STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Inspection Report for B-03-031

USH 53 NB over 20TH ST

May 09,2017

Type	Prior	Frequency (mos)	Performed
Routine	05-20-15	24	X
SIA Review	06-19-13	48	X

Latitude	45°22'43.81"N	Owner	STATE HIGHWAY DEPT
Longitude	91°44'42.79"W	Maintainer	STATE HIGHWAY DEPT

Time Log

Hours	Minutes
1	0

Team members

wjk

	Name	Number	Signature	Date
Inspector	Kovaleski, William J	8007	William J Kovaleski E-signed by Bill(dotwjk)	07-06-17

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

Identification & Location

Feature On:	Section Town Range:	Structure Number:
USH 53 NB	S04 T33N R11W	B-03-031
Feature Under:	County:	
20TH ST	BARRON	
Location	Municipality:	Structure Name:
7.2M N JCT CTH I TO E	PRAIRIE LAKE	

Geometry

measurements in feet, except where noted

Approach Roadway Width:	Bridge Roadway Width:	Total Length:
40	40.0	158.1
Approach Pavement Width:	Deck Width:	Deck Area (sq ft):
24	43.8	6924

Traffic

	Lanes	ADT	ADT year	Traffic Pattern
On	2	5550	2014	ONE WAY TRAFFIC
Under	2	3000	2008	TWO WAY TRAFFIC

Capacity

Inventory rating:	Overburden depth (in):	Last rating date:	Controlling:
HS21	2.0	08-21-13	INTERIOR DECK GIRDER Positive Moment
Operating rating:	Deck surface material:	Re-rate for capacity (Y/N):	Control location:
HS30	LOW SLUMP CONCRETE		SPAN 2
Posting:	Re-rate notes:		

Load Rating

Hydraulic

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

Classification

Sufficiency #: 98.7

Span(s)

Span #	Material	Configuration	Depth (in)	Length (ft)	Main
1	CONT PREST CONC	DECK GIRDER	45	47.0	
2	CONT PREST CONC	DECK GIRDER	45	69.5	Y
3	CONT PREST CONC	DECK GIRDER	45	37.0	

Expansion joint(s)

Temperature:

File:	New:

Clearance

Item	File Measurement (ft)	File Date	New Measurement (ft)
Highway Min Vertical Under Cardinal	14.93	20-May-2015	
Highway Min Vertical Under Non-Cardinal			
Horizontal Under Cardinal	50.0		
Horizontal Under Non-Cardinal			
Highway Min Vertical On Cardinal			
Horizontal On Cardinal			

Special Components

Component	Year	Work Performed	Note
DECK - IOWA MIX	1991	OVERLAY - CONCRETE	

Construction History

Year	Work Performed	FOS id
1991	OVERLAY - CONCRETE	1198-05-71
1972	NEW STRUCTURE	1196-05-73

Maintenance Items History

Item	Recommended by	Status	Status change	Year completed
Bearings - Clean Assemblies / Paint	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
clean and paint bearings				
Expansion Joints - Seal	Harrington, Daniel J (8004)	COMPLETE	01/17/13	
repour joints over piers.				

Maintenance Items

Item	Priority	Recommended by	Status	Status change
Misc - Other Work	HIGH	Kurtz, William G (8008)	IDENTIFIED	06/04/15
Replace three (3) aluminum rail posts that have been damaged.				
Deck - Seal Surface Cracks	MEDIUM	Kovaleski, William J (8007)	IDENTIFIED	06/21/17
Fill midspan cut joints				
Misc - Tighten Bolts and Nuts	LOW	Kurtz, William G (8008)	IDENTIFIED	06/04/15
Replace missing nuts and tighten all nuts on decorative rail system.				
Substructure - Other Work	LOW	Kurtz, William G (8008)	IDENTIFIED	06/04/15
Seal the six (6) columns.				

Elements

Chk	Element	Defect	Description	UOM	Total	Quantity in Condition State 1	2	3	4
X	**12**		**Reinforced Concrete Deck**	SF	6,925	6,290	635	0	0
		1080	Delamination - Spall - Patched Area	SF		0	575	0	0
			Advanced concrete deterioration w/ rust staining and efflorescence (begin spall/delam) area 3ft adjacent to G3 extends entire span / north ends of Span 3. Spot location of full depth repair.						
		1130	Cracking (RC)	SF		0	60	0	0
			Both faces have few hrline vert cracks 2 w rust staining - most match parapets.						
	8514		Concrete Overlay	SF	6,925	0	6,925	0	0
		3210	Debonding/Spall/Patched Area/Pothole	SF		0	818	0	0
			Delam approx. 11% (previous inspection)						
		3220	Crack (Wearing Surface)	SF		0	6,107	0	0
			Fine to some hrline map **cracking throughout - say 91%.**						
X	**109**		**Prestressed Concrete Open Girder**	LF	790	786	4	0	0
		1080	Delamination - Spall - Patched Area	LF		0	4	0	0
			2 areas of small impact edge spalls over both lanes.						
X	**205**		**Reinforced Concrete Column**	EA	6	6	0	0	0

X	215		**Reinforced Concrete Abutment**	LF	107	92	13	2	0
			Includes diaphragms.						
		1080	Delamination - Spall - Patched Area	LF		0	1	0	0
			SOUTH: 2 - 2in popouts Bay 2**.**						
		1130	Cracking (RC)	LF		0	12	2	0
			SOUTH: Hrline vert cracks at **G1, G2, Bay 2, 2 @ G3, and 4 @ Bay 3 (G3 & G4) / 2ft of fine surface map cracking at G5.** **NORTH: CS3 vertical crack @ G3 and Bay 1 diaphragm / Hrline vert at G2.**						
X	234		**Reinforced Concrete Cap**	LF	98	98	0	0	0
X	300		**Strip Seal Expansion Joint**	LF	52	52	0	0	0
			South end. Some scrapes on pving **block. Missing bolt on SW plate.**						
X	311		**Moveable Bearing**	EA	15	0	15	0	0
			South **rocker** bearings.						
		1000	Corrosion	EA		0	15	0	0
			Lt rust on edges with med/hvy rust on base plates.						
X	331		**Reinforced Concrete Bridge Rail**	LF	356	0	250	106	0
			East rail **bott**om **of super - worse.**						
		1080	Delamination - Spall - Patched Area	LF		0	0	106	0
			Select areas of CS3 spalling and delam some w/ rust **staining - approx. 30%. NW wing worse - remove repair & connection.**						
		1130	Cracking (RC)	LF		0	250	0	0
			Hrline vert cracks and map cracking throughout Approx. 70% - E=120 lf**. W=**166 lf**.**						
X	8400		**Integral Wingwall**	EA	4	3	1	0	0
		8903	Wall Deterioration	EA		0	1	0	0
			NW **spall at ADW joint.**						

Assessments

						Quantity in Condition State			
Chk	Element	Defect	Description	UOM	Total	1	2	3	4
X	9001		**Drainage - Approach**	EA	4	4	0	0	0
			Shldr grvl. NE C&G inlet.						
X	9030		**Signs - Object Markers**	EA	2	2	0	0	0
X	9043		**Slope Protection- Crushed Aggregate with Bit.**	EA	2	2	0	0	0
			Tight w/ slight veg at edges.						
X	9168		**Concrete Diaphragm**	EA	20	16	4	0	0
			Spalled Bay 2 Pier 1 North side. Cracked span**1 &** 2 bay3. Cracked and broken P1 east fascia**.**						
X	9322		**Approach Roadway - Concrete (non-structural)**	EA	2	0	2	0	0
			Concrete with asp shoulders except NE to inlet. Both **spalled and cracked down CL filled w/ asp filler. SE shlder rutted.**						
X	9335		**Decorative Rail**	EA	2	0	2	0	0
			Scrapes and dents. E Rail: 4 posts damaged**.** W and E Rail: Missing nuts.						

NBI Ratings

	File	New
Deck	5	5
Superstructure	7	7
Substructure	6	6
Culvert	N	N
Channel	N	N
Waterway	N	N

Structure Specific Notes

OLD: Overall, condition of structure is vg. 11.8 % delam (1996) should be programed for overlay. All other elements in vg condition including PS girders, caps, abutments and slope paving. No 358/9 cracks.
(99) Very good condition
(01) Structure is in overall good condition. The delam and cracked deck is in the program for redeck. Slope are bleached and loose rock. Parapets showing rebar on east side shallow bars rusting through.

Inspection Specific Notes

Inspector Site-Specific Safety Considerations

Structure Inspection Procedures

Walk-thru

Special Requirements

	Chk	Hours	Cost	Comments

Routine

Document Comment/Description

N approach

Routine

Document Comment/Description

Span 1 deck concrete deterioration

Routine

Document Comment/Description

Joint plate - loose bolt.

STRUCTURE INVENTORY AND APPRAISAL FIELD REVIEW FORM

B-03-031
USH 53 NB over 20TH ST

LOCATION

(3) Municipality:	PRAIRIE LAKE
(16) Latitiude(° ' "):	45°22'43.81"N
(17) Longitude(° ' "):	91°44'42.79"W

TRAFFIC SERVICE

(28A) Lanes On:	2
(28B) Lanes Under:	2
(102) Traffic Pattern On:	-NO TRAFFIC X-ONE WAY TRAFFIC -TWO WAY TRAFFIC
(102) Traffic Pattern Under:	-NO TRAFFIC -ONE WAY TRAFFIC X-TWO WAY TRAFFIC
(19) Detour Length(mi):	1

GEOMETRY

(49) Structure Length(ft):	158.1	
(50) Sidewalk Width(ft):	**Left:** 0.0	**Right:** 0.0
(50) Curb Width(ft):	3.8	
(52) Culvert Barrel Length(ft):		
(34) Skew:	**Angle(°):** 40	**Direction:** X-RIGHT FORWARD -LEFT FORWARD
	Cardinal	**Non-Cardinal**
(51) Bridge Roadway Width(ft):	40.0	40.0
(52) Deck Width(ft):	43.8	43.8
Right Wingwall Length(ft):		
Left Wingwall Length(ft):		
(32) Approach Roadway Width(ft):	40	0
	Cardinal Under Clearance	**Non-Cardinal Under Clearance**
(47) Minimum Horizontal(ft):	50.0	
(55) Minimum Right Lateral(ft):	14.0	
(56) Minimum Left Lateral(ft):	14.0	

RAILING APPRAISAL

(36A) Bridge Rail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36B) Transition Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36C) Approach Guardrail Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE
(36D) Guardrail Termination Adequacy:	-SUB-STANDARD X-STANDARD -NOT APPLICABLE

Outer Rail: Left	Right	Type
		TYPE F (TWO SQUARE TUBES) - STEEL(8)
		TYPE F (3 SQUARE TUBES) - STEEL(65)
		TYPE F (4 SQUARE TUBES) - STEEL(72)
		TYPE M-STEEL 3 SQUARE TUBES(93)
		SLOPED FACE PARAPET LF(91)
		SLOPED FACE PARAPET HF(92)
		VERTICAL FACE PARAPET TYPE A(74)
		TYPE W-THRIE BEAM(79)
		TYPE H ON VERTICAL PARAPET(80)
		TIMBER(38)
X	X	OTHER(99) (Please specify) **Left:** TYPE J (ALUMINUM) ON SLOPED PPT(45) **Right:** TYPE J (ALUMINUM) ON SLOPED PPT(45)

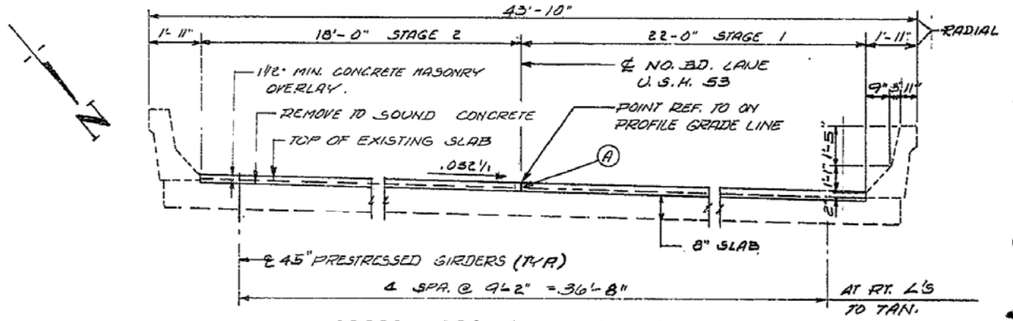
Transition Type:	
	CONT GUARD RAIL
	NO APP GRDRL
	NO ATTACHMENT
5	22 MM(7/8") BOLT (Please enter quantity)
	25 MM(1") BOLT (Please enter quantity)
	OTHER (Please specify)

Approach Attachment Rail Note:	
Guardrail Termination Type:	X (01) ENERGY ABSORBING TERMINAL/EAT
	(02) TURN DOWN
	(99) OTHER (Please specify)
Guardrail Termination Note:	

ROADWAY ALIGNMENT APPRAISAL

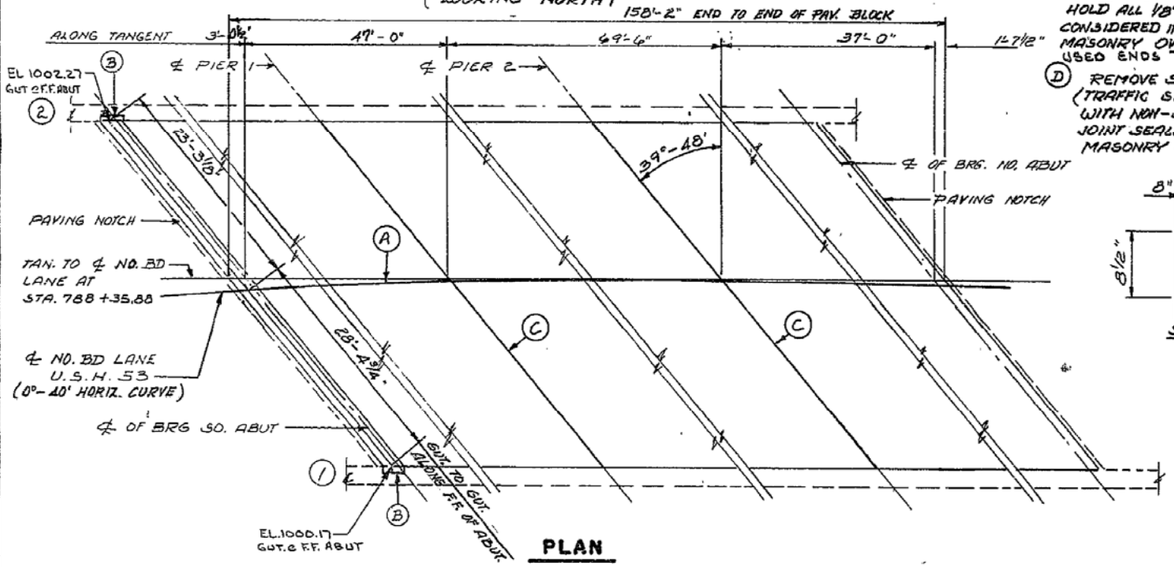
(72) Approach Alignment Appraisal:	3 Intolerable- Substantial speed reduction
	6 Fair- Minor speed reduction
X	8 Good- No speed reduction

STATE PROJECT NUMBER	SHEET NO.
1198-5-71	8.10

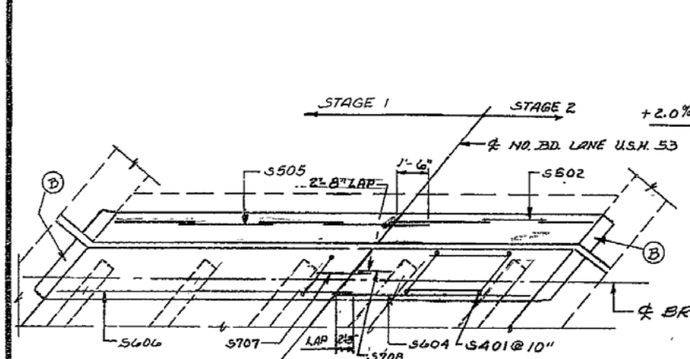


CROSS SECTION THRU ROADWAY

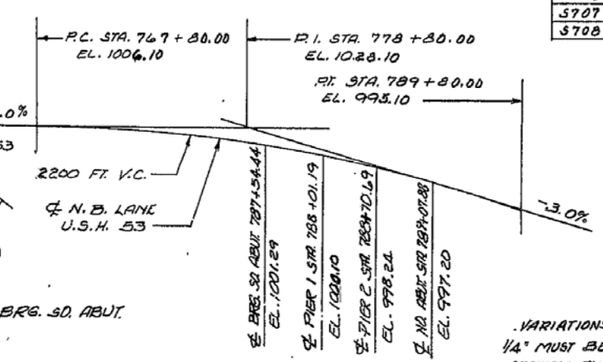
(LOOKING NORTH)



PLAN



PLAN AT SO. ABUT.



NEW PROFILE GRADE LINE

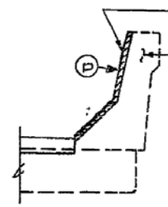
Ⓐ LONGITUDINAL CONST. JOINT IN CONCRETE MASONRY OVERLAY. TRAFFIC IS TO BE MAINTAINED DURING CONSTRUCTION.

Ⓑ REMOVE PARAPET IN THIS AREA AS REQ'D. FOR JOINT WORK. LINE OF REMOVAL DEFINED BY A 1" DEEP SAW CUT. REBUILD TO MATCH EXISTING. SALVAGE & REUSE EXIST. BAR REINF. RESET EXIST. RAIL POST ANCHORAGES IF REQ'D.

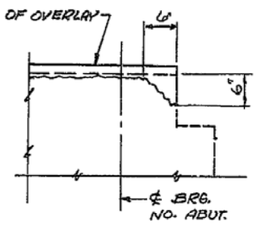
Ⓒ ¼" SAW CUT FULL DEPTH OF OVERLAY. PROVIDE EITHER :
1. INSTALL NEOPRENE COMP. SEAL ACME M044 OR APPROVED EQUAL, IN ONE CONTINUOUS PIECE.
2. COLD APPLIED ELASTIC TYPE JOINT SEALER.

HOLD ALL ⅛" BELOW SURFACE OF OVERLAY. CONSIDERED INCIDENTAL TO "CONCRETE MASONRY OVERLAY". IF COMP. SEAL IS USED ENDS TO BE SEALED.

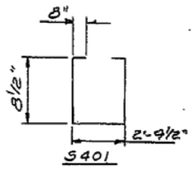
Ⓓ REMOVE SEALER FROM V-GROOVE (TRAFFIC SIDE ONLY) CLEAN & RESEAL WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER INCIDENTAL TO "CONCRETE MASONRY OVERLAY".



DEFLECTION JOINT REPAIR



END OF FLOOR AT NORTH ABUT.



NOTE : THE FIRST DIGIT OF A THREE DIGIT BAR MARK SIGNIFIES THE BAR SIZE. DIMENSION IN BENDING DETAILS ARE OUT TO OUT OF BAR.

BILL OF BARS

MARK	NO. REQ'D.	LENGTH	BENT	LOCATION	
S401	48	5-3	X	SLAB @ SO. ABUT.	
S502	6	8-5		PAV. BLOCK @ SO. ABUT.	ST. 2
S703	18	9-3		HAUNCH BOT.	" 1&2
S604	10	23-3		"	" 2
S505	8	8-3		PAV. BLOCK @ SO. ABUT.	ST. 1
S606	10	30-8		HAUNCH	" 1
S707	6	4-7		"	" 1
S708	6	7-4		"	" 2

TOTAL ESTIMATED QUANTITIES

BID ITEMS

CONCRETE MASONRY OVERLAY, DECKS	66	C.Y.
CLEANING, DECKS	675	S.Y.
PREPARATION, DECKS	167	S.Y.
JOINT REPAIR	27	L.S.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, BRIDGES	1590	LB.
EXPANSION DEVICE, B-3-31	1	L.S.
PROTECTIVE SURFACE TREATMENT	42	GAL.
FULL DEPTH DECK REPAIR	10	SY.

VARIATIONS TO NEW GRADE LINE OVER ¼" MUST BE SUBMITTED TO THE BRIDGE SECTION FOR APPROVAL.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED. BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS OTHERWISE SHOWN OR NOTED. DIMENSIONS ARE BASED ON ORIGINAL PLANS THEREFORE THE CONTRACTOR SHALL VERIFY THEM IN THE FIELD BEFORE ACCEPTANCE. CONCRETE MASONRY IN PAVING BLOCK IS INCLUDED IN PRICE BID FOR CONCRETE MASONRY OVERLAY. FULL DEPTH DECK REPAIR AS DIRECTED BY THE ENGINEER.

DESIGN DATA

LOADING :
DESIGN RATING ____ HS-20
INVENTORY RATING ____ HS-22
OPERATIONAL RATING ____ HS-36
MAX. STD. VEHICLE LOAD ____ 250 KIPS

ALLOWABLE DESIGN STRESSES
CONCRETE MASONRY ____ f_c = 4,000 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 ____ f_y = 60,000 P.S.I.

BENCH MARK

BRIDGE BRASS CAP, NO. EAST COR. EL. 1000.00

LIST OF DRAWINGS

1. DECK OVERLAY
2. EXPANSION DEVICE

AS BUILT PLAN
DATE SEPT. 1992

BRIDGE OFFICE CONTACT :
ROBERT L. REESE (608) 266-8498

No	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

N.B. LANE U.S.H. 53 OVER TOWN ROAD

County BARRON		Town/City/Village PRAIRIE LAKE	
Design Spec AASHTO 1985		Load	Const. Spec 1969
Designed By S.D.R.	Design Checked W.E.D.	Drawn By A.G.	Plans Checked J.C.K.

Approved Stanley W. Woods, Chief Bridge Engineer — Date 12-17-90

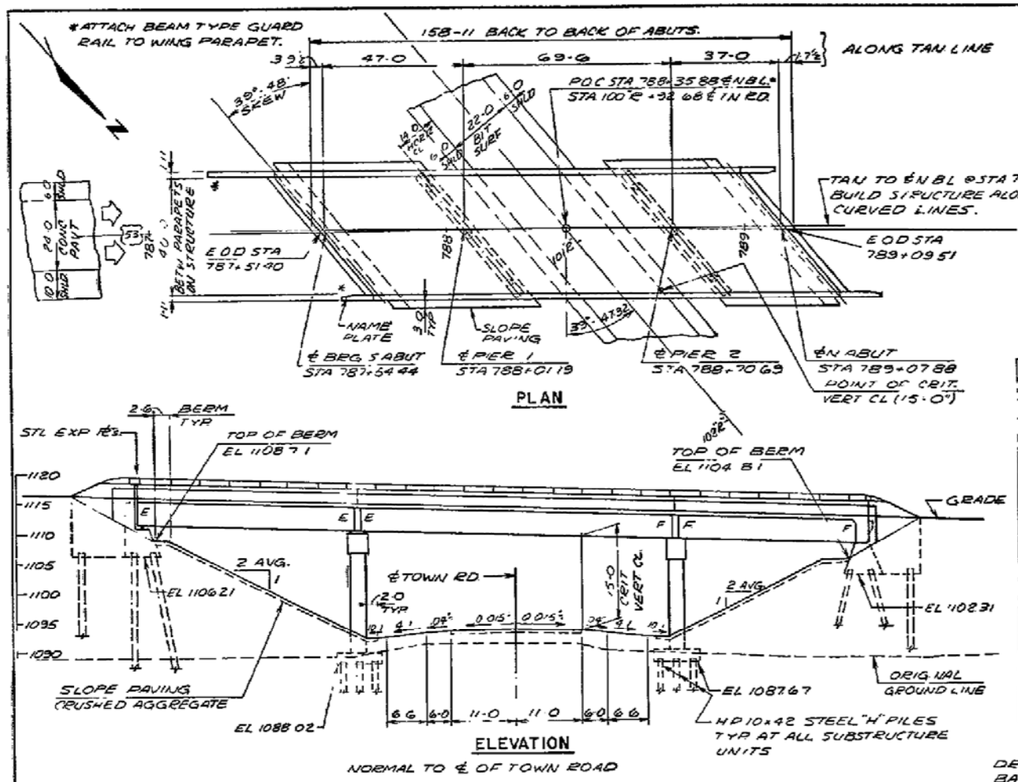
DECK OVERLAY

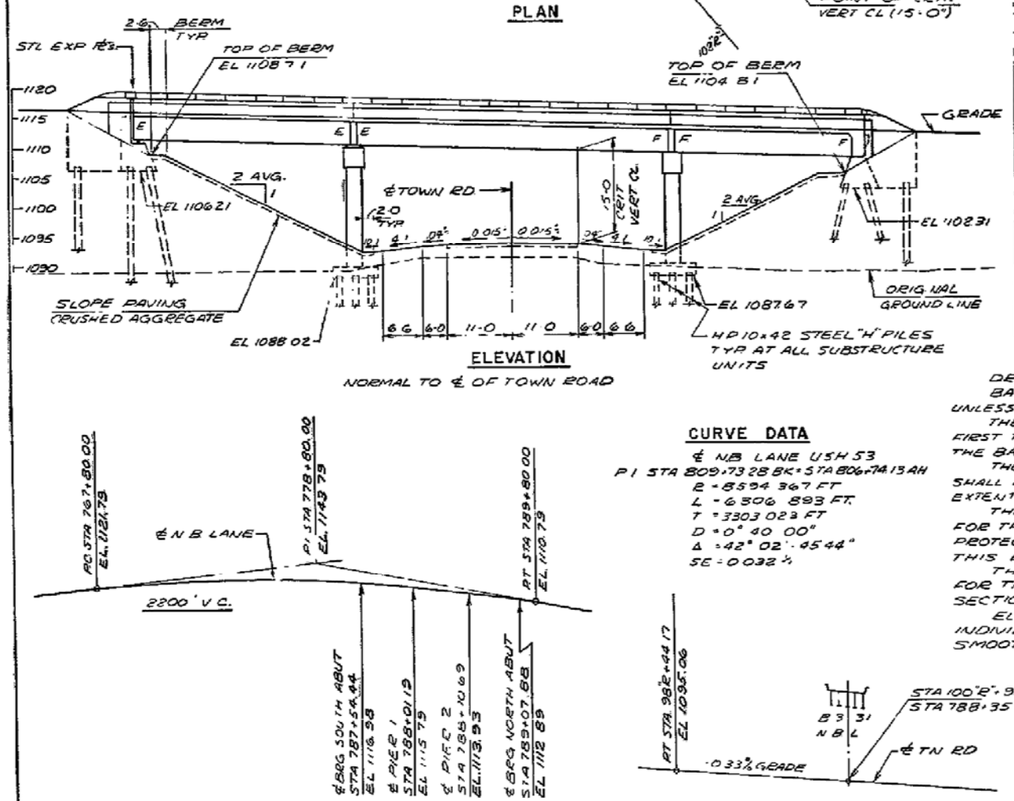
SHEET 1 OF 2

X 83195

B-3-3

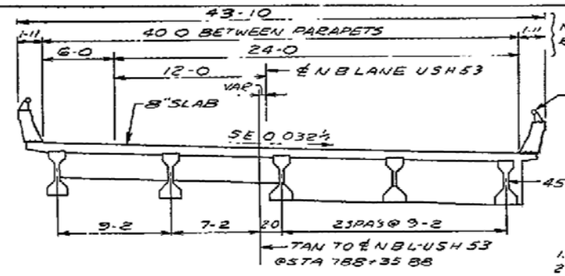
WISDOT DTID





ELEVATION

NORMAL TO ℄ OF TOWN ROAD



CROSS SECTION THRU ROADWAY

NORMAL TO TAN TO ℄ N B L, LOOKING NORTH

PROJECT NUMBER	SHEET NO.	TOT. SHTS
1196-5-73	65	188
~~ENHP-F08-4(40)~~		

LIST OF DRAWINGS

1 GENERAL PLAN	X 45733
2 SUB SURFACE EXPLORATION	X 45734
3 SOUTH ABUTMENT	X 45735
4 ABUTMENT BILL OF BARS	X 45736
5 NORTH ABUTMENT	X 45737
6 PIER 1	X 45738
7 PIER 2	X 45739
8 PRESTRESSED GIRDER DETAILS	X 45740
9 SUPERSTRUCTURE	X 45741
10 SUPERSTRUCTURE	X 45742
11 EXPANSION JOINT & BEARING DETAILS	X 45743
12 RAIL PARAPET DETAILS	X 45744
13 TUBULAR RAILING, TYPE "J"	X 45745

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S ABUT	PIER 1	PIER 2	N ABUT	SUPER.	TOTAL
EXCAVATION FOR STRUCTURES	C Y	51	63	60	47	——	221
CONCRETE MASONRY	C Y	104	56	54	68	260	544
PRESTRESSED GIRDER, I TYPE, 45 INCH	L F	——	——	——	——	770	770
BAR STEEL REINFORCEMENT	LBS	5880	8740	8440	3890	64,430	31,440
STRUCTURAL CARBON STEEL	LBS	——	——	——	——	3960	3960
STRUCTURAL LOW ALLOY STEEL	LBS	——	——	——	——	2710	2710
LUBRICATED BRONZE PLATES	LBS	——	——	——	——	239	239
BEARING PADS	S F	——	——	——	——	22	22
BEARING PADS, ELASTOMERIC	S F	——	——	——	——	24	24
STEEL PILING, HP 10x42 DEL & DRIVEN	L F	990	880	720	900	——	3490
TUBULAR RAILING, TYPE "J"	L F	——	——	——	——	355	355
SLOPE PAVING, CRUSHED AGGREGATE	S Y	273	——	——	214	——	487
NON-BID ITEMS							
FILLER	SIZE	——	——	——	——	¾" ¾"	¾" ¾"
⅜ ALUMINUM OR ZINC ℄	S F	——	——	——	——	45	45
POLYVINYL CHLORIDE WATERSTOP	L F	——	——	——	50	——	50

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED

BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CL. UNLESS OTHERWISE SHOWN OR NOTED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH CRUSHED AGGREGATE TO THE EXTENT SHOWN ON THIS SHEET & IN THE ABUTMENT DETAILS

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE ABUTMENTS SHALL BE THE BOTTOM OF SLOPE PROTECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE PIERS SHALL BE THE FINISHED GRADED SECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.

DESIGN DATA

LIVE LOAD : HS20

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY, GRADE AA"

SLAB ____ f_c = 1200 PSI

ALL OTHERS ____ f_c = 1400 PSI

BAR STEEL REINFORCEMENT f_s = 20,000 PSI

PRESTRESSED GIRDERS

CONCRETE MASONRY ____ f_c = 6,000 PSI

STRANDS ½" ℄ WITH ULTIMATE TENSILE STRENGTH OF ____ 270,000 PSI

FOUNDATION DATA:

ABUTS SHALL BE SUPPORTED ON HP 10x42 STEEL 'H' PILES DRIVEN TO A MIN BRG VALUE OF 25 T/PILE - EST 55'-0" LG AT S ABUT & EST 50'-0" LG. AT N ABUT

PIERS SHALL BE SUPPORTED ON HP 10x42 STEEL 'H' PILES DRIVEN TO A MIN BRG VALUE OF 37 T/PILE - EST 40'-0" LG @ EACH PIER.

TRAFFIC VOLUME:

	USH 53	TOWN RD.
(1980) DHV	780	53
DOS	80 MPH	60 MPH

PROFILE GRADE LINE, N B L. U-S-H 53

CURVE DATA

℄ N.B. LANE USH 53

PI STA 809+73 28 BK = STA 806+74 13 AH

R = 8594 367 FT.

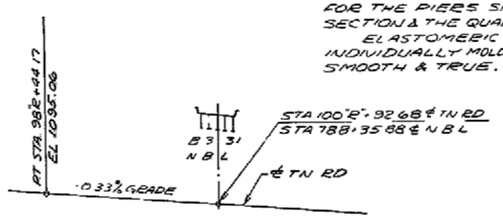
L = 6306 893 FT.

T = 3303 023 FT

D = 0° 40' 00"

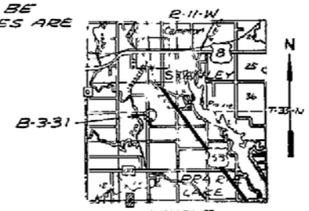
Δ = 42° 02' 9544"

SE = 0 032 ½



PROFILE GRADE LINE, TOWN RD.

AS BUILT PLAN
DATE 1-78 BY W J K



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B - 3 - 31

N B L U-S-H 53 OVER TOWN ROAD

County BARRON — City, Village, Town TN OF PRAIRIE LAKE

Design Spec A A S H O '69 — Loading H S-20 — MDPT Spec 1969

Designed By R T S — Design Checked F P R — Drawn By J G — Plans Checked O E O

Approved W. A. Klauss — Chief Bridge Engineer — 12 21 71 Date

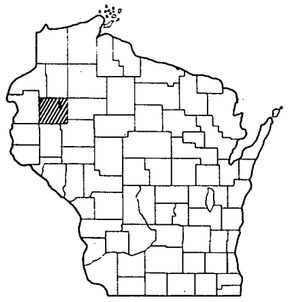
GENERAL PLAN	SHEET 1 OF 13
	X 45733

"AS BUILT PLAN"

Sheet Number	Total Sheets
1	188

Index of Sheets

Sheet No. 1 Title
Sheet No. 2–2.4 Typical Cross Sections
Sheet No. 3–3.2 Estimate of Quantities
Sheet No. 3A–3D Miscellaneous Quantities
Sheet No. 4– 4.6 Right of Way Plat
Sheet No. 5–19 Plan and Profile Sta. 610+00 to Sta. 822+00
Sheet No. 20–20.9 Standard Details
Sheet No. 21– 77 Drainage Structures
Sheet No. 78–189 Cross Sections



STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

PLAN AND PROFILE OF PROPOSED

NEW AUBURN - U.S.H. 8 ROAD

(CHETEK – U.S.H. 8 SECTION)

U. S. H. 53

BARRON COUNTY

PROJECT IDENTIFICATION NUMBER

1196-5-[redacted],73

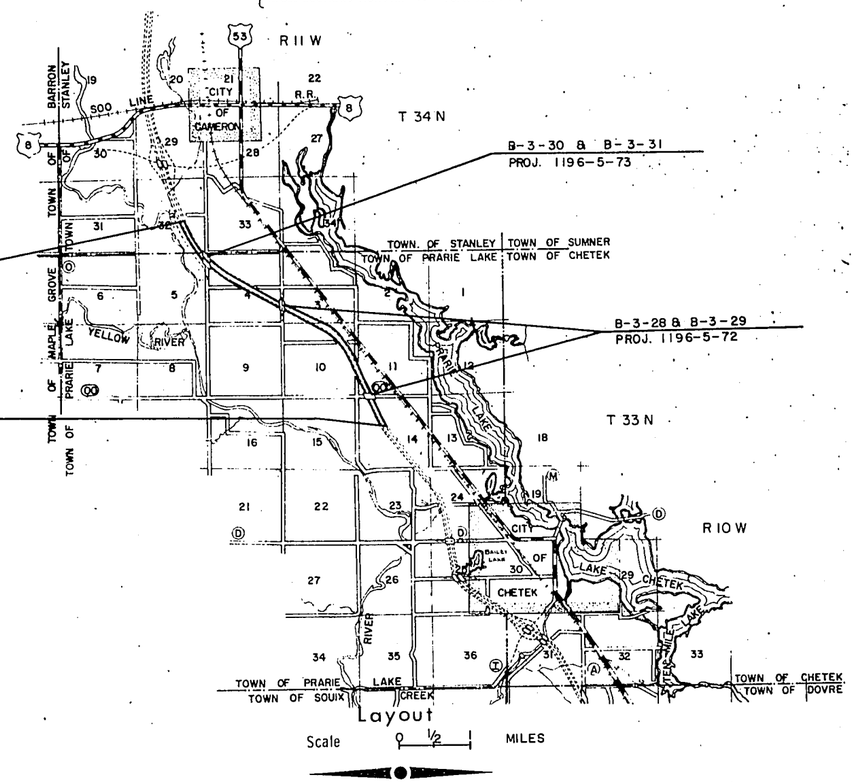
Scales { Plan 1 in. = 100 ft.
Profile Hor. 1 in. = 100 ft. Vert. 1 in. = 10 ft.
Cross Sections Hor. 1 in. = 10' Vert. 1 in. = 10'

Design Designation

CONTROL OF ACCESS = FULL
A.D.T. (1980) = 5200
A.D.T. (2000) = 8200
D.H.V. = 1005
D. = 50–50
T. = 11.7 %
V. = 80 M.P.H.

END OF PROJECT 1196-5-71
STA. 822+00 N.B. R.
N. 570,980.84
E. 1,549,538.30
APPROX. 586 FT. EAST AND 267 FT. SOUTH OF THE CENTER OF SEC. 32
T-34-N, R-11-W

BEGIN PROJECT 1196-5-71
STA. 610+00 N.B. R.
N. 555,881.72
E. 1,563,133.27
APPROX. 1101 FT. WEST AND 808 FT. NORTH OF THE CENTER OF SEC. 14, T-33-N, R-11-W.



Total Net Length of Centerline = 4.01[illegible] Mi.

CONTROL OF ACCESS
WITHIN LIMITS OF THIS PROJECT WHERE
CONTROL OF ACCESS IS SHOWN THUS
NO ACCESS IS PERMITTED TO U.S.H. 53
TRAFFIC LANES EXCEPT BY RAMPS AT
INTERCHANGES.

Conventional Signs

State Line
County Line
Township or Range Line
Section Line
New Right of Way Line
Present Right of Way Line
Wire Fence { Woven, Barbed
Lot Line
Corporate or City Limits
Property Line
Traveled Way or P.E.
Railroads
Base or Survey Line

Culverts in Place
Culverts Required
Drop Inlet
Power Pole
Telephone or Telegraph Pole
Right of Way Markers
Reference Stake for Hubs Only
Marsh
Hedge
Trees
Ground Elevation — Datum Line 739
Grade Elevation — Datum Line 76.16

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Surveyor DIST. 8 Note Book
District Computer R.J.P. M.O Checker L.L.J.
District Checker D.R.K. Correct

Correct:

Date 12-16-71 Wm. T. Wimbler Jr. District Engineer

Recommended for Approval:

Date 1-12-72 L.O. Hovrud Chief Design Engineer

Approved:

Date 1/19/72 S.E. Hirsch State Highway Engineer

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
BUREAU OF PUBLIC ROADS
REGION 4 WISCONSIN DIVISION

Approved:

Date _____ Division Engineer

1196-5-71.72.73

ESTIMATE OF QUANTITIES

THIS PROJECT IS TO BE EXECUTED UNDER THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION OF THE WISCONSIN DIVISION OF HIGHWAYS — EDITION OF 1969 ~~APPROVED MARCH 3, 1969, FEDERAL AID REQUIRED CONTRACT PROVISIONS APPROVED NOVEMBER 15, 1968,~~ AND SPECIAL PROVISON AS ATTACHED TO PROPOSALS.

CONTRACT NO. 3
STRUCTURES
B-3-30 & B-3-31

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	3.2	188
FEDERAL PROJECT DESIGNATION ~~EMP F08-4(40)~~		

SEC. NO.	STATION TO STATION	NET LENGTH OF CENTER LINE
	ITEM NO.	
	UNIT	LIN. FT.

BRIDGES (STRUCTURES OVER 20FT. SPAN)

SEC. NO.	STRUCTURE NO.	EXCAVATION FOR STRUCTURES, BRIDGES	CONCRETE MASONRY, BRIDGES	PRESTRESSED GIRDER, "I" TYPE 45 - INCH	BAR STEEL REINFORCEMENT BRIDGES	STRUCTURAL CARBON STEEL	STRUCTURAL LOW ALLOY STEEL	LUBRICATED BRONZE PLATES	BEARING PADS	BEARING PADS, ELASTOMERIC	STEEL PILING DELIVERED AND DRIVEN, HP 10 INCH X 42 POUND.	TUBULAR RAILING, TYPE "J"	SLOPE PAVING CRUSHED AGGREGATE	FIELD OFFICE TYPE "A"
		20601	50201	50305	50501	50601	50605	50614	50621	50625	90001	90002	60405	64201
		CU. YD.	CU. YD.	LIN. FT.	POUND	POUND	POUND	POUND	SQ. FT.	SQ. FT.	LIN. FT.	LIN. FT.	SQ. YD.	LUMP SUM
1	B-3-30	307	576	850	107,370	3,950	2,660	239	21	24	1,440	381	604	1
1	B-3-31	221	544	770	91,440	3,960	2,710	239	22	24	3,490	355	487	
		528	1,120	1,620	198,810	7,910	5,370	478	43	48	4,930	736	1,091	1

SEC. NO.

