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Madison, WI 53717

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Bridge Asbestos Inspection Report

WisDOT Project ID: 1090-35-00
Structure Number: B-67-0324
Structure Name: IH 43 NB over STH 164
City/County: Town of Vernon, Waukesha County
Lat/Long Coordinates: 425439.17/ 881302.76
TRC Project Number: 258937.0000.0000
Date Inspected: June 14, 2016
Inspected By/License Number: John Roelke, All-119523

Findings:

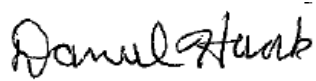
The inspection to identify and collect samples of potential asbestos-containing material (ACM) was completed following WisDOT standard sampling procedure for bridge inspections found in FDM 21-35-45.

None of the materials that were identified as potentially ACM and sampled tested positive for asbestos. The overlay on the bridge can proceed as planned. Standard Special Provision (STSP) 107-125 should be included in the specifications.

Sample Number	Sample Description	Sample Location	Analytical Results and Method	Friable/ Non-friable or No ACM	Quantity of ACM Material
1	Caulk	Abutment joint	PLM, non-detect	No ACM	0
2	Caulk	Abutment joint	PLM, non-detect	No ACM	
3	Caulk	Abutment joint	PLM, non-detect	No ACM	

If you have any questions, please contact me, at (608) 826-3628.

TRC Environmental Corporation



Daniel Haak
Project Manager



John Roelke
Asbestos Inspector

Attachments: Location Map, Photos, and Laboratory Report

Report Distribution:

Recipient	Electronic (PDF) Copy	Paper Copy
BTS-ESS sharlene.tebeest@dot.wi.gov	X (via email)	X
REC Andrew.malsom@dot.wi.gov	X (via email)	
Project Manager ashley.kiepczynski@dot.wi.gov	X (via email)	
Other steven.ring@dot.wi.gov	X (via email)	





Freeway		Dam	
Multilane Divided		Hospital	
U.S. or State Hwy		Airport	
County Trunk Hwy		County Seat	
Town Road		Unincorporated Village	
Firelane		Fish Hatchery	
Railroad		Game Farm	
State Trail		Public Hunt. or Fish. Grds.	
Interchange		Public Camp & Picnic Grds.	
Highway Separation		Ranger Station	
Interstate Highway No.		State Park	
U.S. Highway No.		County Park	
State Highway No.		County Park	
County Highway Letter		Rest Area	
State Boundary		Rest Area	
County Boundary		Wayside	
Civil Town Boundary ...		Ethan Allen School	
Section Line		Univ. of Wisconsin - Waukesha ..	



OCONOMOC	MERTON	LINSON	VILLAGE
SUMMIT	DELAFIELD	PEWaukee	BROOKFIELD
OTTAWA	GENESE	WAUKESHA	CITY
EAGLE	MUKWONAGO	VERNON	CITY

* Public hunting and fishing grounds not shown within Kettle Moraine State Forest

— Grid based on the state plane coordinate system south zone and the NAD 27

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

STATE.....	233
COUNTY.....	400
LOCAL ROADS.....	2429
OTHER ROADS.....	0
TOTAL FOR COUNTY.....	3062

Land Area (2010 Census) 550 sq mi
Population (2010 Census) 389891
County Seat Waukesha

DEPARTMENT OF TRANSPORTATION
STATE OFFICE BUILDING
Madison, Wisconsin

Corrected for
JAN. 2016

Base compiled from U.S.G.S. Quadrangles
1:100,000 Series

B-67-0324



Caulk in abutment joint



BULK ASBESTOS ANALYSIS REPORT

CLIENT: Wisconsin Department of Transportation

Lab Log #: 0048325
Project #: 258937.0000.0000
Date Received: 06/16/2016
Date Analyzed: 06/17/2016

Site: DOT Bridge Inspection, B-67-324

POLARIZED LIGHT MICROSCOPY by EPA 600/R-93/116

Sample No.	Color	Homogenous	Multi-Layered	Layer No.	Other Matrix Materials	Asbestos %	Asbestos Type
B-67-324 (1)	Grey	Yes	No	--	---	ND	None
B-67-324 (2)	Grey	Yes	No	--	---	ND	None
B-67-324 (3)	Grey	Yes	No	--	---	ND	None

Reporting limit- asbestos present at 1%

ND - asbestos was not detected

Trace - asbestos was observed at level of less than 1%

NA/PS - Not Analyzed / Positive Stop

SNA- Sample Not Analyzed- See Chain of Custody for details

Note: Polarized-light microscopy is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. In those cases, EPA recommends, and certain states (e.g. NY) require, that negative results be confirmed by quantitative transmission electron microscopy.

The Laboratory at TRC follows the EPA's Interim Method for the Determination of Asbestos in Bulk Insulation 1982 (EPA 600/M4-82-020) Bulk Analysis Code 18/A01 and the EPA recommended Method for the Determination of Asbestos in Bulk Building Materials July 1993, R.L. Perkins and B.W. Harvey, (EPA/600/R-93/116) Bulk Analysis Code 18/A03, which utilize polarized light microscopy (PLM). Our analysts have completed an accredited course in asbestos identification. TRC's Laboratory is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP), for Bulk Asbestos Fiber Analysis, NVLAP Code 18/A01, effective through June 30, 2016. TRC is accredited by the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC in the Industrial Hygiene Program (IHLAP) for PLM effective through October 1, 2016. Asbestos content is determined by visual estimate unless otherwise indicated. Quality Control is performed in-house on at least 10% of samples and QC data related to the samples is available upon written request from client.

This report shall not be reproduced, except in full, without the written approval of TRC. This report must not be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. This report relates only to the items tested.

Analyzed by: K. Williamson
Kathleen Williamson, Laboratory Manager

Reviewed by: Margaret Flanagan
Margaret Flanagan, Approved Signatory

Date Issued
06/17/2016

TRC LABORATORY ASBESTOS ANALYTICAL ACCREDITATIONS

NVLAP Lab Code 101424-0
RI #AAL-007 TX #300354
CO# AL-15020

AIHA-LAP, LLC #100122 CT #PH-0426
VT #AL014538 LA#05011 VA #3333 000283
PHIL# 461 PA#68-03387

ME LA-0075, LB-0071 MA #AA000052 NY #10980 WV# LT000411
AZ #A20944 HI #L-09-004 NJ #CT004 CA #2907



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-67-324

IH 43 NB over STH 164
Oct 22, 2018



Type	Prior	Frequency (mos)	Performed
Routine	10-21-16	24	X
SIA Review	10-21-16	48	
Vertical Clearance Measured	10-21-16	0	X

Start Coordinates		End Coordinates (optional)	
Latitude	42°54'39.20"N	Latitude	
Longitude	88°13'02.82"W	Longitude	
Owner	STATE HIGHWAY DEPT	Maintainer	STATE HIGHWAY DEPT

Time Log Team members

Hours	Minutes	
2	20	

Inspector	Name	Number	Signature	Signature Date
	Brooks, Julie	2017	<i>Julie Brooks</i> E-signed by Julie W Brooks(dotj5w)	01-25-19

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

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Identification & Location

Feature On: IH 43 NB	Section Town Range:	Structure Number:
Feature Under: STH 164	County: WAUKESHA	B-67-324
Location 6.8 MI N JCT STH 83	Municipality: VERNON	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 60	Bridge Roadway Width: 60.0	Total Length: 184.6
Approach Pavement Width: 36	Deck Width: 62.5	Deck Area (sq ft): 11537

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	22100	2017	ONE WAY TRAFFIC
Under	4	25900	2015	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: RF1.24	Overburden depth (in): 0.0	Last rating date: 08-29-12	Controlling: INTERIOR DECK GIRDER Positive Moment
Operating rating: RF1.64	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 1
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec):	
High water elevation (ft):	Velocity (ft/sec):	Sufficiency #: 98.0

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER - PS WIDE	45	91.0	Y
2	CONT PREST CONC	DECK GIRDER - PS WIDE	45	91.0	

Expansion joint(s)

Temperature:

File:	New:
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	15.06	23-May-2017	15.04
Highway Min Vertical Under Non-Cardinal	14.83	23-May-2017	14.81
Horizontal Under Cardinal	77.1		
Horizontal Under Non-Cardinal	82.4		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
CONC. PROTECTIVE TREATMENT - TK-590-1 MS	2015	MISCELLANEOUS PREVENTATIVE MAINTENANCE	

Construction History

Year	Work Performed	FOS id
2015	MISCELLANEOUS PREVENTATIVE MAINTENANCE	0549-67-61
2010	NEW STRUCTURE	1090-23-71

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

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Structure No.: **B-67-324**

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Deck - Seal w/ Concrete Sealer		COMPLETE		2015

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Approach - Seal Cracks	MEDIUM	Brooks, Julie (2017)	IDENTIFIED	01/25/19
Seal cracks and joints in approaches.				
Approach - Seal Joint along Parapet/Wing	MEDIUM	Brooks, Julie (2017)	IDENTIFIED	01/25/19
Seal vertical joint where parapet meets barrier wall.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck-Coated Reinforcing	SF	11,536	11,085	450	1	0
		1080	Delamination - Spall - Patched Area Spall at NE Fascia corner	SF		0	0	1	0
		1130	Cracking (RC) Nrw trans/diag crks - many w/lt. effl, HL vert crks both fascias. Cracks more prevalent in E half of deck.	SF		0	450	0	0
		8000	Wearing Surface (Bare) Indent in concrete @ S end at CL	SF	11,075	10,130	944	1	0
		8911	Abrasion, Wear, or Rutting (Wear. Surf.) Deck milled for profile correction at S header (3 ft) - W half of deck	SF		0	114	0	0
		3210	Debonding/Spall/Patched Area/Pothole Spall at NE corner of deck	SF		0	0	1	0
		3220	Crack (Wearing Surface) HL - Nrw longit/trans/diag crks at mod density, higher density of longit. crks in Ln 1, Transverse and map cracking near pier region.	SF		0	830	0	0
X	109		Prestressed Concrete Open Girder Girders are numbered from west to east per plan Scrapes on G1 over SB Left Lane	LF	1,097	1,097	0	0	0
X	205		Reinforced Concrete Column No defects noted. Columns identified W=>E (1-4)	EA	4	4	0	0	0
X	215		Reinforced Concrete Abutment Abutments are identified as N/S in plan	LF	149	139	8	2	0
		1080	Delamination - Spall - Patched Area Spall at NE abutment diaphragm (Fascia side)	LF		0	0	1	0
		1130	Cracking (RC) N. Abut: Some water leaking from Sill Jt; S. Abut: 2 HL Vert Cracks, few HL horiz crks E. face, 3 Nrw Vertical/Diagonal crks, Medium Vertical crack at G1 ; N: leaching & Effl. from plugged hole between decks, horiz HL cracks, 4 Nar vert cracks	LF		0	8	1	0

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
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Structure No.: **B-67-324**

X	234		Reinforced Concrete Cap	LF	62	62	0	0	0
		1130	Cracking (RC) HL vertical crack on N face at Col 1 (W)	LF		1	0	0	0
X	331		Reinforced Concrete Bridge Rail	LF	452	372	80	0	0
			Lt-moderate scaling						
		1080	Delamination - Spall - Patched Area Voids and honeycombing at base of west rail	LF		0	28	0	0
		1130	Cracking (RC) HL-Nrw vert/horiz crks.	LF		0	52	0	0
X	8400		Integral Wingwall	EA	2	2	0	0	0
			No defects noted						

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	9001		Drainage - Ends of Structure Inlet @ NE Quad - Good Condition; Inlet @ SE Wingtip - Good Condition; Inlet @ SW Wingtip - Mortar near the top is cracked and Spalling ; inlet @ NW - good condition; some erosion (or rodent hole) along NE wing ; erosion at SE wing under joint between abutment and wing	EA	4	3	1	0	0
X	9030		Signs - Object Markers (1) Tiger - outside only at SE wing	EA	1	1	0	0	0
X	9167		Steel Diaphragm Galvanized	EA	20	20	0	0	0
X	9168		Concrete Diaphragm At pier	EA	5	5	0	0	0
X	9322		Approach Roadway - Concrete (non-structural) S. Appr: Approach profile milled @ Hdr, Lt Shldr & Ln 1; N & S Approaches: Irregular finish @ CL Jt.; S: sealer failing @ header, trans crack in Ln 2, sm spalls @ contr & exp jnts & header, cracks and spalls mostly filled with tar ; N: sealer failing @ header, Trans crack in Lft shldr sealed with tar , gutter crk'd and settling at NW/NE wing.	EA	2	0	2	0	0

NBI Ratings

	File	New
Deck	7	7
Superstructure	8	7
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

2018 Vertical Clearances
Cardinal: 15.04' at G1 (North/West Girder) at Face of Median Curb
Non-Cardinal: 14.81' at G6 (South/East Girder) at Face of Median Curb

BRIDGE INSPECTION REPORT
Wisconsin Department of Transportation
DT2007 2003 s.84.17 Wis. Stats.

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Structure No.: **B-67-324**

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Top side: shoulder space available for parking on inside and outside
Bottom side: can park on outside shoulder NB or SB

Special Requirements

Chk	Hours	Cost	Comments
-----	-------	------	----------

Routine
Document Comment/Description

Roadway On Structure Looking Northeast

B-67-324, IH 43 NB over STH 164
Roadway On Structure Looking NE
10/22/18



Routine

Document Comment/Description

North Header Joint Looking West
Joint Sealer Partially Effective



Routine
Document Comment/Description

Wearing Surface
Unsealed Transverse Cracking

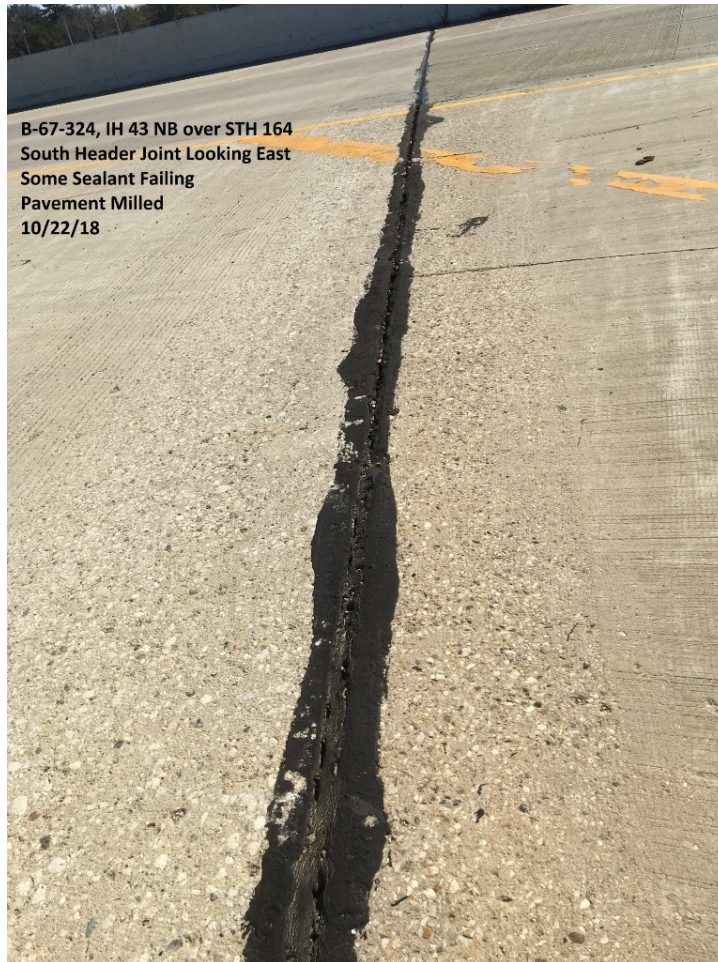


B-67-324, IH 43 NB over STH 164
Wearing Surface Cracking
10/22/18

Routine

Document Comment/Description

South Header Joint Looking East
Some Sealant Failing; Pavement Ground for Profile



Routine

Document Comment/Description

Wearing Surface at South Header
Impressions in Concrete, Pavement Ground for Profile



Routine

Document Comment/Description

North Approach at Header
Pavement Ground for Profile at Longitudinal Joint



B-67-324, IH 43 NB over STH 164
North Approach at Header
Pavement Ground for Profile at Joint
10/22/18

Routine
Document Comment/Description

Wearing Surface Cracking
North End of Deck at Header



Routine

Document Comment/Description

West Parapet
Voids in Concrete at Base



Routine

Document Comment/Description

Wearing Surface at South Header
Unsealed Diagonal Cracking



Routine
Document Comment/Description

Spall at Deck/Abutment Fascia
NE Corner of Structure



Routine

Document Comment/Description

Span 1 Soffit Looking South
Few Transverse Cracks with Efflorescence



Routine

Document Comment/Description

Span 2 Soffit Looking North
Few Transverse Cracks with Efflorescence; Some efflorescence along cold joint from staged construction



B-67-324, IH 43 NB over STH 164
Span 2 Soffit Looking North
10/22/18

Vertical Clearance Verification
Document Comment/Description

Non-Cardinal Vertical Clearance Verification
Minimum Vertical Clearance Measured at Girder #6



Vertical Clearance Verification**Document Comment/Description**

Cardinal Vertical Clearance Verification
Minimum Vertical Clearance Measured at Girder #1



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DESIGN DATA

LIVE LOAD:

DESIGN RATING: HL-93
 INVENTORY RATING FACTOR: 1.307
 OPERATING RATING FACTOR: 1.694
 MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 P.S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY {SUPERSTRUCTURE f'_c = 4,000 p.s.i.
 {ALL OTHER f'_c = 3,500 p.s.i.
 HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60) f_y = 60,000 p.s.i.
 45W" PRESTRESSED GIRDER CONCRETE MASONRY f'_c = 8,000 p.s.i.
 STRANDS - 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF f'_s = 270,000 p.s.i.

FOUNDATION DATA:

ABUTMENTS & PIERS TO BE SUPPORTED ON SPREAD FOOTINGS. THE MAXIMUM DESIGN SOIL PRESSURE AT THE ABUTMENTS AND PIERS IS 3.0 TONS/S.F. THE MAXIMUM DESIGN SOIL PRESSURE FOR THE UPPER WING SEGMENT IS 2.0 TONS/S.F. FOR AREAS PLACED ON UNDISTURBED SOIL AND 1.75 TON/S.F. FOR AREAS PLACED ON "BACKFILL SLURRY."

TRAFFIC DATA:

I-43

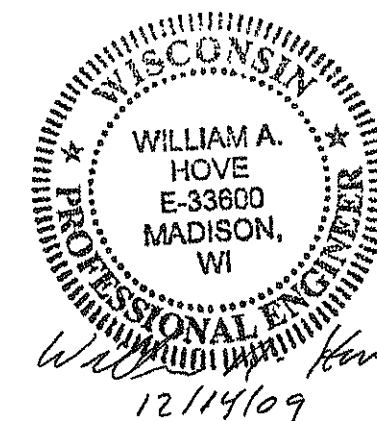
A.D.T. = 44,900 (2010)
 A.D.T. = 55,600 (2030)
 R.D.S. = 70 M.P.H.

STH 164

A.D.T. = 23,800 (2010)
 A.D.T. = 31,400 (2030)
 R.D.S. = 50 M.P.H.

LEGEND

- (A) NAME PLATE AND BENCH MARK CAP LOCATION.
- * ANCHOR ASSEMBLY FOR THREE BEAM.
- EXISTING SHOULDER WILL BE WIDENED. SLOPE PAVING CRUSHED AGGREGATE TO BE USED BETWEEN WIDENED SHOULDER AND ABUTMENTS FOR TEMPORARY CONDITION UNTIL ULTIMATE SECTION OF STH 164 IS CONSTRUCTED AS PART OF A FUTURE PROJECT.



