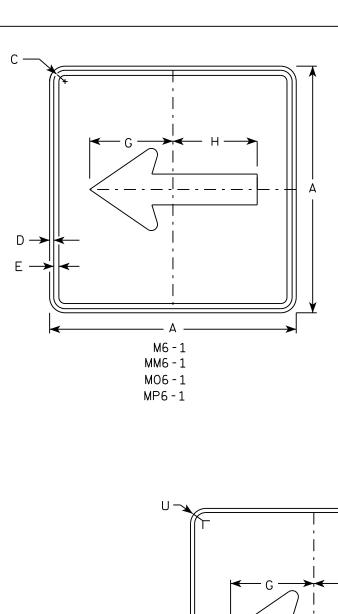


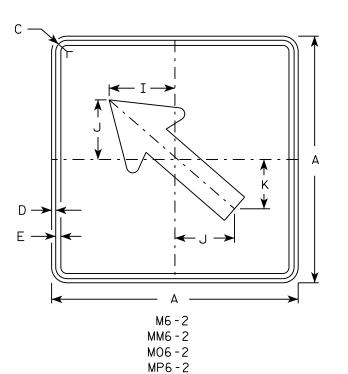
FILE NAME . C.\CAFfiles\Projects\tr stdolote\M51 DCN

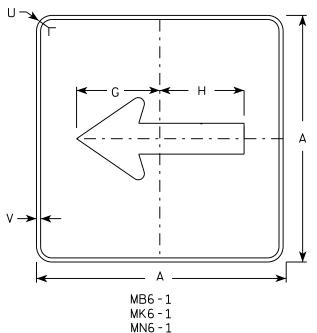
PLOT DATE . 01-DEC-2015 18:07

PINT RY . \$\$ DIOTUSET \$\$ PINT NAMF :

PLOT SCALE . 11 675051.1 000000

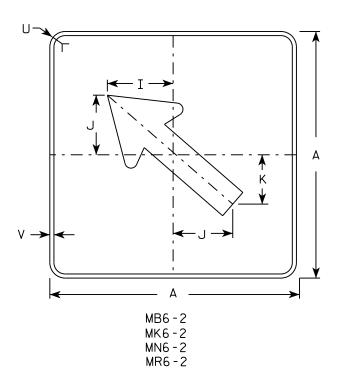






MR6-1

HWY:



#### NOTES

- 1. Signs are Type II Type H except as Shown
- 2. Color:

Background - See note 4 Message - See note 4

- 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. M6-1 and M6-2 Background White

Message - Black

MB6-1 and MB6-2 Background - Blue

Message - White

MK6-1 and MK6-2 Background - Green

Message - White

MM6-1 and MM6-2 Background - White

Message - Green

MN6-1 and MN6-2 Background - Brown

Message - White

M06-1 and M06-2 Background - Orange - Type F Reflective

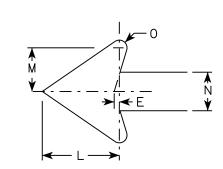
Message - Black

MP6-1 and MP6-2 Background - White

Message - Blue

MR6-1 and MR6-2 Background - Brown

Message - Yellow



SIZE	Α	В	С	D	E	F	G	Н	I	J	K	L	М	N	0	Р	٥	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.
1 1																											
2	21		1 1/8	3/8	3/8		7 1/2	7 1/8	5 %	5	4 1/4	5 1/4	3	2 %	1/2						1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4						1 1/8	1/2					6.25

COUNTY:

STANDARD SIGN M6-1 & M6-2 SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew & Rawl For State Traffic Engineer

Ε

DATE 10/15/15 PLATE NO. M6-1.15

SHEET NO:

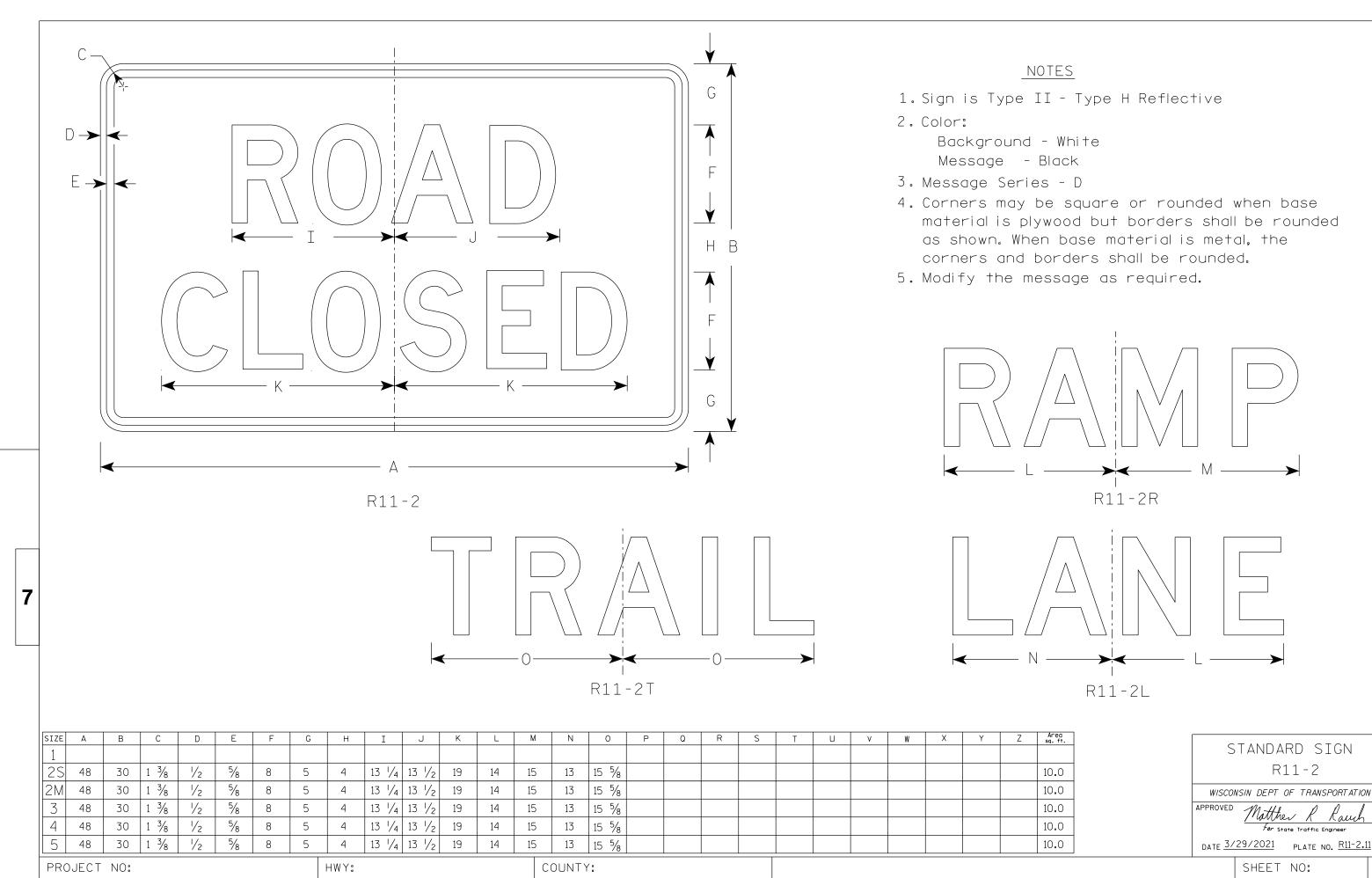
FILE NAME · C·\CAFfiles\Projects\tr stdplote\M61 DCN

PROJECT NO:

PLOT DATE . 01-DEC-2015 17:57

PIOT RY . \$\$ plotuser \$\$ PIOT NAMF :

PLOT SCALE . 11 675051.1 000000



FILE NAME : C:\Users\PROJECTS\tr\_stdplate\R112.dgn

PLOT DATE: 29-MAR 2021 8:15

PLOT BY : dotc4c

PLOT NAME :

PLOT SCALE: \$\$.....plotscale.....\$\$ WISDOT/CADDS SHEET 42

W20-53F

PLOT BY: mscj9h

## NOTES

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

Background - Orange Message - Black

- 3. Message Series see note 5
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Lines 1 and 2 are Series D. Line 3 is Series D for AHEAD and Series C for all other distances.

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	0	R	S	T	U	V	W	X	Y	Z	Areo sq. ft.
1	36		1 5/8	5/8	3/4	5	3 3/8	3 ½	1 1/8	4	9 1/4	9 1/4	12 1/2	11	9	6	10 1/8	2 1/2	1 1/8	5 %	8	1 3/8	4 1/2	3 ½	10 ¾	1 3/4	9.0
2S	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 1/8	12 1/8	17 1/4	14 %	12	8	13 1/2	3	2 %	7 1/2	10 %	1 1/8	6	4 5%	14 3/8	2 3/8	16.0
2M	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 1/8	12 1/8	17 1/4	14 %	12	8	13 1/2	3	2 %	7 1/2	10 %	1 1/8	6	4 %	14 3/8	2 3/8	16.0
3	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 1/8	12 1/8	17 1/4	14 %	12	8	13 1/2	3 3/8	2 %	7 1/2	10 %	1 1/8	6	4 %	14 3/8	2 3/8	16.0
4	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 1/8	12 1/8	17 1/4	14 %	12	8	13 1/2	3	2 %	7 1/2	10 %	1 1/8	6	4 %	14 3/8	2 3/8	16.0
5	48		2 1/4	3/4	1	7	4 1/2	4 3/4	1 1/2	5 1/4	12 1/8	12 1/8	17 1/4	14 5/8	12	8	13 ½	3 3/8	2 5/8	7 1/2	10 %	1 1/8	6	4 5/8	14 3/8	2 3/8	16.0

COUNTY:

W20-53A

HWY:

STANDARD SIGN W20-53A,B,C,D,F,G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R Rauch

For State Traffic Engineer

DATE 5/27/15 PLATE NO. W20-53.1

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W2053.DGN

PROJECT NO:

PLOT DATE: 27-MAY-2015 19:40

PLOT NAME :

PLOT SCALE : 9.729210:1.000000

## NOTES

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

Background - Orange 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.

	G
	<b>¥</b> B
W01-6	

SIZE	Α	В	С	D	E	F	G	Н	I	J	К	L	М	N	0	Р	0	R	S	T	U	٧	W	Х	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 ¾													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 ¾													12.5

COUNTY:

STANDARD SIGN WO1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matther R Rauch
For State Traffic Engineer

For State Traffic Engineer

13 PLATE NO. <u>W01-6.1</u>

DATE <u>11/18/13</u>

SHEET NO:

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W016.DGN

HWY:

PROJECT NO:

PLOT DATE: 28-FEB-2014 11:37

PLOT NAME :

PLOT BY: mscj9h

PLOT SCALE: 5.837526:1.000000

WISDOT/CADDS SHEET 42

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND INSPECTION REPORTS. EXISTING BRIDGE PLANS AVAILABLE AT WISDOT.

STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT.

CONTRACTOR TO VERIFY EXISTING UTILITY LOCATIONS.

CONCRETE SURFACE REPAIR AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

THESE STRUCTURE PLANS ARE ONLY THE STRUCTURE REPAIR WORK. ANY ADDITIONAL REMOVAL REQUIRED, OUTSIDE OF THE LIMITS SHOWN IN THESE PLANS MUST BE COORDINATED WITH THE FIELD ENGINEER. FIELD ENGINEER SHOULD BE CONTACTED FOR APPROVAL OF ADDITIONAL REMOVAL.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

APPLY "PIGMENTED SURFACE SEALER" TO THE EXISTING CONCRETE PARAPETS PER THE STANDARD SPECIFICATIONS AND AS SHOWN IN THIS PLAN SET.

CLEAN ALL LOOSE MATERIAL ON THE DECK AFTER CLEANING OPERATIONS USING HIGH PRESSURE AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO PLACEMENT OF THE POLYMER OVERLAY AND PIGMENTED SURFACE

LIMITS OF POLYMER OVERLAY ARE THE LIMITS OF JOINT REPAIR BETWEEN THE FRONT FACE OF THE PARAPETS. AND THE JOINT REPAIR AREA DEFINED BY A SAW CUT.

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF  $rac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER (1" DEEP & HOLD 1/8" BELOW SURFACE OF CONCRETE).

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION M213.

ALL MATERIAL THAT REOUIRES REMOVAL FOR WING 4 REPAIR SHALL BE STOCK PILED AND NEEDED MATERIAL PLACED AS A TOP COAT ON THE BACKFILL ONCE WING WORK IS COMPLETED. THIS SHALL BE PAID FOR UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-29-18".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LINEAR FOOT PRICE BID AS "EXPANSION DEVICE B-29-18".

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-29-18" SHALL BE THE EXISTING GROUNDLINE.

THE QUANTITY FOR BACKFILL STRUCTURE TYPE A IS CALCULATED BASED ON THE BACKFILL STRUCTURE LIMITS REQUIRED TO PERFORM REPAIR WORK. SEE MISCELLANEOUS DETAILS SHEET, SHEET 12.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE BACKFILL QUANTILES ARE BASED ON THE PAT LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES.

"BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGWALL 4 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'-0" ABOVE.

SEE ROADWAY PLAN FOR LANE STAGING AND TRAFFIC SHIFT. COORDINATE THESE STRUCTURE PLANS WITH THE ROADWAY STAGING.

PAINT COLOR TO BE USED SHALL BE IN ACCORDANCE WITH AMS STANDARD 595A LIGHT GRAY #26293

JOINT REPAIRS USING A PORTLAND CEMENT BASED CONCRETE REQUIRES A MINIMUM CURE TIME OF 28 DAYS PRIOR TO OVERLAY PLACEMENT.

SHOT BLASTING, DECK SURFACE PREPARATIONS, AND TRANSITIONAL AREAS ARE INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

## TABLE OF SUPERELEVATIONS

STATION	SUPERELEVATION	STATION	SUPERELEVATION	STATION	SUPERELEVATION
1820+00	-0,016%	1820+50	-0.003%	1821+00	+0.011%
1820+10	-0.013%	1820+60	0.00%	1821+10	+0.013%
1820+20	-0.011%	1820+70	+0.003%	1821+20	+0.016%
1820+30	-0.008%	1820+80	+0,006%	1821+30	+0.018%
1820+40	-0,005%	1820+90	+0.008%	1821+40-1823+00	+0.02%

EL 941.74 DIO EST 35-0" LONG 211 SLOPE O 3# 12 BOTH ABUTS EST. 45-0' LONG 920 ---SLOPE PAVING TEXISTING OR, LINE BOTH ABOTS - EL 9/3 55 SANDSTONE NOTE: 500-EL 301.69

> ELEVATION AT RT ANGLES TO CM STR &P RR.

