

PROJECT ID: 1227-08-76

COUNTY: BROWN

ORDER OF SHEETS

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

TOTAL SHEETS =



DESIGN DESIGNATION

A.A.D.T.	2020	=	51,900
A.A.D.T.	2040	=	63,600
D.H.V.		=	4,007
D.D.		=	56/44
T.		=	7.7%
DESIGN SPEED		=	70 MPH
ESALS		=	8,800,000

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	
PROPERTY LINE	
LOT LINE	
LIMITED HIGHWAY EASEMENT	
EXISTING RIGHT OF WAY	
PROPOSED OR NEW R/W LINE	
SLOPE INTERCEPT	
REFERENCE LINE	
EXISTING CULVERT	
PROPOSED CULVERT (Box or Pipe)	
COMBUSTIBLE FLUIDS	
MARSH AREA	
WOODED OR SHRUB AREA	

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

MANITOWOC - GREEN BAY

STH 172 - ATKINSON DRIVE

IH 43

BROWN COUNTY

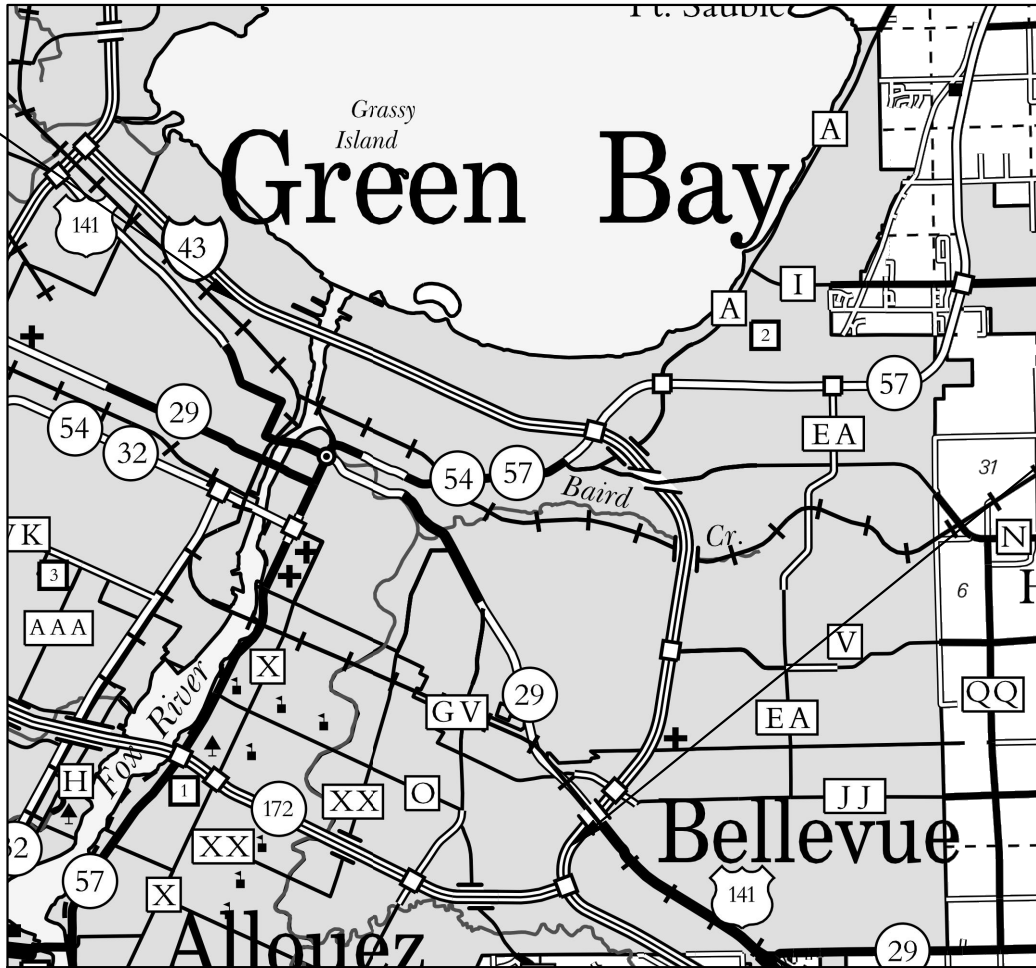
STATE PROJECT NUMBER
1227-08-76

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
1227-08-76		

TRANS 220  
PROJECT PLAN  
FOR  
DESIGN OF UTILITY FACILITY  
ALTERATIONS OR RELOCATIONS

Date: 03/01/2019

END PROJECT 1227-08-73  
STA 3829+01.23'NB'  
X=93537.0095  
Y=580042.7979



BEGIN PROJECT 1227-08-73  
STA 3321+50.00'NB'  
X=113890.3143  
Y=546940.0797

LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 10.029 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	NE REGION
Designer	KIMBERLY SLEZAK
Project Manager	BRIAN HAEN
Regional Examiner	
Regional Supervisor	CHAD DEGRAVE
APPROVED FOR THE DEPARTMENT	
DATE:	(Signature)

E


GENERAL NOTES

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL OTHER UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST 3 WORKING DAYS PRIOR TO BEGINNING WORK.

WETLANDS ARE PRESENT IN SEVERAL AREAS ADJACENT TO THE PROJECT. DO NOT OPERATE EQUIPMENT OUTSIDE OF THE SLOPE INTERCEPTS IN WETLAND AREAS UNLESS DIRECTED BY THE ENGINEER.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES SHOWN ON THE PLAN ARE APPROXIMATE AND SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.



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

DNR AREA LIAISON

JAMES DOPERALSKI, JR.  
DEPARTMENT OF NATURAL RESOURCES  
NORTHEAST REGION  
2984 SHAWANO AVE  
GREEN BAY, WI 54313  
920-662-5119  
JAMES.DOPERALSKI@WISCONSIN.GOV

COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

CORMAC MCINNIS  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
PHONE: 920-492-5638  
EMAIL: CORMAC.MCINNIS@DOT.WI.GOV

UTILITIES

Matt Hischke  
ANR Pipeline Company - Gas/Petroleum  
N4956 Oakcrest Dr  
Bonduel, WI 54107  
(715) 758-3345  
(715) 460-4042  
matthew\_hischke@transcanada.com

Joseph Kassab  
AT&T Wisconsin - Communication Line  
221 West Washington St  
Appleton, WI 54911-4742  
(920) 735-3206  
jk572k@att.com

Anthony Marciniak  
ATC Management, Inc. - Electricity  
W 234 N2000 Ridgeview Parkway Ct  
Waukesha, WI 53188-1000  
(262) 506-6814  
amarciniak@atcinc.com

Dan Becker (Multimedia  
Communications and Engineering)  
Brown County Technology Services -  
Communication Line  
PO Box 11064  
Green Bay, WI 54307-1064  
(920) 676-3496  
dbecker@mcae.biz

Robert Michaelson  
Central Brown County Water  
Authority - Water  
1303 S 8th St  
P.O. Box 1090  
Manitowoc, WI 54221-1090  
(920) 686-4354  
1/64 rmichaelson@mpu.org

Ross Hartwig  
CenturyLink - Communication Line  
256 Leffert St  
Berlin, WI 54923  
(920) 361-8425  
ross.hartwig@centurylink.com

Matt Heckenlable  
City of Green Bay - Sewer  
100 N Jefferson ST  
Green Bay, WI 54301  
(920) 448-3100  
matthe@greenbaywi.gov

Brian Powell  
Green Bay Water Utility  
631 S Adams St, P.O. Box 1210  
Green Bay, WI 54305-1210  
(920) 448-3480  
brianpo@greenbaywi.gov

Mark Pansier  
Ledgeview Sanitary District #2 - Sewer  
3700 Dickinson Rd  
De Pere, WI 54115  
(920)336-3360  
mpansier@ledgeviewwiscnsin.com

Dennis Rues  
McLeod USA Telecommunication Services Inc  
- Communication Line  
13935 Bishops Dr  
Brookfield, WI 53005  
(812) 456-1249  
dennis.ruess@windstream.com

Dennis La Fave  
Net Lec LLC - Communication Line  
1700 Industrial Dr  
Green Bay, WI 54302  
(920) 619-9774  
dlafave@ml-tech.us

Vince Albin  
Time Warner Cable - Communication Line  
3520 E Destination Dr  
Appleton, WI 54915  
(920) 831-9249  
vince.albin@twcable.com

Casey Schwandt  
West Shore Pipe Line Company -  
Gas/Petroleum  
2119 North Quincy Street  
Green Bay, WI 54302  
(920) 432-3223  
cschwandt@buckeye.com

Bill Balke  
Village of Bellevue - Sewer  
2828 Allouez Ave  
Green Bay, WI 54311-6644  
(920) 468-5225  
billb@villageofbellevue.org

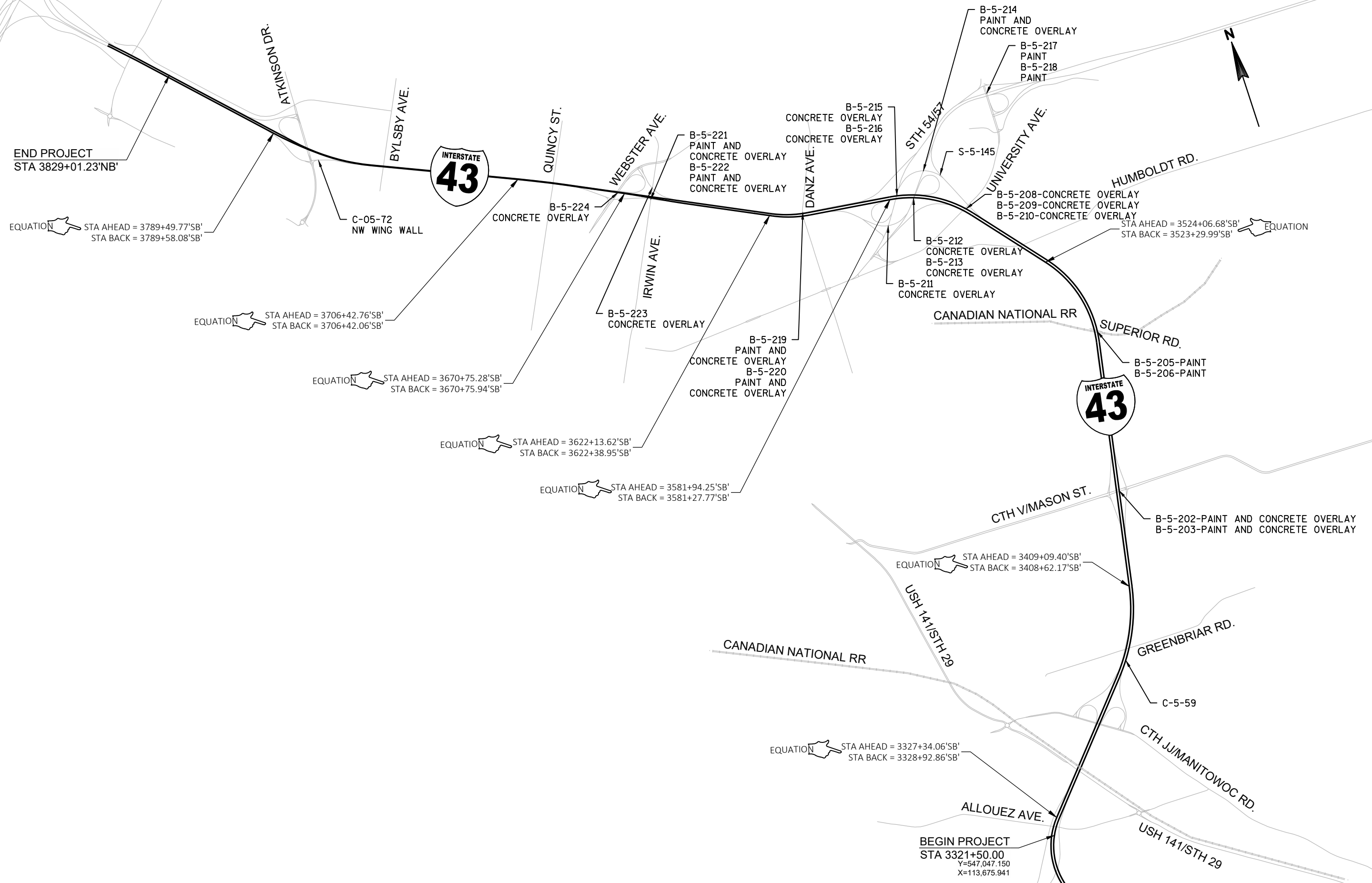
Bill Balke  
Village of Bellevue - Water  
2828 Allouez Ave  
Green Bay, WI 54311-6644  
(920) 468-5225  
billb@villageofbellevue.org

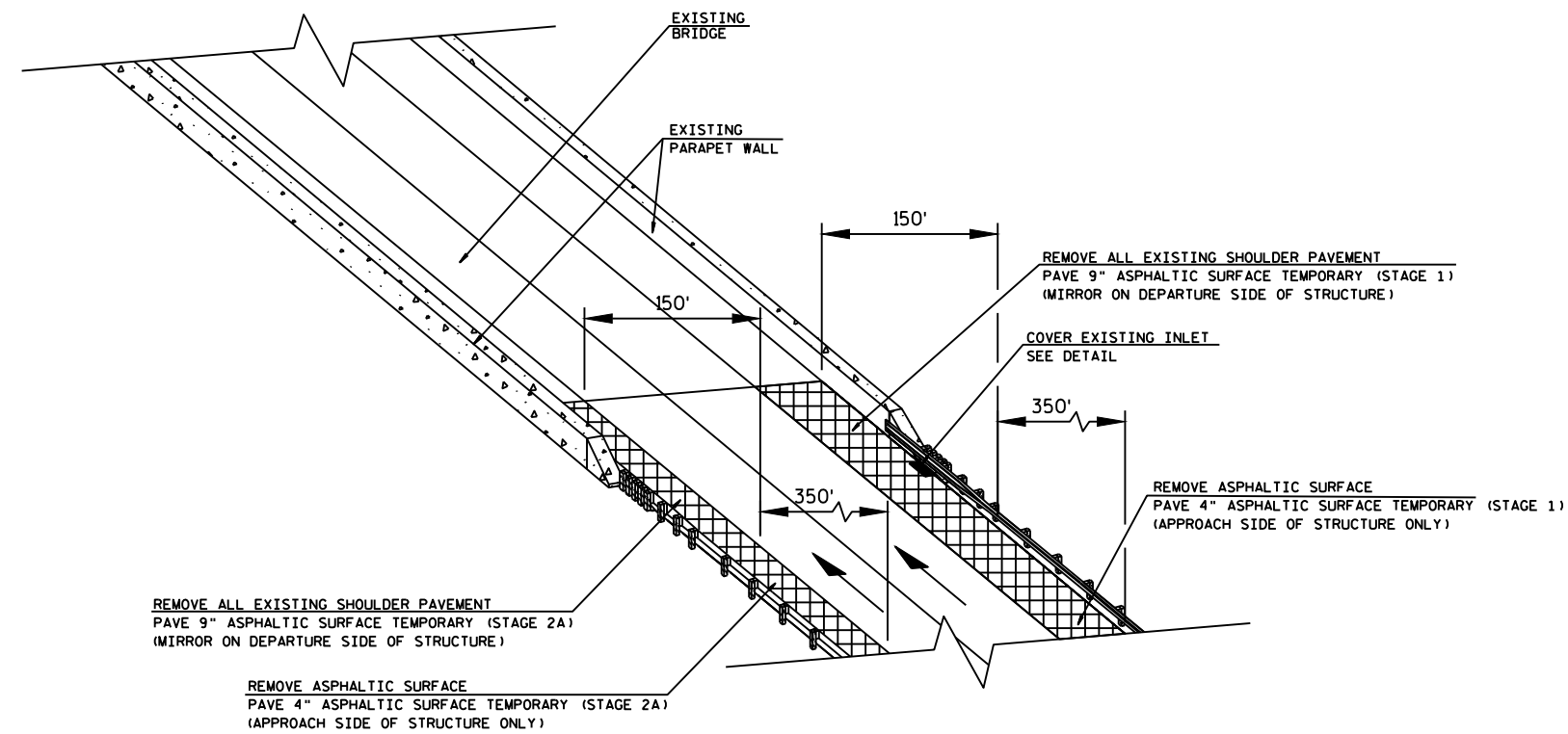
David Retzlaff  
Wisconsin Public Service  
Corporation - Gas/Petroleum  
2850 S Ashland Ave  
Green Bay, WI 54304  
(920) 617-5237  
(920) 604-1861  
dpretzlaff@wisconsinpublicservice.com

Randy Steier  
Wisconsin Public Service  
Corporation - Electricity  
2850 S. Ashland Ave  
Green Bay, WI 54307  
(920) 617-5167  
(920) 655-1596  
RDSteier@wisconsinpublicservice.com

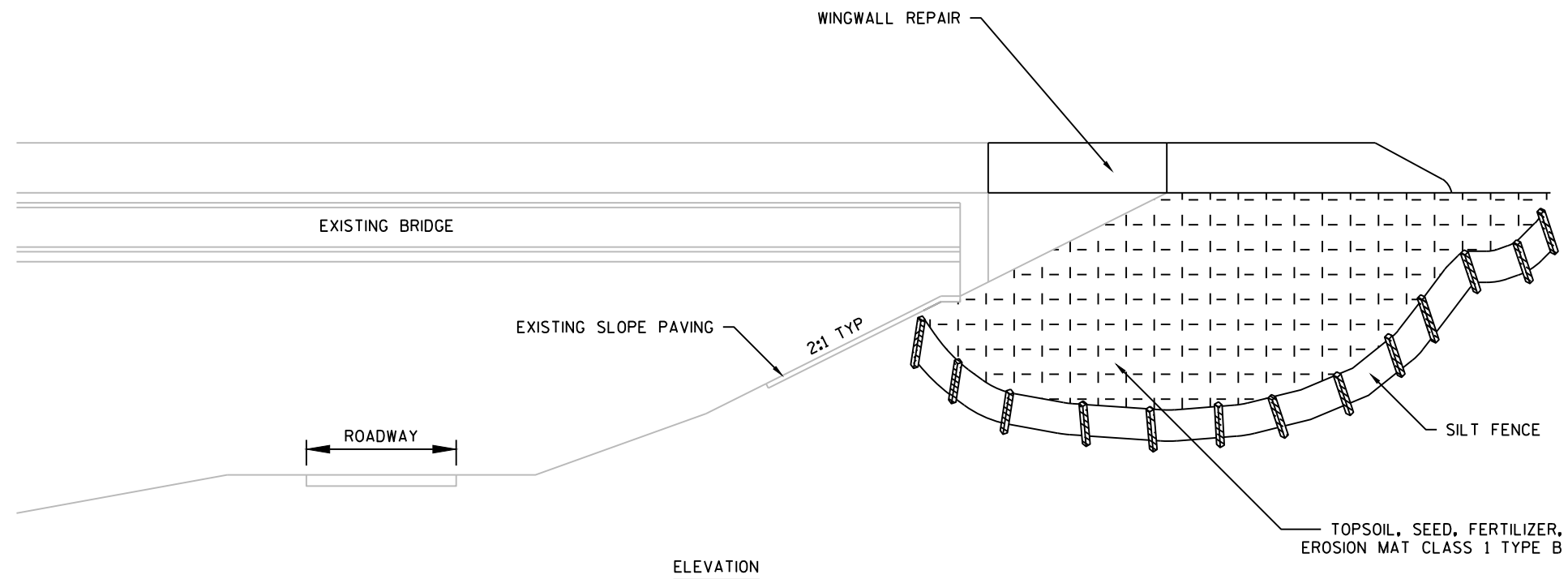
Craig Berndt  
Village of Allouez Department of  
Public Works - Water  
1900 Libal St  
Green Bay, WI 54301  
(920) 448-2800  
craig@villageofallouez.com

Craig Berndt  
Village of Allouez Department of  
Public Works - Sewer  
1900 Libal St  
Green Bay, WI 54301  
(920) 448-2800  
craig@villageofallouez.com





TEMPORARY SHOULDER IMPROVEMENT AT STRUCTURE APPROACHES

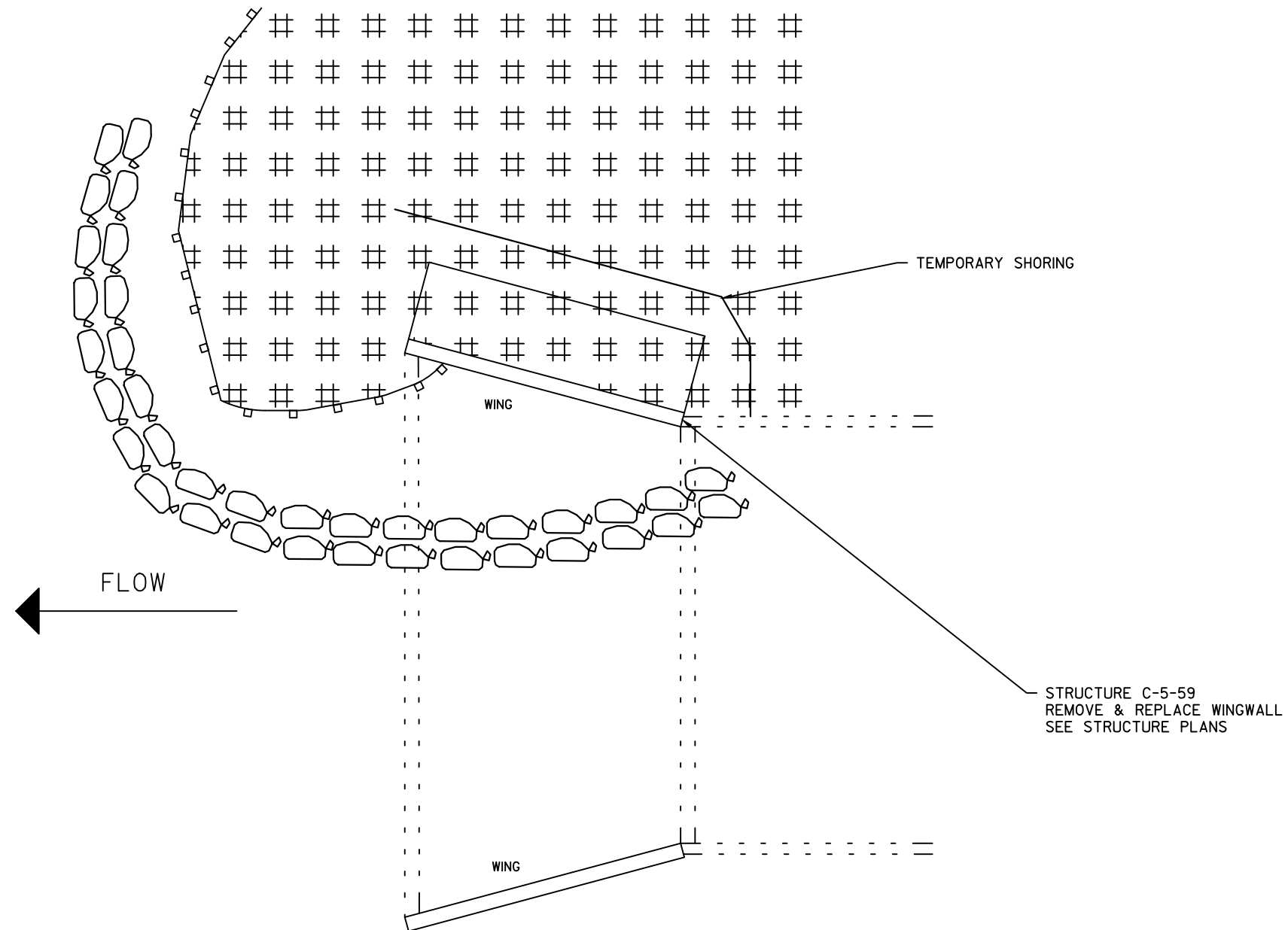


EROSION CONTROL AT WINGWALL REPAIRS

STA 3572+50'NB' B-5-213 SE WINGWALL  
STA 3578+52'SB' B-5-215 SE WINGWALL  
STA 3578+54'NB' B-5-216 SE WINGWALL

NOTES:  
SANDBAGS SHALL BE INCIDENTAL TO THE REMOVING OLD  
STRUCTURE BID ITEMS.

STACK SANDBAGS TO A HEIGHT AND LENGTH NECESSARY  
TO PROTECT THE WINGWALL WORKZONE FROM THE FLOW  
OF WATER.



EROSION CONTROL AT C-5-59 WINGWALL REPAIRS

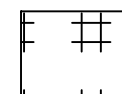
LEGEND



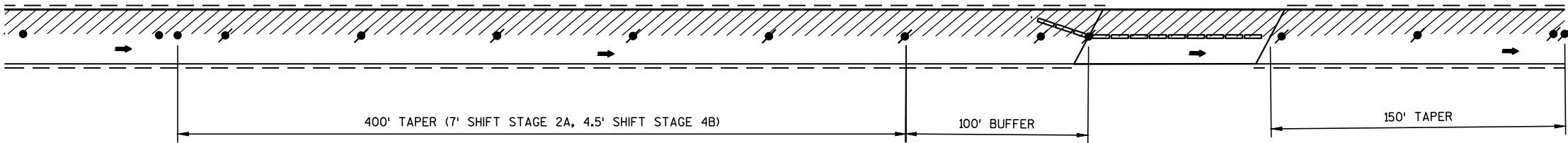
SANDBAGS



SILT FENCE



EROSION MAT CLASS 1  
TYPE B



STAGE 2A AND 2B FOR IH 43 AT STRUCTURES

NORTHBOUND	SOUTHBOUND
B-5-203	B-5-202
B-5-206	B-5-205
B-5-209	B-5-208
B-5-213	B-5-212
B-5-216	B-5-215
B-5-220	B-5-219
B-5-222	B-5-221
B-5-224	B-5-224

GENERAL NOTES

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

THIS LANE CLOSURE IS TYPICAL FOR CLOSING LEFT LANE (STAGE 2A) - REVERSE FOR CLOSING RIGHT LANE (STAGE 2B).

LEGEND

TRAFFIC CONTROL DRUM

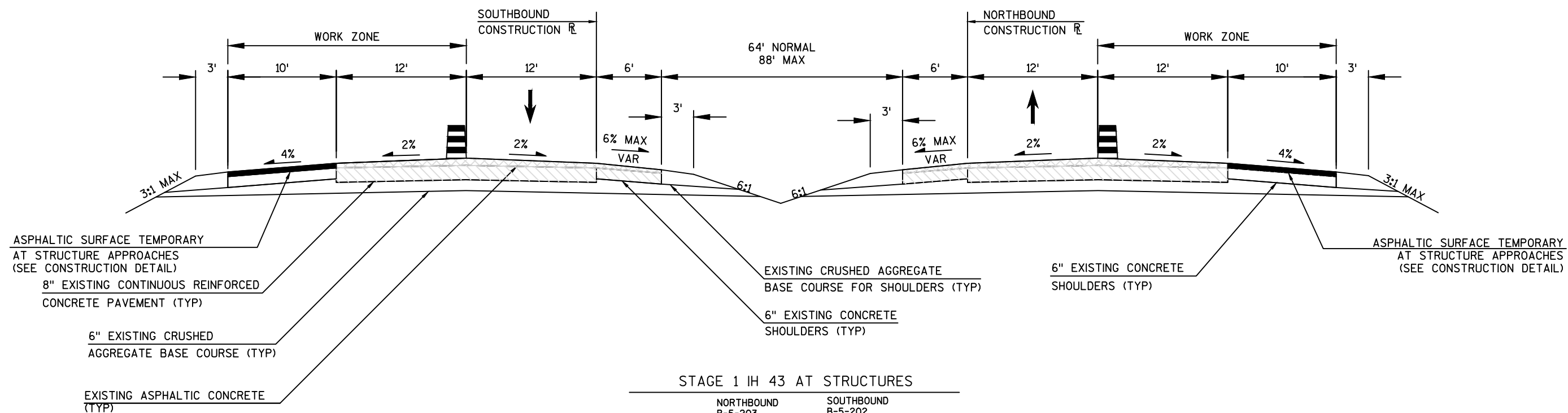
TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT

CONCRETE BARRIER TEMPORARY PRECAST

WORK AREA

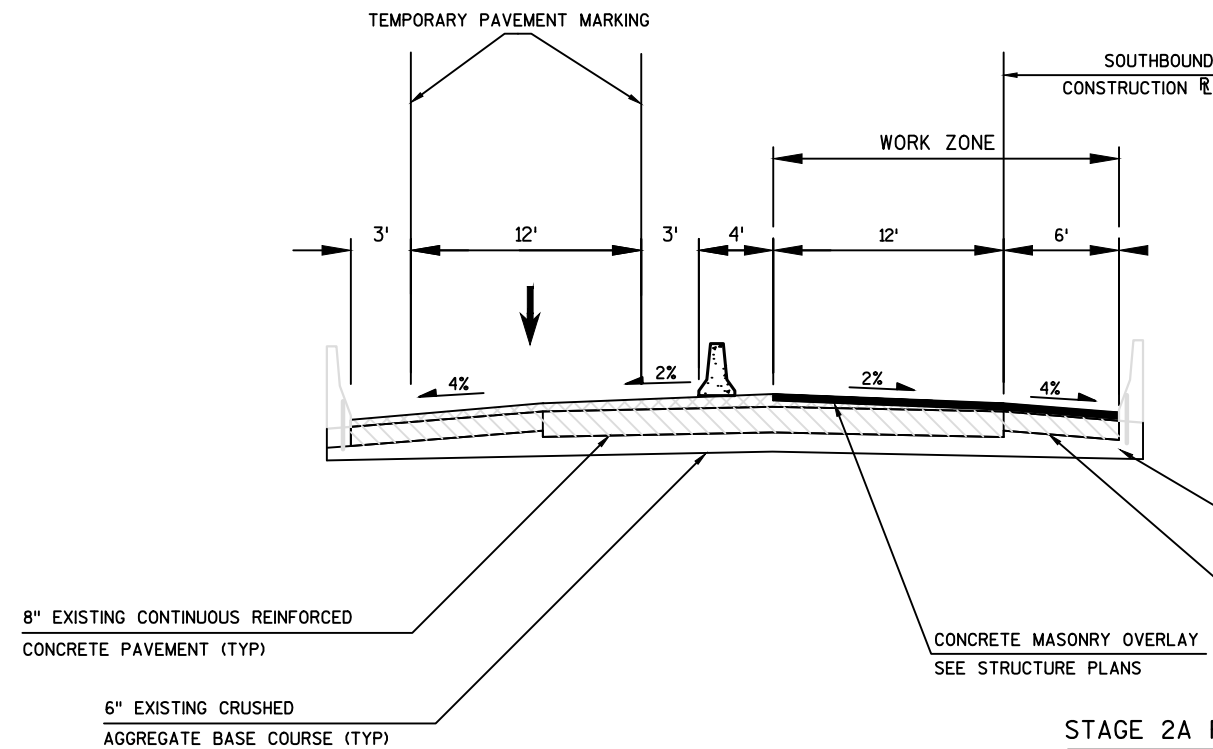
DIRECTION OF TRAFFIC

NOTE: THE LANE CLOSURE SETUP  
IS TO FOLLOW SDD TRAFFIC  
CONTROL, LANE CLOSURE, SPEED  
REDUCTION.



#### STAGE 1 IH 43 AT STRUCTURES

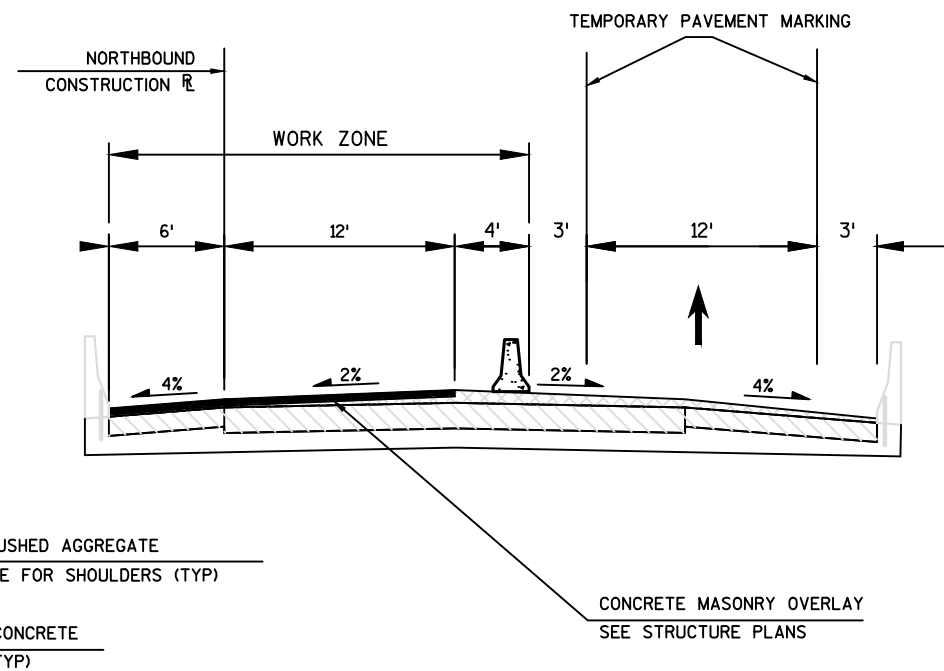
NORTHBOUND	SOUTHBOUND
B-5-203	B-5-202
B-5-206	B-5-205
B-5-209	B-5-208
B-5-213	B-5-212
B-5-216	B-5-215
B-5-220	B-5-219
B-5-222	B-5-221
B-5-224	B-5-224



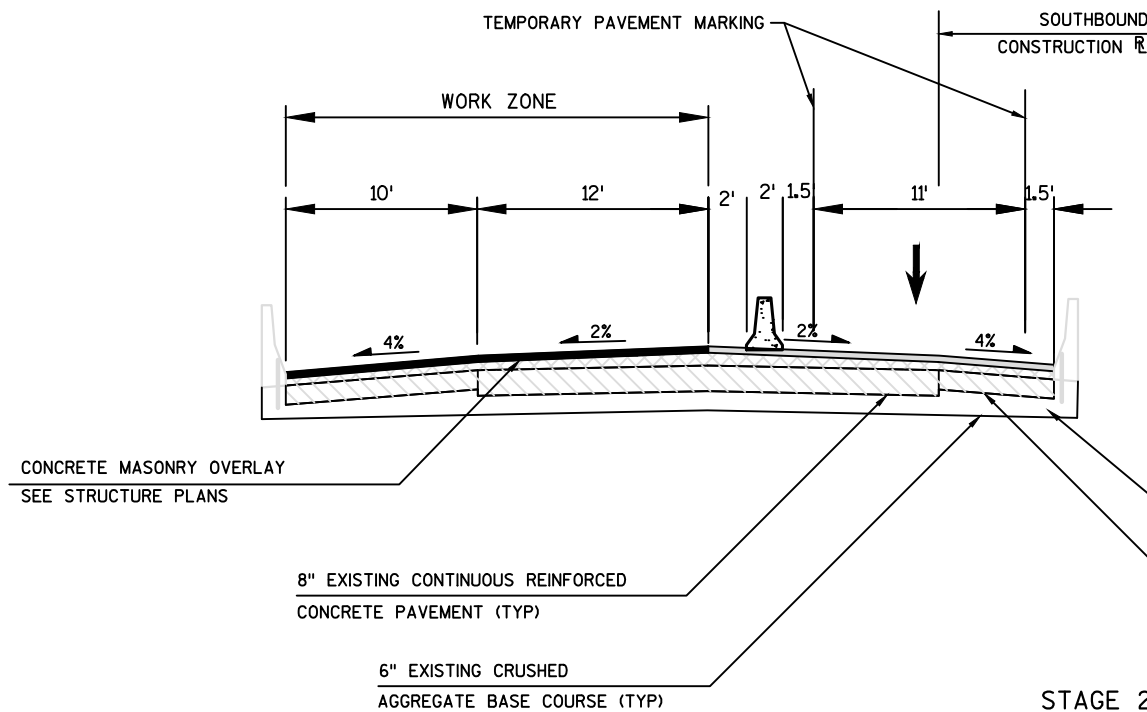
\*\*SEE INDIVIDUAL STRUCTURE PLANS FOR MORE INFORMATION\*\*

#### STAGE 2A FOR IH 43 AT STRUCTURES

NORTHBOUND	SOUTHBOUND
B-5-203	B-5-202
B-5-206	B-5-205
B-5-209	B-5-208
B-5-213	B-5-212
B-5-216	B-5-215
B-5-220	B-5-219
B-5-222	B-5-221
B-5-224	B-5-224



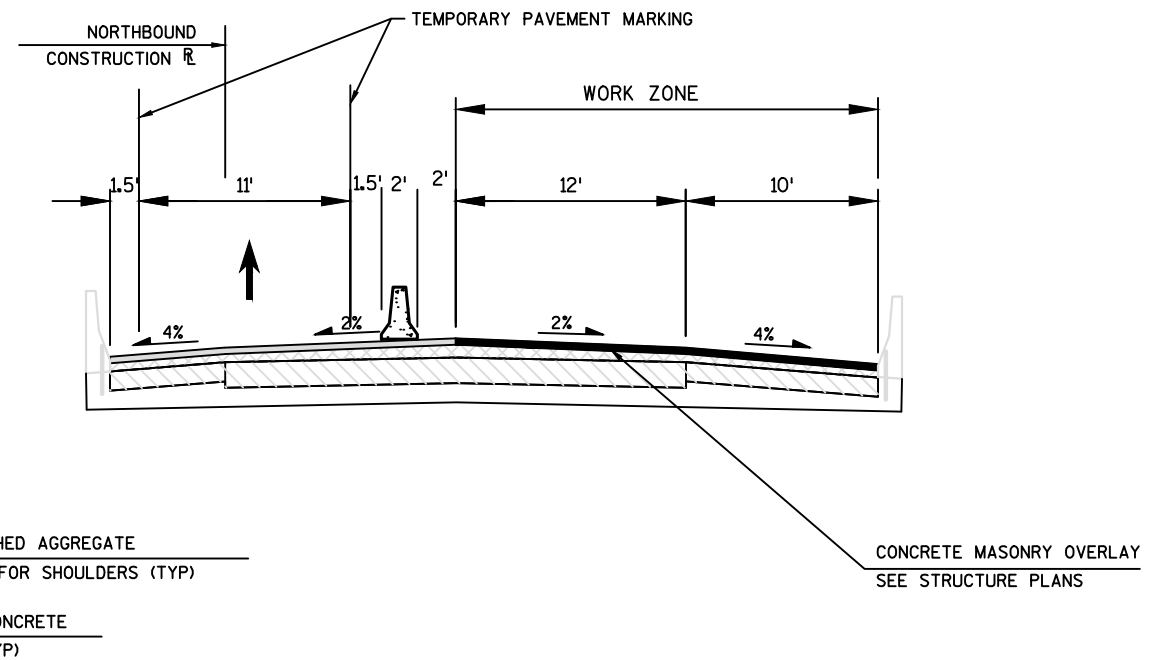
\*\*SEE BRIDGE APPROACH PAVING DETAIL FOR MORE INFORMATION\*\*



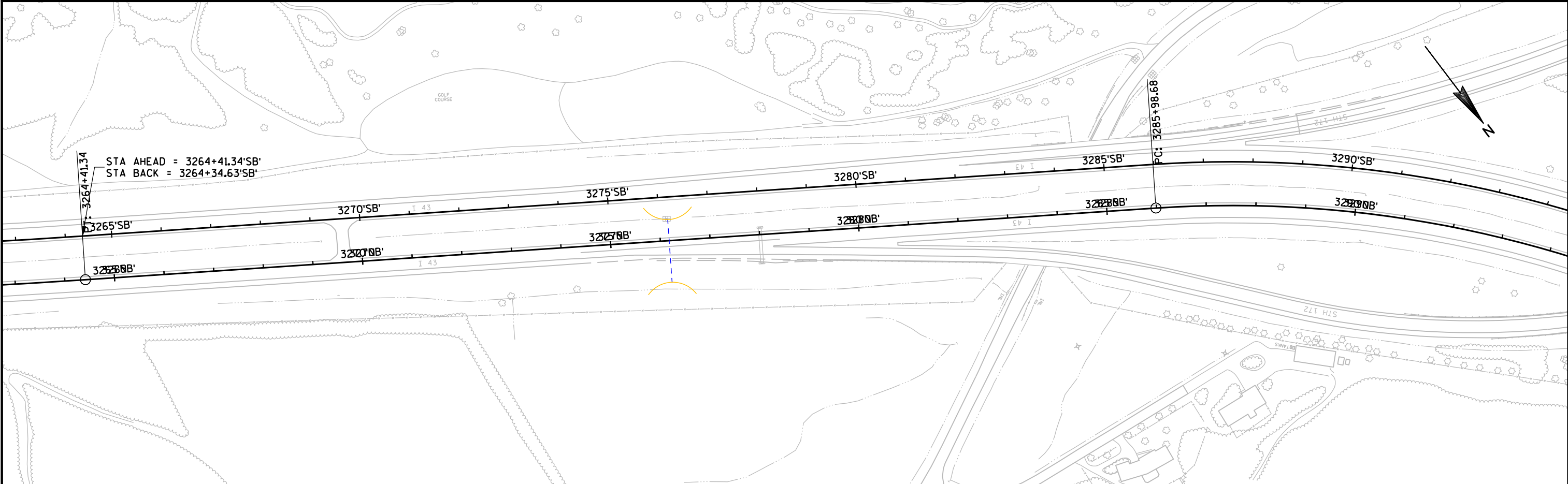
\*\*SEE INDIVIDUAL STRUCTURE PLANS FOR MORE INFORMATION\*\*

#### STAGE 2B FOR IH 43 AT STRUCTURES

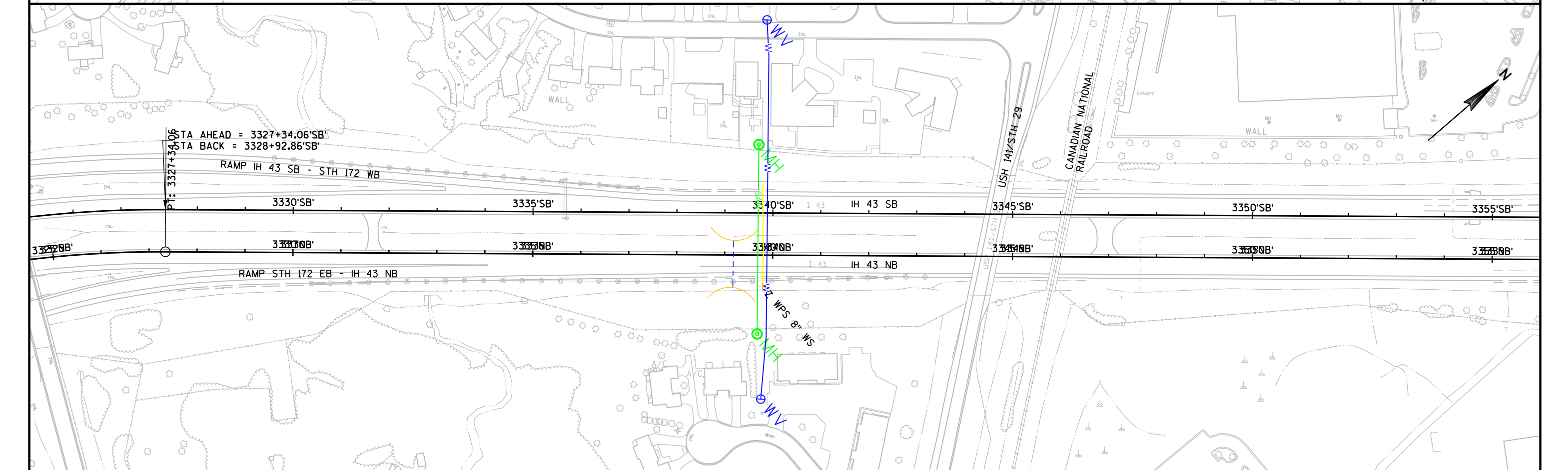
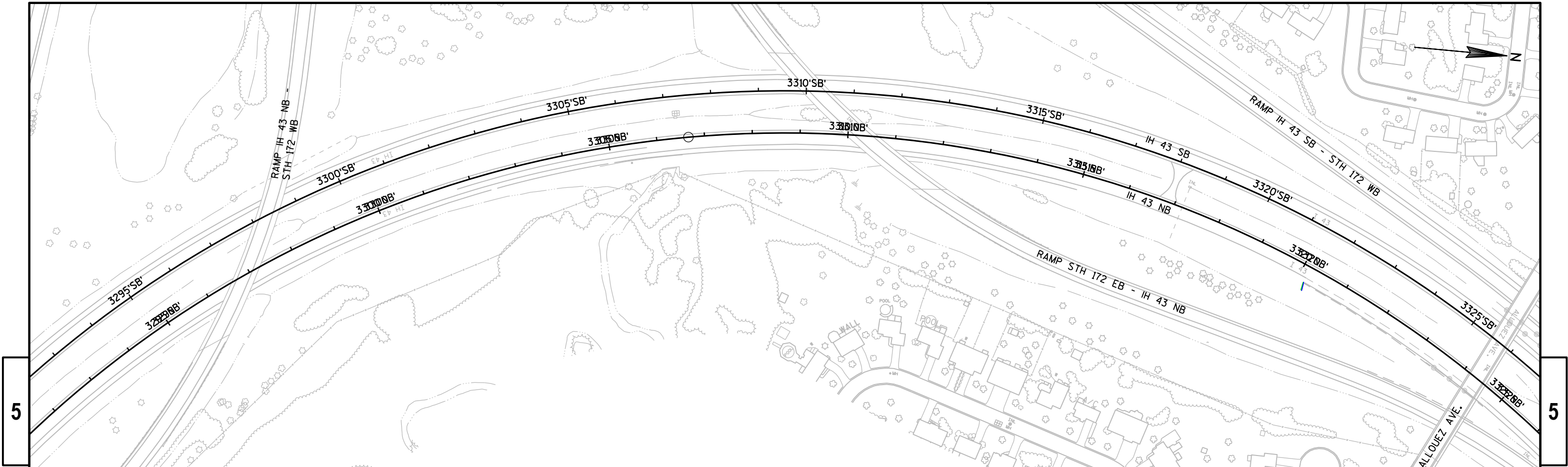
NORTHBOUND	SOUTHBOUND
B-5-203	B-5-202
B-5-206	B-5-205
B-5-209	B-5-208
B-5-213	B-5-212
B-5-216	B-5-215
B-5-220	B-5-219
B-5-222	B-5-221
B-5-224	B-5-224



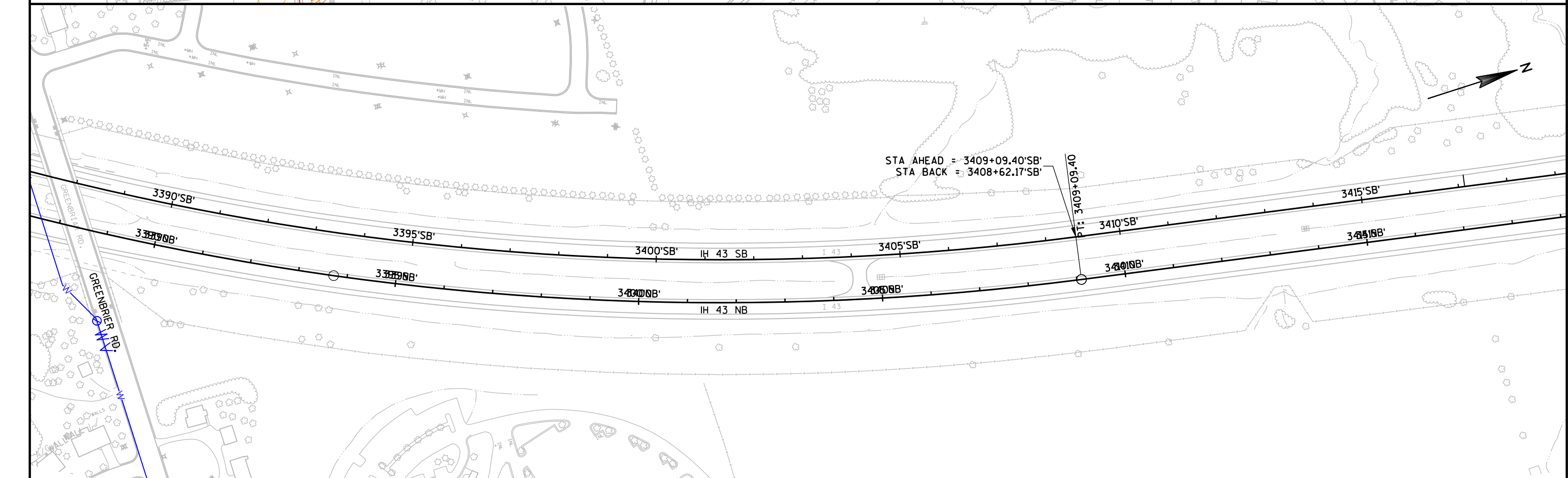
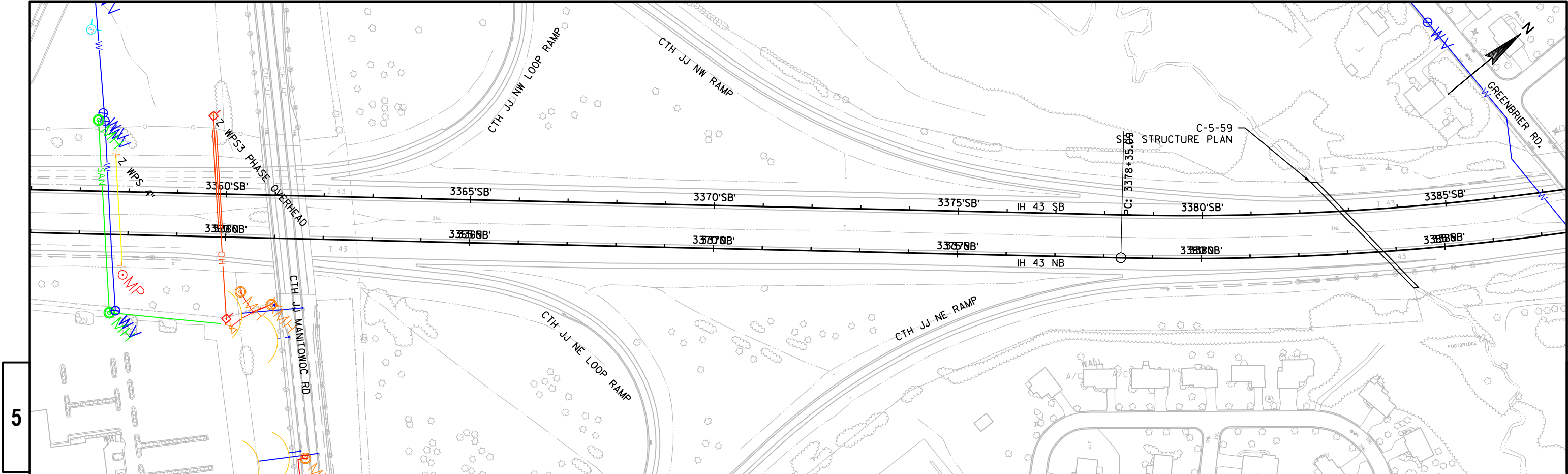
\*\*SEE BRIDGE APPROACH PAVING DETAIL FOR MORE INFORMATION\*\*



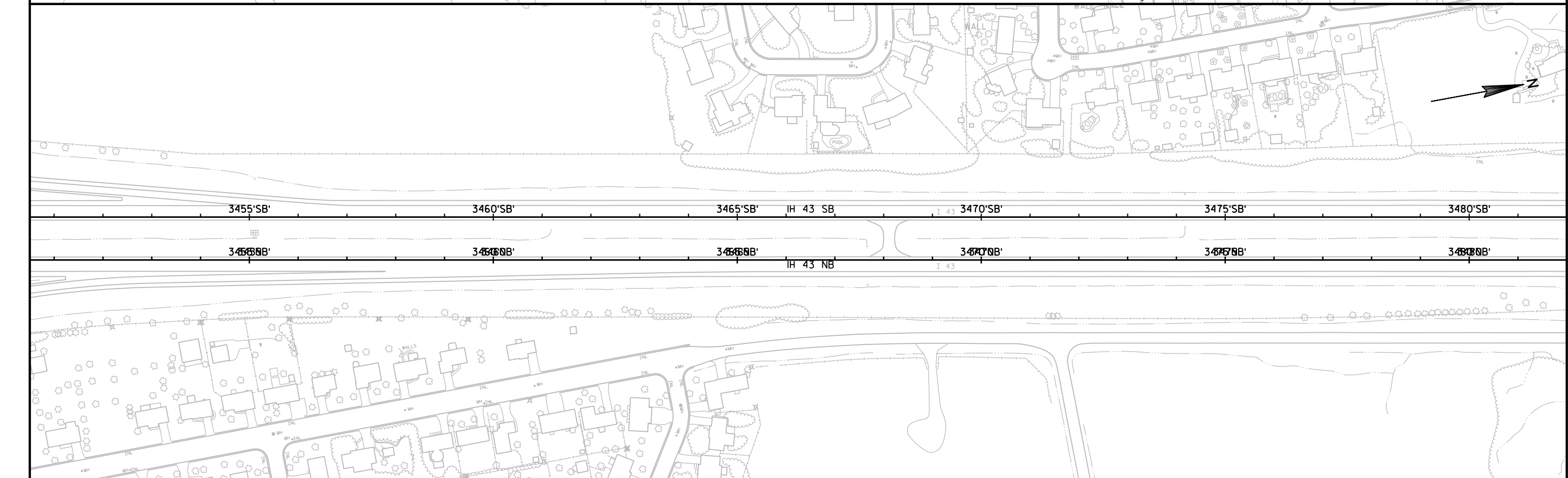
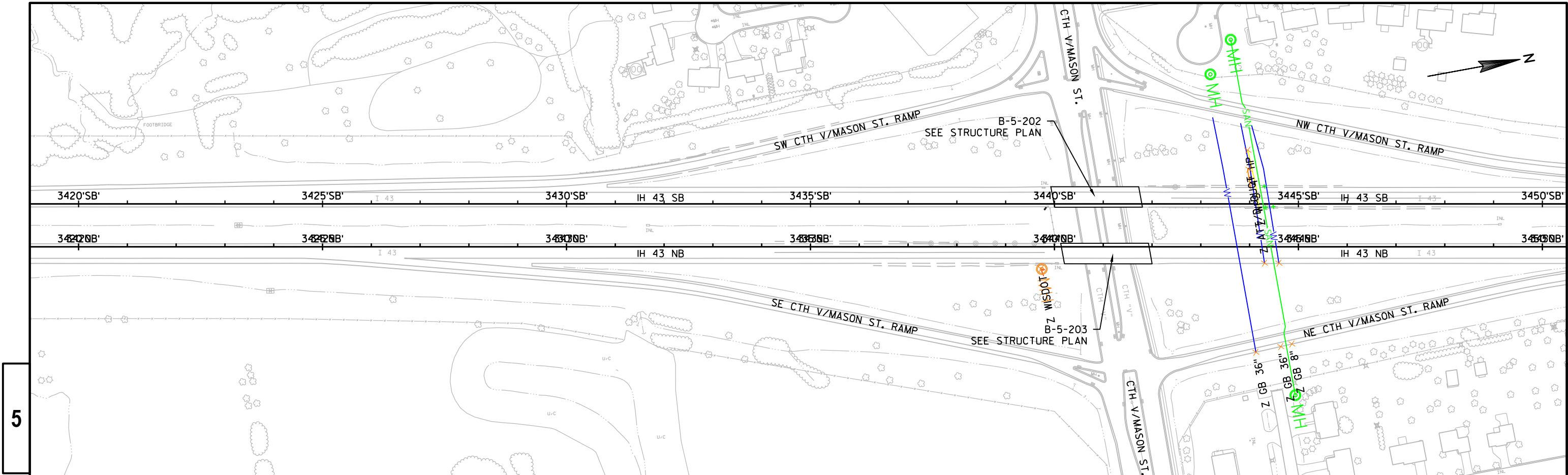
PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



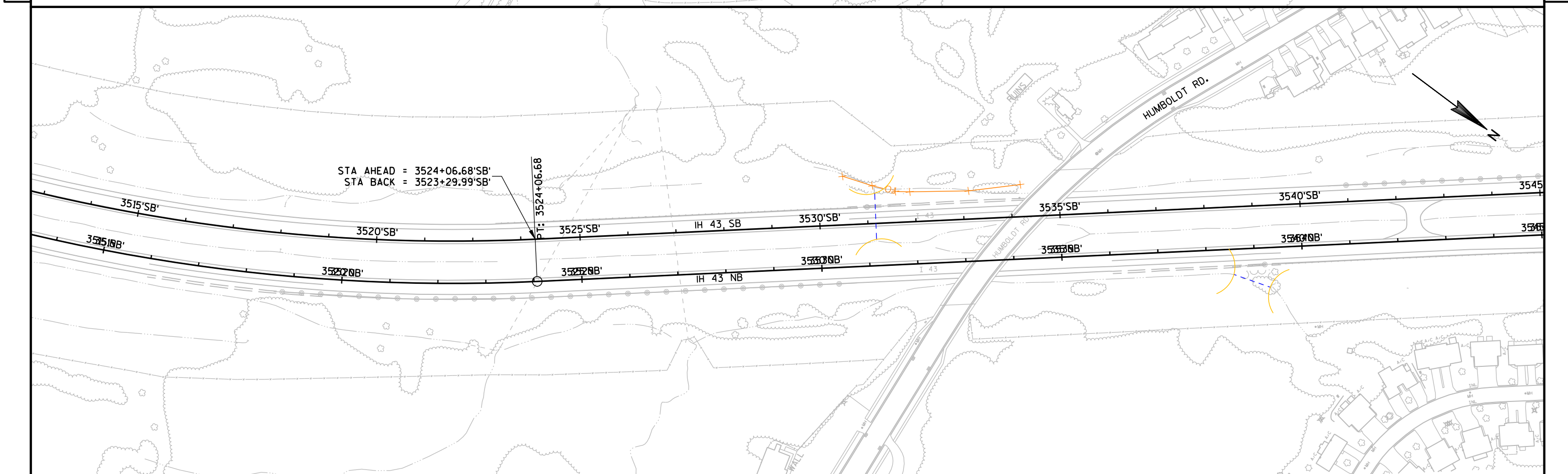
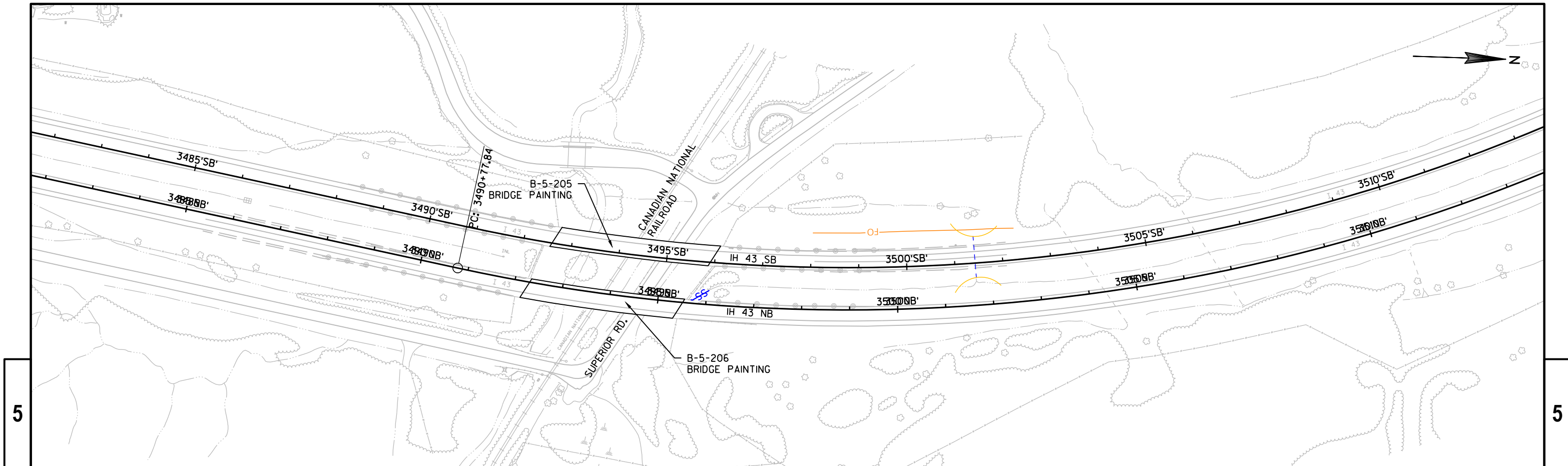
PROJECT NO:	1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
-------------	------------	------------	---------------	-------------	-------	---



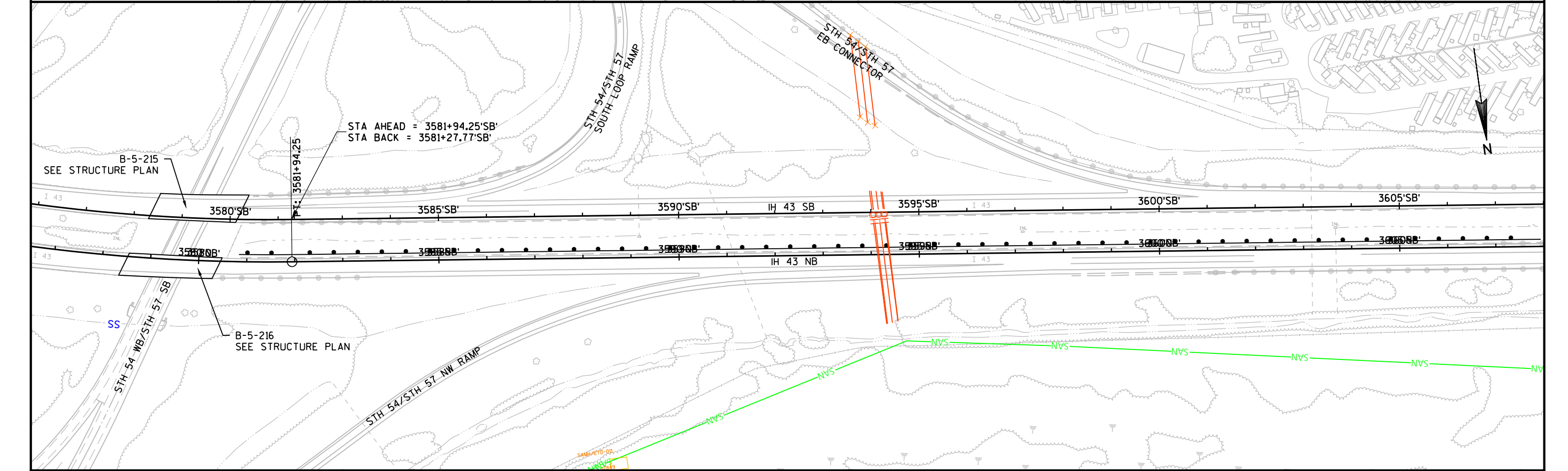
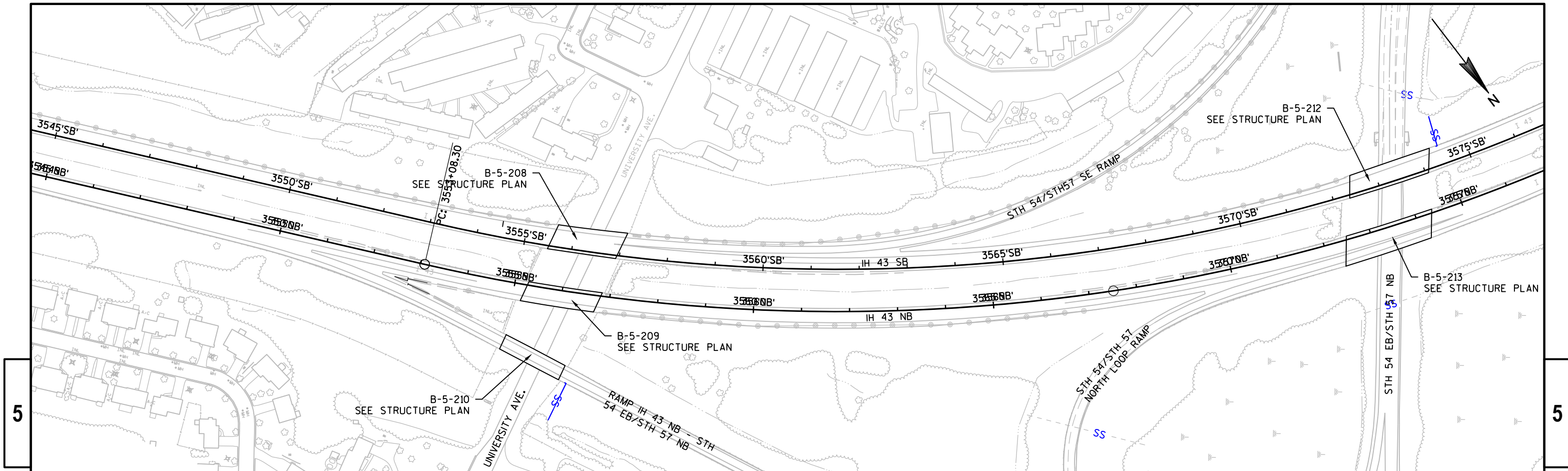
PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