STANDARD ABBREVIATIONS

ABANDON	ABND.	MAILING ADDRESS	#0000
ABSTRACT	ABS.	MANHOLE	M.H.
ACCESS POINT	A. P.	MANUFACTURING	MFG.
ACRES	AC.	MAXIMUM	MAX.
ADDITION	ADD.	MEASURED	(M)
AGRICULTURAL	AGRI.	MILE	MI.
AHEAD	AH.	MILK ROOM	M.R.
AND OTHERS	ET. AL.	MINIMUM	MIN.
AND WIFE	ET. UX.	MONUMENT	MON.
APARTMENT	APT.	MOTEL	MO.
ASSUMED	(A)	MUNICIPAL	MCPL.
AUXILIARY REFERENCE LINE	A. ℄	NORTHEAST	NE
AVENUE	AVE.	NORTHWEST	NW
BACK	BK.	NUMBER	NO.
BARN	B.	OUTLOT	O.L.
BASE LINE	℄	PARALLEL	PLL.
BEARING LONG CHORD	B.L.C.	PAVEMENT	PAV'T.
BITUMINOUS	BIT.	PERMANENT	PERM.
BLOCK	BLK.	POINT OF CURVATURE	P.C.
BOULEVARD	BLVD.	POINT OF INTERSECTION	P.I.
BRICK	BRK.	POINT OF TANGENCY	P.T.
BUILDINGS	BLDGS.	POINT OF COMPOUND CURVE	P.C.C.
CATCH BASIN	C.B.	POINT OF REVERSE CURVE	P.R.C.
CEMETERY	CEM.	POINT ON CURVE	P.O.C.
CENTERLINE	℄	PRIVATE DRIVE	P.D.
CENTRAL ANGLE	Δ	PROJECT	PROJ.
CHANNEL	CH.	PROPERTY LINE	P.L.
CHANNEL CHANGE	CH. CH.	QUIT CLAIM DEED	Q.C.D.
CHICKEN HOUSE	C.H.	RADIUS	R
COMMERCIAL	COMM.	RAILROAD	RR.
COMPANY	COM.	RAILWAY	RY.
COMPUTED	(C)	REFERENCE LINE	℄
CONCRETE	CONC.	RELOCATED	REL.
CONSTRUCTION	CONST.	REQUIRED	REQ'D.
CORN CRIB	C. C.	RESIDENTIAL	RES.
CORNER	COR.	RESTAURANT	REST.
CORPORATION	CORP.	RIGHT	RT.
CORRUGATED	CORR.	RIGHT OF WAY	R/W
COUNTY	CO.	ROAD	RD.
COUNTY TRUNK HIGHWAY	C.T.H.	ROADWAY	RDWY.
CREEK	CR.	SANITARY	SAN.
CULVERT	CULV.	SCALED	(S)
DEED	(D)	SCHOOL	SCH.
DEGREE OF CURVE	D	SECTION	SEC.
DISPOSAL	DISP.	SERVICE STATION	S.S.
DISTRICT	DIST.	SEPTIC TANK	SEP.
DRIVE	DR.	SIDEWALK	SWK.
DRIVEWAY	DWY.	SHED	S.
ESTATE	EST.	SOUTHEAST	SE
EXISTING	EX.	SOUTHWEST	SW
EXTERNAL DISTANCE	E	SPECIAL CROSSING	S.C.
FACTORY	FACT.	SPECIAL DRIVE	S.D.
FEDERAL AID PROJECT	F.A.P.	SQUARE	SQ.
FIELD ENTRANCE	F.E.	STANDARD	STD.
FIRE HYDRANT	F.H.	STATE TRUNK HIGHWAY	S.T.H.
FOOT (FEET)	FT.	STATION	STA.
FOUNDATION	FDN.	STORY	STY
FRAME	FR.	STREET	ST.
GARAGE	G.	SUBDIVISION	SUBD.
GOVERNMENT	GOV'T.	SURVEY	(S)
GREEN HOUSE	G.H.	TANGENT	TAN.
HIGHWAY	HWY.	TANGENT LENGTH OF CURVE	T
HOTEL	HO.	TAPER	TAP.
HOUSE	H.	TAVERN	TAV.
HOUSE TRAILER	H.T.	TEMPORARY	TEMP.
INCHES	IN.	TRANSIT LINE	℄
INCORPORATED	INC.	TRANSMISSION TOWER	T.T.
INCLUSIVE	INCL.	UNITED STATES COAST & GEODETIC SURVEY	U.S.C.&G.S.
INTERSECTION ANGLE	I	UNITED STATES GEOLOGICAL SURVEY	U.S.G.S.
INTERSTATE HIGHWAY	I.H.	UNITED STATE HIGHWAY	U.S. Highway
IRON PIN	I.P.	VENDEE	VDE.
ISLAND	IS.	VENDOR	VDR.
LEFT	LT.	VITRIFIED	VIT.
LENGTH OF CURVE	L	WAREHOUSE	WH.
LESSEE	LSE.	WATER TOWER	W.T.
LESSOR	LSR.	WELL	W.
LIMITED HIGHWAY EASEMENT	L.H.E.	WINDMILL	WM.
MACHINERY SHED	M.S.	WOOD	WD.
MAGNETIC	MAG.		

OFFICIAL PLAT ON FILE WITH THE REGISTER OF DEEDS OFFICE

3.1-8.4-23.33

REVISION DATE		PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
SEP. 28, 1970		1196-5-21		
FEB. 16, 1971		FEDERAL PROJECT DESIGNATION	4.1	
MAY 3, 1971	N.C.			
JULY 20, 1971				
DEC. 20, 1971		NEW AUBURN - U.S.H. 8 ROAD C.T.H. 'D' - U.S.H. 8 SECTION		
		U.S.H. 53	BARRON CO.	
		NOT TO SCALE	DATE 8/7/70	
CONST. PROJECT				
1196-5-71,72,73 ~~SMFOB 4(88)~~			4-188	

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	OPERATIONS PROJECT I.D.
1	4.3	CLIFFORD GILLETTE, ET AL	FEE & ACCESS RIGHTS	18.93	1196-5-21
2	4.3	VERNON E. SETCHELL	FEE & ACCESS RIGHTS	11.16	1196-5-21
3	4.3 & 4.4	OLGA M. HANSON	FEE & ACCESS RIGHTS	13.17	1196-5-21
4	4.4	CLAIRL RICHARDS SEE ALSO PARCEL 18	FEE & ACCESS RIGHTS	12.28	1196-5-21
5	4.4	EUGENE J. FREY	FEE & ACCESS RIGHTS	0.47	1196-5-21
6	4.4 & 4.5	BERNARD BILODEAU	FEE & ACCESS RIGHTS	12.45	1196-5-21
7	4.4	CARLSON FRYERS, INC.	FEE & ACCESS RIGHTS	2.66	1196-5-21
8	4.4	MARY NELSON	FEE, L.H.E., & ACCESS RIGHTS	20.78	1196-5-21
9	4.4	FRANKLIN L. TAFT	FEE & ACCESS RIGHTS	16.09	1196-5-21
10	4.5	DONALD G. BILODEAU	FEE & ACCESS RIGHTS	12.12	1196-5-21
11	4.5	WILLIAM J. JOHNSON	FEE & ACCESS RIGHTS	14.32	1196-5-21
12	4.5 & 4.7	LAZY 'A' RANCH, INC.	FEE & ACCESS RIGHTS	31.20	1196-5-21
13	4.5	HENRY V. KITTELSON	FEE & ACCESS RIGHTS	6.60	1196-5-21
14	4.6	JOHN M. DAVIS	FEE & ACCESS RIGHTS	55.44	1196-5-21
15	4.6	HELMER ROMSOS	FEE & ACCESS RIGHTS	20.31	1196-5-21
16	4.6	EDWIN C. NELSON	FEE & ACCESS RIGHTS	11.33	1196-5-21
17	4.6	MARTIN BAYER	FEE	0.13	1196-5-21
18	4.4	CLAIRL RICHARDS SEE ALSO PARCEL 4	L.H.E.	—	1196-5-21
19	4.3, 4.4, 4.5 & 4.6	BARRON COUNTY ELECTRIC CO-OP	RELEASE OF RIGHTS	—	1196-5-40
20	4.3, 4.5 & 4.6	CHIBARDUN TELEPHONE CO-OP	RELEASE OF RIGHTS	—	1196-5-40
21	4.6	DAIRYLAND POWER CO-OP	RELEASE OF RIGHTS	—	1196-5-40
22	4.3 & 4.4	NORTHWEST TELEPHONE CO.	RELEASE OF RIGHTS	—	1196-5-40

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES	OPERATIONS PROJECT I.D.
					/

CONVENTIONAL SIGNS

- STATE LINE
- COUNTY LINE
- TOWNSHIP AND RANGE LINES
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- NEW CENTERLINE
- NEW R/W LINE
- OLD R/W LINE
- PROPERTY LINE — P.L. +00.0
- CORPORATE LIMITS — (NAME)
- SLOPE INTERCEPTS — slope intercept
- LOT, TIE AND OTHER MINOR DASHED LINES
- UNDERGROUND FACILITY (POWER, TELEPHONE, TELEGRAPH, GAS, ETC.) — (Name or Type)
- NO ACCESS
- LIMITED HIGHWAY EASEMENT

- HIGHWAY HIGHWAY SEPARATION
- HIGHWAY OVERPASS
- RAIL LINE OVERPASS
- ALL OTHER BRIDGES
- STREAM OR RIVER — (name)
- LAKE — (name)
- CATTLE PASS
- ℄ RELOCATED STREAM OR RIVER
- TRAVELED WAY (Shown only in area of Frontage Roads, Interchanges or Dual Lanes)

- CEMETERY — Cem.
- FOUNDATION — Fdn.
- GAS PUMP ISLAND — Gas Pump
- BUILDING — type
- IRON PIN — I.P.
- POWER POLE
- TELEPHONE POLE
- RAIL LINE
- TRANSMISSION TOWER AND LINE
- UNDERGROUND CABLE MARKER
- WELL
- STONE MONUMENT
- SEPTIC TANK
- WINDMILL

REVISION DATE		PROJECT NO	SHEET NUMBER	TOTAL SHEETS
MAY 3, 1971		1196-5-21	4.6	
JULY 20, 1971		FEDERAL PROJECT DESIGNATION		
DEC. 20, 1971				

NEW AUBURN – U.S.H. 8 ROAD
C.T.H. 'D' – U.S.H. 8 SECTION
U.S.H. 53 BARRON CO.

SCALE 0 ±100 ±200 ±400 FT

DATE FEB. 16, 1971

CONST PROJECT 1196-5-71, 73 ~~Exempt 4(4)~~ 4.5-188

3.1-8.4-23.33

CURVE DATA
FRONTAGE RD.
P.I. 2+00
AZ. 212°30'00"
Δ 32°30'00"
D 12°00'
T 139.17'
L 270.83'
R 477.47' (ARC)

CURVE DATA
FRONTAGE RD.
P.I. 6+64.89
AZ. 167°58'58"
Δ 12°01'02"
D 5°00'
T 120.62'
L 240.34'
R 1145.92' (ARC)

CURVE DATA
FRONTAGE RD.
P.I. 18+93.30
AZ. 190°40'00"
Δ 10°40'00"
D 0°39'16"
T 817.26'
L 1629.79'
R 8754.37' (ARC)

CURVE DATA
S.B. U.S.H. 53
P.I. 804+87.30
AZ. 225°18'29"
Δ 45°18'29"
D 0°40'
T 3586.99'
L 6797.20'
R 8594.37' (ARC)

CURVE DATA
N.B. U.S.H. 53
P.I. 809+73.28
AZ. 222°02'45"
Δ 42°02'45"
D 0°40'
T 3303.02'
L 6306.89'
R 8594.37' (ARC)

NOTE
BEARINGS SHOWN ON THIS PLAT ARE THE TRUE BEARINGS OF EACH TANGENT TO THE NEAREST MINUTE.

LEGEND
DENOTES NO ACCESS

EDWIN C. NELSON 73.67 ACRES REMAINING
CHIBARDUN TEL. CO-OP
BARRON COUNTY ELECTRIC CO-OP
HELMER ROMSOS 1.81 ACRES SEVERED
JOHN M. DAVIS 46.00 ACRES REMAINING
JOHN M DAVIS 36.21 ACRES SEVERED
JOHN M DAVIS 19.72 ACRES REMAINING
HELMER ROMSOS 203.50 ACRES REMAINING
MARTIN BAYER 99.8 ACRES REMAINING
JOHN M. DAVIS 55.83 ACRES SEVERED
DAIRYLAND POWER CO-OP TRANSMISSION LINE

ROAD TO BE CLOSED
SLOPE INTERCEPTS
REF. LINE FRONTAGE RD.
REF. LINE S.B. U.S.H. 53
REF. LINE N.B. U.S.H. 53
PRAIRIE LAKE
STANLEY TOWN

SCHEDULE OF LANDS AND INTERESTS REQUIRED

PARCEL NUMBER	SHEET NUMBER	OWNER	INTEREST REQUIRED	ACRES
14	4.6	JOHN M. DAVIS	FEE & ACCESS RIGHTS	55.44
15	4.6	HELMER ROMSOS	FEE & ACCESS RIGHTS	20.31
16	4.6	EDWIN C. NELSON	FEE & ACCESS RIGHTS	11.33
17	4.6	MARTIN BAYER	FEE	0.13
19	4.3, 4.4, 4.5 & 4.6	BARRON COUNTY ELECTRIC CO-OP	RELEASE OF RIGHTS	—
20	4.3, 4.5 & 4.6	CHIBARDUN TELEPHONE CO-OP	RELEASE OF RIGHTS	—
21	4.6	DAIRYLAND POWER CO-OP	RELEASE OF RIGHTS	—

PROJECT I D	SHEET NUMBER	TOTAL SHEETS
1196-5-71	15	188
FEDERAL PROJECT DESIGNATION ~~EMP F08 4(40)~~		

92+75 TN. RD. 60 — 2+00 TN. RD. 60 — EXISTING TEL. LINE — P.C. 0"T"+60.83 — P.T. 3"T"+31.66 — N. 62° 48' 33" W. — N. 30° 18' 33" W. — 5"T" — P.C. 5"T"+44.27 — P.T. 7"T"+84.61 — 10"T" — P.C. 10"T"+76.04 — ℄ RELOC. TN. RD. — 60' — 15"T" — 20"T" — P.C.C. 27"T"+05.83 — 25"T" — 160' — 810"A"

783+00 SB 135 — 135' — 95"R" — 0"T"+00.0 = 93"R"+45.25 — 785"A" — 790"A" — 795"A" — 800"A" — 805"A" — 100' — N. 42° 19' 35" W. — 160'

U.S.H. 53 S.B. — 780"A" — 785"A"+69.11 = 96"R"+70.80 — STRUCTURE B-3-30 — N. 2° 14' 59" E. — 39° 53' 04" — 100"R" — STRUCTURE B-3-31 — 785 — 790 — 795 — 800 — 805 — 810

N — U.S.H. 53 N.B. — 780 — 788+35.88 = 100"R"+92.68 — 39° 41' 32" — 1305.90' — 105+38.31 TN. RD. 84.05 — SEC. COR. 1/4 P. — 105+00 TN. RD. 33 — 105"R" — N. 0° 44' 13" W. — 9+00 TR. CONN. — 9+00 TN. RD. CONN. 33 — 105+00 TN. RD. 33 — 125' — 80+00 NB 125' — 805+00 NB 95' — 95'

140' — 782+00 NB 140'

CURVE DATA SB. U.S.H. 53	
P.I.	804+87.30
N.	568,736.15
E.	1,549,786.39
AZ.	225° 18' 29"
Δ	45° 18' 29"
D	0° 40'
T	3586.99'
L	6797.20'
R	8594.37'
S.E.	.032'

CURVE DATA NB. U.S.H 53	
P.I.	809+73.28
N.	569,442.83
E.	1,549,725.10
AZ.	222° 02' 45"
Δ	42° 02' 45"
D	0° 40'
T	3303.02'
L	6306.89'
R	8594.37'
S.E.	.032'

NET LENGTH OF CENTERLINE STA. 780+00 TO STA. 810+00 = 3,000 LIN. FT.

BENCH MARKS

NO.	STA.	DESCRIPTION	ELEV.
81	790±00	10" JACK PINE BETWEEN LANES	1083.44
82	800±00	6" JACK PINE BETWEEN LANES	1079.06
83	805±00	6" JACK PINE ± 300' RT OF N.B. LANE	1084.27

"A" S.B. — 1124.91 — 1124.69 — 1124.26 — 1123.64 — 1122.82 — 1121.80 — 1120.57 — 1119.15 — 1117.53 — 1115.71 — 1113.68 — 1111.46 — 1109.04 — 1106.54 — 1104.04 — 1101.54 — 1099.04 — 1096.65 — 1094.42 — 1092.34 — 1090.41 — 1088.64 — 1087.03 — 1085.57 — 1084.27 — 1083.12 — 1082.13 — 1081.30 — 1080.62 — 1080.10 — 1079.73 — 1079.51 — 1079.46 "A" S.B.

P.I. 778+80 EL. 1143.79 — P.I. 779"A"+88.75 EL. 1134.32

1130 — 1120 — 1110 — 1100 — 1090 — 1080 — 1070

2200' V.C. — FINISHED GRADE — "A" LINE 2000' V.C. — FINISHED GRADE "A" LINE — B-3-30 — B-3-31 — P.T. 789+60 EL. 1110.79 — P.C. 790+30 EL. 1109.29 — -2.5% — P.T. 789"A"+88.75 EL. 1109.32 — EXIST. GROUND — EXIST. GROUND "A" LINE — P.C. 793"A"+80 EL. 1099.54 — N.B. & S.B. 1800' V.C. — P.T. 808+30 EL. 1083.19 — +0.1%

STA. 780"A"+00 S.B. 1-30" X 200' RCCP CLASS IV REQ'D.

STA. 785+80 N.B. 1-30" X 240' RCCP CLASS IV REQ'D. SKEW 40° LHF

STA. 785"A"+69.11 S.B., B-3-30
3 SPAN OVERALL LENGTH 174' 1"
45" PRESTRESSED GIRDER "I" TYPE
40' ROADWAY
SEE DRAWINGS X45720 TO X45732

STA. 786+35.88 N.B., B-3-31
3 SPAN OVERALL LENGTH 158' 1 1/2"
45" PRESTRESSED GIRDER "I" TYPE
40' ROADWAY
SEE DRAWINGS X45733 TO X45745

STA. 792"A"+00 S.B. 1-30" X 164' RCCP CLASS IV REQ'D.

STA. 801+00 N.B. 1-30" X 124' RCCP CLASS III REQ'D.

P.I. 799+30 EL. 1082.29

STA. 802"A"+80 S.B. 1-30" X 124' RCCP CLASS III REQ'D.

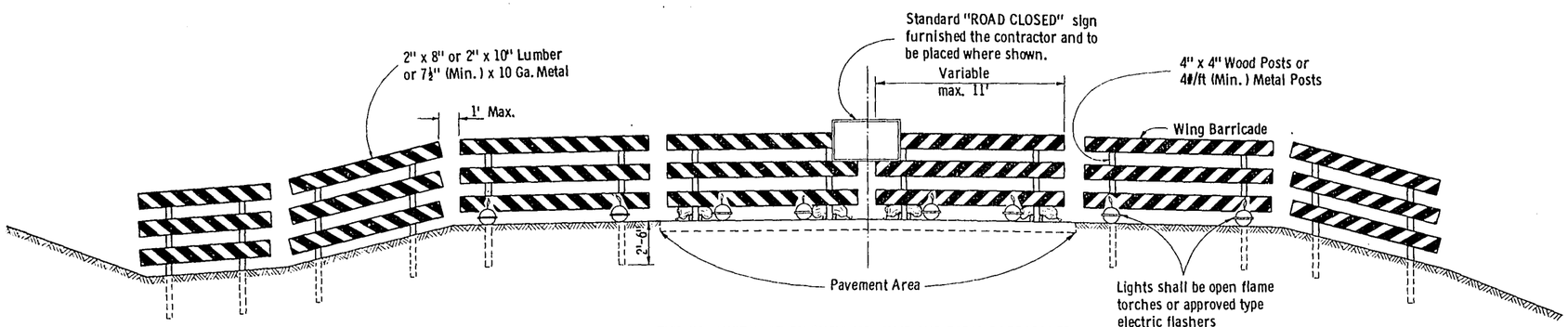
P.I. 802"A"+80 EL. 1077.04

NORTHBOUND	2,831 C.Y.	UNCL. EXCAV. 22, 336 C.Y.
SOUTHBOUND	2,585 C.Y.	
TN. RD. 788+35.88 N.B.-("R" LINE)	16,048 C.Y.	
TN. RD. 93"R"+45.25 "T" LINE	872 C.Y.	
NORTHBOUND	144,805 C.Y.	FILL 410,763 C.Y.
SOUTHBOUND	240,836 C.Y.	
TN. RD. 788+35.88 N.B. - ("R" LINE)	1,866 C.Y.	
TN. RD. 93"R"+45.25 "T" LINE	23,256 C.Y.	
SHR. 25%		
BORROW	491,118 C.Y.	
SHR. 25%		

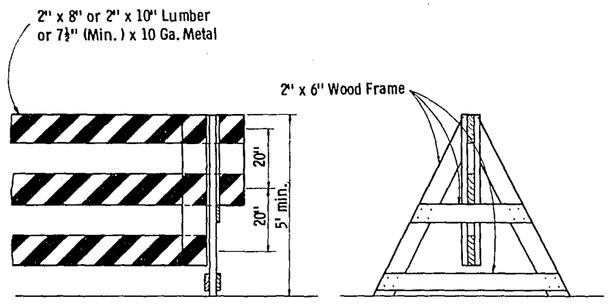
N.B. — 1130.37 — 1129.94 — 1129.28 — 1128.40 — 1127.28 — 1125.94 — 1124.38 — 1122.58 — 1120.56 — 1118.31 — 1115.84 — 1113.13 — 1110.19 — 1107.23 — 1104.44 — 1101.82 — 1099.37 — 1097.09 — 1094.99 — 1093.06 — 1091.29 — 1089.71 — 1088.29 — 1087.05 — 1085.98 — 1085.08 — 1084.35 — 1083.80 — 1083.41 — 1083.20 — 1083.16 — 1083.26 — 1083.36 N.B.

8 9 780 1 2 3 4 785 6 7 8 9 790 1 2 3 4 795 6 7 8 9 800 1 2 3 4 805 6 7 8 9 810

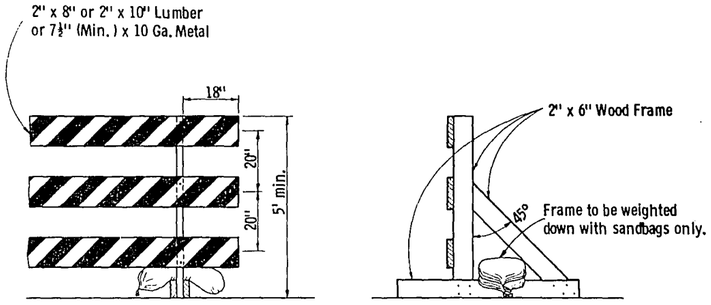
2018-188



TYPICAL INSTALLATION SHOWING FIXED AND RIGID BARRICADES

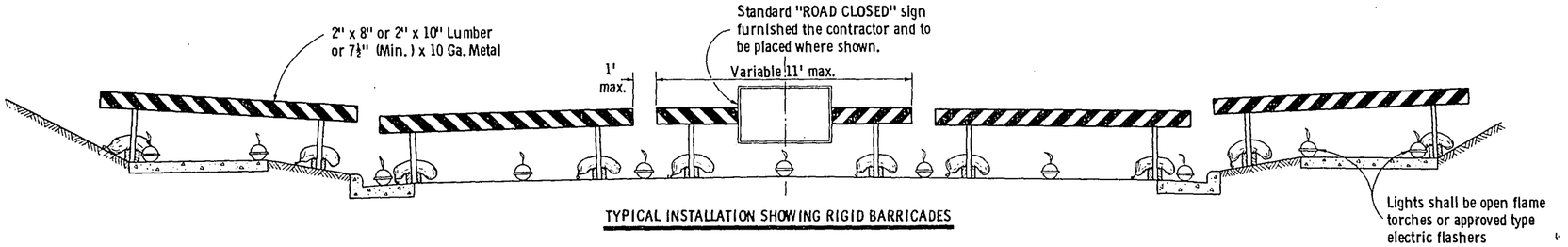


ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

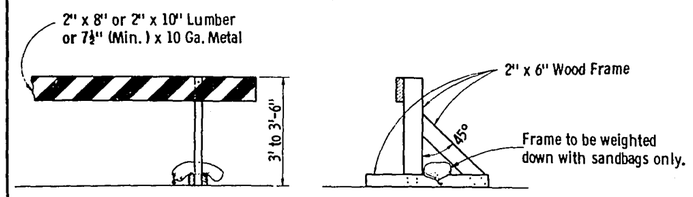


ALTERNATE TYPE INSTALLATION (RIGID)

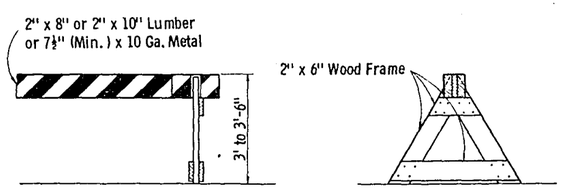
CLASS I BARRICADES



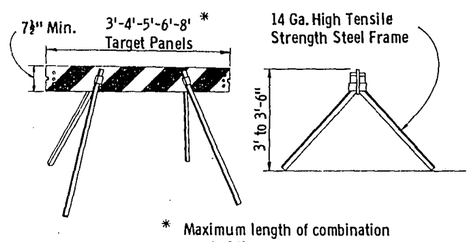
TYPICAL INSTALLATION SHOWING RIGID BARRICADES



ALTERNATE TYPE INSTALLATION (RIGID)



ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)



* Maximum length of combination panels 16'

ALTERNATE TYPE INSTALLATION (DEMOUNTABLE)

CLASS II BARRICADES

GENERAL NOTES

The contractor shall construct, place and maintain barricades as shown on the drawing and as required by the Standard Specifications or applicable Special Provisions.

CLASS 1 BARRICADE:

Class 1 Barricades shall be of variable length as indicated, and long barricades shall be assembled from these units. The Class 1 Barricade is the type normally required for major operations, where the barricade will remain in place for extended periods. Class 1 Barricades shall be used at points where the road is closed to traffic. Gates or movable sections of a barricade shall be provided when necessary, for access of equipment or other authorized vehicles.
Wing Barricades are Class 1 Barricades erected on the shoulder on one or both sides of the pavement to give Traffic the perceptive effect of a narrowing or restricted roadway. The ends closest to traffic of all three members of a wing barricade shall be in a vertical line. If used in a series, they should start at the outer edge of the shoulder and be brought progressively closer to the pavement. Wing Barricades may be used as a mounting for the advance warning or guide signs or for flashers. When used on two-way roadways, the back of the wing barricade shall be painted reflectorized white.

CLASS 11 BARRICADE:

Class 11 Barricades may be used only where the hazard to traffic is relatively small, and for the more or less continuous delimiting of a restricted roadway, or for temporary daytime use.

MATERIAL & FABRICATION:

Lumber shall be of a grade structurally sound and sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
Metal shall be sufficiently rigid to satisfactorily support and maintain the purpose and intent of a barricade facility.
The fabrication of the barricade shall be in accord with good pertinent woodworking and metalworking practices.
All lumber or timber dimensions stated are nominal.

PAINTING:

All barricades shall be painted in alternate 4" or 6" black and white stripes at a 45° angle. The width of stripe shall be consistent for each complete barricade installation.
Black stripes shall be painted with weather resistant and durable black paint. White stripes shall be primed, followed by two coats of white reflectorized paint or reflective wide angle sheeting.

DIRECTION OF DIAGONAL STRIPES:

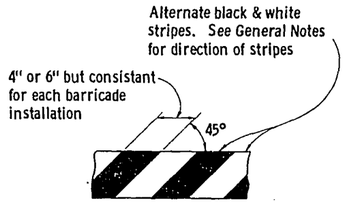
Where a barricade extends entirely across the roadway with no vehicle access provision, the stripes shall slope downward toward the highway centerline.
Where vehicle access is permitted, the stripes shall slope downward in the direction toward which vehicles must turn in detouring.
Where both right and left turns are provided for, the stripes shall slope downward in both directions from the center.
The stripes on wing barricades shall point downward toward the roadway.

LIGHTING:

Lighting devices for barricades shall conform to the requirements of the Standard Specifications.

MEASUREMENT & PAYMENT:

All barricades, unless otherwise provided for in the plans and/or special provisions shall be furnished, placed, and maintained as noted above, and no additional compensation will be allowed but shall be construed to be included in the price bid for other items.



TYPICAL DIAGONAL STRIPES

Applies to all Classes & Types of Barricades

CONSTRUCTION BARRICADE

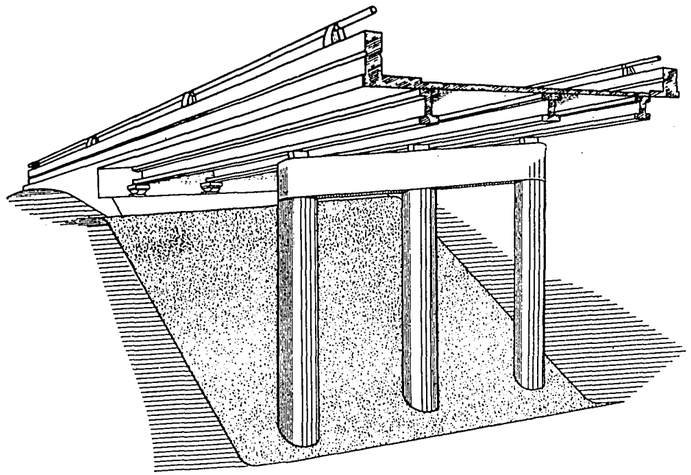
State Highway Commission of Wisconsin

RECOMMENDED FOR APPROVAL:
DATE 1/11/67 — E. J. Bobit, CHIEF DESIGN ENGINEER

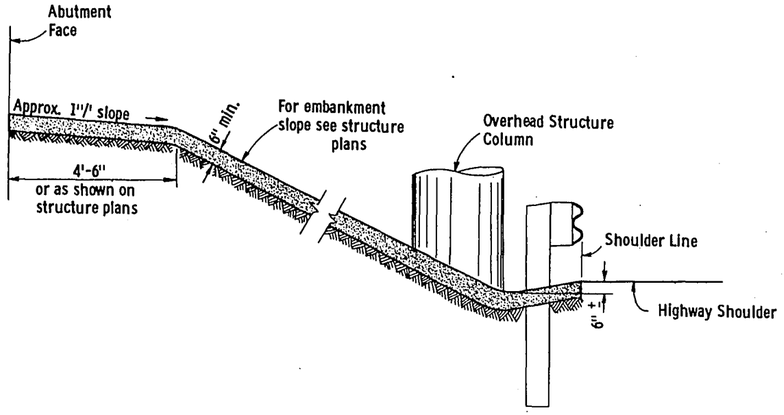
APPROVED:
DATE 1/13/67 — W. J. Burmeister, STATE HIGHWAY ENGINEER

S.D.D. 15C1-1

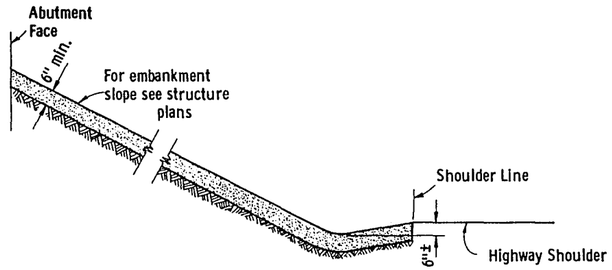
20.9-188



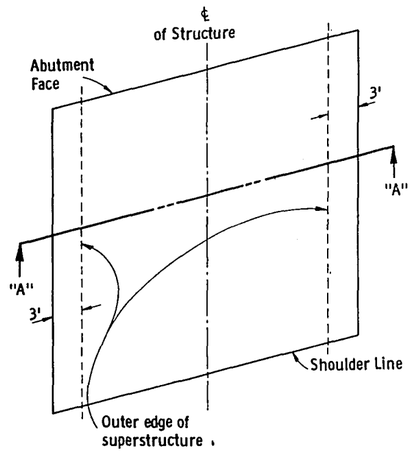
TYPICAL LOCATION DIAGRAM FOR SLOPE PAVING UNDER STRUCTURES



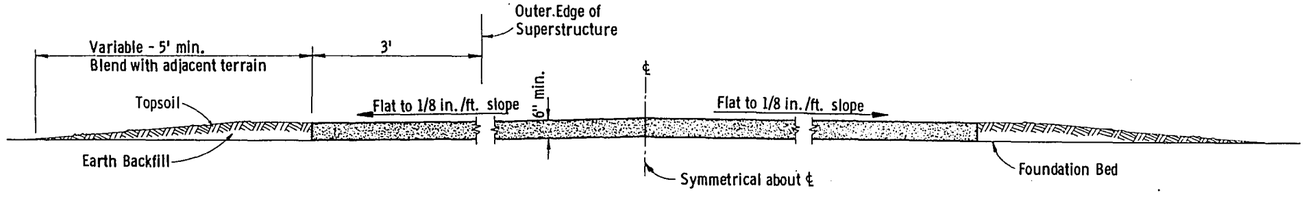
TYPICAL RURAL SECTION HIGHWAY GRADE SEPARATION SILL TYPE ABUTMENT



TYPICAL RURAL SECTION HIGHWAY GRADE SEPARATION SEMI-RETAINING TYPE ABUTMENT



PLAN VIEW



SECTION "A"-"A"

GENERAL NOTES

Details of construction not shown hereon shall conform to the pertinent requirements of the Standard Specifications and the applicable Special Provisions.

CRUSHED STONE

The material shall conform to the gradation requirements for coarse aggregate for concrete masonry, size No. 2 of either series No. 1 or series No. 2.

BITUMINOUS MATERIAL

The upper portion of the paving shall be stabilized by means of an application of bituminous material conforming to the requirements of the applicable Standard Specification or Special Provisions. The bituminous material shall be applied at a rate sufficient to assure penetration into and binding together of the particles in the upper two inches of the crushed stone. The surface of the adjacent structure shall be protected so as to prevent their being splattered or discolored with bituminous material.

METHOD OF MEASUREMENT & PAYMENT

This work shall be measured and paid for by the square yard, which yardage shall be the summation of the total area measured on the plane of the surface thereof, and as provided for in the Standard Specifications and applicable Special Provisions.

SLOPE PAVING CRUSHED STONE

State of Wisconsin
Department of Transportation
Division of Highways

RECOMMENDED FOR APPROVAL:
1/25/68 DATE — E. J. Burkit CHIEF DESIGN ENGINEER

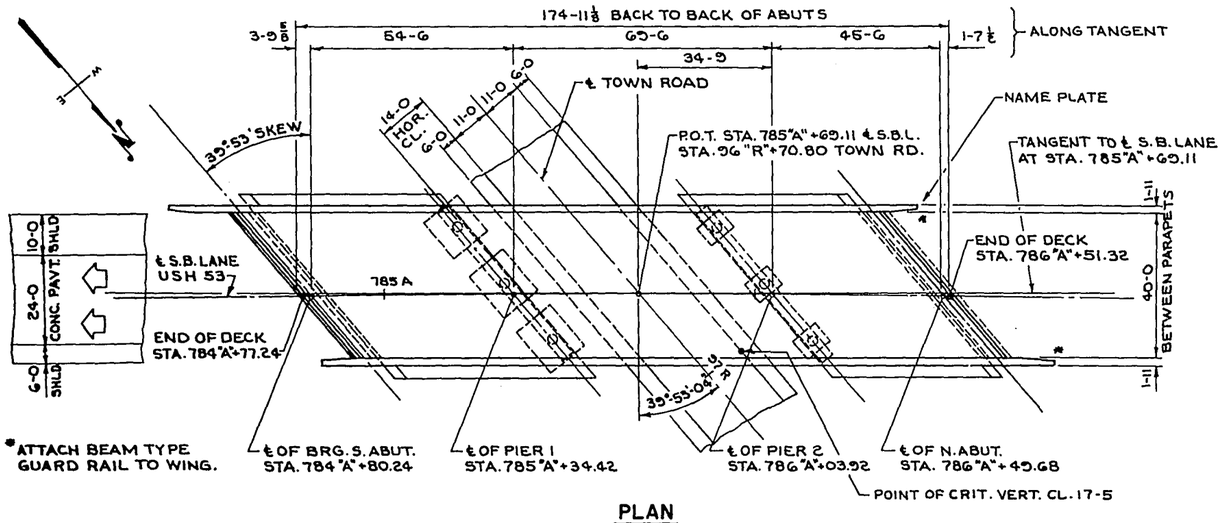
APPROVED:
2/8/68 DATE — A. J. Bruemmer STATE HIGHWAY ENGINEER

S.D.D. 12A2-1

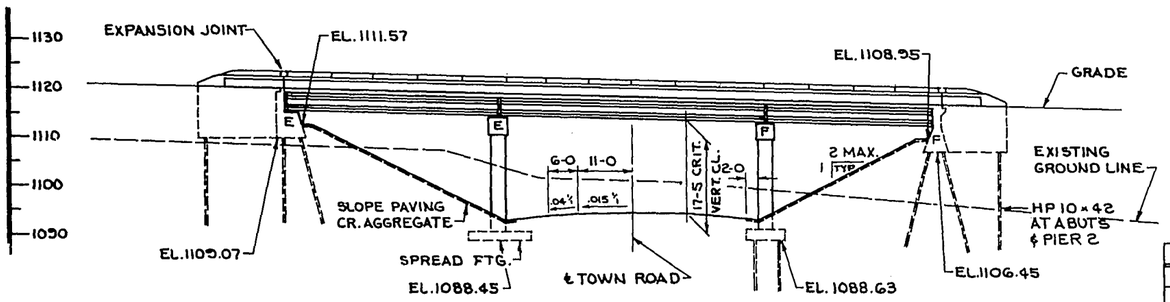
S.D.D. 12A2-1

Form E-B-11-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	52	188
FEDERAL PROJECT DESIGNATION. EMP-FOB-4(40)		

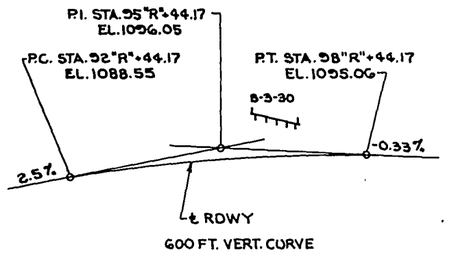


PLAN

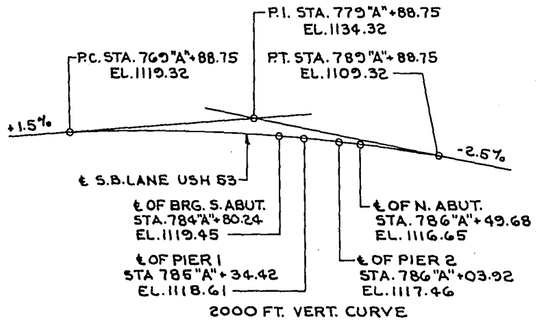


ELEVATION

NORMAL TO ℄ TOWN ROAD



PROFILE GRADE-TOWN ROAD

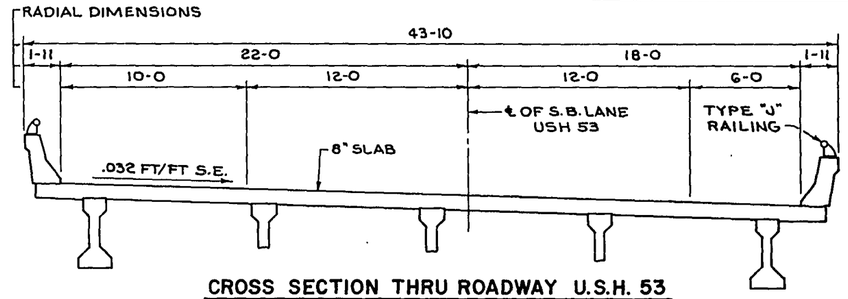


PROFILE GRADE-S.B. LANE U.S.H. 53

CURVE DATA

℄ OF S.B. LANE · U S H 53
P.I. STA. 804"A"+87.30

R = 8594.367 FT.
L = 6796.20 FT.
T = 3586.99 FT.
D = 0°-40'-00"
Δ = 45°-18'-29
S.E.= 0.032 FT/FT



CROSS SECTION THRU ROADWAY U.S.H. 53

PRESTRESSED GIRDER SUPERSTR.
(LOOKING NORTH)

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.
ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING TO THE EXTENT SHOWN ON THIS SHEET AND IN THE ABUTMENT DETAILS.
THE FINISHED GRADED SECTION WAS USED AS THE UPPER LIMITS OF EXCAVATION FOR COMPUTATION OF EXCAVATION QUANTITIES AT THE PIERS.
THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE ABUTMENTS SHALL BE THE BOTTOM OF SLOPE PROTECTION AND THE QUANTITIES WERE COMPUTED FROM THIS LINE.

