



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for
B-36-087

IH 43 NB over K
Jul 17, 2018



Type	Prior	Frequency (mos)	Performed
Routine	09-19-17	24	
Interim	06-16-16	0	X
Deck Evaluation	06-16-16	48	X
SIA Review	09-19-17	48	

Start Coordinates
Latitude 44°13'31.60"N
Longitude 87°45'58.69"W

End Coordinates (optional)
Latitude
Longitude

Owner STATE HIGHWAY DEPT

Maintainer STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	0

Team members

AECOM NDT Group

Name	Number	Signature	Signature Date
Inspector RegionSET, Ne	3014	Ne RegionSET E-signed by Brady Seston(sestonb)	10-01-18

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

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Identification & Location

Feature On: IH 43 NB	Section Town Range: S05 T20N R23E	Structure Number: B-36-087
Feature Under: K	County: MANITOWOC	
Location 5.2M N JCT USH 10 TO W	Municipality: KOSSUTH	Structure Name:

Geometry

measurements in feet, except where noted

Approach Roadway Width: 40	Bridge Roadway Width: 40.0	Total Length: 215.1
Approach Pavement Width: 24	Deck Width: 43.0	Deck Area (sq ft): 9249

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	9450	2017	ONE WAY TRAFFIC
Under	2	1200	2017	TWO WAY TRAFFIC

Capacity

Load Rating

Inventory rating: HS18	Overburden depth (in): 2.0	Last rating date: 02-21-09	Controlling: INTERIOR DECK GIRDER Positive Moment
Operating rating: HS41	Deck surface material: CONCRETE	Re-rate for capacity (Y/N):	Control location: SPAN 1
Posting:	Re-rate notes:		

Hydraulic

Classification

Scour Critical Code(113): (N) NO WATERWAY	Q100 (ft3/sec): 0	
High water elevation (ft): 0.0	Velocity (ft/sec): 0.0	Sufficiency #: 83.0

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	54	105.0	Y
2	CONT PREST CONC	DECK GIRDER	54	105.0	

Expansion joint(s)

Temperature:

File:70	New:
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Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	17.08		
Highway Min Vertical Under Non-Cardinal	17.08		
Horizontal Under Cardinal	46.0		
Horizontal Under Non-Cardinal	46.0		
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
OVERLAY - PROTECTO WRAP MEMBRANE			

Construction History

Year	Work Performed	FOS id
2015	REPAIR BEARING	
2010	OVERLAY - CONCRETE - NEW JOINTS	1227-10-60
1996	OVERLAY - BITUMINOUS	1225-02-71
1994	REPAIR DECK	
1985	PAINT BEARING	
1977	NEW STRUCTURE	1226-01-74

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Structure No.: **B-36-087**

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Approach - Seal Approach to Paving Block	Rades, Brady (3015)	COMPLETE	02/07/17	2017
Hot rubber joint				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Deck - Seal Surface Cracks	MEDIUM	Weber, Dale (3007)	DEFERRED	12/18/17
Epoxy Overlay - Program through Backbone				
Misc - Other Work	LOW	Weber, Dale (3007)	IDENTIFIED	09/20/17
Seal parapet w/pigmented sealer				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
X	12		Reinforced Concrete Deck	SF	9,421	9,366	55	0	0
		1080	Delamination - Spall - Patched Area CS-2(S Span 5 SF) Patched area with rust staining on East Edge of Deck near pier	SF		0	5	0	0
		1130	Cracking (RC) CS-2(S Span 50 SF) Diagonal cracking @ SE Corner	SF		0	50	0	0
		8514	Concrete Overlay Concrete overlaid in 2010.	SF	9,421	0	9,421	0	0
		3210	Debonding/Spall/Patched Area/Pothole 7/17/18 - Level 1 IR <2% Approximate 9 sqft of defects CS-2(2 SF) Shallow spall @ south end of deck joint - filled w/mastic	SF		0	9	0	0
		3220	Crack (Wearing Surface) CS-2(9419 SF) Map cracking throughout	SF		0	9,412	0	0
	109		Prestressed Concrete Open Girder	LF	1,272	1,249	20	3	0
		1080	Delamination - Spall - Patched Area CS-3(S Span 2' & N Span 1') S Span - Spall with exposed strands on G5 & paint scratches on G4. N Span - Spall at end of G1 at N Abut.	LF		0	0	3	0
		1110	Cracking (PSC) CS-2(N Span 20') Horizontal cracking on north ends over elastomeric bearings.	LF		0	20	0	0
	205		Reinforced Concrete Column	EA	3	2	0	1	0
		1080	Delamination - Spall - Patched Area CS-3(1 EA) Middle column has small spall with exposed rebar	EA		0	0	1	0
	215		Reinforced Concrete Abutment	LF	107	97	10	0	0
			Moisture coming through SE corner						
		1130	Cracking (RC) CS-2(S Abut 4' & N Abut 6') Vert. cracking	LF		0	10	0	0

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	234		Reinforced Concrete Cap	LF	51	44	7	0	0
		1130	Cracking (RC) CS-2(7") Vertical cracking over column 1 and cracking at West End.	LF		0	7	0	0
	300		Strip Seal Expansion Joint North Abutment Replaced in 2010	LF	55	55	0	0	0
	310		Elastomeric Bearing North Abutment New in 1996.	EA	6	6	0	0	0
	331		Reinforced Concrete Bridge Rail Scaling and small popouts throughout	LF	485	451	34	0	0
		1130	Cracking (RC) CS-2(W side 9' & E Side 25') Vert. & horz. cracking	LF		0	34	0	0
	8400		Integral Wingwall	EA	4	2	1	1	0
		8902	Wall Movement CS-2(1 EA) SW wing tipped 2" & strapped	EA		0	1	0	0
		8903	Wall Deterioration CS-3(1 EA) SE wing spalled w/exposed rebar & strapped	EA		0	0	1	0

Assessments

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State			
						1	2	3	4
	9001		Drainage - Ends of Structure Inlet @ SE Corner - sunk approximately 6"	EA	4	3	1	0	0
	9043		Slope Protection- Crushed Aggregate with Bit. Repaired in 2010	EA	2	2	0	0	0
	9168		Concrete Diaphragm Chips & spalls @ pier.	EA	25	20	4	1	0
	9323		Approach Roadway - Asphalt Replaced in 2010	EA	2	2	0	0	0

NBI Ratings

	File	New
Deck	6	6
Superstructure	7	7
Substructure	7	7
Culvert	N	N
Channel	N	N
Waterway	N	N

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Structure No.: **B-36-087**

Structure Specific Notes

Inspection Specific Notes

10/1/18 - This evaluation is to upload IR data for future reference during routine inspections. The IR inspection occurred on 7/17/18.

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Special Requirements

Chk	Hours	Cost	Comments
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Non-Image Documents

Type	Document	Document Comment/Description	Attached
Deck Evaluation	b36-087_18_Kd1.pdf		X

**Wisconsin Dept. of Transportation
Structure Inventory Data**

Bridge B360087

Structure No.: B360087	Municipality: KOSSUTH	Section:	Town:	Range:	Maintenance Agency: STATE HIGHWAY DEPT	Owner: STATE HIGHWAY DEPT
Replaced Structure No.:	Historical Sig.: 5	Latitude: 441331. 6	Longitude: 874558.69	County: MANITOWOC (3 6)	District: 3	

ABUTMENT DATA (CARDINAL)

1. Abutment Type: SILL WITH BRGS
2. Pile Type: PILING - TREATED TIMBER
3. Pile Size: 305 MM (12")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 40.0 ft
6. Deck Width: 43.0 ft
7. Wing Type:

ABUTMENT DATA (NON-CARDINAL)

1. Abutment Type: SILL FLEXIBLE
2. Pile Type: PILING - TREATED TIMBER
3. Pile Size: 305 MM (12")
4. Slope Protection Type: STAB CR STONE
5. Rdwy. Width: 40.0 ft
6. Deck Width: 43.0 ft
7. Wing Type:

GEOMETRIC DATA

1. Structure Length: 215.1 ft (Back to Back Abuts. Along Rdwy. Centerline)
2. No. Lanes On: 2
3. L. Sdk. Width On: 0.0 ft
4. R. Sdk. Width On: 0.0 ft
5. Median Type:
6. Median Width: 0.0 ft
7. Skew Angle: 39 Deg.
8. Direction Skew Angle: LEFT
9. Horizontal Curve: 0.0 Radius, ft
10. Dir.-Hor. Curve:
11. Girder Spacing: 7.2 ft
12. Height: 54.0 ft (Top Pier Footing to Top Deck or Streambed Elev. to Top Deck)
13. NBI Bridge Length Met: true

APPROACH DATA

1. Appr. Pavement Width: 24 ft
2. Rt. Shoulder Width: 10 ft
3. Lt. Shoulder Width: 6 ft
4. Total Width (Sum Above): 40 ft
5. Guardrail Termination: 1
6. Guardrail Adequacy: 1
7. Railing Attachment Type: 5 - 22 MM (7/8") BOLTS
8. Railing Design Year:
9. Left Outer Railing Type:
10. Right Outer Railing Type:
11. Left Inner Railing Type:
12. Right Inner Railing Type:

CAPACITY DATA

1. Design MS: HS20M
2. Inventory MS: HS18
3. Operating MS: HS41
4. Max. Veh. Wt.: 250 kips
5. Load Rating Basis.: LFR
6. Load Governing Member: INTERIOR DECK GIRDER
7. Deck Composition: NONE
8a. Deck Membrane: NONE
8b. Deck Surface: CONCRETE