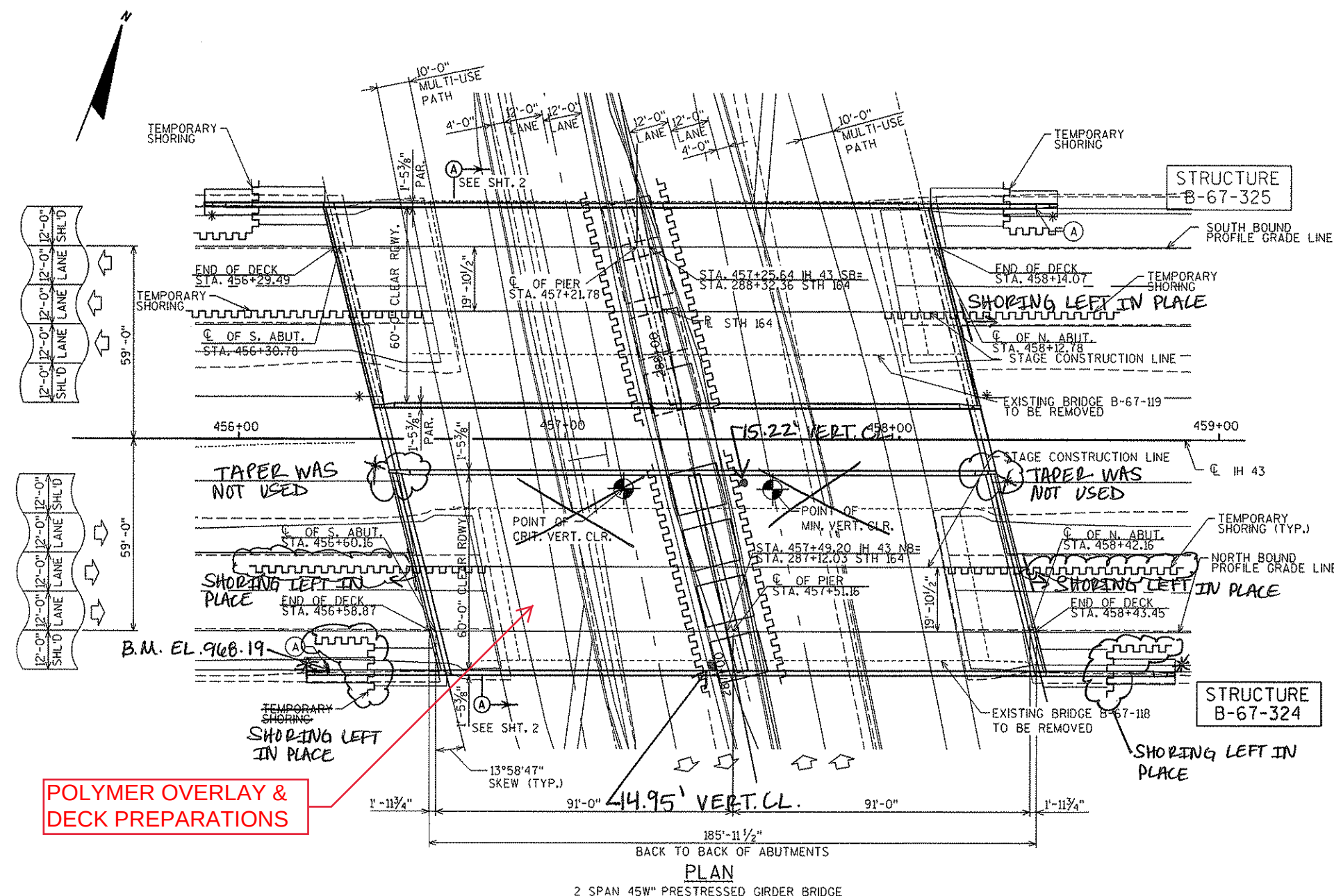
LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION & GENERAL NOTES
3. QUANTITIES & PROFILE GRADE LINES
4. CONSTRUCTION STAGING DETAILS
5. CONSTRUCTION STAGING DETAILS 2
6. SUBSURFACE EXPLORATION
7. SOUTH ABUTMENT
8. SOUTH ABUTMENT FOOTING DETAILS
9. SOUTH ABUTMENT WINGWALL DETAILS
10. NORTH ABUTMENT
11. NORTH ABUTMENT FOOTING DETAILS
12. NORTH ABUTMENT WINGWALL DETAILS
13. PIER
14. PIER DETAILS
15. 45W" PRESTRESSED GIRDER
16. STEEL DIAPHRAGM
17. SUPERSTRUCTURE
18. SUPERSTRUCTURE CROSS SECTION
19. SUPERSTRUCTURE DETAILS
20. SLOPED FACE PARAPET "HF"

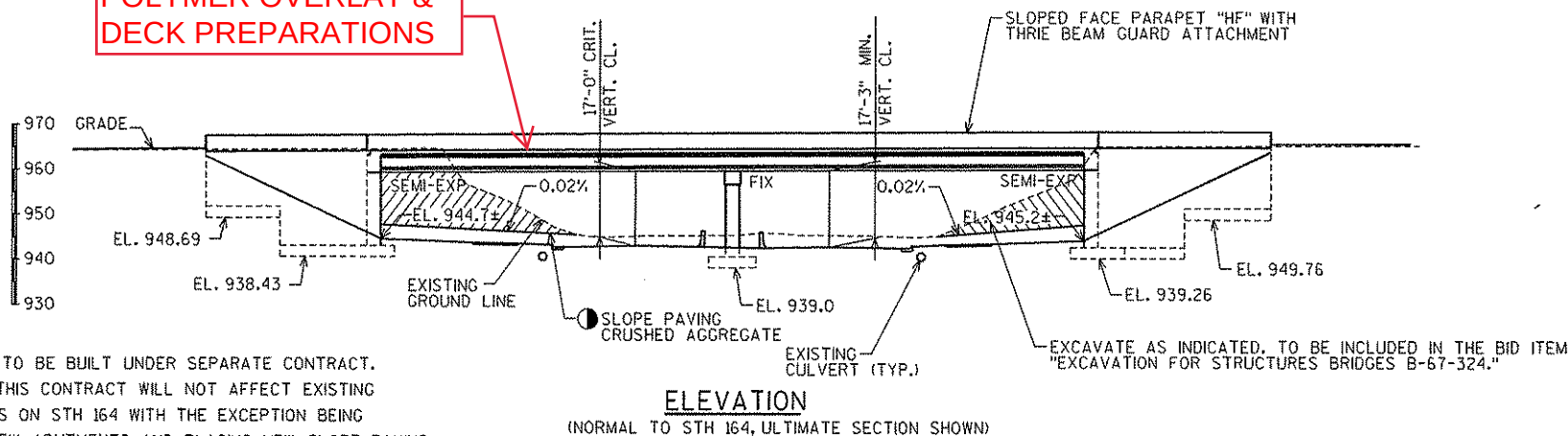
DESIGN CONTACTS

BUREAU OF STRUCTURES:
 WILLIAM DREHER
 (608) 266-8489

CONSULTANT CONTACT:
 BILL HOVE
 (608) 249-0140

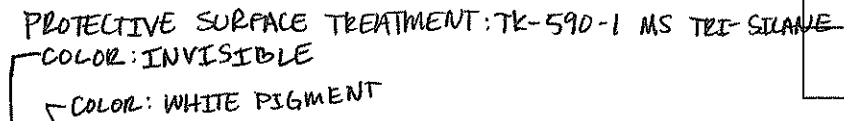


POLYMER OVERLAY &
 DECK PREPARATIONS



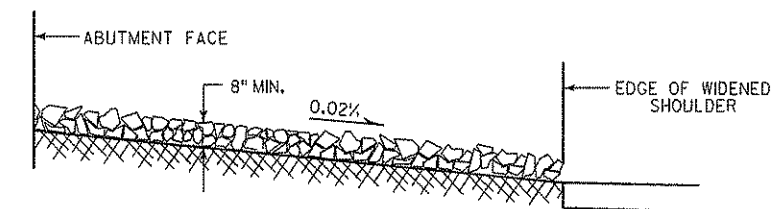
NOTE:
 ULTIMATE SECTION TO BE BUILT UNDER SEPARATE CONTRACT.
 ROADWORK UNDER THIS CONTRACT WILL NOT AFFECT EXISTING
 GROUND ELEVATIONS ON STH 164 WITH THE EXCEPTION BEING
 EXCAVATION FOR NEW ABUTMENTS AND PLACING NEW SLOPE PAVING.

ELEVATION
 (NORMAL TO STH 164, ULTIMATE SECTION SHOWN)



PROVIDE PLANS, SIGNED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER, FOR THE STAGED REMOVAL OF THE EXISTING STRUCTURE. COST FOR THIS WORK TO BE INCLUDED IN THE "REMOVING OLD STRUCTURE" BID ITEM. DO NOT START STRUCTURE REMOVAL WORK UNTIL THE REMOVAL PLAN IS ACCEPTED BY THE ENGINEER.

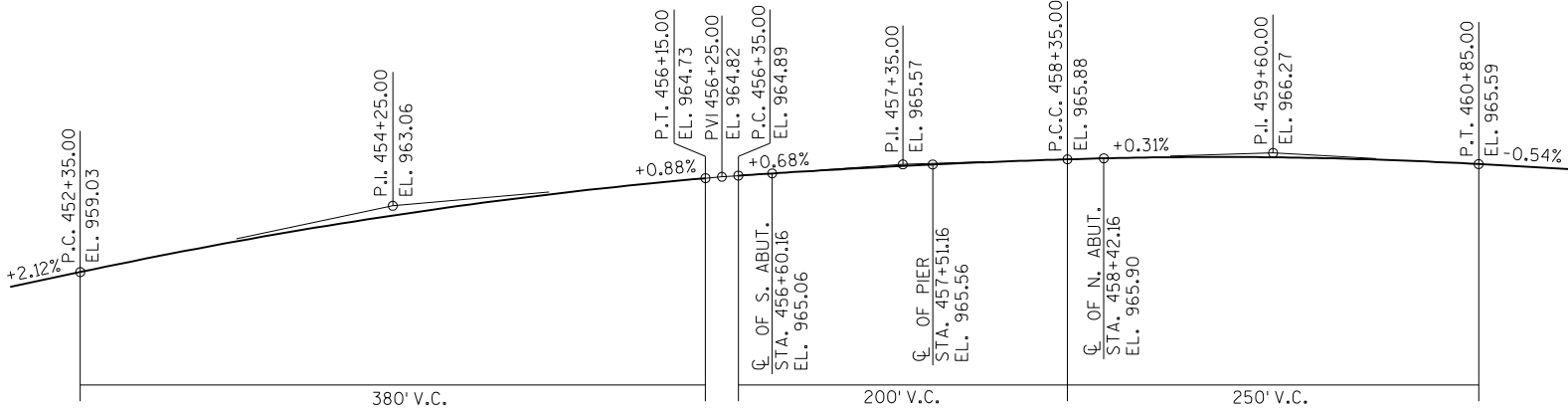
45W" PRESTRESSED CONCRETE GIRDERS
(LOOKING UPSTATION)



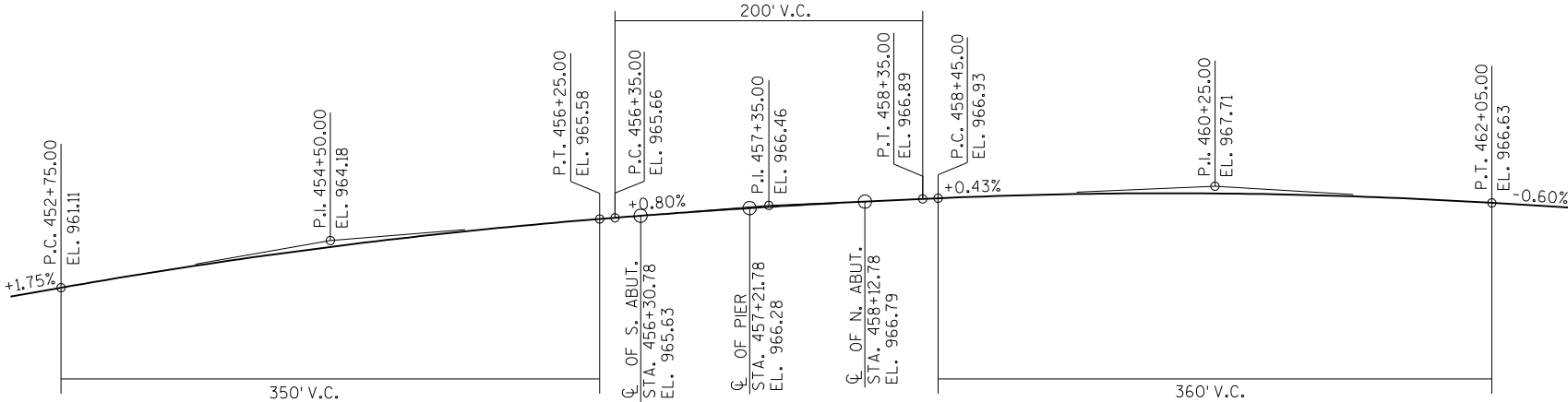
CROSS SECTION THRU SLOPE PAVING CRUSHED AGGREGATE



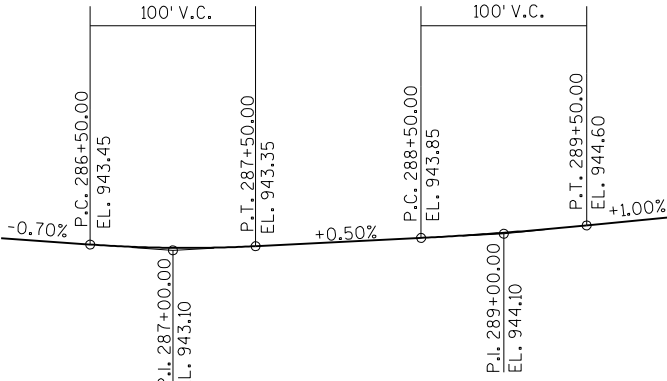
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST. SPEC. 2010	DRAWN BY TRW		PLANS CK'D. BH
CROSS SECTION & GENERAL NOTES		SHEET 2 OF 20 190	



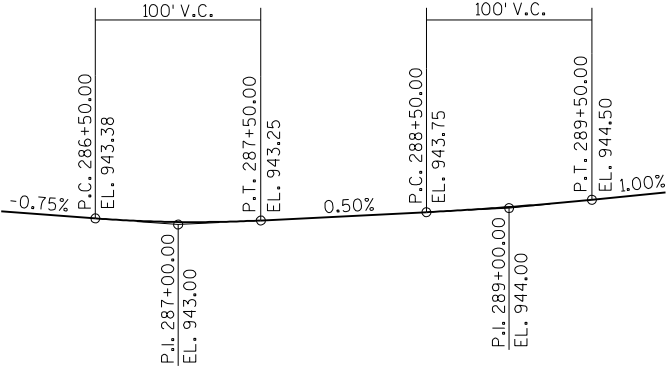
PROFILE GRADE LINE
(IH 43 NORTH BOUND)



PROFILE GRADE LINE
(IH 43 SOUTH BOUND)



PROFILE GRADE LINE
(STH 164 NORTH BOUND)



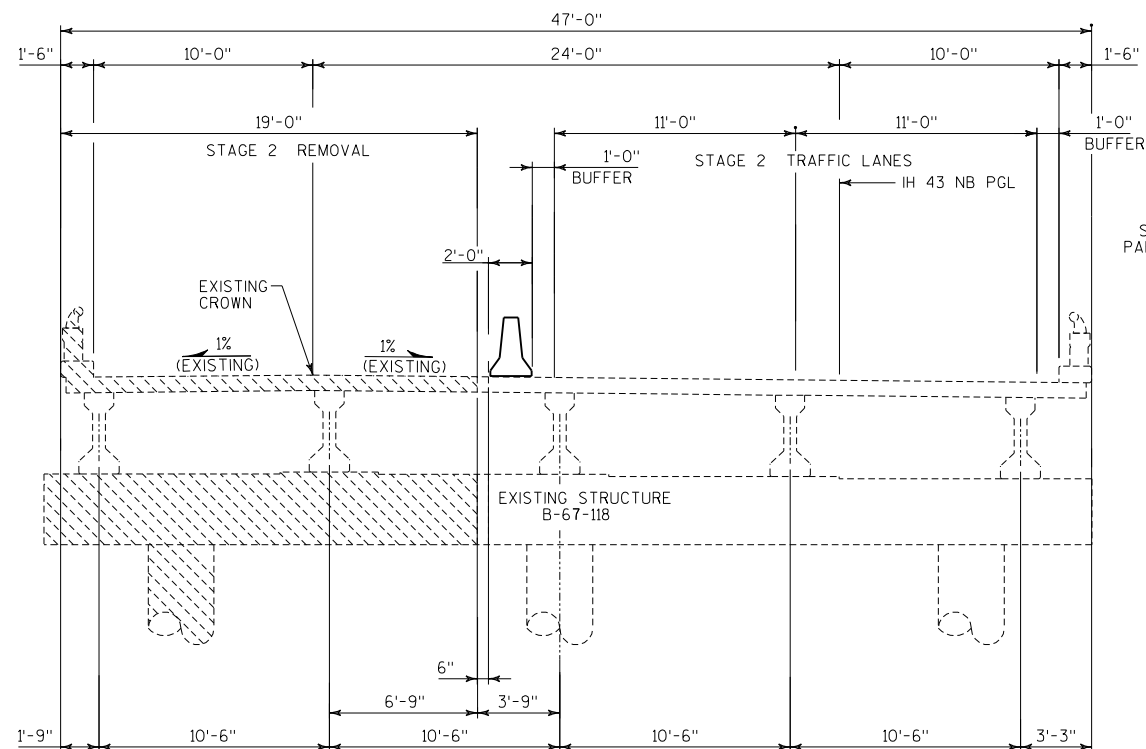
PROFILE GRADE LINE
(STH 164 SOUTH BOUND)

TOTAL ESTIMATED QUANTITIES

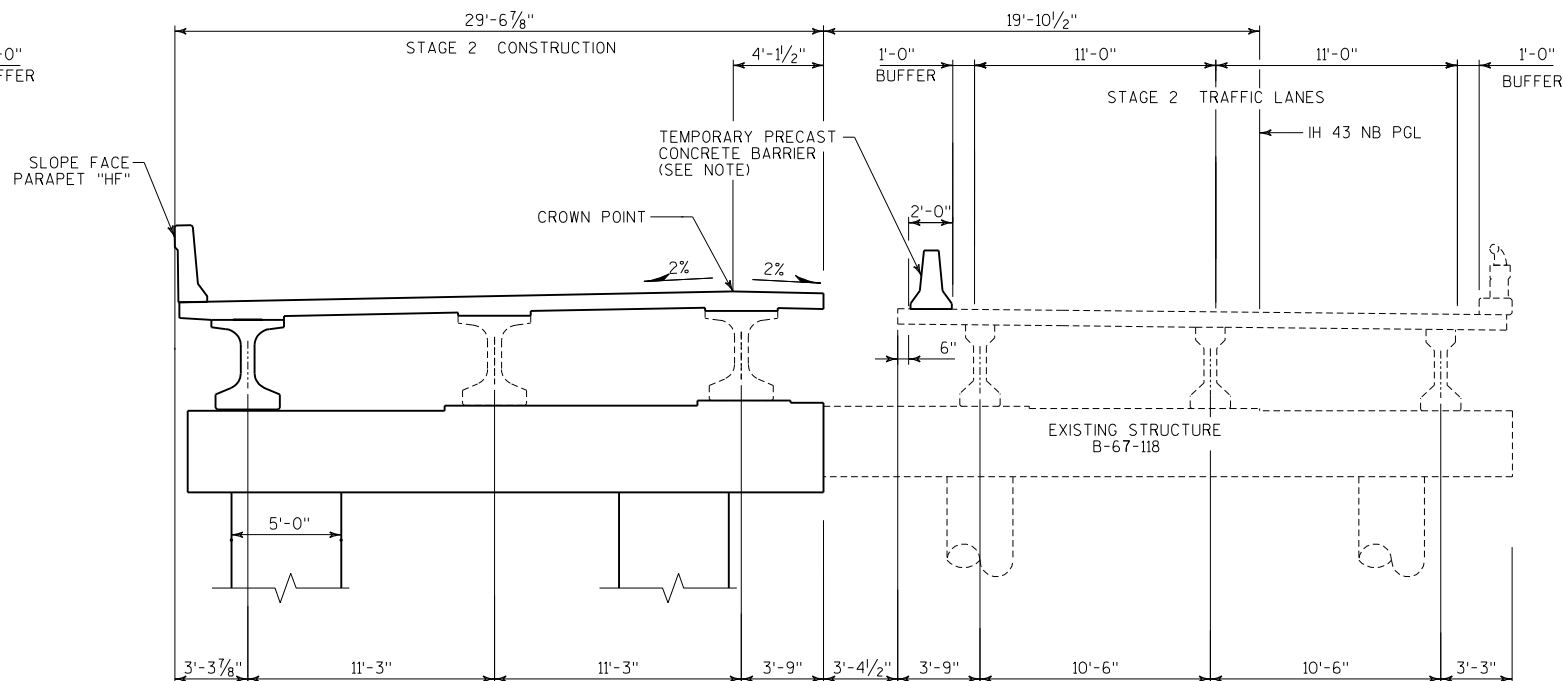
BID ITEM NO.	BID ITEMS	UNIT	SOUTH ABUTMENT	PIER	NORTH ABUTMENT	SUPER	TOTAL
203.0200	REMOVING OLD STRUCTURE STATION 457+51	LS	----	----	----	----	1
203.0210.S	ABATEMENT OF ASBESTOS CONTAINING MATERIAL B-67-118	LS	----	----	----	----	1
203.0225.S	DEBRIS CONTAINMENT STRUCTURE B-67-118	LS	----	----	----	----	1
206.1000	EXCAVATION FOR STRUCTURES BRIDGES B-67-324	LS	----	----	----	----	1
206.6000.S	TEMPORARY SHORING	SF	1600	900	1600	----	4100
502.0100	CONCRETE MASONRY BRIDGES	CY	389	156	392	500	1437
502.3200	PROTECTIVE SURFACE TREATMENT	SY	----	----	----	1445	1445
503.0146	PRESTRESSED GIRDER TYPE 45W-INCH	LF	----	----	----	1097	1097
505.0405	BAR STEEL REINFORCEMENT HS BRIDGES	LB	12,520	5,300	12,720	----	30,540
505.0605	BAR STEEL REINFORCMENT HS COATED BRIDGES	LB	21,760	23,750	21,850	119,830	187,190
506.2605	BEARING PADS ELASTOMERIC NON-LAMINATED	EACH	6	12	6	----	24
506.4000	STEEL DIAPHRAGMS B-67-324	EACH	----	----	----	20	20
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	25	----	25	----	50
604.0500	SLOPE PAVING CRUSHED AGGREGATE	SY	310	----	310	----	620
612.0106	PIPE UNDERDRAIN 6-INCH	LF	150	----	150	----	300
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	25	----	25	----	50
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	----	----	----	4	4
645.0111	GEOTEXTILE FABRIC TYPE DF SCHEDULE A	SY	125	----	125	----	250
SPV.0035.01	BACKFILL SLURRY	CY	850	----	850	----	1700
	NON-BID ITEMS		----		----	----	----
	FILLER	SIZE	----		----	----	1/2" & 3/4"

CONCRETE AND REINFORCEMENT QUANTITIES FOR THE PARAPETS ON THE WINGS ARE INCLUDED WITH THE ABUTMENT QUANTITIES.