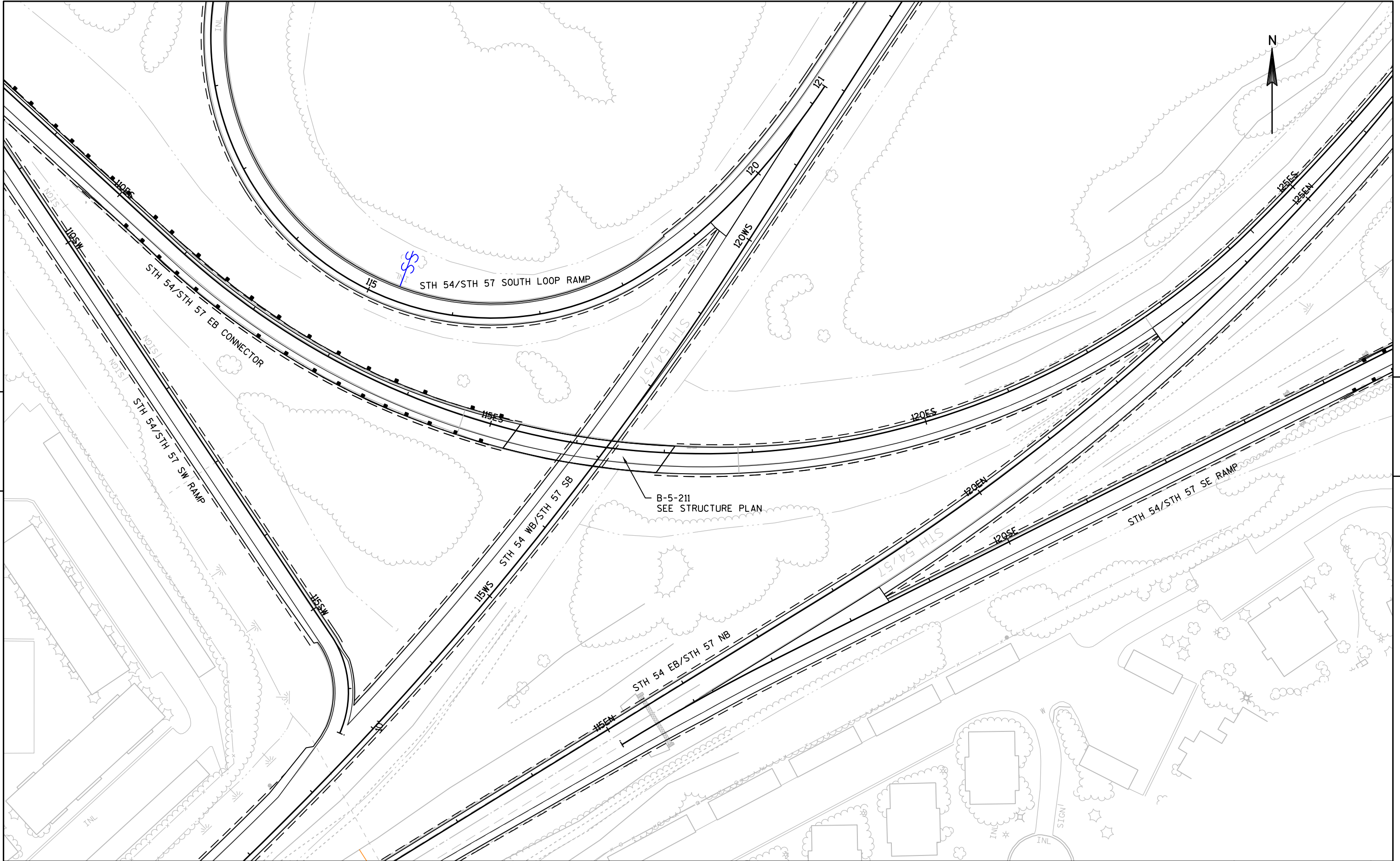
PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



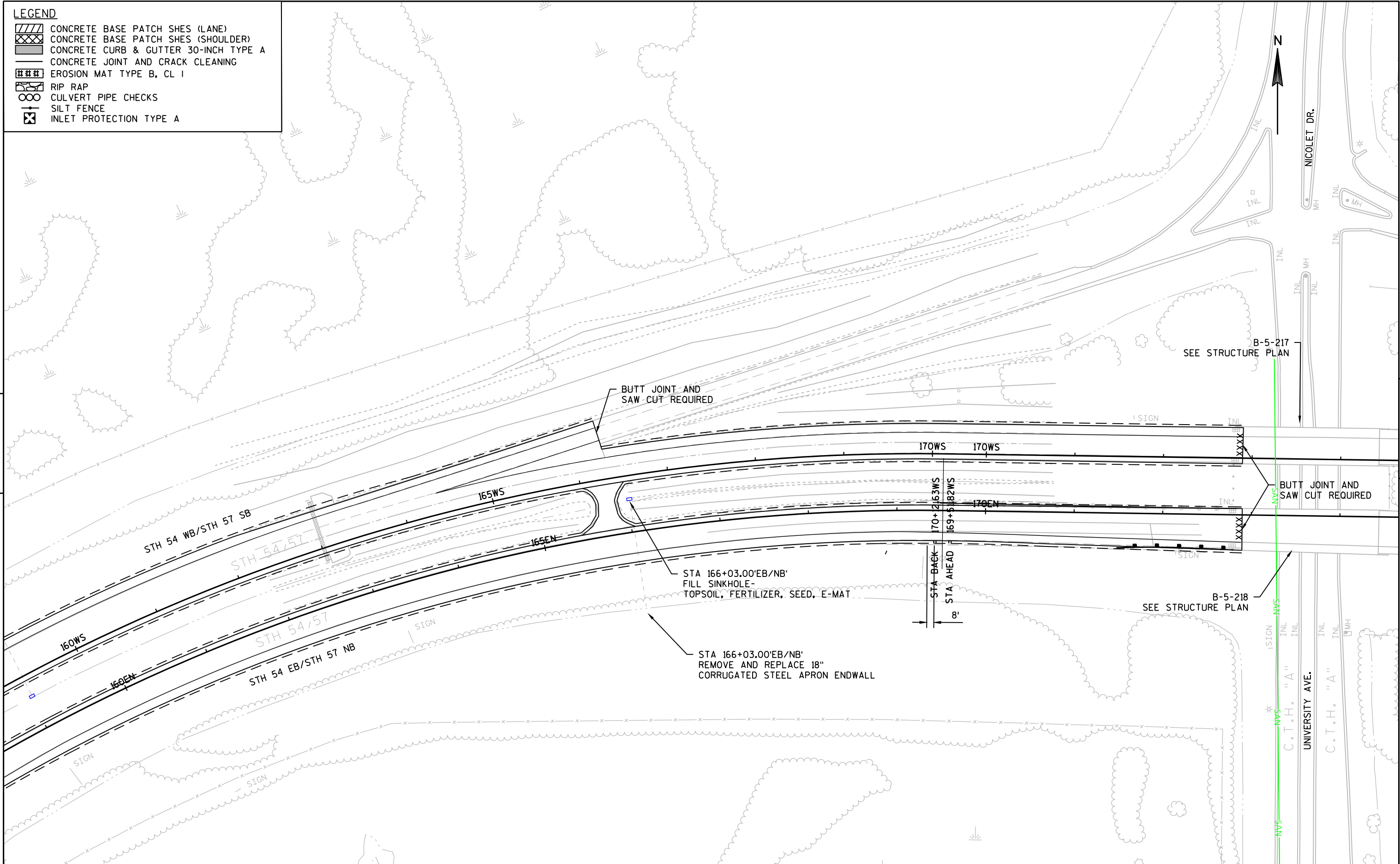
PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN - STH 54/STH 57 EB CONNECTOR AND SW RAMP	SHEET _____	<b>E</b>
------------------------	------------	---------------	---	-------------	----------

**LEGEND**

- CONCRETE BASE PATCH SHES (LANE)
- CONCRETE BASE PATCH SHES (SHOULDER)
- CONCRETE CURB & GUTTER 30-INCH TYPE A
- CONCRETE JOINT AND CRACK CLEANING
- EROSION MAT TYPE B, CL I
- RIP RAP
- CULVERT PIPE CHECKS
- SILT FENCE
- INLET PROTECTION TYPE A



PROJECT NO: 1227-08-73

HWY: IH 43

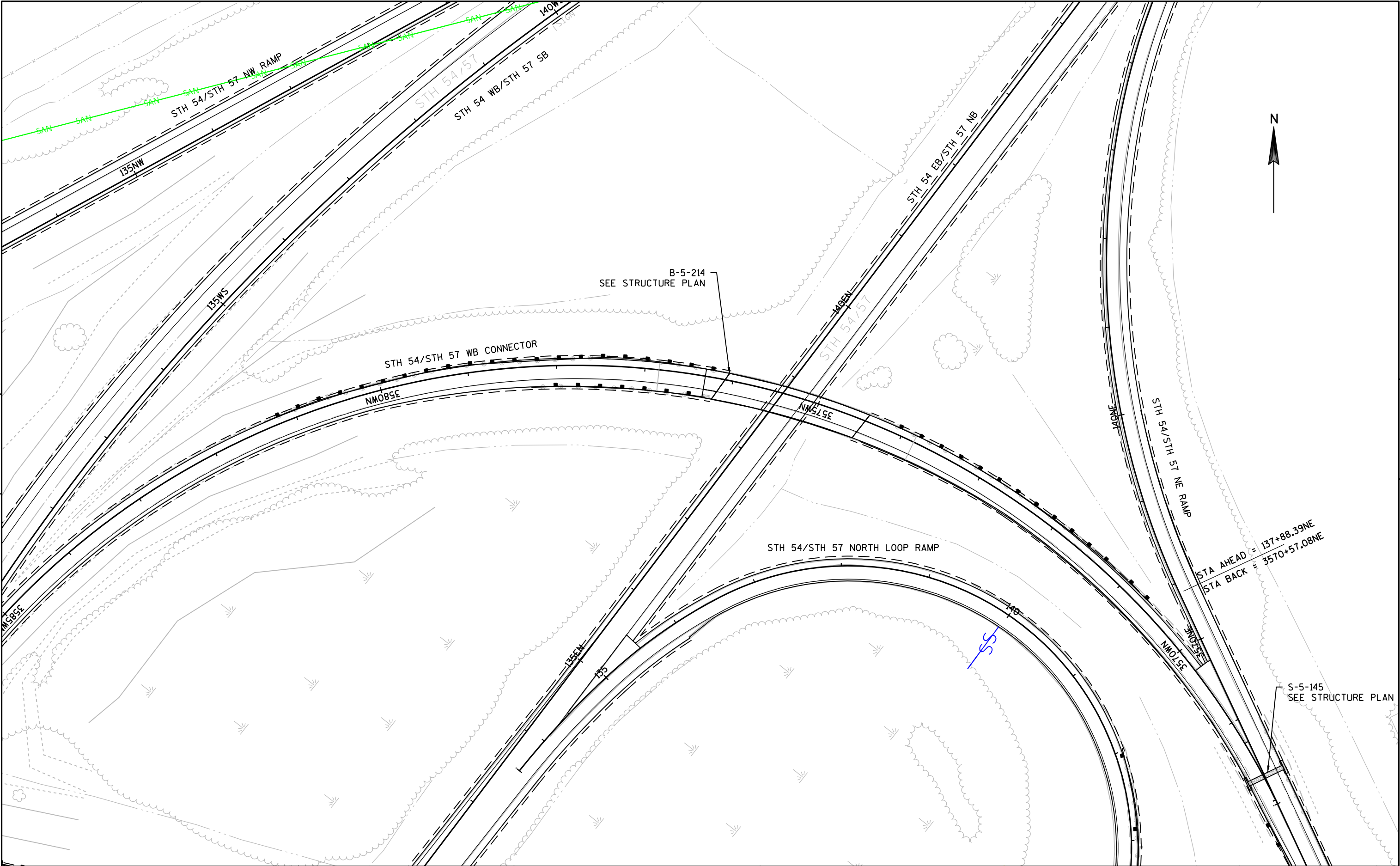
COUNTY: BROWN

PLAN STH 54/STH 57

SHEET

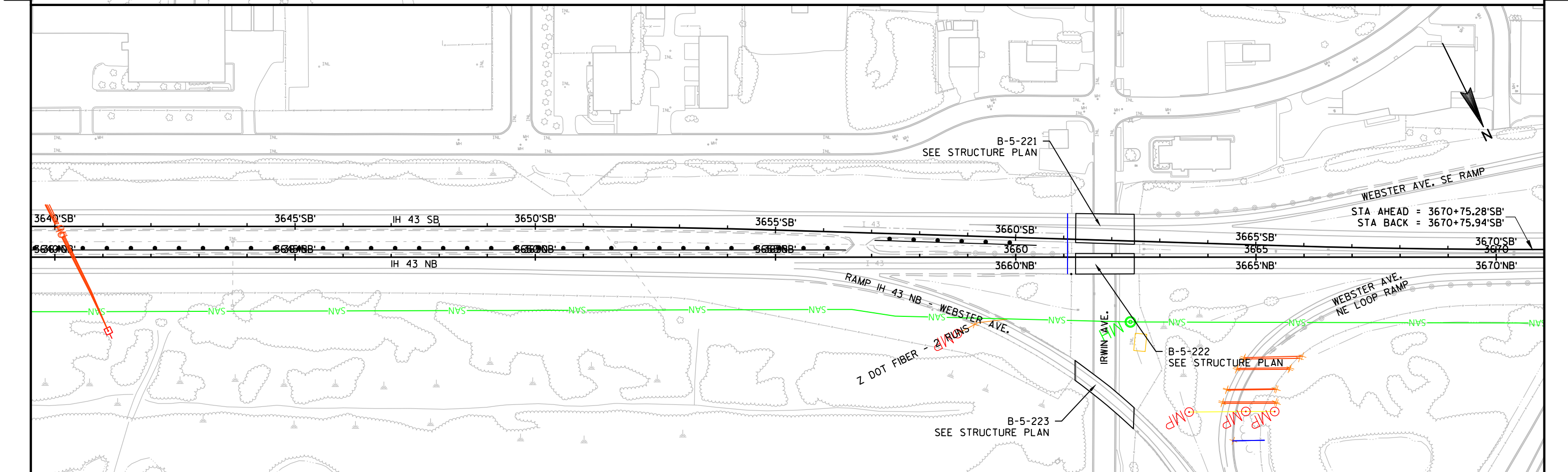
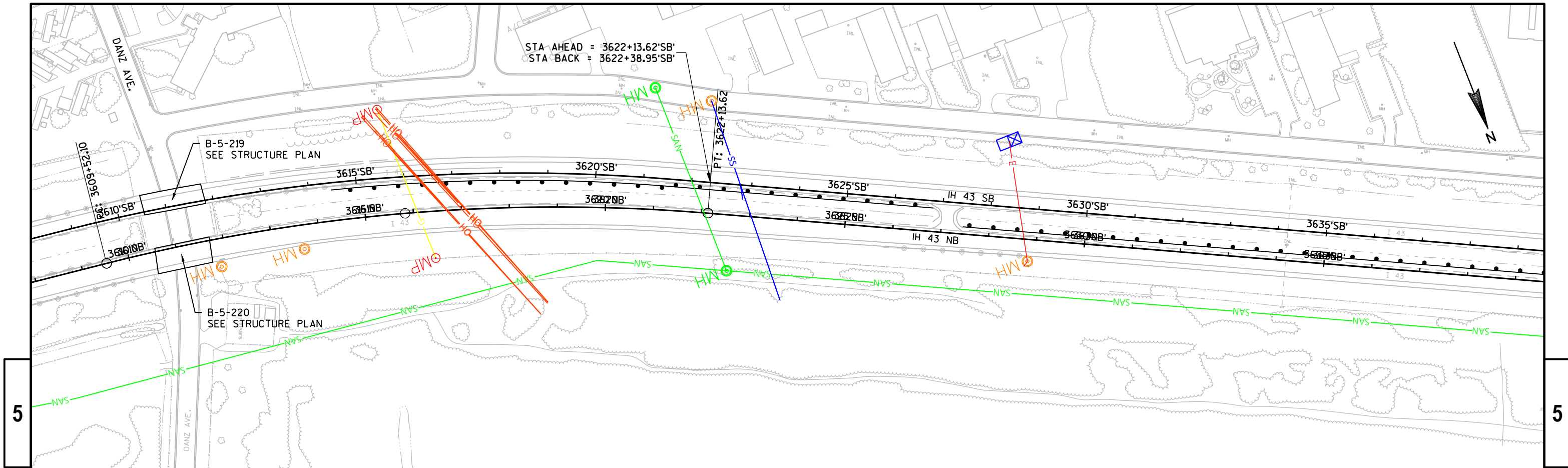
E

5

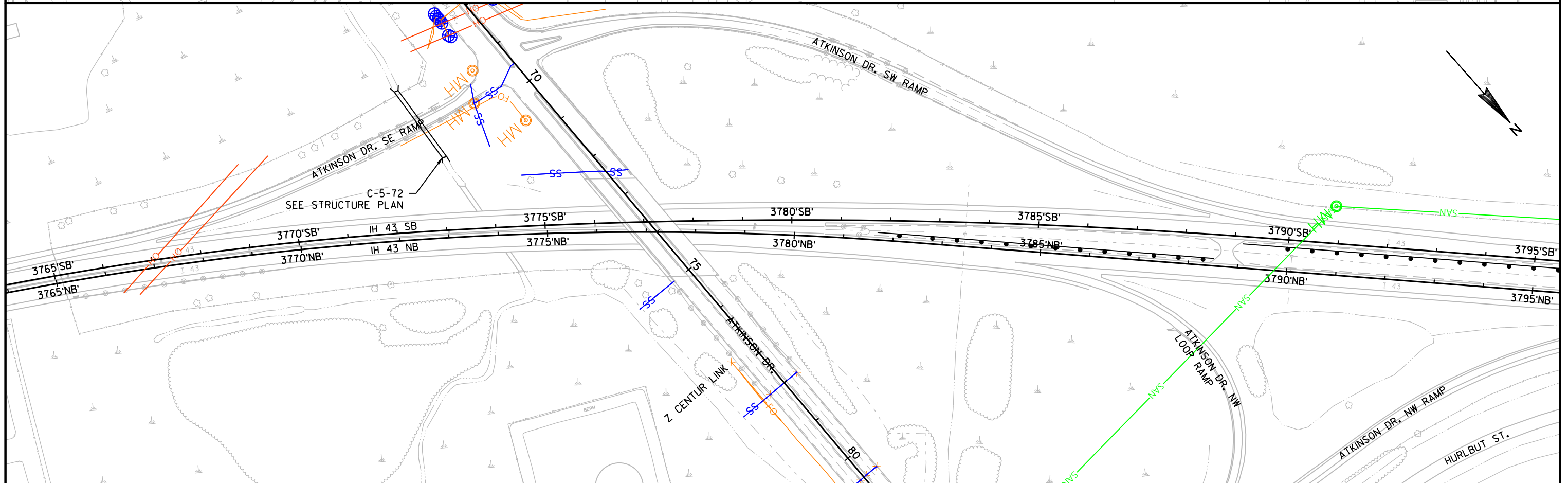
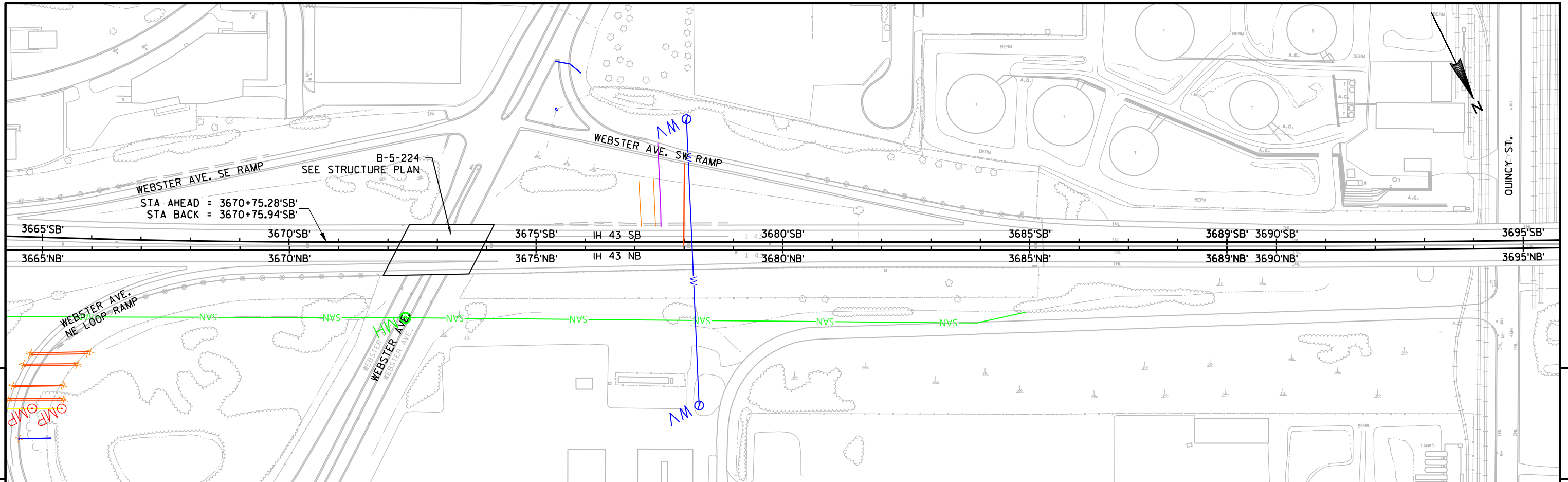


5

PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN - STH 54/STH 57 NE RAMP AND WB CONNECTOR	SHEET	E
------------------------	------------	---------------	---	-------	---

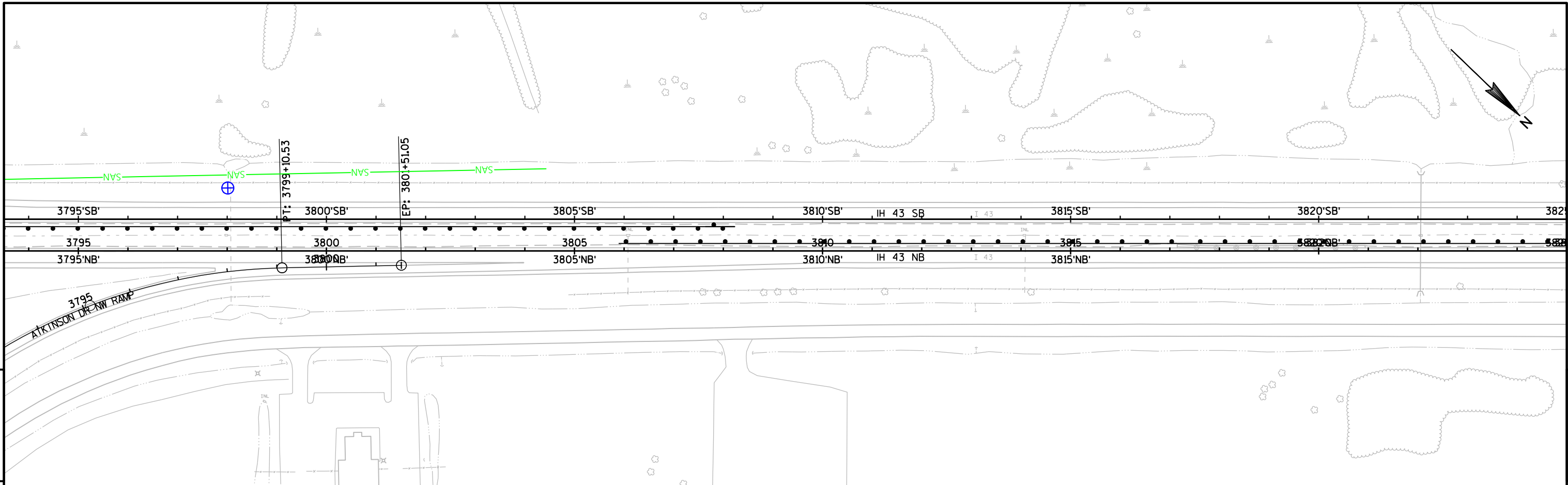


PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---

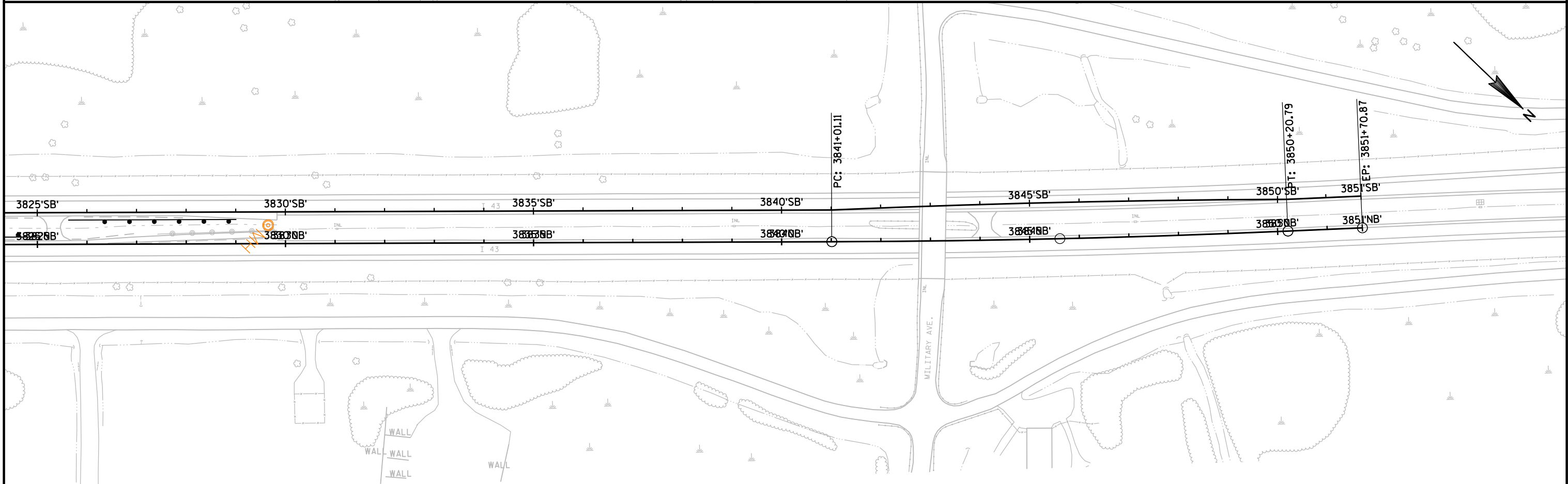


PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---

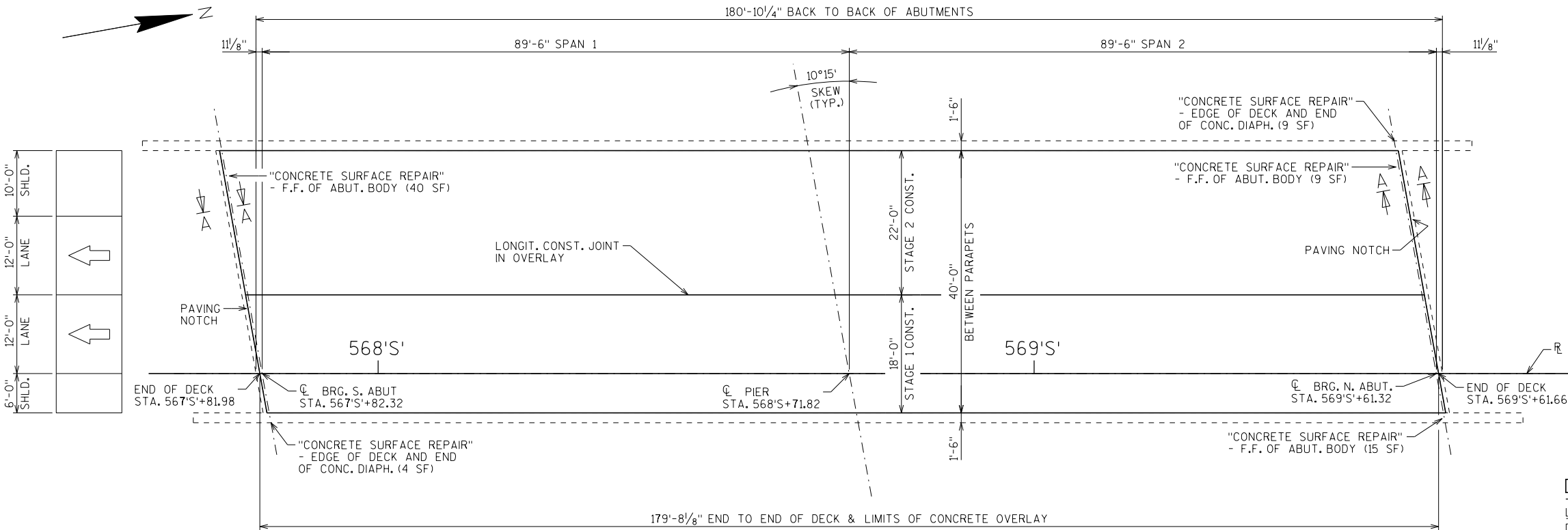
5



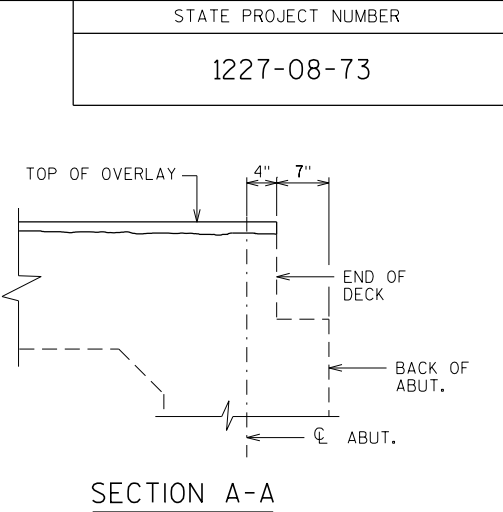
5



PROJECT NO: 1227-08-76	HWY: IH 43	COUNTY: BROWN	PLAN: IH 43	SHEET	E
------------------------	------------	---------------	-------------	-------	---



PLAN  
(2-SPAN STEEL GIRDER, CONCRETE OVERLAY)



DESIGN DATA

LIVE LOAD:  
DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS34  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:  
CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
ALL OTHER f'c = 3,500 P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

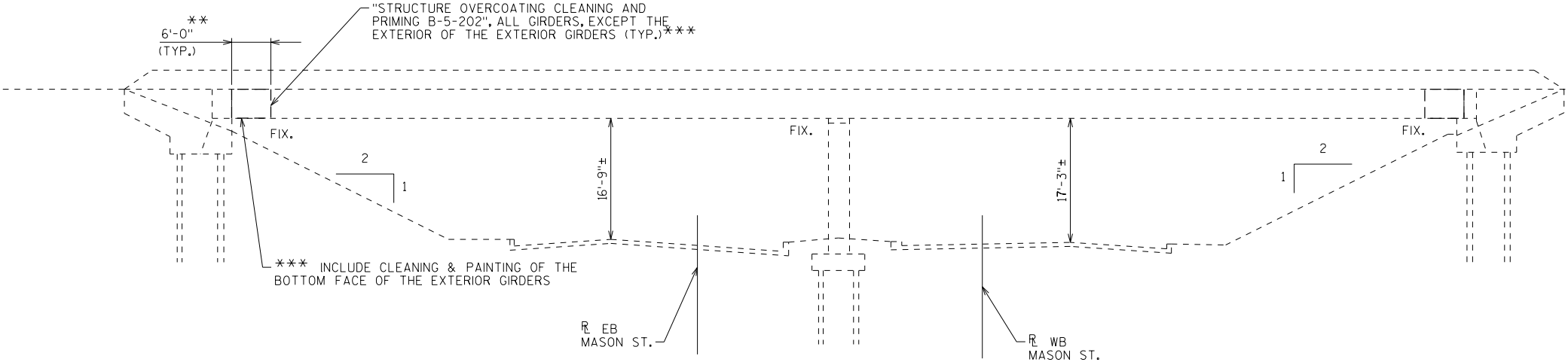
TRAFFIC VOLUME

IH 43  
A.D.T. = 30,400 (2036)  
R.D.S. = 70 MPH

E. MASON ST.  
A.D.T. = 20,000 (2036)  
R.D.S. = 45 MPH

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES



ELEVATION  
NORMAL TO MASON STREET  
(LOOKING WEST)



DATE: 02/03/2017

STRUCTURE DESIGN CONTACTS  
BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

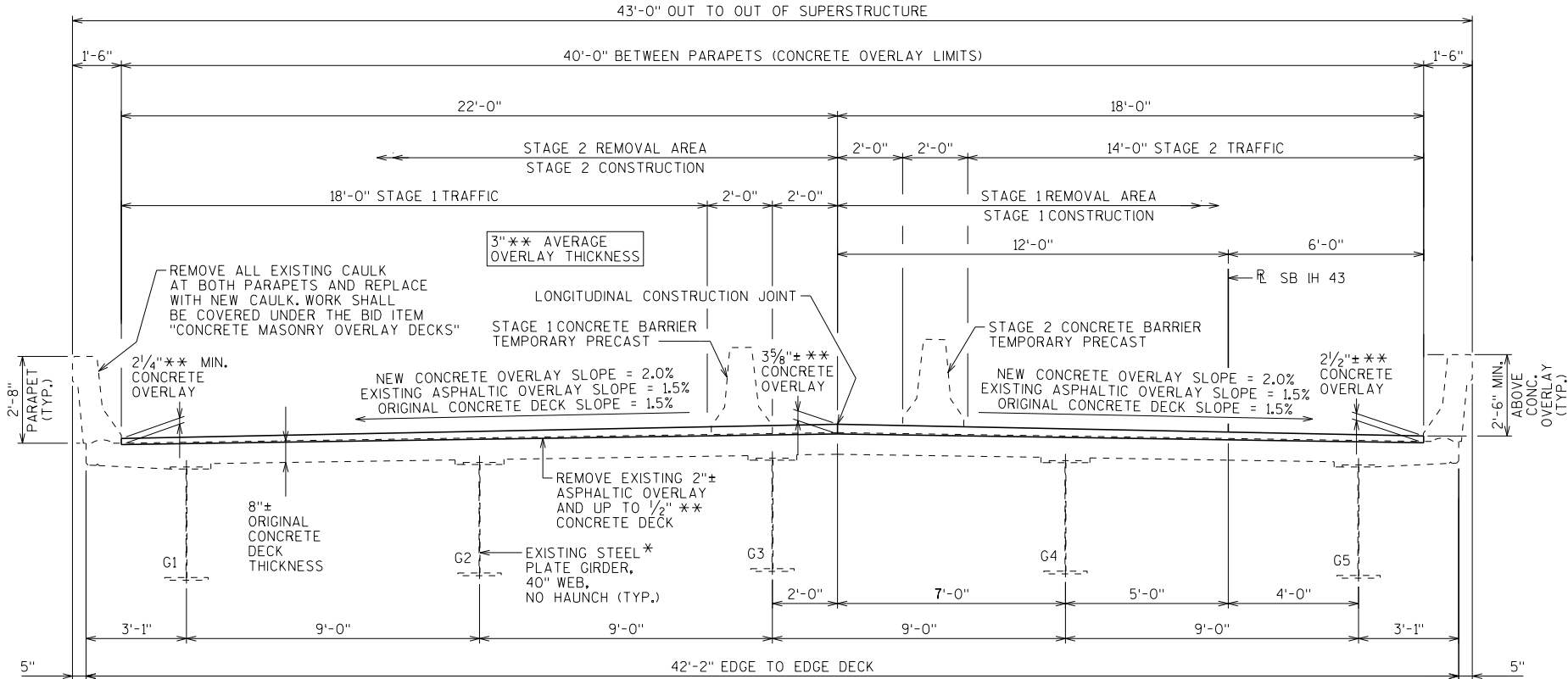
NO.	DATE	REVISION	BY
<div>exp. U.S. Services Inc. Milwaukee, WI BUILDINGS • EARTH &amp; ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY</div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-5-202			
IH 43 SB OVER MASON STREET			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JJG/YC	PLANS CK'D.	VCP
GENERAL PLAN & ELEVATION			SHEET 1 OF 2

\\S\02\A001.DGN, ..\BD02\A001.DGN, ..\S\XP2\A002.DGN, ..\AB88\A001.DGN, ..\S\XP2\A002.DGN  
CHUNYM  
2-03-2017, 13:52:34  
\\PCHIAPP004\AM\VAUL\I.D-TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\02\_B050202\VA\_EXP\SHEET\02\_S\02\A001.SHT

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	799	799
502.3210	PIGMENTED SURFACE SEALER	SY	8	8	137	153
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	80	80
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	30	30
509.0500	CLEANING DECKS	SY	-	-	799	799
509.1500	CONCRETE SURFACE REPAIR	SF	40	24	13	77
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	73	73
509.9010.S.01	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-202	SY	-	-	799	799
509.9050.S	CLEANING PARAPETS	LF	23	23	360	406
517.3000.S.02	STRUCTURE OVERCOATING CLEANING AND PRIMING B-5-202	LS	-	-	-	1
517.4000.S.02	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-202	LS	-	-	-	1

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.



CROSS SECTION THRU DECK LOOKING NORTH

\* WEATHERING STEEL  
\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

STATE PROJECT NUMBER

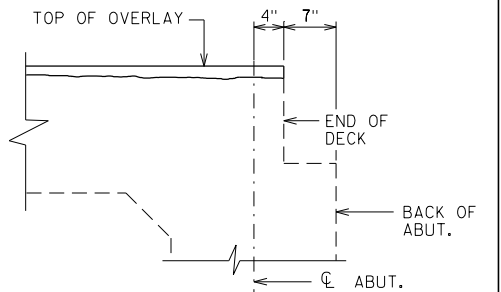
1227-08-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.  
THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-202".  
AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.  
ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1INCH DEEP SAW CUT.  
PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2 1/4" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION, EXPECTED AVERAGE OVERLAY THICKNESS IS AS GIVEN ON THE PLANS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.  
ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".  
UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND MINIMUM 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.

CLEAN AND PAINT THE END 6 FEET OF ALL STRUCTURAL WEATHERING STEEL AT BOTH ABUTMENTS, EXCEPT THE EXTERIOR OF THE EXTERIOR GIRDERS. USE A FEDERAL STANDARD COLOR NO. 20059 (BROWN) FOR THE TOP COAT.  
CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".  
APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.  
APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-202			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 2



SECTION A-A

MATERIAL PROPERTIES:

CONCRETE MASONRY:	OVERLAY DECKS	f'c = 4,000 P.S.I.
	ALL OTHER	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		fy = 60,000 P.S.I.

<u>IH 43</u> A.D.T. = 30,400 (2036) R.D.S. = 70 MPH	<u>E. MASON ST.</u> A.D.T. = 20,000 (2036) R.D.S. = 45 MPH
---	--


1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES



DATE: 02/03/2017

BRIDGE OFFICE: WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT: VINOD PATEL, P.E.  
(312) 616-7395

NO.	DATE	REVISION		BY
 <b>exp U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY				
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
ACCEPTED _____		_____		
CHIEF STRUCTURES DESIGN ENGINEER		DATE		
STRUCTURE B-5-203				
IH 43 NB OVER MASON STREET				
COUNTY	BROWN	TOWN/CITY/VILLAGE GREEN BAY		
DESIGN SPEC. N/A				
REHABILITATION				
DESIGNED BY	YC	DESIGN CK'D.	VCP	DRAWN BY JYG/YC
				PLANS CK'D. VCP
GENERAL PLAN & ELEVATION			SHEET 1 OF 2	

8

FILENAME

[illegible]

## GENERAL NOTES

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-203".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2",  
"CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR"  
AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2 1/4" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS AS GIVEN ON THE PLANS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT  
ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE  
MASONRY OVERLAY DECKS".

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

CLEAN AND PAINT THE END 6 FEET OF ALL STRUCTURAL WEATHERING STEEL AT BOTH ABUTMENTS, EXCEPT THE EXTERIOR OF THE EXTERIOR GIRDERS. USE A FEDERAL STANDARD COLOR NO. 20059 (BROWN) FOR THE TOP COAT.

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED  
DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN  
PARAPETS.

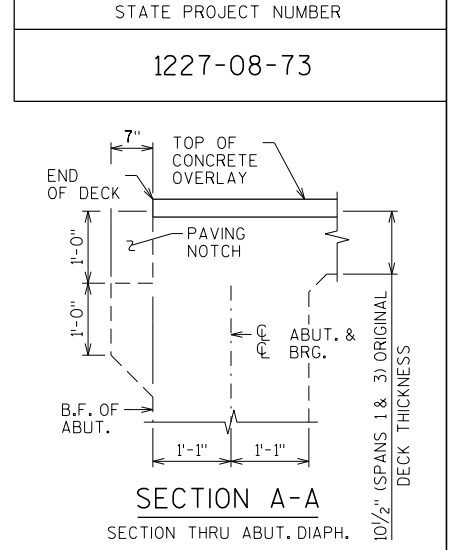
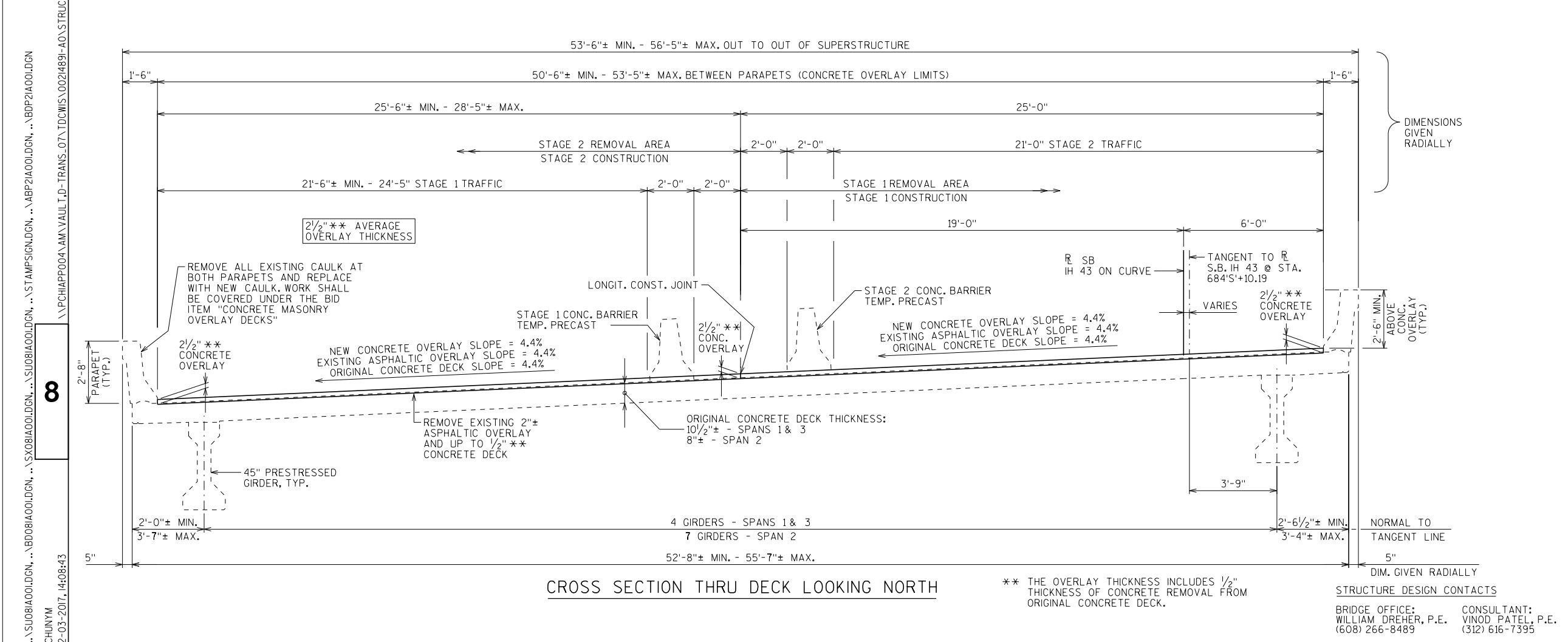
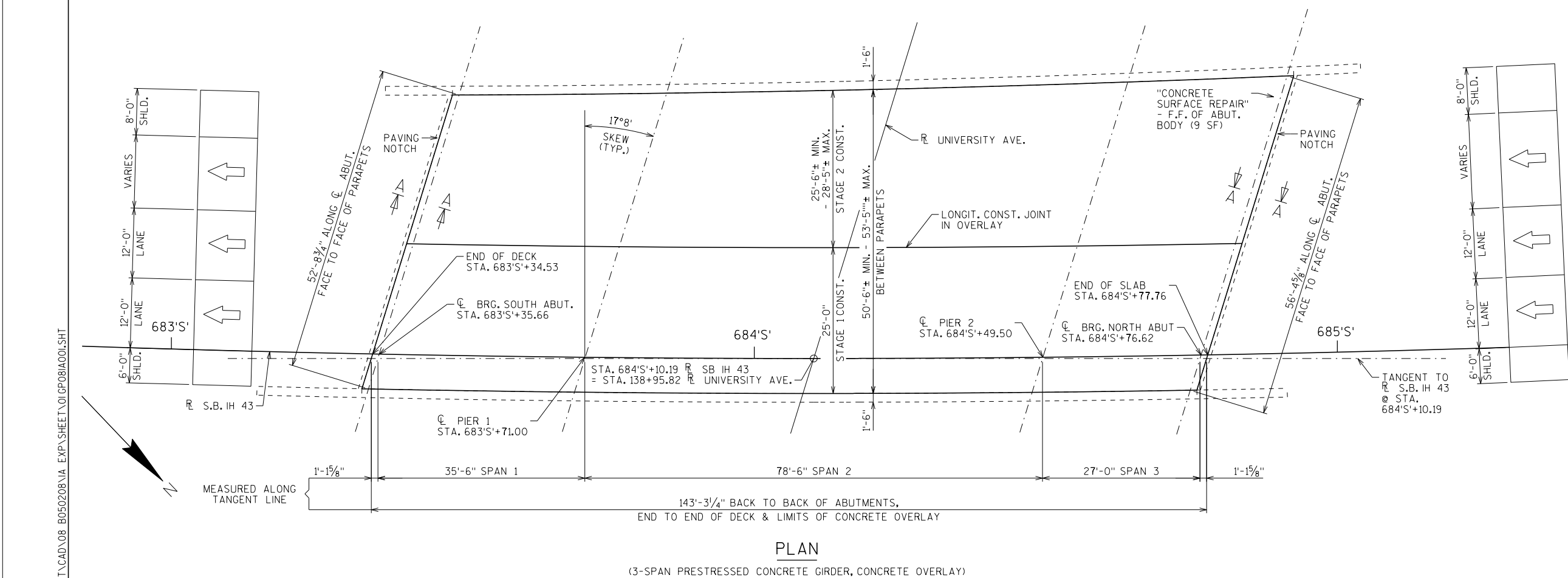
APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP  
FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



\* WEATHERING STEEL

THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-203			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES		SHEET 2 OF 2	



DATE: 02/03/2017

LIST OF DRAWINGS

- 1. GENERAL PLAN & CROSS SECTION
- 2. QUANTITIES & NOTES

NO.	DATE	REVISION	BY
exp. U.S. Services Inc. Milwaukee, WI			
BUILDINGS • EARTH & ENVIRONMENT • ENERGY			
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-5-208			
IH 43 SB OVER UNIVERSITY AVENUE			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JUG/YC	PLANS CK'D.	VCP
GENERAL PLAN & CROSS SECTION			SHEET 1 OF 2

\\PCHAPP004\AM\VAUL\I.D.-TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\08\_B050208\IA EXP\Sheet\01GP08IA001.SHT  
\\SU08IA001.DGN, ..\SU08IA001.DGN, ..\STAMPSIGN.DGN, ..\ABP2IA001.DGN, ..\BDP2IA001.DGN  
CHUNYM  
2-03-2017, 14:08:43

BRIDGE OFFICE:  
WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT:  
VINOD PATEL, P.E.  
(312) 616-7395

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	831	831
502.3210	PIGMENTED SURFACE SEALER	SY	10	9	110	129
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	83	83
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	33	33
509.0500	CLEANING DECKS	SY	-	-	831	831
509.1500	CONCRETE SURFACE REPAIR	SF	-	9	25	34
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	65	65
509.9010.S.03	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-208	SY	-	-	831	831
509.9050.S	CLEANING PARAPETS	LF	30	27	288	345

## CURVE DATA

## TRAFFIC VOLUME

## DESIGN DATA

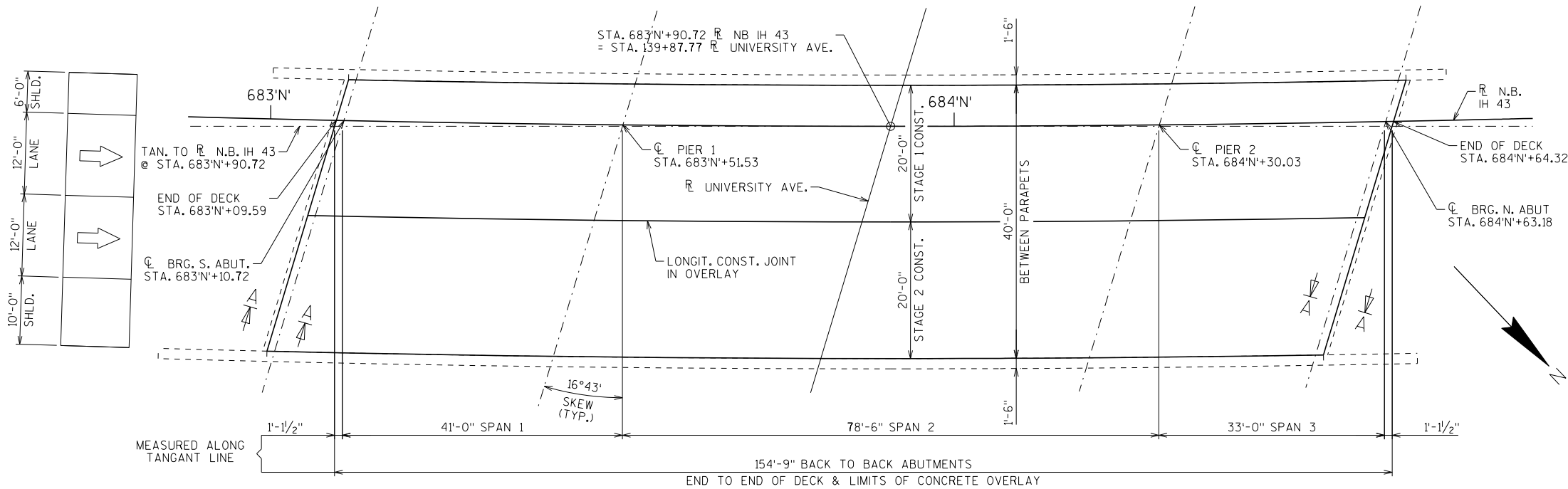
<b>MATERIAL PROPERTIES:</b>		
CONCRETE MASONRY:	OVERLAY DECKS	f'c = 4,000 P.S.I.
	ALL OTHER	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		fy = 60,000 P.S.I.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP  
FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

\\S\09\IA001.DGN, ..\BD09\IA001.DGN, ..\STAMP\SIGN.DGN, ..\ABP2\IA001.DGN, ..\BDP2\IA001.DGN  
CHUNYM  
2-03-2017, 14:42:08

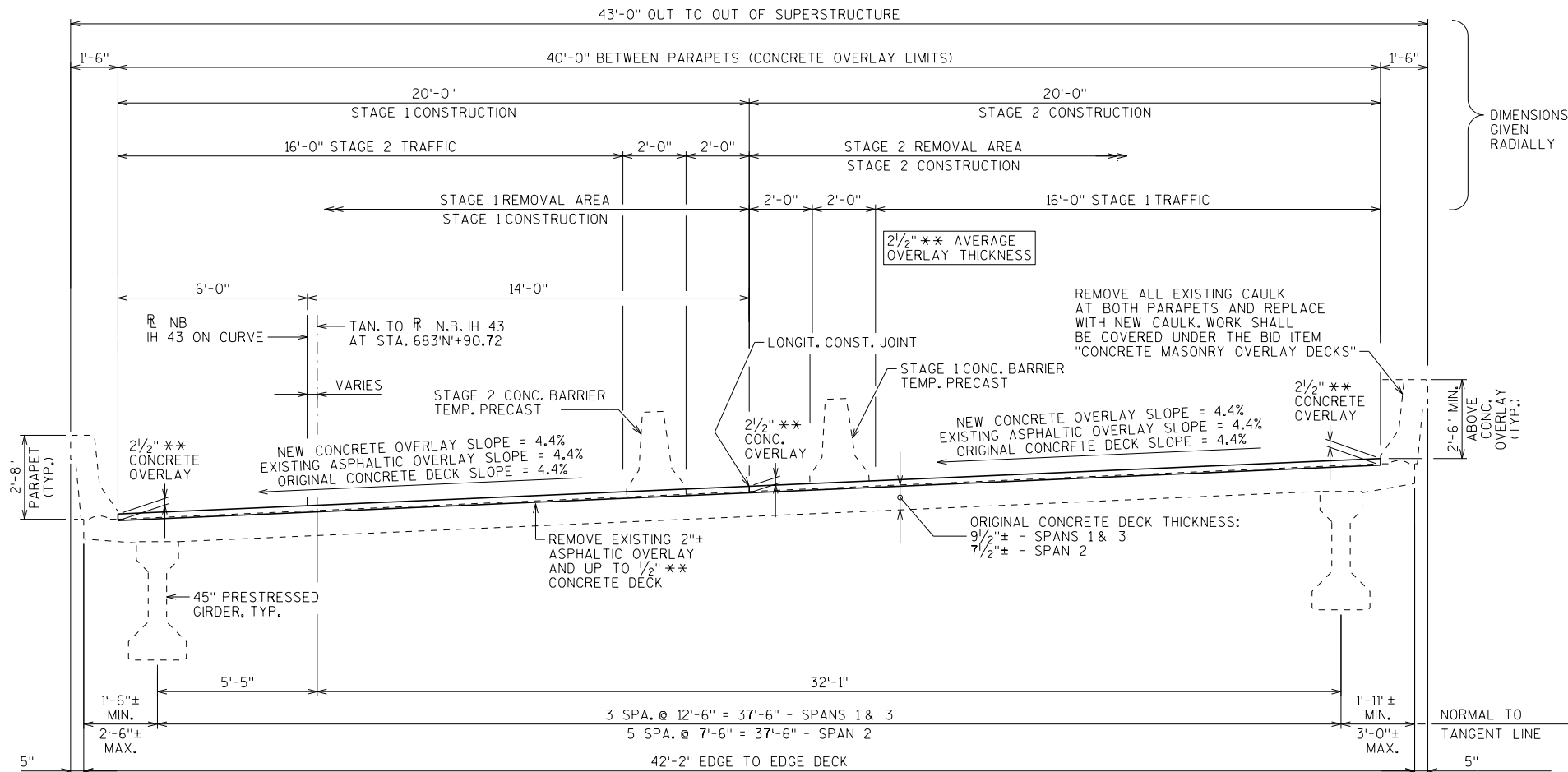
\\PCH\APP004\AM\VAUL\I.D-TRANS\_07\TDC\WIS\00214891-A0\STRUCT\CAD\09\_B050209\IA\_EXP\Sheet\01GP09\IA001.SHT

8



### PLAN

(3-SPAN PRESTRESSED CONCRETE GIRDER, CONCRETE OVERLAY)

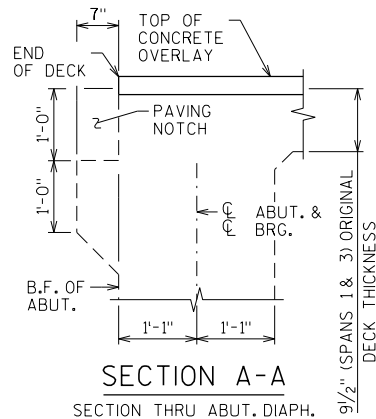


### CROSS SECTION THRU DECK LOOKING NORTH

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

STATE PROJECT NUMBER

1227-08-73



### DESIGN DATA

LIVE LOAD:  
DESIGN LOADING: HS20  
INVENTORY RATING: HS14  
OPERATING RATING: HS23  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 230 KIPS

MATERIAL PROPERTIES:  
CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
ALL OTHER f'c = 3,500 P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

### TRAFFIC VOLUME

IH 43 UNIVERSITY AVE  
A.D.T. = 40,400 (2036) A.D.T. = 20,000 (2036)  
R.D.S. = 70 MPH R.D.S. = 40 MPH

### LIST OF DRAWINGS

- GENERAL PLAN & CROSS SECTION
- QUANTITIES & NOTES



DATE: 02/03/2017

### STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

NO.	DATE	REVISION	BY
<b>exp. U.S. Services Inc.</b> Milwaukee, WI BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-5-209			
IH 43 NB OVER UNIVERSITY AVENUE			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JJG/YC	PLANS CK'D.	VCP
GENERAL PLAN & CROSS SECTION			SHEET 1 OF 2

8

FILENAME  
SCALE

STATE PROJECT NUMBER

1227-08-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	689	689
502.3210	PIGMENTED SURFACE SEALER	SY	10	9	118	137
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	69	69
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	28	28
509.0500	CLEANING DECKS	SY	-	-	689	689
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	12	12
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	54	54
509.9010.S.04	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-209	SY	-	-	689	689
509.9050.S	CLEANING PARAPETS	LF	28	26	310	364

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".

THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

CURVE DATA

R N.B. IH 43

PI = STA. 696'N'+07.459

Δ = 43°-17'-25.48"

D = 1°-30'-00"

T = 1515.82'

L = 2886.027'

R = 3819.719'

SE = 4.4%

RO = 201.00'

PC = STA. 680'N'+91.639

PT = STA. 709'N'+77.665

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-209".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

8

8

NO. DATE

REVISION

BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

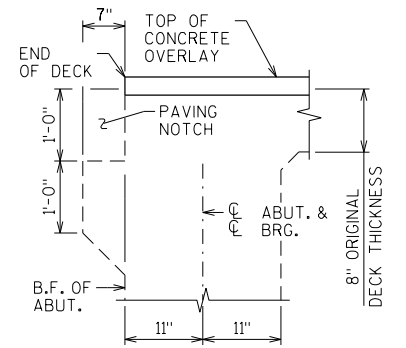
STRUCTURE B-5-209

DRAWN BY YC

PLANS CK'D. VCP

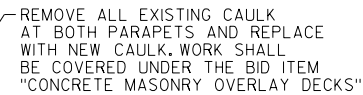
QUANTITIES & NOTES

SHEET 2 OF 2



SECTION A-A  
SECTION THRU ABUT. DIAPH.

## (3-SPAN PRESTRESSED CONCRETE GIRDER, CONCRETE OVERLAY)



☆ NEW CONCRETE OVERLAY SLOPE = 1.5%  
EXISTING ASPHALTIC OVERLAY SLOPE = 1.5%  
ORIGINAL CONCRETE DECK SLOPE = 1.5%

\*\* THE OVERLAY THICKNESS INCLUDES 1/2"  
 THICKNESS OF CONCRETE REMOVAL FROM  
 ORIGINAL CONCRETE DECK.

CONCRETE MASONRY:	OVERLAY DECKS	f'c = 4,000 P.S.I.
	ALL OTHER	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		f <sub>y</sub> = 60,000 P.S.I.

<u>RAMP IH 43 NB - NB STH 53</u>	<u>UNIVERSITY AVE</u>
A.D.T. = 40,400 (2036)	A.D.T. = 20,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 40 MPH

1. GENERAL PLAN & CROSS SECTION
2. QUANTITIES & NOTES



DATE: 02/03/2017

BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395

[illegible]

8

8

STATE PROJECT NUMBER

1227-08-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	478	478
502.3210	PIGMENTED SURFACE SEALER	SY	9	8	106	123
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	48	48
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	19	19
509.0500	CLEANING DECKS	SY	-	-	478	478
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	37	37
509.9010.S.05	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-210	SY	-	-	478	478
509.9050.S	CLEANING PARAPETS	LF	26	24	278	328

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".

THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-210".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER, INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

8

8

NO. DATE REVISION BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-210

DRAWN BY YC

PLANS CK'D. VCP

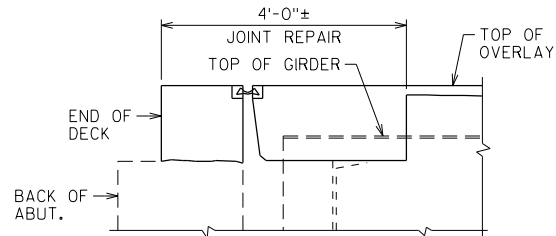
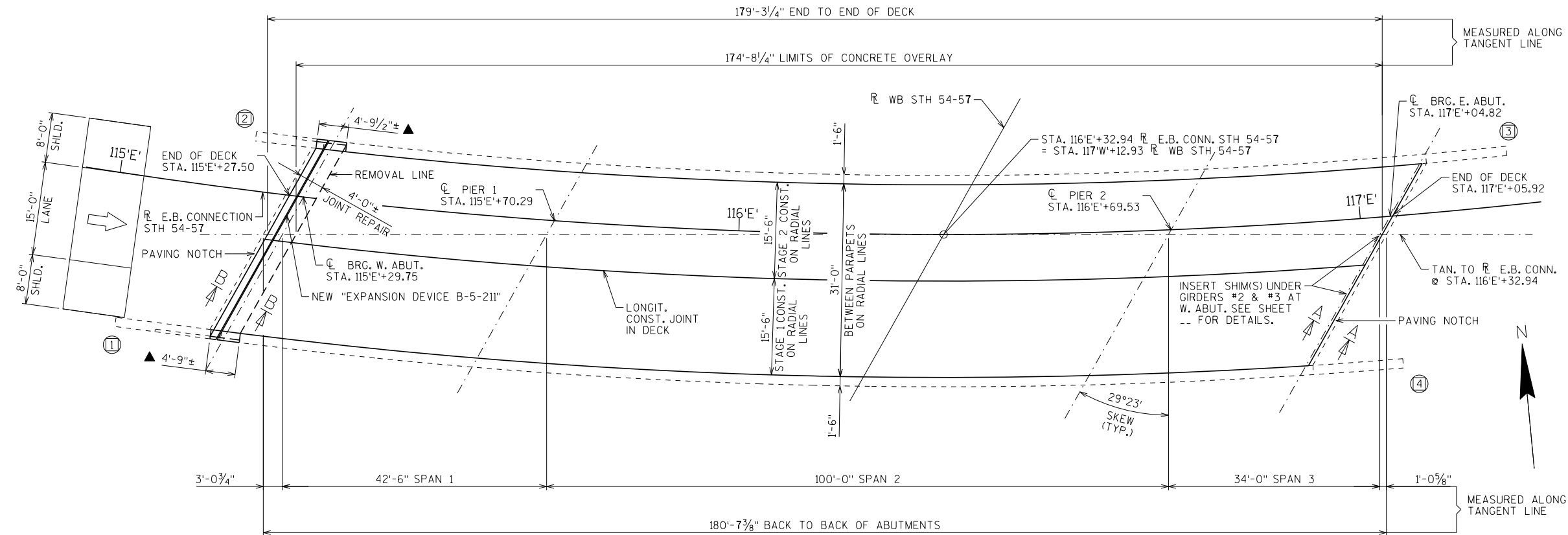
QUANTITIES & NOTES

SHEET 2 OF 2

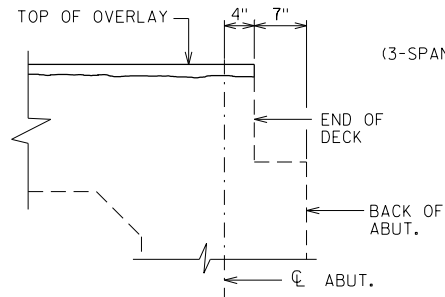
\\SJI\IA001.DGN, ..\BD\IA001.DGN, ..\STAMP\SGN.DGN, ..\SUJ\IA001.DGN, ..\BDP2\IA001.DGN, ..\BEI\IA001.DGN  
CHUNYM  
2-03-2017, 14:49:25

\\PCH\APP004\AM\VAUL I.D--TRANS\_07\TDC\WIS\00214891-A0\STRUCT\CAD\NIB0502\INVA EXP\Sheet\OIGPI\IA001.SHT

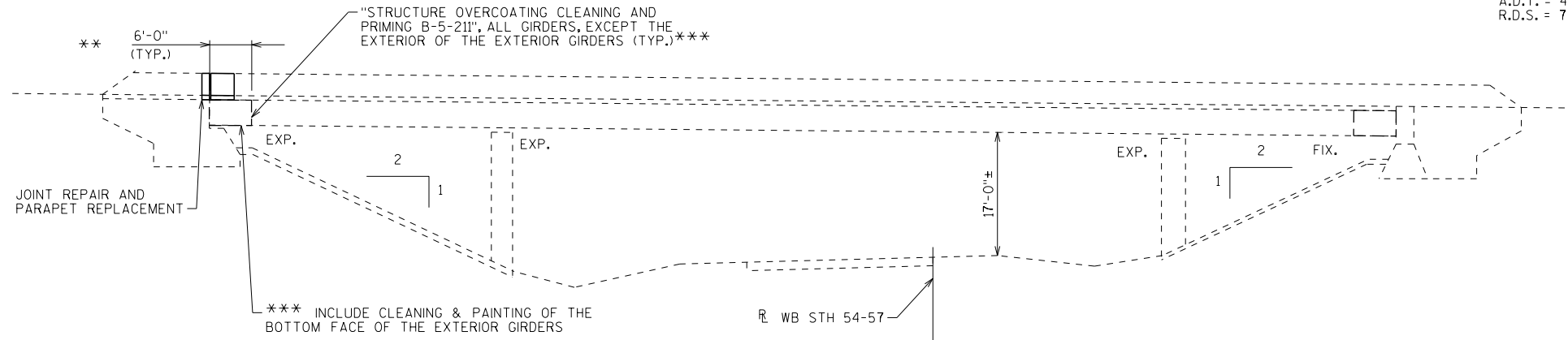
8



SECTION B-B  
SEE SHEET -- FOR DETAILS.



SECTION A-A



ELEVATION

NORMAL TO STH 54-57 WB  
(LOOKING NORTH)

- ⊖ INDICATES WINGWALL NUMBER  
▲ PARAPET REPLACEMENT AREA.  
SEE SHEET -- FOR DETAILS.

### DESIGN DATA

**LIVE LOAD:**  
DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS34  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 220 KIPS

**MATERIAL PROPERTIES:**  
CONCRETE MASONRY: OVERLAY DECKS  $f'_c = 4,000$  P.S.I.  
ALL OTHER  $f'_c = 3,500$  P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60:  $f_y = 60,000$  P.S.I.

### TRAFFIC VOLUME

RAMP IH 43 SB - EB STH 54      STH 54 WB - STH 57 SB  
A.D.T. = 40,400 (2036)      A.D.T. = 20,000 (2036)  
R.D.S. = 70 MPH      R.D.S. = 70 MPH

### STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

STATE PROJECT NUMBER

1227-08-73

### CURVE DATA

R E.B. CONN. STH 54-57  
PI = STA. 119'E'+29.65  
 $\Delta = 8^\circ-15'-29''$   
 $D = 6^\circ-30'-00''$   
 $T = 840.27'$   
 $L = 1342.43'$   
 $R = 881.474'$   
 $SE = 6.0\%$   
 $RO = 150.0'$




*V. Patel*

DATE: 02/03/2017

### LIST OF DRAWINGS

- GENERAL PLAN & ELEVATION
- CROSS SECTION, QUANTITIES & NOTES
- JOINT REPAIR
- EXPANSION DEVICE
- JOINT REPAIR - BILL OF BARS
- COVER PLATE DETAILS

NO.	DATE	REVISION	BY
<div> <b>exp U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH &amp; ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY</div>			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____		_____ DATE _____	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-5-211			
RAMP IH 43 SB-STH 54 OVER STH 54 WB-STH 57 SB			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JJG/YC	PLANS CK'D.	VCP
GENERAL PLAN & ELEVATION			SHEET 1 OF 6

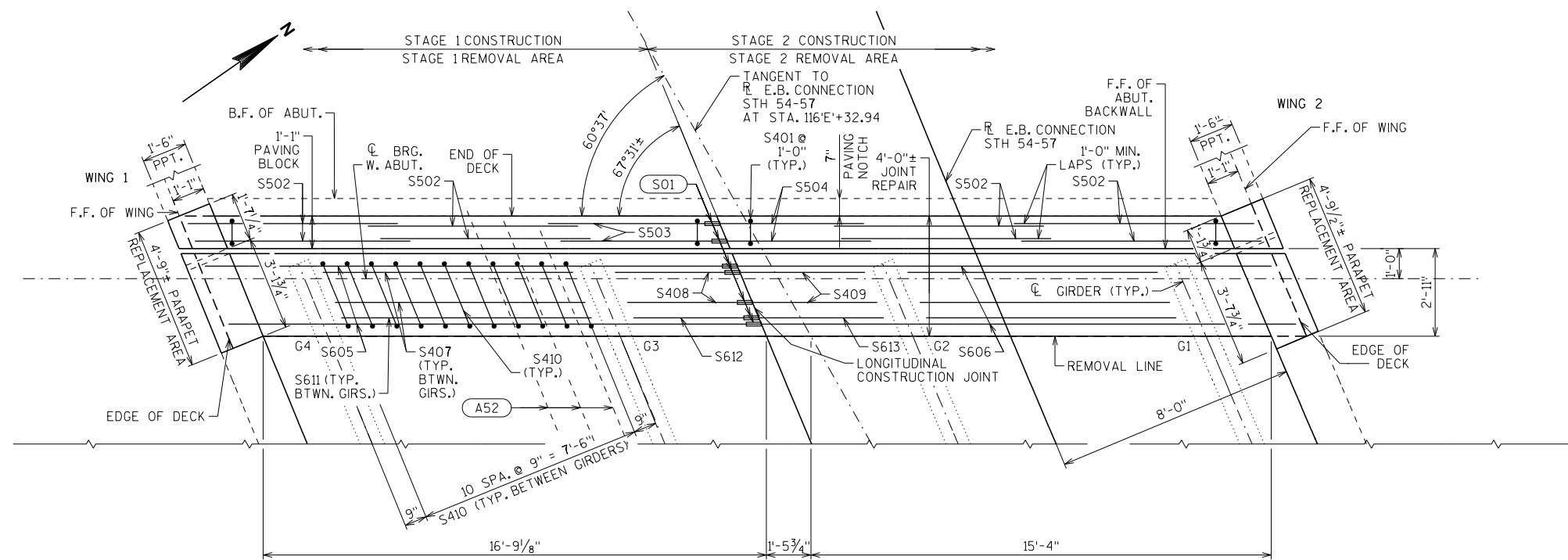
FILENAME  
SCALE

8

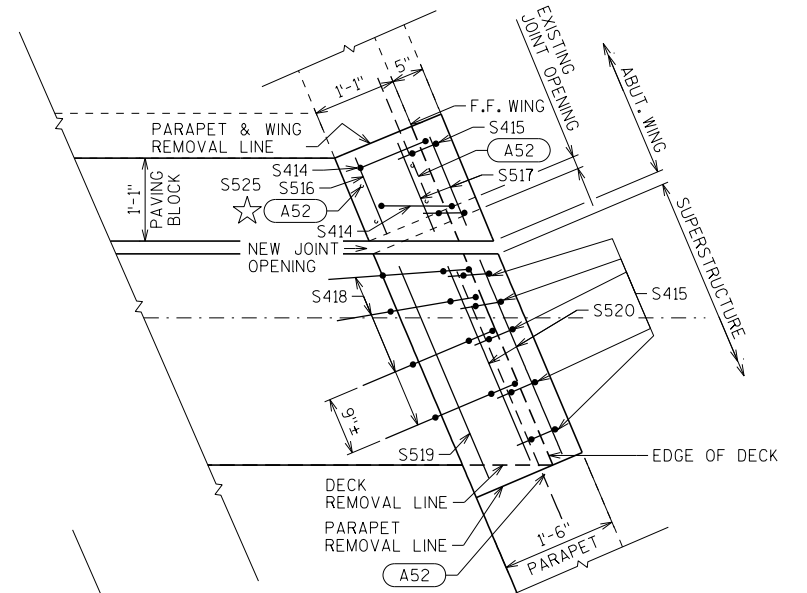
BID ITEM NUMBER	BID ITEMS	UNIT	W. ABUT.	E. ABUT.	SUPER.	TOTAL
502.3100.04	EXPANSION DEVICE B-5-211	LS	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	611	611
502.3210	PIGMENTED SURFACE SEALER	SY	10	10	134	154
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	42	-	-	42
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,390	-	-	1,390
505.0904	BAR COUPLERS NO. 4	EACH	4	-	-	4
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	16	-	-	16
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	61	61
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	25	25
509.0500	CLEANING DECKS	SY	-	-	595	595
509.1000	JOINT REPAIR	SY	-	-	19	19
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	4	4
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	54	54
509.9010.S.06	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-211	SY	-	-	595	595
509.9050.S	CLEANING PARAPETS	LF	28	28	345	401
517.3000.S.04	STRUCTURE OVERCOATING CLEANING AND PRIMING B-5-211	LS	-	-	-	1
517.4000.S.04	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-211	LS	-	-	-	1

\*\* THE OVERLAY THICKNESS INCLUDES 1/2"  
 THICKNESS OF CONCRETE REMOVAL FROM  
 ORIGINAL CONCRETE DECK.

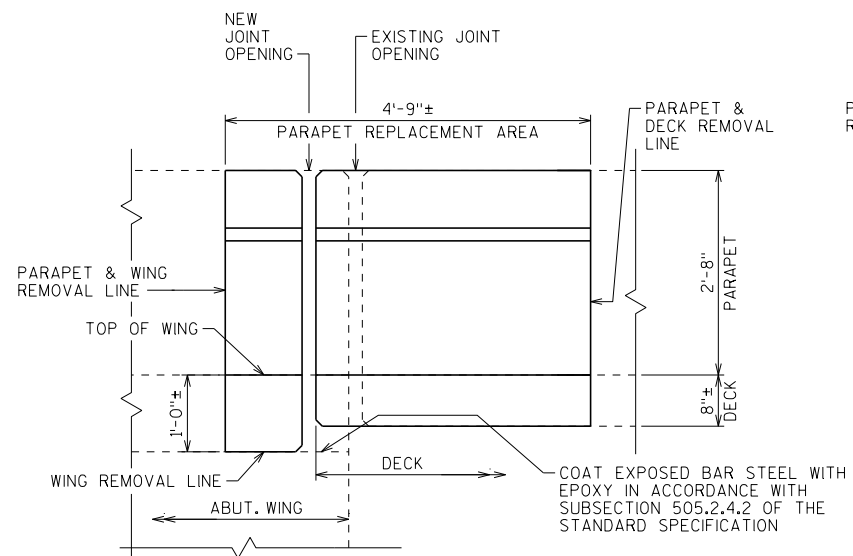
S01 BAR COUPLERS USED. BAR LENGTH COMPUTED TO  $\frac{1}{2}$  OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.



### WEST ABUTMENT "JOINT REPAIR" PLAN

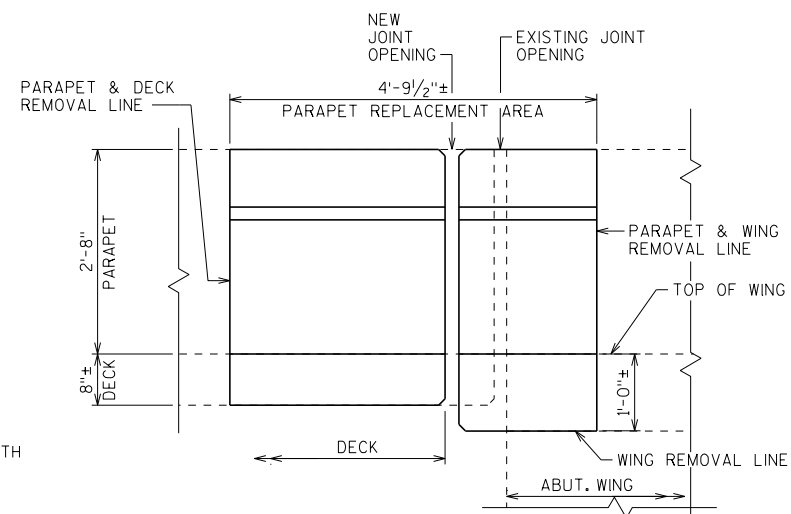


PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT WING CORNER 2



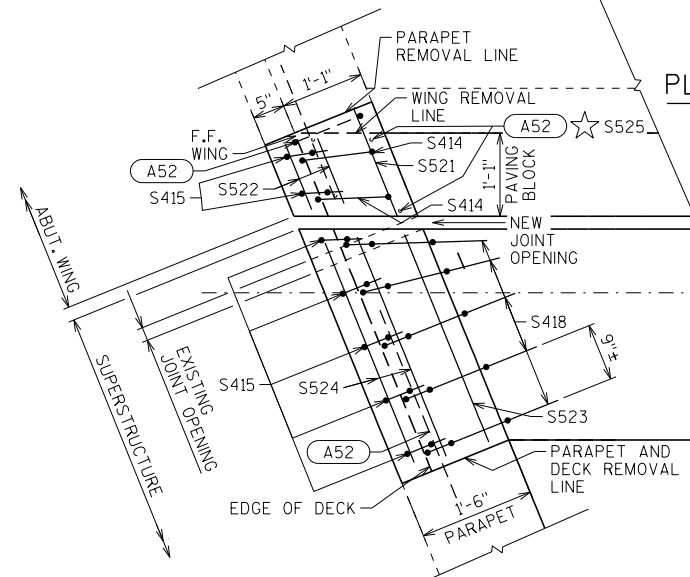
ELEVATION OF NEW WING CORNER 1

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)



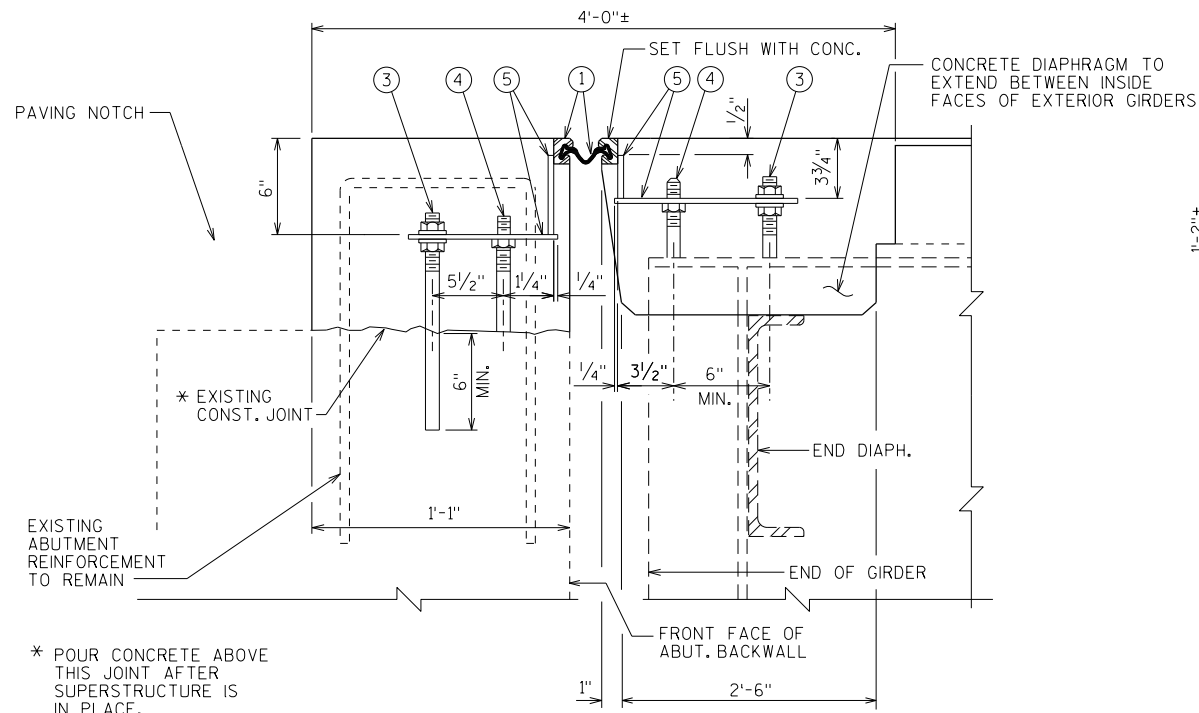
ELEVATION OF NEW WING CORNER 2

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)

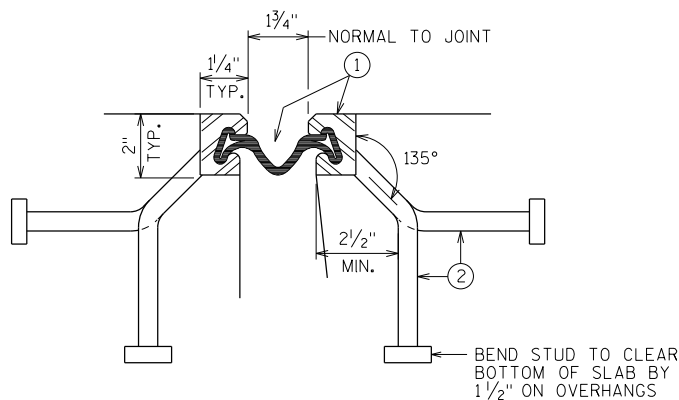


PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT WING CORNER 1

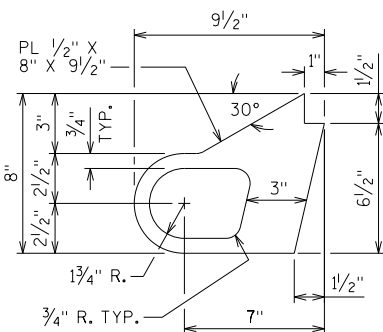
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-211			
		DRAWN BY J JG	PLANS CK'D. YC
JOINT REPAIR		SHEET 3 OF 6	



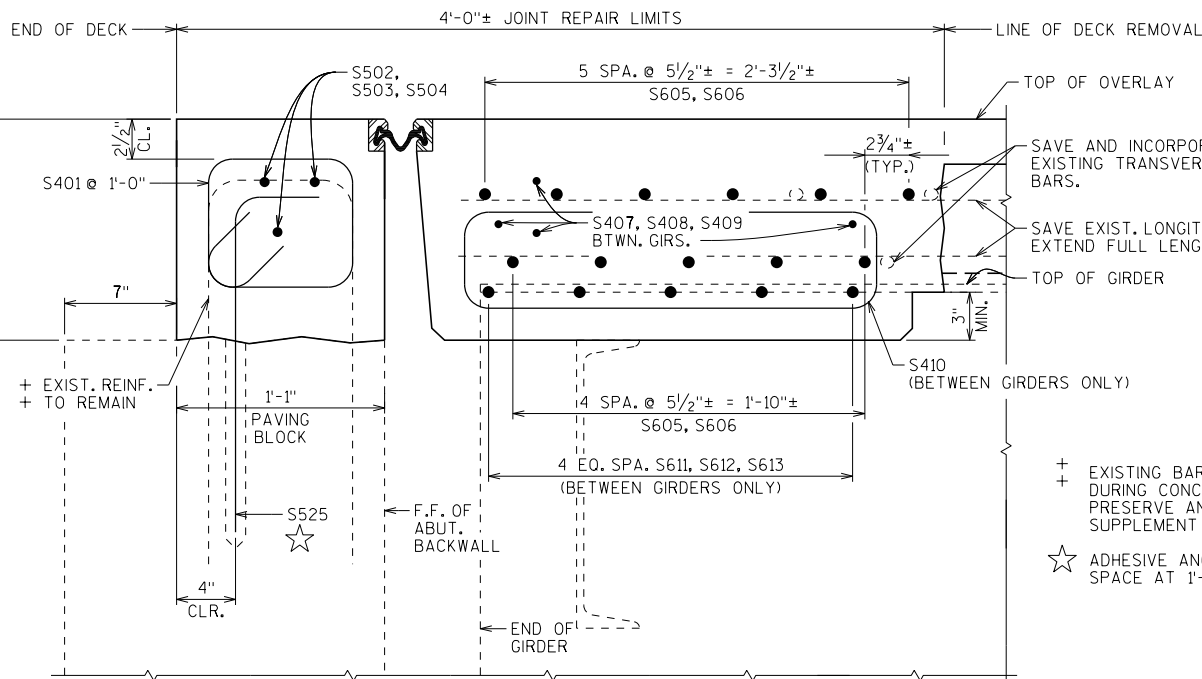
SECTION THRU JOINT AT W. ABUTMENT  
NORMAL TO  $\phi$  SUBSTRUCTURE



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



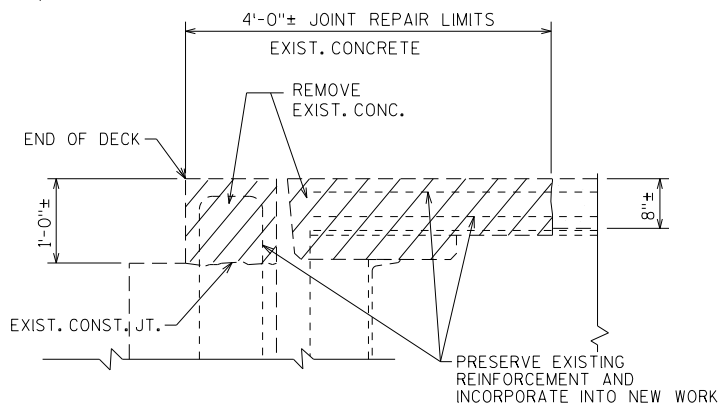
ALTERNATE STRIP SEAL ANCHOR



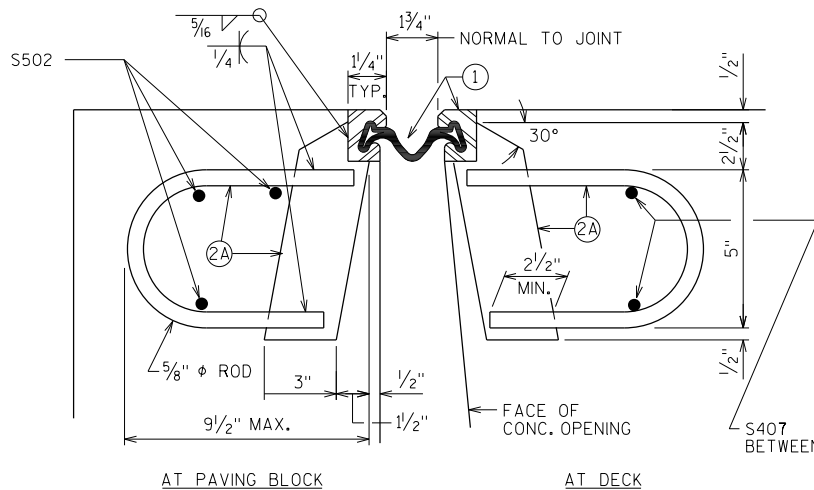
SECTION THRU JOINT AT W. ABUTMENT  
NORMAL TO  $\phi$  SUBSTRUCTURE  
SHOWING REINFORCEMENT

#### LEGEND

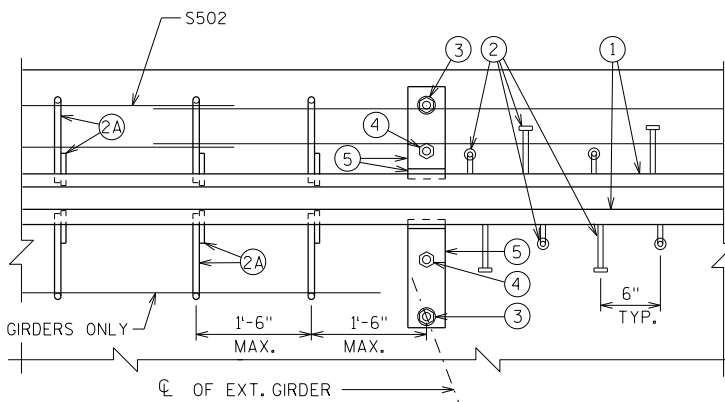
- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS  $\frac{5}{8}$ "  $\phi$  X 6  $\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ②A  $\frac{1}{2}$ " THICK ANCHOR PLATE WITH  $\frac{5}{8}$ "  $\phi$  ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- ③  $\frac{3}{4}$ "  $\phi$  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  $\frac{3}{4}$ "  $\phi$  THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.
- ⑤ FABRICATE SUPPORT FROM 3" X  $\frac{1}{2}$ " 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  $\frac{1}{2}$ "  $\phi$  HOLE FOR NO. 3 AND 1"  $\phi$  HOLE FOR NO. 4.



JOINT REPAIR - REMOVAL  
SECTION THRU EXISTING EXPANSION JOINT  
AT W. ABUTMENT  
NORMAL TO  $\phi$  SUBSTRUCTURE



SECTION THRU JOINT  
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

#### NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, 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.

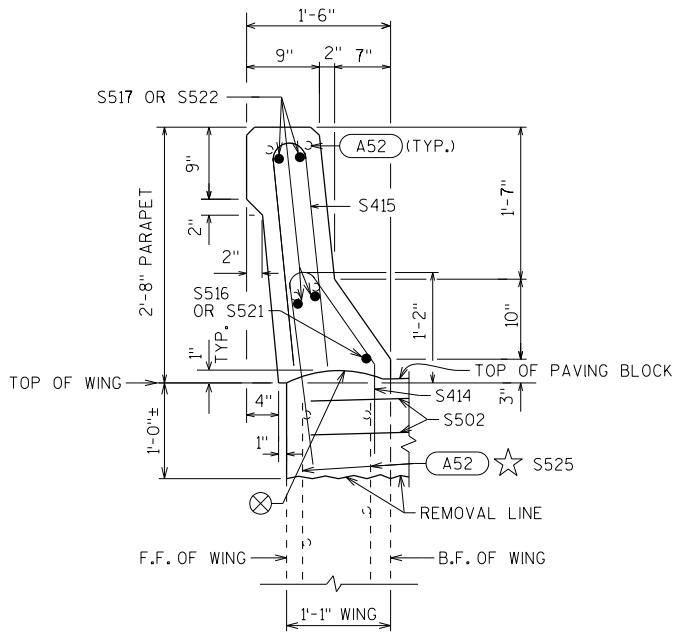
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

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.

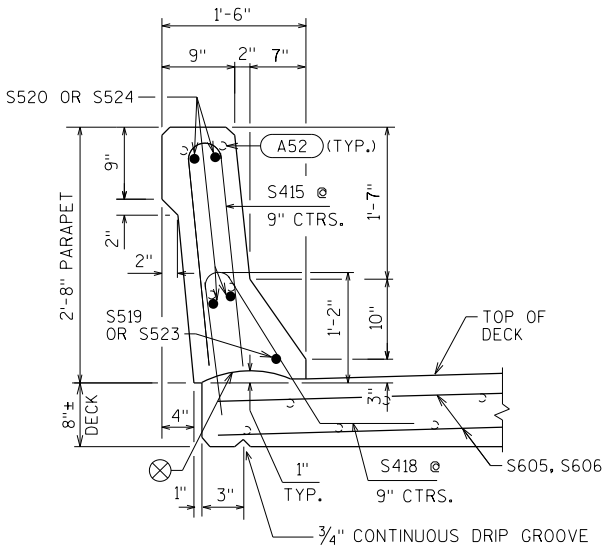
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-5-211".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-211			
EXPANSION DEVICE		DRAWN BY JJG	PLANS CK'D. YC
		SHEET 4 OF 6	



NEW SECTION THRU PARAPET ON WING



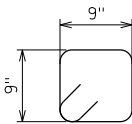
NEW SECTION THRU PARAPET ON DECK

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

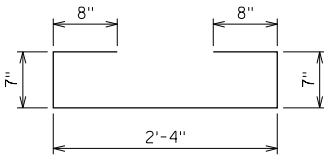
A52 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

THE NEW ADDITIONAL HORIZONTAL REINFORCEMENT REQUIRED IN THE PARAPETS SHALL BE TIED TO THE EXISTING HORIZONTAL REINFORCEMENT.

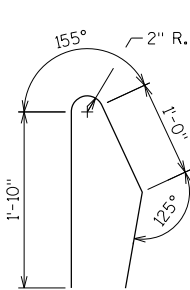
☆ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS S525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.



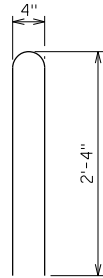
S401



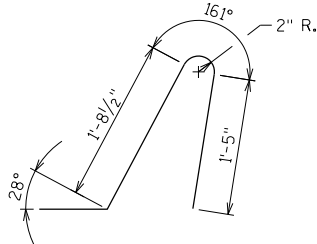
S410



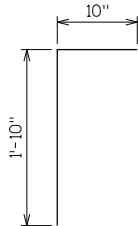
S414



S415



S418



S525

BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		W. ABUT.	E. ABUT.				
S401	X	34	-	3'-6"	X		PAVING BLOCK - VERT. - STIRRUP - AT STAGE 1 & 2 CONST.
S502	X	12	-	7'-0"			PAVING BLOCK - HORIZ. - AT STAGE 1 & 2 CONST.
S503	X	3	-	5'-10"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST.
S504	X	3	-	5'-10"			PAVING BLOCK - HORIZ. - AT STAGE 2 CONST.
S605	X	11	-	17'-9"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 1 CONST.
S606	X	11	-	17'-9"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 2 CONST.
S407	X	8	-	8'-4"			DECK - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S408	X	4	-	4'-2"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S409	X	4	-	4'-2"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S410	X	33	-	4'-6"	X		DECK/CONC. DIAPH. - VERT. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S611	X	10	-	8'-4"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S612	X	5	-	4'-2"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S613	X	5	-	4'-2"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S414	X	4	-	4'-3"	X		WING & PARAPET - VERT. - TRANS. - AT WING CORNERS 1 & 2
S415	X	14	-	4'-10"	X		PARAPET - VERT. - TRANS. - ABOVE DECK AND WINGS - AT WING CORNERS 1 & 2
S516	X	1	-	1'-1"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S517	X	4	-	1'-3"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S418	X	9	-	4'-3"	X		DECK & PARAPET- VERT. - TRANS. - AT WING CORNERS 1 & 2
S519	X	1	-	3'-1"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S520	X	4	-	2'-9"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S521	X	1	-	1'-3"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S522	X	4	-	0'-11"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S523	X	1	-	2'-11"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S524	X	4	-	3'-1"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S525	X	42	-	2'-7"	X		PAVING BLOCK & ENDS OF ABUT. BACKWALL - VERT. - DOWEL - AT STAGE 1 & 2 CONST.
- - -			-				

\* BAR COUPLERS USED, BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.  
\*\* ADHESIVE ANCHORS NO. 5 BAR.

STATE PROJECT NUMBER

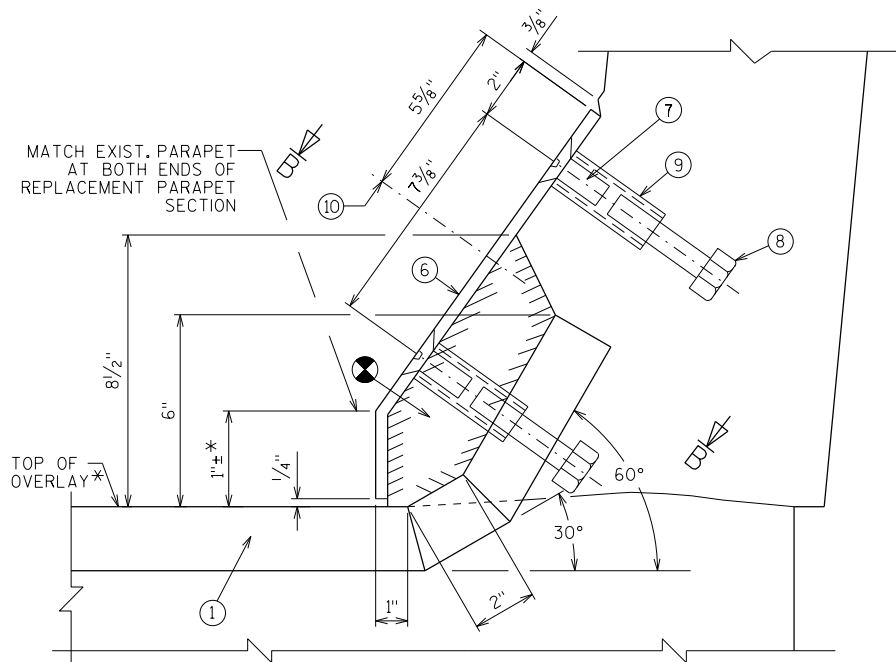
1227-08-73

UNCOATED: 0 LBS  
COATED: 1390 LBS  
W. ABUT. 0 LBS  
E. ABUT. 0 LBS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-211			
DRAWN BY JJG		PLANS CK'D. YC	
JOINT REPAIR - BILL OF BARS		SHEET 5 OF 6	

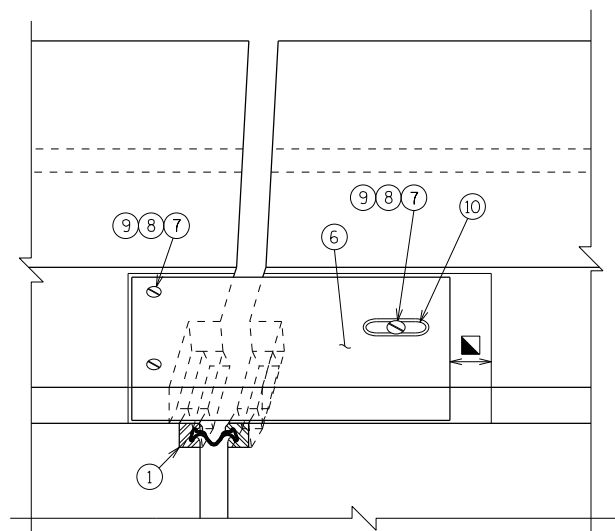
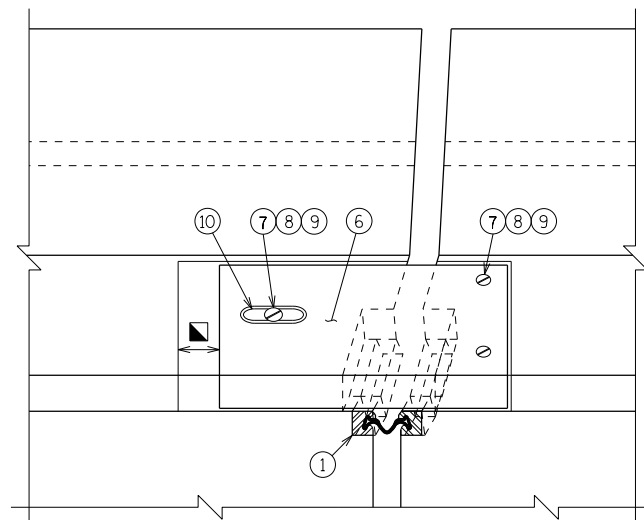
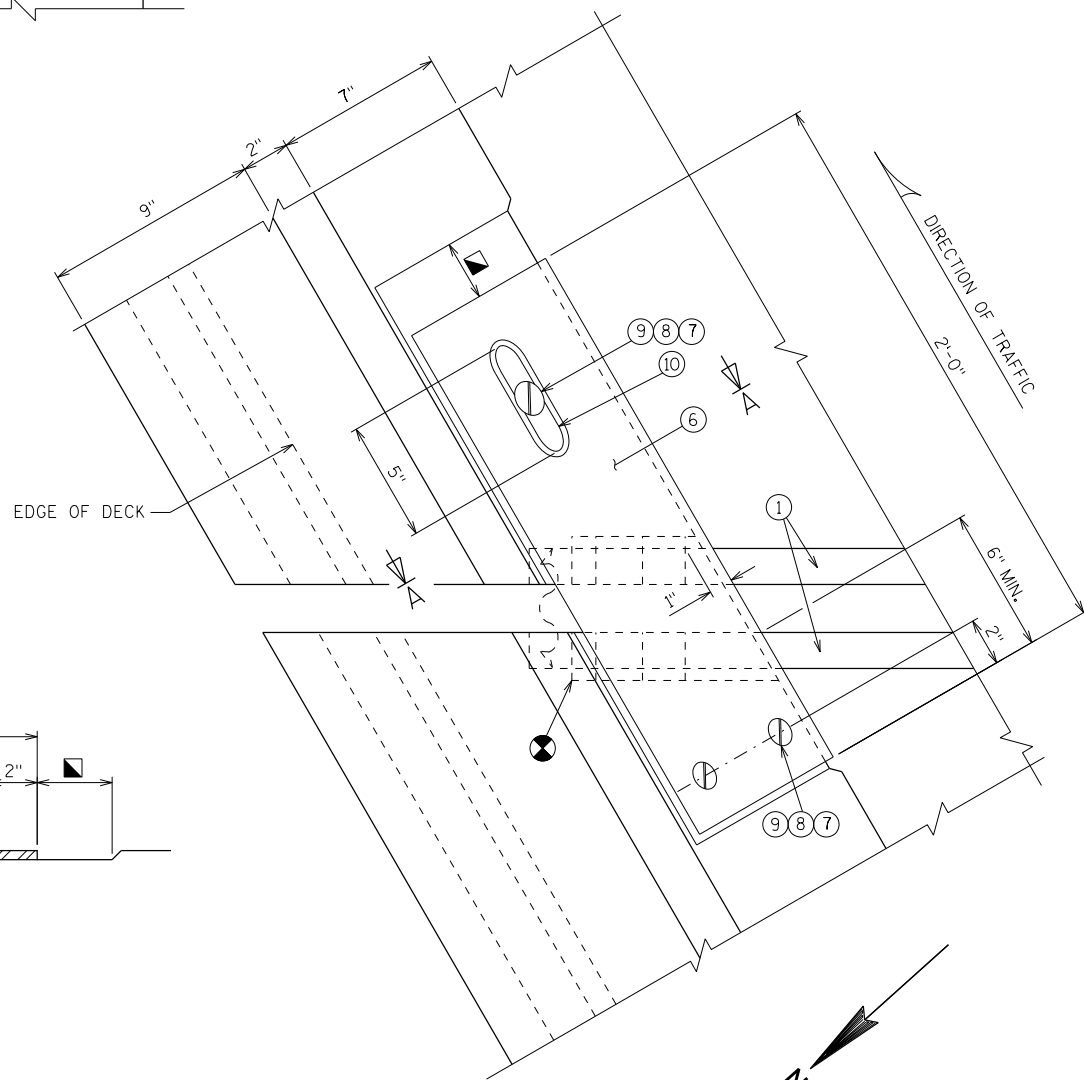
## LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS  $\frac{5}{8}$ " $\phi$  X  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ⑥ GALVANIZED PLATE  $\frac{3}{8}$ " X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
- ⑦  $\frac{3}{4}$ " $\phi$  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  $\frac{3}{4}$ " $\phi$  X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- ⑨  $\frac{3}{4}$ " $\phi$  X  $2\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- ⑩ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

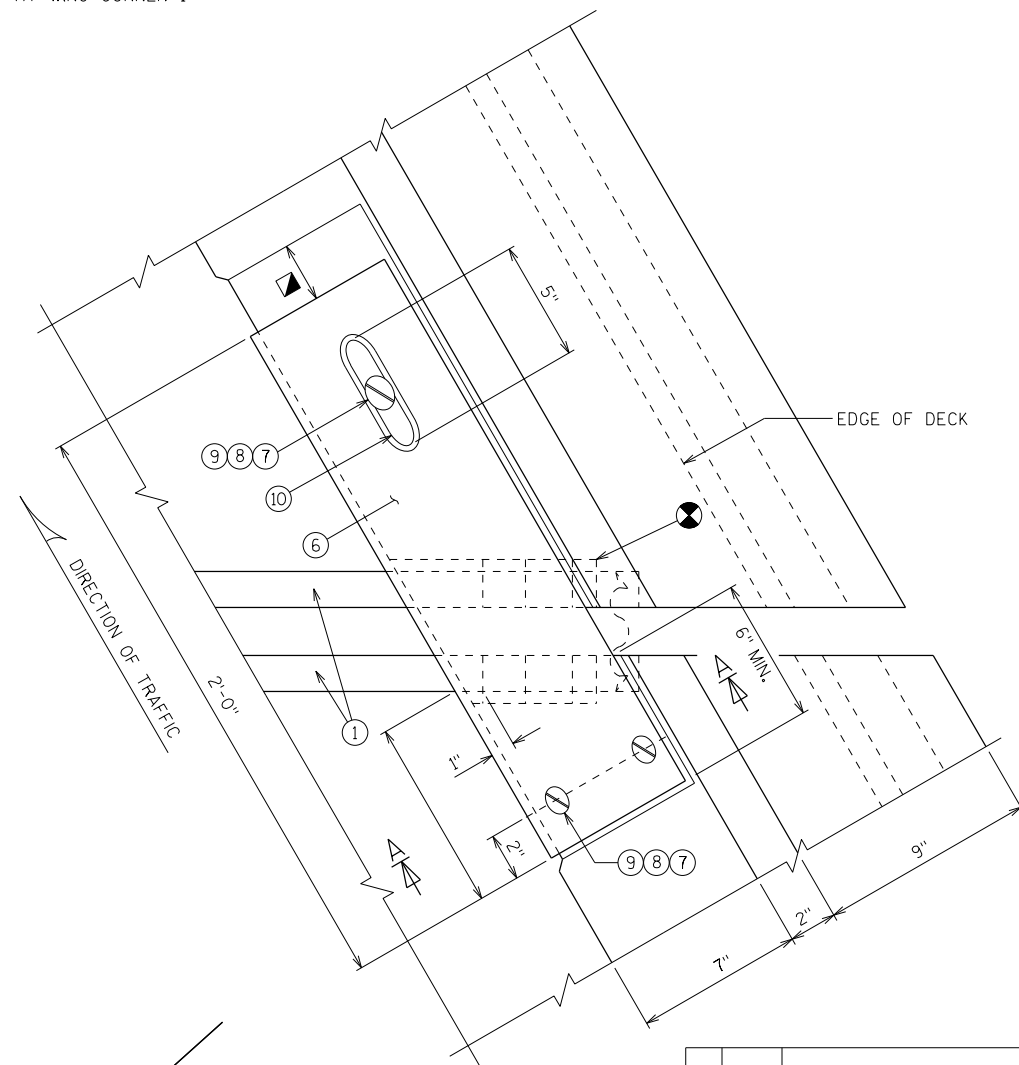


## SECTION A-A

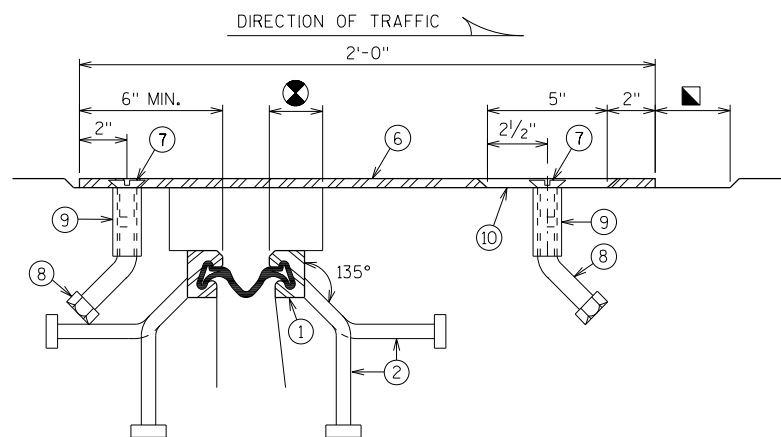
\* TOP OF OVERLAY  
@ 2" ABOVE TOP  
OF ORIGINAL DECK.

VIEW OF PARAPET PLATE  
FROM ROADWAY  
AT WING CORNER 2VIEW OF PARAPET PLATE  
FROM ROADWAY  
AT WING CORNER 1

## PLAN AT WING CORNER 2



## PLAN AT WING CORNER 1



## SECTION B-B

AT WING CORNER 1  
OPPOSITE HAND AT WING CORNER 2

- ⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.  
▣ JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-211			
DRAWN BY JJC		PLANS CK'D. YC	
COVER PLATE DETAILS		SHEET 6 OF 6	

R S.B. IH 43  
 PI= STA. 695'S'+72.537  
 $\Delta = 43^{\circ}-17'-25.59''$   
 $D = 1^{\circ}-32'-07.34''$   
 T = 1480.90'  
 L = 2819.54'  
 R = 3731.719'  
 SE = 4.4%  
 RO = 201.00'  
 PC = STA. 680'S'+91.639  
 PT = STA. 709'S'+11.177 BK=  
 STA. 709'S'+77.665 AH

**LIVE LOAD:**  
DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS44  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

CONCRETE MASONRY:	OVERLAY DECKS	$f'_c = 4,000$ P.S.I.
	ALL OTHER	$f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		$f_y = 60,000$ P.S.I.

<u>IH 43</u>	<u>STH 54 EB - STH 57 NB</u>
A.D.T. = 50,400 (2036)	A.D.T. = 20,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 70 MPH

1. GENERAL PLAN & CROSS SECTION  
2. QUANTITIES & NOTES

 **exp.** U.S. Services Inc.  
Milwaukee, WI  
BUILDINGS • EARTH & ENVIRONMENT • ENERGY  
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER      DATE \_\_\_\_\_

STRUCTURE B-5-212

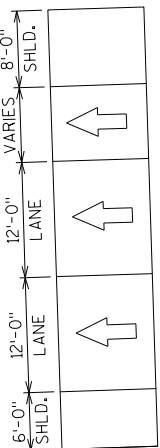
IH 43 SB OVER STH 54 EB-STH 57 NB
-----------------------------------

COUNTY	BROWN	<del>TOWN/CITY/VILLAGE</del>	GREEN BAY
--------	-------	------------------------------	-----------

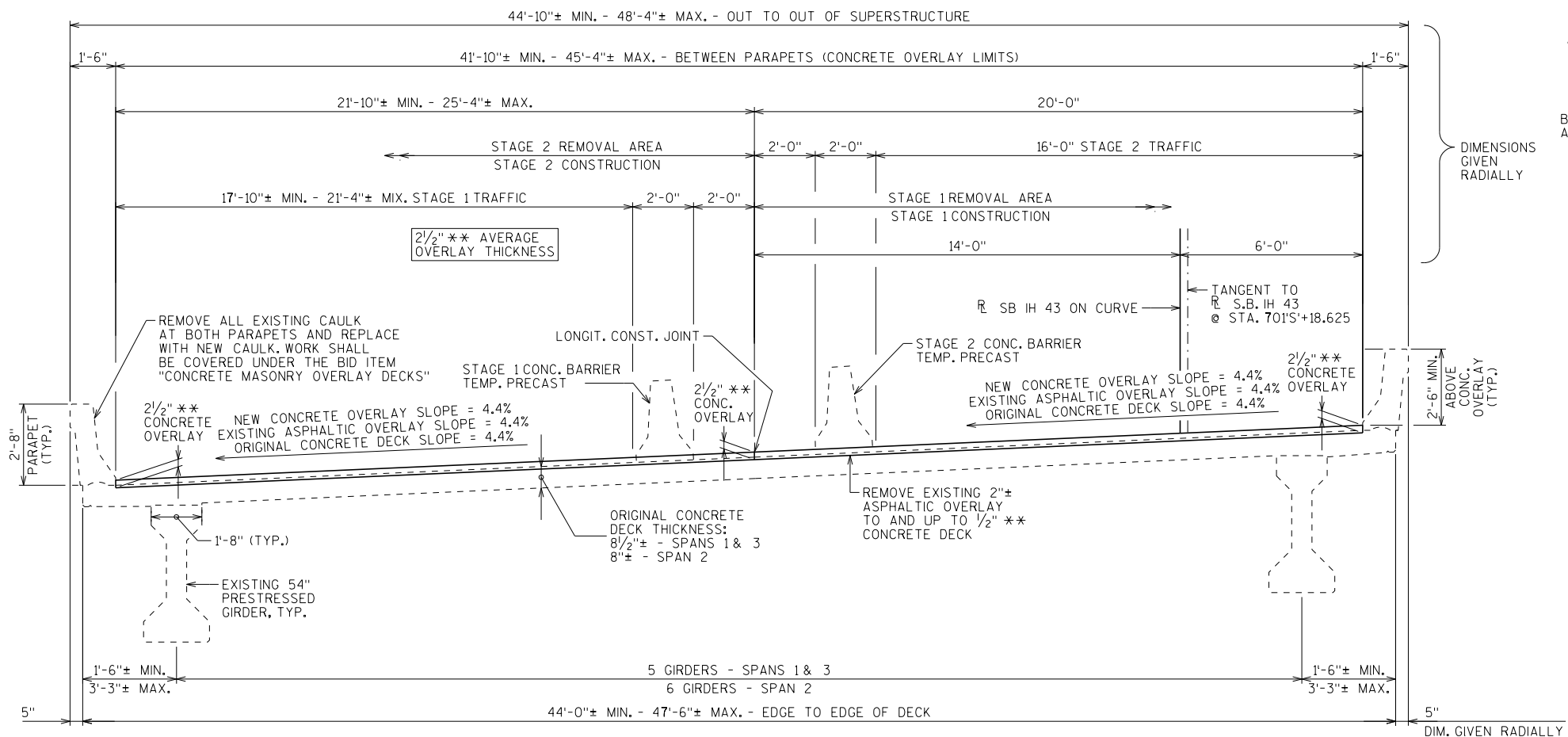
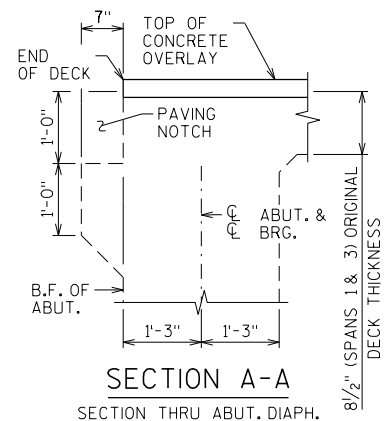
DESIGN SPEC.			
REHABILITATION		N/A	
DESIGNED BY	YC	DESIGN CK'D.	VCP
		DRAWN BY	JJG/YC
		PLANS CK'D.	VCP

GENERAL PLAN &  
CROSS SECTION

SHEET 1 OF 2



(3-SPAN PRESTRESSED CONCRETE GIRDER, CONCRETE OVERLAY)



CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

A circular professional engineer seal for the State of Wisconsin. The outer ring contains the text "WISCONSIN" at the top and "PROFESSIONAL ENGINEER" at the bottom, separated by two five-pointed stars. The center of the seal contains the following text: "VINOD C. PATEL", "37887", and "CAROL STREAM, IL".

Plotel

DATE: 02/03/2017

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT: VINOD PATEL, P.E.  
(312) 616-7395

8

8

STATE PROJECT NUMBER

1227-08-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	843	843
502.3210	PIGMENTED SURFACE SEALER	SY	11	10	132	153
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	84	84
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	34	34
509.0500	CLEANING DECKS	SY	-	-	843	843
509.1500	CONCRETE SURFACE REPAIR	SF	4	9	61	74
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	65	65
509.9010.S.07	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-212	SY	-	-	843	843
509.9050.S	CLEANING PARAPETS	LF	31	29	348	408

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".

THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-212".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER, INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

8

8

NO. DATE REVISION BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

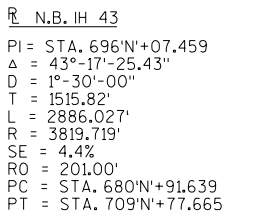
STRUCTURE B-5-212

DRAWN BY YC

PLANS CK'D. VCP

QUANTITIES & NOTES

SHEET 2 OF 2



1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES
3. WINGWALL 2 REPLACEMENT
4. SLOPED FACE PARAPET "B"






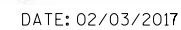
**LIVE LOAD:**  
DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS34  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 210 KIPS

CONCRETE MASONRY:	OVERLAY DECKS	$f'_c = 4,000$ P.S.I.
	ALL OTHER	$f'_c = 3,500$ P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		$f_y = 60,000$ P.S.I.

<u>IH 43</u>	<u>STH 54 EB - STH 57 NB</u>
A.D.T. = 50,400 (2036)	A.D.T. = 20,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 70 MPH




 INDICATES WINGWALL NUMBER  
 REPLACE WINGWALL. SEE SHEET -- FOR DETAILS.  
 PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT



## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395

NO.	DATE	REVISION	BY
 <b>exp U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER _____ DATE _____			
STRUCTURE B-5-213			
IH 43 NB OVER STH 54 EB-STH 57 NB			
COUNTY	TOWN/CITY/VILLAGE		
BROWN	GREEN BAY		
DESIGN SPEC. _____			
REHABILITATION N/A			
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
YC	VCP	JJG/YC	VCP
GENERAL PLAN & ELEVATION		SHEET 1 OF 4	

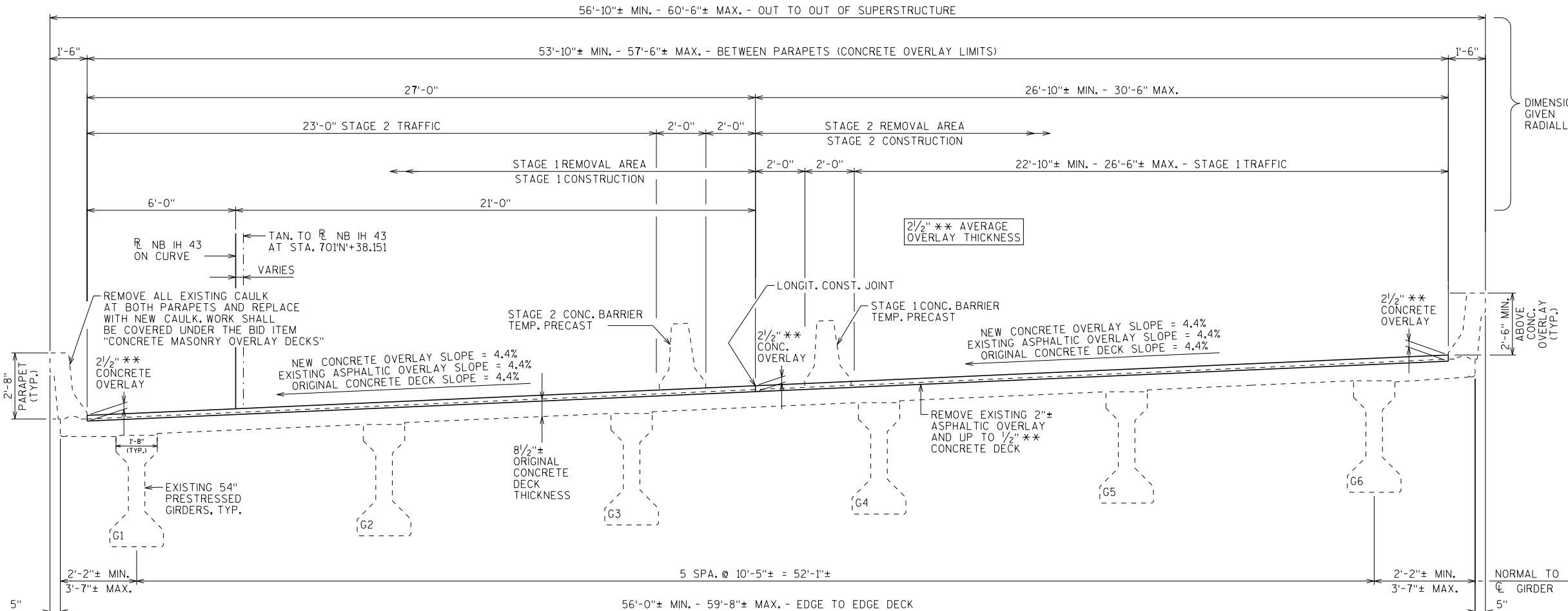
BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
203.0200.01	REMOVING OLD STRUCTURE STA. 701N+23.79	LS	-	-	-	1
206.1000.01	EXCAVATION FOR STRUCTURES BRIDGES B-5-213	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	43	-	-	43
502.0100	CONCRETE MASONRY BRIDGES	CY	6	-	-	6
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	1,160	1,160
502.3210	PIGMENTED SURFACE SEALER	SY	12	10	142	164
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	2	-	-	2
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	19	-	-	19
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	920	-	-	920
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	115	115
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	46	46
509.0500	CLEANING DECKS	SY	-	-	1,160	1,160
509.1500	CONCRETE SURFACE REPAIR	SF	4	20	12	36
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	89	89
509.9010.S.08	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-213	SY	-	-	1,160	1,160
509.9050.S	CLEANING PARAPETS	LF	20	30	373	423
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3	-	-	3
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	-	1	-	1
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	43	-	-	43
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	-	-	1
	NON-BID ITEMS					
	PREFORMED JOINT FILLER	SIZE	-	-	-	1/2 "

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

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO.10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



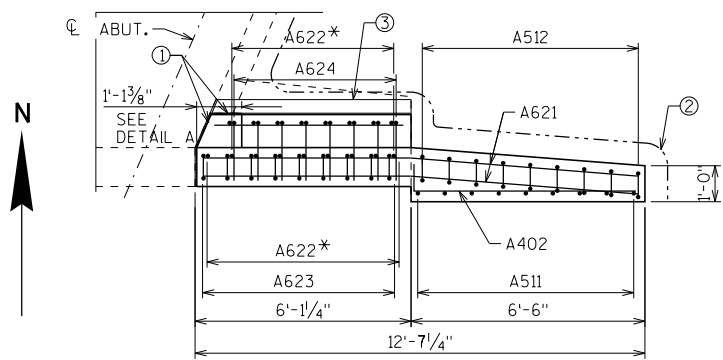
RODENT SCREEN DETAIL



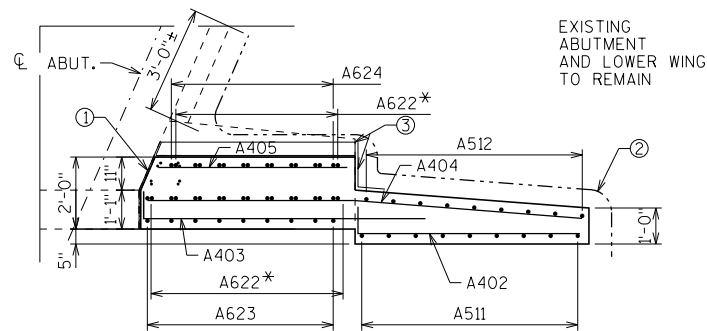
\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

INSTALL RODENT SCREEN(S) AT THE EXPOSED END(S)  
OF PIPE UNDERDRAIN.