HYDRAULIC DATA

1. Design Flood Frequency: 0 yrs
2. Design Discharge: 0 cu-ft/s
3. Max. Velocity: 0.0 ft/s
4. Drainage Area: 0.0 sq. ft
5. High Water Elev.: 0.0 ft
6. Scour Critical Code: N
7. Scour Calculated?: false

STRUCTURE SERVICE DATA

1. Hwy. On Detour Length: 35 ft
2. Type Service On: HIGHWAY
3. Type Service Under: HIGHWAY

APPRAISAL UPDATE

1. Load Capacity: 5-LEGAL LOAD STRESS NOT EXCEEDED
2. Geom. On:
3. Geom. Under:
4. Appr. Align: 8-COND EQUAL DESIRABLE CRITERIA
5. Horiz. Align:
6. Vert. Align:

PLANNING DATA

1. Functional Classification: INTERSTATE-RURAL (01)
2. ADT: 9450
3. ADT-Year: 2017
4. Truck ADT %: 22
5. Future ADT: 17750
6. Future ADT-Year: 2016

CONDITION DATA

Deck:	SuperStructure:	SubStructure:	Channel:
Culvert:	Waterway:		

Bridge B360087

CONSTRUCTION DATE

Project ID	Construction Contractor	Construction Designer	Construction Year	Plans Reel Number	Letting Date	Survey Received	Work Performed
	COUNTY		2015				REPAIR BEARING
1227-10-60	NORTHEAST ASPHALT, INC.	BRIDGE SECTION	2010		23-Jun-2009	31-Jul-2008	OVERLAY - CONCRETE - NEW JOINTS
1225-02-71	B.R. AMON & SONS, INC.	BRIDGE SECTION DESIGN UNIT 1	1996		19-Mar-1996	17-Feb-1995	OVERLAY - BITUMINOUS
	UNKNOWN	UNKNOWN	1994				REPAIR DECK
	UNKNOWN	UNKNOWN	1985				PAINT BEARING
1226-01-74	LUNDA CONST	BRIDGE SECTION	1977	C159		01-Mar-1975	NEW STRUCTURE

CLEARANCE DATA

Clearance Lane Number	Minimum Vertical	Minimum Vertical Date	Minimum Horizontal Distance	Right Minimum Lateral
1	17.03	11-Jun-2018	46.0	24.0
1	17.03	11-Jun-2018	46.0	23.0

Left Minimum Lateral	Railroad Right Minimum Lateral	Railroad Left Minimum Lateral	Railroad Vertical Distance	Railroad Horizontal Distance
8.0				
8.0				

ROUTE DATA

Number	Direction	Type	Structure Route On / Under	Structure Route Cardinal / NonCardinal
043	N		O	C
	E		U	C

Number	Structure Route Location	Highway Feature Name	Structure Route Local System	Highway Feature Designation
043	5.2M N JCT USH 10 TO W	IH 43 NB	IH	MAINLINE
	2.0M E JCT CTH H	K	CTH	MAINLINE

Number	Structure Route Primary Flag	Designed National Network Flag	Structure Defense Highway Designation	Highway On Inventory Route
043	Y	Y	1	NHI
	Y	N	0	NON

PIER DATA

Number	Pier Type	Piling Type	Piling Size	Pier Skew Angle	Direction of Skew
1	ROUND COL BENT	PILING - TREATED TIMBER	305 MM (12")		

SPAN DATA

Number	Type	Length	Configuration	Material	Girder or Truss Height	Girder or Truss Spacing
1		105.0	DECK GIRDER	CONT PREST CONC	54.0	7.2
2		105.0	DECK GIRDER	CONT PREST CONC	54.0	7.2

EXPANSIONJOINT DATA

Number	Location	Type	Inactive Date
1	NORTH ABUTMENT	STRIP SEAL	

TRAFFIC VOLUME
 B-36-87
 CTH K
 ADT: 11501/994
 RDS: 50 M.P.H.
 ADT: 4250/1994
 RDS: 70 M.P.H.

PROJECT NO.	1226-1-74
FEDERAL PROJECT DESIGNATION	713
SHEET NO.	1 OF 13

FOUNDATION DATA

ABUTMENTS AND PIER SHALL BE SUPPORTED ON TREATED TIMBER PILING DRIVEN TO A MINIMUM BRS CAPACITY OF 30 TONS PER PILE. ESTIMATED LENGTH OF PILING AT ABUTMENTS IS 40'-0". ESTIMATED LENGTH OF PILING AT PIER IS 20'-0".

GENERAL NOTES

AT ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH GRANULAR BACKFILL. DRAWINGS SHALL NOT BE SCALED.
 BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CL. UNLESS OTHERWISE SHOWN OR NOTED.
 THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING CRUSHED AGGREGATE TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS.
 THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE PIER SHALL BE THE ORIGINAL GROUNDLINE. JOINT MILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153 OR M213.
 ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
 PREBORE ABUTMENT PILING TO ORIGINAL GROUND LINE.

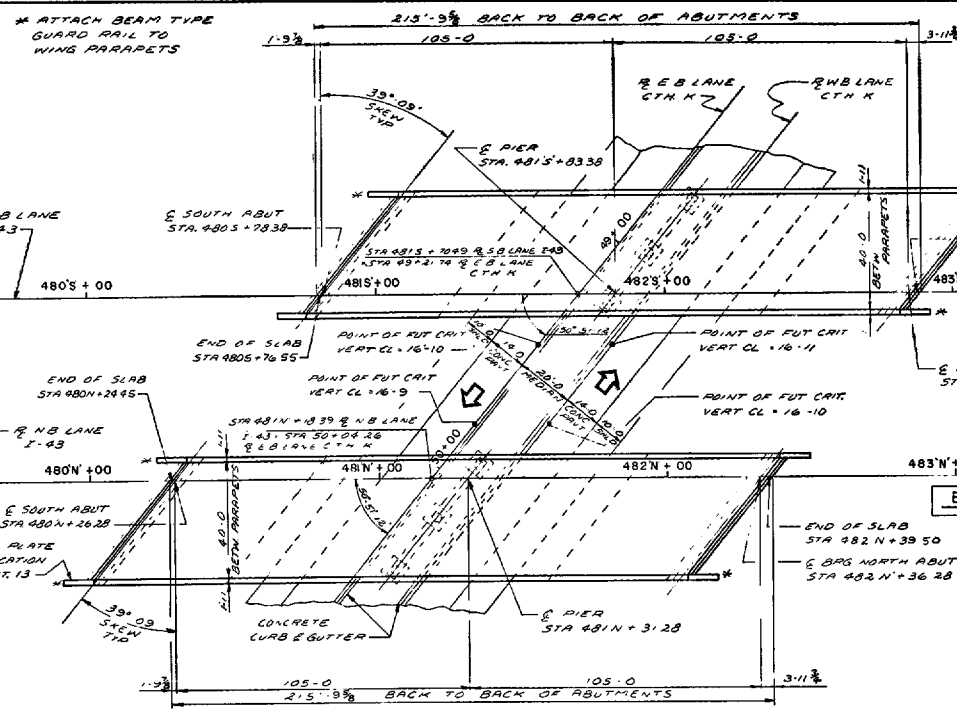
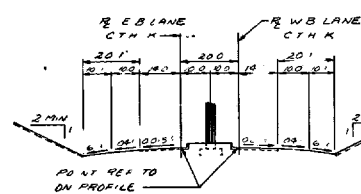
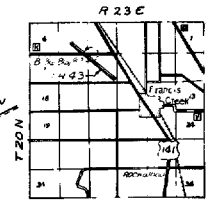
LIST OF DRAWINGS

1 GENERAL PLAN	X56422
2 CROSS SECTION & QUANTITIES	X56423
3 SURFACE EXPLORATION	X56424
4 SOUTH ABUTMENT	X56425
5 PIER	X56426
6 NORTH ABUTMENT	X56427
7 ABUTMENT BILL OF BARS	X56428
8 BEARING DETAILS	X56429
9 54" PRESTRESSED GIRDER DETAILS	X56430
10 SUPERSTRUCTURE	X56431
11 SUPERSTRUCTURE	X56432
12 EXPANSION JOINT	X56433
13 SLOPED FACE PARAPET 'A'	X56434

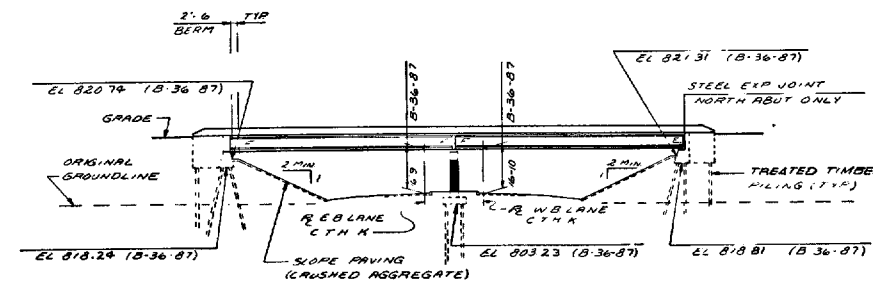
DESIGN DATA

LIVE LOAD
 DESIGN RATING HS20MOD
 INVENTORY RATING HS25
 OPERATIONAL RATING HS53
 STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT
ALLOWABLE DESIGN STRESSES
 CONCRETE MASONRY SLAB $F_c = 4000$ P.S.I.
 ALL OTHER $F_c = 3500$ P.S.I.
 BAR STEEL REINFORCEMENT, GRADE 60 $F_y = 60,000$ P.S.I.
 54" PRESTRESSED GIRDERS, CONCRETE MASONRY $F_c = 4,000$ P.S.I.
 STRANDS - 1/2" WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

AS BUILT PLAN
 DATE 7-78 BY W.J.K.