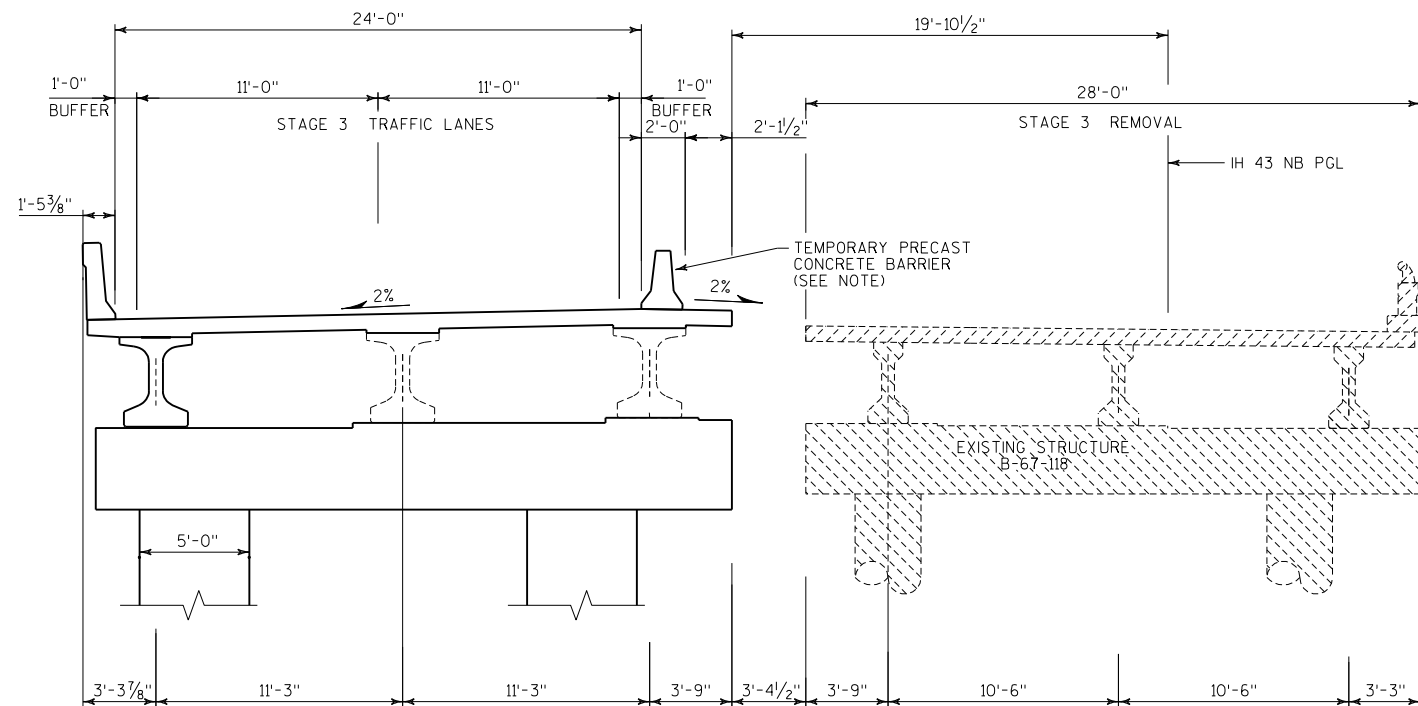
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
		DRAWN BY TRW	PLANS CK'D. BH
QUANTITIES & PROFILE GRADE LINES		SHEET 3 OF 20	



STAGE 2 - REMOVAL



STAGE 2 - CONSTRUCTION

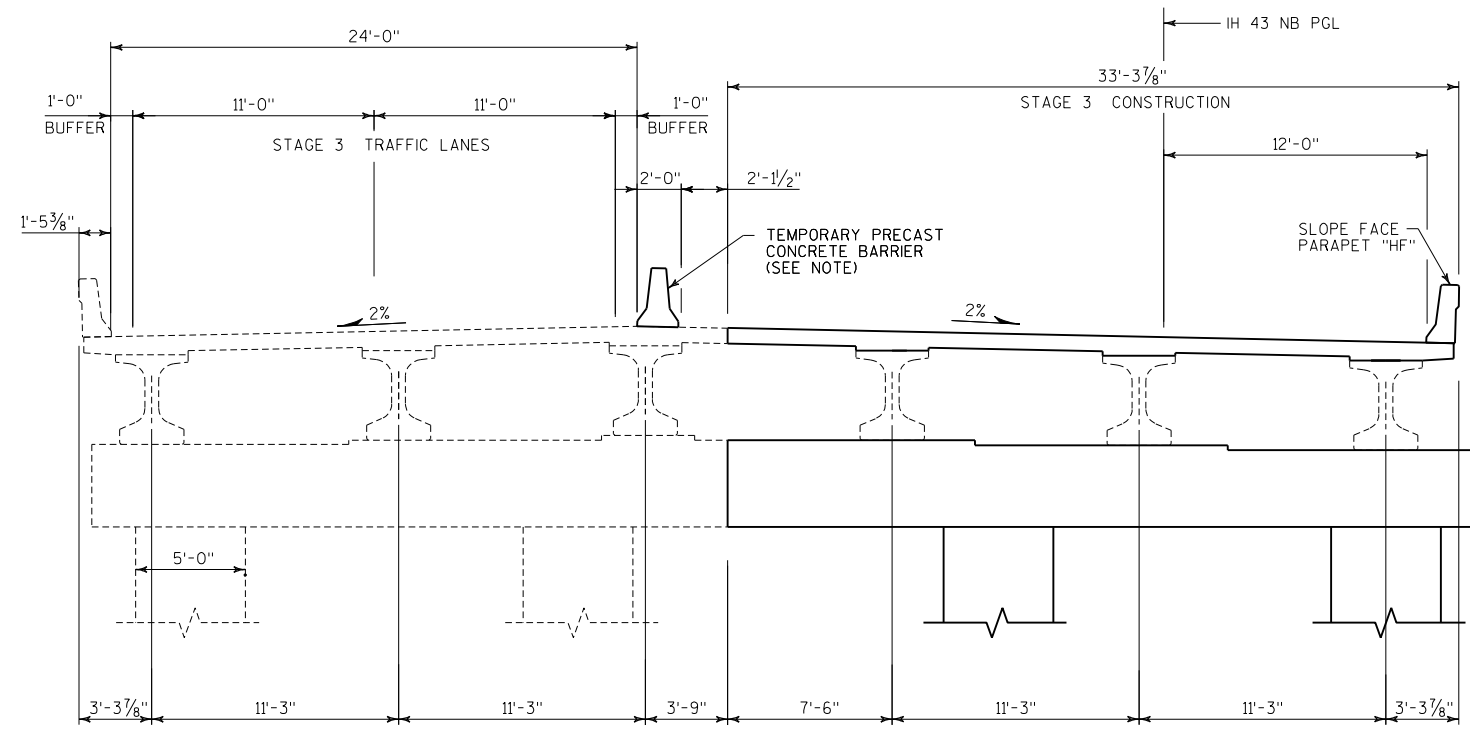


STAGE 3 - REMOVAL

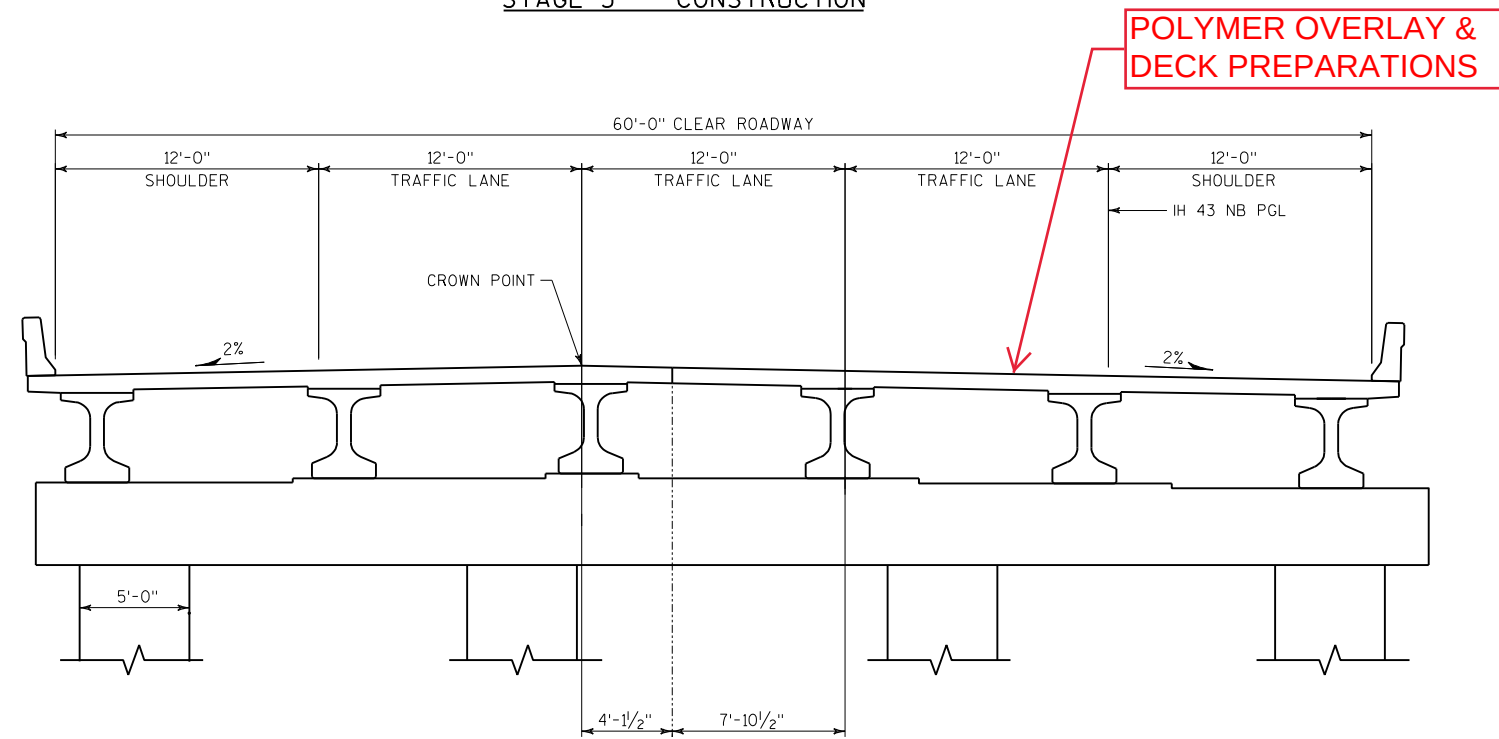
NOTE:

TEMPORARY PRECAST CONCRETE BARRIERS MUST BE SECURED WITH MASONRY ANCHORS. USE ADHESIVE BONDED INSTALLATION, PER DETAIL SDD 14B7-11D. FILL HOLES IN DECK PER SDD 14B7-11D. COST INCIDENTAL TO TEMPORARY PRECAST CONCRETE BARRIER BID ITEM.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
DRAWN BY TRW		PLANS CK'D. BH	
CONSTRUCTION STAGING DETAIL 1		SHEET 4 OF 20	



STAGE 3 - CONSTRUCTION



FINISHED ROADWAY

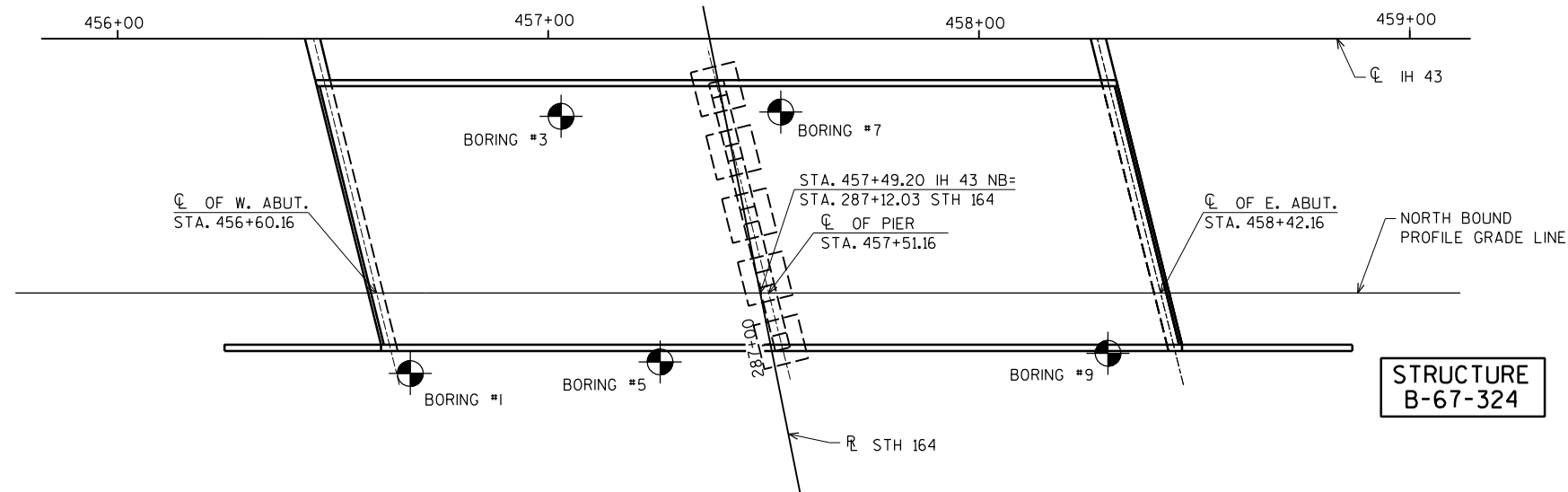
NOTE:

TEMPORARY PRECAST CONCRETE BARRIERS MUST BE SECURED WITH MASONRY ANCHORS. USE ADHESIVE BONDED INSTALLATION, PER DETAIL SDD 14B7-11D. FILL HOLES IN DECK PER SDD 14B7-11D. COST INCIDENTAL TO TEMPORARY PRECAST CONCRETE BARRIER BID ITEM.

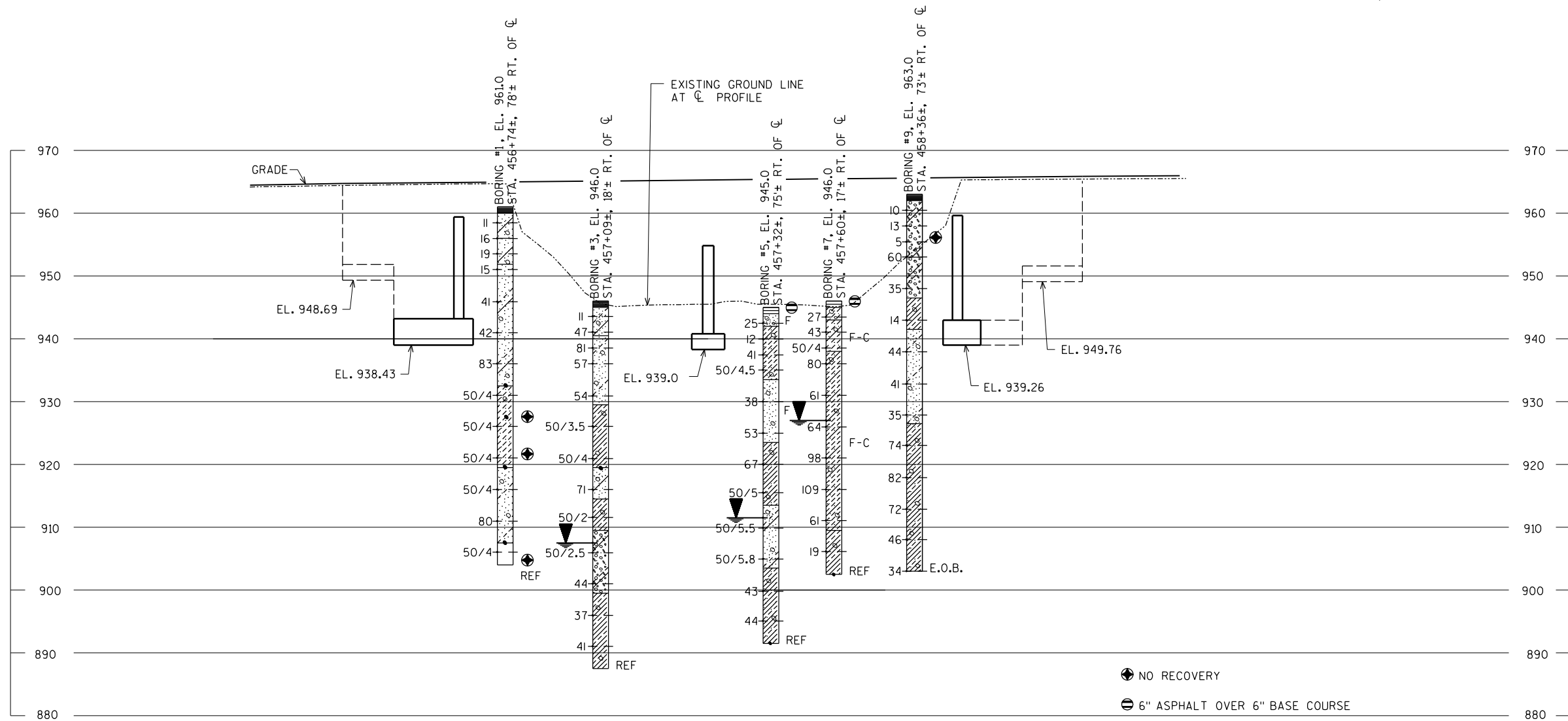
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
DRAWN BY TRW		PLANS CK'D. BH	
CONSTRUCTION STAGING DETAIL 2		SHEET 5 OF 20	

\$PEN\$
\$DATE
\$PRNAME\$
DGN NA

8



BORINGS TAKEN BY:
HIMALAYAN CONSULTANTS, LLC
GERMANTOWN, WI.
DECEMBER 16, 17, 18, 2008
JANUARY 5, 2009



NO RECOVERY
6" ASPHALT OVER 6" BASE COURSE

STATE PROJECT NUMBER

1090-23-71

ABBREVIATIONS

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

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6
95/6=95 BLOWS FOR 6"
PENETRATION
PROBING TAKEN WITH
A 350# WT.
FALLING 18" ON A 2"
O.D. POINT.

LEGEND OF BORING

BORING NO.
STA.
ELEV.
UNCONFINED STRENGTH 7.7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

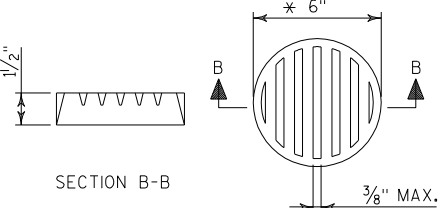
TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
DRAWN BY TRW		PLANS CK'D. BH	
SUBSURFACE EXPLORATION		SHEET 6 OF 20	

8

LEGEND

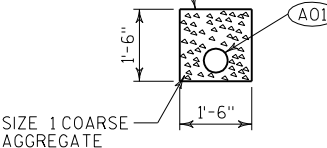
- (A01) PIPE UNDERDRAIN, 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN THE PIPE UNDERDRAIN BID ITEM ALONG WITH THE SIZE 1 COARSE AGGREGATE.
- (A02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.
- (A03) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH 3/4" V-GROOVE.
- (A04) 1/2" FILLER. SEAL ALL EXPOSED HORIZ & VERT SURFACE OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A05) 3/4" CORK FILLER UP VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.
- (A06) 1'-6" X 1'-6" SHEAR KEY SHALL BE POURED WITHIN AN UNFORMED EXCAVATION AGAINST UNDISTURBED SOIL.
- (A07) LAP LENGTH & LOCATION WILL VARY AT FRONT & BACK FACES.