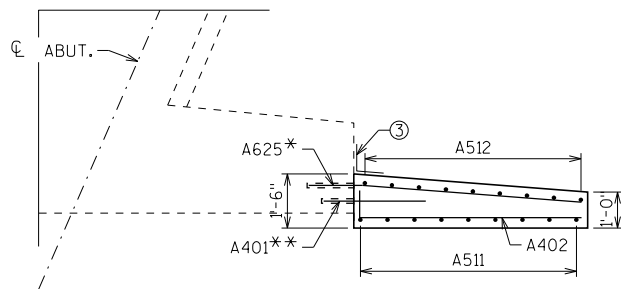
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-213			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES		SHEET 2 OF 4	



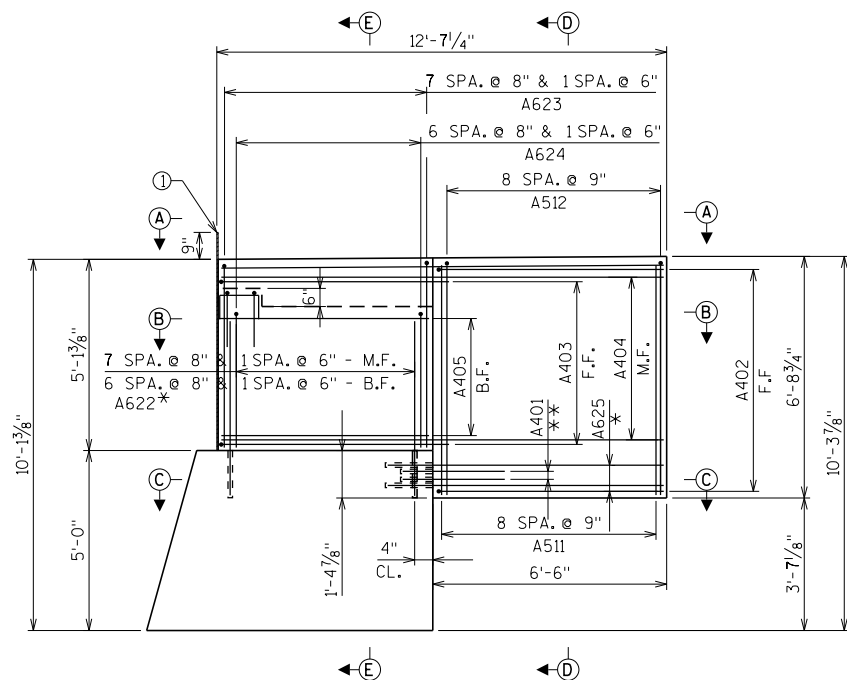
SECTION A-A



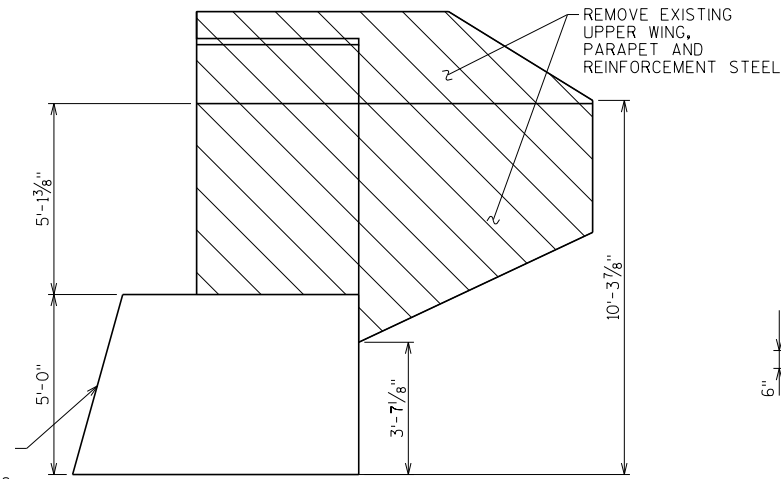
SECTION B-B



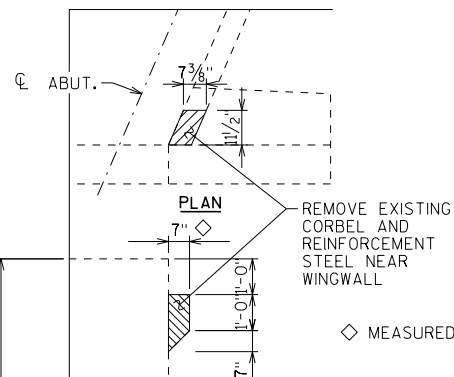
SECTION C-C



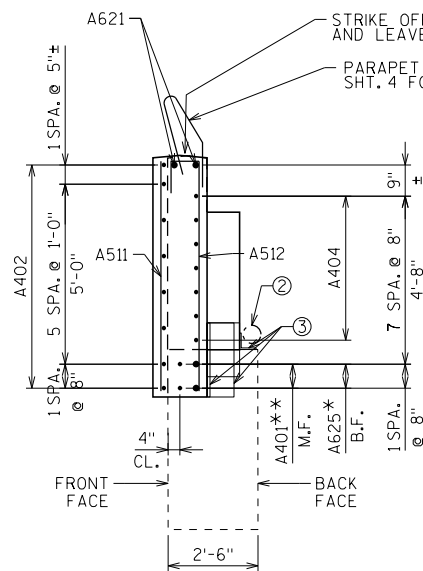
SECTION D-D



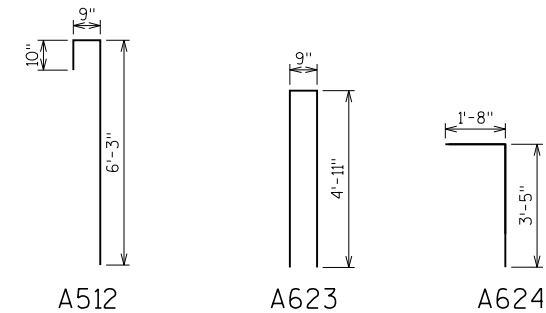
EXISTING WING REMOVAL



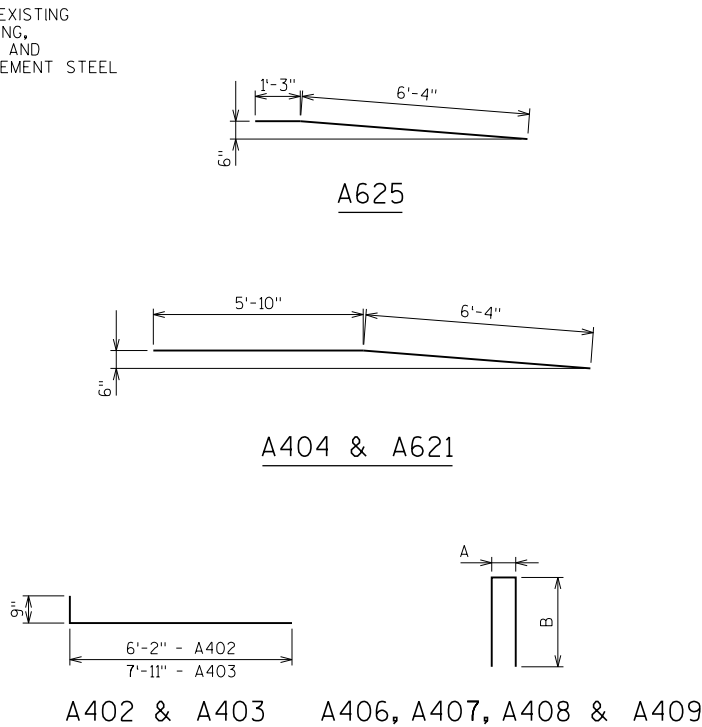
PARTIAL CORBEL REMOVAL



SECTION E-E

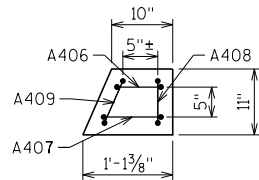


DETAIL A



A402 & A403

BAR	A	B
A406	7"	1'-6"
A407	8"	1'-6"
A408	7"	1'-6"
A409	7"	1'-6"



DETAIL A

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
A401	X	2	2'-10"		HORIZONTAL ANCHOR BARS, BOTTOM, M.F.
A402	X	8	6'-10"	X	HORIZONTAL, F.F.
A403	X	5	8'-7"	X	HORIZONTAL, F.F.
A404	X	7	12'-2"	X	HORIZONTAL, M.F.
A405	X	6	5'-6"		HORIZONTAL, B.F.
A406	X	1	3'-5"	X	U BAR, PAVING NOTCH
A407	X	1	3'-6"	X	U BAR, PAVING NOTCH
A408	X	1	3'-5"	X	U BAR, PAVING NOTCH
A409	X	1	3'-5"	X	U BAR, PAVING NOTCH
A511	X	9	6'-3"		VERTICAL, F.F.
A512	X	9	7'-7"	X	VERTICAL, B.F.
A621	X	2	12'-2"	X	HORIZONTAL, TOP OF WING
A622	X	17	3'-10"		VERTICAL ANCHOR BARS, M.F. & B.F.
A623	X	9	10'-3"	X	VERTICAL U BARS, F.F.
A624	X	8	4'-11"	X	VERTICAL L BARS, B.F.
A625	X	2	7'-7"	X	HORIZONTAL ANCHOR BARS, BOTTOM, B.F.

THE FIRST DIGIT OF A THREE DIGIT MARK SIGNIFIES THE BAR SIZE.  
ALL BAR DIMENSIONS ARE OUT TO OUT OF BAR.

NOTES:

- 1/2" FILLER INCLUDED IN WING LENGTH, SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- PIPE UNDERDRAIN WRAPPED 6 INCH, SLOPE 0.5% MIN. TO DRAIN.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- PROVIDE 2" CLEAR COVER UNLESS NOTED OTHERWISE.

\* ADHESIVE ANCHORS NO. 6 BAR. EMBED 15" INTO CONCRETE.

\*\* ADHESIVE ANCHORS NO. 4 BAR. EMBED 10" INTO CONCRETE.

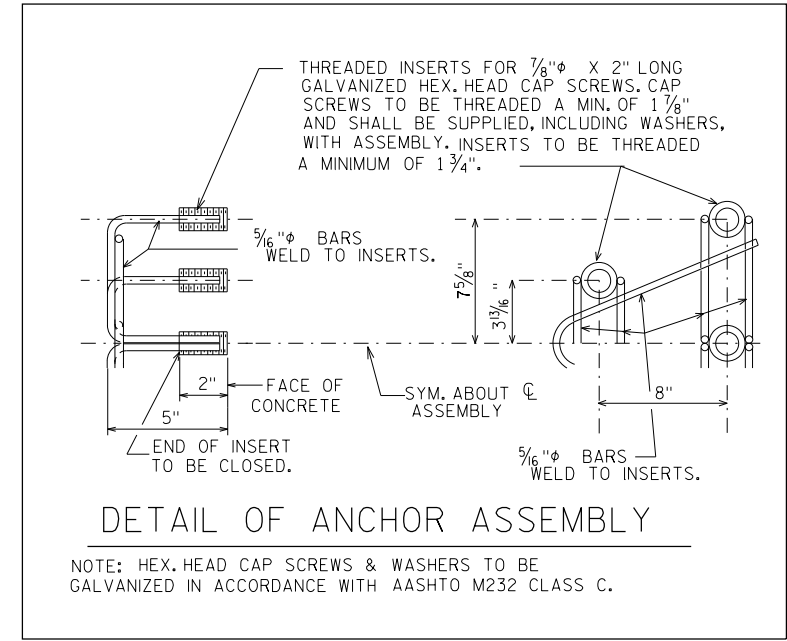
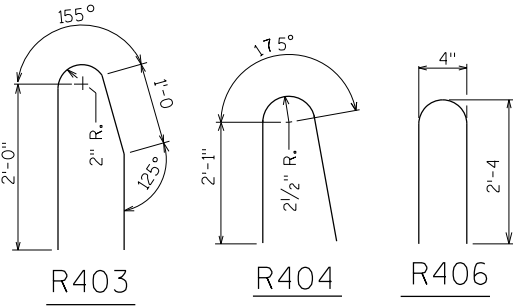
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-213			
DRAWN BY JJC		PLANS CK'D. YC	
WINGWALL 2 REPLACEMENT		SHEET 3 OF 4	

BILL OF BARS

FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE. EPOXY COAT ALL PRAPET REINF.

BAR MARK	NO. REQ'D	E. ABUT.	W. ABUT.	LENGTH	BENT	LOCATION
R401	15	-	-	4'-9"	X	WING 2 STIRRUPS
R402	4	-	-	3'-1"	X	WING 2
R403	9	-	-	4'-7"	X	WING 2 STIRRUPS
R404	15	-	-	4'-9"	X	WING 2
R505	6	-	-	6'-2"	-	WING 2
R406	9	-	-	4'-10"	X	WING 2
R507	4	-	-	7'-10"	-	WING 2
R509	1	-	-	12'-2"	X	WING 2

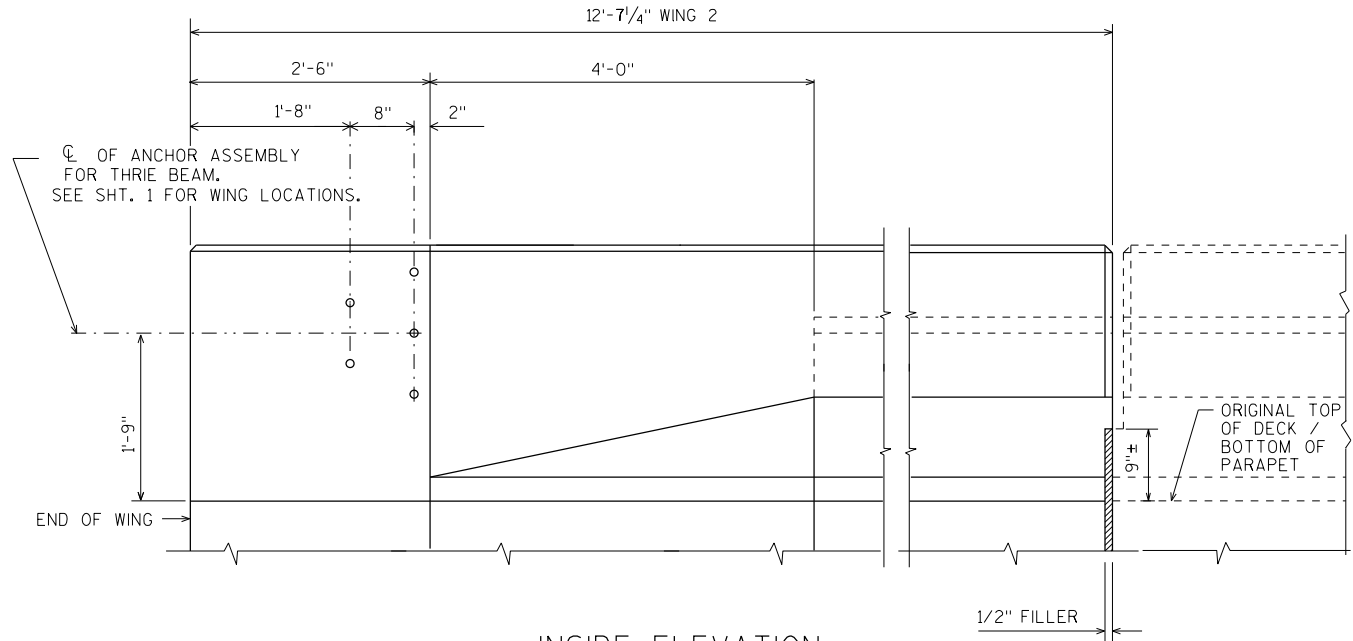


DETAIL OF ANCHOR ASSEMBLY

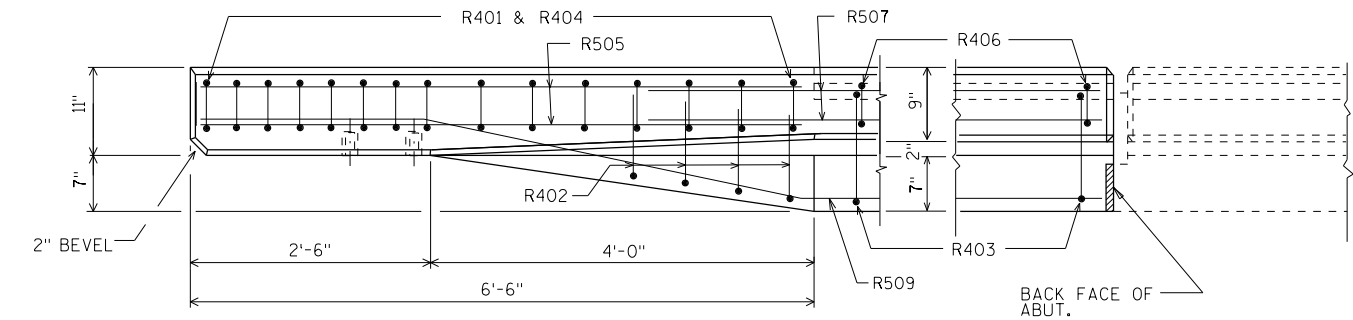
NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

CONST. JOINT - STRIKE OFF AS SHOWN.

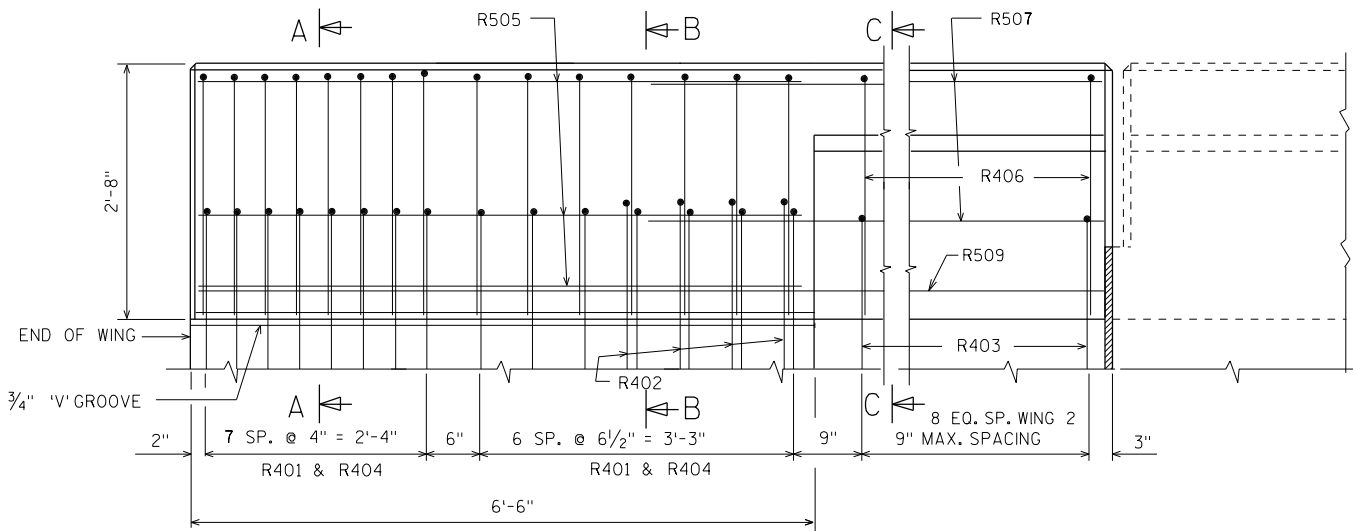
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-213			
DRAWN BY JJC		PLANS CK'D. YC	
SLOPED FACE PARAPET "B"			SHEET 4 OF 4



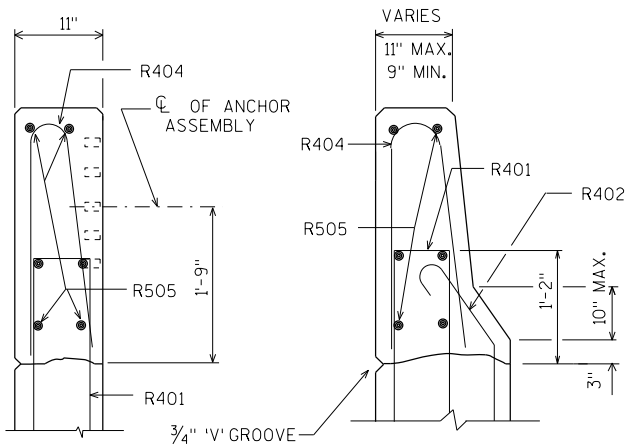
INSIDE ELEVATION



PLAN

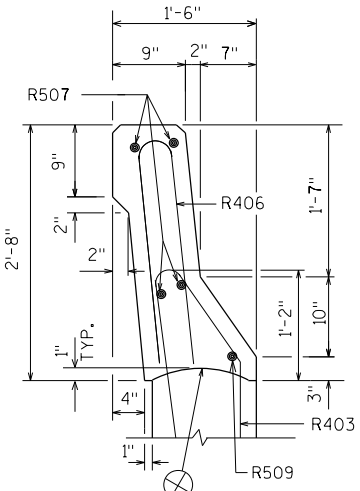


OUTSIDE ELEVATION

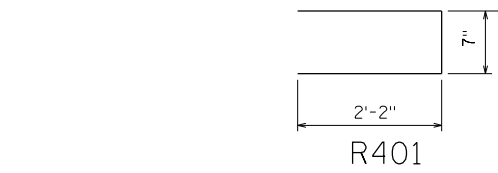


SECTION A

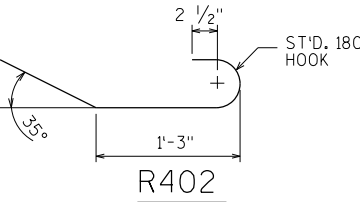
SECTION B



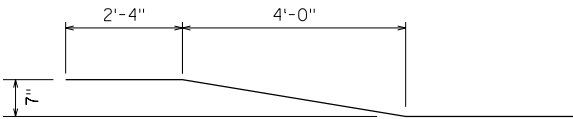
SECTION C



R401



R402



R509

PI = STA. 711'W'+07.526  
 Δ = 120°-05'-23.41"  
 D = 6°-30'-00"  
 T = 1529.525'  
 L = 1847.536'  
 R = 881.474'  
 SE = 6.0%  
 RO = 150'  
 PC = STA. 695'W'+78.002  
 PT = STA. 714'W'+25.538

**LIVE LOAD:**  
 DESIGN LOADING: HS20  
 INVENTORY RATING: HS19  
 OPERATING RATING: HS33  
 WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 210 KIPS

**MATERIAL PROPERTIES:**  
 CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
 ALL OTHER f'c = 3,500 P.S.I.  
 BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

<u>RAMP IH 43 NB - WB STH 54</u>	<u>STH 54 EB - STH 57 NB</u>
A.D.T. = 40,400 (2036)	A.D.T. = 20,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 70 MPH

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES
3. JOINT REPAIR
4. EXPANSION DEVICE
5. JOINT REPAIR - BILL OF BARS
6. COVER PLATE DETAILS

 **exp.** U.S. Services Inc.  
Milwaukee, WI  
BUILDINGS • EARTH & ENVIRONMENT • ENERGY  
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER      DATE \_\_\_\_\_

RAMP IH 43 NB-STH 54 OVER STH 54 EB-STH 57 NB

COUNTY	BROWN	<del>TOWN/CITY/VILLAGE</del>	GREEN BAY
--------	-------	------------------------------	-----------

DESIGN SPEC.			
REHABILITATION	N/A		

DESIGNED BY	YC	DESIGN CK'D.	VCP	DRAWN BY	JJG/YC	PLANS CK'D.	VCP

SHEET 1 OF 6



▲ PARAPET REPLACEMENT AREA.  
SEE SHEET \_\_ FOR DETAILS.



\*\* DIMENSION IS TAKEN PARALLEL TO  $\phi$  GIRDERS.



DATE: 02/03/2017

BRIDGE OFFICE: WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT: VINOD PATEL, P.E.  
(312) 616-7395

8

CHUNYM  
2-03-2017, 14:34:09

STATE PROJECT NUMBER

1227-08-73

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
502.3100.05	EXPANSION DEVICE B-5-214	LS	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	572	572
502.3210	PIGMENTED SURFACE SEALER	SY	9	9	125	143
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	42	-	-	42
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,330	-	-	1,330
505.0904	BAR COUPLERS NO. 4	EACH	4	-	-	4
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	16	-	-	16
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	57	57
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	23	23
509.0500	CLEANING DECKS	SY	-	-	557	557
509.1000	JOINT REPAIR	SY	-	-	18	18
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	51	51
509.9010.S.09	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-214	SY	-	-	557	557
509.9050.S	CLEANING PARAPETS	LF	27	25	323	375
517.3000.S.05	STRUCTURE OVERCOATING CLEANING AND PRIMING B-5-214	LS	-	-	-	1
517.4000.S.05	CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-214	LS	-	-	-	1
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION					

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "JOINT REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

CROSS SECTION THRU DECK LOOKING WEST

☆ NEW CONCRETE OVERLAY SLOPE = 6.0%  
EXISTING ASPHALTIC OVERLAY SLOPE = 6.0%  
ORIGINAL CONCRETE DECK SLOPE = 6.0%

\* WEATHERING STEEL

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-214".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR JOINT REPAIRS AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF EAST ABUTMENT BELOW EXPANSION DEVICE. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

CLEAN AND PAINT THE END 6 FEET OF ALL STRUCTURAL WEATHERING STEEL AT BOTH ABUTMENTS, EXCEPT THE EXTERIOR OF THE EXTERIOR GIRDERS. USE A FEDERAL STANDARD COLOR NO. 20059 (BROWN) FOR THE TOP COAT.

CLEAN AND PAINT ALL BEARINGS AT EAST ABUTMENT. CLEANING AND PAINTING OF BEARINGS IS INCLUDED WITH "STRUCTURE OVERCOATING CLEANING AND PRIMING B-5-214".

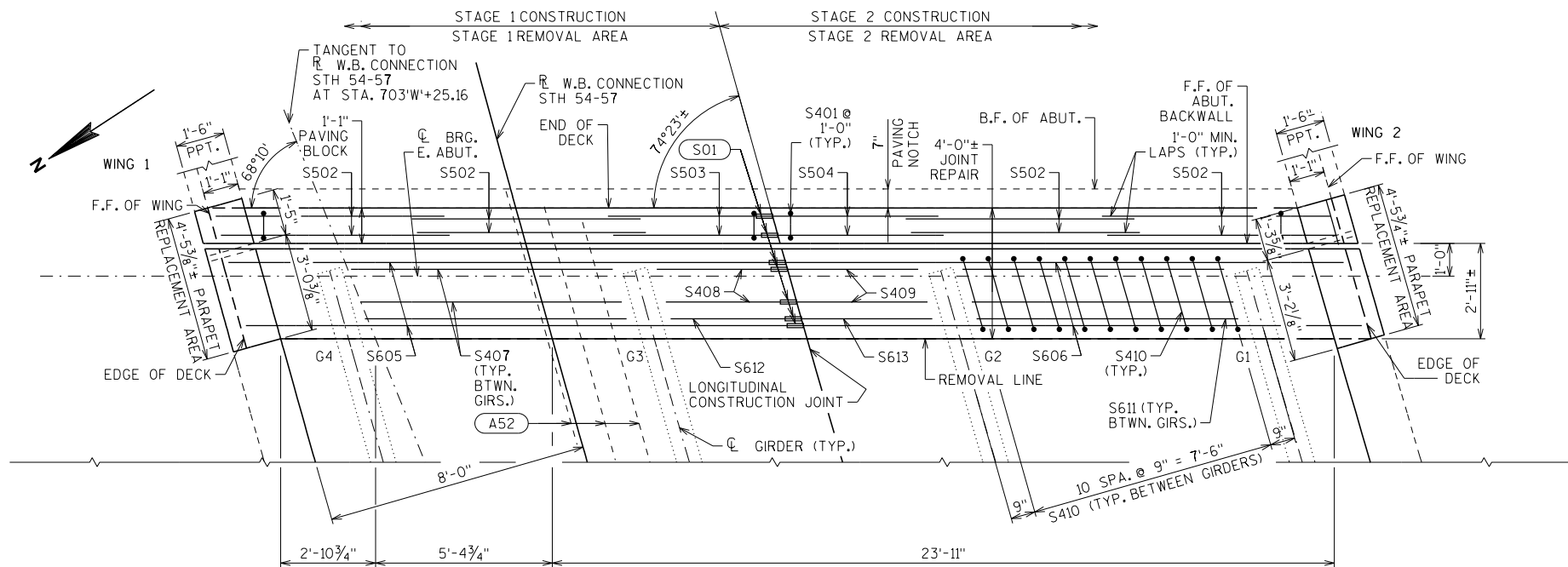
CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS AND EXPOSED TOP SURFACE OF JOINT REPAIR.

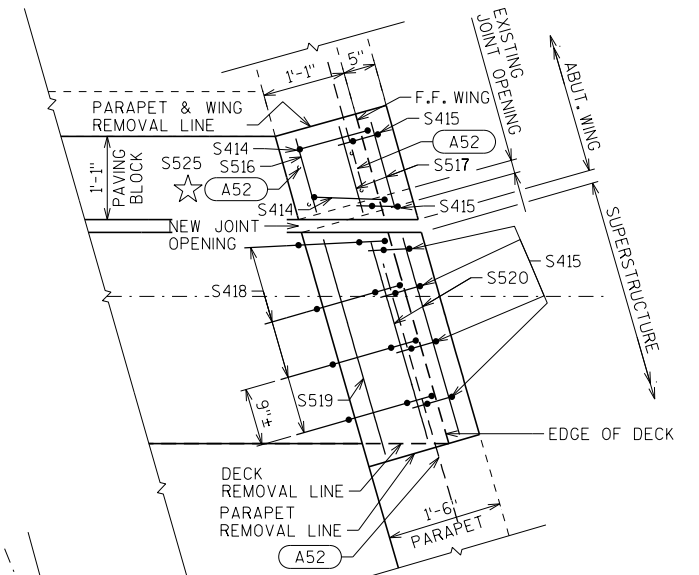
APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-214			
DRAWN BY YC		PLANS CK'D. VCP	
CROSS SECTION, QUANTITIES & NOTES		SHEET 2 OF 6	

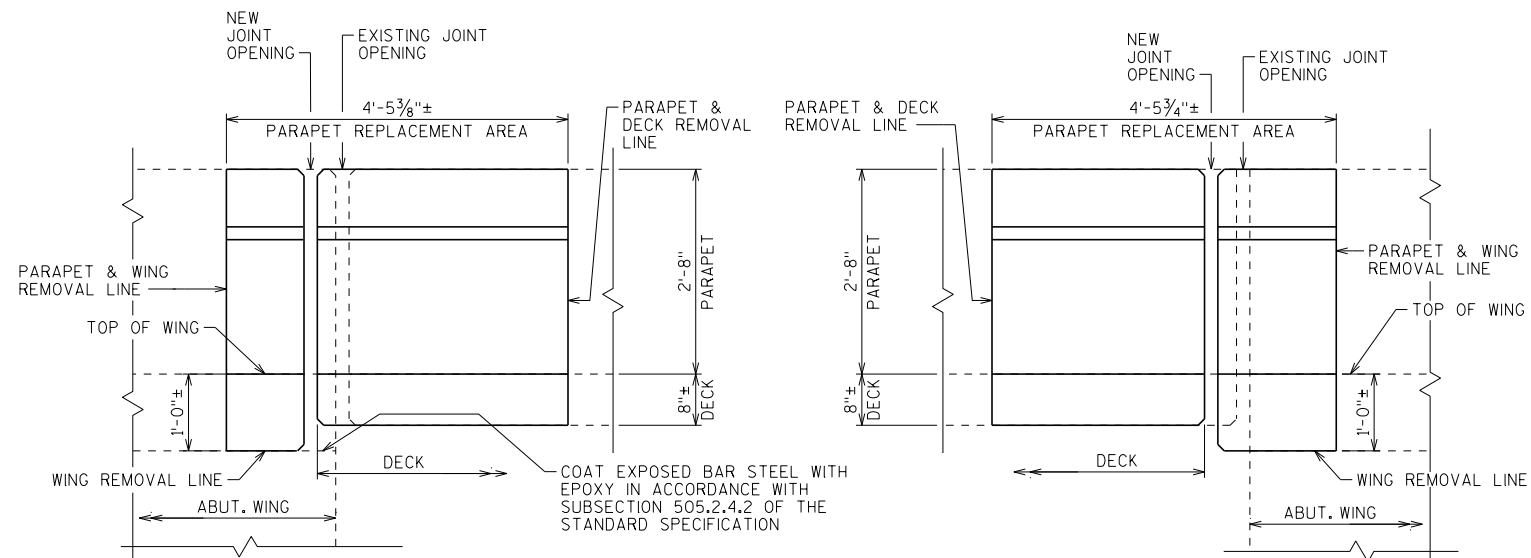
S01 BAR COUPLERS USED. BAR LENGTH COMPUTED TO  $\phi$  OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.



EAST ABUTMENT "JOINT REPAIR" PLAN



PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT WING CORNER 2

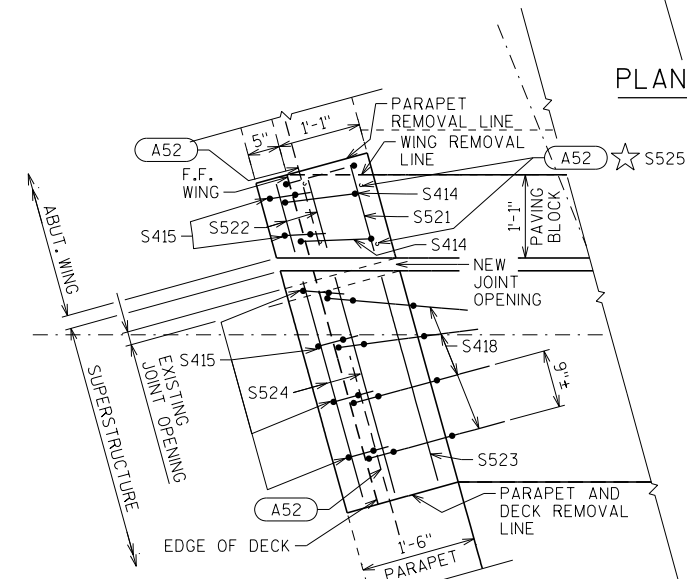


ELEVATION OF NEW WING CORNER 1

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)

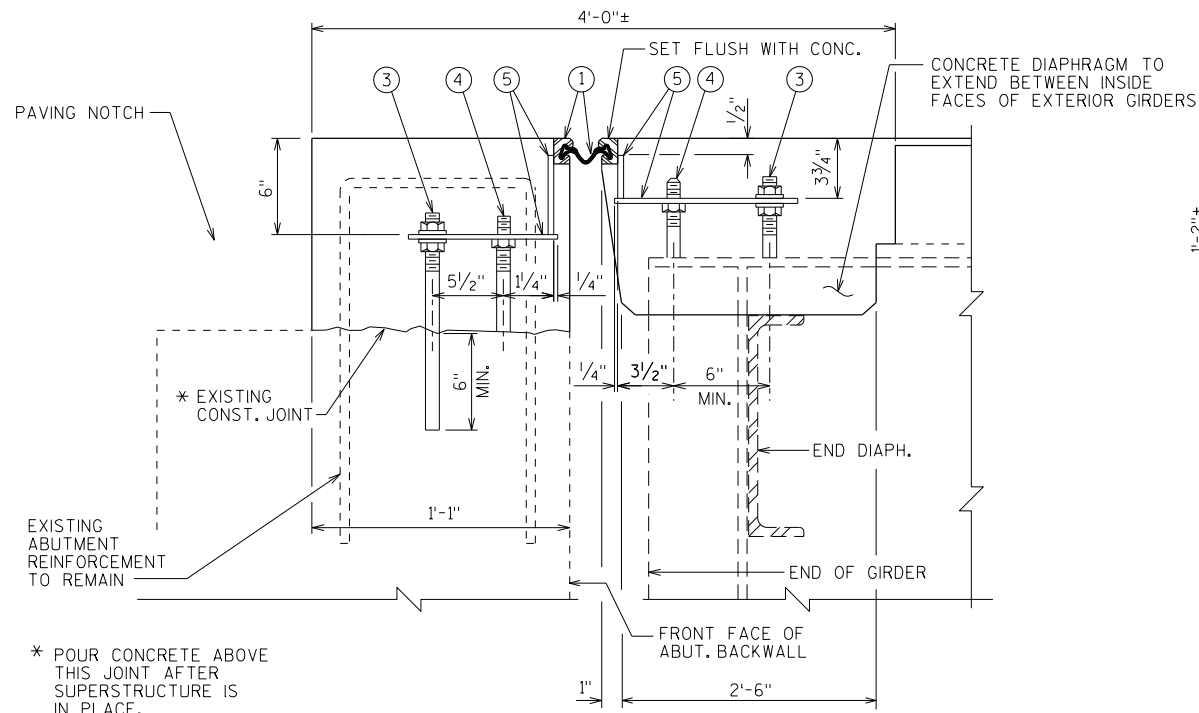
ELEVATION OF NEW WING CORNER 2

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)

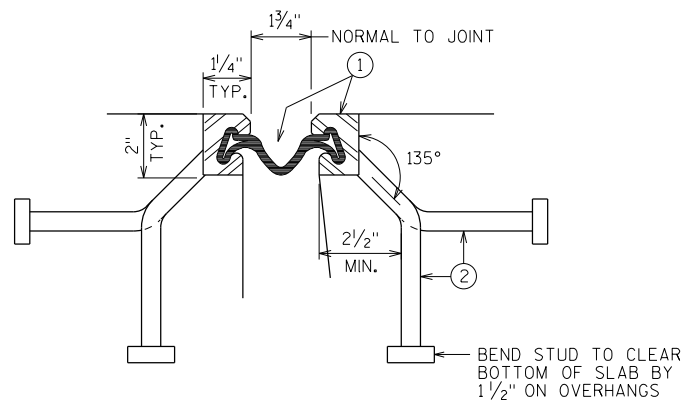


PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT WING CORNER 1

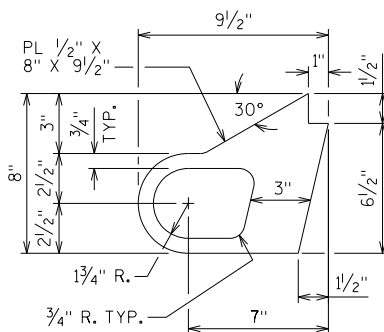
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-214			
		DRAWN BY J J G	PLANS CK'D. Y C
JOINT REPAIR		SHEET 3 OF 6	



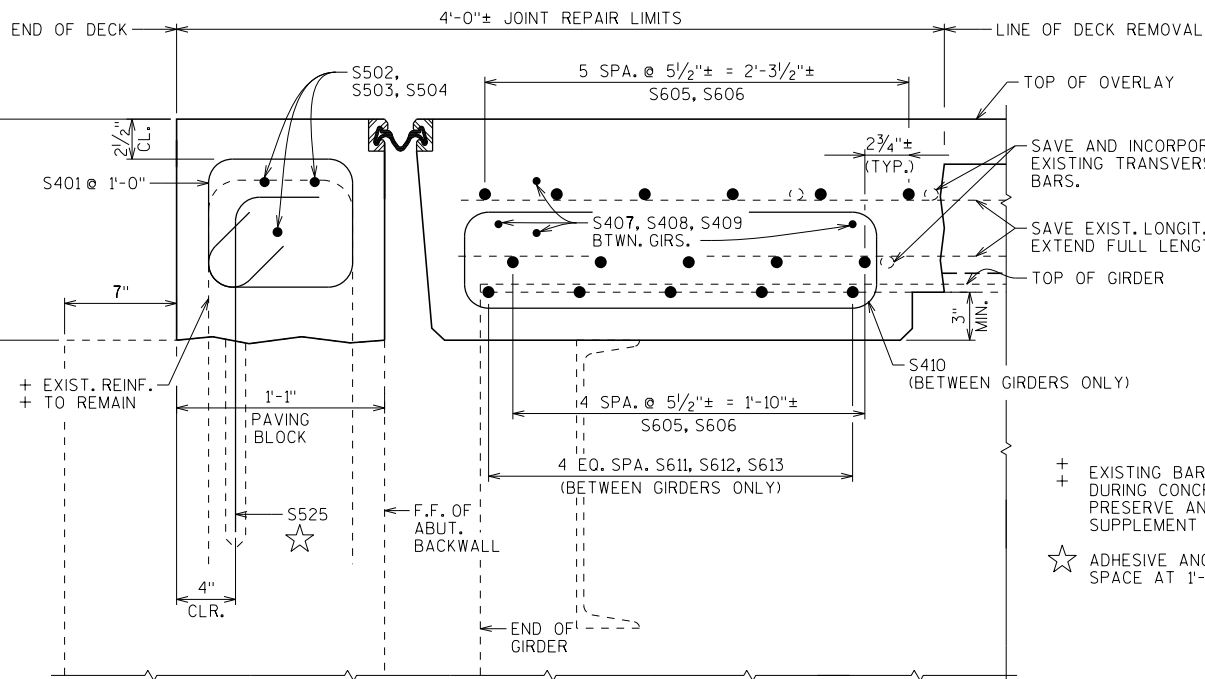
SECTION THRU JOINT AT E. ABUTMENT  
NORMAL TO CL SUBSTRUCTURE



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



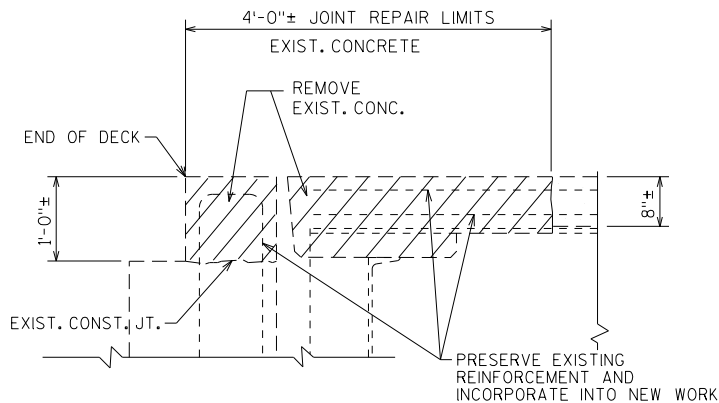
ALTERNATE STRIP SEAL ANCHOR



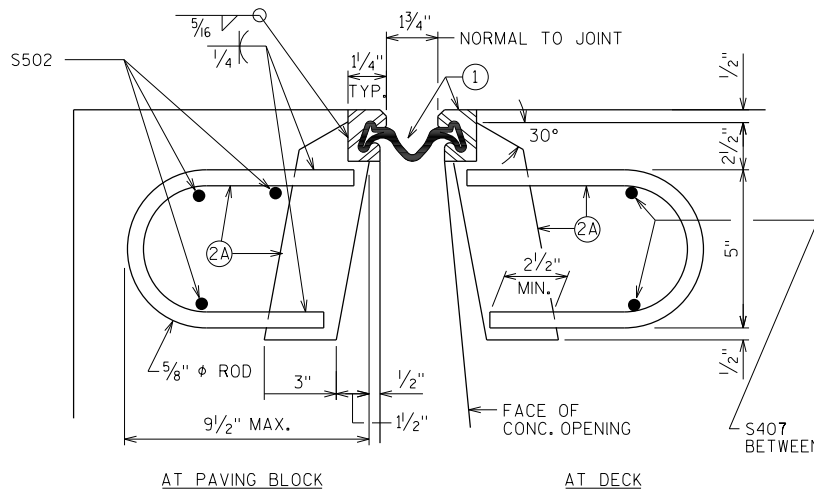
SECTION THRU JOINT AT E. ABUTMENT  
NORMAL TO CL SUBSTRUCTURE  
SHOWING REINFORCEMENT

#### LEGEND

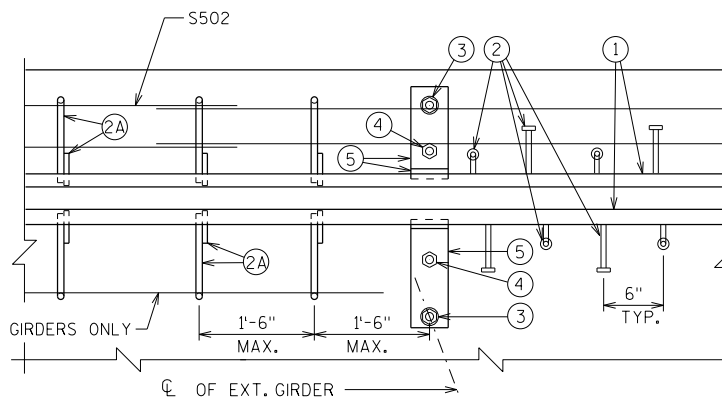
- NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- STUDS 5/8"φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- 1/2" THICK ANCHOR PLATE WITH 5/8"φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3/4"φ 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.
- 3/4"φ 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 1 1/2"φ HOLE FOR NO. 3 AND 1"φ HOLE FOR NO. 4.



JOINT REPAIR - REMOVAL  
SECTION THRU EXISTING EXPANSION JOINT  
AT E. ABUTMENT  
NORMAL TO CL SUBSTRUCTURE



SECTION THRU JOINT  
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.



PART PLAN

#### NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, 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.

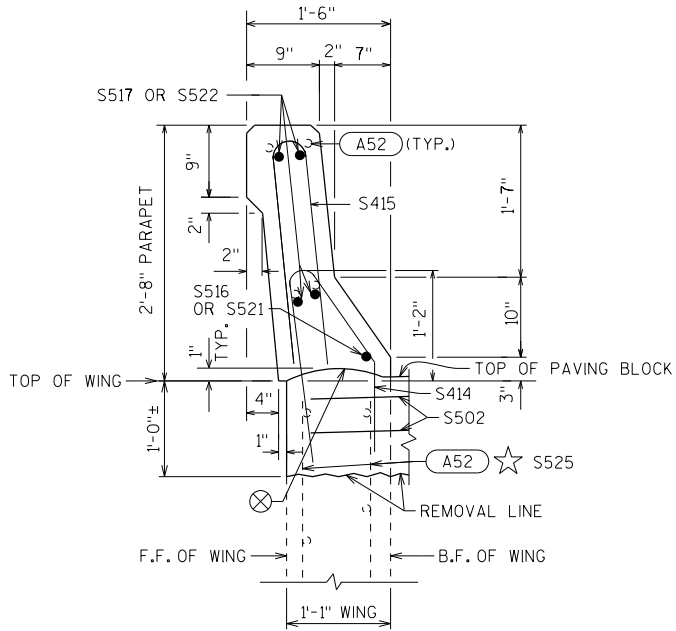
FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN AND SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

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.

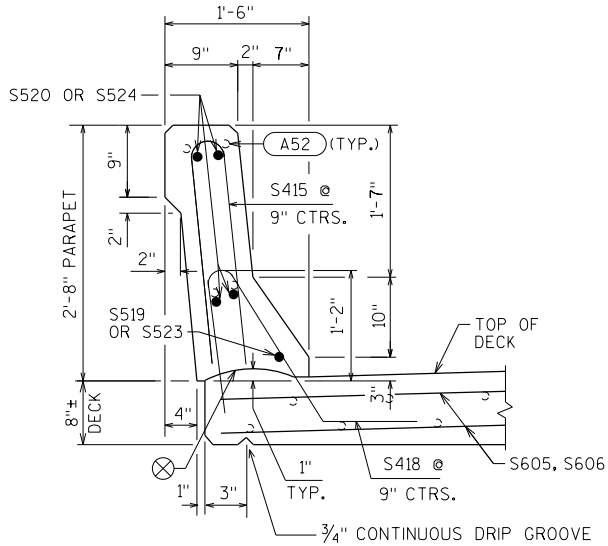
ANCHOR SYSTEM NO. 8 AND NO. 9 SHALL CONFORM TO ASTM A307 & SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C AND D.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-5-214".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-214			
EXPANSION DEVICE		DRAWN BY JJG	PLANS CK'D. YC
		SHEET 4 OF 6	



NEW SECTION THRU PARAPET ON WING



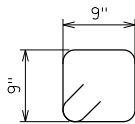
NEW SECTION THRU PARAPET ON DECK

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

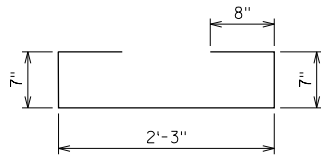
A52 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

THE NEW ADDITIONAL HORIZONTAL REINFORCEMENT REQUIRED IN THE PARAPETS SHALL BE TIED TO THE EXISTING HORIZONTAL REINFORCEMENT.

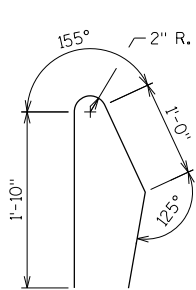
☆ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS S525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.



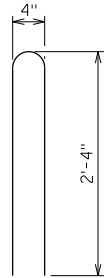
S401



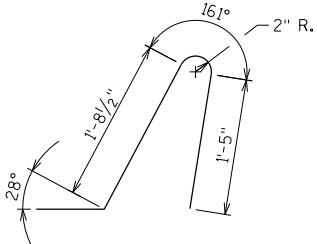
S410



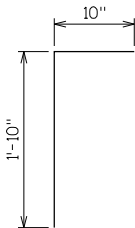
S414



S415



S418



S525

### BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		E. ABUT.	W. ABUT.				
S401	X	34	-	3'-6"	X		PAVING BLOCK - VERT. - STIRRUP - AT STAGE 1 & 2 CONST.
S502	X	12	-	7'-0"			PAVING BLOCK - HORIZ. - AT STAGE 1 & 2 CONST.
S503	X	3	-	5'-1"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST.
S504	X	3	-	5'-1"			PAVING BLOCK - HORIZ. - AT STAGE 2 CONST.
S605	X	11	-	17'-1"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 1 CONST.
S606	X	11	-	17'-1"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 2 CONST.
S407	X	8	-	8'-0"			DECK - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S408	X	4	-	4'-0"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S409	X	4	-	4'-0"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S410	X	33	-	4'-5"	X		DECK/CONC. DIAPH. - VERT. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S611	X	10	-	8'-0"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S612	X	5	-	4'-0"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S613	X	5	-	4'-0"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S414	X	4	-	4'-3"	X		WING & PARAPET - VERT. - TRANS. - AT WING CORNERS 1 & 2
S415	X	12	-	4'-10"	X		PARAPET - VERT. - TRANS. - ABOVE DECK AND WINGS - AT WING CORNERS 1 & 2
S516	X	1	-	1'-0"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S517	X	4	-	1'-2"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S418	X	7	-	4'-3"	X		DECK & PARAPET - VERT. - TRANS. - AT WING CORNERS 1 & 2
S519	X	1	-	2'-11"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S520	X	4	-	2'-8"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S521	X	1	-	1'-2"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S522	X	4	-	0'-11"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S523	X	1	-	2'-9"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S524	X	4	-	2'-11"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S525	X	42	-	2'-7"	X		PAVING BLOCK & ENDS OF ABUT. BACKWALL - VERT. - DOWEL - AT STAGE 1 & 2 CONST.
- - -			-				

\* BAR COUPLERS USED, BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.  
\*\* ADHESIVE ANCHORS NO. 5 BAR.

STATE PROJECT NUMBER

1227-08-73

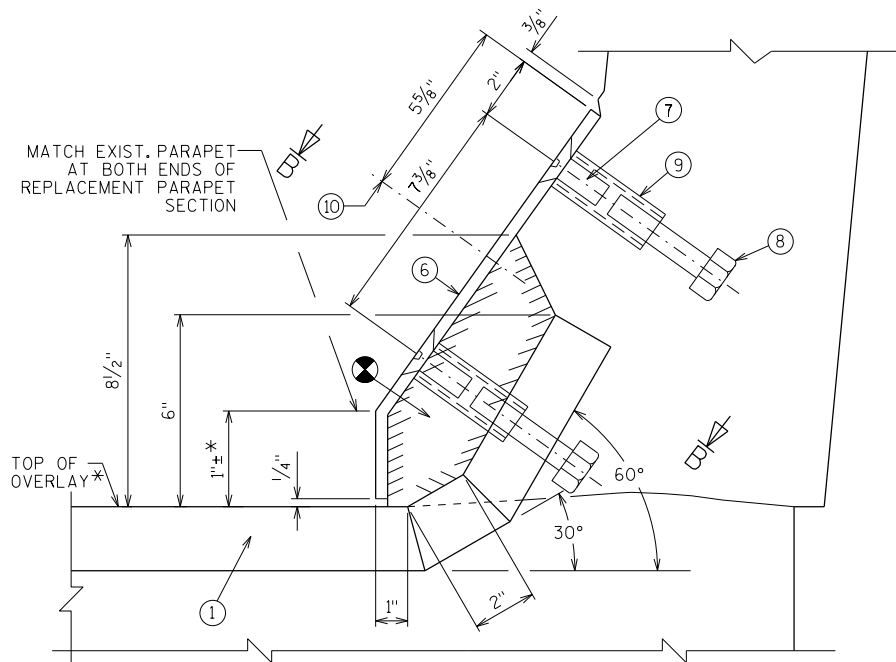
UNCOATED: 0 LBS  
COATED: 1330 LBS

E. ABUT. 0 LBS  
W. ABUT. 0 LBS

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-214			
DRAWN BY JJG		PLANS CK'D. YC	
JOINT REPAIR - BILL OF BARS		SHEET 5 OF 6	

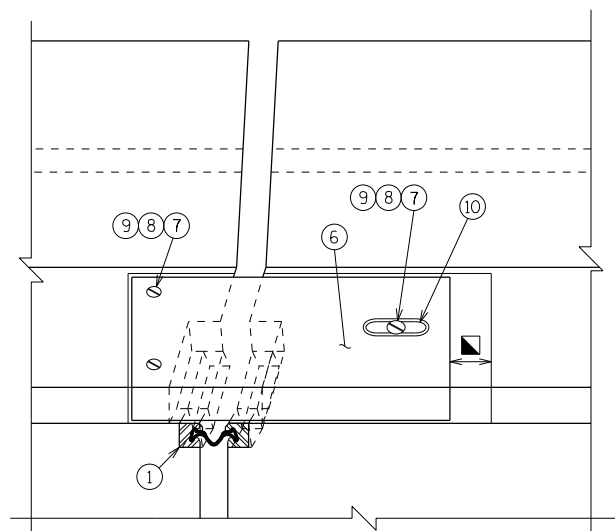
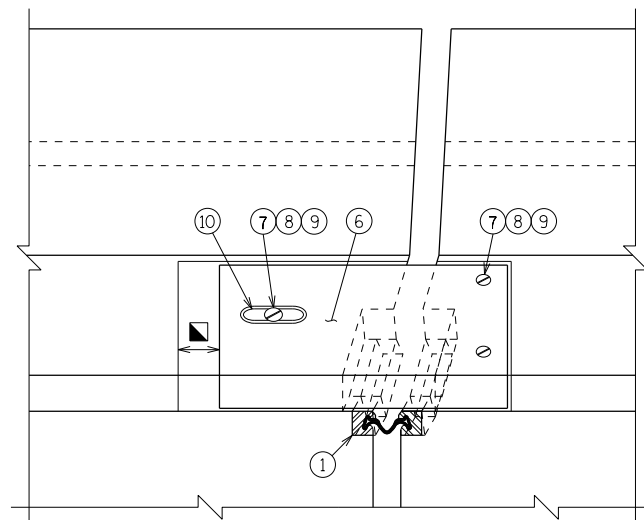
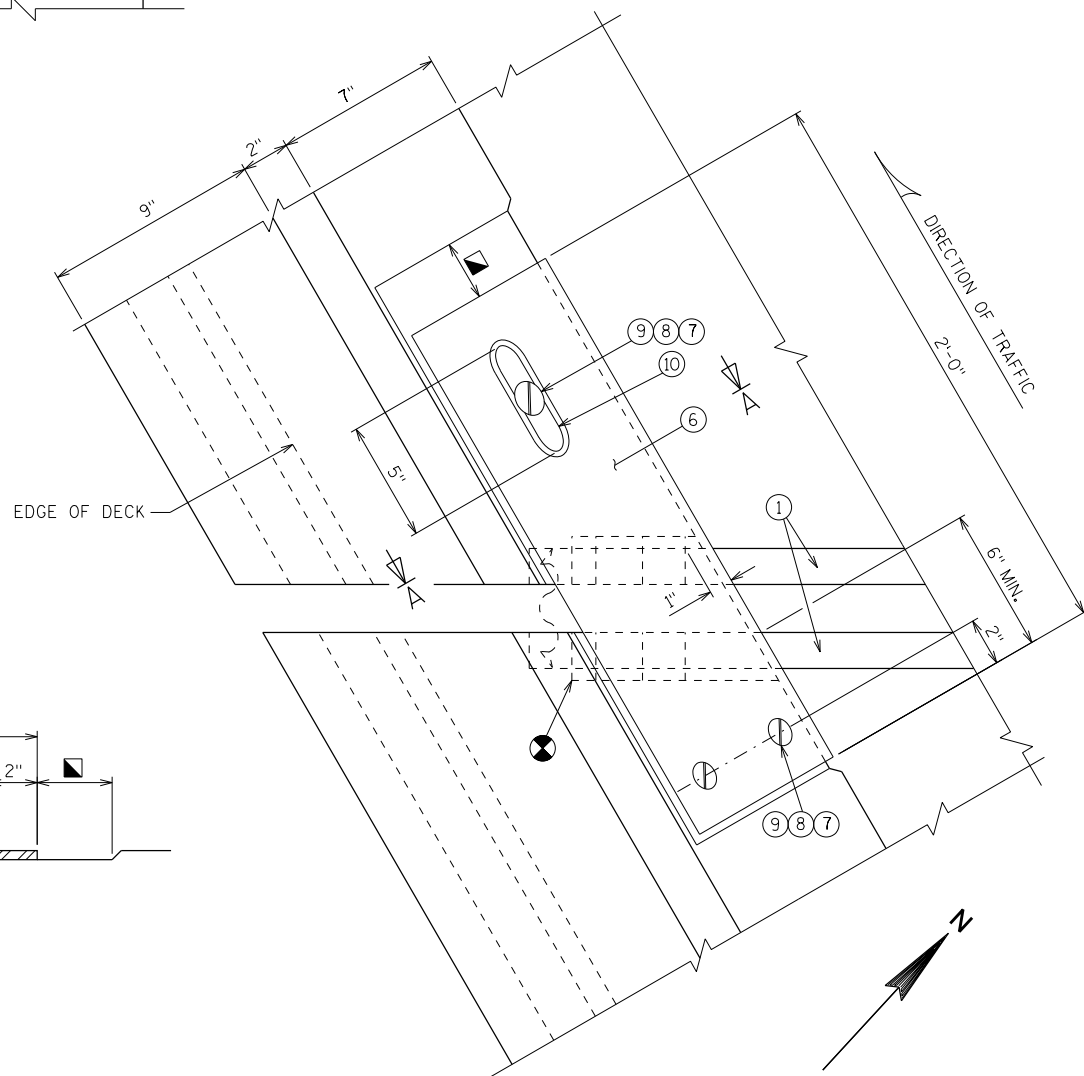
## LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS  $\frac{5}{8}$ " $\phi$  X  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ⑥ GALVANIZED PLATE  $\frac{3}{8}$ " X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
- ⑦  $\frac{3}{4}$ " $\phi$  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  $\frac{3}{4}$ " $\phi$  X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- ⑨  $\frac{3}{4}$ " $\phi$  X  $2\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- ⑩ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

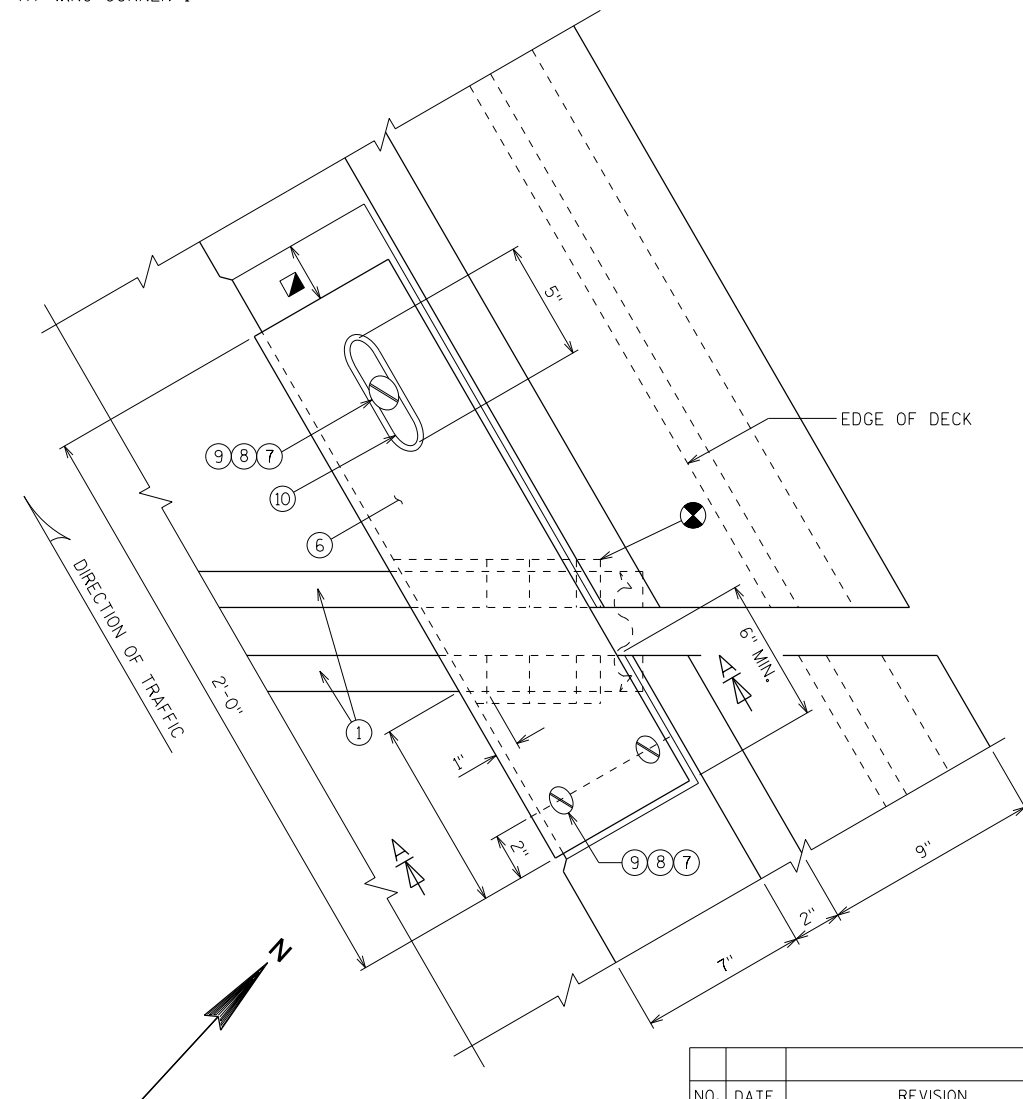


SECTION A-A

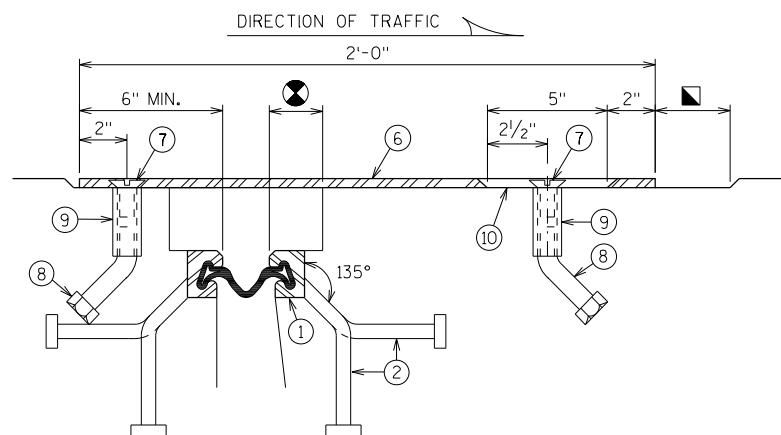
\* TOP OF OVERLAY  
@ 2" ABOVE TOP  
OF ORIGINAL DECK.