THIS ELEVATION VIEW TAKEN FROM EXISTING PLANS, REFERENCE ONLY, NOT FOR CONSTRUCTION. INTENT IS TO SHOW CONTRACTOR BENEATH THE BRIDGE

	BID ITEM NUMBER	BID ITEMS	UNIT	STAGE 2 CONST	STAGE 3 CONST	TOTALS
	203.0211.5.01	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-29-18	EACH	0.5	0.5	1
6	203.0220	REMOVING STRUCTURE B-29-18	EACH	0.5	0.5	1
9(3)	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	-	67	67
6	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-29-18	LS	0.5	0.5	1
86	210.1500	BACKFILL STRUCTURE TYPE A	TON	45	15	60
(5)	502.0100	CONCRETE MASONRY BRIDGES	CY	14	7	21
	502.3101	EXPANSION DEVICE	LF	68	56	124
(4)(2)	502.3210	PIGMENTED SURFACE SEALER	SY	102	101	203
	502.4205	ADHESIVE ANCHORS NO.5 BAR	EA	55	56	111
Ī	502.4206	ADHESIVE ANCHORS NO. 6 BAR	EA	62	-	62
Ī	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2990	1690	4680
[	505.0904	BAR COUPLERS NO. 4	EACH	4	-	4
	505.0905	BAR COUPLERS NO.5	EACH	26	-	26
	505.0906	BAR COUPLERS NO.6	EACH	10	-	10
	509.1000	JOINT REPAIR	SY	28	23	51
3	509.1500	CONCRETE SURFACE REPAIR	SF	89	123	212
<u> </u>	509 <b>.</b> 5100 <b>.</b> S	POLYMER OVERLAY	SY	27	22	49
24	509 <b>.</b> 9050 <b>.</b> S	CLEANING PARAPETS	LF	247	246	493
	511.1200	TEMPORARY SHORING B-29-18	SF	72	-	72
	516.0500	RUBBERIZED MEMBRANE WATERPOOFING	SY	5	-	5
13	517.3001.5.01	STRUCTURE OVERCOATING CLEANING AND PRIMING B-29-18	EACH	0.5	0.5	1
<u> </u>	517.4001.5.01	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-29-18	EACH	0.5	0.5	1
93	604.0400	SLOPE PAVING CONCRETE	SY	-	43	43
(11)	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	50	-	50
_ [	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	-	1
[	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	20	-	20
<b>(0)</b>	SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	SY	17	14	31
		NON-BID ITEMS				
		FILLER	SIZE	1/2"		

#### QUANTITIES NOTES

ITEM: "STRUCTURE OVERCOATING CLEANING AND PRIMING B-29-18" SHALL BE USED TO PAINT THE FOLLOWING SURFACES:
PERTAINS TO CLEANING AND PAINTING ALL BEARINGS AT THE ABUTMENT ENDS. REMOVE ALL EXISTING

PAINT FOR A DISTANCE OF 10-FEET ALL AROUND THE BEAM ENDS AT THE ABUTMENTS AND AS DIRECTED BY THE FIELD ENGINEER AND REPAINT THE BEAM ENDS INCLUDING THE END DIAPHRAGMS AND CONNECTIONS. SPOT PAINT ENTIRE LENGTH OF EXTERIOR BEAMS, ENTIRE EXTERIOR BEAMS SHALL HAVE OVERCOAT SPOT PAINTING. THE COLOR SHALL BE FEDREAL STANDARD 595A COLOR 26293 LIGHT GRAY.

- ② FURNISH AND APPLY PIGMENTED SEALER TO FRONT FACE, TOP AND ENDS OF THE PARAPETS. CLEAN THE INSIDE FACE, TOP AND ENDS OF THE PARAPETS PER BID ITEM "CLEANING PARAPETS". APPLICATION AND QUANTITY FOR PIGMENTED SURFACE SEALER ARE CONSIDERED INCIDENTAL TO BRIDGE BID ITEM " PIGMENTED SURFACE SEALER".
- (3) AS LOCATED BY FIELD ENGINEER.
- 4) INCLUDES PARAPETS ON WINGWALLS AND DECK.
- CONCRETE FOR JOINT REHABILITATION INCLUDES, DECK, PAVING BLOCK, ABUT BACKWALL, PARAPETS, AND WINGWALL REHABILITATION INCLUDING THE PARAPET ON THE WINGWALL.
- (6) PERTAINS TO REMOVAL PORTIONS AT SW WING AND BACKWALL AS DIRECTED BY FIELD ENGINEER.
- 7 ADJACENT TO THE JOINT REPAIR, SHOT BLASTING DECK SURFACE PREPARATION AND THE JOINT REPAIR AND TRANSITION AREAS ARE INCLUDED IN THE BID ITEM "POLYMER OVERLAY". ENSURE STAGING ACCOUNTS FOR CURE TIME REQUIRED PRIOR TO PLACEMENT OF POLYMER OVERLAY.
- (8) A FACTOR OF 2.0 WAS USED TO CONVERT CUBIC YARDS TO TONS.
- (9) CONCRETE SLOPE PAVING REPAIR IN AREAS DETERMINED BY THE FIELD ENGINEER, INCLUDES ALL MATERIALS AND FINISH WORK TO CONSTRUCT CONCRETE FLUME.
- (10) CLEAN AND SEAL EXIST(NO 84 (22)) TMENT SEATS AFTER PAINTING PROCESS. REFER TO SPECIFICATIONS AND QUANTITIES NOTES
- 11) INCLUDES RODENT SHEILD FOR PIPE UNDERDRAIN PER SDD 8F6-4.

NO.	DATE	F	REVISION			BY							
	(	STATE DEPARTMENT (	OF WISCON OF TRANSF		ION								
	STRUCTURE B-29-18												
			DRAWN BY D	LF	PLANS CK'D.	CJB							
	Q	ET 2	OF 12										

REPAIR SHEETS

11'-35/8''± REMOVE AND REPLACE TEMP SHORING 7½"± 10 SPA @ 1'-0" = 10'-0" 7½"± COORDINATE WITH ROADWAY A601 DOWELS EF 7½"± 10 SPA @ 1'-0" = 10'-0" 7½"± PLAN/STAGING -A502, A503 -A502, TYP -3-A504 (BACKWALL) -A601 DOWELS, TYP ▲ \_3-A601 EF DOWELS ▲ -CAP END A503, TYP ¬ D → -3-A504 (BACKWALL) D₩ (5) BARS BILLED AND PLACED WITH THE JOINT REPAIR. SEE JOINT - CZL BRG

#### PLAN CENTERED BETWEEN BEAM 4 AND BEAM 5 ON SOUTH ABUT ONLY

11'-3%" EXISTING BEAM SPACING

- PAVING BLOCK PLACED WITH THE JOINT REPAIR DETAILS 11'-35/8"± ABUTMENT REPAIR A503, TYP BARS BILLED AND PLACED WITH THE JOINT REPAIR. SEE JOINT A504 EF-A502, TYP-REPAIR SHEETS . . . . . . . -W601, TYP EF ▲ SEE NOTE 1 LINE OF REMOVAL ▲ W601, TYP EF--SEE NOTE 1 FOR BACKWALL

**ELEVATION** 

FF = FRONT FACE BF = BACK FACE EF = EACH FACE

#### NOTES

SEE GENERAL NOTES ON SHEET 2.

#### **LEGEND**

- [1] 18" INCH RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE
- ▲ ADHESIVE ANCHOR NO.6 BAR, 15" MIN EMBEDMENT INTO SOUND CONCRETE. WEIGHT OF ANCHOR INCLUDED IN TOTAL WEIGHT FOR ABUT BACKWALL REPAIR.
- CONST. JOINT CHIPPED OUT 2X6 KEYED JOINT.
- $\bigtriangleup$  CONST. JOINT POUR ABOVE THIS JOINT AFTER SUPER CONC IS IN PLACE.
- ◆ OPT. CONST. JOINT 1" BELOW EXISTING REINF.
- ▲ STRIP SEAL EXPANSION DEVICE TYPICAL AT EACH END OF BRIDGE.
- HATCH AREA INDICATES CONCRETE PLACED WITH 'JOINT REPAIR' SUPERSTRUCTURE.
- orall Line of removal defined by 1" deep sawcut ALL AROUND REMOVAL WHERE PRACTICAL.

EXISTING BARS ARE LIKELY TO BE CORRODED AND/ OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. PRESERVE AND INCORPORATE EXISTING BAR STEEL REINFORCEMENT IN NEW WORK.

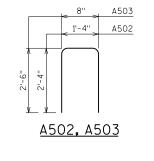
USE EXISTING VERT AND HORIZ BAR STEEL WHERE POSSIBLE. BURN OFF DAMAGED EXISTING BAR STEEL REINF (FLUSH) AT LINE OF REMOVAL, TYP ALL VERT AND HORIZ BARS THAT FALL WITHIN NEW WORK.

DETAILS SHOW REPLACEMENT BAR STEEL WHEN ALL VERT AND HORIZ BAR STEEL IS REMOVED AT LINE OF REMOVAL.

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

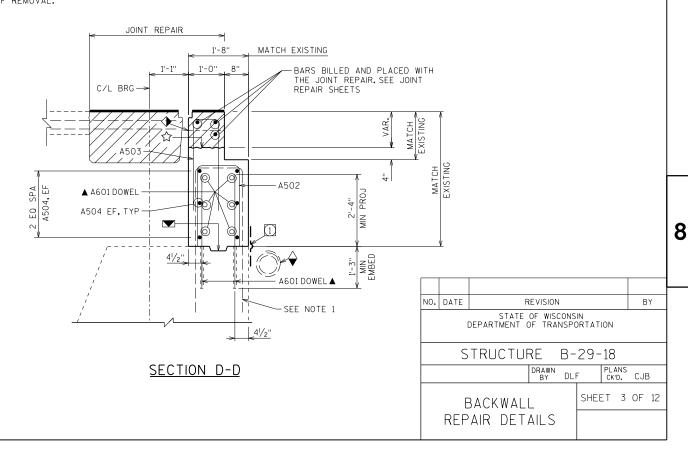
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

	BILL	OF	BARS	>		S	SOUTH ABUT	В	ACKW	ALL
	BAR MARK	coa <sup>-</sup>	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BEN	LOCATION		STG 2 CONST	STG 3 CONST
▲	A601	X	34	3 - 7			DOWEL BARS		Х	
- 1	A502	X	11	5 - 9		Х	VERTICAL		Х	
	A503	Х	11	5 - 5		Х	VERTICAL		Х	
	A504	Х	6	11 - 0			HORIZONTAL EF		Х	