RODENT SHIELD

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

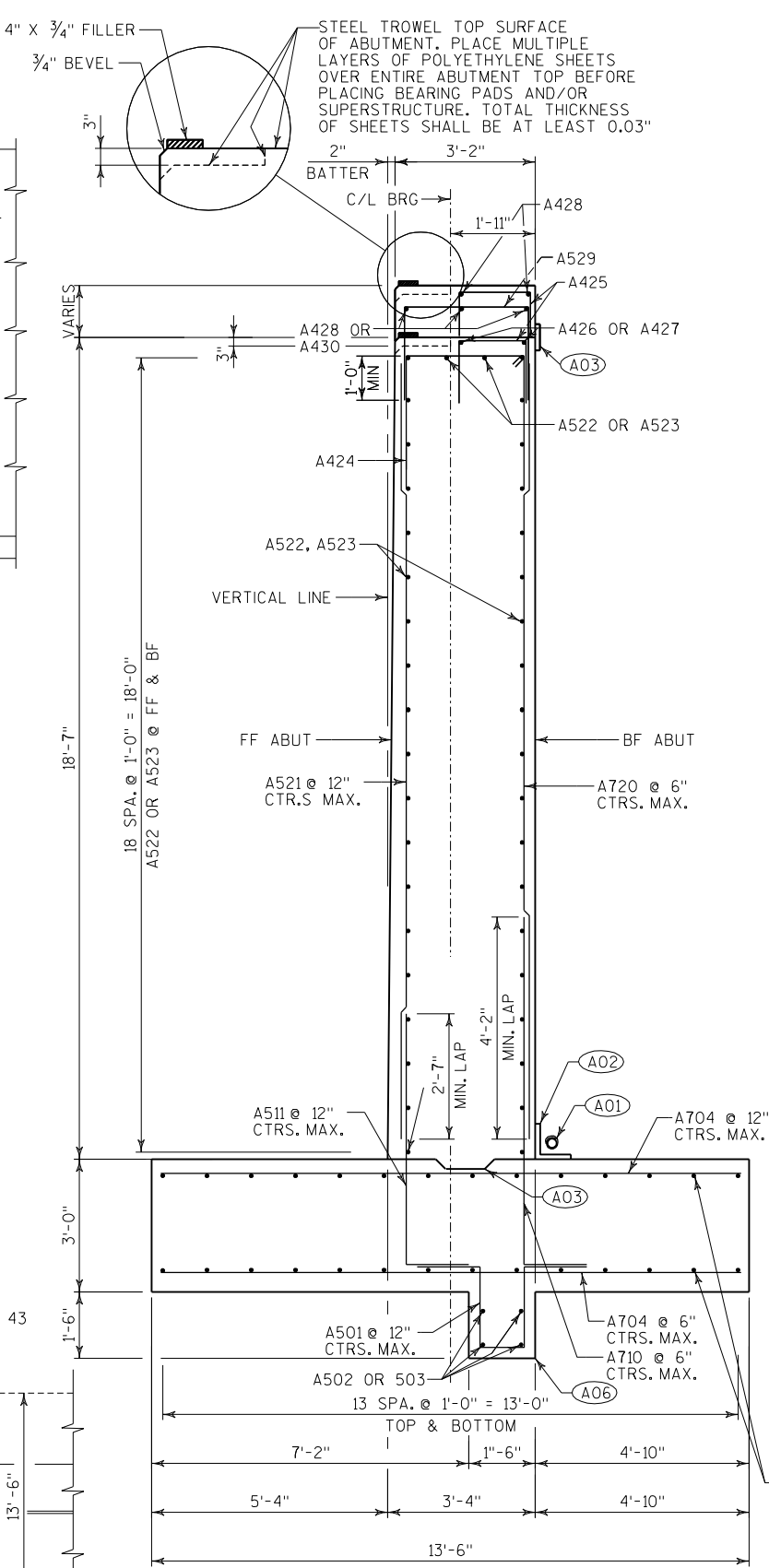
GEOTEXTILE FABRIC TYPE DF WITH 1'-6" OVERLAP.



PIPE UNDERDRAIN DETAIL

A502, A503 OR A505 @ 12" CTRS. MAX.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST. SPEC.	2010	DRAWN BY TRW	PLANS CK'D. BH
SOUTH ABUTMENT			SHEET 7 OF 20

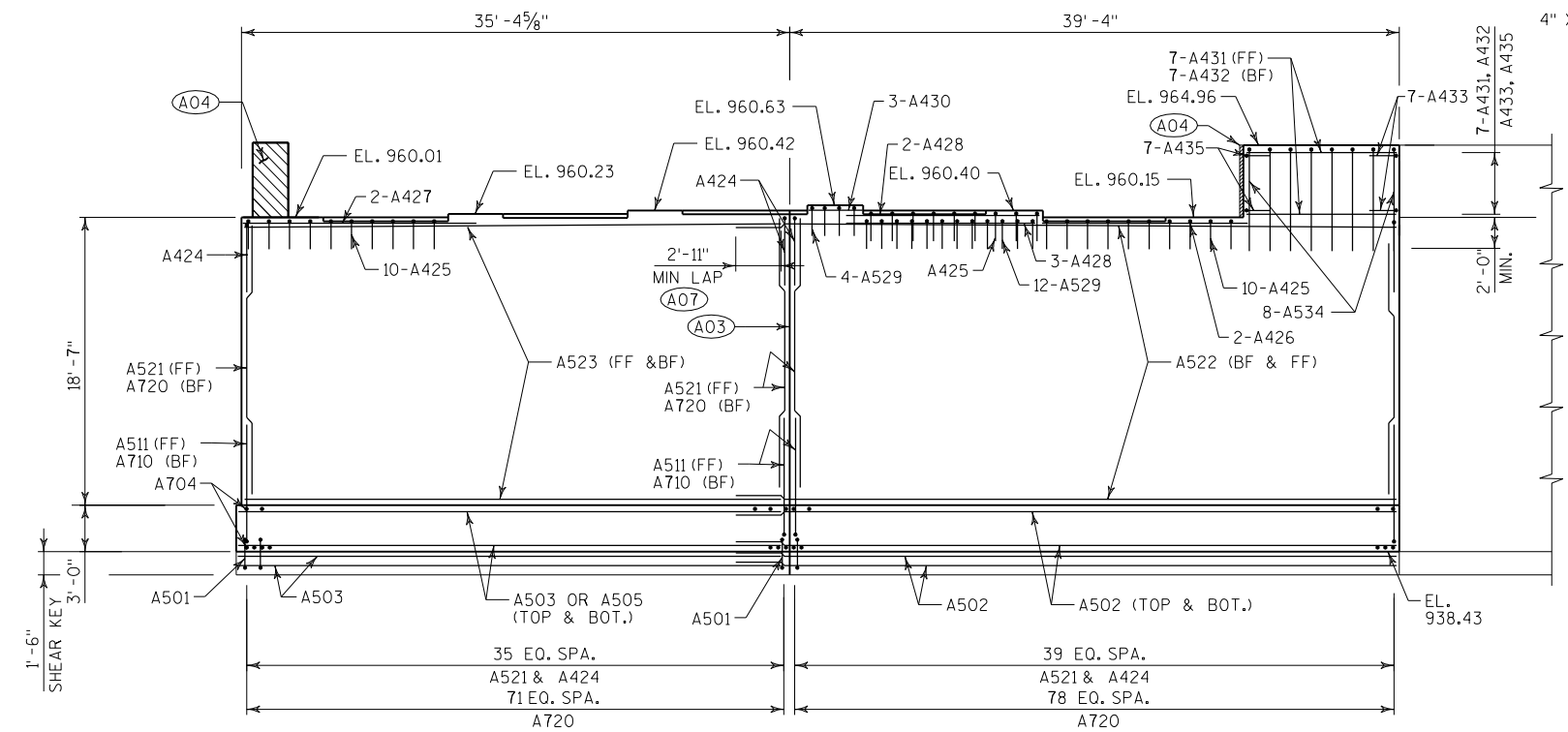


SECTION THRU BODY AND FOOTING

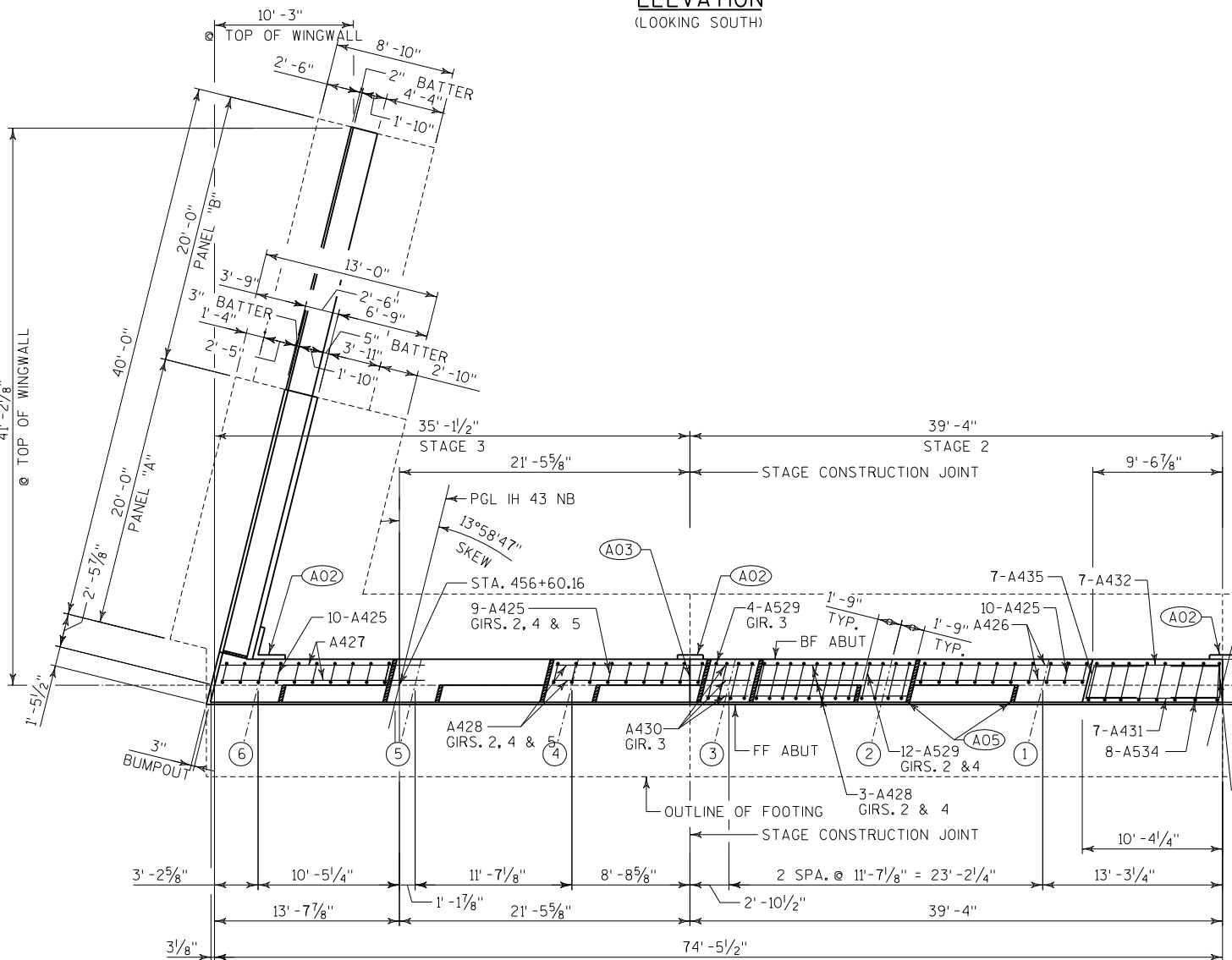
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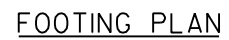
DO NOT PLACE FILL ABOVE 5'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE. PLACE FILL IN FRONT OF ABUTMENT AND WINGS CONCURRENTLY OR PRIOR TO FILL BEHIND ABUTMENT AND WINGS.

ELEVATION (LOOKING SOUTH)



PLAN

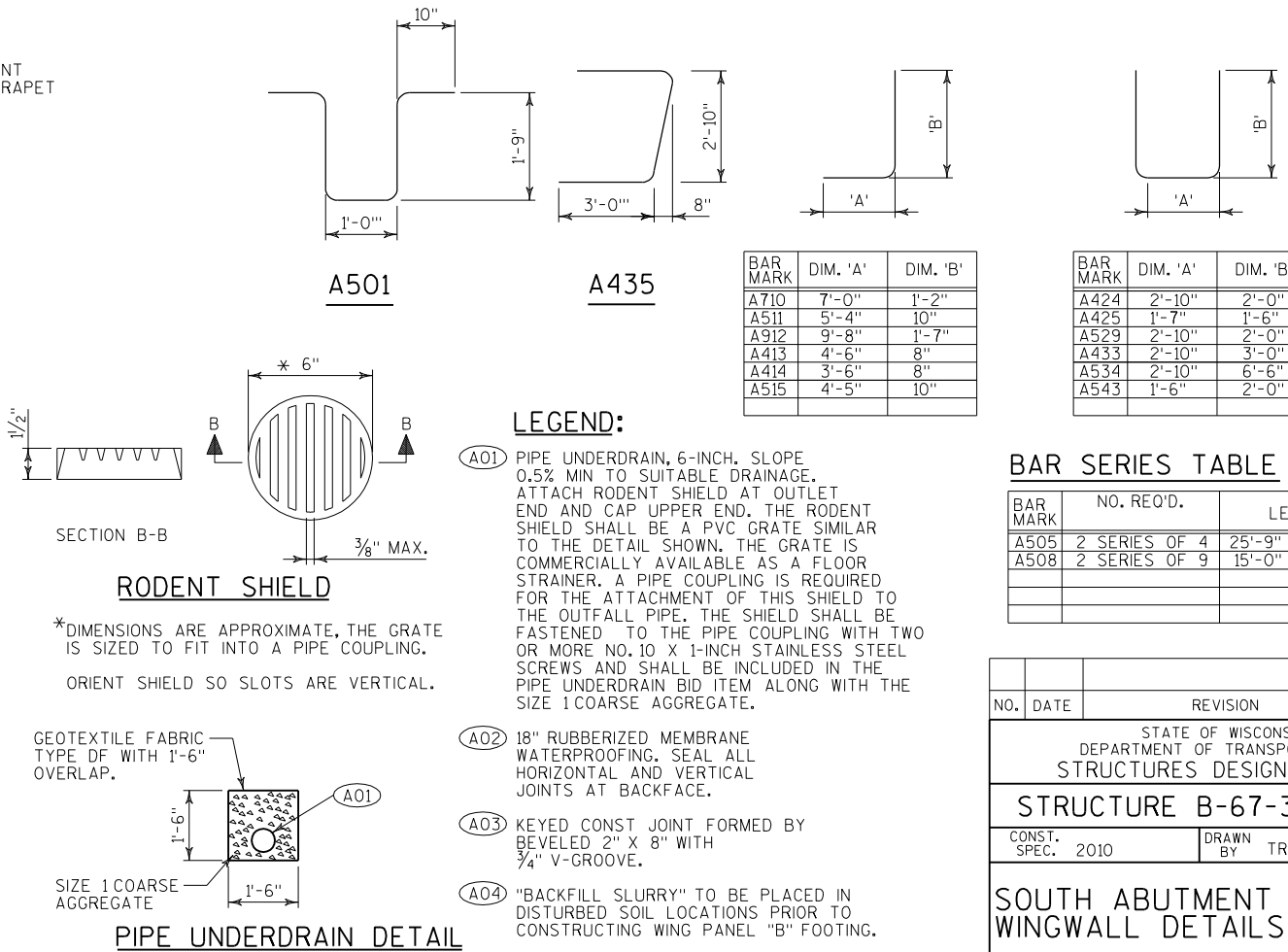
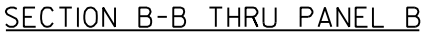
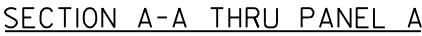




* A511 BARS TO BE LOCATED DIRECTLY ACROSS FROM
ALTERNATE A710 BARS.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-67-324					
CONST. SPEC.		2010	DRAWN BY	TRW	PLANS CK'D. BH
SOUTH ABUTMENT FOOTING DETAILS				SHEET 8 OF 20	

BAR MARK	COAT	NO. REQ'D.		LENGTH	BENT	BAR SERIES	LOCATION
		STAGE 2	STAGE 3				
A501		40	78	5'-8"	X		SHEAR KEY - VERT.
A502		32	---	42'-3"			FOOTING & SHEAR KEY - LONG.
A503		---	24	35'-3"			FOOTING & SHEAR KEY - LONG.
A704		119	108	13'-2"			ABUTMENT FOOTING - TRANS.
A505		---	8	26'-3"		X	ABUTMENT FOOTING - LONG.
A806		---	54	12'-8"			WING PANEL A FOOTING - TRANS.
A507		---	26	19'-8"			WING PANEL A & B FOOTING - LONG.
A508		---	18	16'-2"		X	WING PANEL A FOOTING - LONG.
A609		---	42	8'-6"			WING PANEL B FOOTING - TRANS.
A710	X	79	71	8'-0"	X		ABUTMENT FOOTING DOWELS - VERT.
A511	X	40	36	6'-1"	X		ABUTMENT FOOTING DOWELS - VERT.
A912	X	---	41	11'-0"	X		WING PANEL A FOOTING DOWELS - VERT
A413	X	---	21	5'-1"	X		WING PANEL A FOOTING DOWELS - VERT
A414	X	---	21	4'-1"	X		WING PANEL B FOOTING DOWELS - VERT
A515	X	---	41	5'-2"	X		WING PANEL B FOOTING DOWELS - VERT
A720	X	79	71	18'-0"			ABUTMENT BODY - VERT.
A521	X	40	36	18'-0"			ABUTMENT BODY - VERT.
A522	X	22	---	43'-0"			ABUTMENT BODY - HORIZ.
A523	X	---	22	34'-7"			ABUTMENT BODY - HORIZ.
A424	X	40	36	6'-8"	X		ABUTMENT BODY - VERT.
A425	X	20	27	4'-5"	X		ABUTMENT TOP @ GIRDERS 1, 2, & 4 THRU 6 - VERT.
A426	X	2	---	14'-4"			ABUTMENT TOP @ GIRDER 1 - HORIZ.
A427	X	---	2	14'-6"			ABUTMENT TOP @ GIRDER 6 - HORIZ.
A428	X	10	2	13'-0"			ABUTMENT TOP @ GIRDERS 2, 4 & 5 - HORIZ.
A529	X	17	11	6'-7"	X		ABUTMENT TOP @ GIRDERS 2 THRU 4 - VERT.
A430	X	4	---	3'-3"			ABUTMENT TOP @ GIRDER 3 - HORIZ.
A431	X	7	---	9'-11"			ABUTMENT TOP @ MEDIAN FF - HORIZ.
A432	X	7	---	9'-2"			ABUTMENT TOP @ MEDIAN BF - HORIZ.
A433	X	7	---	8'-7"	X		ABUTMENT TOP @ MEDIAN END - HORIZ.
A534	X	8	---	15'-7"	X		ABUTMENT TOP @ MEDIAN - VERT.
A435	X	7	---	8'-8"	X		ABUTMENT TOP @ MEDIAN END - HORIZ.
A440	X	---	21	22'-11"			WING PANEL A @ FF - VERT.
A941	X	---	41	22'-11"			WING PANEL A @ BF - VERT.
A442	X	---	79	19'-8"			WING PANELS A & B - HORIZ.
A543	X	---	42	5'-3"	X		WING PANELS A & B @ TOP - VERT.
A644	X	---	4	19'-8"			WING PANELS A & B @ TOP - HORIZ.
A445	X	---	42	2'-0"			WING PANELS A & B @ TOP - HORIZ.
A446	X	---	21	13'-6"			WING PANEL B @ FF - VERT.
A447	X	---	41	13'-6"			WING PANEL B @ BF - VERT.

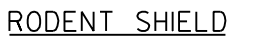


BAR MARK	NO. REQ'D.	LENGTH
A505	2 SERIES OF 4	25'-9" TO 26'-9"
A508	2 SERIES OF 9	15'-0" TO 17'-4"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST. SPEC. 2010		DRAWN BY TRW	PLANS CK'D. BH
SOUTH ABUTMENT WINGWALL DETAILS			SHEET 9 OF 20

(B01) PIPE UNDERDRAIN, 6-INCH. SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS SHEET METAL SCREWS AND SHALL BE INCLUDED IN THE PIPE UNDERDRAIN BID ITEM ALONG WITH THE SIZE 1 COARSE AGGREGATE.

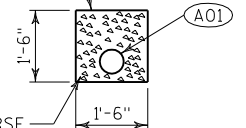
- (B02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.
- (B03) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH $\frac{3}{4}$ " V-GROOVE.
- (B04) $\frac{1}{2}$ " FILLER. SEAL ALL EXPOSED HORIZ & VERT SURFACE OF FILLER WITH NON-STAINING NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (B05) $\frac{3}{4}$ " CORK FILLER UP VERT BEAM SEAT FACES THAT RUN PARALLEL TO GIRDER, TYP.
- (B06) 1'-6" X 1'-6" SHEAR KEY SHALL BE POURED WITHIN AN UNFORMED EXCAVATION AGAINST UNDISTURBED SOIL.
- (B07) LAP LENGTH & LOCATION WILL VARY AT FRONT & BACK FACES.



*DIMENSIONS ARE APPROXIMATE, THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

GEOTEXTILE FABRIC —
TYPE DF WITH 1'-6"
OVERLAP.