VIEW OF PARAPET PLATE  
FROM ROADWAY  
AT WING CORNER 2VIEW OF PARAPET PLATE  
FROM ROADWAY  
AT WING CORNER 1

PLAN AT WING CORNER 2



PLAN AT WING CORNER 1



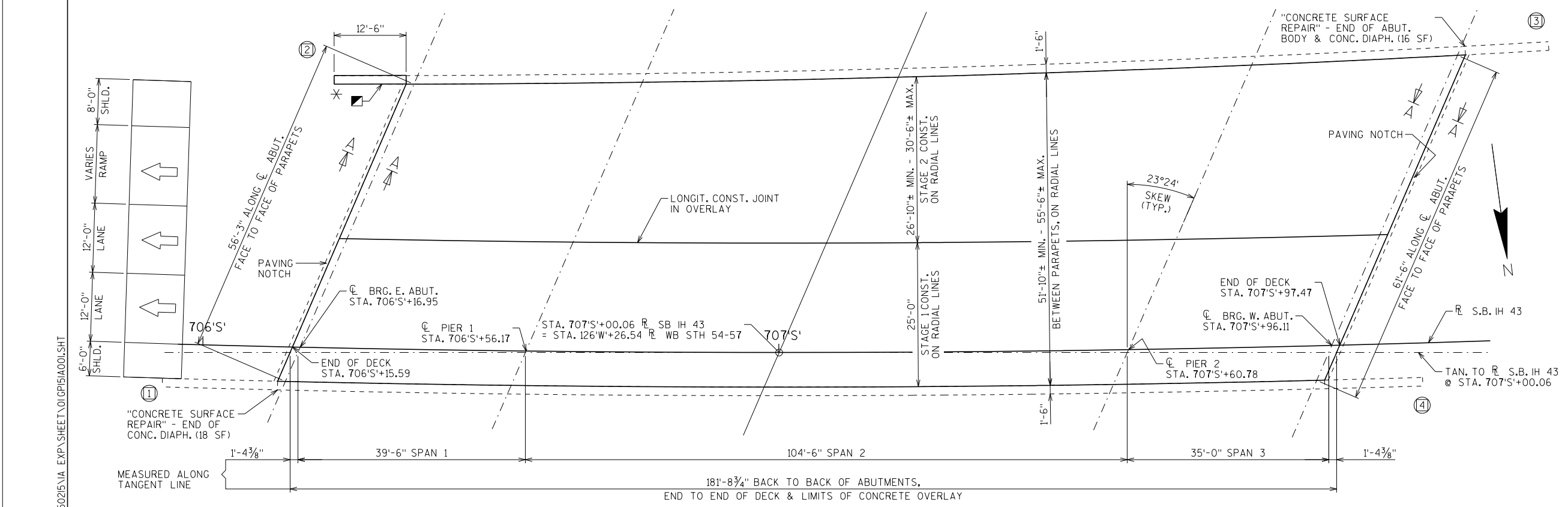
SECTION B-B

AT WING CORNER 1  
OPPOSITE HAND AT WING CORNER 2

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

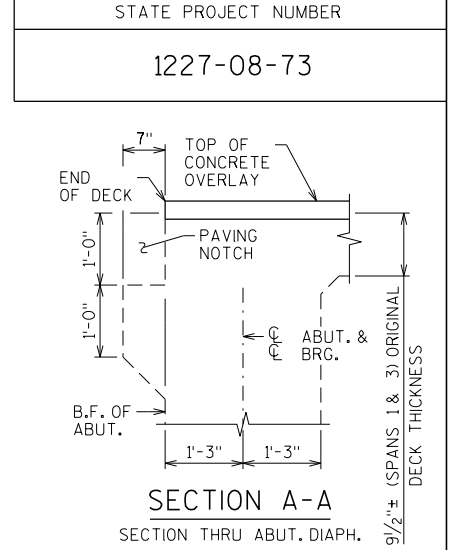
▣ JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-214			
DRAWN BY JJC		PLANS CK'D. YC	
COVER PLATE DETAILS		SHEET 6 OF 6	



PLAN  
(3-SPAN PRESTRESSED CONCRETE GIRDER, CONCRETE OVERLAY)

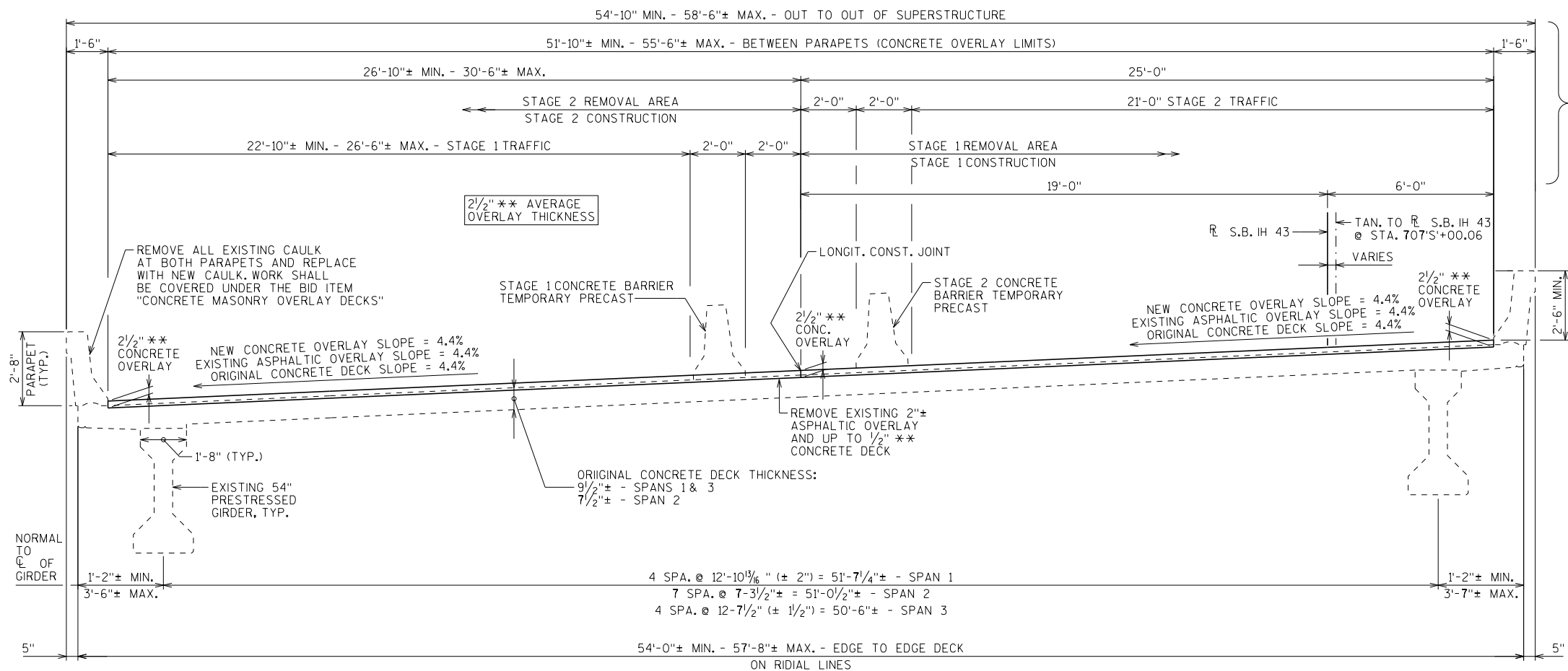
INDICATES WINGWALL NUMBER  
REPLACE WINGWALL. SEE SHEET -- FOR DETAILS.  
PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT



DATE: 02/03/2017

LIST OF DRAWINGS

- 1. GENERAL PLAN & CROSS SECTION
- 2. QUANTITIES & NOTES
- 3. WINGWALL 2 REPLACEMENT
- 4. SLOPED FACE PARAPET "B"



CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

STRUCTURE DESIGN CONTACTS  
BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

NO.	DATE	REVISION	BY
exp. U.S. Services Inc. Milwaukee, WI BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED: CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-5-215			
IH 43 SB OVER STH 54 WB-STH 57 SB			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JUG/YC	PLANS CK'D.	VCP
GENERAL PLAN & CROSS SECTION			SHEET 1 OF 4

8

\$\$\$\$\$ref\_list\_name\$\$\$\$\$  
CHUNYM  
2-03-2017, 14:38:21

\\PCHAPP004\AM\VAUL\I.D--TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\N5\_B050205\VA\_EXP\SHEET\02\_SIN51A001.SHT

TOTAL ESTIMATED QUANTITIES

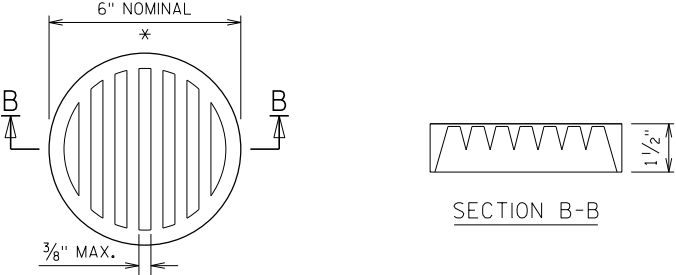
BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
203.0200.02	REMOVING OLD STRUCTURE STA. 706'S+57.83	LS	-	-	-	1
206.1000.02	EXCAVATION FOR STRUCTURES BRIDGES B-5-215	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	43	-	-	43
502.0100	CONCRETE MASONRY BRIDGES	CY	6	-	-	6
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	1,090	1,090
502.3210	PIGMENTED SURFACE SEALER	SY	12	11	139	162
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	2	-	-	2
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	19	-	-	19
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	890	-	-	890
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	109	109
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	44	44
509.0500	CLEANING DECKS	SY	-	-	1,090	1,090
509.1500	CONCRETE SURFACE REPAIR	SF	18	20	26	64
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	85	85
509.9010.S.10	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-215	SY	-	-	1,090	1,090
509.9050.S	CLEANING PARAPETS	LF	20	32	366	418
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3	-	-	3
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	43	-	-	43
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	-	-	1
	NON-BID ITEMS					
	PREFORMED JOINT FILLER	SIZE	-	-	-	1/2 "

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

8

8

RODENT SCREEN DETAIL



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

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

THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-215".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE ABUTMENT.

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

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

INSTALL RODENT SCREEN(S) AT THE EXPOSED END(S) OF PIPE UNDERDRAIN.

STATE PROJECT NUMBER

1227-08-73

TRAFFIC VOLUME

IH 43

A.D.T. = 50,400 (2036)  
R.D.S. = 70 MPH

STH 54 WB - STH 57 SB

A.D.T. = 20,000 (2036)  
R.D.S. = 70 MPH

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS34  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

MATERIAL PROPERTIES:

CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
ALL OTHER f'c = 3,500 P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

CURVE DATA

R S.B. IH 43

PI = STA. 695'S+72.537  
Δ = 43°-17'-25.59"  
D = 1°-32'-07.34"  
T = 1480.900'  
L = 2819.540'  
R = 3731.719'  
SE = 4.4%  
RO = 201'  
PC = STA. 680'S+91.639  
PT = STA. 709'S+11.177 BK= STA. 709'S+77.665 AH

QUANTITIES & NOTES

SHEET 2 OF 4

NO. DATE REVISION BY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-215

DRAWN BY YC PLANS CK'D. VCP

550 LBS

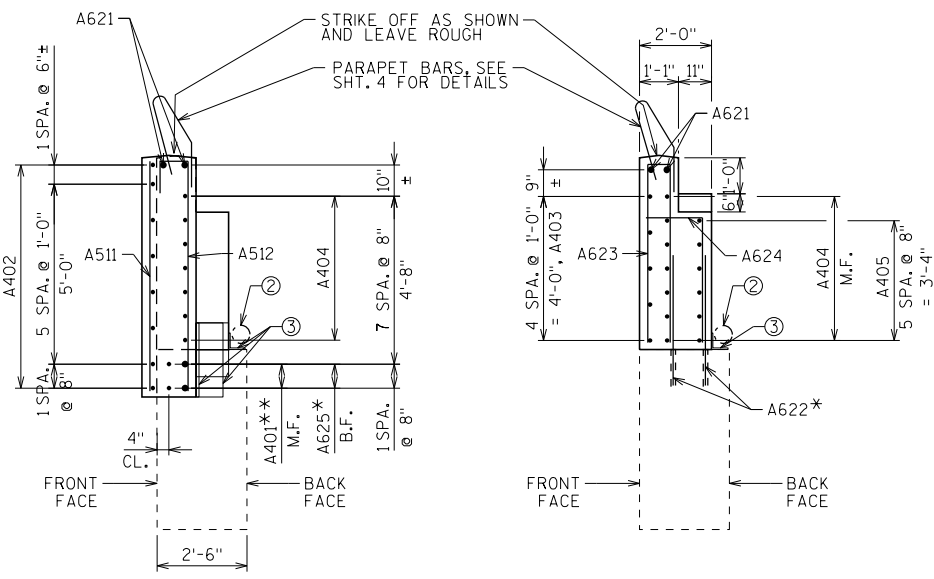
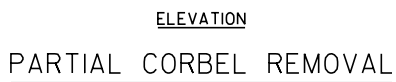
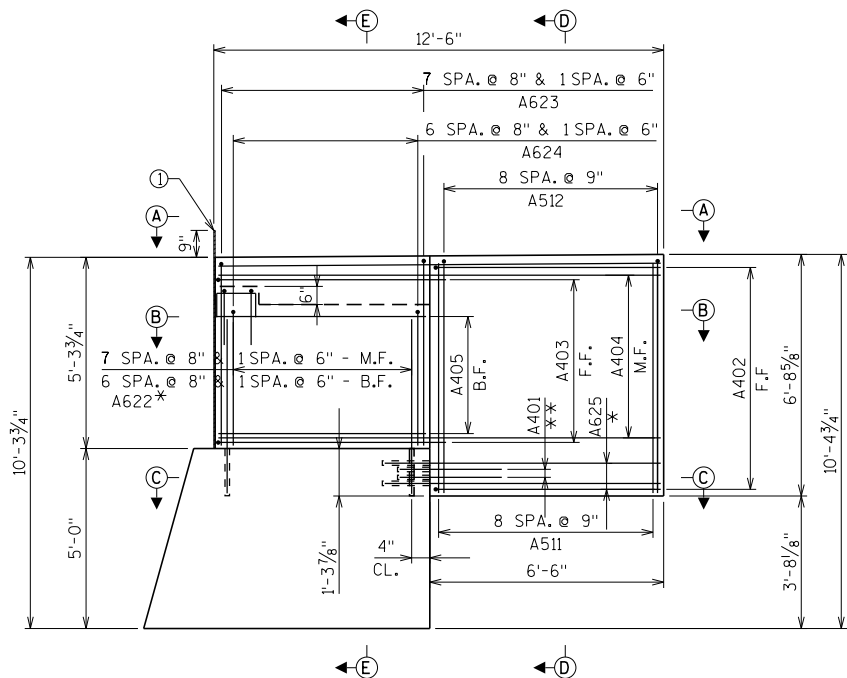
	BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
* *	A401	X	2	2'-10"		HORIZONTAL ANCHOR BARS, BOTTOM, M.F.
	A402	X	8	6'-10"	X	HORIZONTAL, F.F.
	A403	X	5	8'-6"	X	HORIZONTAL, F.F.
	A404	X	7	12'-1"	X	HORIZONTAL, M.F.
	A405	X	6	5'-3"		HORIZONTAL, B.F.
	A406	X	1	3'-5"	X	U BAR, PAVING NOTCH
	A407	X	1	3'-7"	X	U BAR, PAVING NOTCH
	A408	X	1	3'-5"	X	U BAR, PAVING NOTCH
	A409	X	1	3'-6"	X	U BAR, PAVING NOTCH
	A511	X	9	6'-4"		VERTICAL, F.F.
	A512	X	9	7'-8"	X	VERTICAL, B.F.
	A621	X	2	12'-1"	X	HORIZONTAL, TOP OF WING
*	A622	X	17	3'-10"		VERTICAL ANCHOR BARS, M.F. & B.F.
	A623	X	9	10'-7"	X	VERTICAL U BARS, F.F.
	A624	X	8	5'-1"	X	VERTICAL L BARS, B.F.
*	A625	X	2	7'-7"	X	HORIZONTAL ANCHOR BARS, BOTTOM, B.F.

NOTES:

- ① 1/2" FILLER INCLUDED IN WING LENGTH, SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
- ② PIPE UNDERDRAIN WRAPPED 6 INCH, SLOPE 0.5% MIN. TO DRAIN.
- ③ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
- ④ PROVIDE 2" CLEAR COVER UNLESS NOTED OTHERWISE.

\* ADHESIVE ANCHORS NO. 6 BAR.  
EMBED 15" INTO CONCRETE.

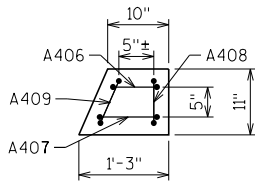
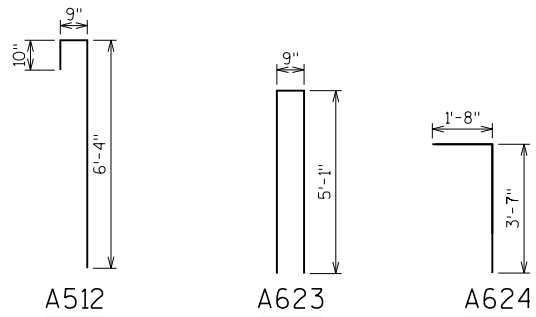
\*\* ADHESIVE ANCHORS NO. 4 BAR.  
EMBED 10" INTO CONCRETE.



SECTION D-D



BAR	A	B
A406	7"	1'-6"
A407	9"	1'-6"
A408	7"	1'-6"
A409	8	1'-6"



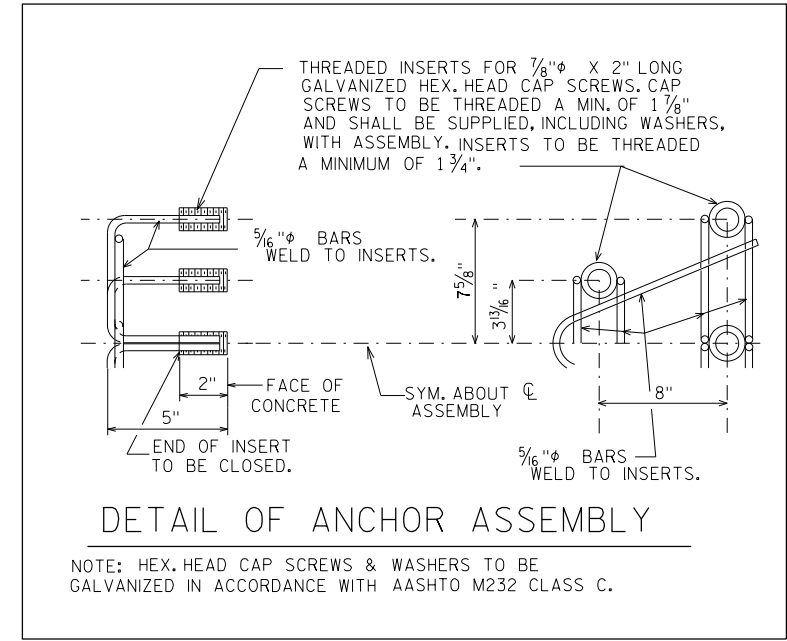
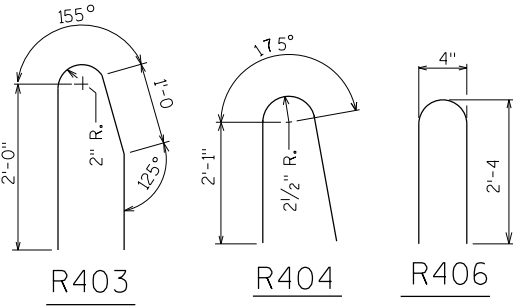
DETAIL A

BILL OF BARS

FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE. EPOXY COAT ALL PRAPET REINF.

BAR MARK	NO. REQ'D	E. ABUT.	W. ABUT.	LENGTH	BENT	LOCATION
R401	15	-	-	4'-9"	X	WING 2 STIRRUPS
R402	4	-	-	3'-1"	X	WING 2
R403	8	-	-	4'-7"	X	WING 2 STIRRUPS
R404	15	-	-	4'-9"	X	WING 2
R505	6	-	-	6'-2"	-	WING 2
R406	8	-	-	4'-10"	X	WING 2
R507	4	-	-	7'-9"	-	WING 2
R509	1	-	-	12'-1"	X	WING 2

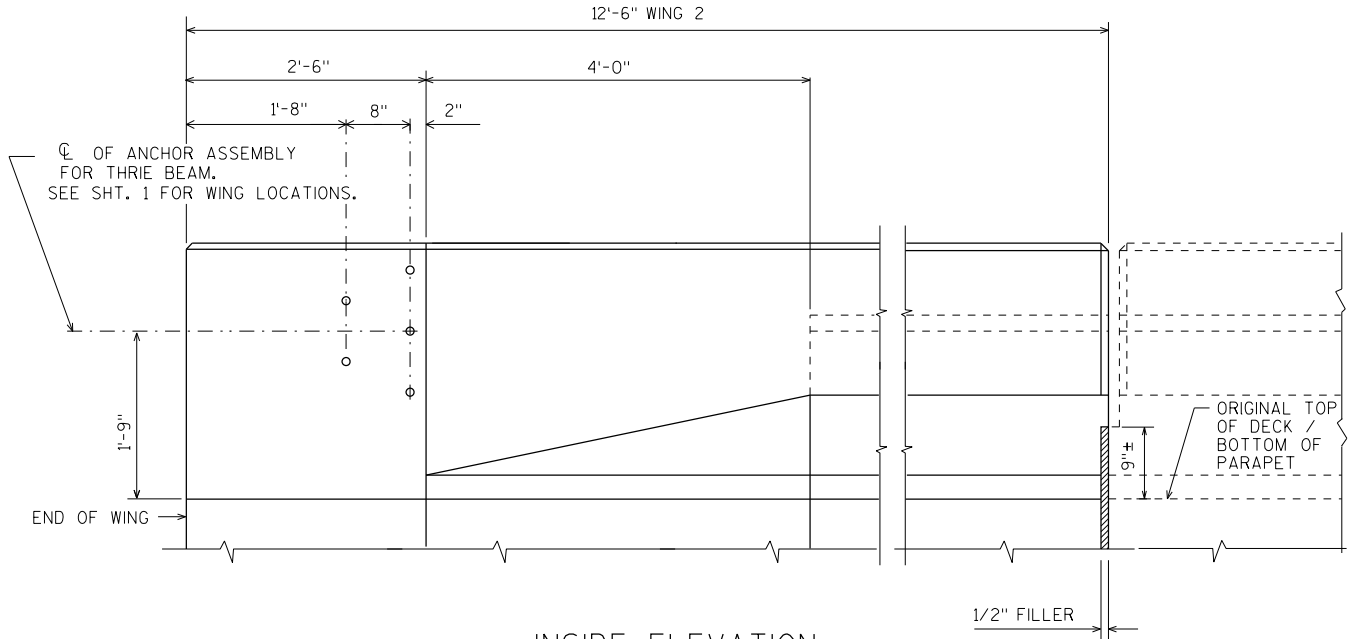


DETAIL OF ANCHOR ASSEMBLY

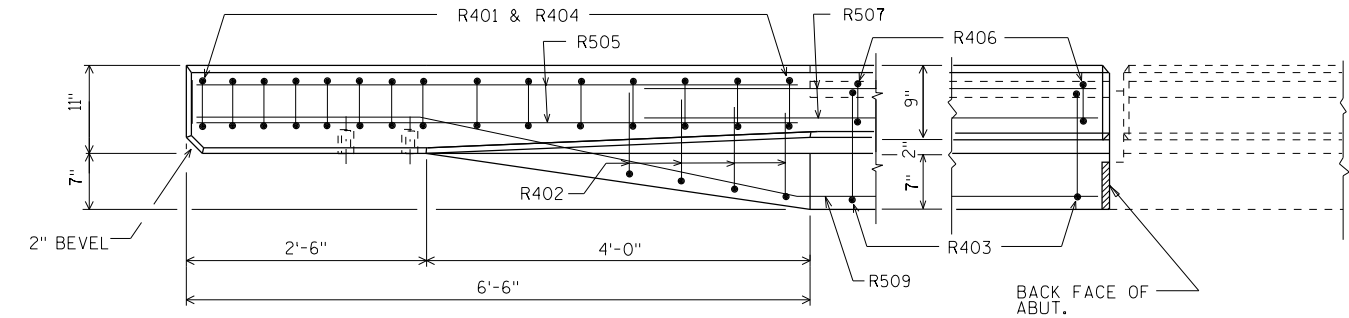
NOTE: HEX. HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

NO.	DATE	REVISION	BY
		STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
		STRUCTURE B-5-215	
		DRAWN BY JJC	PLANS CK'D. YC
		SLOPED FACE PARAPET "B"	SHEET 4 OF 4

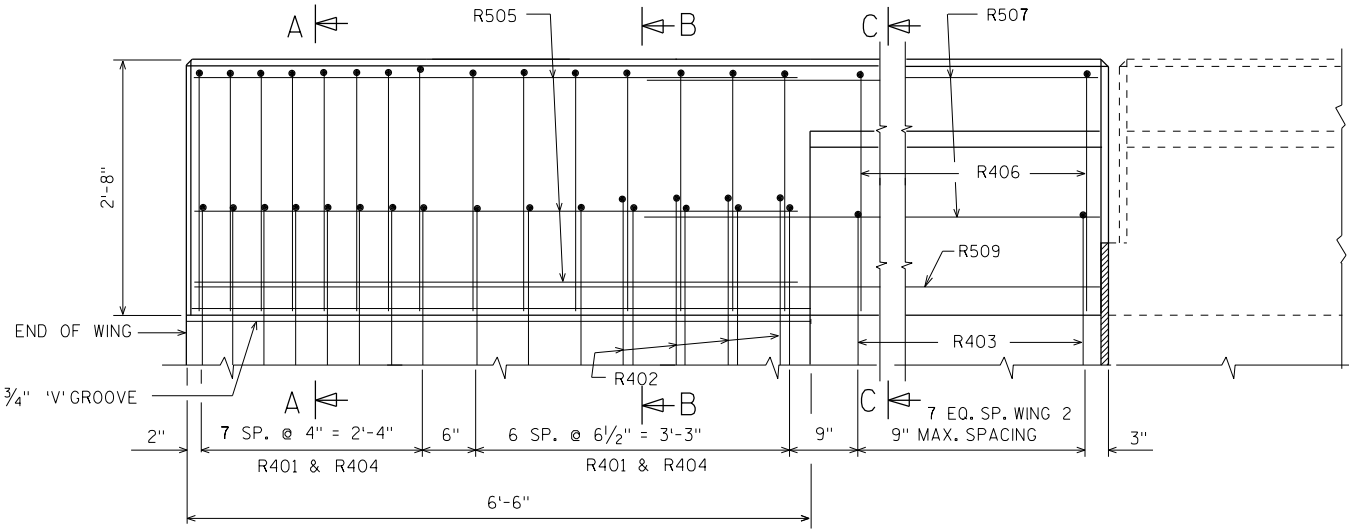
CONST. JOINT - STRIKE OFF AS SHOWN.



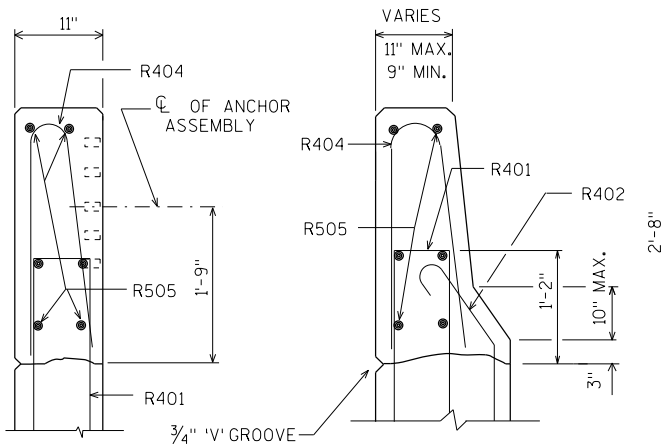
INSIDE ELEVATION



PLAN

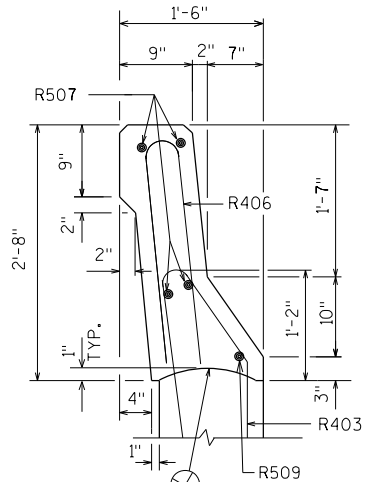


OUTSIDE ELEVATION

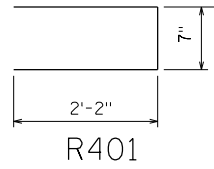


SECTION A

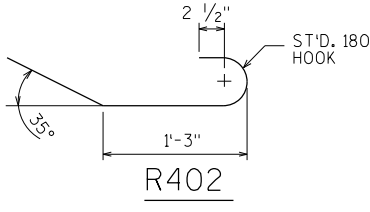
SECTION B



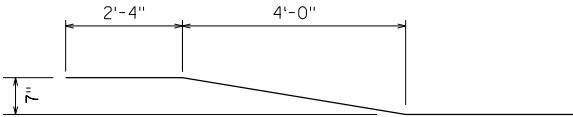
SECTION C



R401



R402

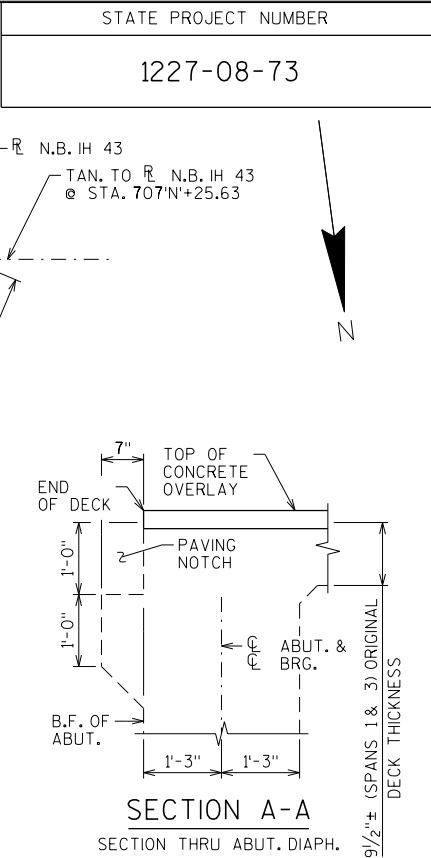
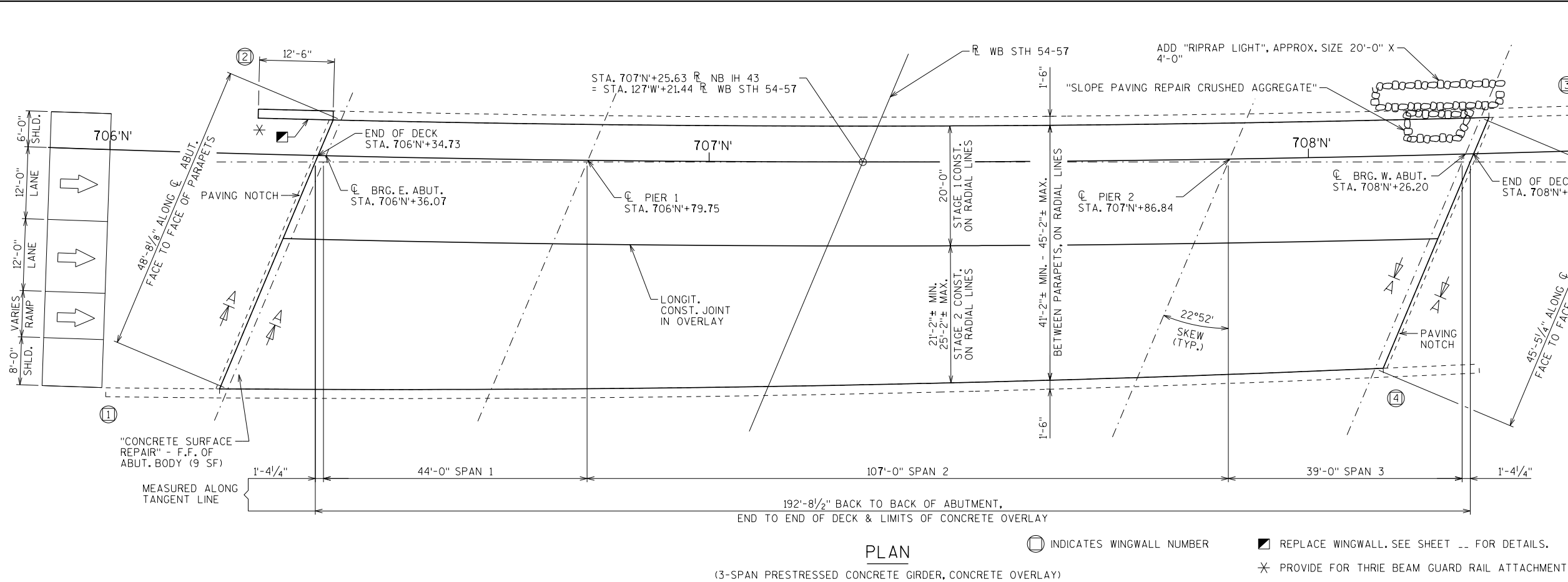


R509

\\PCHAPP004\AM\VAULT\I.D-TRANS\_07\TDC\WIS\00214891-A0\STRUCT\CAD\N5 B05025\NVA EXP\SHEET\04 SUJ5IA001.SHT

8

..SUJ5IA001.DGN, ..XBD5IA001.DGN  
CHUNYM  
2-03-2017, 14:38:24



DESIGN DATA

LIVE LOAD:  
DESIGN LOADING: HS20  
INVENTORY RATING: HS19  
OPERATING RATING: HS32  
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 250 KIPS

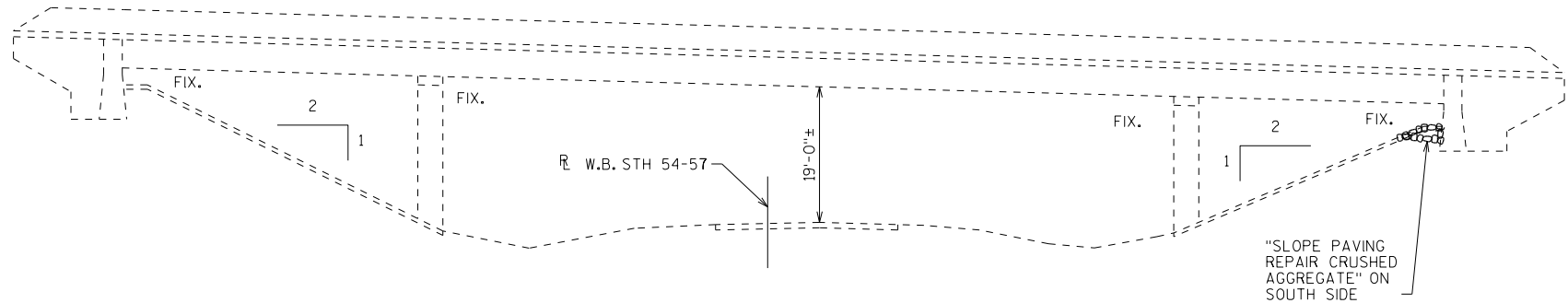
MATERIAL PROPERTIES:  
CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
ALL OTHER f'c = 3,500 P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

TRAFFIC VOLUME

IH 43 STH 54 WB - STH 57 SB  
A.D.T. = 50,400 (2036) A.D.T. = 20,000  
R.D.S. = 70 MPH R.D.S. = 70 MPH

CURVE DATA

R N.B. IH 43  
PI = STA. 696'N'+07.459  
Δ = 43°-17'-25.43"  
D = 1°-30'-00"  
T = 1515.82'  
L = 2886.027'  
R = 3819.719'  
SE = 4.4%  
RO = 201'  
PC = STA. 680'N'+91.639  
PT = STA. 709'N'+77.665



DATE: 02/03/2017

STRUCTURE DESIGN CONTACTS  
BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

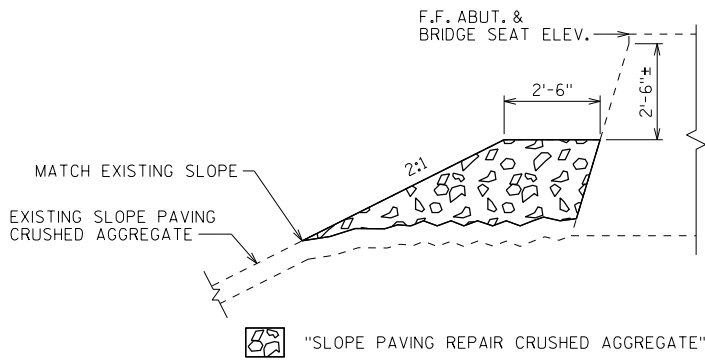
LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES
3. WINGWALL 2 REPLACEMENT
4. SLOPED FACE PARAPET "B"

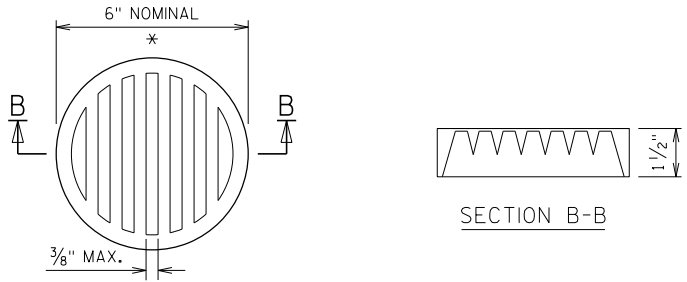
NO.	DATE	REVISION	BY
exp. U.S. Services Inc. Milwaukee, WI BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE B-5-216			
IH 43 NB OVER STH 54 WB-STH 57 SB			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D. VCP	DRAWN BY JYG/YC
GENERAL PLAN & ELEVATION		PLANS CK'D. VCP	SHEET 1 OF 4

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
203.0200.03	REMOVING OLD STRUCTURE STA. 707'N'+31.15	LS	-	-	-	1
206.1000.03	EXCAVATION FOR STRUCTURES BRIDGES B-5-216	LS	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	42	-	-	42
502.0100	CONCRETE MASONRY BRIDGES	CY	6	-	-	6
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	935	935
502.3210	PIGMENTED SURFACE SEALER	SY	11	11	148	170
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	2	-	-	2
502.4206	ADHESIVE ANCHORS NO. 6 BAR	EACH	19	-	-	19
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	890	-	-	890
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	94	94
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	38	38
509.0500	CLEANING DECKS	SY	-	-	935	935
509.1500	CONCRETE SURFACE REPAIR	SF	9	9	42	60
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	73	73
509.9010.S.11	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-216	SY	-	-	935	935
509.9050.S	CLEANING PARAPETS	LF	19	31	390	440
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3	-	-	3
604.9010.S	SLOPE PAVING REPAIR CRUSHED AGGREGATE	CY	-	4	-	4
606.0100	RIPRAP LIGHT	CY	-	6	-	6
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	43	-	-	43
614.0150	ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD	EACH	1	-	-	1
	NON-BID ITEMS					
	PREFORMED JOINT FILLER	SIZE	-	-	-	1/2 "

THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

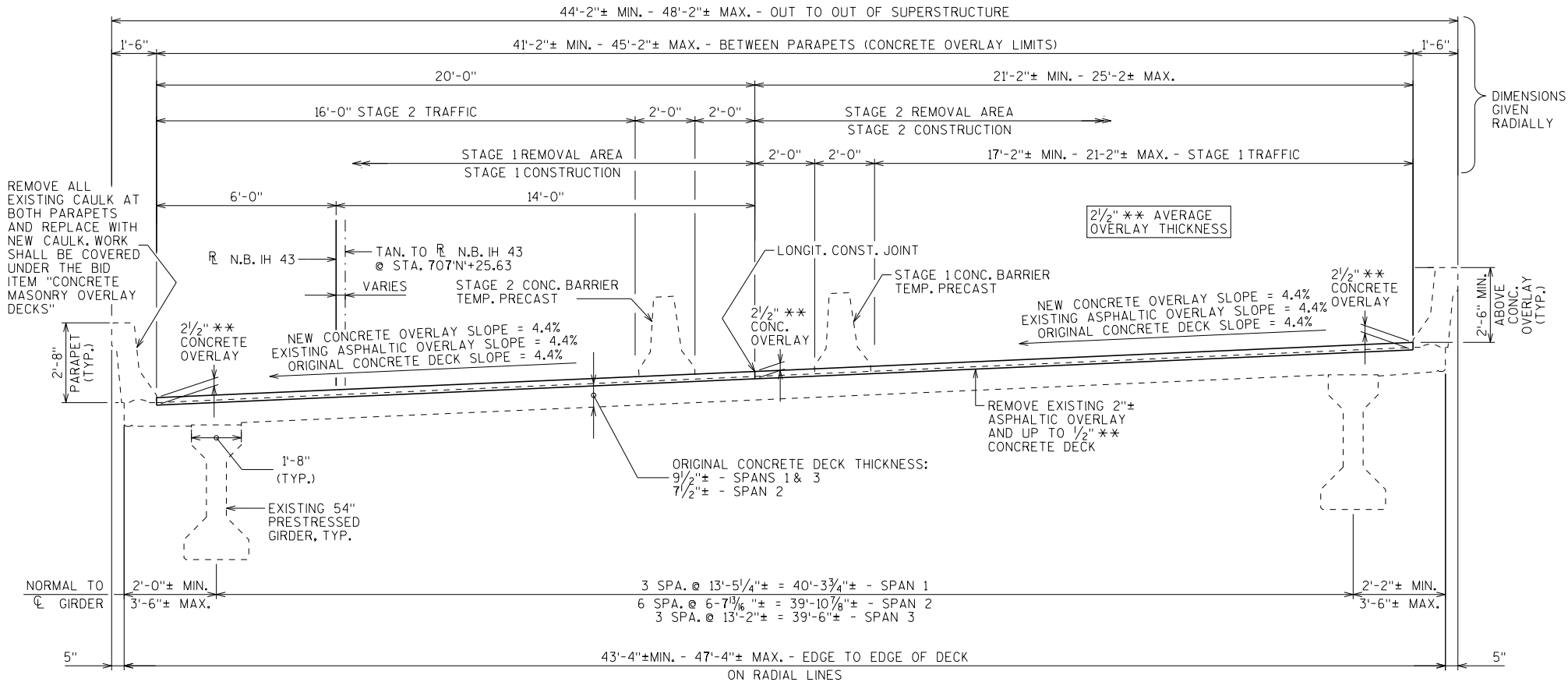


### SLOPE PAVING REPAIR DETAIL



## RODENT SCREEN DETAIL

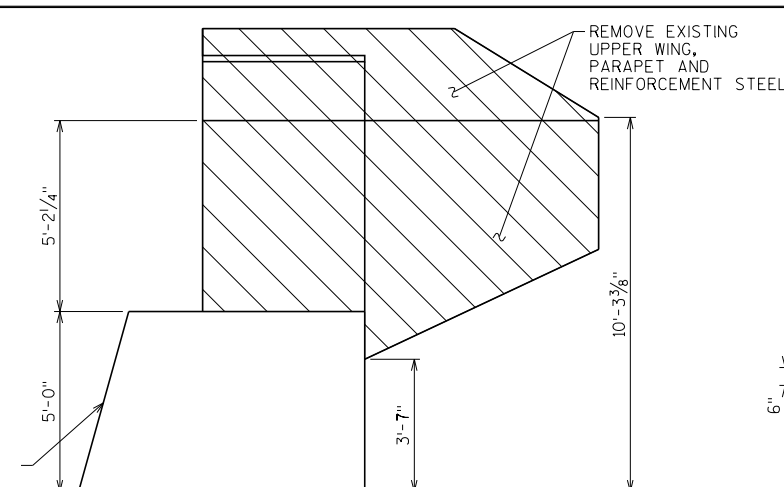
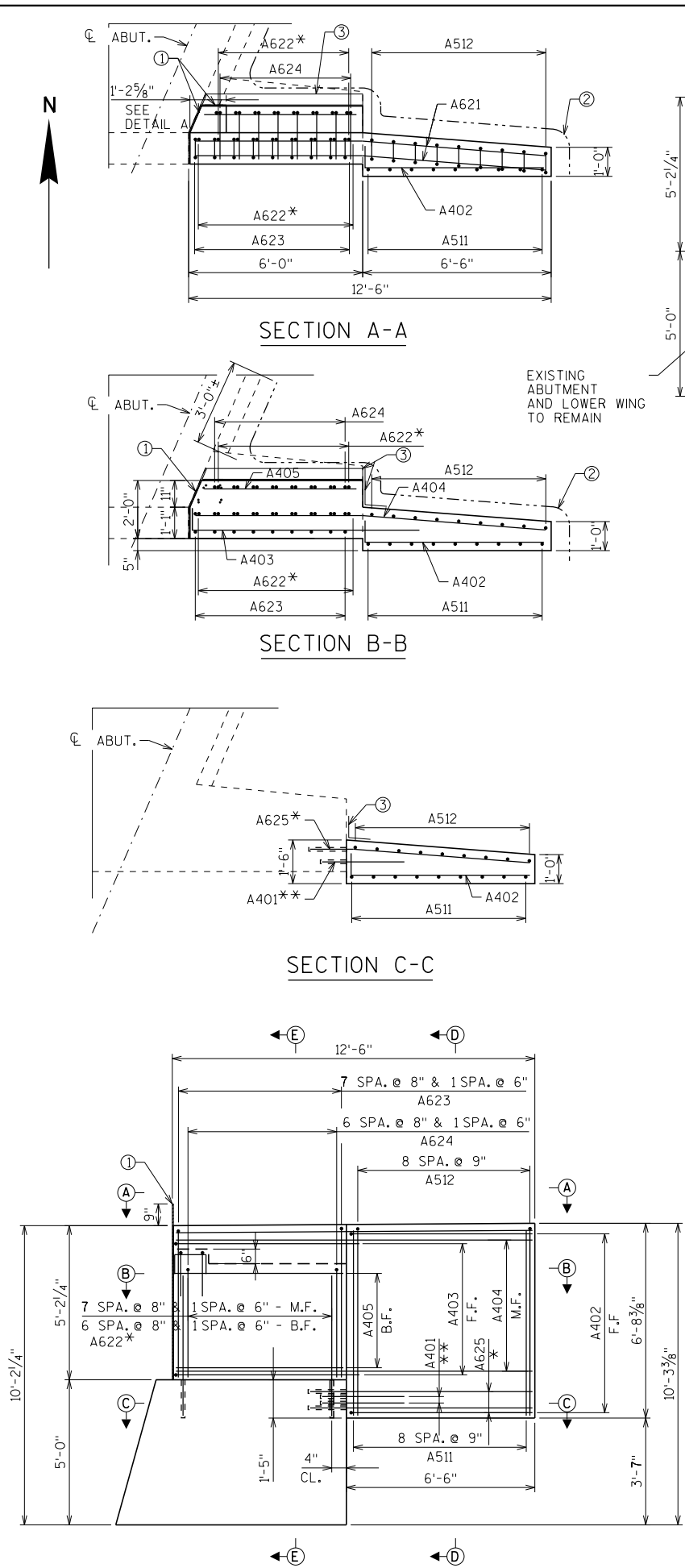
THE RODENT SCREEN SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SCREEN TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SCREEN SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



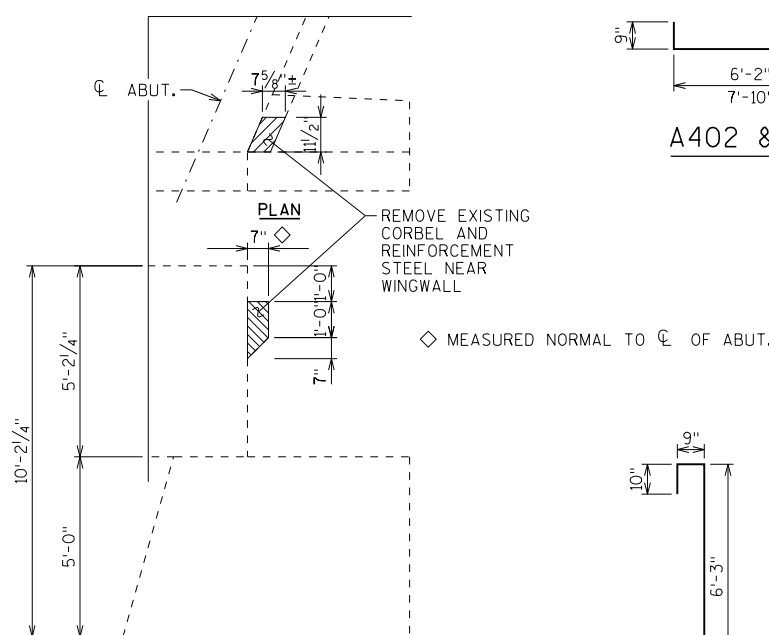
THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

INSTALL RODENT SCREEN(S) AT THE EXPOSED END(S) OF PIPE UNDERDRAIN.

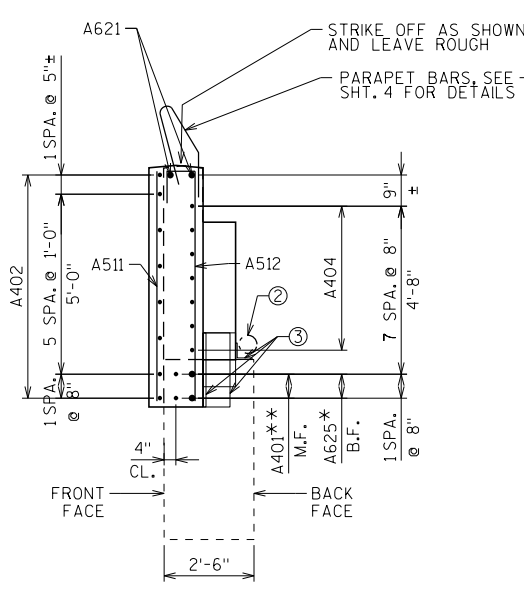
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-216			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION QUANTITIES & NOTES		SHEET 2 OF 4	



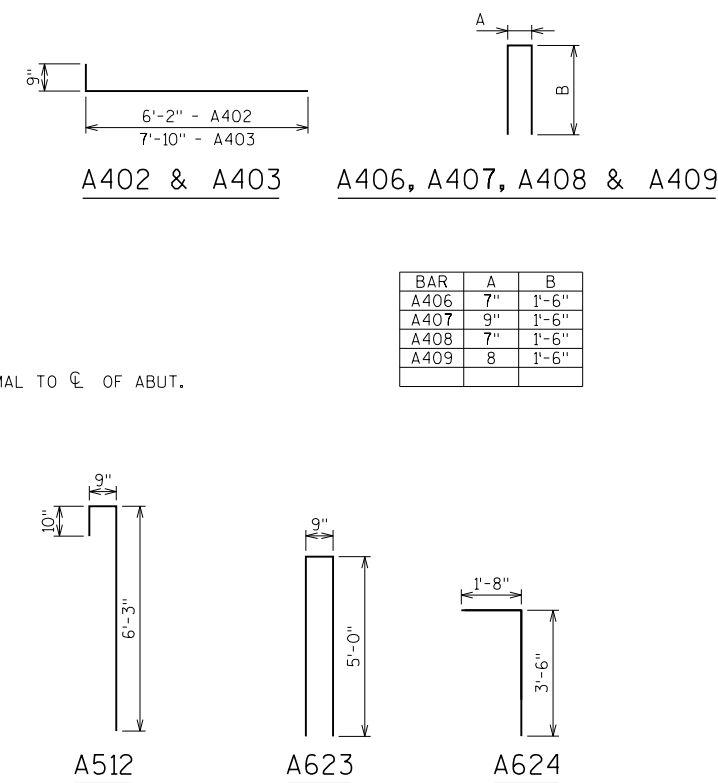
EXISTING WING REMOVAL



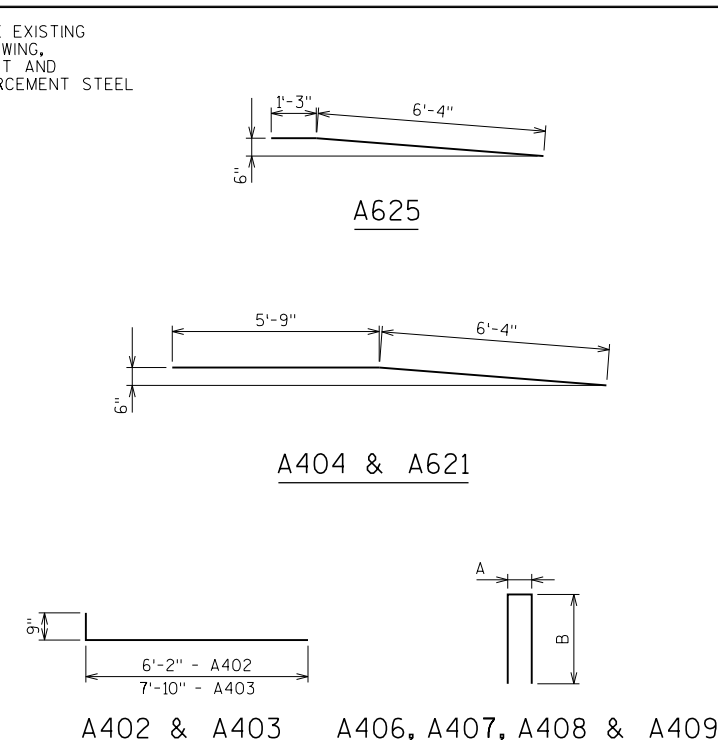
PARTIAL CORBEL REMOVAL



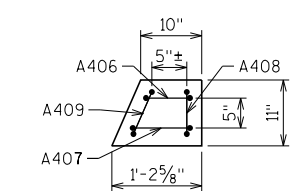
SECTION D-D



SECTION E-E



BAR	A	B
A406	7"	1'-6"
A407	9"	1'-6"
A408	7"	1'-6"
A409	8	1'-6"



DETAIL A

STATE PROJECT NUMBER

1227-08-73

BILL OF BARS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
A401	X	2	2'-10"		HORIZONTAL ANCHOR BARS, BOTTOM, M.F.
A402	X	8	6'-10"	X	HORIZONTAL, F.F.
A403	X	5	8'-6"	X	HORIZONTAL, F.F.
A404	X	7	12'-1"	X	HORIZONTAL, M.F.
A405	X	6	5'-4"		HORIZONTAL, B.F.
A406	X	1	3'-5"	X	U BAR, PAVING NOTCH
A407	X	1	3'-7"	X	U BAR, PAVING NOTCH
A408	X	1	3'-5"	X	U BAR, PAVING NOTCH
A409	X	1	3'-6"	X	U BAR, PAVING NOTCH
A511	X	9	6'-3"		VERTICAL, F.F.
A512	X	9	7'-7"	X	VERTICAL, B.F.
A621	X	2	12'-1"	X	HORIZONTAL, TOP OF WING
A622	X	17	3'-10"		VERTICAL ANCHOR BARS, M.F. & B.F.
A623	X	9	10'-5"	X	VERTICAL U BARS, F.F.
A624	X	8	5'-0"	X	VERTICAL L BARS, B.F.
A625	X	2	7'-7"	X	HORIZONTAL ANCHOR BARS, BOTTOM, B.F.

THE FIRST DIGIT OF A THREE DIGIT MARK SIGNIFIES THE BAR SIZE.  
ALL BAR DIMENSIONS ARE OUT TO OUT OF BAR.

NOTES:

- 1/2" FILLER INCLUDED IN WING LENGTH, SEAL ALL HORIZONTAL AND VERTICAL SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.
  - PIPE UNDERDRAIN WRAPPED 6 INCH, SLOPE 0.5% MIN. TO DRAIN.
  - 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.
  - PROVIDE 2" CLEAR COVER UNLESS NOTED OTHERWISE.
- \* ADHESIVE ANCHORS NO. 6 BAR. EMBED 15" INTO CONCRETE.
- \*\* ADHESIVE ANCHORS NO. 4 BAR. EMBED 10" INTO CONCRETE.

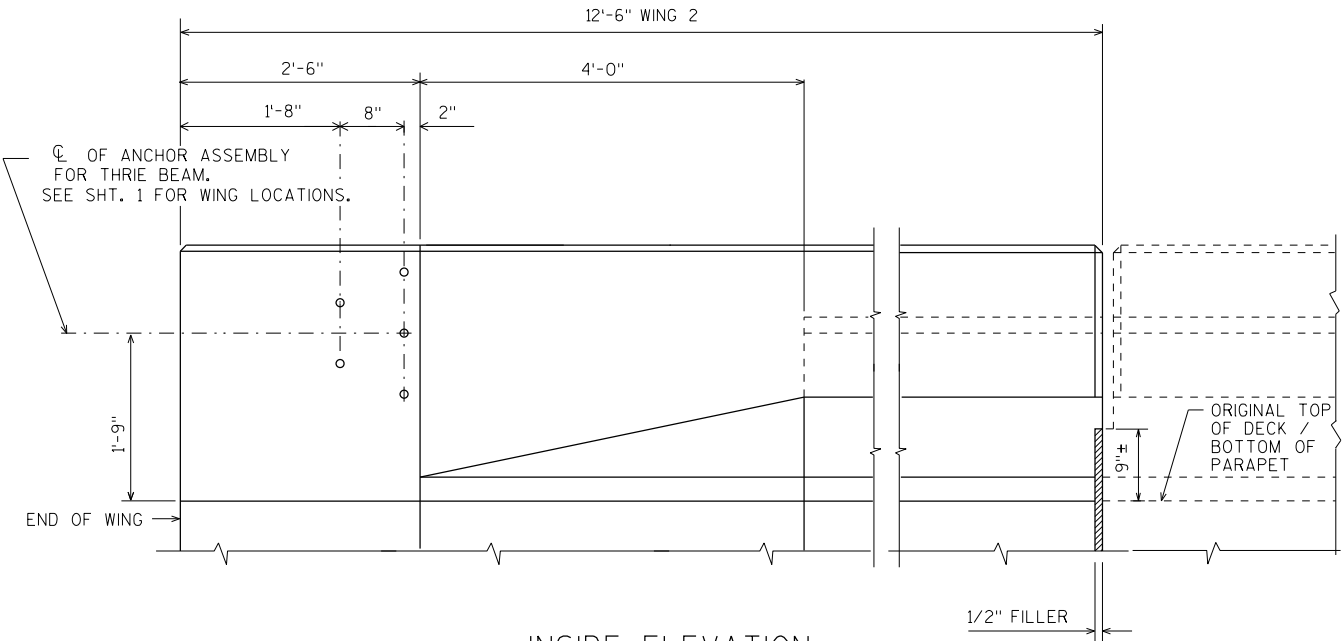
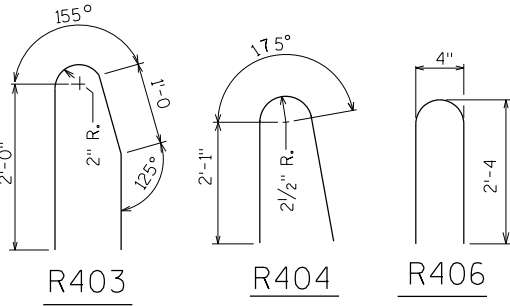
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-216			
DRAWN BY JJC		PLANS CK'D. YC	
WINGWALL 2 REPLACEMENT		SHEET 3 OF 4	

BILL OF BARS

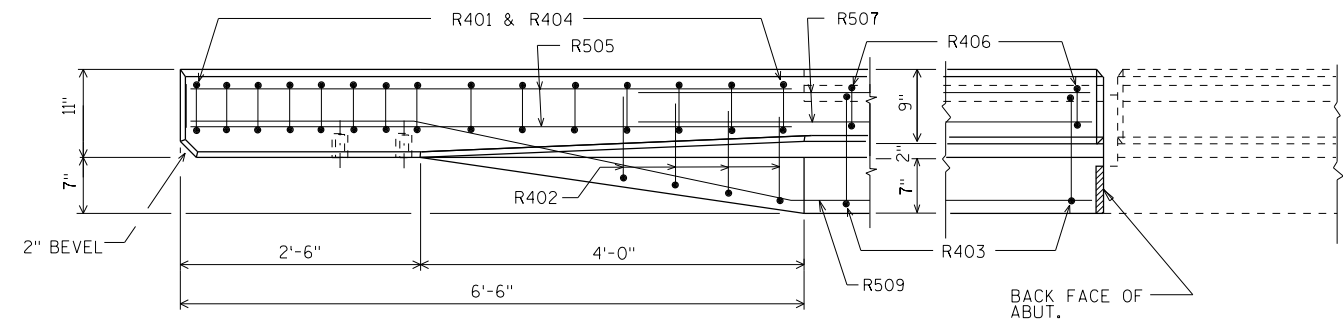
FOR ABUTMENT PARAPETS

THE FIRST DIGIT OF THE BAR MARK SIGNIFIES THE BAR SIZE. EPOXY COAT ALL PARAPET REINF.

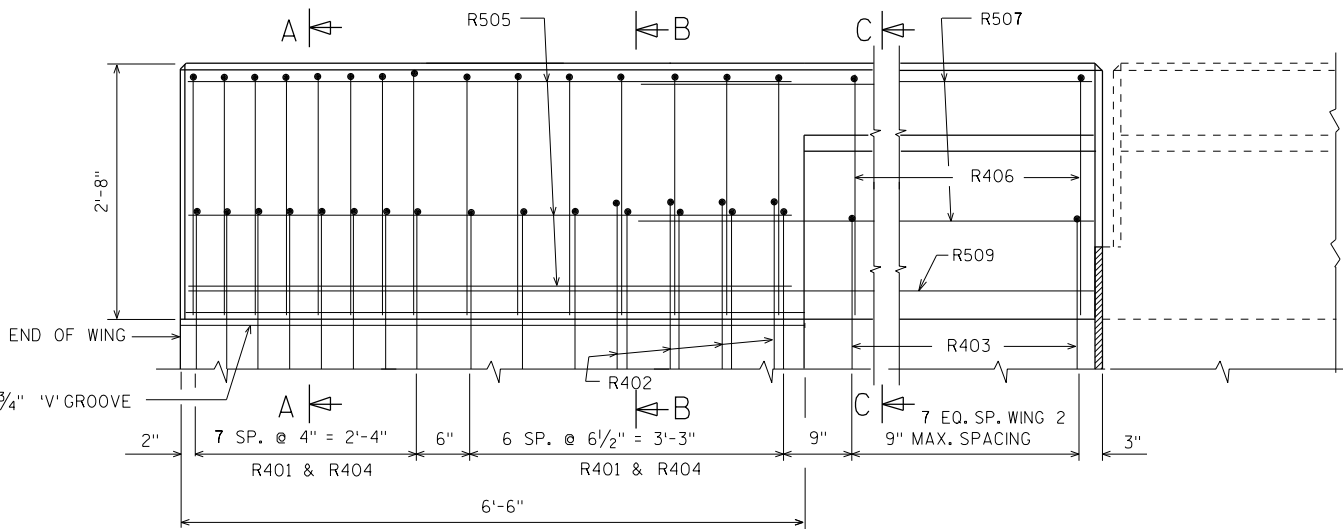
BAR MARK	NO. REQ'D	E. ABUT.	W. ABUT.	LENGTH	BENT	LOCATION
R401	15	-	-	4'-9"	X	WING 2 STIRRUPS
R402	4	-	-	3'-1"	X	WING 2
R403	8	-	-	4'-7"	X	WING 2 STIRRUPS
R404	15	-	-	4'-9"	X	WING 2
R505	6	-	-	6'-2"	-	WING 2
R406	8	-	-	4'-10"	X	WING 2
R507	4	-	-	7'-9"	-	WING 2
R509	1	-	-	12'-1"	X	WING 2



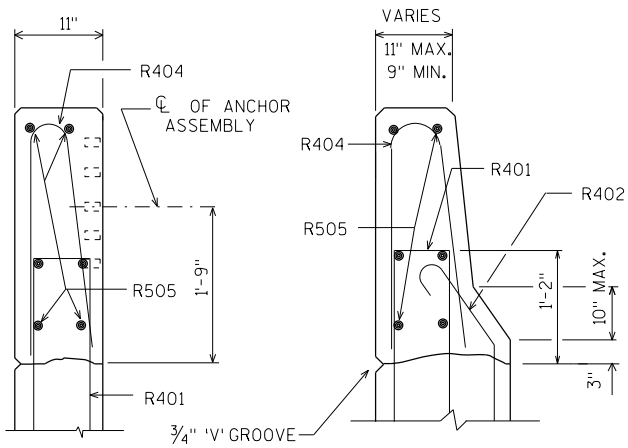
INSIDE ELEVATION



PLAN

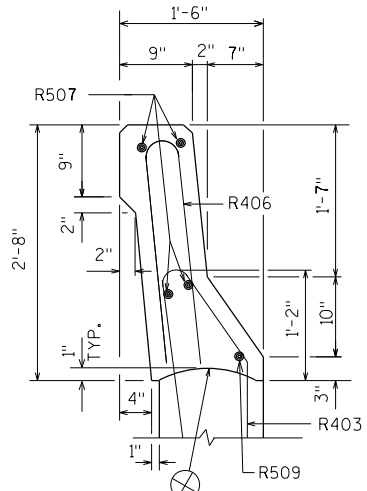


OUTSIDE ELEVATION

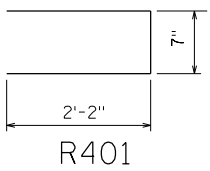


SECTION A

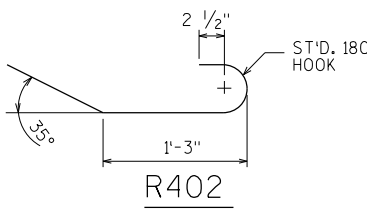
SECTION B



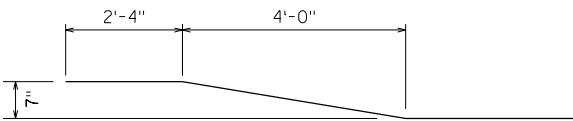
SECTION C



R401

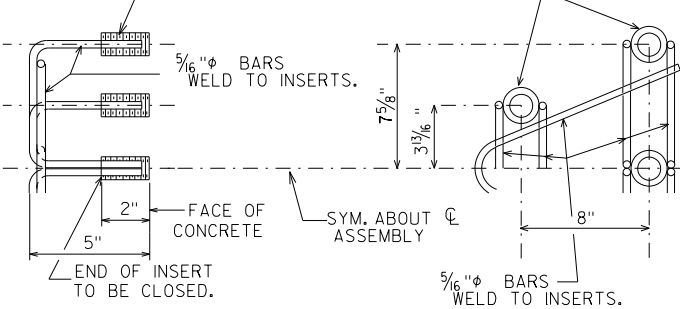


R402



R509

THREADED INSERTS FOR 7/8"φ X 2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MIN. OF 1 7/8" AND SHALL BE SUPPLIED, INCLUDING WASHERS, WITH ASSEMBLY. INSERTS TO BE THREADED A MINIMUM OF 1 3/4".