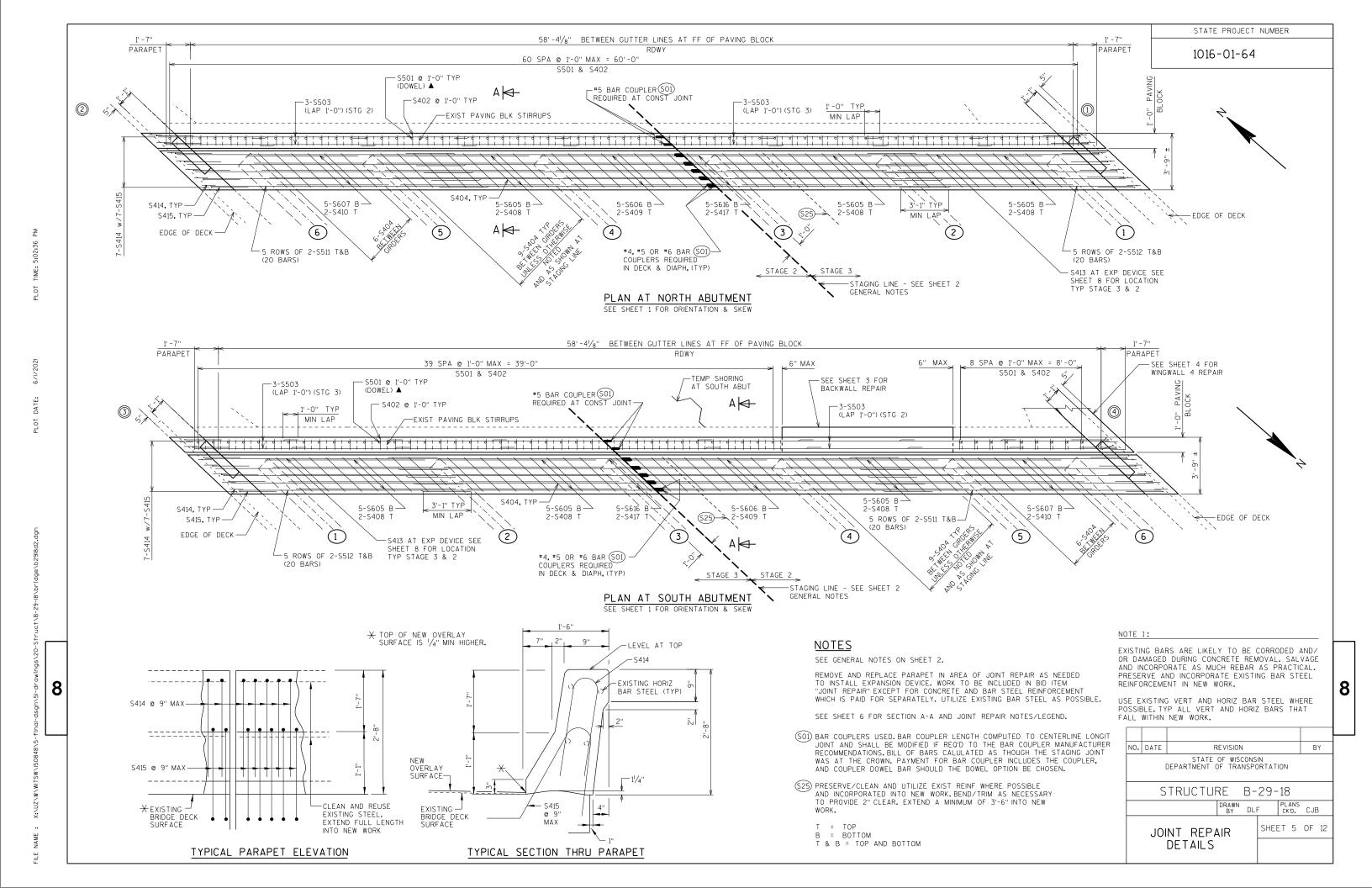


STATE PROJECT NUMBER

1016-01-64



STATE PROJECT NUMBER FF = FRONT FACE BF = BACK FACE ∕**-**→ B  $\rightarrow$  A EF = EACH FACE 1016-01-64 ELEV'S GIVEN AT THIS POINT. OBTAIN FROM EXISTING BRIDGE NOTES \_1'-0<sup>1</sup>/<sub>4</sub>' NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE PRIOR TO REMOVAL -BE OF EXIST WING BODY -ELEV'S GIVEN AT THIS POINT. OBTAIN FROM ENGLISH BAR DIAMETER SIZE. SEE GENERAL NOTES ON SHEET 2. EXISTING BRIDGE DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT. PRIOR TO REMOVAL ⚠ LENGTH SHOWN IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES **LEGEND** [1] 18" INCH RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE TABLE AND BENDING DETAILS FOR ACTUAL LENGTHS. OF ABUTMENT AND WINGWALL REPAIR. BILL OF BARS SOUTH ABUT WINGWALL PIPE UNDERDRAIN WRAPPED (6-INCH) SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT BAR LENGTH LOCATION ►PARAPET BARS MARK REQ'D (FT-IN) SERIE CONST  $\rightarrow$  A END OF PIPE (R-BARS), TYP W601 28 DOWEL BARS 51/41 11'-13/4" ( ATTACH RODENT SHIELD AT END OF PIPE UNDERDRAIN, W502 VERTICAL FOR RODENT SHIELD DETAIL SEE SHEET 12. VERTICAL W503 X PLAN - TOP OF PARAPET W504 VERTICAL ▲ ADHESIVE ANCHOR NO.6 BAR, 15" MIN EMBEDMENT W405 9 - 10 HORIZONTAL BI Х INTO SOUND CONCRETE. WEIGHT OF ANCHOR INCLUDED IN TOTAL WEIGHT FOR ABUT WINGWALL REPAIR. W406 HORIZONTAL FE -BF OF EXIST WING BODY W407 HORIZONTAL FF  $\triangle$ 2 EQ SPA ○ CONST. JOINT - STRIKE OFF AS SHOWN. SEE HORIZONTAL BE TOP W608 9 - 10 X SLOPED FACE PARAPET "B" SHEET FOR DETAILS. @ 7<sup>1</sup>/8" HORIZONTAL FF TOP W609 4 SPA @ 9" = 3'-0" 7 SPA @ 9" = 5'-3" HORIZONTAL FF TOP W610 CONST. JOINT - CHIPPED OUT 2X6 KEYED JOINT. W601 DOWELS BF W601 DOWELS BF -W601 DOWELS, TYP ▲ 1 NOTE 1: 8" TO 10" W504 -W405, W608 (BF) 10" TO 1'-2" W503 EXISTING BARS ARE LIKELY TO BE CORRODED AND/ OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. W502 PRESERVE AND INCORPORATE EXISTING BAR STEEL W405, W608 REINFORCEMENT IN NEW WORK. ₩407, ₩610 (FF) — USE EXISTING VERT AND HORIZ BAR STEEL WHERE └w406,W609 (FF) **→**B POSSIBLE, BURN OFF DAMAGED EXISTING BAR STEEL  $\rightarrow$ REINF (FLUSH) AT LINE OF REMOVAL, TYP ALL VERT 5 SPA @ 8" =3'-4" 6" 4 SPA@ 7" =2'-4" 10¾' 6 SPA @ 61/2" =3'-3" AND HORIZ BARS THAT FALL WITHIN NEW WORK. W502 (FAN AS SHOWN) W50 W504 7 SPA @ 9" = 5'-3" DETAILS SHOW REPLACEMENT BAR STEEL WHEN ALL 5 SPA @ 9" = 3'-9' W406, W609 W502, W503, W504 VERT AND HORIZ BAR STEEL IS REMOVED AT LINE W601 DOWELS FF 4'-73/4" (MATCH EXISTING) W601 DOWELS FF 6'-6" (MATCH EXISTING) OF REMOVAL. BAR SERIES TABLE SOUTH ABUT WINGWALL 11'-13/4" (MATCH EXISTING) BΔR LENGTH LOCATION NO. REO'D. <u>PLAN</u> MΔRK CONST CONST (WING 4) 1 SERIES OF 7 7'-7" TO 7'-11" WING 4 7'-5" TO 7'-7" 1 SERIES OF 5 WING 4 SEE SLOPED FACE PARAPET B SHEET BUNDLE AND TAG EACH SERIES SEPARATELY R-BARS, SEE SLOPED FACE PARAPET B SHEET LEVEL ELEV TO MATCH-EXISTING WING 4 SLOPED FACE PARAPET "B' -PARAPET BARS (R-BARS) FF PARAPET-PLACED DURING WINGWALL CONSTRUCTION SEE SLOPED . . . . . . . . . . . . . . . . . . FACE PARAPET "B" SHEET ELEV TO MATCH FOR DETAILS EXISTING WING 4 W608 BF, W609 FF W608--W609, W610 SEE SECTION A-A FOR SIMILAR DIMENSIONS AND CALLOUTS UNLESS OTHER SHOWN OR W601 ▲ W502 DOWEL NOTED 8 -W502, W503, W407 FF W405 BF, W406 FF 0 W504 SPA 1 LINE OF REMOVAL FOR WINGWALL NO. DATE REVISION BY TOP OF ABUTMENT  $4\frac{1}{2}$ W601, TYP EF ▲ STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION SEAT AND WINGWALL -SEE NOTE 1 STRUCTURE B-29-18 -SEE NOTE 1 PLANS CK'D. CJB TOP OF GROUND 1'-1" AT WING FF OUTSIDE ELEVATION SHEET 4 OF 12 1'-6" EXISTING WINGWALL REPAIR DETAILS SECTION A-A SECTION B-B



B = BOTTOM T & B = TOP AND BOTTOM STATE PROJECT NUMBER

1016-01-64

#### **NOTES**

SEE GENERAL NOTES ON SHEET 2.

#### LEGEND

- ▲ ADHESIVE ANCHORS NO.5 BAR, 12" MIN EMBEDMENT INTO SOUND CONC.SPACE AT 1"-0", TURN 10" LEG AS NECESSARY TO FIT. WEIGHT OF ANCHOR INCLUDED IN TOTAL WEIGHT FOR JOINT REPAIR.
- $\mbox{\ensuremath{\not\curvearrowright}}$  const.joint pour above this joint after super conc is in place.
- ◆ OPT. CONST. JOINT 1" BELOW EXISTING REINF.
- ⚠ STRIP SEAL EXPANSION DEVICE TYPICAL AT EACH END OF BRIDGE.

  SET NEW JOINT ACCORDING TO TEMPERATURE TABLE ON SHEET 8.
- (1) CONCRETE USED IN THE JOINT REPAIR AREA IS INCLUDED AND PAID FOR IN THE BID ITEM "CONCRETE MASONRY BRIDGES".
- 2) SET FLUSH WITH CONCRETE AT ROADWAY
- (3) 1/4" MIN POLYMER OVERLAY AT JOINT REPAIR. TAPER/THIN/FEATHER INTO THE EXISTING DECK SURFACE ELEVATION.
- X LINE OF REMOVAL DEFINED BY 1" DEEP SAWCUT ALL AROUND REMOVAL WHERE PRACTICAL.
- $\begin{tabular}{ll} \Leftrightarrow \mbox{Dimension given are normal to C/L of substructure unit.} \end{tabular}$

#### NOTE 1:

EXISTING BARS ARE LIKELY TO BE CORRODED AND/ OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. PRESERVE AND INCORPORATE EXISTING BAR STEEL REINFORCEMENT IN NEW WORK.

USE EXISTING VERT AND HORIZ BAR STEEL WHERE POSSIBLE.TYP ALL VERT AND HORIZ BARS THAT FALL WITHIN NEW WORK.

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

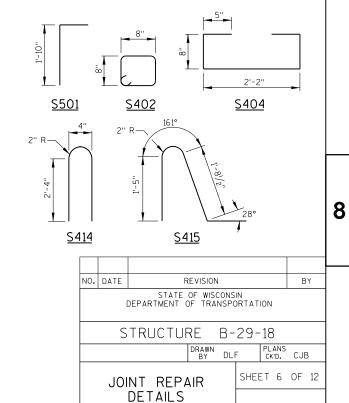
NUMBER REQUIRED IS FOR TWO ABUTMENTS

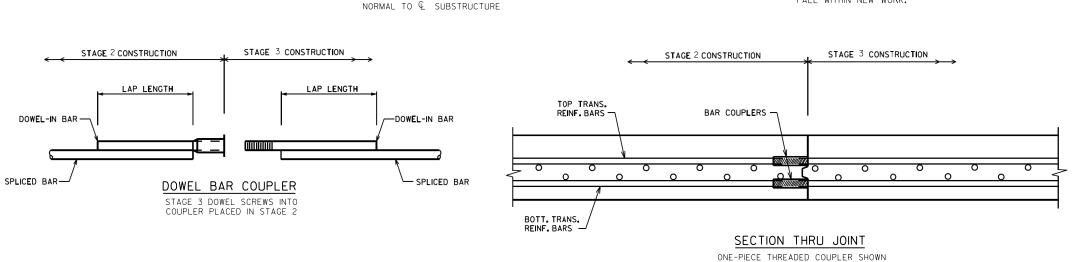
	BILL	OF	BARS				JOIN'	T REI	PAIR
	BAR MARK	CORT	NO. REQ'D.	LENGTH (FT-IN)	BAR SERIES	BENT	LOCATION	STG 2 CONST	STG 3 CONST
_	S501	Х	55	2 - 7		Х	PAVING BLK DOWEL	Х	
		Х	56	2 - 7		Х	PAVING BLK DOWEL		Х
ĺ	S402	Х	55	3 - 2		Х	PAVING BLK STIRRUP	Х	
[	11	Х	56	3 - 2		Х	PAVING BLK STIRRUP		Х
	S503	Х	30	8 - 0			PAVING BLK HORIZ	Х	
	11	Х	24	8 - 0			PAVING BLK HORIZ		Х
	S404	Х	46	4 - 0		Х	DIAPH TIE	Х	
	11	Х	38	4 - 0		Х	DIAPH TIE		Х
	S605	Х	10	9 - 5			DIAPH LONGIT BOT	Х	
	11	X	20	9 - 5			DIAPH LONGIT BOT		Х
$\overline{\boxtimes}$	S606	Х	10	8 - 10			DIAPH LONGIT BOT	Х	
	S607	Х	10	6 - 3			DIAPH LONGIT BOT	Х	
	S408	Х	4	9 - 5			DIAPH LONGIT TOP	Х	
	11	Х	8	9 - 5			DIAPH LONGIT TOP		Х
$\overline{\boxtimes}$	S409	Х	4	8 - 10			DIAPH LONGIT TOP	Х	
	S410	Х	4	6 - 3			DIAPH LONGIT TOP	Х	
$\overline{\boxtimes}$	S511	Х	40	18 - 4			DECK LONGIT T & B	Х	
	S512	Х	40	15 - 5			DECK LONGIT T & B		Х
$\boxtimes$	S413	Х	12	9 - 3			EXP DEVICE BET GIR	Х	
	11	Х	8	9 - 3			EXP DEVICE BET GIR		Х
	S414	Х	14	4 - 10		Х	PARAPET VERT	Х	
	11	Х	14	4 - 10		Х	PARAPET VERT		Х
	S415	Х	14	4 - 3		Х	PARAPET VERT	Х	
		Х	14	4 - 3		Х	PARAPET VERT		Х
	S616	Х	10	0 - 6			DIAPH LONGIT BOT		Х
	S417	Х	4	0 - 6			DIAPH LONGIT TOP		Х
Į									

-SHAR COUPLER REQUIRED AT STAGING LINE IN STAGE 2.

BAR LENGTH COMPUTED TO C/L LONGIT. JOINT AND SHALL BE MODIFIED IF REO'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

□ TRIM IN FIELD TO FIT





3'-9" ± JOINT REPAIR 1

♠¹" TAPÉR

TYPICAL SECTION THRU PROPOSED JOINT

SECTION A-A

GIRDER-

FRONT FACE OF

ABUT BACKWALL-

S413 AT EXP DEVICE

FND OF

2-S511, 2-S512 @ 4 E0 SPA (DECK HORIZ BARS TOP & BOTTOM)

S404 @ 9" CTRS (BETWEEN-

GIRDERS) (PLACED PARALLEL TO GIRDERS)

S408, S409, S410

S605, S606, S607 @ 4 EQ SPA (DIAPH BARS BETWEEN GIRDERS)

EXISTING END DIAPH (MC 18 X 42.7)

SAVE EXIST LONGIT STEEL-

SEE NOTE 1

BETWEEN GIRDERS

MATCH EXISTING

-(2)

- S503 (LAP 1'-0")

-S402 @ 1'-0"

-REMOVAL LIMITS Ӿ

SEE NOTE 1

S501 @ 1'-0" A

BF ABUT

-PAVING NOTCH

A X

BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

#### DOWEL BAR COUPLER LAP LENGTHS

CONCRETE UNDER BAR	BAR SIZE	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
12 OR LESS	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
MORE THAN 12	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"

8

ONE-PIECE THREADED COUPLER

STAGE 2 CONSTRUCTION

STAGE 3 CONSTRUCTION

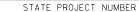
BAR COUPLER ALTERNATIVES

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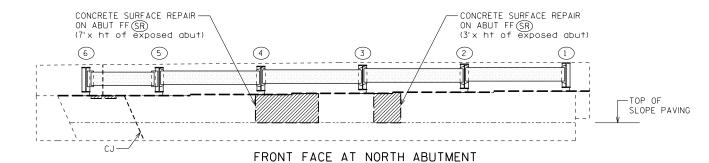
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#### 1016-01-64



## STAGE 2 STAGE 3 -STAGING LINE - SEE SHEET 2 GENERAL NOTES 1 CLEAN AND SEAL-EXIST ABUT TOP CONCRETE SURFACE REPAIR -CONCRETE SURFACE REPAIR -CLEAN AND PAINT-BEARINGS, TYP B ON ABUT SEAT & FF SR REF LINE EB IH 90 & 94 CLEAN AND PAINT BEAM ENDS — AND END DIAPHRAGM, TYP B

PLAN AT NORTH ABUTMENT

(4)

FRONT FACE AT SOUTH ABUTMENT

-STAGING LINE - SEE SHEET 2 GENERAL NOTES

REF LINE EB

PLAN AT SOUTH ABUTMENT

CONCRETE SURFACE REPAIR

ON ABUT FF (SR)
(7'x ht of exposed abut)

STAGE 3

STAGE 2

CONCRETE SURFACE REPAIR
ON ABUT FF SR
(21' × ht of exposed abut)

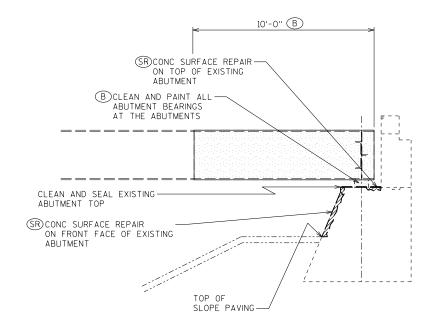
\_BACKWALL

REPAIR

-CLEAN AND PAINT BEARINGS, TYP B

CLEAN AND PAINT BEAM ENDS AND END DIAPHRAGM, TYP B

6



## TYPICAL SECTION AT ABUTMENT

## NOTES

CONCRETE SURFACE REPAIR

ON ABUT FF (SR) (4'x ht of exposed abut)

SLOPE PAVING

\_ WINGWALL

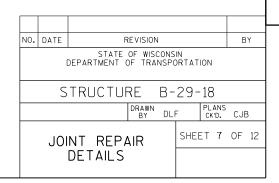
(4)

REPAIR

SEE GENERAL NOTES AND QUANTITY NOTES ON SHEET 2.