SIZE 1 COARS
AGGREGATE

PIPE UNDERDRAIN DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-67-324

CONST. SPEC. 2010	DRAWN BY TRW	PLANS CK'D. BH
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NORTH ABUTMENT |

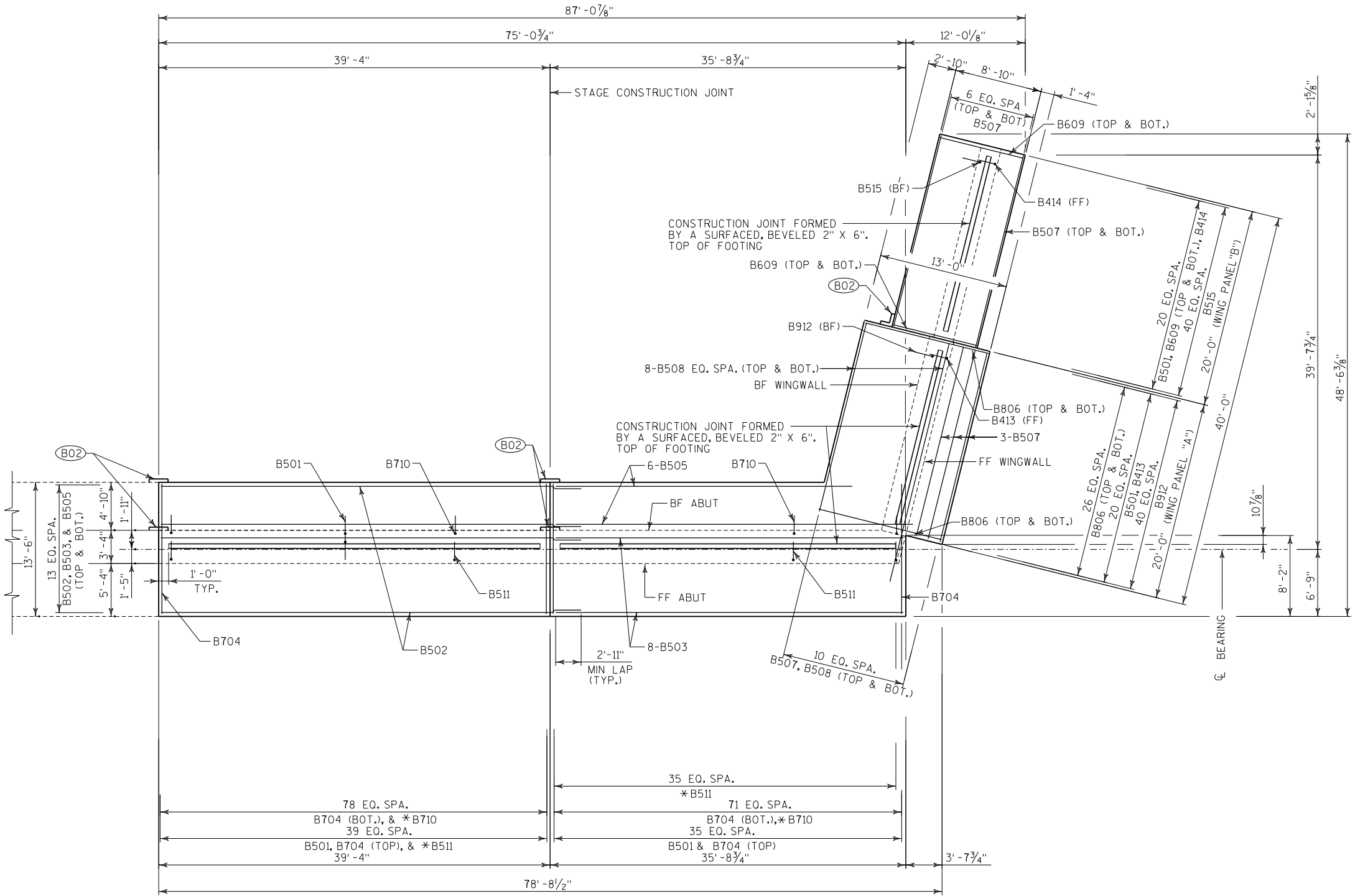
SHEET 10 OF 20

FILE -
SCALE =

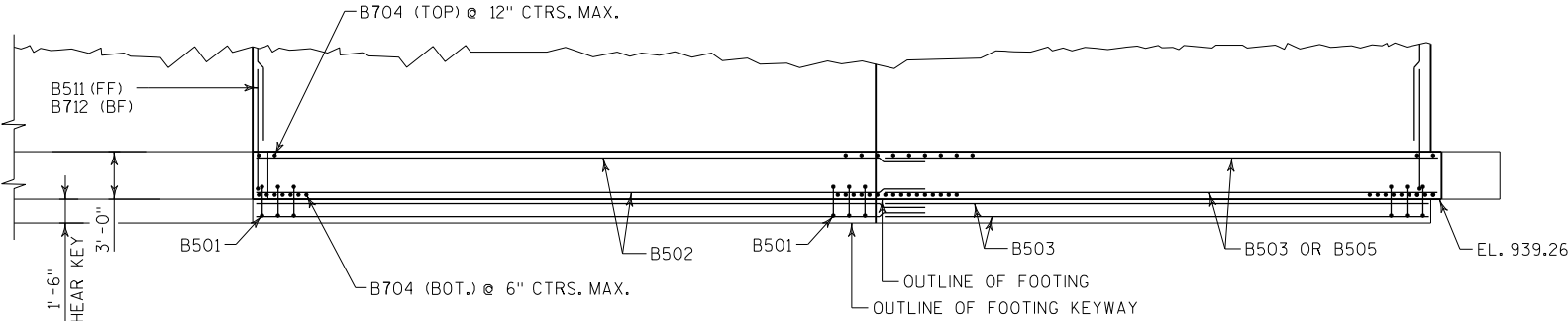


DO NOT PLACE FILL ABOVE 5'-0"
FROM BOTTOM OF ABUTMENT UNTIL
SUPERSTRUCTURE IS IN PLACE. PLACE
FILL IN FRONT OF ABUTMENT AND WINGS
CONCURRENTLY OR PRIOR TO FILL
BEHIND ABUTMENT AND WINGS.





FOOTING PLAN



FOOTING ELEVATION
(LOOKING NORTH)

LEGEND

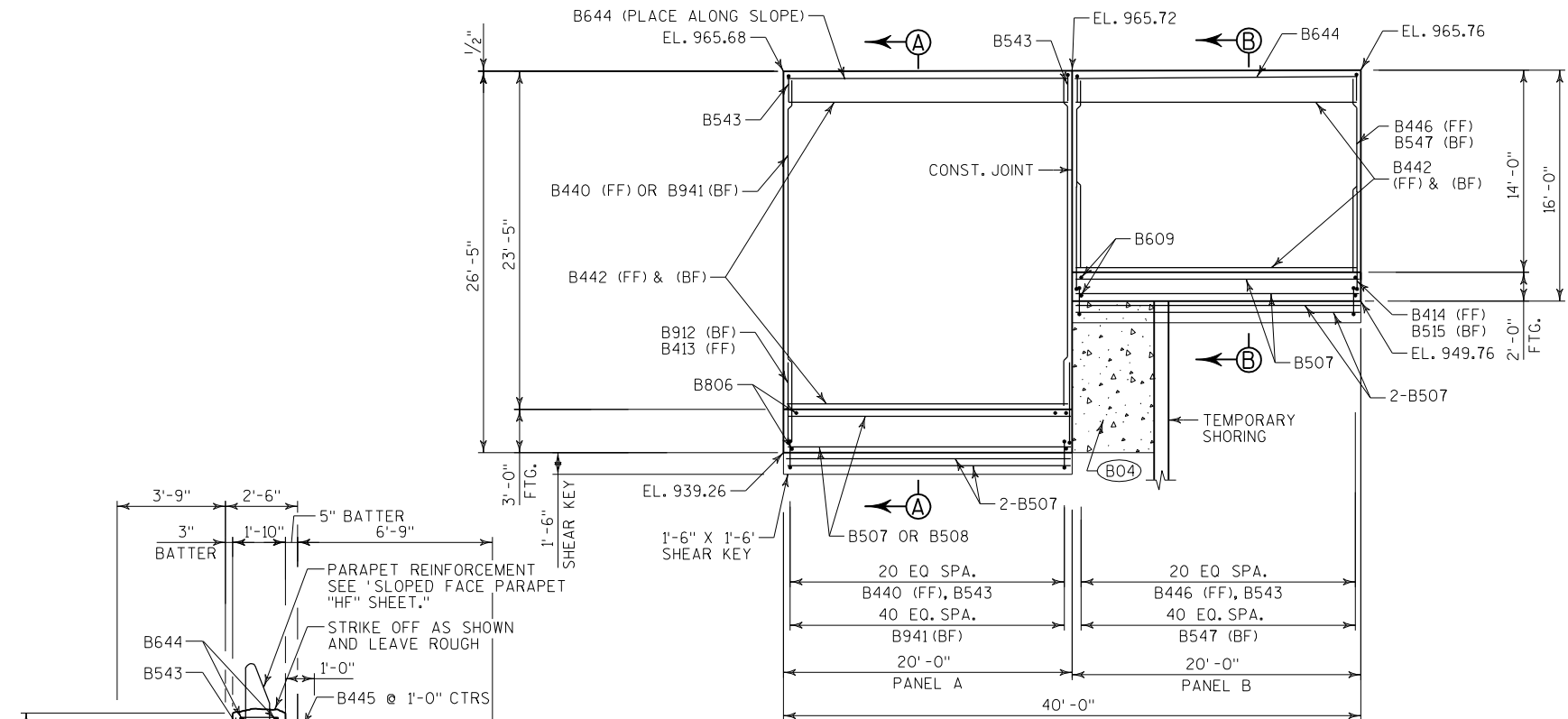
* B511 BARS TO BE LOCATED DIRECTLY ACROSS FROM
ALTERNATE B710 BARS.

NO.	DATE	REVISION			BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION					
STRUCTURE B-67-324					
CONST. SPEC.		2010	DRAWN BY	TRW	PLANS CK'D. BH
NORTH ABUTMENT FOOTING DETAILS				SHEET 11 OF 20	

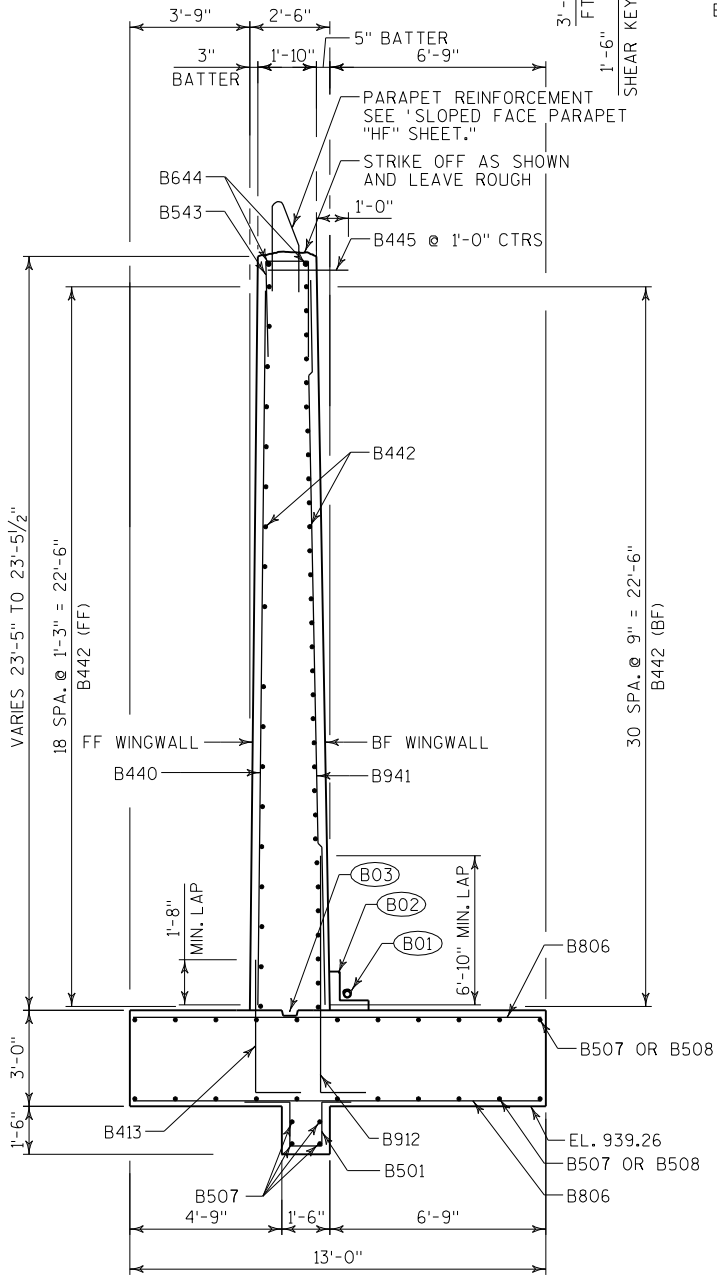
BILL OF BARS

BAR MARK	COAT	NO. REQ'D.		LENGTH	BENT	BAR SERIES	LOCATION
		STAGE 2	STAGE 3				
B501		40	78	5'-8"	X		SHEAR KEY - VERT.
B502		32	---	42'-3"			FOOTING & SHEAR KEY - LONG.
B503		---	20	35'-4"			FOOTING & SHEAR KEY - LONG.
B704		119	108	13'-2"			ABUTMENT FOOTING - TRANS.
B505		---	12	33'-2"		X	ABUTMENT FOOTING - LONG.
B806		---	54	12'-8"			WING PANEL A FOOTING - TRANS.
B507		---	28	19'-8"			WING PANEL A & B FOOTING - LONG.
B508		---	16	24'-8"		X	WING PANEL A FOOTING - LONG.
B609		---	42	8'-6"			WING PANEL B FOOTING - TRANS.
B710	X	79	72	8'-0"	X		ABUTMENT FOOTING DOWELS - VERT.
B511	X	40	36	6'-1"	X		ABUTMENT FOOTING DOWELS - VERT.
B912	X	---	41	11'-0"	X		WING PANEL A FOOTING DOWELS - VERT.
B413	X	---	21	5'-1"	X		WING PANEL A FOOTING DOWELS - VERT.
B414	X	---	21	4'-1"	X		WING PANEL B FOOTING DOWELS - VERT.
B515	X	---	41	5'-2"	X		WING PANEL B FOOTING DOWELS - VERT.
B720	X	79	72	18'-0"			ABUTMENT BODY - VERT.
B521	X	40	36	18'-0"			ABUTMENT BODY - VERT.
B522	X	22	---	43'-0"			ABUTMENT BODY - HORIZ.
B523	X	---	22	34'-9"			ABUTMENT BODY - HORIZ.
B424	X	40	36	6'-8"	X		ABUTMENT BODY - VERT.
B425	X	20	27	4'-5"	X		ABUTMENT TOP @ GIRDERS 1, 2, & 4 THRU 6 - VERT.
B426	X	2	---	14'-4"			ABUTMENT TOP @ GIRDER 1 - HORIZ.
B427	X	---	2	14'-6"			ABUTMENT TOP @ GIRDER 6 - HORIZ.
B428	X	10	2	13'-0"			ABUTMENT TOP @ GIRDERS 2, 4 & 5 - HORIZ.
B529	X	17	11	6'-7"	X		ABUTMENT TOP @ GIRDERS 2 THRU 4 - VERT.
B430	X	4	---	3'-3"			ABUTMENT TOP @ GIRDER 3 - HORIZ.
B431	X	7	---	9'-4"			ABUTMENT TOP @ MEDIAN FF - HORIZ.
B432	X	7	---	10'-1"			ABUTMENT TOP @ MEDIAN BF - HORIZ.
B433	X	7	---	8'-7"	X		ABUTMENT TOP @ MEDIAN END - HORIZ.
B534	X	8	---	15'-7"	X		ABUTMENT TOP @ MEDIAN - VERT.
B435	X	7	---	8'-8"	X		ABUTMENT TOP @ MEDIAN END - HORIZ.
B440	X	---	21	23'-1"			WING PANEL A @ FF - VERT.
B941	X	---	41	23'-1"			WING PANEL A @ BF - VERT.
B442	X	---	79	19'-8"			WING PANELS A & B - HORIZ.
B543	X	---	42	5'-3"	X		WING PANELS A & B @ TOP - VERT.
B644	X	---	4	19'-8"			WING PANELS A & B @ TOP - HORIZ.
B445	X	---	42	2'-0"			WING PANELS A & B @ TOP - HORIZ.
B446	X	---	21	13'-8"			WING PANEL B @ FF - VERT.
B447	X	---	41	13'-8"			WING PANEL B @ BF - VERT.

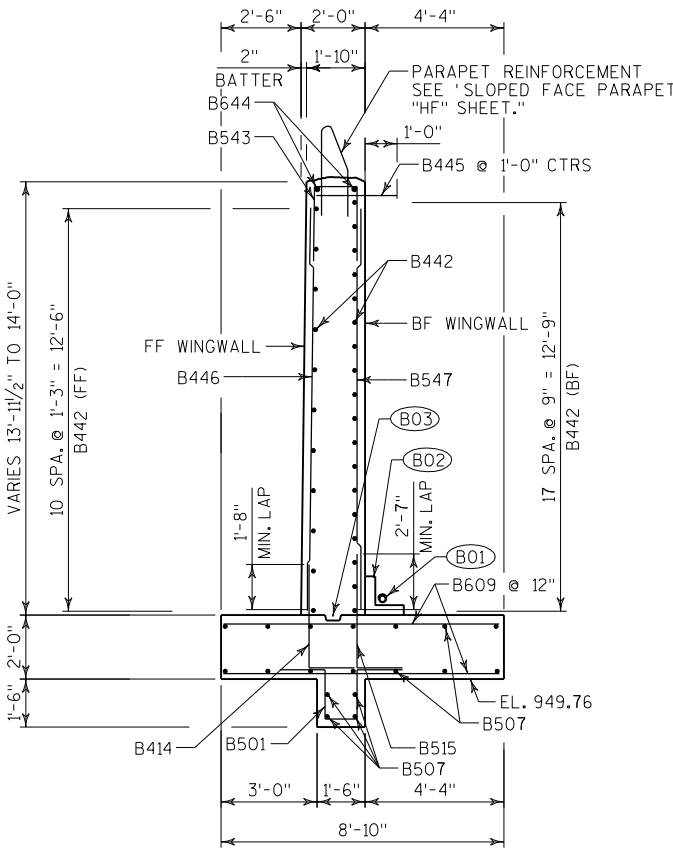
ELEVATION



SECTION A-A THRU PANEL A

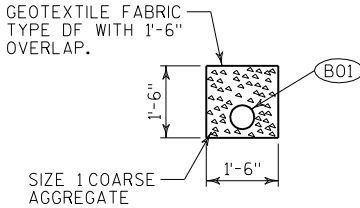


SECTION B-B THRU PANEL B

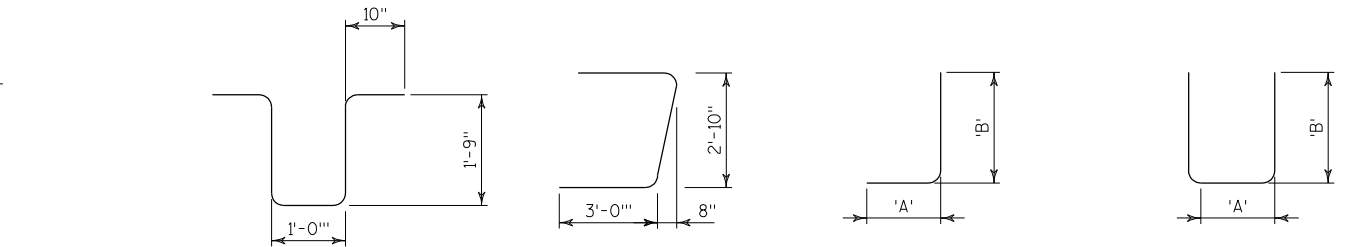


RODENT SHIELD

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



PIPE UNDERDRAIN DETAIL



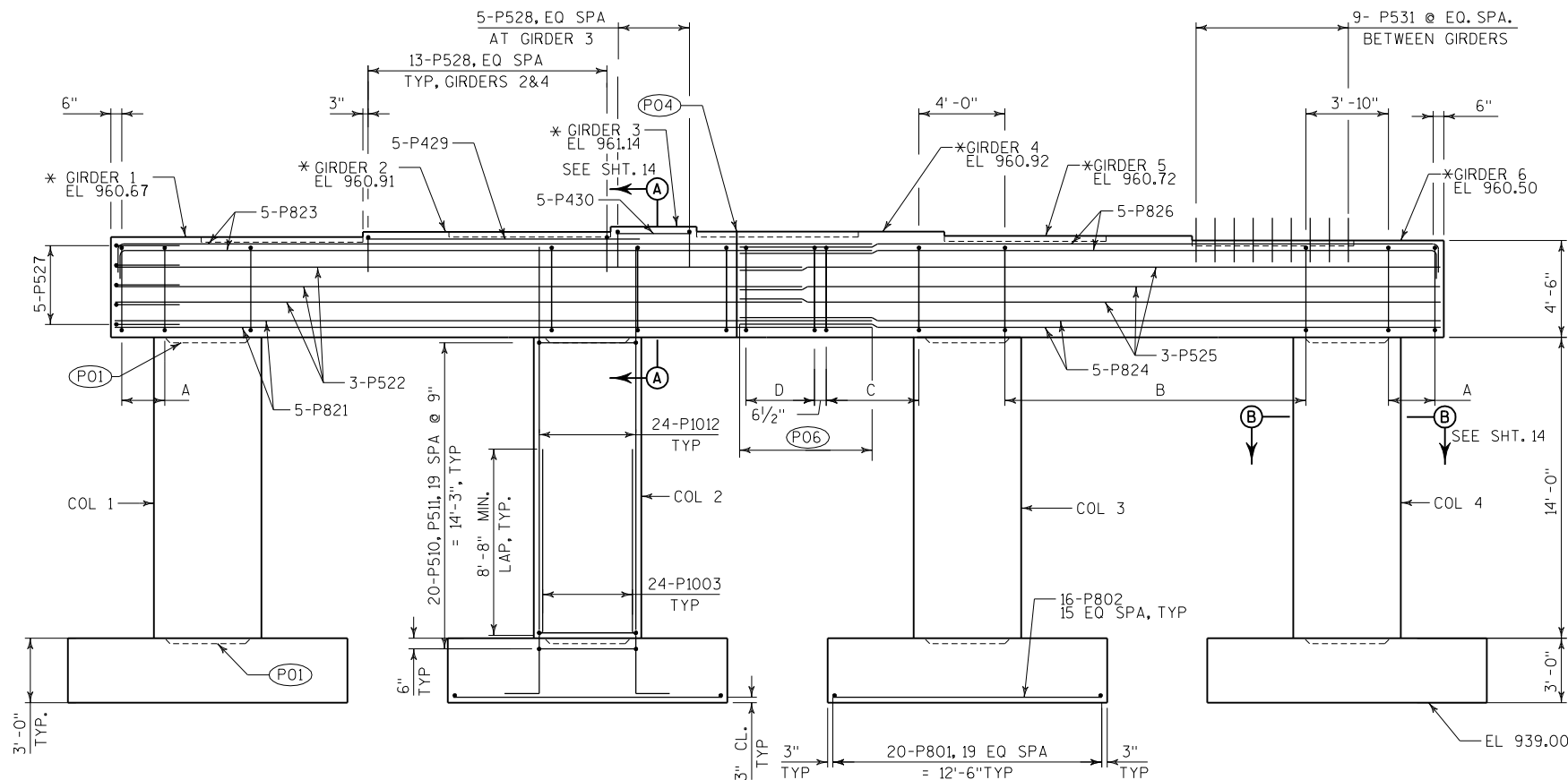
LEGEND:

- (B01) PIPE UNDERDRAIN, 6-INCH, SLOPE 0.5% MIN TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT OUTLET END AND CAP UPPER END. THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THE DETAIL SHOWN. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SCREWS AND SHALL BE INCLUDED IN THE PIPE UNDERDRAIN BID ITEM ALONG WITH THE SIZE 1 COARSE AGGREGATE.
- (B02) 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACKFACE.
- (B03) KEYED CONST JOINT FORMED BY BEVELED 2" X 8" WITH 3/4" V-GROOVE.
- (B04) "BACKFILL SLURRY" TO BE PLACED IN DISTURBED SOIL LOCATIONS PRIOR TO CONSTRUCTING WING PANEL "B" FOOTING.