DETAIL OF ANCHOR ASSEMBLY

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

CONST. JOINT - STRIKE OFF AS SHOWN.

NO.	DATE	REVISION	BY
		STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
		STRUCTURE B-5-216	
		DRAWN BY JJG	PLANS CK'D. YC
		SLOPED FACE PARAPET "B"	SHEET 4 OF 4


<u>MATERIAL PROPERTIES:</u>		
CONCRETE MASONRY:	OVERLAY DECKS	f'c = 4,000 P.S.I.
	ALL OTHER	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		f'y = 60,000 P.S.I.

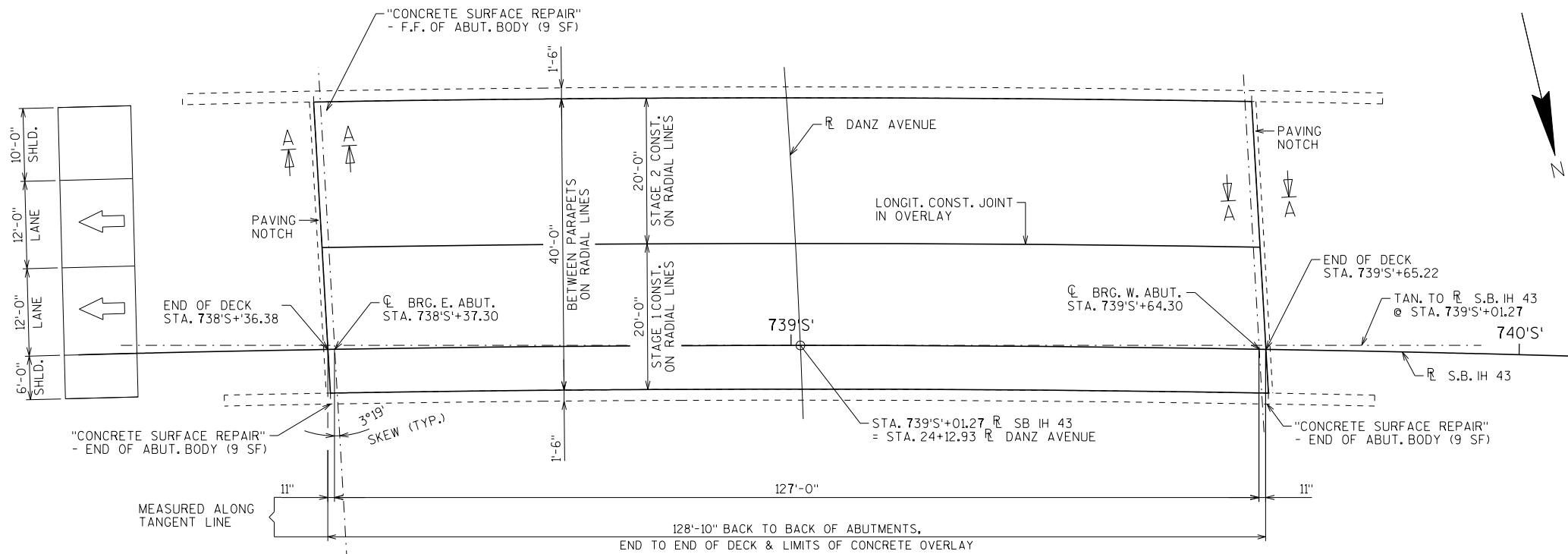
<u>IH 43</u>	<u>DANZ AVE</u>
A.D.T. = 53,900 (2036)	A.D.T. = 5,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 35 MPH

R S.B. 1H 43

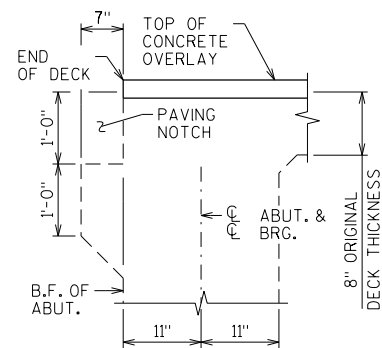
PI = STA. 743'S'+11.862  
Δ = 18°-55'-30.29"  
D = 1°-30'-00"  
T = 636.635'  
L = 1261.672'  
R = 3819.719'  
SE = 4.0%  
RO = 201'  
PC = STA. 736'S'+75.228  
PT = STA. 749'S'+36.902

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES

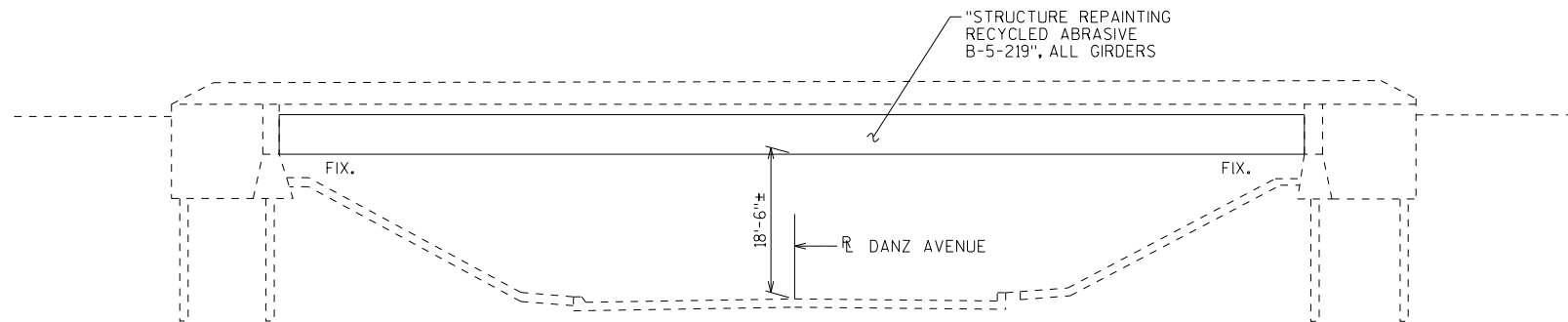
NO.	DATE	REVISION	BY
 <b>exp U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____		_____ DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-5-219			
IH 43 SB OVER DANZ AVENUE			
COUNTY	BROWN	TOWN/CITY/VILLAGE GREEN BAY	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
		DRAWN BY	JUG/YC
		PLANS CK'D.	VCP
GENERAL PLAN & ELEVATION		SHEET 1 OF 2	



PLAN  
(SINGLE SPAN STEEL GIRDER, CONCRETE OVERLAY)



SECTION A-A  
SECTION THRU ABUT. DIAPH.



ELEVATION  
NORMAL TO DANZ AVENUE  
(LOOKING SOUTH)



Plotel

DATE: 02/03/2017

BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395

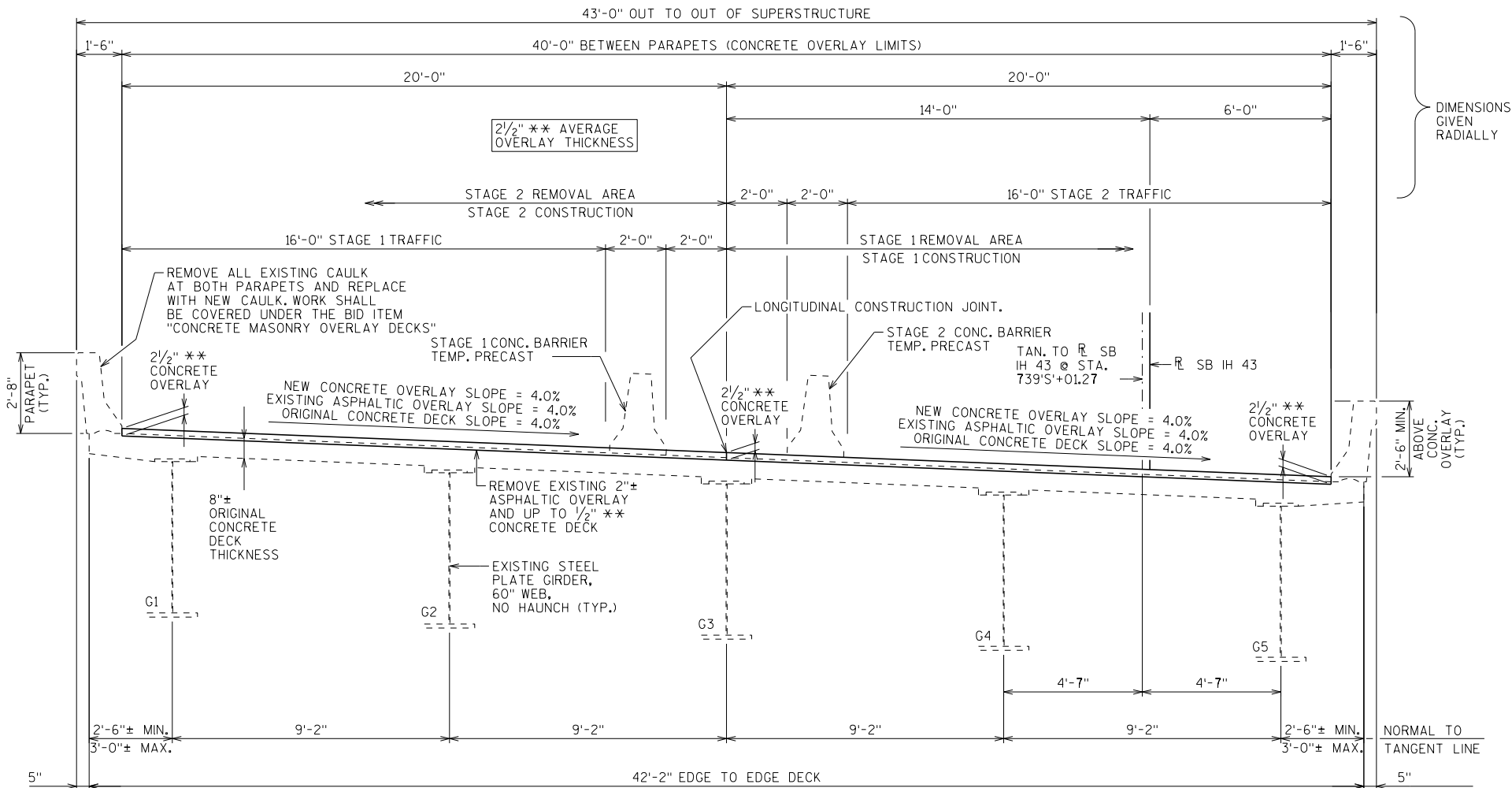
TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	573	573
502.3210	PIGMENTED SURFACE SEALER	SY	11	11	98	120
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	115	115
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	46	46
509.0500	CLEANING DECKS	SY	-	-	573	573
509.1500	CONCRETE SURFACE REPAIR	SF	18	9	22	49
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	49	49
509.9010.S.12	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-219	SY	-	-	573	573
509.9050.S	CLEANING PARAPETS	LF	33	33	258	324
517.1800.S.03	STRUCTURE REPAINTING RECYCLED ABRASIVE B-5-219	LS	-	-	-	1
517.4500.S.03	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-219	LS	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	1

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

GENERAL NOTES

- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-219".
- AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".
- "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.
- ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.
- PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS AS GIVEN ON THE PLANS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.
- ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".
- UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND MINIMUM 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
- CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".
- APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.
- APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.


NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-219			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 2

PI = STA. 743'N+71.193  
 $\Delta$  = 18°-55'-30.29"  
D = 1°-30'-00"  
L = 636.635'  
T = 1261.672'  
R = 3819.719'  
SE = 4.0%  
RO = 201'  
PC = STA. 737'N+34.559  
PT = STA. 749'N+96.231

CONCRETE MASONRY:	OVERLAY DECKS	f'c = 4,000 P.S.I.
	ALL OTHER	f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60:		fy = 60,000 P.S.I.

A.D.T. = 5,000  
R.D.S. = 35 MPH

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES

 **exp.** U.S. Services Inc.  
Milwaukee, WI  
BUILDINGS • EARTH & ENVIRONMENT • ENERGY  
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER      DATE \_\_\_\_\_

STRUCTURE B-5-220

IH 43 NB OVER DANZ AVENUE

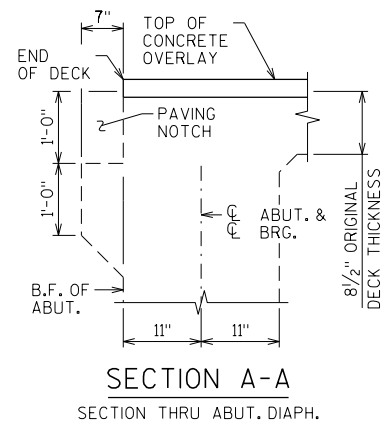
COUNTY	BROWN	<del>TOWN/CITY/VILLAGE</del>	GREEN BAY
--------	-------	------------------------------	-----------

DESIGN SPEC.	
REHABILITATION	N/A

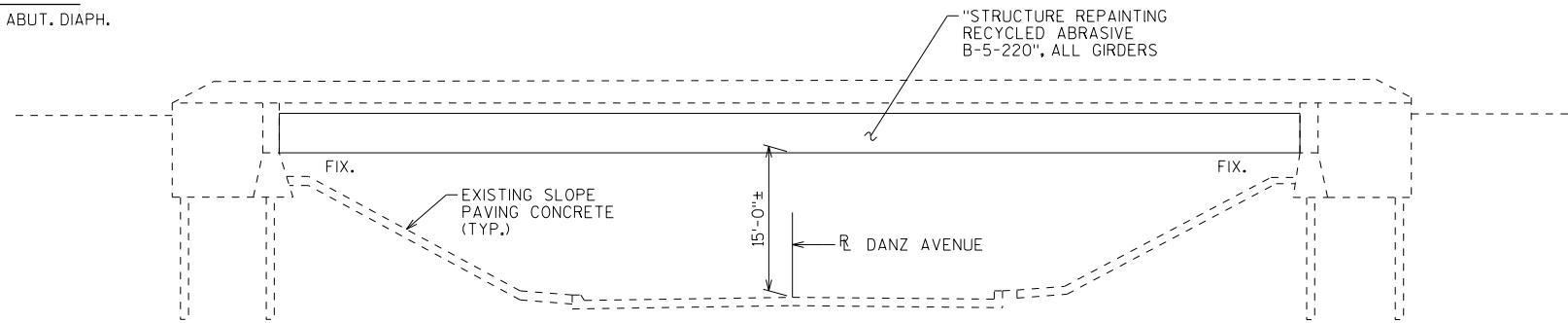
DESIGNED BY	YC	DESIGN CK'D.	VCP	DRAWN BY	JJG/YC	PLANS CK'D.	VCP
----------------	----	-----------------	-----	-------------	--------	----------------	-----

## GENERAL PLAN & ELEVATION

SHEET 1 OF 2



(SINGLE SPAN STEEL GIRDER, CONCRETE OVERLAY)



NORMAL TO DANZ AVENUE  
(LOOKING SOUTH)



DATE: 02/03/2017

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT: VINOD PATEL, P.E.  
(312) 616-7395

8

\\\\PCHAPP004\\AM\\VAUL I.D--TRANS\_07\\TDCWIS\\00214891-A0\\STRUCT\\CAD\\20\_B050220\\IA\_EXP\\SHEET\\02\_SIN20A001.SHT

\$\$\$\$\$ref\_list\_name\$\$\$\$\$

CHUNYM

2-03-2017, 14:49:53

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	669	669
502.3210	PIGMENTED SURFACE SEALER	SY	12	12	88	112
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	134	134
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	54	54
509.0500	CLEANING DECKS	SY	-	-	669	669
509.1500	CONCRETE SURFACE REPAIR	SF	-	4	4	8
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	57	57
509.9010.S.13	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-220	SY	-	-	669	669
509.9050.S	CLEANING PARAPETS	LF	34	34	232	300
517.1800.S.04	STRUCTURE REPAINTING RECYCLED ABRASIVE B-5-220	LS	-	-	-	1
517.4500.S.04	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-220	LS	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	1
606.0100	RIPRAP LIGHT	CY	1	-	-	1

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-220".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

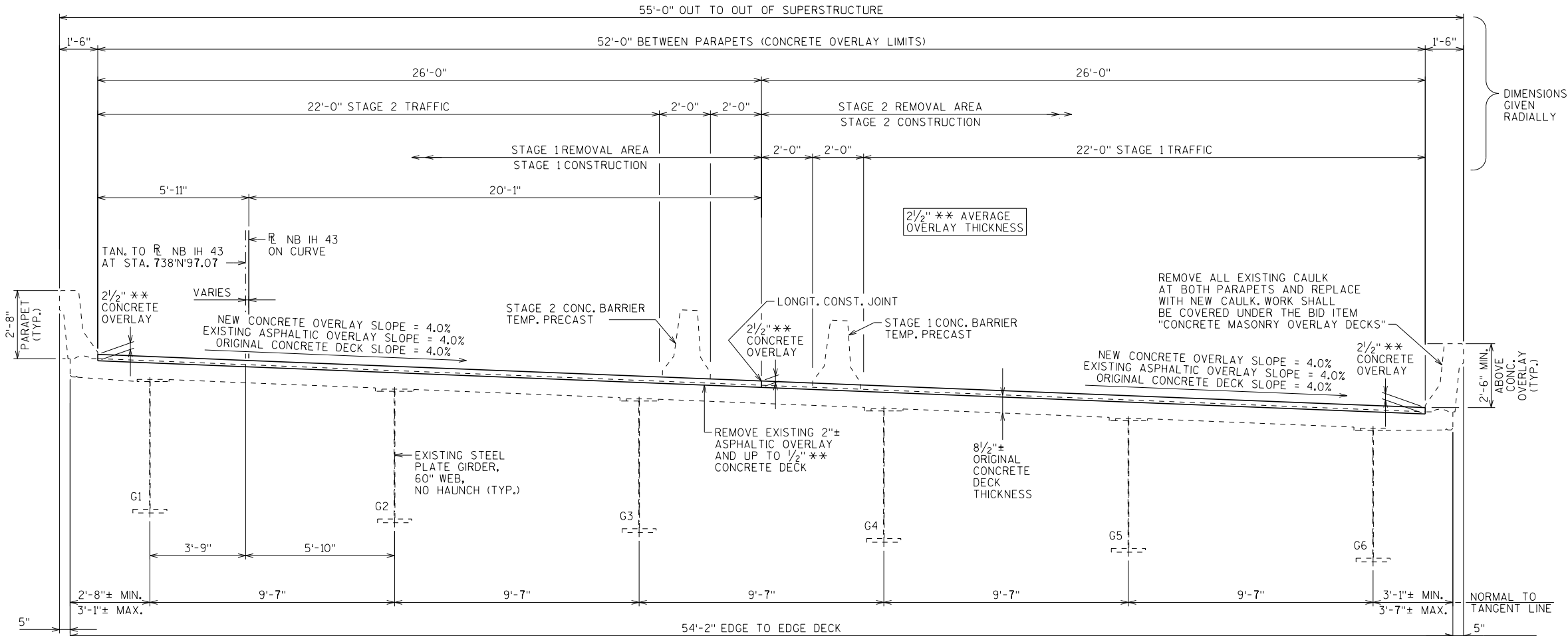
CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

STATE PROJECT NUMBER

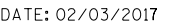
1227-08-73



CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-220			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 2



1. GENERAL PLAN & ELEVATION  
2. CROSS SECTION, QUANTITIES & NOTES

8

**LIVE LOAD:**  
 DESIGN LOADING: HS20  
 INVENTORY RATING: HS21  
 OPERATING RATING: HS36  
 WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV): 240 KIPS

**MATERIAL PROPERTIES:**  
 CONCRETE MASONRY: OVERLAY DECKS f'c = 4,000 P.S.I.  
 ALL OTHER f'c = 3,500 P.S.I.  
 BAR STEEL REINFORCEMENT, GRADE 60: fy = 60,000 P.S.I.

<u>IH 43</u>	<u>IRWIN AVE</u>
A.D.T. = 53,900 (2036)	A.D.T. = 3,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 30 MPH

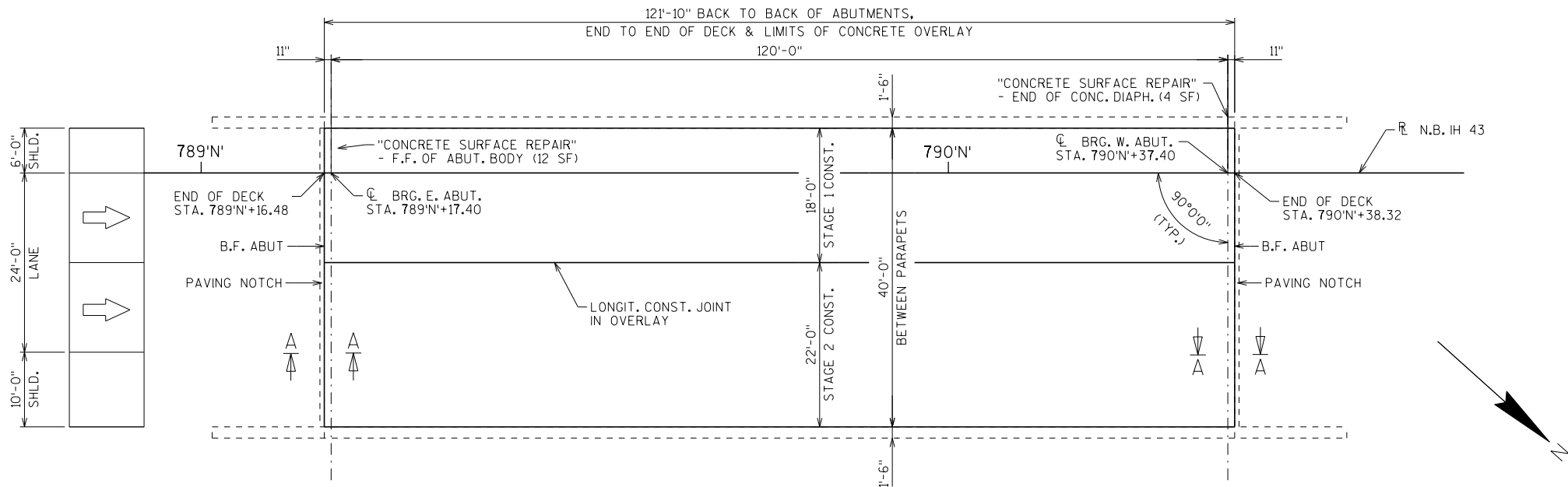


BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395



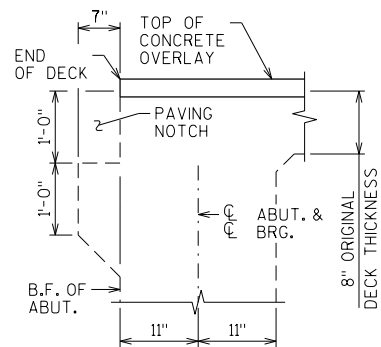
BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
 "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
 THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
 BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



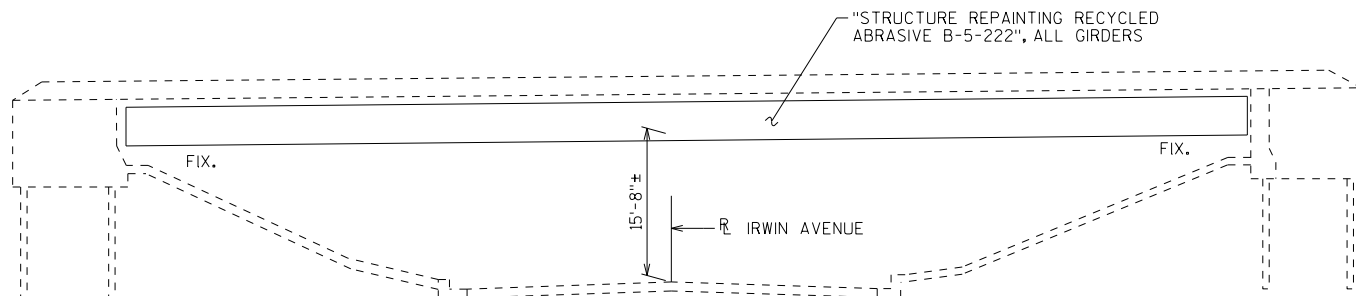
## PLAN

(SINGLE SPAN STEEL GIRDER, CONCRETE OVERLAY)



## SECTION A-A

SECTION THRU ABUT. DIAPH.



## ELEVATION

NORMAL TO IRWIN AVENUE  
(LOOKING SOUTH)

## DESIGN DATA

LIVE LOAD:  
DESIGN LOADING: HS20  
INVENTORY RATING: HS22  
OPERATING RATING: HS37  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 240 KIPS

MATERIAL PROPERTIES:  
CONCRETE MASONRY: OVERLAY DECKS  $f'_c = 4,000$  P.S.I.  
ALL OTHER  $f'_c = 3,500$  P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60:  $f_y = 60,000$  P.S.I.

## TRAFFIC VOLUME

IH 43  
A.D.T. = 53,900 (2036)  
R.D.S. = 70 MPH

IRWIN AVE  
A.D.T. = 3,000 (2036)  
R.D.S. = 30 MPH

## LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES



*V. Patel*

DATE: 02/03/2017

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E.  
(608) 266-8489

CONSULTANT: VINOD PATEL, P.E.  
(312) 616-7395

NO.	DATE	REVISION	BY
<b>exp U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____ CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE B-5-222			
IH 43 NB OVER IRWIN AVENUE			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D.	VCP
DRAWN BY	JJG/YC	PLANS CK'D.	VCP
GENERAL PLAN & ELEVATION			SHEET 1 OF 2

FILENAME  
SCALE

\\SXP2IA001.DGN, ..\SXP2IA001.DGN, ..\AB88IA001.DGN, ..\SXP2IA001.DGN  
CHUNYM  
2-03-2017, 14:56:05  
\\PCHIAPP004\AM\VAUL I.D-TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\22\_B050222\VA\_EXP\SHEET\02\_SN22IA001.SHT

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	SUPER.	TOTAL
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	542	542
502.3210	PIGMENTED SURFACE SEALER	SY	10	10	93	113
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	108	108
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	43	43
509.0500	CLEANING DECKS	SY	-	-	542	542
509.1500	CONCRETE SURFACE REPAIR	SF	-	4	-	4
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	54	54
509.9010.S.15	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-222	SY	-	-	542	542
509.9050.S	CLEANING PARAPETS	LF	30	30	244	304
517.1800.S.06	STRUCTURE REPAINTING RECYCLED ABRASIVE B-5-222	LS	-	-	-	1
517.4500.S.06	NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS B-5-222	LS	-	-	-	1
517.6001.S	PORTABLE DECONTAMINATION FACILITY	EACH	-	-	-	1

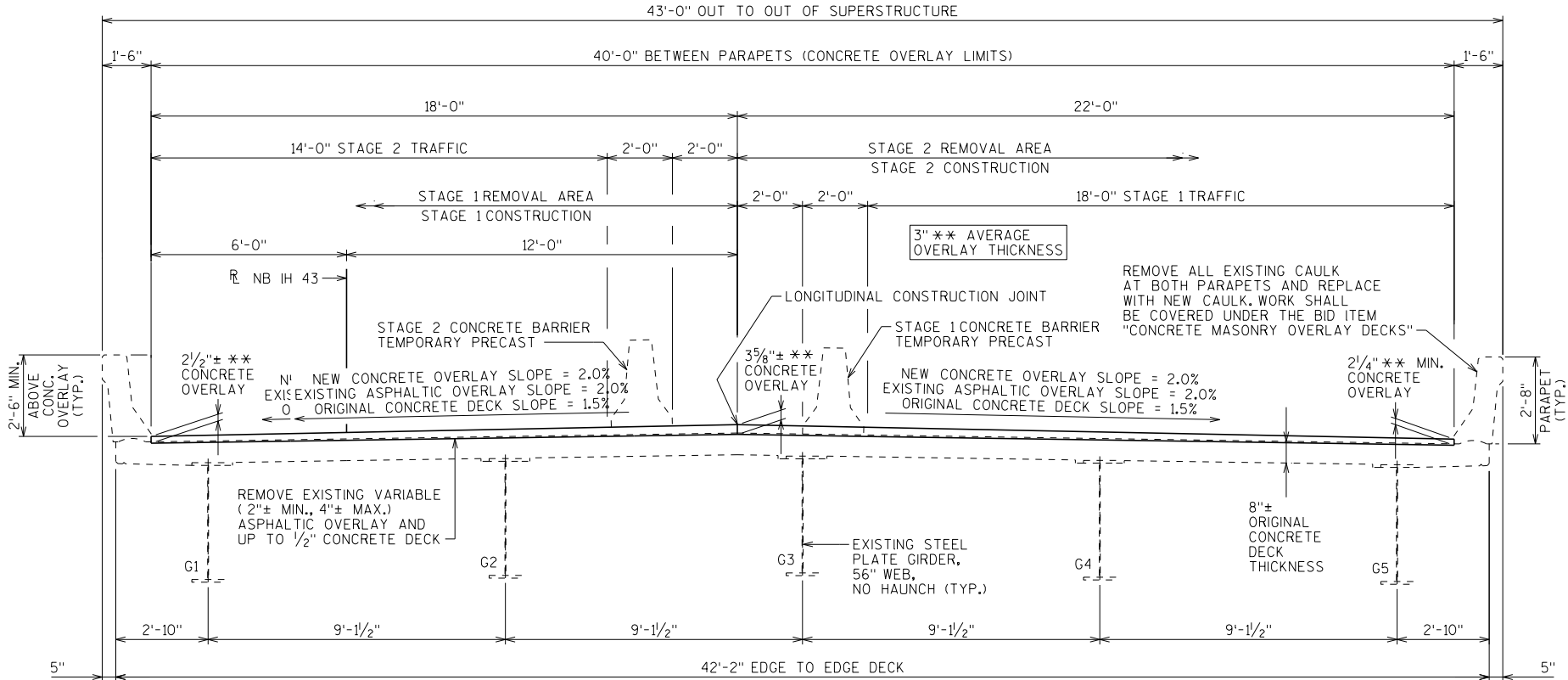
BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

STATE PROJECT NUMBER

1227-08-73

GENERAL NOTES

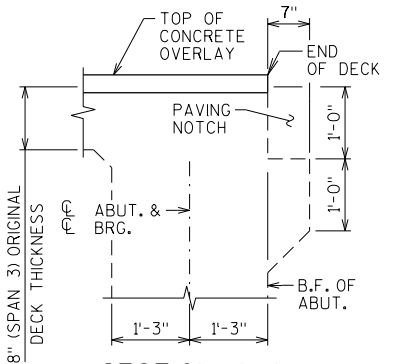
- DRAWINGS SHALL NOT BE SCALED.
- DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.
- THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-222".
- AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".
- "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.
- ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.
- PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2 1/4" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS AS GIVEN ON THE PLANS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.
- ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".
- UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND MINIMUM 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.
- CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".
- APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS.
- APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.



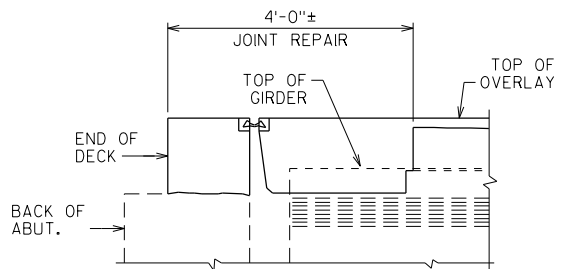
CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-222			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 2



SECTION A-A  
SECTION THRU ABUT. DIAPH.





SECTION B-B  
SEE SHEET \_\_ FOR DETAILS.

R N.E. RAMP IH 43  
 PI = STA. 788+57.24  
 $\Delta = 53^{\circ}-21'-15.1''$   
 $D = 5^{\circ}-00'-00''$   
 $T = 575.76'$   
 $L = 1067.08'$   
 $R = 1145.92'$   
 $SE = 5.0\%$   
 $RO = 150'$

<u>RAMP IH 43 NB - NB WEBSTER</u>	<u>IRWIN AVE</u>
A.D.T. = 22,100 (2036)	A.D.T. = 5,000 (2036)
R.D.S. = 70 MPH	R.D.S. = 30 MPH



NORMAL TO IRWIN AVENUE  
(LOOKING SOUTHWEST)

 INDICATES WINGWALL NUMBER  
 PARAPET REPLACEMENT AREA.  
 SEE SHEET -- FOR DETAILS.




Plotel

DATE: 02/03/2017

1. GENERAL PLAN & ELEVATION
2. CROSS SECTION, QUANTITIES & NOTES
3. JOINT REPAIR
4. EXPANSION DEVICE
5. JOINT REPAIR - BILL OF BARS
6. COVER PLATE DETAILS

NO.	DATE	REVISION	BY

 **exp.** U.S. Services Inc.  
Milwaukee, WI  
BUILDINGS • EARTH & ENVIRONMENT • ENERGY  
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER      DATE \_\_\_\_\_

STRUCTURE B-5-223

RAMP IH 43 NB-WEBSTER OVER IRWIN AVENUE

COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
--------	-------	-------------------	-----------

DESIGN SPEC.	
REHABILITATION	N/A

DESIGNED BY	YC	DESIGN CK'D	VCP	DRAWN BY	JIG/YC	PLANS CK'D	VCP
-------------	----	-------------	-----	----------	--------	------------	-----

GENERAL PLAN & ELEVATION	SHEET 1 OF 6

## STRUCTURE DESIGN CONTACTS

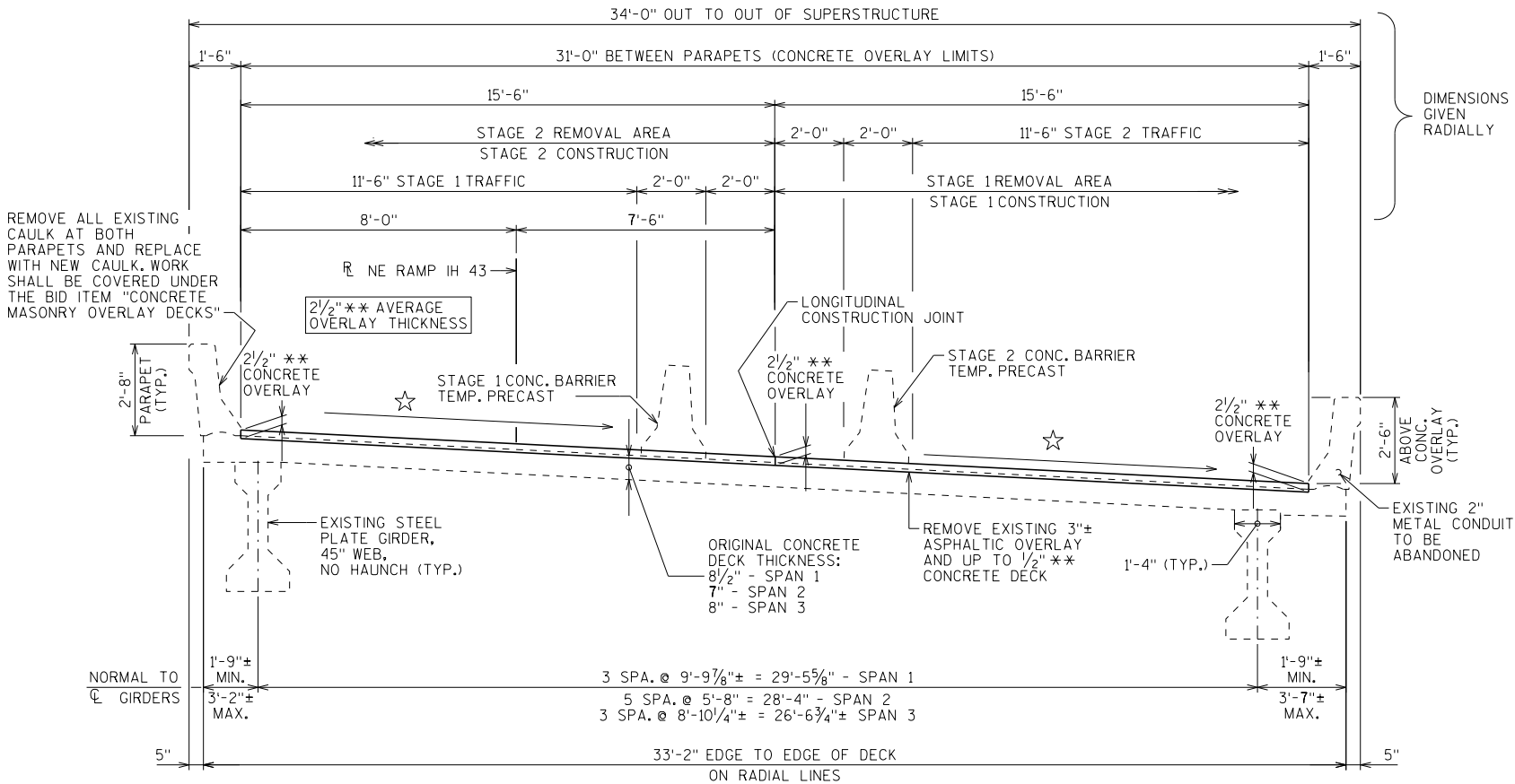
BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395

\\PCHAPP004\AM\VAUL I.D--TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\23 B050223\VA EXP\SHEET\02 SN23IA001.SHT  
8  
CHUNYM  
2-03-2017, 15:00:21  
.. \B023IA001.DGN, .. \SX23IA001.DGN, .. \AB88IA001.DGN

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	S. ABUT.	N. ABUT.	SUPER.	TOTAL
502.3100.06	EXPANSION DEVICE B-5-223	LS	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	545	545
502.3210	PIGMENTED SURFACE SEALER	SY	10	10	119	139
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	48	-	-	48
502.6500	PROTECTIVE COATING CLEAR	GAL	2	-	-	2
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	1,840	-	-	1,840
505.0904	BAR COUPLERS NO. 4	EACH	4	-	-	4
505.0905	BAR COUPLERS NO. 5	EACH	3	-	-	3
505.0906	BAR COUPLERS NO. 6	EACH	11	-	-	11
505.0908	BAR COUPLERS NO. 8	EACH	6	-	-	6
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	55	55
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	22	22
509.0500	CLEANING DECKS	SY	-	-	527	527
509.1000	JOINT REPAIR	SY	-	-	21	21
509.1500	CONCRETE SURFACE REPAIR	SF	-	-	6	6
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	1	1
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	50	50
509.9010.S.16	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-223	SY	-	-	527	527
509.9050.S	CLEANING PARAPETS	LF	31	28	305	364
606.0100	RIPRAP LIGHT	CY	1	1	-	2
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	4	-	-	4
SPV.0090.01	CLEANING CONCRETE GIRDER ENDS	LF	3	-	-	3
	NON-BID ITEMS					
	BRIDGE SEAT PROTECTION					

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "JOINT REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

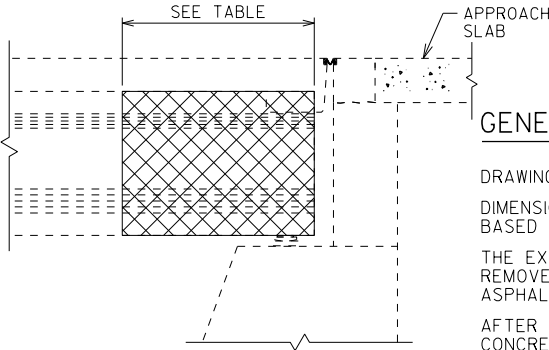


CROSS SECTION THRU DECK LOOKING NORTH

- ☆ NEW CONCRETE OVERLAY SLOPE = 5.0%  
EXISTING ASPHALTIC OVERLAY SLOPE = 5.0%  
ORIGINAL CONCRETE DECK SLOPE = 5.0%
- \*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

BLAST CLEAN ALL EXPOSED STEEL REINFORCEMENT AND STEEL PRESTRESSING STRANDS TO REMOVE ALL RUST AND CORROSION PRIOR TO PAINTING.

END VIEW



PART LONGITUDINAL SECTION  
(SOUTH ABUT.)

CLEANING CONCRETE GIRDER ENDS (L.F.)

	G1	G2	G3	G4 (E. EXT. GIR.)
SOUTH ABUT.	-	-	-	3

LEGEND

Denotes areas of bid item "CLEANING CONCRETE GIRDER ENDS". SEE NOTES.

NOTES:

- REMOVE ANY LOOSE, DELAMINATED, OR DETERIORATED CONCRETE FROM THE END OF CONCRETE GIRDERS.
- CLEAN AND PAINT ANY EXPOSED STEEL REINFORCEMENT AND STEEL PRESTRESSING STRANDS.
- VERIFY LENGTH OF CLEANING WITH ENGINEER.

PRESTRESSED GIRDER REPAIRS

STATE PROJECT NUMBER

1227-08-73

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-223".

AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.

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

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

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR JOINT REPAIRS AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF SOUTH ABUTMENT BELOW EXPANSION DEVICE. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".

COAT ALL EXPOSED SURFACES OF THE LAST 5'-0" OF GIRDERS (SPAN 1 AT SOUTH ABUTMENT END ONLY) WITH "PROTECTIVE COATING CLEAR" AS DIRECTED BY THE ENGINEER. APPLY AT A RATE OF ONE GALLON PER 200 SF PER THE STANDARD SPECIFICATION 502.3.15 PARA. 4.

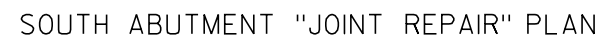
CLEAN AND PAINT ALL BEARINGS AT SOUTH ABUTMENT. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING BEARINGS".

CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".

APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS AND EXPOSED TOP SURFACE OF JOINT REPAIR.

APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-223			
		DRAWN BY YC	PLANS CK'D. VCP
CROSS SECTION, QUANTITIES & NOTES			SHEET 2 OF 6

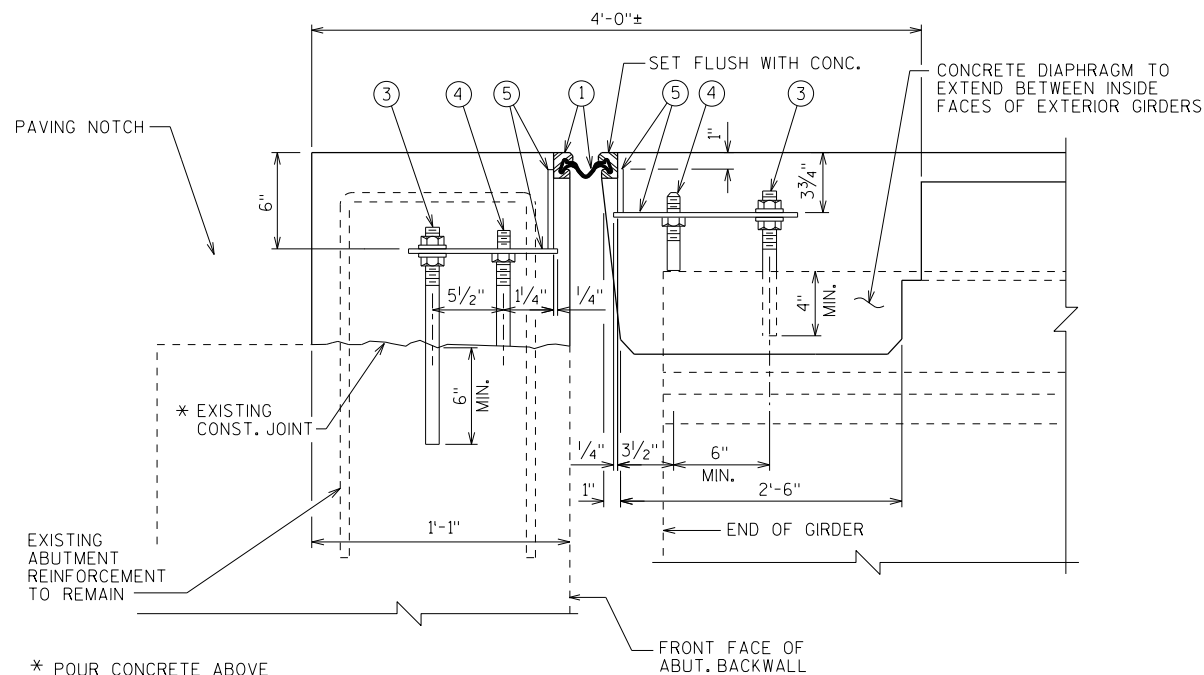


PARAPET REPLACEMENT SHALL BE INCLUDED UNDER THE BID ITEM "JOINT REPAIR".

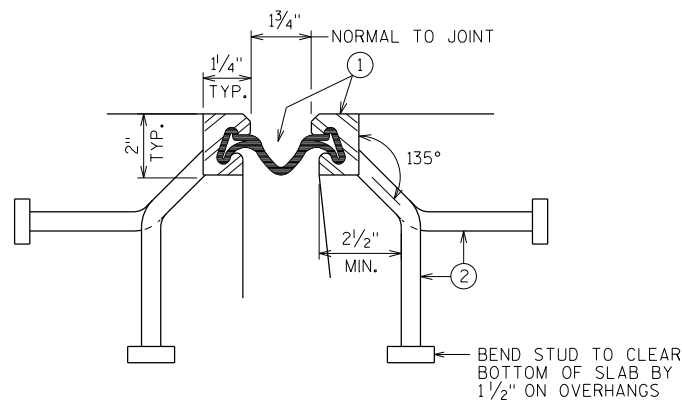
NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-223			
		DRAWN BY JJC	PLANS CK'D. YC
JOINT REPAIR		SHEET 3 OF 6	

CHUNYM  
2-03-2017, 15:00:24

(S01) BAR COUPLERS USED. BAR LENGTH COMPUTED TO  $\frac{1}{4}$  OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.

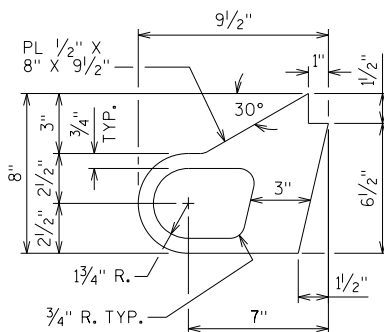


SECTION THRU JOINT AT SOUTH ABUTMENT

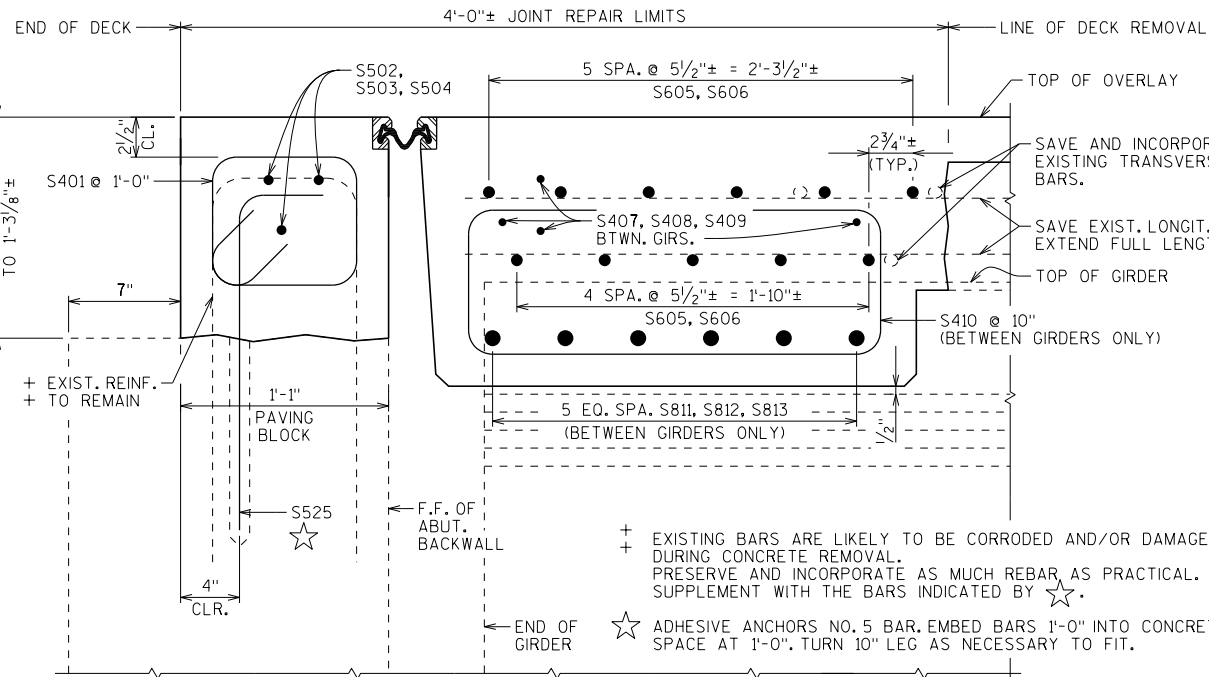
NORMAL TO  $\phi$  SUBSTRUCTURE

SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



ALTERNATE STRIP SEAL ANCHOR

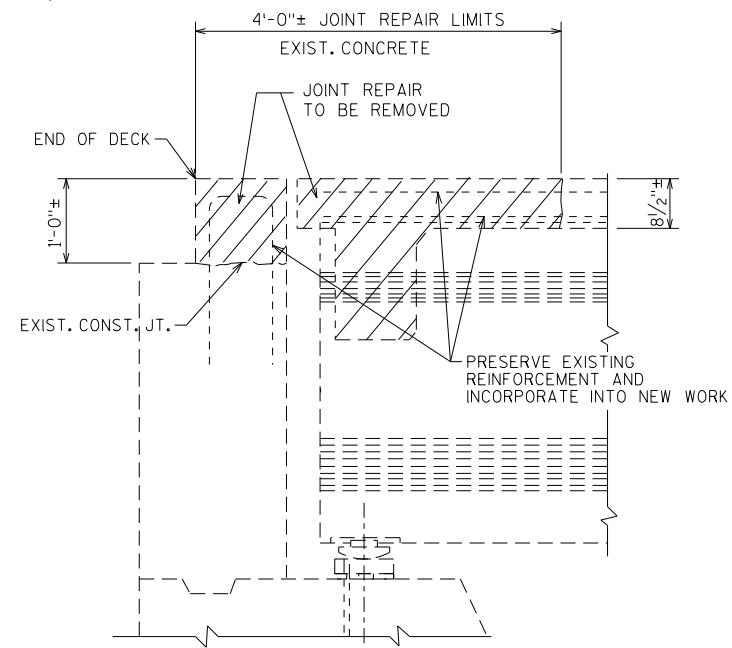


SECTION THRU JOINT AT SOUTH ABUTMENT

NORMAL TO  $\phi$  SUBSTRUCTURE  
SHOWING REINFORCEMENT

## LEGEND

- NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- STUDS 5/8"  $\phi$  X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- 1/2" THICK ANCHOR PLATE WITH 5/8"  $\phi$  ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3/4"  $\phi$  THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON  $\phi$  OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- 3/4"  $\phi$  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 1 1/2"  $\phi$  HOLE FOR NO. 3 AND 1"  $\phi$  HOLE FOR NO. 4.



JOINT REPAIR - REMOVAL

SECTION THRU EXISTING EXPANSION JOINT

AT SOUTH ABUTMENT

NORMAL TO  $\phi$  SUBSTRUCTURE

## NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

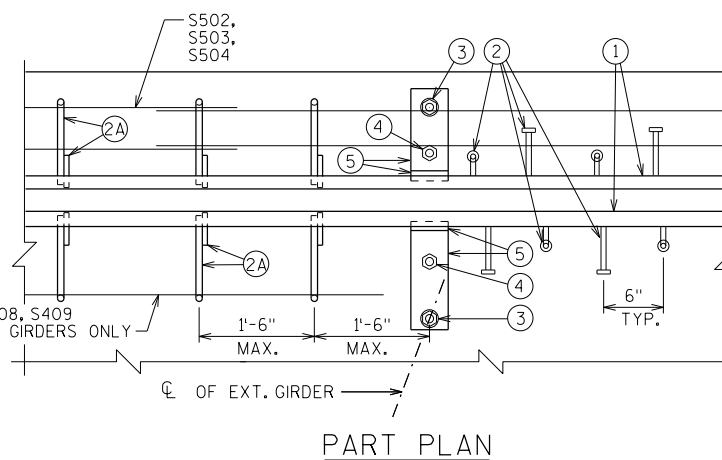
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

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

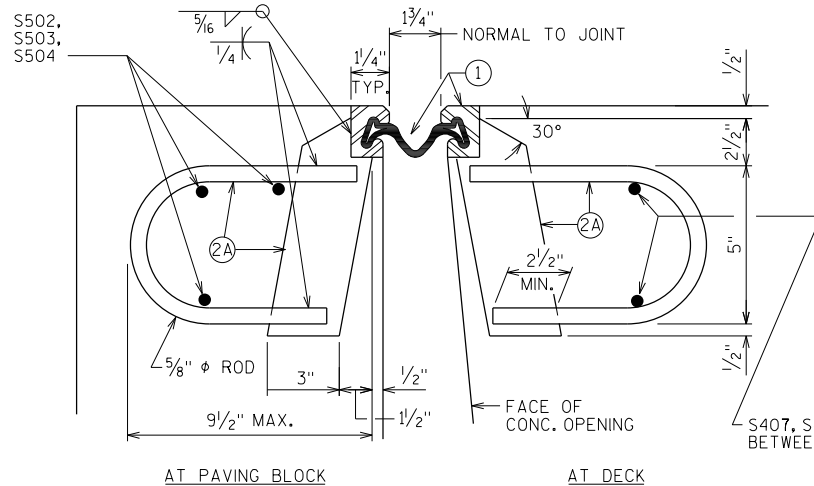
SANDBLAST PLATES, SUPPORTS AND EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THE PLATES, SUPPORTS AND EXTRUSIONS SHALL BE HOT DIPPED GALVANIZED.

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-5-223".



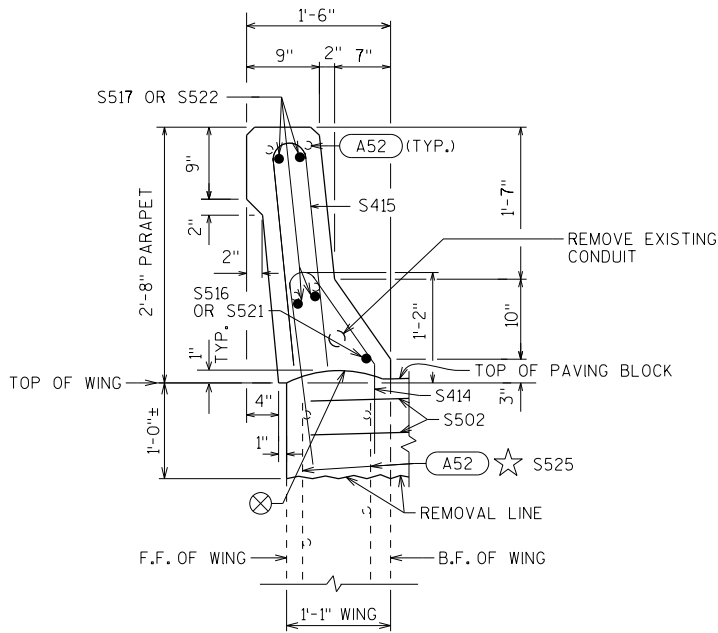
PART PLAN



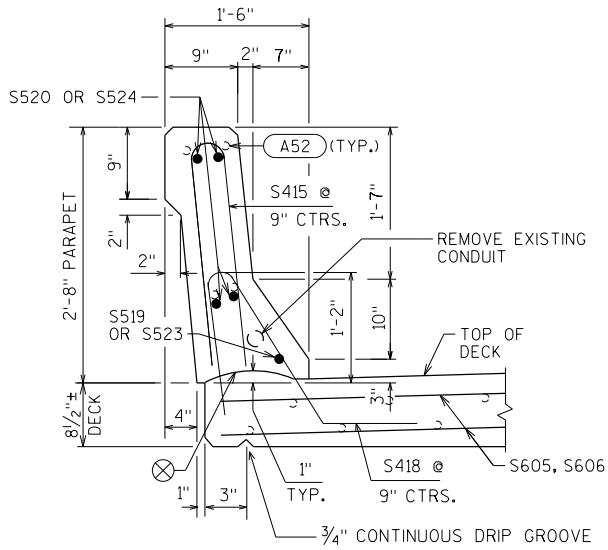
SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-223			
		DRAWN BY YC	PLANS CK'D. VCP
EXPANSION DEVICE		SHEET 4 OF 6	



NEW SECTION THRU PARAPET ON WING



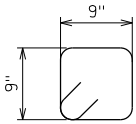
NEW SECTION THRU PARAPET ON DECK

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

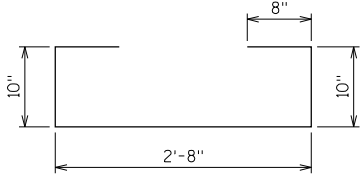
A52 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

THE NEW ADDITIONAL HORIZONTAL REINFORCEMENT REQUIRED IN THE PARAPETS SHALL BE TIED TO THE EXISTING HORIZONTAL REINFORCEMENT.

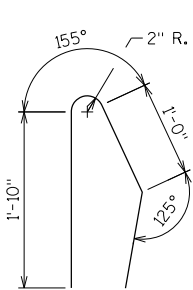
☆ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS S525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.



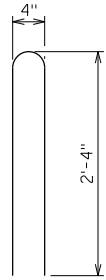
S401



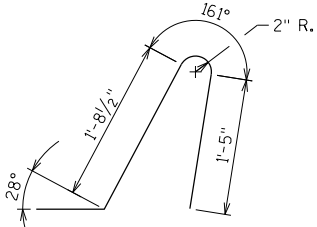
S410



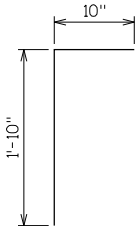
S414



S415



S418



S525

STATE PROJECT NUMBER

1227-08-73

UNCOATED: 0 LBS  
COATED: 1840 LBS

S. ABUT. 0 LBS  
N. ABUT. 0 LBS

BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

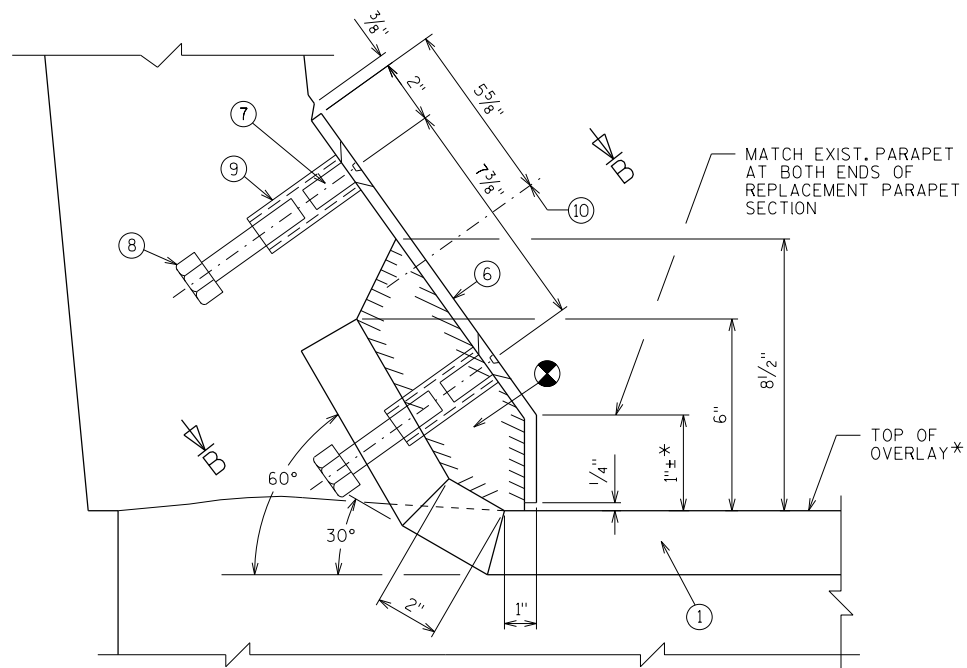
BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		S. ABUT.	N. ABUT.				
S401	X	40	-	3'-6"	X		PAVING BLOCK - VERT. - STIRRUP - AT STAGE 1 & 2 CONST.
S502	X	12	-	8'-0"			PAVING BLOCK - HORIZ. - AT STAGE 1 & 2 CONST.
S503	X	3	-	6'-3"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST.
S504	X	3	-	6'-3"			PAVING BLOCK - HORIZ. - AT STAGE 2 CONST.
S605	X	11	-	20'-3"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 1 CONST.
S606	X	11	-	20'-3"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 2 CONST.
S407	X	8	-	10'-1"			DECK - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S408	X	4	-	5'-1"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S409	X	4	-	5'-0"			DECK - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S410	X	30	-	5'-4"	X		DECK/CONC. DIAPH. - VERT. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S811	X	12	-	10'-1"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S812	X	6	-	5'-1"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 1 CONST.
S813	X	6	-	5'-0"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G2 & G3 - AT STAGE 2 CONST.
S414	X	4	-	4'-3"	X		WING & PARAPET - VERT. - TRANS. - AT WING CORNERS 1 & 2
S415	X	14	-	4'-10"	X		PARAPET - VERT. - TRANS. - ABOVE DECK AND WINGS - AT WING CORNERS 1 & 2
S516	X	1	-	1'-3"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S517	X	4	-	1'-8"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S418	X	9	-	4'-3"	X		DECK & PARAPET - VERT. - TRANS. - AT WING CORNERS 1 & 2
S519	X	1	-	3'-8"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 1
S520	X	4	-	3'-1"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 1
S521	X	1	-	1'-8"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S522	X	4	-	1'-1"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S523	X	1	-	3'-4"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 2
S524	X	4	-	3'-8"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 2
S525	X	48	-	2'-7"	X		PAVING BLOCK & ENDS OF ABUT. BACKWALL - VERT. - DOWEL - AT STAGE 1 & 2 CONST.
- - -			-				

\* BAR COUPLERS USED. BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.  
\*\* ADHESIVE ANCHORS NO. 5 BAR.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-223			
DRAWN BY YC		PLANS CK'D. VCP	
JOINT REPAIR - BILL OF BARS		SHEET 5 OF 6	

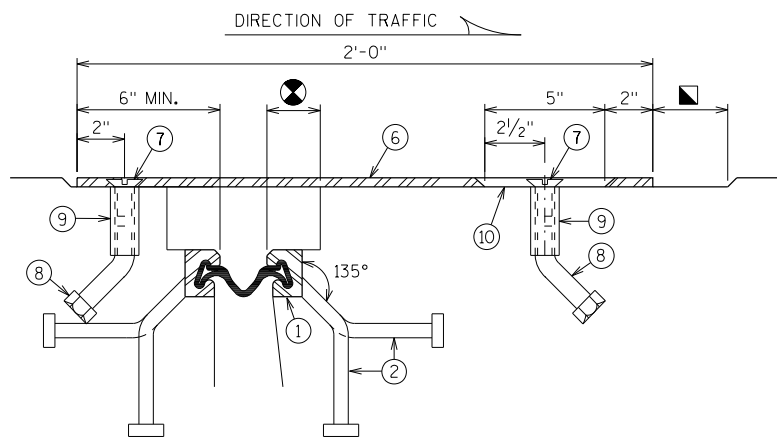
## LEGEND

- ① NEOPRENE STRIP SEAL ( 4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS  $\frac{5}{8}$ " $\phi$  X  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ⑥ GALVANIZED PLATE  $\frac{3}{8}$ " X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
- ⑦  $\frac{3}{4}$ " $\phi$  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  $\frac{3}{4}$ " $\phi$  X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- ⑨  $\frac{3}{4}$ " $\phi$  X  $2\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- ⑩ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.