#### **LEGEND**

- OINDICATES WING NUMBER.
- X INDICATES BEAM LINE.
- ---- OUTLINE FOR CLEAN AND SEAL EXISTING ABUTMENT TOP AFTER ABUTMENT CONCRETE SURFACE REPAIRS AND BEARING AND BEAM END PAINTING ARE COMPLETED.
- ZONE PAINT 10-FT OF BEAM AT ALL BEAM ENDS AT SOUTH & NORTH ABUTMENTS, INCLUDES ALL THE END DIAPHPRAGMS/CONNECTIONS. SPOT PAINT ENTIRE LENGTH OF EXTERIOR BEAMS. ENTIRE EXTERIOR BEAMS SHALL HAVE OVERCOAT SPOT PAINTING.
- CLEAN AND PAINT ALL ABUTMENT EXISTING BEARINGS AT THE ABUTMENTS. BEARINGS TO REMAIN INPLACE.
- B QUANTITY AND LOCATION AS VERIFIED AND LAYED OUT IN THE FIELD BY THE FIELD ENGINEER. SEE SPECS FOR REQUIREMENTS.
- CONCRETE SURFACE REPAIR ON ABUTMENTS AS DIRECTED BY THE FIELD ENGINEER BASED ON WISDOT FIELD SKETCHES AND INSPECTION
  - SR QUANTITY AND LOCATION AS VERIFIED AND LAYED OUT IN THE FIELD BY THE FIELD ENGINEER. SEE SPECS FOR REQUIREMENTS.



8

CONCRETE SURFACE REPAIR -

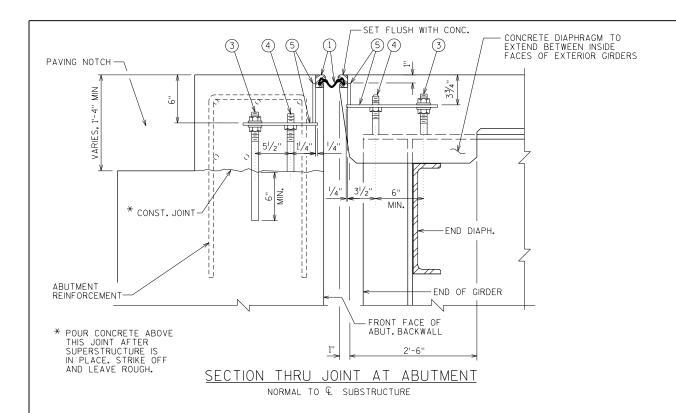
ON ABUT FF (SR)
(4'x ht of exposed abut)

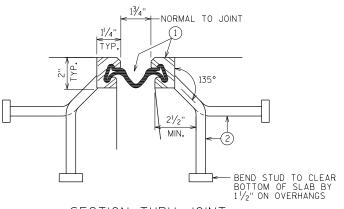
CLEAN AND SEAL-EXIST ABUT TOP

CONCRETE SURFACE REPAIR -

ON ABUT SEAT BEHIND BEARING SR

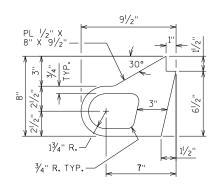
- (1) NEOPRENE STRIP SEAL (5 INCH) AND STEEL EXTRUSIONS.
- $\stackrel{-}{2}$  Studs  $5_8^{\rm w}$   $^{\rm to}$  x  $6\,^{3}\!\!\!/_{\rm s}$ " long at 6" alternate centers. Weld to extrusions and bend as shown after welding.
- 2A 1/2" THICK ANCHOR PLATE WITH 5%" PROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO.1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3 3/4" \$\phi\$ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- (4) 3/4" THREADED ROD WITH NUT. TACK WELD NUT TO NO.5.
- FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 11/2" \$\phi\$ HOLE FOR NO. 3 AND 1" \$\phi\$ HOLE FOR NO. 4.
- $\mbox{ \begin{tabular}{lll} \hline 6 \\ \hline & & & \\ \hline & & \\$
- 7  $\frac{3}{4}$ 4"\$\phi X 1\frac{1}{2}" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS  $\frac{1}{16}$ " BELOW PLATE SURFACE.
- (8) ¾4"¢ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- (9) 3/4" \$\phi X 21/4" GALVANIZED THREADED COUPLING.
- (1) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



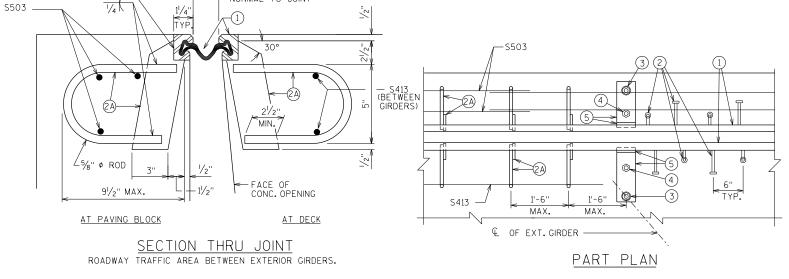


NORMAL TO JOINT

SECTION THRU JOINT EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS



ALTERNATE <u>STRIP SEAL ANCHOR</u>



#### NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

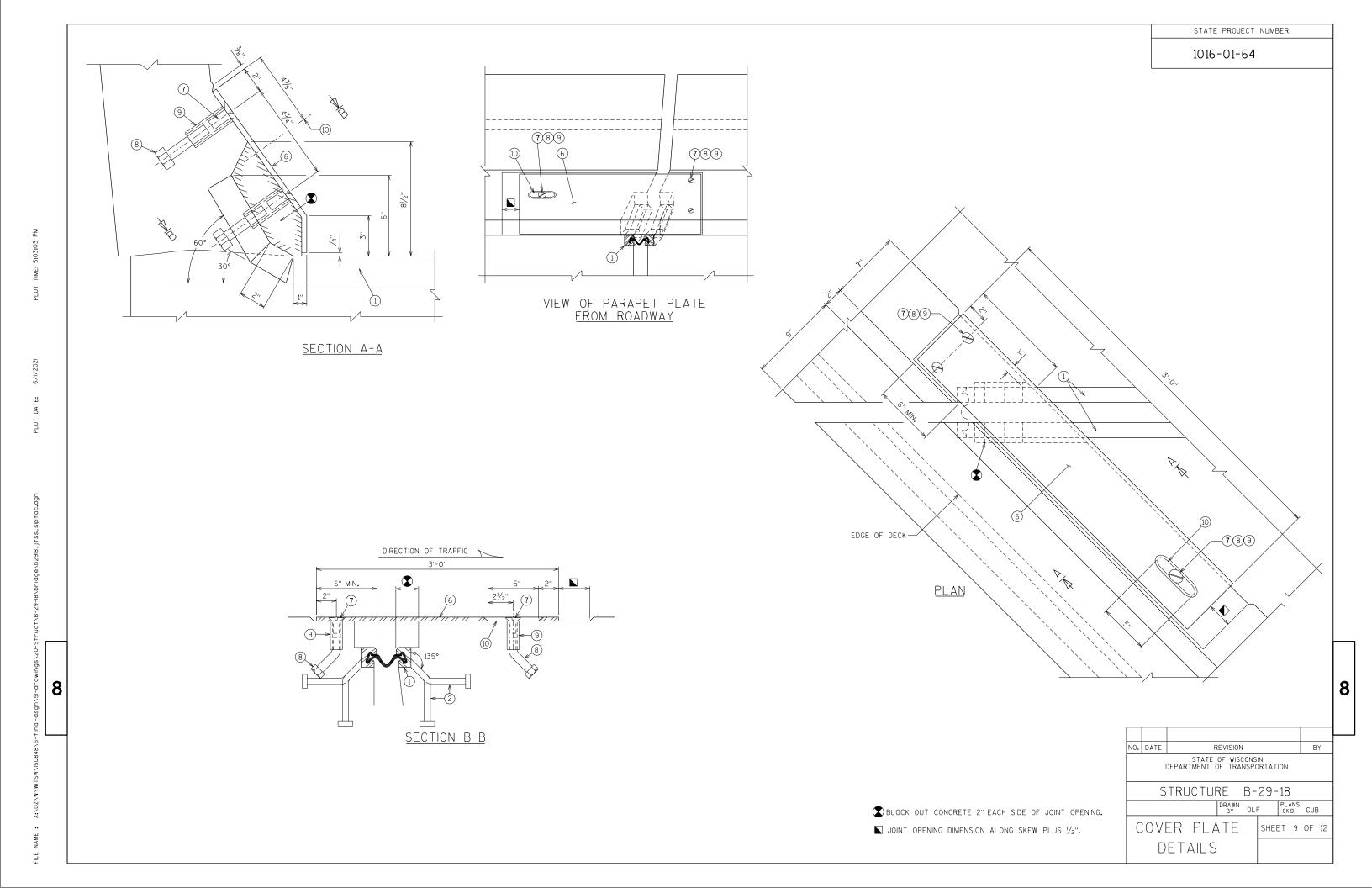
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

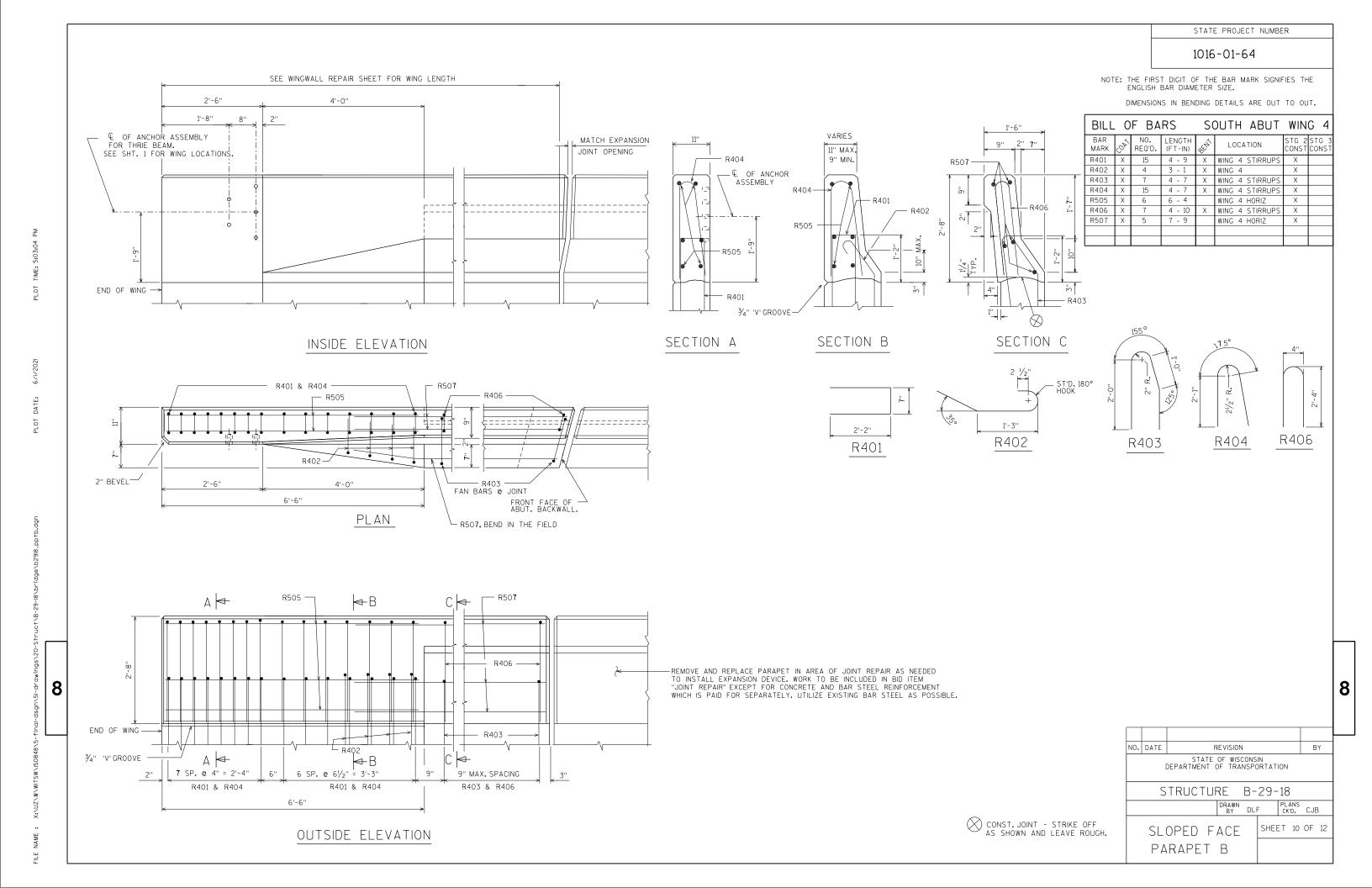
SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