DESIGN DATA

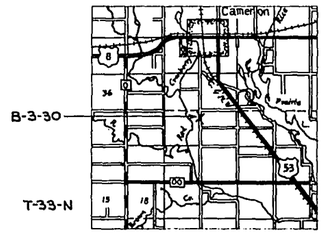
LIVELOAD : HS 20
ALLOWABLE DESIGN STRESSES :
CONCRETE, MASONRY, GRADE "AA" -
SLAB = f_c 1,200 psi
OTHER = f_c 1,400 psi
BAR STEEL REINFORCEMENT - f_s 20,000 psi
PRESTRESSED GIRDER -
CONCRETE = f'_c 6,000 psi
STRANDS - ½"ϕ WITH ULTIMATE TENSILE STRENGTH 270,000 psi
FOUNDATIONS :
ABUTMENTS TO BE SUPPORTED ON HP 10×42 AT 24 TONS/PILE MIN. BRG. EST. LENGTH AT S. ABUT. 15'-0", N. ABUT. 45'-0"
PIER 1 TO BE SUPPORTED ON SPREAD FOOTINGS. MAXIMUM DESIGN SOIL PRESSURE IS 2 TONS/SQ. FT.
PIER 2 TO BE SUPPORTED ON HP 10×42 AT 37 TONS/PILE MIN. BRG. EST. LENGTH 20'-0"

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S. ABUT.	PIER 1	PIER 2	N. ABUT.	SUPER.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	49	161	51	46	——	307
CONCRETE MASONRY	C.Y.	97	84	52	65	278	576
PRESTRESSED GIRDER "I" TYPE 45"	L.F.	——	——	——	——	850	850
BAR STEEL REINFORCEMENT	LB.	5,510	16,450	9,180	3,240	72,990	107,370
STRUCTURAL CARBON STEEL	LB.	——	——	——	——	3,950	3,950
STRUCTURAL LOW ALLOY STEEL	LB.	——	——	——	——	2,660	2,660
LUBRICATED BRONZE PLATES	LB.	——	——	——	——	235	235
BEARING PADS	S.F.	——	——	——	——	21	21
BEARING PADS, ELASTOMERIC	S.F.	——	——	——	——	24	24
STEEL PILING, DEL. & DRIVEN HP 10×42	L.F.	270	——	360	810	——	1,440
TUBULAR RAILING, TYPE "J"	L.F.	——	——	——	——	381	381
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	329	——	——	275	——	604
NON-BID ITEMS							
⅛" ALUMINUM OR ZINC PLATE	S.F.	——	——	——	——	51	51
FILLER	SIZE	——	——	——	——	½ ℄ ⅜	½ ℄ ⅜
POLYVINYL CHLORIDE WATERSTOP	L.F.	9	——	——	57	——	66

TRAFFIC DATA

	S. B. LANE USH 53	TN. ROAD
DHV =	780 (1980)	53
RDS =	80 MPH	60



LAYOUT

R-11-W

LIST OF DRAWINGS

1. GENERAL PLAN —— X45720
2. SUBSURFACE EXPLORATION —— X45721
3. SOUTH ABUTMENT —— X45722
4. BILL OF BARS —— X45723
5. NORTH ABUTMENT —— X45724
6. PIER 1 —— X45725
7. PIER 2 —— X45726
8. PRESTRESSED GIRDER DETAILS - X45727
9. SUPERSTRUCTURE —— X45728
10. SUPERSTRUCTURE —— X45729
11. EXPANSION JOINT & BEARING DETAILS —— X45730
12. RAIL PARAPET DETAILS —— X45731
13. TUBULAR RAILING TYPE "J" —— X45732

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

S.B. LANE U.S.H. 53 OVER TOWN ROAD

County BARRON		City Village	
Design Spec AASHO 1969		Load HS 20	Const. Spec. 1969
Designed By CRD	Design Checked RTB	Drawn By FWG	Plans Checked WG

Approved W. A. Kline — Chief Bridge Engineer — 12.21.71 — Date

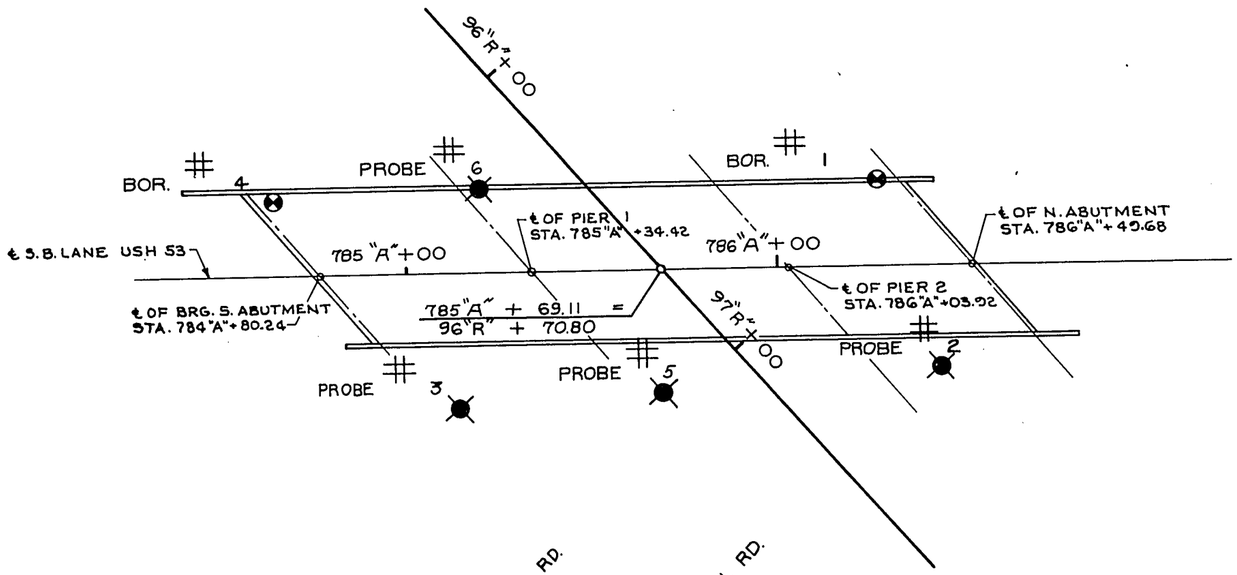
GENERAL PLAN

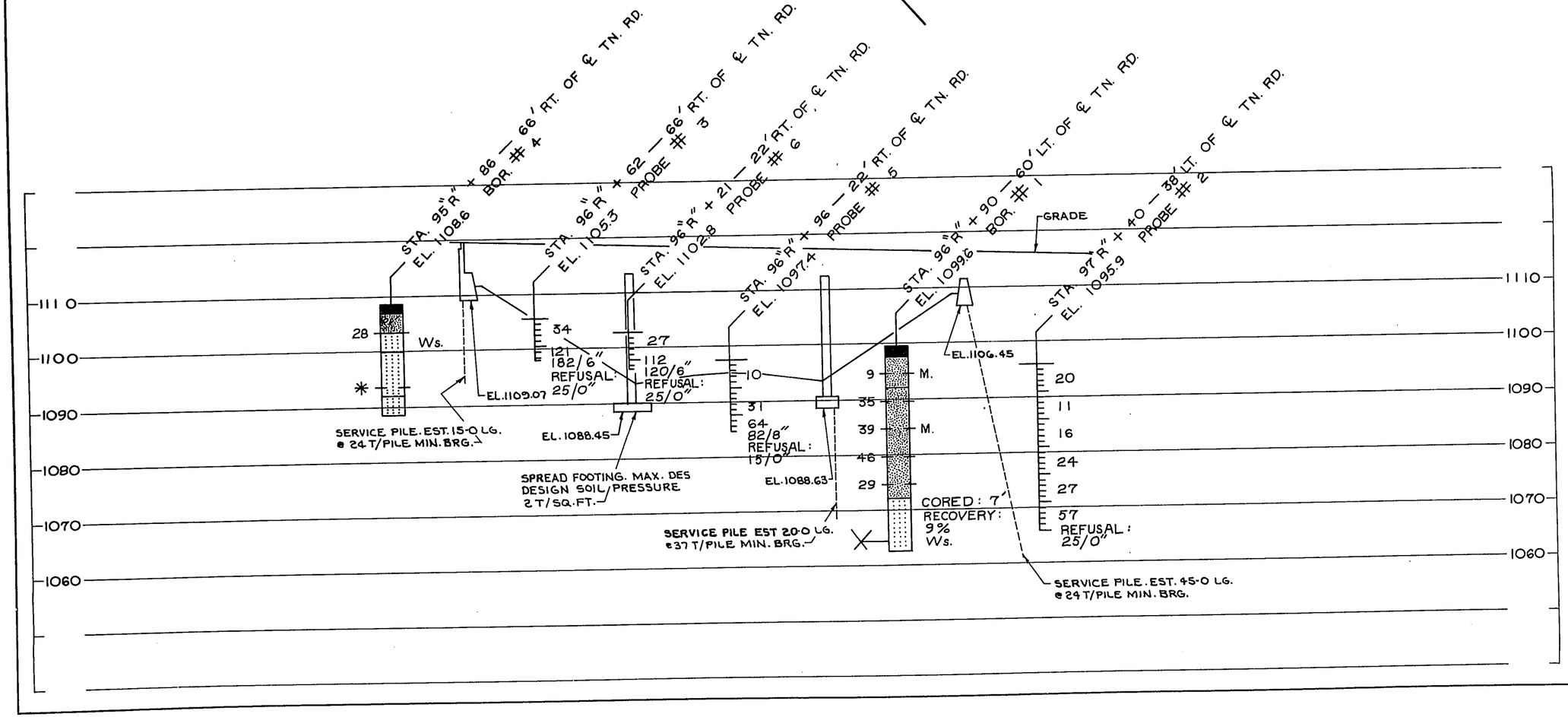
SHEET 1 OF 13

X45720

Form C-B 60-03

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	53	188
FEDERAL PROJECT DESIGNATION ~~EMP-FAS-4(93)~~		





ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

MATERIAL SYMBOLS

Topsoil, Sand, Gravel, Silt, Peat, Clay, Sandstone, Limestone, Igneous Rock

LEGEND OF PROBING

95/6=95 Blows for 6" Penetration
Probing taken with a 350# wt. Falling 18" on a 2" O. D. Point.

Probing No.
Sta.
Elevation
7 Average Blows Per Foot
Refusal 95/6

LEGEND OF BORING

Boring No.
Sta.
Elev.
Unconfined Strength — 7.7
Blows Per Ft. Using 140# Wt. Falling 30"
Wash Sample
Shelby Tube — S. T.
Ground Water Elevation
No Ground Water Observed Above This Elevation
Sandy Gravel
F.
Boulders or Cobbles
Sand
Silty Clay
So Limestone

Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O. D. x 1.4" I. D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

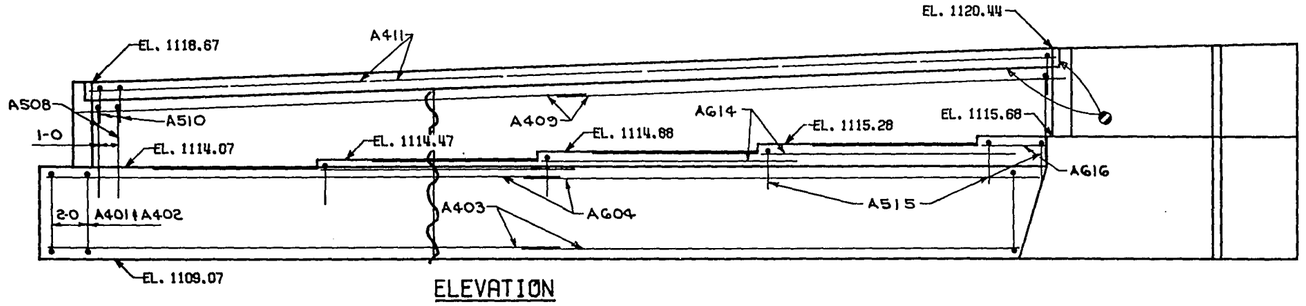
Const. Spec.	Drawn By	Plans Checked
1969	FWG	JG

SUBSURFACE EXPLORATION

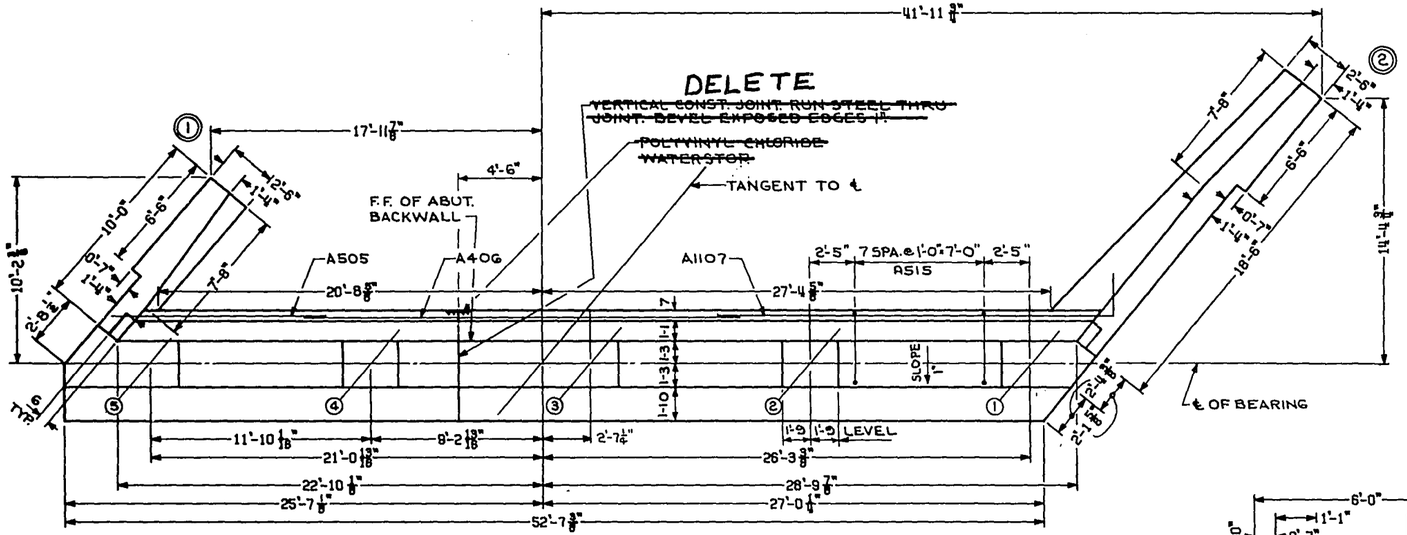
SHEET 2 OF 13

X 45721

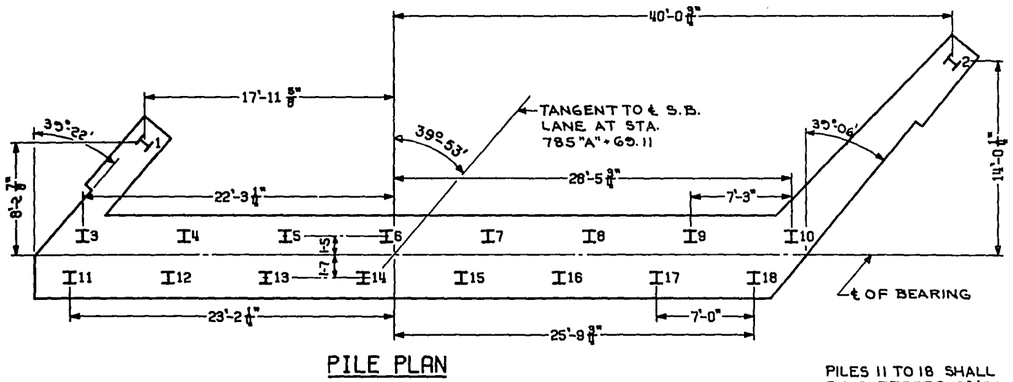
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	51	188
FEDERAL PROJECT DESIGNATION ~~BMP FAS-4(40)~~		



ELEVATION

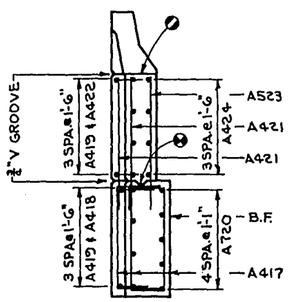


ABUTMENT PLAN

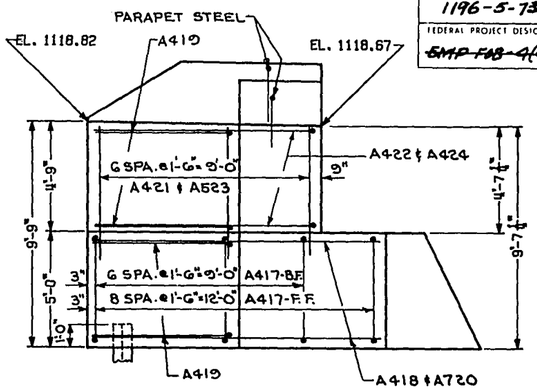


PILE PLAN

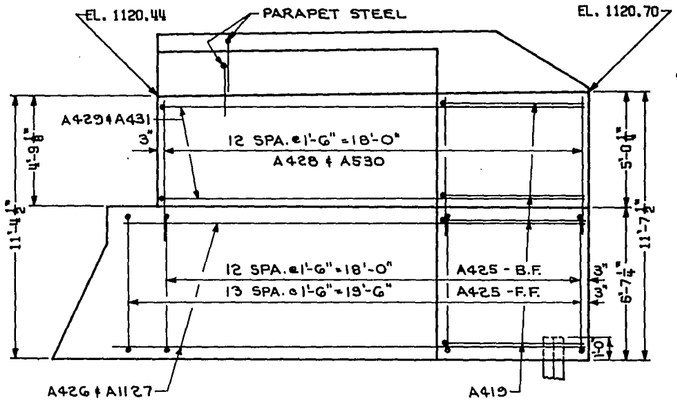
PILES 11 TO 18 SHALL BE BATTERED 3"/FT. NORMAL TO ℄ OF BRG.



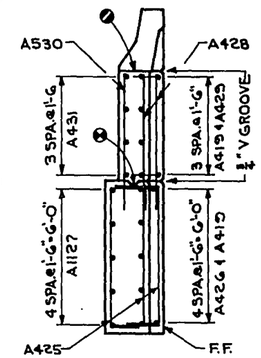
WING 1 SECTION



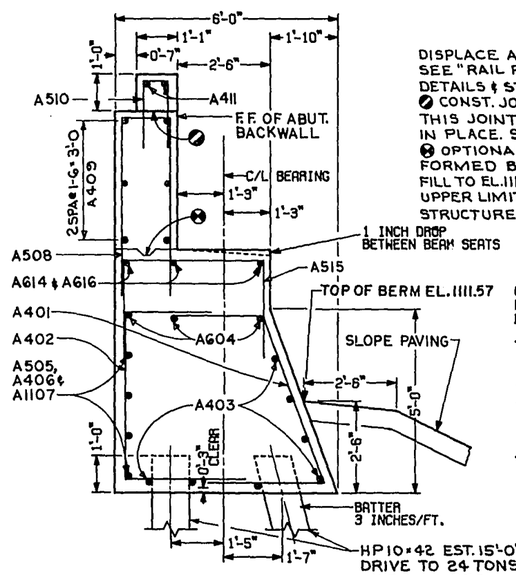
WING 1 ELEVATION



WING 2 ELEVATION



WING 2 SECTION

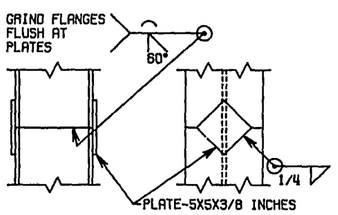


BODY SECTION

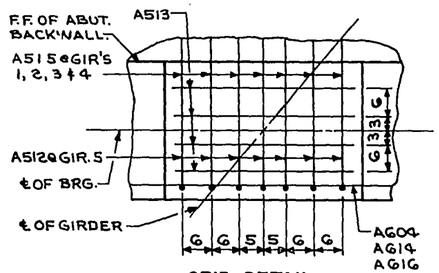
DISPLACE A401 & A402 BARS TO MISS PILING. SEE "RAIL PARAPET DETAILS" FOR PARAPET DETAILS & STEEL.

⊘ CONST. JOINT. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. STRIKE OFF AND LEAVE ROUGH.

⊘ OPTIONAL CONST. JOINT. KEYWAY FORMED BY A SURFACED, BEVELED 2×6. FILL TO EL. 1111.07 BEFORE DRIVING PILING. UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS EL.



PILE SPLICE DETAIL



GRID DETAIL

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const. Spec.	Drawn By	Plans Checked
1969	FWG	JG

SOUTH ABUTMENT

SHEET 3 OF 13

X45722

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73		
FEDERAL PROJECT DESIGNATION ~~EMP-FOB-4(40)~~	55	188

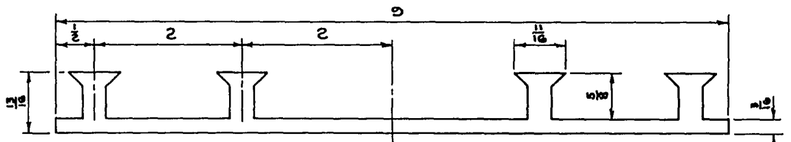
SOUTH ABUTMENT 5,510#

BAR NO.	NO. REQ'D	LENGTH	BENT	LOCATION
A401	27	12-11	X	BODY - STIRRUPS
A402	27	7-7	X	" "
A403	14	27-5		" - HORIZ.
A604	6	28-2		" "
A505	4	12-0		" " - B.F. AT WING 1
A406	4	24-0		" " - B.F.
A1107	4	23-5	X	" " - B.F. AT WING 2
A508	52	11-5	X	BODY & BACKWALL - STIRRUPS
A409	12	27-5	X	BACKWALL - HORIZ.
A510	52	5-2	X	BACKWALL & PAVING BLOCK - STIRRUPS
A411	14	7-4		BACKWALL - HORIZ. - NO LAP
A512	7	4-10	X	STEPS - GRID DETAIL
A513	20	3-0		" " "
A614	5	14-1		" - HORIZ.
A515	52	5-6	X	" - STIRRUPS
A616	3	3-8		" - HORIZ.
A417	16	7-5	X	WING 1 - STIRRUPS
A418	4	7-3		" " - HORIZ. - F.F.
A419	17	7-7	X	WINGS 1 & 2 - HORIZ. - F.F.
A720	5	10-6		WING 1 - HORIZ. - B.F.
A421	7	5-5		" " - VERTICAL - F.F.
A422	4	5-5	X	" " - HORIZ. - F.F.
A523	7	6-0		" " - VERTICAL - B.F.
A424	4	10-7	X	" " - HORIZ. - B.F.
A425	27	10-2	X	WING 2 - STIRRUPS
A426	5	15-7		" " - HORIZ. - F.F.
A1127	5	23-5		" " " - B.F.
A428	13	6-0		" " - VERTICAL - F.F.
A429	4	14-3	X	" " - HORIZ - F.F.
A530	13	6-3		" " - VERTICAL - B.F.
A431	4	15-1	X	" " - HORIZ. - B.F.
R501	4	4-10	X	WINGS & RAIL PARAPETS
R502	10	5-10	X	" " "
R803	8	3-3	X	" " "
R504	16	5-10	X	" " "
R505	4	4-5		RAIL PARAPETS
R506	2	4-2	X	" "
R507	4	6-10	X	" "
R508	6	5-2	X	" "
R509	16	5-1	X	" "
R510	1	9-8	X	" " - WING 1
R511	4	5-0		" " " "
R512	1	18-2		" " - WING 2
R513	4	13-6		" " " "

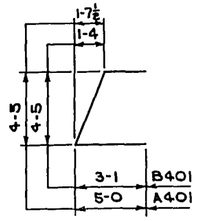
NORTH ABUTMENT 3,240#

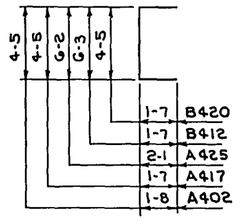
BAR NO.	NO. REQ'D	LENGTH	BENT	LOCATION
B401	56	9-2	X	BODY - STIRRUPS
B402	12	28-7		" - HORIZ.
B803	4	13-0	X	" " - B.F. AT WING 1
B404	4	28-4		" " - B.F.
B905	4	17-7	X	" " - B.F. AT WING 2
B606	4	28-11		" - HORIZ.
B407	28	8-0	X	STEPS - STIRRUPS
B608	2	40-0		" - HORIZ.
B609	1	3-0		" "
B610	1	4-10		" "
B511	36	2-6		BODY - DOWEL
B412	17	9-3	X	WING 1 - STIRRUPS
B413	5	8-11		" " - HORIZ. - F.F.
B414	17	7-7	X	WINGS 1 & 2 - HORIZ. - F.F.
B915	5	13-7	X	WING 1 - HORIZ. - B.F.
B416	4	5-5	X	" " " - F.F.
B417	7	5-6		" " - VERTICAL - F.F.
B518	7	5-9		" " " - B.F.
B419	4	10-6	X	" " - HORIZ. - B.F.
B420	22	7-5	X	WING 2 - STIRRUPS
B421	4	11-2		" " - HORIZ. - F.F.
B1022	5	18-4	X	" " " - B.F.
B423	10	5-4		" " - VERTICAL - F.F.
B424	4	9-5	X	" " - HORIZ. - F.F.
B525	10	5-7		" " - VERTICAL - B.F.
B426	4	14-6	X	" " - HORIZ. - B.F.
R501	4	4-10	X	WINGS & RAIL PARAPETS
R502	10	5-10	X	" " "
R503	8	3-3	X	" " "
R504	12	5-10	X	" " "
R505	4	4-5		RAIL PARAPETS
R506	2	4-2	X	" "
R507	4	6-10	X	" "
R508	6	5-2	X	" "
R509	12	5-1	X	" "
R510	1	9-8	X	" " - WING 1
R511	4	5-0		" " " "
R514	1	13-8		" " - WING 2
R515	4	9-0		" " " "

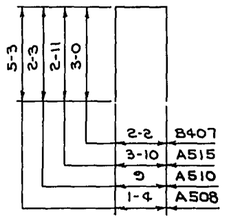
SEE "RAIL PARAPET DETAILS" FOR "R BAR" BENDING DETAILS

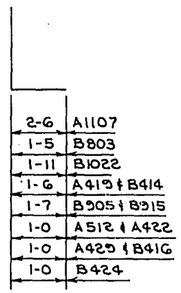


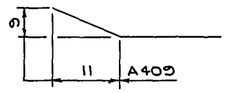
POLYVINYL CHLORIDE WATERSTOP

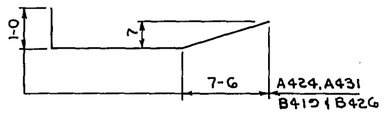












No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

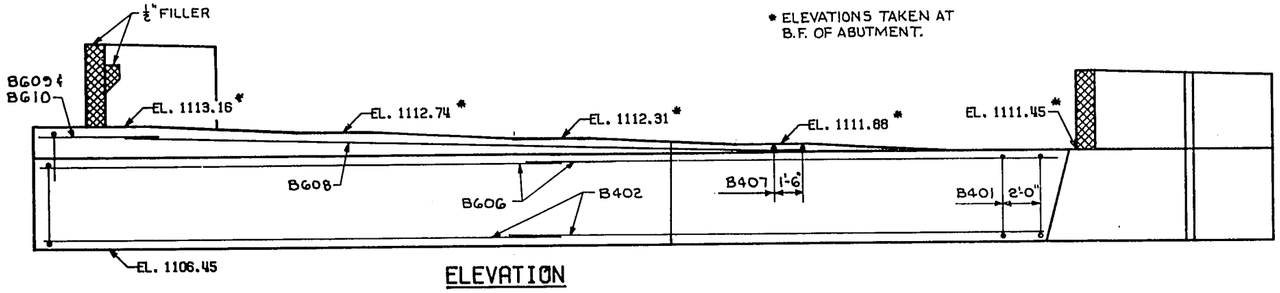
Const. Spec. 1969	Drawn By FWG	Plant Checked AG

BILL OF BARS

SHEET 4 OF 13

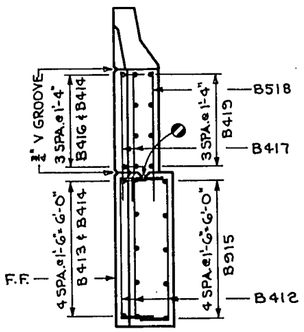
X45723

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	56	188
FEDERAL PROJECT DESIGNATION ~~EMP-F08-4(40)~~		

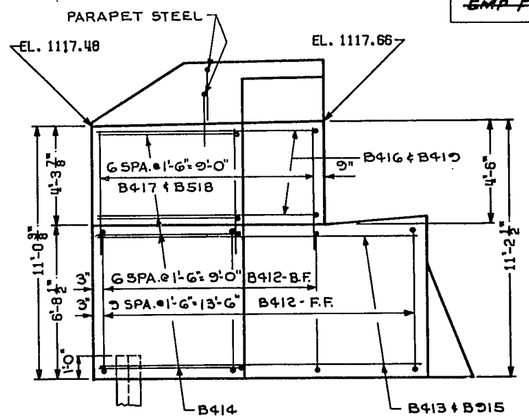


* ELEVATIONS TAKEN AT B.F. OF ABUTMENT.

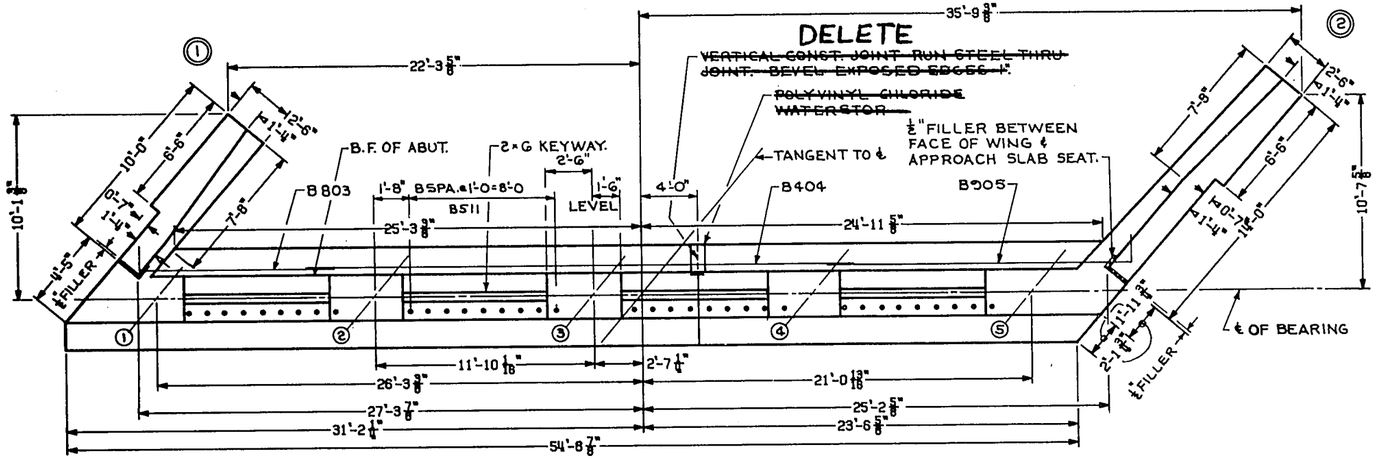
ELEVATION



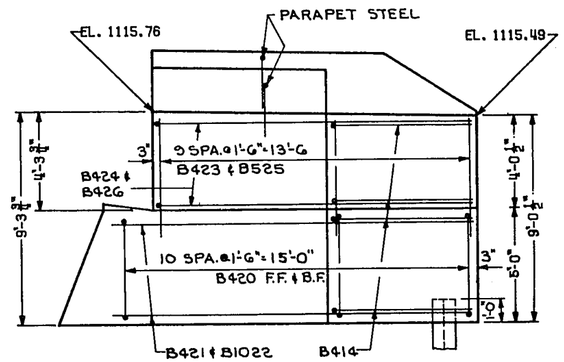
WING 1 SECTION



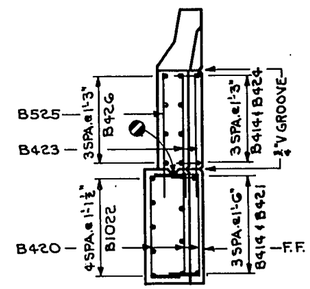
WING 1 ELEVATION



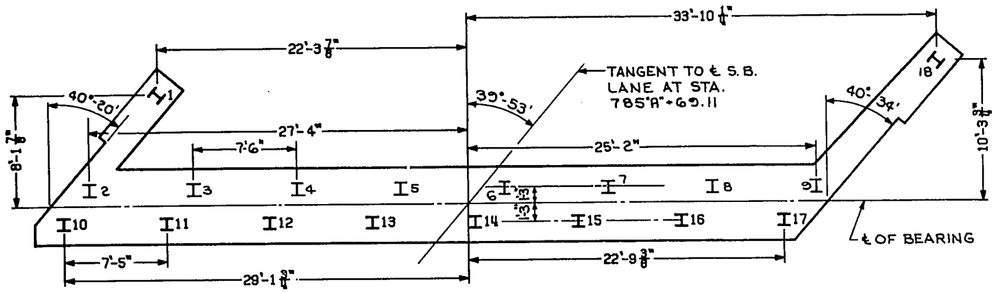
ABUTMENT PLAN



WING 2 ELEVATION

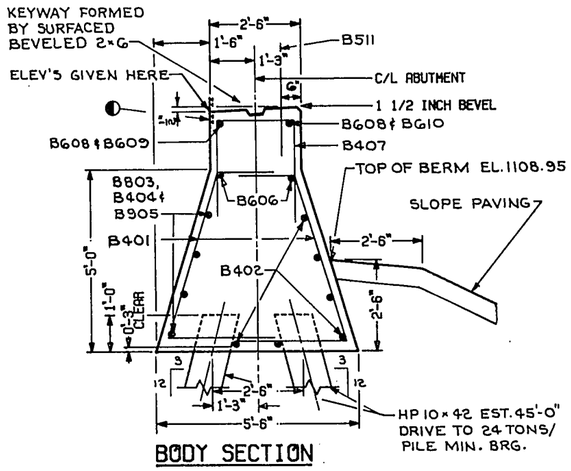


WING 2 SECTION



PILE PLAN

PILES 2 TO 9 AND 10 TO 17 SHALL BE BATTERED 3"/FT. NORMAL TO ℄ OF BRG.



BODY SECTION

DISPLACE B401 BARS TO MISS PILING.
SEE "RAIL PARAPET DETAILS" FOR PARAPET DETAILS & STEEL.
● CONST. JOINT. KEYWAY FORMED BY SURFACED, BEVELED 2 × 6. POUR CONCRETE ABOVE THIS JOINT AFTER SUPERSTRUCTURE IS IN PLACE. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. PLACE SEALER 1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. FILL TO EL. 1108.45 BEFORE DRIVING PILING. UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.
B511 MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE. IMBED 1'-3" IN CONCRETE.