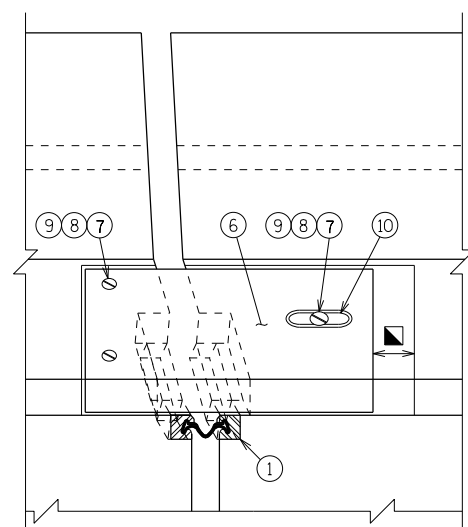
## SECTION A-A

\* TOP OF OVERLAY  
@ 2" ± ABOVE TOP  
OF ORIGINAL DECK.

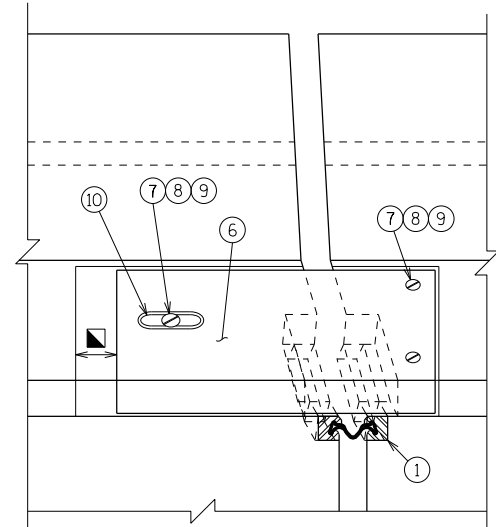


## SECTION B-B

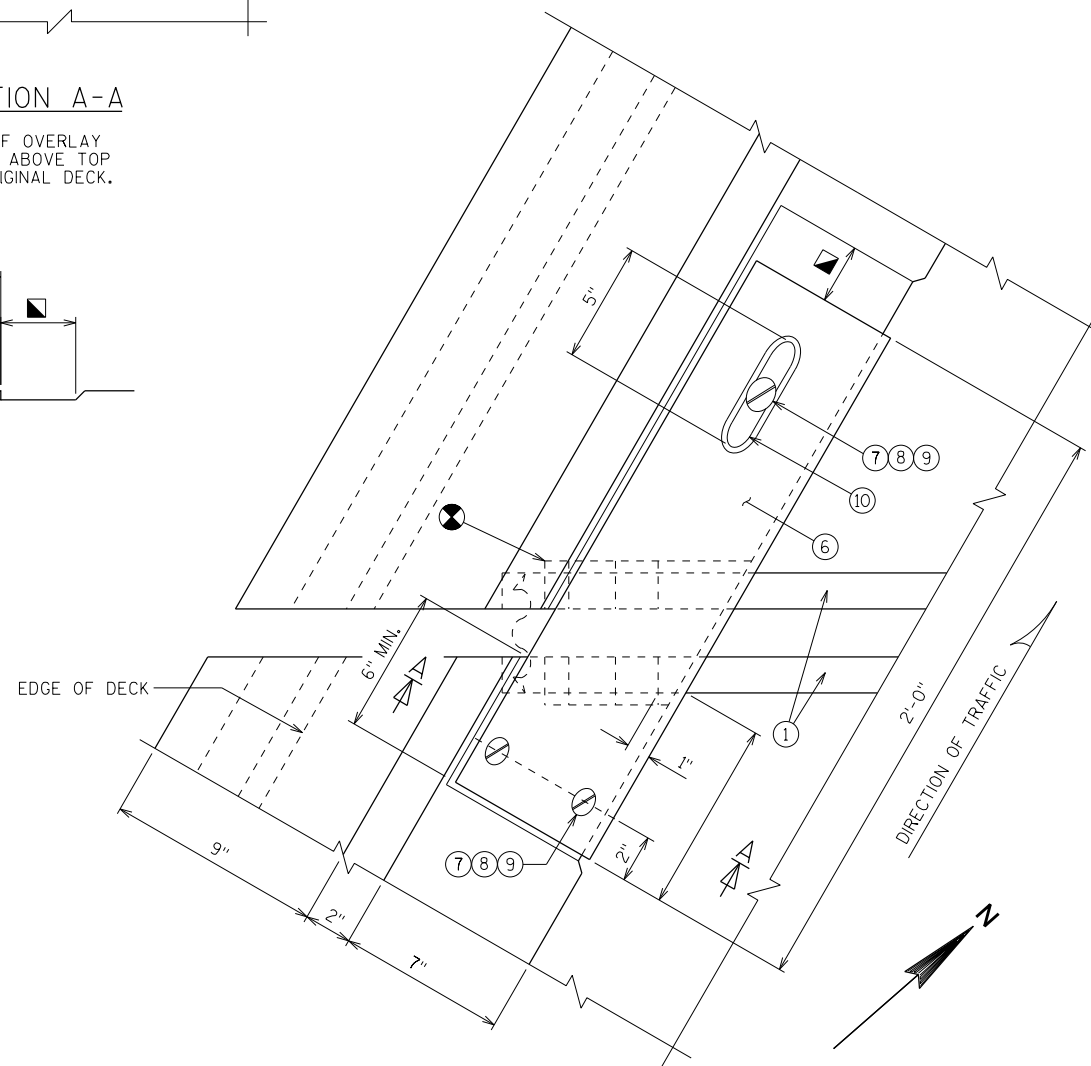
AT WING CORNER 1  
OPPOSITE HAND AT WING CORNER 2

VIEW OF PARAPET PLATE  
FROM ROADWAY

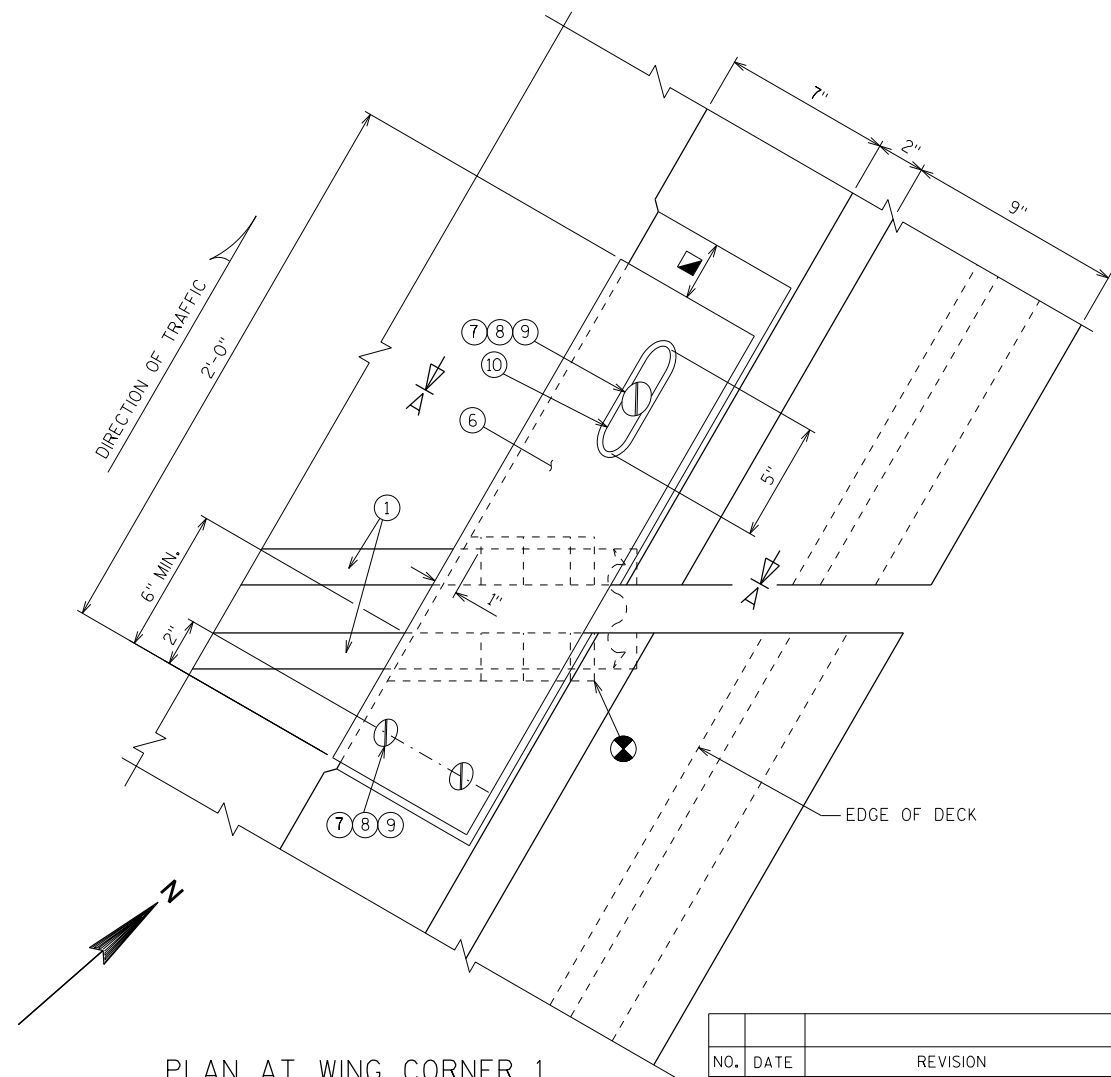
AT WING CORNER 2

VIEW OF PARAPET PLATE  
FROM ROADWAY

AT WING CORNER 1



## PLAN AT WING CORNER 2

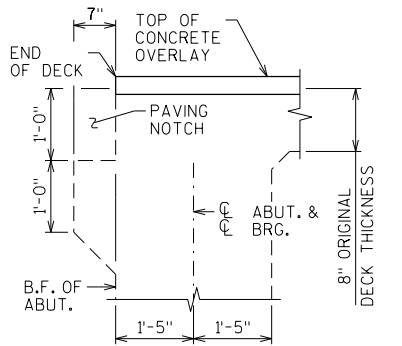


## PLAN AT WING CORNER 1

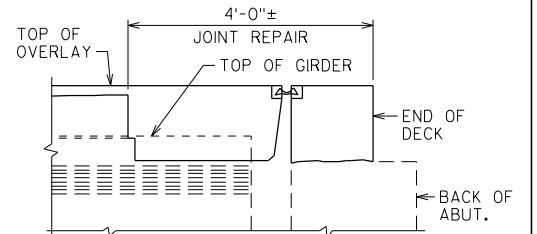
⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

▣ JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-223			
DRAWN BY YC		PLANS CK'D. VCP	
COVER PLATE DETAILS		SHEET 6 OF 6	



SECTION A-A  
SECTION THRU ABUT. DIAPH.



SECTION B-B  
SEE SHEET \_\_ FOR DETAILS.

1. GENERAL PLAN
2. CROSS SECTION & ELEVATION
3. QUANTITIES & NOTES
4. SB JOINT REPAIR
5. NB JOINT REPAIR
6. EXPANSION DEVICE
7. SB JOINT REPAIR - BILL OF BARS
8. NB JOINT REPAIR - BILL OF BARS
9. COVER PLATE DETAILS

NO.	DATE	REVISION	BY

 **exp.** U.S. Services Inc.  
Milwaukee, WI  
BUILDINGS • EARTH & ENVIRONMENT • ENERGY  
INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

ACCEPTED \_\_\_\_\_  
CHIEF STRUCTURES DESIGN ENGINEER      DATE \_\_\_\_\_

STRUCTURE B-5-224

IH 43 OVER WEBSTER AVENUE

COUNTY	BROWN	<del>TOWN/CITY/VILLAGE</del>	GREEN BAY
--------	-------	------------------------------	-----------

DESIGN SPEC.	
REHABILITATION	N/A

DESIGNED BY	YC	DESIGN CK'D.	VCP	DRAWN BY	J.JG/YC	PLANS CK'D.	VCP
-------------	----	--------------	-----	----------	---------	-------------	-----

SHEET 1 OF 2

GENERAL PLAN	SHEET 1 OF 9
--------------	--------------

GENERAL PLAN	
--------------	--

--	--

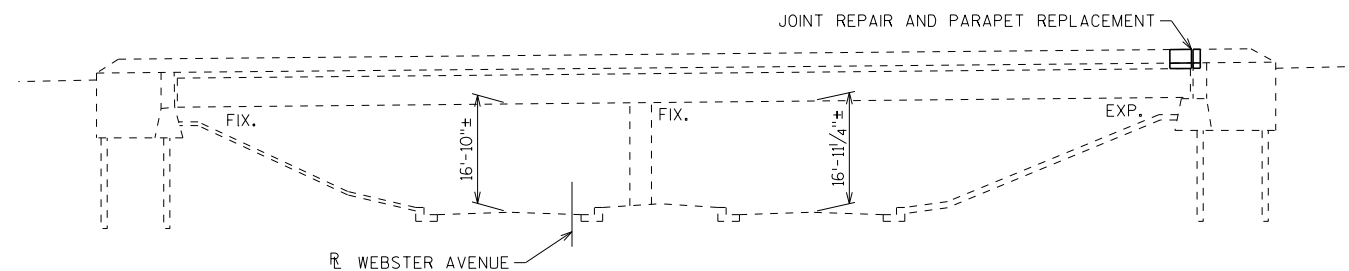
8

	SCALE
FILENAME	

(2-SPAN PRESTRESSED CONCRETE GIRDER, CONCRETE OVERLAY)

 INDICATES WINGWALL NUMBER

▲ PARAPET REPLACEMENT AREA.  
SEE SHEET -- FOR DETAILS.



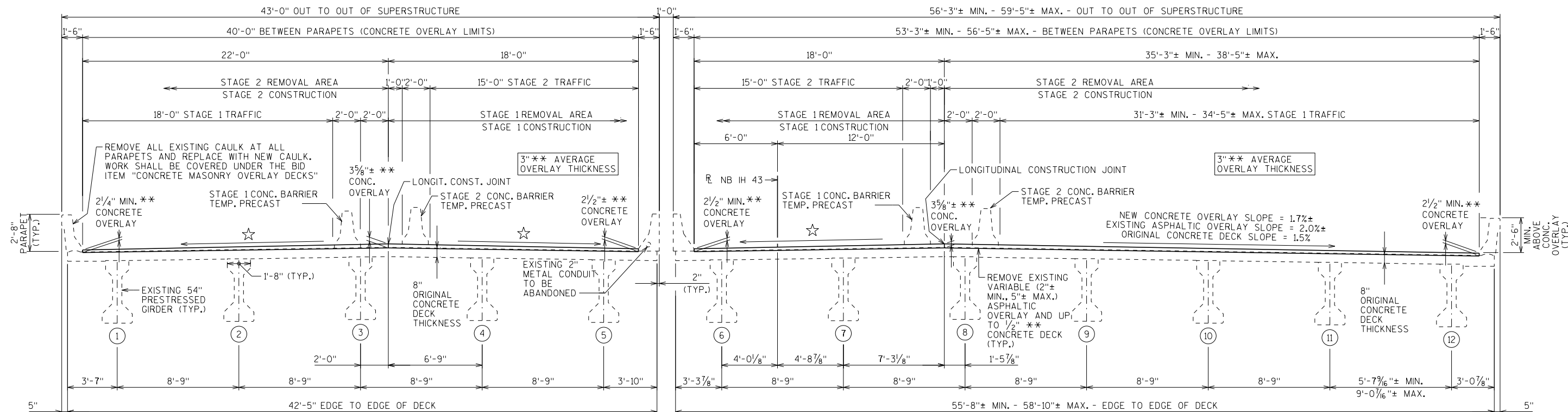
ELEVATION  
NORMAL TO WEBSTER AVENUE  
(LOOKING SOUTHWEST)



DATE: 02/03/2017

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: CONSULTANT:  
WILLIAM DREHER, P.E. VINOD PATEL, P.E.  
(608) 266-8489 (312) 616-7395



CROSS SECTION THRU DECK LOOKING WEST

\*\* THE OVERLAY THICKNESS INCLUDES 1/2" THICKNESS OF CONCRETE REMOVAL FROM ORIGINAL CONCRETE DECK.

☆ NEW CONCRETE OVERLAY SLOPE = 2.0% EXISTING ASPHALTIC OVERLAY SLOPE = 2.0% ± ORIGINAL CONCRETE DECK SLOPE = 1.5%

## DESIGN DATA

## LIVE LOAD:

DESIGN LOADING: HS20  
INVENTORY RATING: HS20  
OPERATING RATING: HS38  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

## MATERIAL PROPERTIES:

CONCRETE MASONRY: OVERLAY DECKS  $f'_c = 4,000$  P.S.I.  
ALL OTHER  $f'_c = 3,500$  P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60:  $f_y = 60,000$  P.S.I.

## TRAFFIC VOLUME

IH 43 WEBSTER AVE  
A.D.T. = 40,400 (2036) A.D.T. = 20,000 (2036)  
R.D.S. = 70 MPH R.D.S. = 50 MPH

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
DRAWN BY YC		PLANS CK'D. VCP	
CROSS SECTION & ELEVATION		SHEET 2 OF 9	

8

\$\$\$\$ref\_list\_name\$\$\$\$  
CHUNYM  
2-03-2017, 15:06:14

\\\\PCHAPP004\\AM\\VAUL I.D--TRANS\_07\\TDCWIS\\00214891-A0\\STRUCT\\CAD\\24\_B050224\\A EXP\\SHEET\\03\_SN24IA001.SHT

TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	E. ABUT.	W. ABUT.	S. PIER	SUPER.	TOTAL
502.3100.07	EXPANSION DEVICE B-5-224	LS	-	-	-	-	1
502.3200	PROTECTIVE SURFACE TREATMENT	SY	-	-	-	1,826	1,826
502.3210	PIGMENTED SURFACE SEALER	SY	10	11	-	262	283
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	-	123	-	-	123
502.6500	PROTECTIVE COATING CLEAR	GAL	-	-	-	5	5
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	-	-	-	4,500	4,500
505.0904	BAR COUPLERS NO. 4	EACH	-	8	-	-	8
505.0905	BAR COUPLERS NO. 5	EACH	-	6	-	-	6
505.0906	BAR COUPLERS NO. 6	EACH	-	22	-	-	22
505.0907	BAR COUPLERS NO. 7	EACH	-	12	-	-	12
509.0301	PREPARATION DECKS TYPE 1	SY	-	-	-	183	183
509.0302	PREPARATION DECKS TYPE 2	SY	-	-	-	73	73
509.0500	CLEANING DECKS	SY	-	-	-	1,779	1,779
509.1000	JOINT REPAIR	SY	-	-	-	54	54
509.1500	CONCRETE SURFACE REPAIR	SF	4	-	-	74	78
509.2000	FULL-DEPTH DECK REPAIR	SY	-	-	-	2	2
509.2500	CONCRETE MASONRY OVERLAY DECKS	CY	-	-	-	187	187
509.9010.S.17	REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-224	SY	-	-	-	1,779	1,779
509.9050.S	CLEANING PARAPETS	LF	29	30	-	671	730
SPV.0060.01	CLEANING AND PAINTING BEARINGS	EACH	-	12	-	-	12
SPV.0090.01	CLEANING CONCRETE GIRDER ENDS	LF	-	9	-	-	9
	NON-BID ITEMS						
	BRIDGE SEAT PROTECTION						

BID ITEM "CONCRETE MASONRY OVERLAY DECKS" ALSO INCLUDES CONCRETE FOR:  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "FULL-DEPTH DECK REPAIR", AND "JOINT REPAIR".  
THE QUANTITIES OF "PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", AND "FULL-DEPTH DECK REPAIR" ARE  
BASED ON AN INFRARED THERMOGRAPHIC DECK SURVEY REPORT.

8

BLAST CLEAN ALL EXPOSED STEEL REINFORCEMENT AND STEEL PRESTRESSING STRANDS TO REMOVE ALL RUST AND CORROSION PRIOR TO PAINTING.

END VIEW

SEE TABLE

APPROACH SLAB

PART LONGITUDINAL SECTION  
(WEST ABUT.)

PRESTRESSED GIRDER REPAIRS

CLEANING CONCRETE GIRDER ENDS (L.F.)

	G1	G10	G12
WEST ABUT.	3	3	3

LEGEND

DENOTES AREAS OF BID ITEM "CLEANING CONCRETE GIRDER ENDS". SEE NOTES.

NOTES:

1. REMOVE ANY LOOSE, DELAMINATED, OR DETERIORATED CONCRETE FROM THE END OF CONCRETE GIRDERS.

2. CLEAN AND PAINT ANY EXPOSED STEEL REINFORCEMENT AND STEEL PRESTRESSING STRANDS.

3. VERIFY LENGTH OF CLEANING WITH ENGINEER.

STATE PROJECT NUMBER

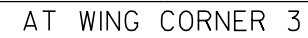
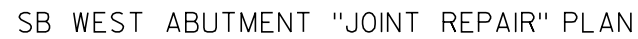
1227-08-73

GENERAL NOTES

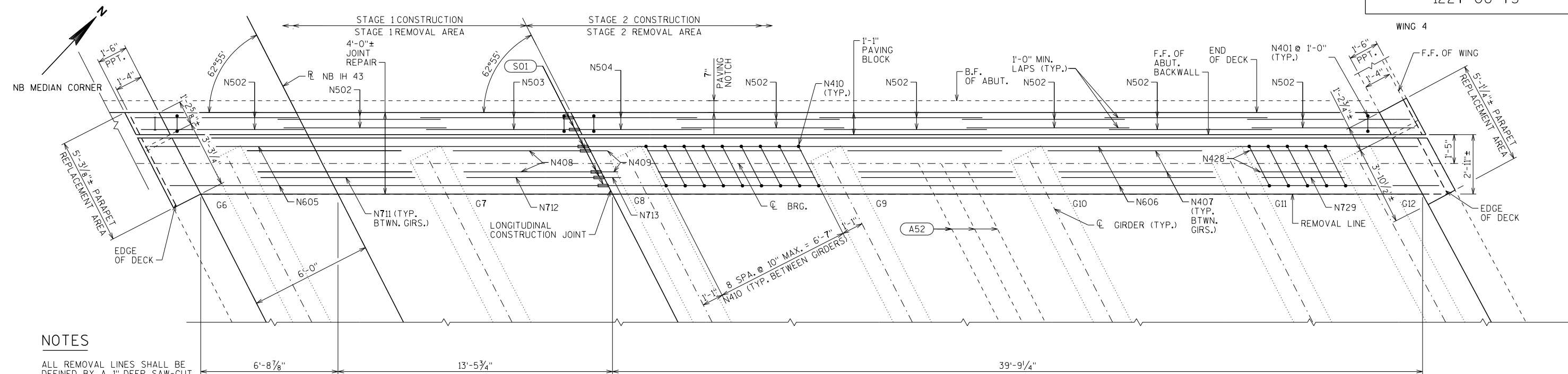
DRAWINGS SHALL NOT BE SCALED.  
DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.  
THE EXISTING BITUMINOUS ASPHALTIC OVERLAY SHALL BE REMOVED FROM THE BRIDGE DECK UNDER BID ITEM "REMOVING ASPHALTIC CONCRETE DECK OVERLAY B-5-224".  
AFTER REMOVING EXISTING ASPHALTIC OVERLAY, UP TO 1/2" OF CONCRETE SHALL BE REMOVED FROM ORIGINAL BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".  
"PREPARATION DECKS TYPE 1", "PREPARATION DECKS TYPE 2", "CONCRETE SURFACE REPAIR", AND "FULL-DEPTH DECK REPAIR" AREAS SHALL BE DETERMINED BY THE FIELD ENGINEER.  
ALL CONCRETE REMOVAL NOT COVERED WITH A CONCRETE OVERLAY SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.  
PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 2 1/2" ON NB ROADWAY AND 2 1/4" ON SB ROADWAY PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS AS GIVEN ON THE PLANS. IF EXPECTED AVERAGE OVERLAY THICKNESS IS EXCEEDED BY MORE THAN 1/2", CONTACT THE STRUCTURES DESIGN SECTION.  
ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR JOINT REPAIRS AT ABUTMENTS IS INCIDENTAL TO THE BID ITEM "CONCRETE MASONRY OVERLAY DECKS".  
UTILIZE EXISTING BAR STEEL REINFORCEMENT WHERE SHOWN AND EXTEND MINIMUM 24 BAR DIAMETERS INTO NEW WORK, UNLESS SPECIFIED OTHERWISE.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED.  
THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF WEST ABUTMENT BELOW EXPANSION DEVICE. POWER WASH AND ADEQUATELY DRY SURFACES BEFORE APPLICATION. WORK TO BE INCIDENTAL TO "JOINT REPAIR".  
COAT ALL EXPOSED SURFACES OF THE LAST 5'-0" OF GIRDERS (SPAN 2 AT WEST ABUTMENT END ONLY) WITH "PROTECTIVE COATING CLEAR" AS DIRECTED BY THE ENGINEER. APPLY AT A RATE OF ONE GALLON PER 200 SF PER THE STANDARD SPECIFICATION 502.3.15 PARA. 4.  
CLEAN AND PAINT ALL BEARINGS AT WEST ABUTMENT. SEE SPECIAL PROVISIONS FOR "CLEANING AND PAINTING BEARINGS".  
CLEAN THE INSIDE FACES AND TOP SURFACE OF THE EXISTING CONCRETE PARAPETS. PARAPET JOINTS SHALL BE CLEANED AND RE-SEALED WITH NON-STAINING, GRAY NON-BITUMINOUS JOINT SEALER. INCLUDE IN BID ITEM "CLEANING PARAPETS".  
APPLY "PROTECTIVE SURFACE TREATMENT" TO THE EXPOSED DECK SURFACE OF THE NEW CONCRETE OVERLAY BETWEEN PARAPETS AND EXPOSED TOP SURFACE OF JOINT REPAIR.  
APPLY "PIGMENTED SURFACE SEALER" ON THE INSIDE AND TOP FACES OF PARAPETS, INCLUDING PARAPETS ON ABUTMENT WINGS.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
		DRAWN BY YC	PLANS CK'D. VCP
QUANTITIES & NOTES			SHEET 3 OF 9

S01 BAR COUPLERS USED. BAR LENGTH COMPUTED TO  $\frac{1}{4}$  OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.



NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
		DRAWN BY YC	PLANS CK'D. VCP
SB JOINT REPAIR		SHEET 4 OF 9	



## NOTES

ALL REMOVAL LINES SHALL BE DEFINED BY A 1" DEEP SAW-CUT.

REBUILD NEW PARAPET, WING AND DECK AREAS TO MATCH THE EXISTING PARAPET, WING AND DECK. SEE SHEET 8 FOR NEW PARAPET DETAILS.

PARAPET REPLACEMENT SHALL BE INCLUDED UNDER THE BID ITEM "JOINT REPAIR".

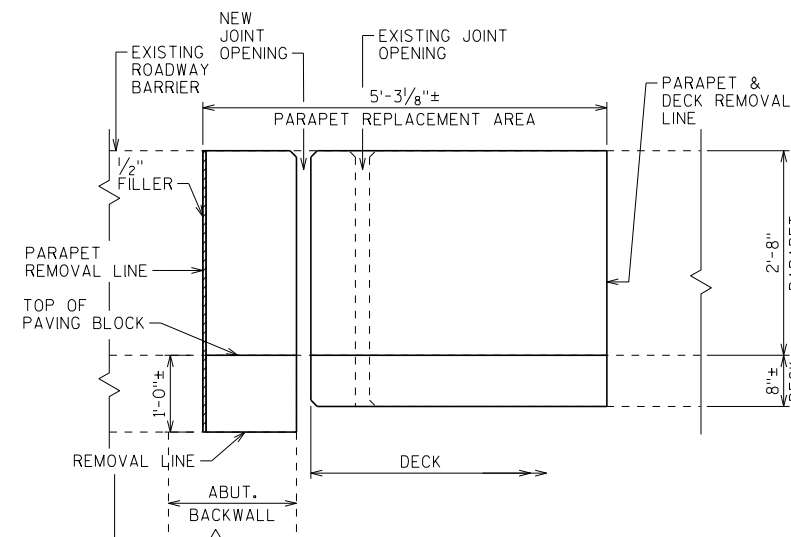
A52 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

THE NEW ADDITIONAL HORIZONTAL REINFORCEMENT REQUIRED IN THE PARAPETS SHALL BE TIED TO THE EXISTING HORIZONTAL REINFORCEMENT.

★ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS N525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.

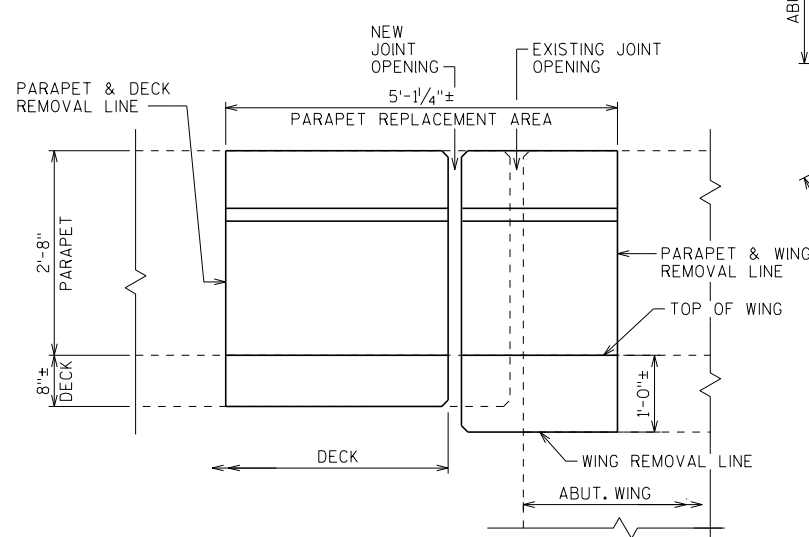
S01 BAR COUPLERS USED. BAR LENGTH COMPUTED TO CL OF LONGIT. JOINT & SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.

## NB WEST ABUTMENT "JOINT REPAIR" PLAN



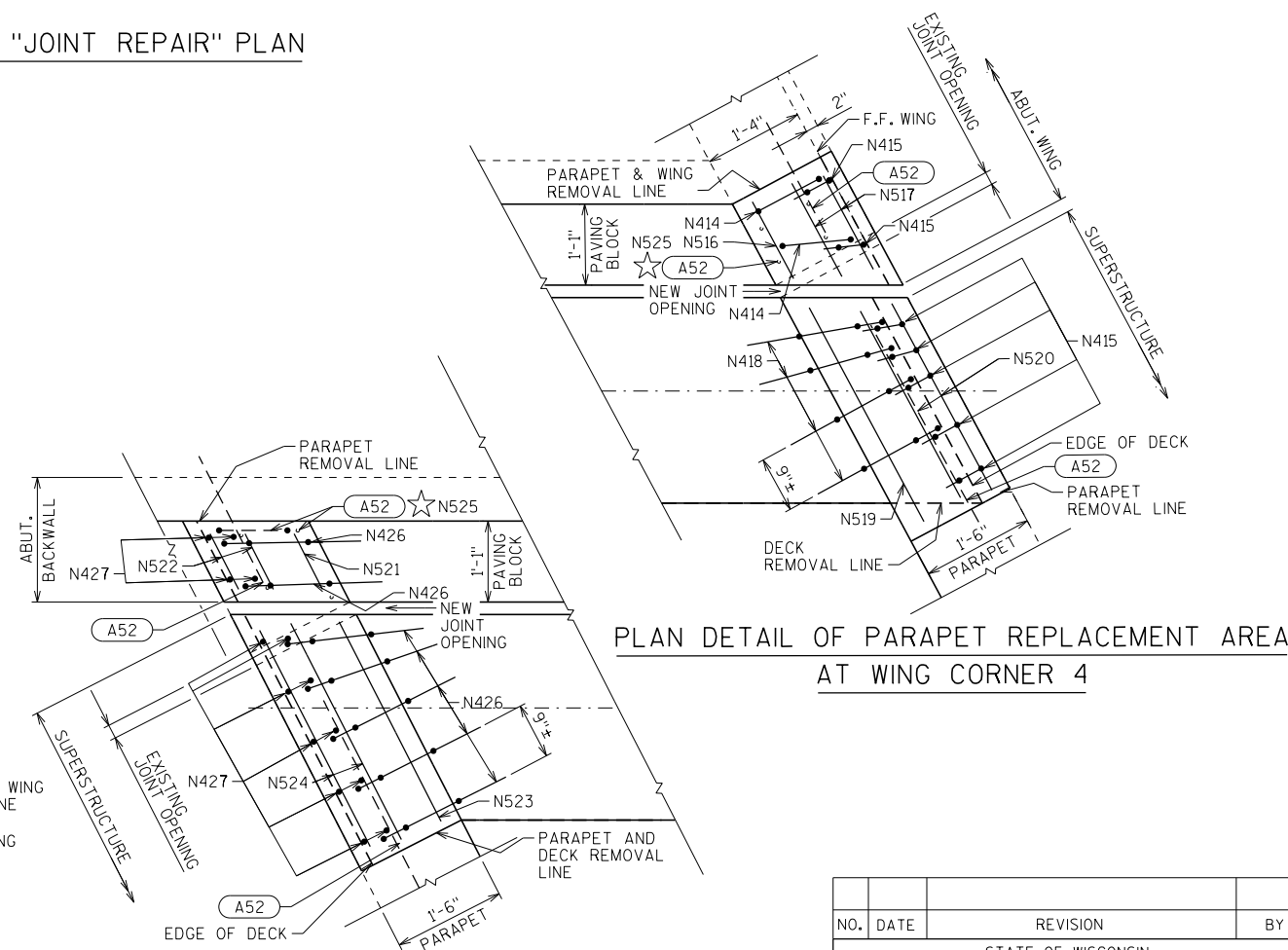
## ELEVATION OF NEW NB MEDIAN CORNER

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)



## ELEVATION OF NEW WING CORNER 4

SHOWING NEW CONCRETE AREAS FOR "JOINT REPAIR"  
(LOOKING AT OUTSIDE FACE OF PARAPET)

PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT WING CORNER 4PLAN DETAIL OF PARAPET REPLACEMENT AREA  
AT NB MEDIAN CORNER

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
DRAWN BY JJC		PLANS CK'D. YC	
NB JOINT REPAIR		SHEET 5 OF 9	

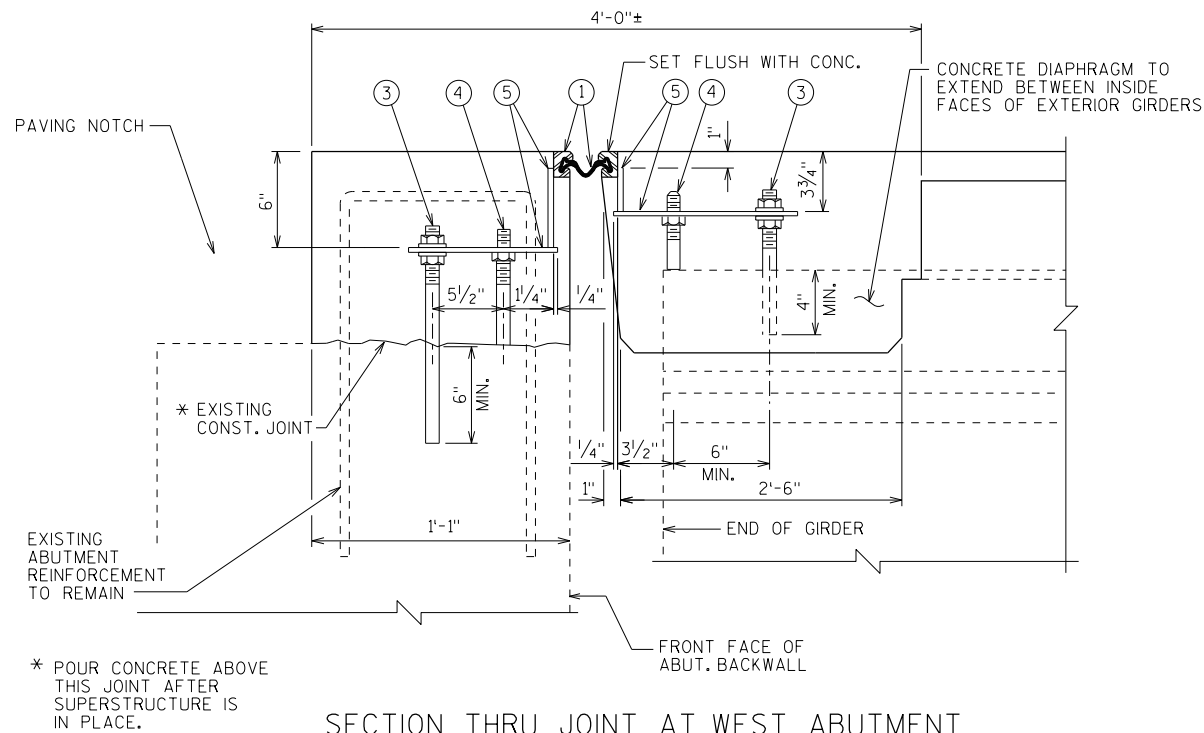
\\PCHAPP004\AM\VAUL I.D--TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\24\_B050224\IA\_EXP\Sheet\06\_EJ24IA002.SHT

CHUNYM

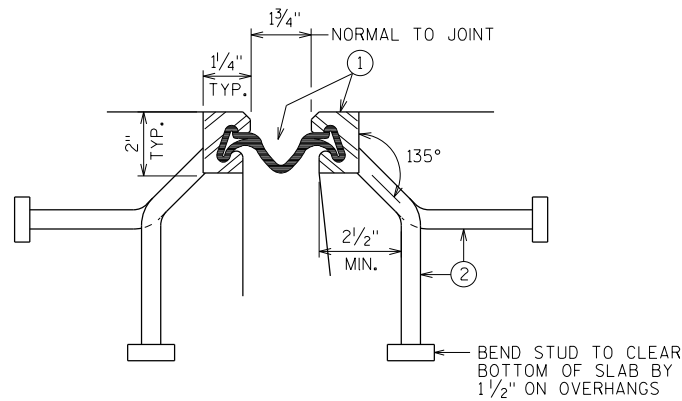
2-03-2017, 15:06:22

\$\$\$\$\$ref\_list\_name\$\$\$\$\$

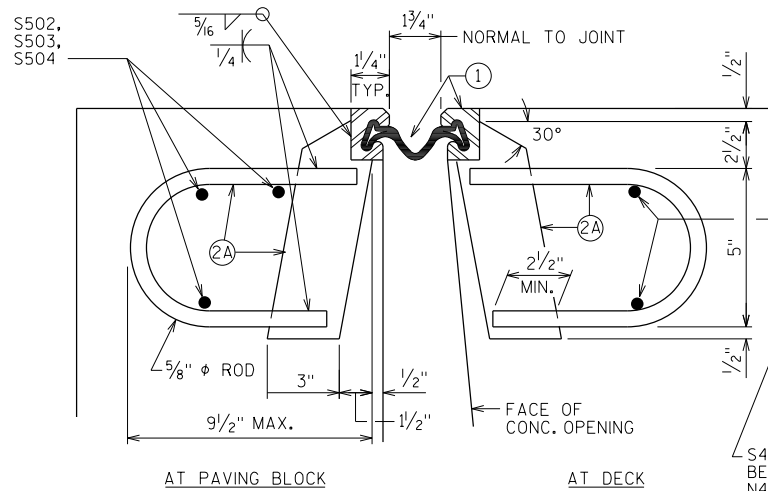
8



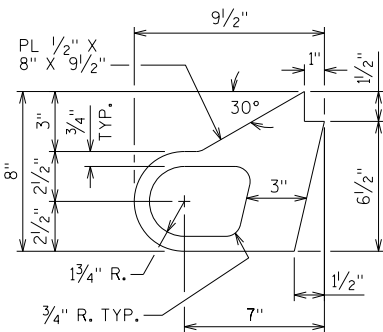
SECTION THRU JOINT AT WEST ABUTMENT  
NORMAL TO CL SUBSTRUCTURE



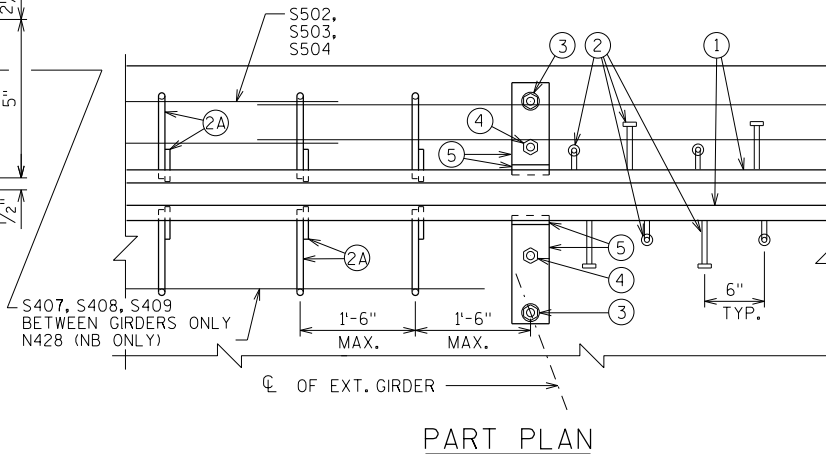
SECTION THRU JOINT  
EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS, MEDIANS AND SIDEWALKS



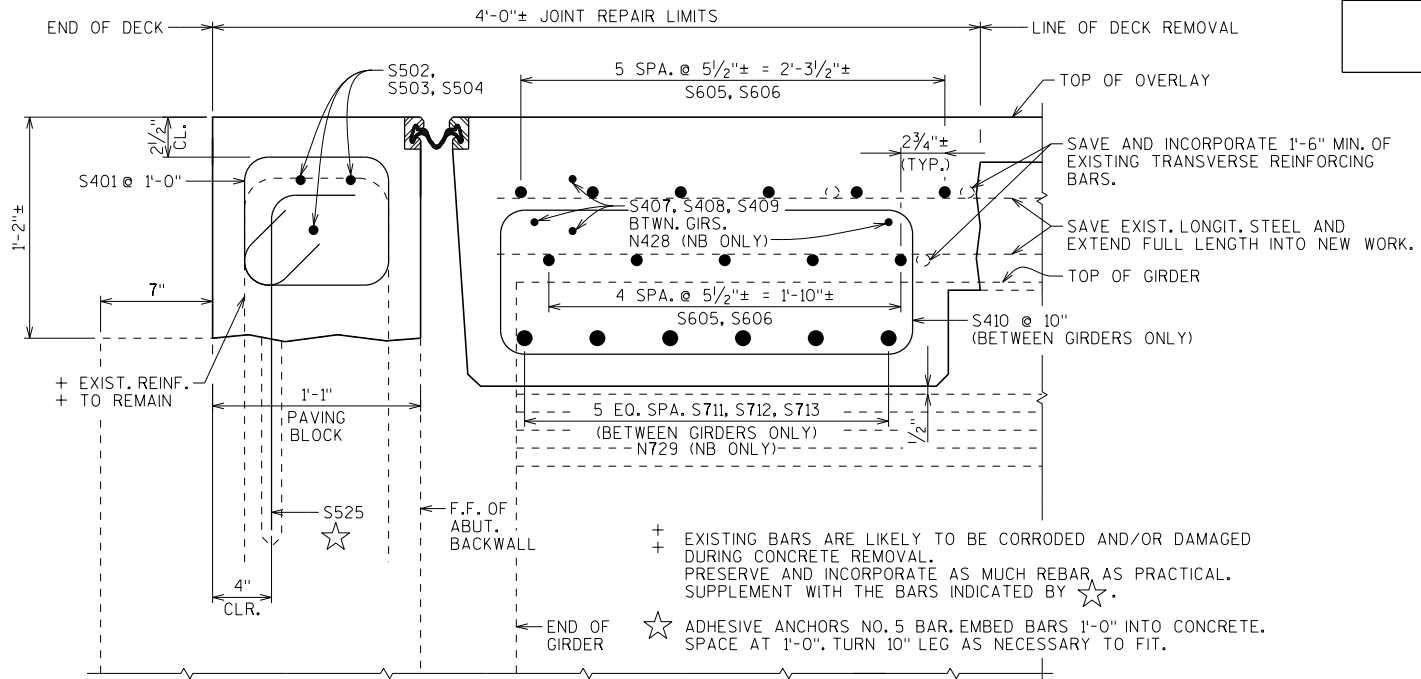
SECTION THRU JOINT  
ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.  
BAR MARKS FOR SB SHOWN.  
NB SIMILAR, EXCEPT BAR MARKS START WITH "N".



ALTERNATE STRIP SEAL ANCHOR



PART PLAN



SECTION THRU JOINT AT WEST ABUTMENT  
NORMAL TO CL SUBSTRUCTURE  
SHOWING REINFORCEMENT  
BAR MARKS FOR SB SHOWN.  
NB SIMILAR, EXCEPT BAR MARKS START WITH "N".

### LEGEND

- NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- STUDS 5/8"φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- 1/2" THICK ANCHOR PLATE WITH 5/8"φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.
- 3/4"φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON CL OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.
- 3/4"φ 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 1 1/2"φ HOLE FOR NO. 3 AND 1"φ HOLE FOR NO. 4.

### NOTES

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS, UNLESS MORE ARE REQUIRED FOR STAGED CONSTRUCTION, HANDLING OR GALVANIZING REQUIREMENTS. IF USED, DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE STRIP SEAL.

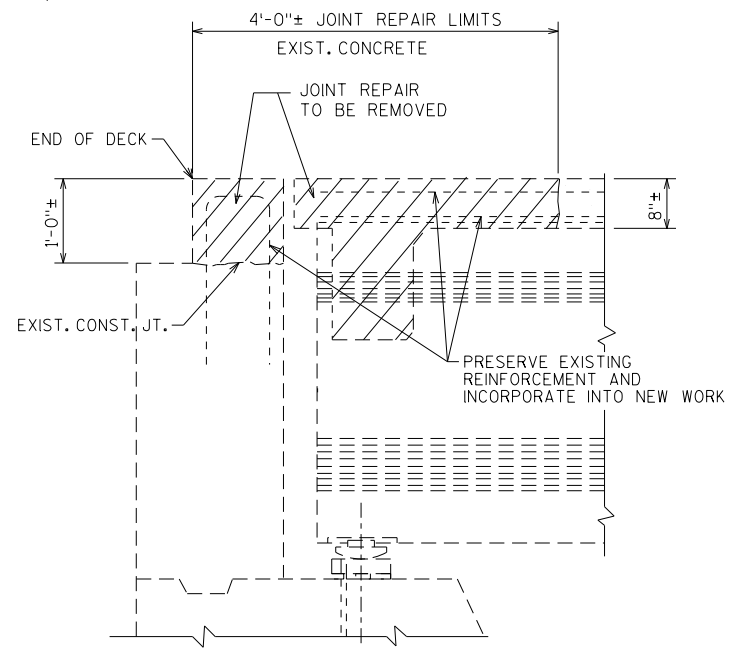
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH THAT THEY SHALL BE FREE FROM WARP, TWIST AND SWEEP.

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.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-5-224".

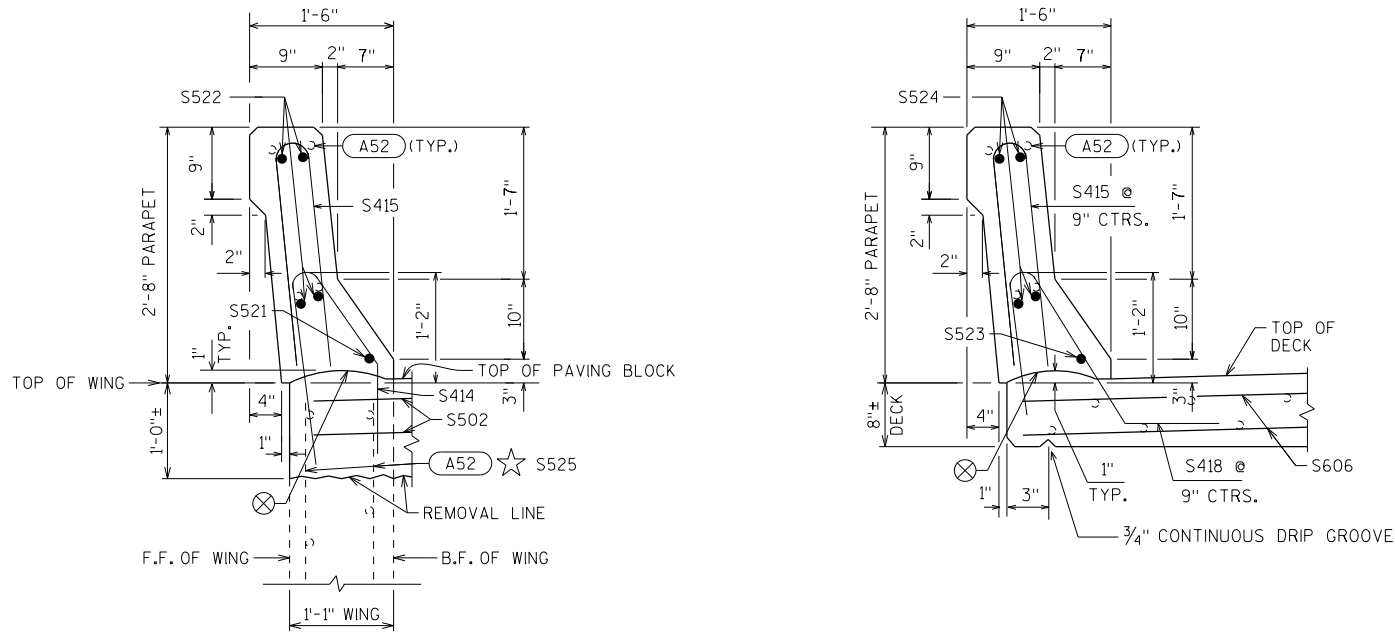


JOINT REPAIR - REMOVAL  
SECTION THRU EXISTING EXPANSION JOINT  
AT WEST ABUTMENT  
NORMAL TO CL SUBSTRUCTURE

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
EXPANSION DEVICE		DRAWN BY YC	PLANS CK'D. VCP
		SHEET 6 OF 9	

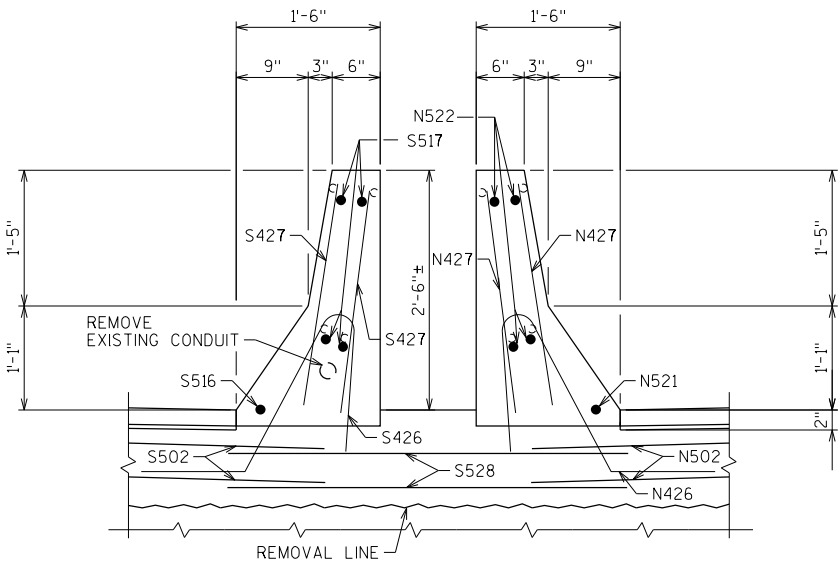
8

\\PCHIAPO04\AM\VAUL\I.D--TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\24\_B050224\VA\_EXP\SHEET\07\_EJ24IA003.SHT  
CHUNYM  
2-03-2017, 15:06:50  
8  
8

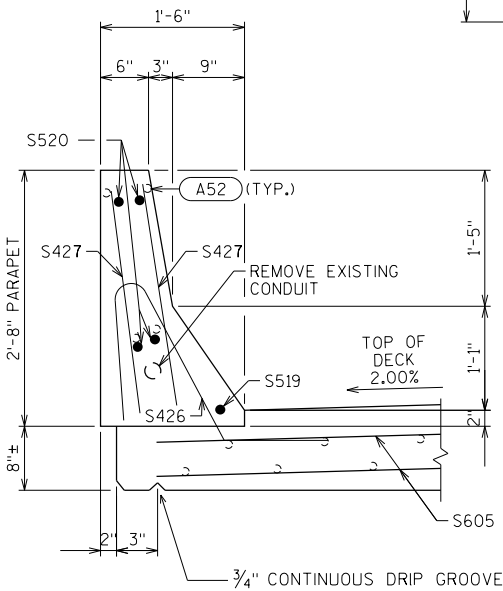


NEW SECTION THRU EXTERIOR PARAPET ON WING      NEW SECTION THRU EXTERIOR PARAPET ON DECK

- ⊗ CONST. JOINT - STRIKE OFF AS SHOWN.
- (A52) SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.
- ★ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS S525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.



NEW SECTION THRU MEDIAN PARAPETS ON BACKWALL  
LOOKING WEST  
BARS S401, S525, N401, & N525 NOT SHOWN.



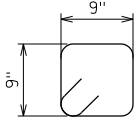
NEW SECTION THRU MEDIAN PARAPET ON DECK  
LOOKING EAST

BILL OF BARS

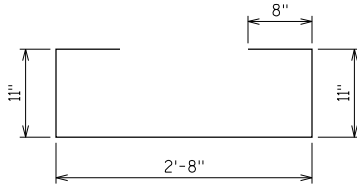
THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		SB E. ABUT.	SB W. ABUT.				
S401	X	-	50	3'-6"	X		PAVING BLOCK - VERT. - STIRRUP - AT STAGE 1 & 2 CONST., INCLUDING MEDIAN
S502	X	-	15	8'-0"			PAVING BLOCK - HORIZ. - AT STAGE 1 & 2 CONST.
S503	X	-	3	7'-7"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST.
S504	X	-	3	4'-9"			PAVING BLOCK - HORIZ. - AT STAGE 2 CONST.
S605	X	-	11	21'-6"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 1 CONST.
S606	X	-	11	25'-9"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 2 CONST.
S407	X	-	12	7'-7"			DECK - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S408	X	-	4	6'-5"			DECK - HORIZ. - TRANS. - BTWN. G3 & G4 - AT STAGE 1 CONST.
S409	X	-	4	1'-1"			DECK - HORIZ. - TRANS. - BTWN. G3 & G4 - AT STAGE 2 CONST.
S410	X	-	36	5'-3"	X		DECK/CONC. DIAPH. - VERT. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S711	X	-	18	7'-7"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
S712	X	-	6	6'-5"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G3 & G4 - AT STAGE 1 CONST.
S713	X	-	6	1'-1"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G3 & G4 - AT STAGE 2 CONST.
S414	X	-	2	4'-3"	X		WING & PARAPET - VERT. - TRANS. - AT WING CORNERS 3
S415	X	-	7	4'-10"	X		PARAPET - VERT. - TRANS. - ABOVE DECK AND WINGS - AT WING CORNER 3
S516	X	-	1	0'-10"			MEDIAN PARAPET - F.F. - HORIZ. - LONGIT. - AT MEDIAN CORNER
S517	X	-	4	0'-10"			MEDIAN PARAPET - HORIZ. - LONGIT. - AT MEDIAN CORNER
S418	X	-	5	4'-3"	X		DECK & PARAPET - VERT. - TRANS. - AT WING CORNER 3 & MEDIAN CORNER
S519	X	-	1	3'-3"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT MEDIAN CORNER
S520	X	-	4	2'-10"			DECK PARAPET - HORIZ. - LONGIT. - AT MEDIAN CORNER
S521	X	-	1	1'-5"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 3
S522	X	-	4	1'-0"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 3
S523	X	-	1	3'-0"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 3
S524	X	-	4	3'-3"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 3
S525	X	-	66	2'-7"	X		PAVING BLOCK & ENDS OF ABUT. BACKWALL - VERT. - DOWEL - AT STAGE 1 & 2 CONST.
S426	X	-	6	4'-7"	X		PAVING BLOCK & PARAPET - VERT. - TRANS. - AT MEDIAN CORNER
S427	X	-	14	2'-4"			PARAPET - VERT. - TRANS. - ABOVE DECK AND PAVING BLOCK - AT MEDIAN CORNER
S528	X	-	3	4'-2"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST. - MEDIAN BETWEEN SB & NB
- - -	-	-	-	-	-	-	-

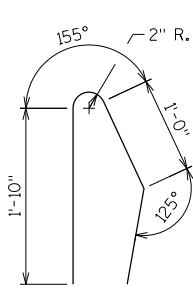
- \* BAR COUPLERS USED. BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.
- \*\* ADHESIVE ANCHORS NO. 5 BAR.



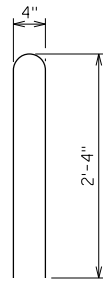
S401



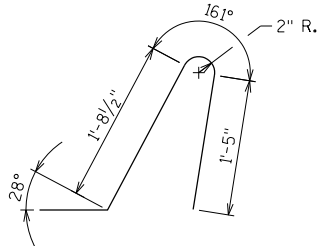
S410



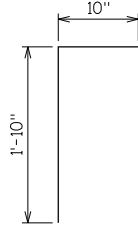
S414



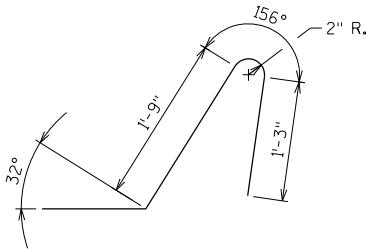
S415



S418



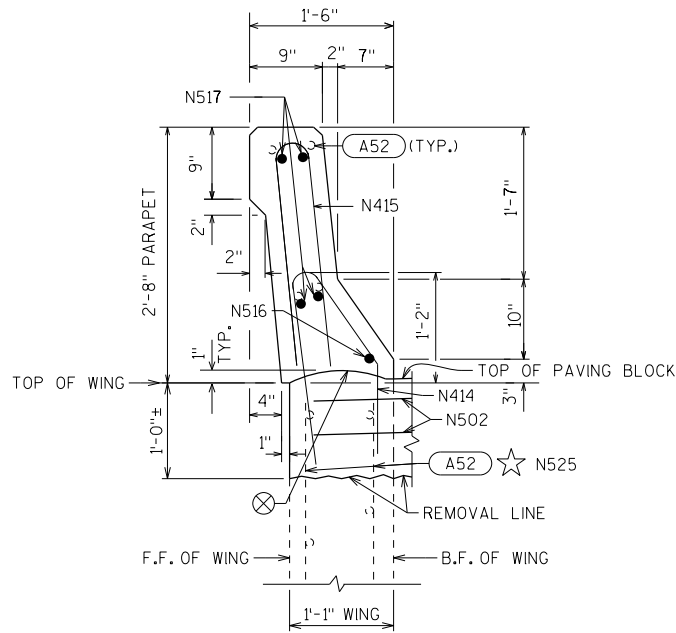
S525



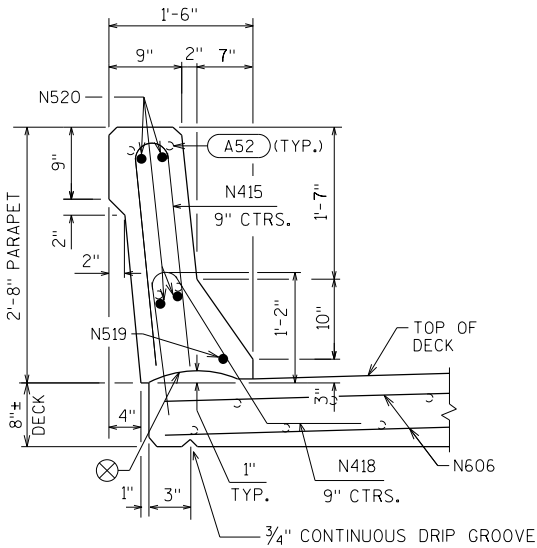
S426

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
DRAWN BY YC		PLANS CK'D. VCP	
SB JOINT REPAIR - BILL OF BARS		SHEET 7 OF 9	

\\PCHAPP004\AM\VAUL I.D--TRANS\_07\TDCWIS\00214891-A0\STRUCT\CAD\24\_B050224\IA\_EXP\SHEET\08\_EJ24IA003.SHT



NEW SECTION THRU EXTERIOR PARAPET ON WING



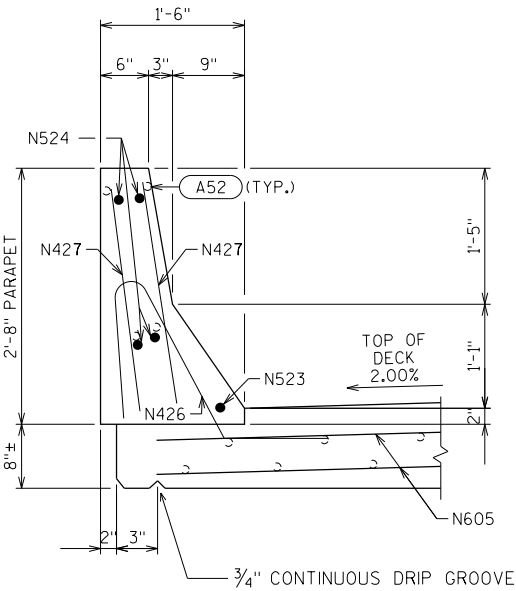
NEW SECTION THRU EXTERIOR PARAPET ON DECK

⊗ CONST. JOINT - STRIKE OFF AS SHOWN.

A52 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK.

THE NEW ADDITIONAL HORIZONTAL REINFORCEMENT REQUIRED IN THE PARAPETS SHALL BE TIED TO THE EXISTING HORIZONTAL REINFORCEMENT.