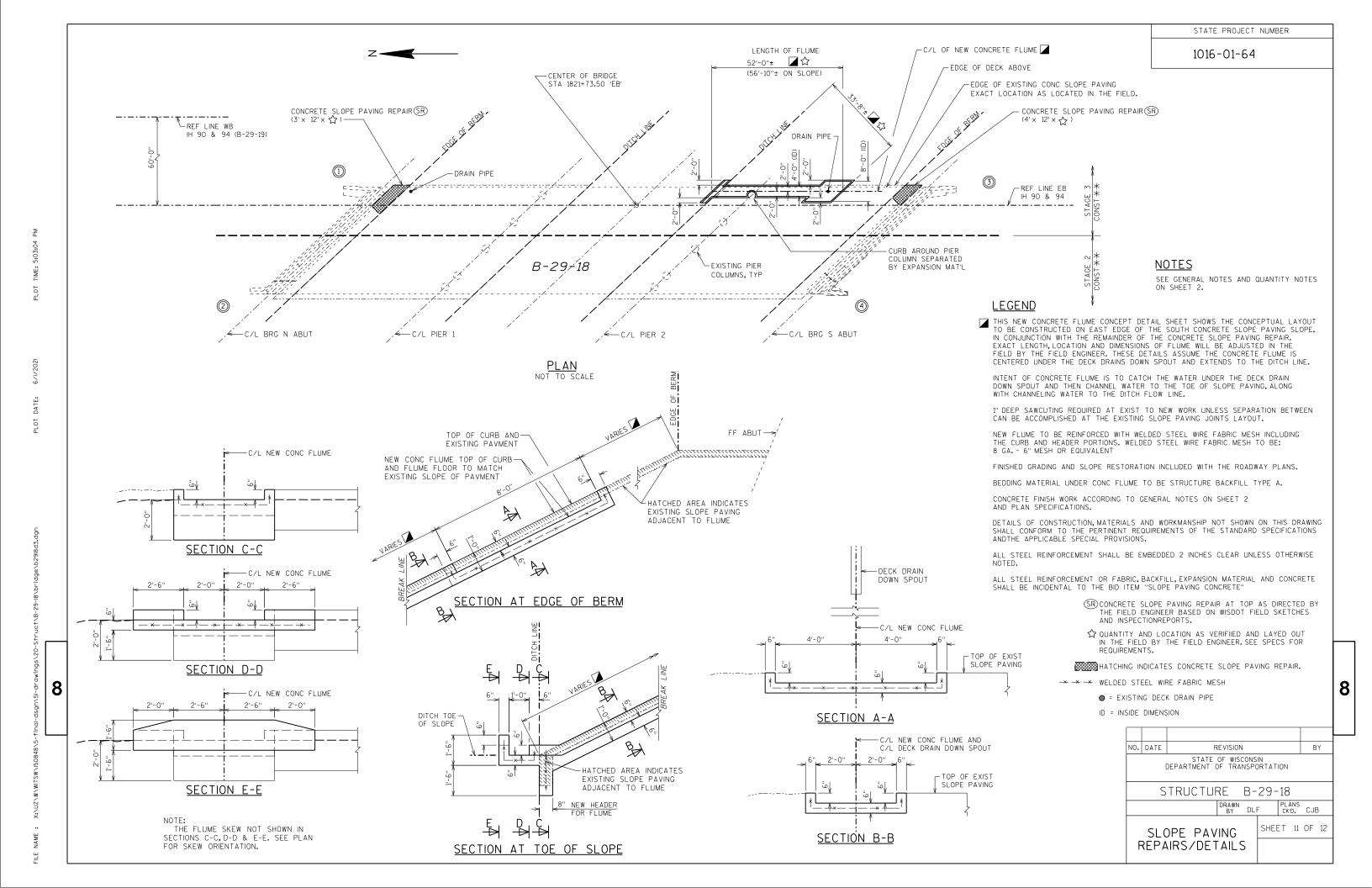
ANCHOR SYSTEM NO.8 AND NO.9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-29-18", LF.

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NO.	DATE	F	EVISION			BY	$\neg$
	[	STATE DEPARTMENT (	OF WISCONS OF TRANSP		ION		
	S	TRUCTU	RE B-	29-	18		
			DRAWN BY DL	F	PLANS CK'D.	СЈВ	
	ΕX	PANSIO	Ν	SHE	ET 8	OF 1	2
		DEVICE					





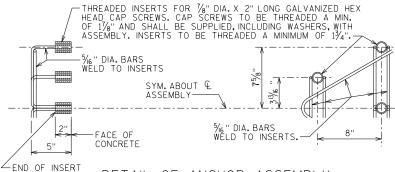


TOP VIEW

REMOVAL LIMITS

COST SHALL BE INCLUDED IN JOINT REPAIR. GALVANIZED JOINT PLATE AT PARAPETS SHALL NOT BE USED. JOINT TO REMAIN EXPOSED AT PARAPET IF ALTERNATE CONCRETE REMOVAL IS USED.

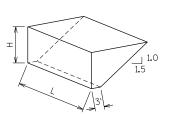
SAWCUTS SHALL NOT INTERFERE WITH EXISTING REINFORCEMENT.



## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



## ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

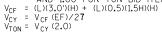
= OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
= AVERAGE ABUTMENT FILL HEIGHT (FT)
= EXPANSION FACTOR (1.20 FOR CY BID ITEMS
AND 1.00 FOR TON BID ITEMS)

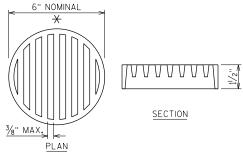
EF

TO BE CLOSED

REMOVAL LIMITS

**ELEVATION VIEW** 



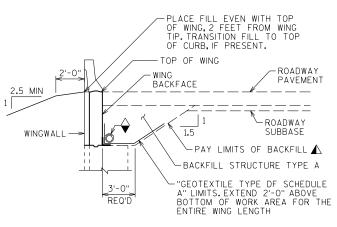


## RODENT SHIELD DETAIL

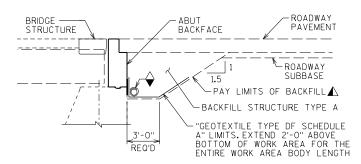
\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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 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 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

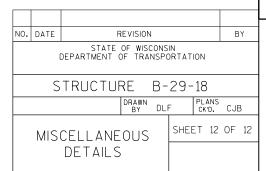


## TYPICAL SECTION AT WINGWALL



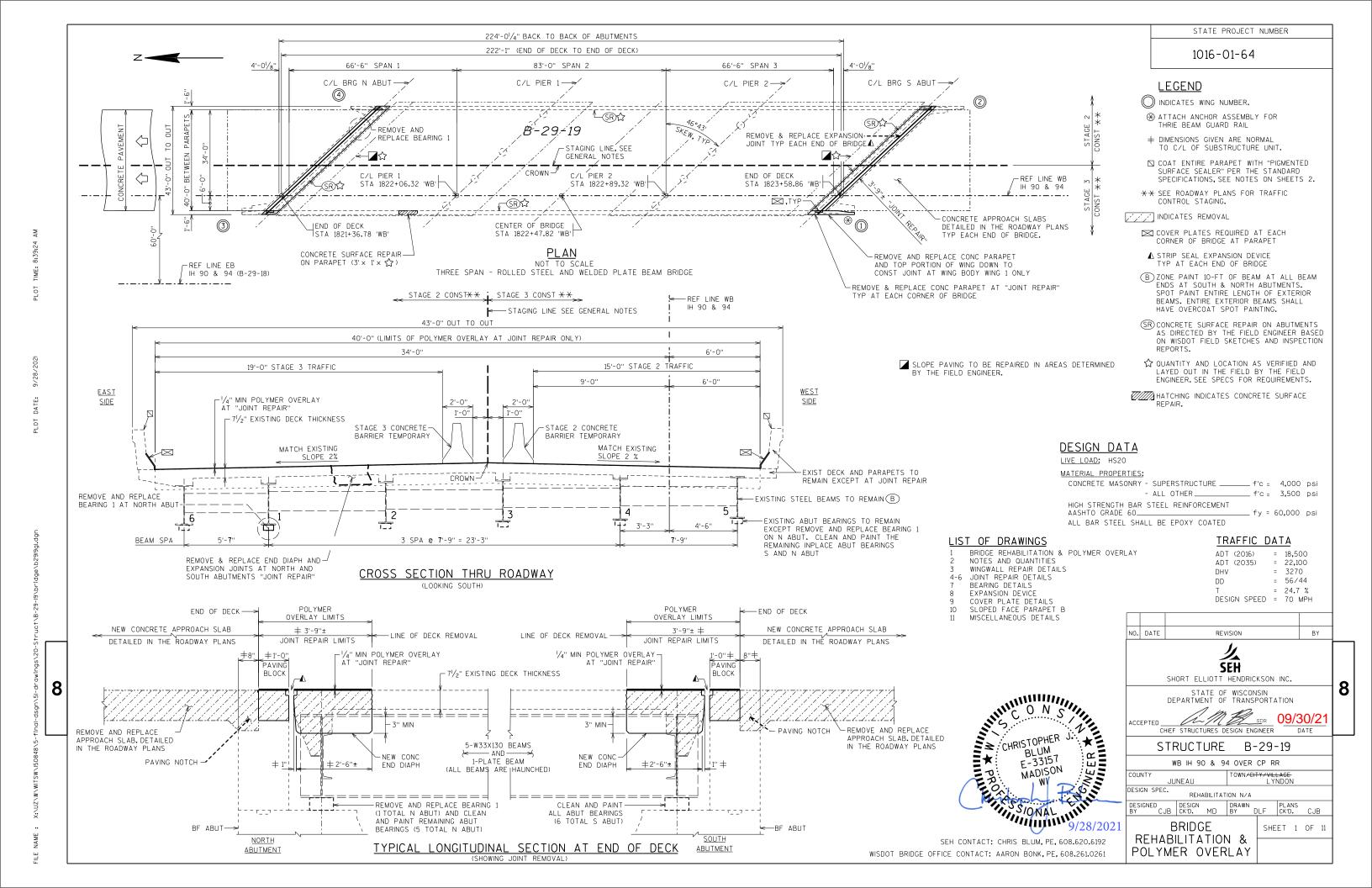
## TYPICAL SECTION AT ABUTMENT BACKWALL REPAIR AND PAVING BLK

- ⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



8

8



ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS AND INSPECTION REPORTS. EXISTING BRIDGE PLANS AVAILABLE AT WISDOT.

STATIONING MAY VARY BASED ON EXACT LOCATION OF BRIDGE TO PROPOSED ALIGNMENT.

CONTRACTOR TO VERIFY EXISTING UTILITY LOCATIONS.

CONCRETE SURFACE REPAIR AS DETERMINED, LOCATED, MARKED AND MEASURED BY THE FIELD ENGINEER.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1-INCH DEEP SAW CUT.

THESE STRUCTURE PLANS ARE ONLY THE STRUCTURE REPAIR WORK. ANY ADDITIONAL REMOVAL REQUIRED, OUTSIDE OF THE LIMITS SHOWN IN THESE PLANS MUST BE COORDINATED WITH THE FIELD ENGINEER. FIELD ENGINEER SHOULD BE CONTACTED FOR APPROVAL OF ADDITIONAL REMOVAL.

UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE

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

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

APPLY "PIGMENTED SURFACE SEALER" TO THE EXISTING CONCRETE PARAPETS PER THE STANDARD SPECIFICATIONS AND AS SHOWN IN THIS PLAN SET.

CLEAN ALL LOOSE MATERIAL ON THE DECK AFTER CLEANING OPERATIONS USING HIGH PRESSURE AIR, ENSURING ALL FREE-STANDING WATER IS REMOVED PRIOR TO PLACEMENT OF THE POLYMER OVERLAY AND PIGMENTED SURFACE

LIMITS OF POLYMER OVERLAY ARE THE LIMITS OF JOINT REPAIR BETWEEN THE FRONT FACE OF THE PARAPETS. AND THE JOINT REPAIR AREA DEFINED BY A SAW CUT.

943

SLOPE PAVING

BOTH ABUT

\*

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF  $rac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-ASPHALTIC JOINT SEALER

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 TYPE 1, 2, OR 3 OR AASHTO DESIGNATION M213.

ALL MATERIAL THAT REQUIRES REMOVAL FOR WING 4 REPAIR SHALL BE STOCK PILED AND NEEDED MATERIAL PLACED AS A TOP COAT ON THE BACKFILL ONCE WING WORK IS COMPLETED. THIS SHALL BE PAID FOR UNDER THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-29-19".

EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID FOR IN THE LINEAR FOOT PRICE BID AS "EXPANSION DEVICE B-29-19".

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-29-19" SHALL BE THE EXISTING GROUNDLINE.

THE QUANTITY FOR BACKFILL STRUCTURE TYPE A IS CALCULATED BASED ON THE BACKFILL STRUCTURE LIMITS REQUIRED TO PERFORM REPAIR WORK. SEE MISCELLANEOUS DETAILS SHEET, SHEET 11.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE BACKFILL QUANTILES ARE BASED ON THE PAT LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES.

"BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGWALL 4 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

SEE ROADWAY PLAN FOR LANE STAGING AND TRAFFIC SHIFT. COORDINATE THESE STRUCTURE PLANS WITH THE ROADWAY STAGING.

PAINT COLOR TO BE USED SHALL BE IN ACCORDANCE WITH AMS STANDARD 595A LIGHT GRAY #26293

JOINT REPAIRS USING A PORTLAND CEMENT BASED CONCRETE REQUIRES A MINIMUM CURE TIME OF 28 DAYS PRIOR TO OVERLAY PLACEMENT.

SHOT BLASTING, DECK SURFACE PREPARATIONS, AND TRANSITIONAL AREAS ARE INCLUDED IN THE BID ITEM "POLYMER OVERLAY".