① POLYVINYL CHLORIDE WATERSTOP TO EXTEND BETWEEN BACKFACES OF BOTTOM WING POUR.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const. Spec. 1969	Drawn By FWG	Plans Checked JG

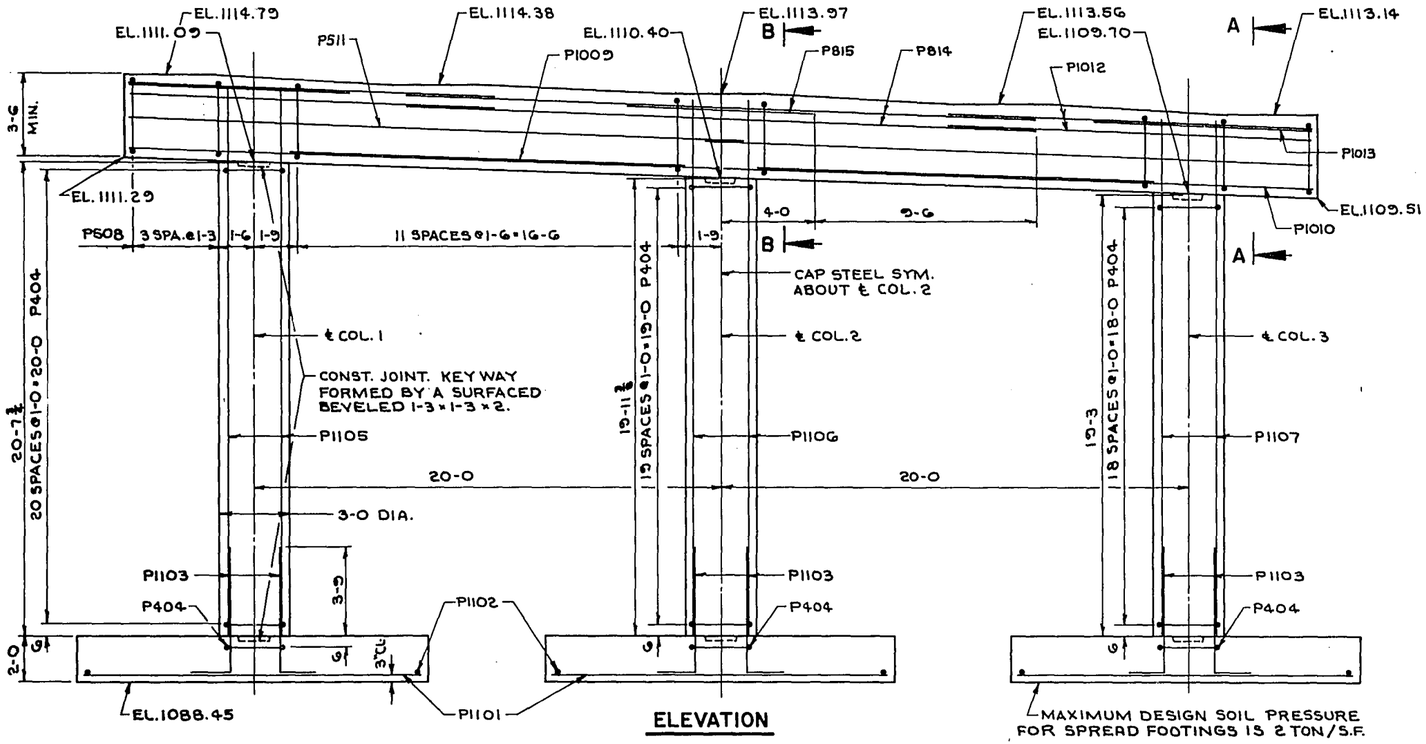
NORTH ABUTMENT

SHEET 5 OF 13

X45724

Form E-B-12-69

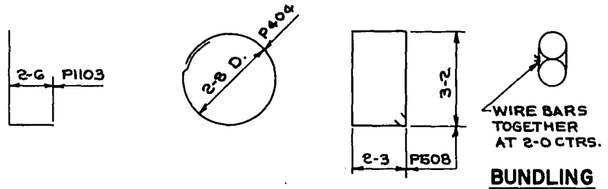
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	57	188
FEDERAL PROJECT DESIGNATION ~~EMAP-F08-0(93)~~		



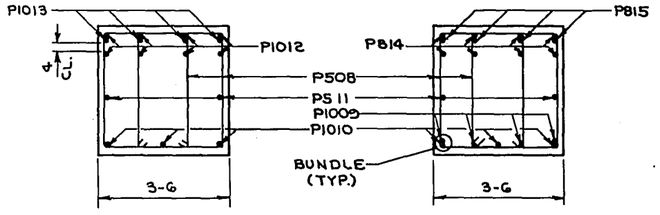
BILL OF BARS

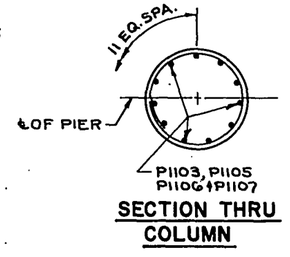
16,450*

BAR NO.	NO. REQ'D	LENGTH	EPOXY	BLACK	LOCATION
P1101	42	14-6			FOOTING
P1102	48	13-0			"
P1103	33	7-6	X		FOOTING & COLUMNS - DOWELS
P404	63	9-5	X		" " - HOOPS
P1105	11	23-6			COLUMN 1 - VERTICAL
P1106	11	22-10			COLUMN 2 - VERTICAL
P1107	11	22-3			COLUMN 3 - VERTICAL
P508	64	11-7	X		CAP - STIRRUPS
P1009	8	17-0		X	" - BOTTOM - HORIZ.
P1010	6	25-3		X	" " "
P511	4	26-4			" - SIDES - HORIZ.
P1012	16	15-6		X	" - TOP - HORIZ.
P1013	8	9-6		X	" " "
P814	8	27-0		X	" " "
P815	4	8-0		X	" " "

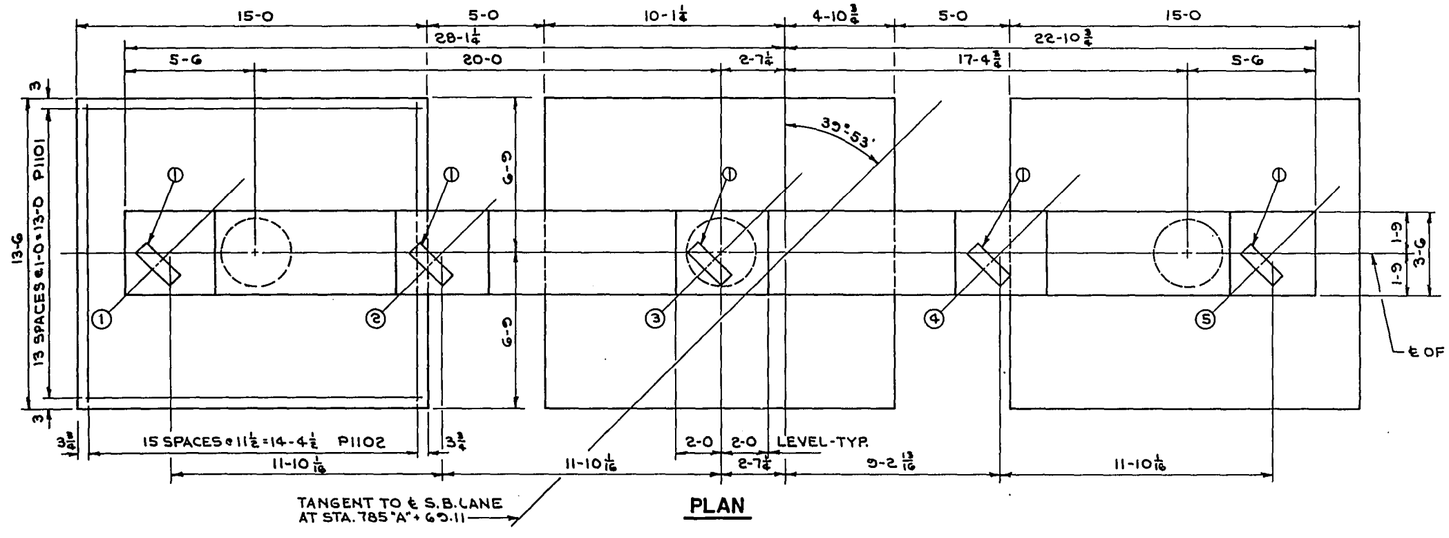


BUNDLING DETAIL





SECTION THRU COLUMN



PLAN

① PROVIDE ¼" THICK SHIM PLATE TO MATCH MASONRY PLATE C. PLACE ON BRG. PAD.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

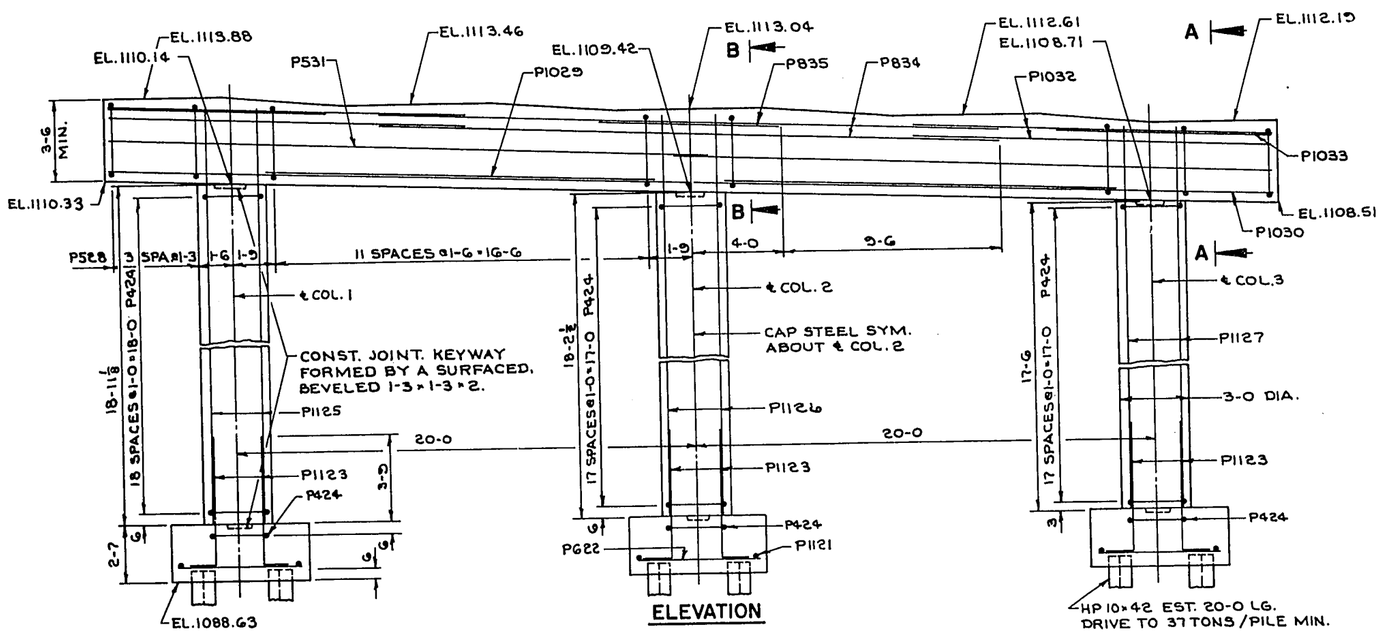
Const. Spec: 1969	Drawn By FWG	Plans Checked JG

PIER 1

SHEET 6 OF 13

X45725

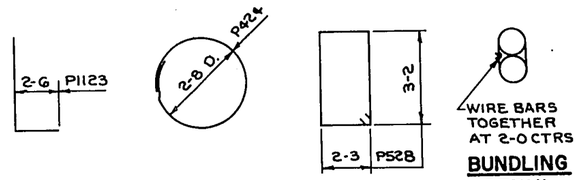
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	58	188
FEDERAL PROJECT DESIGNATION ~~EMP F08-4(40)~~		



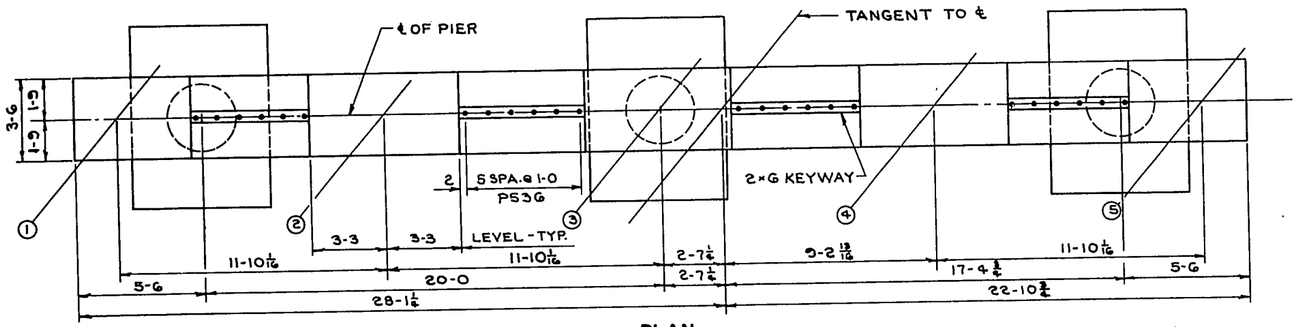
ELEVATION

BILL OF BARS 9,180#

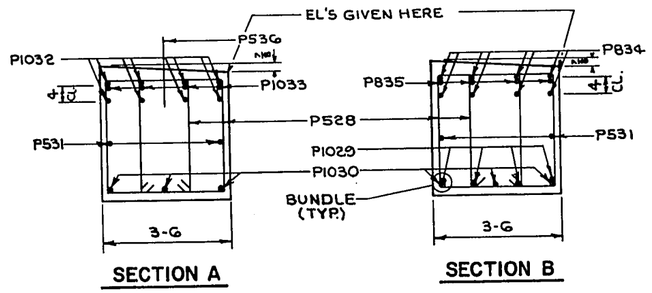
BAR NO.	NO. REQ'D	LENGTH	EPOXY	UNCOAT	LOCATION
P1121	18	7-6			FOOTING
PG22	24	5-6			"
P1123	24	7-6	X		FOOTING & COLUMNS - DOWELS
P424	58	9-5	X		" " - HOOPS
P1125	8	21-11			COLUMN 1 - VERTICAL
P1126	8	21-2			COLUMN 2 - VERTICAL
P1127	8	20-6			COLUMN 3 - VERTICAL
P528	64	11-7	X		CAP - STIRRUPS
P1029	8	17-0		X	" - BOTTOM - HORIZ.
P1030	6	25-3		X	" " "
P531	4	26-4			" - SIDES - HORIZ.
P1032	16	15-6		X	" - TOP - HORIZ
P1033	8	9-6		X	" " "
P834	8	27-0		X	" " "
P835	4	8-0		X	" " "
P536	24	2-6			CAP - DOWELS - TOP



BUNDLING DETAIL



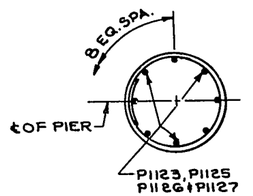
PLAN



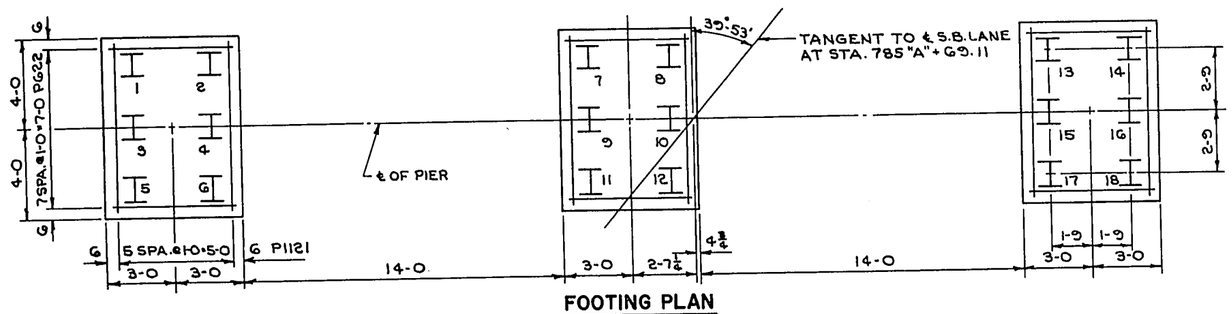
SECTION A

SECTION B

IMBED P536 BARS 1-3. P536 BARS MAY BE PLACED AFTER THE CONCRETE HAS BEEN POURED BUT BEFORE THE INITIAL SET HAS TAKEN PLACE.



SECTION THRU COLUMN



FOOTING PLAN

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const. Spec.	Drawn By	Plans Checked
1969	FWG	JG

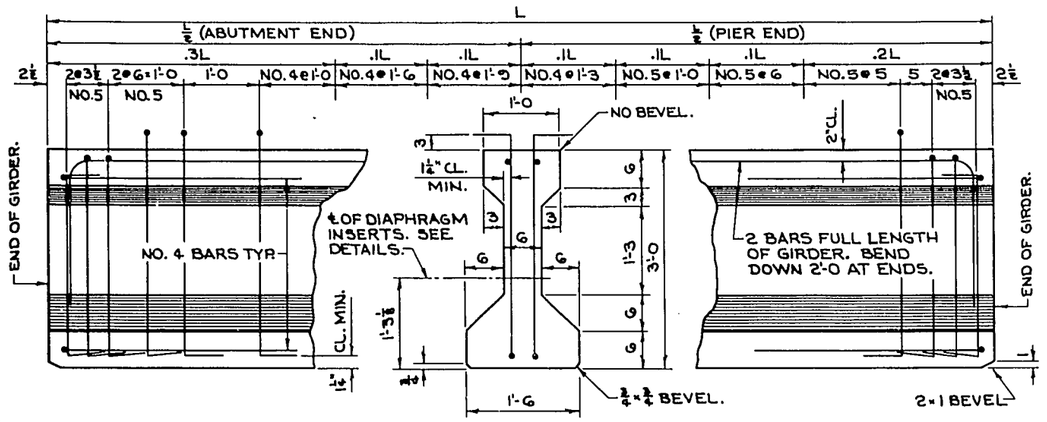
PIER 2

SHEET 7 OF 13

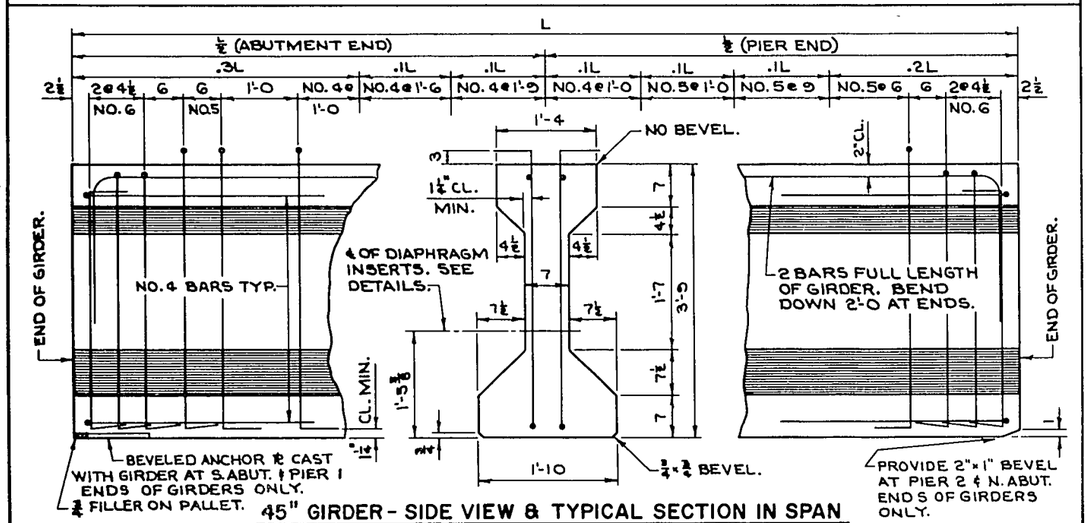
X45726

Form E-8-12-67

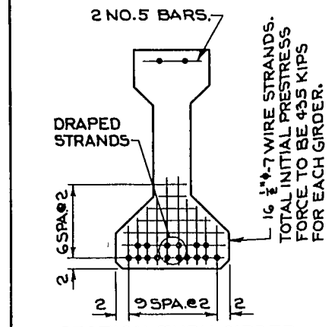
B. P. R. Division	Project	Sheet Number	Total Sheets
4	1196-5-73 ~~EMP F00 446~~	59	188



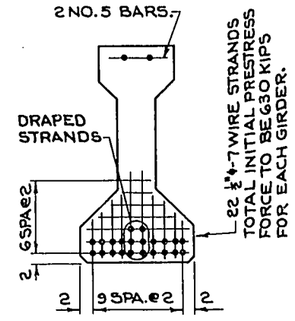
36" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



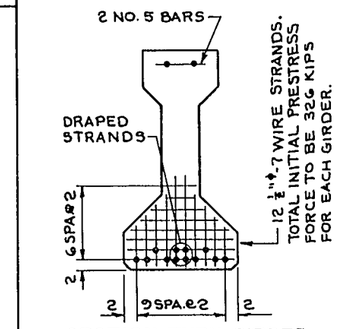
45" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



SECTION THRU GIRDER
AT ℄ OF SPAN 1



SECTION THRU GIRDER
AT ℄ OF SPAN 2



SECTION THRU GIRDER
AT ℄ OF SPAN 3

NOTES

TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB.

THE GIRDER MANUFACTURER SHALL PROVIDE A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL HAVE AN ULTIMATE STRENGTH OF 270,000 psi AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

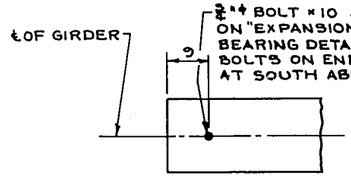
INSERTS SHALL BE PLACED ON 6" CENTERS SYMMETRICALLY ABOUT THE ℄ OF DIAPHRAGMS IN SPANS.

ALL STIRRUPS SHALL BE IN PAIRS AND THE SPACING SHOWN IN "SIDE VIEW" IS MAXIMUM. THE LOCATION SHALL BE SHOWN IN THE SHOP DRAWINGS.

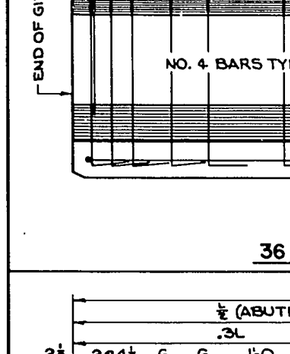
BEND EACH END OF NO.4 AND NO.5 STIRRUPS 6" AND NO.6 STIRRUPS 6½".

ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY NON BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)

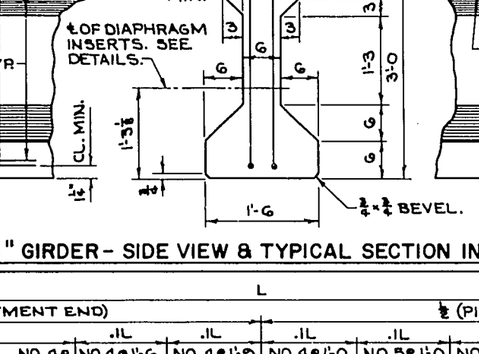
TOP LONGITUDINAL BARS IN GIRDER MAY BE SPLICED BY USING 35 BAR DIAMETER LAPS. PLACE ONE LAP AT ℄ OF GIRDER IF LENGTH IS < 70'-0. PLACE LAPS AT THE ⅓RD POINTS OF GIRDER IF LENGTH IS ≥ 70'-0.



EXPANSION JOINT ANCHOR BOLT

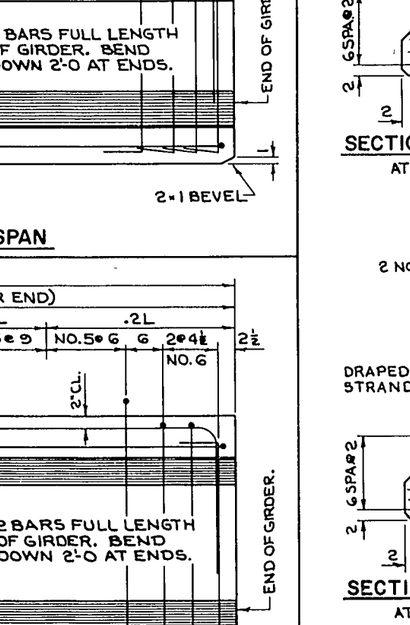


TYPE "A"



TYPE "B" TYPE "C"

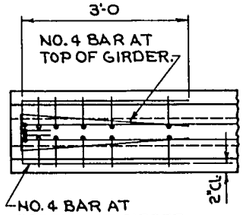
DIAPHRAGM INSERT DETAILS



PILASTER DETAIL AT PIERS

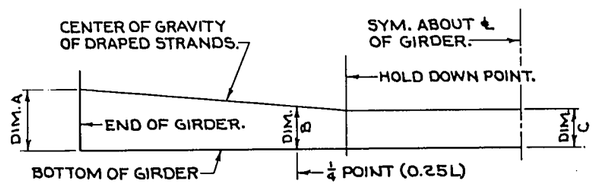
⊛ HOLD BOTTOM OF PILASTER 1" CLEAR FROM BOTTOM OF GIRDER AT PIER 1 ONLY

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

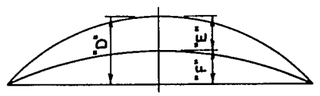


TOP VIEW OF GIRDER ENDS

	DIM. A	DIM. B MIN.	DIM. B MAX.	DIM. C
SPAN 1	31"	10"	13"	3"
SPAN 2	33"	11½"	14½"	4"
SPAN 3	27"	9"	12"	3"



DRAPED STRAND PROFILE



** DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.

GIRDER DATA

GIRDER SIZE REQUIRED 45"

		SPAN 1	SPAN 2	SPAN 3
GIRDER LENGTH "L" REQUIRED		54-10½	69-3	45-10½
f'ci (psi)*	DRAPED PATTERN	4,800	4,800	4,800
	SPREAD PATTERN	—	—	—
DEFLECTION DATA**	PRESTRESS CAMBER "D"	5/8"	1 1/16"	3/8"
	DEAD LOAD DEFLECTION "E"	1/4"	3/4"	1/8"
	RESIDUAL CAMBER "F"	3/8"	1/2"	1/4"

USE DIAPHRAGM INSERT DETAIL TYPE "B"

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const. Spec.	Drawn By	Plans Checked
1969	FWG	JG

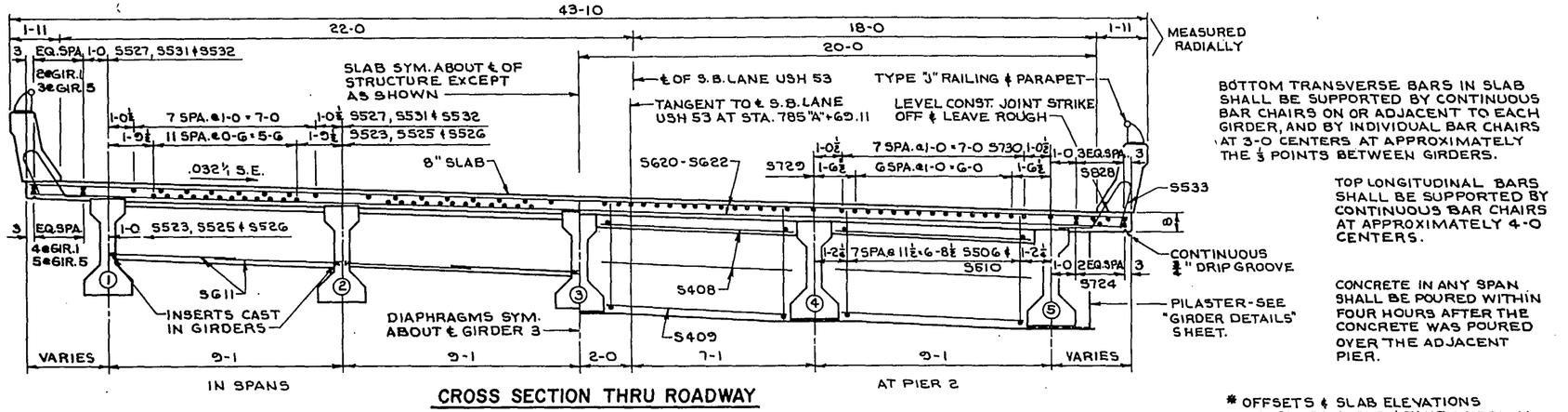
PRESTRESSED GIRDER DETAILS

SHEET 8 OF 13

X45727

Form E-B-12-0

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-5-73	60	188
FEDERAL PROJECT DESIGNATION ~~EMR-FAB-4(40)~~		



CROSS SECTION THRU ROADWAY

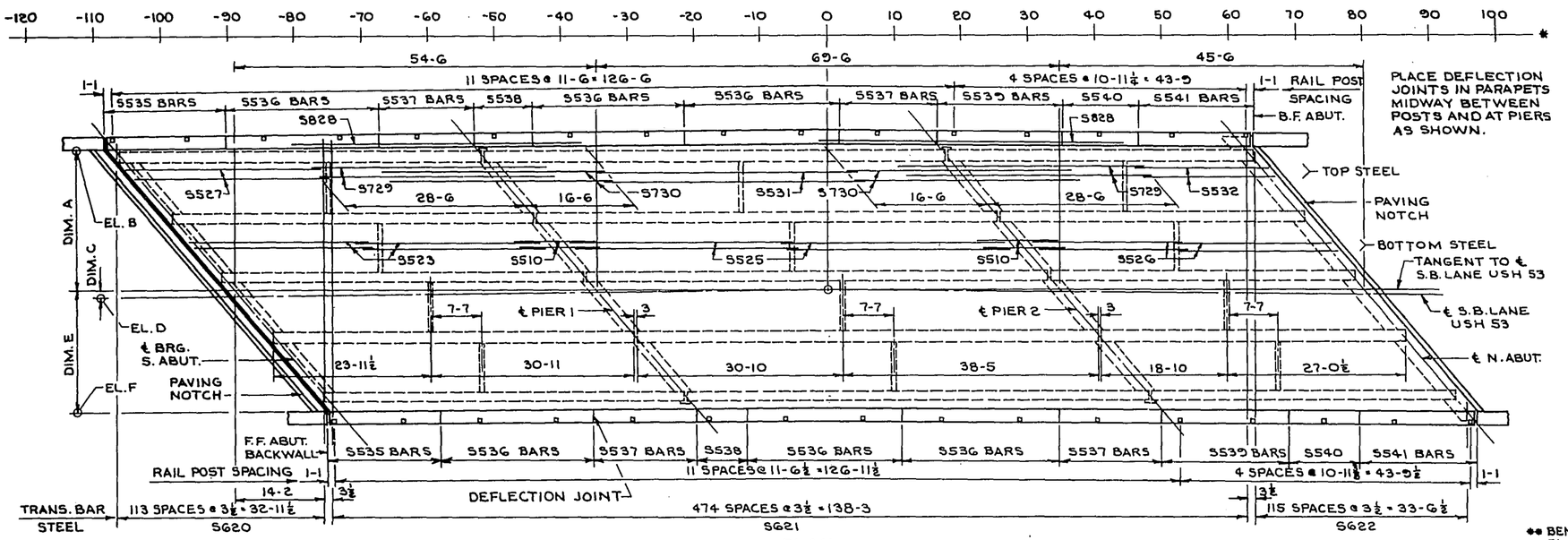
LOOKING NORTH

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 AT APPROXIMATELY THE ⅓ POINTS BETWEEN GIRDERS.

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

CONCRETE IN ANY SPAN SHALL BE POURED WITHIN FOUR HOURS AFTER THE CONCRETE WAS POURED OVER THE ADJACENT PIER.

* OFFSETS & SLAB ELEVATIONS MEASURED ALONG ℄ TAKEN NORMAL TO TAN TO ℄ S.B. LANE. '0' IS AT STA. 785 "A" +69.11



PLACE DEFLECTION JOINTS IN PARAPETS MIDWAY BETWEEN POSTS AND AT PIERS AS SHOWN.

PLAN

OFFSETS & SLAB ELEVATIONS

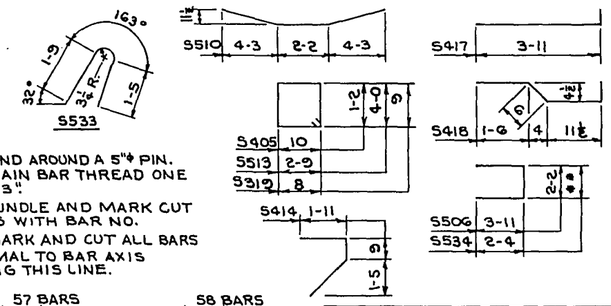
	-120	-110	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100
DIM. A	21-2	21-3 5/16	21-5	21-6 5/16	21-7 3/16	21-8 1/16	21-9 1/16	21-10 1/16	21-10 7/8	21-11 3/8	21-11 3/4	21-11 15/16	22-0	21-11 15/16	21-11 3/4	21-11 3/8	21-10 7/8	21-10 1/16	21-9 1/16	21-8 5/16	21-7 3/16	21-6 5/16	21-5
EL. B	1120.60	1120.46	1120.31	1120.16	1120.02	1119.87	1119.71	1119.56	1119.40	1119.24	1119.08	1118.91	1118.76	1118.59	1118.42	1118.25	1118.08	1117.90	1117.72	1117.55	1117.37	1117.18	1117.00
DIM. C	0-10	0-8 1/2	0-7	0-5 11/16	0-4 3/16	0-3 1/16	0-2 1/16	0-1 3/4	0-1 1/8	0-0 5/8	0-0 1/4	0-0 1/16	0-0	0-0 1/16	0-0 1/4	0-0 5/8	0-1 1/8	0-1 3/4	0-2 1/2	0-3 1/16	0-4 3/16	0-5 11/16	0-7
EL. D	1119.90	1119.76	1119.61	1119.46	1119.32	1119.16	1119.01	1118.86	1118.70	1118.54	1118.38	1118.22	1118.05	1117.88	1117.71	1117.54	1117.37	1117.20	1117.02	1116.84	1116.66	1116.48	1116.29
DIM. E	18-10	18-8 1/2	18-7	18-5 11/16	18-4 3/16	18-3 1/16	18-2 1/16	18-1 3/4	18-1 1/8	18-0 5/8	18-0 1/4	18-0 1/16	18-0	18-0 1/16	18-0 1/4	18-0 5/8	18-1 1/8	18-1 3/4	18-2 1/2	18-3 1/16	18-4 3/16	18-5 11/16	18-7
EL. F	1119.33	1119.18	1119.04	1118.89	1118.74	1118.59	1118.44	1118.28	1118.12	1117.96	1117.80	1117.64	1117.47	1117.31	1117.14	1116.97	1116.79	1116.62	1116.44	1116.26	1116.08	1115.90	1115.71

SLAB ELE'S. WERE LOWERED 0.04 FT.

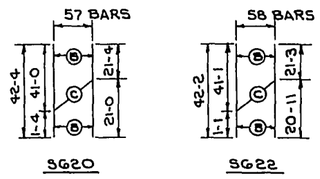
BILL OF BARS

72,990*

BAR NO.	NO. REQ'D	LENGTH	BEND	CCT	LOCATION
S501	3	2-0			S. ABUT. DIAPHRAGM @ GIRDER 1
S502	12	9-8			" " " BETW. GIRDERS
S503	3	3-3			" " " @ GIRDER 5
S504	6	29-3			" " " - TOP
S505	43	4-6	X		" " " - STIRRUPS
S506	64	9-10	X		PIER DIAPHRAGM - STIRRUPS
S507	12	9-0			PIER 1 DIAPHRAGM - BOTTOM
S508	68	9-8			N. ABUT. & PIERS - DIAPHRAGM
S509	12	9-0			N. ABUT. & PIER 2 - DIAPHRAGM
S510	64	10-10	X		PIERS & SLAB - HAUNCH
* S511	48	5-5			DIAPHRAGM IN SPANS
S512	10	28-7			N. ABUT. - DIAPHRAGM & SEAT
S513	39	14-3	X		" " - DIAPHRAGM - STIRRUPS
S514	52	4-6	X		" " - SEAT - STIRRUPS
S515	2	2-4			N. ABUT. DIAPHRAGM @ GIRDER 1
S516	2	3-4			" " " @ GIRDER 5
S517	8	4-3	X		PILASTER
S518	8	3-4	X		"
S519	12	3-4	X		"
S520	57	42-4		X	SLAB - TRANSVERSE
S521	475	42-4			" "
S522	58	42-8		X	" "
S523	118	27-7			SLAB - LONGIT. - SPAN 1 BOTTOM
S524	12	15-0			SLAB - SYM. OVER PIERS AT EDGE
S525	118	33-6			SLAB - LONGIT. - SPAN 2 BOTTOM
S526	118	23-2			" " - SPAN 3 BOTTOM
S527	39	28-6			" " - SPAN 1 TOP
S528	16	45-0			" " - OVER PIERS-EDGE
S529	66	37-0			" " " " - TOP
S530	64	33-6			" " " " "
S531	39	39-0			" " - SPAN 2 TOP
S532	39	18-9			" " - SPAN 3 TOP
S533	346	4-9	X		SLAB & PARAPET
S534	346	5-1	X		PARAPET
S535	10	17-9			"
S536	30	22-8			"
S537	20	14-0			"
S538	10	8-3			"
S539	10	18-6			"
S540	10	10-7			"
S541	10	16-11			"



** BEND AROUND A 5" ϕ PIN.
* PLAIN BAR THREAD ONE END 3".
Ⓑ BUNDLE AND MARK CUT BARS WITH BAR NO.
Ⓒ MARK AND CUT ALL BARS NORMAL TO BAR AXIS ALONG THIS LINE.



No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const. Spec.	Drawn By	Plans Checked
1969	FWG	JG

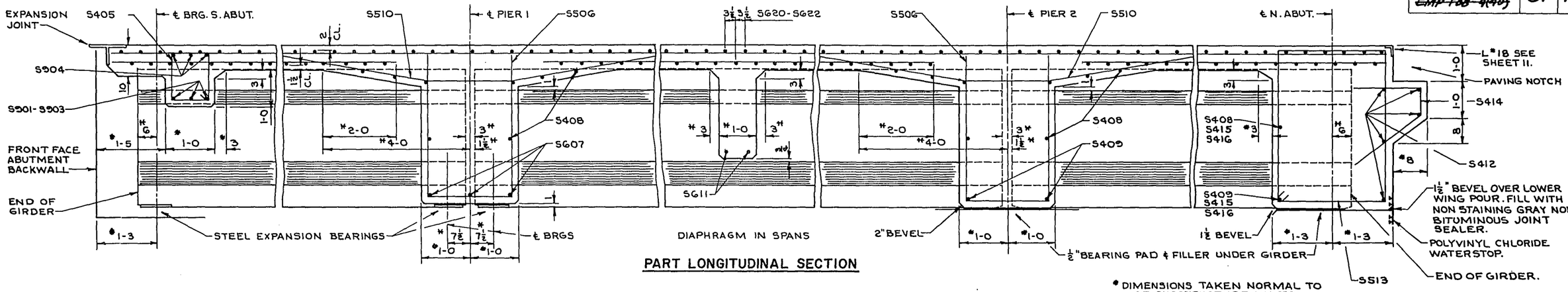
SUPERSTRUCTURE

SHEET 9 OF 13

X45728

Form E-B-12-69

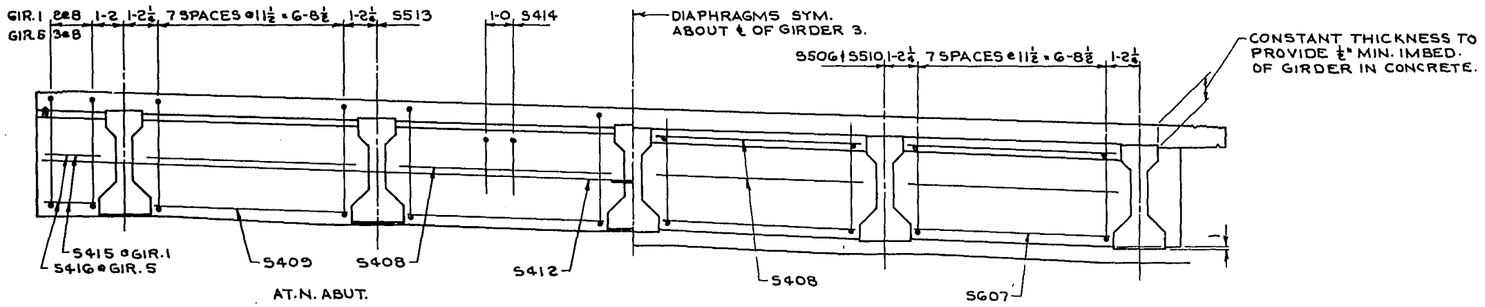
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	61	188
FEDERAL PROJECT DESIGNATION ~~EMP-FOB-4(48)~~		



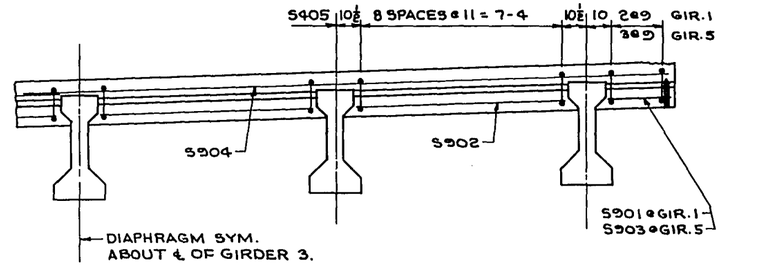
PART LONGITUDINAL SECTION

* DIMENSIONS TAKEN NORMAL TO ℄ OF SUBSTRUCTURE UNITS

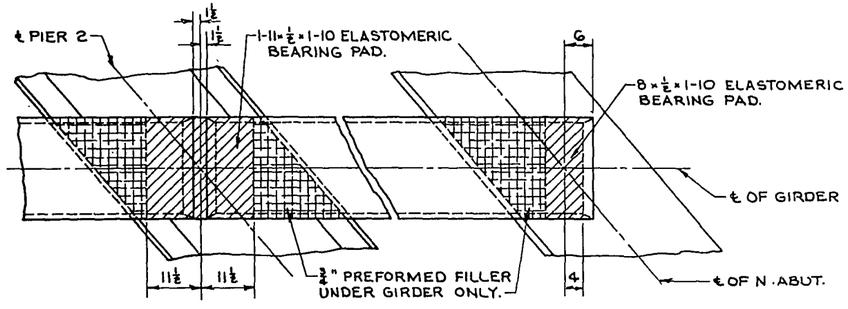
** DIMENSIONS TO BE PARALLEL TO GIRDERS.