PLAN
 2 SPAN - 54" PRESTRESSED GIRDERS

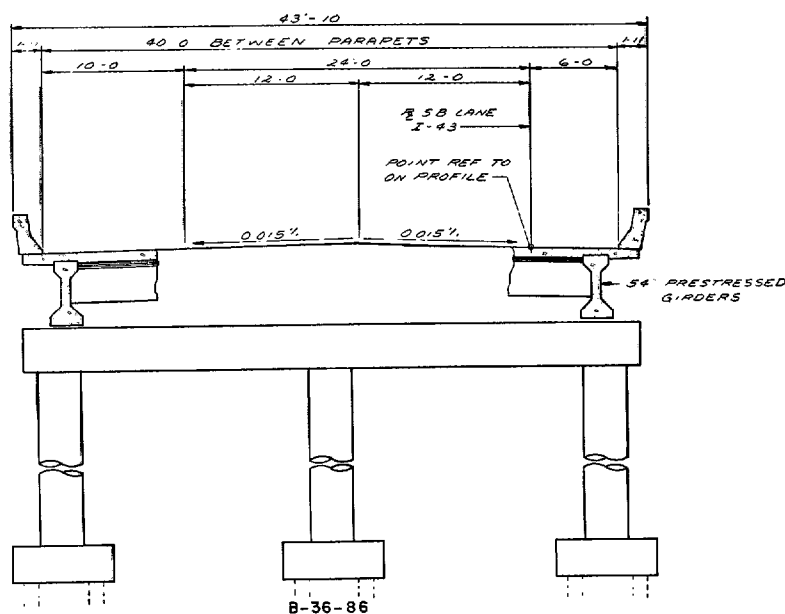


ELEVATION
 NORMAL TO CTH K

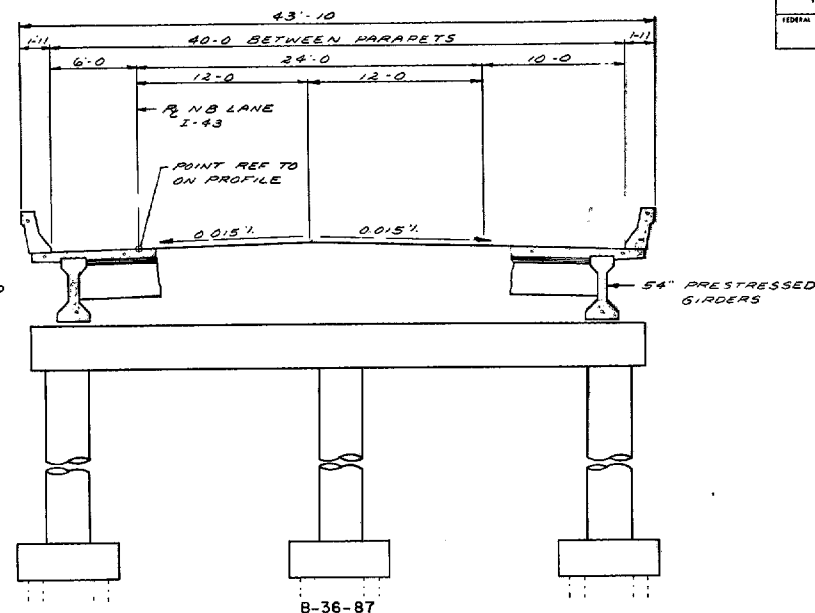
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GENERAL PLAN
 SHEET 1 OF 13
 X56422

PROJECT NO.	1226-1-74	REV.	DATE
FEDERAL PROJECT DESIGNATION	714	NUMBER	SHEET



B-36-86



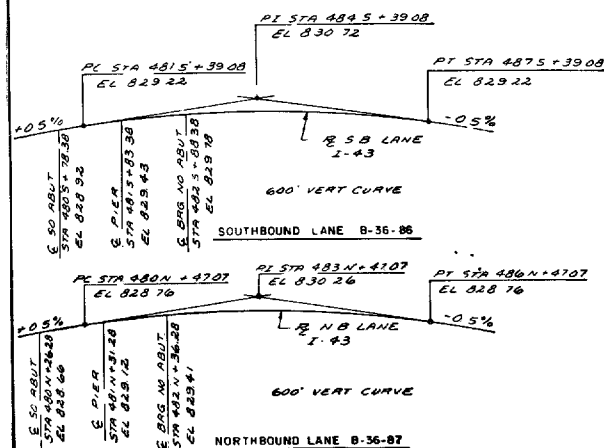
B-36-87

CROSS SECTION THRU ROADWAY LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	SOUTH ABUT.	PIER	NORTH ABUT.	SUPER	TOTAL
EXCAVATION FOR STRUCTURES	LS					1
CONCRETE MASONRY	CY	67	75	92	263	497
PRESTRESSED GIRDER I TYPE 54 INCH	LF				1,265	1,265
HIGH STRENGTH BAR STEEL REINFORCEMENT	LBS	3,300	10,080	4,390	80,020	97,790
STRUCTURAL CARBON STEEL	LBS				3,910	3,910
STRUCTURAL LOW ALLOY STEEL	LBS				1,170	1,170
WARRANTED BRONZE PLATES	LBS				114	114
BEARING PADS	SF				10	10
BEARING PADS, ELASTOMERIC	SF				32	32
TREATED TIMBER PILING DELIVERED	LF	720	760	680		2,160
TREATED TIMBER PILING DRIVEN	LF	720	760	680		2,160
TREATED TIMBER TEST PILING	LS					1
DRILLING, TIMBER PILING	LF	290				580
SLOPE PAVING CRUSHED AGGREGATE	SY	245		250		495
NON BID ITEMS						
POLYVINYL CHLORIDE WATERSTOP	LF	53		59		112
1/2" ALUMINUM OR ZINC PLATE	SF				47	47
1/2" FILLER	SF				20	20
3/4" FILLER	SF				75	75

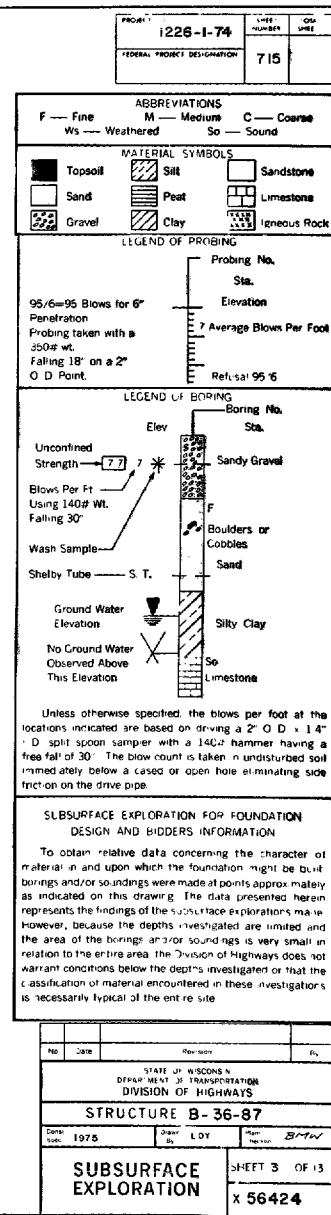
* DRIVE ONE TREATED TIMBER TEST PILE AT EACH SUBSTRUCTURE UNIT.
65'-0" LONG AT SOUTH ABUT. 40'-0" LONG AT PIER. 60'-0" LONG AT NORTH ABUT.