PIL SLOPE

-EL 915.02

BOTH ABUTS

		101712 20111111120	<u> </u>	<u> </u>		
	BID ITEM NUMBER	BID ITEMS	UNIT	STAGE 2 CONST	STAGE 3 CONST	TOTALS
	203.0211.5.02	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-29-19	EACH	0.5	0.5	1
6	203.0220	REMOVING STRUCTURE B-29-19	EACH	0.5	0.5	1
(10)(3)	204.0175	REMOVING CONCRETE SLOPE PAVING	SY	4	-	4
6	206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-29-19	LS	0.5	0.5	1
8 (6)	210.1500	BACKFILL STRUCTURE TYPE A	TON	15	20	35
(5)	502.0100	CONCRETE MASONRY BRIDGES	CY	9	10	19
	502.3101	EXPANSION DEVICE	LF	68	56	124
4 (2)	502.3210	PIGMENTED SURFACE SEALER	SY	102	101	203
	502.4205	ADHESIVE ANCHORS NO.5 BAR	EΑ	66	56	122
	502.4206	ADHESIVE ANCHORS NO.6 BAR	EΑ	-	36	36
	505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	2050	2440	4490
	505.0904	BAR COUPLERS NO. 4	EACH	4	-	4
	505.0905	BAR COUPLERS NO.5	EACH	26	-	26
	505.0906	BAR COUPLERS NO.6	EACH	10	-	10
	506.6000	BEARING ASSEMBLIES EXPANSION B-29-19	EACH	1	-	1
9	506.7050.S	REMOVING BEARINGS B-29-19	EACH	1	-	1
	509.1000	JOINT REPAIR	SY	28	23	51
3	509.1500	CONCRETE SURFACE REPAIR	SF	28	31	59
7	509.5100.S	POLYMER OVERLAY	SY	27	22	49
24	509.9050.S	CLEANING PARAPETS	LF	248	246	494
	516.0500	RUBBERIZED MEMBRANE WATERPOOFING	SY	-	3	3
13	517.3001.S.02	STRUCTURE OVERCOATING CLEANING AND PRIMING B-29-19	EACH	0.5	0.5	1
3	517.4001.S.02	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-29-19	EACH	0.5	0.5	1
10(3)	604.0400	SLOPE PAVING CONCRETE	SY	4	-	4
(12)	612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	-	30	30
	614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	-	1	1
	645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	-	11	11
(1)	SPV.0180.01	ABUTMENT SEAT CLEANING AND SEALING	SY	17	14	31
		NON-BID ITEMS				
		FILLER	SIZE	-	-	1/2"

#### QUANTITIES NOTES

1) SEE SPECS: ITEM: "STRUCTURE OVERCOATING CLEANING AND PRIMING B-29-19" SHALL BE USED TO PAINT THE

FOLLOWING SURFACES: PERTAINS TO CLEANING AND PAINTING ALL BEARINGS AT THE ABUTMENT ENDS. REMOVE ALL EXISTING PAINT FOR A DISTANCE OF 10-FEET ALL AROUND THE BEAM ENDS AT THE ABUTMENTS AND AS DIRECTED BY THE FIELD ENGINEER AND REPAINT THE BEAM ENDS INCLUDING THE END DIAPHRAGMS AND CONNECTIONS, SPOT PAINT ENTIRE LENGTH OF EXTERIOR BEAMS, ENTIRE EXTERIOR BEAMS SHALL HAVE OVERCOAT SPOT PAINTING. THE COLOR SHALL BE FEDREAL STANDARD 595A COLOR 26293 LIGHT GRAY.

- FURNISH AND APPLY PIGMENTED SEALER TO FRONT FACE, TOP AND ENDS OF THE PARAPETS. CLEAN THE INSIDE FACE, TOP AND ENDS OF THE PARAPETS PER BID ITEM "CLEANING PARAPETS". APPLICATION AND QUANTITY FOR PIGMENTED SURFACE SEALER ARE CONSIDERED INCIDENTAL TO BRIDGE BID ITEM " PIGMENTED SURFACE SEALER".
- (3) AS LOCATED BY FIELD ENGINEER.
- (4) INCLUDES PARAPETS ON WINGWALLS AND DECK.
- CONCRETE FOR JOINT REHABILITATION INCLUDES, DECK, PAVING BLOCK, PARAPETS, AND WINGWALL REHABILITATION INCLUDING THE PARAPET ON THE WINGWALL.
- (6) PERTAINS TO REMOVAL PORTIONS AT SW WING AS DIRECTED BY FIELD ENGINEER.
- (7) ADJACENT TO THE JOINT REPAIR, SHOT BLASTING DECK SURFACE PREPARATION AND THE JOINT REPAIR AND TRANSITION AREAS ARE INCLUDED IN THE BID ITEM "POLYMER OVERLAY". ENSURE STAGING ACCOUNTS FOR CURE TIME REQUIRED PRIOR TO PLACEMENT OF POLYMER OVERLAY.
- (8) A FACTOR OF 2.0 WAS USED TO CONVERT CUBIC YARDS TO TONS.
- (9) REQUIRED FOR BEARING 1, NORTH ABUTMENT REPLACEMENT.
- (10) CONCRETE SLOPE PAVING REPAIR IN AREAS DETERMINED BY THE FIELD ENGINEER.
- (11) CLEAN AND SEAL EXISTING ABUTMENT SEATS AFTER PAINTING PROCESS. REFER TO SPECIFICATIONS AND QUANTITIES NOTES (1) & (2)
- 12) INCLUDES RODENT SHEILD FOR PIPE UNDERDRAIN PER SDD 8F6-4.

NO.	DATE	F	BY							
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION										
STRUCTURE B-29-19										
DRAWN BY DLF CK'D. CJB										
		NOTES	SHEET 2	OF 11						

8

930

**→20** 

300---

TO B PA

**ELEVATION** (AT RT ANGLES TO C M ST P &R RE.)

EL 907. 64

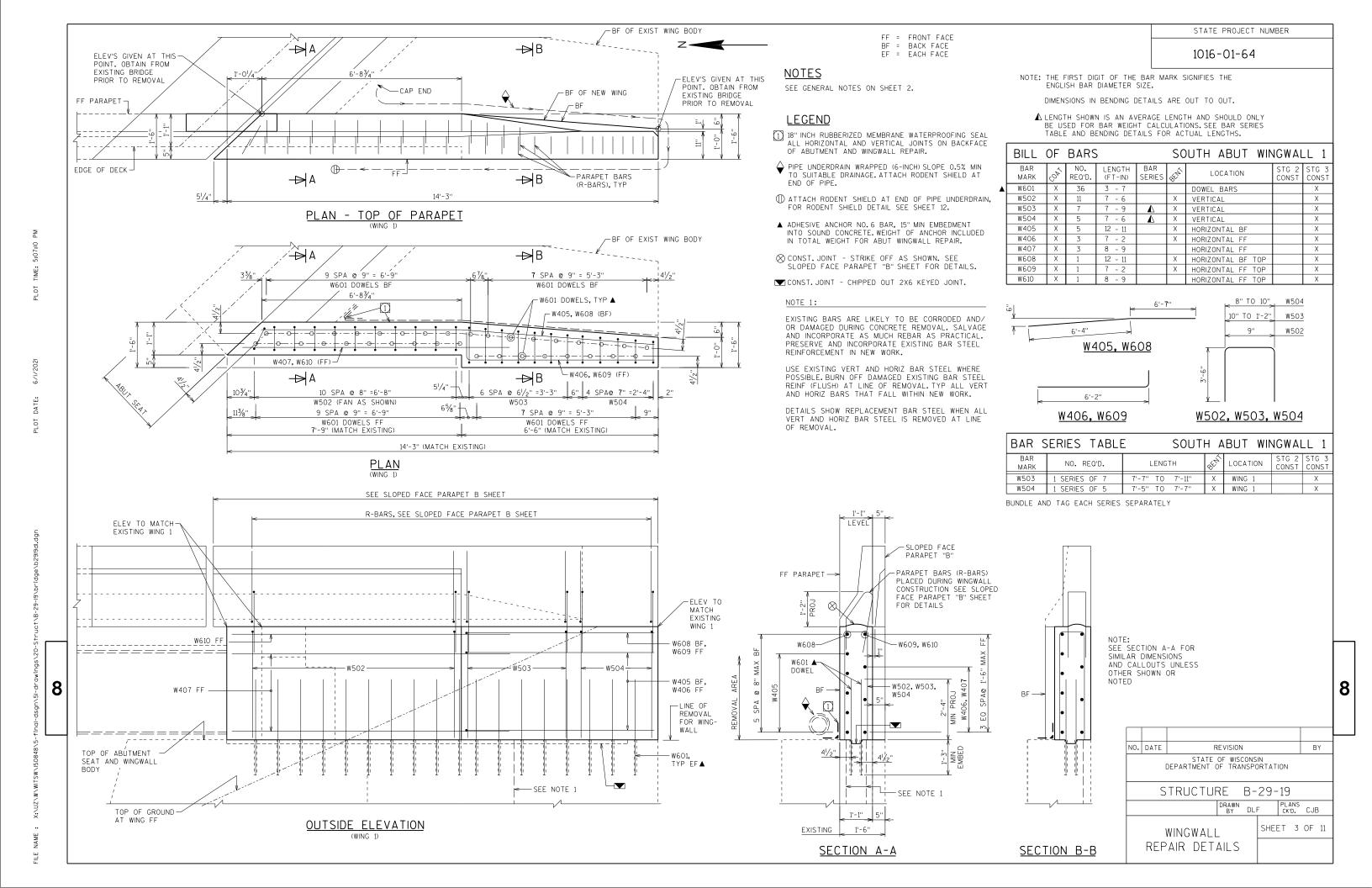
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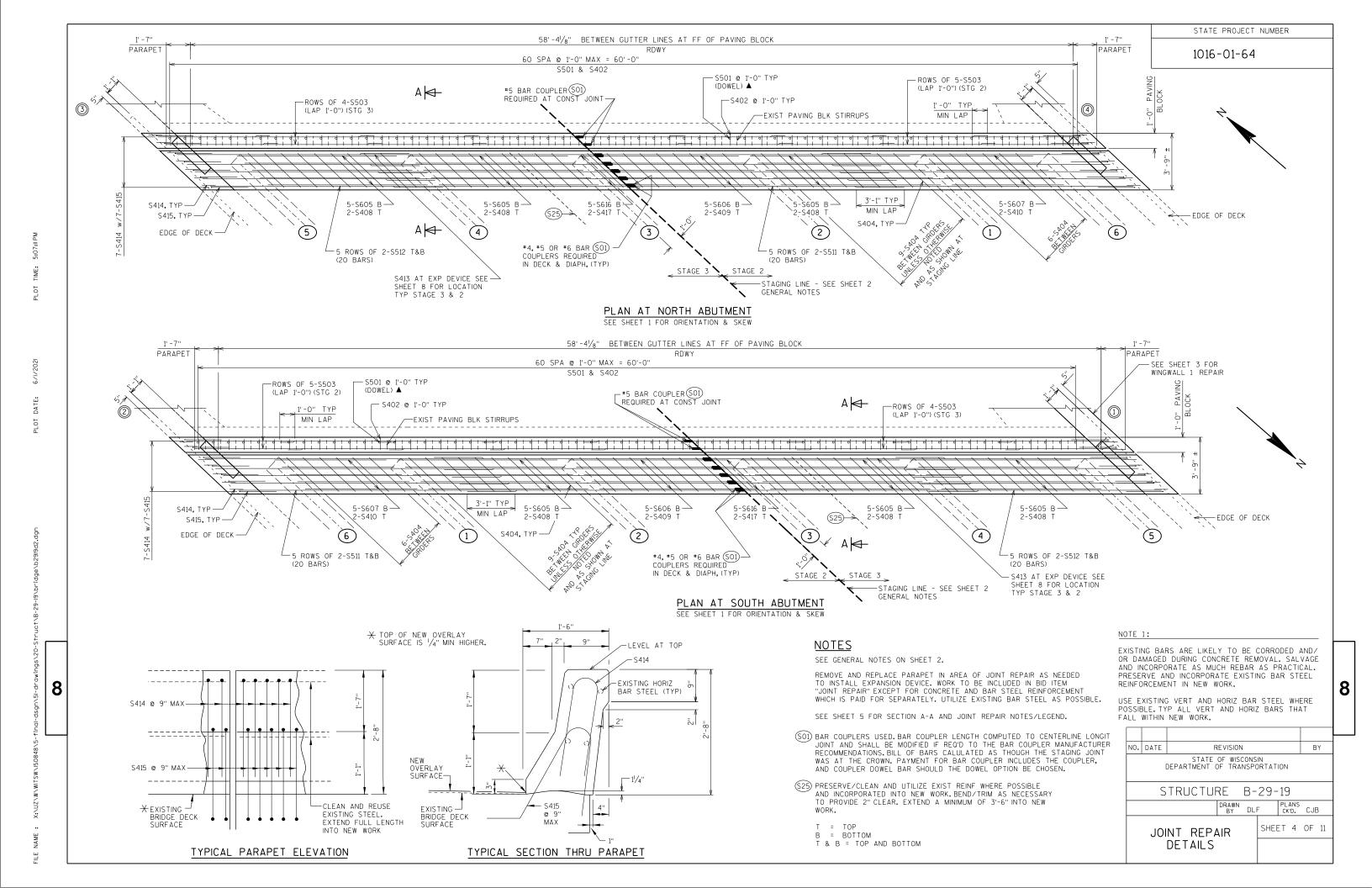
THIS ELEVATION VIEW TAKEN FROM EXISTING PLANS, REFERENCE ONLY, NOT FOR CONSTRUCTION. INTENT IS TO SHOW CONTRACTOR BENEATH THE BRIDGE

YEXIGTING GM. LINE

EL 941 04

AND QUANTITIES





BAR COUPLER ALTERNATIVES

DOWEL-IN BAR

SPLICED BAR

FF = FRONT FACE BF = BACK FACE

B = BOTTOM T & B = TOP AND BOTTOM EF = EACH FACE

STATE PROJECT NUMBER

JOINT REPAIR

Х

8

1016-01-64

## <u>NOTES</u>

SEE GENERAL NOTES ON SHEET 2.

#### LEGEND

- ▲ ADHESIVE ANCHORS NO.5 BAR, 12" MIN EMBEDMENT INTO SOUND CONC. SPACE AT 1'-O', TURN 10" LEG AS NECESSARY TO FIT. WEIGHT OF ANCHOR INCLUDED IN TOTAL WEIGHT FOR JOINT REPAIR.
- $\mbox{\ensuremath{\frac{\ensuremath{\ensuremath{\mbox{\ensuremath{\ensuremath{\mbox{\ensuremath}\am}$
- ◆ OPT. CONST. JOINT 1" BELOW EXISTING REINF.
- ▲ STRIP SEAL EXPANSION DEVICE TYPICAL AT EACH END OF BRIDGE. SET NEW JOINT ACCORDING TO TEMPERATURE TABLE ON SHEET 8.
- (1) CONCRETE USED IN THE JOINT REPAIR AREA IS INCLUDED AND PAID FOR IN THE BID ITEM "CONCRETE MASONRY BRIDGES".
- (2) SET FLUSH WITH CONCRETE AT ROADWAY
- $\ensuremath{ \begin{tabular}{lll} \hline \ensuremath{ \begin{tabular}$ SURFACE ELEVATION.
- X LINE OF REMOVAL DEFINED BY 1" DEEP SAWCUT ALL AROUND REMOVAL WHERE PRACTICAL.
- DIMENSION GIVEN ARE NORMAL TO C/L OF SUBSTRUCTURE UNIT.