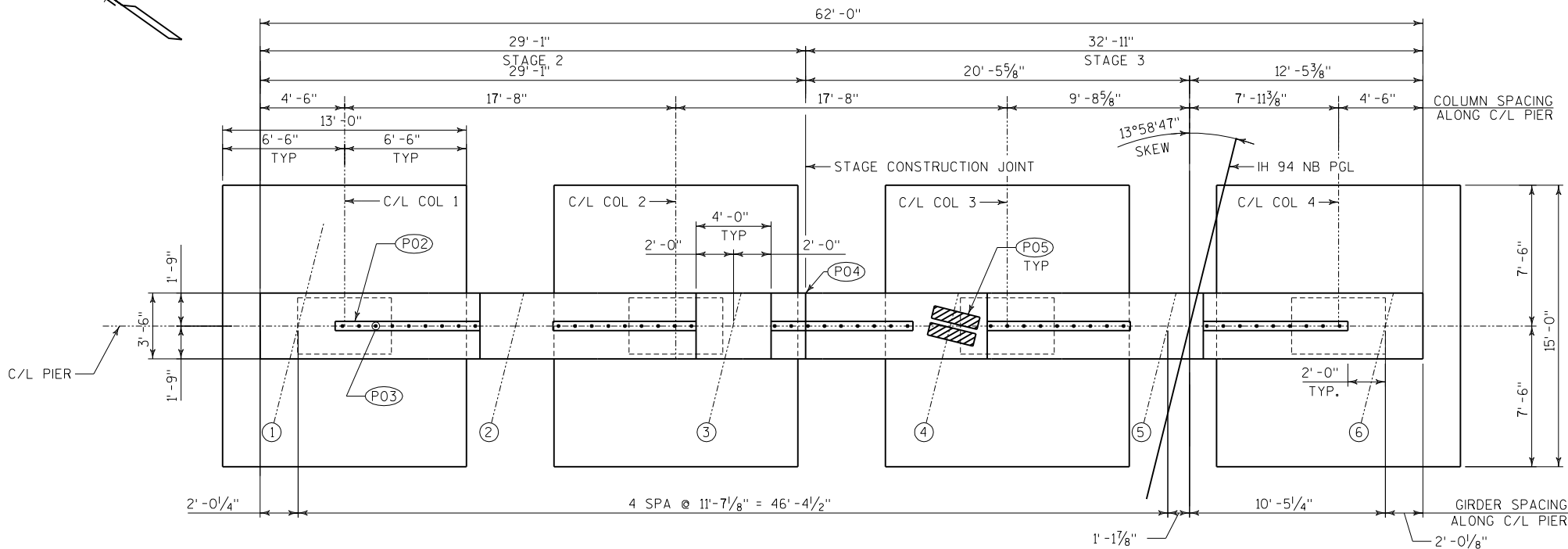
BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
B505	2 SERIES OF 6	29'-3" TO 37'-0"
B508	2 SERIES OF 8	18'-3" TO 31'-1"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
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NORTH ABUTMENT WINGWALL DETAILS			SHEET 12 OF 20



ELEVATION
(LOOKING NORTH)



PLAN

LEGEND

- (P01) KEYED CONSTRUCTION JOINT FORMED BY SURFACED BEVELED 1'-3"X1'-3"X2", TYPICAL TOP AND BOTTOM OF ALL COLUMNS.
 - (P02) KEYED CONSTRUCTION JOINT FORMED BY A SURFACED BEVELED 2'X6" BETWEEN BEAM SEATS.
 - (P03) P531 BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONCRETE)
 - (P04) VERT. CONST. JOINT FORMED BY SURFACED BEVELED 2" X 6" X 2'-6" KEYWAY
 - (P05) 1/2" THICK ELASTOMERIC BEARING PAD, SEE 'SUPERSTRUCTURE DETAILS' SHEET FOR DETAILS.
 - (P06) MINIMUM LAP LENGTHS SHALL BE 2'-11" FOR #5 BARS AND 6'-2" FOR #8 BARS.
- * ELEVATIONS ARE GIVEN AT THE TOP OF THE CONCRETE AT THE INTERSECTION OF THE C/L OF GIRDER AND C/L OF PIER.

SHEAR STIRRUP SPACING

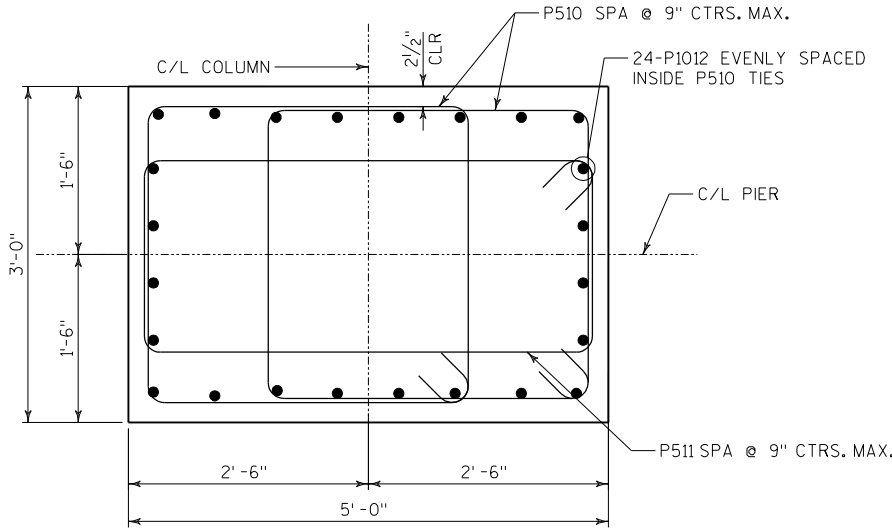
- A - 3 SETS OF 3-P520, 2 SPA @ 12" = 2'-0"
- B - 15 SETS OF 3-P520, 14 SPA @ 12" = 14'-0"
- C - 12 SETS OF 3-P520, 11 SPA @ 4 1/2" = 4'-1 1/2"
- D - 5 SETS OF 3-P520, 4 SPA @ 12" = 4'-0"

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST SPEC 2008		DRAWN BY RK	PLANS CK'D. BH
PIER			SHEET 13 OF 20

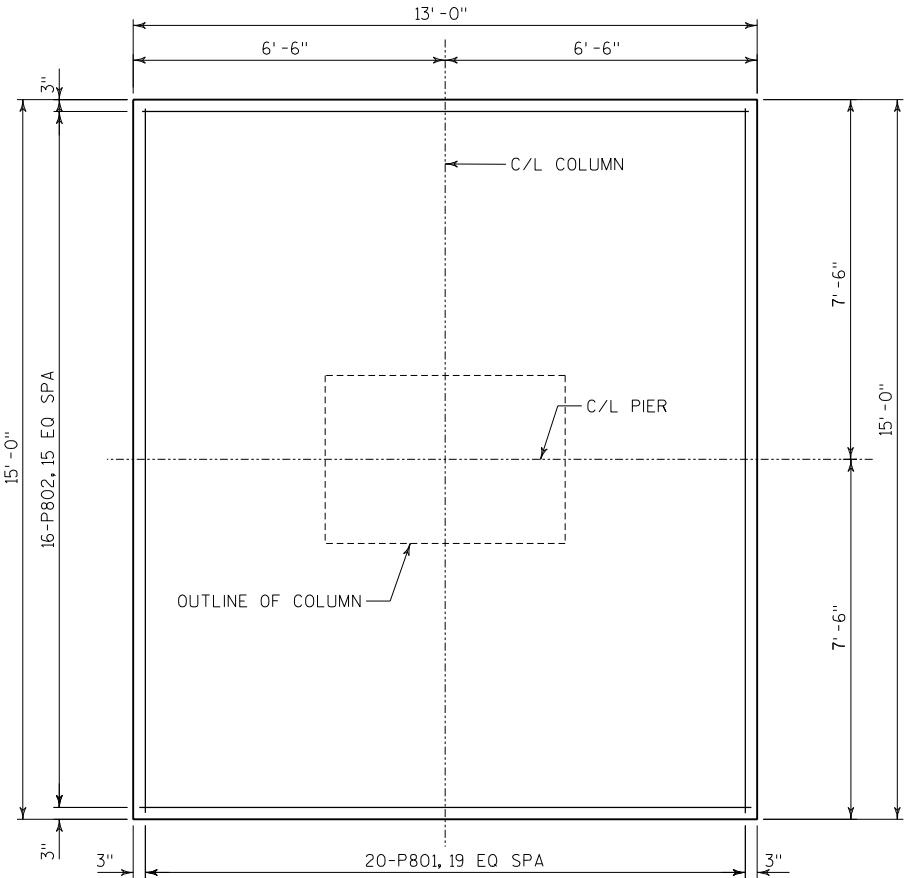
BILL OF BARS

NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE

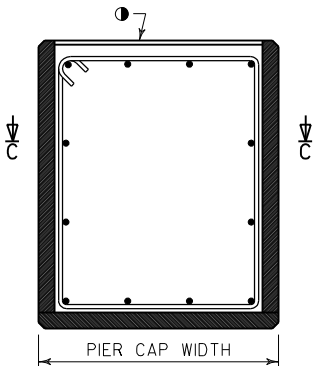
BAR MARK	COAT	NO REQ'D STAGE 2	NO REQ'D STAGE 3	LENGTH	BENT	BAR SERIES	LOCATION
P801		40	40	14'-8"			FOOTINGS
P802		32	32	12'-8"			FOOTINGS
P1003	X	48	48	13'-2"	X		FOOTINGS - COLUMN DOWELS
P510	X	80	80	12'-6"	X		COLUMN STIRRUPS
P511	X	40	40	12'-10"	X		COLUMN STIRRUPS
P1012	X	48	48	19'-0"	X		COLUMN VERTICAL
P520	X	90	105	13'-4"	X		PIER CAP STIRRUPS
P821	X	10	---	35'-4"			PIER CAP BOTTOM
P522	X	6	---	32'-0"			PIER CAP SIDES
P823	X	10	---	36'-6"	X		PIER CAP TOP
P824	X	---	10	32'-6"			PIER CAP BOTTOM
P525	X	---	6	32'-6"			PIER CAP SIDES
P826	X	---	10	33'-8"	X		PIER CAP TOP
P527	X	5	5	8'-10"	X		PIER CAP ENDS
P528	X	20	11	6'-10"	X		PIER CAP TOP UNDER GIRDERS 2,3,4
P429	X	10	---	13'-6"			PIER CAP TOP UNDER GIRDERS 2,4
P430	X	5	---	3'-7"			PIER CAP TOP UNDER GIRDER 3
P531	X	20	25	2'-0"			PIER CAP TOP BETWEEN GIRDERS



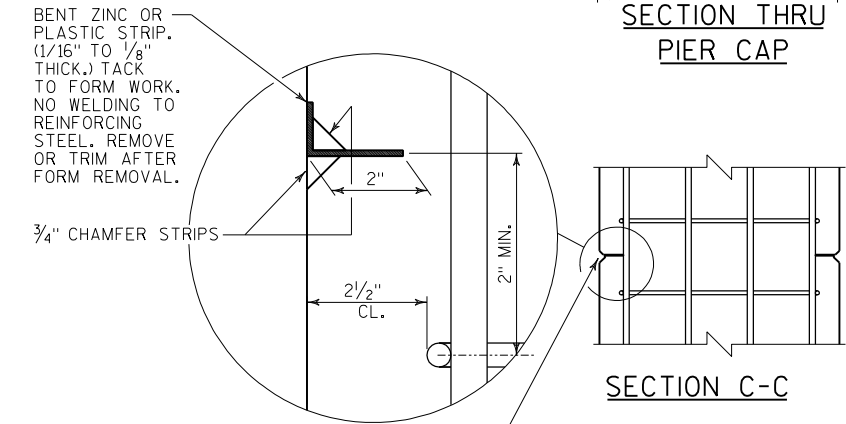
SECTION B-B
TYPICAL COLUMN SECTION



FOOTING PLAN



SECTION THRU
PIER CAP



SECTION C-C

FILL WITH NON-STAINING NON-BITUMINOUS JOINT SEALER AFTER TRIMMING OR REMOVING STRIP.

ALTERNATE CONSTRUCTION
JOINT AT PIER CAP

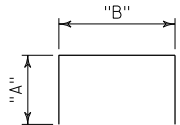
NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

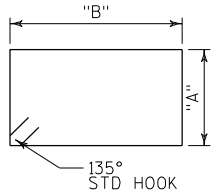
- USE A JOINT TOOL TO CONSTRUCT A CONSTRUCTION JOINT APPROXIMATELY 1/2" DEEP.



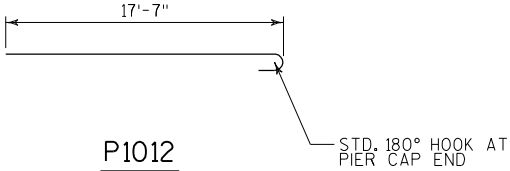
MARK	"A"	"B"
P527	3'-0"	3'-1"
P528	2'-0"	3'-1"



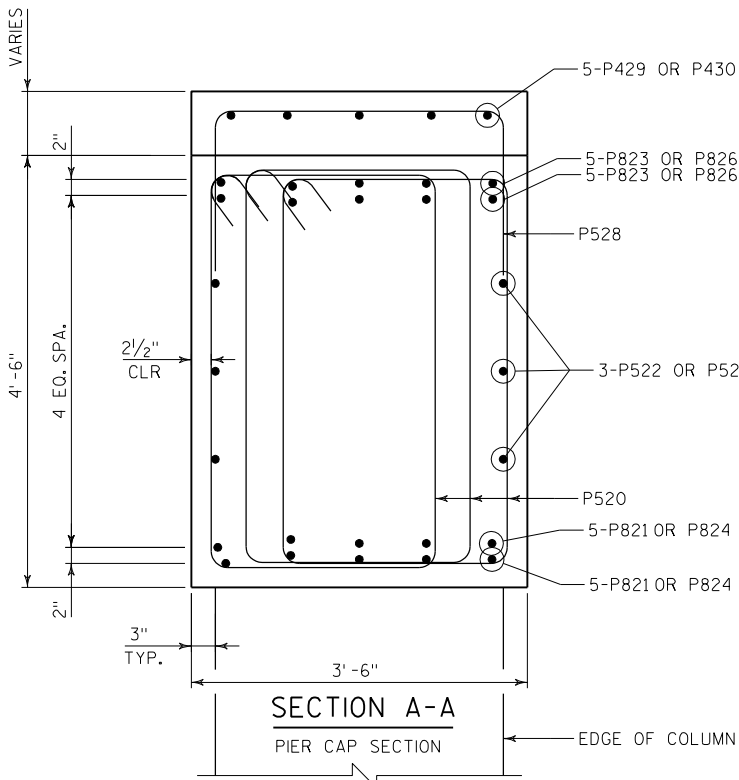
MARK	"A"	"B"
P1003	1'-10"	11'-7"
P823	1'-4"	35'-4"
P826	1'-4"	32'-6"



MARK	"A"	"B"
P510	2'-7"	3'-4"
P511	1'-6"	4'-7"
P520	2'-3"	4'-1"



P1012



SECTION A-A
PIER CAP SECTION

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
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CONST SPEC 2010	DRAWN BY RK	PLANS CK'D. BH	
PIER DETAILS			SHEET 14 OF 20

FILE= SCALE =

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

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

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

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, THE FOLLOWING OPTION IS AVAILABLE:

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT CHIEF. (608)266-5161.

ALL ITEMS SHOWN SHALL BE INCLUDED IN THE BID ITEM "PRESTRESSED GIRDER TYPE 145W-INCH."

● 1½" DIA. HOLE AT ABUTMENT END ONLY



4 BAR, EPOXY COATED.
PLACE @ STIRRUP SPACING.
EMB'D INTO GIRDER 1'-3".

NO BEVEL

15 7/8" 3 7/8" 1" CL.

2' - 2 1/2"

7 1/2" 5 1/2" 1" MIN.