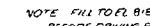
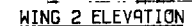
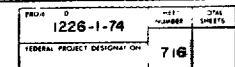
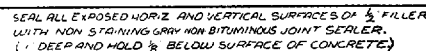


PROFILE GRADE LINES INTERSTATE 43

PROFILE GRADE LINE CTH K

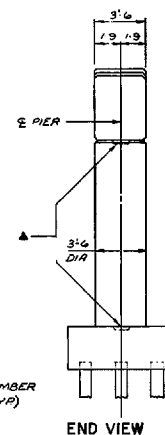
No.	Date	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
Drawn By	1975	Design By	LYT
Checked By		Checked By	BTH
CROSS SECTION AND QUANTITIES		SHEET 2 OF 3 X56423	





NOTE FOR DESCRIPTION OF SYMBOLS
SEE SH 6
FOR BILL OF BARS SEE SH 7

Plan	Date	Revision	By
STATE OF MICHIGAN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
Contract Spec.	1975	Drawn By	LCY
		Checked	JWW
SOUTH ABUTMENT		SHEET 4 OF 13 X 56425	

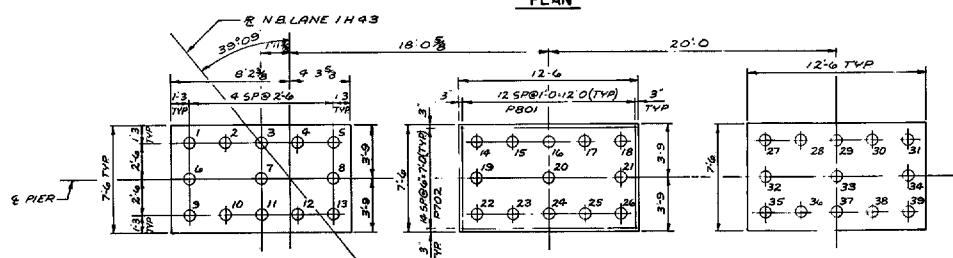
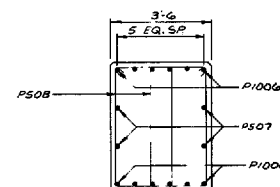
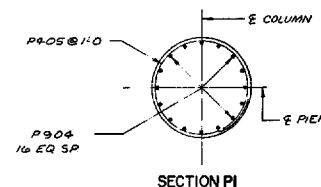
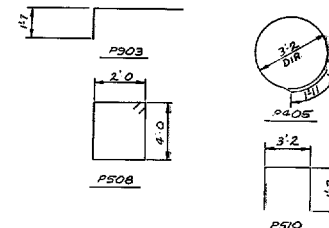


▲ 1:3 x 1:3 x 2" CONST JT - FORMED
BY SURFACED BEVELED 2" x 6"
KEYWAY, TYP ALL COLUMNS.

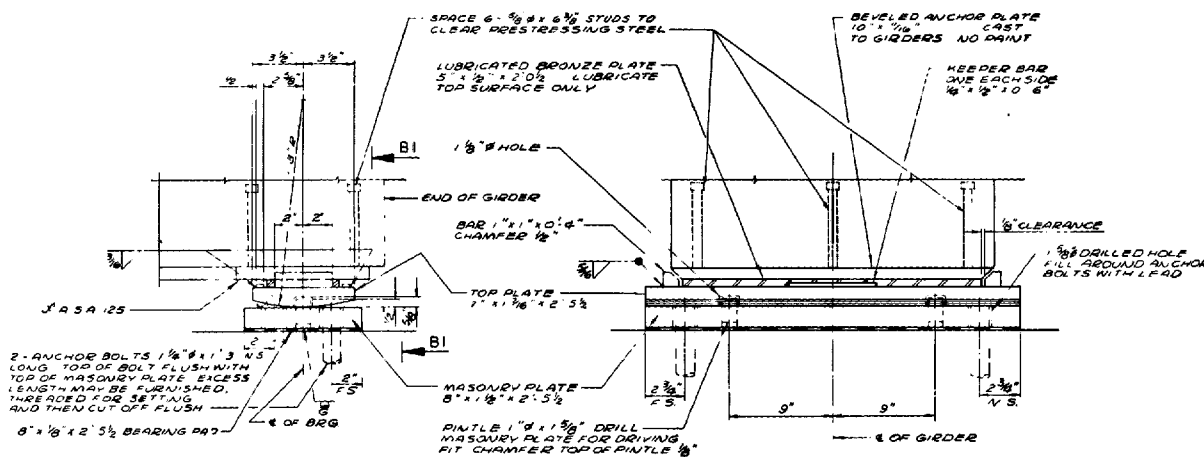
PSD 8 5 5 X = -ENDS

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

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.



No.	Date	Revised on		By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS				
STRUCTURE B-36-87				
Contract Spec.	1975	Drawn By	LCN	Check Papers <i>BNW</i>
PIER			SHEET 5 OF 13	
			X 56426	



EXPANSION BEARING
6 REQ'D @ N ABUT ONLY

SECTION B1

BEARING NOTES

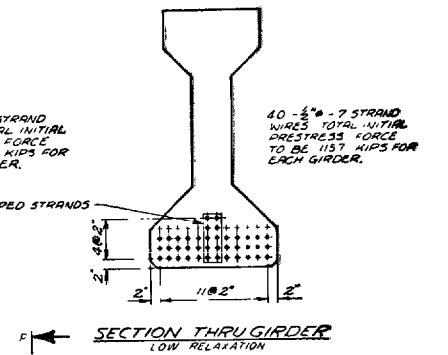
ALL MATERIAL EXCEPT ANCHOR BOLTS & PINTLES SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A499 STEEL.

ALL BEARING MATERIAL EXCEPT BRONZE PLATES, BEARING PADS AND ANCHOR PLATES SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL LOW ALLOY STEEL".

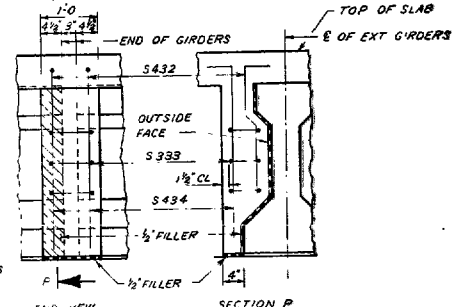
ALL STRUCTURAL STEEL PLATES SHALL BE FLAT ROLLED STEEL PLATES WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE PLANE CUTS.

ALL SURFACES MARKED 'F' SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

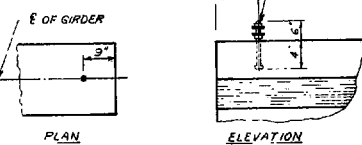
STRUCTURE B-36-B7			
1975	L. H. B. N.	DATE	BY
BEARING DETAILS			SHEET 8 OF 13
			X56429



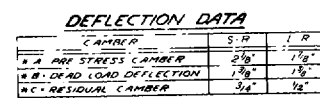
SECTION THRU GIRDER
LOW RELAXATION



PILASTER DETAIL AT PIER



EXPANSION JOINT ANCHOR BOLT DETAIL



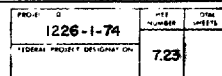
NO. 4 TIE BARS (2' 6" LG. FASTEN TO STIRRUPS).

1/2" Ø THREADED ROD

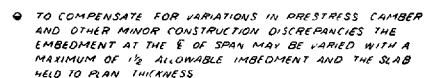
3/4" MALLEABLE HEX NUT 3" LONG OR
APPROVED EQUAL INSERT, WELD TO TIE BARS.
2 INSERTS AT 4" CTR'S PLACED SYMMETRICAL
ABOUT & DIAPHRAGMS IN SPANS.

INSERT DETAILS

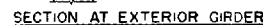
DATE		PROJECT		SHEET	
10/1/75		H. B. H. H.		SHEET 9 OF 13	
STRUCTURE B-36-87					
54" PRESTRESSED GIRDER DETAILS					
X56430					



SLAB FORMING DIAGRAM



IF VARIATIONS IN PRESTRESS CAMBER AND OTHER CONSTRUCTION DISCREPANCIES ARE OF SUCH A MAGNITUDE THAT THE MAXIMUM ALLOWABLE EMBEDMENT AS NOTED ABOVE WILL BE EXCEEDED THESE DIMENSIONS SHALL BE REVISED THE 1/4" EMBEDMENT AND THE PLAN SLAB THICKNESS SHALL BE HELD WHILE THE GRADE LINE WILL BE REVISED



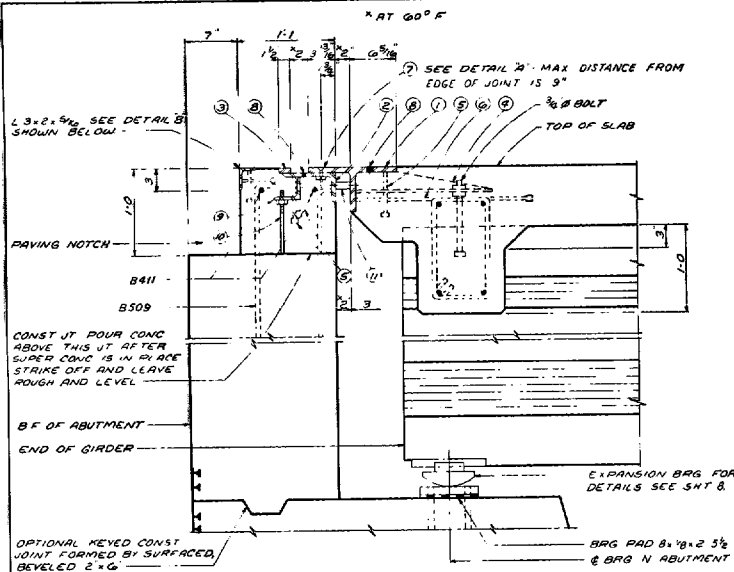
NOTES

BOTTOM TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS ON OR ADJACENT TO EACH GIRDER AND BY INDIVIDUAL BAR CHAIRS AT 3-0 CENTERS APPROXIMATELY MIDWAY BETWEEN GIRDERS

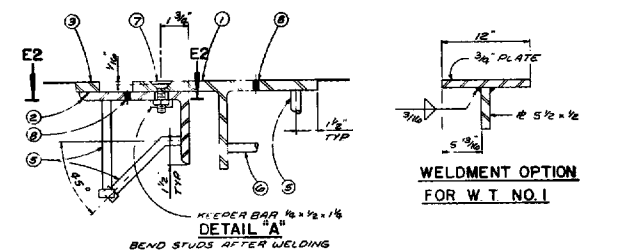
TOP LONGITUDINAL BAR STEEL SHALL
BE SUPPORTED BY CONTINUOUS BAR CHAIRS
AT APPROXIMATELY 4-0 CENTERS.