#### NOTE 1:

EXISTING BARS ARE LIKELY TO BE CORRODED AND/ OR DAMAGED DURING CONCRETE REMOVAL. SALVAGE AND INCORPORATE AS MUCH REBAR AS PRACTICAL. PRESERVE AND INCORPORATE EXISTING BAR STEEL REINFORCEMENT IN NEW WORK.

USE EXISTING VERT AND HORIZ BAR STEEL WHERE POSSIBLE. TYP ALL VERT AND HORIZ BARS THAT FALL WITHIN NEW WORK.

#### BAR NO. LENGTH BAR (FT-IN) SERIE STG 2 STG 3 LOCATION REQ'D. S501 66 PAVING BLK DOWEL 56 PAVING BLK DOWEL PAVING BLK STIRRUP 66 56 3 - 2 X PAVING BLK STIRRUP S503 30 8 - 0 PAVING BLK HORIZ 24 PAVING BLK HORIZ 46 DIAPH TIE 38 DIAPH TIE S605 10 DIAPH LONGIT BOT 20 S606 8 - 10 DIAPH LONGIT BOT 10 \$607 10 DIAPH LONGIT BOT DIAPH LONGIT TOP DIAPH LONGIT TOP S409 4 DIAPH LONGIT TOP 8 - 10 S410 DIAPH LONGIT TOP S511 40 18 - 4 DECK LONGIT T & B S512 40 15 - 5 DECK LONGIT T & B S413 12 9 - 3 EXP DEVICE BET GIR EXP DEVICE BET GIR S414 4 - 10 PARAPET VERT 14 14 4 - 10 X PARAPET VERT PARAPET VERT 14 14 PARAPET VERT

NOTE: THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE

NUMBER REQUIRED IS FOR TWO ABUTMENTS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT.

ENGLISH BAR DIAMETER SIZE.

BILL OF BARS

S616

S417

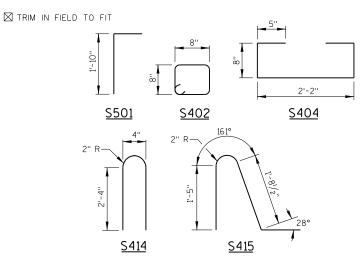
BAR COUPLER REQUIRED AT STAGING LINE IN STAGE 2. BAR LENGTH COMPUTED TO C/L LONGIT. JOINT AND SHALL BE MODIFIED IF REO'D. TO BAR COUPLER MANUFACTURER RECOMMENDATIONS. PAY BASED ON BARS AS DETAILED.

0 - 6

0 - 6

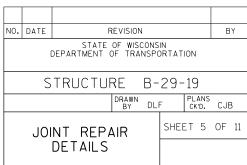
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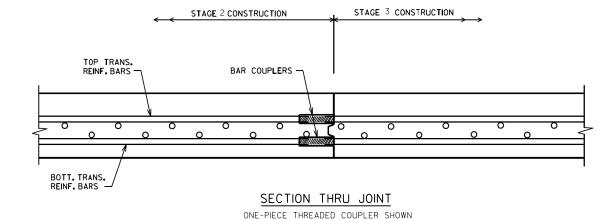
4



DIAPH LONGIT BOT

DIAPH LONGIT TOP



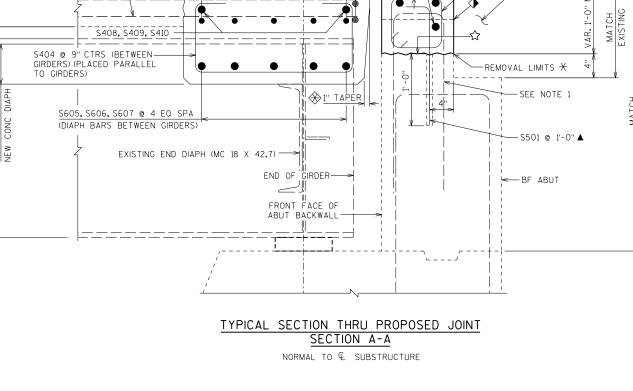


## BAR COUPLER NOTES

FOR DOWEL BAR COUPLERS, ALL DOWEL BARS SHALL BE LAPPED AND TIED TO THE REINFORCEMENT BARS.

#### **DOWEL BAR COUPLER LAP LENGTHS**

CONCRETE UNDER BAR	BAR SIZ <b>E</b>	4	5	6	7	8	9	10	11
12" OR LESS	f'c = 3500	1'-8"	2'-8"	3'-2"	4'-3"	5'-6"	7'-0"	8'-9"	10'-11"
12 OR LESS	f'c = 4000	1'-8"	2'-8"	3'-2"	4'-0"	5'-2"	6'-6"	8'-3"	10'-2"
MORE THAN 12"	f'c = 3500	2'-3"	2'-11"	3'-6"	4'-8"	6'-1"	7'-10"	9'-10"	12'-1"
MORE THAN 12"	f'c = 4000	2'-3"	2'-11"	3'-6"	4'-5"	5'-8"	7'-4"	9'-2"	11'-4"



-DOWEL-IN BAR

SPLICED BAR

3'-9" ± JOINT REPAIR 1

S413 AT EXP DEVICE

2-S511, 2-S512 @ 4 EQ SPA (DECK HORIZ BARS TOP & BOTTOM)

SAVE EXIST LONGIT STEEL-

SEE NOTE 1

BETWEEN GIRDERS

MATCH EXISTING

-(2)

- S503 (LAP 1'-0")

-S402 @ 1'-0"

-PAVING NOTCH

STAGE 3 CONSTRUCTION STAGE 2 CONSTRUCTION

STAGE 2 CONSTRUCTION

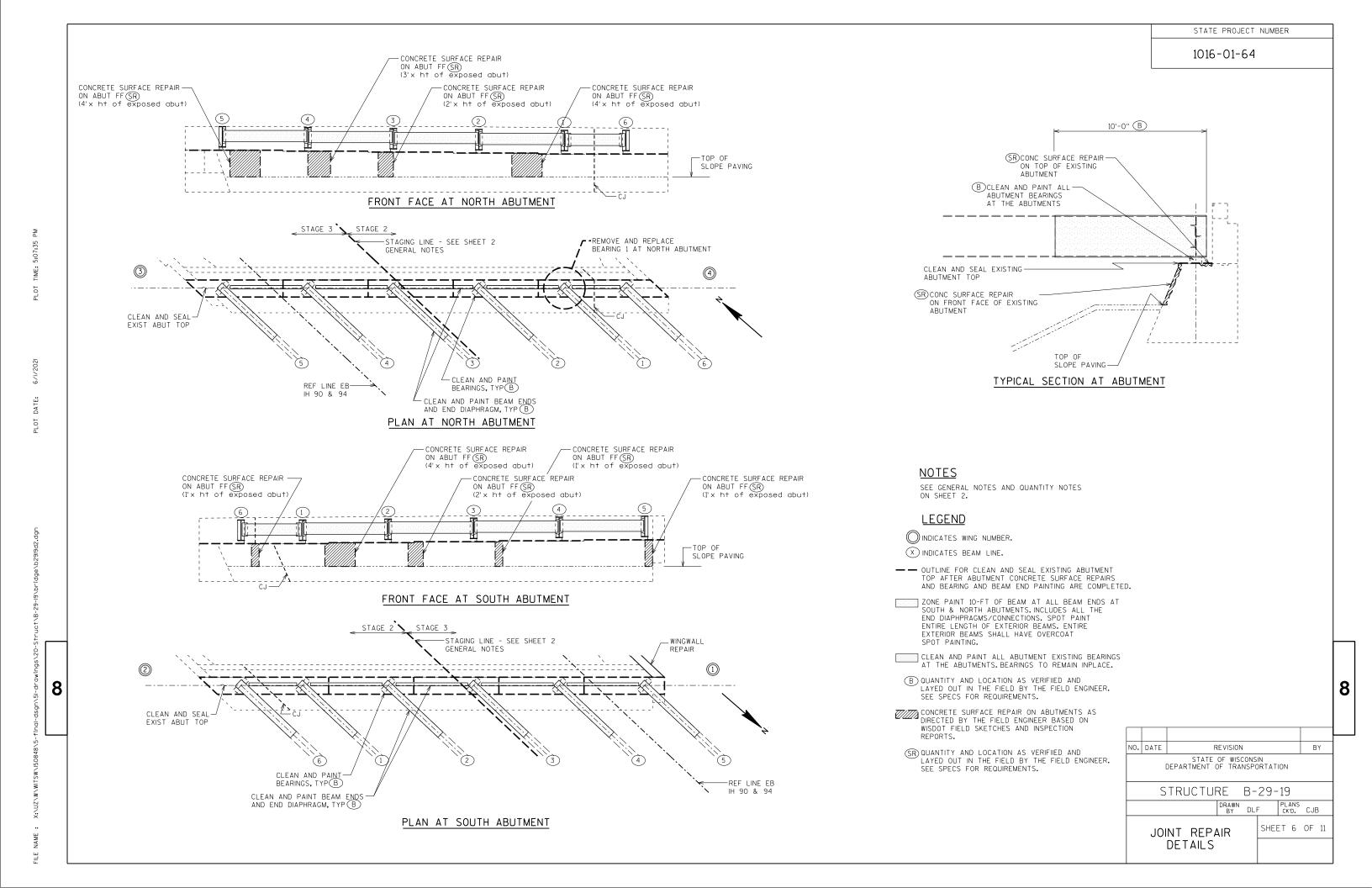
LAP LENGTH

ONE-PIECE THREADED COUPLER

DOWEL BAR COUPLER STAGE 3 DOWEL SCREWS INTO COUPLER PLACED IN STAGE 2

STAGE 3 CONSTRUCTION

LAP LENGTH



TYP.

ANSI 250 FINISH -

TOP PLATE "A"

-SEAL
WELD



STATE PROJECT NUMBER

1016-01-64

#### BEARING NOTES

₱ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM F1554 GRADE 50, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-29-19", EACH.

CHAMEER ANCHOR BOLTS PRIOR TO THREADING.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL STRUCTURAL STEEL BEARING PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL.

PROVIDE  ${\rm 1/8}^{\rm H}$  Thick bearing pad the same size as masonry plate "D" for each bearing.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT, BOLT LENGTH TO BE 1'-5 FOR 1 1/4" \$\phi\$ BOLTS. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR

ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED.TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED.USE A WELDABLE PRIMER ON TOP PLATE "A". DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

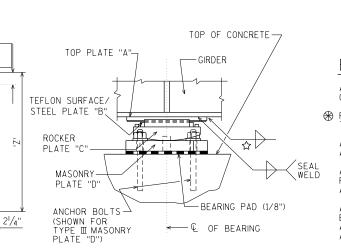
 $\hfill \square$  provide a method for handling rocker plate "C" during galvanizing.

SPECIFICATION.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FORFIGN MATTER.

IN LIEU OF USING SHIM PLATES, FABRICATOR MAY INCREASE THICKNESS OF TOP PLATE "A" OR MASONRY PLATE "D" BY SHIM PLATE THICKNESS.

PLACE SHIM PLATES BETWEEN BEARING PAD AND MASONRY PLATE "D". PLATES SHALL HAVE 'X' AND 'Z' DIMENSIONS THAT MATCH MASONRY PLATE "D".



EXPANSION BEARING

ASSEMBLY MASONRY PLATE

0 10

/Q ! . (

OF BEARING

1 ½" DIA. PINTL

ED HOLES FOR AND (HOLE DIA. = BOLT

## EXPANSION BEARING

/WELD

FIRST

€ OF BEARING

√TYP.

	PLATE "A" P		PLATE	PLATE "B"		PLATE "C"		PLATE "D"			PLATE	ANCHOR BOLT	NO. OF BRG'S	LOCATION	
	'X'	'Z'	'X'	'Z'	'X'	'Y'	'Z'	'X'	'Υ'	'Z'	"D" TYPE	SIZE	REQ'D.	200///1017	
	11''	1'-2''	7''	1'-2"	9"	1 <sup>15</sup> / <sub>16</sub> ''	1'-41/4"	8"	11/2"	2'-0"	Ш	11/4" DIA.	1	NORTH ABUT BRG 1	
XPANSION BEARING															
ARI															
EXP BE															
					9										
	FIXED														
					H H										

1 5/8" DIA. DRILLED HOLE-5/8" DEEP—

1" X 1" X 6" BAR-

∠ANSI 250 FINISH

ROCKER PLATE "C"

ANSI 250

KEEPER BAR 1/4" X 1/2

FINISH

- ← OF GIRDER

LSTEEL PLATE "B"

STAINLESS STEEL ASTM A240,

TYPE 304, 2B FINISH, 16 GA. SHEET

MOVEMENT

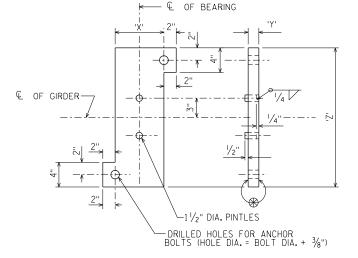
⚠ TEFLON SURFACE, USE

OF MOVEMENT

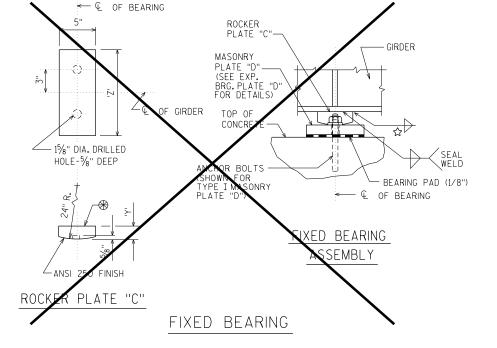
UNFILLED WITH MIN. 1/16"
THICKNESS. PLACE WITH
SCRIVE MARKS IN DIRECTION

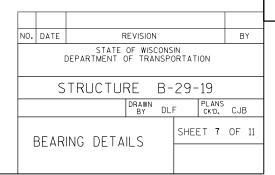
TEFLON SURFACE

ON PLATE "B"



TYPE III MASONRY PLATE "D" MODIFIED





8

8

 $\stackrel{-}{2}$  Studs  $5_8^{\rm w}$   $^{\rm to}$  x  $6\,^{3}\!\!\!/_{\rm s}$ " long at 6" alternate centers. Weld to extrusions and bend as shown after welding.