3' - 9"

2' - 10"

3" 6" 6"

"P"

#4 STIRRUPS (4 1/2" LEG)

1" MIN. CLEAR

1' - 1 3/4" 6 1/2" 1' - 1 3/4"

11 3/4" 11 3/4"

4 5/8"

R=8"

7 1/16"

R=3"

4 5/8" 7 1/4" 10 3/16"

2' - 6"

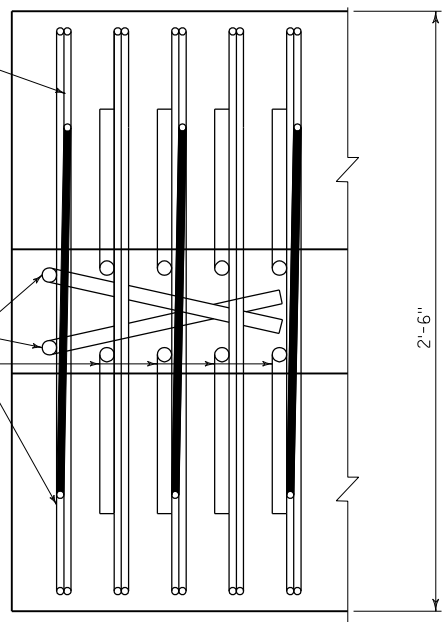
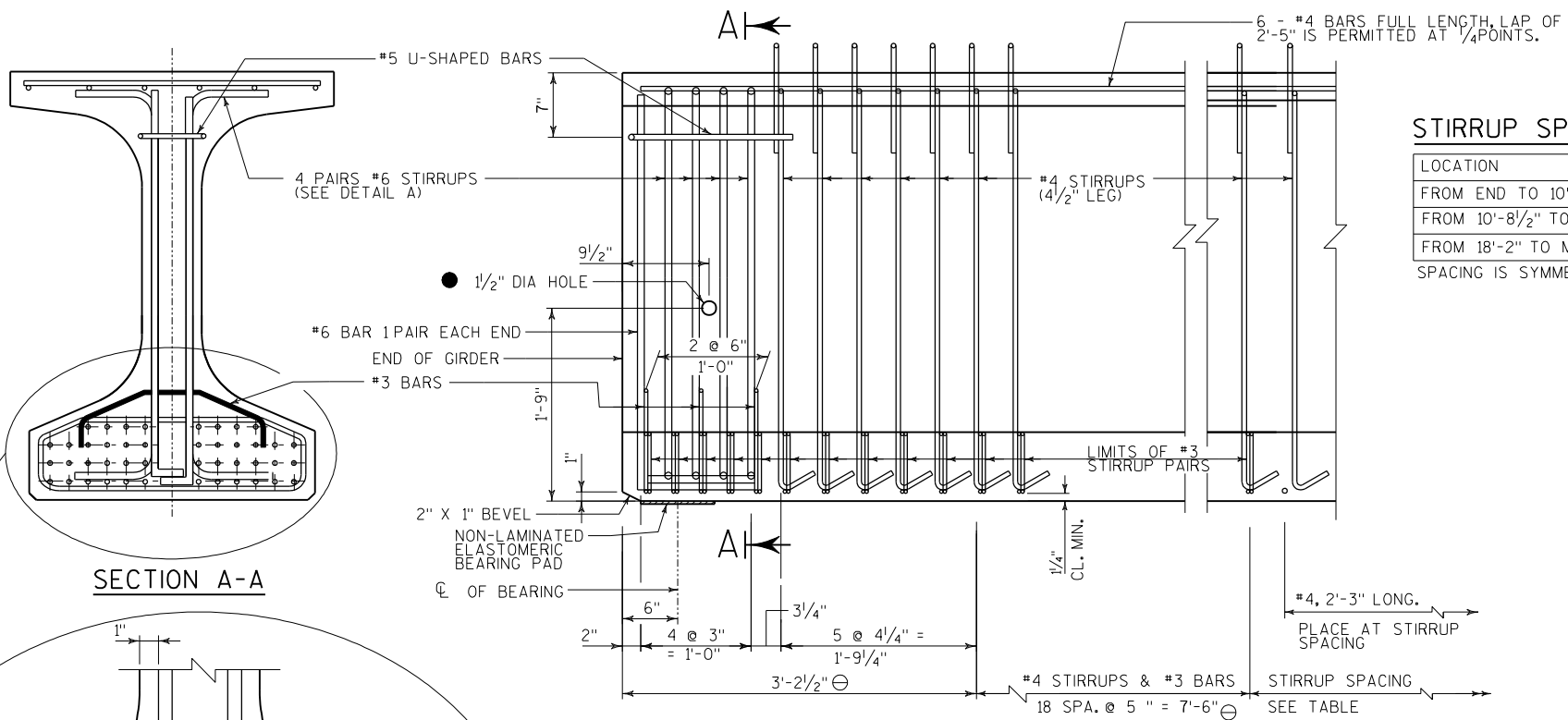
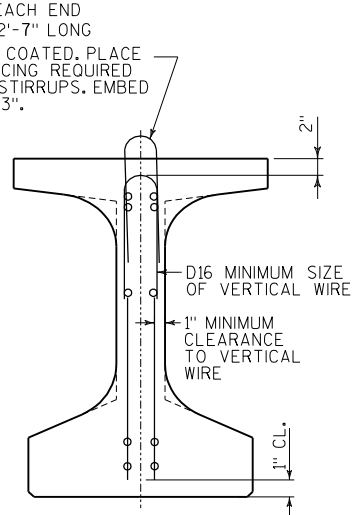
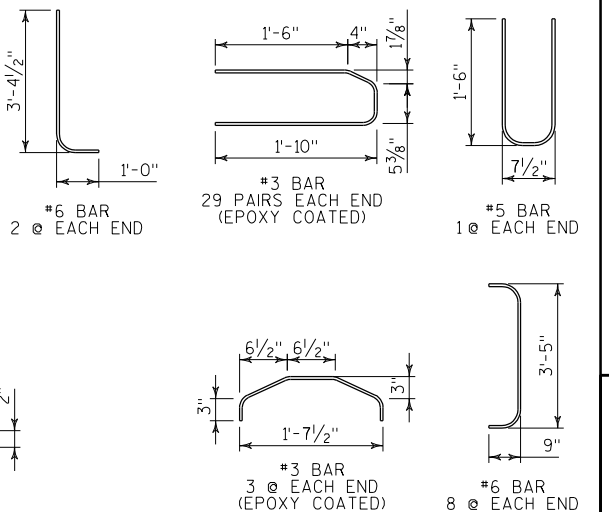
3/4" X 3/4"

#4 @ 5" FOR 15'-0" EACH END
#4 @ 1'-0" BETWEEN. 2'-7" LONG

#4 BAR, EPOXY COATED. PLACE @ STIRRUP SPACING REQUIRED FOR NON WWF STIRRUPS. EMB'D INTO GIRDER 1'-3".

LONG. PLACE

SECTION THRU GIRDER
SHOWING WELDED WIRE FABRIC (WWF) STIRRUPS



ALL PATTERNS ARE SYM. ABOUT GIRDER

FOR DRAPED PATTERN ONLY. DRAPE ALL STRANDS ON THESE TWO LINES

7 1/2"

2"

13 SPA. @ 2"

2"

3 SPA. @ 2"

1"

TOTAL NO. OF STRANDS

34 - 1494

TOTAL INITIAL PRESTRESS FORCE IN KIPS

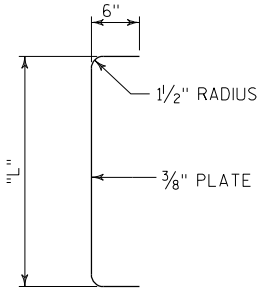
[illegible]

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

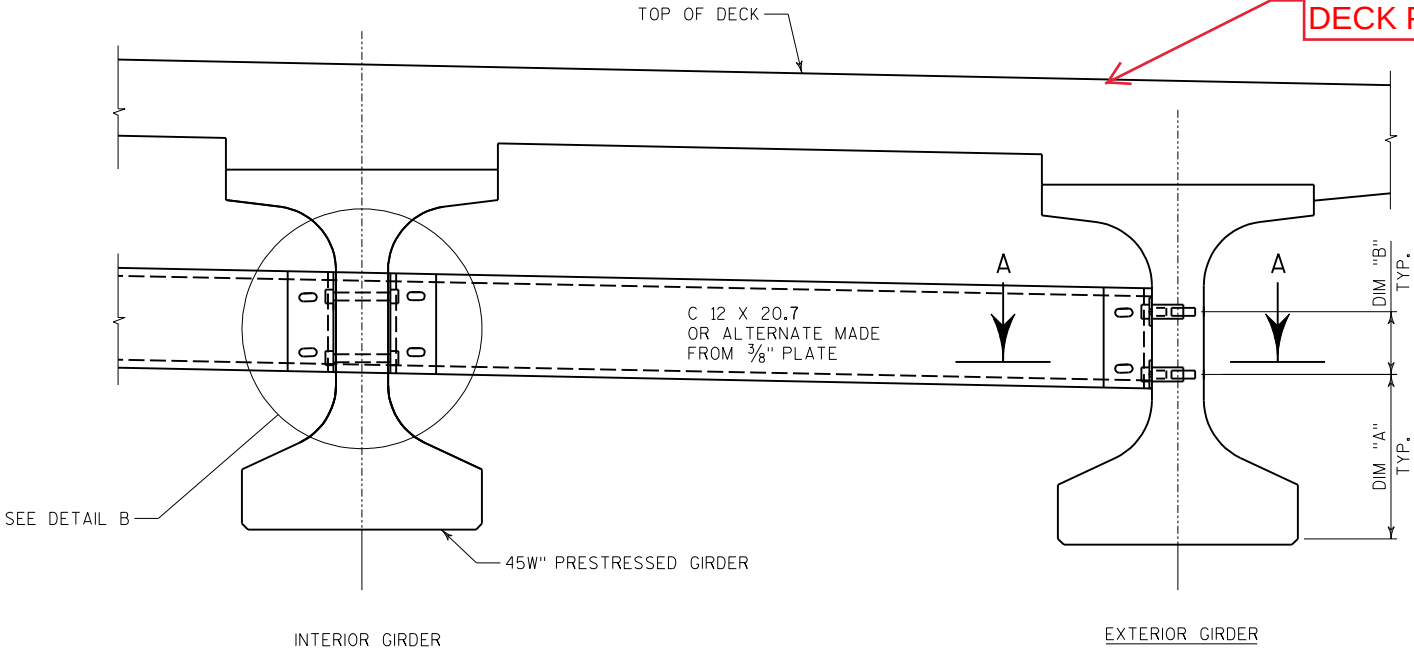
TABLE

GIRDER HEIGHT	DIM "A"	DIM "B"	DIM "L"	* DIM "X"
45W"	1'-9 1/8"	8 7/8"	1'-0 1/2"	2 3/4"

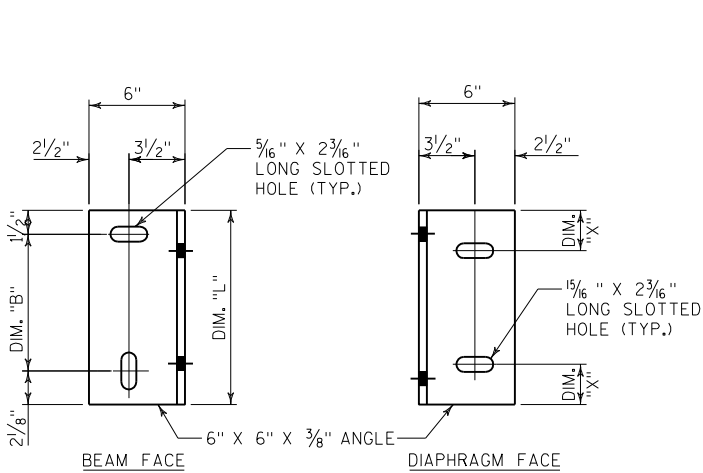
* DIM "X" = 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM.



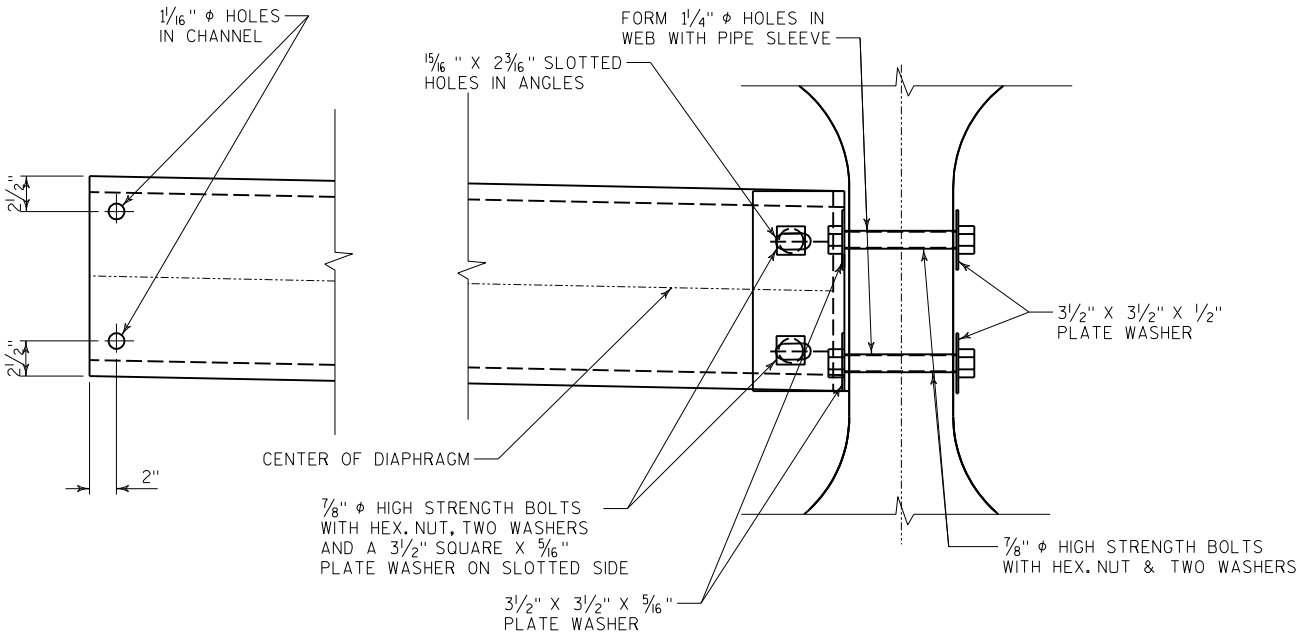
SECTION THRU ALTERNATE DIAPHRAGM



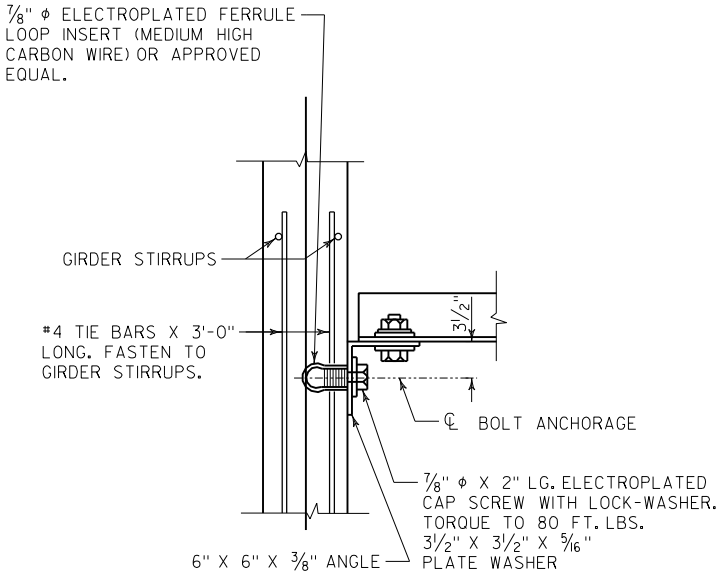
PART TRANSVERSE SECTION AT DIAPHRAGM



DIAPHRAGM SUPPORT



SECTION AT INTERIOR GIRDERS



SECT. A-A
(FOR EXTERIOR ATTACMENT)

NOTES

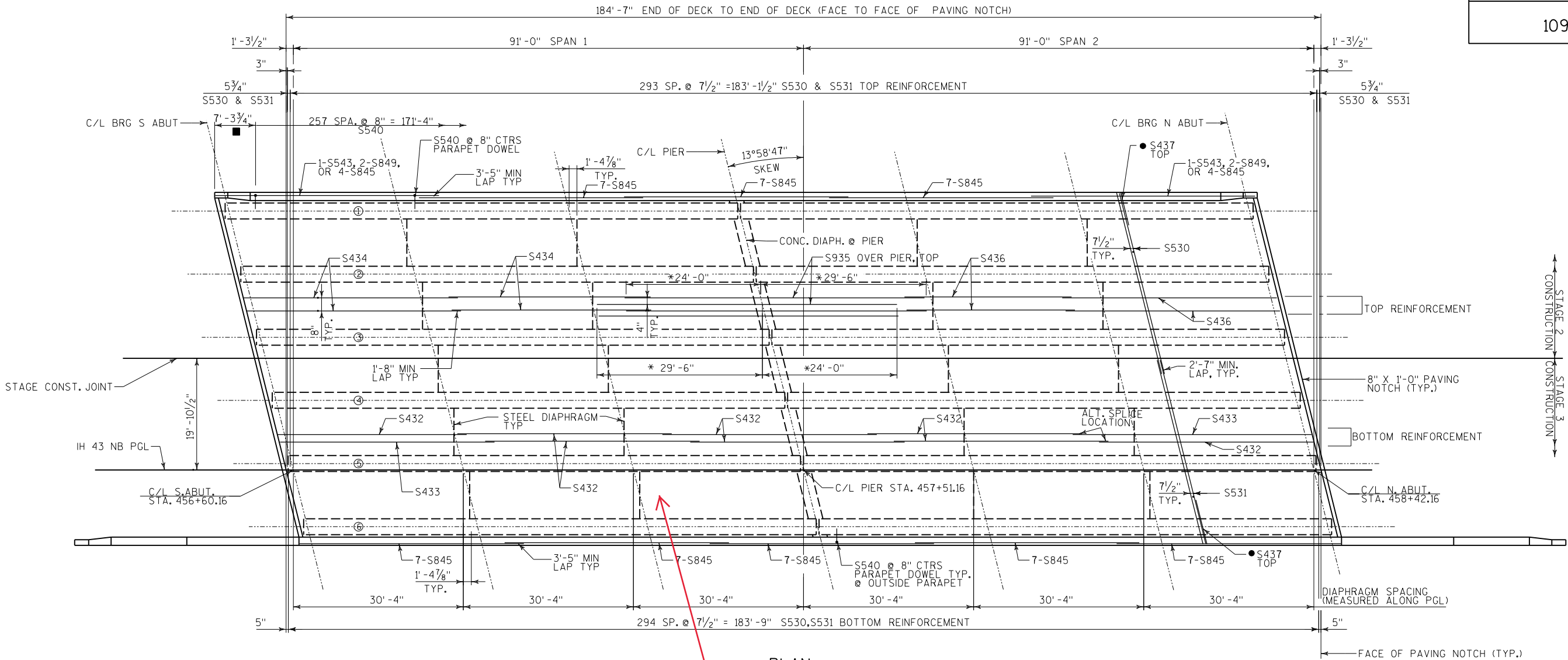
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-67-324", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

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

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

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
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CONST SPEC 2008	DRAWN BY TRW	PLANS CK'D. BH	
STEEL DIAPHRAGM			SHEET 16 OF 20



PLAN

POLYMER OVERLAY & DECK PREPARATIONS

LEGEND:

- LAP S437 ONTO EVERY OTHER TRANSVERSE BAR IN THE TOP MAT AS SHOWN.
- * STAGGER OFFSET AS SHOWN FOR EACH ADJACENT BAR.
- PARAPET TRANSITION AREA ON DECK TYP. EACH END. SEE "SLOPED FACE PARAPET 'HF' SHEET FOR REINFORCEMENT IN THIS REGION. TYPICAL FOR MEDIAN SIDE PARAPET ONLY. SEE "SLOPED FACE PARAPET 'HF' SHEET FOR TRANSITION ON WINGS AT OUTSIDE PARAPET.

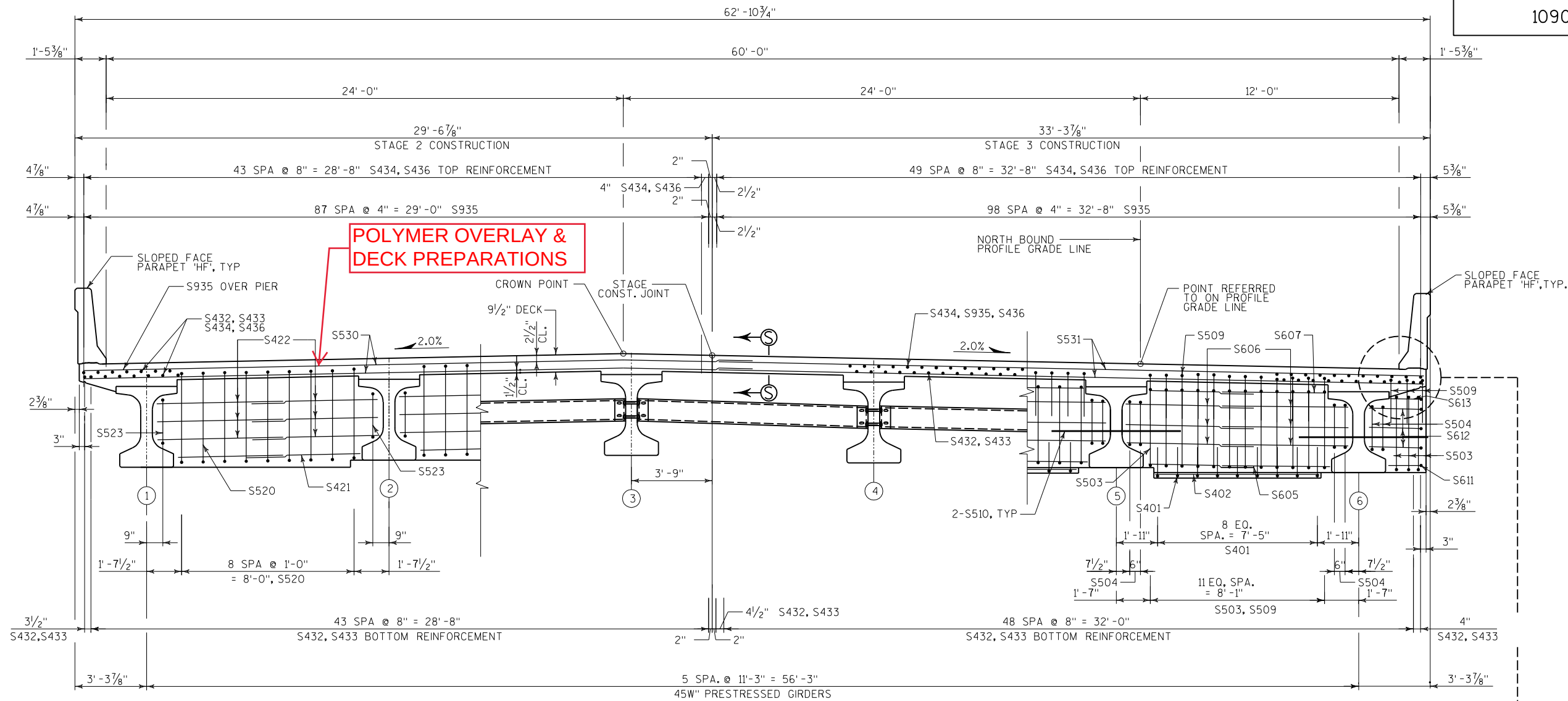
NOTES

1. ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ALONG THE SKEW
2. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
3. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