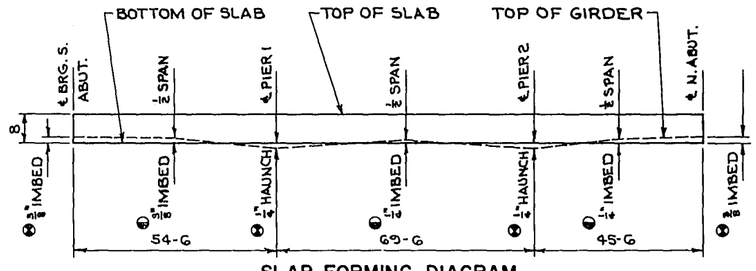
CROSS SECTION THRU ROADWAY



PART CROSS SECTION AT SOUTH ABUT.



BEARING PLAN



SLAB FORMING DIAGRAM

AT ℄ OF GIRDERS

① TO COMPENSATE FOR VARIATIONS IN PRESTRESS CAMBER AND OTHER MINOR CONSTRUCTION DISCREPANCIES THE IMBEDMENT AT THE ℄ OF SPAN MAY BE VARIED WITH A MAXIMUM OF 1½" ALLOWABLE IMBEDMENT AND THE SLAB HELD TO PLAN THICKNESS.

② IF VARIATIONS IN PRESTRESS CAMBER AND OTHER CONSTRUCTION DISCREPANCIES ARE OF SUCH A MAGNITUDE THAT THE MAXIMUM ALLOWABLE IMBEDMENT AS NOTED ABOVE SHALL BE EXCEEDED THESE DIMENSIONS SHALL BE REVISED. THE 1½" IMBEDMENT AND THE PLAN SLAB THICKNESS SHALL BE HELD WHILE THE GRADE LINE WILL BE REVISED.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

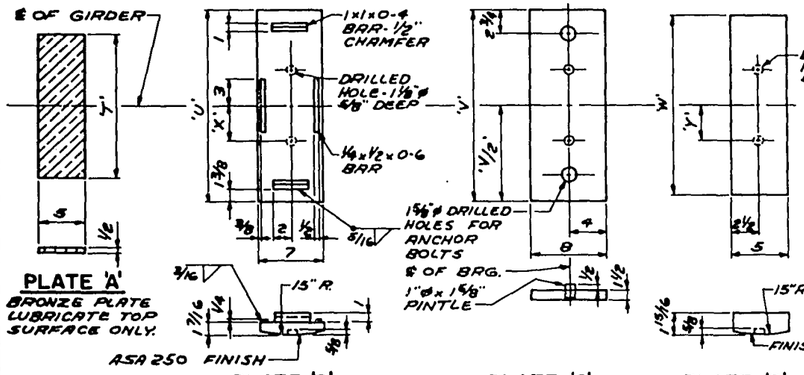
Const. Spec. 1969	Drawn By FWG	Plans Checked JG

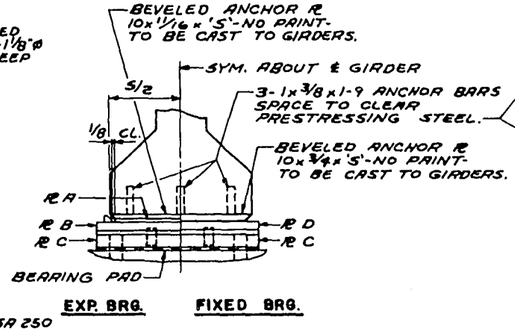
SUPERSTRUCTURE

SHEET 10 OF 13

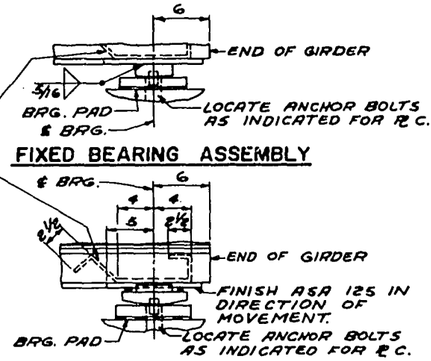
X45729

PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-5-73	62	188
FEDERAL PROJECT DESIGNATION ~~BMP-F08-8(40)~~		



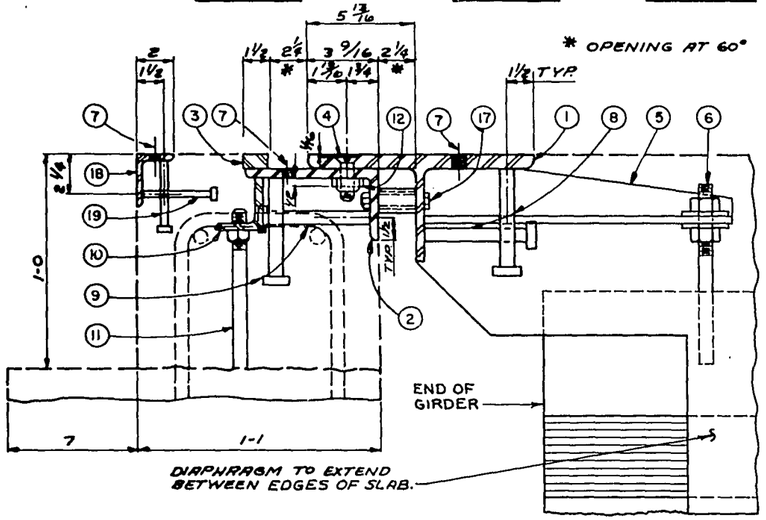


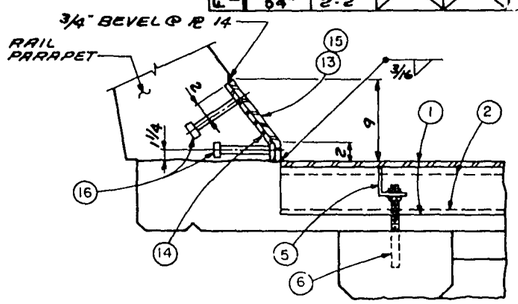
BEARING ELEVATION

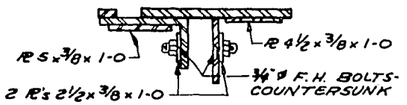


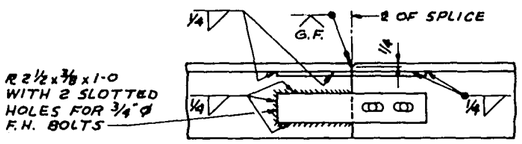
BEARING DETAILS

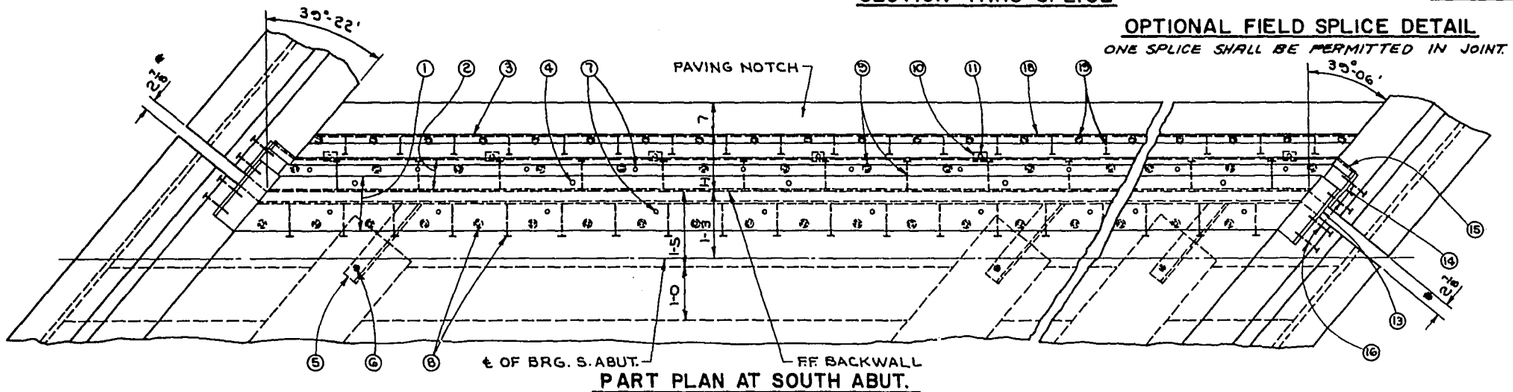
	GIRDER SIZE	DIM. 'S'	DIM. 'T'	DIM. 'U'	DIM. 'V'	DIM. 'W'	DIM. 'X'	DIM. 'Y'	NO. OF BRGS. REQ'D.	LOCATION
EXP. BRG.	36"	1'-6	1'-4½	1'-9½	1'-9½		4			
	45"	1'-10	1'-8½	2'-1½	2'-1½		7		15	5℄ S. ABUT. & 10℄ PIER 1
	54"	2'-2	2'-0⅛	2'-5½	2'-5½		9			
FIXED BRG.	36"	1'-6			1'-8	1'-8		4		
	45"	1'-10			2'-0	2'-0		6⅛		
	54"	2'-2			2'-4	2'-4		8		











BEARING NOTES

ALL MATERIAL EXCLUDING ANCHOR BOLTS, PINTLES, NUTS AND WASHERS SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A709 STEEL.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

MACHINE FINISH THE BOTTOM SURFACE ONLY OF PLATES SHOWN TO BE FINISHED.

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

ALL ANCHOR BOLTS TO BE 1¼"ø x 1'-3 LONG, SET FLUSH AND CAULK WITH LEAD TO THE TOP OF PLATE 'C'. EXCESS LENGTH MAY BE FURNISHED, THREADED FOR SETTING AND THEN CUT OFF FLUSH.

CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR PINTLES IN PLATE 'C' FOR DRIVING FIT.

PROVIDE ⅛" THICK BEARING PAD SAME SIZE AS PLATE 'C' FOR EACH BEARING.

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

PROVIDE SHIM ℟'s AS NOTED ON "PIER 1" SHEET.

GIRDER MFG. MAY PROPOSE AN ALTERNATE METHOD OF ATTACHING ANCHOR ℟'s TO GIRDER SUBJECT TO APPROVAL OF THE ENGINEER.

LEGEND

1. WT ⊕ x 39.5 x ROADWAY WIDTH. WELDMENT MAY BE USED. SEE DETAIL "A."
2. L 7"x 4"x 7/16 x RDWY. WIDTH. LONG DIMENSION OF 13/16" x 1½" SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT.
3. BAR 1½ x ⅜ x RDWY. WIDTH. WELD TO L# 2 WITH 2 LINES OF ¼ FILLET WELD, 2 ℄s.
4. ¾"ø FLAT HEAD CAP SCREW x 2¾" LONG WITH SQ. NUT AT 4'-0 CENTERS. GREASE FOR EASY REMOVAL. 13/16 x 1½ SLOTTED HOLE IN L# 2. 1⅜"ø HOLE C'SK ⅞ DEEP IN WT #1.
5. L 3½ x 3 x ⅜. FILLET WELD TO FLANGE AND STEM OF WT # 1 NEAR SIDE AND FAR SIDE. PROVIDE 1⅜"ø HOLE IN 3½ LEG FOR ROD #6.
6. ¾"ø x 10 LONG ROD. THREAD 4" IMBED 9" IN GIRDER PROVIDE 2 PLATE WASHERS AND 2 HEX NUTS PER BOLT.
7. VENT HOLES, 13/16"ø AT 2'-0 CTRS. IN WT #1 AND L# 2 AND 3'-0 CTRS. IN 18
8. ⅝"ø STUDS x 6⅜" LONG. WELD TO WT #1 AT 6" ALTERNATE CENTERS BETWEEN GIRDERS.
9. ⅝"ø STUDS x 6⅜" LONG. WELD TO L# 2 AT 9 ALTERNATE CENTERS.
10. L 3 x 2½ x ⅜ x 3" LONG AT 3'-0 CENTERS. WELD TO L# 2. PROVIDE 13/16"ø HOLE IN 2½ LEG FOR ROD #11.
11. ¾"ø ROD x 9 LONG & NUT. THREAD 3". TACK WELD NUT TO L# 10.
12. ⅛ x 1½ x 1⅛ LONG KEEPER BAR. ONE PER # 4 BOLT. PLACE BAR WITH LONG DIMENSION PARALLEL TO ℄ OF RDWY. ⅛" CLEAR FROM # 4 SQUARE NUT AND WELD BAR AT SIDE FACING AWAY FROM NUT WITH 3/16 FILLET WELD. 1¼" LONG TO L# 2.
13. ℟ 16 x ⅜ - FIELD WELD TO WT #1.
14. ℟ 5 x ⅜ - WELD TO L# 15 WITH ONE LINE OF ¼ MAX. FILLET WELD, N.S. & F.S.
15. ℟ 2 x ⅜ - FIELD WELD TO BAR # 3.
16. ⅝"ø STUDS x 6⅜ LONG. WELD TO ℟'s # 13 AND # 14.
17. BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND ½"ø BOLT. PROVIDE 9/16"ø HOLES AT 3'-0 CENTERS IN WT #1 AND L# 2 FOR BOLT
18. L 3 x 2 x 3/16 x RDWY. WIDTH. ONE WELDED FIELD SPLICE WILL BE PERMITTED. SEE DETAIL # 19.
19. ⅜"ø STUDS x 4" LONG. WELD TO L# 18 AT 6" ALTERNATE CENTERS.

EXPANSION JOINT NOTES

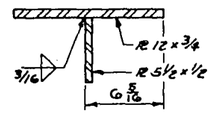
EXPANSION JOINT SHALL BE BUILT TO CONFORM TO ROADWAY S.E. AND GRADE.

AFTER CONCRETE HAS SET THE JOINT OPENING SHALL BE THOROUGHLY CLEANED AND BOLTS # 4 REMOVED AND THE HOLES FILLED WITH HOT POURED ELASTIC JOINT SEALER.

APPLY ± 1/16" COAT OF BITUMASTIC TO METAL SURFACES FORMING JOINT AND FILL OPENING WITH HOT POURED ELASTIC JOINT SEALER.

ALL MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL CARBON STEEL."

PLACE L# 18 AT BOTH ABUTMENTS.



No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const Spec 1969	Drawn By FWG	Plans Checked JG

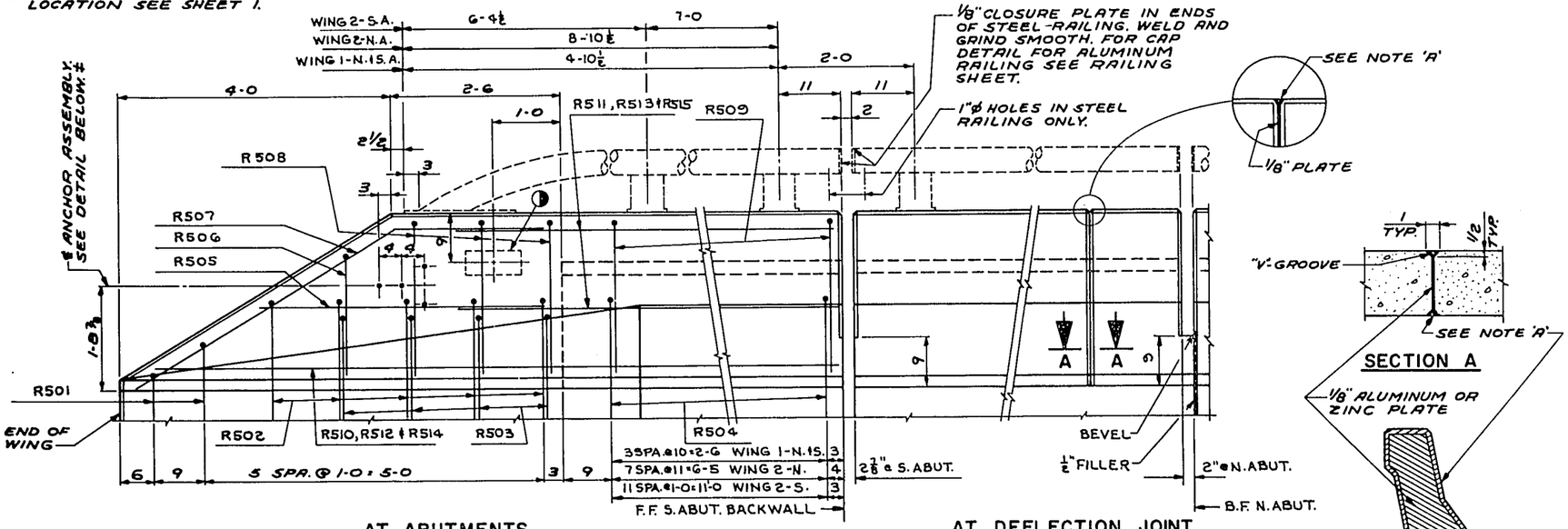
EXPANSION JOINT & BEARING DETAILS

SHEET 11 OF 13

X45730

FEDERAL PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
1196-5-73		
~~EMP-F08-4(40)~~	63	188

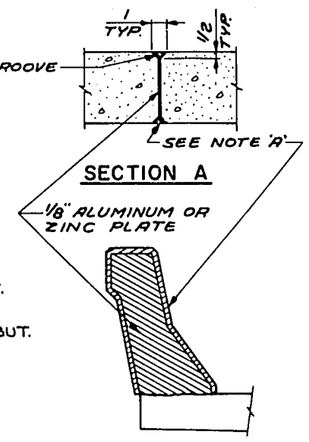
NAME PLATE - FOR LOCATION SEE SHEET 1.



AT ABUTMENTS

AT DEFLECTION JOINT

ELEVATION OF RAIL PARAPET



SECTION A

SECTION B

NOTES

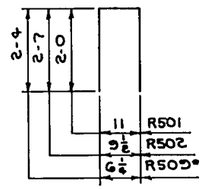
WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION 'B' BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.

WORK THIS SHEET WITH SHEET TITLED "DETAILS FOR TYPE 'J' TUBULAR ALUMINUM OR STEEL RAILING."

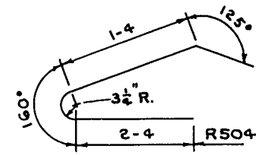
ALL POST SPACINGS ARE TAKEN HORIZONTALLY ALONG ℄ OF RAILING AT BASE OF POSTS. ALL POSTS SHALL BE SET NORMAL TO GRADE.

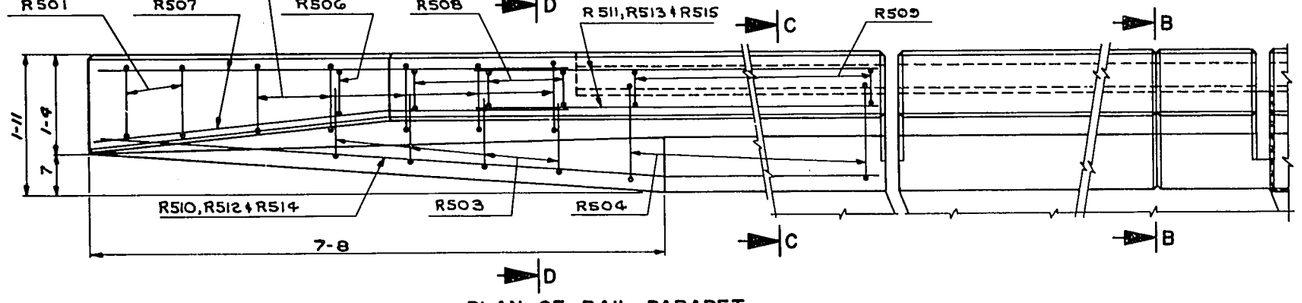
NOTE 'A' - FILL WITH NON-STAINING, GRAY, NON-BITUMINOUS JOINT SEALER.

‡ PLACE ANCHOR ASSEMBLY AT ALL ABUTMENT WINGS WHERE ATTACHMENT FOR BEAM TYPE GUARD RAIL IS REQUIRED. SEE SHEET 1.

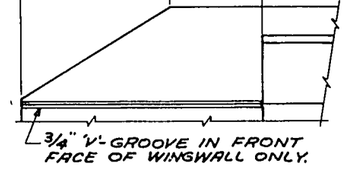


* BEND R509 AROUND A 5" DIAMETER PIN

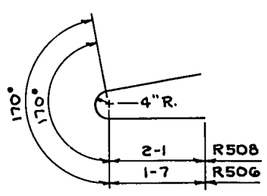


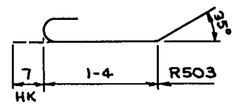


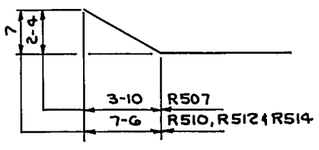
PLAN OF RAIL PARAPET

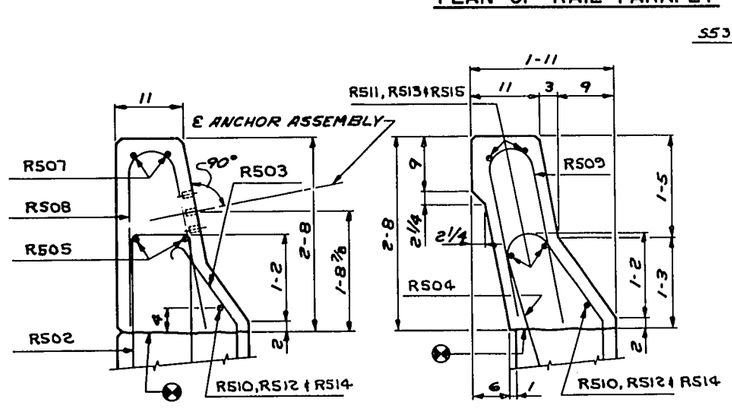


VIEW SHOWING FRONT FACE OF RAIL PARAPET
(TYPICAL ALL WINGS)



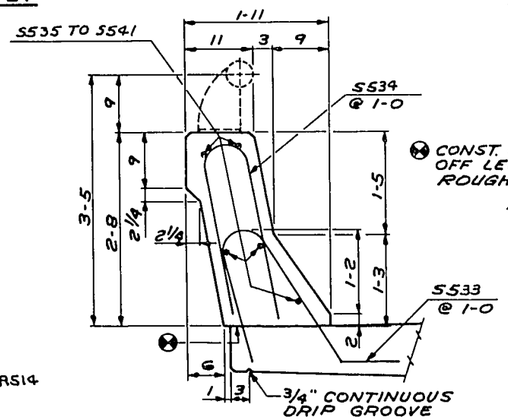




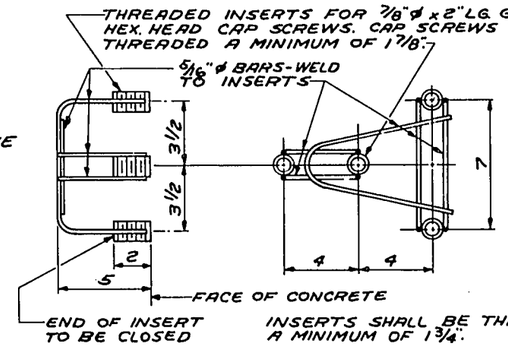


SECTION D

SECTION C



SECTION THRU RAIL PARAPET ON BRIDGE



DETAIL OF ANCHOR ASSEMBLY

ASSEMBLY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL CARBON STEEL."

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

Const Spec 1969	Drawn By FWG	Plans Checked JG

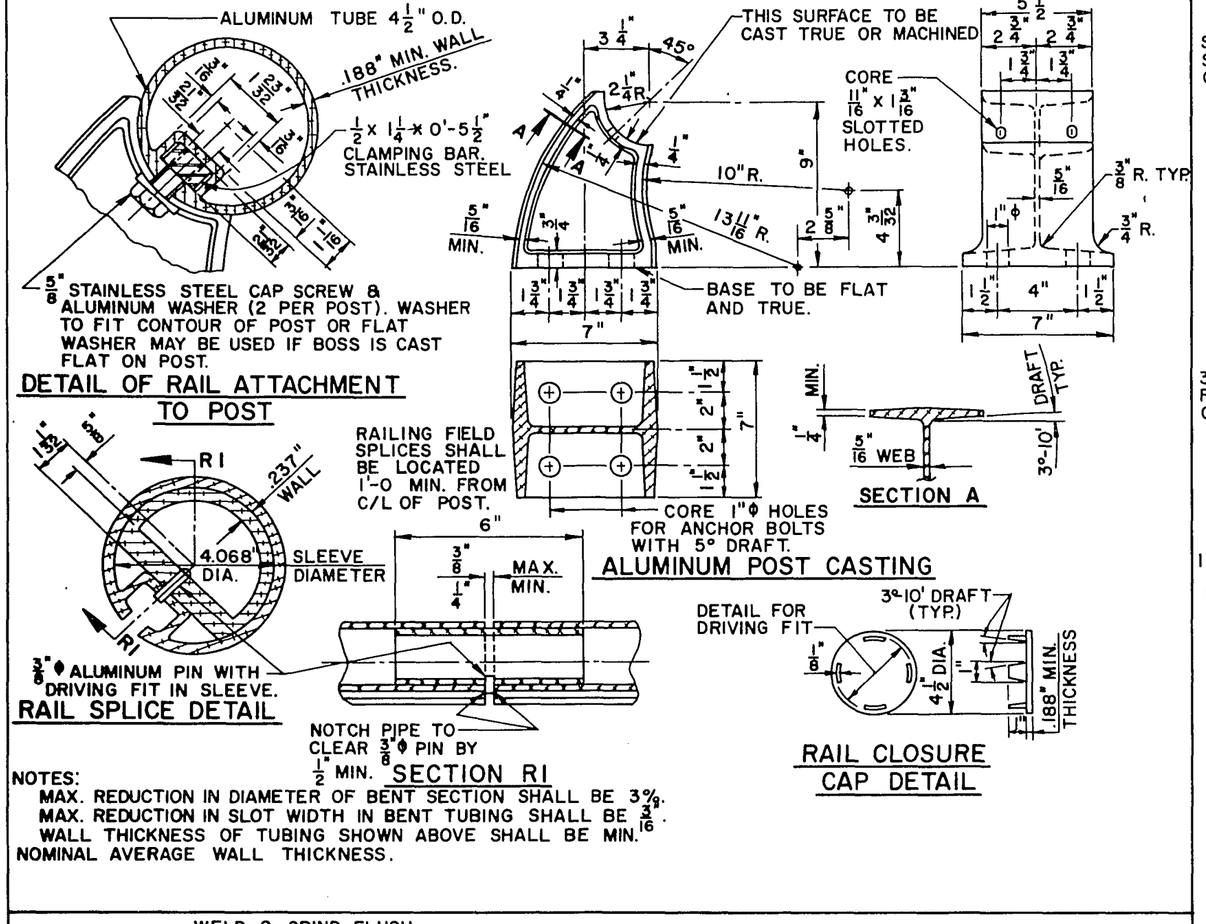
RAIL PARAPET DETAILS

SHEET 12 OF 13

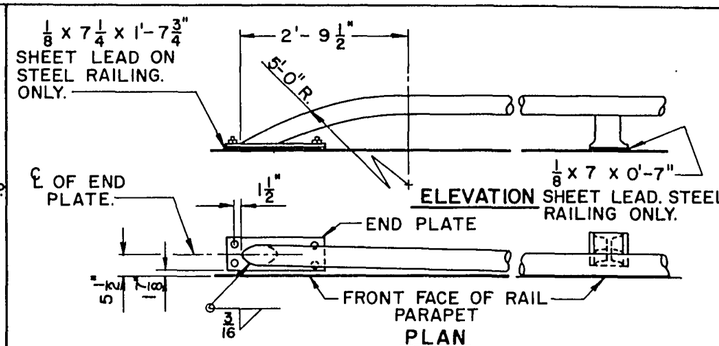
X45731

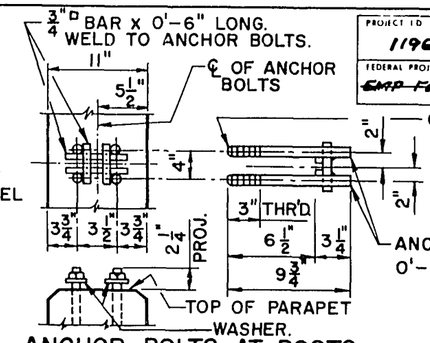
Form E-B-12-69

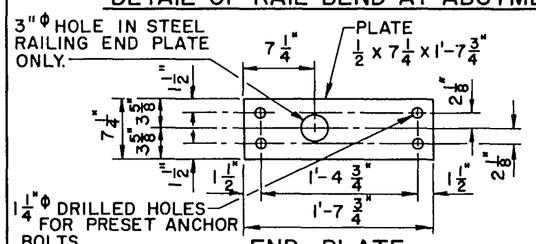
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-78	64	188
FEDERAL PROJECT DESIGNATION ~~EMSP-FOB-4(98)~~		

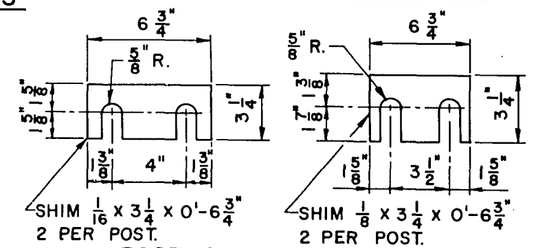


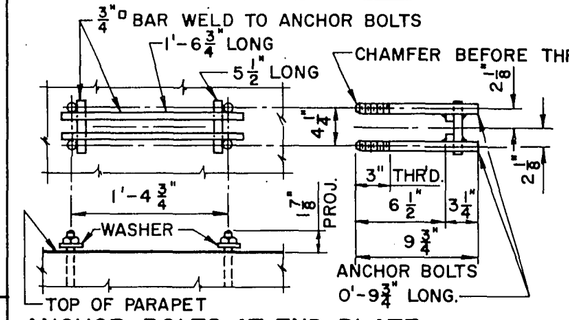
NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16.
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.











GENERAL NOTES

BID ITEM SHALL BE TUBULAR RAILING, TYPE 'J'.

ALL POST SPACINGS ARE TAKEN HORIZONTALLY ALONG C/L OF ANCHOR BOLTS.

RAILING SHALL BE FABRICATED IN TWO OR THREE PANEL LENGTHS.

SHIMS CONFORMING TO SAME MATERIAL AS POSTS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.

RAIL POSTS SHALL BE SET NORMAL TO GRADE.

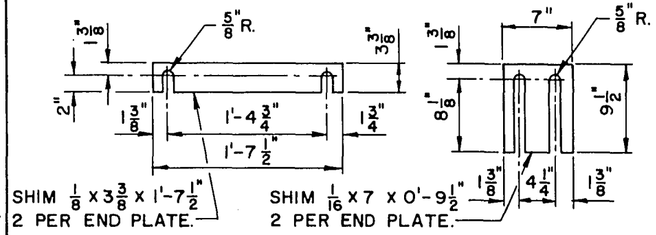
THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MIN. OF 0.62 INCHES.

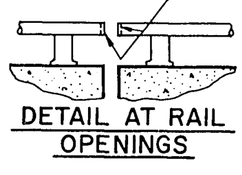
ANCHOR BOLTS, NUTS & WASHERS FOR ALUMINUM RAILING SHALL BE STAINLESS STEEL.

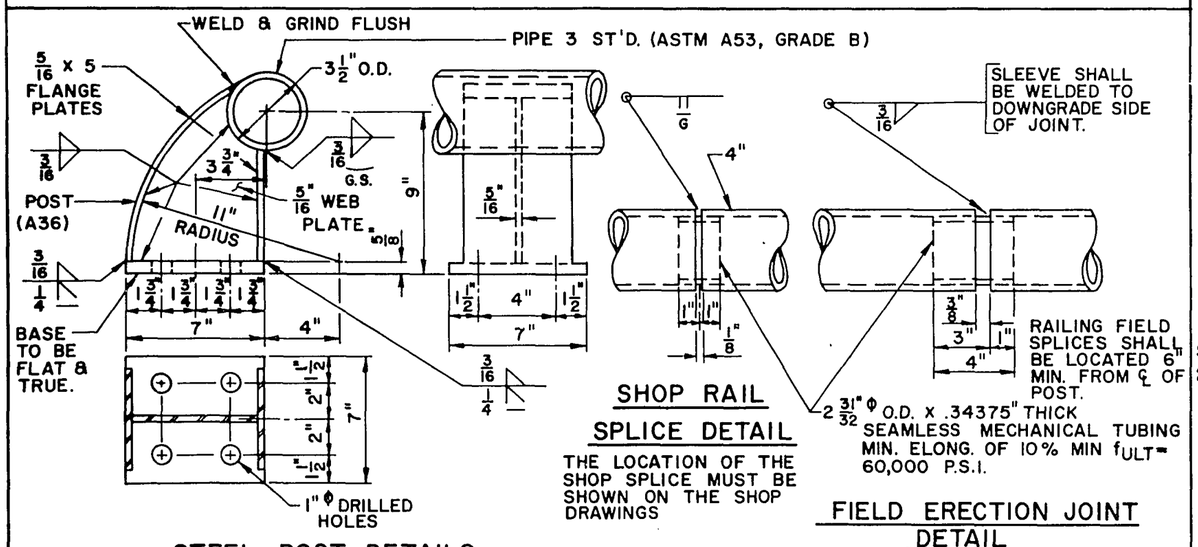
ANCHOR BOLTS, NUTS & WASHERS FOR STEEL RAILING SHALL BE EITHER STAINLESS STEEL OR ASTM A307. IF A307 IS USED ELECTRO-GALVANIZE NUTS, WASHERS & TOP 3½" OF ANCHOR BOLTS.

SHIMS SHALL CONFORM TO SAME MATERIAL AS POSTS.

RAILS SHALL BE BUILT STRAIGHT AND SPRUNG INTO PLACE.







NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-30

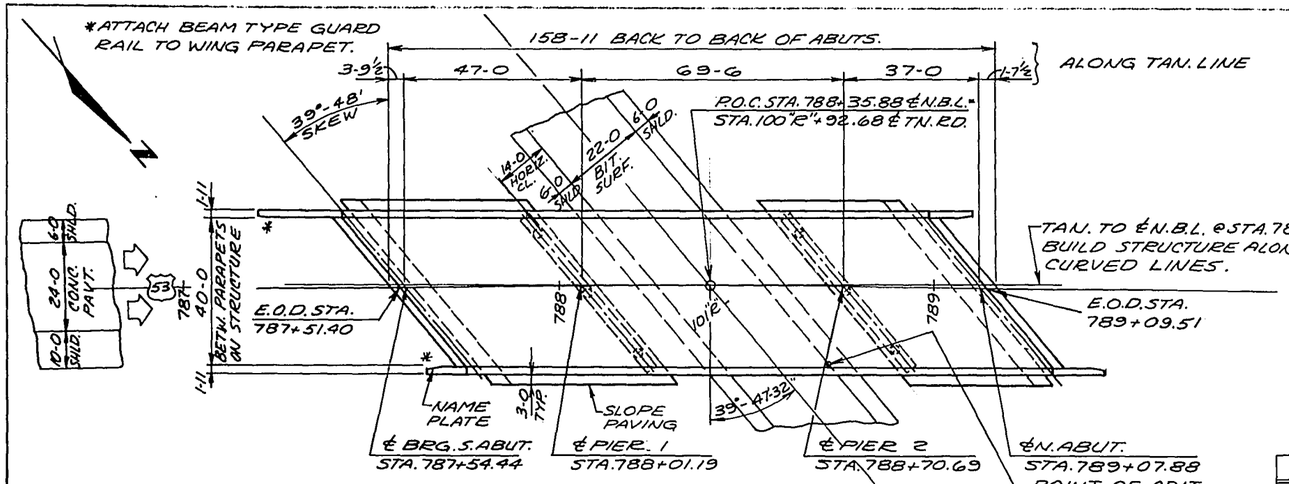
Const. Spec.	Drawn By	Plans Checked
1989	FWG	JG

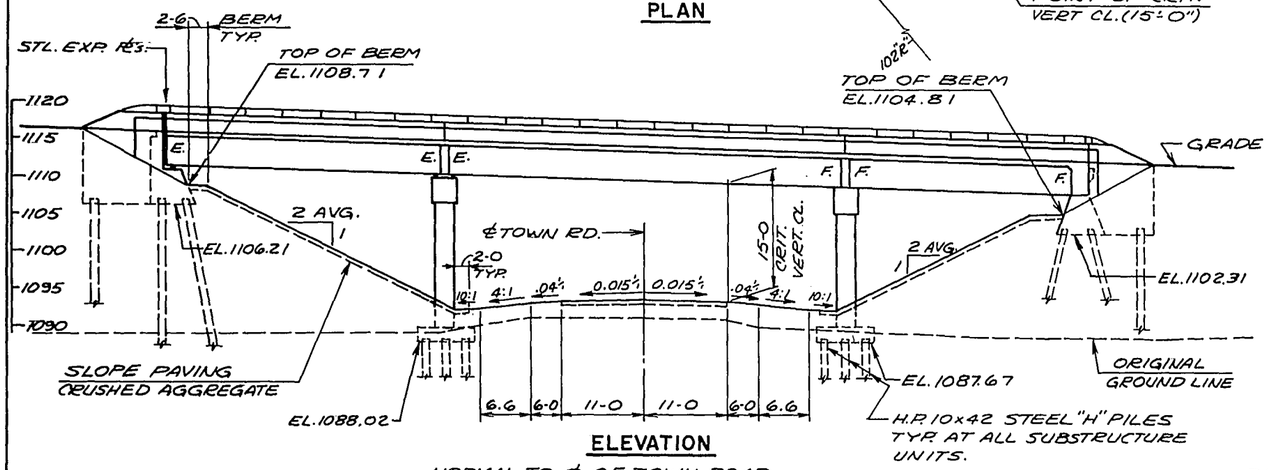
TUBULAR RAILING TYPE 'J'

SHEET 13 OF 13

X45732

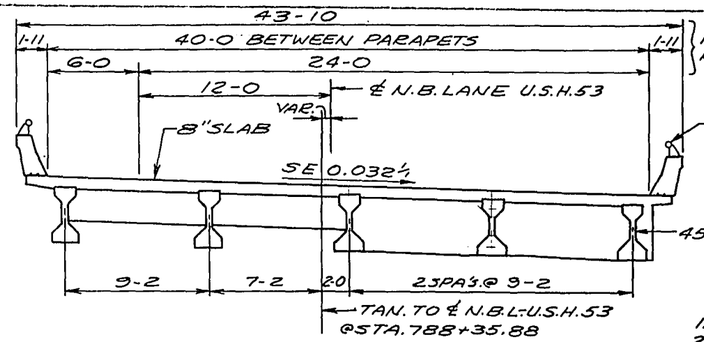
Form E B 1-66





ELEVATION

NORMAL TO ℄ OF TOWN ROAD



CROSS SECTION THRU ROADWAY

NORMAL TO TAN. TO ℄ N.B.L., LOOKING NORTH

TOTAL ESTIMATED QUANTITIES

BID ITEMS	UNIT	S.ABUT.	PIER 1	PIER 2	N.ABUT.	SUPER.	TOTAL
EXCAVATION FOR STRUCTURES	C.Y.	51	63	60	47	—	221
CONCRETE MASONRY	C.Y.	104	58	54	68	260	544
PRESTRESSED GIRDER, I TYPE, 45 INCH	L.F.	—	—	—	—	770	770
BAR STEEL REINFORCEMENT	LBS.	5880	8740	8440	3890	64,490	91,440
STRUCTURAL CARBON STEEL	LBS.	—	—	—	—	3960	3960
STRUCTURAL LOW ALLOY STEEL	LBS.	—	—	—	—	2710	2710
LUBRICATED BRONZE PLATES	LBS.	—	—	—	—	239	239
BEARING PADS	S.F.	—	—	—	—	22	22
BEARING PADS, ELASTOMERIC	S.F.	—	—	—	—	24	24
STEEL PILING, HP 10x42 DEL. & DRIVEN	L.F.	990	880	720	900	—	3490
TUBULAR RAILING, TYPE "J"	L.F.	—	—	—	—	355	355
SLOPE PAVING, CRUSHED AGGREGATE	S.Y.	273	—	—	214	—	487
NON-BID ITEMS							
FILLER	SIZE	—	—	—	—	½", ¾"	½", ¾"
⅛" ALUMINUM OR ZINC ℄	S.F.	—	—	—	—	45	45
POLYVINYL CHLORIDE WATERSTOP	L.F.	—	—	—	50	—	50

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE IMBEDDED 2" CL. UNLESS OTHERWISE SHOWN OR NOTED.