(2A) 1/2" THICK ANCHOR PLATE WITH 5%" PROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO.1 AT 1'-6" CENTERS BETWEEN GIRDERS.

3 3/4" \$\phi\$ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. WELD THREADED ROD TO TOP FLANGE OR ATTACH BY BOLTING THRU FLANGE. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) 3/4" THREADED ROD WITH NUT. TACK WELD NUT TO NO.5.

(5) FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO.1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1/2" \$\phi\$ HOLE FOR NO.3 AND 1" \$\phi\$ HOLE FOR NO. 4.

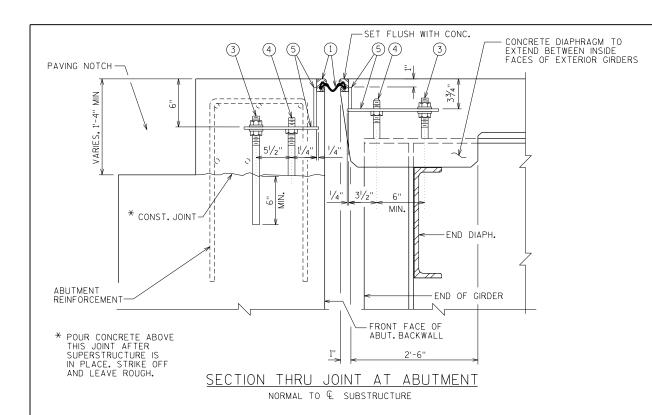
 $\mbox{ \begin{tabular}{lll} \hline 6 \\ \hline & & & \\ \hline & & \\$ 

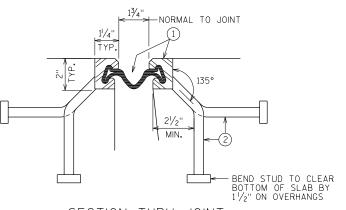
7  $\frac{3}{4}$ 4 × 1 $\frac{1}{2}$ " STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS  $\frac{1}{16}$ " BELOW PLATE SURFACE.

(8) ¾4"¢ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

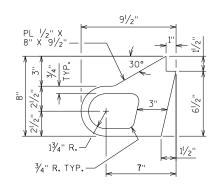
(9) 3/4" \$\phi X 21/4" GALVANIZED THREADED COUPLING.

(1) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

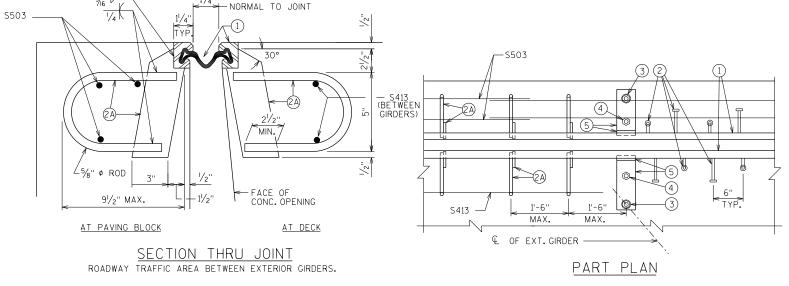








ALTERNATE STRIP SEAL ANCHOR



ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, ANCHOR PLATES SHALL BE PROVIDED 3" FROM EACH SIDE OF THE FIELD SPLICE. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

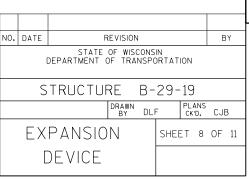
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

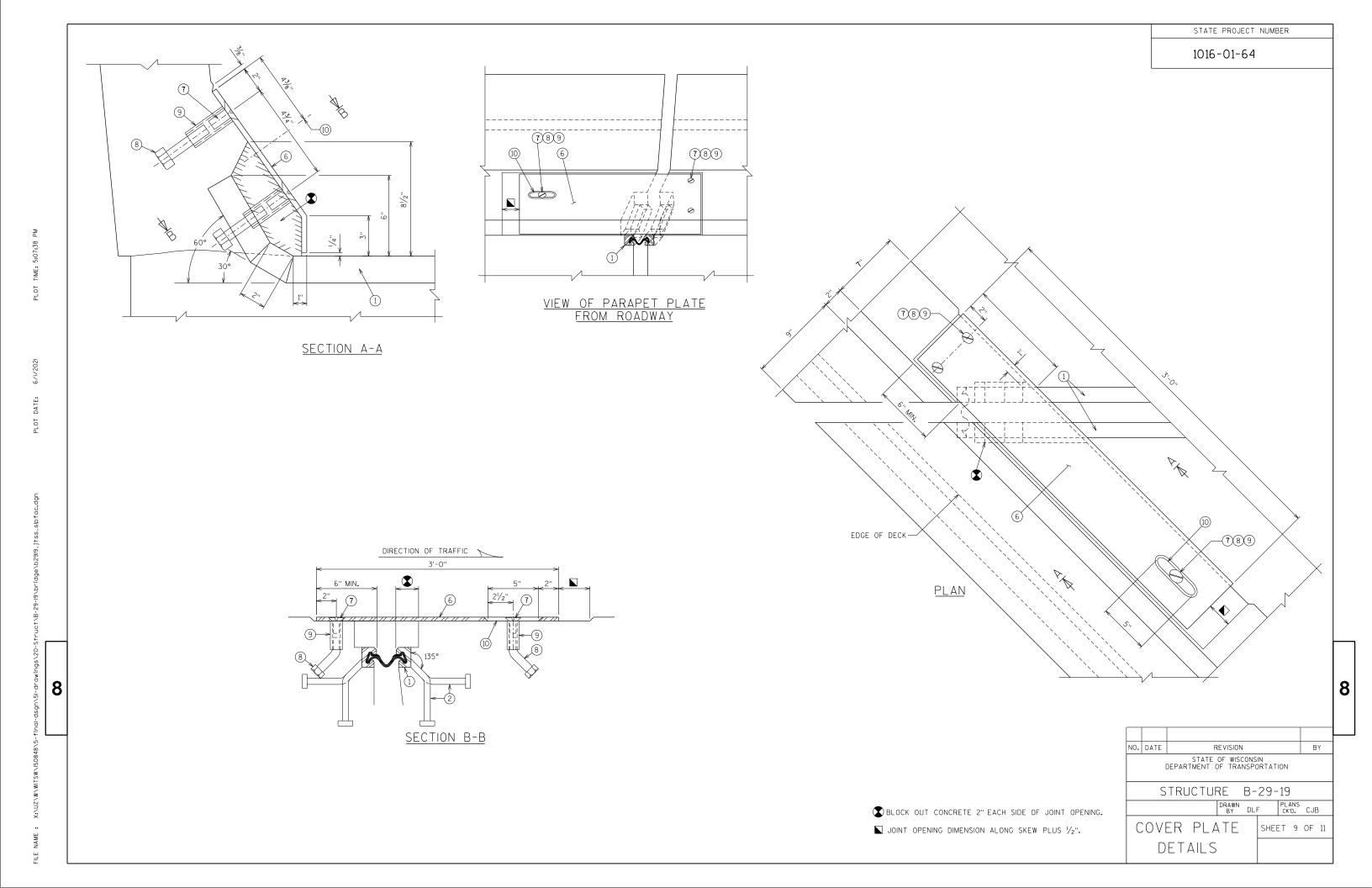
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

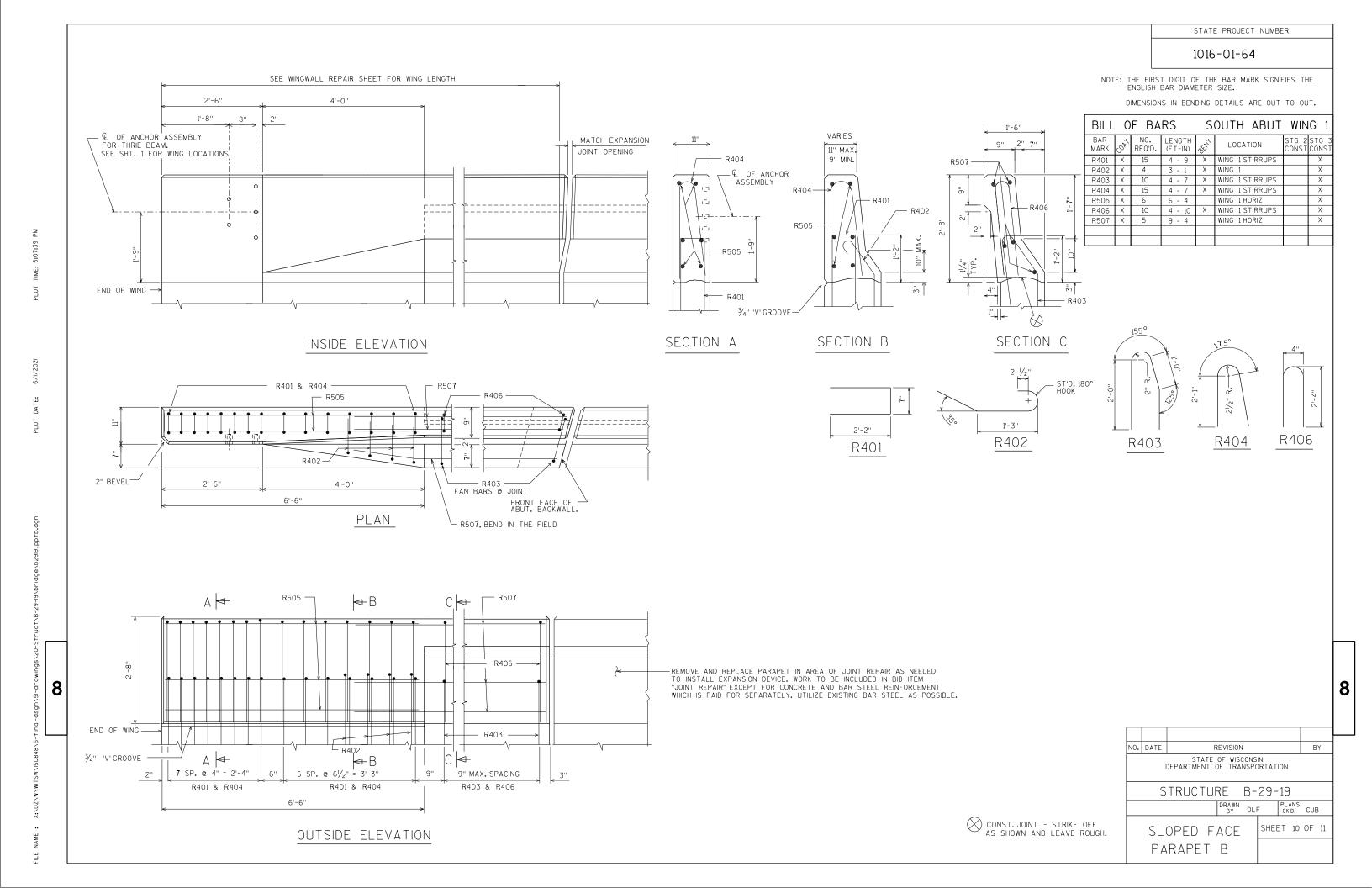
SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

ANCHOR SYSTEM NO.8 AND NO.9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

ALL MATERIAL IN THE EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID AT THE UNIT PRICE BID FOR "EXPANSION DEVICE B-29-19", LF.









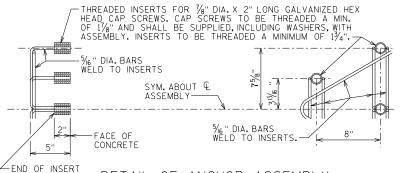
ALTERNATE CONCRETE REMOVAL DETAIL AT EXISTING PARAPET NOTES:

REMOVAL LIMITS

TOP VIEW

SAWCUTS SHALL NOT INTERFERE WITH EXISTING REINFORCEMENT. COST SHALL BE INCLUDED IN JOINT REPAIR.

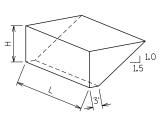
GALVANIZED JOINT PLATE AT PARAPETS SHALL NOT BE USED. JOINT TO REMAIN EXPOSED AT PARAPET IF ALTERNATE CONCRETE REMOVAL IS USED.



## DETAIL OF ANCHOR ASSEMBLY

NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.



## ABUTMENT BACKFILL DIAGRAM FOR WINGS PARALLEL TO ROADWAY

= OUT TO OUT OF ABUTMENT, INCLUDING WINGS (FT)
= AVERAGE ABUTMENT FILL HEIGHT (FT)
= EXPANSION FACTOR (1.20 FOR CY BID ITEMS
AND 1.00 FOR TON BID ITEMS)

EF

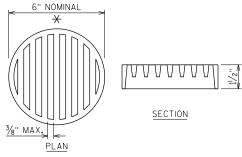
 $V_{CF} = (L)(3.0)'(H) + (L)(0.5)(1.5H)(H)$   $V_{CY} = V_{CF} (EF)/27$   $V_{TON} = V_{CY} (2.0)$ 

TO BE CLOSED

REMOVAL LIMITS

**ELEVATION VIEW** 



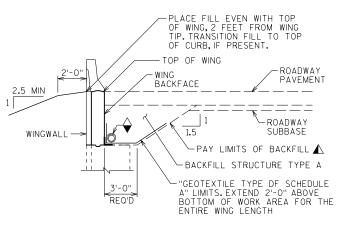


## RODENT SHIELD DETAIL

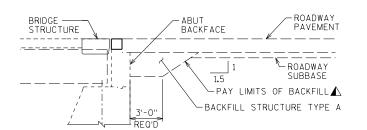
\* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

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 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 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

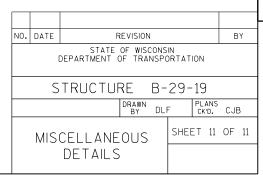


## TYPICAL SECTION AT WINGWALL



## TYPICAL SECTION AT ABUTMENT BACKWALL/PAVING BLK

- ⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.
- PIPE UNDERDRAIN WRAPPED (6 INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE



8

Notes



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