CONCRETE IN ANY ONE SPAN SHALL
BE PLACED WITHIN FOUR HOURS OF THE TIME
CONCRETE WAS PLACED OVER THE PIER.

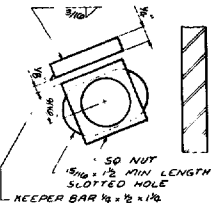
no.	Date	Rev's on	By
STATE OF MISSISSIPPI DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B - 36 - 87			
old date	1975	drawn by	H B H P. A. S.
SUPERSTRUCTURE		SHEET 11 OF 13 X55432	



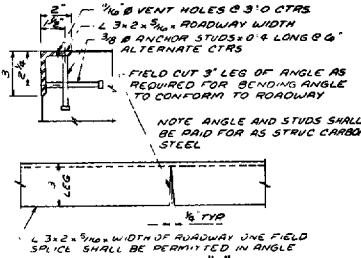
SECTION E1



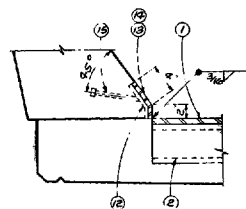
DETAIL 'A'



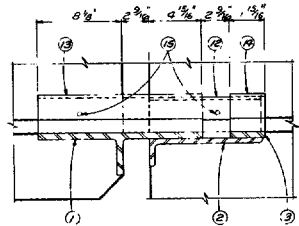
VIEW E2



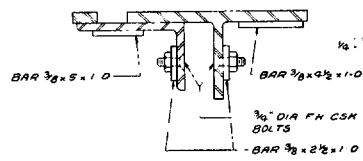
DETAIL 'B'



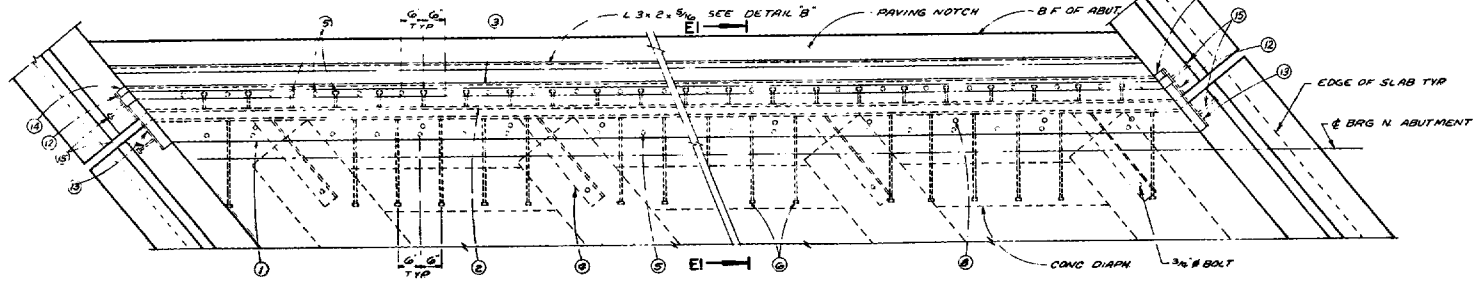
SECTION THRU PARAPET



ELEVATION AT PARAPET PARALLEL TO FACE OF CURB



FIELD SPLICE DETAILS



PART PLAN AT NORTH ABUTMENT ONLY

LEGEND

- WT. NO. 395 ROADWAY WIDTH WELDMENT MAY BE USED.
- L 3 x 2 x 3/4 ROADWAY WIDTH LONG DIMENSION OF 1/2 x 1/2 SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT
- BAR 1/2 x 3/4 ROADWAY WIDTH WELD TO L NO 2 WITH 2 LINES OF 1/2 FILLET WELD, 20G
- L 3 x 2 x 3/4 WITH 1/2 HOLE FOR 3/4 BOLT WITH 2 NUTS AND 2 WASHERS, WELD TO STEM AND FLANGE OF WT NO 1 WITH 1/2 FILLET WELD 15 F.F.S.
- 3/8 STUDS AT 6" ALTERNATE CENTERS, 0 6/8 LONG, WELD TO WT NO 1 AND L NO 2.
- 1/2 DEFORMED BAR AT 6" ALTERNATE CENTERS BETWEEN GIRDERS, 2 0 LONG, WELD TO WT NO 1, ALTERNATE WITH NO 5.
- 3/4 FLAT HEAD CAP SCREW 1 0 1/2 LONG WITH SQUARE NUT AT 4 0 CENTERS, GREASE FOR EASY REMOVAL, 1/2 x 1/2 KEEPER BAR WELD TO L NO 2 TO KEEP SQUARE NUT FROM TURNING, 3/8 x 1/2 SLOTTED HOLE IN L NO 2, 3/8 HOLE CSK 3/8 DEEP IN WT NO 1, MAKE SLOT IN L NO 2 PARALLEL TO DIRECTION OF MOVEMENT.
- 3/8 BENT HOLES PLACED AT 2 0 CENTERS ON L NO 2 AND WT NO 1.
- L 3 x 2 x 3/4 0 3 AT 3 0 CENTERS WELD TO L NO 2, PROVIDE 3/8 HOLE IN 2 1/2 LEG FOR ROD NO 10.
- 3/8 ROD 0 3 LONG AND NUT, TACK WELD NUT TO L NO 3, THREAD 3 1/2.
- BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND 1/2 BOLT, PROVIDE 3/8 HOLES AT 3 0 CENTERS IN WT NO 1 AND L NO 2 FOR 1/2 BOLT.
- BAR 3/8 x 0 3 1/2 WELD TO PL 1/4 1/2 LINES OF 3/8 FILLET WELD.
- PLATE 3/8 x 1 3/8 PLACE FLUSH WITH FACE OF CURB AS SHOWN FIELD WELD TO WT NO 1.
- BAR 3/8 x 0 1 1/2 PLACE FLUSH WITH FACE OF CURB AS SHOWN FIELD WELD TO BAR NO 3.
- 3/8 STUDS 0 6/8 LONG, WELD TO BAR NO 12 AND PLATE 13.

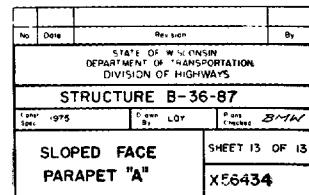
NOTES

- EXPANSION JOINT SHALL BE BUILT TO CONFORM TO ROADWAY CROWN AND GRADE. ALL MATERIAL IN EXPANSION JOINT SHALL BE PAID FOR AS STRUCTURAL CARBON STEEL.
- AFTER CONCRETE HAS SET:
- THE JOINT OPENING SHALL BE THOROUGHLY CLEANED.
 - REMOVE SCREWS NO 7.
 - PRIME VERTICAL JOINT SURFACES ACCORDING TO SEALANT MANUFACTURER'S RECOMMENDATIONS.
 - COVER BOTTOM OF JOINT OPENING WITH A BOND BREAKER SUCH AS ALUMINUM FOIL.
 - FILL JOINT OPENING AND HOLES FOR SCREWS WITH HOT POURED ELASTIC TYPE JOINT SEALER CONFORMING TO ASTM D1180.
- ONE FIELD SPLICE SHALL BE PERMITTED.

TEMPERATURE TABLE SHADED UNDERSIDE OF DECK TEMPERATURE

JOINT OPENING (INCHES)	30"	40"	50"	60"	70"	80"	90"
2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8	2 1/8