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

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH CRUSHED AGGREGATE TO THE EXTENT SHOWN ON THIS SHEET & IN THE ABUTMENT DETAILS.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE ABUTMENTS SHALL BE THE BOTTOM OF SLOPE PROTECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE.

THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES FOR THE PIERS SHALL BE THE FINISHED GRADED SECTION & THE QUANTITIES WERE COMPUTED FROM THIS LINE.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH & TRUE.

LIST OF DRAWINGS

1. GENERAL PLAN ____ X45733
2. SUB SURFACE EXPLORATION ____ X45734
3. SOUTH ABUTMENT ____ X45735
4. ABUTMENT BILL OF BARS ____ X45736
5. NORTH ABUTMENT ____ X45737
6. PIER 1 ____ X45738
7. PIER 2 ____ X45739
8. PRESTRESSED GIRDER DETAILS ____ X45740
9. SUPERSTRUCTURE ____ X45741
10. SUPERSTRUCTURE ____ X45742
11. EXPANSION JOINT & BEARING DETAILS ____ X45743
12. RAIL PARAPET DETAILS ____ X45744
13. TUBULAR RAILING, TYPE "J" X45745

DESIGN DATA

LIVE LOAD: H520

ALLOWABLE DESIGN STRESSES:

CONCRETE MASONRY, GRADE "AA"

SLAB ____ fc = 1200 PSI

ALL OTHERS ____ fc = 1400 PSI

BAR STEEL REINFORCEMENT ____ fs = 20,000 PSI

PRESTRESSED GIRDERS

CONCRETE MASONRY ____ fc = 6,000 PSI

STRANDS ½"ϕ WITH ULTIMATE TENSILE STRENGTH OF ____ 270,000 PSI

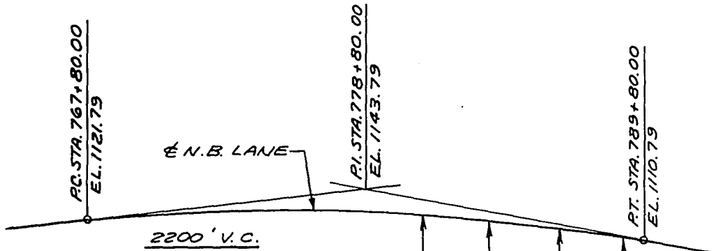
FOUNDATION DATA:

ABUTS. SHALL BE SUPPORTED ON HP 10x42 STEEL "H" PILES DRIVEN TO A MIN. BRG. VALUE OF 25 T./PILE - EST. 55'-0" LG. AT S.ABUT. & EST. 50'-0" LG. AT N.ABUT.

PIERS SHALL BE SUPPORTED ON HP 10x42 STEEL "H" PILES DRIVEN TO A MIN. BRG. VALUE OF 37 T./PILE - EST. 40'-0" LG. @ EACH PIER.

TRAFFIC VOLUME:

	USH 53	TOWN RD.
(1980) D.H.V.	780	53
R.O.S.	80 M.P.H.	60 M.P.H.



PROFILE GRADE LINE, N.B.L. U-S-H 53

CURVE DATA

℄ N.B. LANE U.S.H. 53

P.I. STA. 809+73.28 BK = STA. 806+74.13 AH.

R = 8594.367 FT.

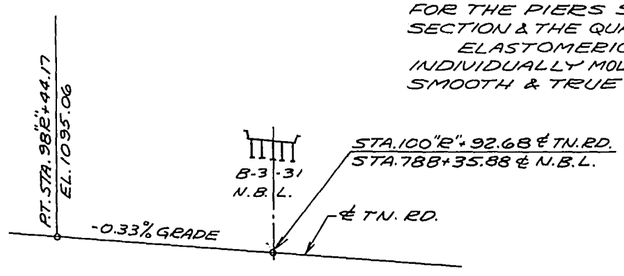
L = 6306.893 FT.

T = 3303.023 FT.

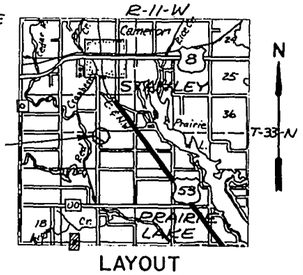
D = 0°-40'-00"

Δ = 42°-02'-45.44"

SE = 0.032 ½



PROFILE GRADE LINE, TOWN RD.



LAYOUT

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B - 3 - 31

N.B.L. U-S-H 53 OVER TOWN ROAD

County BARRON		City Village TN. OF PRAIRIE LAKE	
Design Spec A.A.S.H.O. '69		Load HS-20	Const. Spec. 1969
Designed By R.T.B.	Design Checked F.R.R.	Drawn By JG	Plans Checked DEO.

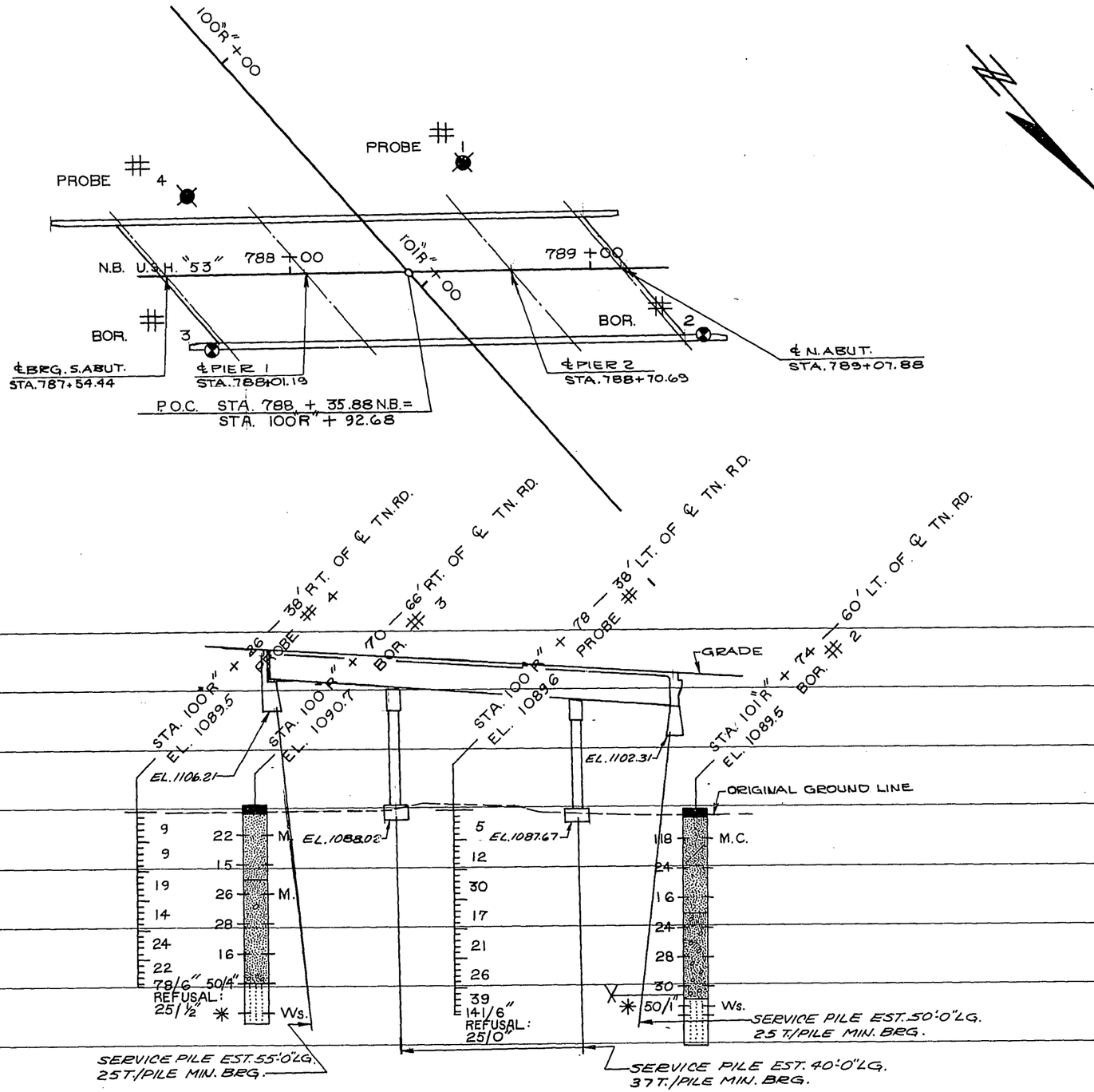
Approved W. A. Klein, Chief Bridge Engineer — Date 12-21-71

GENERAL PLAN	SHEET 1 OF 13
	X 45733

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	65	188
FEDERAL PROJECT DESIGNATION: ~~EMP-FOB-4(40)~~		

Form L-B 43-65

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	66	188
FEDERAL PROJECT DESIGNATION ~~EMR-F08-4(40)~~		



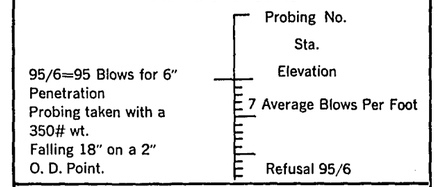
ABBREVIATIONS

F — Fine M — Medium C — Coarse
Ws — Weathered So — Sound

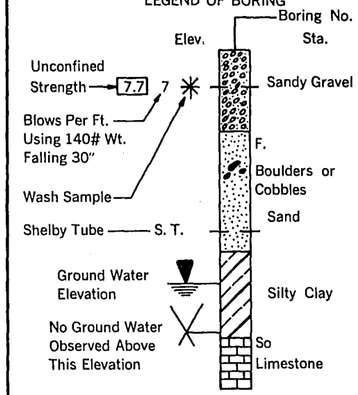
MATERIAL SYMBOLS

Topsoil, Silt, Sandstone
Sand, Peat, Limestone
Gravel, Clay, Igneous Rock

LEGEND OF PROBING



LEGEND OF BORING



Unless otherwise specified, the blows per foot at the locations indicated are based on driving a 2" O. D. x 1.4" I. D. split spoon sampler with a 140# hammer having a free fall of 30". The blow count is taken in undisturbed soil immediately below a cased or open hole eliminating side friction on the drive pipe.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

To obtain relative data concerning the character of material in and upon which the foundation might be built, borings and/or soundings were made at points approximately as indicated on this drawing. The data presented herein represents the findings of the subsurface explorations made. However, because the depths investigated are limited and the area of the borings and/or soundings is very small in relation to the entire area, the Division of Highways does not warrant conditions below the depths investigated or that the classification of material encountered in these investigations is necessarily typical of the entire site.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec.	Drawn By	Plans Checked
1969	J.J.Y.	DEO.

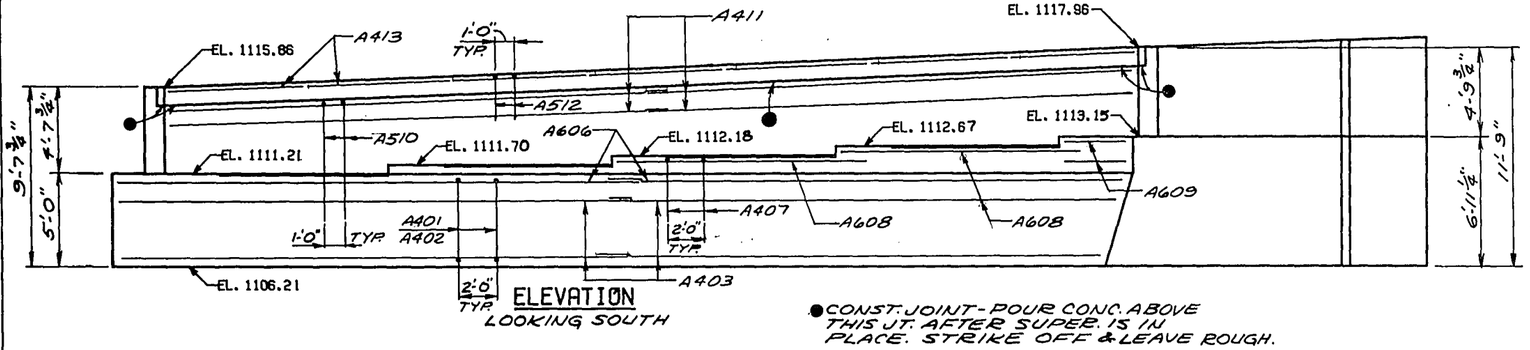
SUBSURFACE EXPLORATION

SHEET 2 OF 13

X 45734

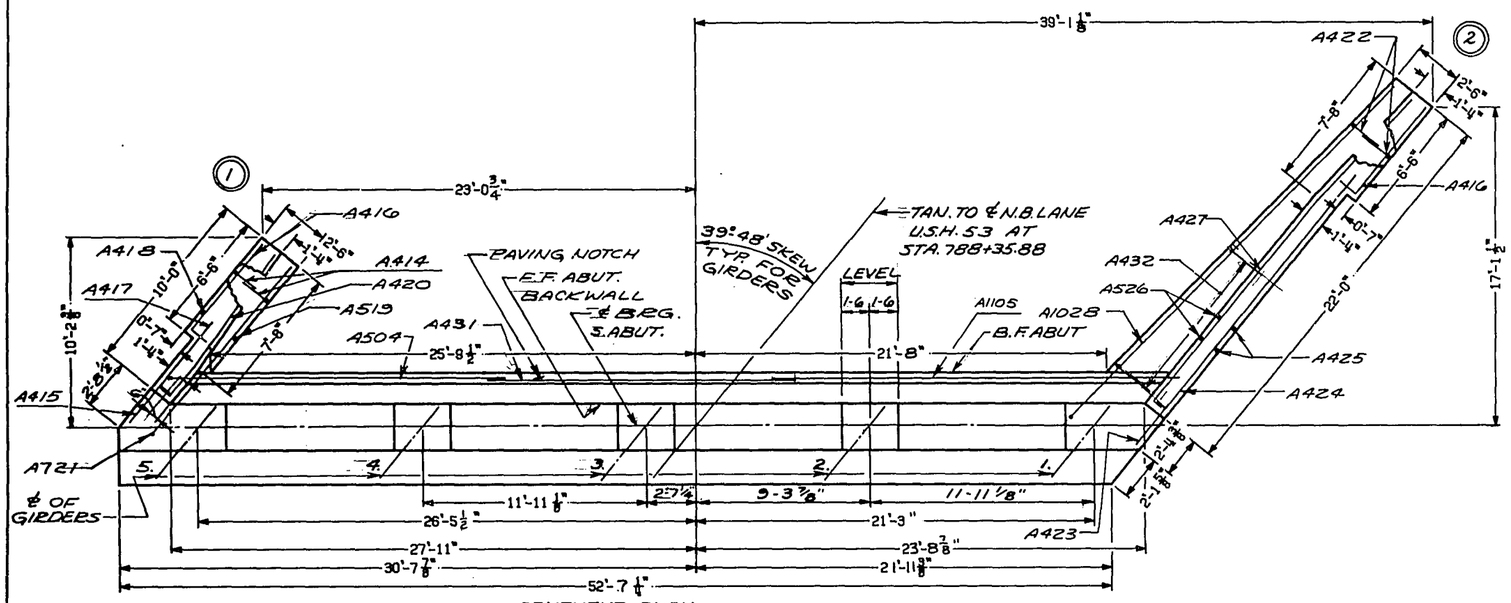
Form E-8-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	67	188
FEDERAL PROJECT DESIGNATION ~~BRIP-F08-4(40)~~		

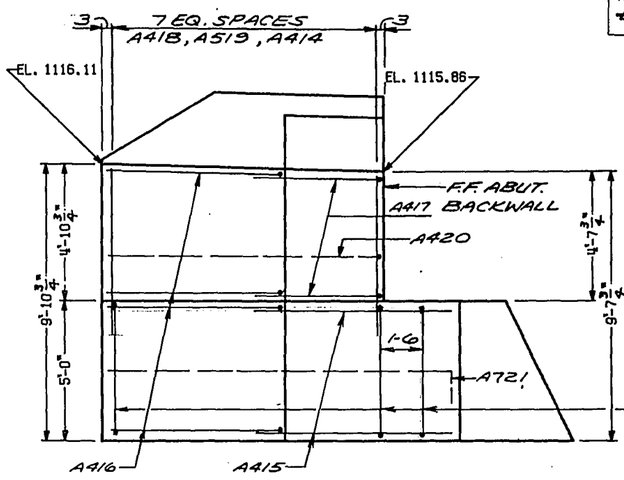


ELEVATION
LOOKING SOUTH

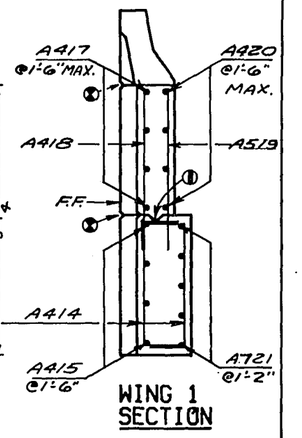
● CONST. JOINT - POUR CONC. ABOVE THIS JT. AFTER SUPER. IS IN PLACE. STRIKE OFF & LEAVE ROUGH.



ABUTMENT PLAN

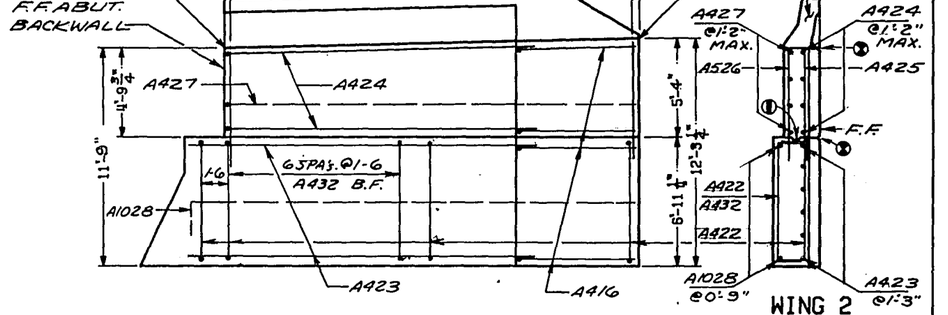


WING 1 ELEVATION



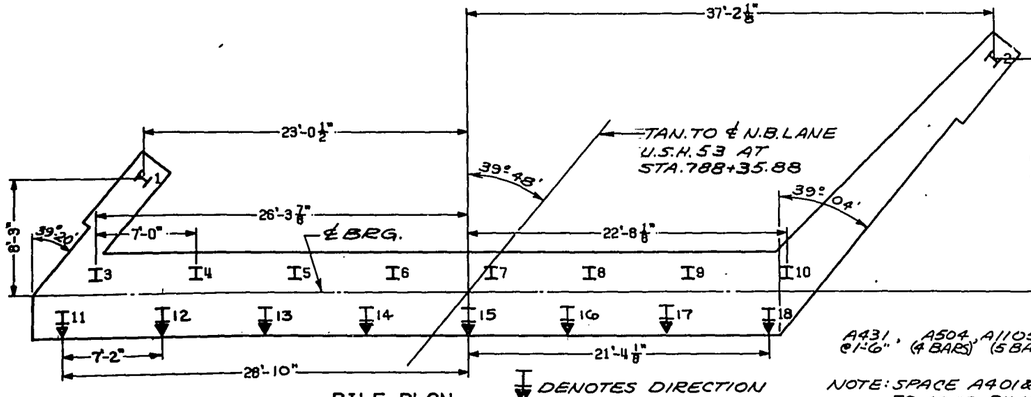
WING 1 SECTION

FOR BAR STEEL & PARAPET DETAILS SEE SHEET NO. 12.



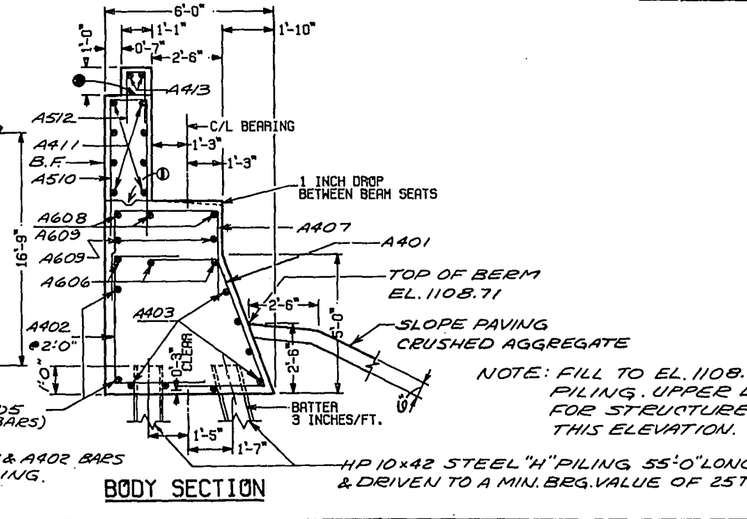
WING 2 ELEVATION

WING 2 SECTION



PILE PLAN

DENOTES DIRECTION OF BATTERED PILES. BATTER 3"/FT.



NOTE: SPACE A401 & A402 BARS TO MISS PILING.

BODY SECTION

NOTE: FILL TO EL. 1108.21 BEFORE DRIVING PILING. UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.

HP 10×42 STEEL "H" PILING 55'-0" LONG (EST.) & DRIVEN TO A MIN. BRG. VALUE OF 25 TONS/PILE.

⊠ 3/4" V-GROOVE IN FRONT FACE ONLY

◑ OPTIONAL KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"×6".

NOTE: FOR PILE SPLICE DETAIL SEE SHT. 5.

FOR BILL OF BARS, BENDING DETAILS & GRID DETAIL @ BRIDGE SEATS SEE SHT. 4.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec. 1969	Drawn By JG	Plans Checked DEO.

SOUTH ABUTMENT

SHEET 3 OF 13

X 45735

Form L-B-12-63

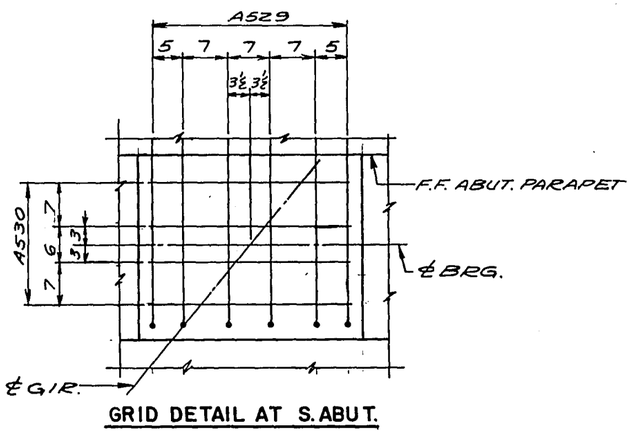
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	68	188
FEDERAL PROJECT DESIGNATION ~~EMP-F08-4(40)~~		

BILL OF BARS, SOUTH ABUT. 5,330

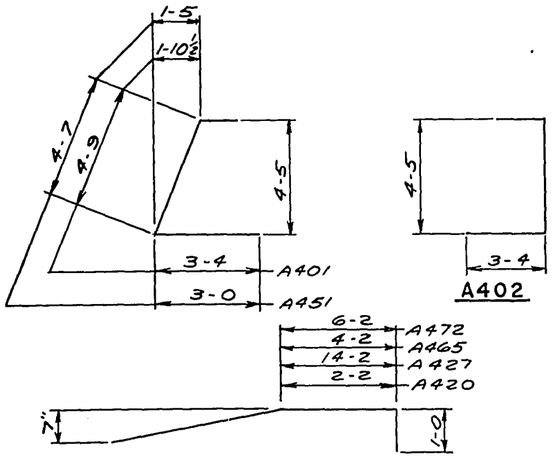
BAR MARK	NO. REQ'D.	LENGTH	BENT	LOCATION
A401	23	10-9	X	BODY, STIRRUP, F.F.
A402	23	10-5	X	" " . B.F.
A403	14	28-3		" HORIZ., F.F. & BOTT.
A504	4	11-11	X	" B.F.
A1105	5	26-3	X	" B.F. @ WING 2
A606	6	28-8		" TOP
A407	14	9-2	X	" STIRRUP
A608	6	14-2		" TOP
A609	5	3-4		" "
A510	52	10-7	X	" & BACKWALL, STIRRUP
A411	16	27-3		BACKWALL, HORIZ.
A512	52	4-7	X	" & PAVING BLOCK, STIRRUP
A413	14	7-4		PAVING BLOCK, HORIZ.
A414	17	7-6	X	WING 1, STIRRUPS, F.F. & B.F.
A415	4	7-6		" 1, HORIZ. F.F.
A416	18	7-7	X	" 1&2 " F.F.
A417	4	5-9	X	" 1 " F.F.
A418	8	5-9		" 1 VERT. F.F.
A519	8	6-0		" 1 " B.F.
A420	4	10-8	X	" 1 HORIZ. B.F.
A721	5	12-4	X	" 1 " B.F.
A422	26	10-1	X	" 2 STIRRUPS, F.F. & B.F.
A423	6	19-0		" 2 HORIZ., F.F.
A424	4	17-9	X	" 2 " F.F.
A425	16	6-2		" 2 VERT., F.F.
A526	16	6-5		" 2 " B.F.
A427	4	22-8	X	" 2 HORIZ., B.F.
A1028	9	26-4	X	" 2 " B.F.
A529	30	4-11	X	GRID @ BRIDGE SEAT
A530	20	2-8		" " " "
A431	4	18-9		BODY - HORIZ.
A432	7	11-9	X	WING 2 - STIRRUPS - B.F.

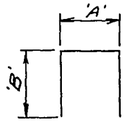
BILL OF BARS, NORTH ABUT. 3,440

BAR MARK	NO. REQ'D	LENGTH	BENT	LOCATION
A451	46	9-3	X	BODY STIRRUPS
A452	12	28-6		" HORIZ., F.F. & BOTT.
A453	4	25-0		" " B.F.
A954	8	17-3	X	" " B.F. @ WING 3 & 4
A655	4	28-8		" HORIZ.
A656	42	8-2	X	" STIRRUPS
A657	2	21-0		" HORIZ.
A658	2	41-6		" "
A559	32	2-6		" DOWELS
A460	20	10-4	X	WING 3, STIRRUPS, F.F. & B.F.
A461	6	11-3		" 3, HORIZ., F.F.
A462	18	7-7	X	" 3&4 " F.F.
A1063	5	15-5	X	" 3 " B.F.
A464	4	7-11	X	" 3 " F.F.
A465	4	12-8	X	" 3 " B.F.
A466	9	5-4		" 3 VERT., F.F.
A567	9	5-7		" 3 " B.F.
A468	21	8-4	X	" 4, STIRRUPS, F.F. & B.F.
A469	4	11-0		" 4, HORIZ., F.F.
A1070	5	18-0	X	" 4 " B.F.
A471	4	9-11	X	" 4 " F.F.
A472	4	14-8	X	" 4 " B.F.
A473	10	5-1		" 4 VERT., F.F.
A574	10	5-4		" 4 " B.F.

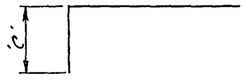


GRID DETAIL AT S. ABUT.





BAR MARK	DIM. 'A'	DIM. 'B'
A407	3-10	2-9
A510	1-4	4-9
A512	8"	2-1
A414	4-6	1-7
A422	6-5	1-11
A656	2-2	3-2
A460	6-6	2-0
A468	4-6	2-0
A432	6-5	2-9



BAR MARK	DIM. 'C'
A417	1-0
A416 A462	1-6
A464, A471	1-0
A721	1-2½
A529	1-3
A1028	1-11
A504	9"
A1063, A1070	1-11
A954	1-7

NOTE: FOR RAIL PARAPET BARS AT ABUT. WINGWALLS SEE SHT. NO. 12.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec.	Drawn By	Plans Checked
1969	JH	DEO

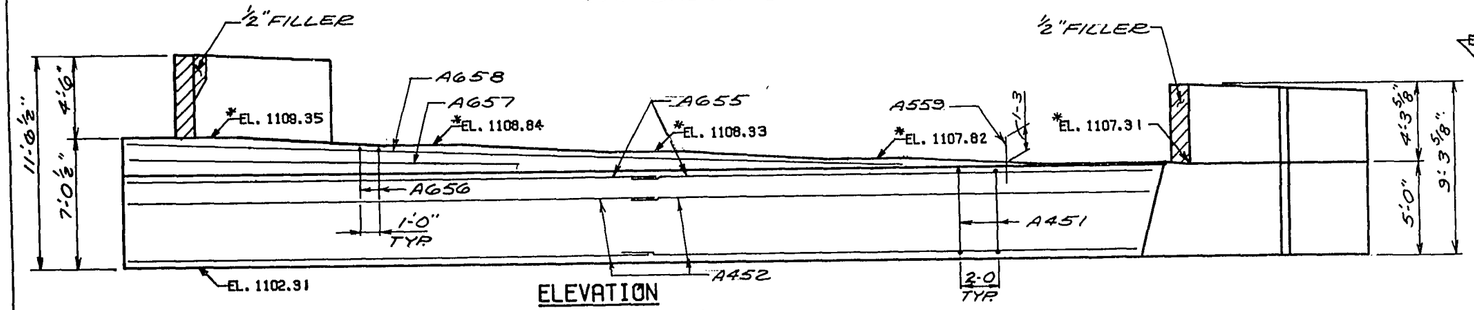
ABUTMENT
BILL OF BARS

SHEET 4 OF 13

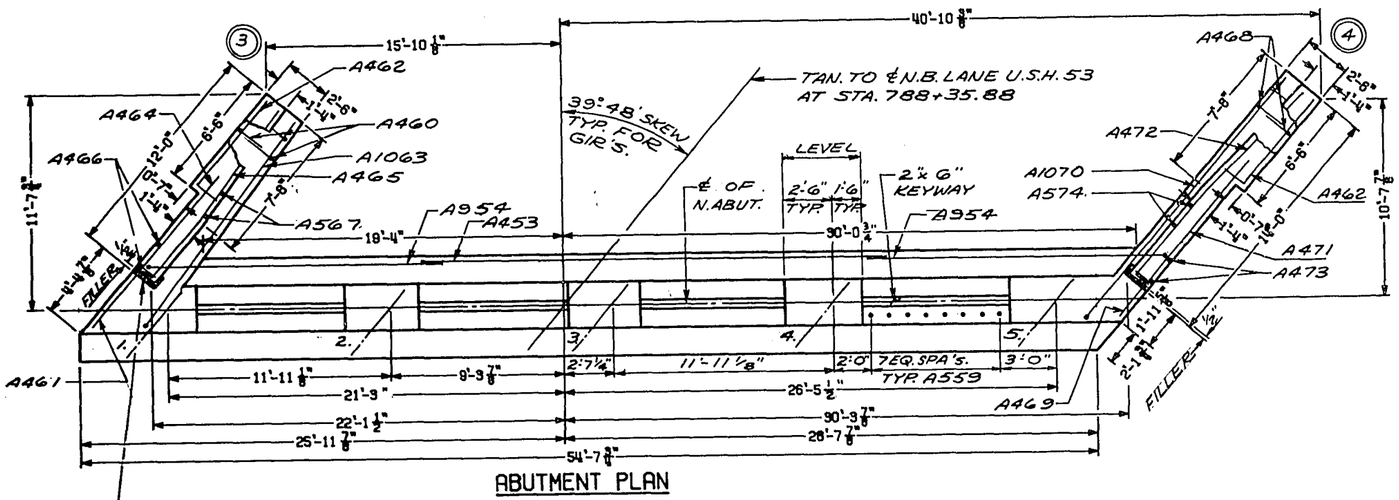
X 45736

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	69	188
FEDERAL PROJECT DESIGNATION ~~EMP F08-4(40)~~		

* AT BACK FACE OF ABUTMENT



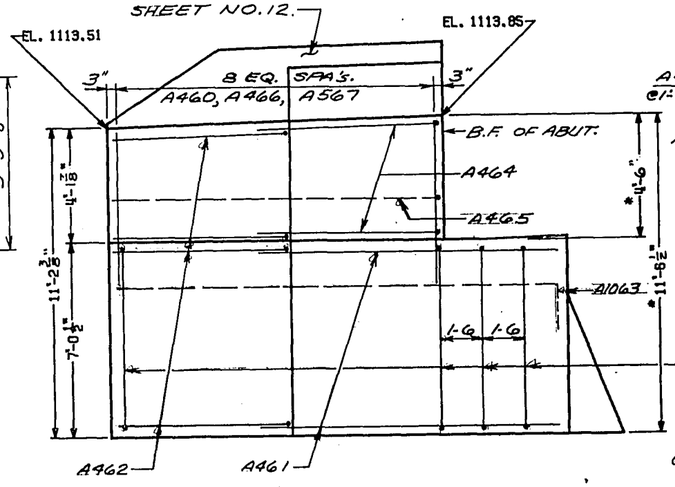
ELEVATION
LOOKING NORTH



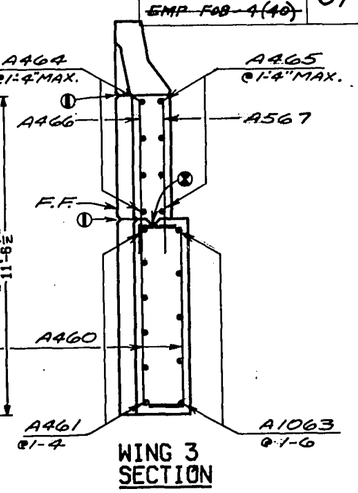
ABUTMENT PLAN

SEAL ALL EXPOSED HORIZ. & VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP & HELD ⅛" BELOW SURFACE OF CONCRETE.)

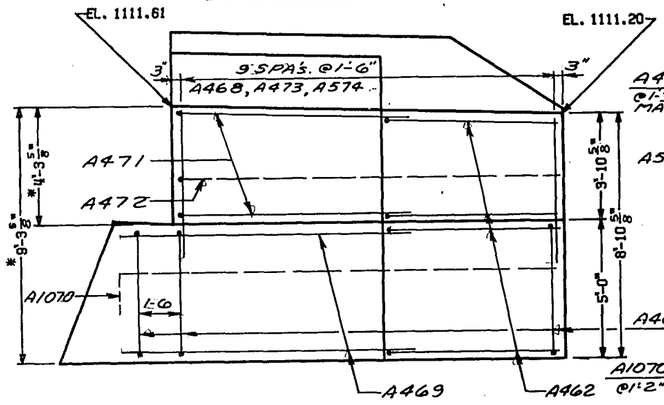
FOR BAR STEEL & DETAILS OF RAIL PARAPET SEE SHEET NO. 12.



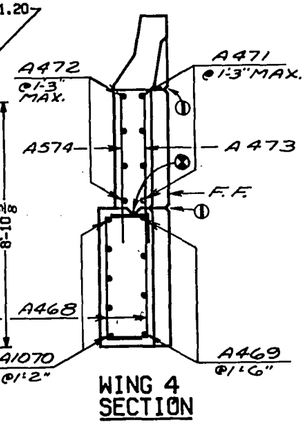
WING 3 ELEVATION



WING 3 SECTION

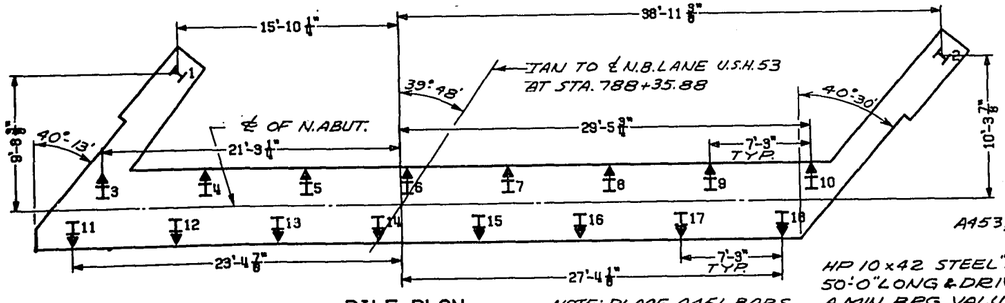


WING 4 ELEVATION



WING 4 SECTION

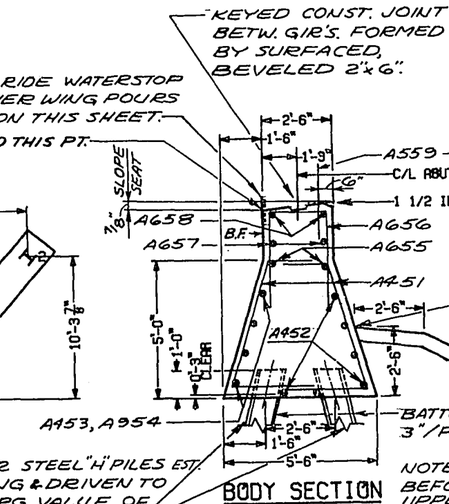
① KEYED CONST. JOINT FORMED BY SURFACED, BEVELED 2"x6". POUR CONC. ABOVE THIS JOINT AFTER SUPER. CONC. IS IN PLACE.
① ¾" V-GROOVE IN FRONT FACE ONLY.



PILE PLAN

▲ DENOTES DIRECTION OF BATTERED PILE. BATTER 3" PER FT.

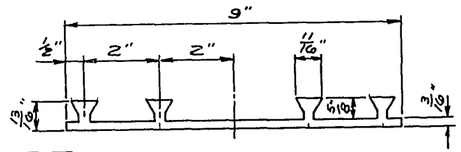
NOTE: PLACE A451 BARS TO MISS PILING



HP 10x42 STEEL "H" PILES EST. 50'-0" LONG & DRIVEN TO A MIN. BRG. VALUE OF 25 TONS/PILE.

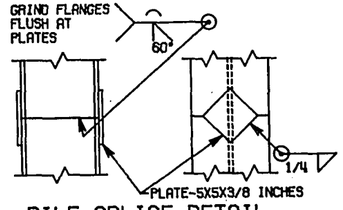
BODY SECTION

NOTE: FILL TO EL. 1104.31 BEFORE DRIVING PILING. UPPER LIMITS OF EXCAVATION FOR STRUCTURES" SHALL NOT EXCEED THIS ELEVATION.



POLYVINYL CHLORIDE WATERSTOP

A559 BARS MAY BE PLACED IMMEDIATELY AFTER CONC. IS POURED.