TOP OF DECK ELEVATIONS

LOCATION	S. ABUT.	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	PIER #1	0.1 PT.	0.2 PT.	0.3 PT.	0.4 PT.	0.5 PT.	0.6 PT.	0.7 PT.	0.8 PT.	0.9 PT.	N. ABUT.
WEST FLOW LINE	964.98	965.04	965.09	965.15	965.20	965.26	965.31	965.36	965.41	965.45	965.50	965.54	965.58	965.62	965.66	965.70	965.74	965.77	965.80	965.84	965.86
GIRDER 1	965.02	965.08	965.13	965.19	965.24	965.30	965.35	965.40	965.45	965.49	965.54	965.58	965.62	965.66	965.70	965.74	965.78	965.81	965.84	965.87	965.90
GIRDER 2	965.26	965.32	965.38	965.43	965.49	965.54	965.59	965.64	965.69	965.73	965.78	965.82	965.86	965.90	965.94	965.98	966.01	966.05	966.08	966.11	966.14
CROWN	965.50	965.55	965.61	965.67	965.72	965.77	965.82	965.87	965.92	965.96	966.01	966.05	966.09	966.13	966.17	966.20	966.24	966.27	966.30	966.33	966.36
GIRDER 3	965.49	965.55	965.60	965.66	965.71	965.76	965.81	965.86	965.91	965.96	966.00	966.04	966.08	966.12	966.16	966.20	966.23	966.27	966.30	966.33	966.36
GIRDER 4	965.28	965.34	965.40	965.45	965.50	965.55	965.60	965.65	965.70	965.74	965.79	965.83	965.87	965.91	965.95	965.98	966.02	966.05	966.08	966.11	966.14
GIRDER 5	965.08	965.13	965.19	965.24	965.29	965.35	965.39	965.44	965.49	965.53	965.58	965.62	965.66	965.70	965.73	965.77	965.80	965.84	965.87	965.90	965.92
GIRDER 6	964.87	964.93	964.98	965.03	965.09	965.14	965.18	965.23	965.28	965.32	965.36	965.41	965.44	965.48	965.52	965.55	965.59	965.62	965.65	965.68	965.71
EAST FLOW LINE	964.83	964.89	964.95	965.00	965.05	965.10	965.15	965.20	965.24	965.29	965.33	965.37	965.41	965.45	965.48	965.52	965.55	965.58	965.61	965.64	965.67

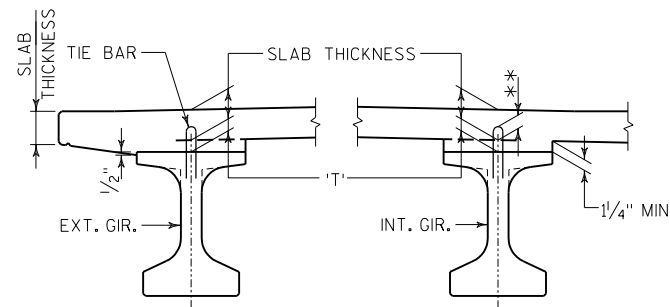
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST SPEC	2010	DRAWN BY TRW	PLANS CK'D. RK
SUPERSTRUCTURE			SHEET 17 OF 20



CONC DIAPH AT PIER

IN SPAN DIAPH

CONC DIAPH AT ABUT



SLAB HAUNCH DETAIL

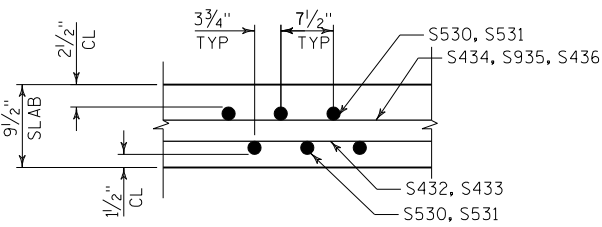
IF 1/4" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM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

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

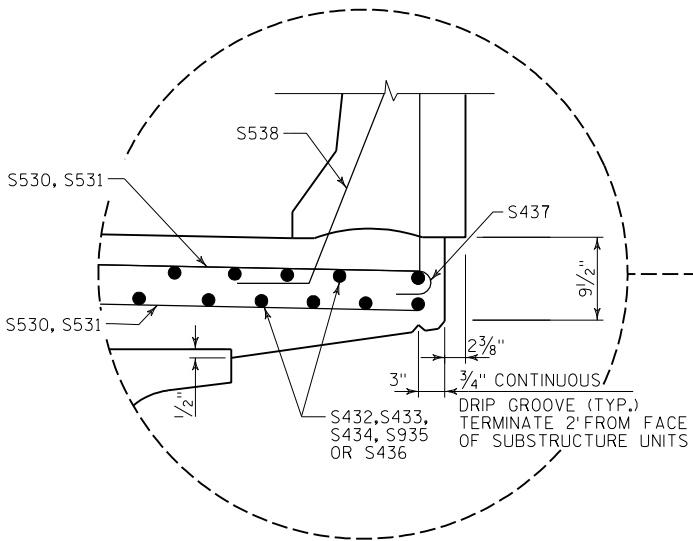
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

CROSS SECTION THRU ROADWAY

(LOOKING NORTH)



SECTION S-S

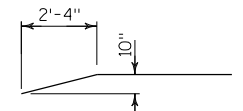
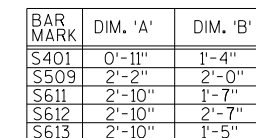
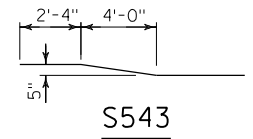
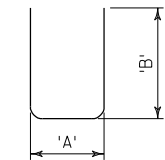
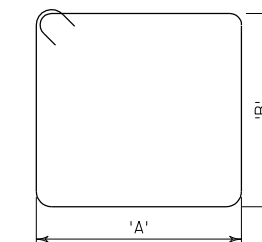


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST SPEC 2010	DRAWN BY TRW	PLANS CK'D. BH	
SUPERSTRUCTURE CROSS SECTION			SHEET 18 OF 20



BAR MARK	COAT	NO. REQ'D. STAGE 2	NO. REQ'D. STAGE 3	LENGTH	BENT	BAR SERIES	LOCATION
S401	X	42	48	3'-5"	X		ABUT DIAPH - VERT
S402	X	12	8	7'-7"			ABUT DIAPH - HORIZ
S503	X	62	70	13'-4"	X		ABUT DIAPH - STIRRUP
S504	X	24	24	10'-8"	X		ABUT DIAPH - STIRRUP
S605	X	10	10	5'-4"			ABUT DIAPH - HORIZ FF
S606	X	30	30	6'-4"			ABUT DIAPH - HORIZ FF
S607	X	10	10	5'-2"			ABUT DIAPH - HORIZ FF
S608	X	14	14	33'-10"			ABUT DIAPH - HORIZ BF
S509	X	62	70	5'-11"	X		ABUT DIAPH - VERT
S510	X	12	12	6'-0"			ABUT DIAPH THRU GIRDERS
S611	X	2	2	3'-9"	X		ABUT DIAPH ENDS - HORIZ FF
S612	X	6	6	7'-8"	X		ABUT DIAPH ENDS - HORIZ FF
S613	X	2	2	5'-4"	X		ABUT DIAPH ENDS - HORIZ FF
S414	X	4	4	4'-3"			ABUT DIAPH ENDS - VERT
S520	X	42	48	11'-8"	X		PIER DIAPH - STIRRUP
S421	X	20	20	5'-4"			PIER DIAPH - HORIZ
S422	X	60	60	6'-4"			PIER DIAPH - HORIZ
S523	X	10	10	9'-4"	X		PIER DIAPH - STIRRUP
S530	X	589	-	32'-11"			SLAB TRANS BOT / TOP
S531	X	-	589	33'-9"			SLAB TRANS BOT / TOP
S432	X	180	204	40'-0"			SLAB LONGIT BOT
S433	X	45	51	31'-0"			SLAB LONGIT BOT
S434	X	90	100	35'-9"			SLAB LONGIT TOP - SPAN 1
S935	X	88	99	53'-6"			SLAB LONGIT OVER PIER TOP
S436	X	90	100	33'-0"			SLAB LONGIT TOP - SPAN 2
S437	X	295	295	5'-0"	X		SLAB TRANS TOP AT OVERHANG
S538	X	28	-	4'-5"	X		PARAPETS - MEDIAN SIDE TRANSITION - VERT.
S539	X	16	-	2'-4"	X		PARAPETS - MEDIAN SIDE TRANSITION - VERT.
S540	X	258	280	4'-7"	X		SLAB AT PARAPET - DOWELS
S541	X	12	-	5'-8"	X	▲	PARAPETS - MEDIAN SIDE TRANSITION - VERT
S542	X	258	280	6'-6"	X		PARAPETS - VERTICAL
S543	X	2	-	40'-0"	X		PARAPETS - MEDIAN SIDE TRANSITION - HORIZ
S844	X	4	-	40'-0"	X		PARAPETS - MEDIAN SIDE TRANSITION - HORIZ
S845	X	29	35	40'-0"	X		PARAPETS - HORIZ

PART LONGIT SECTION



BEARING PAD DETAILS

LEGEND

** DIMENSIONS ARE PARALLEL TO THE GIRDER

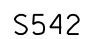
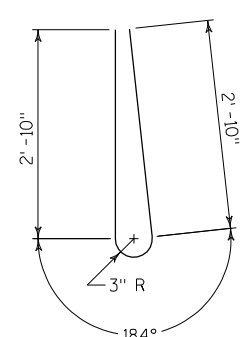
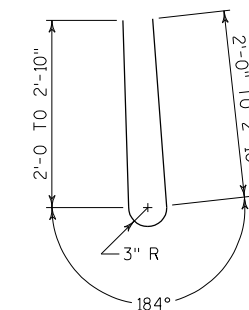
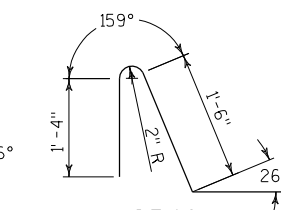
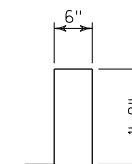
- LAP BARS 3'-6" MIN.
 - LAP BARS 2'-1" MIN.
 - LAP BARS 1'-5" MIN.
 - ▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

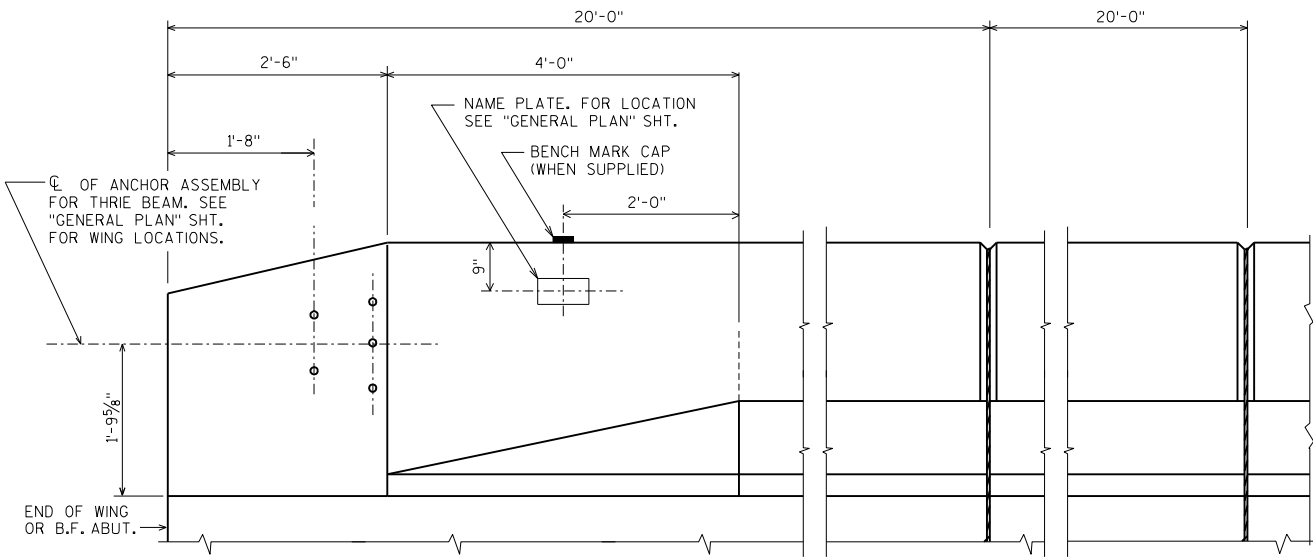
NOTES

1. ALL VERTICAL BAR STEEL REINFORCEMENT IN CONCRETE DIAPHRAGMS SHALL BE PLACED PARALLEL TO THE GIRDERS.
2. SEE 'SLOPED FACE PARAPET "HF" SHEET' FOR PARAPET REINFORCEMENT DETAILS

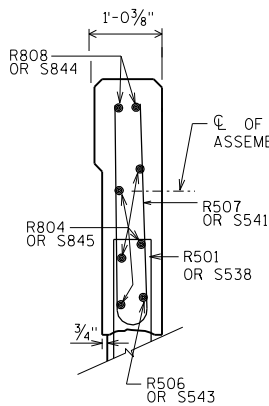
BAR SERIES TABLE

MARK	NO. REQD.	LENGTH
S541	2 SERIES OF 6	4'-10" TO 6'-6"

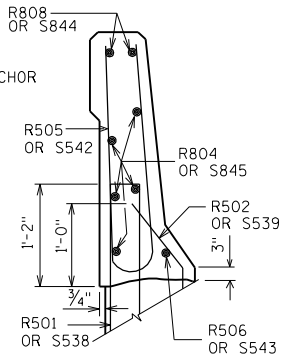




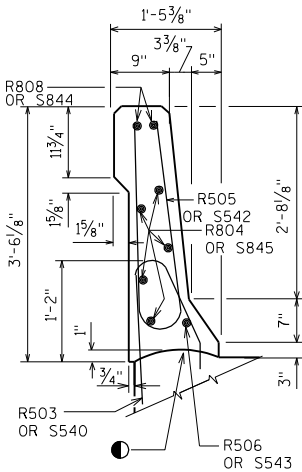
INSIDE ELEVATION



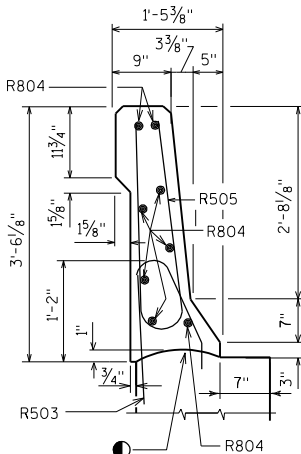
SECTION A
(WING OR SLAB)



SECTION B
(WING OR SLAB)



SECTION C
(WING OR SLAB)



SECTION D
(WING ONLY)

▲ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

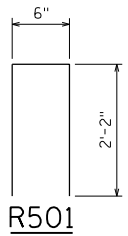
BILL OF BARS FOR ABUTMENT PARAPETS

BAR MARK	COAT	S. ABUT. STAGE 3	N. ABUT. STAGE 3	LENGTH	BENT	BAR SERIES	LOCATION
R501	X	14	14	4'-7"	X		PARAPET VERT.
R502	X	8	8	2'-4"	X		PARAPET VERT.
R503	X	51	51	4'-7"	X		PARAPET VERT.
R804	X	13	13	19'-8"			PARAPET HORIZ.
R505	X	59	59	6'-6"	X		PARAPET VERT.
R506	X	1	1	19'-8"	X		PARAPET HORIZ.
R507	X	6	6	5'-8"	X	▲	PARAPET VERT.
R808	X	2	2	19'-8"	X		PARAPET HORIZ.

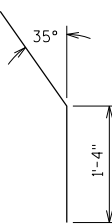
BAR SERIES TABLE

MARK	NO. REOD.	LENGTH
R507	2 SERIES OF 6	4'-10" TO 6'-6"

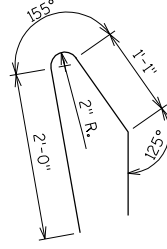
POLYMER OVERLAY & DECK PREPARATIONS



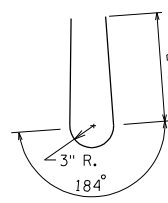
R501



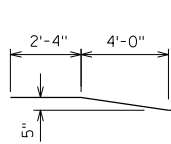
R502



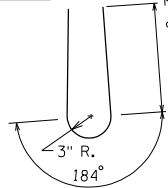
R503



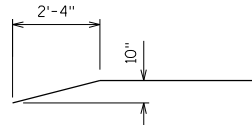
R505



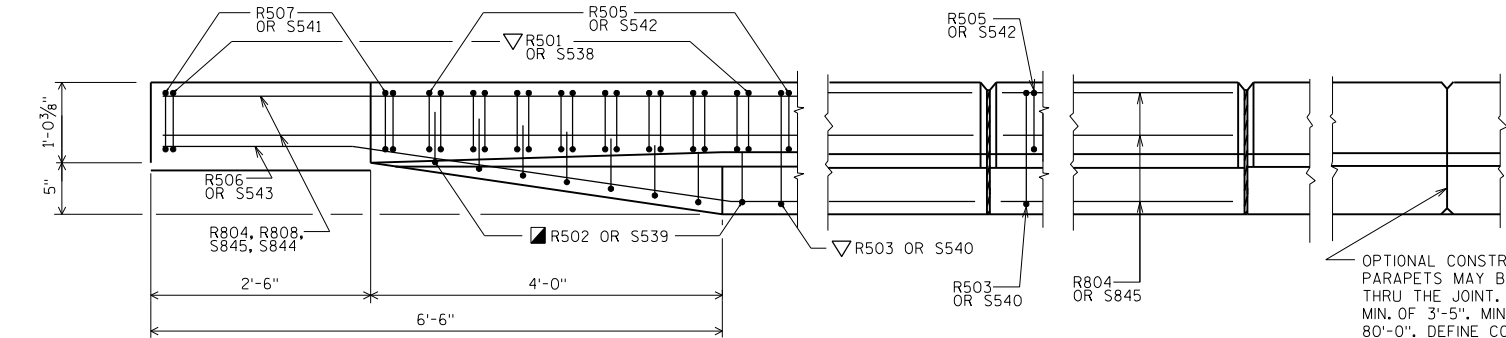
R506



R507

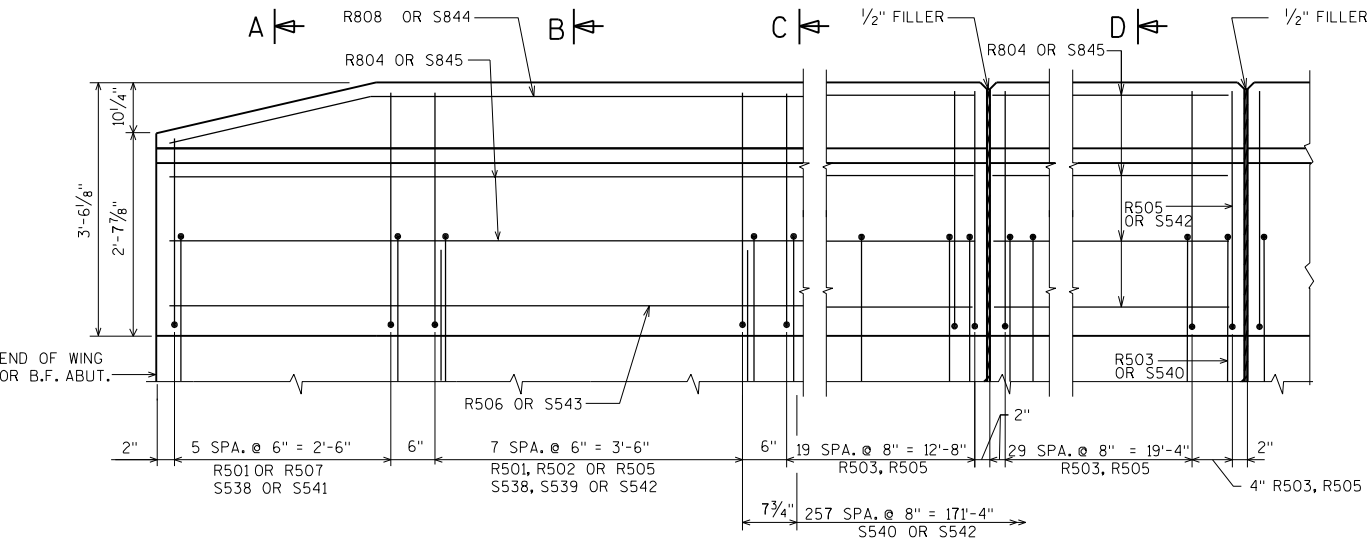


R808

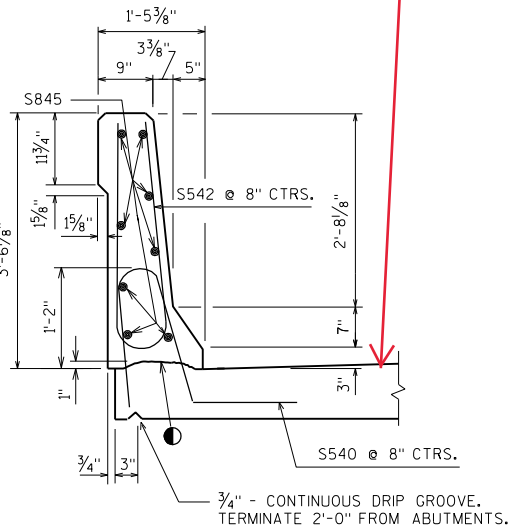


PLAN

OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 3'-5". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A 3/4" - 'V' GROOVE.



OUTSIDE ELEVATION



SECTION THRU PARAPET ON BRIDGE

● CONST. JOINT - STRIKE OFF AS SHOWN.

■ R502 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R502 OR S502 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R503 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION			
STRUCTURE B-67-324			
CONST SPEC 2010	DRAWN BY TRW	PLANS CKD. BH	
SLOPED FACE PARAPET "HF"		SHEET 20 OF 20	