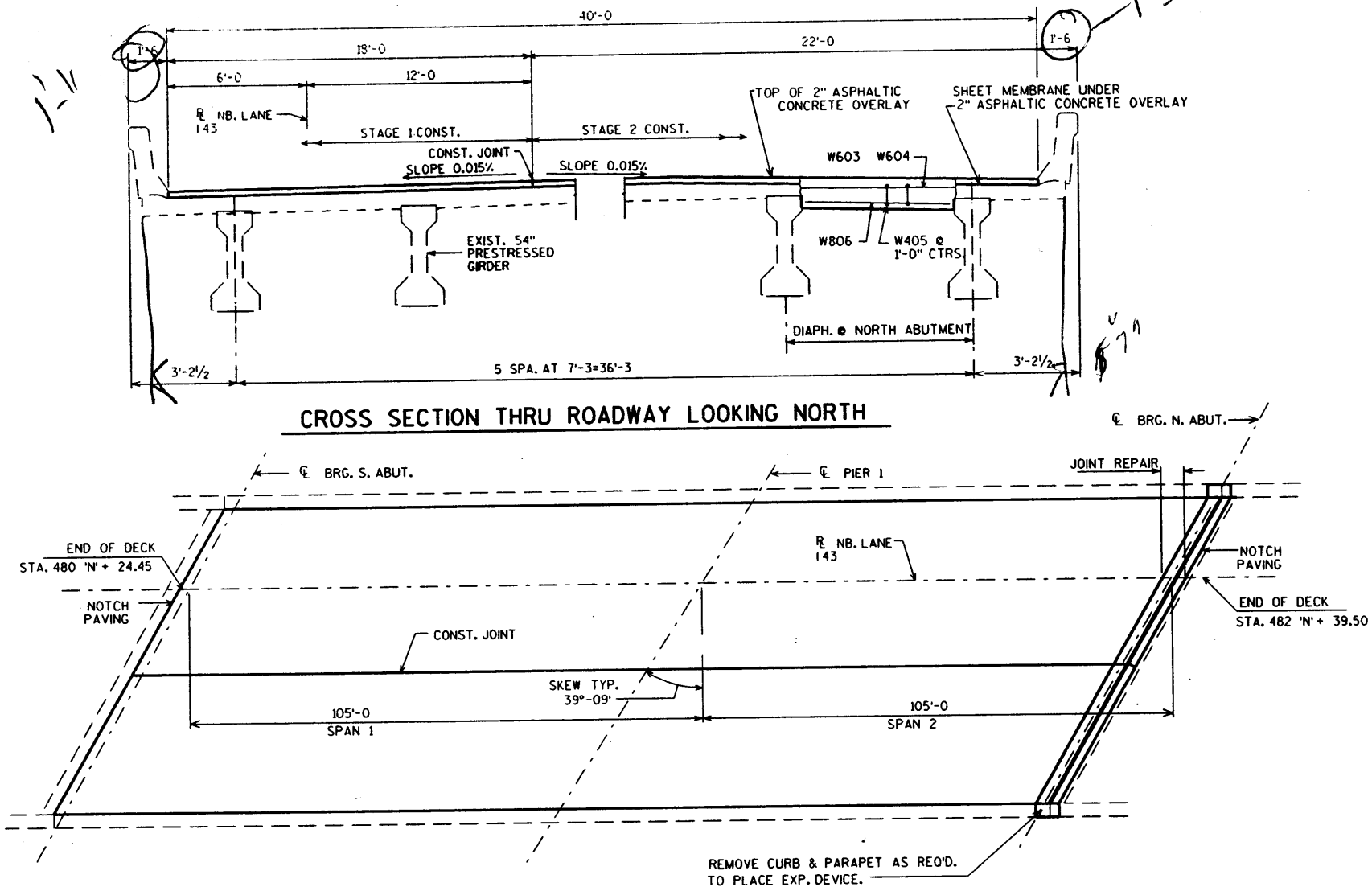
No.	Date	Revised	By
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
Drawn 1975	Checked H.B.H.	Project JACKSON	Sheet B-36-87
EXPANSION JOINT			SHEET 12 OF 13 X56433



WISDOT DTID

1225-02-71

8.7



CROSS SECTION THRU ROADWAY LOOKING NORTH

DESIGN DATA

LIVE LOAD:

INVENTORY RATING: HS-20

OPERATIONAL RATING: HS-47

MAXIMUM STANDARD PERMIT VEHICLE LOAD = 250 KIPS.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY SLAB— $f'_c = 4,000$ P.S.I.BAR STEEL REINFORCEMENT, GRADE 60 $f_y = 60,000$ P.S.I.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

ALL DIMS. ARE PLUS (+) OR MINUS (-). THE CONTRACTOR SHALL VERIFY DIMENSIONS IN THE FIELD.

ANY EXCAVATION REQUIRED TO COMPLETE THE OVERLAY OR PAVING BLOCK AT THE ABUTMENTS IS TO BE CONSIDERED INCIDENTAL TO THE BID ITEM "ASPHALTIC CONCRETE PAVEMENT".

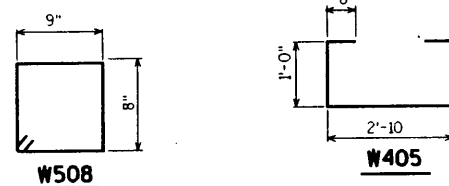
TOTAL ESTIMATED QUANTITIES

SURFACE PREPARATION FOR SHEET MEMBRANE WATERPROOFING	929	S.Y.
SHEET MEMBRANE WATERPROOFING	929	S.Y.
ASPHALTIC CONCRETE PAVEMENT, TYPE 'HV'	100	TON
ASPHALTIC MATERIAL FOR PLANT MIXES	6	TON
PREPARATION, DECKS	20	S.Y.
CONCRETE MASONRY, DECK PATCHING	2	C.Y.
SAWING PAVEMENT, DECK PREPARATION AREAS	180	L.F.
PARAPET RESURFACING	430	L.F.
PROTECTIVE SURFACE TREATMENT	2	GAL.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	1870	LB.
CONCRETE MASONRY, BRIDGES	9	C.Y.
EXPANSION DEVICE	1	L.S.
JOINT REPAIR	23	S.Y.
GROUTING BRIDGE DECK, B-36-87	1	EACH
LAMINATED ELASTOMERIC BEARING PADS	6	EACH
REMOVING BEARINGS	6	EACH

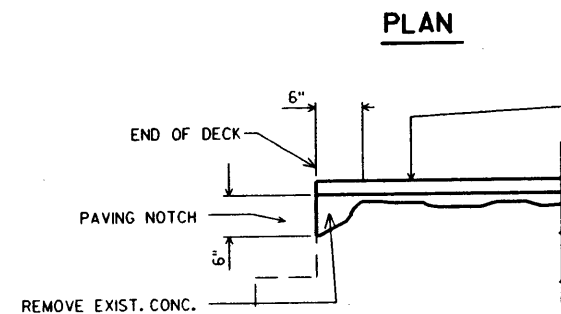
BILL OF BARS

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

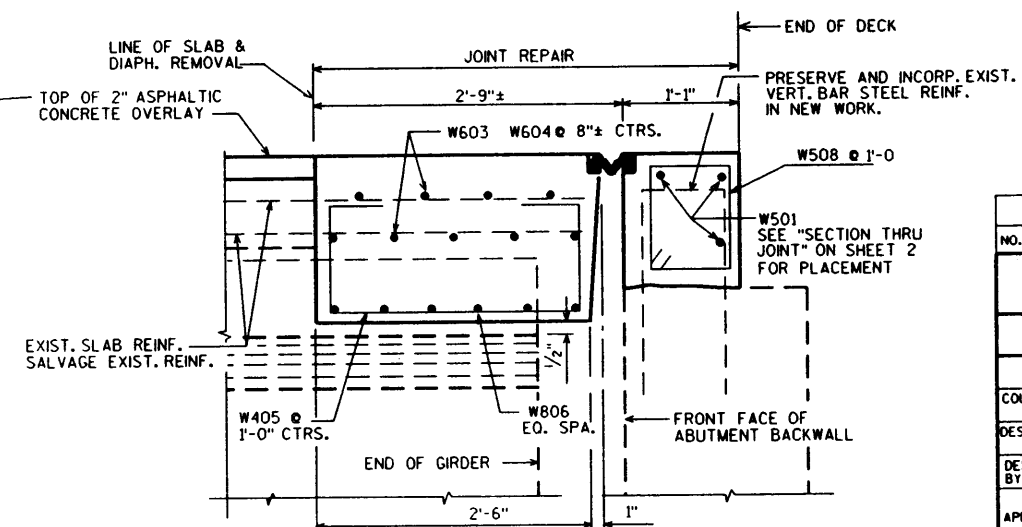
BAR MARK	CO.	NO. REQ'D.	LENGTH	BENT	LOCATION
W501		21	8-6		PAVING BLOCK HORIZ.
W402		10	9-4		SLAB @ JOINT HORIZ.
W603		9	25-0		SLAB STAGE 1 TRANS.
W604		9	28-4		SLAB STAGE 2 TRANS.
W405		40	5-7	X	DIAPH. ABUTS. VERT.
W806		30	6-9		DIAPH. ABUTS. HORIZ.
W507		10	2-10		PARAPET @ EXP. DEVICE
W508		52	3-4	X	PAVING BLOCK STIRRUP