☆ IF EXISTING BARS ARE SEVERELY CORRODED OR DAMAGED DURING CONCRETE REMOVAL, REPLACE WITH BARS N525 ANCHORED WITH ADHESIVE ANCHORS NO. 5 BAR, EMBED BARS 1'-0" MIN. INTO EXISTING CONC. PLACE 4" CL. MIN. OF VERT. CONC. FACE.



NEW SECTION THRU MEDIAN PARAPET ON DECK

LOOKING WEST

NEW SECTION THRU MEDIAN PARAPETS ON BACKWALL

SEE SHEET 7

UNCOATED: NB E. ABUT. 0 LBS NB W. ABUT. 0 LBS  
COATED: 0 LBS 2540 LBS

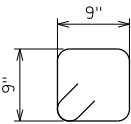
BILL OF BARS

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.  
BAR DIMENSIONS ARE OUT TO OUT OF BAR.

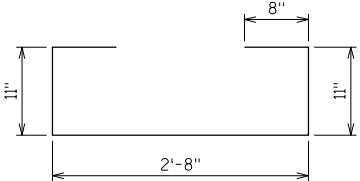
BAR MARK	COAT	NO. REQ'D		LENGTH	BENT	BAR SERIES	LOCATION
		NB E. ABUT.	NB W. ABUT.				
N401	X	-	61	3'-6"	X		PAVING BLOCK - VERT. - STIRRUP - AT STAGE 1 & 2 CONST.
N502	X	-	21	8'-0"			PAVING BLOCK - HORIZ. - AT STAGE 1 & 2 CONST.
N503	X	-	3	7'-7"			PAVING BLOCK - HORIZ. - AT STAGE 1 CONST.
N504	X	-	3	5'-10"			PAVING BLOCK - HORIZ. - AT STAGE 2 CONST.
N605	X	-	11	21'-6"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 1 CONST.
N606	X	-	11	40'-9"			DECK - HORIZ. - TRANS. - TOP & BOT. - AT STAGE 2 CONST.
N407	X	-	16	7'-7"			DECK - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
N408	X	-	4	6'-9"			DECK - HORIZ. - TRANS. - BTWN. G7 & G8 - AT STAGE 1 CONST.
N409	X	-	4	0'-10"			DECK - HORIZ. - TRANS. - BTWN. G7 & G8 - AT STAGE 2 CONST.
N410	X	-	50	5'-3"	X		DECK/CONC. DIAPH. - VERT. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
N711	X	-	24	7'-7"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. GIRS. - AT STAGE 1 & 2 CONST.
N712	X	-	6	6'-9"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G7 & G8 - AT STAGE 1 CONST.
N713	X	-	6	0'-10"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G7 & G8 - AT STAGE 2 CONST.
N414	X	-	2	4'-3"	X		WING & PARAPET - VERT. - TRANS. - AT WING CORNER 4
N415	X	-	7	4'-10"	X		PARAPET - VERT. - TRANS. - ABOVE DECK AND WINGS - AT WING CORNER 4
N516	X	-	1	1'-2"			WING PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 4
N517	X	-	4	1'-5"			WING PARAPET - HORIZ. - LONGIT. - AT WING CORNER 4
N418	X	-	4	4'-3"	X		DECK & PARAPET - VERT. - TRANS. - AT WING CORNER 4 & MEDIAN CORNER
N519	X	-	1	3'-3"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT WING CORNER 4
N520	X	-	4	2'-10"			DECK PARAPET - HORIZ. - LONGIT. - AT WING CORNER 4
N521	X	-	1	0'-10"			ABUT. PARAPET - F.F. - HORIZ. - LONGIT. - AT MEDIAN CORNER
N522	X	-	4	0'-10"			ABUT. PARAPET - HORIZ. - LONGIT. - AT MEDIAN CORNER
N523	X	-	1	3'-0"			DECK PARAPET - F.F. - HORIZ. - LONGIT. - AT MEDIAN CORNER
N524	X	-	4	3'-3"			DECK PARAPET - HORIZ. - LONGIT. - AT MEDIAN CORNER
N525	X	-	79	2'-7"	X		PAVING BLOCK & ENDS OF ABUT. BACKWALL - VERT. - DOWEL - AT STAGE 1 & 2 CONST.
N426	X	-	7	4'-7"	X		PAVING BLOCK & PARAPET - VERT. - TRANS. - AT MEDIAN CORNER
N427	X	-	14	2'-4"			PARAPET - VERT. - TRANS. - ABOVE DECK AND PAVING BLOCK - AT MEDIAN CORNER
N428	X	-	4	4'-1"			DECK - HORIZ. - TRANS. - BTWN. G11 & G12 - AT STAGE 2 CONST.
N729	X	-	6	4'-1"			CONC. DIAPH. - BOT. - HORIZ. - TRANS. - BTWN. G11 & G12 - AT STAGE 2 CONST.
- - -							

\* BAR COUPLERS USED. BAR LENGTH COMPUTED UP TO THE LONGIT. CONST. JOINT AND SHALL BE MODIFIED TO THE BAR COUPLER MANUFACTURERS' RECOMMENDATIONS.

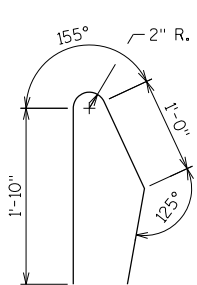
\*\* ADHESIVE ANCHORS NO. 5 BAR.



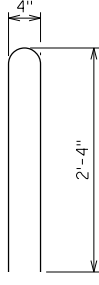
N401



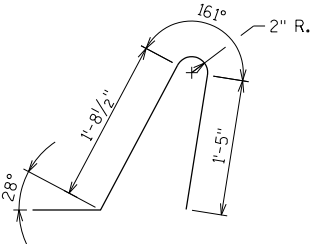
N410



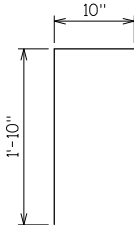
N414



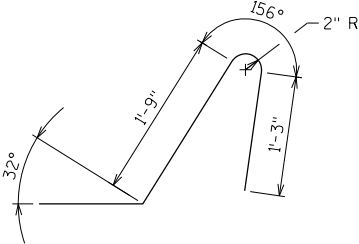
N415



N418



S525

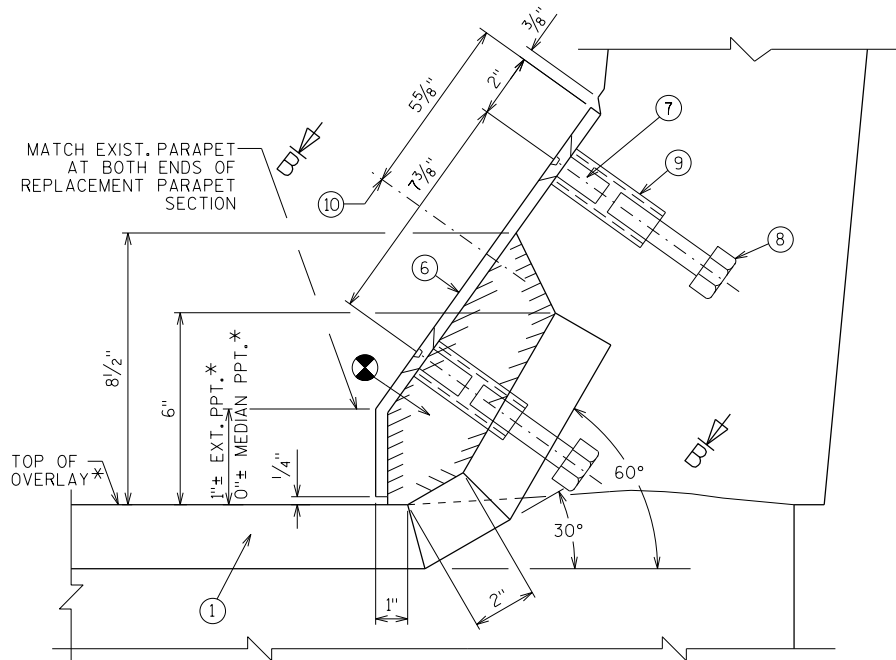


S426

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
DRAWN BY YC		PLANS CK'D. VCP	
NB JOINT REPAIR - BILL OF BARS		SHEET 8 OF 9	

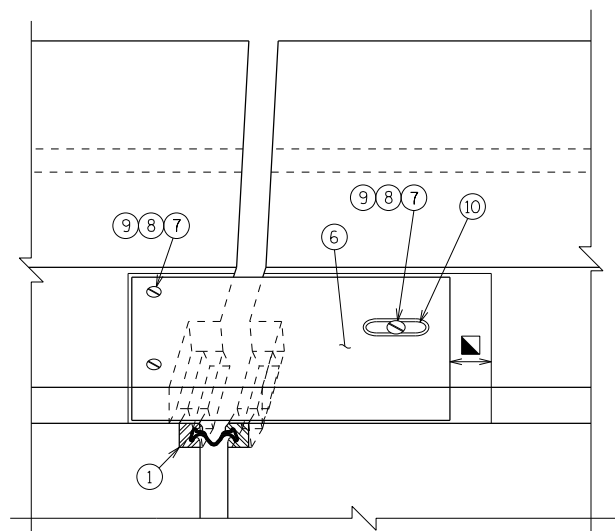
## LEGEND

- ① NEOPRENE STRIP SEAL (4 - INCH) AND STEEL EXTRUSIONS.
- ② STUDS  $\frac{5}{8}$ " $\phi$  X  $6\frac{3}{8}$ " LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.
- ⑥ GALVANIZED PLATE  $\frac{3}{8}$ " X 1'-2" X 2'-0" LONG WITH HOLES FOR NO. 7. BEND AS SHOWN.
- ⑦  $\frac{3}{4}$ " $\phi$  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  $\frac{3}{4}$ " $\phi$  X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.
- ⑨  $\frac{3}{4}$ " $\phi$  X  $2\frac{1}{4}$ " GALVANIZED THREADED COUPLING.
- ⑩ 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

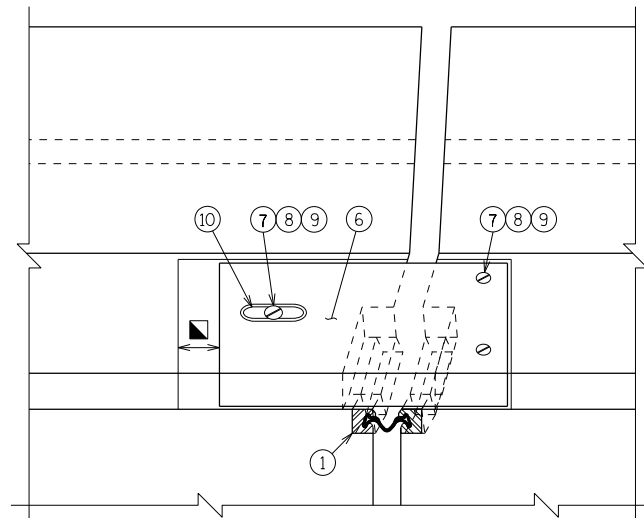


SECTION A-A

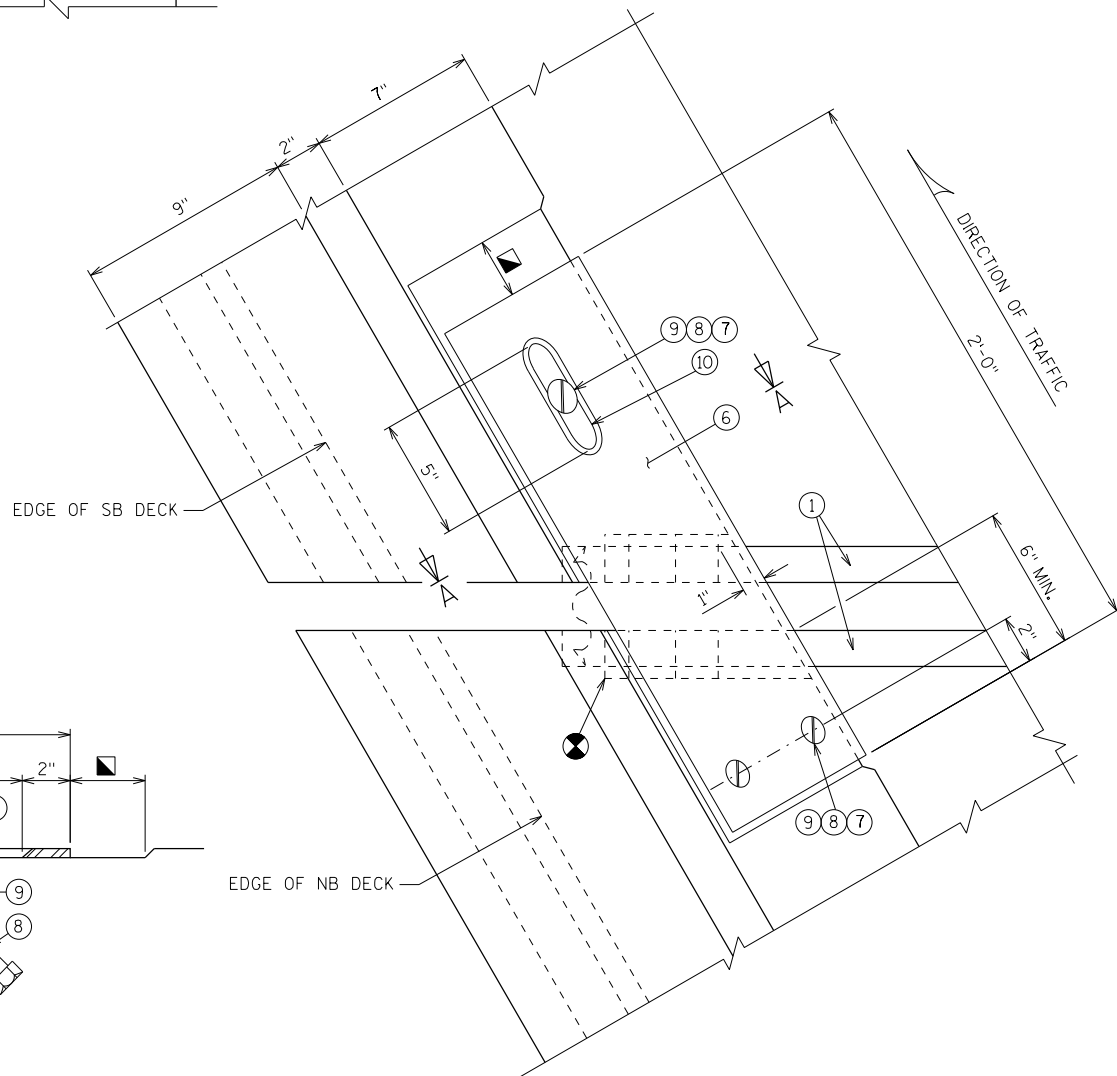
\* TOP OF OVERLAY  
@ 2" ABOVE TOP  
OF ORIGINAL DECK.

VIEW OF PARAPET PLATE  
FROM ROADWAY

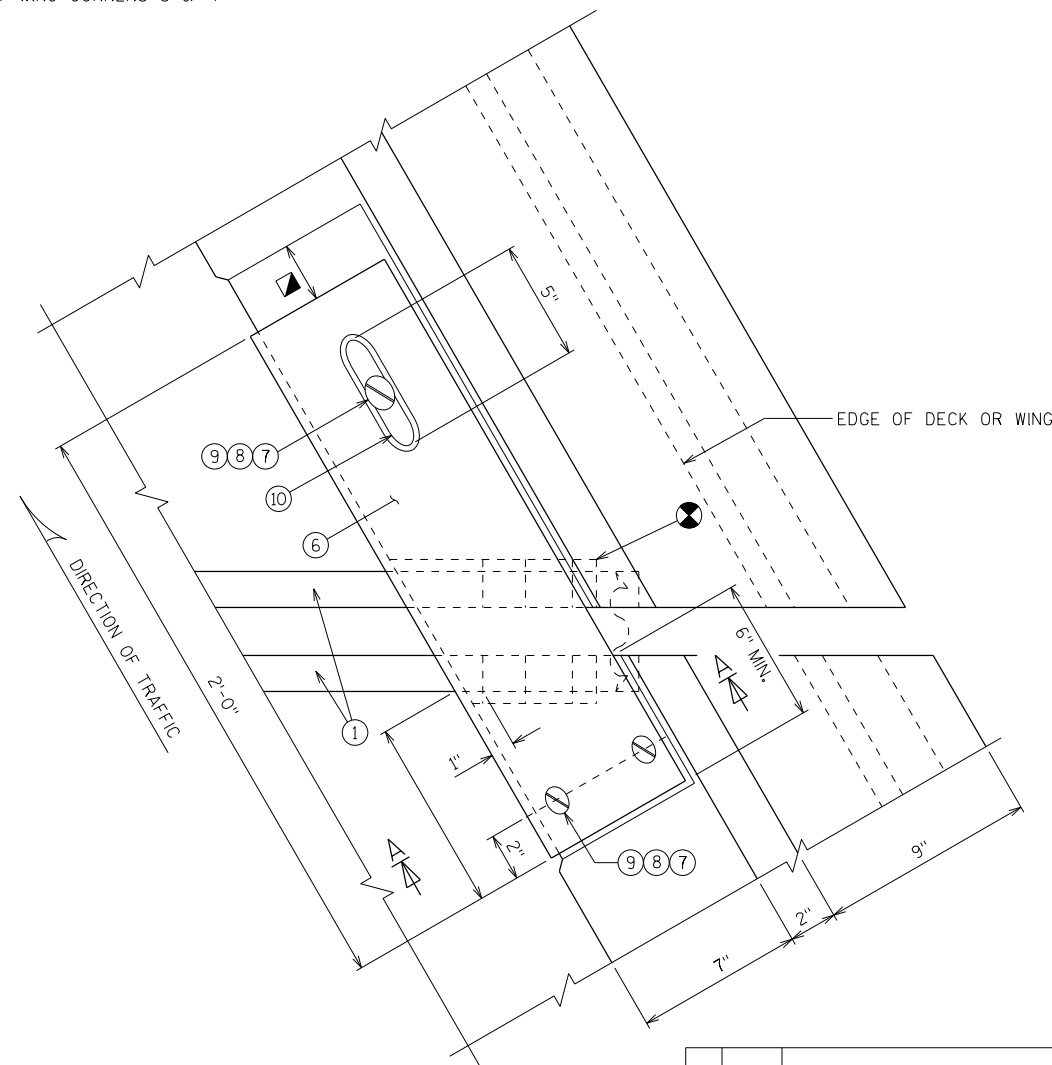
AT SB &amp; NB MEDIAN CORNERS

VIEW OF PARAPET PLATE  
FROM ROADWAY

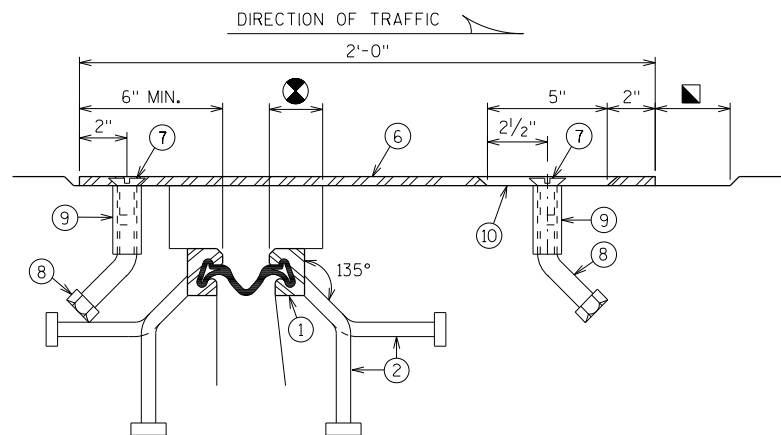
AT WING CORNERS 3 &amp; 4



PLAN AT SB &amp; NB MEDIAN CORNERS



PLAN AT WING CORNERS 3 &amp; 4



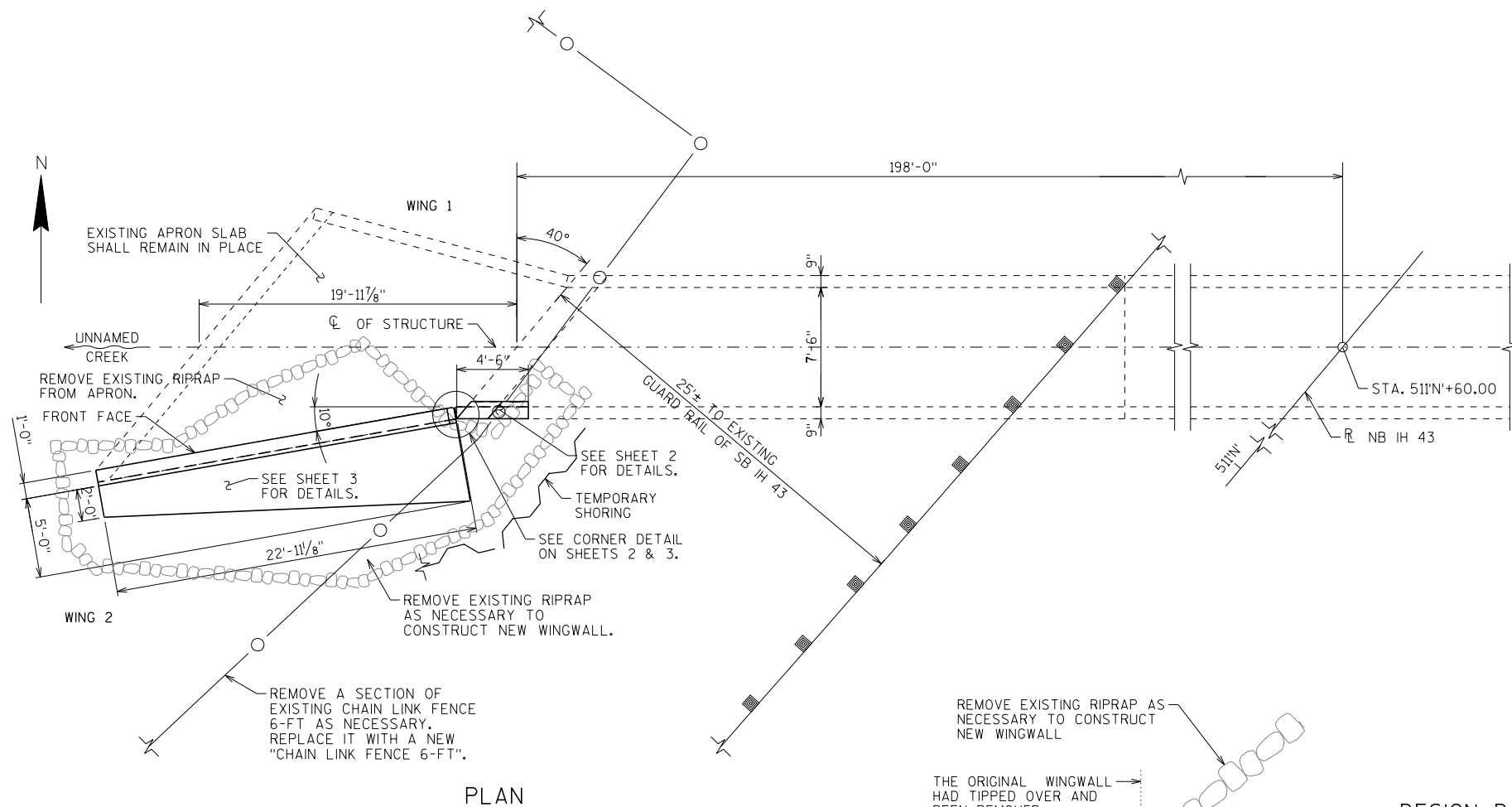
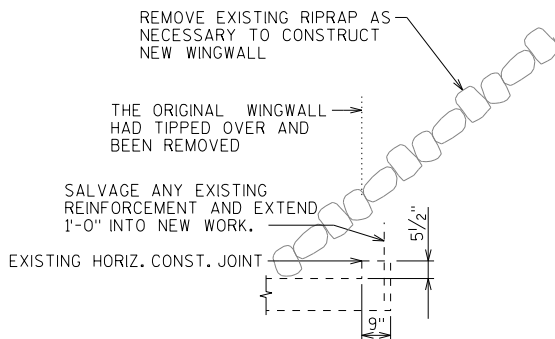
SECTION B-B

AT WING CORNER 3 & 4  
OPPOSITE HAND AT MEDIAN CORNERS

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

▣ JOINT OPENING DIMENSION ALONG SKEW PLUS  $\frac{1}{2}$ ".

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE B-5-224			
DRAWN BY YC		PLANS CK'D. VCP	
COVER PLATE DETAILS		SHEET 9 OF 9	

PLAN  
REPLACEMENT OF SOUTH WALL OF BARREL NEXT TO WING 2  
AND NEW WING 2SECTION THRU EXISTING  
WING 2 LOCATION

## DESIGN DATA

**LIVE LOAD:**  
DESIGN LOADING: HS20  
INVENTORY RATING: N/A  
OPERATING RATING: N/A  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS  
(TAKEN FROM HSI, 01/24/2017)

**MATERIAL PROPERTIES:**  
CONCRETE MASONRY, CULVERTS:  $f'_c = 3,500$  P.S.I.  
BAR STEEL REINFORCEMENT, GRADE 60:  $f_y = 60,000$  P.S.I.

## TRAFFIC VOLUME

IH 43  
A.D.T. = 51,800 (2036)  
R.D.S. = 70 MPH

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS OF EXISTING STRUCTURE MEMBERS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

PLACE TEMPORARY SHORING AS DIRECTED BY THE ENGINEER TO LIMIT EXCAVATION.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-5-59" SHALL BE THE EXISTING GROUND LINE.

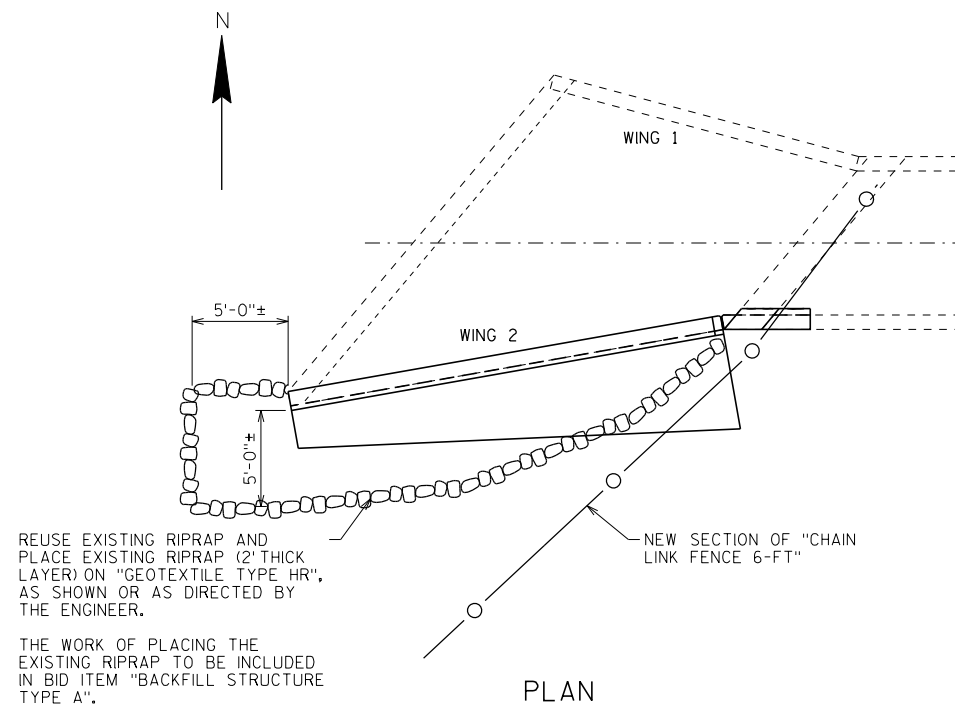
ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE OR RIPRAP SHALL BE BACKFILLED WITH "BACKFILL STRUCTURE TYPE A" TO THE TOP OF THE WING WITHIN THE LENGTH OF THE WINGWALL AND TO THE TOP OF BARREL WITHIN THE LENGTH OF NEW BARREL WALL.

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

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT UNLESS OTHERWISE SHOWN OR NOTED.

PLAN  
SHOWING REUSED EXISTING RIPRAP AND NEW CHAIN LINK FENCE  
AFTER CONSTRUCTION OF REPLACEMENT BARREL WALL AND NEW WING 2

## LIST OF DRAWINGS

1. GENERAL PLAN
2. REPLACEMENT OF SOUTH WALL OF BARREL NEXT TO WING 2
3. NEW WING 2

## TOTAL ESTIMATED QUANTITIES

BID ITEM NUMBER	BID ITEMS	UNIT	TOTAL
203.0200.04	REMOVING OLD STRUCTURE STA. 511N+60.00 BARREL WALL NEXT TO WING 2	LS	1
206.2000.01	EXCAVATION FOR STRUCTURES CULVERTS C-5-59	LS	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	120
502.4205	ADHESIVE ANCHORS NO. 5 BAR	EACH	11
504.0100	CONCRETE MASONRY CULVERTS	CY	12
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	900
511.1200.01	TEMPORARY SHORING C-5-59	SF	420
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	8
616.0206	FENCE CHAIN LINK 6-FT	LF	50
645.0120	GEOTEXTILE TYPE HR	SY	28
NON-BID ITEMS			
	PREFORMED JOINT FILLER	SIZE	3/4 "

BID ITEM "EXCAVATION FOR STRUCTURES CULVERTS C-5-59" INCLUDES  
REMOVAL OF EXISTING RIPRAP, AND REMOVAL OF EXISTING CHAIN LINK FENCE 6-FT.



*V. Patel*  
DATE: 02/03/2017

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER, P.E. (608) 266-8489  
CONSULTANT: VINOD PATEL, P.E. (312) 616-7395

NO.	DATE	REVISION	BY
<b>exp. U.S. Services Inc.</b> <b>Milwaukee, WI</b> BUILDINGS • EARTH & ENVIRONMENT • ENERGY INDUSTRIAL • INFRASTRUCTURE • SUSTAINABILITY			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED		CHIEF STRUCTURES DESIGN ENGINEER	DATE
STRUCTURE C-5-59			
IH 43 OVER UNNAMED CREEK			
COUNTY	BROWN	TOWN/CITY/VILLAGE	BELLEVUE
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY	YC	DESIGN CK'D. VCP	DRAWN BY YC PLANS CK'D. VCP
GENERAL PLAN			SHEET 1 OF 3

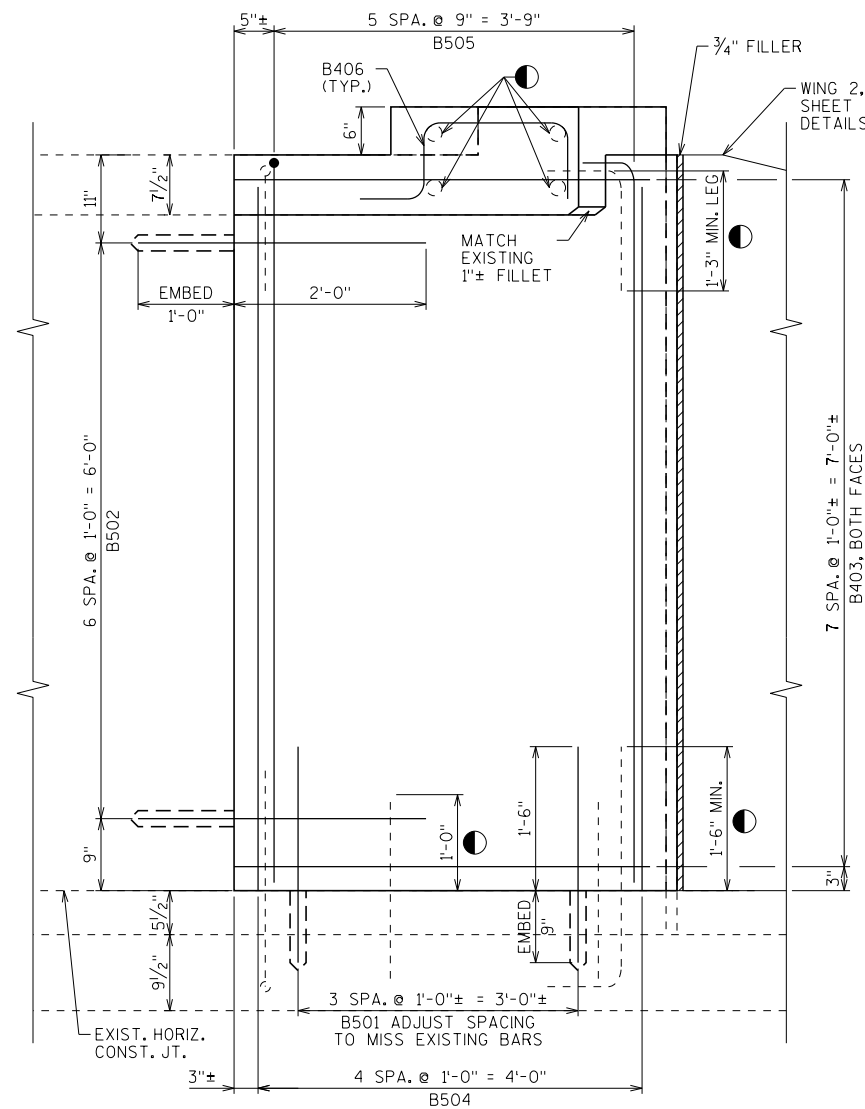
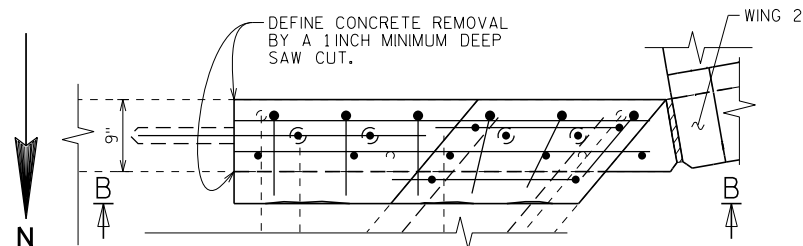
\\\\PCHAPP004\\AM\\VAULT\\I.D.-TRANS\_07\\TDCWIS\\00214891-A0\\STRUCT\\CAD\\59\_C050059\\VIA\_EXP\\SHEET\\02\_SX59IA001.SHT

CHUNYM

2-03-2017, 15:41:34

\$\$\$\$\$ref\_list\_name\$\$\$\$\$

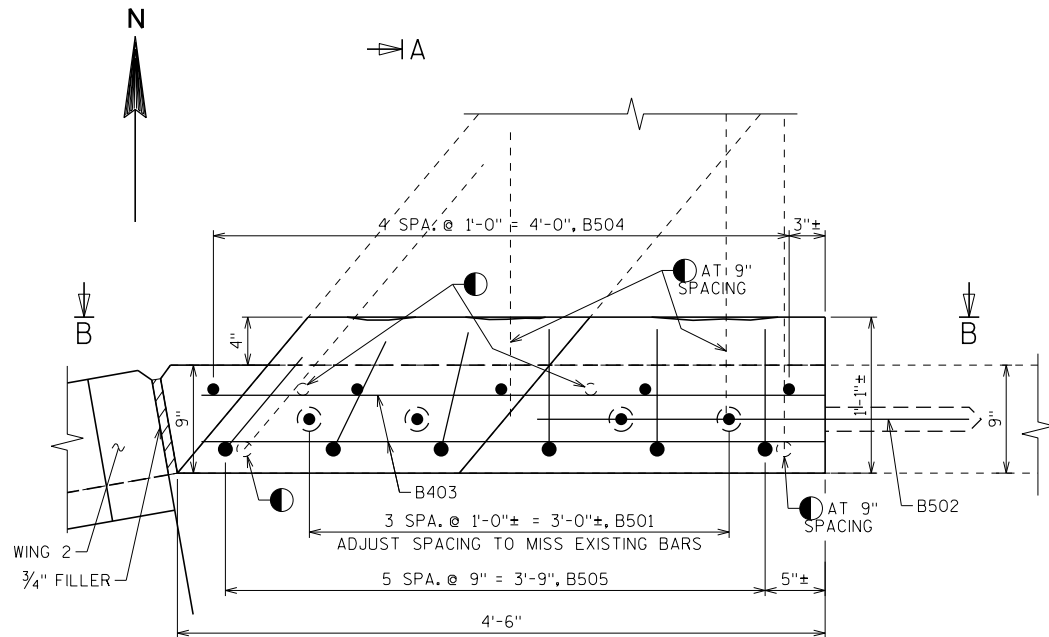
8



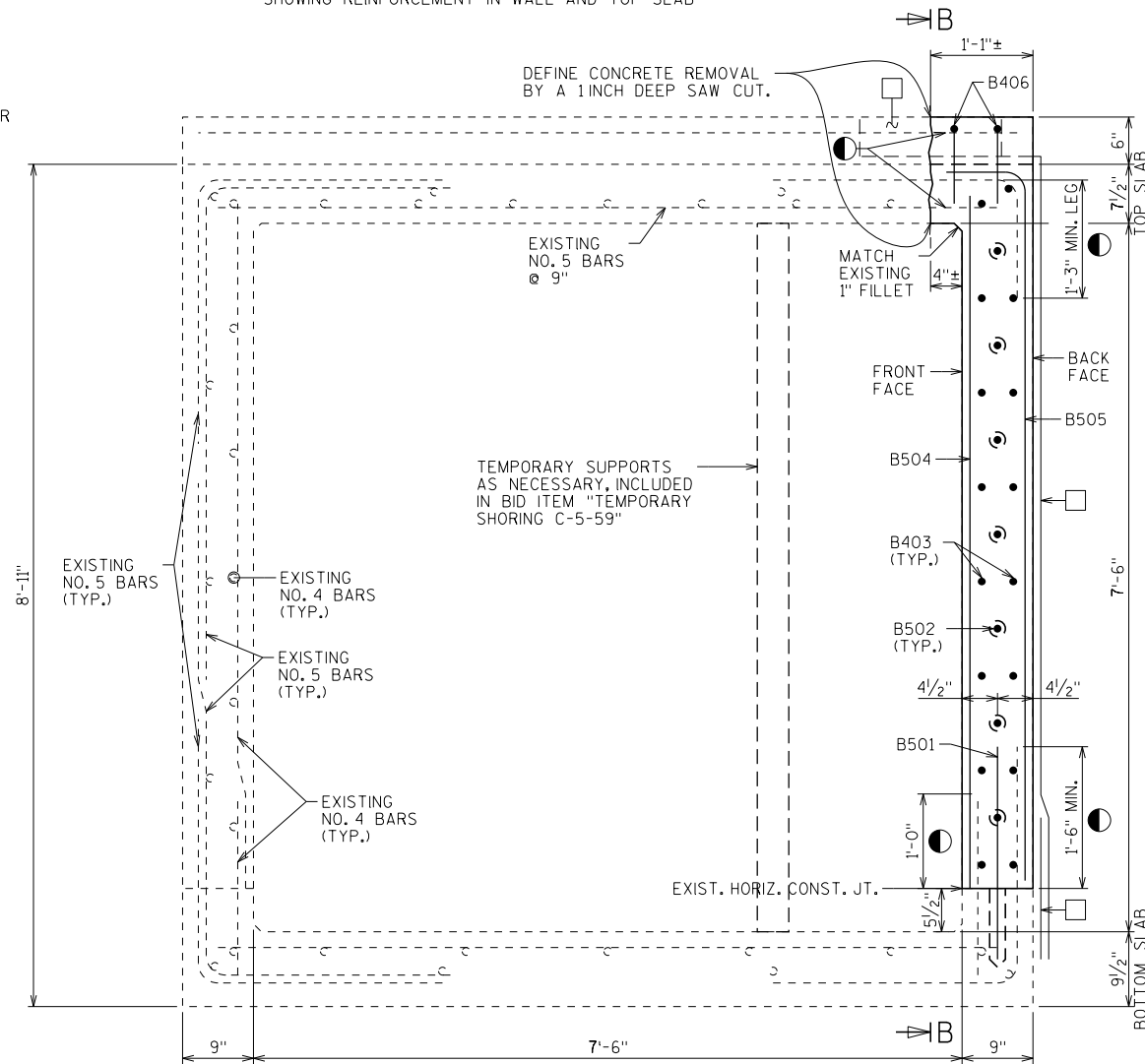
SECTION B-B

LONGITUDINAL SECTION THRU WEST END OF BOX

LOOKING SOUTH AT SOUTH WALL OF BARREL



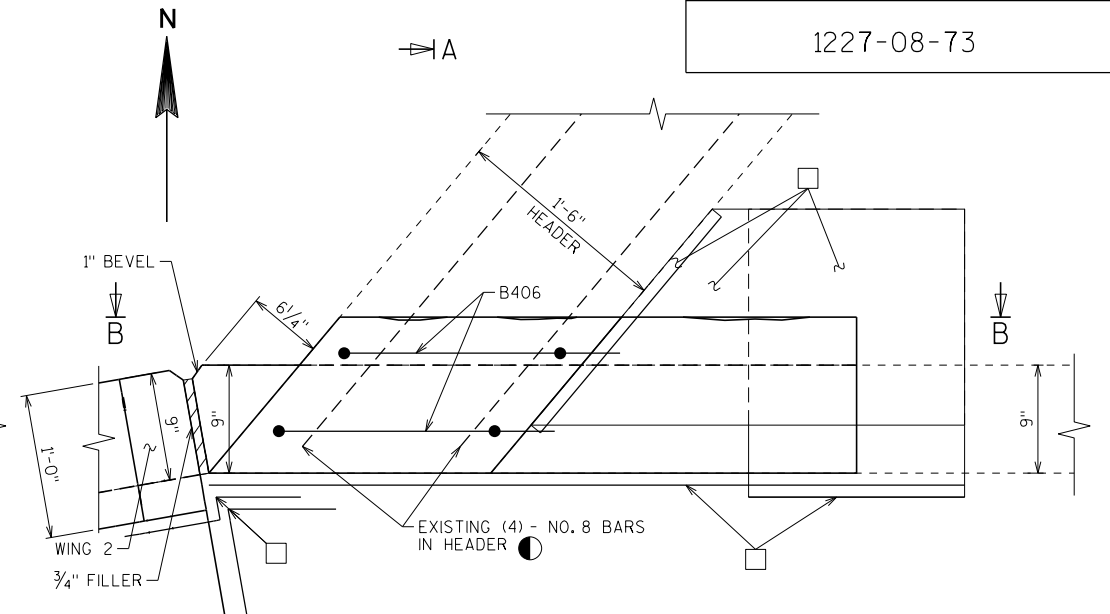
SHOWING REINFORCEMENT IN WALL AND TOP SLAB



SECTION A-A

CROSS SECTION THRU WEST END OF BOX

LOOKING EAST



SHOWING REINFORCEMENT IN HEADER AND RUBBERIZED MEMBRANE WATERPROOFING

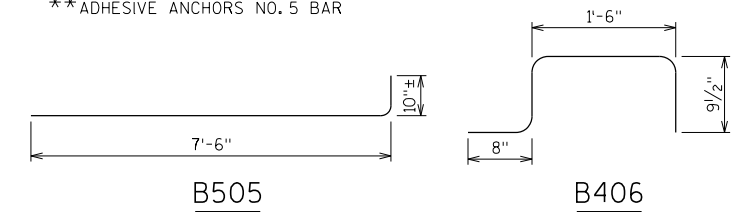
### BILL OF BARS

BAR DIMENSIONS ARE OUT TO OUT OF BAR.

UNCOATED: 180 LBS  
COATED: 0 LBS

BAR MARK	COAT	NO. REQ'D	LENGTH	BENT	LOCATION
B501		4	2'-3"		DOWEL - VERT.
B502		7	3'-0"		DOWEL - HORIZ.
B403		16	4'-4"		WALL - F.F. & B.F. - HORIZ.
B504		5	7'-4"		WALL - F.F. - VERT.
B505		6	8'-3"	X	WALL - B.F. - VERT.
B406		2	3'-6"	X	HEADER

\*\* ADHESIVE ANCHORS NO. 5 BAR



### LEGEND

- PRESERVE EXISTING REINFORCEMENT AT TOP AND BOTTOM OF WALL AS SHOWN, AND INCORPORATE INTO NEW WORK (TYP.).
- 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE OF WALL. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT TOP OF TOP SLAB AND BACK FACE OF HEADER.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
STRUCTURE C-5-59			
DRAWN BY YC		PLANS CK'D. VCP	
REPLACEMENT OF SOUTH WALL OF BARREL NEXT TO WING 2			SHEET 2 OF 3

8



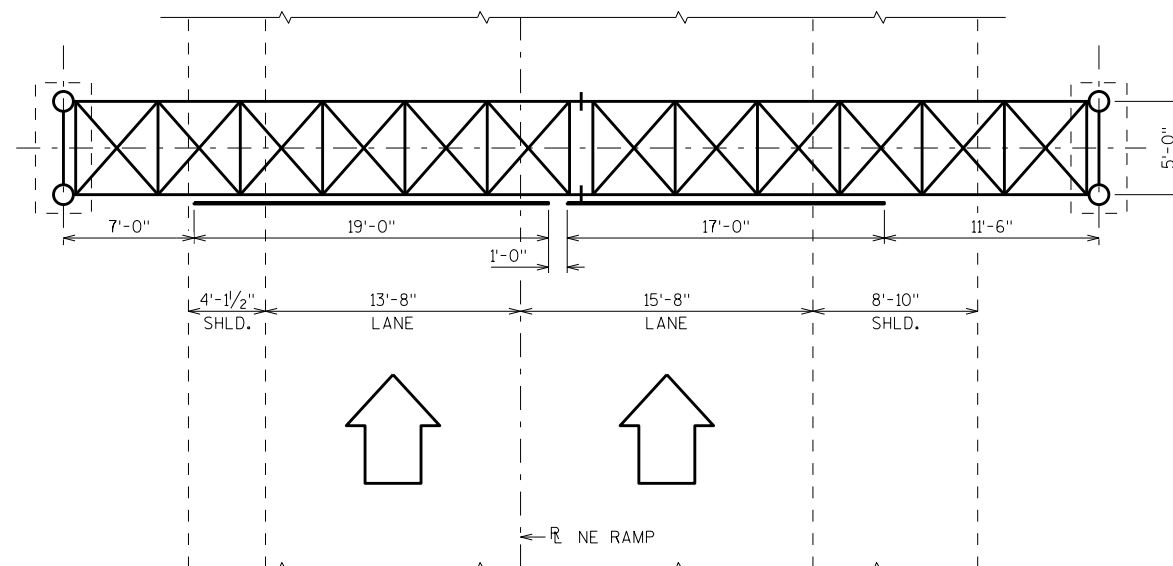
BAR MARK	NO. REQ'D	LENGTHS FOR EACH SERIES
D401	1 SERIES OF 16	2'-8" TO 5'-7"
D505	1 SERIES OF 22	4'-11" TO 6'-4"
D506	1 SERIES OF 12	3'-4" TO 4'-10"
D407	1 SERIES OF 16	2'-1" TO 7'-6"
D508	1 SERIES OF 14	6'-6" TO 8'-0"
D509	1 SERIES OF 16	2'-8" TO 6'-3"

NO.	DATE	REVISION		BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION				
STRUCTURE C-5-59				
		DRAWN BY	PLANS CK'D.	
NEW WING 2			SHEET 3 OF 3	

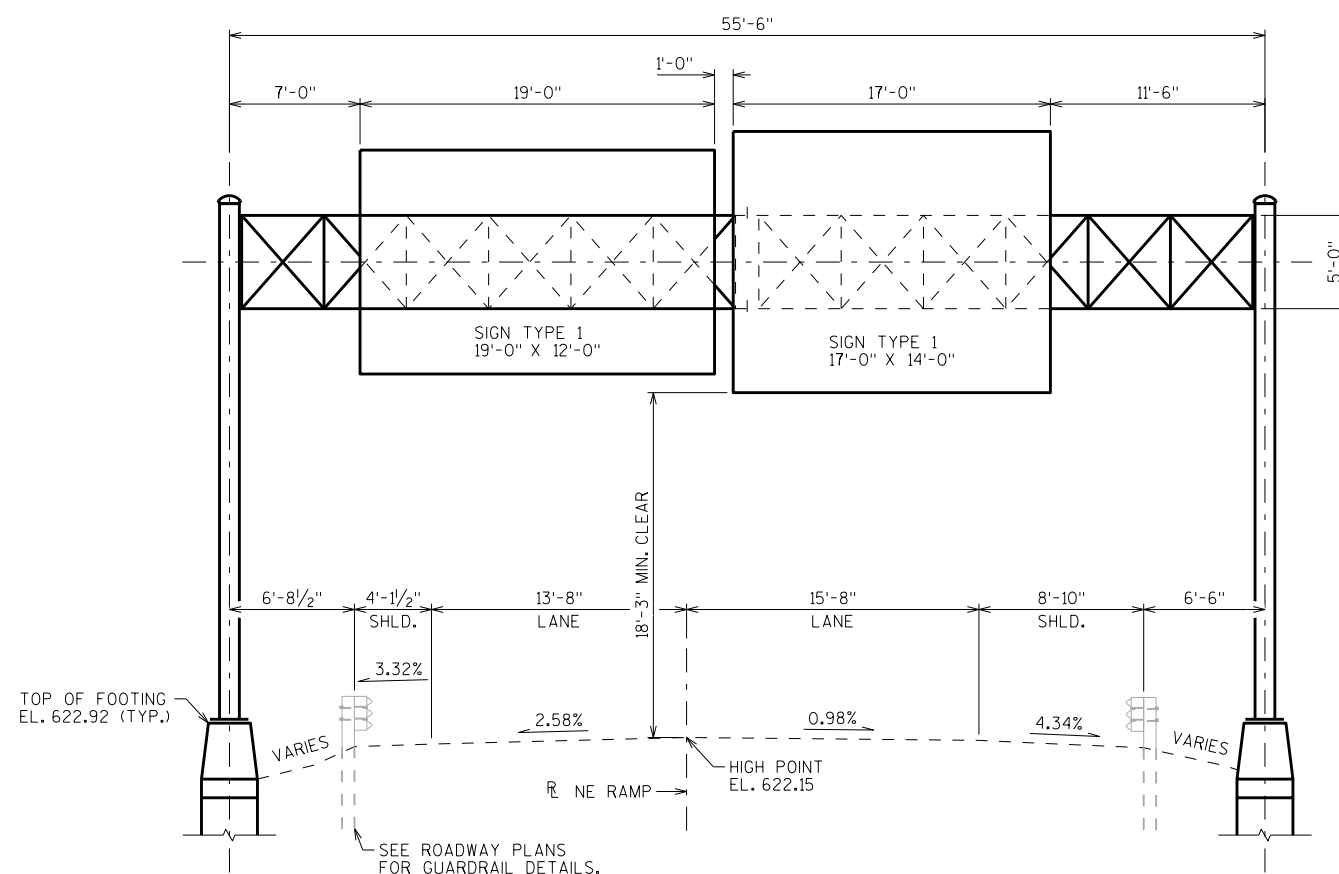
## MAX. SIGN DEPTH

14'-0"

SCALE = 5.00



## PLAN



ELEVATION

STA. 3568+30 R NE RAMP  
LOOKING NORTH AT F.F. OF SIGNS

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

BILL OF BARS

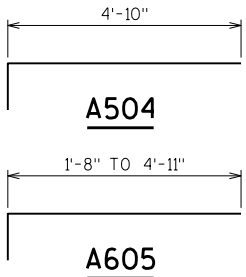
BAR MARK	COAT	NO. REQ'D.	LENGTH	BENT	BAR SERIES	LOCATION
A401	X	11	2'-0"			HORIZ. CONST. JOINT DOWEL
A402	X	11	4'-10"			WING FOOTING
A403	X	14	9'-11"			WING FOOTING
A504	X	21	5'-7"	X		WING FOOTING
A605	X	14	4'-2"	X	▲	WING VERT. BACK FACE
A406	X	14	3'-4"		▲	WING VERT. FRONT FACE
A407	X	6	5'-8"		▲	WING HORIZ. BOTH FACES
A508	X	2	10'-5"			WING HORIZ. BOTH FACES

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

BAR SERIES TABLE

BAR MARK	NO. REQ'D.	LENGTH
A605	1 SERIES OF 14	2'-6" TO 5'-9"
A406	1 SERIES OF 14	1'-8" TO 4'-11"
A407	2 SERIES OF 3	2'-9" TO 8'-7"

BUNDLE AND TAG EACH SERIES SEPARATELY.



DESIGN DATA

MATERIAL PROPERTIES:

CONCRETE MASONRY  $f'c = 3,500$  P.S.I.  
BAR STEEL REINFORCEMENT  $f_y = 60,000$  P.S.I.

FOUNDATION DATA:

ALLOWABLE SOIL BEARING PRESSURE = 2,000 P.S.F.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES C-05-72" SHALL BE THE EXISTING GROUNDLINE.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A  $\frac{1}{2}$ " SAW CUT.

ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TO THE TOP OF THE WING WITHIN THE LENGTH OF THE WING WALL.

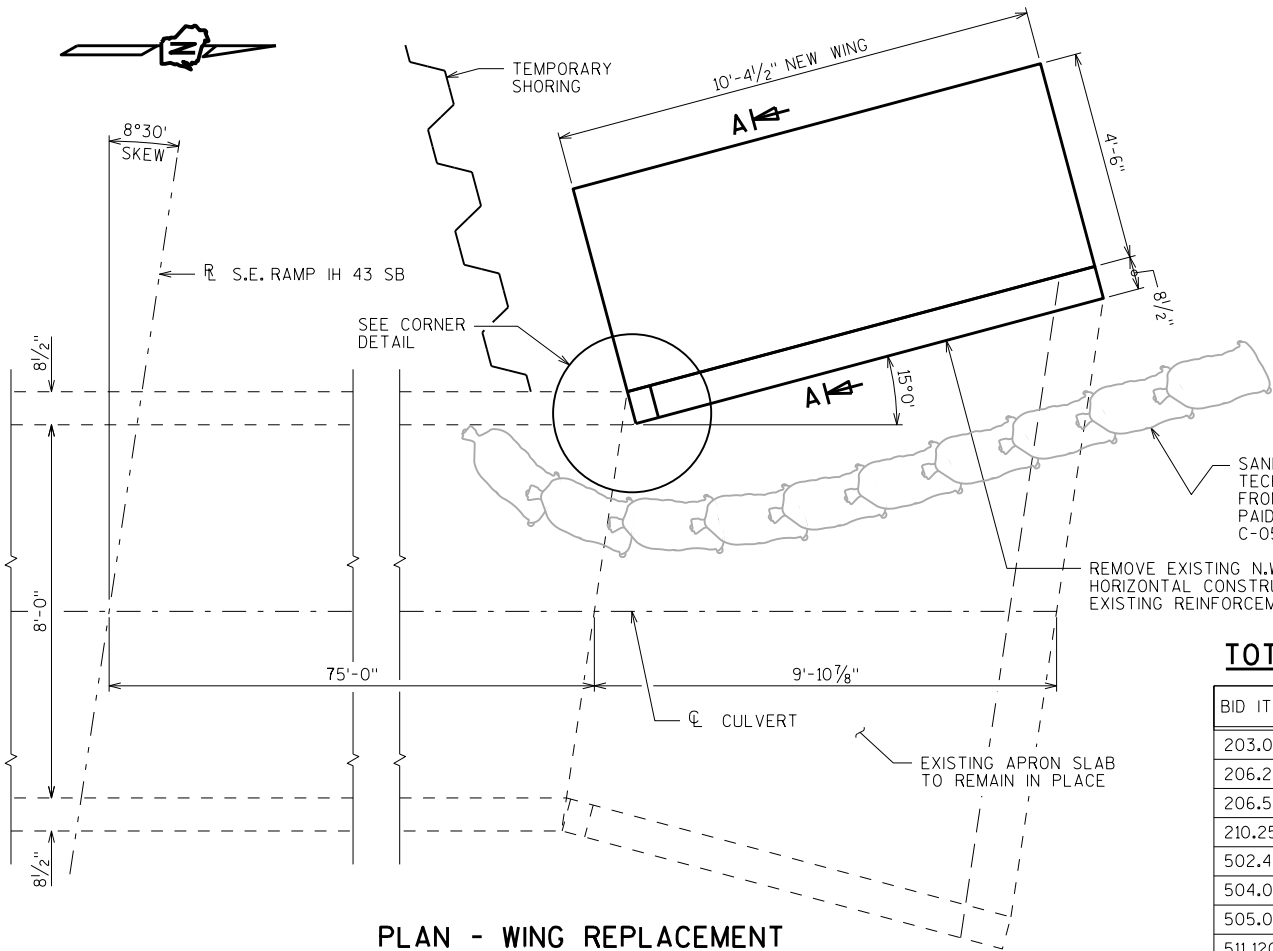
CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

SANDBAGS OR OTHER TECHNIQUE TO DIVERT WATER FROM WING REPLACEMENT, PAID FOR AS COFFERDAMS C-05-72.

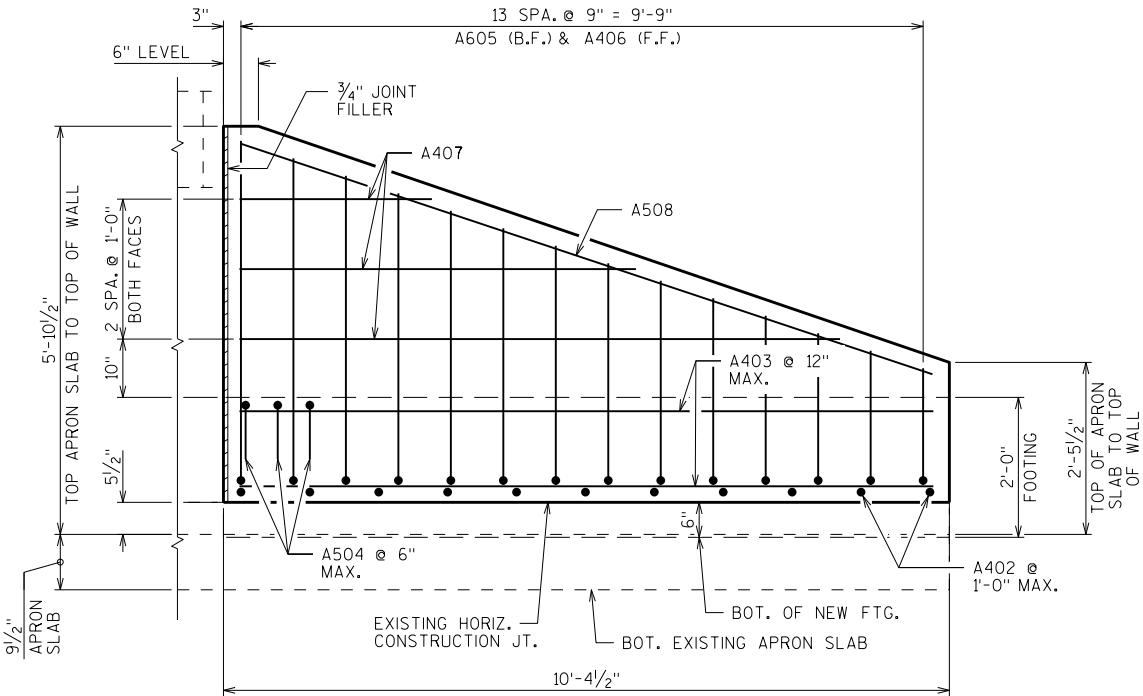
REMOVE EXISTING N.W. WING WALL DOWN TO THE HORIZONTAL CONSTRUCTION JOINT. BURN OFF EXISTING REINFORCEMENT AT LINE OF REMOVAL.

TOTAL ESTIMATED QUANTITIES

BID ITEM NO.	BID ITEMS	UNIT	TOTAL
203.0200	REMOVING OLD STRUCTURE STA. 901+00 NORTHWEST WING	LS	1
206.2000	EXCAVATION FOR STRUCTURES CULVERTS C-05-72	LS	1
206.5000	COFFERDAMS C-05-72	LS	1
210.2500	BACKFILL STRUCTURE TYPE B	TON	9
502.4204	ADHESIVE ANCHORS NO. 4 BAR	EACH	11
504.0100	CONCRETE MASONRY CULVERTS	CY	5
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	430
511.1200	TEMPORARY SHORING C-05-72	SF	61
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3
	NON-BID ITEMS		
	FILLER	SIZE	$\frac{3}{4}$ "

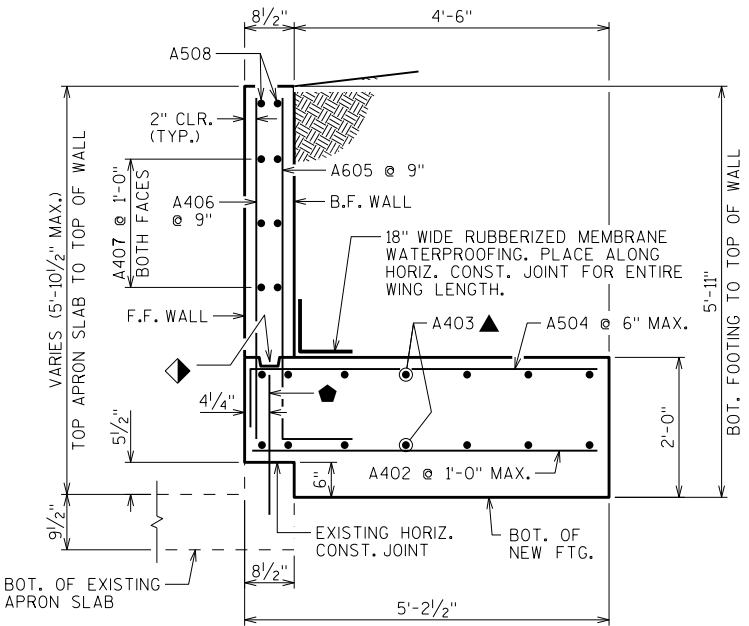


PLAN - WING REPLACEMENT



WING ELEVATION

LOOKING WEST AT F.F. OF WING WALL

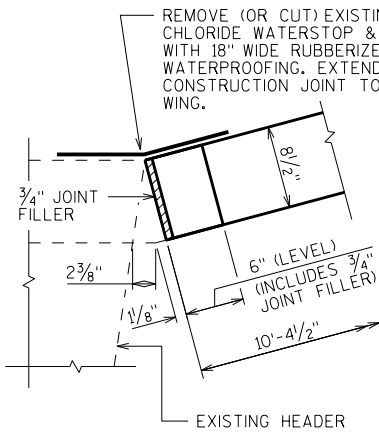


SECTION A-A THRU WING

◆ HORIZ. CONST. JOINT W/ KEYWAY. FORM KEYWAY USING BEVELED 2X4.

◆ A401 ADHESIVE ANCHORS. EMBED 9" INTO SOUND CONCRETE & SPACE 1'-0" O.C. MAX. PAID FOR UNDER BID ITEM "ADHESIVE ANCHORS NO. 4 BAR".

▲ PLACE A403 BARS AS SHOWN UNDER WALL. 12" MAX. SPACING FOR REMAINING BARS.



CORNER DETAIL

STRUCTURE DESIGN CONTACTS:

ALEXANDER CRABTREE (608) 266-3686  
LAURA SHADEWALD (608) 267-9592

NO.	DATE	REVISION	BY
ACCEPTED CHIEF STRUCTURES DESIGN ENGINEER DATE			
STRUCTURE C-05-72			
S.E. RAMP IH 43 SB OVER DRAINAGE WAY			
COUNTY	BROWN	TOWN/CITY/VILLAGE	GREEN BAY
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS			
DESIGNED BY	ARC	DESIGNED CK'D.	DLM
DRAWN BY	ARC	PLANS CK'D.	DLM
GENERAL PLAN - WING REPLACEMENT			SHEET 1 OF 1