PILE SPLICE DETAIL

NOTE: FOR BILL OF BARS AND BENDING DETAILS SEE SHEET NO. 4.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

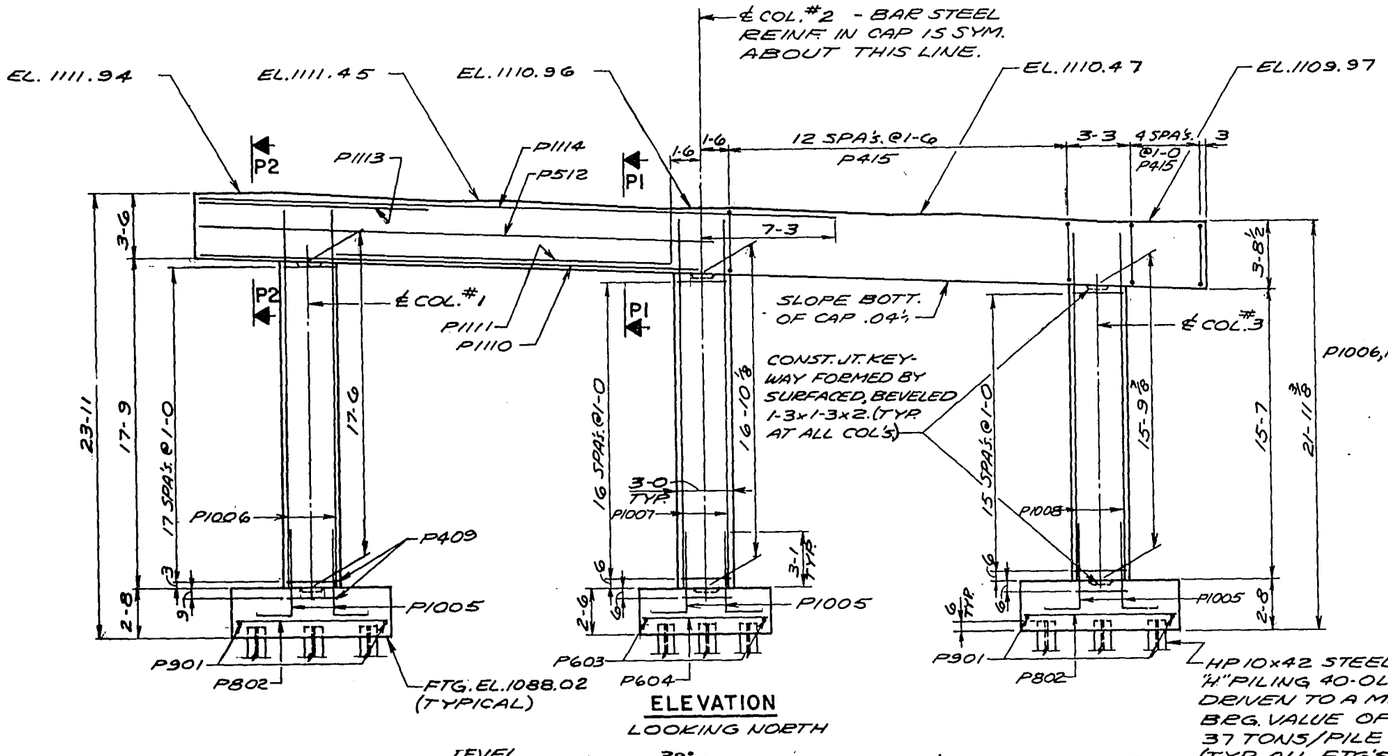
Const. Spec. 1969	Drawn By JG	Plans Checked DEO

NORTH ABUTMENT

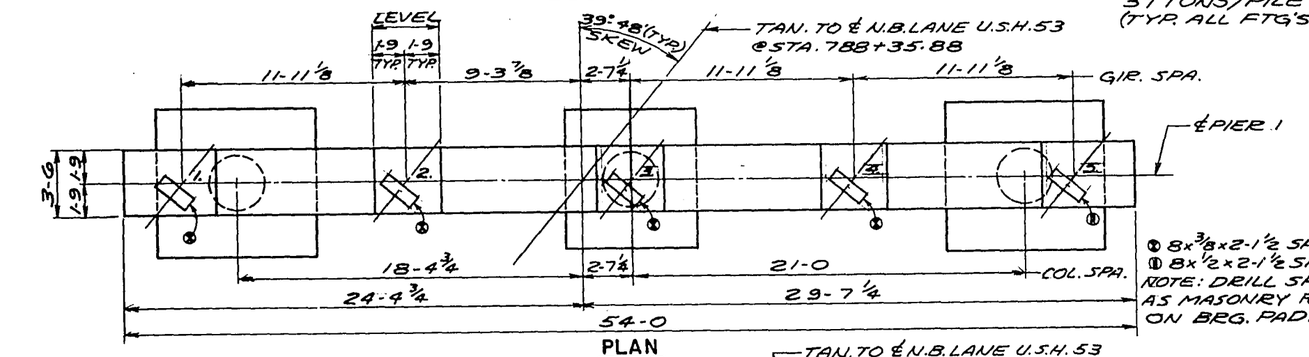
SHEET 5 OF 13

X 45737

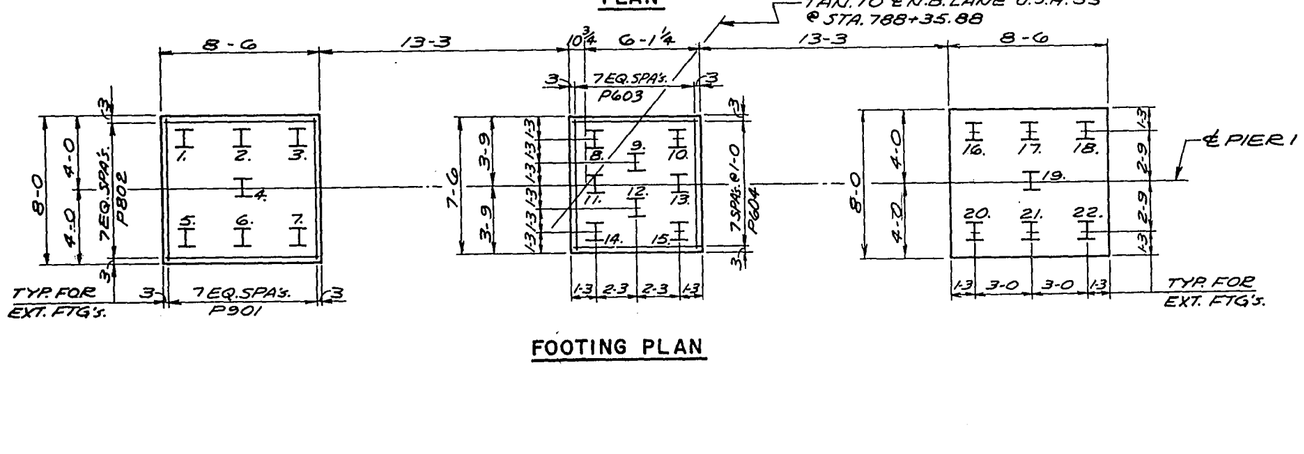
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	70	188
FEDERAL PROJECT DESIGNATION ~~EMP-FDS-4(40)~~		



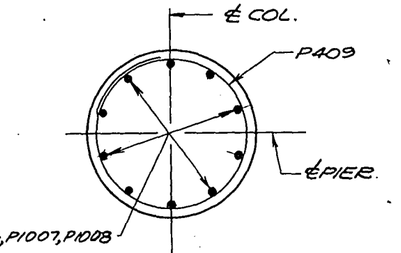
ELEVATION
LOOKING NORTH



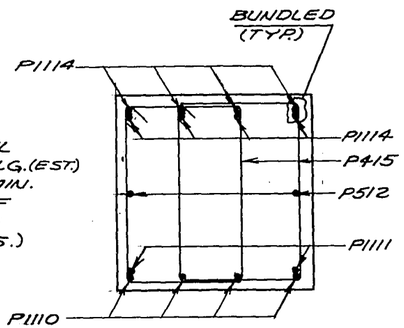
PLAN



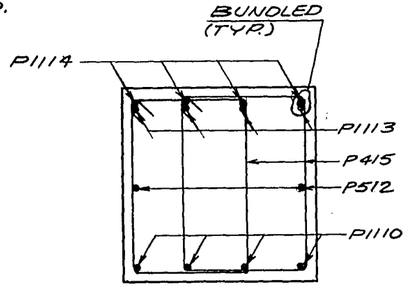
FOOTING PLAN



TYPICAL SECT. THRU COL.
NOTE: PLACE P1005 BARS SAME AS P1006, P1007 & P1008 BARS.



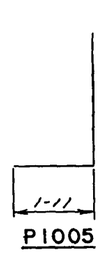
SECTION P1



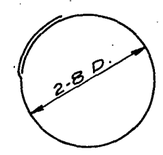
SECTION P2

BILL OF BARS 8,740#

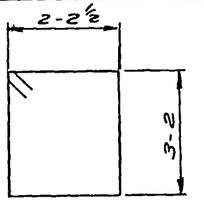
BAR MARK	NO. REQ'D.	LENGTH	BENT	BUNDLED	LOCATION
P901	16	7-6			EXTERIOR FOOTING
P802	16	8-0			" "
P603	8	7-0			INTERIOR "
P604	8	6-6			" "
P1005	30	6-4	X		FOOTING, COL. DOWELS
P1006	10	20-6			COL. #1 - VERT.
P1007	10	19-10			" #2 "
P1008	10	18-9			" #3 "
P409	54	9-5	X		" HOOPS - COL's & FTG's.
P1110	8	26-6		X	CAP, BOTT
P1111	4	18-0		X	" "
P512	4	27-10			" SIDES
P1113	8	12-3		X	" TOP
P1114	8	34-0		X	" "
P415	72	11-3	X		". STIRRUPS



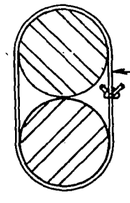
P1005



P409



P415



BUNDLING DETAIL

NOTE: FOR PILE SPLICE DETAIL SEE SHEET NO. 5

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec. 1969	Drawn By JG	Plans Checked DEO

PIER 1

SHEET 6 OF 13

X 45738

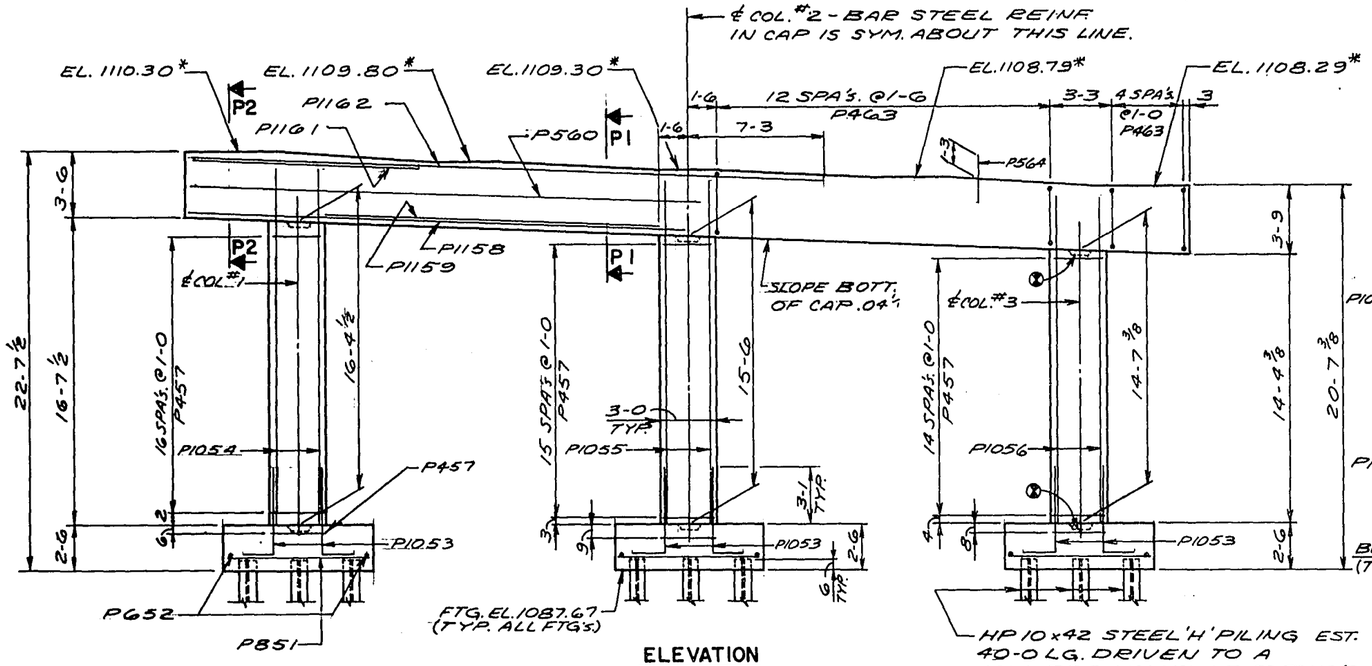
Form E-6-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	71	188
FEDERAL PROJECT DESIGNATION ~~EMP-F&B-4(40)~~		

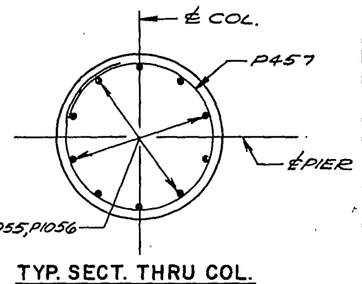
* BRIDGE SEAT ELEVS. ARE AT NORTH EDGE OF CAP.

② CONST. JT. KEYWAY FORMED BY SURFACED, BEVELED 1-3 x 1-3 x 2 (TYP. AT ALL COL'S.)

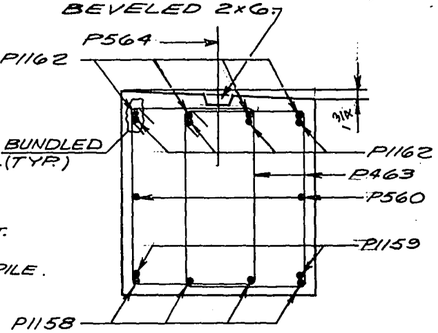
NOTE: PLACE P1053 BARS SAME AS VERT. COL. BARS



ELEVATION
LOOKING NORTH



TYP. SECT. THRU COL.



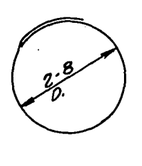
SECTION P1

NOTE: P564 BARS MAY BE PLACED IMMEDIATELY AFTER CAP IS POURED.

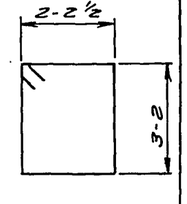
BILL OF BARS 8,440#

BAR MARK	NO. REQ'D.	LENGTH	BENT	BUNDLED	LOCATION
P851	24	7-6			FOOTINGS
P652	24	6-6			"
P1053	30	6-4	X		" COL. DOWELS
P1054	10	19.4			COL. #1 - VERT
P1055	10	18-6			" #2 "
P1056	10	17-7			" #3 "
P457	51	9-5	X		" HOOPS - COL'S. & FTG'S.
P1158	8	26-6		X	CAP - BOTT.
P1159	4	18-0		X	" "
P560	4	27-10		X	" SIDES
P1161	8	12-3		X	" TOP
P1162	8	34-0		X	" "
P463	72	11-3	X		" STIRRUPS
P564	28	2-6			" DOWELS

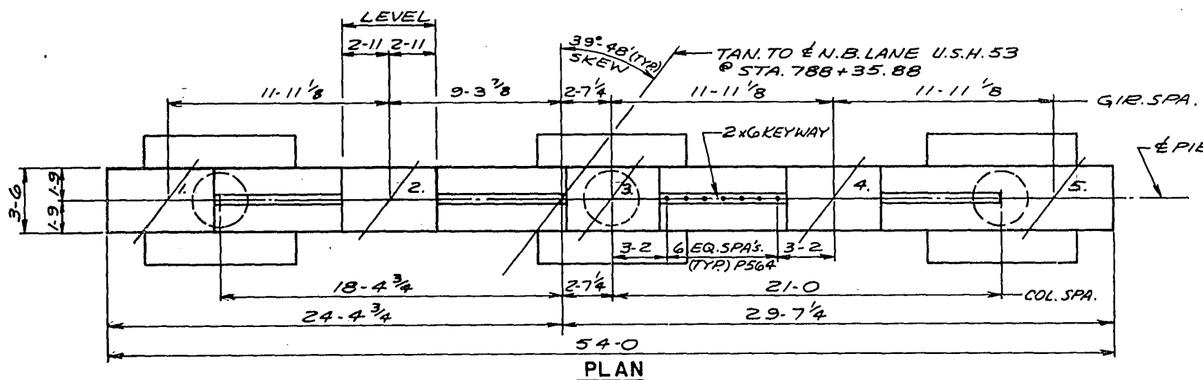
P1053



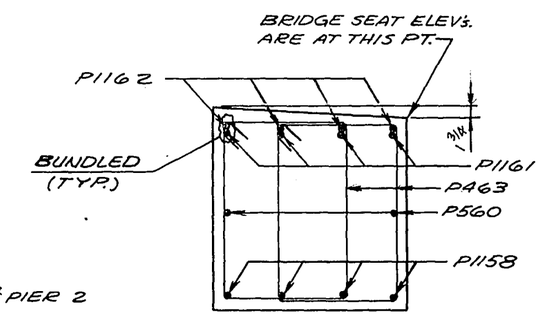
P457



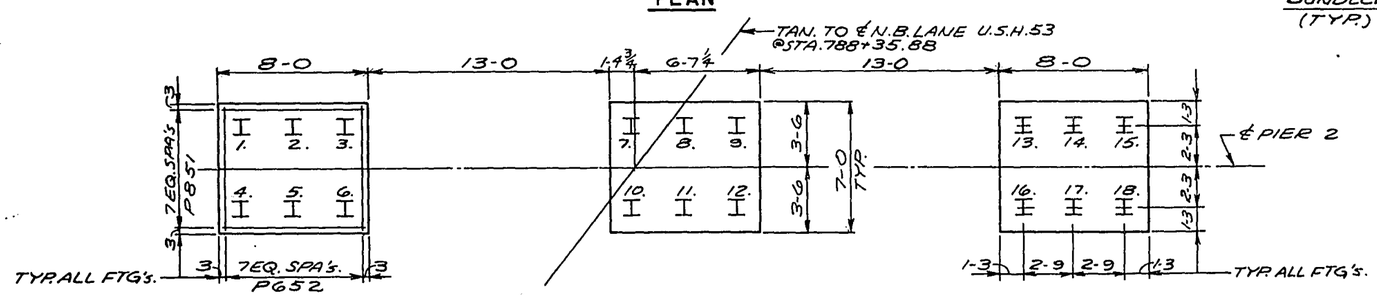
P463



PLAN



SECTION P2



FOOTING PLAN

NOTE: FOR PILE SPLICE DETAIL SEE SHEET NO. 5.
FOR BUNDLING DETAIL SEE SHEET NO. 6.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec. 1969	Drawn By JG	Plans Checked DEO

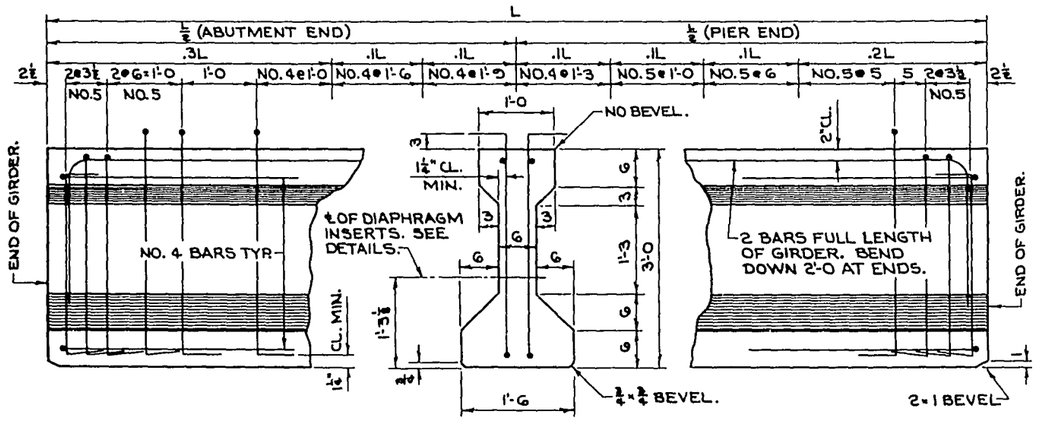
PIER 2

SHEET 7 OF 13

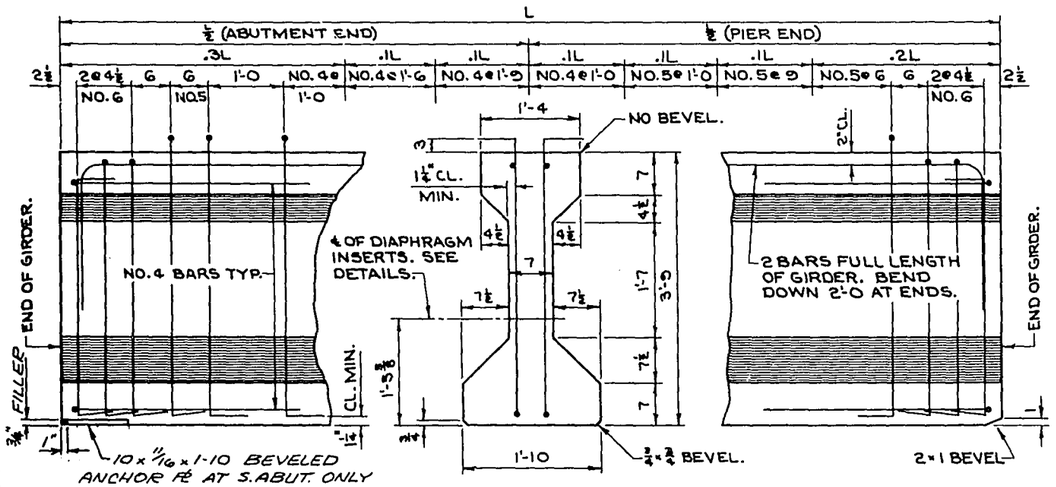
X 45739

Form E-8-12-67

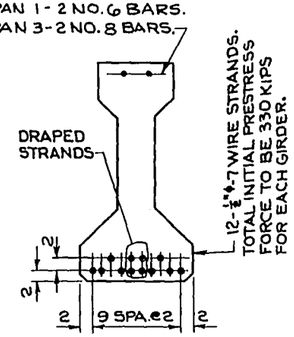
B. P. R. Division	Project	Sheet Number	Total Sheets
4	1196-5-73 ~~ENP-108-4(10)~~	72	188



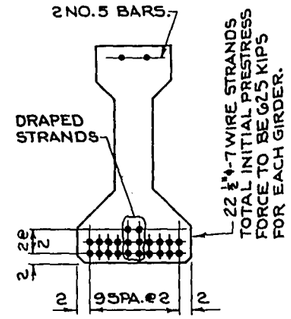
36" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



45" GIRDER - SIDE VIEW & TYPICAL SECTION IN SPAN



SECTION THRU GIRDER
AT ℄ OF SPANS 1 & 3



SECTION THRU GIRDER
AT ℄ OF SPAN 2

NOTES

TOP OF GIRDERS TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB.

THE GIRDER MANUFACTURER SHALL PROVIDE A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

PRESTRESSING STRANDS SHALL HAVE AN ULTIMATE STRENGTH OF 270,000 psi AND SHALL BE FLUSH WITH THE ENDS OF THE GIRDER.

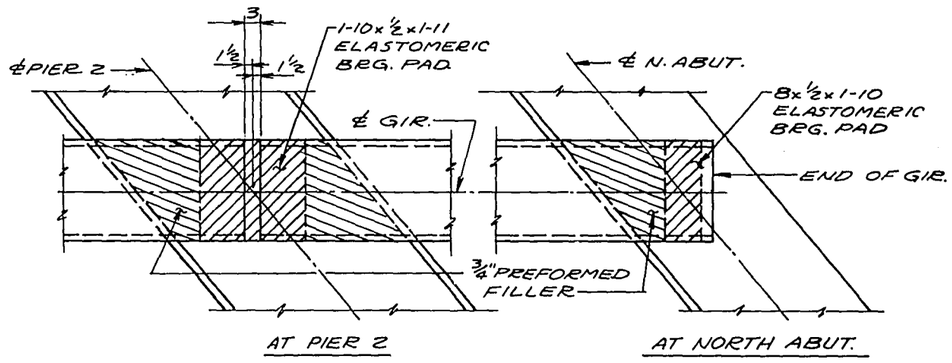
INSERTS SHALL BE PLACED ON 6" CENTERS SYMMETRICALLY ABOUT THE ℄ OF DIAPHRAGMS IN SPANS.

ALL STIRRUPS SHALL BE IN PAIRS AND THE SPACING SHOWN IN "SIDE VIEW" IS MAXIMUM. THE LOCATION SHALL BE SHOWN IN THE SHOP DRAWINGS.

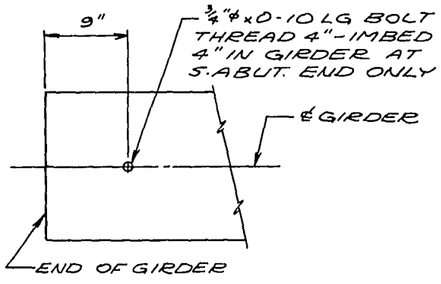
BEND EACH END OF NO.4 AND NO.5 STIRRUPS 6" AND NO.6 STIRRUPS 6½".

ENDS OF STRANDS SHALL BE PAINTED WITH NON-STAINING GRAY SINGLE COMPONENT NON BITUMINOUS JOINT SEALER. (THIS APPLIES ONLY TO THOSE ENDS OF GIRDERS THAT ARE FINALLY EXPOSED.)

TOP LONGITUDINAL BARS IN GIRDER MAY BE SPLICED BY USING 35 BAR DIAMETER LAPS. PLACE ONE LAP AT ℄ OF GIRDER IF LENGTH IS ≤ 70'-0. PLACE LAPS AT THE ⅓RD POINTS OF GIRDER IF LENGTH IS ≥ 70'-0.

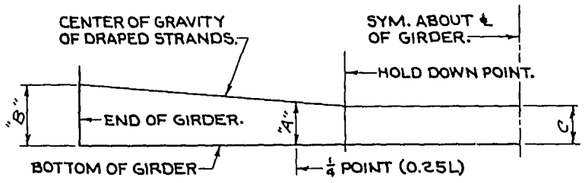


BEARING PAD LAYOUT

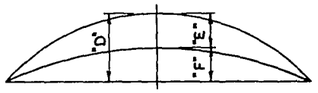


ANCHOR BOLT LAYOUT
AT S. ABUT. ONLY

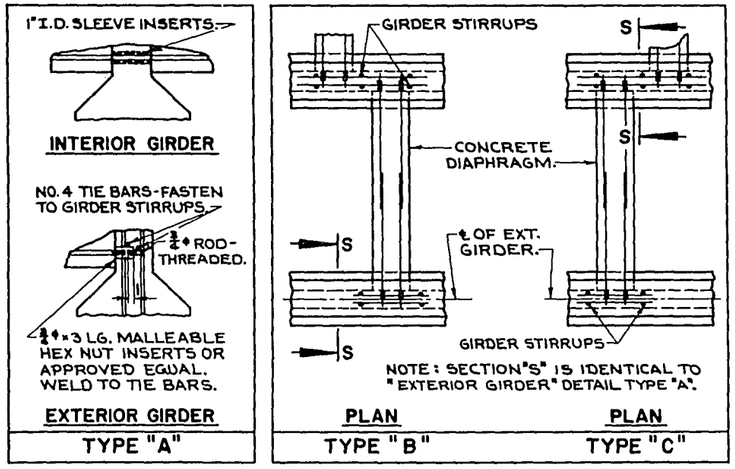
DIM.	SPAN 1		SPAN 2		SPAN 3	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
"A"	11¼"	8½"	14½"	11¼"	10½"	7½"
"B"	24"		33"		21"	
"C"	3"		4"		3"	



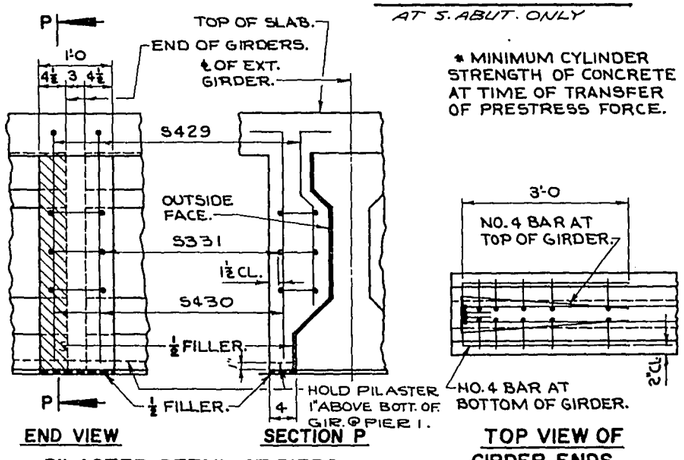
DRAPED STRAND PROFILE



** DATA SHOWN IS THEORETICAL AND MAY VARY WITH CONCRETE STRENGTH, VARIABLE PRESTRESS CONDITIONS AND PRESTRESS LOSSES.



DIAPHRAGM INSERT DETAILS



PILASTER DETAIL AT PIERS

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

TOP VIEW OF GIRDER ENDS

GIRDER DATA				
GIRDER SIZE REQUIRED 45"				
		SPAN 1	SPAN 2	SPAN 3
GIRDER LENGTH "L" REQUIRED		47'-4½"	69'-3"	37'-4½"
f'ci (psi)*	DRAPED PATTERN	4800	4800	4800
	SPREAD PATTERN			
DEFLECTION DATA**	PRESTRESS CAMBER "D"	⅜"	1¼"	¼"
	DEAD LOAD DEFLECTION "E"	⅛"	¾"	⅛"
	RESIDUAL CAMBER "F"	¼"	½"	⅛"
USE DIAPHRAGM INSERT DETAIL TYPE "B"				

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec. 1969	Drawn By JG	Plans Checked DEO

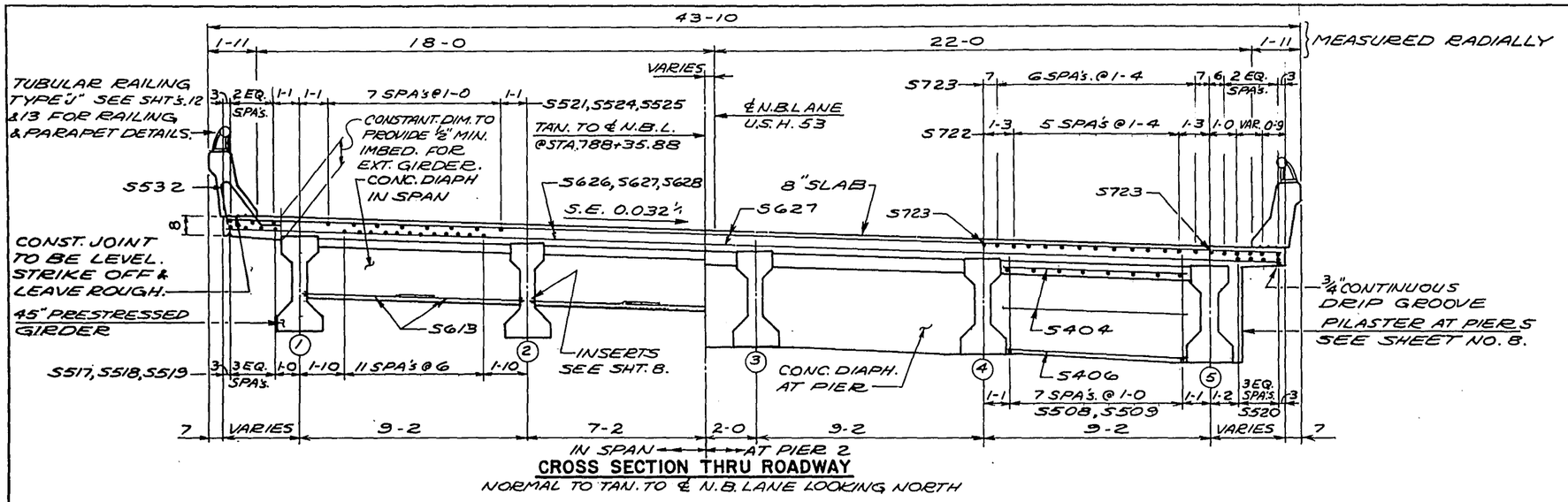
PRESTRESSED GIRDER DETAILS

SHEET 8 OF 13

X 45740

Form E-B-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	73	188
FEDERAL PROJECT DESIGNATION ~~EMP-FAB-4(48)~~		



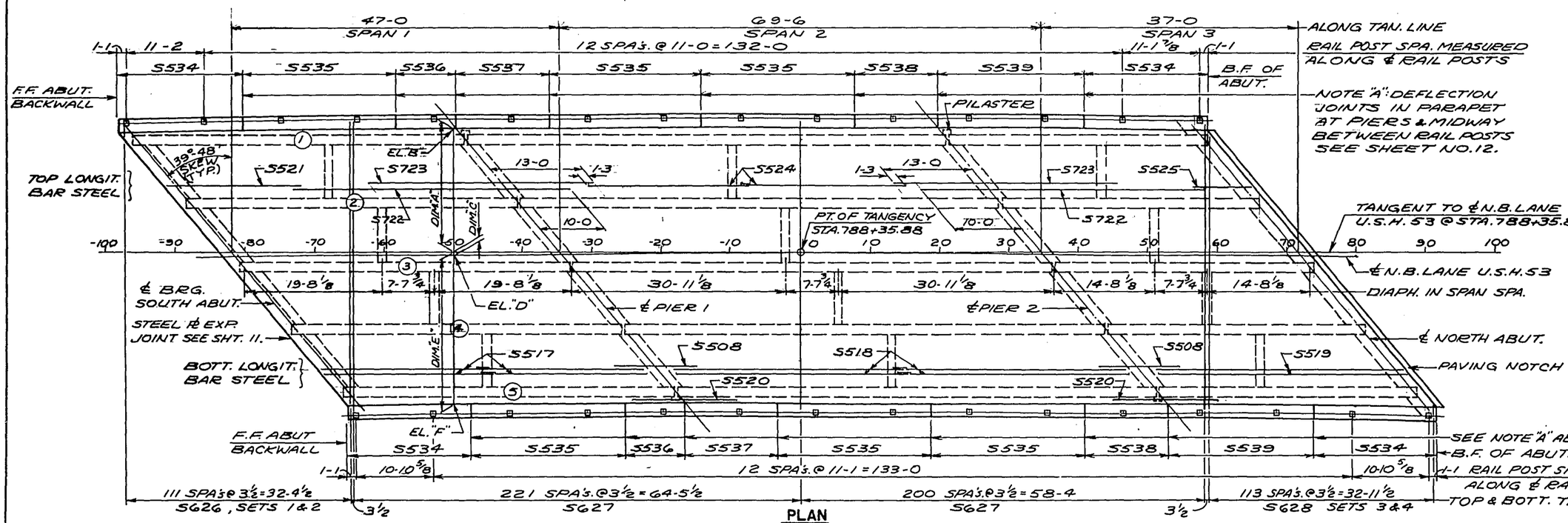
CROSS SECTION THRU ROADWAY

NORMAL TO TAN. TO ℄ N.B. LANE LOOKING NORTH

BOTTOM TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS ON OR ADJACENT TO EACH GIRDER & BY INDIVIDUAL BAR CHAIRS AT 3-0 CTRS. AT APPROXIMATELY THE 1/3 POINTS BETWEEN GIRDERS.

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

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



PLAN

TABLE OF TANGENT OFFSETS

NORMAL TO TAN. TO ℄ N.B. LANE AT STA. 788+35.88

	-100	-90	-80	-70	-60	-50	-40	-30	-20	-10	0	10	20	30	40	50	60	70	80	90	100
DIM."A"	17-5	17-6 3/8	17-7 1/2	17-8 5/8	17-9 1/2	17-10 1/4	17-10 3/8	17-11 3/8	17-11 3/4	17-11 7/8	18-0	17-11 7/8	17-11 3/4	17-11 3/8	17-10 7/8	17-10 1/4	17-9 1/2	———	———	———	———
EL."B"	1118.01	1117.76	1117.51	1117.26	1117.01	1116.76	1116.50	1116.24	1115.98	1115.72	1115.45	1115.19	1114.92	1114.64	1114.37	1114.09	1113.81	———	———	———	———
DIM."C"	0-7	0-5 5/8	0-4 1/2	0-3 3/8	0-2 1/2	0-1 3/4	0-1 1/8	0-0 5/8	0-0 1/4	0-0 1/8	0-0	0-0 1/8	0-0 1/4	0-0 5/8	0-1 1/8	0-1 3/4	0-2 1/2	0-3 3/8	0-4 1/2	0-5 5/8	0-7
EL."D"	1117.44	1117.19	1116.94	1116.69	1116.44	1116.19	1115.93	1115.67	1115.41	1115.14	1114.88	1114.61	1114.34	1114.07	1113.79	1113.51	1113.23	1112.95	1112.67	1112.38	1112.09
DIM."E"	———	———	———	22-3 3/8	22-2 1/2	22-1 3/4	22-1 1/8	22-0 5/8	22-0 1/4	22-0 1/8	22-0	22-0 1/8	22-0 1/4	22-0 5/8	22-1 1/8	22-1 3/4	22-2 1/2	22-3 3/8	22-4 1/2	22-5 5/8	22-7
EL."F"	———	———	———	1115.99	1115.74	1115.48	1115.23	1114.97	1114.70	1114.44	1114.17	1113.90	1113.63	1113.36	1113.08	1112.80	1112.52	1112.24	1111.96	1111.67	1111.38

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec. 1969 | Drawn By JG | Plans Checked DEO

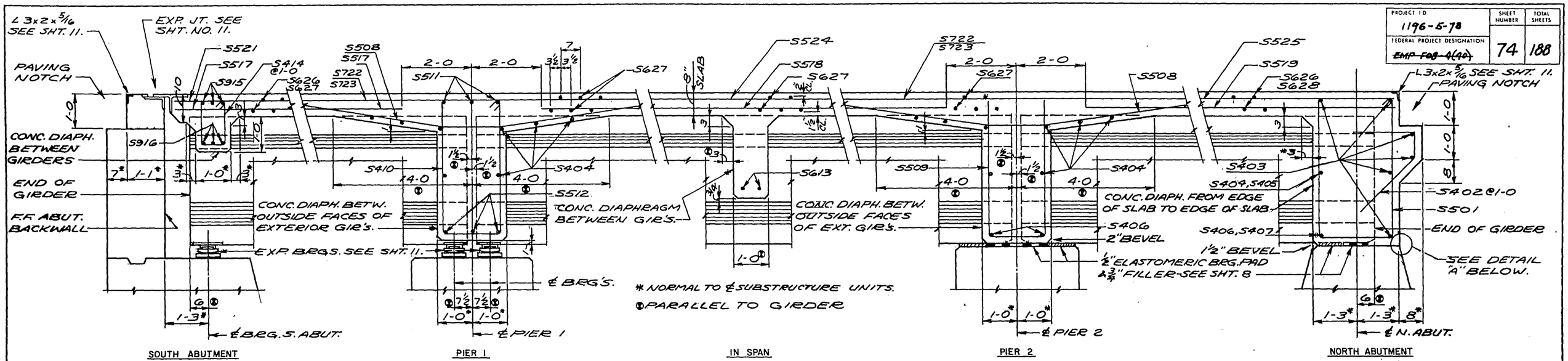
SUPERSTRUCTURE

SHEET 9 OF 13

X 45741

Form E-8-12-69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-78	74	188
FEDERAL PROJECT DESIGNATION ~~EMP-FOB-4(42)~~		



LONGITUDINAL SECTION THRU ROADWAY

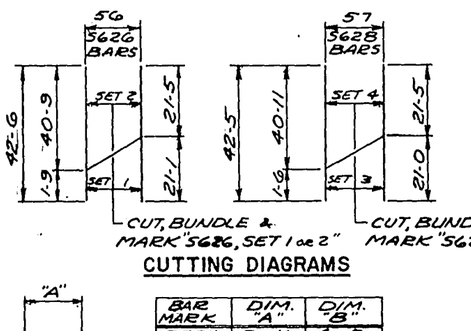
BILL OF BARS

64,490 #

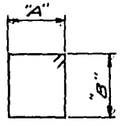
BAR MARK	NO. REQ'D.	LENGTH	BENT	CUT DIAG.	LOCATION
5501	38	14-5	X		DIAPHRAGM @ N. ABUT.
5402	34	4-5	X		" " " "
5403	12	28-6			" " " "
5404	68	9-10			" " " " & PIERS
5405	2	2-8			" " " "
5406	12	9-1			" " " " & PIER 2
5407	2	2-1			" " " "
5508	64	11-4	X		HAUNCH @ PIERS
5509	32	10-0	X		DIAPH. @ PIER 2
5410	32	12-8	X		" " " 1
5511	6	24-10			" " " 1
5512	12	9-1			" " " 1
5613	48	5-4			" IN SPANS
5414	32	4-10	X		" @ S. ABUT.
5915	6	25-0			" " "
5916	12	10-0			" " " "
5517	112	23-9			SLAB, BOTT., SPAN 1
5518	112	33-5			" " " 2
5519	56	36-5			" " " 3
5520	16	15-0			" " SYM. ABOUT ℄ PIERS
5521	38	18-7			" TOP, SPAN 1
5722	66	41-0			" " OVER PIERS
5723	68	32-6			" " " "
~~5624~~	~~38~~	~~22-8~~			" " SPAN 2
5525	38	8-9			" " " 3
5626	56	42-6		X	" TOP & BOTT. TRANS, SPAN 1
5627	422	42-4			" " " " " " 1,2,3
5628	57	42-5		X	" " " " " " 3
5429	8	3-3	X		PILASTER @ PIERS
5430	8	4-2	X		" " "
5331	12	3-4	X		" " "
5532	314	4-9	X		SLAB & RAIL PARAPET
5533	314	5-1	X		RAIL PARAPET
5534	20	17-1			" "
5535	30	21-8			" "
5536	10	8-2			" "
5537	10	13-1			" "
5538	10	11-7			" "
5539	10	20-6			" "

* PLAIN BAR THREAD ONE END 3".