PLAN



DETAIL AT END OF DECK AT SOUTH ABUTMENT



TYPICAL SECTION THRU JOINT NORTH ABUTMENT

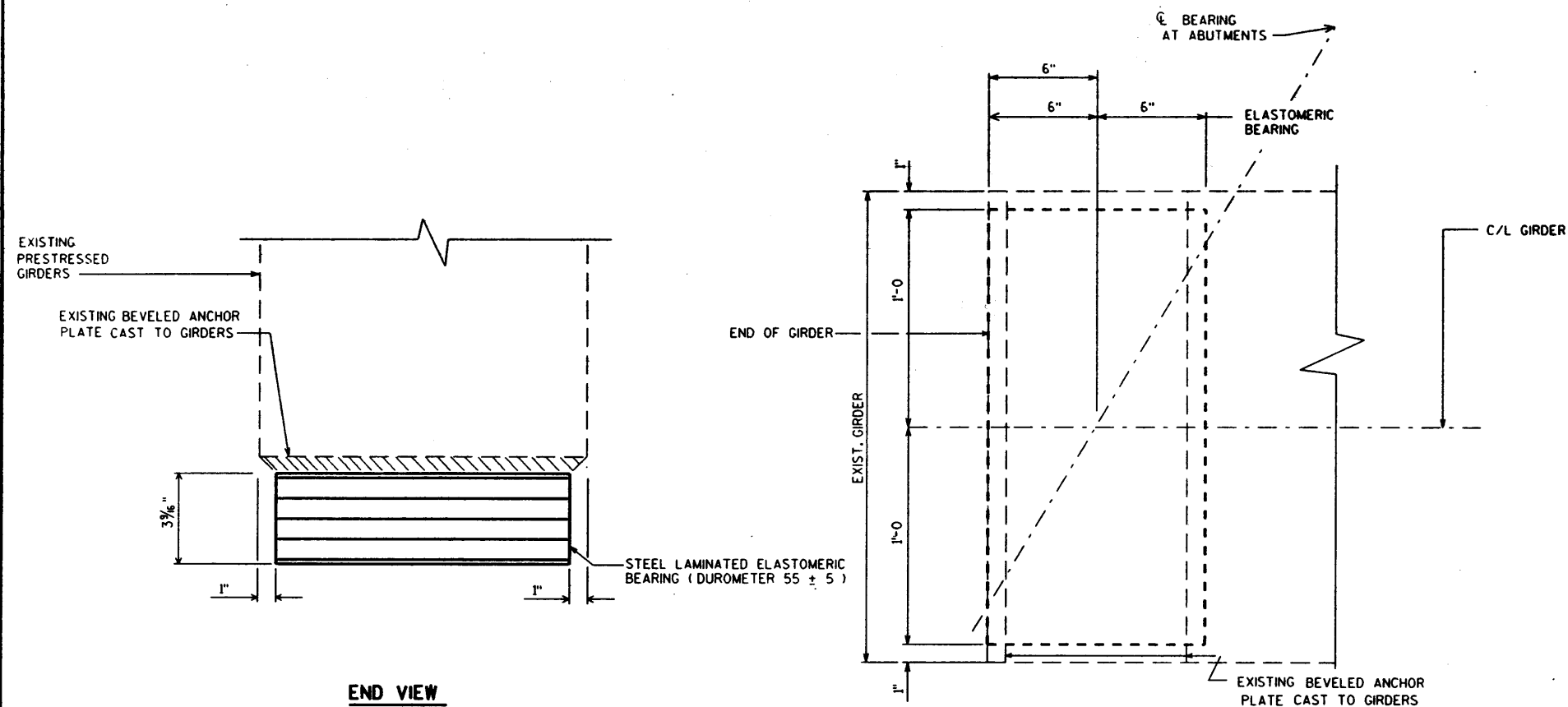
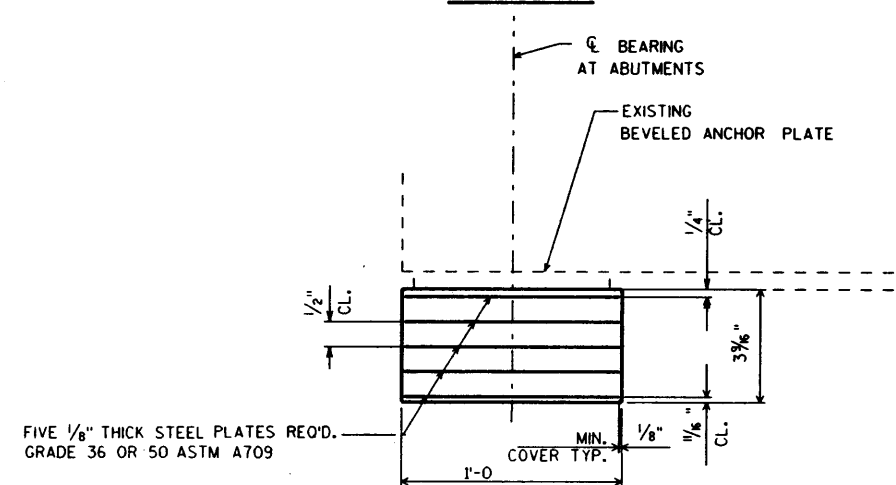
NORMAL TO ϕ SUBSTRUCTURE.
CONC. DIAPH. TO EXTEND BETWEEN INSIDE FACES OF EXTERIOR GIRDERS.

LIST OF DRAWINGS

- 1 ASPHALT OVERLAY
- 2 EXPANSION DEVICE
- 3 BEARING REPLACEMENT

BRIDGE OFFICE CONTACTS:
FINN HUBBARD (608) 266-8489

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
IH 43 NORTHBOUND OVER CTH K			
COUNTY	MANITOWOC	TOWN/VILLAGE	ROSSUTH
DESIGN SPEC.	AASHTO 1995	LOAD	CONST. SPEC. 1989
DESIGNED BY	T.M.B. CKD.	DRAWN BY	ZIRK CKD. CR4
APPROVED	[Signature] 01-17-96		
CHIEF BRIDGE DESIGN ENGINEER			DATE
ASPHALT OVERLAY			SHEET 1 OF 3
			DATE: 5-95

END VIEWPLAN VIEWSECTION THRU ELASTOMERIC BEARINGGENERAL NOTESBEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE GREATER THAN 70° F.

ALL MATERIAL USED FOR BEARINGS SHALL BE PAID AT THE UNIT PRICE BID FOR "LAMINATED ELASTOMERIC BEARING PADS."

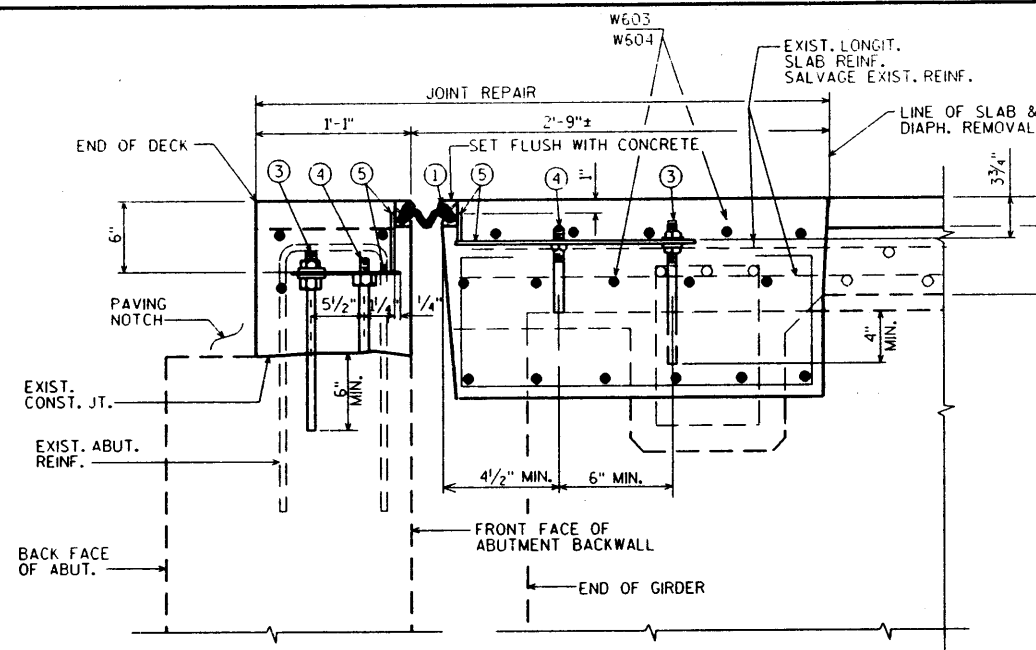
CLEAN EXISTING BEVELED ANCHOR PLATE.

ATTACH LAMINATED ELASTOMERIC BEARINGS TO EXISTING BEVELED ANCHOR PLATE WITH AN APPROVED EPOXY.

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
CONST. SPEC.	1989	DRAWN BY ZIRK	PLANS CKD.
BEARING REPLACEMENT			SHEET 3

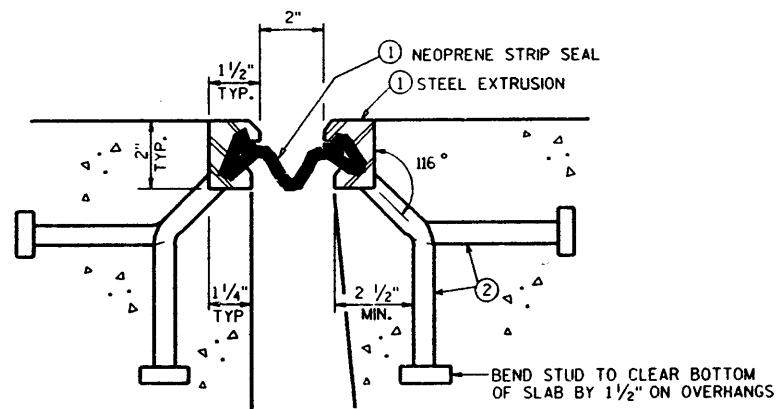
1225-02-71

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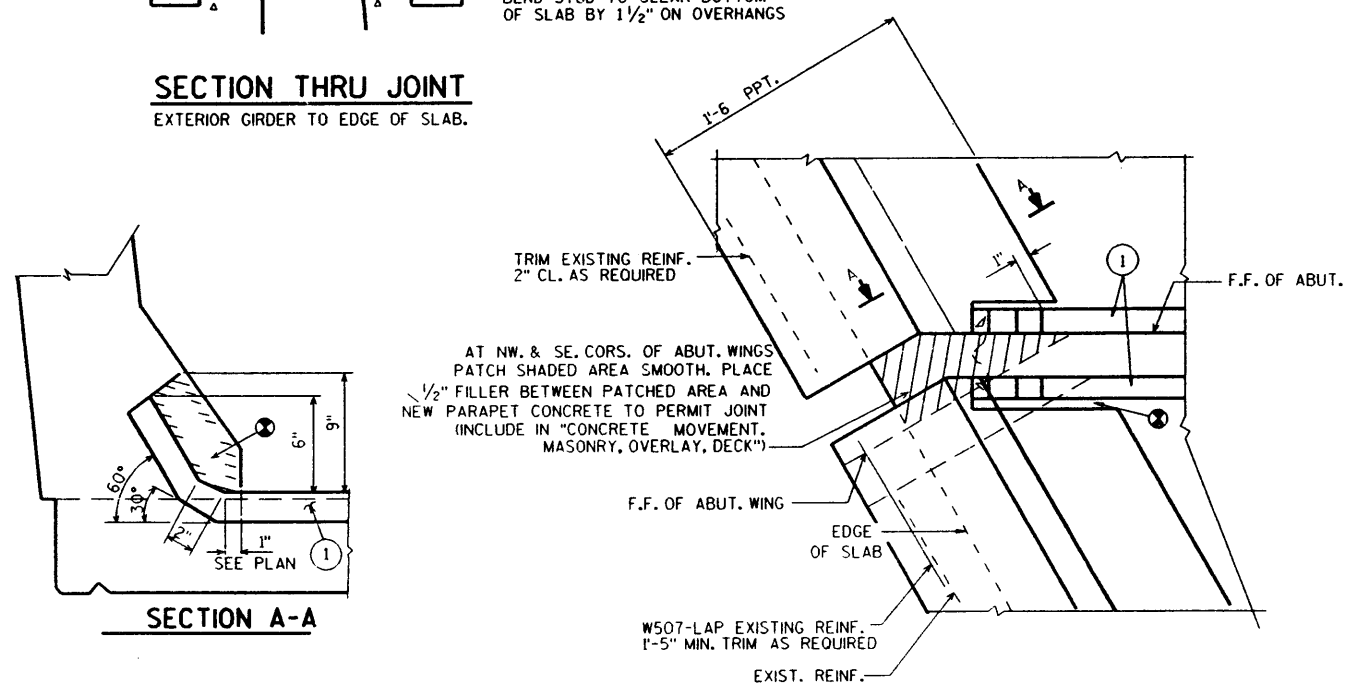
TYPICAL SECTION THRU JOINT NORTH ABUTMENTS

NORMAL TO C SUBSTRUCTURE.



SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF SLAB.



SECTION A-A

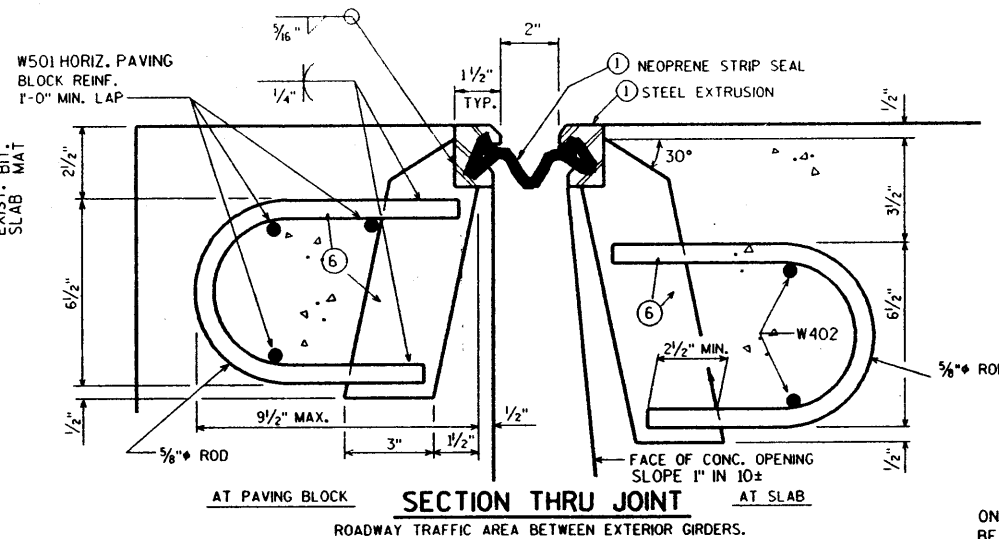
AT NW. & SE. CORNS. OF ABUT. WINGS
PATCH SHADED AREA SMOOTH. PLACE
1/2\"

F.F. OF ABUT. WING

EDGE
OF SLABW507-LAP EXISTING REINF.
1'-5\"

EXIST. REINF.

PLAN AT PARAPET



SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.

SYM. ABOUT C JOINT UNLESS
OTHERWISE SHOWN OR NOTED

LEGEND

1. NEOPRENE STRIP SEAL & STEEL EXTRUSIONS D.S. BROWN SSA-400A2, LEWIS ENGINEERING W-400L, STRUCTURAL ACCESSORIES SA2-40SS, WATSON-BOWMAN-ACME COMPANIES A3-400SE. EXTRUSIONS TO BE A.S.T.M. A36.
2. STUDS 5/8\"
3. 3/4\"
4. 3/4\"
5. FABRICATE SUPPORT FROM 3\"
6. 3\"

NOTES

ONE FIELD SPlice REQUIRED IN STEEL EXTRUSIONS. DETAILS SHALL
BE SUBMITTED. NO SPlicing PERMITTED IN NEOPRENE STRIP SEAL.

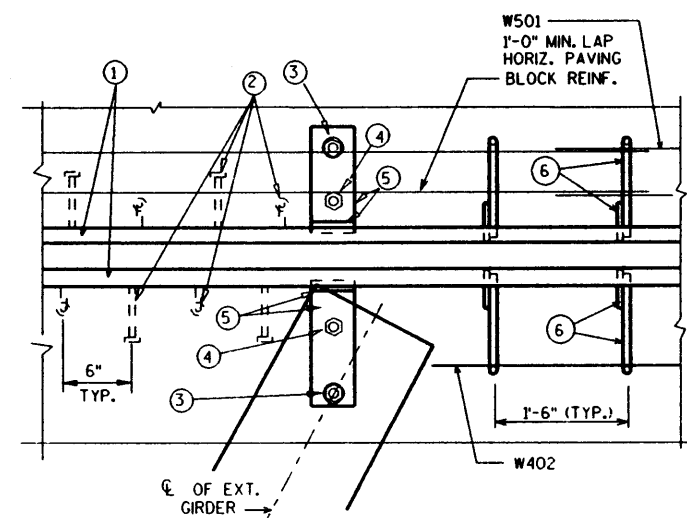
AFTER FABRICATION, BUT BEFORE SHIPMENT, STRAIGHTEN STEEL EXTRUSIONS SUCH
THAT THEY SHALL BE FREE FROM WARP, TWIST & SWEEP.

AFTER FABRICATION, SAND BLAST CLEAN STEEL EXTRUSION
PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE
GLAND INSTALLATION.

MATERIAL FOR #2A SHALL CONFORM TO A709 GRADE 36 STEEL.

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS & HARDWARE
WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE"

⊗ BLOCK OUT CONCRETE 2\"



PART PLAN

NO.	DATE	REVISION	BY
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DIVISION OF HIGHWAYS			
STRUCTURE B-36-87			
CONST. SPEC.	1989	DRAWN BY ZIRK	PLANS CKD.
EXPANSION DEVICE			SHEET 2

00070200-00 17 000



1. GENERAL PLAN

KRISTOFER OLSON
OMNI ASSOCIATES
(920) 735-6900



NO.	DATE	REVISION	BY
ORIGINAL PLANS PREPARED BY OMNI ASSOCIATES			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
ACCEPTED _____		_____ DATE	
CHIEF STRUCTURES DESIGN ENGINEER			
STRUCTURE B-36-87			
IH 43 NB OVER CTH K			
COUNTY MANITOWOC		TOWN KOSSUTH	
DESIGN SPEC. REHABILITATION N/A			
DESIGNED BY BRE	DESIGN CK'D. KRO	DRAWN BY NRT	PLANS CK'D. KRO
GENERAL PLAN			SHEET 1 OF 1

**WISCONSIN DEPARTMENT OF TRANSPORTATION
BRIDGE LOAD RATING SUMMARY**

Bridge Data (used in this rating)

Bridge Number: B36-087	Section Loss(%): *
Feature Carried: IH 43 NB	SL Description: *
Rating Date: 10-Jun-2011	Overburden Depth(in): 2.0
Span Type: DECK GIRDER	Overburden Type: CONCRETE
Span Material: CONT PREST CONC	Last Inspection Date: 22-Jun-2010*

* Inspection data reflects last inspection prior to rating. Latest inspection is on 10-Sep-2013

Bridge Load Rating Summary

Rating Method: LFR	Rating Vehicle: HS20			
	Rating	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
Inventory:	HS18.5	DECK GIRDER Positive Moment	SPAN 1	1.32
Operating:	HS41.6	DECK GIRDER Negative Moment	SPAN 1	1.32

Wisconsin Standard Permit Vehicle (Wis-SPV)

	MVW (kips)	Controlling Element	Controlling Location (ft)	Live Load Distribution Factor
:				
:				

Posting Vehicle Type*	Vehicle GVW (kips)	Operating Rating (kips)	Controlling Element/Controlling Check	Controlling Location (ft)	Live Load Distribution Factor
WISSPV 250	0.0	260	DECK GIRDER Positive Moment	SPAN 1	1.32
WISSPV 250	0.0	332	DECK GIRDER Positive Moment	SPAN 1	1.04

* Posting Vehicle Analysis (Run only when HL-93 Operating RF <1.0 or when HS20 Operating RF <1.0)

Remarks/Recommendations:

	Load Rating Engineer
	Name: Dietsche, Joshua
	Date: 10-Jun-2011
	PE Stamp Here

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