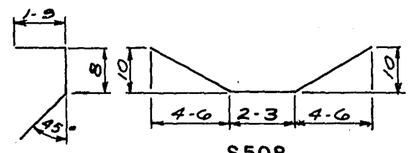
S524 76 23'8"

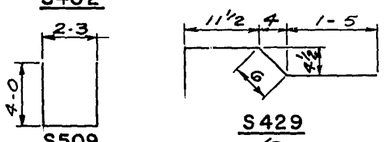


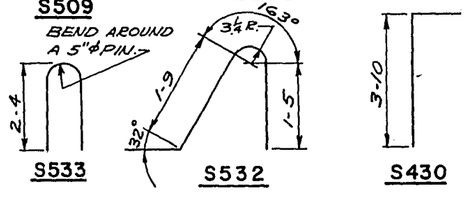
CUTTING DIAGRAMS

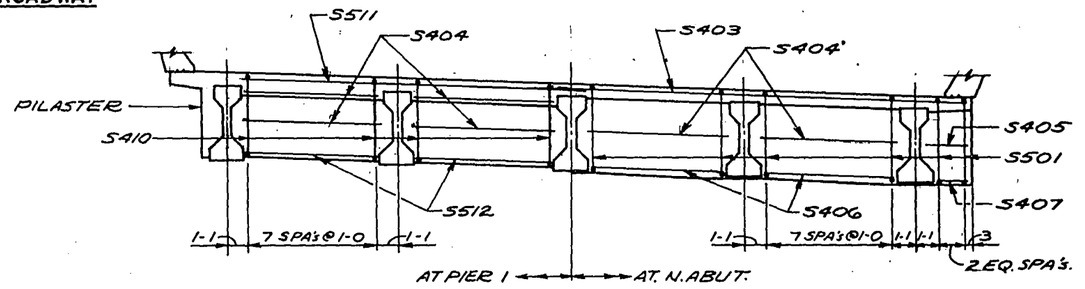


BAR MARK	DIM. "A"	DIM. "B"
5501	2-11	4-0
5410	2-3	3-10
5414	1-0	1-2
5331	0-8	0-9



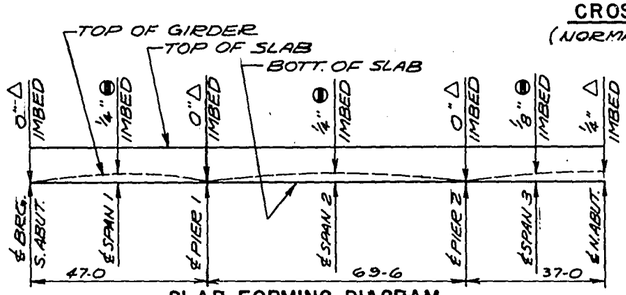






CROSS SECTION THRU ROADWAY

(NORMAL TO TAN. TO ℄ N.B. LANE @ STA. 788+35.88)

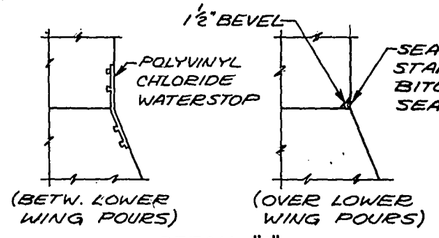


SLAB FORMING DIAGRAM

AT ℄ OF GIRDER

① TO COMPENSATE FOR VARIATIONS IN PRESTRESS CAMBER & OTHER MINOR CONSTRUCTION DISCREPANCIES THE IMBEDMENT AT THE ℄ OF THE SPAN MAY BE VARIED WITH A MAXIMUM OF 1 1/2" ALLOWABLE IMBEDMENT AND THE SLAB HELD TO PLAN THICKNESS.

△ IF VARIATIONS IN PRESTRESS CAMBER AND OTHER MINOR CONSTRUCTION DISCREPANCIES ARE OF SUCH A MAGNITUDE THAT THE MAXIMUM ALLOWABLE IMBEDMENT, AS NOTED ABOVE, SHALL BE EXCEEDED THESE DIMENSIONS SHALL BE REVISED. THE 1 1/2" IMBEDMENT AND THE PLAN SLAB THICKNESS SHALL BE HELD WHILE THE GRADE LINE WILL BE REVISED.



DETAIL "A"

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec.	Drawn By	Plans Checked
1969	JG	DEO

SUPER STRUCTURE

SHEET 10 OF 13

X 45742

Form I B 12 69

PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73		
FEDERAL PROJECT DESIGNATION	75	188
~~EMP FAS 4(48)~~		

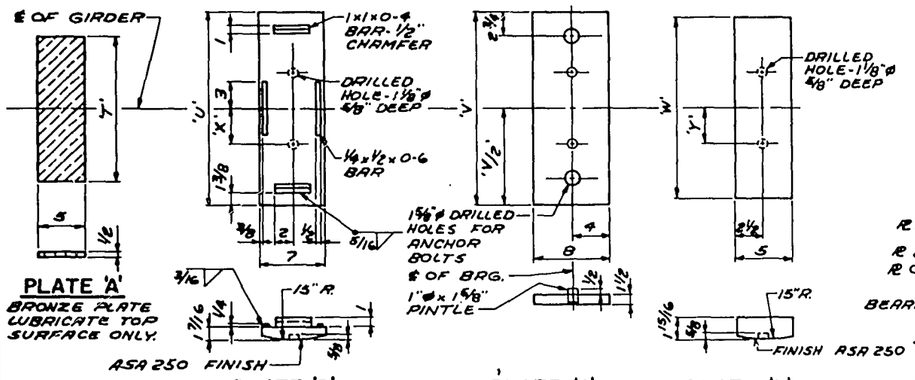
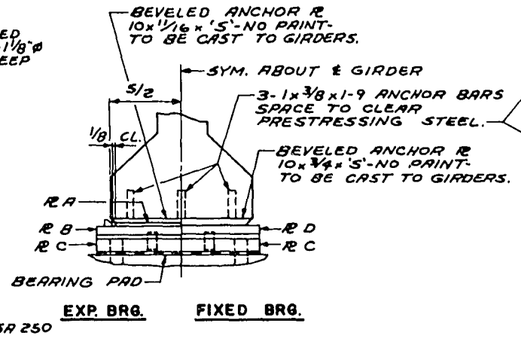


PLATE 'A'
BRONZE PLATE LUBRICATE TOP SURFACE ONLY.

PLATE 'B'

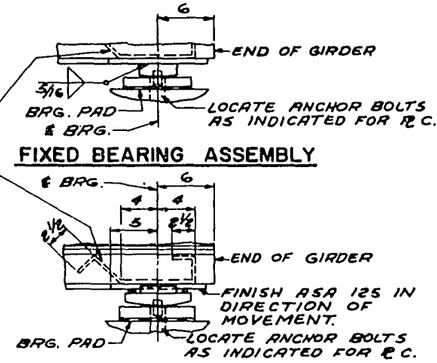
PLATE 'C'

PLATE 'D'



EXP. BRG. FIXED BRG.

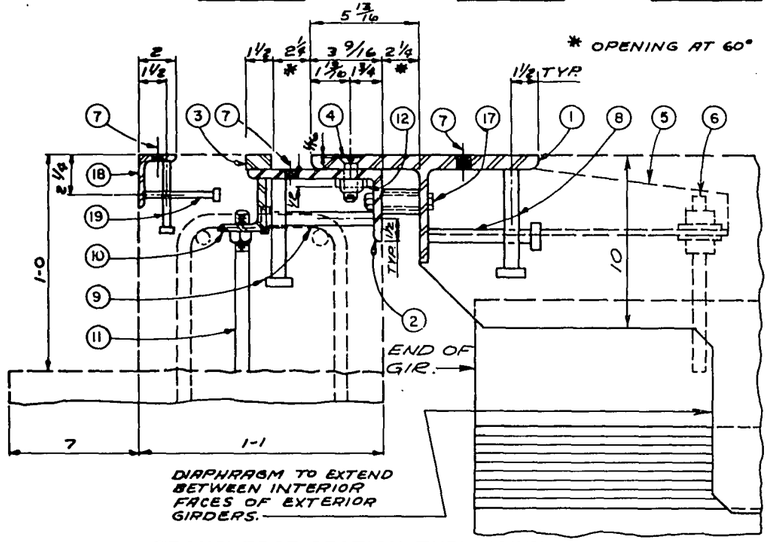
BEARING ELEVATION



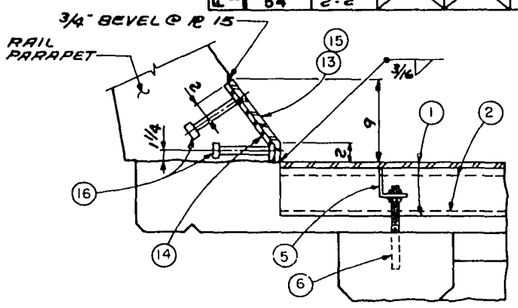
EXP. BEARING ASSEMBLY

BEARING DETAILS

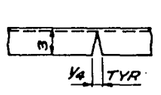
	GIRDER SIZE	DIM. 'S'	DIM. 'T'	DIM. 'U'	DIM. 'V'	DIM. 'W'	DIM. 'X'	DIM. 'Y'	NO. OF BRGS. REQ'D.	LOCATION
EXP. BRG.	36"	1-6	1-4½	1-9½	1-9½		4			
	45"	1-10	1-8½	2-1½	2-1½		7		15	AT S. ABUT. & PIER 1
	54"	2-2	2-0½	2-5½	2-5½		9			
FIXED BRG.	36"	1-6			1-8	1-8		4		
	45"	1-10			2-0	2-0		6⅛		
	54"	2-2			2-4	2-4		8		



TRANSVERSE SECTION THRU JOINT

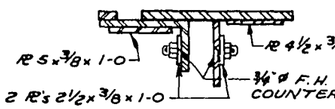


SECTION THRU JOINT AT CURB

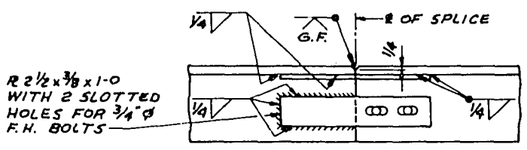


FIELD CUT 3" LEG OF ANGLE AS REQUIRED.

DETAIL 19

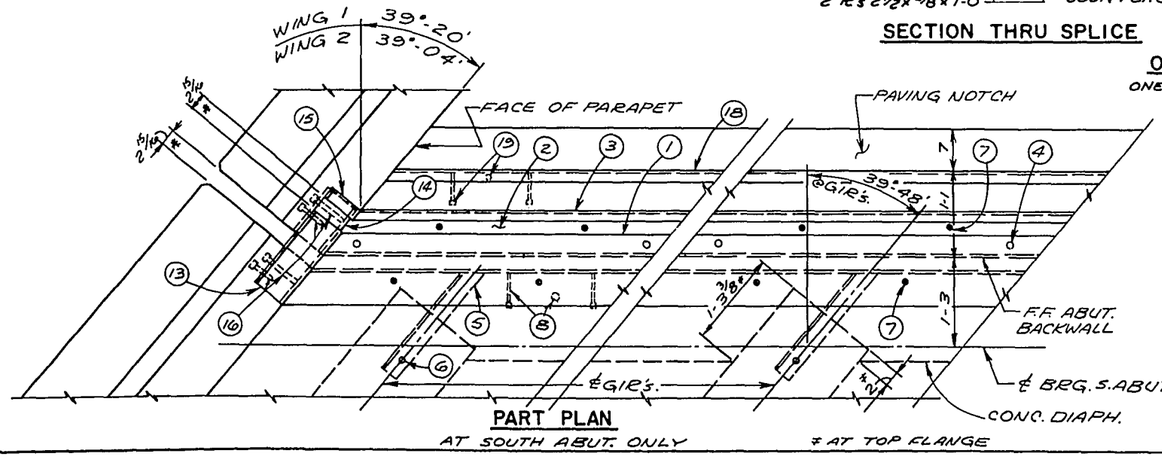


SECTION THRU SPLICE



OPTIONAL FIELD SPLICE DETAIL

ONE SPLICE SHALL BE PERMITTED IN JOINT.



PART PLAN

AT SOUTH ABUT. ONLY

BEARING NOTES

ALL MATERIAL EXCLUDING ANCHOR BOLTS, PINTLES, NUTS AND WASHERS SHALL BE MADE OF A588 STEEL. PINTLES SHALL BE MADE OF A709 STEEL.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

MACHINE FINISH THE BOTTOM SURFACE ONLY OF PLATES SHOWN TO BE FINISHED.

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

ALL ANCHOR BOLTS TO BE 1¼"ø x 1-3 LONG, SET FLUSH AND CAULK WITH LEAD TO THE TOP OF PLATE 'C'. EXCESS LENGTH MAY BE FURNISHED, THREADED FOR SETTING AND THEN CUT OFF FLUSH.

CHAMFER TOP OF PINTLES ⅛". DRILL HOLES FOR PINTLES IN PLATE 'C' FOR DRIVING FIT.

PROVIDE ⅛" THICK BEARING PAD SAME SIZE AS PLATE 'C' FOR EACH BEARING.

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

LEGEND

1. WT G x 39.5 x ROADWAY WIDTH. WELDMENT MAY BE USED. SEE DETAIL "A."
2. L 7 x 4 x 7/16 x RDWY. WIDTH. LONG DIMENSION OF 15/16" x 1½" SLOTTED HOLE TO BE PARALLEL TO DIRECTION OF MOVEMENT.
3. BAR 1½ x ¾ x RDWY. WIDTH. WELD TO L #2 WITH 2 LINES OF ¼ FILLET WELD, 2 ℄'s.
4. ¾"ø FLAT HEAD CAP SCREW x 2¾" LONG WITH SQ. NUT AT 4-0 CENTERS. GREASE FOR EASY REMOVAL. 13/16 x 1½ SLOTTED HOLE IN L #2. 13/16ø HOLE C'SK 7/16 DEEP IN WT #1. ALIGN HOLES WITH SLOT IN BAR #3.
5. L 3½ x 3 x ⅜. FILLET WELD TO FLANGE AND STEM OF WT #1 NEAR SIDE AND FAR SIDE. PROVIDE 1⅜ø HOLE IN 3½ LEG FOR ROD #6.
6. ¾"ø x 10" LONG ROD. THREAD 4". IMBED 9" IN GIRDER. PROVIDE 2 PLATE WASHERS AND 2 HEX NUTS PER BOLT.
7. VENT HOLES, 13/16ø AT 2-0 CTRS. IN WT #1 AND L #2 AND 3-0 CTRS. IN 18.
8. ⅝ø STUDS x 6 ⅜" LONG. WELD TO WT #1 AT 6" ALTERNATE CENTERS BETWEEN GIRDERS.
9. ⅝ø STUDS x 6 ⅜" LONG. WELD TO L #2 AT 9 ALTERNATE CENTERS.
10. L 3 x 2½ x ⅜ x 3" LONG AT 3-0 CENTERS. WELD TO L #2. PROVIDE 15/16ø HOLE IN 2½ LEG FOR ROD #11.
11. ¾ø ROD x 9 LONG ℄ NUT. THREAD 3". TACK WELD NUT TO L #10.
12. ⅛ x ½ x 1⅛ LONG KEEPER BAR. ONE PER #4 BOLT. PLACE BAR WITH LONG DIMENSION PARALLEL TO ℄ OF RDWY. ⅛" CLEAR FROM #4 SQUARE NUT AND WELD BAR AT SIDE FACING AWAY FROM NUT WITH 3/16 FILLET WELD 1¼" LONG TO L #2.
13. ℞ 15 5/8 x ⅜ - FIELD WELD TO WT #1.
14. ℞ 9 x ⅜ - WELD TO ℞ #15 WITH ONE LINE OF ¼" MAX. FILLET WELD, N.S. & F.S.
15. ℞ 15 x ⅜ - FIELD WELD TO BAR #3.
16. ⅝ø STUDS x 6 ⅜ LONG. WELD TO ℞'s #13 AND #14.
17. BLOCK AND BOLT FOR SHIPMENT WITH PIPE SLEEVE AND ½ø BOLT. PROVIDE 9/16ø HOLES AT 3-0 CENTERS IN WT #1 AND L #2 FOR BOLT.
18. L 3 x 2 x 5/16 x RDWY. WIDTH. ONE WELDED FIELD SPLICE WILL BE PERMITTED. SEE DETAIL #19. PROVIDE ONE ANGLE PER ABUT.
19. ⅜ ø STUDS x 4" LONG. WELD TO L 18 AT 6" ALTERNATE CENTERS.

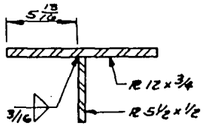
EXPANSION JOINT NOTES

EXPANSION JOINT SHALL BE BUILT TO CONFORM TO ROADWAY CROWN AND GRADE.

AFTER CONCRETE HAS SET THE JOINT OPENING SHALL BE THOROUGHLY CLEANED AND BOLTS #4 REMOVED AND THE HOLES FILLED WITH HOT POURED ELASTIC JOINT SEALER.

APPLY ± 1/16" COAT OF BITUMASTIC TO METAL SURFACES FORMING JOINT AND FILL OPENING WITH HOT POURED ELASTIC JOINT SEALER.

ALL MATERIAL SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STRUCTURAL CARBON STEEL."



DETAIL A

WELDMENT OPTION FOR 1

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const Spec 1969	Drawn By JH	Plans Checked DEO

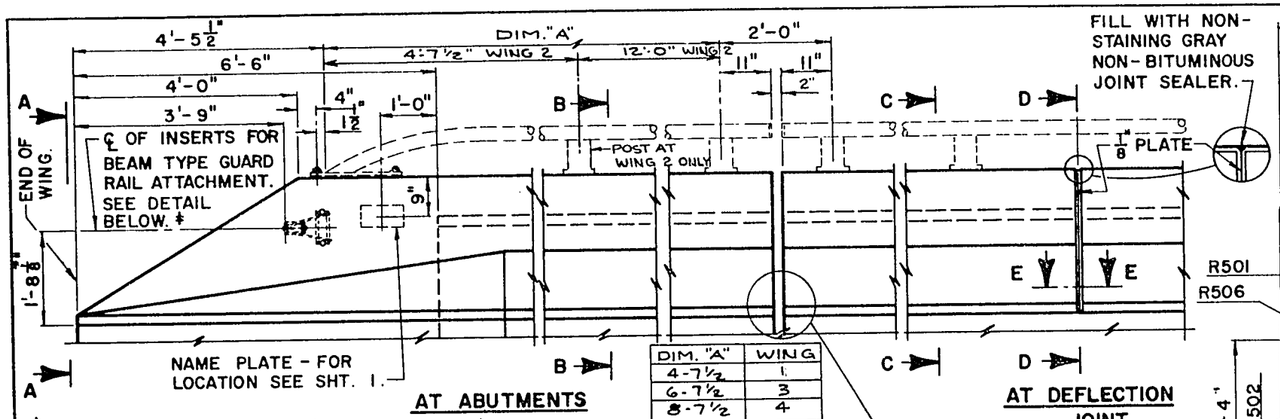
EXPANSION JOINT & BEARING DETAILS

SHEET 11 OF 13

X 45743

Form C B 12-6-

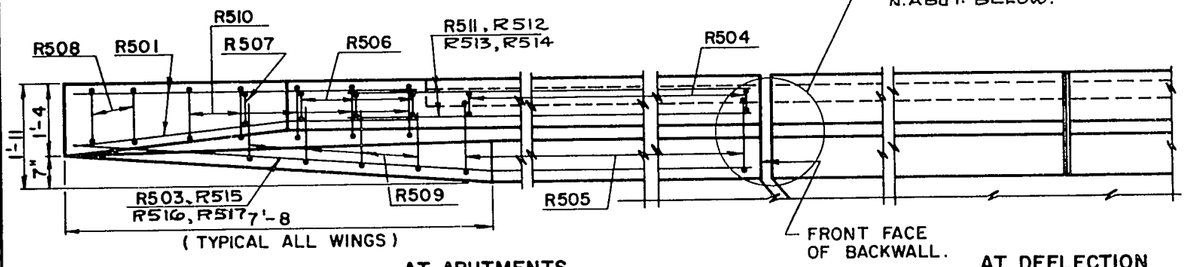
PROJECT ID	SHEET NUMBER	TOTAL SHEETS
1196-5-73	76	188
FEDERAL PROJECT DESIGNATION ~~EMP-F-B-9(42)~~		



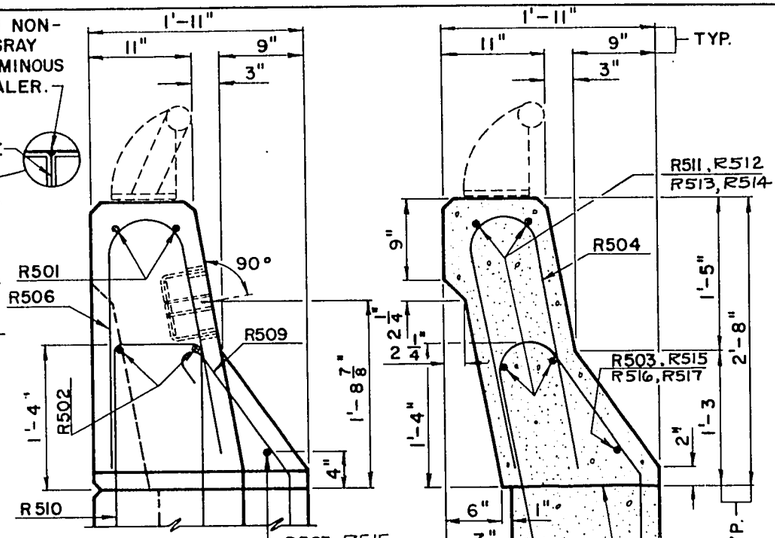
DIM. "A"	WING
4-7½	1
6-7½	3
8-7½	4

* PLACE AT ABUTMENT WINGS WHERE REQUIRED. SEE SHT. 1.

ELEVATION OF RAIL PARAPET

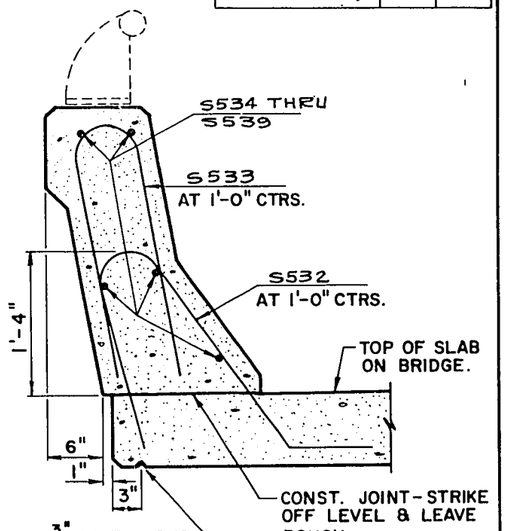


(TYPICAL ALL WINGS)



SECTION B

NOTE: BENDING DIMENSIONS ARE OUT TO OUT OF BAR.



SECTION C

RAIL PARAPET BILL OF BARS

S.ABUT. = 550#
N.ABUT. = 450# ††

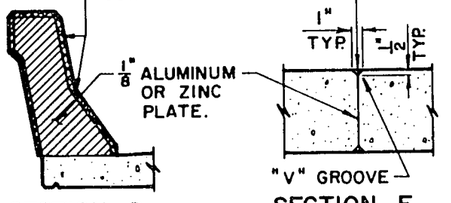
MARK	No. Req'd S.A.	No. Req'd N.A.	LENGTH	BENT	LOCATION
R501	4	4	6-10	X	WINGS 1 THRU 4
R502	4	4	4-5		" 1 " 4
R503	1	—	9-8	X	" 1
R504	20	14	5-1	X	" 1 THRU 4
R505	20	14	5-10	X	" 1 " 4
R506	6	6	5-2	X	" 1 THRU 4
R507	2	2	4-2	X	" 1 " 4
R508	4	4	4-10	X	" 1 " 4
R509	8	8	3-3	X	" 1 " 4
R510	10	10	5-10	X	" 1 " 4
R511	4	—	5-0		" 1
R512	4	—	17-0		" 2
R513	—	4	7-0		" 3
R514	—	4	9-0		" 4
R515	1	—	21-8		" 2
R516	—	1	11-8		" 3
R517	—	1	13-8		" 4

†† WEIGHT IS INCLUDED IN ABUTMENT TOTALS ON SHEET 1.

NOTES

WHEN PARAPETS ARE POURED CONTINUOUSLY FROM END TO END, THEY SHALL BE SEPARATED AT THE DEFLECTION JOINTS BY A PIECE OF ⅛" ZINC OR ALUMINUM PLATE CUT AS SHOWN IN SECTION "D" BY SHADED AREA. IF CONSTRUCTION JOINTS IN PARAPETS ARE USED AT THE DEFLECTION JOINTS, ONE SIDE OF JOINT SHALL BE COATED WITH BITUMINOUS PAINT AND PLATE SEPARATORS MAY BE OMITTED.

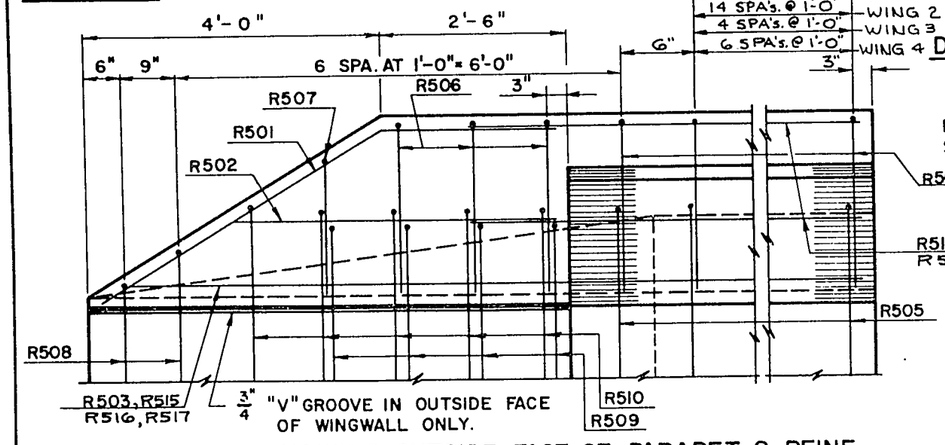
WORK THIS SHEET WITH SHEET TITLED "TUBULAR RAILING, TYPE 'J'"



SECTION D SECTION E

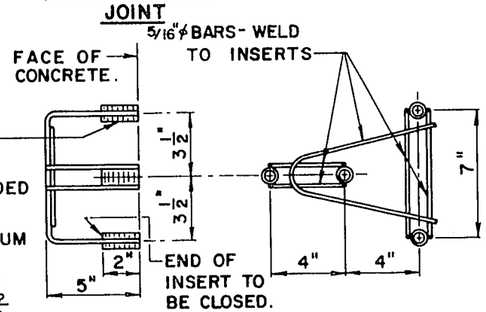
PART PLAN OF RAIL PARAPET

AT ABUTMENTS



VIEW SHOWING OUTSIDE FACE OF PARAPET & REINF.

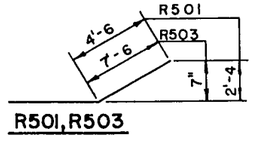
AT DEFLECTION JOINT

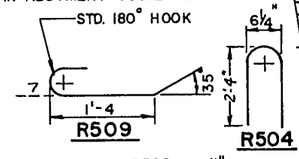


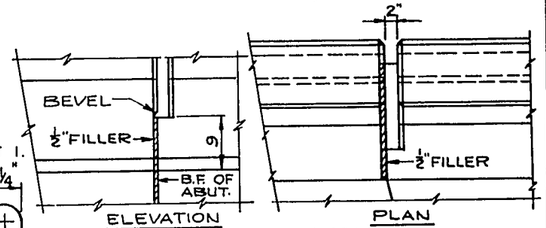
THREADED INSERTS FOR ⅞"ϕ x 0'-2" LONG GALVANIZED HEX. HEAD CAP SCREWS. CAP SCREWS TO BE THREADED A MINIMUM OF 1⅞". INSERTS TO BE THREADED A MINIMUM OF 1¾".

DETAIL OF ANCHOR ASSEMBLY FOR BEAM TYPE GUARD RAIL

ANCHOR ASSEMBLY SHALL BE PAID FOR AT THE UNIT PRICE BID FOR STRUCTURAL CARBON STEEL.

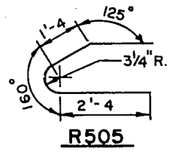


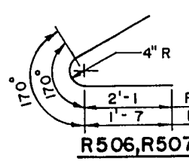


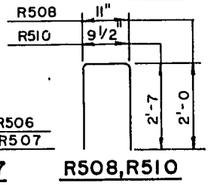


DETAIL AT N. ABUT.

SEE SHT. NO. 5 FOR FILLER NOTE.







No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const Spec	Drawn By	Plans Checked
1969	JG	DEO

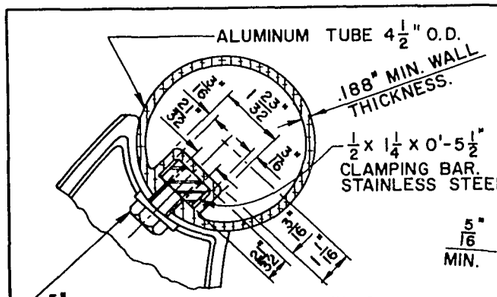
RAIL PARAPET DETAILS

SHEET 12 OF 13

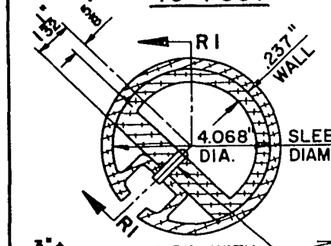
X 45744

Form E B-12-69

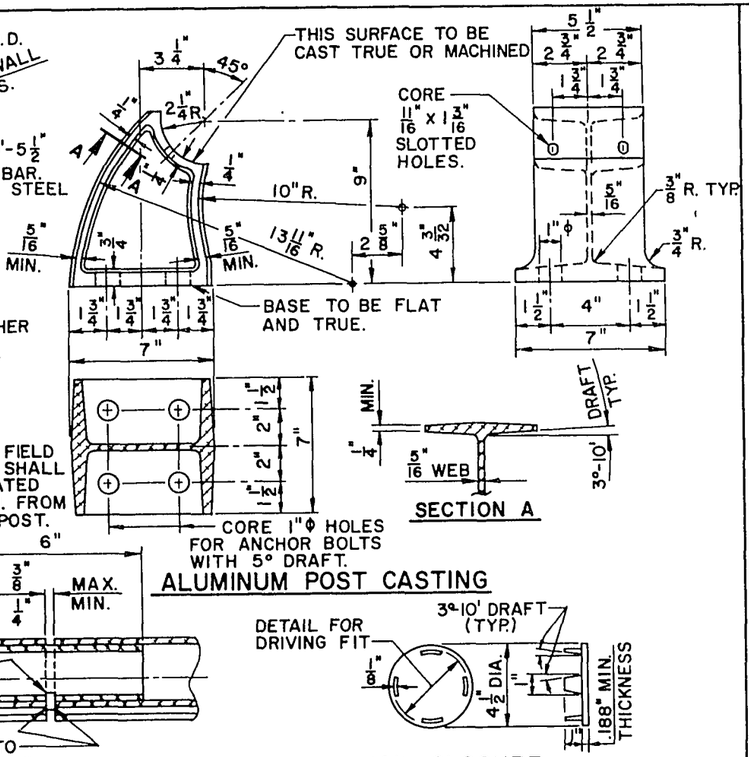
PROJECT I.D.	SHEET NUMBER	TOTAL SHEETS
1196-5-73	77	188
FEDERAL PROJECT DESIGNATION ~~EMP F68-4(40)~~		



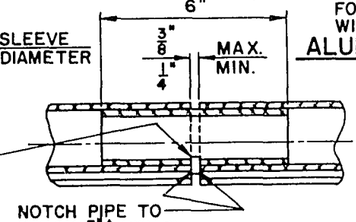
DETAIL OF RAIL ATTACHMENT TO POST



RAIL SPLICE DETAIL



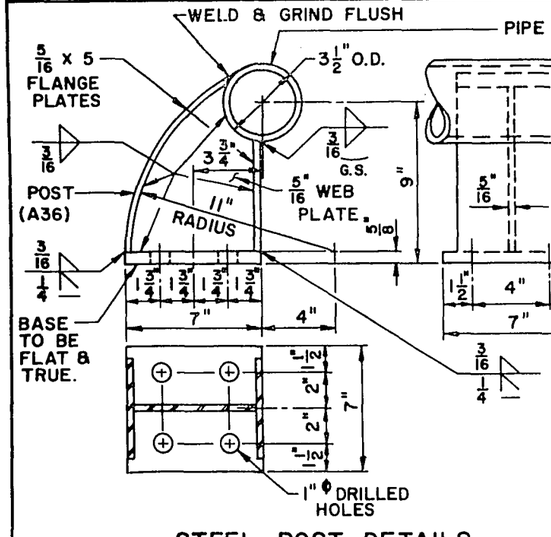
ALUMINUM POST CASTING



SECTION R1

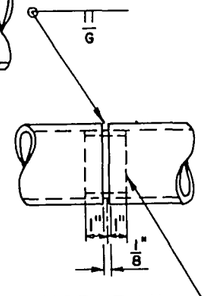
RAIL CLOSURE CAP DETAIL

NOTES:
MAX. REDUCTION IN DIAMETER OF BENT SECTION SHALL BE 3%.
MAX. REDUCTION IN SLOT WIDTH IN BENT TUBING SHALL BE 3/16".
WALL THICKNESS OF TUBING SHOWN ABOVE SHALL BE MIN. NOMINAL AVERAGE WALL THICKNESS.



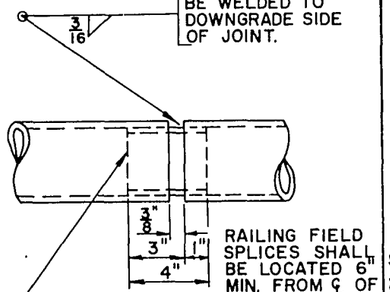
STEEL POST DETAILS

NOTE: GALVANIZE ENTIRE RAILING AFTER FABRICATION INCLUDING SHIMS.

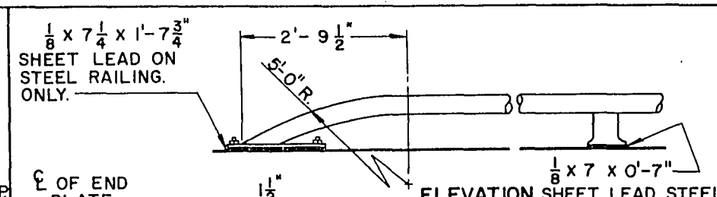


SHOP RAIL SPLICE DETAIL

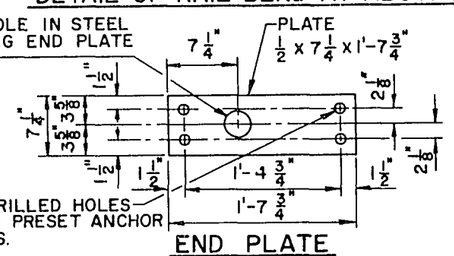
THE LOCATION OF THE SHOP SPLICE MUST BE SHOWN ON THE SHOP DRAWINGS



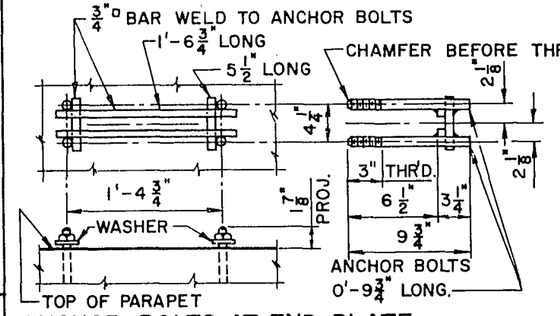
FIELD ERECTION JOINT DETAIL



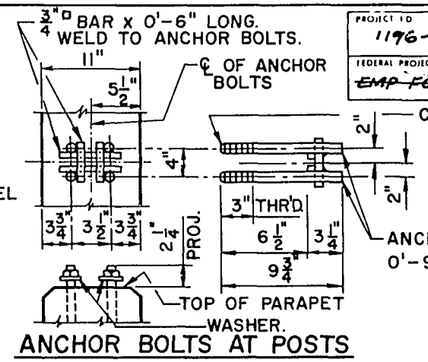
DETAIL OF RAIL BEND AT ABUTMENTS



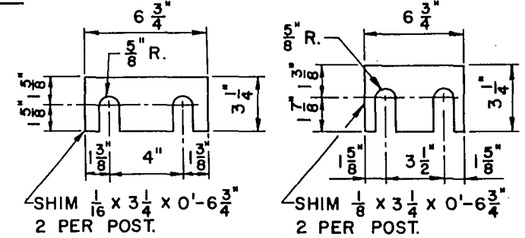
END PLATE



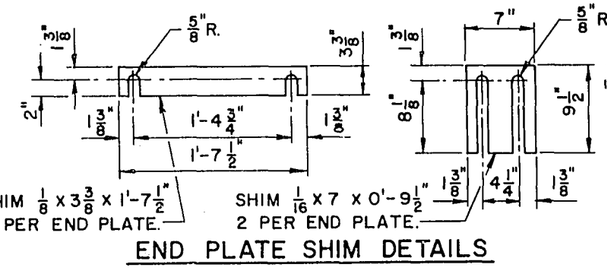
ANCHOR BOLTS AT END PLATE



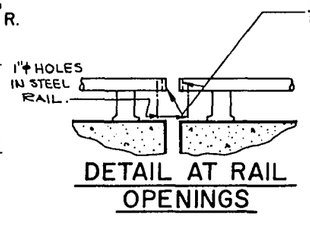
ANCHOR BOLTS AT POSTS



POST SHIM DETAILS



END PLATE SHIM DETAILS



DETAIL AT RAIL OPENINGS

GENERAL NOTES

BID ITEM SHALL BE TUBULAR RAILING, TYPE 'J'.

ALL POST SPACINGS ARE TAKEN HORIZONTALLY ALONG C/L OF ANCHOR BOLTS.

RAILING SHALL BE FABRICATED IN TWO OR THREE PANEL LENGTHS.

SHIMS CONFORMING TO SAME MATERIAL AS POSTS SHALL BE USED UNDER POSTS AND END PLATES WHERE REQ'D FOR ALIGNMENT.

RAIL POSTS SHALL BE SET NORMAL TO GRADE.

THE SHANK AND ROOT OF THREAD DIAMETER FOR ANCHOR BOLTS SHALL BE A MIN. OF 0.62 INCHES.

ANCHOR BOLTS, NUTS & WASHERS FOR ALUMINUM RAILING SHALL BE STAINLESS STEEL.

ANCHOR BOLTS, NUTS & WASHERS FOR STEEL RAILING SHALL BE EITHER STAINLESS STEEL OR ASTM A307. IF A307 IS USED ELECTRO-GALVANIZE NUTS, WASHERS & TOP 3½" OF ANCHOR BOLTS.

RAILING SHALL BE BUILT STRAIGHT & SPRUNG INTO PLACE.

No.	Date	Revision	By

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

STRUCTURE B-3-31

Const. Spec.	Drawn By	Plans Checked
1969	WG	DEO

TUBULAR RAILING TYPE 'J'

SHEET 13 OF 13

X 45745